



## **Industrial power tools for:**

Shipyards / Solar Energy / Construction / Petrochemical

Assembly Line / Mining Industry / Aviation Industry

Casting Foundry / Fabrication Shop / Automotive Service

Railway Construction



At **ZIPP**, we take great pride in being a leading manufacturer and supplier of high-quality, ergonomic, and durable tools for professionals across various industries worldwide. Our ISO 9001:2015 certification ensures that our products meet strict quality standards, while our focus on innovation and customer satisfaction allows us to stay ahead of the competition.

With years of experience in manufacturing and exporting professional and industrial-grade tools, we have become a trusted partner for companies across various industries, including automotive service, production, assembly line, construction, aviation, and aerospace. Our product line includes an extensive range of CE-certified tools, including professional automotive servicing air tools, industrial air tools, construction air tools, blind fastening systems and tools, and torque control systems and tools.

We are committed to creating only the best tools and accessories that exceed quality, precision, and performance expectations. Our dedication to excellence is evident in everything we do, from our extensive product testing to our exact attention to detail and superior industrial quality. As a result, our trademarked ZIPP logo is recognized worldwide as a symbol of trust and reliability.

Integrity, Respect, and Teamwork are the core values that drive us at **ZIPP**. We believe in always acting with the highest level of integrity, respecting our employees and customers, and working together to achieve our goals. By embracing these values, we have built a strong foundation for long-term growth and product integrity, allowing us to continually deliver superior tools that make work more accessible and ergonomic.

We are always looking for ways to serve our customers better. Whether you need more information about our company or products or want us to build a customized tool for your specific requirements, our professional sales team is always ready to assist you. Contact us to learn more.

Choose **ZIPP** for quality, innovation, and reliability – we look forward to serving you!

## Warranty Policy

The **ZIPP** warranty covers the original user against defective material or workmanship for one year from the date of purchase on repair parts and labor. The warranty is limited to the repair or replacement of defective parts.

**ZIPP** reserves the right to determine whether the part or parts failed due to defective material, workmanship, or other causes. This warranty does not cover failures caused by accident, alteration, and misuse.

A **ZIPP** Authorized Service Center or **ZIPP**'s Agent/Distributor must perform all warranty repairs. Any repair to the equipment other than by these authorized facilities will void this warranty.

## Conversion Table

PRESSURE				
Pa	MPa	bar	psi	Kg/cm <sup>2</sup>
1,000,000	1	10	145	10.197
100,000	0.1	1	14.5	1.0197
6,890	0.00689	0.0689	1	0.0703
98,070	0.09807	0.9807	14.223	1
620,000	0.62	6.2	90	6.3

psi>>kg/cm<sup>2</sup>: 90psi x 0.0703= 6.327kg/cm<sup>2</sup>  
bar>>psi: 7bar x 14.5= 101.5psi

TORQUE				
N-m	Kg-m	Kg-cm	ft-lb	in-lb
1	0.102	10.1972	0.7376	8.8507
9.8067	1	100	7.233	86.77
0.0986	0.01	1	0.0723	0.8677
1.3558	0.1383	13.83	1	12

N-m>>ft-lb: 10N-m x 0.7376= 7.376 ft-lb  
N-m>>kg-m: 10N-m x 0.102= 1.02 kg-m

FLOW RATE			
m <sup>3</sup> /min	cfm	l/min	l/s
1	35.317	1,000	16.668
0.0283	1	28.3168	0.4719
0.001	0.035	1	1.0165
0.061	2.1189	60.606	1

cfm>>l/min: 10cfm x 28.3168= 283.168 l/min  
m<sup>3</sup>/min>>cfm: 10m<sup>3</sup>/min x 35.317= 353.17cfm

Po: PSI  
SCFM= CFM\*((Po+14.7)/14.7)

LENGTH			
mm	m	inch	ft
1	0.01	0.03941	0.0033
1,000	1	39.37	3.2809
25.4	0.0254	1	0.0833
304.8	0.3048	12	1

mm>>inch: 10mm x 0.0394= 0.394 inch  
Inch>>mm: 10inch x 25.4= 254mm

WEIGHT OR FORCE		
lb	kg	N
1	0.4536	4.4484
2.2046	1	9.807
0.2248	0.102	1

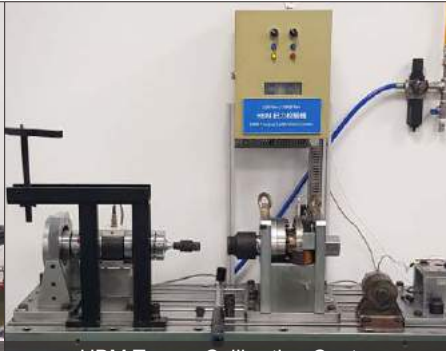
kg>>N: 10kg x 9.807= 98.07N  
N>>kg: 10N x 0.102= 1.02kg

POWER	
KW	HP
1	1.341
0.746	1

HP>>KW: 10HP x 0.746= 7.46KW



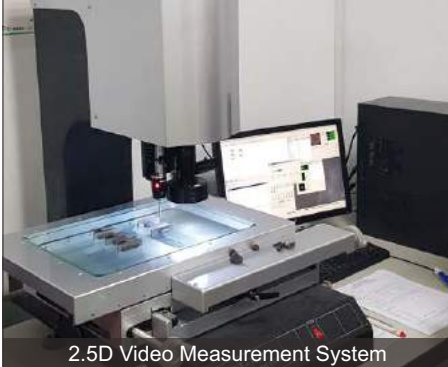
Gear Inspection Center



HBM Torque Calibration Center



Patents



2.5D Video Measurement System



3D Video Measurement System



Patents



Hardness Tester



MAGTROL Hysteresis Dynamometers



CNC Machining Center



CNC Machining Center

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**ZIW1038** twin hammer mechanism  
1" Impact wrench

**ZIW1038-6** twin hammer mechanism  
1" Impact wrench w/6" extension

- Working Torque (5 secs): 1800ft-lb(2440Nm)



**ZIW1075** Pinless mechanism  
1" Impact wrench

**ZIW1075-8** Pinless mechanism  
1" Impact wrench w/8" extension

- Working Torque (5 secs): 2300ft-lb(3118Nm)



**ZIW1076** Pinless mechanism  
1-1/2" Impact wrench

- Working Torque (5 secs): 2300ft-lb(3118Nm)



**ZIW812** Rear Exhaust  
1" Impact wrench

**ZIW812L** Rear Exhaust  
1" Impact wrench w/6" extension


- Working Torque (5 secs): 1000ft-lb(1356Nm)



**ZIW818** Rear Exhaust  
1" Impact wrench

**ZIW818L** Rear Exhaust  
1" Impact wrench w/6" extension

- Working Torque (5 secs): 1600ft-lb(2169Nm)

New Twin Hammer Design		• Adjustable 3 stages speed for Forward/Reverse
		• Use for heavy automotive and truck repair, construction or assembly line.
		• With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.

Model	Square Drive inch(mm)	Free Speed rpm	Max. Torque (15 secs) ft-lb(Nm)	Working torque (5 secs) ft-lb(Nm)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Impact mechanism
<b>ZIW1038</b> <b>ZIW1038-6</b>	1(25)	3600	2300(3118)	2000(2712)	11(311)	23.6(10.7) 25.8(11.7)	1/2	Twin Hammer
<b>ZIW1075</b> <b>ZIW1075-8</b>	1(25)	3500	2600(3525)	2300(3118)	12(339)	31.7(14.4) 35.7(16.2)	1/2	Pin Less
<b>ZIW1076</b>	1-1/2(37)	4000	2600(3525)	2300(3118)	12(339)	31.3(14.2)	1/2	Pin Less
<b>ZIW812</b> <b>ZIW812L</b>	1(25)	6000	1200(1627)	1000(1356)	24.7(700)	9.35(4.25) 11.3(5.13)	1/4	Twin Hammer
<b>ZIW818</b> <b>ZIW818L</b>	1(25)	4500	1800(2400)	1600(2169)	11.3(320)	11.88(5.5) 13.61(6.3)	3/8	Twin Hammer



**ZIW611** Rear Exhaust

3/4" Impact wrench

**ZIW611L** Rear Exhaust

3/4" Impact wrench w/6" extension

- Working Torque (5 secs): 900ft-lb(1220Nm)



**ZIW6511** Rear Exhaust

3/4" Impact wrench

**ZIW6511L** Rear Exhaust

3/4" Impact wrench w/6" extension

- Working Torque (5 secs): 850ft-lb(1153Nm)



**ZIW6514** Rear Exhaust

3/4" Impact wrench

**ZIW6514L** Rear Exhaust

3/4" Impact wrench w/6" extension

- Working Torque (5 secs): 1100ft-lb(1492Nm)



**ZIW685** Rear Exhaust

3/4" Impact wrench

**ZIW685L** Rear Exhaust

3/4" Impact wrench w/6" extension

- Working Torque (5 secs): 650ft-lb(881Nm)

**New Twin Hammer Design**



- Adjustable 3 stages speed for Forward/Reverse
- Use for heavy automotive and truck repair construction or assembly line.
- With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.

Model	Square Drive inch(mm)	Std. Bolt Size inch(mm)	Free Speed rpm	Max. Torque (10 secs) ft-lb(Nm)	Working torque (5 secs) ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZIW611</b> <b>ZIW611L</b>	3/4(19)	1-1/2(38)	6000	1100(1492)	900(1220)	90(6.2)	24.7(700)	9.13(4.15) 10.45(4.75)	3/8(10)	1/4
<b>ZIW6511</b> <b>ZIW6511L</b>	3/4(19)	1-1/4(32)	7200	1100(1492)	850(1153)	90(6.2)	8.12(230)	5.8(2.64) 7(3.2)	3/8(10)	1/4
<b>ZIW6514</b> <b>ZIW6514L</b>	3/4(19)	1-1/2(38)	4500	1400(1898)	1100(1492)	90(6.2)	26.4(747)	11(5) 12.9(5.87)	3/8(10)	1/4
<b>ZIW685</b> <b>ZIW685L</b>	3/4(19)	1-9/64(29)	7500	850(1153)	650(881)	90(6.2)	7.42(210)	5.61(2.55) 6.78(3.08)	3/8(10)	1/4

# Air Impact Wrench

**NEW**  
**1000 FT-LB**



Only!!  
1.8KG

**ZIW4100** Rear Exhaust

1/2" Impact Wrench

Noise: 94dB(A), Vibration: 2.5(m/s<sup>2</sup>)

**ZIW4100Q** Rear Exhaust

1/2" Impact wrench-Low noise

Noise: 85dB(A), Vibration: 2.5(m/s<sup>2</sup>)



**ZIW4510** Rear Exhaust

1/2" Impact wrench

**ZIW4510L** Rear Exhaust

1/2" Impact wrench w/2" extension

• Working Torque (5 secs):  
750ft-lb(1017Nm)



**ZIW480** Rear Exhaust

1/2" Impact wrench

**ZIW480L** Rear Exhaust

1/2" Impact wrench w/2" extension

• Working Torque (5 secs):  
600ft-lb(814Nm)

## New Twin Hammer Design



- Adjustable 3 stages speed for Forward/Reverse
- Use for heavy automotive and truck repair, construction or assembly line.
- With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.



**ZIW465R** Rear Exhaust

1/2" Impact Wrench

• Working Torque (5 secs): 380ft-lb(515Nm)



**ZIW465** Front Exhaust

1/2" Impact Wrench

• Working Torque (5 secs): 380ft-lb(515Nm)

## New Twin Hammer Design



- Use for heavy automotive and truck repair, construction or assembly line.
- With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.



## ZIW465K / ZIW465RK

- ZIW465R Impact Wrench X 1  
OR ZIW465 Impact Wrench X 1
- 1/2" sockets X5  
(14,16,17,19,22mm)  
OR (15/16,7/8,3/4,5/8,1/2inch)
- 5mm hex. wrench
- 3" extension anvil

Model	Square Drive inch(mm)	Std. Bolt Size inch(mm)	Free Speed rpm	Max. Torque (10 secs) ft-lb(Nm)	Working torque (5 secs) ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZIW4100</b> <b>ZIW4100Q</b>	1/2(12.7)	29/32(23)	9000 7000	1000(1356)	750(1017)	90(6.2)	5.1(144)	3.89(1.8)	3/8(10)	1/4
<b>ZIW4510</b> <b>ZIW4510L</b>	1/2(12.7)	1-9/64(29)	7200	1000(1356)	750(1017)	90(6.2)	8.12(230)	5.7(2.6) 5.94(2.7)	3/8(10)	1/4
<b>ZIW480</b> <b>ZIW480L</b>	1/2(12.7)	1-1/16(27)	7500	800(1085)	600(814)	90(6.2)	7.42(210)	5.5(2.5) 5.72(2.6)	3/8(10)	1/4
<b>ZIW465R</b> <b>ZIW465</b>	1/2(12.7)	3/4(19)	7000 8000	450(610)	380(515)	90(6.2)	7(200) 7.7(220)	5.7(2.6)	3/8(10)	1/4



**ZIW440** Rear Exhaust  
1/2" Mini Impact Wrench

- Working Torque (5 secs): 258ft-lb(350Nm)



**ZIW335** Rear Exhaust  
3/8" Mini Impact Wrench

- Working Torque (5 secs): 221ft-lb(300Nm)

**New Twin Hammer Design**



- Adjustable 3 stages speed for Forward/Reverse
- Most power and compact, deliver best Power-to-Size ratio in this class
- Use for heavy automotive and truck repair, construction or assembly line.
- With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.



**ZIW305** Rear Exhaust  
3/8" Impact Wrench



**ZIW304S** Side Exhaust  
3/8" Straight Impact Wrench



**ZIW344** Rear Exhaust  
3/8" Air Impact Wrench



**Two Hammer**



- Two Hammer Design
- Forward/Reverse
- Use for general automotive repair or assembly line.

- Double-Chamber 9 vanes motor provides the highest output power comparing with conventional motor for the highest productivity.
- Double Pin Hammer mechanism.
- One piece front end plate & cylinder design to improve motorefficiency.
- User friendly side reverse switch.

Model	Square Drive inch(mm)	Std. Bolt Size inch(mm)	Free Speed rpm	Max. Torque (10 secs) ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZIW440</b>	1/2(12.7)	5/8(16)	11000	400(543)	90(6.2)	7(200)	3.3(1.5)	3/8(10)	1/4
<b>ZIW335</b>	3/8(10)	9/16(14)	11000	350(475)	90(6.2)	7(200)	3.3(1.5)	3/8(10)	1/4
<b>ZIW305</b>	3/8(10)	5/16(8)	8500	1 sec. 45(61)	90(6.2)	5.6(160)	2.3(1.05)	1/4(6.35)	1/4
<b>ZIW304S</b>	3/8(10)	5/16(8)	8000	1 sec. 43(58)	90(6.2)	5.6(160)	2.2(1)	1/4(6.35)	1/4
<b>ZIW344</b>	3/8(10)	5/16(8)	5000	44(60)	90(6.2)	17.7(500)	2(0.93)	1/4(6.35)	1/4





**ZAW-412B2**

Two Hammer Type Side Exhaust

1/4" Air Wrench



**ZAW-412B3**

Two Hammer Type Side Exhaust

3/8" Air Wrench



**ZAW-417B**

Two Hammer Type Rear Exhaust

3/8" Air Wrench



**ZAW-910B1**

Two Hammer Type Rear Exhaust

3/8" Air Wrench-with muffler



**ZAW-410B**

Two Hammer Type Side Exhaust

3/8" Air Wrench



**ZAW-421B3**

Two Hammer Type Side Exhaust

3/8" Air Wrench



**ZAW-211B**

Two Hammer Type Rear Exhaust

1/2" Air Wrench



**ZAW-241B**

Two Hammer Type Side Exhaust

1/2" Air Wrench

Model	Bolt Size Capacity	Working Torque ft-lb(Nm)	MAX. Torque ft-lb(Nm)	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level db(A)
ZAW-412B2	M8	20(27)	26(35)	11000	127(4.5)	7.01(178)	1/4	1.5(0.68)	89
ZAW-412B3	M8	20(27)	26(35)	11000	127(4.5)	7.01(178)	1/4	1.5(0.68)	89
ZAW-417B	M10	59(80)	148(200)	8000	212(7.5)	8.86(225)	1/4	2.36(1.07)	90
ZAW-910B1	M10	59(80)	96(130)	8000	184(6.5)	9.06(230)	1/4	2.65(1.2)	80
ZAW-410B	M10	59(80)	148(200)	8300	212(7.5)	7.48(190)	1/4	2.16(0.98)	94
ZAW-421B3	M10~M12	66(90)	177(240)	8000	283(10)	7.48(190)	1/4	2.34(1.06)	97
ZAW-211B	M12~M14	118(160)	207(280)	5500	240(8.5)	10.24(260)	1/4	3.75(1.7)	85
ZAW-241B	M16~M18	236(320)	369(500)	4400	283(10)	13(330)	1/4	7.5(3.4)	95

• Recommended Gauge Air Pressure: 60~90psi

# Impact Wrench



**ZAW-412LB2**

Two Hammer Type Handle Exhaust

1/4" Air Wrench



**ZAW-412LB3**

Two Hammer Type Handle Exhaust

3/8" Air Wrench



**ZAW-514LB2**

Two Hammer Type Handle Exhaust

1/4" Air Wrench



**ZAW-514LB3**

Two Hammer Type Handle Exhaust

3/8" Air Wrench



**ZAW-417SL1**

Two Hammer Type Side Exhaust

3/8" Air Wrench



**ZAW-410LB**

Two Hammer Type Side Exhaust

3/8" Air Wrench



**ZAW-517LB**

Two Hammer Type Handle Exhaust

3/8" Air Wrench



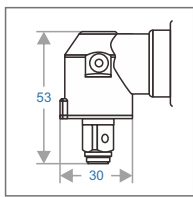
**ZAW-421LB3**

Two Hammer Type Side Exhaust

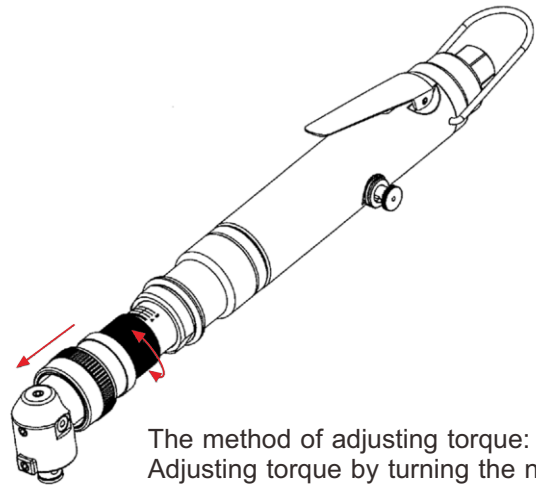
3/8" Air Wrench

Model	Bolt Size Capacity	Working Torque ft-lb(Nm)	MAX. Torque ft-lb(Nm)	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level db(A)
<b>ZAW-412LB2</b>	M8	20(27)	26(35)	13000	198(7)	5.71(145)	1/4	1.98(0.9)	88
<b>ZAW-412LB3</b>	M8	20(27)	26(35)	13000	198(7)	5.71(145)	1/4	1.98(0.9)	88
<b>ZAW-514LB2</b>	M8	20(27)	22(30)	11500	170(6)	6.1(155)	1/4	1.98(0.9)	87
<b>ZAW-514LB3</b>	M8	20(27)	22(30)	11500	170(6)	6.1(155)	1/4	1.98(0.9)	87
<b>ZAW-417SL1</b>	M10	59(80)	148(200)	8000	226(8)	7.2(183)	1/4	2.65(1.2)	94
<b>ZAW-410LB</b>	M10	59(80)	148(200)	7700	198(7)	7.28(185)	1/4	2.87(1.3)	89
<b>ZAW-517LB</b>	M12	74(100)	140(190)	8000	283(10)	6.3(160)	1/4	2.65(1.2)	87
<b>ZAW-421LB3</b>	M12	81(110)	177(240)	8000	283(10)	7.28(185)	1/4	2.89(1.34)	93

• Recommended Gauge Air Pressure: 60~90psi



UNIT: mm

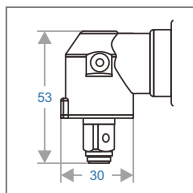


The method of adjusting torque:  
Adjusting torque by turning the nut.

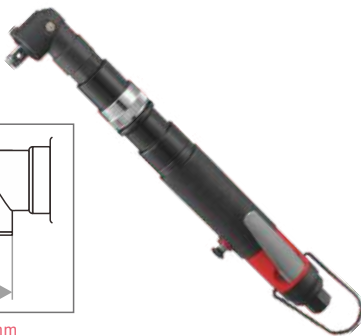
## ZRAW-5CLB08/ZRAW-5CLB15

Clutch Type Rear Exhaust

3/8" Air Wrench



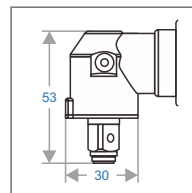
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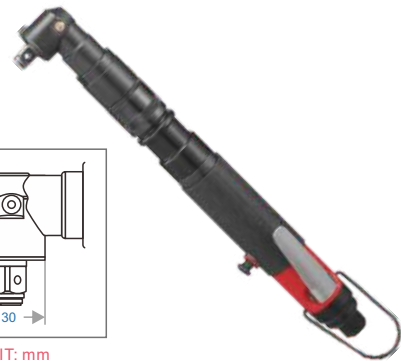
## ZRAW-5SLB08/ZRAW-5SLB15

Torque Control Type Rear Exhaust

3/8" Air Wrench-Air shut off



UNIT: mm



## ZRAW-5SLB03

Torque Control Type Rear Exhaust

3/8" Air Wrench-Air shut off

Model	Screw Size Capacity	MAX. Torque ft-lb(Nm)	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level db(A)
ZRAW-5CLB08	M5	3.7(5)	800	198(7)	13.15(334)	1/4	2.76(1.25)	80
ZRAW-5CLB15	M5	3.7(5)	1450	198(7)	13.15(344)	1/4	2.76(1.25)	80
ZRAW-5SLB15	M4	0.9~1.8(1.2~2.4)	1450	198(7)	13.39(340)	1/4	2.69(1.22)	80
ZRAW-5SLB08	M5	1.6~3.2(2.2~4.3)	800	198(7)	13.39(340)	1/4	2.69(1.22)	80
ZRAW-5SLB03	M6	3~7.4(4~10)	340	198(7)	13.77(350)	1/4	2.86(1.3)	80

• Recommended Gauge Air Pressure: 60~90psi

## Features

- Adjustable 3 stages speed for Forward/Reverse
- Most power and compact, deliver best Power-to-Size ratio in this class
- Use for heavy automotive and truck repair, construction or assembly line.
- With new twin hammer design and hot forged alloy steel made Hammer cage & Anvil to create more torque and 3 times longer life span than traditional design.



Jumbo Hammer Design



New Twin Hammer Design



**ZIW4207J** Rear Exhaust  
1/2" Micro Mini Air  
Impact Wrench

**ZIW3207J** Rear Exhaust  
3/8" Micro Mini Air  
Impact Wrench

**ZIW4206T** Rear Exhaust  
1/2" Micro Mini Air  
Impact Wrench

**ZIW3206T** Rear Exhaust  
3/8" Micro Mini Air  
Impact Wrench

w/ 8 pcs metric sockets

**ZIW4207JK-M** 1/2" mini impact kit  
**ZIW3207JK-M** 3/8" mini impact kit  
**ZIW4206TK-M** 1/2" mini impact kit  
**ZIW3206TK-M** 3/8" mini impact kit

w/ 8 pcs imperial sockets

**ZIW4207JK-E** 1/2" mini impact kit  
**ZIW3207JK-E** 3/8" mini impact kit  
**ZIW4206TK-E** 1/2" mini impact kit  
**ZIW3206TK-E** 3/8" mini impact kit



### [ Accessories ]

- Mini air impact X 1
- Oiler X 1
- 3" Extension bar X 1
- 8 pcs Metric or SAE Cr-Mo sockets  
10, 13, 14, 16, 17, 19, 21, 22mm  
or 5/16", 3/8", 7/16", 1/2", 9/16",  
5/8", 11/16", 3/4"

Model	Square Drive inch(mm)	Std. Bolt Size inch(mm)	Free Speed rpm	Max. Torque (10 secs) ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZIW4206T</b>	1/2(12.7)	5/8(16)	11000	450(610)	90(6.2)	7(200)	3(1.37)	3/8(10)	1/4
<b>ZIW3206T</b>	3/8(10)	5/8(16)	11000	400(542)	90(6.2)	7(200)	3(1.37)	3/8(10)	1/4
<b>ZIW4207J</b>	1/2(12.7)	5/8(16)	11000	500(678)	90(6.2)	7(200)	3(1.37)	3/8(10)	1/4
<b>ZIW3207J</b>	3/8(10)	5/8(16)	11000	450(610)	90(6.2)	7(200)	3(1.37)	3/8(10)	1/4

# Mini Air Impact Wrench

**Application:**

Designed for difficult work in the confined space for Transmission, Engine and Brake.



**ZIW440JL**  
1/2" Angle Impact Wrench

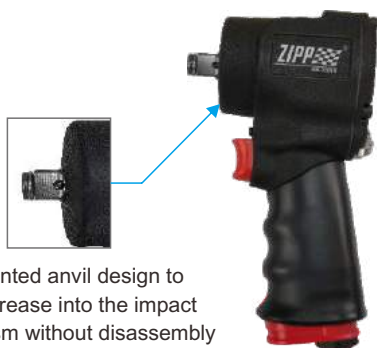
Rotary Exhaust



**ZIW340JLU**  
3/8" Adjustable Angle Mini Impact Wrench

**ZIW440JLU**  
1/2" Adjustable Angle Mini Impact Wrench

Rotary Exhaust



New patented anvil design to add the grease into the impact mechanism without disassembly the tool.

**ZIW417JA**  
**ZIW417JAQ** With Muffler  
1/2" Super Light Mini Air Impact Wrench

Handle Exhaust



**ZIW417J**  
**ZIW417JQ** With Muffler  
1/2" Super Duty Mini Air Impact Wrench

Handle Exhaust



**ZIW418T**  
**ZIW418TQ** With Muffler  
1/2" Super Duty Mini Air Impact Wrench

Handle Exhaust



Model	Square Drive inch(mm)	Std. Bolt Size inch(mm)	Free Speed rpm	Max. Torque (10 secs) ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZIW340JLU</b>	3/8(10)	5/8(16)	9000	450(610)	90(6.2)	4.2(119)	2.78(1.26)	3/8(10)	1/4
<b>ZIW440JLU</b>	1/2(12.7)	5/8(16)	9000	450(610)	90(6.2)	4.2(119)	2.78(1.26)	3/8(10)	1/4
<b>ZIW440JL</b>	1/2(12.7)	5/8(16)	9000	450(610)	90(6.2)	4.12(117)	2.78(1.26)	3/8(10)	1/4
<b>ZIW417JA</b>	1/2(12.7)	5/8(16)	10000	700(949)	90(6.2)	7.42(210)	3(1.37)	3/8(10)	1/4
<b>ZIW417JAQ</b>	1/2(12.7)	5/8(16)	8500	700(949)	90(6.2)	7.42(210)	3(1.37)	3/8(10)	1/4
<b>ZIW417J</b>	1/2(12.7)	5/8(16)	9500	700(949)	90(6.2)	7.42(210)	3.19(1.45)	3/8(10)	1/4
<b>ZIW417JQ</b>	1/2(12.7)	5/8(16)	8000	700(949)	90(6.2)	7.42(210)	3.19(1.45)	3/8(10)	1/4
<b>ZIW418T</b>	1/2(12.7)	5/8(16)	10000	750(1017)	90(6.2)	7.42(210)	3.3(1.5)	3/8(10)	1/4
<b>ZIW418TQ</b>	1/2(12.7)	5/8(16)	9500	750(1017)	90(6.2)	7.42(210)	3.3(1.5)	3/8(10)	1/4

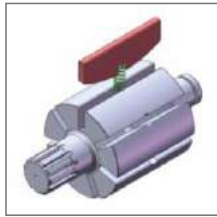
# Composite Air Impact Wrench



Twin hammer impact mechanism to perform best torque output, and Special Hardened-Treatment to maintain best durability.

Special Hardened Cylinder, Front plate and Rear plate to generate best durability.

Titanium clutch case to re-enforce the strength (ZIW1063CT).



Vane with spring mounted to prevent dead-lock or power-less problem.

Composite handle to provide best power-to-weight ratio, and prevent uncomfortable usage during the temperature change.

3 different speed adjustment at Forward direction, 1 full speed at Reverse direction.



OPT.  
Pin Type Anvil

**ZIW1015C**  
1/2" Composite  
Air Impact Wrench



**ZIW1015CTL**  
1/2" Composite Torque  
Limited Impact Wrench



**ZIW1077C**  
3/4" Composite  
Air Impact Wrench

**ZIW1077C-3**  
w/3" extension  
**ZIW1077C-6**  
w/6" extension



**ZIW1078C**  
1" Composite  
Air Impact Wrench



Titanium  
Case

**ZIW1063CT**  
1/2" Composite  
Air Impact Wrench

Model	Square Drive inch(mm)	Free Speed rpm	Max. Torque (15 secs) ft-lb(Nm)	Working torque (5 secs) ft-lb(Nm)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Impact mechanism
<b>ZIW1015C</b>	1/2(12.7)	8500	820(1100)	650(880)	4.9(139)	4.6(2.1)	Twin Hammer
<b>ZIW1015CTL</b>	1/2(12.7)	8500	820(1111)	55~66(75~90)	5.5(158)	4.6(2.1)	Twin Hammer
<b>ZIW1077C</b> <b>ZIW1077C-3</b> <b>ZIW1077C-6</b>	3/4(19)	5500	1500(2030)	1200(1630)	4.9(139)	8.2(3.7) 9.3(4.2) 9.9(4.5)	Twin Hammer
<b>ZIW1078C</b>	1(25)	5500	1500(2030)	1200(1630)	4.9(139)	8.2(3.7)	Twin Hammer
<b>ZIW1063CT</b>	1/2(12.7)	8500	820(1100)	650(880)	4.9(139)	4.8(2.2)	Twin Hammer

# Composite Air Impact Wrench



**ZIW1200** Handle Exhaust

1" Composite Impact Wrench

- Working Torque (5 secs): 2200ft-lb(2970Nm)



**ZIW1200-6** Handle Exhaust

1" Composite Impact Wrench  
w/6" extension

- Working Torque (5 secs): 2200ft-lb(2970Nm)



**ZIW1201** Side Exhaust

1" Composite Impact Wrench

- Working Torque (5 secs): 2200ft-lb(2970Nm)



**ZIW1201-8** Side Exhaust

1" Composite Impact Wrench  
w/8" extension

- Working Torque (5 secs): 2200ft-lb(2970Nm)



- Twin hammer Anvil Material
- Japan SNCM 616



- Cast iron cylinder
- Cylinder Material FCD45
- Heat treatment HRC 47~52°



- Blade auxiliary spring means Spring Material Stainless steel (304) Customized spring holder.
- 1 million tests by stretching test pass.

Model	Square Drive inch(mm)	Free Speed rpm	Max. Torque (15 secs) ft-lb(Nm)	Working torque (5 secs) ft-lb(Nm)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Impact mechanism
<b>ZIW1200</b>	1(25)	5500	2400(3240)	2200(2970)	7.5(212)	12.98(5.9)	1/4	Twin Hammer
<b>ZIW1200-6</b>	1(25)	5500	2400(3240)	2200(2970)	7.5(212)	14.96(6.8)	1/4	Twin Hammer
<b>ZIW1201</b>	1(25)	5500	2400(3240)	2200(2970)	7.5(212)	14.3(6.5)	1/4	Twin Hammer
<b>ZIW1201-8</b>	1(25)	5500	2400(3240)	2200(2970)	7.5(212)	17.16(7.9)	1/4	Twin Hammer



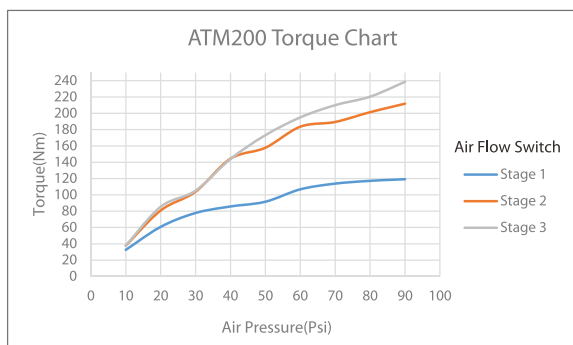
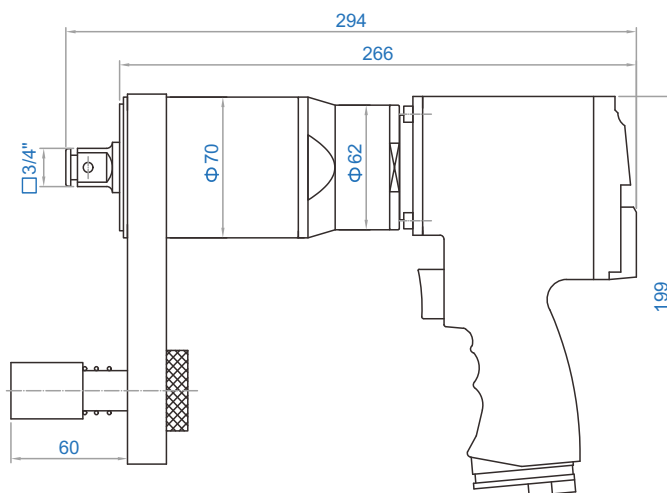
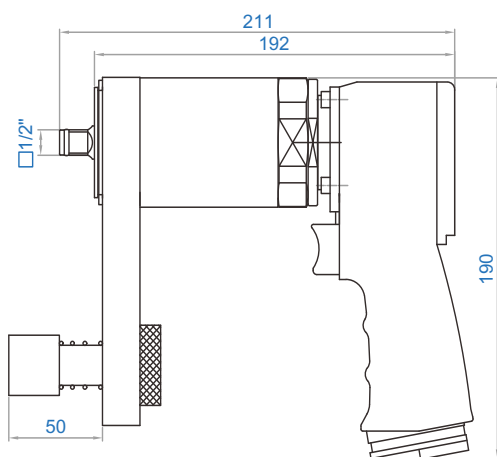
**ATM200**

1/2" Pneumatic Torque Multiplier

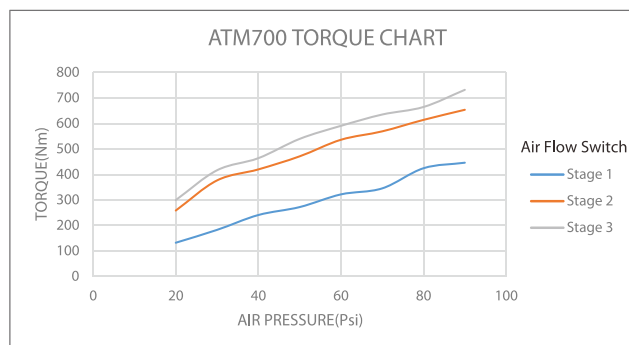


**ATM700**

3/4" Pneumatic Torque Multiplier



Measured on HBM torque tester: I.D. 8mm\* O.D. 12mm \* 3m air hose



Measured on HBM torque tester: I.D. 8mm\* O.D. 12mm \* 3m air hose

Model	Square Drive inch(mm)	Free Speed rpm	Max. Torque ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ATM200</b>	1/2(12.7)	84	147.5(200)	90(6.2)	11.2(320)	10.14(4.6)	3/8(10)	1/4
<b>ATM700</b>	3/4(19)	18	516(700)	90(6.2)	12.25(350)	14.33(6.5)	3/8(10)	1/4



## Tool Advantages:

The right air ratchet for your Hi-Lok® installation for the quality seeking airframe mechanic.

- 1/4" adapter that stays attached to the tool. (With a special designed cap).
- Adjustable throttle to control the tool speed.
- 'No-mar' rubber protection.
- Thru-hole to be used with HEX key.
- Friction ring mechanism to keep the socket on the drive.
- Hi-Lok® Capacity up to – 1/4" in Al, 3/16" in Stainless Steel.



### ZHD-7728

Hi-Lok® Installation Mini-Ratchet



### ZP161 0.5HP

1/2" Air Ratchet Wrench

### ZP163 0.5HP

3/8" Air Ratchet Wrench



### ZP161K/ZP163K

0.5HP

Air Ratchet Wrench Kit

Specifications:

- 1 pc Ratchet wrench
- 7 pcs Sockets
- 1 pc Nipple
- 1 pc Universal Joint
- 1 pc 75mm Extension Bar
- 1 pc Blow Molded Case



### ZP168

1/4" Air Stubby Ratchet Wrench



### ZP169

3/8" Air Stubby Ratchet Wrench

Model	Square Drive inch(mm)	Std Bolt Size inch(mm)	Free Speed rpm	Max. Torque ft-lb(Nm)	Avg. Air Cons. cfm(l/min)	Air Inlet Size inch	Net Weight lbs(kgs)	Overall Length inch(mm)	Min Hose Size inch(mm)
ZHD-7728	–	–	400	35(47.5)	3(85)	1/4	1.06(0.48)	6-17/64(159)	3/8(10)
ZP161	1/2(12.7)	1/4(6.4)	175	50(68)	3(85)	1/4	2.6(1.18)	10-13/32(265)	3/8(10)
ZP163	3/8(10)	1/4(6.4)	175	50(68)	3(85)	1/4	2.6(1.18)	10-13/32(265)	3/8(10)
ZP168	1/4(6.4)	1/4(6.4)	260	20(27)	2.5(70)	1/4	0.99(0.45)	5-1/4(133)	1/4(6.4)
ZP169	3/8(10)	1/4(6.4)	260	20(27)	2.5(70)	1/4	0.99(0.45)	5-1/4(133)	1/4(6.4)

• Recommended Gauge Air Pressure: 60~90psi

- The ratchet wrench can be used in narrow working spaces and can fasten bolts and nuts easily. This special tool can be reached tight place that other air tools can not.
- Remove: First, loosen nut by wrench then take nut out with air ratchet.
- Fasten: Push trigger to position the nut then lock it with torque wrench.



**ZRW-919LS** Rear Exhaust  
Air Ratchet Wrench



**ZRW-925LS** Rear Exhaust  
Air Ratchet Wrench



**ZRW-925LSB** Rear Exhaust  
Air Ratchet Wrench



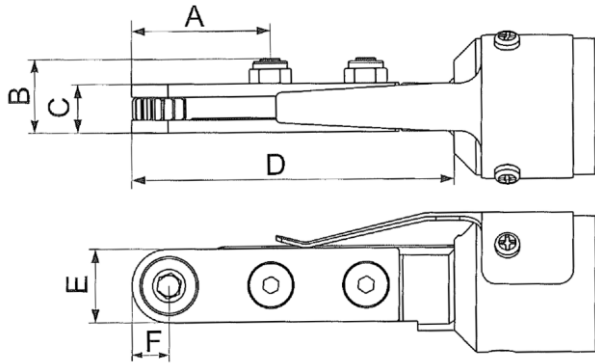
**ZRW-920LS** Rear Exhaust  
Air Ratchet Wrench



**ZRW-938LS** Rear Exhaust  
Air Ratchet Wrench

Model	Hex Size mm	Working Torque ft-lb(Nm)	MAX. Torque ft-lb(Nm)	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level db(A)
<b>ZRW-919LS</b>	6, 7, 8, 10, 11, 12, 1/4", 3/8"	7(10)	7(10)	180	127(4.5)	11.81(300)	1/4	2.87(1.3)	86
<b>ZRW-925LS</b>	10, 11, 12, 13, 14, 1/2", 9/16"	11(15)	18(25)	250	212(7.5)	13.07(332)	1/4	4.23(1.92)	87
<b>ZRW-925LSB</b>	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 11/16"	11(15)	18(25)	160	212(7.5)	13.3(338)	1/4	4.4(2)	87
<b>ZRW-920LS</b>	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 11/16"	59(80)	66(90)	150	353(12.5)	15.35(390)	1/4	5.33(2.42)	92
<b>ZRW-938LS</b>	21, 22, 23, 24, 26, 27	59(80)	66(90)	130	353(12.5)	15.66(398)	1/4	5.46(2.48)	92

- Recommended Gauge Air Pressure: 60~90psi



Model	A	B	C	D	E	F
	mm	mm	mm	mm	mm	mm
ZRW-919LS	38.2	20	13.2	88.2	20	10.2
ZRW-925LS	44.4	26	18	109	25.2	12.2
ZRW-925LSB	51	26	18	115	33.2	16.6
ZRW-920LS	51	26	18	115	33.2	16.6
ZRW-938LS	59	26	18	123	41	20.5

### Air Ratchet Wrench Order Code Reference

Model	ZRW-919LS	ZRW-925LS	ZRW-925LSB	ZRW-920LS	ZRW-938LS
Hex Size	Order Code				
6mm	ZRW-919LS-6				
7mm	ZRW-919LS-7				
8mm	ZRW-919LS-8				
9mm	ZRW-919LS-9				
10mm	ZRW-919LS-10	ZRW-925LS-10	ZRW-925LSB-10	ZRW-920LS-10	
11mm	ZRW-919LS-11	ZRW-925LS-11	ZRW-925LSB-11	ZRW-920LS-11	
12mm	ZRW-919LS-12	ZRW-925LS-12	ZRW-925LSB-12	ZRW-920LS-12	
13mm		ZRW-925LS-13	ZRW-925LSB-13	ZRW-920LS-13	
14mm		ZRW-925LS-14	ZRW-925LSB-14	ZRW-920LS-14	
15mm			ZRW-925LSB-15	ZRW-920LS-15	
16mm			ZRW-925LSB-16	ZRW-920LS-16	
17mm			ZRW-925LSB-17	ZRW-920LS-17	
18mm			ZRW-925LSB-18	ZRW-920LS-18	
19mm			ZRW-925LSB-19	ZRW-920LS-19	
21mm					ZRW-938LS-21
22mm					ZRW-938LS-22
23mm					ZRW-938LS-23
24mm					ZRW-938LS-24
26mm					ZRW-938LS-26
27mm					ZRW-938LS-27
1/4"	ZRW-919LS-1/4				
3/8"	ZRW-919LS-3/8				
1/2"		ZRW-925LS-1/2			
9/16"		ZRW-925LS-9/16			
11/16"			ZRW-925LSB-11/16	ZRW-920LS-11/16	



**ZID-036** Side Exhaust  
Impact Driver



**ZID-040P** Rear Exhaust  
Impact Driver

Two Hammer



- Two hammer design with Q.C. collect
- Forward/Reverse switch
- Two stages push type trigger
- Use for general automotive industries, electric or and assembly lines

Two Hammer

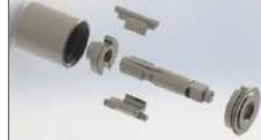


**ZID-350P** Rear Exhaust  
Impact Driver

Noise: 88dB(A), Vibration: 2.5(m/s<sup>2</sup>)

- Two hammer design with Q.C. collect
- Adjustable 3 stages speed for Forward/Reverse
- Use for general automotive industries, electric or and assembly lines

Two Hammer

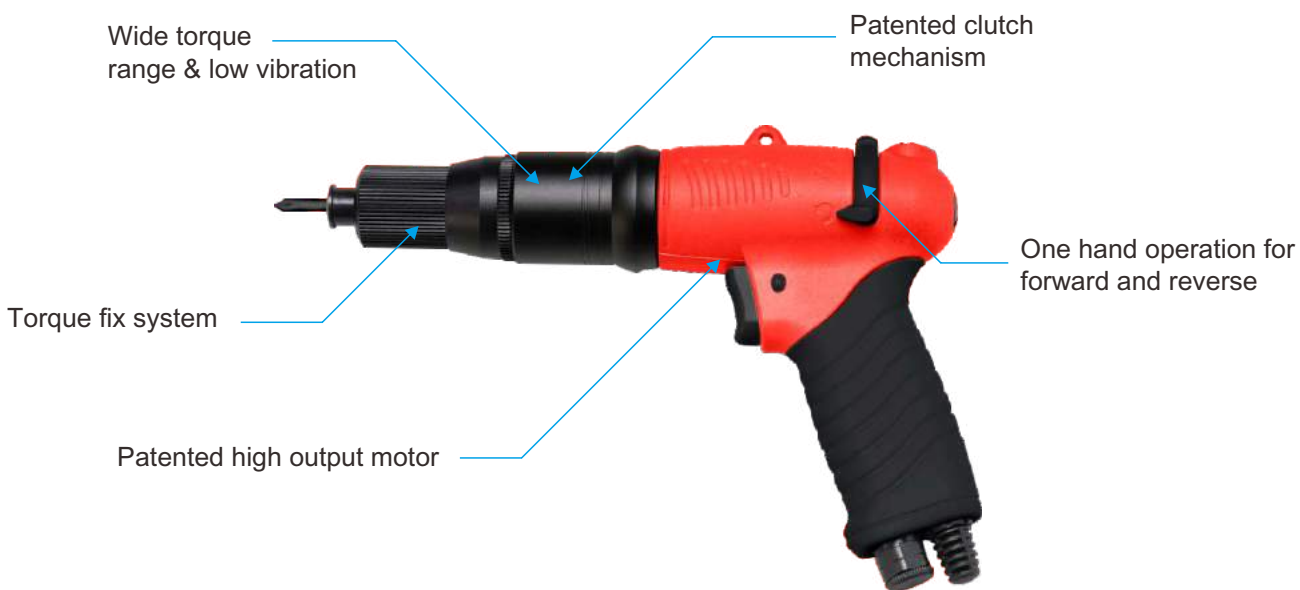


**ZIS-237** Rear Exhaust  
1/4" Air Impact Driver

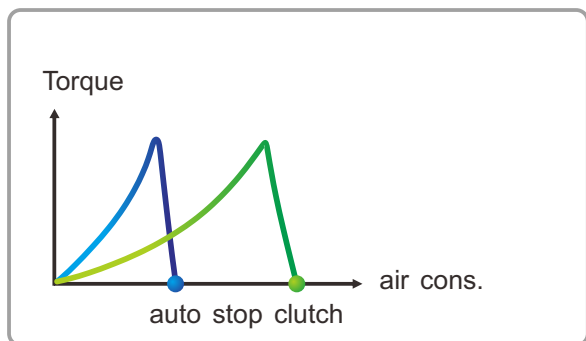
- Double-Chamber 9 vanes motor provides the highest output power comparing with conventional motor for the highest productivity.
- Double Pin Hammer mechanism.
- One piece front end plate & cylinder design to improve motorefficiency.
- User friendly side reverse switch.

Model	Hex. Drive inch(mm)	Bolt Size Capacity mm	Free Speed rpm	Max. Torque ft-lb(Nm)	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Overall Length inch(mm)	Air Inlet Size inch-NPT/PT
ZID-036	1/4(6.4)	(6-8)	8000	41(55)	90(6.2)	4.6(130)	2.2(1)	7-13/16(198)	1/4
ZID-040P	1/4(6.4)	(6-8)	8500	42(57)	90(6.2)	5.6(160)	2.2(1)	6-25/32(172)	1/4
ZID-350P	1/4(6.4)	(10-12)	11000	350(474)	90(6.2)	8.12(230)	3.5(1.6)	5-25/32(147)	1/4
ZIS-237	1/4(6.4)	(6-8)	5300	37(50)	90(6.2)	17.7(500)	1.9(0.84)	—	1/4

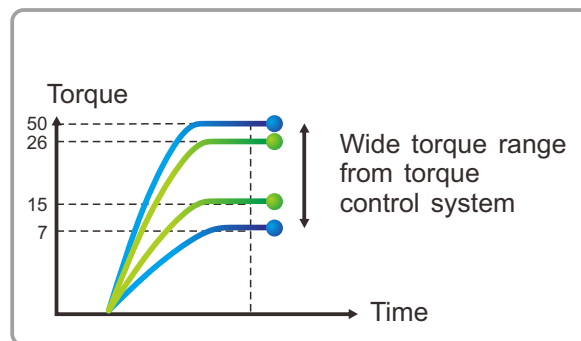
# Torque Control Air Screwdriver



## Motor Comparison



## Torque schematic diagram





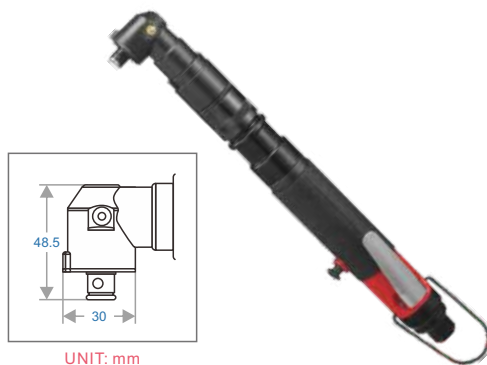
**ZB21MC/ZB31MC/ZB41MC  
ZB46MC/ZB49MC/ZB51MC  
ZB56MC/ZB59MC/ZB61MC  
ZB66MC/ZB71MC/ZB76MC  
ZB79MC**



**ZB46CCQ/ZB49CCQ/ZB52CCQ  
ZB58CCQ/ZB59CCQ/ZB61CCQ  
ZB66CCQ/ZB71CCQ/ZB76CCQ  
ZB79CCQ**

\*Performance specification @ 6.0kg/cm<sup>2</sup> (90psi).  
\*Output torque adjusts to 50% of maximum rated torque.

Model	Free Speed rpm	Weight g	O.A.L mm	Dia. mm	High mm	Air Pressure kg/cm <sup>2</sup>	Min. air hose bore mm	Air Consumption m <sup>3</sup> /min	Torque range kgf-cm	Standard Deviation %	Fastening Machine Screw Dia.	Capacity Tapping Screw Dia.
<b>ZB21MC</b>	1000	520	210	31	-	6.0	5.0	0.20	0.5-2	±3	M1.0-M2.2	M1.1-M1.7
<b>ZB31MC</b>	1000	520	210	31	-	6.0	5.0	0.20	1-8	±3	M1.7-M3.3	M1.3-M2.7
<b>ZB41MC</b>	1800	520	210	31	-	6.0	5.0	0.28	3-17	±3	M2.2-M4.2	M1.7-M3.2
<b>ZB46MC</b>	2200	520	210	31	-	6.0	5.0	0.28	3-20	±3	M2.2-M4.5	M1.7-M3.5
<b>ZB49MC</b>	1800	520	210	31	-	6.0	5.0	0.28	3-25	±3	M2.2-M4.7	M1.7-M3.8
<b>ZB51MC</b>	1000	520	210	31	-	6.0	5.0	0.28	5-30	±3	M2.8-M5.0	M2.3-M4.0
<b>ZB56MC</b>	800	520	210	31	-	6.0	5.0	0.3	8-40	±3	M3.3-M5.7	M2.7-M4.4
<b>ZB59MC</b>	1700	820	245	39	-	6.0	8.0	0.55	5-45	±3	M2.8-M5.8	M2.2-M4.7
<b>ZB61MC</b>	1400	820	245	39	-	6.0	8.0	0.55	7-50	±3	M2.9-M6.0	M2.6-M4.9
<b>ZB66MC</b>	1000	820	245	39	-	6.0	8.0	0.55	7-65	±3	M2.9-M6.4	M2.6-M5.4
<b>ZB71MC</b>	550	820	245	39	-	6.0	8.0	0.55	15-95	±3	M4.1-M7.0	M3.1-M6.0
<b>ZB76MC</b>	300	840	245	39	-	6.0	8.0	0.55	30-180	±3	M5.0-M9.3	M4.0-M7.2
<b>ZB79MC</b>	250	840	245	39	-	6.0	8.0	0.55	50-280	±3	M6.0-M11.0	M4.9-M8.7
<b>ZB46CCQ</b>	2200	640	190	35	190	6.0	5.0	0.28	3-20	±3	M2.2-M4.5	M1.7-M3.5
<b>ZB49CCQ</b>	1800	640	190	35	190	6.0	5.0	0.28	3-25	±3	M2.2-M4.7	M1.7-M3.8
<b>ZB52CCQ</b>	1000	640	190	35	190	6.0	5.0	0.28	5-35	±3	M2.8-M5.2	M2.2-M4.2
<b>ZB58CCQ</b>	550	640	190	35	190	6.0	5.0	0.28	10-50	±3	M3.6-M6.0	M2.8-M4.7
<b>ZB59CCQ</b>	1700	980	220	43	220	6.0	8.0	0.55	7-50	±3	M2.9-M6.0	M2.6-M4.9
<b>ZB61CCQ</b>	1400	980	220	43	220	6.0	8.0	0.55	10-60	±3	M3.6-M6.2	M2.8-M5.1
<b>ZB66CCQ</b>	1000	980	220	43	220	6.0	8.0	0.55	12-75	±3	M3.8-M6.6	M3.0-M5.6
<b>ZB71CCQ</b>	550	980	220	43	220	6.0	8.0	0.55	30-110	±3	M5.0-M7.3	M4.0-M6.2
<b>ZB76CCQ</b>	300	1100	220	43	220	6.0	8.0	0.55	30-180	±3	M5.0-M9.3	M4.0-M7.2
<b>ZB79CCQ</b>	250	1250	220	43	220	6.0	8.0	0.55	50-280	±3	M6.0-M11.0	M4.9-M8.7

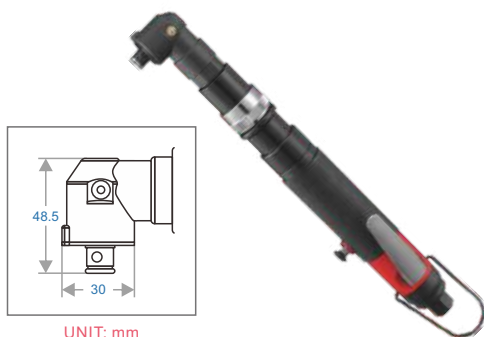


UNIT: mm

## ZRAW-5SLA03

Torque Control Type Rear Exhaust

Air Screwdriver-Air shut off

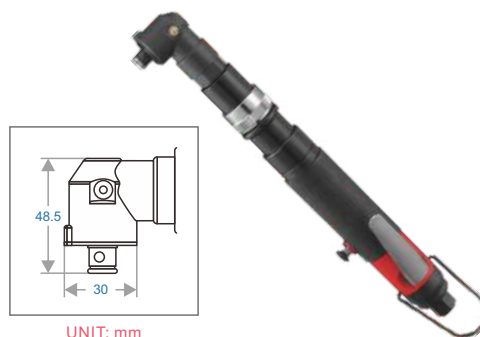


UNIT: mm

## ZRAW-5SLA08

Torque Control Type Rear Exhaust

Air Screwdriver-Air shut off



UNIT: mm

## ZRAW-5SLA15

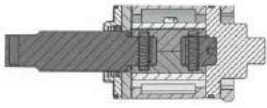
Torque Control Type Rear Exhaust

Air Screwdriver-Air shut off

Model	Screw Size Capacity mm	MAX. Torque ft-lb(Nm)	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level db(A)
ZRAW-5SLA15	4	0.9~1.8(1.2~2.4)	1450	198(7)	13.39(340)	1/4	2.69(1.22)	80
ZRAW-5SLA08	5	1.6~3.2(2.2~4.3)	800	198(7)	13.39(340)	1/4	2.69(1.22)	80
ZRAW-5SLA03	6	3~7.4(4~10)	340	198(7)	13.77(350)	1/4	2.86(1.3)	80

• Recommended Gauge Air Pressure: 60~90psi

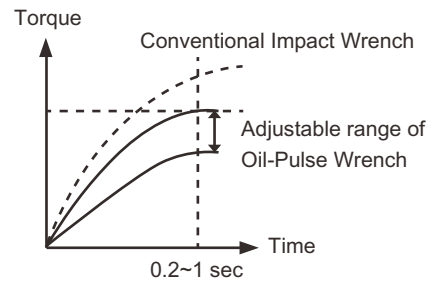
## Features Of Pulse Mechanism



X-Shape Sealing improves repeatability and durability.

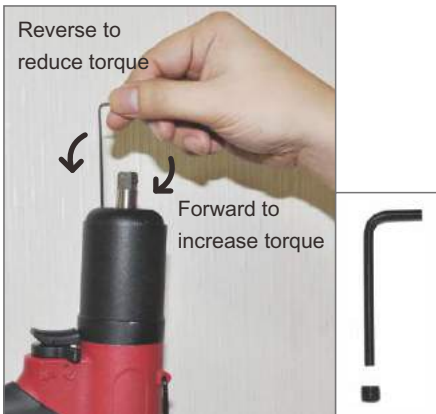


Twin drive roller blades reduce noise, vibration and improves impulse efficiency.



1 Piece design front end plate and cylinder improves motor efficiency.

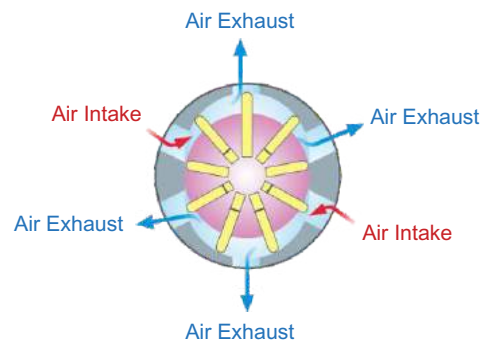
One hand reverse operation for Right or Left handed operators.



### Easy Torque Adjustment

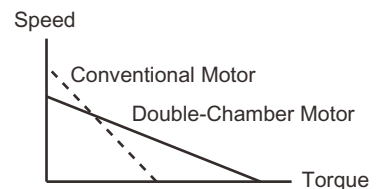
The required torque can be easily adjusted by turning the adjust screw through the housing.

Low noise exhaust, 360° adjustable.



### Double chamber air motor

9 Vanes motor design for smallest dimensions with highest power and acceleration results in a short time to reach the set torque and highest productivity.





# Pulse Screwdriver (Pistol Type)



**PS042**  
**PS052**  
**PS062**

Pistol Type



**PS072**

Pistol Type

## Specifications: Auto Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>PS042</b>	1/4"HEX	M4~M6	4(3)	5(3.7)	6(4.4)	9(6.6)	10(7.4)	11(8.1)	4500	0.4	80	1.06
<b>PS052</b>	1/4"HEX	M5~M8	7(5.2)	8(5.9)	9(6.6)	17(12.5)	17(12.5)	19(14)	5800	0.4	85	1.06
<b>PS062</b>	1/4"HEX	M6~M8	11(8.1)	12(8.9)	13(9.6)	20(14.8)	22(16.2)	25(18.4)	5800	0.43	85	1.08
<b>PS072</b>	1/4"HEX	M8~M10	20(14.8)	20(14.8)	22(16.2)	30(22.1)	32(23.6)	35(25.8)	5500	0.45	88	1.3



**PN042**  
**PN052**  
**PN062**

Pistol Type



**PN072**

Pistol Type

## Specifications: Non Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>PN042</b>	1/4"HEX	M5~M8	7(5.2)	9(6.6)	11(8.1)	10(7.4)	12(8.9)	14(10.3)	5600	0.4	80	0.95
<b>PN052</b>	1/4"HEX	M6~M8	13(9.6)	16(11.8)	19(14)	16(11.8)	19(14)	21(15.5)	6000	0.4	85	0.95
<b>PN062</b>	1/4"HEX	M6~M8	17(12.5)	20(14.8)	23(17)	24(17.7)	27(19.9)	30(22.1)	6000	0.43	85	0.94
<b>PN072</b>	1/4"HEX	M8~M10	25(18.4)	28(20.7)	31(22.9)	36(26.6)	39(28.8)	42(31)	5500	0.45	88	1.35

- Air Inlet Size: NPT 1/4"
- Recommended Gauge Air Pressure: 60~90psi(4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup>)(0.4Mpa~0.6Mpa)
- Air Hose Size: 10mm x 6.5mm (for 042~062 model), 12mm x 8mm (for 072 model)
- Above DATA Are All Measured At 4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup> Gauge Air Pressure

## Pulse Wrench (Pistol Type)



**PS043**  
**PS053**  
**PS063**

Pistol Type



**PS073**  
**PS084**

Pistol Type

Specifications: Auto Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>PS043</b>	3/8"SD	M4~M6	5(3.7)	6(4.4)	7(5.2)	10(7.4)	11(8.1)	12(8.9)	4500	0.4	80	1.06
<b>PS053</b>	3/8"SD	M6~M8	10(7.4)	11(8.1)	12(8.9)	20(14.8)	20(14.8)	23(17)	5800	0.4	85	1.06
<b>PS063</b>	3/8"SD	M6~M8	11(8.1)	12(8.9)	13(9.6)	20(14.8)	22(16.2)	25(18.4)	5800	0.43	85	1.08
<b>PS073</b>	3/8"SD	M8~M10	20(14.8)	20(14.8)	23(17)	36(26.6)	39(28.8)	42(31)	5500	0.45	88	1.3
<b>PS084</b>	1/2"SD	M10~M12	13(9.6)	15(11.1)	17(12.5)	32(23.6)	39(28.8)	42(31)	5500	0.5	88	1.42



**PN043**  
**PN053**  
**PN063**

Pistol Type



**PN073**  
**PN084**

Pistol Type

Specifications: Non Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>PN043</b>	3/8"SD	M6~M8	9(6.6)	11(8.1)	13(9.6)	13(9.6)	15(11.1)	17(12.5)	5600	0.4	80	0.95
<b>PN053</b>	3/8"SD	M6~M8	15(11.1)	18(13.3)	21(15.5)	19(14)	22(16.2)	25(18.4)	5800	0.4	85	0.95
<b>PN063</b>	3/8"SD	M8~M10	20(14.8)	23(17)	26(19.2)	28(20.7)	31(22.9)	34(25.1)	5800	0.43	85	0.94
<b>PN073</b>	3/8"SD	M8~M10	28(20.7)	31(22.9)	34(25.1)	42(31)	45(33.2)	48(35.4)	5500	0.45	88	1.35
<b>PN084</b>	1/2"SD	M10~M12	25(18.4)	27(19.9)	32(23.6)	38(28)	43(31.7)	52(38.4)	5500	0.5	88	1.35

- Air Inlet Size: NPT 1/4"
- Recommended Gauge Air Pressure: 60~90psi(4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup>)(0.4Mpa~0.6Mpa)
- Air Hose Size: 10mm x 6.5mm (for 043~063 model), 12mm x 8mm (for 073~084 model)
- Above DATA Are All Measured At 4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup> Gauge Air Pressure

**SS042**  
**SS052**  
**SS062**  
**SS072**

In Line Type



### Specifications: Auto Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>SS042</b>	1/4"HEX	M4~M6	4(3)	5(3.7)	6(4.4)	9(6.6)	10(7.4)	11(8.1)	4500	0.4	80	0.87
<b>SS052</b>	1/4"HEX	M5~M8	7(5.2)	8(5.9)	9(6.6)	17(12.5)	17(12.5)	19(14)	6000	0.4	85	0.85
<b>SS062</b>	1/4"HEX	M6~M8	11(8.1)	12(8.9)	13(9.6)	20(14.8)	22(16.2)	25(18.4)	6000	0.4	85	0.88
<b>SS072</b>	1/4"HEX	M8~M10	20(14.8)	20(14.8)	23(17)	30(22.1)	32(23.6)	35(25.8)	6000	0.45	88	1.29

**SN042**  
**SN052**  
**SN062**  
**SN072**

In Line Type



### Specifications: Non Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>SN042</b>	1/4"HEX	M5~M8	7(5.2)	9(6.6)	11(8.1)	10(7.4)	12(8.9)	14(10.3)	5600	0.4	80	0.87
<b>SN052</b>	1/4"HEX	M6~M8	13(9.6)	16(11.8)	19(14)	16(11.8)	19(14)	21(15.5)	6000	0.4	85	0.85
<b>SN062</b>	1/4"HEX	M6~M8	17(12.5)	20(14.8)	23(17)	24(17.7)	27(19.9)	30(22.1)	6000	0.4	85	0.88
<b>SN072</b>	1/4"HEX	M8~M10	25(18.4)	28(20.7)	31(22.9)	36(26.6)	39(28.8)	42(31)	6000	0.45	88	1.29

- Air Inlet Size: NPT 1/4"
- Recommended Gauge Air Pressure: 60~90psi(4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup>)(0.4Mpa~0.6Mpa)
- Air Hose Size: 10mm x 6.5mm (for 042~062 model ), (for 072 model)
- Above DATA Are All Measured At 4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup> Gauge Air Pressure

## Pulse Wrench (In Line Type)



**SS043**  
**SS053**  
**SS063**  
**SS073**  
**SS084**

In Line Type

Specifications: Auto Shut-Off Type



**SN043**  
**SN053**  
**SN063**  
**SN073**  
**SN084**

In Line Type

Specifications: Non Shut-Off Type

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / Nm(Lb-ft)						Free Speed rpm	Air Cons. m <sup>3</sup> /min	Noise Level dB(A)	Net Weight kg
			Min. Oil Pressure			Max. Oil Pressure						
			0.4MPa	0.5MPa	0.6MPa	0.4MPa	0.5MPa	0.6MPa				
<b>SS043</b>	3/8"SD	M4~M6	5(3.7)	6(4.4)	7(5.2)	10(7.4)	11(8.1)	12(8.9)	4500	0.4	80	0.87
<b>SS053</b>	3/8"SD	M6~M8	10(7.4)	11(8.1)	12(8.9)	20(14.8)	20(14.8)	23(17)	6000	0.4	85	0.85
<b>SS063</b>	3/8"SD	M6~M8	11(8.1)	12(8.9)	13(9.6)	20(14.8)	22(16.2)	25(18.4)	6000	0.4	85	0.88
<b>SS073</b>	3/8"SD	M8~M10	20(14.8)	20(14.8)	23(17)	36(26.6)	39(28.8)	42(31)	6000	0.45	88	1.29
<b>SS084</b>	1/2"SD	M10~M12	13(9.6)	15(11.1)	17(12.5)	38(28)	42(31)	47(34.7)	6000	0.45	88	1.3
<b>SN043</b>	3/8"SD	M6~M8	9(6.6)	11(8.1)	13(9.6)	13(9.6)	15(11.1)	17(12.5)	5600	0.4	80	0.87
<b>SN053</b>	3/8"SD	M6~M8	15(11.1)	18(13.3)	21(15.5)	19(14)	22(16.2)	25(18.4)	6000	0.4	85	0.85
<b>SN063</b>	3/8"SD	M8~M10	20(14.8)	23(17)	26(19.2)	28(20.7)	31(22.9)	34(25.1)	6000	0.4	85	0.88
<b>SN073</b>	3/8"SD	M8~M10	28(20.7)	31(22.9)	34(25.1)	42(31)	45(33.2)	48(35.4)	6000	0.45	88	1.29
<b>SN084</b>	1/2"SD	M10~M12	28(20.7)	31(22.9)	33(24.3)	45(33.2)	50(36.9)	57(42)	6000	0.45	88	1.3

- Air Inlet Size: NPT 1/4"
- Recommended Gauge Air Pressure: 60~90psi(4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup>)(0.4Mpa~0.6Mpa)
- Air Hose Size: 10mm x 6.5mm (for 043~063 model ), (for 073~084 model)
- Above DATA Are All Measured At 4kg/cm<sup>2</sup>~6kg/cm<sup>2</sup> Gauge Air Pressure



### ZPO-1L

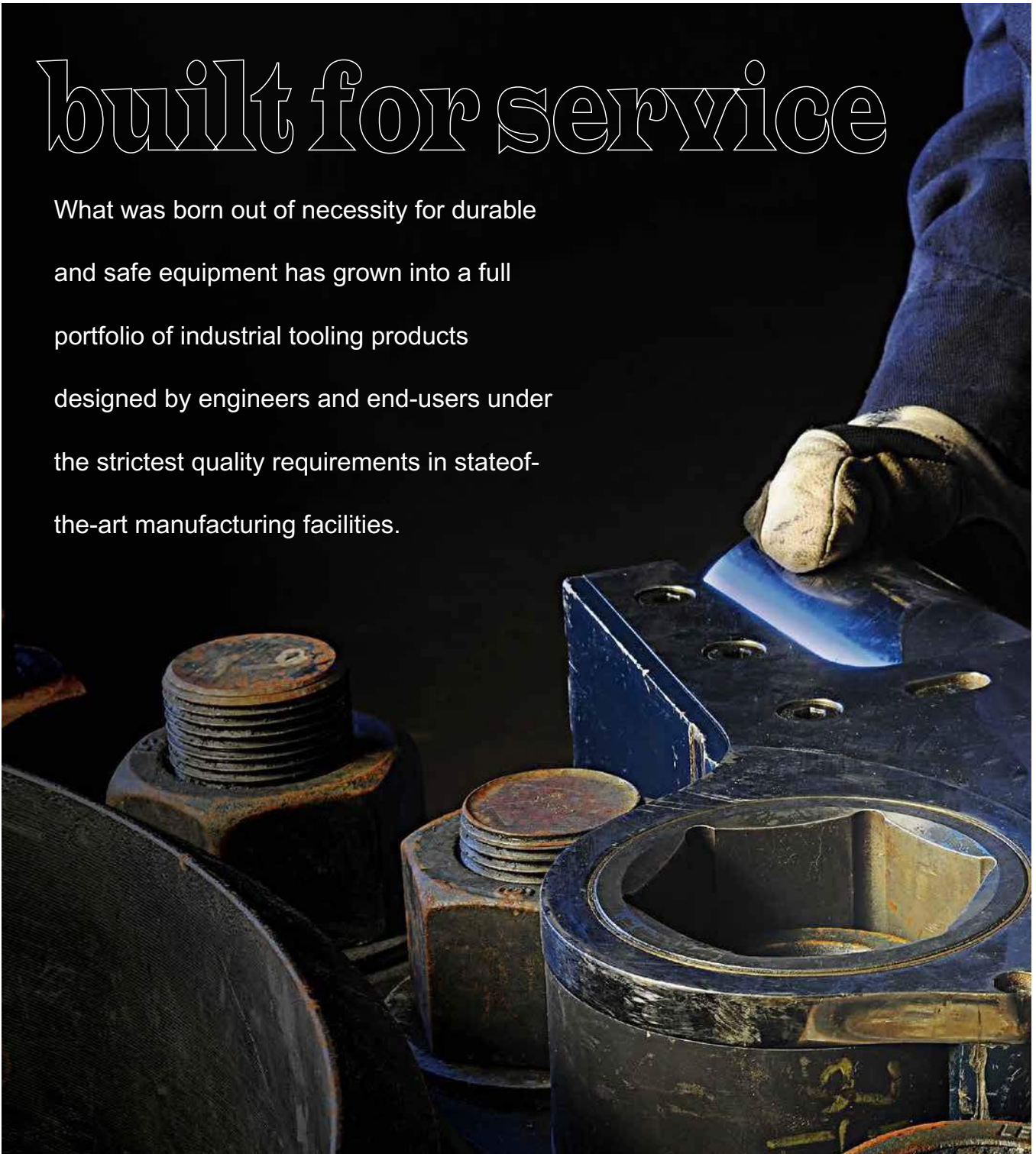
Synthetic pulse tool oil

#### Features

- New ZPO-1L is a fully synthetic hydraulic oil formulated with the most advanced technology and superior than other similar oils in the field.
- Applicable to all Pulse tools.
- Exceptional torque and auto shut off performance under environment temperature as low as 15°C.
- Great wear resistance to prolong the life of metal components.

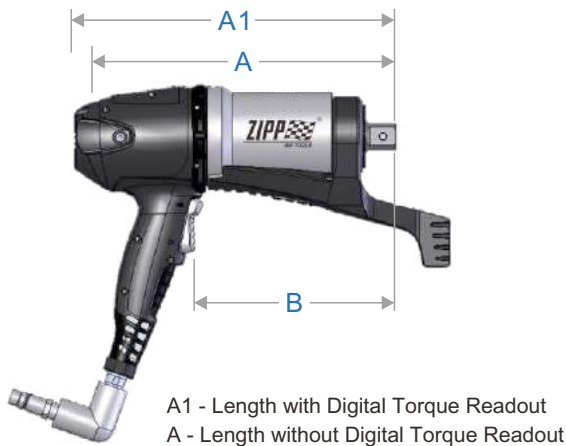
# built for service

What was born out of necessity for durable and safe equipment has grown into a full portfolio of industrial tooling products designed by engineers and end-users under the strictest quality requirements in state-of-the-art manufacturing facilities.



## Cyclone Magnum Pneumatic Torque Wrench

The future of pneumatic torquing is here. The Cyclone Magnum features an optional digital torque readout, purpose built motor, industry-leading gear durability and numerous ergonomic features. The Cyclone Magnum is the new leader in torque accuracy (+/-5%), durability and comfort.



**Start torquing efficiently today!  
Reduce your project downtime!**



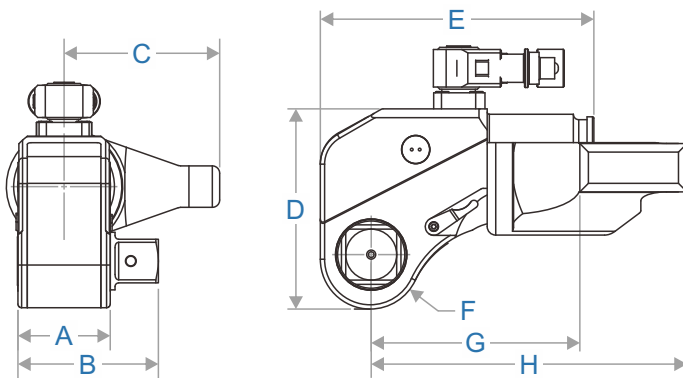
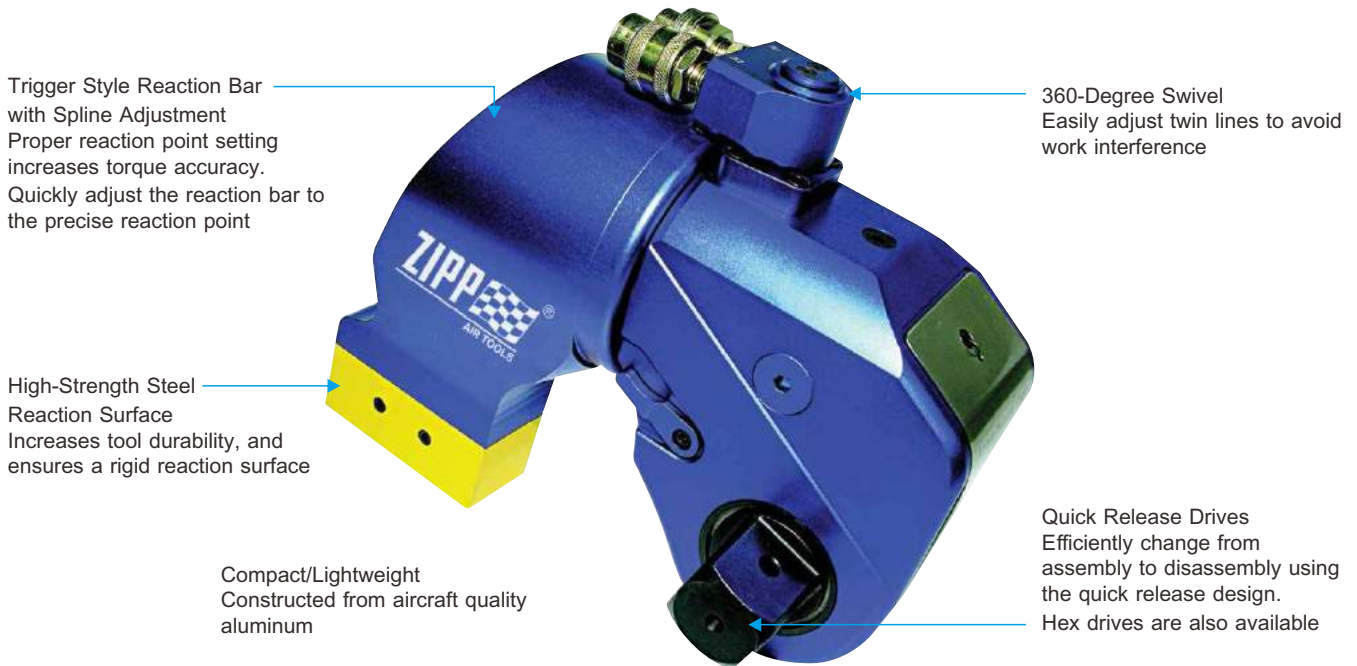
US PATENT NO. D638,682S  
CANADIAN PATENT NO. 139501  
EUROPEAN REGISTERED DESIGN NO. 001834300-0001  
REGISTERED DESIGN NO. 001834300-0002  
CHINA AND TAIWAN PATENT PENDING

Model	Square Drive Size inch	Torque Range ft-lbs(Nm)	Dimension A1 inch(mm)	Dimension A inch(mm)	Dimension B inch(mm)	Ring Diameter inch(mm)	Net Weight lbs(kgs)		
ZAT400CMPLT ZAT400DR-CMPLT	3/4	44-400(60-540)	9.85(250.3)	9.7(247.2)	5.4(136.3)	2.25(57.2)	10.2(4.6)		
ZAT800CMPLT ZAT800DR-CMPLT	3/4	88-800(120-1100)	9.85(250.1)	9.7(247.1)	5.1(129.8)	2.97(75.3)	11.9(5.4)		
ZAT1800CMPLT ZAT1800DR-CMPLT	1	200-1800(275-2450)	12.12(307.9)	11.7(297.5)	7.5(191.3)	3.42(86.9)	17.7(8)		
ZAT3000CMPLT ZAT3000DR-CMPLT	1	333-3000(450-4070)	13(330)	12.8(326.9)	8.6(220.2)	3.8(96.5)	22.8(10.3)		
Removable Drives for Low-Cost Maintenance (Note: Use of hex drives may require special reaction bars.)									
Hex Size	5/8"	3/4"	7/8"	1"	1-1/4"	14 mm	17 mm	19 mm	22 mm
ZAT400	ZAT400-HX1	ZAT400-HX2				ZAT400-HX7	ZAT400-HX8	ZAT400-HX9	
ZAT800	ZAT800-HX1	ZAT800-HX2				ZAT800-HX7	ZAT800-HX8	ZAT800-HX9	
ZAT1800		ZAT1800-HX2	ZAT1800-HX3	ZAT1800-HX4			ZAT1800-HX8	ZAT1800-HX9	ZAT1800-HX10
ZAT3000		ZAT3000-HX2	ZAT3000-HX3	ZAT3000-HX4	ZAT3000-HX5			ZAT3000-HX9	ZAT3000-HX10



## ZLW Series Lightweight Aluminum Square Drive Hydraulic Wrench

The ZLW square drive hydraulic wrench is the most efficient and heavily used tool in any turnaround trailer. Used for disassembly and reassembly, the ZLW offers unparalleled performance and durability for getting the job completed on time and with an accurate torque control of +/-5%



**DURABILITY...**  
original square drive has been in service since 1991.

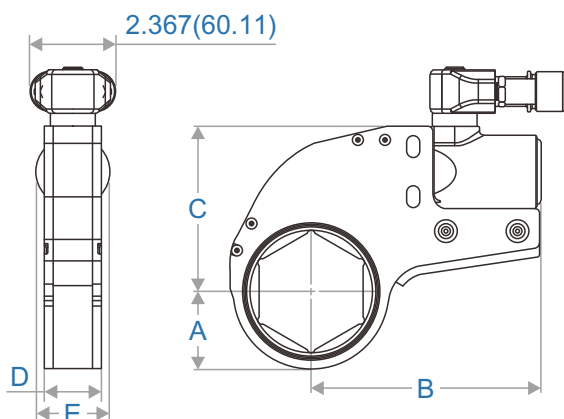
**Maximum Operating Pressure 10,000 psi (700 bar)**

Item Number	Drive Size inch	Max Torque ft-lbs(Nm)	Dimension A inch(mm)	Dimension B inch(mm)	Dimension C inch(mm)	Dimension D inch(mm)	Dimension E inch(mm)	Dimension F inch(mm)	Dimension G inch(mm)	Dimension H inch(mm)	Weight with Reaction Bar lbs(kgs)
ZLW1	3/4	1282(1738)	1.99(50.5)	2.86(72.6)	3.63(92.2)	3.81(96.8)	5.74(145.8)	1.03(26.2)	3.37(85.6)	6.89(175)	5.5(2.5)
ZLW3	1	3250(4406)	2.70(68.6)	3.77(95.8)	4.9(124.5)	5.04(128)	7.07(179.6)	1.35(34.3)	4.48(114)	9.09(230.9)	11(5)
ZLW5	1-1/2	5552(7528)	3.18(80.8)	4.88(124)	5.56(141.2)	5.92(150.4)	8.36(212.3)	1.55(39.4)	5.44(138.2)	10.74(272.8)	17(7.8)
ZLW8	1-1/2	7500(10169)	3.57(90.7)	5.32(135.1)	6.55(166.4)	6.63(168.4)	8.81(223.8)	1.87(47.5)	6.07(154.2)	11.63(295.4)	24(10.9)
ZLW10	1-1/2	11000(14914)	3.97(100.8)	5.64(143.3)	7.07(179.6)	7.23(183.6)	9.74(247.4)	2.02(51.3)	6.11(155.2)	12.6(320)	33(15)
ZLW20	2-1/2	19050(25828)	4.76(120.9)	7.27(184.7)	8.46(214.9)	8.73(221.7)	12.21(310.1)	2.34(59.4)	7.38(187.5)	15.22(386.6)	58(26.3)
ZLW25	2-1/2	24500(33218)	5.44(138.2)	7.94(201.7)	9.05(229.9)	9.81(249.2)	12.82(325.6)	2.62(66.5)	7.90(200.7)	15.92(404.4)	77(34.9)
ZLW35	2-1/2	34400(46640)	6.07(154.2)	8.58(217.9)	9.67(245.6)	11.2(284.4)	14.79(375.7)	3.06(77.7)	9.57(243.1)	18.48(469.4)	110(49.9)



### ZTL Series Low Clearance / Direct Fit Hydraulic Wrench

Designed to fit where no other tool will go. The Torque Link low clearance torque wrench is the best solution for tightening in a constrained space environment. The TL eliminates side loading issues through in-line reaction and offers a controlled torque accuracy of +/-3%. The integrated cylinder eliminates the need to match cylinders to links and ensures that every TL in your fleet is operationally ready to perform.



Custom torque wrench solutions available D upon request.

Item Number with Swivel and Aluminum Reaction Surface	Item Number with Swivel and Steel Reaction Surface	Hexagon Size	Max Torque ft-lbs(Nm)	Dimension A inch(mm)	Dimension B inch(mm)	Dimension C inch(mm)	Dimension D inch(mm)	Dimension E inch(mm)	Weight with Swivel and Aluminum Reaction Surface Weight lbs(kgs)
ZTL210625	ZTL210625-S	1-1/16"	1336(1812)	0.96(24.2)	4.769(121.1)	2.834(72)	1.280(32.5)	1.563(39.7)	5(2.3)
ZTL227MM	ZTL227MM-S	27mm	1336(1812)	0.96(24.2)	4.769(121.1)	2.834(72)	1.280(32.5)	1.563(39.7)	5(2.3)
ZTL21250	ZTL21250-S	1-1/4"	1336(1812)	1.07(27.2)	4.775(121.3)	2.807(71.3)	1.264(32.1)	1.563(39.7)	5.1(2.3)
ZTL230MM	ZTL230MM-S	30mm	1336(1812)	1.07(27.2)	4.775(121.3)	2.807(71.3)	1.264(32.1)	1.563(39.7)	5.1(2.3)
ZTL214375	ZTL214375-S	1-7/16"	1451(1968)	1.17(29.8)	5.002(127.1)	3(76.2)	1.264(32.1)	1.563(39.7)	5.1(2.3)
ZTL234MM	ZTL234MM-S	34mm	1451(1968)	1.17(29.8)	5.002(127.1)	3(76.2)	1.264(32.1)	1.563(39.7)	5.1(2.3)
ZTL236MM	ZTL236MM-S	36mm	1451(1968)	1.17(29.8)	5.002(127.1)	3(76.2)	1.264(32.1)	1.563(39.7)	5.1(2.3)
ZTL21625	ZTL21625-S	1-5/8"	1499(2033)	1.29(32.8)	5.002(127.1)	3.097(78.7)	1.264(32.1)	1.563(39.7)	5.2(2.3)
ZTL241MM	ZTL241MM-S	41mm	1499(2033)	1.29(32.8)	5.002(127.1)	3.097(78.7)	1.264(32.1)	1.563(39.7)	5.2(2.3)
ZTL218125	ZTL218125-S	1-13/16	1543(2092)	1.39(35.3)	5.079(129)	3.162(80.3)	1.264(32.1)	1.563(39.7)	5.2(2.4)
ZTL246MM	ZTL246MM-S	46mm	1543(2092)	1.39(35.3)	5.079(129)	3.162(80.3)	1.264(32.1)	1.563(39.7)	5.2(2.4)
ZTL22000	ZTL22000-S	2"	1579(2141)	1.47(37.3)	5.073(128.9)	3.223(81.9)	1.264(32.1)	1.563(39.7)	5.3(2.4)
ZTL250MM	ZTL250MM-S	50mm	1579(2141)	1.47(37.3)	5.073(128.9)	3.223(81.9)	1.264(32.1)	1.563(39.7)	5.3(2.4)
ZTL221875	ZTL221875-S	2-3/16"	1640(2224)	1.569(39.9)	5.074(128.9)	3.279(83.3)	1.264(32.1)	1.563(39.7)	5.5(2.5)
ZTL255MM	ZTL255MM-S	55mm	1640(2224)	1.569(39.9)	5.074(128.9)	3.279(83.3)	1.264(32.1)	1.563(39.7)	5.5(2.5)
ZTL22375	ZTL22375-S	2-3/8"	1576(2137)	1.7(43.2)	5.221(132.6)	3.479(88.4)	1.264(32.1)	1.563(39.7)	5.7(2.6)
ZTL258MM	ZTL258MM-S	58mm	1576(2137)	1.7(43.2)	5.221(132.6)	3.479(88.4)	1.264(32.1)	1.563(39.7)	5.7(2.6)
ZTL260MM	ZTL260MM-S	60mm	1576(2137)	1.7(43.2)	5.221(132.6)	3.479(88.4)	1.264(32.1)	1.563(39.7)	5.7(2.6)





# Direct Fit Hydraulic Wrench



## Specifications (continued)

Item Number with Swivel and Aluminum Reaction Surface	Item Number with Swivel and Steel Reaction Surface	Hexagon Size	Max Torque ft-lbs(Nm)	Dimension A inch(mm)	Dimension B inch(mm)	Dimension C inch(mm)	Dimension D inch(mm)	Dimension E inch(mm)	Weight with Swivel and Aluminum Reaction Surface Weight lbs(kgs)
ZTL418125	ZTL418125-S	1-13/16"	3800(5153)	1.47(37.3)	6.065(154.1)	3.929(99.8)	1.875(47.6)	2.036(51.7)	9.2(4.2)
ZTL446MM	ZTL446MM-S	46mm	3800(5153)	1.47(37.3)	6.065(154.1)	3.929(99.8)	1.875(47.6)	2.036(51.7)	9.2(4.2)
ZTL42000	ZTL42000-S	2"	3956(5364)	1.6(40.6)	6.11(155.2)	4.217(107.1)	1.625(41.3)	2.036(51.7)	10(4.5)
ZTL450MM	ZTL450MM-S	50mm	3956(5364)	1.6(40.6)	6.11(155.2)	4.217(107.1)	1.625(41.3)	2.036(51.7)	10(4.5)
ZTL421875	ZTL421875-S	2-3/16"	3989(5409)	1.72(43.7)	6.182(157)	4.209(106.9)	1.625(41.3)	2.036(51.7)	10.5(4.8)
ZTL455MM	ZTL455MM-S	55mm	3989(5409)	1.72(43.7)	6.182(157)	4.209(106.9)	1.625(41.3)	2.036(51.7)	10.5(4.8)
ZTL42375	ZTL42375-S	2-3/8"	4007(5433)	1.83(46.5)	6.186(157.1)	4.288(108.9)	1.625(41.3)	2.036(51.7)	10.6(4.8)
ZTL458MM	ZTL458MM-S	58mm	4007(5433)	1.83(46.5)	6.186(157.1)	4.288(108.9)	1.625(41.3)	2.036(51.7)	10.6(4.8)
ZTL460MM	ZTL460MM-S	60mm	4007(5433)	1.83(46.5)	6.186(157.1)	4.288(108.9)	1.625(41.3)	2.036(51.7)	10.6(4.8)
ZTL425625	ZTL425625-S	2-9/16"	3988(5408)	1.95(49.5)	6.318(160.5)	4.5(114.3)	1.625(41.3)	2.036(51.7)	10.8(4.9)
ZTL465MM	ZTL465MM-S	65mm	3988(5408)	1.95(49.5)	6.318(160.5)	4.5(114.3)	1.625(41.3)	2.036(51.7)	10.8(4.9)
ZTL42750	ZTL42750-S	2-3/4"	4057(5501)	2.04(51.8)	6.393(162.4)	4.52(114.8)	1.625(41.3)	2.036(51.7)	10.9(5)
ZTL470MM	ZTL470MM-S	70mm	4057(5501)	2.04(51.8)	6.393(162.4)	4.52(114.8)	1.625(41.3)	2.036(51.7)	10.9(5)
ZTL429375	ZTL429375-S	2-15/16"	4086(5541)	2.16(54.9)	6.374(161.9)	4.618(117.3)	1.625(41.3)	2.036(51.7)	11(5)
ZTL43125	ZTL43125-S	3-1/8"	4220(5722)	2.26(57.4)	6.574(167)	4.725(120)	1.625(41.3)	2.036(51.7)	11.1(5)
ZTL475MM	ZTL475MM-S	75mm	4220(5722)	2.26(57.4)	6.574(167)	4.725(120)	1.625(41.3)	2.036(51.7)	11.1(5)
ZTL480MM	ZTL480MM-S	80mm	4220(5722)	2.26(57.4)	6.574(167)	4.725(120)	1.625(41.3)	2.036(51.7)	11.1(5)
ZTL82000	ZTL82000-S	2"	7531(10212)	1.749(44.4)	7.578(192.5)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.6(8.9)
ZTL850MM	ZTL850MM-S	50mm	7531(10212)	1.749(44.4)	7.578(192.5)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.6(8.9)
ZTL821875	ZTL821875-S	2-3/16"	7945(10773)	1.85(47)	7.708(195.8)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.6(8.9)
ZTL855MM	ZTL855MM-S	55mm	7945(10773)	1.85(47)	7.708(195.8)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.6(8.9)
ZTL82375	ZTL82375-S	2-3/8"	8100(10984)	1.94(49.3)	7.67(194.8)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.7(8.9)
ZTL858MM	ZTL858MM-S	58mm	8100(10984)	1.94(49.3)	7.67(194.8)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.7(8.9)
ZTL860MM	ZTL860MM-S	60mm	8100(10984)	1.94(49.3)	7.67(194.8)	4.927(125.2)	2.25(57.2)	2.54(64.5)	19.7(8.9)
ZTL825625	ZTL825625-S	2-9/16"	8165(11072)	2.02(51.3)	7.67(194.8)	4.99(126.8)	2.25(57.2)	2.54(64.5)	19.9(9)
ZTL865MM	ZTL865MM-S	65mm	8165(11072)	2.02(51.3)	7.67(194.8)	4.99(126.8)	2.25(57.2)	2.54(64.5)	19.9(9)
ZTL82750	ZTL82750-S	2-3/4"	8029(10887)	2.15(54.6)	7.762(197.2)	5.11(129.8)	2.25(57.2)	2.54(64.5)	20.2(9.2)
ZTL870MM	ZTL870MM-S	70mm	8029(10887)	2.15(54.6)	7.762(197.2)	5.11(129.8)	2.25(57.2)	2.54(64.5)	20.2(9.2)
ZTL829375	ZTL829375-S	2-15/16"	8095(10977)	2.23(56.6)	7.91(200.9)	5.22(132.6)	2.25(57.2)	2.54(64.5)	20.5(9.3)
ZTL83125	ZTL83125-S	3-1/8"	7921(10741)	2.33(59.2)	7.977(202.6)	5.22(132.6)	2.25(57.2)	2.54(64.5)	21(9.5)
ZTL875MM	ZTL875MM-S	75mm	7921(10741)	2.33(59.2)	7.977(202.6)	5.22(132.6)	2.25(57.2)	2.54(64.5)	21(9.5)
ZTL880MM	ZTL880MM-S	80mm	7921(10741)	2.33(59.2)	7.977(202.6)	5.22(132.6)	2.25(57.2)	2.54(64.5)	21(9.5)
ZTL83500	ZTL83500-S	3-1/2"	8351(11324)	2.56(65)	8.039(204.2)	5.593(142.1)	2.25(57.2)	2.54(64.5)	22(10)
ZTL885MM	ZTL885MM-S	85mm	8351(11324)	2.56(65)	8.039(204.2)	5.593(142.1)	2.25(57.2)	2.54(64.5)	22(10)
ZTL83875	ZTL83875-S	3-7/8"	8093(10974)	2.78(70.6)	8.278(210.3)	5.753(146.1)	2.25(57.2)	2.54(64.5)	23(10.4)
ZTL890MM	ZTL890MM-S	90mm	8093(10974)	2.78(70.6)	8.278(210.3)	5.753(146.1)	2.25(57.2)	2.54(64.5)	23(10.4)
ZTL895MM	ZTL895MM-S	95mm	8093(10974)	2.78(70.6)	8.278(210.3)	5.753(146.1)	2.25(57.2)	2.54(64.5)	23(10.4)
ZTL1429375	ZTL1429375-S	2-15/16"	12865(17445)	2.439(62)	9.247(234.9)	6.25(158.8)	2.9(73.7)	3.1(78.7)	36.7(16.6)
ZTL143125	ZTL143125-S	3-1/8"	13091(17751)	2.537(64.4)	9.373(238.1)	6.486(164.8)	2.9(73.7)	3.1(78.7)	38.7(17.5)
ZTL1475MM	ZTL1475MM-S	75mm	13091(17751)	2.537(64.4)	9.373(238.1)	6.486(164.8)	2.9(73.7)	3.1(78.7)	38.7(17.5)
ZTL1480MM	ZTL1480MM-S	80mm	13091(17751)	2.537(64.4)	9.373(238.1)	6.486(164.8)	2.9(73.7)	3.1(78.7)	38.7(17.5)
ZTL143500	ZTL143500-S	3-1/2"	14272(19353)	2.73(69.3)	9.455(240.2)	6.486(164.8)	2.75(69.9)	3.1(78.7)	37.1(16.8)
ZTL1485MM	ZTL1485MM-S	85mm	14272(19353)	2.73(69.3)	9.455(240.2)	6.486(164.8)	2.75(69.9)	3.1(78.7)	37.1(16.8)
ZTL143875	ZTL143875-S	3-7/8"	14140(19174)	2.88(73.2)	9.561(242.9)	6.486(164.8)	2.5(63.5)	3.1(78.7)	34.9(15.8)
ZTL1490MM	ZTL1490MM-S	90mm	14140(19174)	2.88(73.2)	9.561(242.9)	6.486(164.8)	2.5(63.5)	3.1(78.7)	34.9(15.8)
ZTL1495MM	ZTL1495MM-S	95mm	14140(19174)	2.88(73.2)	9.561(242.9)	6.486(164.8)	2.5(63.5)	3.1(78.7)	34.9(15.8)
ZTL144250	ZTL144250-S	4-1/4"	14172(19217)	3.07(78)	9.667(245.5)	6.806(172.9)	2.5(63.5)	3.1(78.7)	36(16.3)
ZTL14100MM	ZTL14100MM-S	100mm	14172(19217)	3.07(78)	9.667(245.5)	6.806(172.9)	2.5(63.5)	3.1(78.7)	36(16.3)
ZTL14105MM	ZTL14105MM-S	105mm	14172(19217)	3.07(78)	9.667(245.5)	6.806(172.9)	2.5(63.5)	3.1(78.7)	36(16.3)
ZTL144625	ZTL144625-S	4-5/8"	14030(19025)	3.25(82.6)	9.667(245.5)	6.983(177.4)	2.5(63.5)	3.1(78.7)	36.4(16.5)
ZTL14110MM	ZTL14110MM-S	110mm	14030(19025)	3.25(82.6)	9.667(245.5)	6.983(177.4)	2.5(63.5)	3.1(78.7)	36.4(16.5)
ZTL14115MM	ZTL14115MM-S	115mm	14030(19025)	3.25(82.6)	9.667(245.5)	6.983(177.4)	2.5(63.5)	3.1(78.7)	36.4(16.5)
ZTL203500	ZTL203500-S	3-1/2"	18052(24479)	2.771(70.4)	10.947(278.1)	6.85(174)	2.75(69.9)	3.625(92.1)	50.2(22.8)
ZTL2085MM	ZTL2085MM-S	85mm	18052(24479)	2.771(70.4)	10.947(278.1)	6.85(174)	2.75(69.9)	3.625(92.1)	50.2(22.8)
ZTL203875	ZTL203875-S	3-7/8"	19153(25971)	3.011(76.5)	10.987(279.1)	7.092(180.1)	2.75(69.9)	3.625(92.1)	50(22.7)
ZTL2090MM	ZTL2090MM-S	90mm	19153(25971)	3.011(76.5)	10.987(279.1)	7.092(180.1)	2.75(69.9)	3.625(92.1)	50(22.7)
ZTL2095MM	ZTL2095MM-S	95mm	19153(25971)	3.011(76.5)	10.987(279.1)	7.092(180.1)	2.75(69.9)	3.625(92.1)	50(22.7)
ZTL204250	ZTL204250-S	4-1/4"	20755(28144)	3.322(84.4)	11.580(294.1)	7.46(189.5)	2.75(69.9)	3.625(92.1)	55.8(25.3)
ZTL20100MM	ZTL20100MM-S	100mm	20755(28144)	3.322(84.4)	11.580(294.1)	7.46(189.5)	2.75(69.9)	3.625(92.1)	55.8(25.3)
ZTL20105MM	ZTL20105MM-S	105mm	20755(28144)	3.322(84.4)	11.580(294.1)	7.46(189.5)	2.75(69.9)	3.625(92.1)	55.8(25.3)
ZTL204625	ZTL204625-S	4-5/8"	20132(27299)	3.455(87.8)	11.682(296.7)	7.667(194.7)	2.75(69.9)	3.625(92.1)	57.1(25.9)
ZTL20110MM	ZTL20110MM-S	110mm	20132(27299)	3.455(87.8)	11.682(296.7)	7.667(194.7)	2.75(69.9)	3.625(92.1)	57.1(25.9)
ZTL20115MM	ZTL20115MM-S	115mm	20132(27299)	3.455(87.8)	11.682(296.7)	7.667(194.7)	2.75(69.9)	3.625(92.1)	57.1(25.9)
ZTL205000	ZTL205000-S	5"	20249(27458)	3.731(94.8)	11.925(302.9)	7.837(199.1)	2.75(69.9)	3.625(92.1)	58.4(26.5)
ZTL20120MM	ZTL20120MM-S	120mm	20249(27458)	3.731(94.8)	11.925(302.9)	7.837(199.1)	2.75(69.9)	3.625(92.1)	58.4(26.5)
ZTL205375	ZTL205375-S	5-3/8"	20000(27120)	3.896(99)	11.972(304.1)	8.144(206.9)	2.75(69.9)	3.625(92.1)	59(26.8)
ZTL20135MM	ZTL20135MM-S	135mm	20000(27120)	3.896(99)	11.972(304.1)	8.144(206.9)	2.75(69.9)	3.625(92.1)	59(26.8)
ZTL304250	ZTL304250-S	4-1/4"	31690(42972)	3.367(85.5)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30100MM	ZTL30100MM-S	100mm	31690(42972)	3.367(85.5)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30105MM	ZTL30105MM-S	105mm	31690(42972)	3.367(85.5)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL304625	ZTL304625-S	4-5/8"	31690(42972)	3.56(90.4)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30110MM	ZTL30110MM-S	110mm	31690(42972)	3.56(90.4)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30115MM	ZTL30115MM-S	115mm	31690(42972)	3.56(90.4)	12.466(316.6)	8.313(211.2)	3.24(82.3)	4.25(108)	76(34.5)
ZTL305000	ZTL305000-S	5"	30329(41126)	3.82(97)	12.872(327)	8.371(212.6)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30120MM	ZTL30120MM-S	120mm	30329(41126)	3.82(97)	12.872(327)	8.371(212.6)	3.24(82.3)	4.25(108)	76(34.5)
ZTL305375	ZTL305375-S	5-3/8"	30985(42016)	3.936(100)	12.871(326.9)	8.371(212.6)	3.24(82.3)	4.25(108)	76(34.5)
ZTL30135MM	ZTL30135MM-S	135mm	30985(42016)	3.936(100)	12.871(326.9)	8.371(212.6)	3.24(82.3)	4.25(108)	76(34.5)
ZTL305750	ZTL305750-S	5-3/4"	32279(43770)	4.1(104.1)	12.871(326.9)	8.815(223.9)	3.24(82.3)	4.25(108)	78(35.4)
ZTL306125	ZTL306125-S	6-1/8"	32031(43434)	4.22(107.2)	12.871(326.9)	8.694(220.8)	3.24(82.3)	4.25(108)	79(35.8)
ZTL30150MM	ZTL30150MM-S	150mm	32031(43434)	4.22(107.2)	12.871(326.9)	8.694(220.8)	3.24(82.3)	4.25(108)	79(35.8)
ZTL30155MM	ZTL30155MM-S	155mm	32031(43434)	4.22(107.2)	12.871(326.9)	8.694(220.8)	3.24(82.3)	4.25(108)	79(35.8)



## ZBT Delta Series Hydraulic Tensioners

Hydraulic stud tensioners deliver fast, safe, accurate and direct axial load to a threaded fastener without the inaccuracy of torquing due to friction.

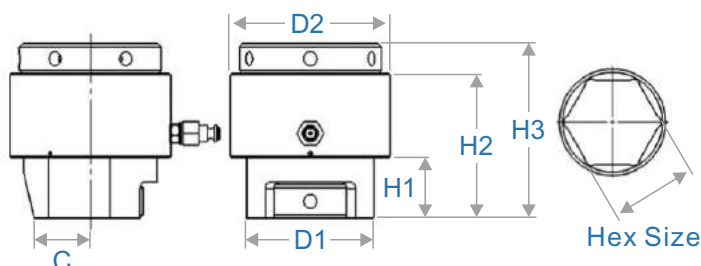
Overstroke Indicator  
Piston overstroke indicator to ensure safe operation

Load Cell  
Designed to maximize load and minimize OD to ensure a proper fit

Quick Connect Fittings

Durable Seals  
Patented high-pressure/low-friction seals are designed to outlast the competition

Quality Materials  
Made with high-strength, corrosion-resistance coated steel



Sub sea tensioners also available

- 100% water-based (no hydraulic oil)
- Quick-release reaction nut simplifies and saves the diver crucial time to engage the bolt
- Dual hydraulic ports
- Lift strap



Item Number	Standard Size Stud Diameter	Thread Pitch	Hex Size inch(mm)	Ram Area sq inch(mm)	Maximum Load lb(kN)	Stroke inch(mm)	Dimension H1 inch(mm)	Dimension H2 inch(mm)	Dimension H3 inch(mm)	Dimension D1 inch(mm)	Dimension D2 inch(mm)	Dimension C inch(mm)	Net Weight lbs(kgs)
ZBT075	3/4"	8 TPI	1.25(32)	1.276(823)	27753(123.45)	0.25(6.4)	1.06(27)	3.3(84)	3.8(96)	2.12(54)	2.4(61)	1.01(26)	3.4(1.5)
ZBTM20	M20	2.5	1.181(30)	1.276(823)	27753(123.45)	0.25(6.4)	1.06(27)	3.3(84)	3.8(96)	2.12(54)	2.4(61)	1.01(26)	3.4(1.5)
ZBT100	1"	8 TPI	1.625(41)	2.945(1900)	64054(284.93)	0.35(9)	1.23(31)	4.2(107)	5.2(132)	2.66(67)	3.5(89)	0.96(24)	9.7(4.4)
ZBTM24	M24	3	1.417(36)	2.945(1900)	64054(284.93)	0.35(9)	1.23(31)	4.2(107)	5.2(132)	2.66(67)	3.5(89)	0.96(24)	9.7(4.4)
ZBT113	1-1/8"	8 TPI	1.813(46)	2.945(1900)	64054(284.93)	0.35(9)	1.23(31)	4.2(107)	5.2(132)	2.66(67)	3.5(89)	0.96(24)	9.7(4.4)
ZBT125	1-1/4"	8 TPI	2(51)	3.24(2090)	70470(313.47)	0.35(9)	1.51(38)	4.475(114)	5.48(139)	3.26(83)	3.88(98)	1.36(35)	11.4(5.2)
ZBTM30	M30	3.5	1.811(46)	3.24(2090)	70470(313.47)	0.35(9)	1.51(38)	4.475(114)	5.48(139)	3.26(83)	3.88(98)	1.36(35)	11.4(5.2)
ZBT138	1-3/8"	8 TPI	2.188(56)	4.91(3168)	106793(475.04)	0.5(12.7)	1.48(37)	4.45(113)	5.45(138)	3.61(92)	4.38(111)	1.54(39)	14.6(6.6)
ZBT150	1-1/2"	8 TPI	2.375(60)	6.075(3919)	132131(587.75)	0.5(12.7)	1.75(44)	5(127)	6.13(156)	4.14(105)	4.75(121)	1.73(44)	20.5(9.3)
ZBTM36	M36	4	2.165(55)	6.075(3919)	132131(587.75)	0.5(12.7)	1.75(44)	5(127)	6.13(156)	4.14(105)	4.75(121)	1.73(44)	20.5(9.3)
ZBT163	1-5/8"	8 TPI	2.563(65)	6.075(3919)	132131(587.75)	0.5(12.7)	1.75(44)	5(127)	6.13(156)	4.14(105)	4.75(121)	1.73(44)	20.5(9.3)
ZBT175	1-3/4"	8 TPI	2.75(70)	8.504(5486)	184962(822.75)	0.5(12.7)	2(51)	5.25(133)	6.38(162)	4.56(116)	5.38(137)	1.95(50)	26.2(11.9)
ZBTM42	M42	4.5	2.559(65)	8.504(5486)	184962(822.75)	0.5(12.7)	2(51)	5.25(133)	6.38(162)	4.56(116)	5.38(137)	1.95(50)	26.2(11.9)
ZBT188	1-7/8"	8 TPI	2.938(75)	8.504(5486)	184962(822.75)	0.5(12.7)	2(51)	5.25(133)	6.38(162)	4.56(116)	5.38(137)	1.95(50)	26.2(11.9)
ZBT200	2"	8 TPI	3.125(79)	11.33(7310)	246428(1096.17)	0.5(12.7)	2.25(57)	5.39(137)	6.5(165)	4.77(121)	6(152)	2.1(53)	30.9(14)
ZBTM48	M48	4	2.953(75)	11.33(7310)	246428(1096.17)	0.5(12.7)	2.25(57)	5.39(137)	6.5(165)	4.77(121)	6(152)	2.1(53)	30.9(14)
ZBT225	2-1/4"	8 TPI	3.5(89)	13.24(8542)	287970(1280.95)	0.5(12.7)	2.75(70)	5.89(149)	7.14(181)	5.86(149)	7(178)	2.65(67)	44.8(20.3)
ZBTM56	M56	5.5	3.346(85)	13.24(8542)	287970(1280.95)	0.5(12.7)	2.75(70)	5.89(149)	7.14(181)	5.86(149)	7(178)	2.65(67)	44.8(20.3)
ZBT250	2-1/2"	8 TPI	3.875(98)	13.24(8542)	287970(1280.95)	0.5(12.7)	2.75(70)	5.89(149)	7.14(181)	5.86(149)	7(178)	2.65(67)	44.8(20.3)
ZBTM64	M64	6	3.740(95)	13.24(8542)	287970(1280.95)	0.5(12.7)	2.75(70)	5.89(149)	7.14(181)	5.86(149)	7(178)	2.65(67)	44.8(20.3)
ZBT275	2-3/4"	8 TPI	4.25(108)	23.45(15129)	510038(2268.76)	0.5(12.7)	2.88(73)	6.26(159)	7.76(197)	6.9(175)	8(203)	2.74(70)	64.2(29.1)
ZBT300	3"	8 TPI	4.625(117)	25.51(16458)	554843(2468.06)	0.5(12.7)	3.23(82)	6.63(168)	8.08(205)	7.06(179)	8.5(216)	2.99(76)	71.7(32.5)
ZBTM72	M72	6	4.134(105)	25.51(16458)	554843(2468.06)	0.5(12.7)	3.23(82)	6.63(168)	8.08(205)	7.06(179)	8.5(216)	2.99(76)	71.7(32.5)
ZBT325	3-1/4"	8 TPI	5(127)	27.49(17735)	597908(2659.63)	0.5(12.7)	3.96(101)	7.36(187)	8.86(225)	8.34(212)	9.5(241)	3.47(88)	93.6(42.4)
ZBTM80	M80	6	4.528(115)	27.49(17735)	597908(2659.63)	0.5(12.7)	3.96(101)	7.36(187)	8.86(225)	8.34(212)	9.5(241)	3.47(88)	93.6(42.4)
ZBT350	3-1/2"	8 TPI	5.375(137)	27.49(17735)	597908(2659.63)	0.5(12.7)	3.96(101)	7.36(187)	8.86(225)	8.34(212)	9.5(241)	3.47(88)	93.6(42.4)
ZBTM90	M90	6	5.118(130)	27.49(17735)	597908(2659.63)	0.5(12.7)	3.96(101)	7.36(187)	8.86(225)	8.34(212)	9.5(241)	3.47(88)	93.6(42.4)
ZBT375	3-3/4"	8 TPI	5.75(146)	37.69(24316)	819758(3646.47)	0.5(12.7)	4.11(104)	7.51(191)	8.39(213)	8.75(222)	11(279)	3.63(92)	109(49.4)
ZBT400	4"	8 TPI	6.125(156)	42.73(27568)	929378(4134.08)	0.5(12.7)	4.3(109)	7.7(196)	8.58(218)	9.08(231)	11.7(297)	3.98(101)	121.4(55.1)
ZBTM100	M100	6	5.709(145)	42.73(27568)	929378(4134.08)	0.5(12.7)	4.3(109)	7.7(196)	8.58(218)	9.08(231)	11.7(297)	3.98(101)	121.4(55.1)



# Hydraulic Tensioners



## Modular Components

Item Number	Pullers Part Number	Pullers Stud Diameter	Pullers Thread Pitch	Sockets Part Number	Sockets Hex Size	Bridges Part Number	Tommy Bar Part Number	Tommy Bar Dia	Load Cell Part Number
ZBT075	ZBT075-01	3/4	8 UN	ZBT075-05	1-1/4"	ZBT075-04	10-800-2000	0.375	ZBT075-06
	ZBT075-01-A	3/4	10 UN	ZBT075-05	1-1/4"				
	ZBT075-01-M20	M20	2.5	ZBT075-05-M20	30mm				
ZBT100	ZBT100-01	1	8 UN	ZBT100-05	1-5/8"	ZBT100-04	10-800-2000	0.375	ZBT100-06
	ZBT100-01-088	7/8	8 UN	ZBT100-05-088	1-7/16"				
	ZBT100-01-088-A	7/8	9 UN	ZBT100-05-088-A	1-7/16"				
ZBT113	ZBT113-01	1-1/8	8 UN	ZBT113-05	1-13/16"	ZBT113-04	10-800-2000	0.375	ZBT113-06
	ZBT113-01-100	1	8 UN	ZBT113-05-100	1-5/8"				
	ZBT113-01-M24	M24	3	ZBT113-05-M24	36mm				
ZBT125	ZBT125-01	1-1/4	8 UN	ZBT125-05	2"	ZBT125-04	10-800-2000	0.375	ZBT125-06
	ZBT125-01-113	1-1/8	8 UN	ZBT125-05-113	1-13/16"				
	ZBT125-01-M27	M27	3	ZBT125-05-M27	41mm				
ZBT138	ZBT138-01	1-3/8	8 UN	ZBT138-05	2-3/16"	ZBT138-04	10-800-3000	0.5	ZBT138-06
	ZBT138-01-125	1-1/4	8 UN	ZBT138-05-125	2"				
	ZBT138-01-M30	M30	3.5	ZBT138-05-M30	46mm				
ZBT150	ZBT150-01	1-1/2	8 UN	ZBT150-05	2-3/8"	ZBT150-04	10-800-3000	0.5	ZBT150-06
	ZBT150-01-A	1-1/2	6 UN	ZBT150-05	2-3/8"				
	ZBT163-01	1-5/8	8 UN	ZBT163-05	2-9/16"				
ZBT163	ZBT163-01	1-5/8	8 UN	ZBT163-05	2-9/16"	ZBT163-04	10-800-3000	0.5	ZBT163-06
	ZBT163-01-M36	M36	4	ZBT163-05-M36	55mm				
	ZBT163-01-M39	M39	3	ZBT163-05-M39	60mm				
ZBT175	ZBT175-01	1-3/4	8 UN	ZBT175-05	2-3/4"	ZBT175-04	10-800-3000	0.5	ZBT175-06
	ZBT188-01	1-7/8	8 UN	ZBT188-05	2-15/16"				
	ZBT188-01-M48	M48	5	ZBT188-05-M48	75mm				
ZBT188	ZBT188-01	1-7/8	8 UN	ZBT188-05	2-15/16"	ZBT188-04	10-800-3000	0.5	ZBT188-06
	ZBT188-01-175	1-3/4	8 UN	ZBT188-05-175	2-3/4"				
	ZBT188-01-M48	M48	5	ZBT188-05-M48	75mm				
ZBT200	ZBT200-01	2	8 UN	ZBT200-05	3-1/8"	ZBT200-04	10-800-3000	0.5	ZBT200-06
	ZBT200-01-188	1-7/8	8 UN	ZBT200-05-188	2-15/16"				
	ZBT200-01-M48	M48	5	ZBT200-05-M48	75mm				
ZBT225	ZBT225-01	2-1/4	8 UN	ZBT225-05	3-1/2"	ZBT225-04	10-800-4000	0.625	ZBT225-06
	ZBT250-01	2-1/2	8 UN	ZBT250-05	3-7/8"				
	ZBT250-01-M64	M64	6	ZBT250-05-M64	95mm				
ZBT250	ZBT250-01	2-1/2	8 UN	ZBT250-05	3-7/8"	ZBT250-04	10-800-4000	0.625	ZBT250-06
	ZBT250-01-M56	M56	5.5	ZBT250-05-M56	85mm				
	ZBT250-01-M60	M60	5.5	ZBT250-05-M60	90mm				
ZBT275	ZBT275-01	2-3/4	8 UN	ZBT275-05	4-1/4"	ZBT275-04	10-800-4000	0.625	ZBT275-06
	ZBT275-01-250	2-1/2	8 UN	ZBT275-05-250	3-7/8"				
	ZBT275-01-M72	M72	6	ZBT275-05-M72	105mm				
ZBT300	ZBT300-01	3	8 UN	ZBT300-05	4-5/8"	ZBT300-04	10-800-4000	0.625	ZBT300-06
	ZBT300-01-275	2-3/4	8 UN	ZBT300-05-275	4-1/4"				
	ZBT300-01-M72	M72	6	ZBT300-05-M72	105mm				
ZBT325	ZBT325-01	3-1/4	8 UN	ZBT325-05	5"	ZBT325-04	10-800-4000	0.625	ZBT325-06
	ZBT325-01-300	3	8 UN	ZBT325-05-300	4-5/8"				
	ZBT325-01-M72	M72	6	ZBT325-05-M72	105mm				
ZBT350	ZBT350-01	3-1/2	8 UN	ZBT350-05	5-3/8"	ZBT350-04	10-800-4000	0.625	ZBT350-06
	ZBT350-01-325	3-1/4	8 UN	ZBT350-05-325	5"				
	ZBT350-01-M90	M90	6	ZBT350-05-M90	130mm				
ZBT375	ZBT375-01	3-3/4	8 UN	ZBT375-05	5-3/4"	ZBT375-04	10-800-4000	0.625	ZBT375-06
	ZBT375-01-M90	M90	6	ZBT375-05-M90	130mm				
	ZBT375-01-M95	M95	6	ZBT375-05-M95	135mm				
ZBT400	ZBT400-01	4	8 UN	ZBT400-05	6-1/8"	ZBT400-04	10-800-4000	0.625	ZBT400-06
	ZBT400-01-M100	M100	6	ZBT400-05-M100	145mm				



## Destroyer Nut Splitter

The ZDANS & ZQD Nut Splitters offer a fast and efficient method of getting rid of those galled, stripped or stubborn nuts. The ZDANS is the most compact high-pressure design on the market.

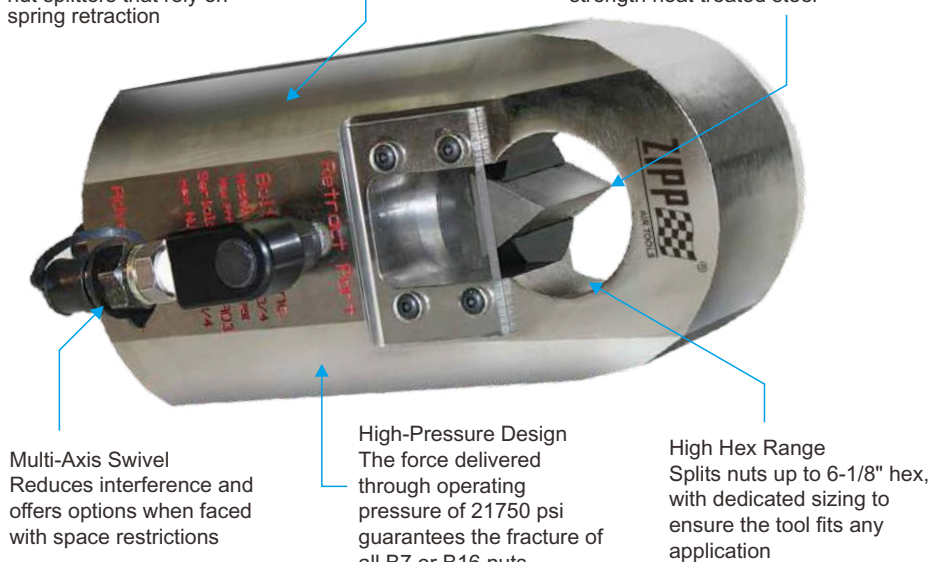
### Nut Splitter Selection Chart

Nut Size inch	Nut Splitter Item Number	Chisel Item Number
7/8	ZQD4NS	ZQD4NS-3
15/16	ZQD4NS	ZQD4NS-3
1-1/16	ZQD4NS	ZQD4NS-3-1.063
1-1/4	ZQD8NS	ZQD8NS-3
1-7/16	ZQD8NS	ZQD8NS-3-1.4375
1-7/16	ZQD14NS	ZQD14NS-3
1-5/8	ZQD14NS	ZQD14NS-3-1.62
1-13/16	ZQD30NS	ZQD30NS-3
2	ZDANS2000	ZDANS2000-5
2	ZQD30NS	ZQD30NS-3
2-3/16	ZDANS2375	ZDANS2375-5
2-3/16	ZQD30NS	ZQD30NS-3
2-3/8	ZDANS2375	ZDANS2375-5
2-3/8	ZQD30NS	ZQD30NS-3
2-9/16	ZDANS2563	ZDANS2563-5
2-3/4	ZDANS2750	ZDANS2750-5
2-15/16	ZDANS3125	ZDANS3125-5
3-1/8	ZDANS3125	ZDANS3125-5
3-1/2	ZDANS3875	ZDANS3875-5
3-7/8	ZDANS3875	ZDANS3875-5
4-1/4	ZDANS4625	ZDANS4625-5
4-5/8	ZDANS4625	ZDANS4625-5
5	ZDANS5000	ZDANS5000-5
5-3/8	ZDANS5375	ZDANS5375-5
5-3/4	ZDANS5750	ZDANS5750-5
6-1/8	ZDANS6125	ZDANS6125-5

**Double Acting**  
Advance and retract the nut splitter hydraulically. This design reduces the length of the tool >7 inches over traditional nut splitters that rely on spring retraction

**Corrosion-Resistant Finish**  
Durable electroless nickel coating

**Three-Sided, Quick Change Chisel**  
Rotate the chisel three times to extend the number of fractures before replacing. Change the chisel in seconds. Constructed from high-strength heat treated steel



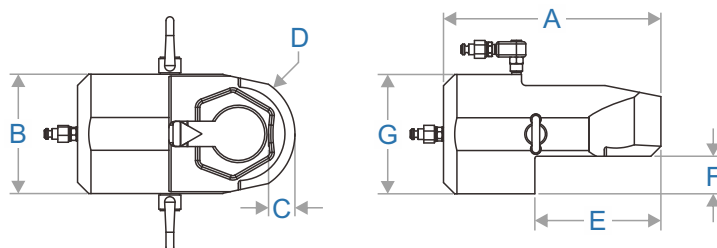
**Multi-Axis Swivel**  
Reduces interference and offers options when faced with space restrictions

**High-Pressure Design**  
The force delivered through operating pressure of 21750 psi guarantees the fracture of all B7 or B16 nuts

**High Hex Range**  
Splits nuts up to 6-1/8" hex, with dedicated sizing to ensure the tool fits any application

(ZDANS) Series — 21750 psi Double Acting  
State-of-the-Art Super Lightweight Double Acting Nut Splitter

- Powered by ZTP30K-DAN air pump
- Split nuts up to 6-1/8" hex
- Three-sided quick-change ULTRA chisel
- Fits ANSI B16.5 and API 6A flanges
- The most compact design available

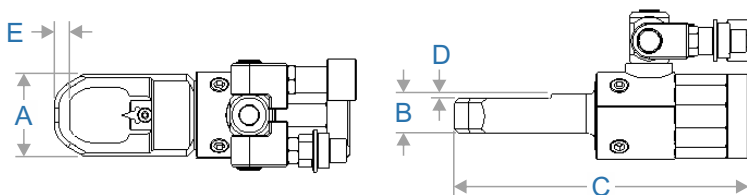


### Maximum Operating Pressure 21750 psi (1500 bar)

Item Number	Dimension A inch(mm)	Dimension B inch(mm)	Dimension C inch(mm)	Dimension D inch(mm)	Dimension E inch(mm)	Dimension F inch(mm)	Dimension G inch(mm)	Net Weight lbs(kgs)
ZDANS2000	8.042(204.3)	3.75(95.3)	0.625(15.9)	1.75(44.5)	4.065(103.3)	1.095(27.8)	3.75(95.3)	20(9.1)
ZDANS2375	9.195(233.6)	4.25(108)	0.895(22.7)	1.75(44.5)	4.813(122.3)	1.25(31.8)	4.25(108)	27.7(12.6)
ZDANS2563	9.252(235)	4.475(113.7)	0.75(19.1)	2.238(56.9)	4.691(119.2)	1.288(32.7)	4.475(113.7)	33.2(15.1)
ZDANS2750	9.707(246.6)	4.65(118.1)	0.879(22.3)	2.325(59.1)	4.963(126.1)	1.32(33.5)	4.7(119.4)	37.6(17)
ZDANS3125	10.36(263.1)	5.063(128.6)	1.072(27.2)	2.75(69.9)	5.628(143)	1.469(37.3)	5.063(128.6)	43.3(19.6)
ZDANS3875	12.298(312.4)	6.75(171.5)	1.367(34.7)	3.375(85.7)	7.13(181.1)	2.125(54)	6.75(171.5)	80(36.3)
ZDANS4625	13.923(353.6)	7.5(190.5)	1.57(39.9)	3.75(95.3)	8.5(215.9)	1.774(45.1)	7.121(180.9)	120(54.4)
ZDANS5000	15.652(397.6)	8(203.2)	1.622(41.2)	3.759(95.5)	8.891(225.8)	2.438(61.9)	8.125(206.4)	144(65.3)
ZDANS5375	16.89(429)	8.875(225.4)	1.978(50.2)	4.25(108)	9.53(242.1)	2.469(62.7)	8.875(225.4)	200(90.7)
ZDANS5750	17.339(440.4)	9(228.6)	2.05(52.1)	4.75(120.7)	9.978(253.4)	2.532(64.3)	9(228.6)	205(93)
ZDANS6125	19.159(486.6)	9.75(247.6)	2.264(57.5)	4.875(123.8)	11.078(281.4)	2.781(70.6)	9.75(247.7)	266(120.7)

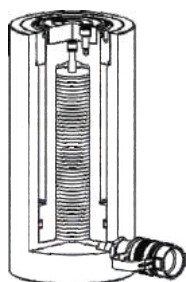
ZQD Series - 10000 psi Double Acting

- Powered by ZQD HydraLinks cylinder
- Quick-change chisel design
- Fits ANSI B16.5 and API 6A flanges
- Large range on nut sizes
- Multi-axis swivel for hydraulic lines
- The most compact design available



Item Number	Dimension A inch(mm)	Dimension B inch(mm)	Dimension C inch(mm)	Dimension D inch(mm)	Dimension E inch(mm)	Net Weight lbs(kgs)
ZQD4NSCMLPT	2.21(56.1)	1.08(27.4)	7.92(201)	0.13(3.2)	0.41(10.4)	6.51(3)
ZQD8NSCMLPT	2.97(75.4)	1.63(41.3)	10.52(267.2)	0.19(4.8)	0.54(13.7)	13.7(6.2)
ZQD14NSCMLPT	3.25(82.6)	1.8(45.7)	11.25(285.8)	0.24(6.1)	0.6(15.2)	18.87(8.6)
ZQD30NSCMLPT	4.56(115.9)	2.7(68.6)	15.43(391.8)	0.24(6.1)	0.85(21.6)	44.28(20.1)

## Single-Acting, General Cylinders



### ZS Series

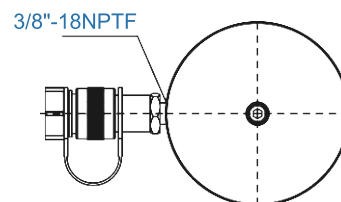
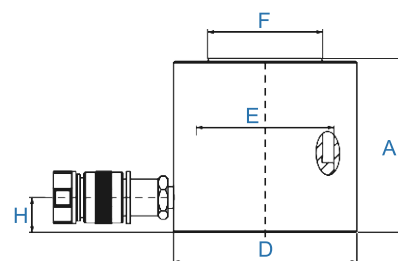
Capacity: 10-200 ton

Stroke: 25-150 mm

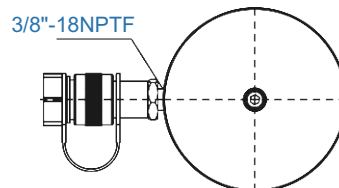
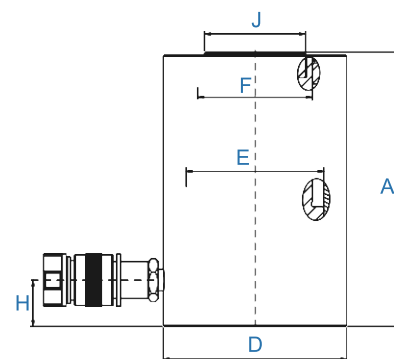
Maximum Operating Pressure:  
700 bar

### Single-Acting, General Cylinders

- Designed for use in all positions.
- Hard chrome plated plunger and inner of barrel resists wear and corrosion, it also be more closed and extending cylinder life.
- Maximum sized springs speed piston return and increase spring life.
- Special soft ring reduces wear caused by off-center loads.
- Plunger wiper reduces contaminant.
- Stop ring for piston blow-out protection.
- Powder coat finish for increased corrosion resistance and antirust.
- All cylinders are equipped with ZSQB-3/8UF female coupler & dust cap.



Stroke 25mm model.



Stroke above to 50mm model.

# Single-Acting, General Cylinders

Handle type		Model Number	Outer Dimension											
			Cylinder Capacity	Stroke	Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port	Saddle Dia.	Weight
O	S		ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	mm	D(mm)	E(mm)	F(mm)	H(mm)	J(mm)	kg
		ZS10-25	10(101)	25	14.46	36.1	80	105	70	42.93	38.1	19.5	—	2.4
		ZS10-50		50	14.46	72.3	130	180	57	42.93	38.1	19.5	—	2.5
		ZS10-75		75	14.46	108.4	155	230	57	42.93	38.1	19.5	35	3.1
		ZS10-100		100	14.46	144.6	180	280	57	42.93	38.1	19.5	35	3.4
		ZS10-125		125	14.46	180.7	205	330	57	42.93	38.1	19.5	35	4
		ZS10-150		150	14.46	216.9	230	380	57	42.93	38.1	19.5	35	4.2
		ZS20-25	20(198)	25	28.26	70.7	80	105	90	60	50	17	—	3.7
	○	ZS20-50		50	28.26	141.3	135	185	79	60	50	22	—	4.9
	○	ZS20-75		75	28.26	212	160	235	79	60	50	22	40	5.6
	○	ZS20-100		100	28.26	282.6	185	285	79	60	50	22	40	6.3
	○	ZS20-125		125	28.26	353.3	210	335	79	60	50	22	40	7
	○	ZS20-150		150	28.26	423.9	235	385	79	60	50	22	40	7.7
		ZS30-25	30(294)	25	42	105	85	110	99	73.15	57.15	19	—	5
		ZS30-40		40	42	210	85	125	99	73.15	57.15	22.5	—	7.4
	○	ZS30-50		50	42	210	145	195	99	73.15	57.15	22.5	—	7.6
	○	ZS30-75		75	42	315	170	245	99	73.15	57.15	22.5	49.5	7.8
	○	ZS30-100		100	42	420	195	295	99	73.15	57.15	22.5	49.5	8.9
	○	ZS30-125		125	42	525	220	345	99	73.15	57.15	22.5	49.5	10
	○	ZS30-150	150	42	630	245	395	99	73.15	57.15	22.5	49.5	11	
	○	ZS30-55	30(269)	55	38.46	212	105	160	100	70	60	14	—	8
	○	ZS50-25	50(498)	25	71.21	178	95	120	127	95.25	79.5	24	—	8.8
	○	ZS50-35		35	71.21	356	85	120	127	95.25	79.5	24	—	9.5
	○	ZS50-50		50	71.21	356	120	170	127	95.25	79.5	24	—	10.5
	○	ZS50-50B		50	71.21	356	105	155	127	95.25	79.5	19	—	9.5
	○	ZS50-75		75	71.21	534	190	265	127	95.25	79.5	32	71	16.8
	○	ZS50-100		100	71.21	712	215	315	127	95.25	79.5	32	71	18.2
	○	ZS50-125	125	71.21	890.1	240	365	127	95.25	79.5	32	71	19.9	
	○	ZS50-150	150	71.21	1068.1	265	415	127	95.25	79.5	32	71	21.4	
▲	○	ZS100-25	100(933)	25	133.27	333.1	100	125	177	130.3	104.9	20	—	16.9
▲	○	ZS100-50		50	133.27	666.3	160	210	177	130.3	104.9	30	84	26.8
▲	○	ZS100-100		100	133.27	1332.7	204	304	177	130.3	104.9	30	84	36.8
▲	○	ZS100-125		125	133.27	1665.8	235	360	177	130.3	104.9	30	84	40.6
▲	○	ZS100-150		150	133.27	1999	260	410	177	130.3	104.9	30	84	44.3
▲	☆	ZS150-50	150(1407)	50	200.96	1004.8	200	250	215	160	115	50	99	50.2
▲	☆	ZS150-100		100	200.96	2009.6	250	350	215	160	115	50	99	60.6
▲	☆	ZS150-150		150	200.96	3014.4	300	450	215	160	115	50	99	68.9
▲	☆	ZS200-50	200(1984)	50	383.38	1416.9	200	250	255	190	135	50	115	71.6
▲	☆	ZS200-100		100	383.38	2833	250	350	255	190	135	50	115	85
▲	☆	ZS200-150		150	383.38	4250.7	300	450	255	190	135	50	115	98.5

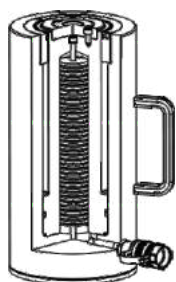
S = standard equipped ○ = option

### Handle type

- = Weldable
- ☆ = Eyebolt
- ▲ = Removable strap handles
- = Thread



## Single-Acting, Aluminum Cylinders



### ZRSAC Series

Capacity: 20-150 ton

Stroke: 50-200 mm

Maximum Operating Pressure:  
700 bar

### Single-Acting, Aluminum Cylinders

- Lightweight, aluminum design for maximum portability.
- 7075-T6 Aluminum alloy components for maximum strength and minimum weight.
- Steel base plate and saddle for protection against piston rod damage.
- Anodizing treatment plunger, surfaces and inner of barrel resists damage and extends cylinder life.
- Maximum sized springs speed piston return and increase spring life.
- Special soft ring reduces wear caused by off-center loads.
- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-load.
- Stop ring for piston blow-out protection.
- Removable hardened saddle, handle and steel baseplate, which can be removed to use in limit space.
- All cylinders are equipped with ZSQB-3/8UF female coupler & dust cap.
- Laser carve on surface.



#### Saddle

- ZRSAC-Series are equipped with hardened removable "Ribbed saddles" to prevent slippage during jacking.
- For off-centre loading application, see optional tilting saddle.



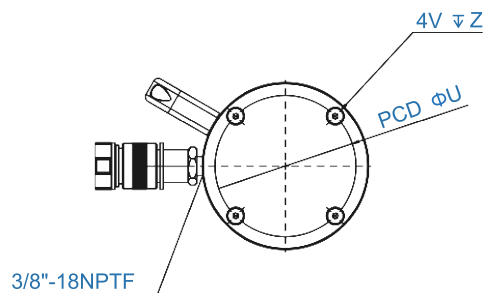
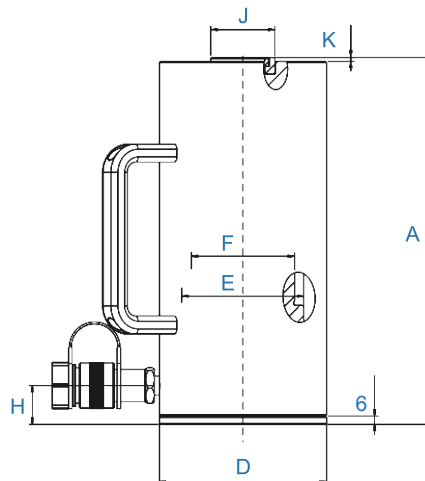
#### Steel Base Plate

- Do not remove steel base plate in order to protect the cylinder base.
- No attachment to be used on base holes of the Aluminum cylinders.

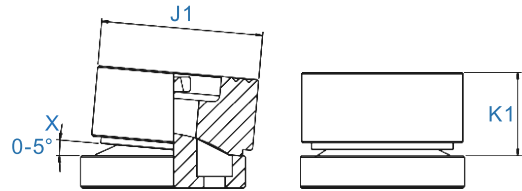


#### Aluminum vs. Steel characteristic

- Due to different steel & Aluminum characteristics, it is strongly recommended not to be used for high-cycle applications



# Single-Acting, Aluminum Cylinders



Steel Base Plate Mounting Holes			
Cylinder Model/ Capacity	Bolt Circle	Thread	Thread Depth
ton	U(mm)	V(mm)	Z(mm)
ZRSAC-20	70	M6	12
ZRSAC-30	80	M6	12
ZRSAC-50	110	M6	12
ZRSAC-100	160	M6	12
ZRSAC-150	200	M6	12

Optional Bolt Tilt Saddle Dimensions (mm)			
Cylinder Model/ Capacity	Model Number	Saddle Diameter	Saddle Protrusion from Base
ton		J1	K1
ZRSAC-50	ZXKCATRSAC-50	50	25.9
ZRSAC-100	ZXKCATRSAC-100	91.2	33
ZRSAC-150	ZXKCATRSAC-150	118.1	37

- Including Base Plate Height of 6mm.
- 4 base plate bolts: M6X1.0X0.24

		Outer Dimension												
Handle type	Model Number	Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port	Saddle Dia.	Piston Rod Protrusion	Weight
S		ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	B(mm)	D(mm)	E(mm)	F(mm)	H(mm)	J(mm)	K(mm)	kg
	ZRSAC-202	20(218)	50	31.2	156	174	224	85	63	50	27	40	3	2.2
■	ZRSAC-204		100	31.2	312	224	324	85	63	50	27	40	3	4.1
■	ZRSAC-206		150	31.2	468	274	424	85	63	50	27	40	3	4.6
■	ZRSAC-302	30(309)	50	44.2	221	181	231	100	75	60	33	40	3	3.2
■	ZRSAC-304		100	44.2	442	231	331	100	75	60	33	40	3	5.2
■	ZRSAC-306		150	44.2	663	281	431	100	75	60	33	40	3	5.9
■	ZRSAC-502	50(496)	50	70.9	354	186	236	130	95	80	30	50	3	8.5
■	ZRSAC-504		100	70.9	709	236	336	130	95	80	30	50	3	9.8
■	ZRSAC-506		150	70.9	1063	286	436	130	95	80	30	50	3	11.1
■	ZRSAC-1004	100(1002)	100	143.1	1431	271	371	188	135	110	46	94	3	19.6
■	ZRSAC-1006		150	143.1	2147	321	471	188	135	110	46	94	3	21.9
■	ZRSAC-1008		200	143.1	2863	371	571	188	135	110	46	94	3	24.2
■	ZRSAC-1506	150(1589)	150	227	3405	343	493	230	170	140	51	113	3	33.3

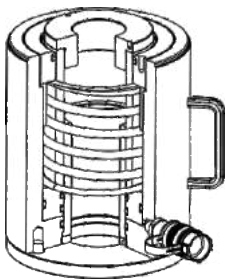
S = standard equipped    O = option

## Handle type

- = Weldable
- ☆ = Eyebolt
- △ = Removable strap handles
- = Thread







## ZRSACH Series

Capacity: 20-100 ton

Stroke: 50-250 mm

Maximum Operating Pressure:  
700 bar

### Single-Acting, Hollow Plunger Aluminum Cylinders

- Maximum sized springs speed piston return and increase spring life.
- Special soft ring reduces wear caused by off-center loads.
- All cylinders are equipped with
- Lightweight, aluminum design for maximum portability.
- 7075-T6 Aluminum alloy components for maximum strength and minimum weight.
- Steel base plate and saddle for protection against piston rod damage.
- Anodizing treatment plunger, surfaces and inner of barrel resists damage and extends cylinder life.
- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-load.
- Stop ring for piston blow-out protection.
- Removable hardened saddle, handle and steel baseplate, which can be removed to use in limit space.
- Laser carve on surface.



#### Saddle

- ZRSACH-Series are equipped with bolt-on hardened removable steel hollow saddle.



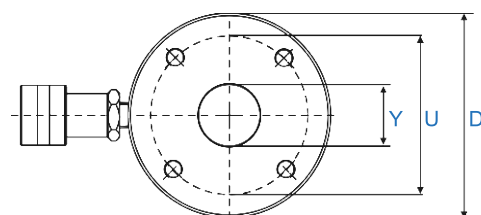
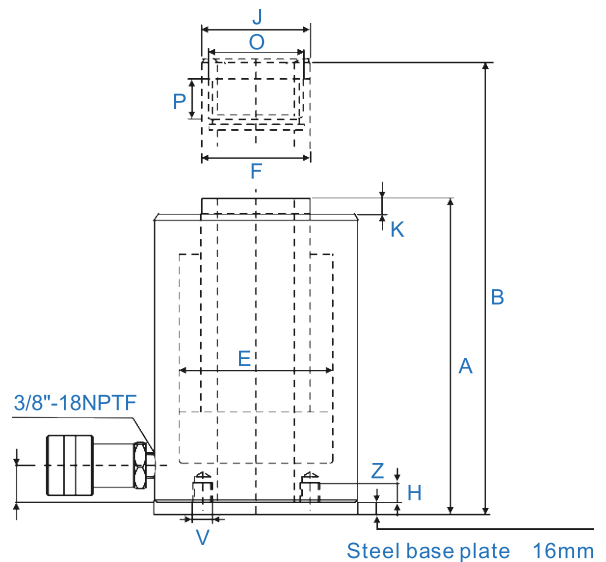
#### Steel Base Plate

- Do not remove steel base plate in order to protect the cylinder base.
- No attachment to be used on base holes of the Aluminum cylinders.



#### Aluminum vs. Steel characteristic

- Due to different steel & Aluminum characteristics, it is strongly recommended not to be used for high-cycle applications



This drawing show the base mounting holes of barrel before setting steel base plate.

# Single-Acting, Hollow Plunger Aluminum Cylinders



Steel Base Plate Mounting Holes			
Cylinder Model/ Capacity	Bolt Circle	Thread	Thread Depth
ton	U(mm)	V(mm)	Z(mm)
ZRSACH-20	80	M6	12
ZRSACH-30	110	M6	12
ZRSACH-60	160	M6	12
ZRSACH-100	230	M6	12

- Including Base Plate Height of 6mm.
- 4 base plate bolts: M6X1.0X0.24

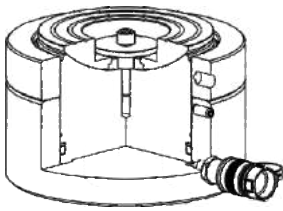
Handle type	Model Number	Outer Dimension													
		Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port	Saddle Dia.	Piston Rod Protrusion	Center Hole Dia.	Weight
S		ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	B(mm)	D(mm)	E(mm)	F(mm)	H(mm)	J(mm)	K(mm)	Y(mm)	kg
■	ZRSACH-202	20(229)	50	32.7	163.7	188	238	100	75	55	29	55	10	27	5.2
■	ZRSACH-206		150	32.7	491	315	465	100	75	55	29	55	10	27	7.1
■	ZRSACH-302	30(358)	50	51.5	255.7	208	258	130	95	70	29	70	10	34	8
■	ZRSACH-306		150	51.1	767	333	483	130	95	70	29	70	10	34	11.2
■	ZRSACH-2010		254	51.1	1298.9	457	711	130	95	70	29	70	10	34	13.7
■	ZRSACH-604	60(596)	100	84.7	847.7	315	415	180	130	100	61.2	100	12	54	19.5
■	ZRSACH-606		150	84.7	1271.5	380	530	180	130	100	61.2	100	12	54	22.8
■	ZRSACH-1003	100(1157)	76	178.9	1360	307	383	250	182	145	51	145	14	79	44
■	ZRSACH-1006		150	178.9	2684	391	541	250	182	145	51	145	14	79	54.5

S = standard equipped    ○ = option

## Handle type

- = Weldable
- ☆ = Eyebolt
- △ = Removable strap handles
- = Thread





## ZCSLP Series

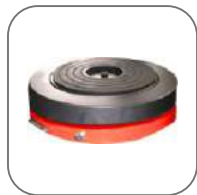
Capacity: 60-520 ton

Stroke: 45-50 mm

Maximum Operating Pressure:  
700 bar

### Single-Acting, Low Height, Lock Nut Cylinder

- Low height design for use in confined space.
- Special coating on thread piston and lock ring to prevent anti-seize over long period of time.
- Safety lock ring for mechanical load support even with hydraulic pressure released.
- Equipped with tilt saddle to minimize off center-load.
- Equipped with overflow port to prevent over stroke.
- Equipped with red indicate line to warn operator when cylinder reach full stroke.
- Load return type-for vertical lifting only.
- Powder coat finish for better corrosion resistance.
- All cylinders are equipped with ZSQB-3/8UF female coupler & dust cap.



#### Saddle

- All ZCSLP-Series come with tilt saddles to minimize off center-load damage.



#### Longer Stroke Lock Nut

- For lock nut applications that require longer stroke lengths, see ZCSLL-Series.



#### Control Valve

- Fitting needle valve such as ZSV-82 is used to control cylinder speed during lifting and lowering. (See ZSV-Series)

#### Longer Stroke Lock Nut



Lock ring



Piston



500 ton test

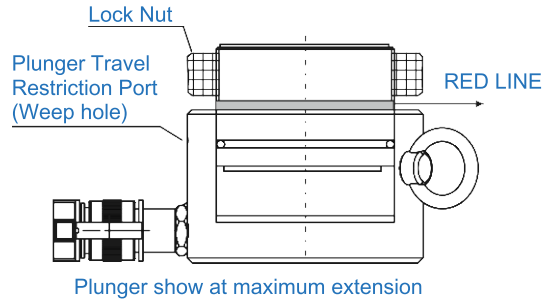
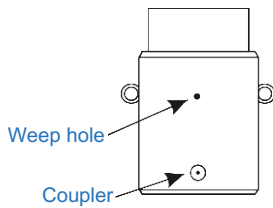
# Single-Acting, Low Height, Lock Nut Cylinder



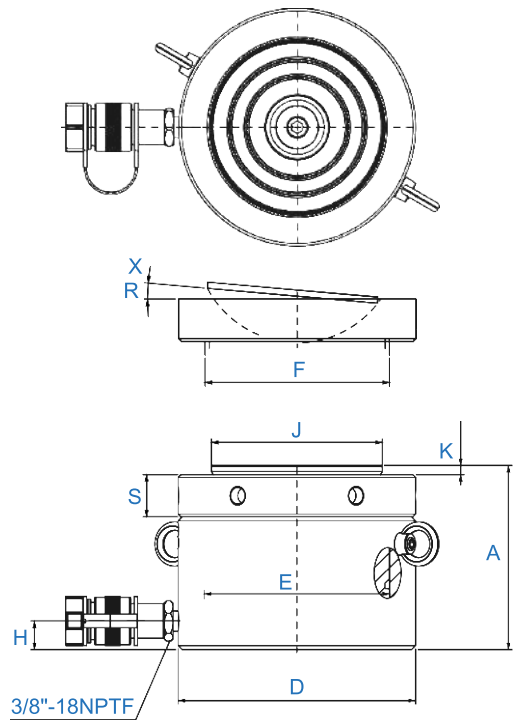
**WARNING**

ZCSLP, ZCSLL, ZCSLS When stroke limit is reached; overflow port ("weep hole") spurt oil to prevents piston from being overextended.

Apply to Single-acting, High tonnage cyl. ZCSLP, ZCSLL and ZCSLS series



Plunger show at maximum extension



Handle type	Model Number	Outer Dimension														
		Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port	Saddle Dia.	Saddle Protrusion from Plngr.	Saddle Max. Tilt Angle	Lock Nut Height	Weight
S		ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	mm	D(mm)	E(mm)	F(mm)	H(mm)	J(mm)	K(mm)	R	S(mm)	kg
★	ZCSLP-602	60(606)	50	86.6	432	125	175	140	105	Tr104X4	19	96	6	5°	28	15
★	ZCSLP-1002	100(1027)	50	146.8	734	137	187	175	136.7	Tr136X6	21	126	8	5°	31	26
★	ZCSLP-1602	160(1619)	45	231.3	1040	148	193	220	171.6	Tr171X6	27	160	9	5°	40	44
★	ZCSLP-2002	200(1999)	45	285.6	1285	155	200	245	190.7	Tr190X6	30	180	10	5°	43	57
★	ZCSLP-2502	260(2567)	45	366.8	1650	159	204	275	216.1	Tr216X6	32	200	11	5°	44	74
★	ZCSLP-4002	400(3916)	45	559.5	2517	178	223	350	267	Tr266X6	39	250	11	4°	55	134
★	ZCSLP-5002	520(5114)	45	730.6	3287	192	237	400	305	Tr305X6	48	290	10	3°	62	189

S = standard equipped    O = option

## Handle type

- = Weldable
- ★ = Eyebolt
- △ = Removable strap handles
- = Thread



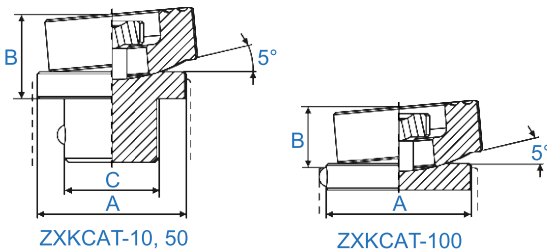


## ZRSC Series

Capacity: 5-100 ton  
 Stroke: 16-362 mm  
 Maximum Operating Pressure:  
 700 bar

### Single-Acting, Spring return Collar thread Cylinders

- Equip with collar thread and base holes (on most model), for greater flexibility in mounting onto fixture.(see page 16 for details)
- Equip with inner plunger thread (5 ton to 30 ton) for greater flexibility in designing fixture.
- Bronze alloy bearing on plunger to minimize scoring due to off-centre load.
- Hard chrome plated plunger to resists wear and corrosion.
- Inner barrel wall are hard chrome plated to resists wear and corrosion in high humidity atmosphere.
- Equip with wiper seals to prevent ingress of dirt.
- Equip with stop-ring to prevent plunger blow-out and withstands full "Dead-End" load.
- Powder coated finish for greater corrosion protection.
- Equip with plastic cap to protect collar threads.
- Come with ZSQB-3/8UF female coupler & dust cap.



Optional Saddle Dimensions (mm)				
Cylinder Model/Capacity	Model Number Type: Tilt	A	B	C
ton		A	B	C
ZRSC-10, ZRSC-15(Except ZRSC-101)	ZXKCAT-10	35	20	22
ZRSC-25, ZRSC-30	ZXKCAT-50	50	21	35
ZRSC-50, ZRSC-75, ZRSC-100	ZXKCAT-100	71	24	—



### Saddle

- ZRSC-Series are equipped with hardened removable "Ribbed saddles" to prevent slippage during jacking.
- For off-center loading application, see optional tilting saddle.



# Single-Acting, Spring return Collar thread Cylinders

Handle type		Model Number	Cylinder Capacity	Stroke	Effective Area	Oil Capacity	Collapsed Height	Plunger internal Thread	Weight
O	S								
		ZRSC-50	5(45)	16	6.5	10	41	—*	1
		ZRSC-51		25	6.5	16	110	3/4"-16	1
		ZRSC-53		76	6.5	50	165	3/4"-16	1.5
		ZRSC-55		127	6.5	83	215	3/4"-16	1.9
		ZRSC-57		177	6.5	115	273	3/4"-16	2.4
		ZRSC-59		232	6.5	151	323	3/4"-16	2.8
		ZRSC-101	10(101)	26	14.5	38	89	#10-24UN	1.8
		ZRSC-102		54	14.5	78	121	1"-8	2.3
		ZRSC-104		105	14.5	152	171	1"-8	3.3
		ZRSC-106		156	14.5	226	247	1"-8	4.4
		ZRSC-108		203	14.5	294	298	1"-8	5.4
		ZRSC-1010		257	14.5	373	349	1"-8	6.4
		ZRSC-1012		304	14.5	441	400	1"-8	6.8
		ZRSC-1014		356	14.5	516	450	1"-8	8.2
		ZRSC-151	15(142)	25	20.3	51	124	1"-8	3.3
		ZRSC-152		51	20.3	104	149	1"-8	4.1
		ZRSC-154		101	20.3	205	200	1"-8	5
		ZRSC-156		152	20.3	308	271	1"-8	6.8
		ZRSC-158		203	20.3	411	322	1"-8	8.2
		ZRSC-1510		254	20.3	516	373	1"-8	9.5
		ZRSC-1512		305	20.3	619	423	1"-8	10.9
		ZRSC-1514		356	20.3	723	474	1"-8	11.8
		ZRSC-251	25(232)	26	33.2	86	139	1-1/2"-16	5.9
		ZRSC-252		50	33.2	166	165	1-1/2"-16	6.4
		ZRSC-254		102	33.2	339	215	1-1/2"-16	8.2
		ZRSC-256		158	33.2	525	273	1-1/2"-16	10
		ZRSC-258		210	33.2	697	323	1-1/2"-16	12.2
		ZRSC-2510		261	33.2	867	374	1-1/2"-16	14.1
		ZRSC-2512		311	33.2	1033	425	1-1/2"-16	16.3
		ZRSC-2514		362	33.2	1202	476	1-1/2"-16	17.7
		ZRSC-308	30(295)	209	42.1	880	387	1-1/2"-16	18.1
		ZRSC-502	50(498)	51	71.2	362	176	—	15
■		ZRSC-504		101	71.2	719	227	—	19.1
■		ZRSC-506		159	71.2	1131	282	—	23.1
▲		ZRSC-5013		337	71.2	2399	460	—	37.6
▲		ZRSC-756	75(718)	156	102.6	1601	285	—	29.5
▲		ZRSC-7513		333	102.6	3417	492	—	59
▲	●	ZRSC-1004	100(933)	102	133.3	1355	204	—	33.1
▲	★	ZRSC-1006		168	133.3	2239	357	—	59
▲	★	ZRSC-1008		203	133.3	2709	357	—	59
▲	★	ZRSC-10010		260	133.3	3466	449	—	72.6

\* = ZSC-50 cylinder has non-removable grooved saddle and no collar thread.  
 S = standard equipped    O = option

### Handle type

- = Weldable
- ★ = Eyebolt
- ▲ = Removable strap handles
- = Thread



ZRSC-25 ton rail way application



ZRSC & Pump -specific purpose

# Single-Acting, Spring return Collar thread Cylinders

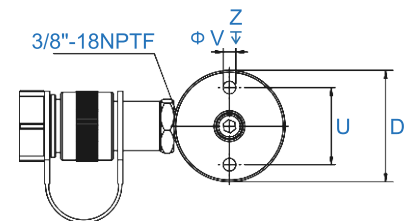
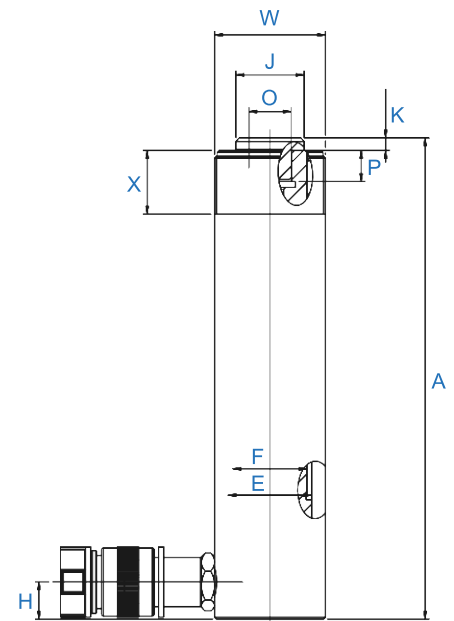
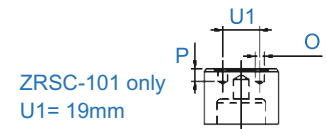
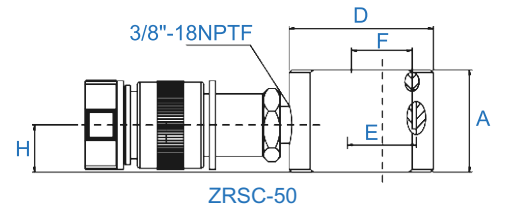
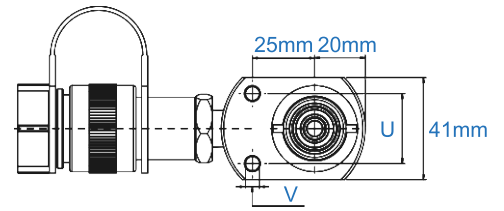
Model Number	Outer Dimension											
	Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port	Saddle Dia.	Saddle Protrusion from Plngr.
	ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	mm	D(mm)	E(mm)	F(mm)	H(mm)	J(mm)	K(mm)
ZRSC-50	5(45)	16	6.5	10	41	57	58	28.7	25.4	19	—*	—*
ZRSC-51		25	6.5	16	110	135	38	28.7	25.4	19	25	6
ZRSC-53		76	6.5	50	165	241	38	28.7	25.4	19	25	6
ZRSC-55		127	6.5	83	215	342	38	28.7	25.4	19	25	6
ZRSC-57		177	6.5	115	273	450	38	28.7	25.4	19	25	6
ZRSC-59		232	6.5	151	323	555	38	28.7	25.4	19	25	6
ZRSC-101	10(101)	26	14.5	38	89	115	57	42.9	38.1	19	—	—
ZRSC-102		54	14.5	78	121	175	57	42.9	38.1	19	35	6
ZRSC-104		105	14.5	152	171	276	57	42.9	38.1	19	35	6
ZRSC-106		156	14.5	226	247	403	57	42.9	38.1	19	35	6
ZRSC-108		203	14.5	294	298	501	57	42.9	38.1	19	35	6
ZRSC-1010		257	14.5	373	349	606	57	42.9	38.1	19	35	6
ZRSC-1012		304	14.5	441	400	704	57	42.9	38.1	19	35	6
ZRSC-1014		356	14.5	516	450	806	57	42.9	38.1	19	35	6
ZRSC-151	15(142)	25	20.3	51	124	149	69	50.8	41.4	19	38	9
ZRSC-152		51	20.3	104	149	200	69	50.8	41.4	19	38	9
ZRSC-154		101	20.3	205	200	301	69	50.8	41.4	19	38	9
ZRSC-156		152	20.3	308	271	423	69	50.8	41.4	25	38	9
ZRSC-158		203	20.3	411	322	525	69	50.8	41.4	25	38	9
ZRSC-1510		254	20.3	516	373	627	69	50.8	41.4	25	38	9
ZRSC-1512		305	20.3	619	423	728	69	50.8	41.4	25	38	9
ZRSC-1514		356	20.3	723	474	830	69	50.8	41.4	25	38	9
ZRSC-251	25(232)	26	33.2	86	139	165	85	65	57.2	25	50	10
ZRSC-252		50	33.2	166	165	215	85	65	57.2	25	50	10
ZRSC-254		102	33.2	339	215	317	85	65	57.2	25	50	10
ZRSC-256		158	33.2	525	273	431	85	65	57.2	25	50	10
ZRSC-258		210	33.2	697	323	533	85	65	57.2	25	50	10
ZRSC-2510		261	33.2	867	374	635	85	65	57.2	25	50	10
ZRSC-2512		311	33.2	1033	425	736	85	65	57.2	25	50	10
ZRSC-2514		362	33.2	1202	476	838	85	65	57.2	25	50	10
ZRSC-308	30(295)	209	42.1	880	387	596	101	73.2	57.2	57	50	10
ZRSC-502	50(498)	51	71.2	362	176	227	127	95.2	79.5	33	71	2
ZRSC-504		101	71.2	719	227	328	127	95.2	79.5	33	71	2
ZRSC-506		159	71.2	1131	282	441	127	95.2	79.5	35	71	2
ZRSC-5013		337	71.2	2399	460	797	127	95.2	79.5	35	71	2
ZRSC-756	75(718)	156	102.6	1601	285	441	146	114.3	95.2	30	71	5
ZRSC-7513		333	102.6	3417	492	825	146	114.3	95.2	30	71	5
ZRSC-1004	100(933)	102	133.3	1355	204	306	177	130.3	104.9	41	71	2
ZRSC-1006		168	133.3	2239	357	525	177	130.3	104.9	41	71	2
ZRSC-1008		203	133.3	2709	357	576	177	130.3	104.9	41	71	2
ZRSC-10010		260	133.3	3466	449	709	177	130.3	104.9	41	71	2

\* = ZSC-50 cylinder has non-removable grooved saddle and no collar thread.

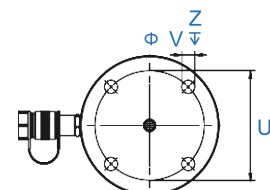
# Single-Acting, Spring return Collar thread Cylinders

Model Number	Threads Dimension				Base Mounting Holes			Weight kg
	Plunger Internal Thread	Plunger Thread Length	Collar Thread	Collar Thread Length	Bolt Circle	Thread	Thread Depth	
	O(inch)	P(mm)	W(inch)	X(mm)	U(mm)	V(inch)	Z(mm)	
ZRSC-50	—*	—*	—	—	28	5.6mm	—	1
ZRSC-51	3/4"-16	14	1-1/2"-16	28	25	1/4"-20UN	14	1
ZRSC-53	3/4"-16	14	1-1/2"-16	28	25	1/4"-20UN	14	1.5
ZRSC-55	3/4"-16	14	1-1/2"-16	28	25	1/4"-20UN	14	1.9
ZRSC-57	3/4"-16	16	1-1/2"-16	28	25	1/4"-20UN	14	2.4
ZRSC-59	3/4"-16	16	1-1/2"-16	28	25	1/4"-20UN	14	2.8
ZRSC-101	#10-24UN	6	2-1/4"-14	26	39	5/16"-18UN	12	1.8
ZRSC-102	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	2.3
ZRSC-104	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	3.3
ZRSC-106	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	4.4
ZRSC-108	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	5.4
ZRSC-1010	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	6.4
ZRSC-1012	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	6.8
ZRSC-1014	1"-8	19	2-1/4"-14	26	39	5/16"-18UN	12	8.2
ZRSC-151	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	3.3
ZRSC-152	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	4.1
ZRSC-154	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	5
ZRSC-156	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	6.8
ZRSC-158	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	8.2
ZRSC-1510	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	9.5
ZRSC-1512	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	10.9
ZRSC-1514	1"-8	25	2-3/4"-16	30	47	3/8"-16UN	12	11.8
ZRSC-251	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	5.9
ZRSC-252	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	6.4
ZRSC-254	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	8.2
ZRSC-256	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	10
ZRSC-258	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	12.2
ZRSC-2510	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	14.1
ZRSC-2512	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	16.3
ZRSC-2514	1-1/2"-16	25	3-5/16"-12	49	58	1/2"-13UN	19	17.7
ZRSC-308	1-1/2"-16	25	3-5/16"-12	49	—	—	—	18.1
ZRSC-502	—	—	5"-12	55	95	1/2"-13UN	19	15
ZRSC-504	—	—	5"-12	55	95	1/2"-13UN	19	19.1
ZRSC-506	—	—	5"-12	55	95	1/2"-13UN	19	23.1
ZRSC-5013	—	—	5"-12	55	95	1/2"-13UN	19	37.6
ZRSC-756	—	—	5-3/4"-12	44	—	—	—	29.5
ZRSC-7513	—	—	5-3/4"-12	44	—	—	—	59
ZRSC-1004	—	—	6-7/8"-12	44	—	—	—	33.1
ZRSC-1006	—	—	6-7/8"-12	44	139	3/4"-10UN	25	59
ZRSC-1008	—	—	6-7/8"-12	44	139	3/4"-10UN	25	59
ZRSC-10010	—	—	6-7/8"-12	44	139	3/4"-10UN	25	72.6

\* = ZSC-50 cylinder has non-removable grooved saddle and no collar thread.



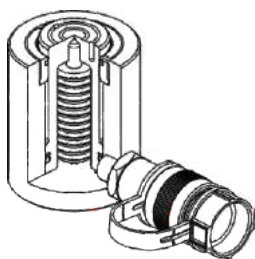
ZRSC-51 to ZRSC-5013 models (see page 16)



ZRSC-1006 to ZRSC-10010 models



## Single-Acting, Low Height Cylinders



### ZRSCS Series

Capacity: 10-90 ton

Stroke: 38-62 mm

Maximum Operating Pressure:

700 bar

### Single-Acting, Low Height Cylinders

- Maximum sized springs speed piston return and increase spring life.
- Lightweight, low profile design for use in confined spaces ,but stroke higher than ZRSSM.
- Grooved plunger end with threaded holes for mounting tilt saddles.
- Hard chrome plated plunger and inner of barrel resists wear and corrosion.
- Plunger wiper reduces contaminant.
- Stop ring for piston blow-out protection.
- Powder coat finish for increased corrosion resistance and antirust.
- ZSQB-3/8UF coupler and dust cap are included on all models.



### Hydraulic Cylinder and Pump Sets

- Basic system set-up include cylinder, male/female coupler, hose, pressure gauge, gauge accessories and pump.
- Please contact ZIPP office nearest to you for advice and technical assistance in the layout of your ideal.



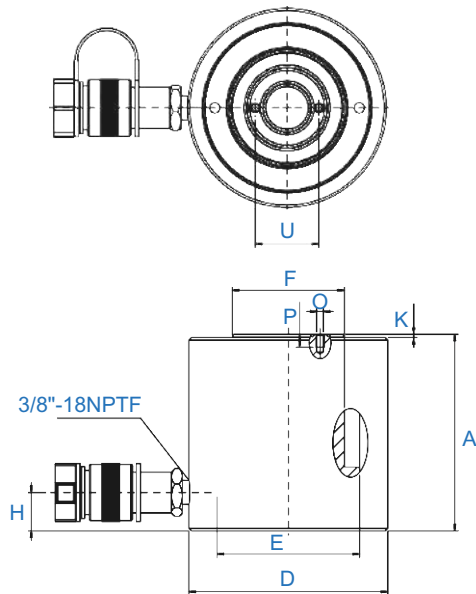
### Control Valve

- Fitting needle valve such as ZSV-82 is used to control cylinder speed during lifting and lowering. (See ZSV-Series)



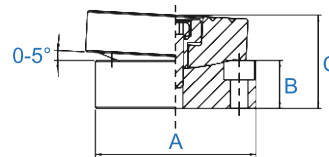
ZRSCS-502 Rapid transit system  
Synchronous Lift application

# Single-Acting, Low Height Cylinders



### Opt Tilt Saddle

- All ZRSCS-Series has plunger mounting holes for installation of tilt saddles.



Handle type	Model Number	Outer Dimension			
		Cylinder Capacity ton(kN)	Stroke mm	Cylinder Effective Area cm <sup>2</sup>	Oil Capacity cm <sup>3</sup>
S	ZRSCS-101	10(101)	38	14.5	55
	ZRSCS-201	20(201)	45	28.7	129
	ZRSCS-302	30(295)	62	42.1	261
○	ZRSCS-502	45(435)	60	62.1	373
●	ZRSCS-1002	90(887)	57	126.7	722
★	ZRSCS-2503	250(2309)	76.2	329.9	2468

S = standard equipped ○ = option

Optional Bolt Tilt Saddle Dimensions (mm)				
Cylinder Model/Capacity ton(kN)	Model Number	A	B	*C
ZRSCS-201, ZRSCS-302, ZRSCS-502	ZXKCATRSCS-20	50	15	29
ZRSCS-1002	ZXKCATRSCS-100	71	17	35

\*C dimension equals saddle protrusion from plunger. Mounting screws are included.

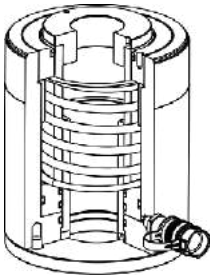
### Handle type

- = Weldable
- ★ = Eyebolt
- △ = Removable strap handles
- = Thread



Model Number	Outer Dimension								Threads Dimension		
	Collapsed Height A(mm)	Extended Height mm	Outside Dia. D(mm)	Cylinder Bore Dia. E(mm)	Plunger Dia. F(mm)	Base to Adv. Port H(mm)	Plunger Protrusion from Base K(mm)	Weight kg	Thred O(mm)	Thread Depth P(mm)	Bolt Circle U(mm)
ZRSCS-101	88	126	69	42.9	38.1	17.5	5	4.1	M4	8	26
ZRSCS-201	98	143	92	60.5	50.8	17.5	3	5	M5	8	39
ZRSCS-302	117	179	101	73.2	66.5	19	3	6.8	M5	8	39
ZRSCS-502	122	182	124	88.9	69.8	23	2	10.9	M5	8	39
ZRSCS-1002	141	198	165	127	92.2	31	1	22.7	M8	10	55
ZRSCS-2503	290	366	257	205	139.7	46	5	100	—	—	—

# Single-Acting, Hollow Plunger Cylinders



## ZRSCH Series

Capacity: 13-95 ton  
 Stroke: 8-155 mm  
 Center Hole Diameter: 19.6-79mm  
 Maximum Operating Pressure:  
 700 bar

### Single-Acting, Hollow Plunger Cylinders

- Hollow plunger design allows for pulling and pushing application.
- Low profile and longer strokes fit in the tightest space.
- Withstands full "dead-end" loads.
- Collar threads for easy fixturing and all collar threads have a cap for protection.
- Special center tube protect plunger and inner of cylinder increases product life.
- Hard chrome plated plunger and inner of barrel resists wear and corrosion.
- Spring returing.
- Wiper rings protect the piston, bore & tube from contamination.
- Stop ring for piston blow-out protection.
- Come with ZSQB-3/8UF female coupler & dust cap.
- Powder coat finish for increased corrosion resistance and antirust.



## ZRSCH-120

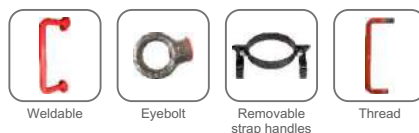
ZRSCH-120 includes ZSQB-3/8UF coupler and has 1/4 NPT port.

Handle type	Model Number	Outer Dimension								
		Cylinder Capacity	Stroke	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.
S		ton(kN)	mm	cm <sup>2</sup>	cm <sup>3</sup>	A(mm)	mm	D(mm)	E(mm)	F(mm)
	ZRSCH-120	13(125)	8	17.9	14	55	63	69	54.1	35.1
	ZRSCH-121		42	17.9	75	120	162	69	54.1	35.1
	ZRSCH-1211		42	17.9	75	120	162	69	54.1	35.1
	ZRSCH-123		76	17.9	136	184	260	69	54.1	35.1
●	ZRSCH-202	20(215)	49	30.7	150	162	211	98	73.1	54.1
●	ZRSCH-204		102	30.7	311	242	344	98	73.1	54.1
●	ZRSCH-206		155	30.7	476	306	461	98	73.1	54.1
●	ZRSCH-302	30(326)	64	46.6	298	178	242	114	88.9	63.5
●	ZRSCH-304		102	46.6	473	233	335	114	88.9	63.5
●	ZRSCH-306		155	46.6	722	330	485	114	88.9	63.5
▲	ZRSCH-603	60(576)	76	82.3	626	247	323	159	123.9	92.2
▲	ZRSCH-606		153	82.3	1259	323	476	159	123.9	92.2
▲	ZRSCH-1003	95(931)	76	133	1011	254	330	212	165.1	127

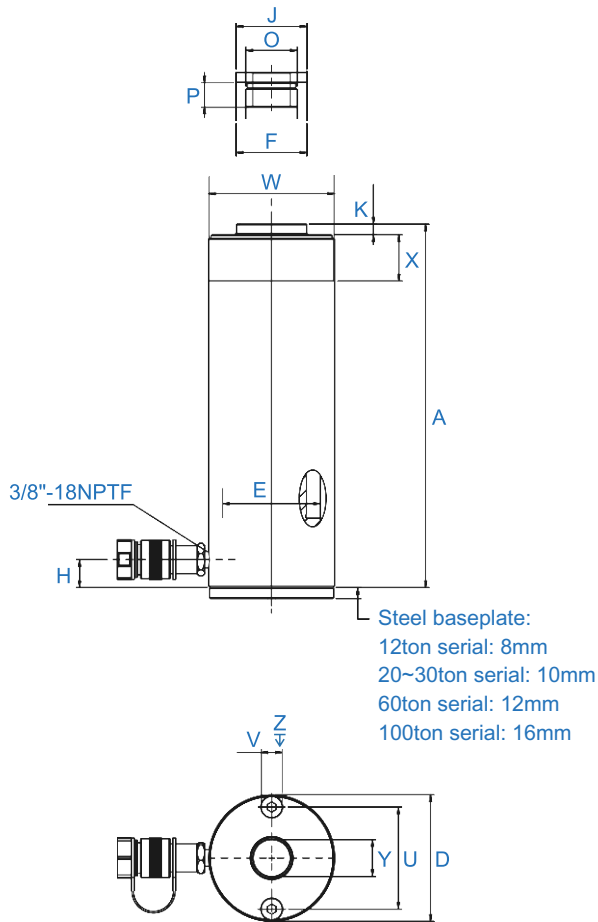
S = standard equipped    ○ = option

### Handle type

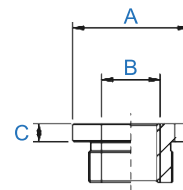
- = Weldable
- ☆ = Eyebolt
- ▲ = Removable strap handles
- = Thread



# Single-Acting, Hollow Plunger Cylinders



This drawing show the base mounting holes of barrel before setting steel base plate.

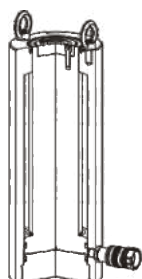


Optional Heat Treated Hollow Saddles				
Cylinder Model/Capacity	Model Number	Saddle Dimensions		
		A(mm)	B(inch)	C(mm)
ton				
ZRSCH-202, ZRSCH-206	ZXKHCH-20	53	1"-8	9
ZRSCH-302, ZRSCH-306	ZXKHCH-30	63	1-1/4"-7	9
ZRSCH-603, ZRSCH-606	ZXKHCH-60	91	1-5/8"-5-1/2"	12
ZRSCH-1003	ZXKHCH-100	126	2-1/2"-8	13

\*Smooth hollow saddles are standard on all ZRSCH series.  
(12ton models are not equipped with saddles.)

Model Number	Outer Dimension			Threads Dimension					Base Mounting Holes			Weight
	Cyl. Base to Advance Port	Saddle Dia.	Saddle Protr. from Plngr.	Plunger Internal Thread	Plunger Thread Length	Collar Therad	Collar Thread Length	Center Hole Dia.	Bolt Circle	Thread	Thread Depth	
	H(mm)	J(mm)	K(mm)	O(inch)	P(mm)	W(inch)	X(mm)	Y(mm)	U(mm)	V(inch)	Z(mm)	
ZRSCH-120	9	—	—	3/4"-16UN	16	2-3/4"-16	30	19.6	50.8	5/16"-18UNC	9	1.7
ZRSCH-121	19	—	—	—	—	2-3/4"-16	30	19.6	50.8	5/16"-18UNC	9	3
ZRSCH-1211	19	—	—	3/4"-16UN	16	2-3/4"-16	30	19.6	50.8	5/16"-18UNC	9	3
ZRSCH-123	19	—	—	—	—	2-3/4"-16	30	19.6	50.8	5/16"-18UNC	12.7	4.6
ZRSCH-202	19	54	6.9	1-9/16"-16UN	19	3-7/8"-12	38	26.9	82.6	3/8"-16UNC	9.4	8.2
ZRSCH-204	19	54	6.9	1-9/16"-16UN	19	3-7/8"-12	38	26.9	82.6	3/8"-16UNC	9.4	10.5
ZRSCH-206	19	54	6.9	1-9/16"-16UN	19	3-7/8"-12	38	26.9	82.6	3/8"-16UNC	9.4	14.6
ZRSCH-302	22	63	9.7	1-13/16"-16UN	22	4-1/2"-12	42	33.3	92.2	3/8"-16UNC	14	11.55
ZRSCH-304	22	63	9.7	1-13/16"-16UN	22	4-1/2"-12	42	33.3	92.2	3/8"-16UNC	14	14.75
ZRSCH-306	25	63	9.7	1-13/16"-16UN	22	4-1/2"-12	42	33.3	92.2	3/8"-16UNC	14	22.45
ZRSCH-603	31	91	12.7	2-3/4"-16UN	19	6-1/4"-12	48	53.8	130.3	1/2"-13UNC	14	29.7
ZRSCH-606	31	91	12.7	2-3/4"-16UN	19	6-1/4"-12	48	53.8	130.3	1/2"-13UNC	14	37
ZRSCH-1003	38	126	12.7	4-16UN	25	8-3/8"-12	60	79	177.8	5/8"-11UNC	19	53.5

## Single-Acting, High Tonnage Cylinders



### ZCSLSG Series

Capacity: 50-1000 ton

Stroke: 50-300 mm

Maximum Operating Pressure:  
700 bar

### Single-Acting, High Tonnage Cylinders

- Base mounting holes standard on all models.
- Single-acting, load return
- Hard chrome plated plunger and inner of barrel resists wear and corrosion.
- Plunger wiper reduces contamination, extending cylinder life.
- Integral stop ring provides piston blow-out protection
- Powder coat finish for increased corrosion resistance and antirust.
- Come with ZSQB-3/8UF female coupler & dust cap.



### Saddle



- ZCSLSG-Series are equipped with hardened removable "Ribbed saddles" to prevent slippage during jacking.
- For off-center loading application, see optional tilting saddle.
- For information on optional tilt saddles, see selection chart.

### Cylinder Capacity



- More above 1000 tons cylinder capacity are also available.
- Please contact ZIPP office nearest to you for advice and technical assistance in the layout of your ideal Lift System.

### Low Height-High Tonnage



- When low height with high force is required, load return with lock ring Cyl.
- Offer the solution to lift the first few inches.

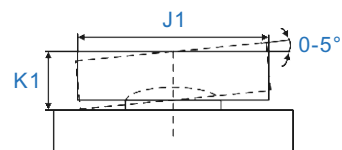


### Mounting Hole Direction

- Top mounting hole orientation is maintained to port location.
- Bases mounting hole orientation is not maintained to port location.

# Single-Acting, High Tonnage Cylinders

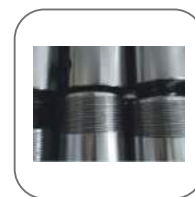
Handle type	Model Number	Cylinder Capacity	Stroke	Effective Area	Collapsed Height	Weight	Optional Tilt Saddle		
							Model Number	Dia.	Height
S		ton(kN)	mm	cm <sup>2</sup>	A(mm)	kg	J1(mm)	K1(mm)	
★	ZCSLSG-502	50(539)	50	77	162	17	ZXKCATG-50	50	24
★	ZCSLSG-504		100	77	212	20	ZXKCATG-50	50	24
★	ZCSLSG-506		150	77	262	23	ZXKCATG-50	50	24
★	ZCSLSG-508		200	77	312	27	ZXKCATG-50	50	24
★	ZCSLSG-5010		250	77	362	31	ZXKCATG-50	50	24
★	ZCSLSG-5012		300	77	412	34	ZXKCATG-50	50	24
★	ZCSLSG-1002	100(929)	50	132.7	182	19	ZXKCATG-100	73	29
★	ZCSLSG-1004		100	132.7	232	29	ZXKCATG-100	73	29
★	ZCSLSG-1006		150	132.7	282	40	ZXKCATG-100	73	29
★	ZCSLSG-1008		200	132.7	332	50	ZXKCATG-100	73	29
★	ZCSLSG-10010		250	132.7	382	61	ZXKCATG-100	73	29
★	ZCSLSG-10012		300	132.7	432	71	ZXKCATG-100	73	29
★	ZCSLSG-1502	150(1390)	50	198.6	196	39	ZXKCATG-150	91	31
★	ZCSLSG-1504		100	198.6	246	52	ZXKCATG-150	91	31
★	ZCSLSG-1506		150	198.6	296	65	ZXKCATG-150	91	31
★	ZCSLSG-1508		200	198.6	346	78	ZXKCATG-150	91	31
★	ZCSLSG-15010		250	198.6	396	92	ZXKCATG-150	91	31
★	ZCSLSG-15012		300	198.6	446	105	ZXKCATG-150	91	31
★	ZCSLSG-2002	200(1861)	50	265.9	216	68	ZXKCATG-200	113	35
★	ZCSLSG-2006		100	265.9	316	91	ZXKCATG-200	113	35
★	ZCSLSG-20012		300	265.9	466	146	ZXKCATG-200	113	35
★	ZCSLSG-2502	250(2565)	50	366.4	235	102	ZXKCATG-250	144	46
★	ZCSLSG-2506		100	366.4	335	136	ZXKCATG-250	144	46
★	ZCSLSG-25012		300	366.4	485	207	ZXKCATG-250	144	46
★	ZCSLSG-3002	300(3193)	50	456.2	312	184	ZXKCATG-300	160	62
★	ZCSLSG-3006		100	456.2	412	232	ZXKCATG-300	160	62
★	ZCSLSG-30012		300	456.2	562	303	ZXKCATG-300	160	62
★	ZCSLSG-4002	400(3919)	50	559.9	375	270	ZXKCATG-400	193	51
★	ZCSLSG-4006		100	559.9	475	330	ZXKCATG-400	193	51
★	ZCSLSG-40012		300	559.9	625	421	ZXKCATG-400	193	51
★	ZCSLSG-5002	500(5114)	50	730.6	419	401	ZXKCATG-500	228	63
★	ZCSLSG-5006		100	730.6	519	480	ZXKCATG-500	228	63
★	ZCSLSG-50012		300	730.6	669	599	ZXKCATG-500	228	63
★	ZCSLSG-6002	600(5987)	50	855.3	429	474	ZXKCATG-600	241	76
★	ZCSLSG-6006		100	855.3	529	565	ZXKCATG-600	241	76
★	ZCSLSG-60012		300	855.3	679	701	ZXKCATG-600	241	76
★	ZCSLSG-8002	800(8234)	50	1176.3	474	741	ZXKCATG-800	287	75
★	ZCSLSG-8006		100	1176.3	574	880	ZXKCATG-800	287	75
★	ZCSLSG-80012		300	1176.3	724	1058	ZXKCATG-800	287	75
							Equipped Tilt Saddle		
★	ZCSLSG-10002	1000 (10260)	50	1465.7	564	1062	ZXKCATG-1000	311	93
★	ZCSLSG-10006		100	1465.7	664	1213	ZXKCATG-1000	311	93
★	ZCSLSG-100012		300	1465.7	814	1439	ZXKCATG-1000	311	93



S = standard equipped  
O = option

### Handle type

- = Weldable
- ★ = Eyebolt
- △ = Removable strap handles
- = Thread



### Opt Features

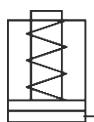
To add optional features to order cylinder, add follow suffixes to the end of the model No..

Collar Thread ZCT

### Example

ZCSLSG-502 with collar thread, order: ZCSLSG-502CT.  
Technical specifications for these features are available from ZIPP.

# Hydraulic Nut Splitter

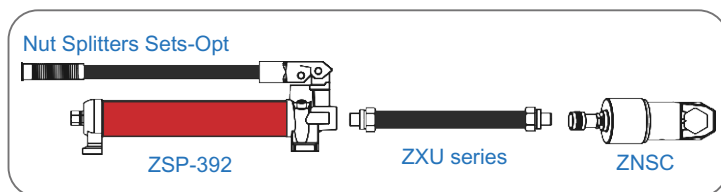
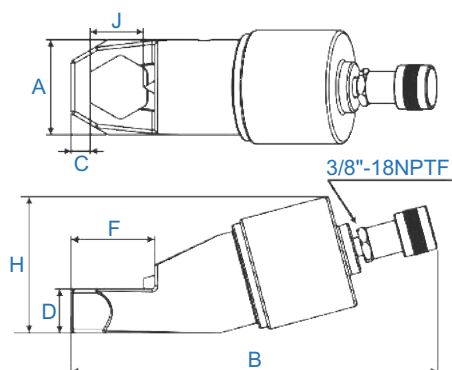


## ZNSC Series

Capacity: 5-90 ton  
 Bolt Range: M6-M48  
 Hex. Nut Range: 10-75 mm  
 Maximum Operating Pressure: 700 bar

### Hydraulic Nut Splitter

- Specially designed "tool steel" cutter blade penetrates the nut to the precise point where it cracks, stopping short of the bolt threads.
- Applications include servicing trucks, piping industry, tank cleaning, petrochemical, steel construction and mining.
- Heavy-duty chisels can be reground.
- Sing-acting, spring return cylinder.
- Unique angled head allows flush access.
- Compact and ergonomic design, easy to use.



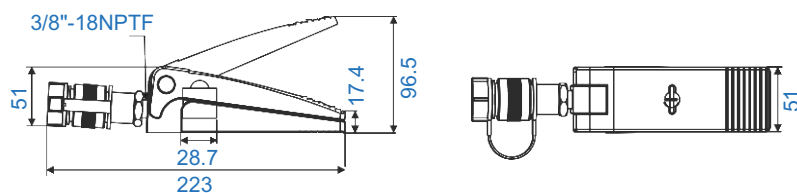
Model Number	Hex. Nut Range		Bolt Range		Capacity	Oil Capacity	Dimensions (mm)							Weight
	inch	mm	inch	mm			A	B	C	D	F	H	J	
ZNSC-1319	0.5-0.75	13-19	0.31-0.5	M8-M12	5	15	40	200	6	19	28	48	21	1.1
ZNSC-1924	0.75-0.94	19-24	0.5-0.63	M1-M16	10	20	55	227	8	25	38	71	25	2
ZNSC-2432	0.94-1.13	24-32	0.63-0.88	M16-M22	15	60	66	260	10	31	49	76	33	3.4
ZNSC-3241	1.13-1.56	32-41	0.88-1.13	M22-M27	20	80	75	286	15	35	56	89	43	5.8
ZNSC-4150	1.56-2	41-50	1.13-1.38	M27-M33	35	155	96	325	21	45	73	109	54	11.7
ZNSC-5060	2-2.25	50-60	1.38-1.5	M33-M39	50	240	106	366	27	54	92	126	60	15.4
ZNSC-6075	2.38-2.88	60-75	1.5-1.88	M39-M48	90	492	156	366	27	75	110	180	78	38.9

## ZWSR Series

Capacity: 1 ton  
 Tip Clearance: 17.4mm  
 Maximum Spread: 96.5 mm  
 Maximum Operating Pressure: 700 bar

### Hydraulic Wedgie and Spread Cylinder

- Single-acting, spring return.
- For use in very confined work areas.



Model Number	Cylinder Capacity	Tip clearance	Maximum Spread	Cylinder Effective Area	Oil Capacity	Weight
	ton(kN)	mm	mm	cm <sup>2</sup>	cm <sup>3</sup>	kg
ZWSR-1	1(8.9)	17.4	96.5	6.5	10	2.3

# Hydraulic Spreader

## ZSWR&ZSWRM Series

maximum Spread Force: 5-90 ton

Tip Clearance/ Max. Spread<sup>1)</sup>: 6/81 mm

Maximum Operating Pressure: 700 bar

1)Using Stepped block.

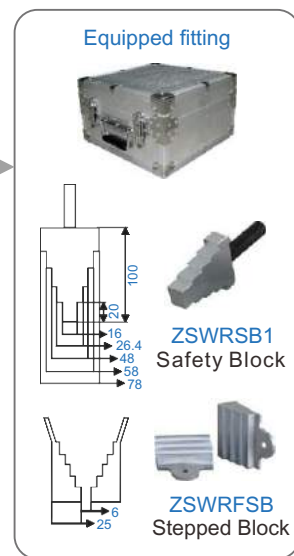
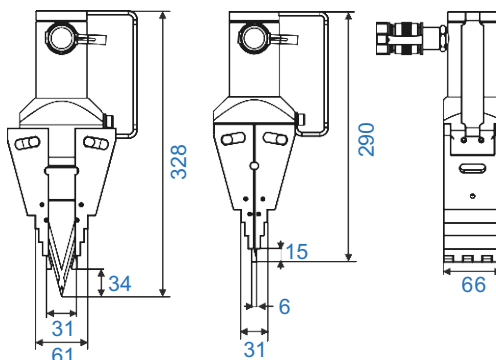
Model Number	Max. Spread Force	Tip clearance	Max. Spread	Oil Capacity	Weight
	ton(kN)	mm	mm	c.c	kg
ZSWR-40	14(125)	6	81	78	7.1
ZSWR-401	14.5(145)	6	81	152	8
ZSWR-8	8(72)	6	81	—	6.5

## Hydraulic Spreader

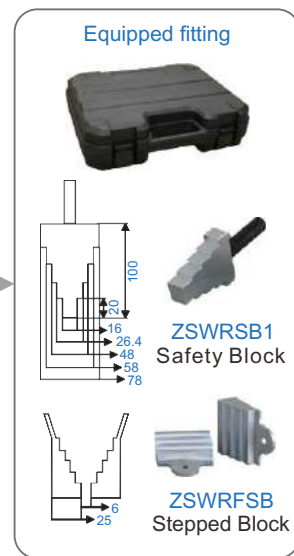
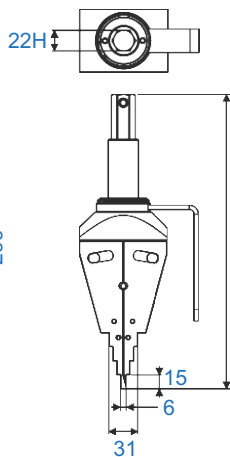
- Only requests an access gap of 0.24" (6mm).
- Automatic mechanical retraction.
- Unique interlocking: no first step bending and risk of slipping out of joint.



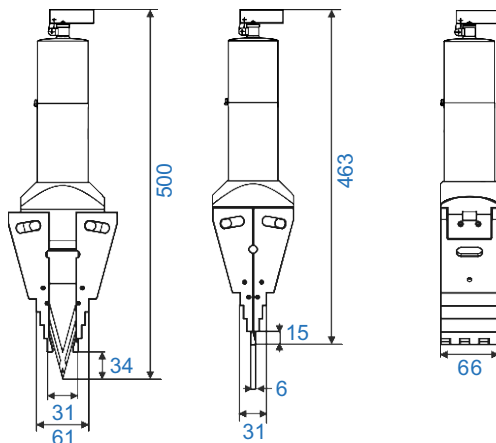
**ZSWR-40**



**ZSWR-8**



**ZSWR-401**

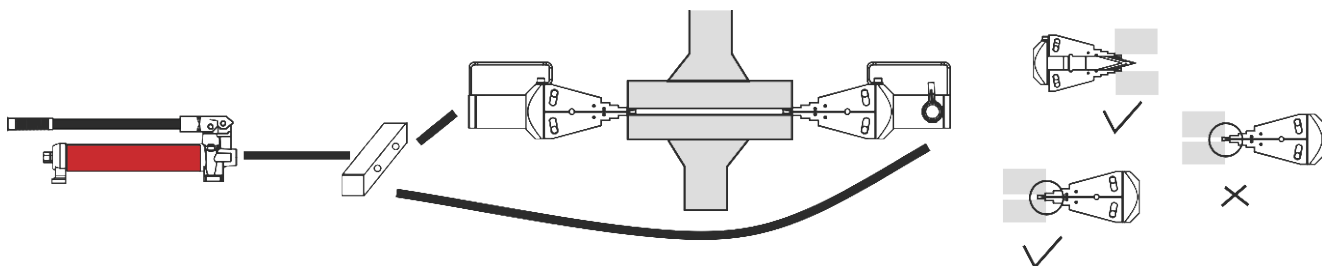
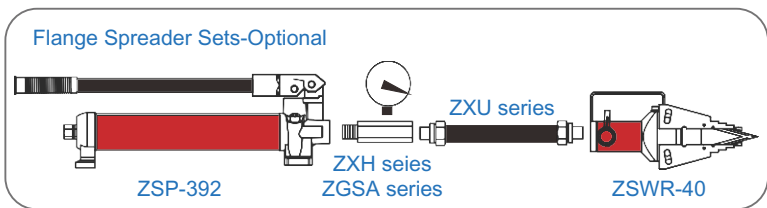




# Hydraulic Spreader



- For simultaneously and even spreading of flange joints, 180° apart with ZSWR-40



## ZSWF Series

Capacity: 5 ton

Tip Clearance/ Max. Spread: 23/76 mm

Maximum Operating Pressure: 700 bar

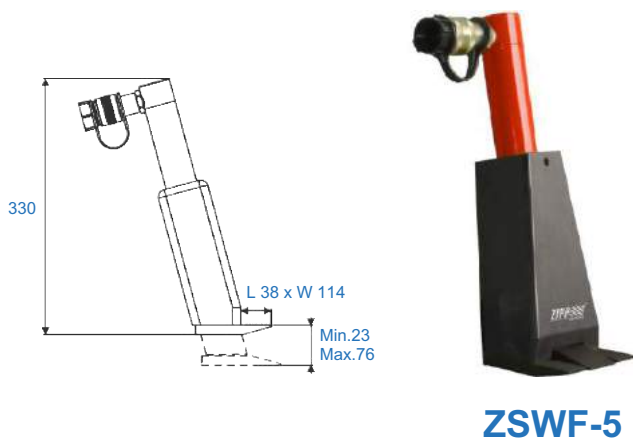
## Hydraulic Spreader

- Jaws open parallel.
- Complete metal structure.

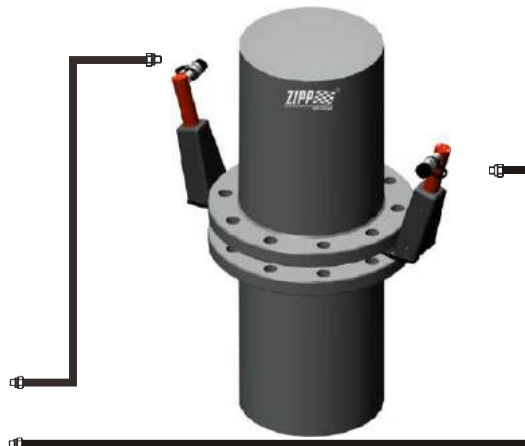
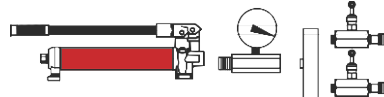
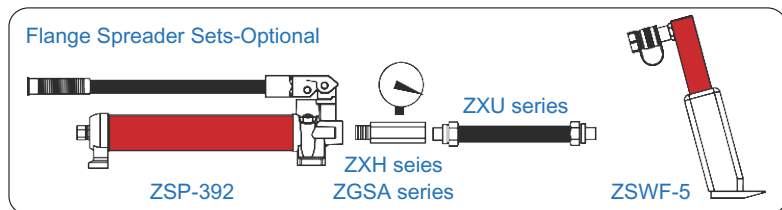
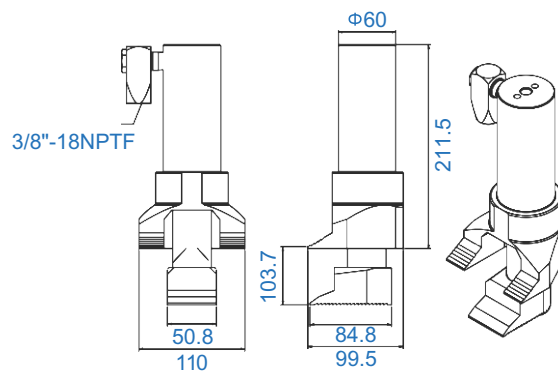
Model Number	Capacity	Spread	Oil Capacity	Weight
	ton	Min./Max. (mm)	c.c	kg
ZSWF-5	5	23/76	81.9	6.2
ZSWF-10ST	10	3.7/103.7	160	6.35



**ZSWF-10ST**



**ZSWF-5**



## ZLSW Series

Maximum Spread Force:

16(157) ton(kN)

Min. Clearance/ Max. Lift Ht.<sup>1)</sup>:

9.9/51.3-69.1<sup>1)</sup> mm

Maximum Operating Pressure:

700 bar

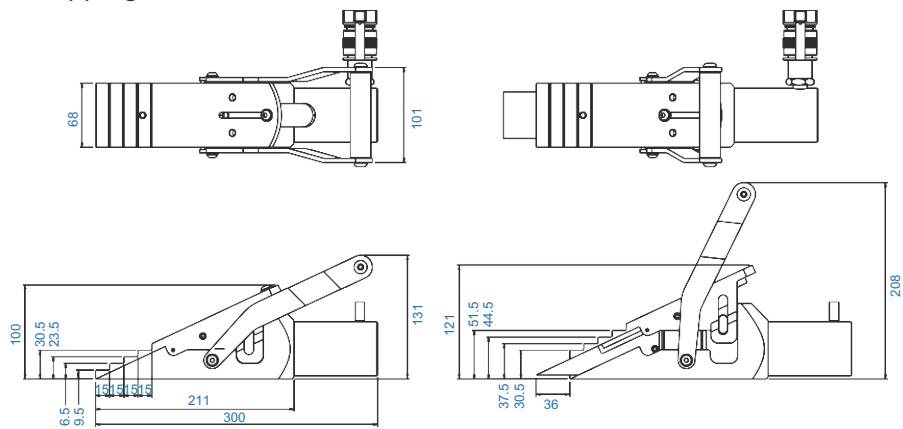
1)Using Stepped block ZSWRFSB to increase wedge lifting height 30mm.

## Hydraulic Vertical Lifting Wedge

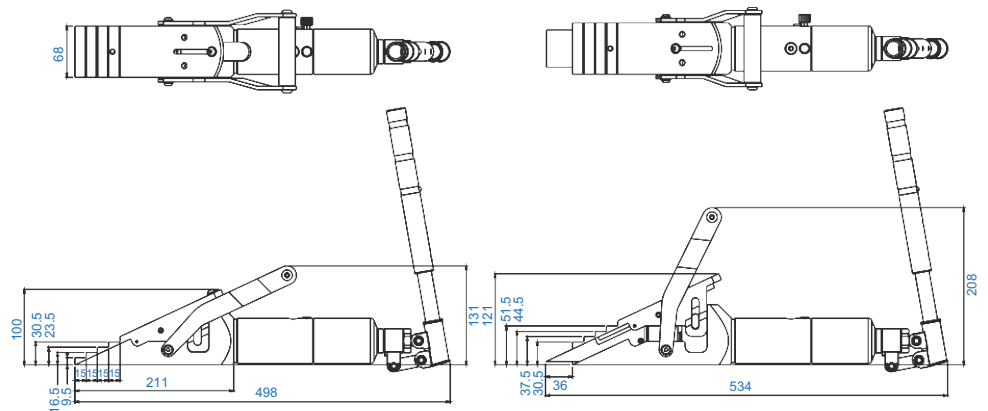
- Require 0.39" (9.9mm) access gap.
- Lifting force 16 ton at 700bar hydraulic pressure.
- Automatic mechanical retraction (single acting spring return).
- Securely raises or lowers 16 tons with no slippage.
- Lifting wedge ZLSW-16 includes safety block ZSLW-C1-16.
- Use in tandem to lift 32 tons, or 64 tons.
- 21.1mm of vertical lift from each step (maximum lift to 69.1mm with optional ZSLW-C2-16 stepped block).
- Each step can spread under full load.
- Unique interlocking wedge design, no first step bending and risk of slipping out.



**ZLSW-16**



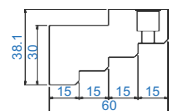
**ZLSW-161**



### Optional fitting



**ZLSW16-A07**  
Stepped Block



Optional **ZLSW-C2-16**  
Stepped Block

### Equipped fitting



Stock Box



**ZSLW-C1-16**  
Safety Block



### Control Manifolds

- Control Manifold to control two or four lifting wedges simultaneously.

Model Number	Max. Lifting Force	Minimum clearance Gap	Max. Lift per Stage	Max. Lift Ht.	Max. Lift Ht. Using stepped bock	Oil Capacity	Weight
	ton(kN)	mm	mm	mm	mm	c.c	kg
ZLSW-16	16(157)	9.9	21.1	51.3	69.1	78	7
ZLSW-161	16(157)	9.9	21.1	51.3	69.1	152	7

# Hydraulic Fixed Flange Alignment Tool



## ZFSA Series

Minimum Bolt Size:

16-31.5 mm

Flange Wall Thickness:

16-31.5 mm

Capacity:

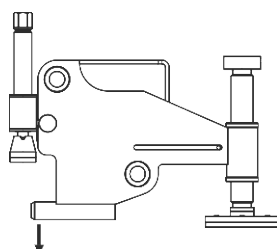
1-10(10-90) ton(kN)

Maximum Operating Pressure:

700 bar (Just for ZSFA-9TE)

## Hydraulic Fixed Flange Alignment Tool

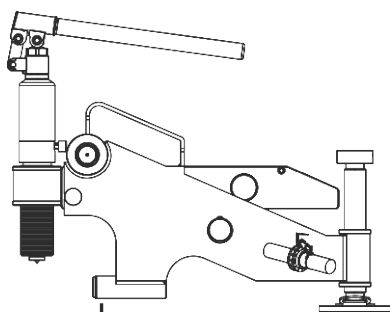
- The Flange Alignment tools can be used to align or re-align flange joints during pipework construction, commissioning or during routine maintenance.
- The tool is attached to the flange joint where misalignment is at its greatest and then simply push and pull the flanges into correct alignment (except ZSFA-9TE).
- The Flange Alignment tools rectify twist and rotational misalignment quickly, safely and without the need for an external power source.
- Appropriate for use on most ANSI, API, BS and DIN flanges.
- No slings, hooks or lifting gear required.
- Can be installed and used in any position (horizontally or vertically).
- Portable, lightweight design enables easy transport and use, even in remote locations.



MAX. LOAD 4T

## ZFSA-4TM

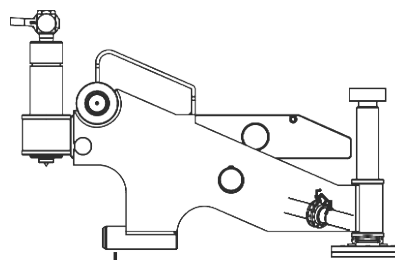
For use on medium diameter, medium pressure flanges.  
Mechanical Fixed Flange and Rotational Alignment Tool.



MAX. LOAD 9T

## ZFSA-9TM

For use on larger diameter, higher pressure flanges.  
Mechanical Fixed Flange and Rotational Alignment Tool.

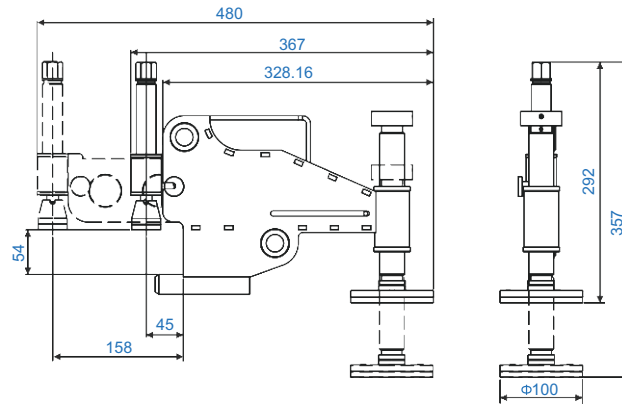


MAX. LOAD 9T

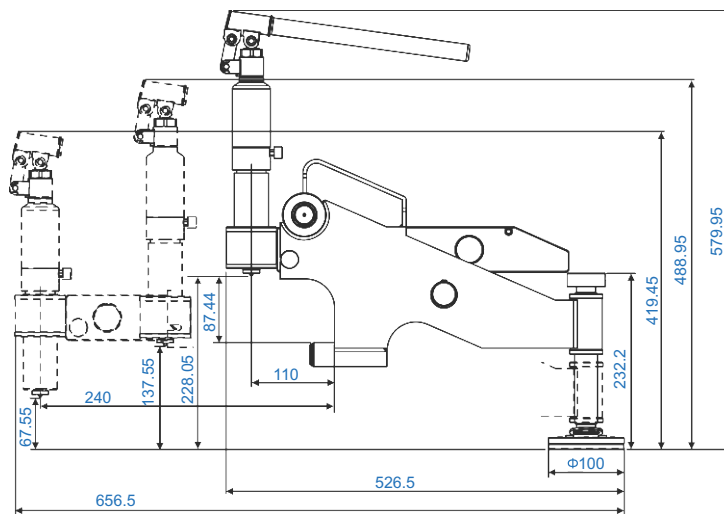
## ZFSA-9TE

For use on larger diameter, higher pressure flanges.  
Hydraulic Fixed Flange and Rotational Alignment Tool.

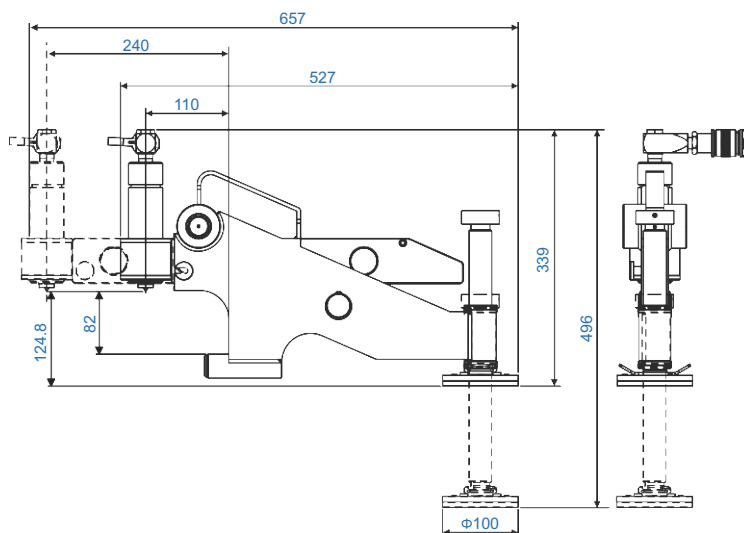
# Hydraulic Fixed Flange Alignment Tool



**ZFSA-4TM**

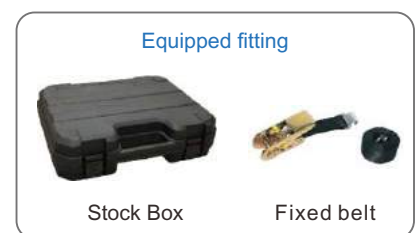


**ZFSA-9TM**



**ZFSA-9TE**

Model Number	Max. Lifting Force	Min. Bolt Size	Flange wall Thickness (including gap between flanges)	Weight
	ton(kN)	inch(mm)	inch(mm)	kg
ZFSA-4TM	4(40)	0.95(24)	1.18-5.23(30-133)	8.6
ZFSA-9TM	10(90)	1.24(31.5)	3.66-9(93-228)	16.5
ZFSA-9TE	10(90)	1.24(31.5)	3.66-9(93-228)	16.5



# Square Drive Wrenches

## ZSMX

### Square Drive Wrenches

Lightweight High Power Wrench for Sockets or Allen-key

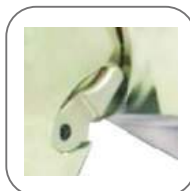
- Dual Pawl Mechanism-Heavy duty.
  - 360 degree Reaction Arm-Easy to working in any position.
  - One-way Ratchet-the only way to assure hands-free and multi-tool operation.
  - Aviation material Body housing-Aluminum-Titanium alloy and high strength steel.
  - Anti-Rust Finish-Special surface treatment.
  - Small Operating Radius.
  - "Drop Hole" will protect over pressure operating.
- Torque Accuracy  $\pm 3\%$   
Repeatability 100%



Opt Removable handle

Steel boot

Button change square driver



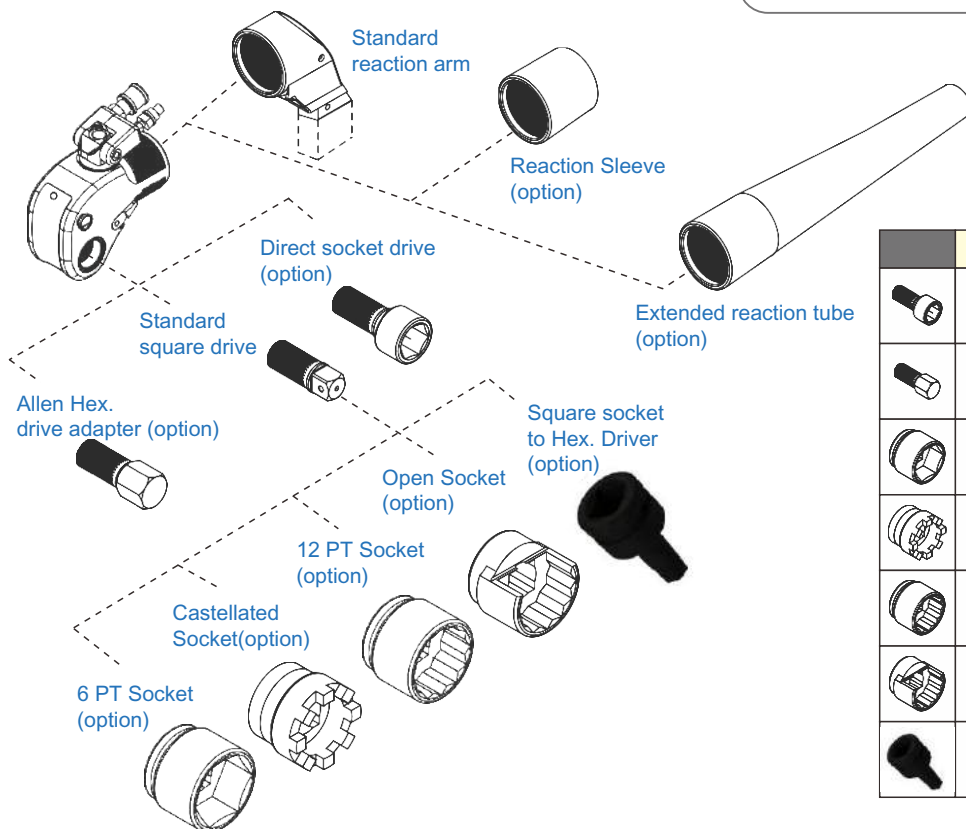
Reaction Pawl  
Prevent ratchet reverse



WARNING

Warning drop hole

Warning wrong coupler connect or over pressure which leaking oil.

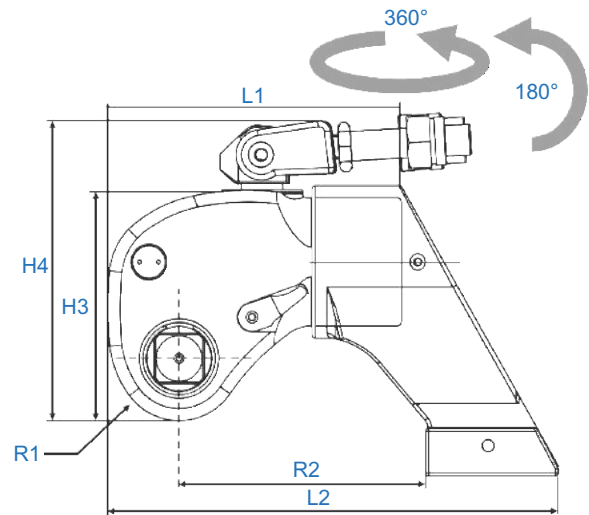
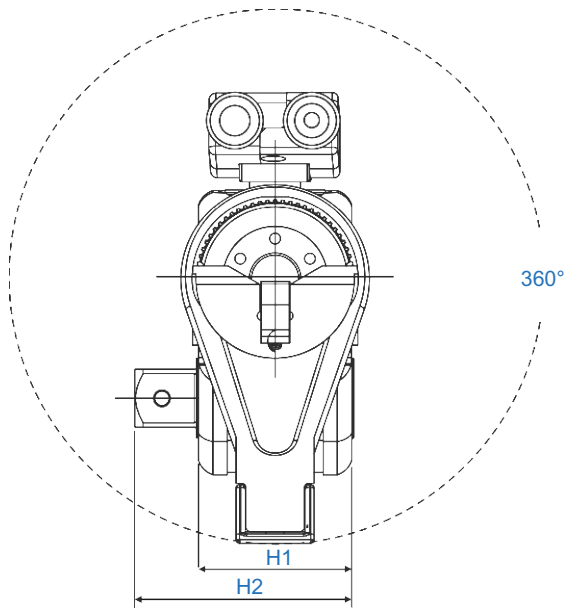


How to build Torque Wrench drive and socket	
	Model DS Hex. Socket size Example: ZSMX-3DS1-13/16"
	Model AH Hex. Drive size Example: ZSMX-3AH32mm
	Z6PTS- Drive size - Socket size Example: Z6PTS-1"-50
	ZCS- Drive size - Socket size Example: ZCS-1"-2-3/4"
	Z12PTS- Drive size - Socket size Example: Z12PTS-1"-50
	ZOPS- Drive size - Socket size Example: ZOPS-1"-6PT50
	ZSMX-4F Square socket Hex. Drive Example: ZSMX-4F1"-6M22mm

# Square Drive Wrenches

Model Number	Square Drive	Min. Torque		Max. Torque		Bolt size	Motor	
	inch	lbf.ft	N.m	lbf.ft	N.m	mm	lb	kg
ZSMX-1	3/4	201	273	1409	1911	16-36	5.29	2.4
ZSMX-3	1	475	645	3328	4512	22-48	11.34	5.35
ZSMX-5	1-1/2	810	1099	5672	7690	27-56	19.5	9.08
ZSMX-8	1-1/2	1136	1540	6951	10780	30-64	28.2	13.97
ZSMX-10	1-1/2	1670	2264	11688	15847	36-72	35.9	16
ZSMX-20	2-1/2	2864	3883	20049	27183	42-90	66.98	30.41
ZSMX-25	2-1/2	3659	4961	25611	34725	48-100	85.9	39
ZSMX-35	2-1/2	5376	7289	37632	51022	64-120	95.15	43.2

Model Number	Square Drive	L1		L2		H1		H2		H3		H4		R1		R2	
	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
ZSMX-1	3/4	4.92	125	7.56	192	1.96	50	2.8	71	3.56	90.5	5.13	130.5	0.97	24.7	4.48	113.7
ZSMX-3	1	6.35	161	9.58	243	2.63	66.8	3.7	94	4.87	123.7	6.52	165.7	1.29	33	5.26	133.7
ZSMX-5	1-1/2	8.22	209	10.63	270	3.14	80	4.8	122	5.86	149	7.62	193.5	1.53	39	5.47	139
ZSMX-8	1-1/2	8.74	222	11.57	294	3.54	90	5.11	130	6.57	167	8.61	218.6	1.85	47	6.02	153
ZSMX-10	1-1/2	9.56	243	14.52	369	3.93	100	5.67	144	7.34	186.6	9.08	230.7	1.95	49.7	7.94	202
ZSMX-20	2-1/2	12.2	310	15.24	387	4.72	120	7.2	183	8.66	220	10.71	272	2.32	59	7.32	186
ZSMX-25	2-1/2	12.99	330	16.06	408	5.38	136.6	7.83	198.9	9.72	247	11.77	299	2.59	66	7.79	198
ZSMX-35	2-1/2	13.89	353	21.22	539	5.81	147.8	8.62	218.7	10.9	276.9	12.35	313.9	2.98	75.7	12.68	322.1



Reaction arm  
small tooth orientation



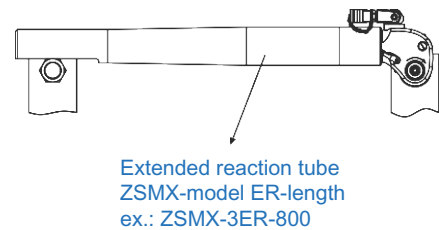
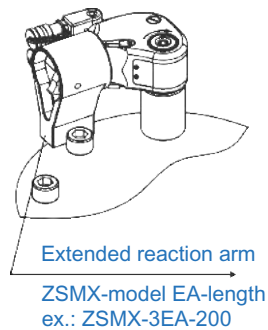
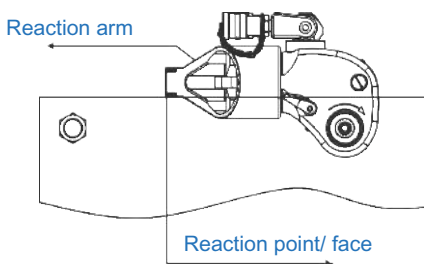
Fixed Button



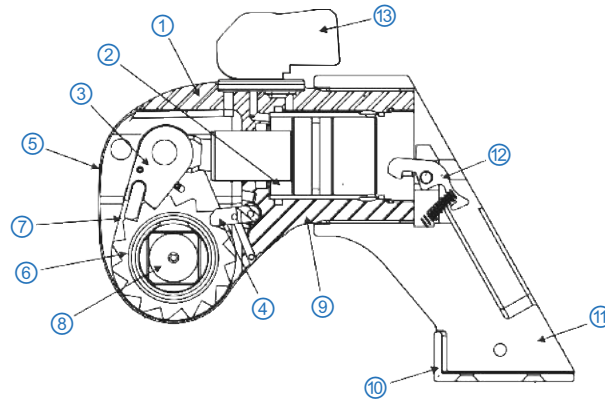
Small tooth driver


# Square Drive Wrenches


SMX Series Torque Conversion Chart																						
Work pressure		ZSMX-1			ZSMX-3			ZSMX-5			ZSMX-8			ZSMX-10			ZSMX-20			ZSMX-25		
psi	bar	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n	lbf.ft	kgf.m	N.n
1450	100	201	28	273	475	66	645	810	112	1099	1136	157	1540	1670	231	2264	2864	396	3883	3659	506	4961
1740	120	242	33	328	571	79	774	972	134	1318	1363	188	1848	2004	277	2717	3437	475	4660	4391	607	5953
2031	140	282	39	382	666	92	902	1134	157	1538	1590	220	2156	2338	323	3169	4010	554	5437	5122	708	6945
2321	160	322	45	437	761	105	1031	1296	179	1758	1817	251	2464	2672	369	3622	4583	634	6213	5854	809	7937
2611	180	362	50	491	856	118	1160	1459	202	1977	2044	283	2772	3006	416	4075	5155	713	6990	6586	911	8929
2901	200	403	56	546	951	131	1289	1621	224	2197	2272	314	3080	3339	462	4528	5728	792	7766	7318	1012	9921
3191	220	443	61	601	1046	145	1418	1783	246	2417	2499	345	3388	3673	508	4980	6301	871	8543	8049	1113	10913
3481	240	483	67	655	1141	158	1547	1945	269	2637	2726	377	3696	4007	554	5433	6874	950	9320	8781	1214	11906
3771	260	524	72	710	1236	171	1676	2107	291	2856	2953	408	4004	4341	600	5886	7447	1030	10096	9513	1315	12898
4061	280	564	78	761	1331	184	1805	2269	314	3076	3180	440	4312	4675	646	6339	8020	1109	10873	10245	1416	13890
4351	300	604	84	819	1426	197	1934	2431	336	3296	3407	471	4620	5009	693	6792	8592	1188	11650	10976	1518	14882
4641	320	644	89	874	1521	210	2063	2593	358	3515	3635	503	4928	5343	739	7244	9165	1267	12426	11708	1619	15874
4931	340	685	95	928	1616	223	2192	2755	381	3735	3862	534	5236	5677	785	7697	9738	1346	13203	12440	1720	16866
5221	360	725	100	983	1712	237	2321	2917	403	3955	4089	565	5544	6011	831	8150	10311	1426	13980	13172	1821	17858
5511	380	765	106	1037	1807	250	2449	3079	426	4175	4316	597	5852	6345	877	8603	10884	1505	14756	13903	1922	18850
5802	400	805	111	1092	1902	263	2578	3241	448	4394	4543	628	6160	6679	923	9055	11457	1584	15533	14635	2023	19843
6092	420	846	117	1147	1997	276	2707	3403	471	4614	4770	660	6468	7013	970	9508	12029	1663	16310	15367	2125	20835
6382	440	886	122	1201	2092	289	2836	3565	493	4834	4998	691	6776	7347	1016	9961	12602	1742	17086	16099	2226	21827
6672	460	926	128	1256	2187	302	2965	3727	515	5054	5225	722	7084	7681	1062	10414	13175	1822	17863	16830	2327	22819
6962	480	966	134	1310	2282	316	3094	3889	538	5273	5452	754	7392	8015	1108	10866	13748	1901	18640	17562	2428	23811
7252	500	1007	139	1365	2377	329	3223	4051	560	5493	5679	785	7700	8349	1154	11319	14321	1980	19416	18294	2529	24803
7542	520	1047	145	1420	2472	342	3352	4213	583	5713	5906	817	8008	8683	1200	11772	14893	2059	20193	19026	2630	25795
7832	540	1087	150	1474	2567	355	3481	4376	605	5932	6133	848	8316	9017	1247	12225	15466	2138	20969	19757	2732	26787
8122	560	1128	156	1529	2662	368	3610	4538	627	6152	6361	879	8624	9350	1293	12678	16039	2217	21746	20489	2833	27780
8412	580	1168	161	1583	2757	381	3739	4700	650	6372	6588	911	8932	9684	1339	13130	16612	2297	22523	21221	2934	28772
8702	600	1208	167	1638	2853	394	3868	4862	672	6592	6815	942	9240	10018	1385	13583	17185	2376	23299	21953	3035	29764
8992	620	1248	173	1693	2948	408	3997	5024	695	6811	7042	974	9548	10352	1431	14036	17758	2455	24076	22684	3136	30756
9282	640	1289	178	1747	3043	421	4125	5186	717	7031	7269	1005	9856	10686	1477	14489	18330	2534	24853	23416	3237	31748
9572	660	1329	184	1802	3138	434	4254	5348	739	7251	7496	1036	10164	11020	1524	14941	18903	2613	25629	24148	3339	32740
9863	680	1369	189	1856	3233	447	4383	5510	762	7470	7724	1068	10472	11354	1570	15394	19476	2693	26406	24880	3440	33732
10153	700	1409	195	1911	3328	460	4512	5672	784	7690	7951	1099	10780	11688	1616	15847	20049	2772	27183	25611	3541	34725




SMX Series Torque Conversion Chart				
Work pressure		ZSMX-35		
psi	bar	lbf.ft	kgf.m	N.n
1450	100	5376	743	7289
1740	120	6451	892	8747
2031	140	7526	1041	10204
2321	160	8601	1189	11662
2611	180	9677	1338	13120
2901	200	10752	1486	14578
3191	220	11827	1635	16035
3481	240	12902	1784	17493
3771	260	13977	1932	18951
4061	280	15053	2081	20409
4351	300	16128	2230	21866
4641	320	17203	2378	23324
4931	340	18278	2527	24782
5221	360	19353	2676	26240
5511	380	20429	2824	27697
5802	400	21504	2973	29155
6092	420	22579	3122	30613
6382	440	23654	3270	32071
6672	460	24729	3419	33528
6962	480	25804	3568	34986
7252	500	26880	3716	36444
7542	520	27955	3865	37902
7832	540	29030	4014	39359
8122	560	30105	4162	40817
8412	580	31180	4311	42275
8702	600	32256	4459	43733
8992	620	33331	4608	45190
9282	640	34406	4757	46648
9572	660	35481	4905	48106
9863	680	36556	5054	49564
10153	700	37632	5203	51022




- 

**1 High-strength Aluminum Alloy Housing**  
ZSMX series housing processed from solid block of 7075 AQ Aluminum and anti-rust finish-special surface treatment.
- 


**2 Strong piston Assembly**  
Smooth leak proof functioning of enclosed alloy steel piston and single seal provides required torque.
- 


**3 Driving Segment**  
Ensures tool will never lock up.
- 

**4 Anti-Back & Lock**  
Allows hands free working.
- 


**5 Laser Engraved Torque Chart**  
Two sided shroud is laser engraved with the torque chart for the ZSMX series.
- 

**6 Multi-Tooth Driving & Ratchet Assembly**  
Strong strength, high accuracy and best speed.
- 


**7 Drive Plate**  
High strength alloy drive plate for maximum life. Allows small nose radius for the tool.
- 

**8 Square Driving**  
"Push through" Square Drive that easily pushes through to switch from loosens to tighten.
- 

**9 Direct Housing Reaction**  
Allows use without reaction arm.
- 

**10 Steel Reaction Boot**  
Replaceable pad allowing on site change over. Protects costly replacement of reaction arm.
- 

**11 Long Length Reaction Arm**  
Long length reaction arm allows multi positioning. Allows taking reaction on most applications.
- 

**12 Reaction Arm Release Button**  
Housed within the reaction arm as a safety feature, protecting the arm from accidental disengagement.
- 

**13 360°\*180° Swivel-Hose-Free Operation**



# Hydraulic Direct Fit Wrench

## ZSRX

Double-Acting, Hexagon  
Cassette Wrenches  
Lightweight, Low Profile &  
Slim Nose Radius


- Tool body can be Reaction Arm, easy to work.
  - Bronze bushing anti galling.
  - "Drop Hole" will protect over pressure operating.
- Output Accuracy:  $\pm 3\%$  , Repeatability: 100%



Opt Removable handle



One plug to connect

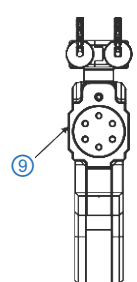
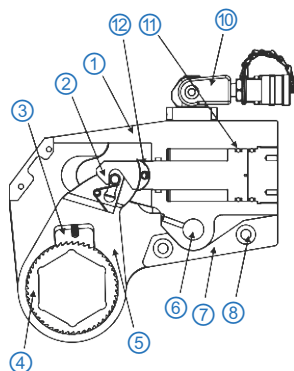


**WARNING**



Warning drop hole

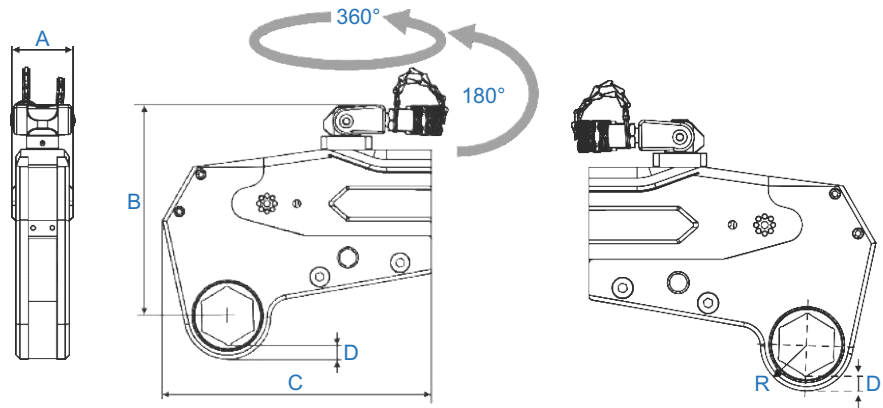
Warning wrong coupler connect or over pressure which leaking oil.



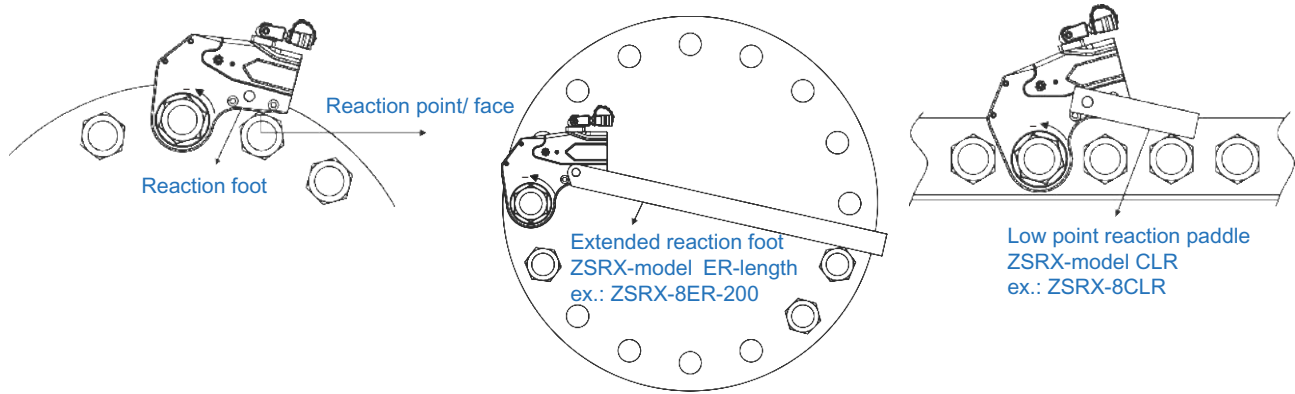
- ① **High Strength Body**  
Cylinder and Link Body are manufactured from high grade and strength alloy. Rust-resistant surface finish.
- ② **Engagement Plunger**  
Smooth leak proof functioning of enclosed alloy steel piston and engaged hook head.
- ③ **Never Lock Drive Segment**  
Never lock drive segment does not let the wrench lock and thus eliminates the requirement of a ratchet release mechanism.
- ④ **Multi Tooth Ratchet Assembly**  
Strong strength, high accuracy and best speed.
- ⑤ **Drive Plate**  
Single piece high strength alloy drive plate for maximum life. Allows small nose radius for the tool.
- ⑥ **Multi-Tooth Driving & Ratchet Assembly**  
Strong strength, high accuracy and best speed.
- ⑦ **Steel Link Pin**  
One simple pin for cassette link to cylinder engagement without using any additional or special tool.
- ⑧ **In-line Reaction Pad**  
This ensures torsion free reaction during use.
- ⑨ **Completely Flat Design Cylinder & Link**  
Equal width of cylinder and link ensures tool sits flat on flange surface. Allows use in most confined areas.
- ⑩ **360°\*180° Swivel-Hose-Free Operation**
- ⑪ **Piston Seal**  
High temperature Polyurethane seals ensure years of maintenance free operation.
- ⑫ **Sliders**  
Reduce friction and prevent wear on the piston.

# Hydraulic Direct Fit Wrench

Model Number	Hex. Size		Min. Torque		Max. Torque		Weight (kg)		Dimensions (mm)			
	inch	mm	lbf.ft	N.m	lbf.ft	N.m	Cylinder	Link	A	B	C	D
ZSRX-2	1-1/4~2-3/8	30~60	192	260	2178	2994	1.99	1.48~1.85	32	148.8~156.8	168~175.5	9.1~11.7
ZSRX-4	1-5/8~3-1/8	41~80	395	535	4732	6504	3.35	3.05~3.95	41.4	172.9~189.2	204.4~220.8	12.7~13.7
ZSRX-8	1-7/8~4-1/8	50~105	830	1125	10689	14692	6.64	6.25~8.6	52.5	210.4~235.4	268.1~283.9	13.7~19.5
ZSRX-16	2-3/4~4-5/8	70~115	1560	2115	16854	23165	8.5	11.98~14.16	64	245.7~258.3	326.7~344.7	19.5~23
ZSRX-32	3-1/8~6-1/8	80~155	3220	4365	37566	51632	16.1	25.1~30.36	82.5	287.6~313.1	422.5~442.5	23~26



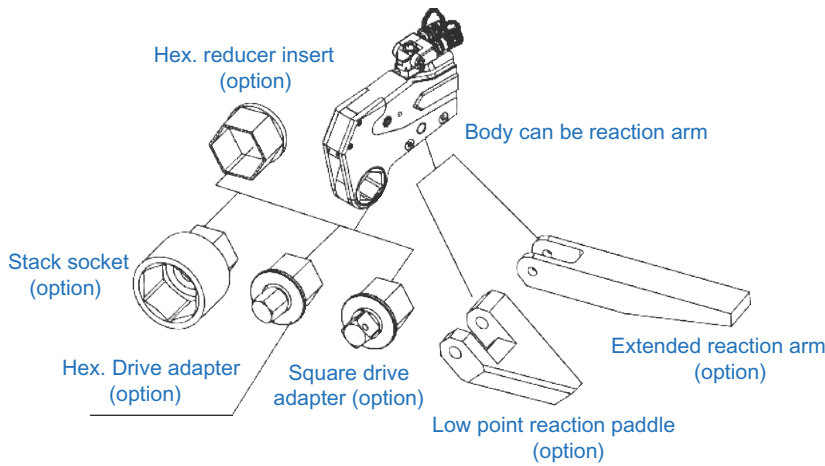
Bolt Dia.	Across flat	Bolt Dia. (Imp.)	Across flat (Imp.)	ZSRX-2			ZSRX-4			ZSRX-8			ZSRX-16			ZSRX-32		
				Link model	R (mm)	D (mm)	Link model	R (mm)	D (mm)	Link model	R (mm)	D (mm)	Link model	R (mm)	D (mm)	Link model	R (mm)	D (mm)
M	mm	inch	inch															
20	30	3/4	1-1/4	ZSRX-2L30	26.6	9.1												
22	32		1-7/16	ZSRX-2L32	26.6	9.1												
24	36	7/8	1-5/8	ZSRX-2L36	33.5	10.4												
27	41	1	1-13/16	ZSRX-2L41	34.4	10.4	ZSRX-4L41	36.8	12.7									
30	46	1-1/8	2	ZSRX-2L46	37.2	10.4	ZSRX-4L46	39.5	12.7									
33	50	1-1/4	2-3/16	ZSRX-2L50	40.6	11.7	ZSRX-4L50	42.3	12.7	ZSRX-8L50	43.3	13.7						
36	55	1-3/8	2-3/8	ZSRX-2L55	43.7	11.7	ZSRX-4L55	45.2	12.7	ZSRX-8L55	45.9	13.7						
39	60	1-1/2	2-9/16	ZSRX-2L60	46.6	11.7	ZSRX-4L60	47.9	12.7	ZSRX-8L60	48.9	13.7						
42	65	1-5/8	2-3/4				ZSRX-4L65	51.7	13.7	ZSRX-8L65	5.5	13.7						
45	70	1-3/4	2-15/16				ZSRX-4L70	54.8	13.7	ZSRX-8L70	54.5	13.7	ZSRX-16L70	60.3	19.5			
48	75	1-7/8	3-1/8				ZSRX-4L75	57.3	13.7	ZSRX-8L75	57.2	13.7	ZSRX-16L75	63.1	19.5			
52	80	2					ZSRX-4L80	60.1	13.7	ZSRX-8L80	59.9	13.7	ZSRX-16L80	66	19.5	ZSRX-32L80	72	25
56	85		3-1/2							ZSRX-8L85	67.2	17.5	ZSRX-16L85	69	19.5	ZSRX-32L85	75	25
60	90	2-1/4								ZSRX-8L90	70.1	18	ZSRX-16L90	71.8	19.5	ZSRX-32L90	78	25
64	95		3-7/8							ZSRX-8L95	73.5	18	ZSRX-16L95	79.3	21	ZSRX-32L95	80.5	25
68	100	2-1/2	4-1/4							ZSRX-8L100	76.4	18	ZSRX-16L100	80	21	ZSRX-32L100	83.5	25
72	105	2-3/4								ZSRX-8L105	80.5	19.5	ZSRX-16L105	82	21	ZSRX-32L105	87.5	26.5
76	110		4-5/8										ZSRX-16L110	85	21	ZSRX-32L110	91.3	26.5
80	115	3											ZSRX-16L115	90	23	ZSRX-32L115	94.9	26.5
	117		5													ZSRX-32L117	94.9	26.5
85	120	3-1/4														ZSRX-32L120	96.5	26.5
	125		5-3/8													ZSRX-32L125	100.5	26.5
90	130	3-1/2														ZSRX-32L130	102.5	26.5
95	135		5-4/3													ZSRX-32L135	108	28.5
	140	3-3/4														ZSRX-32L140	110	28.5
100	145		6-1/8													ZSRX-32L145	113	28.5
105	150	4														ZSRX-32L150	116	28.5
110	155															ZSRX-32L155	119	28.5



ZSRX Series Torque Conversion Chart

Work pressure		ZSRX-2				ZSRX-4				ZSRX-8	
		1-1/4" to 1-12/16" 30 to 46mm	1-1/4" to 1-12/16" 30 to 46mm	1-7/8" to 2-3/8" 47 to 60mm	1-7/8" to 2-3/8" 47 to 60mm	1-5/8" to 2-9/16" 41 to 65mm	1-5/8" to 2-9/16" 41 to 65mm	2-3/4" to 3-1/8" 70 to 80mm	2-3/4" to 3-1/8" 70 to 80mm	1-7/8" to 3-1/8" 50 to 80mm	1-7/8" to 3-1/8" 50 to 80mm
psi	bar	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m
1450	100	284	384	315	428	581	788	685	929	1269	1720
1740	120	340	461	379	513	697	945	822	1115	1523	2064
2031	140	397	538	442	599	813	1103	959	1301	1776	2409
2321	160	454	615	505	684	929	1260	1097	1487	2030	2753
2611	180	510	692	568	770	1046	1418	1234	1673	2284	3097
2901	200	567	769	631	855	1162	1575	1371	1858	2538	3441
3191	220	624	846	694	941	1278	1733	1508	2044	2792	3785
3481	240	680	923	757	1026	1394	1890	1645	2230	3045	4129
3771	260	737	999	820	1112	1510	2048	1782	2416	3299	4473
4061	280	794	1076	883	1198	1626	2205	1919	2602	3553	4817
4351	300	851	1153	946	1283	1742	2363	2056	2788	3807	5161
4641	320	907	1230	1009	1369	1859	2520	2193	2973	4060	5505
4931	340	964	1307	1073	1454	1975	2678	2330	3159	4314	5849
5221	360	1021	1384	1136	1540	2091	2835	2467	3345	4568	6193
5511	380	1077	1461	1199	1625	2207	2993	2604	3531	4822	6537
5802	400	1134	1538	1262	1711	2323	3150	2741	3717	5075	6881
6092	420	1191	1614	1325	1796	2440	3308	2878	3903	5329	7226
6382	440	1247	1691	1388	1882	2556	3465	3015	4088	5583	7570
6672	460	1304	1768	1451	1967	2672	3623	3153	4274	5837	7914
6962	480	1361	1845	1514	2053	2788	3780	3290	4460	6091	8258
7252	500	1418	1922	1577	2138	2904	3938	3427	4646	6344	8602
7542	520	1474	1999	1640	2224	3020	4095	3564	4832	6598	8946
7832	540	1531	2076	1703	2309	3137	4253	3701	5018	6852	9290
8122	560	1588	2153	1766	2395	3253	4410	3838	5203	7106	9634
8412	580	1644	2230	1830	2481	3369	4568	3975	5389	7359	9978
8702	600	1701	2306	1893	2566	3485	4725	4112	5575	7613	10322
8992	620	1758	2383	1956	2652	3601	4883	4249	5761	7867	10666
9282	640	1815	2460	2019	2737	3717	5040	4368	5947	8121	11010
9572	660	1871	2537	2082	2823	3834	5198	4523	6133	8375	11354
9863	680	1928	2614	2145	2908	3950	5355	4660	6319	8628	11698
10153	700	1985	2691	2208	2994	4066	5513	4797	6504	8882	12043

# Hydraulic Direct Fit Wrench



How to build Torque Wrench drive and socket	
	Link model -H Hex. Across size Example: ZSRX-8L95-H85
	Model HH Hex. Drive size - Hex. Socket size Example: ZSRX-8HH75-90
	Model HS Hex. Drive size - Square drive size Example: ZSRX-4HS46-1"
	Model HHM Hex. Drive size - Hex. Drive size Example: ZSRX-4HHM41-27

ZSRX Series Torque Conversion Chart											
Work pressure		ZSRX-8		ZSRX-16				ZSRX-32			
		3-3/8" to 4-1/8" 85 to 105mm	3-3/8" to 4-1/8" 85 to 105mm	2-3/4" to 3-15/16" 70 to 100mm	2-3/4" to 3-15/16" 70 to 100mm	4-1/8" to 4-5/8" 105 to 115mm	4-1/8" to 4-5/8" 105 to 115mm	3-1/8" to 4-1/2" 80 to 115mm	3-1/8" to 4-1/2" 80 to 115mm	4-11/16" to 6-1/8" 120 to 155mm	4-11/16" to 6-1/8" 120 to 155mm
psi	bar	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m
1450	100	1548	2293	2293	3109	2441	3309	4734	6418	5440	7376
1740	120	1858	2519	2752	3731	2929	3971	5681	7702	6528	8851
2031	140	2167	2938	3210	4353	3417	4633	6628	8986	7616	10326
2321	160	2477	3358	3669	4975	3905	5295	7574	10269	8704	11801
2611	180	2787	3778	4128	5596	4394	5957	8521	11553	9792	13277
2901	200	3096	4198	4586	6218	4882	6619	9468	12837	10880	14752
3191	220	3406	4618	5045	6840	5370	7281	10415	14120	11968	16227
3481	240	3715	5037	5504	7462	5858	7943	11361	15404	13057	17702
3771	260	4025	5457	5962	8084	6346	8604	12308	16688	14145	19177
4061	280	4335	5877	6421	8706	6835	9266	13255	17971	15233	20653
4651	300	4644	6297	6879	9327	7323	9928	14202	19255	16321	22128
4641	320	4954	6717	7338	9949	7811	10590	15149	20539	17409	23603
4931	340	5263	7136	7797	10571	8299	11252	16095	21823	18497	25078
5221	360	5573	7556	8255	11193	8787	11914	17042	23106	19585	26553
5511	380	5883	7976	8714	11815	9275	12576	17989	24390	20673	28029
5802	400	6192	8396	9173	12436	9764	13238	18936	25674	21761	29504
6092	420	6502	8815	9631	13058	10252	13900	19883	26957	22849	30979
6382	440	6812	9235	10090	13680	10740	14561	20829	28241	23937	32454
6672	460	7121	9655	10549	14302	11228	15223	21776	29525	25025	33929
6962	480	7431	10075	11007	14924	11716	15885	22723	30808	26113	35404
7252	500	7740	10495	11466	15546	12204	16547	23670	32092	27201	36880
7542	520	8050	10914	11924	16167	12693	17209	24617	33376	28289	38355
7832	540	8360	11334	12383	16789	13181	17871	25563	34659	29377	39830
8122	560	8669	11754	12842	17411	13669	18533	26510	35943	30465	41305
8412	580	8979	12174	13300	18033	14157	19195	27457	37227	31553	42780
8702	600	9288	12593	13759	18655	14645	19856	28404	38510	32641	44256
8992	620	9598	13013	14218	19276	15134	20518	29351	39794	33729	45731
9282	640	9908	13433	14676	19898	15622	21180	30297	41078	34817	47206
9572	660	10217	13853	15135	20520	16110	21842	31244	42361	35905	48681
9863	680	10527	14273	15593	21142	16598	22504	32191	43645	36993	50156
10153	700	10837	14692	16052	21764	17086	23166	33138	44929	38081	51632

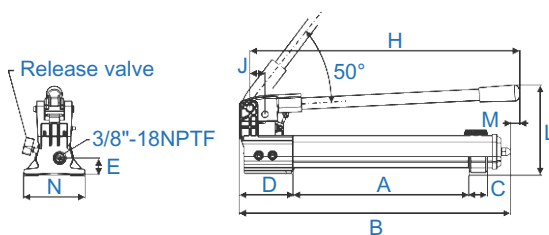
# Light Weight, Two-speed Hand Pump



**ZSP-392**

## Light Weight, Two-speed Hand Pump

- Internal pressure relief valve for overload protection.
- Durable glass-filled nylon reservoir and nylon encapsulated aluminum pump baser for maximum corrosion resistance.
- Two speed operation reduces handle strokes by as much as 78% over single speed pumps.
- Lower handle effort to minimize operator fatigue.
- Handle lock and lightweight construction for easy carrying.
- Non-conductive fiberglass handle for operator safety.



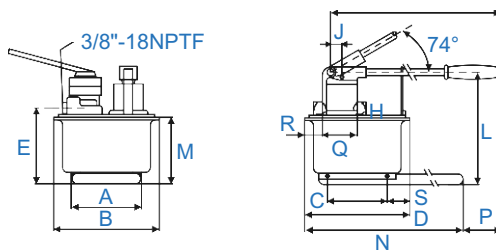
**ZSP-392**



**ZSP-462/ZSP-464**

## Steel, Two-speed Hand Pump

- Internal pressure relief valve for overload protection.
- 4-Way valving on the ZSP-464 for operation of double-acting cylinder.
- Large oil capacity to power a wide range of cylinders or tools.



**ZSP-462/ZSP-464**

Model Number	Pump Type	Usable Oil Capacity	Pressure Rating		Oil Displacement per Stroke		Max. Handle Effort	Piston Stroke	Dimensions(mm)		
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage			A	B	C
			cm <sup>3</sup>	bar	cm <sup>3</sup>	cm <sup>3</sup>					
ZSP-392	Two-Speed	901	13	700	11.26	2.47	42.2	25.4	344	533	36
ZSP-462		7423	14	700	126.2	4.75	50	38.1	210	308	163
ZSP-464		7423	14	700	126.2	4.75	50	38.1	210	308	163

Model Number	Dimensions(mm)											Weight
	D	E	H	J	L	M	N	P	Q	R	S	kg
ZSP-392	99	33	522	30	177	16	120	—	—	—	—	4.1
ZSP-462	320	195	671	25	270	175	650	92	—	—	80	27.7
ZSP-464	320	195	671	25	270	175	650	92	89	68	80	27.7

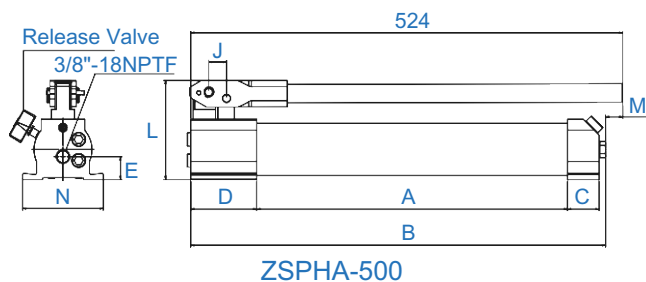
## ZSPHA

### Aluminum Hand Pump

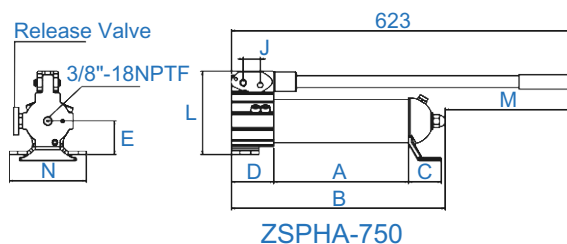
- ZIPP's hand pumps are always featured with their rugged construction and low handle efforts.
- All Aluminum Alloy construction and hand size release knobs that with anti-losing mechanism are truly suitable to industrial requirement and your daily work.
- Special design with Aluminum Alloy construction as much light weight is ideally for easy portability and maneuvering.



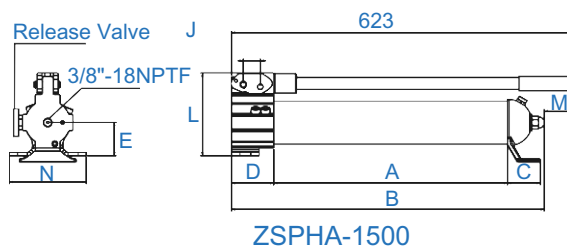
**ZSPHA-500**



**ZSPHA-1500**



**ZSPHA-750**



**ZSPHA-1500**



### Optional Features

To add optional features to your pump, add the follow suffixes to the end of the model number.

4 ways control Valve: Model D

### Example:

ZSPHA-1500 with 4 ways control valve, order: ZSPHA-1500D.

Technical specifications for these features are available from ZIPP.

Model Number	Pump Type	Usable Oil Capacity	Pressure Rating		Oil Displacement per Stroke		Piston Stroke	Dimensions (mm)								Weight include oil	
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage		A	B	C	D	E	J	L	M		N
		cm <sup>3</sup>	bar	cm <sup>3</sup>	mm	A	B	C	D	E	J	L	M	N	kg		
ZSPHA-500	Two-Speed	500	14	700	6.28	1.57	20	377	503	38	80.1	27.7	22	119.3	21	97.5	4.5
ZSPHA-750		750	14	700	12.5	2.8	21	245	389	60	76.7	60.3	31	150.3	234	140	5.6
ZSPHA-1500		1500	14	700	12.5	2.8	21	425	568	60	76.7	60.3	31	150.3	54	140	5

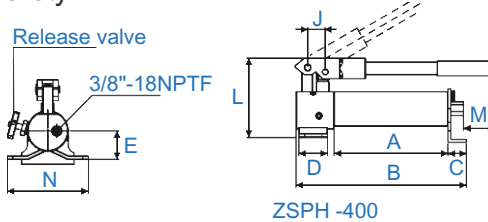
## ZSPH

### Steel Hand Pump

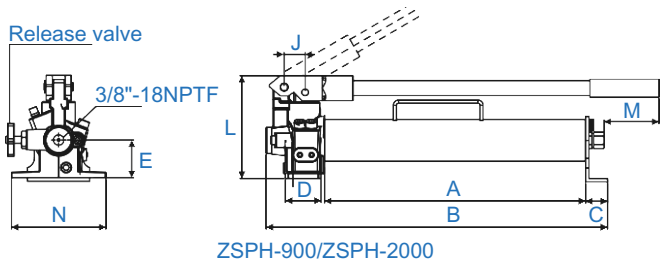
- Internal pressure relief valve for overload protection.
- Large oil capacity, suitable for wide application.
- Two speed auto-switch reduces manpower and increase efficiency.
- Non-conductive fiberglass handle for operator safety.



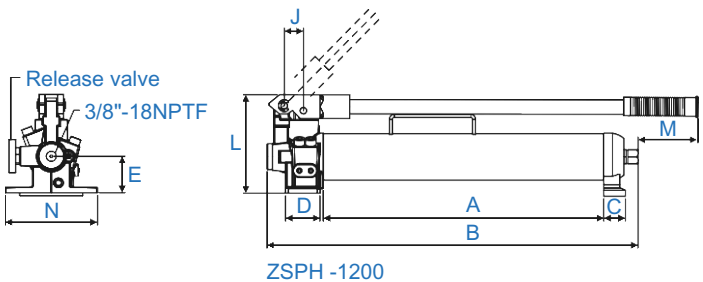
**ZSPH-400**



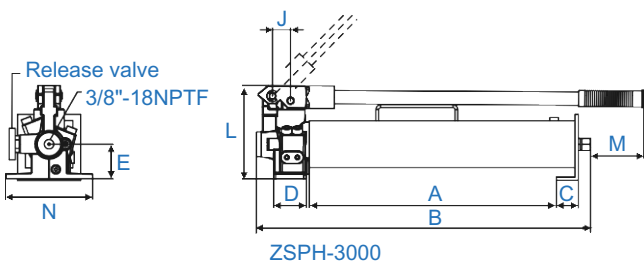
**ZSPH-900**



**ZSPH-1200**



**ZSPH-3000**



### Optional Features

To add optional features to your pump, add the follow suffixes to the end of the model number.

4 ways control Valve: Model D

### Example:

ZSPH-2000 with 4 ways control valve, order: ZSPH-2000D.

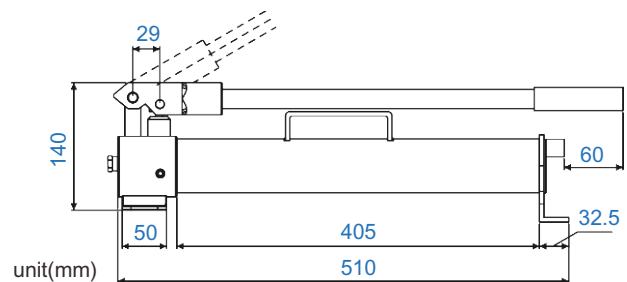
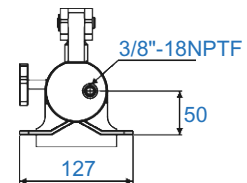
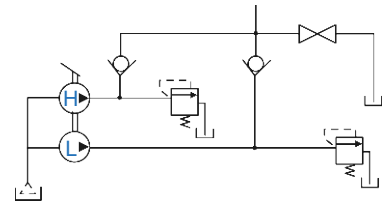
Technical specifications for these features are available from ZIPP.

Model Number	Pump Type	Usable Oil Capacity	Pressure Rating		Oil Displacement per Stroke		Piston Stroke	Dimensions (mm)								Weight include oil	
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage		A	B	C	D	E	J	L	M		N
			bar		cm <sup>3</sup>			mm									
ZSPH-400	S/S	400	—	700	—	1.25	22	190	292	34	50	50	31	139	57	140	5
ZSPH-900	Two-Speed	900	14	700	12.5	2.8	21	395	514	34	45	55	31	150	67	136	7.5
ZSPH-1200		1200	14	700	12.5	2.8	19	425	536	32.5	48	55	29	150	65	137	9
ZSPH-2000		2200	14	700	14.5	2.8	21	425	536	32.5	45	55	29	150	60	136	10.5
ZSPH-3000		3000	14	700	14.5	2.8	21	425	562	45	48	55	29	150	65	137	13.6

## ZSPHW

### Water/ Hydraulic Manual Pump

- Manual pump whose hydraulic fluid is "water" and can increase the pressure up to 700bar.
- Special rust-proof treatment is performed to the stainless-steel materials or special steel where the pump contacts water.
- Can be used in a place where the usage of oil is hesitated.
- A safe mechanism incorporating a safety valve like other time-tested 700 bar series.
- Automatic high-low pressure switching pump for improved work efficiency.

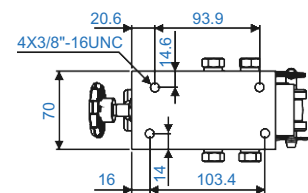


Model Number	Pressure Rating	Output flow rate	Water capacity	Weight(no water)
	psi(bar)	c.c/stroke	c.c	kg
ZSPHW-900	10000(700)	2.3	900	5.7

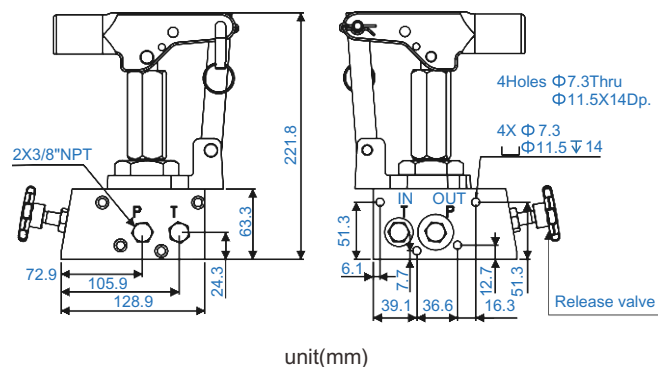
## ZSPHP

### Special Application Pump Head

- Adjustable linkage for reduced handle force.
- Swivel pump head for flexible fixturing.
- Wide range of operating pressures to select from.
- Design for tight mounting space, backup manual power or lower pressure and high flows.
- Design for applications when pumps oil tank need to be changed.
- ZSPHP and ZSPHH handle construct by Aluminum Alloy which dimension be 22 \* 600 mm.



Model Number	Pressure Rating	Volume	Max. Handle Eff.	Weight
	psi(bar)	c.c/stroke	kgf	kg
ZSPHP-50	750(50)	75	36	5
ZSPHP-70	1000(70)	35	48	5
ZSPHP-210	3000(210)	22	54	4
ZSPHP-450	6500(450)	9	54	4
ZSPHP-700	10000(700)	5	54	4

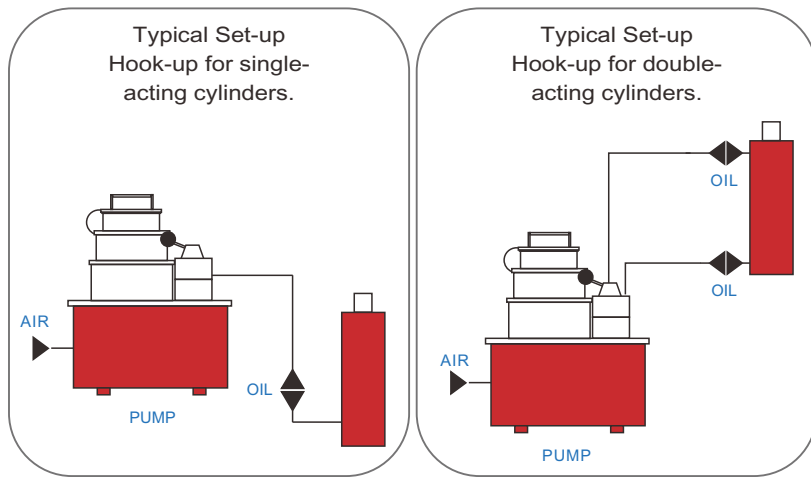




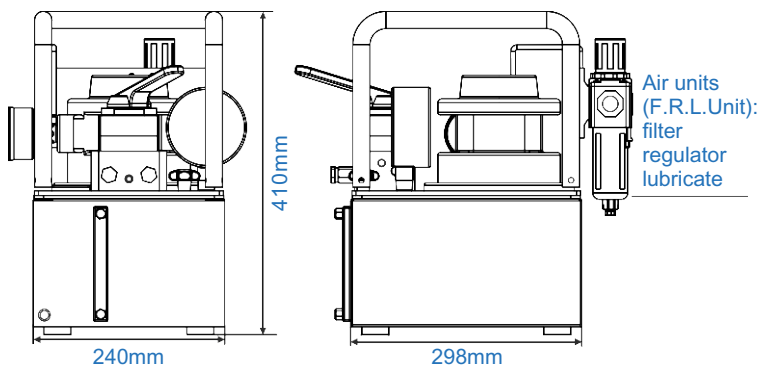
## ZSPA-554TQJ

### Hydraulic Air Pump

- 2-speed pump drives single -or double-acting cylinders, delivering a high volume of oil .
- Air is the preferred source of power which supply require 3~8bar.
- Max.Pressure: 700bar.
- External adjustable pressure regulator
- Powerful 4 hp motor starts under load.
- Retract side internal relief valve protects tool.
- Just use with Hydraulic lift applications.
- Stainless frame easy to carry.



Optional  
G= Pressure Gauge



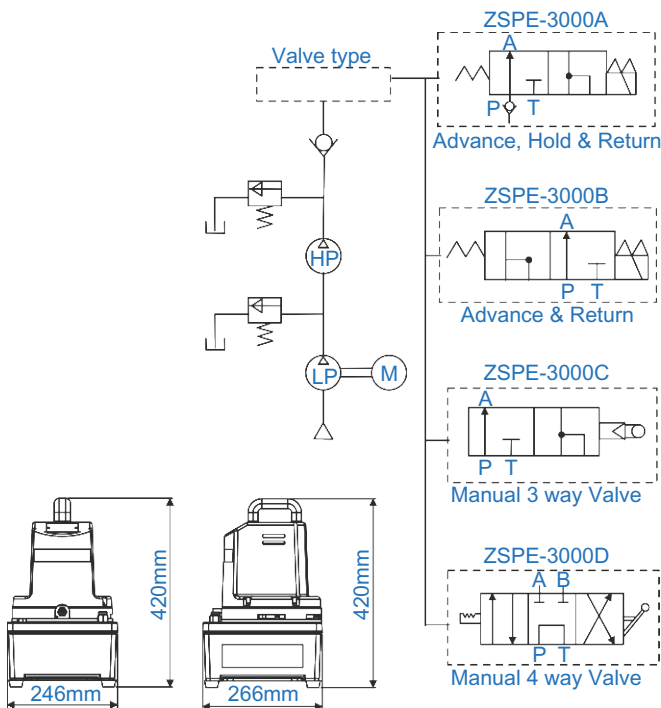
BASIC PUMP VALVE	Used with cylinder		Valve Function		
Manual 3 way Valve	●		●	●	●
Manual 4 way Valve		●	●	●	●

Model Number	Pump Type	dB(A) at Idle and 700bar	Motor kW(hp)	Used with cyl.	Flow rate @115VAC(l/min)				oil tank L	Weight with oil kg
					0(bar)	50(bar)	350(bar)	700(bar)		
ZSPA-554TQJ	TWO-Speed	85/90	2.2(4)	Single and Double Acting	12	7.1	2	0.9	8	27.5



## ZSPE-3000 Series

Reservoir Capacity: 3000-6000c.c  
Flow at rated pressure: 4-0.4 L  
Motor Size: 0.37kW (0.5 hp)  
Maximum Operating Pressure: 700 bar



### Control Valve

- A single-acting cylinder must be powered by a pump with a 3-way solenoid (built-in) or manual valve.
- Compare Model: ZSPE-3000APS (solenoid) or ZSPE-3000CPS (manual)



- A double-acting cylinder must be powered by a pump with a 4-way valve.
- Compare Model: ZSPE-3000D

## Hydraulic Electric Pump

- Requires less energy, simple and easy to operate.
- Suitable for any industrial application.
- Handle and casing built together.
- Equipped with 10ft remote line.
- Carbon brush motor, working frequently.

## Custom build your Electric Pump

ZSPE-3000 **A** **1** **5** **1** **LT** **PBG**  
1 2 3 4 5 6

- Valve
  - 3way/ 2position built-in Solenoid Valve: Advance Hold Return
  - Remote Release Pressure: Advance Return  
(Ideal for punching, crimping and cutting)
  - 3way/ 2position Manual Valve: Advance Hold Manual return
  - 4way/ 3position Manual Valve: Advance Hold Manual return
- Voltage
  - 115V/7.5A
  - 230V/2.8A
- Hz
  - 50Hz | 60Hz
- Phase
  - 1ph
- Reservoir
  - No word= 3000c.c PU reservoir
  - LT= 8000c.c Iron reservoir
  - User can order suitable reservoir.
- fitting
  - PJ= Pressure adjust switch
  - PB= Pressure adjuster
  - G= Pressure gauge



LT= Iron reservoir



G= Pressure Gauge



PJ= Pressure Adjust Switch  
Part No.: ZSPG-800-CE80



PB= Pressure Adjuster Switch  
Part No.: ZSPS-7A-700

Model Number	Motor kW(hp)	Max. Pressure psi(bar)	Pressure Rating		Output flow rate		dB(A) at Idle and 700bar	Weight include oil kg	Dimension mm
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage			
			psi(bar)		L(min)				
ZSPE-3000	0.37(0.5)	10000(700)	200(14)	10000(700)	4	0.4	85-90	16	250*270*400
ZSPE-3000LT	0.37(0.5)	10000(700)	200(14)	10000(700)	4	0.4	85-90	24	300*350*460

# Hydraulic Electric Pump



## Hydraulic Electric Pump

- 2-speed pump drives single -or double-acting cylinders, delivering a high volume of oil .
- Air is the preferred source of power which supply require 3~8bar.
- Max.Pressure: 700bar.
- External adjustable pressure regulator
- Powerful 4 hp motor starts under load.
- Retract side internal relief valve protects tool.
- Just use with Hydraulic lift applications.
- Stainless frame easy to carry.

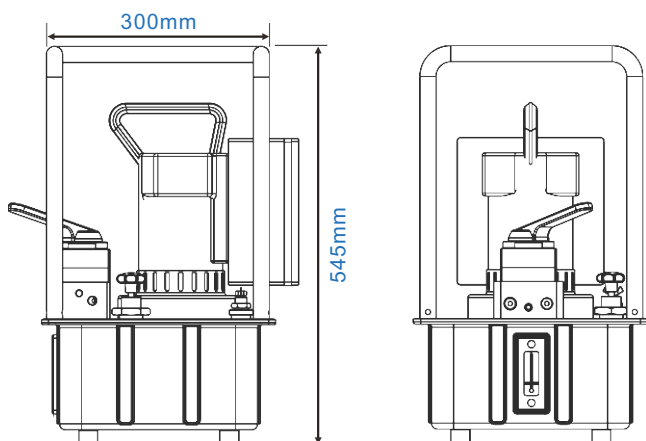
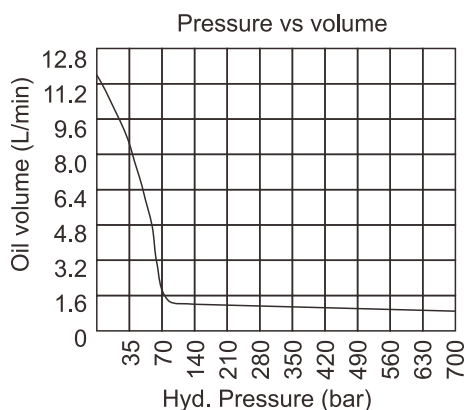
## ZHEP-665 Series

Reservoir Capacity: 8-20L

Flow at rated pressure: 11.3-0.9 L

Motor Size: 0.84kW (1-1/8 hp)

Maximum Operating Pressure: 700 bar



## Custom build your Electric Pump

ZHEP-665 **TQJ** **1** **5** **1** **8** **4** **WOG**

0    1   2   3   4   5   6

- O.Type  
 TQ= use with Torque Wrench  
 TQH= use with hydraulic lock bolt tools.  
 TQJ= use in lift applications
- 1.Voltage  
 1= 115V  
 2= 230V
- 2.Hz  
 5= 50Hz | 60Hz
- 3.Phase  
 1= 1ph
- 4.Reservoir (Lx0.26= gal)  
 8= 8L(2.1 gal)  
 20= 20L(5.2gal)  
 \*User can order suitable reservoir.
- 5.Valve (just use in TQJ series)  
 3= Manual 3Way  
 4= Manual 4Way  
 7= Check Solenoid 3Way  
 8= Check Solenoid 4Way
- 6.Optional  
 W= Castor wheel  
 O= Cool system  
 G= Pressure Gauge

Model Number	rpm	dB(A) at Idle and 700bar	Motor kW(hp)	Amp at 700bar A	Flow rate @230VAC(l/min)				oil tank L	Usable oil L	Weight with oil kg
					0(bar)	50(bar)	350(bar)	700(bar)			
ZHEP-665	12000	80	0.84(1-1/8)	20/110V	11.3	7.2	1.2	0.95	8	7	32
				10.7/230V							

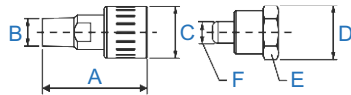
**ZSQB** Maximum Operating Pressure: 700 bar

## Hydraulic Couplers

- High flow rate and high pressure resistance.
- Dust cap include on all models.



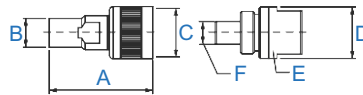
Female Male



ZSQB-1/4T



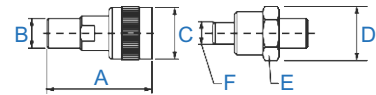
Female Male



ZSQB-3/8J



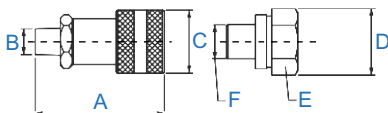
Female Male



ZSQB-3/8T



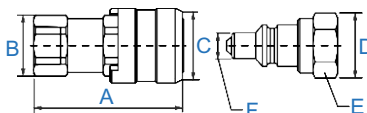
Female Male



ZSQB-3/8U



Female Male

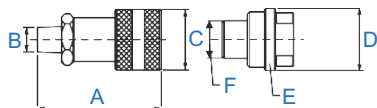


ZSQB-37

Model Number	Female Model	Male Model	Dimension (mm)					
			A	Thread type B	C	D	E	F
ZSQB-1/4T	ZSQB-1/4TF	ZSQB-1/4TM	58.5	1/4"-18NPT	28.6	30	26	Φ10
ZSQB-3/8J	ZSQB-3/8JF	ZSQB-3/8JM	59	3/8"-19PT	30.5	28	24	Φ12.7(1/2")
ZSQB-3/8T	ZSQB-3/8TF	ZSQB-3/8TM	58.5	3/8"-18NPT/PT	38.5	33	28	Φ12
ZSQB-3/8U	ZSQB-3/8UF	ZSQB-3/8UM	72	3/8"-18NPTF/PT	35	37	32	Φ19.05(3/4")
ZSQB-37	ZSQB-372F	ZSQB-372M	64	3/8"-18NPTF/PT	32	28.5	24H	Φ11.25(7/16")



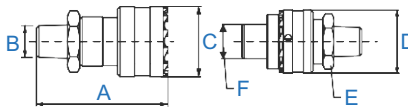
Female Male



ZSQB-1/4H



Female Male



ZSQB-1/4HG

**Dust cap**  
Aluminum Dust cap.



ZSQB-1/4HM-1



ZSQB-1/4HF-1

Model Number	Female Model	Dust Cap Model	Male Model	Dust Cap Model	Dimension (mm)					
					A	Thread type B	C	D	E	F
ZSQB-1/4H	ZSQB-1/4HF	ZSQB-1/4HF-1	ZSQB-1/4HM	ZSQB-1/4HM-1	59.75	1/4"-18NPTF	15.88	24	28	15.88
ZSQB-1/4HG	ZSQB-1/4HGF		ZSQB-1/4HGM	ZSQB-1/4HGM-1	54.85	1/4"-18NPTF	28.2	28.4	22	15.88

# High Pressure Hydraulic Hoses

## ZXU

### High Pressure Hydraulic Hoses

- Tube: Oil resistant synthetic rubber.
- Cover: Oil, abrasion and weather aging resistant synthetic rubber.
- Temp. Range: -40°C~+93°C
- Max. change in length: -4%~+2%(under W.P.)
- Reinforcement: Two layers of steel wire braids.

※ Operating temperature in excess of 93°C may materially reduce the service life of hose assembly.

How is a hydraulic hose model number is built up:

**ZXU** **2** - **1.6M** **3NM** **3NM** - **S**

1      2      3      4      5

- |  |  |
|--|--|
| <p>1. Tube dimension<br/>2 = 1/4inch(6.4mm)<br/>3 = 3/8inch(9.5mm)</p> <p>2. Length<br/>1ft=0.3meter<br/>1meter=3.3ft</p> <p>3. End one<br/>3NM= 3/8NPTF(Male)<br/>3PM= 3/8PTF(Male)</p> | <p>4. End two<br/>3NM= 3/8NPTF(Male)<br/>3NF= 3/8NPTF(Female)<br/>3PM= 3/8PTF(Male)<br/>3PF= 3/8PTF(Female)</p> <p>5. Springcircle<br/>S= Springcircle</p> |
|--|--|



1/4"NPTF(Male)



1/4"NPTF(Female)



3/8"NPTF(Male)



3/8"NPTF(Female)

Model Number	Tube dimension (I.D)	Hose End Assemblies		Length	Work pressure	Broken pressure	Min B.R.	Weight
	inch(mm)	End one	End two					
ZXU2-1.6M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	1.6	700	1400	100	0.4
ZXU2-1.8M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	1.8	700	1400	100	0.4
ZXU2-2M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	2	700	1400	100	0.4
ZXU2-3M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	3	700	1400	100	0.4
ZXU2-4M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	4	700	1400	100	0.4
ZXU2-5M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	5	700	1400	100	0.4
ZXU2-6M3NM3NM-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Male)	6	700	1400	100	0.4
ZXU2-1.6M3NM3NF-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Female)	1.6	700	1400	100	0.4
ZXU2-2M3NM3NF-S	1/4(6.4)	3/8"NPTF(Male)	3/8"NPTF(Female)	2	700	1400	100	0.4
ZXU2-3M3NM3PF-S	1/4(6.4)	3/8"NPTF(Male)	3/8"PTF(Female)	3	700	1400	100	0.4
ZXU2-1.8M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	1.8	700	1400	100	0.4
ZXU2-2M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	2	700	1400	100	0.4
ZXU2-2.5M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	2.5	700	1400	100	0.4
ZXU2-3M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	3	700	1400	100	0.4
ZXU2-5.5M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	5.5	700	1400	100	0.4
ZXU2-6M3PM3PM-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Male)	6	700	1400	100	0.4
ZXU2-1.8M3PM3PF-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Female)	1.8	700	1400	100	0.4
ZXU2-2M3PM3PF-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Female)	2	700	1400	100	0.4
ZXU2-3M3PM3PF-S	1/4(6.4)	3/8"PTF(Male)	3/8"PTF(Female)	3	700	1400	100	0.4
ZXU3-2M3NM3NM-S	3/8(9.5)	3/8"NPTF(Male)	3/8"NPTF(Male)	2	700	1400	100	0.4
ZXU3-3M3NM3NM-S	3/8(9.5)	3/8"NPTF(Male)	3/8"NPTF(Male)	3	700	1400	100	0.4
ZXU3-4M3NM3NM-S	3/8(9.5)	3/8"NPTF(Male)	3/8"NPTF(Male)	4	700	1400	100	0.4
ZXU3-5M3NM3NM-S	3/8(9.5)	3/8"NPTF(Male)	3/8"NPTF(Male)	5	700	1400	100	0.4
ZXU3-6M3NM3NM-S	3/8(9.5)	3/8"NPTF(Male)	3/8"NPTF(Male)	6	700	1260	127	0.67
ZXU3-2M3PM3PF-S	3/8(9.5)	3/8"PTF(Male)	3/8"PTF(Male)	2	700	1260	127	0.67
ZXU3-3M3PM3PM-S	3/8(9.5)	3/8"PTF(Male)	3/8"PTF(Male)	3	700	1260	127	0.67

## ZSPHH

### High Pressure Manual Pump

- Manual Pump include internal pressure relief valve for overload protection.



Optional  
G= Pressure Gauge



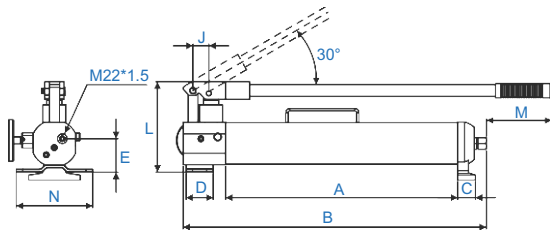
#### Optional Features

To add optional features to your pump, add the follows suffixes to the end of the model number.

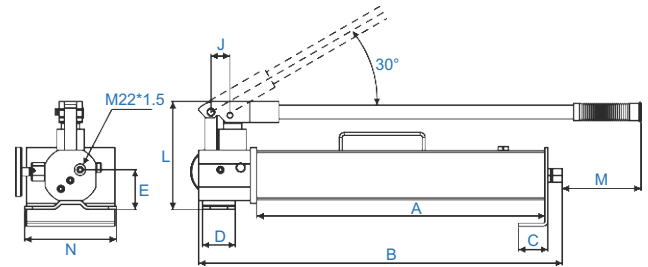
4 ways control Valve: Model D

#### Example:

ZSPHH-1612 with 4 ways control valve, order: ZSPHH-1612D. Technical specifications for these features are available from ZIPP.



**ZSPHH-1612/2012/2512**  
**ZSPHH-1620/2020/2520**



**ZSPHH-1630/2030/2530**

Model Number	Pump Type	Usable Oil Capacity cm <sup>3</sup>	Pressure Rating		Oil Displacement per Stroke		Piston Stroke mm	Dimensions (mm)								Weight kg	
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage		A	B	C	D	E	J	L	M		N
			bar		cm <sup>3</sup>												
ZSPHH-1612	Two-Speed	1200	14	1600	15.5	1.2	16.65	425	556	32.5	50	61	29	165	120	140	9
ZSPHH-2012		1200	14	2000	15.5	0.9	16.65	425	556	32.5	50	61	29	165	120	140	9
ZSPHH-2512		1200	14	2500	15.5	0.7	16.65	425	556	32.5	50	61	29	165	120	140	9
ZSPHH-1620		2200	14	1600	15.5	1.2	16.65	425	556	32.5	50	61	29	165	120	140	11
ZSPHH-2020		2200	14	2000	15.5	0.9	16.65	425	556	32.5	50	61	29	165	120	140	11
ZSPHH-2520		2200	14	2500	15.5	0.7	16.65	425	556	32.5	50	61	29	165	120	140	11
ZSPHH-1630		3000	14	1600	15.5	1.2	16.65	440	556	45	50	61	29	165	120	140	13
ZSPHH-2030		3000	14	2000	15.5	0.9	16.65	440	556	45	50	61	29	165	120	140	13
ZSPHH-2530		3000	14	2500	15.5	0.7	16.65	440	556	45	50	61	29	165	120	140	13

## ZSPE-200RI

### High Pressure Hydraulic Electric Pump

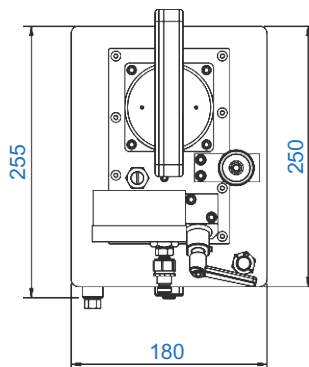
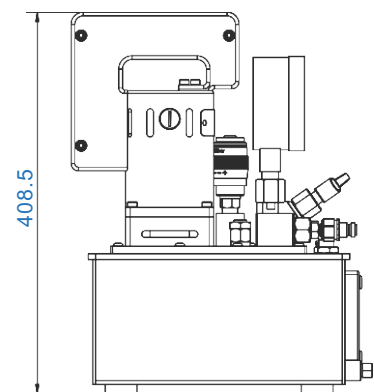
- The adoption of a magnet motor reduces the noise remarkably. Lightweight, compact, and easy to transport .Ideal for site work such as shipyard and civil engineering construction.
  - The durability has been improved while the performances are maintained.
  - A pressure gauge and a pressure switch are included in each model.
  - Motor auto stop working and hold pressure as reach setting pressure .
  - Automatic high-low pressure switching for improved work efficiency.
- ✘The pressure gauge and switch are exclusive to the ZSPE-200R - series. Consult us when them with other series.

**Custom build your Electric Pump**

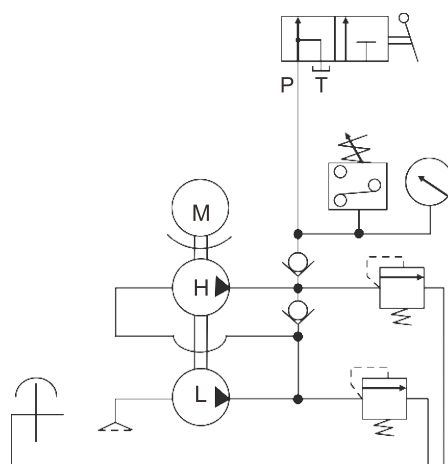
**ZSPE-200RI - 2 1 4 3 C**

1      2 3 4 5 6

- Voltage  
200RI= 0.625HP(0.5kw)
- Voltage/A  
1= 110V/12A  
2= 220V/7A
- Phase  
1= 1ph
- Reservoir  
4= 4L
- Valve  
3= 3way/ 2position Manual Valve
- fitting  
C= Remote control  
G= Pressure Gauge



**ZSPE-200RI**



**ZSPE-200RI-2143C**

Model Number	Motor kW(hp)	Max. Pressure psi(bar)	Pressure Rating		Output flow rate		Weight include oil kg
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	
			psi(bar)		L(min)		
ZSPE-200RI	0.5(0.625)	29000(2000)	435(30)	29000(2000)	2	0.1	19

## ZSPE-2000RI Series

Reservoir Capacity: 22 L

Flow at rated pressure:

0.35-1.08 L

Motor Size:

1.5(2), 3.7(5) kW(hp)

Maximum Operating Pressure:

2500 bar

### Optional



## High Pressure Hydraulic Electric Pump

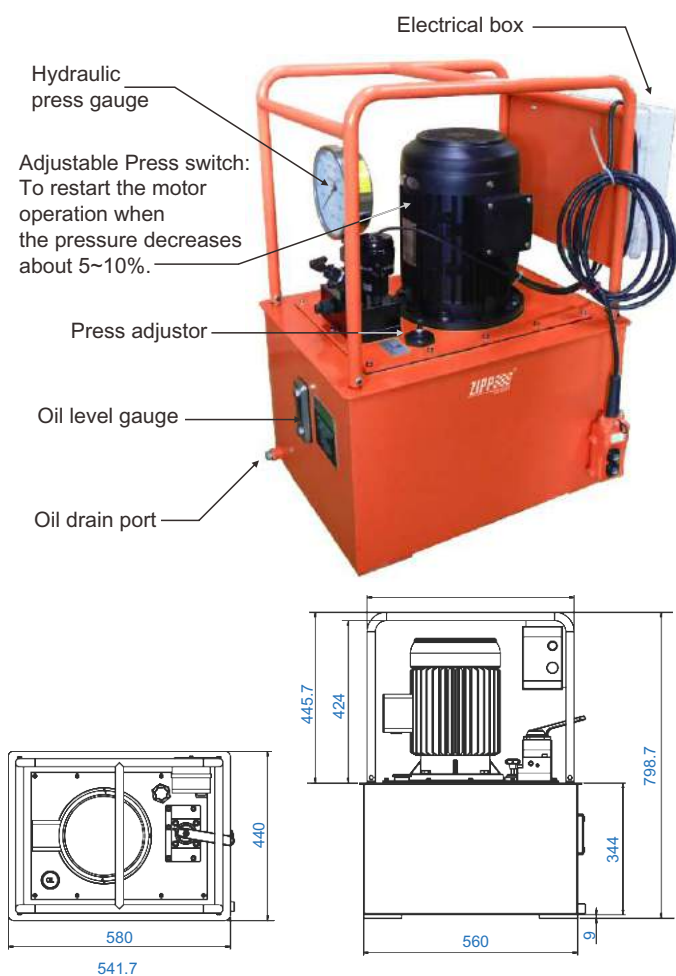
- Pump adopting a high-performance axial piston system and greatly reducing the change in the discharge volume caused by the pressure fluctuation.
- Equipped with a double safe mechanism of the safety valve and the pressure switch to prevent an overload.
- User adjustable external relief valve with a factory set upper limit prevents system overload.
- Easy to read integrated oil level sight glass.
- Totally enclosed fan-cooled motors are ideal for outdoor use in many environments.

## Custom build your Electric Pump

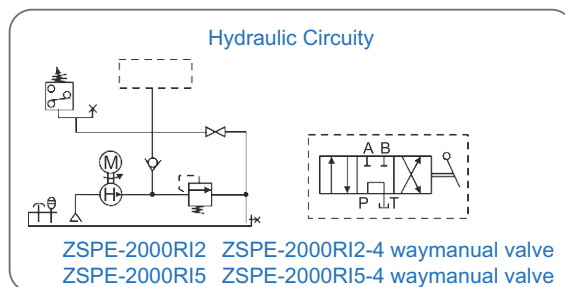
ZSPE- 2000RI5 - 2 6 3 20 3  

1            2 3 4 5 6 7

- 1.Voltage  
2000RI2= 2HP(1.5kw)  
2000RI5= 5HP(3.7kw)
- 2.Voltage  
2= 220V
- 3.Hz  
5= 50Hz  
6= 60Hz
- 4.Phase  
3= 3ph
- 5.Reservoir  
22= 22L
- 6.Valve  
3= 3way Manual Valve  
4= 4way Manual Valve
- 7.Optional  
C= Remote control  
W= Wheel



ZSPE-2000RI2-263223



Model Number	Motor kW(hp)	Insulation	Flow Rate (l/min)		Pressure Rating bar	rpm		Weight 22L tank no oil kg
			50Hz	60Hz		50Hz	60Hz	
ZSPE-2000RI2	1.5(2)	E lass Totally enclosed fan-cooled	0.35	0.42	2500	1500	1800	110
ZSPE-2000RI5	3.7(5)		0.9	1.08	2500	1500	1800	130

BASIC PUMP VALVE	Used with cylinder		Valve Function		
Manual 3 way Valve	●		●	●	●
Manual 4 way Valve		●	●	●	●

※Product weight and reservoir high will be changed by different reservoir.  
 ※Catalog sample is 22L no oil reservoir.

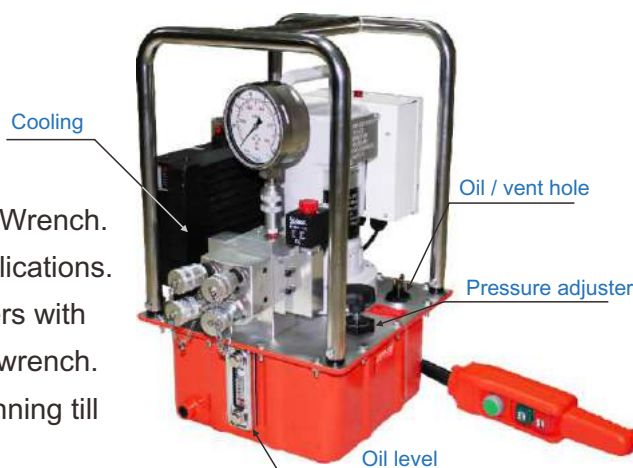


# Hydraulic Electric Pump for Torque Wrench

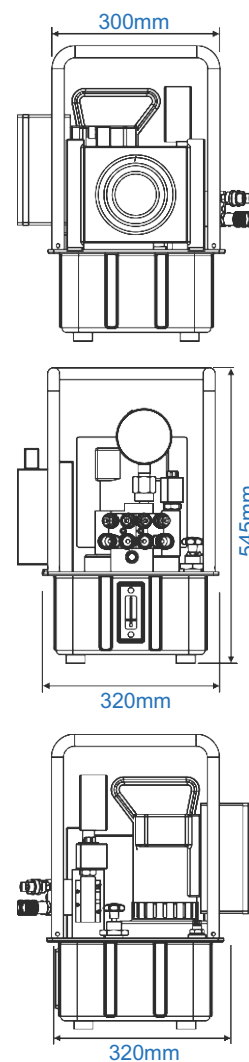
## ZSPE-554

### Hydraulic Electric/Torque Wrench Pump

- External adjustable pressure regulator.
- Retract side internal relief valve protects tool.
- ZSPE-554TQ series: just use with Hydraulic Torque Wrench.
- ZSPE-554TQJ series: just use with Hydraulic lift applications.
- Opt eight 1/4" ports (include female and male couplers with dust cap), that can synchronize work for 4 hydraulic wrench.
- It can be set automatic stop moving as motor idle running till 20
- Safety start: After stopping, need to press another start button to continue.
- Heat Exchanger Kit: Design air cooling to avoid pump overheating and costly repair from long work periods.



**ZSPE-554TQ**



### Custom build your Electric/Torque Wrench Pump:

**ZSPE-554** TQJ 1 5 1 8 2 WOG

0    1    2    3    4    5    6

**O.Type**

TQ= just use in Torque Wrench

TQJ= using in lift applications

**1.Voltage**

1= 115V

2= 230V

**2.Hz**

5= 50Hz | 60Hz

**3.Phase**

1= single phase

**4.Reservoir (Lx0.26= gal)**

8= 8L(2.1 gal)

20= 20L(5.2gal)

\*User can order suitable reservoir.

**5.Manifold (include 1/4" male-female coupler)**

1= 1 manifold with 1 male and 1 female coupler

2= 1 manifold with 2 male and 2 female couplers (standard)

3= 1 manifold with 3 male and 3 female couplers

4= 1 manifold with 4 male and 4 female couplers

**6.Optional**

W= Wheel

O= Cool system

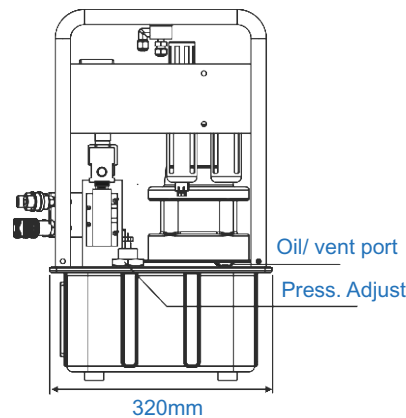
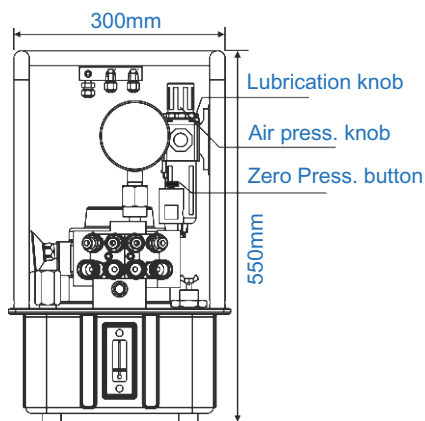
G= Pressure Gauge

Model Number	rpm	dB(A) at Idle and 700bar	Motor kW(hp)	Amp at 700bar A	Flow rate @115VAC(l/min)				oil tank L	Usable oil L	Weight with oil kg
					0(bar)	50(bar)	350(bar)	700(bar)			
ZSPE-554	12000	80	0.84(1-1/8)	20/110V	11.3	7.1	1.2	0.9	8	7	32
				13/230V							

## ZSPA-554

### Hydraulic Air/Torque Wrench Pump

- Powerful 4 hp motor starts under load.
- Use where air is the preferred source of power.
- Max. Pressure: 700bar
- Two speed high performance pump.
- External adjustable pressure regulator.
- Retract side internal relief valve protects tool
- Opt eight 1/4" ports (include female and male couplers with dust cap), that can synchronize work for 4 hydraulic wrench.
- Use for Hydraulic torque Wrench
- Pneumatic remote control with 5M cord.



**Optional**  
G= Pressure Gauge



**ZSPA554TQ-A-A1**  
Pneumatic remote

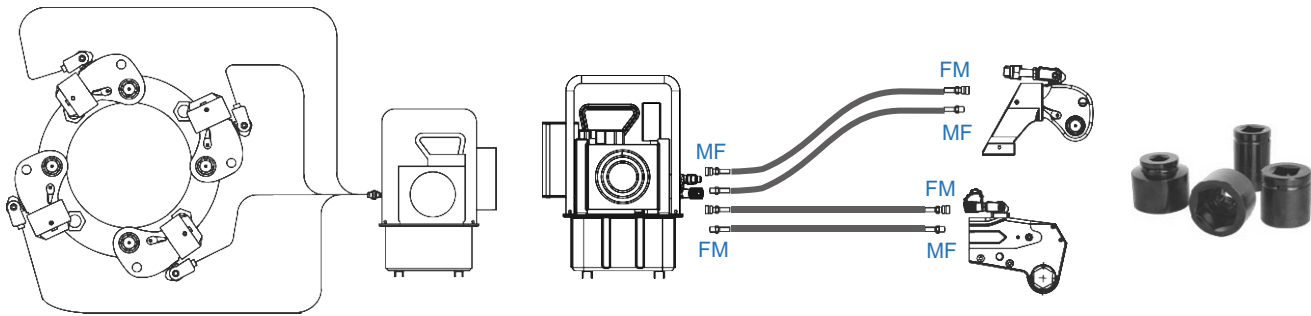
Model Number	Air Supply Req'd	rpm	dB(A) at Idle and 700bar	Motor	Flow rate (l/min)				oil tank	Weight with oil
				hp	0(bar)	70(bar)	350(bar)	700(bar)	L	kg
ZSPE-554	1.4M <sup>3</sup> /min @6 bar	3000	75	4	7.4	1.3	1.1	0.9	8	38.5



### Torque Wrench Hoses:

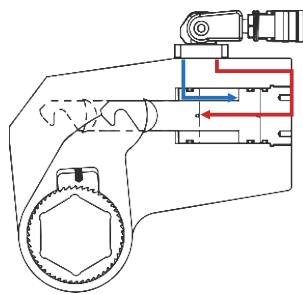
Use ZIPP ZXU22W series torque wrench hoses with every model torque wrench to ensure the integrity of your hydraulic system.

Model Number	Tube Dia.	Length		Motor		W.P	B.P
	inch	ft	m	inch	inch	bar	bar
ZXU22W-6M2NM2NM	1/4	20	6	1/4	1/4	700	2800
ZXU22W-12M2NM2NM	1/4	40	12	1/4	1/4	700	2800



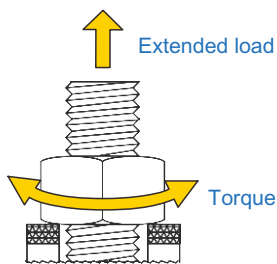
## Basic System Set-up

- A. 1 Hydraulic Torque Wrench using Electric Pump +1 Square Drive Wrench +Socket +2 hoses
- B. 1 Hydraulic Torque Wrench using Electric Pump +1 Low Profile Wrench +2 hoses
- C. 1 Hydraulic Torque Wrench using Electric Pump +1~4 Square Drive Wrench (+Socket) or 1~4 Low Profile Wrench +2~8 hoses



**Oil Path**  
 → Advance  
 → Return

**Wrench Torque Formula**  
 $T = F \times r$   
 Torque = Force x Lever Arm Length  
 Ex.: 1000kN x 60mm = 60000 N.m



## Bolt Load- Torque Formula

$$T = K \times D \times N$$

T: Torque

K: Friction Factor

D: Bolt O.D

N: Bolt extended Load = Stress area x Yield strength x Percent of Yield

Ex.: M16

$$N = \frac{0.7854 \times (16 - 0.9382 \times 2)^2}{\text{Stress area mm}^2} \times \frac{896}{\text{Yield strength N/mm}^2} \times \frac{80\%}{\text{Percent of Yield}} / 1000 = 112\text{N}$$

$$T = \frac{0.14}{\text{Friction Factor}} \times \frac{16}{\text{Bolt O.D mm}} \times \frac{112\text{N}}{\text{Bolt Load}} = 252\text{N.m}$$



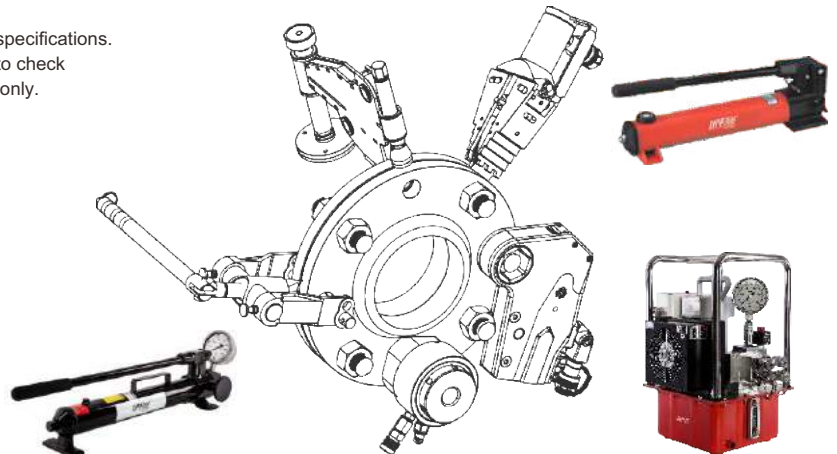
# Hydraulic Air Pump for Torque Wrench

Bolt grade	Tension strength	Yield strength(90%)	$\mu=0.1$ : Low friction application $\mu=0.15$ : Normal friction application $\mu=0.2$ : High friction application																Tightening moment		
	RM(N/mm <sup>2</sup> )	Rp0.2(N/mm <sup>2</sup> )	N.m																		
6.8	600	480	$\mu=0.1$	110	160	220	300	390	570	770	1050	1350	1740	2160	2690	3250	4180	5190			
			$\mu=0.15$	150	200	290	400	500	740	1000	1370	1760	2280	2820	3530	4250	5490	6800			
			$\mu=0.2$	170	240	340	460	590	870	1180	1610	2060	2690	3320	4160	5000	6470	8020			
8.8	800	640	$\mu=0.1$	150	210	300	410	520	760	1030	1400	1790	2320	2880	3590	4330	5570	6920			
			$\mu=0.15$	200	270	390	530	670	990	1340	1820	2340	3040	3760	4170	5660	7320	9070			
			$\mu=0.2$	230	320	450	630	780	1160	1570	2140	2750	3580	4430	5550	6670	8630	10700			
B.7 ( $\leq 2-1/2"$ )	min. 860	min. 720	$\mu=0.1$	180	250	350	470	600	880	1190	1610	2080	2690	3330	4150	5010	6440	8000			
			$\mu=0.15$	230	320	450	610	770	1140	1550	2100	2700	3520	4350	5450	6550	8450	10490			
			$\mu=0.2$	270	370	530	720	910	1340	1820	2480	3180	4140	5120	6420	7710	9980	12370			
10.9	1000	900	$\mu=0.1$	220	310	440	600	760	1110	1510	2050	2640	3410	4230	5280	6360	8180	10160			
			$\mu=0.15$	290	400	570	780	980	1450	1970	2680	3430	4460	5530	6920	8320	10740	13330			
			$\mu=0.2$	340	470	670	920	1150	1710	2310	3150	4040	5260	6500	8150	9790	12670	15710			
12.9	1200	1080	$\mu=0.1$	260	370	510	700	890	1300	1770	2400	3080	3990	4950	6170	7440	9570	11890			
			$\mu=0.15$	340	470	670	920	1150	1700	2300	3130	4020	5220	6470	8090	9740	12570	15590			
			$\mu=0.2$	400	550	780	1080	1340	2000	2700	3680	4720	6150	7610	9540	11460	14830	18380			
			M	16	18	20	22	24	27	30	33	36	39	42	45	48	52	56			

Bolt grade	Tension strength	Yield strength(90%)	$\mu=0.1$ : Low friction application $\mu=0.15$ : Normal friction application $\mu=0.2$ : High friction application																Tightening moment		
	RM(N/mm <sup>2</sup> )	Rp0.2(N/mm <sup>2</sup> )	N.m																		
6.8	600	480	$\mu=0.1$	6440	7320	8520	9920	10170	10460	11720	13250	14690	16540	19650	20900	23780	25570				
			$\mu=0.15$	8480	9620	11230	13100	13470	13880	15580	17660	19620	22130	26360	28080	31980	34430				
			$\mu=0.2$	10010	11350	13270	15510	15960	16460	18510	21000	23350	26370	31450	33530	38210	41160				
8.8	800	640	$\mu=0.1$	8590	9760	11360	13220	13560	13950	15620	17670	19590	22060	26200							
			$\mu=0.15$	11300	12830	14970	17470	17960	18510	20780	23550	26160	29510	35150							
			$\mu=0.2$	13350	15140	17690	20680	21280	21950	24670	28000	31140	35150	41930							
B.7 ( $\leq 2-1/2"$ )	min. 860	min. 720	$\mu=0.1$	9930	11280	13130	15290	15680	16130	18060	20430	22650	25510								
			$\mu=0.15$	13060	14830	17310	20200	20770	21400	24020	27250	30250	34120								
			$\mu=0.2$	15430	17500	20460	23910	24610	25380	28530	32380	36000	40650								
10.9	1000	900	$\mu=0.1$	12610	14330	16680	19420	19920													
			$\mu=0.15$	16600	18840	21990	25660	26380													
			$\mu=0.2$	19600	22240	25990	30370	31260													
12.9	1200	1080	$\mu=0.1$	14760	16770	19520															
			$\mu=0.15$	19430	22050	25730															
			$\mu=0.2$	22940	26020	30410															
			M	60	64	68	72	76	80	85	90	95	100	110	115	120	125				

Nominal thread size [mm]

The data above is based on bolts lubricated to manufacturer's specifications.  
Due to a variation in friction, we recommend in extreme cases to check with the bolt manufacturer, as this chart represents a guideline only.



## Hydraulic Pumps

These pumps are designed and engineered specifically for the most rigorous conditions and to work seamlessly with the full range of ZAT, ZLW, ZBT, ZDANS, ZQD tools.

### Electric Powered Torquing

### Air Powered Torquing



**ZBTE39-10K**

Light Duty,  
Low Amp Draw



**ZBTE2-10K**

Medium Duty,  
Industry Workhorse



**ZBTE45-10K**

Heavy Duty,  
High Speed Applications



**ZBTA2-10K**

Medium Duty,  
Industry Workhorse

4-Port manifold is now standard on all ZBCE2 & ZBTA2 Torque Wrench Pumps - allowing the use of up to four tools simultaneously!

### Air Powered Tensioning / Nut Splitting

### Electric Powered Tensioning

### Hand Pump



**ZTP30K-HN**



**ZTP30K-SSN & ZTP30K-DAN**



**ZTP30K-E2-110**



**Z16P80-1**

### Electric Powered Torquing

Item Number	Power	Amps	Fluid	Max Pressure psi(bar)	Max flow cu. In./min(l/sec)	Fluid Capacity Gal(L)	Dimension (Height x Width x Depth) inch(mm)	Weight-Filled lbs(kgs)
<b>ZBTE39-10K</b>	110/115 VAC	14.5	Oil	10000(690)	225(0.061)	0.5(1.89)	23.7 x 10.8 x 13.8(600 x 274 x 350)	47(21.3)
<b>ZBTE2-10K-4P*</b>	110/115 VAC	25	Oil	10000(689)	704(0.1923)	2.5(9.4)	18.1 x 17.1 x 9.5(460 x 434 x 241)	62(28)
<b>ZBTE45-10K*</b>	110/115 VAC	17	Oil	10000(690)	575(0.157)	1.5(6.75)	26.6 x 14 x 17.7(675 x 356 x 450)	98(37.6)

\*Special Features: 4-Port, Dual Cooling, Speeds up to 2x as fast

\*Four-tool manifold allows use of up to four tools simultaneously

### Air Powered Torquing

Item Number	Power	Fluid	Max Pressure psi(bar)	Max flow cu. In./min(l/sec)	Fluid Capacity Gal(L)	Dimension (Height x Width x Depth) inch(mm)	Weight-Filled lbs(kgs)
<b>ZBTA2-10K</b>	Air	Oil	10000(690)	465(0.127)	2.5(9.4)	19.83 x 16.55 x 9.5(504 x 420 x 241)	74(44.4)

\*Special Features: 3HP Air Motor, 50 cfm at 80 psi

\*Four-tool manifold allows use of up to four tools simultaneously

### Air Powered Tensioning / Nut Splitting

Item Number	Power	Fluid	Max Pressure psi(bar)	Max flow cu. In./min(l/sec)	Fluid Capacity Gal(L)	Dimension (Height x Width x Depth) inch(mm)	Weight-Filled lbs(kgs)
<b>ZTP30K-HN</b>	Air	Oil	30000(2068)	17(0.0048)	2(7.6)	19.5 x 12.5 x 11.5(495 x 318 x 292)	46(20.9)
<b>ZTP30K-SSN</b> (Sub Sea Tensioning)	Air	Water	30000(2068)	85(0.0232)	3(11.4)	19.5 x 12.5 x 11.5(495 x 318 x 292)	46(20.9)
<b>ZTP30K-DAN</b> (Nut Splitting)	Air	Oil	30000(2068)	85(0.0232) ADV 135(0.0368) RET	2(7.6)	20.3 x 16 x 16(514 x 406 x 406)	74(33.6)

### Electric Powered Tensioning

Item Number	Power	Amps	Fluid	Max Pressure psi(bar)	Max flow cu. In./min(l/sec)	Fluid Capacity Gal(L)	Dimension (Height x Width x Depth) inch(mm)	Weight-Filled lbs(kgs)
<b>ZTP30K-E2-110</b>	110/115 VAC	11	Oil	21750(1500)	168(0.046)	1(3.8)	16.3 x 7.8 x 14.1(414 x 198 x 358)	53.5(24.3)

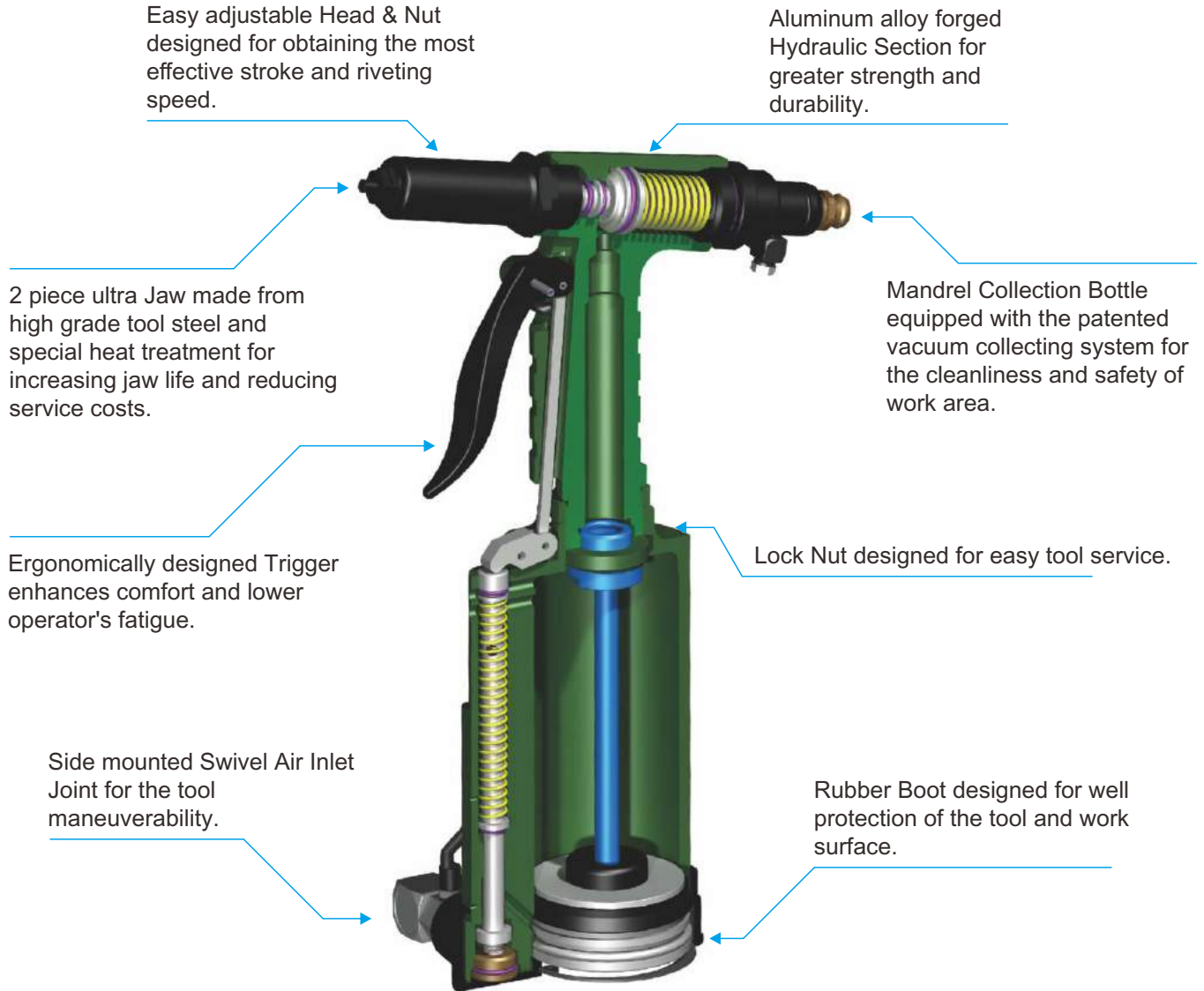
### Hand Pump

Item Number	Power	Fluid	Max Pressure psi(bar)	Max flow cu. In./min(l/sec)	Fluid Capacity Gal(L)	Dimension (Height x Width x Depth) inch(mm)	Weight-Filled lbs(kgs)
<b>Z16P80-1</b>	Mechanical	Oil	23206(1600)	N/A	0.6(2.3)	11 x 4.8 x 27(297 x 120 x 686)	20(9)

\*Hose not included.

## Full Aluminum Housing Series

### Features



### Applications

Wherever the fastening methods like: welding, sheet metal screw, bolt, nut, washer, tubular, semi-tubular and solid rivets and adhesives are applied, can be substituted by blind rivets. All models above are good for setting standard blind rivets and structural blind rivets.

Patent pending in other countries



R.O.C.PAT.:  
092648



P.R.C.PAT.:  
ZL 94 2 22569.4



U.S.A.PAT.NO.:  
6,149,356



## ZT0318VS

5/32" Air Hydraulic Riveter  
( Vacuum type )

Max. 4.0mm blind rivet in Alum./Steel



## ZT0618VS

3/16" Air Hydraulic Riveter  
( Vacuum type )

Max. 4.8mm blind rivet in Steel/Steel



## ZT0918VS

3/16" Air Hydraulic Riveter  
( Vacuum type )

Max. 4.8mm blind rivets in all materials



### [ Accessories ]

- Riveter X 1
- Small Wrench X 1
- Large Wrench X 1
- Collection Bottle X 1

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Air inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Nosepieces Equipped inch(mm)
ZT0318VS	770(350)	11/16(18)	2.86(1.3)	90(6.2)	1/4	3/8(10)	3/32(2.4)1/8(3.2) 5/32(4.0)
ZT0618VS	1320(596)	11/16(18)	3.41(1.55)	90(6.2)	1/4	3/8(10)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)
ZT0918VS	1983(900)	11/16(18)	4.07(1.85)	90(6.2)	1/4	3/8(10)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)



### ZT1214VS-5

3/16" Air Hydraulic Riveter  
( Vacuum type )

Max. 4.8mm blind rivets in all materials



### ZT1214VS-6

1/4" Air Hydraulic Riveter  
( Vacuum type )

Max. 6.4mm blind rivet in Steel/Steel



### ZT1819VS

1/4" Air Hydraulic Riveter  
( Vacuum type )

Max. 6.4mm blind rivets in all materials



[ Accessories ]

- Riveter X 1
- Small Wrench X 1
- Large Wrench X 1
- Collection Bottle X 1

**DO NOT** apply air pressure over 110 psi / 7.5 bar to these tools.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Air inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Nosepieces Equipped inch(mm)
ZT1214VS-5	2640(1200)	9/16(14)	4.27(1.94)	90(6.2)	1/4	3/8(10)	5/32(4.0) 3/16(4.8)
ZT1214VS-6	2640(1200)	9/16(14)	4.27(1.94)	90(6.2)	1/4	3/8(10)	3/16(4.8) 1/4(6.4)
ZT1819VS	3960(1800)	3/4(19)	5.27(2.6)	90(6.2)	1/4	3/8(10)	3/16(4.8) 1/4(6.4)





**ZT0618T**



**ZT0918T**



**ZT1214T**



**ZT1819T**



**ZT0918L**



**ZT1214L**



**ZT1819L**



**ZT0918LV**



**ZT1214LV**



**ZT1819LV**

**DO NOT** apply air pressure over 110 psi / 7.5 bar to these tools.

\*T: Trigger Type, No-Vacuum. \*L: Lever Type, No-Vacuum. \*LV: Lever Type, With Vacuum

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
<b>ZT0618T</b>	1320(596)	11/16(18)	3.30(1.50)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	Max. 3/16"(4.8mm) blind rivets in steel/steel
<b>ZT0918T</b>	1983(900)	11/16(18)	3.96(1.80)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	Max. 3/16"(4.8mm) standard & structural blind rivets in all materials
<b>ZT1214T</b>	2460(1200)	9/16(14)	4.16(1.89)	5/32(4.0)3/16(4.8) 1/4(6.4)	Max. 1/4"(6.4mm) blind rivets in steel/steel
<b>ZT1819T</b>	3960(1800)	3/4(19)	5.61(2.55)	3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) standard & structural blind rivets in all materials
<b>ZT0918L</b> <b>ZT0918LV</b>	1983(900)	11/16(18)	3.96(1.80) 4.07(1.85)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	Max. 3/16"(4.8mm) standard & structural blind rivets in all materials
<b>ZT1214L</b> <b>ZT1214LV</b>	2460(1200)	9/16(14)	4.16(1.89) 4.27(1.94)	5/32(4.0)3/16(4.8) 1/4(6.4)	Max. 1/4"(6.4mm) blind rivets in steel/steel
<b>ZT1819L</b> <b>ZT1819LV</b>	3960(1800)	3/4(19)	5.60(2.55) 5.72(2.60)	3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) standard & structural blind rivets in all materials

\*Operating Air Pressure: 90PSI/6.2bar \*Air Inlet Size: 1/4 inch-NPT/PT \*Min. Hose Size: 3/8"(10mm)

## Features

- Module unit mechanism enables more common parts to be used in similar designed tools.
- Designed with patented "Module units assembled in composite clam shell housing" for operator's comfort and ease of service.
- Ergonomic texture coated composite housing for operator's comfort.
- Build-in exhaust muffler to minimize the tool noise efficiently.
- Rocker type trigger for ease of operational control.
- Perfect tool for automotive & general industries.
- Optional Jaw Pusher & Nose Pieces for small size rivets.

Patented Vacuum Mandrel Collection System holds the rivets in the Nosepiece regardless of tool position also assure perfect shock absorption.



Aluminum alloy forged and heat treated Hydraulic Section for greater strength and durability.

The rear cap of Collection Bottle can be rotated to direct exhaust air at any direction.

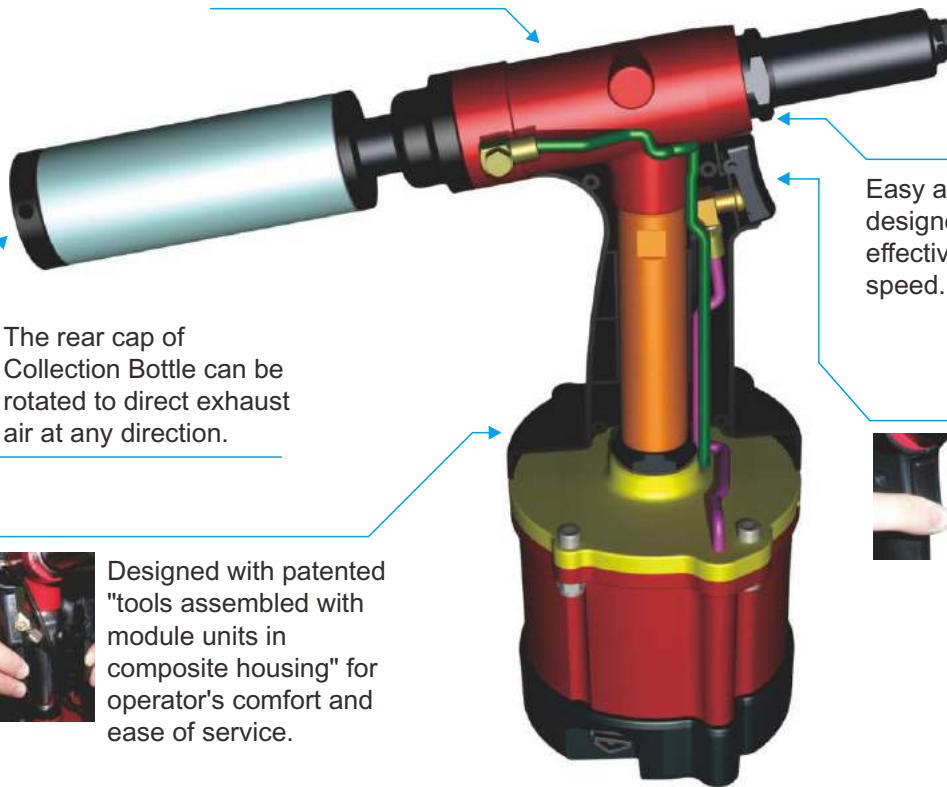


Designed with patented "tools assembled with module units in composite housing" for operator's comfort and ease of service.

Easy adjustable Head & Nut designed for obtaining the most effective stroke and riveting speed.



Rocker type Trigger, ideal for long time work.



## Applications

Wherever the fastening methods like: welding, sheet metal screw, bolt, nut, washer, tubular, semi-tubular and solid rivets and adhesives are applied, can be substituted by blind rivets.

All models above are good for setting standard blind rivets and structural blind rivets.

Patent pending in other countries



R.O.C.PAT.:  
092648



P.R.C.PAT.:  
ZL 94 2 22569.4



U.S.A.PAT.NO.:  
6,149,356



DEUTSCHLAND PAT.:  
Nr.20 2007 007 127.2



## ZT1017VSN-5

3/16" Air Hydraulic Riveter  
( Vacuum type )

Max. 4.8mm blind rivets in all materials



### [ Accessories ]

- Riveter X 1
- Small Wrench X 1
- Large Wrench X 1
- Collection Bottle X 1

### Optional

- P/N 1017VSN-1  
1/4"(6.4mm) Pulling Kit
- P/N 1017VSN-2  
3/32" & 1/8"(2.4mm & 3.2mm) Pulling Kit



## ZT1017VSN-6

1/4" Air Hydraulic Riveter  
( Vacuum type )

Max. 6.4mm blind rivets in Alum./Steel



### [ Accessories ]

- Riveter X 1
- Small Wrench X 1
- Large Wrench X 1
- Collection Bottle X 1

### Optional

- P/N 1017VSN-2  
3/32" & 1/8"(2.4mm & 3.2mm) Pulling Kit
- P/N 1017VSN-3  
5/32" & 3/16"(4.0mm & 4.8mm) Pulling Kit

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

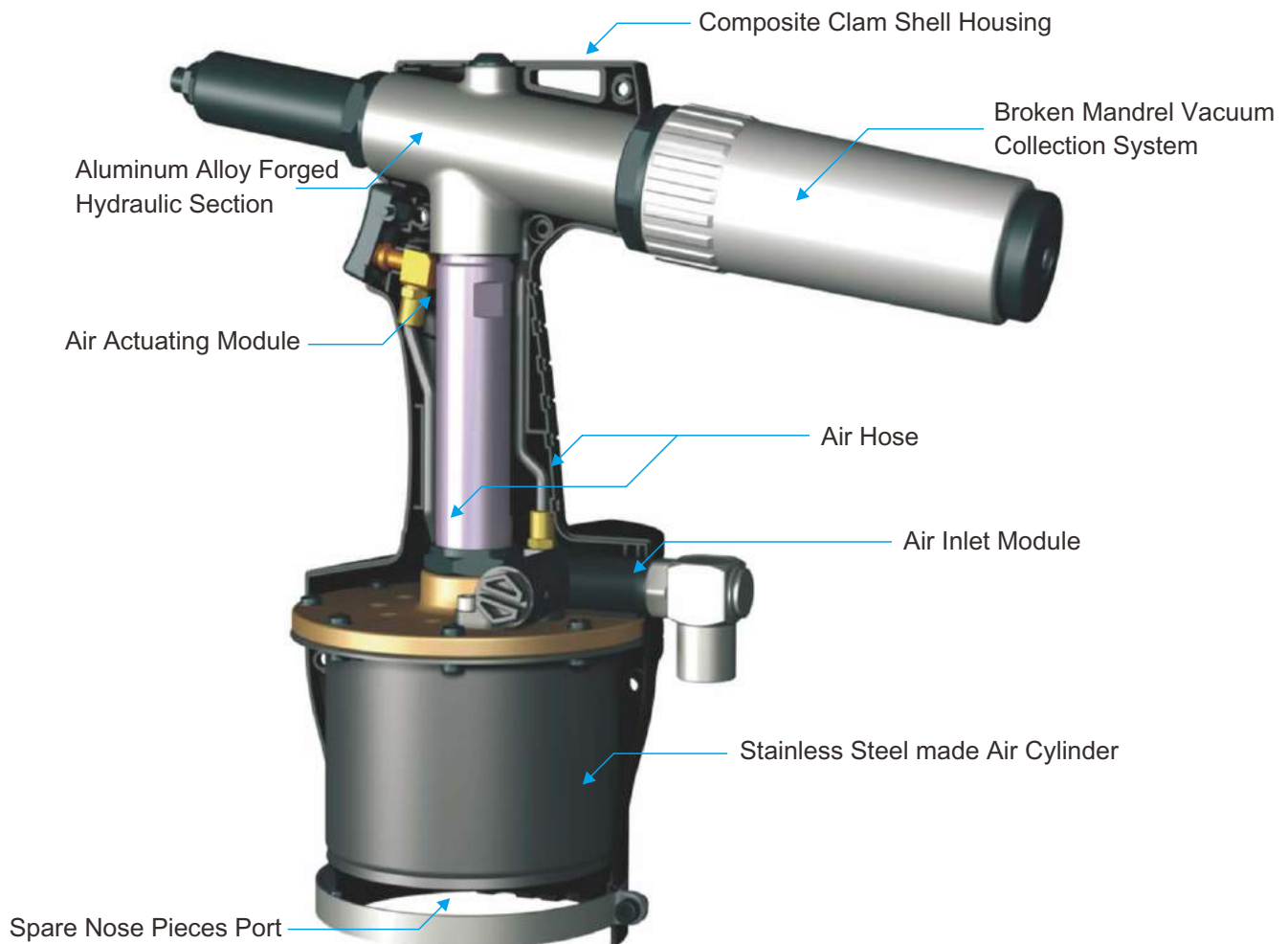
\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Air inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Nosepieces Equipped inch(mm)
ZT1017VSN-5	2248(1022)	43/64(17)	4.3(1.95)	90(6.2)	1/4	3/8(10)	5/32(4.0) 3/16(4.8)
ZT1017VSN-6	2248(1022)	43/64(17)	4.3(1.95)	90(6.2)	1/4	3/8(10)	1/4(6.4)

## Full Composite Housing Series

### Features

- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Patented "Broken mandrel vacuum collection system" for the cleanliness and safety of work area.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Stainless steel made Air Cylinder for the best rigidity and durability of the tool.
- Easy adjustable Head & Nut designed for obtaining the most effective stroke.
- Ergonomic texture coated composite housing for operator's comfort.
- Equipped with safety valve to avoid damage due to over pressure.
- Swivel air inlet design for maneuverability of works.
- The lightest model among compatible designs.



Patent pending in other countries



R.O.C.PAT.:  
092648



P.R.C.PAT.:  
ZL 94 2 22569.4



DEUTSCHLAND PAT.:  
Nr.20 2007 007 127.2

Full Composite Housing Series



**ZT0919VS**

3/16" Composite  
Air Hydraulic Riveter

Max. 4.8mm standard & structural  
blind rivets in all materials



**ZT1821VS**

1/4" Composite  
Air Hydraulic Riveter

Max. 6.4mm standard & structural  
blind rivets in all materials

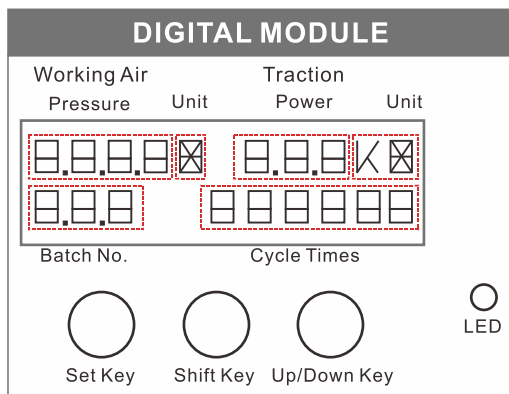
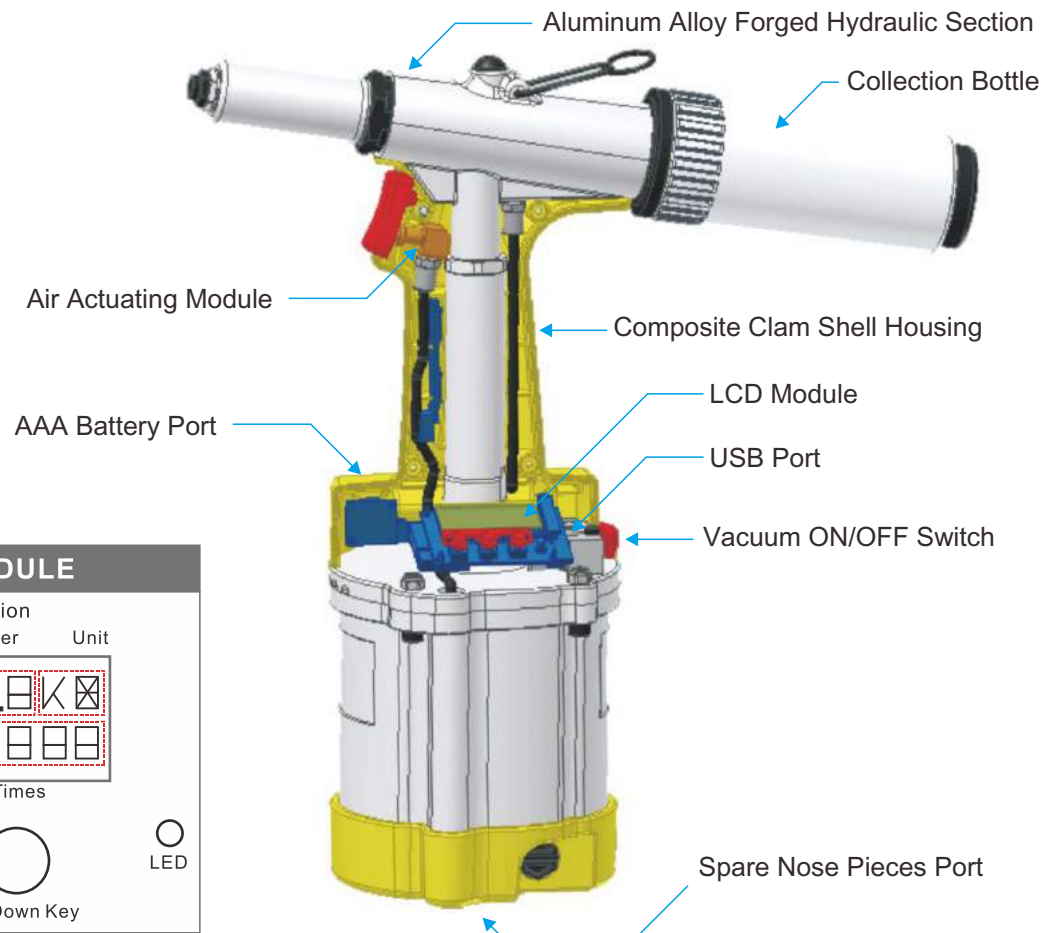
**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Air inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Nosepieces Equipped inch(mm)
ZT0919VS	1980(900)	3/4(19)	3.3(1.5)	90(6.2)	1/4	3/8(10)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)
ZT1821VS	4013(1800)	13/16(21)	5.1(2.3)	90(6.2)	1/4	3/8(10)	3/16(4.8)1/4(6.4)

## Features

- Features with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period.
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Patented "Broken mandrel vacuum collection system" for the cleanliness and safety of work area.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Easy adjustable Head & Nut designed for obtaining the most effective stroke.
- Ergonomic texture coated composite housing for operator's comfort.
- Swivel air inlet design for maneuverability works.



Patent pending in other countries



R.O.C.PAT.:  
355976



R.O.C.PAT.:  
092648



P.R.C.PAT.:  
ZL 94 2 22569.4



U.S.A.PAT.NO.:  
6,149,356



DEUTSCHLAND PAT.:  
Nr.20 2007 007 127.2



W/Digital Module

**ZT0520/ZT0520D**  
**ZT0715/ZT0715D**

5/32" Air Hydraulic Riveter  
3/16" Air Hydraulic Riveter



W/Digital Module

**ZT0922/ZT0922D**  
**ZT1218/ZT1218D**

3/16" Air Hydraulic Riveter  
1/4" Air Hydraulic Riveter



W/Digital Module

**ZT1528/ZT1528D**  
**ZT1725/ZT1725D**

1/4" Air Hydraulic Riveter



W/Digital Module

**ZT2021/ZT2021D**  
**ZT2318/ZT2318D**

1/4" Air Hydraulic Riveter



W/Digital Module

**ZT2021-8/ZT2021D-8**  
**ZT2318-8/ZT2318D-8**

5/16" Air Hydraulic Riveter

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
<b>ZT0520</b> <b>ZT0520D</b>	1100(500)	51/64(20)	3.8(1.7)	3/32(2.4)1/8(3.2) 5/32(4.0)	Max. 5/32"(4.0mm) structural rivets in all materials
<b>ZT0715</b> <b>ZT0715D</b>	1500(700)	19/32(15)	3.8(1.7)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	Max. 3/16"(4.8mm) blind rivets in steel/steel
<b>ZT0922</b> <b>ZT0922D</b>	2000(920)	7/8(22)	4.2(1.9)	5/32(4.0)3/16(4.8) Monobolt 3/16(4.8)	Max. 3/16"(4.8mm) structural rivets in all materials
<b>ZT1218</b> <b>ZT1218D</b>	2523(1150)	23/32(18)	4.2(1.9)	5/32(4.0)3/16(4.8) 1/4(6.4)	Max. 1/4"(6.4mm) blind rivets in steel/steel
<b>ZT1528</b> <b>ZT1528D</b>	3300(1500)	1-1/8(28)	5.6(2.5)	3/16(4.8)1/4(6.4) Monobolt 3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) structural rivets in all materials
<b>ZT1725</b> <b>ZT1725D</b>	3700(1700)	63/64(25)	5.6(2.5)	3/16(4.8)1/4(6.4) Monobolt 3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) structural rivets in all materials
<b>ZT2021</b> <b>ZT2021D</b>	4400(2000)	53/64(21)	5.6(2.5)	3/16(4.8)1/4(6.4) Monobolt 3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) structural rivets in all materials
<b>ZT2021-8</b> <b>ZT2021D-8</b>	4400(2000)	53/64(21)	5.6(2.5)	5/16(7.8)	Max. 5/16"(7.8mm) blind rivets in steel/steel
<b>ZT2318</b> <b>ZT2318D</b>	5000(2300)	23/32(18)	5.6(2.5)	3/16(4.8)1/4(6.4) Monobolt 3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) structural rivets in all materials
<b>ZT2318-8</b> <b>ZT2318D-8</b>	5000(2300)	23/32(18)	5.6(2.5)	5/16(7.8)	Max. 5/16"(7.8mm) structural rivets in all materials

\*Operating Air Pressure: 90PSI/6.2bar \*Air Inlet Size: 1/4 inch-NPT/PT \*Min. Hose Size: 3/8"(10mm)

**Features**

- Sets 3/32" to 3/16" rivets with up to 1983 lbs. of pulling capacity
- Tougher and durable
- Easy operation
- Aluminum housing, strong & light weight.
- Simply structure, easy to service.
- Power by air only, no need refill hydraulic oil.
- Quick cycle times, 2.0 seconds on average.



**ZAR0921**  
3/16" Air Riveter  
**ZAR0921V**

3/16" Air Riveter-Vacuum



**ZAR0818**  
3/16" Air Riveter  
**ZAR0818V**

3/16" Air Riveter-Vacuum

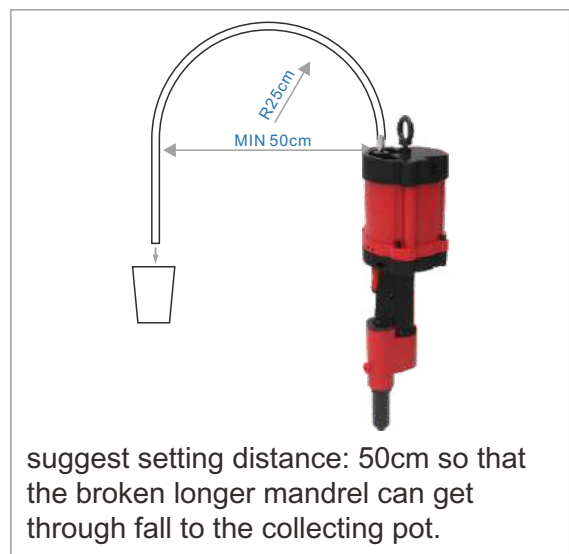
Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Avg. Air Cons. cu.ft/stroke	Min. Hose Size inch(mm)	Sound Pressure dB(A)	Vibration m/s <sup>2</sup>	Nosepieces Equipped inch(mm)
<b>ZAR0921</b> <b>ZAR0921V</b>	1896(860)	3/4(19)	3.1(1.4)	60~90	0.03	3/8(10)	79	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)
<b>ZAR0818</b> <b>ZAR0818V</b>	1763(800)	23/32(18)	3.3(1.5)	60~110	-	3/8(10)	81	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)

**Features**

- Ergonomic in-line design.
- Vacuum mandrel collection system.
- Designed for assembly line with balancer approach.



**ZIR0922**  
1/4" Air Hydraulic  
In-Line Riveter-Vacuum



Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
<b>ZIR0922</b>	2000(920)	7/8(22)	4.2(1.9)	3/16(4.8), 5/32(4.0) 1/4"(6.4mm), Monobolt 3/16(4.8)	Max. 1/4"(6.4mm) Alum./Steel blind rivets



## Features

- Stronger Traction Power.
- Good Balance To Minimum Operator Fatigue.
- Trigger Is Comfortable Operation At Any Direction.
- Screw Plug Is Easy For Refilling Oil.
- Forged Aluminum Alloy For Strong Hydraulic Section.



### ZT0616

5/32" Air Hydraulic Riveter

### ZT0616V

5/32" Air Hydraulic Riveter-Vacuum

Max. 4.0mm standard & structural blind rivet in all material

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Min. Hose Size inch(mm)	Sound Pressure dB(A)	Vibration m/s <sup>2</sup>	Nosepieces Equipped inch(mm)
ZT0616	1300(600)	5/8(16)	3(1.4)	90(6.2)	3/8(10)	79	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0) all material
ZT0616V	1500(700)	5/8(16)	3(1.4)	90(6.2)	3/8(10)	79	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0) all material

## Economy Riveter



### ZPR1016T

3/16" Air

Hydraulic Riveter



### ZPR1016TK

3/16" Air

Hydraulic Riveter Kit



### ZT1918T

1/4" Air

Hydraulic Riveter

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Avg. Air Cons. cu.ft/stroke	Min. Hose Size inch(mm)	Sound Pressure dB(A)	Vibration m/s <sup>2</sup>	Nosepieces Equipped inch(mm)
ZPR1016T ZPR1016TK	2304 (1045)	5/8(16)	3.262 (1.48)	90(6.2)	0.125(3.5)	1/4(6.4)	70	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)
ZT1918T	4200 (1900)	23/32(18)	4.3(2)	90(6.2)	0.125(3.5)	3/8(10)	70	<2.5	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)1/4(6.4)



**ZRG510**

3/16" Capacity Air Riveter

- Economically designed for heavy-duty, high speed production applications.
- Constructed without hydraulics for trouble-free riveting and easy maintenance.
- Comes with nosepieces for 1/8", 5/32" and 3/16" rivets.



**ZRG540**

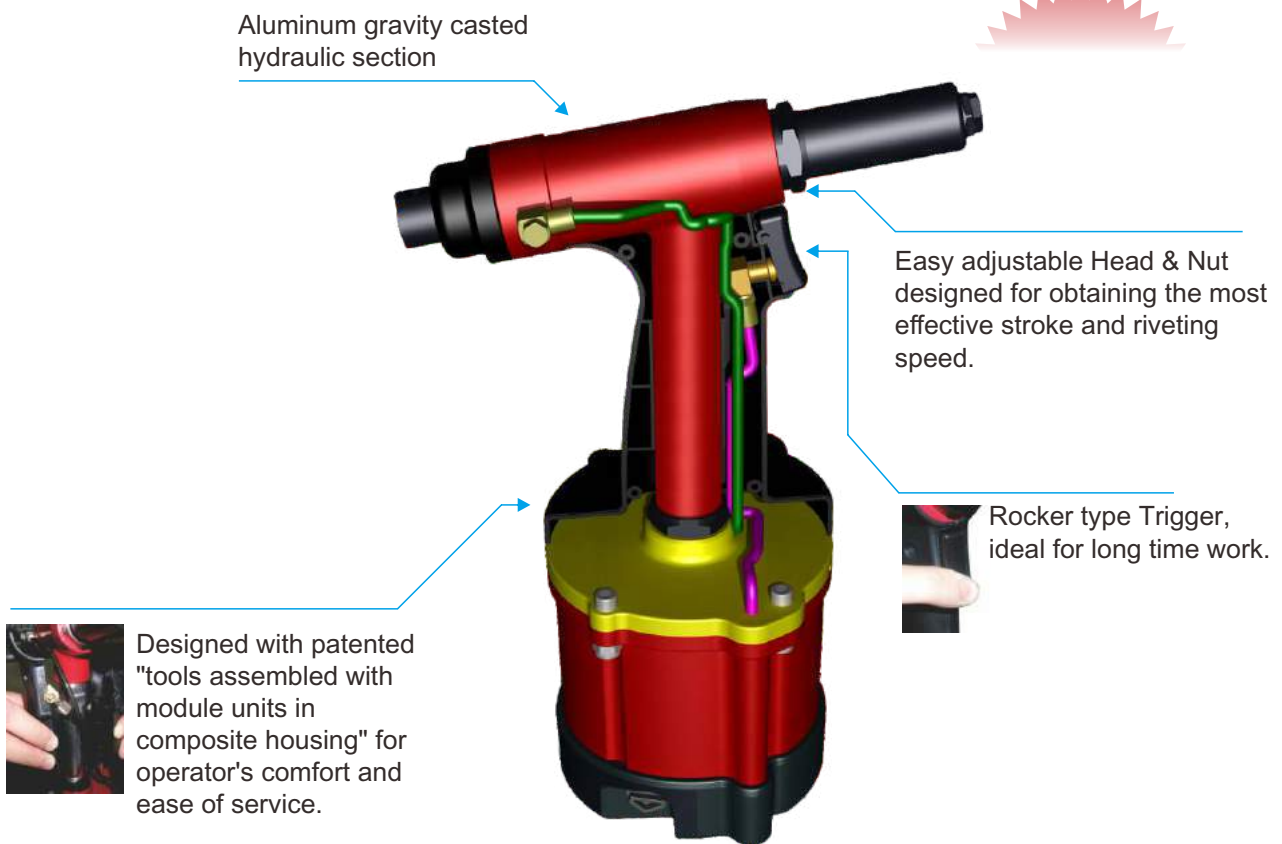
1/4" Capacity Air Hydraulic Riveter

- Extremely strong, robust and reliable heavy duty tool that sets 3/32" – 1/4" diameter rivets in varying rivet head styles.
- 100% interchangeable parts with POP PRG540. ( POP is a division of Stanley Black & Decker )

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Min. Hose Size inch(mm)	Air Inlet Size NPT	Blind Rivet Setting Capacity
<b>ZRG510</b>	1000(454)	0.59(15)	3.66(1.66)	90(6.2)	3/8(9.5)	1/4"	Standard blind rivets from 3/32", 1/8", 5/32" in all materials and 3/16" in Aluminum only
<b>ZRG540</b>	3000(1362)	0.69(17.5)	4.5(2.04)	90(6.2)	3/8(9.5)	1/4"	Standard blind rivets from 3/32", 1/8", 5/32", 3/16" in all material and 1/4" in Steel only

## Features

- Module unit mechanism enables more common parts to be used in similar designed tools.
- Designed with patented "Module units assembled in composite clam shell housing" for operator's comfort and ease of service.
- Ergonomic texture coated composite housing for operator's comfort.
- Build-in exhaust muffler to minimize the tool noise efficiently.
- Rocker type trigger for ease of operational control.
- Perfect tool for automotive & general industries.
- Optional Jaw Pusher & Nose Pieces for small size rivets.



## Applications

Wherever the fastening methods like: welding, sheet metal screw, bolt, nut, washer, tubular, semi-tubular and solid rivets and adhesives are applied, can be substituted by blind rivets. All models above are good for setting standard blind rivets and structural blind rivets.

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Operating Air Pressure psi(bar)	Air inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Nosepieces Equipped inch(mm)
ZT-1020 ZT-1020V	2248(1022)	43/64(17)	4.3(1.95)	90(6.2)	1/4	3/8(10)	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)1/4(6.4)

## Features

- The ZT0922CM is an air hydraulic tool designed especially for installation of CherryMAX® and nut plate rivets.
- This tool utilizes straight, offset and right angle pulling heads, all of which can install -4, -5 and -6 diameter CherryMAX® bulb type rivets in all head styles, materials and grip lengths
- Features with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period. ( Optional, model with " D" means with digital module )
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Patented "Broken mandrel vacuum collection system" for the cleanliness and safety of work area.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Swivel air inlet design for maneuverability works.



CherryMAX® is the registered trademark of Cherry Aerospace LLC.

CherryMAX® Straight Pulling Heads	CherryMAX® Compact Single Jaw Offset Pulling Heads	CherryMAX® Right Angle Pulling Heads
<b>H701B-456</b>  Install: 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets	<b>H781B-456</b>  Stroke: 3/4" Weight: 0.5(0.23) lbs(kgs)	<b>H753A-456</b>  Install: 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets

Standard setup for 1M length	Standard setup for 3M length
 ZTXXXXX + HH1R/HH1N (1m * 1/8" I.D. hyd. hose kit w/quick release coupler) + CHBT-004 Pouch	 ZTXXXXX + HH3R/HH3N (3m * 1/4" I.D. hyd. hose kit w/quick change coupler) + Hook on Spring balancer

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.  
 \*Below specification are measured with 1 meter length, 1/8" I.D hydraulic hose

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
ZT0922CM ZT0922CMD	2000(920)	7/8(22)	4.2(1.9)		
ZT1218CM ZT1218CMD	2523(1150)	23/32(18)	4.2(1.9)	Pulling head need to purchase separately.	Max. 3/16" (4.8mm) CherryMax Rivet
ZT0920SCM-1 ZT0920SCM-3	2000(920)	51/64(20)	2.2(1) handle ass'y		

\*Operating Air Pressure: 90PSI/6.2bar \*Air Inlet Size: 1/4 inch-NPT/PT \*Min. Hose Size: 3/8"(10mm)



## ZRA-48

3/16" Riveter Adaptor



## ZRA-64

1/4" Riveter Adaptor



## ZARA-48

3/16" Riveter Angle Adaptor

Model	Riveter Adaptor inch(mm)	Min. torque strength ft/lbs(Nm)	Max. rpm	Nosepiece inch(mm)	Hex shank inch(mm)	Dimension mm
ZRA-48	3/16(4.8)	8(11)	1000	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	1/4(6.35)	59 x 158
ZRA-64	1/4(6.4)	37(50)	800	1/8(3.2)5/32(4.0) 3/16(4.8)1/4(6.4)	1/4(6.35)	59 x 173
ZARA-48	3/16"(4.8)	8(11)	1000	3/32(2.4)1/8(3.2) 5/32(4.0)3/16(4.8)	1/4(6.35)	L195 x H185 x W58.5

## Rivet Nut Adaptor Kit

### Features

- A revolutionary accessory to insert rivet nuts.
- Simply attach this adaptor to your cordless, electric & pneumatic drills become a rivet nut tool.
- Can set up to max. M10 (3/8"-18) Round / Aluminum.

### Applications

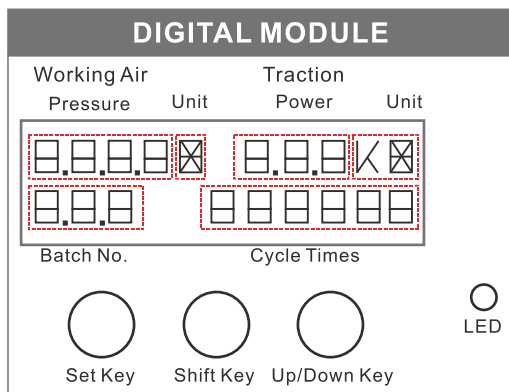
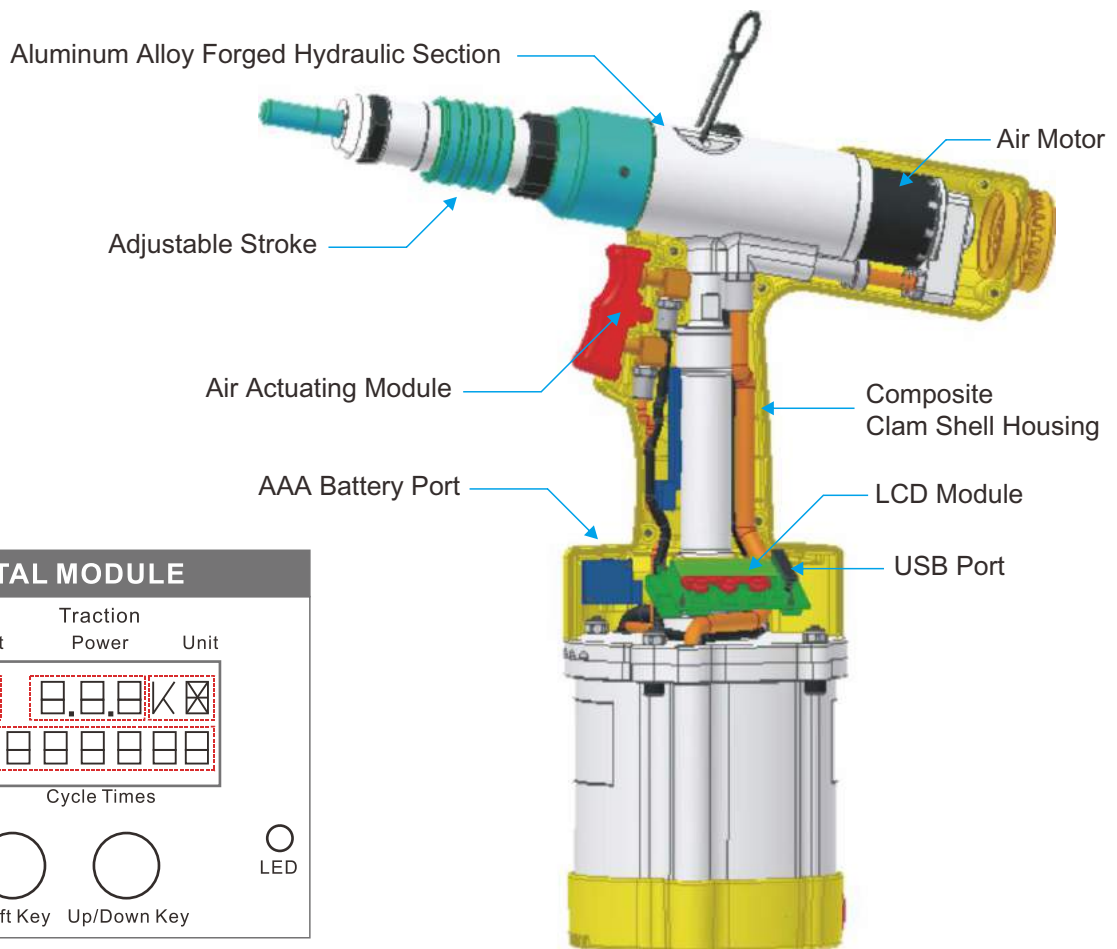
- Automotive aftermarket
- Small aircraft and boat repair
- Outdoor rivet nut insert jobs when there is no air supply.
- Residential and commercial construction
- General facility maintenance and repair



Model	Min. torque strength ft/lbs(Nm)	Max. rpm	Nut Nosepiece	Hex shank mm	Dimension mm
ZNRA-410D For Metric	73.7(100)	800	M4-M5-M6-M8-M10	8.00	59 x 180
ZNRA-410DE For Imperial	73.7(100)	800	#8-32, #10-24, #10-32 1/4"-20, 5/16"-18, 3/8"-16	8.00	59 x 180

## Features

- Features with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period.
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Easy adjustable Head & Nut designed for obtaining the most effective stroke.
- Ergonomic texture coated composite housing for operator's comfort.
- Swivel air inlet design for maneuverability works.



Patent pending in other countries



R.O.C.PAT.:  
355976



R.O.C.PAT.:  
092648



P.R.C.PAT.:  
ZL 94 2 22569.4



U.S.A.PAT.NO.:  
6,149,356



DEUTSCHLAND PAT.:  
Nr.20 2007 007 127.2



FOR IMPERIAL SYSTEM

Rivet Nut Tool

**ZRN1606E**  
**ZRN1606ED**  
W/Digital Module

**ZRN1606M**  
**ZRN1606MD**  
W/Digital Module

FOR METRIC SYSTEM



FOR IMPERIAL SYSTEM

Rivet Nut Tool

**ZRN2508E**  
**ZRN2508ED**  
W/Digital Module

**ZRN2508M**  
**ZRN2508MD**  
W/Digital Module

FOR METRIC SYSTEM



FOR IMPERIAL SYSTEM

Rivet Stud Tool

**ZRS1606E**  
**ZRS1606ED**  
W/Digital Module

**ZRS1606M**  
**ZRS1606MD**  
W/Digital Module

FOR METRIC SYSTEM



FOR IMPERIAL SYSTEM

Rivet Stud Tool

**ZRS2508E**  
**ZRS2508ED**  
W/Digital Module

**ZRS2508M**  
**ZRS2508MD**  
W/Digital Module

FOR METRIC SYSTEM

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

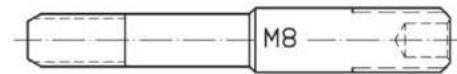
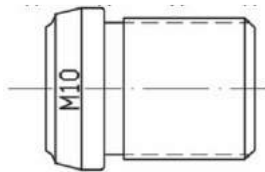
Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Rivet Nut / Rivet Stud Setting Capacity
<b>ZRN1606E</b> <b>ZRN1606ED</b>	3500(1600)	1/4(6)	4.9(2.2)	#8-32~3/8"-16 rivet nut in Hex./Steel 1/2"-13 need 100psi/7 bar operating pressure
<b>ZRN1606M</b> <b>ZRN1606MD</b>	3500(1600)	1/4(6)	4.9(2.2)	M4~M10 rivet nut in Hex./Steel M12 need 100psi/7 bar operating pressure
<b>ZRN2508E</b> <b>ZRN2508ED</b>	5500(2500)	5/16(8)	5.4(2.4)	#8-32~1/2"-13 rivet nut in all materials
<b>ZRN2508M</b> <b>ZRN2508MD</b>	5500(2500)	5/16(8)	5.4(2.4)	M4~M12 rivet nut in all materials
<b>ZRS1606E</b> <b>ZRS1606ED</b>	3500(1600)	1/4(6)	4.9(2.2)	#8-32~3/8"-16 rivet stud in all materials
<b>ZRS1606M</b> <b>ZRS1606MD</b>	3500(1600)	1/4(6)	4.9(2.2)	M4~M10 rivet stud in all materials
<b>ZRS2508E</b> <b>ZRS2508ED</b>	5500(2500)	5/16(8)	5.4(2.4)	#8-32~3/8"-16 rivet stud in all materials
<b>ZRS2508M</b> <b>ZRS2508MD</b>	5500(2500)	5/16(8)	5.4(2.4)	M4~M10 rivet stud in all materials

Parts Break Down For Rivet Nut/Rivet Stud:

Customers are welcome to order Bushing or Pull Rod separately.

**Examples:** order247B32+247A32= order complete set of M4 Bushing+Pull Rod  
order247B32= order M4 Bushing

**Rivet Nut**



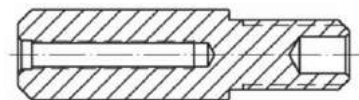
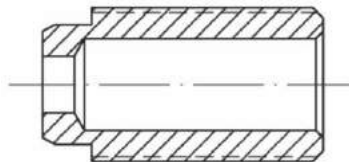
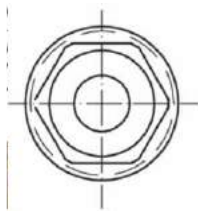
**Bolt Bushing**

Metric		inch	
P/N	Used For	P/N	Used For
258B11	M3	258B21	#6-32
258B12	M4	258B22	#8-32
258B13	M5	258B23	#10-24
258B14	M6	258B24	#10-32
258B15	M8	258B25	1/4"
258B16	M10	258B26	5/16"
258B17	M12	258B27	3/8"
		258B28	1/2"

**Pull Rod**

Metric		inch	
P/N	Used For	P/N	Used For
258A11	M3	258A21	#6-32
258A12	M4	258A22	#8-32
258A13	M5	258A23	#10-24
258A14	M6	258A24	#10-32
258A15	M8	258A25	1/4"-20
258A16	M10	258A26	5/16"-18
258A17	M12	258A27	3/8"-16
		258A28	1/2"-13

**Rivet Stud**



**Bolt Bushing**

Metric		inch	
P/N	Used For	P/N	Used For
247B32	M4	247B42	#8-32
247B33	M5	247B43	#10-24
247B34	M6	247B44	#10-32
247B35	M8	247B45	1/4"
247B36	M10	247B46	5/16"
		247B47	3/8"

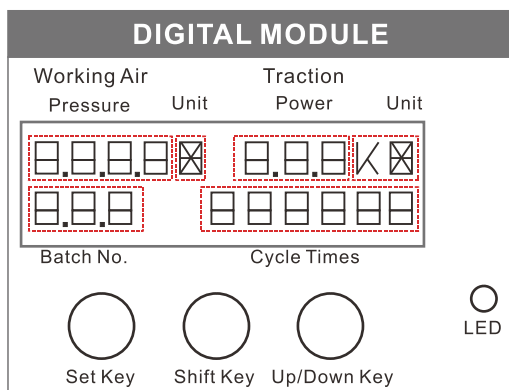
**Pull Rod**

Metric		inch	
P/N	Used For	P/N	Used For
247A32	M4	247A42	#8-32
247A33	M5	247A43	#10-24
247A34	M6	247A44	#10-32
247A35	M8	247A45	1/4"-20
247A36	M10	247A46	5/16"-18
		247A47	3/8"-16



## Features

- Compatible with "ORIGINAL" HUCK® - C6L® & Magna Grip®, AVDEL® - Avdelok® & Maxlok® lock bolt and Magna-Lok® and BOM® nose assemblies.
- Features with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period.
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Ergonomic texture coated composite housing for operator's comfort.
- Swivel air inlet design for maneuverability of works.



Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
ZT2318-HA ZT2318-HAD	5000(2300)	23/32(18)	5.6(2.5)	Compatible With for original HUCK® & AVDEL® nose assemblies	1/4" lock bolts

C6L®, Magna-Grip®, Magna-Lok® and BOM® are registered trademarks of Alcoa Fastening Systems & Rings.  
 Avbolt®, Monobolt®, Maxlok®, Avdelok® are registered trademarks of Stanley Engineered Fastening.



**ZT2318H(D)** W/Digital Module

1/4" Air Hydraulic Lock Bolt Tool







**ZT2318B(D)** W/Digital Module

1/4" Air Hydraulic Blind Bolt Tool

**ZT2318HK(D)** W/Digital Module

1/4" Air Hydraulic Lock Bolt Tool Kit

- ZT2318H(D) / ZT2318B(D) come with "ONE" nose assembly only.
- ZT2318HK(D) included with "FOUR" sets of lock bolt nose assemblies & 3/16", 1/4" blind rivet conversion kit.

Standard Nose Assembly	Optional Extended Nose Assembly
	
 <b>For Fixed Grip Lock Bolts</b>	
3/16" P/N: <b>202HC1</b> - Compatible with HUCK® tools 1/4" P/N: <b>231HC2</b> - Compatible with HUCK® tools	3/16" P/N: <b>202HC1L</b> - Compatible with HUCK® tools 1/4" P/N: <b>231HC2L</b> - Compatible with HUCK® tools
 <b>For Multi Grip Lock Bolts</b>	
3/16" P/N: <b>202HM1</b> - Compatible with HUCK® tools 1/4" P/N: <b>202HM2</b> - Compatible with HUCK® tools	3/16" P/N: <b>202HM1L</b> - Compatible with HUCK® tools 1/4" P/N: <b>202HM2L</b> - Compatible with HUCK® tools
 <b>For Blind Bolts</b>	
1/4" P/N: <b>202HB2</b>	
	
<b>Blind Rivet Conversion Kit</b>	
P/N: <b>2318RS</b> - 2pcs Jaws for 3/16" or 1/4" blind rivets	P/N: <b>2318RS-4</b> - 2pcs Jaws for 1/8" or 5/12" blind rivets P/N: <b>2318RS-8</b> - 3pcs Jaws for 5/16" blind rivets

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped	Max. Capacity
<b>ZT2318H(D)</b>	5000(2300)	23/32(18)	5.6(2.5)	Choose one of 202HM1, 202HC1, 202HM2 or 231HC2	1/4" lock bolts
<b>ZT2318HK(D)</b>	5000(2300)	23/32(18)	5.6(2.5)	Kit includes 202HM1, 202HC1, 202HM2 231HC2 & 2318RS Nose Assemblies	1/4" lock bolts
<b>ZT2318B(D)</b>	5000(2300)	23/32(18)	5.6(2.5)	P/N 202HB2	1/4" blind bolt

**HUCK® is a registered trademark of Alcoa Fastening Systems & Rings.**

## Features

- The ZT1914CM is an air hydraulic Lock Bolt & Blind Bolt tool designed especially for installation of CherryMax® Lock Bolt & Blind Bolts.
- This tool utilizes straight, offset and right angle pulling heads, all of which can install -4, -5, -6 & -8 diameter CherryMax® Lock Bolt & Blind Bolt in all head styles, materials and grip lengths. ( -8 diameter in Aluminum only )
- Features with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period.( Optional, model with "D" means with digital module )
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Swivel air inlet design for maneuverability works.



ZT1914CM(D)

Standard setup for 1M length				Standard setup for 3M length					
	+		+			+		+	
ZT1912CM-1		HH1R/HH1N 1m * 1/8" I.D. hyd. hose kit w/quick release coupler		CHBT-004 Pouch	ZT1912CM-3		HH3R/HH3N 3m * 1/4" I.D. hyd. hose kit w/quick change coupler		Hook on Spring balancer

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

\*Below specification are measured with 1 meter length, 1/8" I.D hydraulic hose

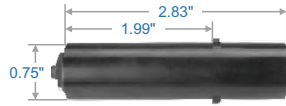
CherryMAX® is the registered trademark of Cherry Aerospace LLC.

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight without nose assembly lbs(kgs)	Max. Capacity
ZT1914CM	4200(1900)	9/16(14)	5.7(2.6)	-4, -5, -6 & -8 diameter CherryMax® Lock Bolt & Blind Bolt in all head styles, materials and grip lengths. ( -8 diameter in Aluminum only)
ZT1914CMD	4200(1900)	9/16(14)	5.7(2.6)	
ZT1912CM-1	4200(1900)	31/64(12)	2.75(1.25)	
ZT1912CM-3	4200(1900)	31/64(12)	2.75(1.25)	

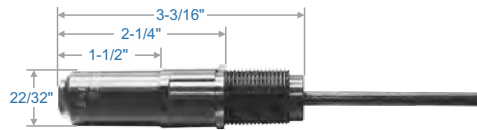
\*Operating Air Pressure: 90PSI/6.2bar \*Air Inlet Size: 1/4 inch-NPT/PT \*Min. Hose Size: 3/8"(10mm)

## PULLING HEADS AVAILABLE FOR THE ZT1914CM & ZT1912CM INSTALLATION TOOLS

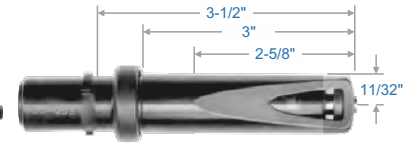
Pulling heads are not furnished with riveter and must be ordered separately.



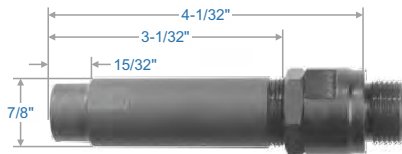
**H84A-8** Straight Pulling Head



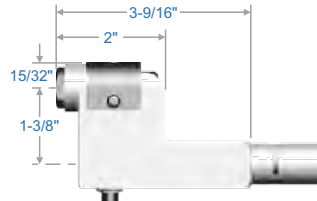
**H1900-456** Straight Pulling Head



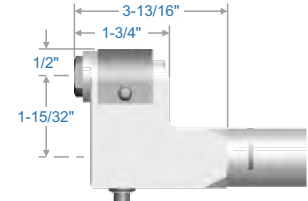
**H513SRC-06-35** Straight Pulling Head



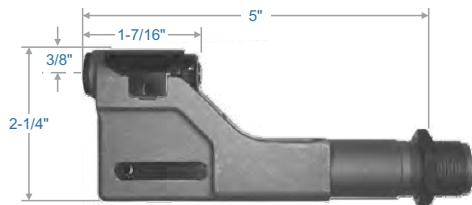
**H84B-568** Straight Pulling Head



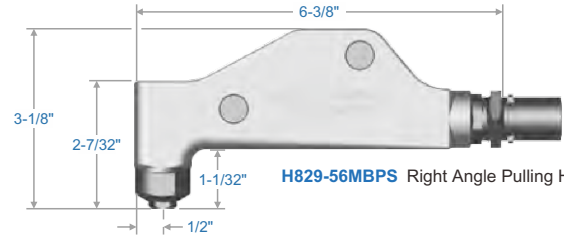
**H563-4B, H563-5B, H563-6B** Offset Pulling Head



**H562-6B, H562-8B** Offset Pulling Head



**H856-6MB**, Offset Pulling Head



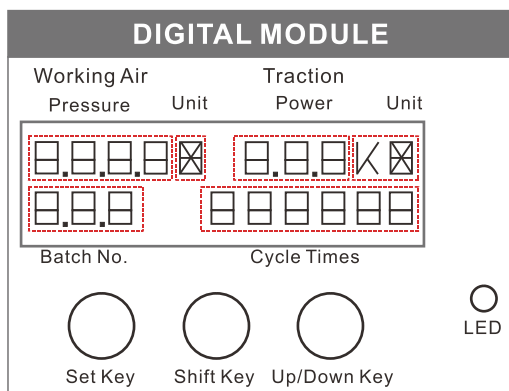
**H829-56MBPS** Right Angle Pulling Head

CherryMax® is the registered trademark of Cherry Aerospace LLC.

Fastener Type	Pulling Head Type	Tool Part Number		Adaptor	Diameter	
		MAXIBOLT® S TYPE	MAXIBOLT® U TYPE			
MAXIBOLT®	Straight	H83B-5MB	H83B-5MBU	None	-05	
		H83B-6MB	H83B-6MBU	None	-06	
		H84A-8MB	H84A-8MBU	None	-08	
	Right Angle	Offset	H856-6MB	H856-6MB+856-003	Yes	-06
		Right Angle	H829-5MB	H829-5MBU	None	-05
			H829-6MB	H829-6MBU	None	-06
Lockbolt	Straight	H513, H513S, H513SR		None	-4, -5, -6, -8	
		H563-4B/5B/6B		None	-4, -5, -6	
		H562-6B/8B		Yes	-6, -8	
MAXIBOLT PLUS®	Straight	H84B-568*		None	-5, -6, -8	
	Right Angle	H829-56MBPS		None	-5, -6	
NAS1919/1921	Straight	H1900-456		None	-4, -5, -6	
CherryMAX®	Straight	H84A-8		None	-8	
	Right Angle	H829-8		None	-5, -6, -8	
CherryMAX® 'AB' CherryLOCK® 'A'	Straight	H84-8CLA		None	-8	

## Features

- Optional feature with the most advanced patented digital module to enable operators know the rivet tool setting capacity instantly under various air supply condition and the rivet setting cycles performed during their working period.
- It will also remind operators when to do service or maintenance to the tool in proper interval.
- It will help to cease the controversy about warranty issue especially if the tool has been misused or abused with abnormal high air pressure which exceeds the design specification.
- Built with patented "Module units assembled in composite clam shell housing" for the ease of tool service.
- Forged and heat treated aluminum alloy made Hydraulic Section for the best rigidity.
- Ergonomic texture coated composite housing for operator's comfort.
- Swivel air inlet design for maneuverability of works.
- 3 pulls required for Monobolt®.
- Nose assembly need to purchase separately.



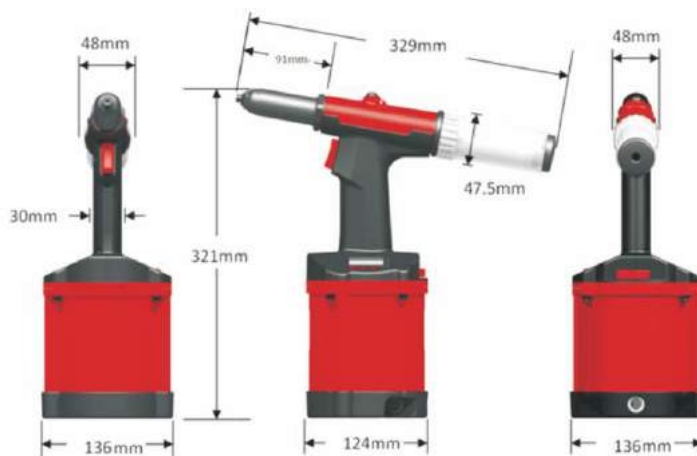
Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
ZT3213 ZT3213D	7050(3200)	33/64(13)	6.4(2.9)	Need to purchase separately	3/8" (10mm) steel monobolt / C6L lock bolts

Monobolt® is the registered trademark of Stanley Engineered Fastening.



**ZT0520/D | ZT0715/D**

**ZT0922/D | ZT1218/D**



**ZT1725/D | ZT1528/D | ZT2021/D | ZT2318/D | ZT2318H/HD**



**ZRN1606E/ED | ZRN1606M/MD  
ZRS1606E/ED | ZRS1606M/MD**

**ZRN2508E/ED | ZRN2508M/MD  
ZRS2508E/ED | ZRS2508M/MD**

**Features**

- Forged & heat treated aluminum alloy made hydraulic section for the best rigidity.
- Light weight pistol head
- Easy to reaches inaccessible area
- Utility Pouch for Shoulder or Waist



**ZT0518S / ZT0920S**  
**ZT1626S / ZT2420-8S**

Split Type Riveter w/vacuum



**ZT2420HSN**  
**ZT2420HS / ZT2420HSK**

Split Type Lock Bolt Tool



**ZRN1811ES / ZRN1811MS**

Split Type Rivet Nut Tool

Standard setup for 1M length			Standard setup for 3M length		
ZTXXXXX ZRNXXXXX	HH1R/HH1N 1m * 1/8" I.D. hyd. hose kit w/quick release coupler	CHBT-004 Pouch	ZTXXXXX ZRNXXXXX	HH3R/HH3N 3m * 1/4" I.D. hyd. hose kit w/quick change coupler	Hook on Spring balancer

**DO NOT apply air pressure over 110 psi / 7.5 bar to these tools.**

\*Please refer to the blind rivet specification to ensure the tensile strength is lower than the traction power of the model you select.

\*Below specification are measured with 1 meter length, 1/8" I.D hydraulic hose

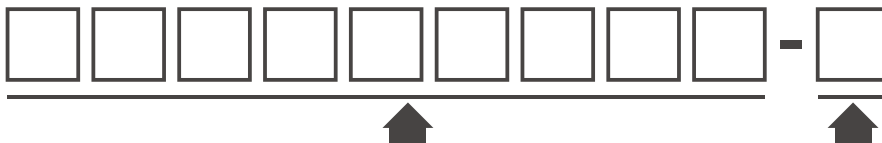
Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Handle Net Weight lbs(kgs)	Nosepieces Equipped inch(mm)	Max. Capacity
ZT0518S	1100(500)	23/32(18)	2.2(1)	3/32(2.4)1/8(3.2) 5/32(4.0)	Max. 5/32"(4.0mm) structural rivets in all materials
ZT0920S	2000(920)	51/64(20)	2.2(1)	5/32(4.0)3/16(4.8) Monobolt 3/16(4.8)	Max. 3/16"(4.8mm) structural rivets in all materials
ZT1626S	3500(1600)	1-1/32(26)	2.75(1.25)	3/16(4.8)1/4(6.4) Monobolt 3/16(4.8)1/4(6.4)	Max. 1/4"(6.4mm) structural rivets in all materials
ZT2420-8S	5200(2400)	51/64(20)	2.75(1.25)	5/16(7.8)	Max. 5/16"(7.8mm) structural rivets in all materials
ZT2420HSN	5200(2400)	51/64(20)	2.75(1.25)	Need to purchase separately, compatible with HUCK® & AVDEL® nose assemblies	1/4" lock bolts
ZT2420HS	5200(2400)	51/64(20)	2.75(1.25)	Choose one of 202HM1, 202HC1, 202HM2 or 231HC2	1/4" lock bolts
ZT2420HSK	5200(2400)	51/64(20)	2.75(1.25)	Kit includes 202HM1, 202HC1, 202HM2 231HC2 & 2318RS Nose Assemblies	1/4" lock bolts

**HUCK® is the registered trademark of Alcoa Fastening System & Rings.**

**AVDEL® is the registered trademark of Stanley Engineered Fastening.**

Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Handle Net Weight lbs(kgs)	Rivet Nut Setting Capacity
ZRN1811ES	3900(1800)	7/16(11)	3.3(1.5)	#8-32~1/2"-13 rivet nut in Hex./Steel
ZRN1811MS	3900(1800)	7/16(11)	3.3(1.5)	M4~M12 rivet nut in Hex./Steel

**Split type tool - Product Code Creator**



Fill in model number (Example: **XXZT0518S**)

length of hydraulic hose (**1or3**)

## Features

- Light weight pistol handle easy to use and reach to inaccessible area.
- Designed to install a wide range of 3/8" blind fasteners also Pin & Collar Fasteners.
- Low operating hydraulic pressure design for more durable hydraulic sealing mechanism.
- Forged & heat treated aluminum alloy made hydraulic section for the best rigidity.
- Portable intensifier instead of high cost hydraulic power unit.
- Custom designs are welcome.
- 3M length hydraulic hose set is included.
- Nose assembly need to purchase separately.
- ZT4125S capable to set 3/8" C6L<sup>®</sup>, Magna-Grip<sup>®</sup>, Magna-Lok<sup>®</sup>, Avdelok<sup>®</sup>, Maxlok<sup>®</sup>, Monobolt<sup>®</sup> & Avtainer<sup>®</sup> fasteners.



Model	Traction Power lbf(kgf)	Stroke Length inch(mm)	Handle Net Weight lbs(kgs)	Nosepieces	Max. Capacity
ZT4125S	9039(4100)	63/64(25)	3.86(1.75)	need to purchase separately	Max. 3/8"(9.5mm) lock bolt

C6L<sup>®</sup>, Magna-Grip<sup>®</sup>, Magna-Lok<sup>®</sup> is the registered trademark of Alcoa Fastening System & Rings.  
Avdelok<sup>®</sup>, Maxlok<sup>®</sup>, Monobolt<sup>®</sup> & Avtainer<sup>®</sup> is the registered trademark of Stanley Engineered Fastening.

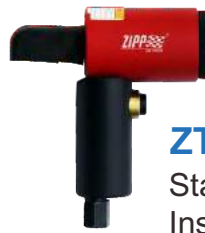


## Features

ZIPP offers a range of standard fastener tools as well as high performance ZIPP hydraulic powerigs to complement the larger diameter fixed grip lock bolt fasteners is suitable for numerous assembly applications for multiple industries.

ZIPP installation equipment / tooling systems work with the fastener to pull and clamp the application together quickly and safely. A typical installation equipment system comprises a tool, nose assembly, hose set and powerig unit. The powerig drives the tool and the nose assembly provides the installation link between the fastener and the tool. Installation tools and nose assemblies are designed to install specific fastener types and diameters – the choice of the installation equipment system is determined by the fastener type, diameter, application and intended usage.

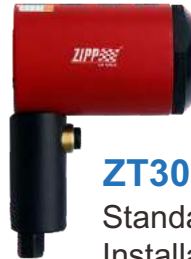
The majority of the fasteners in the system have been designed to meet or exceed SAE Grade 5 or ASTM A-325 and ISO (8.8) strength requirements, ensuring high clamp force, tensile and shear strength depending on the application.



**ZT10**  
Standard  
Installation Tool



**ZV10**  
Standard  
Installation Tool



**ZT30**  
Standard  
Installation Tool



**ZV30**  
Standard  
Installation Tool



**ZT51**  
Standard  
Installation Tool



**ZV50**  
Standard  
Installation Tool

### Nose Assembly (to suit installation tool)

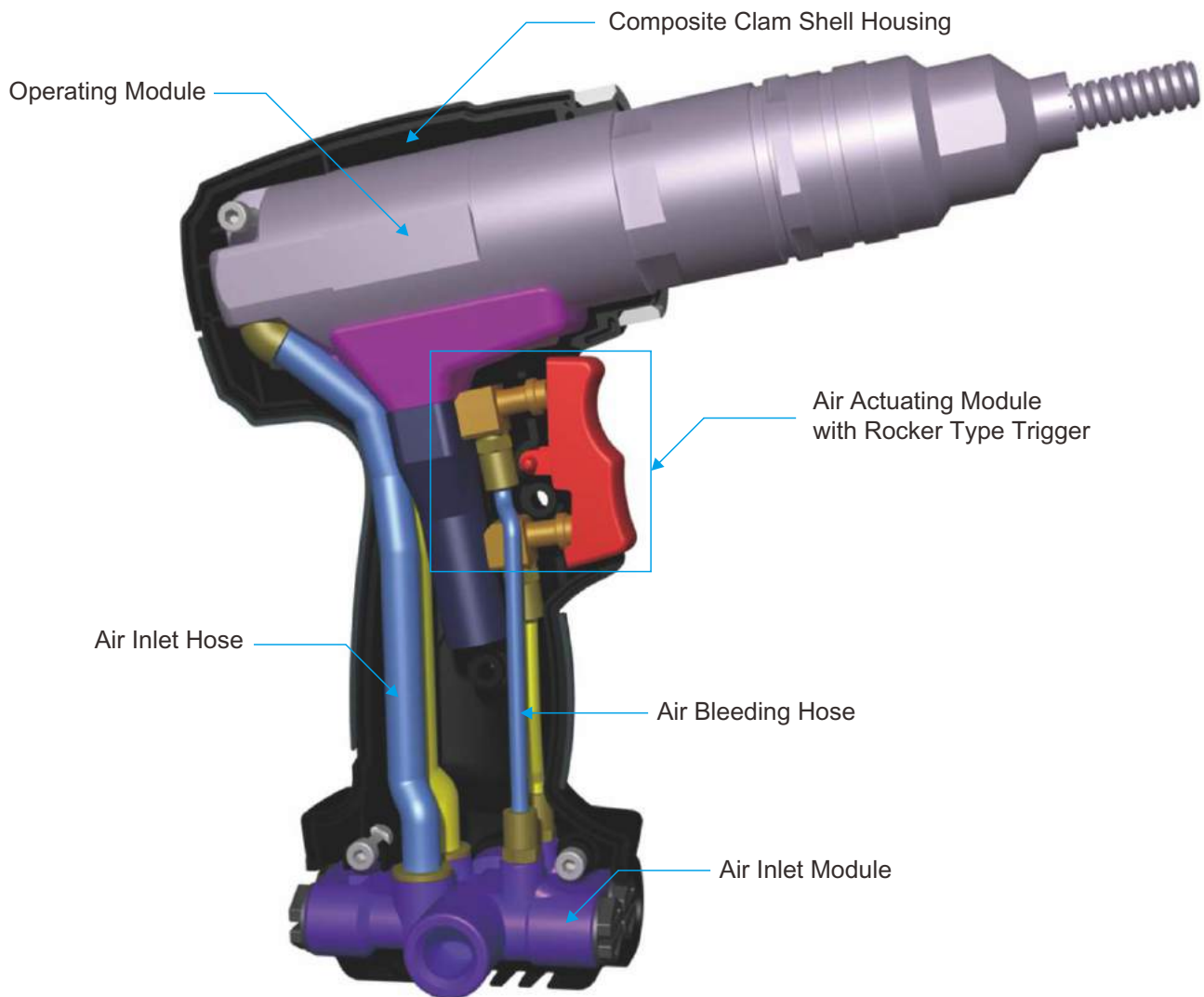
Model	Stroke inch(mm)	Pull Force lbf(kN)	Pull Pressure psi(MPa)	Return Pressure psi(MPa)	Net Weight w/o Nose Assembly lbs(kgs)	Vibration m/sec
<b>ZT10-10NA</b>						
<b>ZT10-10MGNA</b>						
<b>ZT30-13NA</b>						
<b>ZT30-16NA</b>						
<b>ZT30-19NA</b>						
<b>ZT30-19BNA</b>						
<b>ZT51-22NA</b>						
<b>ZT51-25NA</b>						
<b>ZT51-28NA</b>						

Model	Stroke inch(mm)	Pull Force lbf(kN)	Pull Pressure psi(MPa)	Return Pressure psi(MPa)	Net Weight w/o Nose Assembly lbs(kgs)	Vibration m/sec
<b>ZT10</b>	1(25)	13040(58)	8000(55.2)	3000(20.7)	7.72(3.5)	8.6
<b>ZT30</b>	1.6(41)	39340(175)	8000(55.2)	3000(20.7)	17.6(8)	8.6
<b>ZT51</b>	2.56(65)	78680(350)	8000(55.2)	3000(20.7)	40.78(18.5)	8.6
<b>ZV10</b>	0.98(25)	12365(55)	7400(51)	2900(20)	7.7(3.5)	2.5
<b>ZV30</b>	1.6(41)	39340(175)	7400(51)	2900(20)	15.3(6.9)	2.5
<b>ZV50</b>	2.17(55)	76435(340)	7400(51)	2900(20)	29.8(13.5)	8.6

## Clam Shell Composite Housing

### Features

- Designed with patented "Module units assembled in composite clam shell housing" for easy tool service.
- Ergonomic texture coated composite housing for operator's comfort.
- Less friction loss along the air passage to increase tool power & performance.
- Module unit mechanism enables more common parts to be used in similar designed tools.
- Rocker type trigger and both left or right hand side air inlet for ease of operational control.



Patent pending in other countries



R.O.C.PAT.:  
M306920 / 174032



P.R.C.PAT.:  
ZL 2006 2 0131894.9



U.S.PAT.:  
6,149,356



DEUTSCHLAND PAT.:  
Nr.20 2007 007 127.2

Model number with "Q" means equipped with Quick Change Head.



**ZRN106**  
**ZRN106Q** w/Quick Change Head

Composite Air Rivet Nut Tool-M6

Optional Nose Assembly			
Size	B-Type (Screw-On)	Q-Type (Quick Change)	Model for other sizes:
M3	P/N: 103800B	P/N: 103800Q	ZRN103 or ZRN103Q
M4	P/N: 104800B	P/N: 104800Q	ZRN104 or ZRN104Q
M5	P/N: 105800B	P/N: 105800Q	ZRN105 or ZRN105Q
M6	P/N: 106800B	P/N: 106800Q	ZRN106 or ZRN106Q
#6-32	P/N: 632800B	P/N: 632800Q	ZRN163 or ZRN163Q
#8-32	P/N: 832800B	P/N: 832800Q	ZRN183 or ZRN183Q
#10-24	P/N: 124800B	P/N: 124800Q	ZRN124 or ZRN124Q
#10-32	P/N: 132800B	P/N: 132800Q	ZRN132 or ZRN132Q
1/4"-20	P/N: 114800B	P/N: 114800Q	ZRN120 or ZRN120Q

Model number with "Q" means equipped with Quick Change Head.



**ZRN508**  
**ZRN508Q** w/Quick Change Head

Composite Air Rivet Nut Tool-M8

Optional Nose Assembly			
Size	B-Type (Screw-On)	Q-Type (Quick Change)	Model for other sizes:
M6	P/N: 106800B	P/N: 106800Q	ZRN506 or ZRN506Q
M8	P/N: 208800B	P/N: 208800Q	ZRN508 or ZRN508Q
1/4"-20	P/N: 114800B	P/N: 114800Q	ZRN520 or ZRN520Q
5/16"-18	P/N: 516800B	P/N: 516800Q	ZRN518 or ZRN518Q

**ZRN210**  
**ZRN212**



Composite Air Rivet Nut Tool-M10/M12

Optional Nose Assembly			
Size	B-Type (Screw-On)	Q-Type (Quick Change)	Model for other sizes:
M10	P/N: 210800B	P/N: 210800Q	ZRN210 or ZRN210Q
M12	P/N: 212800B		ZRN212
1/2"-13	P/N: 12C800B		ZRN213
3/8"-16	P/N: 238800B	P/N: 238800Q	ZRN216 or ZRN216Q
3/8"-24	P/N: 38F800B		ZRN224

\* There is ONLY one size of rivet head come along with each tool, please specify the model you require when ordering.

Model	Max. Rivet Nut Setting Capacity Round Rivet Nut(mm)	Free Speed rpm	Net Weight lbs(kgs)	Avg. Air Cons. cfm ( l/min )	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Sound Pressure dB(A)	Vibration m/s <sup>2</sup>
<b>ZRN106</b>	M6 Round/Steel	1500	3.06(1.39)	20.3 (580)	1/4	3/8(10)	86	<2.5
<b>ZRN106Q</b>	M6 Round/Steel	1500	2.42(1.10)	20.3 (580)	1/4	3/8(10)	86	<2.5
<b>ZRN508</b>	M8 Hex./All Materials	500	3.08(1.4)	20.3 (580)	1/4	3/8(10)	86	<2.5
<b>ZRN508Q</b>	M8 Hex./All Materials	500	2.50(1.13)	20.3 (580)	1/4	3/8(10)	86	<2.5
<b>ZRN210</b>	M10 Hex./All Materials	280	3.08(1.4)	20.3 (580)	1/4	3/8(10)	86	<2.5
<b>ZRN212</b>	M12 Hex./Steel	280	3.08(1.4)	20.3 (580)	1/4	3/8(10)	86	<2.5

## Features

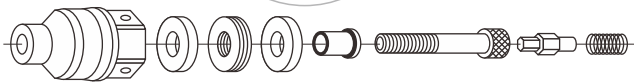
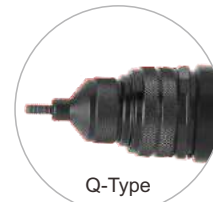
- Powerful Precise Motor.
- Exclusive Quick Reversible Trigger.
- Handle Exhaust
- Lightweight
- Smooth, Direct Driver.



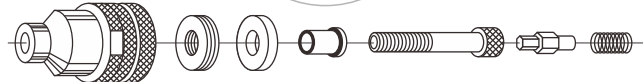
**ZRN280 / ZRN500 / ZRN700 0.7HP**  
Aluminum Housing Air Rivet Nut Tool



**ZRN1600 0.7HP**  
Aluminum Housing Air Rivet Nut Tool



B type Nose Head



Quick Change type Nose Head

Metric System		
Optional Nose Assembly		
Size	B-Type (Screw-On)	Q-Type (Quick Change)
M3	P/N: 103800B	P/N: 103800Q
M4	P/N: 104800B	P/N: 104800Q
M5	P/N: 105800B	P/N: 105800Q
M6	P/N: 106800B	P/N: 106800Q
M8	P/N: 208800B	P/N: 208800Q
M10	P/N: 210800B	P/N: 210800Q

Imperial System		
Optional Nose Assembly		
Size	B-Type (Screw-On)	Q-Type (Quick Change)
#6-32	P/N: 632800B	P/N: 632800Q
#8-32	P/N: 832800B	P/N: 832800Q
#10-24	P/N: 124800B	P/N: 124800Q
#10-32	P/N: 132800B	P/N: 132800Q
1/4"-20	P/N: 114800B	P/N: 114800Q
5/16"-18	P/N: 516800B	P/N: 516800Q
3/8"-16	P/N: 238800B	P/N: 238800Q

\* There is ONLY one size of rivet nut head come along with each tool, please specify the model you require when ordering.

Model	Max. Rivet Nut Setting Capacity Round Rivet Nut(mm)	Free Speed rpm	Net Weight lbs(kgs)	Avg. Air Cons. cu.ft/stroke	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Sound Pressure dB(A)	Vibration m/s <sup>2</sup>
<b>ZRN280 (B or Q)</b>	M10 Round / Alum.	280	2.87(1.3)	5(141)	1/4	3/8(10)	86	<2.5
<b>ZRN500 (B or Q)</b>	M6 Hex. / All Materials	500	2.87(1.3)	5(141)	1/4	3/8(10)	86	<2.5
<b>ZRN700 (B or Q)</b>	M5 Round / Alum.	720	2.87(1.3)	5(141)	1/4	3/8(10)	86	<2.5
<b>ZRN1600 (B or Q)</b>	M4 Round / Steel	1700	2.2(1)	5(141)	1/4	3/8(10)	86	<2.5

## Features

- Can be used in areas with restricted operator space
- Available with in-line handle and top or bottom hose configuration - optimized ergonomic performance for improved productivity
- Average cycle time of less than 2 seconds - increased productivity - up to 1500 fasteners per hour
- High capacity, magazine fed fasteners - reduced component handling and subsequent spillage
- Lightweight construction and zero action recoil - reduced operator fatigue
- Long life, self-priming intensifier - consistent actuation and hence joint formation
- Long reach barrel - can be used in many difficult access applications
- Low maintenance hand tool - productive time is maximized - no requirement for specialist maintenance training
- Robust & durable construction - suitable for most industrial environments



**ZT0430**  
Speed Riveter

This tool is designed for Speed Rivet as Shown on the tables below.

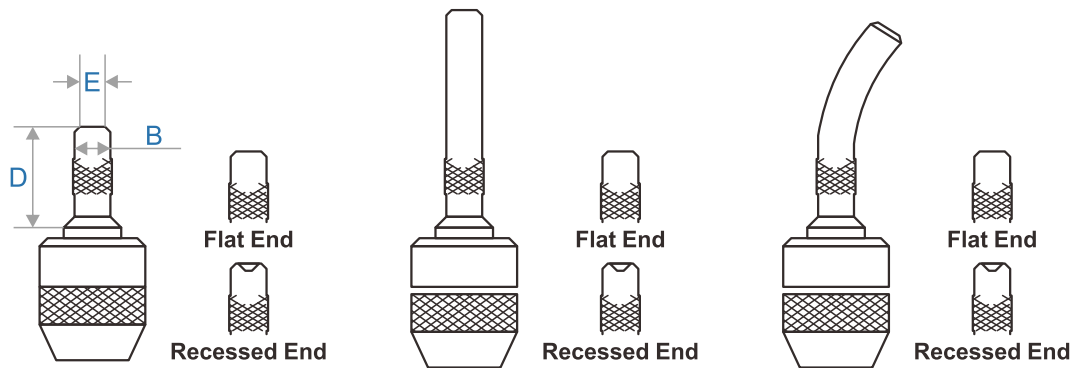
	2.4mm	3.0mm	3.5mm	3.2mm	4.0mm	4.8mm
Speed Rivet	Aluminum, Brass	N/A	N/A	Aluminum, Steel, Brass, Stainless	Aluminum, Steel, Brass, Stainless	Aluminum, Steel, Brass, Stainless
Speed Chovet	Aluminum, Brass	N/A	N/A	Aluminum, Steel	Aluminum, Steel	Aluminum, Steel
Speed Screw	N/A	Steel	Steel	N/A	N/A	N/A

Model	Air Supply Pressure Minimum/Maximum bar	Free Air Volume Required bar(liters)	Stroke inch(mm)	Pull Force lbf(kgf)	Cycle Time Approximately	Noise Level Less than dB(A)	Net Weight lbs(kgs)	Vibration Less than m/s <sup>2</sup>
<b>ZT0430</b>	5~7	5.1(2.6)	1-3/16(30)	874(389)	1second	70	2.38(1.08)	2.7

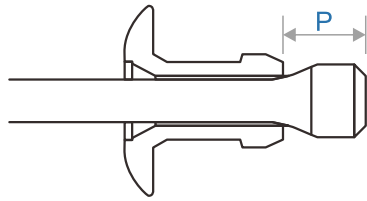
\*Overall Length 475mm \*Intensification Ratio: 30:1

## Front Jaws

- Our speed rivet has a Bulbed tail. And it is foreshortened and expanded radially during installation.
- Because this bulbed tail will give you high vibration and good hole fill.
- We supply the speed rivet with many different material and finishes.
- So you will have various options according to your needs.
- Speed rivets are podded in a paper pod. So you can install 20 to 70 rivets with one easy loading.



Rivet Size	Item#	Size & End form	Dimensions(mm)			M/F Spring
			B	D	E	
2.4	ZNJ-3001	Standard Flat	9.5	33	3.4	Standard
	ZNJ-3002	Standard Recessed	9.5	33	3.4	
3.2	ZNJ-4001	Standard Flat	11.5	30.3	5.5	Standard
	ZNJ-4002	Standard Recessed	11.5	30.3	8.5	
	ZNJ-4003	Long Flat	9.6	59.5	5.5	Long
	ZNJ-4004	Long Recessed	9.6	59.5	8.5	
	ZNJ-4005	Long Curved Flat	9.6	59.5	5.5	
	ZNJ-4006	Long Curved Recessed	9.6	59.5	8.5	
4.0	ZNJ-5001	Standard Flat	12.5	30.3	7.0	Standard
	ZNJ-5002	Standard Recessed	12.5	30.3	10.5	
	ZNJ-5003	Long Flat	12.5	59.5	7.0	Long
	ZNJ-5004	Long Recessed	12.5	59.5	10.5	
	ZNJ-5005	Long Curved Flat	12.5	59.5	7.0	
	ZNJ-5006	Long Curved Recessed	12.5	59.5	10.5	
4.8	ZNJ-6001	Standard Flat	14.5	30.3	10.0	Standard
	ZNJ-6002	Standard Recessed	14.5	30.3	12.5	
	ZNJ-6003	Long Flat	14.5	60.5	10.0	Long
	ZNJ-6004	Long Recessed	14.5	60.5	12.5	
	ZNJ-6005	Long Curved Flat	14.5	60.5	10.0	
	ZNJ-6006	Long Curved Recessed	14.5	60.5	12.5	



SPEED RIVET



SPEED CHOVET

MANDRELS FOR SPEED RIVET					
Rivet size	Hole size	Mandrel Item#	Mandrel size	P	M.F Spring #
2.4mm(3/32inch) Aluminum, Brass	2.4(As recommended)	ZM-0183	1.83	3.02	ZS-3001
	2.4+0.1	ZM-0193	1.93	3.12	
	2.4+0.2	ZM-0201	2.01	3.20	
3.2mm(1/8inch) Aluminum, Steel, Brass	3.3(As recommended)	ZM-0234	2.34	3.05	ZS-4001
	3.3+0.13	ZM-0246	2.46	3.20	
	3.3+0.25	ZM-0259	2.59	3.38	
4.0mm(5/32inch) Aluminum, Steel, Brass	4.05(As recommended)	ZM-0279	2.79	3.45	ZS-5001
	4.05+0.13	ZM-0292	2.92	3.61	
	4.05+0.25	ZM-0305	3.05	3.78	
4.8mm(3/16inch) Aluminum, Steel, Brass	4.89(As recommended)	ZM-0358	3.58	3.99	ZS-6001
	4.89+0.13	ZM-0371	3.71	4.17	
	4.89+0.25	ZM-0384	3.84	4.32	
3.2mm(1/8inch) Stainless Steel	3.3(As recommended)	ZM-S249	2.49	2.95	ZS-4001
	3.3+0.13	ZM-S262	2.62	3.10	
4.0mm(5/32inch) Stainless Steel	4.05(As recommended)	ZM-S305	3.05	3.20	ZS-5001
	4.05+0.13	ZM-S318	3.18	3.35	
4.8mm(3/16inch) Stainless Steel	4.89(As recommended)	ZM-S389	3.89	3.81	ZS-6001
	4.89+0.13	ZM-S401	4.01	3.96	
MANDRELS FOR SPEED CHOVET					
2.4mm(3/32inch) Aluminum, Brass	2.4(As recommended)	ZCM-0184	1.84	5.00	ZS-3001
	2.4+0.04	ZCM-0188	1.88	5.00	
	2.4+0.09	ZCM-0193	1.93	5.00	
3.2mm(1/8inch) Aluminum, Steel, Brass	3.3(As recommended)	ZCM-0234	2.34	7.11	ZS-4001
	3.3+0.13	ZCM-0249	2.49	7.11	
	3.3+0.25	ZCM-0259	2.59	7.11	
4.0mm(5/32inch) Aluminum, Steel, Brass	4.05(As recommended)	ZCM-0272	2.72	8.20	ZS-5001
	4.05+0.13	ZCM-0292	2.92	8.20	
	4.05+0.25	ZCM-0310	3.10	8.20	
4.8mm(3/16inch) Aluminum, Steel, Brass	4.89(As recommended)	ZCM-0335	3.35	9.90	ZS-6001
	4.89+0.13	ZCM-0371	3.71	9.30	
	4.89+0.25	ZCM-0396	3.96	9.30	

Depend on the hole size and material of application, you can select suitable mandrel for your application. For the curved front jaws, the mandrels have to be bent by hand to match the curvature of the front jaws. Mandrels for stainless steel speed rivet, they have a "V" cut on the end of the mandrel heads.

## Blind Rivet Installation Tool

Model	Page Number	Diameter							Model	Page Number	Diameter							
		3/32 (2.4)	1/8 (3.2)	5/32 (4.0)	3/16 (4.8)	1/4 (6.4)	5/16 (7.8)	3/8 (9.5)			3/32 (2.4)	1/8 (3.2)	5/32 (4.0)	3/16 (4.8)	1/4 (6.4)	5/16 (7.8)	3/8 (9.5)	
ZT0318VS	83	ST/ST	ST/ST	AL/S					ZT2021-8	91							ST/ST	
ZT0618T	85	ST/ST	ST/ST	ST/ST	S/S				ZT2318-8	91							ST/ST	
ZT0618VS	83	ST/ST	ST/ST	ST/ST	S/S				ZAR0921	92	ST/ST	ST/ST	ST/ST	S/S				
ZT0918T	85	ST/ST	ST/ST	ST/ST	ST/ST				ZAR0921V	92	ST/ST	ST/ST	ST/ST	S/S				
ZT0918VS	83	ST/ST	ST/ST	ST/ST	ST/ST				ZAR0818	92	ST/ST	ST/ST	ST/ST	S/S				
ZT0918L	85	ST/ST	ST/ST	ST/ST	ST/ST				ZAR0818V	92	ST/ST	ST/ST	ST/ST	S/S				
ZT0918LV	85	ST/ST	ST/ST	ST/ST	ST/ST				ZT0616	93	ST/ST	ST/ST	ST/ST					
ZT1214VS-5	84			ST/ST	ST/ST				ZT0616V	93	ST/ST	ST/ST	ST/ST					
ZT1214VS-6	84				ST/ST	S/S			ZPR1016T	93	ST/ST	ST/ST	ST/ST	S/S				
ZT1214T	85			ST/ST	ST/ST	S/S			ZT1918T	93	ST/ST	ST/ST	ST/ST	ST/ST	ST/ST			
ZT1214L	85			ST/ST	ST/ST	S/S			ZRG510	94	ST/ST	ST/ST	ST/ST	AL/S				
ZT1214LV	85			ST/ST	ST/ST	S/S			ZT-1020	95	ST/ST	ST/ST	ST/ST	ST/ST	AL/S			
ZT1819T	85				ST/ST	ST/ST			ZT-1020V	95	ST/ST	ST/ST	ST/ST	ST/ST	AL/S			
ZT1819VS	84				ST/ST	ST/ST			ZRA-48	97	ST/ST	ST/ST	ST/ST	S/S				
ZT1819L	85				ST/ST	ST/ST			ZARA-48	97	ST/ST	ST/ST	ST/ST	S/S				
ZT1819LV	85				ST/ST	ST/ST			ZRA-64	97		ST/ST	ST/ST	ST/ST	S/S			
ZT1017VSN-5	87			ST/ST	ST/ST				ZT0518S	106	ST/ST	ST/ST	ST/ST					
ZT1017VSN-6	87				ST/ST	AL/S			ZT0920S	106			ST/ST	ST/ST				
ZT0919VS	89	ST/ST	ST/ST	ST/ST	ST/ST				ZT1626S	106				ST/ST	ST/ST			
ZT1821VS	89				ST/ST	ST/ST			ZT2420-8S	106				ST/ST	ST/ST	ST/ST		
ZT0520	91	ST/ST	ST/ST	ST/ST					ZT0430	112	Alum.	Stainless Steel	Stainless Steel	Stainless Steel				
ZT0715	91	ST/ST	ST/ST	ST/ST	S/S				ZT3213	104						ST/ST	ST/ST	
ZT0922	91	ST/ST	ST/ST	ST/ST	ST/ST				ZT4125S	107						ST/ST	ST/ST	
ZT1218	91			ST/ST	ST/ST	S/S												
ZT1528	91				ST/ST	ST/ST												
ZT1725	91				ST/ST	ST/ST												
ZT2021	91				ST/ST	ST/ST												
ZT2318	91				ST/ST	ST/ST												

AL/AL = Aluminum head / Aluminum mandrel  
 AL/S = Aluminum head / Steel mandrel  
 S/S = Steel head / Steel mandrel  
 S/ST = Steel head / Stainless Steel mandrel  
 ST/ST = Stainless Steel head / Stainless Steel mandrel

## Lock Bolt Installation Tool

Model	Page Number	Material Lock Bolt	Diameter			
			3/16(4.8)	1/4(6.4)	5/16(7.8)	3/8(9.5)
ZT2420HSN	106	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT2420HS	106	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT2420HSK	106	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT2318-HA	102	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT2318H	103	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT2318HK	103	aluminum	☆	☆		
		steel	☆	☆		
		stainless	☆			
ZT3213	104	aluminum			☆	☆
		steel			☆	☆
		stainless			☆	
ZT4125S	107	aluminum			☆	☆
		steel			☆	☆
		stainless			☆	☆

## Blind Bolt Installation Tool

Model	Page Number	Material Blind Bolt	Diameter			
			3/16(4.8)	1/4(6.4)	5/16(7.8)	3/8(9.5)
ZT2318B	103	steel		☆		

## Rivet Stud Installation Tool

Model	Page Number	Material Rivet Stud	Diameter							
			M3	M4	M5	M6	M8	M10	M12	
ZRS1606M	99	aluminum		○	○	○	○	○		
		steel		○	○	○	○	○*		
		stainless		○	○	○	○	○*		
ZRS2508M	99	aluminum		○	○	○	○	○		
		steel		○	○	○	○	○		
		stainless		○	○	○	○	○		
Model	Page Number	Material Rivet Stud	#8 -32	#10 -24	#10 -32	1/4" -20	5/16" -18	3/8" -16	1/2" -13	
ZRS1606E	99	aluminum		○	○	○	○	○		
		steel		○	○	○	○	○*		
		stainless		○	○	○	○	○*		
ZRS2508E	99	aluminum		○	○	○	○	○		
		steel		○	○	○	○	○		
		stainless		○	○	○	○	○		

○ = Round  
 ○ = Hex.  
 \* = need to increase pressure to 100psi



# Rivet Nut Installation Tool Selection Chart

## Rivet Nuts Installation Tool

Model	Page Number	Material Rivet Nut	Diameter							Model	Page Number	Material Rivet Nut	Diameter						
			M3	M4	M5	M6	M8	M10	M12				M3	M4	M5	M6	M8	M10	M12
ZRN1606M	99	aluminum	△	○	○	○	○	○	○*	ZRN2XX	110	aluminum					○	○	
		steel	△	○	○	○	○	○	○*			steel						○	●
		stainless	△	○	○	○	○	○	○*			stainless						○	●
ZRN2508M	99	aluminum	△	○	○	○	○	○	○	ZRN280	111	aluminum					○	●	
		steel	△	○	○	○	○	○	○			steel					○		
		stainless	△	○	○	○	○	○	○			stainless							
ZRN2308M	101	aluminum		○	○	○	○	○		ZRN500	111	aluminum		○	○	○			
		steel		○	○	○	○	○				steel		○	○	○			
		stainless		○	○	○	○	○				stainless		○	○	○			
ZRN1811MS	106	aluminum	△	○	○	○	○	○	○*	ZRN700	111	aluminum		○	●				
		steel	△	○	○	○	○	○	○*			steel		○					
		stainless	△	○	○	○	○	○	○*			stainless		○					
ZRN1XX	110	aluminum	○	○	○	○				ZRN1600	111	aluminum	○	○					
		steel	○	○	○	○	●					steel	○	○	●				
		stainless	○	○	○	○						stainless	○						
ZRN5XX	110	aluminum				○	○			ZNR4-410D	97	aluminum		○	○	○	○	○	●
		steel				○	○					steel		○	○	○	○		
		stainless				○	○					stainless		○	○	○	○		

Model	Page Number	Material Rivet Nut	Diameter											
			#6-32	#8-32	#10-24	#10-32	1/4"-20	5/16"-18	3/8"-16	3/8"-24	1/2"-13	1/2"-20		
ZRN1606E	99	aluminum	△	○	○	○	○	○	○	○	○	○	○*	○*
		steel	△	○	○	○	○	○	○	○	○	○	○*	○*
		stainless	△	○	○	○	○	○	○	○	○	○	●*	●*
ZRN2508E	99	aluminum	△	○	○	○	○	○	○	○	○	○	○	○
		steel	△	○	○	○	○	○	○	○	○	○	○	○
		stainless	△	○	○	○	○	○	○	○	○	○	○	○
ZRN2308E	101	aluminum		○	○	○	○	○	○	○	○			
		steel		○	○	○	○	○	○	○	○			
		stainless		○	○	○	○	○	○	○	○			
ZRN1811ES	106	aluminum	△	○	○	○	○	○	○	○	○	○*	○*	
		steel	△	○	○	○	○	○	○	○	○	○*	○*	
		stainless	△	○	○	○	○	○	○	○	○	●*	●*	
ZRN1XX	110	aluminum	○	○	○	○	○							
		steel	○	○	○	○	○	●						
		stainless	○	○	○	○								
ZRN5XX	110	aluminum					○	○						
		steel					○	○						
		stainless					○	○						
ZRN2XX	110	aluminum								○	○	○	○	
		steel								○	○	○	○	
		stainless								○	○	○	○	
ZRN280	111	aluminum						○	○	○	○			
		steel						○	○	○	○			
		stainless												
ZRN500	111	aluminum			○	○	○							
		steel			○	○	○							
		stainless			○	○	○							
ZRN700	111	aluminum		○	○	○								
		steel		○										
		stainless		○										
ZRN1600	111	aluminum	○	○										
		steel	○	○	○									
		stainless	○											
ZNR4-410DE	97	aluminum		○	○	○	○	○	○	○	○	○	○	
		steel		○	○	○	○	○	○	○	○	○	○	
		stainless		○	○	○	○	○	○	○	○	○	○	

- = Round
- = Hex.
- △ = Optional
- \* = need to increase pressure to 100psi

## "C" Yoke Riveters

### Features

- Specially designed for airplane construction to ensure fast, economical riveting where two-man operation is impractical.
- Features strong, steady, silent squeeze action, which is easily controlled for a large variety of rivets.
- Ideal for dimpling, punching, stamping and pressing. Widely used for truck, bus and automotive applications.
- Extra powerful, portable tandem cylinder also available with double the compressive force for larger riveting capacity.



**ZCR030**



**ZCR060**

Model	Rivet Capacity Diameter		Standard Yoke Dimensions		Max Force lb(kN)	Set Holder		Overall Length inch(mm)	Weight With Yoke lbs(kgs)
	Alum	Steel	Reach	Gap		Max Travel	Stroke at Max Power		
<b>ZCR030</b>	1/8(3.2)	3/32(2.4)	1-1/2(38.1)	11/16(17.45)	3000(13.35)	9/16(14.27)	0.05(1.3)	10-1/4 (260.35)	4.5(2.04)
<b>ZCR060</b>	3/16(4.8)	5/32(4)	1-1/2(38.1)	11/16(17.45)	6000(26.7)	9/16(14.27)	0.05(1.3)	14(355.6)	5.4(2.49)

Note: Please specify the model no. With CXX you may require while ordering.

### Applications

### CP214 Compatible Yoke



**C030C15**



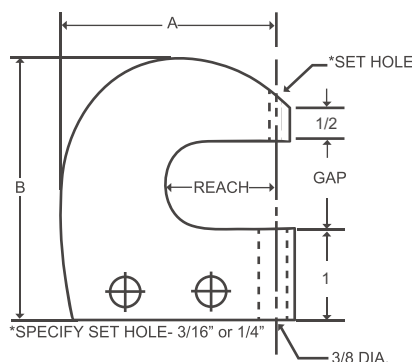
**C030C30**



**C030C40**



**C030L25**  
(Longeron Yoke)



Model	Reach inch(mm)	Gap inch(mm)	A inch(mm)	B inch(mm)
<b>C030C15</b>	1.5(38.1)	1.33(33.8)	2.98(75.6)	3.38(86)
<b>C030C30</b>	3(76.2)	1.33(33.8)	4.43(112.6)	3.29(83.6)
<b>C030C40</b>	4(101.6)	1.33(33.8)	5.89(149.5)	3.76(95.4)
<b>C030L25</b>	2.5(63.5)	1.33(33.8)	3.66(93)	3.98(101)

## "Alligator" Yoke Riveters

### Features

- For squeezing a large variety of size and type of rivets.
- Strong squeeze action is easily controlled to provide uniformity and accuracy of work.
- Ideally used for dimpling, punching and pressing.
- Extra powerful, portable tandem cylinder also available with double the compressive force for large riveting capacity.



**ZCR030A15** Single Cylinder



**ZCR060A15** Tandem Cylinder



**ZCR030A225** Single Cylinder



**ZCR060A225** Tandem Cylinder



**ZCR030A30** Single Cylinder



**ZCR060A30** Tandem Cylinder

Model	Rivet Capacity Diameter		Standard Yoke Dimensions Reach	Max Force lb(kN)	Set Holder		Overall Length inch(mm)	Weight With Yoke lbs(kgs)
	Alum	Steel			Max Travel	Stroke at Max Power		
<b>ZCR030A15</b>	1/8(3.2)	3/32(2.4)	1-1/2(38.1)	3000(13.35)	5/8(15.9)	0.05(1.3)	9-3/16(230)	3.75(1.7)
<b>ZCR030A225</b>	3/32(2.4)	1/16(1.6)	2-1/4(57.1)	2200(9.79)	7/8(22.2)	0.094(2.4)	10-1/4(260)	4.25(1.9)
<b>ZCR030A30</b>	3/32(2.4)	1/16(1.6)	3(76.2)	1800(8)	1-1/4(31.8)	0.05(1.3)	10-3/4(270)	4.5(2.1)
<b>ZCR060A15</b>	3/16(4.8)	5/32(4)	1-1/2(38.1)	6000(26.7)	5/8(15.9)	0.05(1.3)	11-3/16(280)	4.75(2.2)
<b>ZCR060A225</b>	5/32(4.0)	1/8(3.2)	2-1/4(57.1)	4300(19.1)	7/8(22.2)	0.094(2.4)	12-29/32(328)	5.25(2.4)
<b>ZCR060A30</b>	1/8(3.2)	3/32(2.4)	3(76.2)	3400(15.1)	1-1/4(31.8)	0.05(1.3)	13-1/2(340)	5.5(2.5)



**A15**

**A225**

**A30**

Model	Reach inch(mm)	Gap inch(mm)	Closed Height inch(mm)
<b>A15</b>	1.5(38.1)	0.89(22.6)	0.875(22.2)
<b>A225</b>	2.25(57.2)	0.89(22.6)	0.875(22.2)
<b>A30</b>	3(76.2)	0.89(22.6)	0.875(22.2)

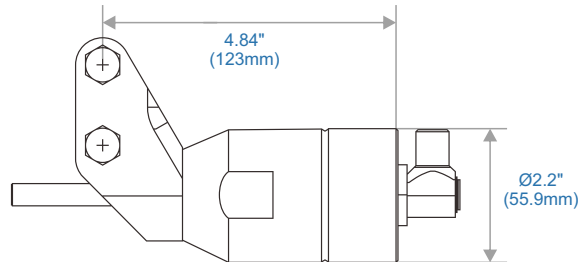
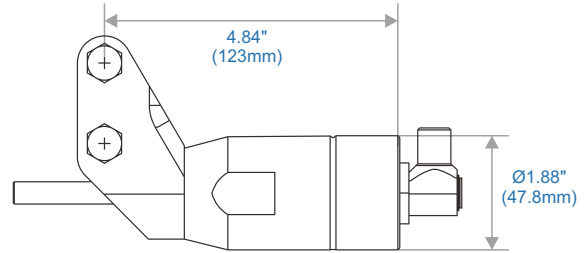
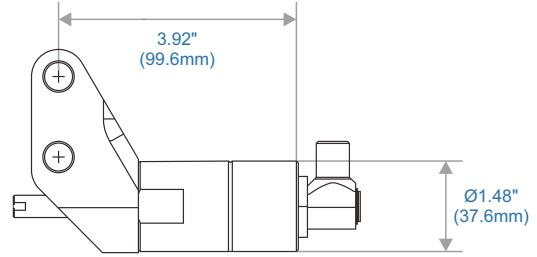
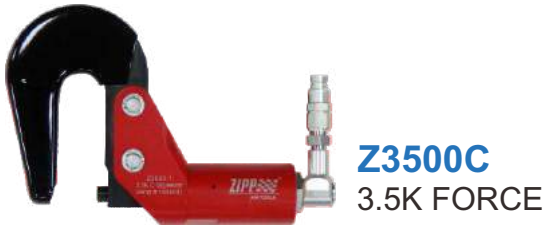
## Features

- High quality industrial grade compression rivet squeezers, for the installation of solid rivets.
- Compact size and lighter in weight compare to current pneumatic squeezers on the market.
- CONSTANT FORCE over the entire stroke range.
- Built from high quality aircraft grade materials and features held to close tolerances, for years of dependable operation.
- The reduction in weight and constant force decreases operator fatigue, and improves the quality of every riveting work.



### Commercial users of these Squeezers include:

AIRBUS	MUSCO SPORTS LIGHTING
ALCOA	NORTHROP GRUMMAN
BARNES AEROSPACE	ORENDA AEROSPACE
BEECHCRAFT	ROLLS ROYCE - UK
BOEING AIRCRAFT	ROLLS ROYCE - US
CANADA NATIONAL DEFENCE	SCHILLING ROBOTICS
DELTA AIRLINES	SPIRIT AEROSYSTEMS
GE AIRCRAFT ENGINES	UTC AEROSPACE SYSTEMS
HONDA AIRCRAFT	U.S. ARMY
KOREAN AEROSPACE	U.S AIR FORCE
LODE KING INDUSTRIES	Evergreen Aviation Precision Corp. (EGAP)



ZIPP squeezer is 50% smaller  
ZIPP squeezer is 50% lighter  
ZIPP squeezer is quieter in operation



\* "C" yoke need to purchase separately

Squeezer Model	Rivet Capacity Diameter		Fluid Disp Required in <sup>3</sup> (cc)	Force At Normal Hyd Pressure lbf(kN)	Hydraulic Pressure		Rivet Set (compression Pin) Travel inch(mm)	Weight (w/o Yoke) lbs(kgs)
	Alum	Steel			Normal psi(MPa)	MAX psi(MPa)		
<b>Z3500C</b>	5/32(4)	1/8(3.2)	0.55(9)	3480(15.5)	3500(24.1)	4500(31)	0.55(14)	1.25(0.56)
<b>Z6000C</b>	3/16(4.8)	5/32(4)	0.97(15.9)	6185(27.5)	3500(24.1)	4500(31)	0.55(14)	1.72(0.78)
<b>Z9000C</b>	1/4(6.4)	3/16(4.8)	0.32(21.6)	8420(37.4)	3500(24.1)	4500(31)	0.55(14)	2.6(1.17)

C-Yoke Squeezer System	Contents included
<b>Z3500CK-0</b>	Z3500C+ZPI-11016 3.5K SQUEEZER SYSTEM, W/O YOKE
<b>Z6000CK-0</b>	Z6000C+ZPI-15047F 6K SQUEEZER SYSTEM, W/O YOKE
<b>Z9000CK-0</b>	Z9000C+ZPI-15047F 9K SQUEEZER SYSTEM, W/O YOKE

\*All C-Squeezers accept industry standard CP-214 yokes. \*All Squeezers accept rivet dies with 3/16" (0.187") shanks.

## CP214 Compatible Yoke



**C030C08**



**C030C09**



**C030C13**



**C030C14**



**C030C15**



**C030C30**



**C030C40**



**C030L25**



**Z3028-1**



**Z3028-2**



**Z3028-3**



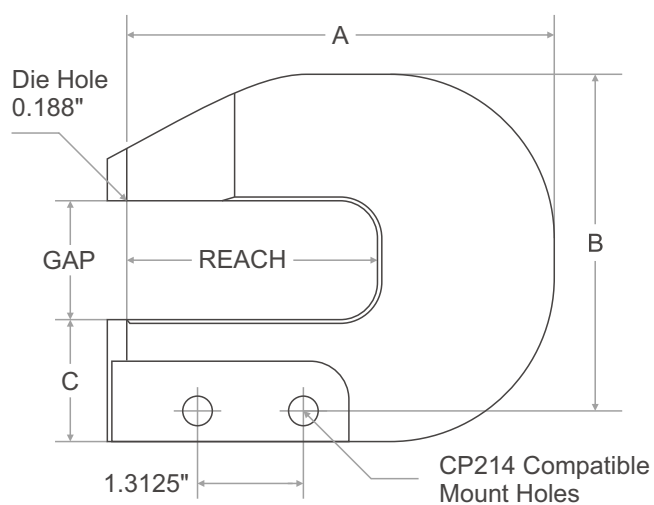
**Z3028-4**



**Z3028-5**



**Z3028-6**



Model	Reach	Gap	"A"	"B"	"C"	Thickness
<b>C030C08</b>	0.78"	1.1"	2.72"	2.16"	1.12"	0.57"
<b>C030C09</b>	0.9"	1.02"	3.27"	2.69"	1.12"	0.75"
<b>C030C13</b>	1.33"	1.41"	2.72"	2.87"	1.4"	0.57"
<b>C030C14</b>	1.4"	1.02"	3.73"	3.02"	1.4"	0.75"
<b>C030C15</b>	1.5"	1.25"	2.98"	3.39"	1.12"	0.57"
<b>C030C30</b>	3"	1.25"	4.44"	3.29"	1.12"	0.57"
<b>C030C40</b>	4"	1.25"	5.89"	3.76"	1.12"	0.83"
<b>C030L25</b>	2.5"	1.25"	3.67"	3.98"	1.12"	0.57"
<b>Z3028-1</b>	1.32"	1.5"	3.23"	3.72"	1.4"	1"
<b>Z3028-2</b>	2.07"	1.5"	4.23"	4.22"	1.4"	1"
<b>Z3028-3</b>	3.07"	1.5"	5.23"	4.22"	1.4"	1"
<b>Z3028-4</b>	4.07"	1.5"	6.35"	4.22"	1.4"	1"
<b>Z3028-5</b>	1.49"	1.92"	3.46"	5.68"	1.12"	1.18"
<b>Z3028-6</b>	3.53"	3.93"	6.77"	7.09"	1.5"	1.38"

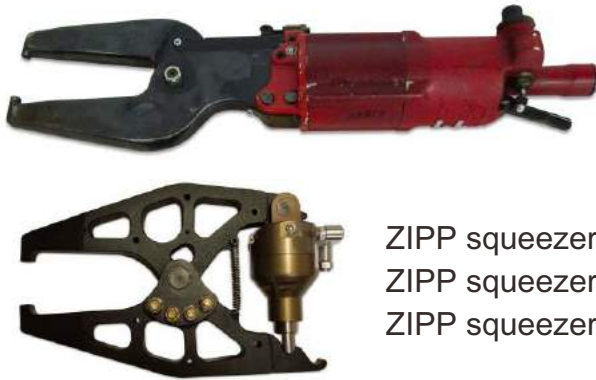
\*Please confirm the length of die holder when ordering.



# Pneudraulic Alligator Squeezers



**Z4000A** 14" Alligator Squeezer    **Z5000A** 10" Alligator Squeezer    **Z7000A** 8" Alligator Squeezer    **Z9000A** 6" Alligator Squeezer



ZIPP squeezer is 50% smaller  
 ZIPP squeezer is 50% lighter  
 ZIPP squeezer is quieter in operation



Model	Rivet Capacity Diameter		Force lbf(kN)	Reach inch(mm)	Jaw Tip Gap closed inch(mm)	Jaw Tip Gap open inch(mm)	Jaw Tip Gap extended inch(mm)	Net Weight lbs(kgs)
	Alum	Steel						
<b>Z9000A</b>	1/4(6.4)	3/16(4.8)	10100(44.9)	6(152.4)	1.38(35.1)	2.05(52.1)	2.81(71.4)	13.8(6.26)
<b>Z7000A</b>	1/4(6.4)	3/16(4.8)	7862(34.9)	8(203.2)	1.38(35.1)	2.25(57.2)	3.23(82)	15.7(7.12)
<b>Z5000A</b>	3/16(4.8)	5/32(4)	6416(28.5)	10(254)	1.38(35.1)	2.45(62.2)	3.65(92.7)	18.3(8.3)
<b>Z4000A</b>	3/16(4.8)	5/32(4)	6416(28.5)	14(355.6)	1.38(35.1)	2.45(62.2)	3.65(92.7)	25.6(11.61)
<b>Alligator System</b>	Contents included							
<b>Z9000AK</b>	Z9000A 6" ALLIGATOR+ZPI-15047F INTENSIFIER							
<b>Z7000AK</b>	Z7000A 8" ALLIGATOR+ZPI-15047F INTENSIFIER							
<b>Z5000AK</b>	Z5000A 10" ALLIGATOR+ZPI-15047F INTENSIFIER							
<b>Z4000AK</b>	Z4000A 14" ALLIGATOR+ZPI-15047F INTENSIFIER							

\*Alligator tip gaps are without dies installed. \*All Squeezers accept rivet dies with 3/16" (0.187") shanks.

## Features

- The ZIPP Pneudraulic Intensifier is designed to operate devices requiring a small volumetric output of high pressure fluid. The unit is a "one shot" intensifier, meaning it will fully displace the hydraulic fluid with one stroke of the air piston in the cylinder. These types of intensifiers tend to be faster than pumping type air operated intensifiers of similar size. These models also allows for "feathering" of the riveter (subtle positioning of the squeezer rivet set), when controlled by a foot operated valve.
- Optional electrical module. upgrade are available upon request.
- Portable intensifier instead of high cost hydraulic power unit.
- Low operating hydraulic pressure design for more durable hydraulic sealing mechanism.
- Custom design are welcome.
- Before using these Intensifier, please fully read and understand the operation manual.



**ZPI-15047**  
Pneudraulic Intensifier-47cc



**ZPI-12063C**  
Pneudraulic Intensifier  
Cart-63cc



**ZPI-9009**  
Pneudraulic  
Intensifier-9cc



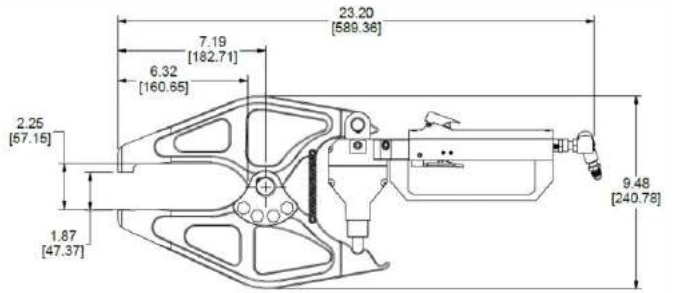
**ZPI-11016**  
Pneudraulic  
Intensifier-16cc



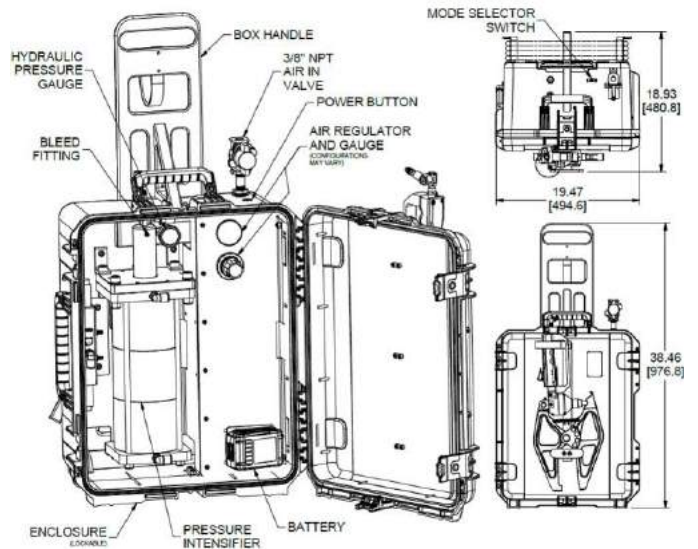
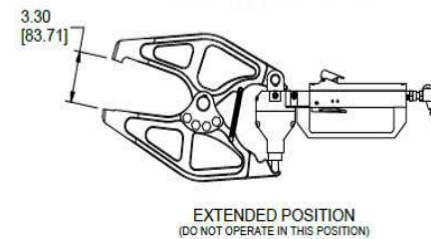
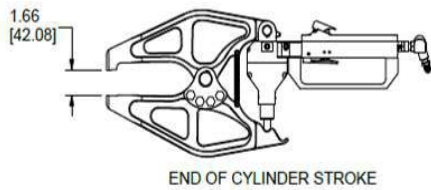
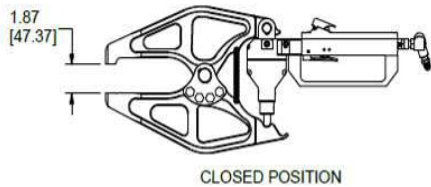
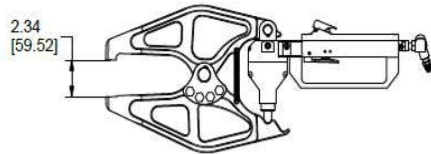
**ZPI-12063**  
Pneudraulic  
Intensifier-63cc

Model	Max. Inlet Air Pressure psi(kg/cm <sup>2</sup> )	Max. Output Hydraulic Pressure psi(kg/cm <sup>2</sup> )	Delivered Hyd. Fluid Volume CC	Suitable For
<b>ZPI-9009</b>	90(6.3)	4978(350)	9	Z3000C
<b>ZPI-11016</b>	90(6.3)	4267(300)	16	Z3500C
<b>ZPI-12063(C)</b>	90(6.3)	3555(250)	63	Z6000C, Z9000C & All Alligator Squeezers
<b>ZPI-15047</b>	90(6.3)	5062(354)	47	3/8" Split type Pneudraulic Installation Tools





## Z10AH-6 6" Alligator Squeezer



Feature	Z10AH-6
Cycle Time (seconds)	3.5
Force Generated (lbf.)	10000@80psi
Constant Force Over Entire Stroke	Yes
Weight (lbs.)	14.7
Sound Pressure(dB(A))	94
	Sound at Intensifier Cart
Adjustable Electronic Force Setting	Yes
Adjustable Electronic Feathering Control	Yes
Possible Future Electronic Features	Cycle Counts, Force History per Cycle
Overall Dimensions(approx.)	8.75"H x 3.187"W x 22.28"L

**DIMPLE PUNCH & DIE SET**



**RS426-3**  
3/32"



**RS426-4**  
1/8"



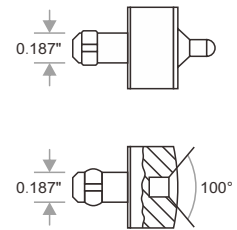
**RS426-5**  
5/32"



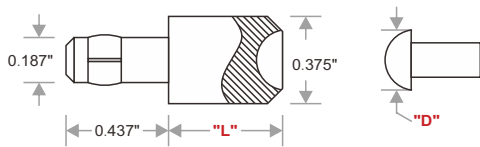
**RS509-4**  
#6



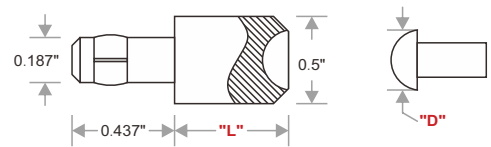
**RS509-5**  
#8



**ROUND HEAD**



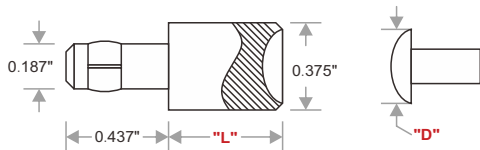
**RS-1000**



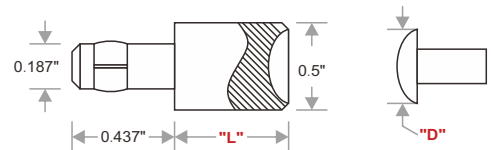
**RS-2000/RS-2100**

Rivet Head Diameter							
RS-1000		RS-2000		RS-2100			
"D" 0.187"(4.75mm)		"D" 0.250"(6.35mm)		"D" 0.219"(5.57mm)		"D" 0.273"(6.94mm)	
NO.	L	NO.	L	NO.	L	NO.	L
-1X	1/8(3.2mm)	-8X	1/8(3.2mm)	-01X	1/8(3.2mm)	-01XA	1/8(3.2mm)
-1	1/4(6.4mm)	-8	1/4(6.4mm)	-01	1/4(6.4mm)	-01A	1/4(6.4mm)
-2	3/8(9.5mm)	-9	3/8(9.5mm)	-02	3/8(9.5mm)	-02A	3/8(9.5mm)
-3	1/2(12.7mm)	-10	1/2(12.7mm)	-03	1/2(12.7mm)	-03A	1/2(12.7mm)
		-11	5/8(15.9mm)				
		-12	3/4(19mm)				

**BRAZIER HEAD**



**RS-1001**

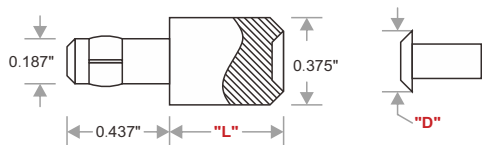


**RS-2001**

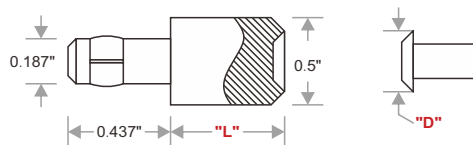
Rivet Head Diameter					
RS-1001		RS-2001			
"D" 0.312"(7.93mm)		"D" 0.312"(7.93mm)		"D" 0.391"(9.94mm)	
NO.	L	NO.	L	NO.	L
-8X	1/8(3.2mm)	-8X	1/8(3.2mm)	-15X	1/8(3.2mm)
-8	1/4(6.4mm)	-8	1/4(6.4mm)	-15	1/4(6.4mm)
-9	3/8(9.5mm)	-9	3/8(9.5mm)	-16	3/8(9.5mm)
-10	1/2(12.7mm)	-10	1/2(12.7mm)	-17	1/2(12.7mm)
-11	5/8(15.9mm)	-11	5/8(15.9mm)		
-12	3/4(19mm)	-12	3/4(19mm)		
-13	7/8(22.2mm)	-13	7/8(22.2mm)		
-14	1(25.4mm)	-14	1(25.4mm)		

# Rivet Squeezer Accessories

## UNIVERSAL HEAD



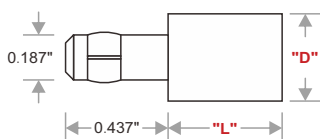
**RS-1002**



**RS-2002**

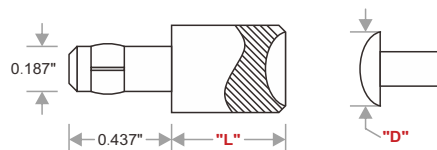
Rivet Head Diameter									
RS-1002				RS-2002					
"D" 0.187"(4.75mm)		"D" 0.250"(6.35mm)		"D" 0.187"(4.75mm)		"D" 0.250"(6.35mm)		"D" 0.312"(7.93mm)	
NO.	L	NO.	L	NO.	L	NO.	L	NO.	L
-1X	1/8(3.2mm)	-8X	1/8(3.2mm)	-1X	1/8(3.2mm)	-8X	1/8(3.2mm)	-15X	1/8(3.2mm)
-1	1/4(6.4mm)	-8	1/4(6.4mm)	-1	1/4(6.4mm)	-8	1/4(6.4mm)	-15	1/4(6.4mm)
-2	3/8(9.5mm)	-9	3/8(9.5mm)	-2	3/8(9.5mm)	-9	3/8(9.5mm)	-16	3/8(9.5mm)
-3	1/2(12.7mm)	-10	1/2(12.7mm)	-3	1/2(12.7mm)	-10	1/2(12.7mm)	-17	1/2(12.7mm)
-4	5/8(15.9mm)	-11	5/8(15.9mm)	-4	5/8(15.9mm)	-11	5/8(15.9mm)	-18	5/8(15.9mm)
-5	3/4(19mm)	-12	3/4(19mm)	-5	3/4(19mm)	-12	3/4(19mm)	-19	3/4(19mm)
-6	7/8(22.2mm)	-13	7/8(22.2mm)	-6	7/8(22.2mm)	-13	7/8(22.2mm)	-20	7/8(22.2mm)
-7	1(25.4mm)	-14	1(25.4mm)	-7	1(25.4mm)	-14	1(25.4mm)	-21	1(25.4mm)

## FLUSH STYLE



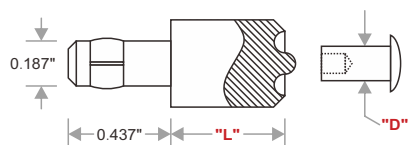
Rivet Head Diameter	
RS-2003	
"D" 0.5"(12.7mm)	
NO.	L
-16	1/8(3.2mm)
-18	1/4(6.4mm)
-20	3/8(9.5mm)
-22	1/2(12.7mm)
-24	5/8(15.9mm)
-26	3/4(19mm)
-28	7/8(22.2mm)

## OVAL/TRUSS HEAD



Rivet Head Diameter	
RS-2004	
"D" 0.375"(9.53mm)	
NO.	L
-23	3/8(9.5mm)

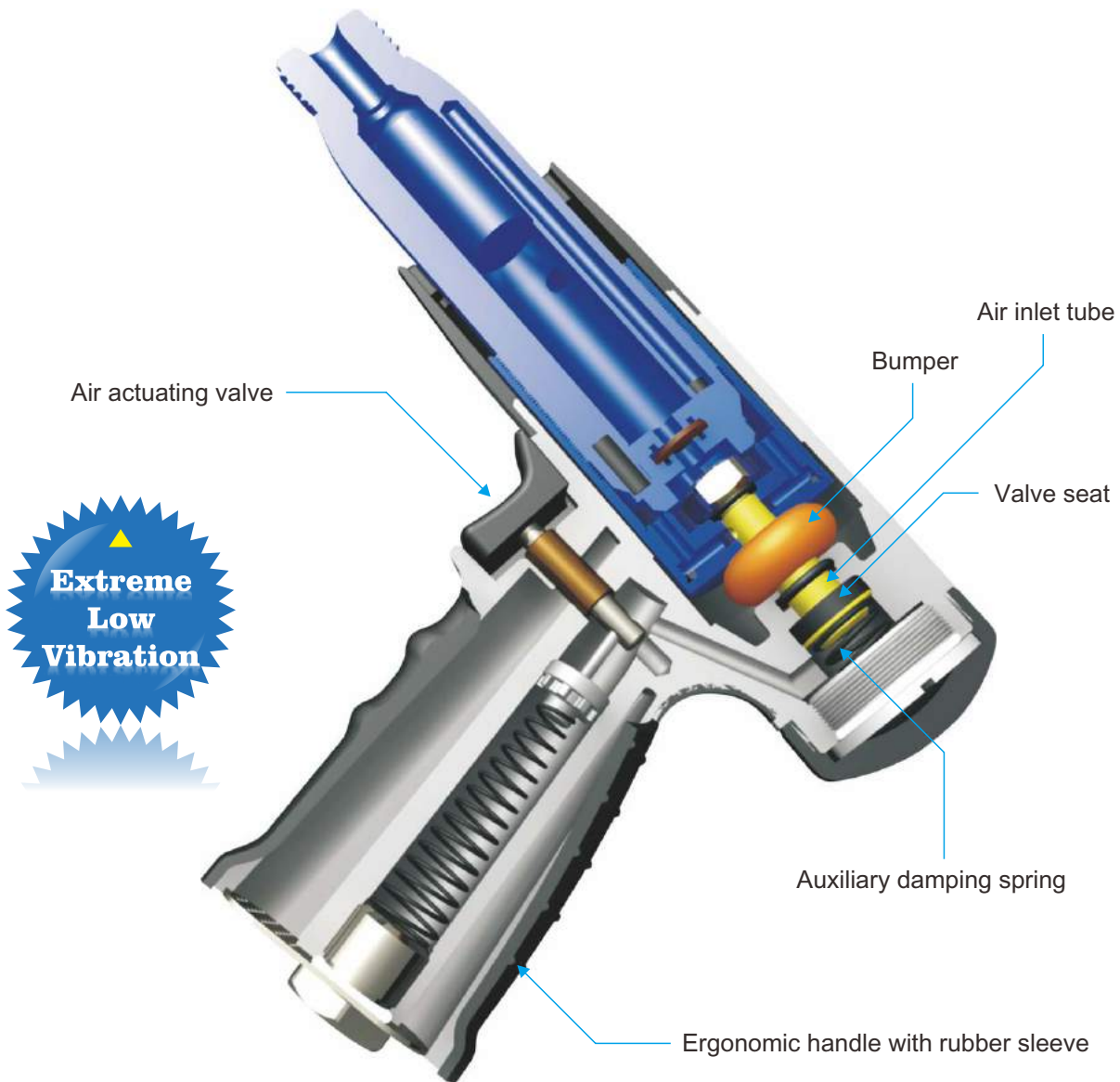
## TUBULAR RIVETS



Rivet Head Diameter	
RS-2005	
"D" 0.187"(4.75mm)	
NO.	L
-24	1/2(12.7mm)

## Features

- Designed with following patents for assuring the best shock reduction and operator's comfort.
  - 1) Portable pneumatic tool assembled with module units.
  - 2) Suspension vibration-reducing means for portable pneumatic tools.
- Alloy steel made impact parts, heat-treated for durability.
- Quick Change Retainer for simple accessory changes.
- Ergonomic handle with rubber made exhaust muffler for added operator's comfort.
- Optional patented universal swivel air inlet joint for the best maneuverability of the tool.



Patent pending in other countries



R.O.C.PAT.:  
174,032  
184,745



U.S.A.PAT.:  
6,149,356  
5,615,746



P.R.C.PAT.:  
ZL 00 2 53627.7

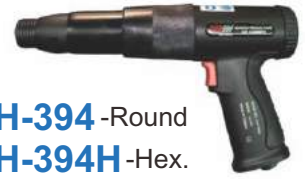
## Extreme Low Vibration



**ZAH-392** -Round  
**ZAH-392H** -Hex.



**ZAH-393** -Round  
**ZAH-393H** -Hex.



**ZAH-394** -Round  
**ZAH-394H** -Hex.



**ZAH-592** -Round  
**ZAH-592H** -Hex.



**ZAH-593** -Round  
**ZAH-593H** -Hex.



**ZAH-594** -Round  
**ZAH-594H** -Hex.

[Accessories]		
<p><b>ZAH-392K</b> <b>ZAH-392HK</b> <b>ZAH-592K</b> <b>ZAH-592HK</b></p> 	<p><b>ZAH-393K</b> <b>ZAH-393HK</b> <b>ZAH-593K</b> <b>ZAH-593HK</b></p> 	<p><b>ZAH-394K</b> <b>ZAH-394HK</b> <b>ZAH-594K</b> <b>ZAH-594HK</b></p> 
<ul style="list-style-type: none"> <li>• Shock Reduced Air Hammer X 1</li> <li>• 192913 Retainer Spring</li> <li>• CH641RL 7" Single End Cutter X 1</li> <li>• CH645RL 7" Cut Off Chisel X 1</li> <li>• CH649RL 7" Rivet Cutter Chisel X 1</li> <li>• CH672RL 7" Special Panel Cutter X 1</li> <li>• CH627RL 7" Shear Chisel X 1</li> </ul>		

\*ZAH-393H, ZAH-593H, ZAH394H, ZAH594H chisel shank size are 0.410"(10.4mm) Hex. shank.



**ZNS-392**  
Shock Reduced  
Needle Scaler



**CA2321**  
\*No. of Needles: 19 pcs  
Needle Scaler Attachment



**ZCH-394B**  
Shock Reduced  
Construction Air Hammer

[Accessories]		
<p><b>ZCH-394BK</b></p> 	<p><b>294903</b></p> 	<p><b>CA132910</b></p> 
<ul style="list-style-type: none"> <li>• Shock Reduced Air Hammer X1</li> <li>• 294903 Retainer Spring</li> <li>• CA132910 7" Moil Point Chisel</li> </ul>		

Model	Chisel Shank Opening inch(mm)	Bore Diameter inch(mm)	Stroke Length inch(mm)	Blow Per Minch bpm	Avg. Air Cons cfm(l/min)	Net Weight lbs(kgs)	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>
<b>ZAH-392</b> <b>ZAH-392H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	1-31/32(50)	4000	15.2(430)	3.4(1.5)	3/8(10)	2.5
<b>ZAH-393</b> <b>ZAH-393H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	2-5/8(66)	3000	4.95(140)	4(1.8)	3/8(10)	10
<b>ZAH-394</b> <b>ZAH-394H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	3-1/2(89)	2100	5.65(160)	4.6(2.1)	3/8(10)	5.5
<b>ZAH-592</b> <b>ZAH-592H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	1-31/32(50)	4000	15.2(430)	3.4(1.5)	3/8(10)	2.5
<b>ZAH-593</b> <b>ZAH-593H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	2-5/8(66)	3000	4.95(140)	4(1.8)	3/8(10)	10
<b>ZAH-594</b> <b>ZAH-594H</b>	0.401(10.2) 0.410(10.4)	3/4(19)	3-1/2(89)	2100	5.65(160)	4.6(2.1)	3/8(10)	5.5
<b>ZNS-392</b>	0.401(10.2)	3/4(19)	1-31/32(50)	4000	15.2(430)	3.4(1.5)	3/8(10)	2.5
<b>ZCH-394B</b>	0.401(10.2)	3/4(19)	3-1/2(89)	2100	6(170)	4.6(2.1)	3/8(10)	5.3

\*(H)-Chisel Shank Opening 0.410"(10.4mm) \*Operating Air Pressure: 90psi/6.2bar. \*Air Inlet Size: 1/4" PT/NPT

## Features

- Designed with following patents for assuring the best shock reduction and operator's comfort.
  - 1) Portable pneumatic tool **assembled with module units.**
  - 2) **Suspension vibration-reducing** means for portable pneumatic tools.
- Alloy steel made impact parts, heat-treated for durability.
- Quick Change Retainer for simple accessory changes.
- **Ergonomic handle with rubber** made exhaust muffler for added operator's comfort.
- Optional patented universal swivel air inlet joint for the best maneuverability of the tool.

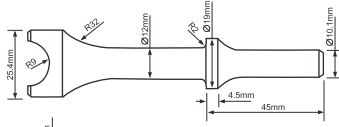


**ZAH-393S / ZAH-394S**  
Shock Reduced Air Hammer  
With Special Chassis Chisel Sets

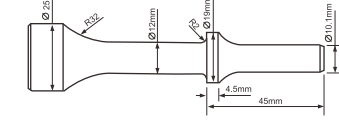
## Accessories



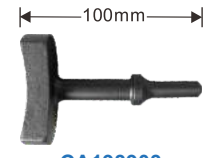
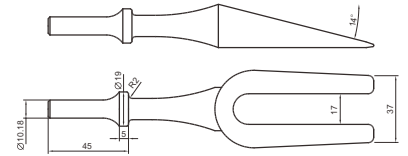
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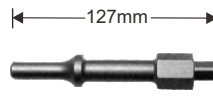
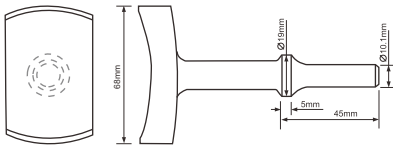
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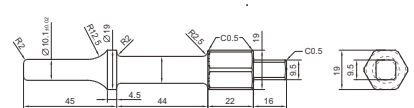
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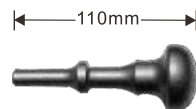
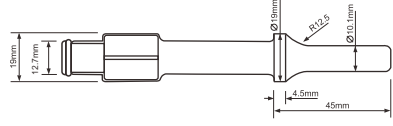
CA193903



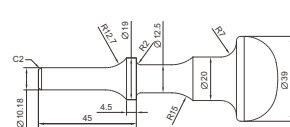
CA193910 **Optional**



CA193904



CA193911 **Optional**



Model	Chisel Shank Opening inch(mm)	Bore Diameter inch(mm)	Stroke Length inch(mm)	Blow Per Minch bpm	Avg. Air Cons cfm(l/min)	Net Weight lbs(kgs)	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>
ZAH-393S	0.401(10.2)	3/4(19)	2-5/8(66)	3000	4.95(140)	4(1.8)	3/8(10)	10
ZAH-394S	0.401(10.2)	3/4(19)	3-1/2(89)	2100	5.65(160)	4.6(2.1)	3/8(10)	5.5

# Air Riveting Hammer



**ZRH-131P**  
1X Air Riveting Hammer  
-Pistol



**ZRH-132P**  
**ZRH-132PAP**  
2X Air Riveting Hammer  
-Pistol



**ZRH-133P**  
**ZRH-133PAP**  
3X Air Riveting Hammer  
-Pistol



**ZRH-134P**  
**ZRH-134PAP**  
4X Air Riveting Hammer  
-Pistol



**ZRH-131S**  
1X Air Riveting Hammer  
-Straight



**ZRH-132S**  
2X Air Riveting Hammer  
-Straight



**ZRH-133S**  
3X Air Riveting Hammer  
-Straight



**ZRH-134S**  
4X Air Riveting Hammer  
-Straight



**ZRH-195P**  
5X Air Riveting Hammer-Pistol



**ZRH-197P**  
7X Air Riveting Hammer-Pistol



**ZRH-199P**  
9X Air Riveting Hammer-Pistol

Use for aero space & general automotive industries, etc.

Model	Chisel Shank Opening inch(mm)	Bore Diameter inch(mm)	Stroke Length inch(mm)	Blows Per Minute bpm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Minch Hose Size inch(mm)	Rivet Size Steel Alum	Joule
<b>ZRH-131P</b>	0.401(10.2)	9/16(14.3)	1-3/8(35)	2850	6.4(180)	2.3(1.0)	3/8(10)	1/8 5/32	2.61
<b>ZRH-132P</b>	0.401(10.2)	1/2(12.7)	2-1/4(57.2)	2580	7.8(221)	2.7(1.2)	3/8(10)	3/32 1/8	3.37
<b>ZRH-133P</b>	0.401(10.2)	1/2(12.7)	2-7/8(73)	2160	7.78(220)	2.9(1.3)	3/8(10)	5/32 3/16	4.27
<b>ZRH-134P</b>	0.401(10.2)	1/2(12.7)	3-1/16(77.8)	1740	7.78(220)	3.1(1.4)	3/8(10)	3/16 1/4	4.30
<b>ZRH-132PAP</b>	0.401(10.2)	9/16(14.3)	2-1/4(57.2)	2580	5.7(160)	2.7(1.2)	3/8(10)	3/32 1/8	5.46
<b>ZRH-133PAP</b>	0.401(10.2)	9/16(14.3)	2-7/8(73)	2160	4.9(140)	2.9(1.3)	3/8(10)	5/32 3/16	4.59
<b>ZRH-134PAP</b>	0.401(10.2)	9/16(14.3)	3-1/16(77.8)	1740	6.4(180)	3.1(1.4)	3/8(10)	3/16 1/4	5.81
<b>ZRH-131S</b>	0.401(10.2)	9/16(14.3)	1-3/8(35)	2850	6.4(180)	1.9(0.86)	3/8(10)	1/8 5/32	2.61
<b>ZRH-132S</b>	0.401(10.2)	1/2(12.7)	2-1/4(57.2)	2580	6(170)	2.4(1.06)	3/8(10)	3/32 1/8	3.37
<b>ZRH-133S</b>	0.401(10.2)	1/2(12.7)	2-7/8(73)	2160	6(170)	2.6(1.16)	3/8(10)	5/32 3/16	4.27
<b>ZRH-134S</b>	0.401(10.2)	1/2(12.7)	3-1/16(77.8)	1740	6.4(180)	2.8(1.27)	3/8(10)	3/16 1/4	4.30
<b>ZRH-195P</b>	0.498(12.6)	3/4(19.1)	2-11/16(68.3)	1560	7.78(220)	4.6(2.1)	3/8(10)	3/16 1/4	9.03
<b>ZRH-197P</b>	0.498(12.6)	3/4(19.1)	5-13/16(132)	900	9.19(260)	5.5(2.5)	3/8(10)	5/16 3/8	19.51
<b>ZRH-199P</b>	0.498(12.6)	3/4(19.1)	3-7/8(98.4)	1140	7.78(220)	5(2.3)	3/8(10)	1/4 5/16	13.01

## Features

- The new ZRH riveting hammer is designed to minimize the vibration while maintaining high tool performance. Vibration is reduced by an effective air cushion behind the hammer piston.
- Parts are interchangeable with RRH series.
- Streamline profile & adjustable power.
- Equipped with universal swivel air inlet joint for the best maneuverability.



**ZRH-04**

Shock Reduced  
Air Riveting Hammer



**ZRH-06**

Shock Reduced  
Air Riveting Hammer



**ZRH-08**

Shock Reduced  
Air Riveting Hammer

Use for aero space & general automotive industries, etc.

Model	Chisel Shank Opening	Bore Diameter mm	Piston Stroke mm	bpm	Overall Length mm	Air Hose (I.D) mm	Weight kg	Air Consumption cfm	Vibration m/s <sup>2</sup>	Max. Rivet Diameter Capacity	
										Dural inch(mm)	Steel inch(mm)
ZRH-04	0.401	15.24	40	3960	180	9.5	1	6	2.5	3/32~3/16 (2~5)	3/21~5/32 (1~4)
ZRH-06	0.401	15.24	102	2160	225	9.5	1.33	19	3.9	5/32~1/4 (4~7)	1/8~1/4 (3~6)
ZRH-08	0.401	15.24	137	1440	280	9.5	1.33	21	4.8	3/16~5/16 (5~8)	5/32~1/4 (4~7)

\*Air Inlet Size: 1/4" PT/NPT

## Features

An efficient riveting system consists of shock reduced bucking bar with shock reduced riveting hammers.

- Self-adjustable - SA models feature a self-adjusting shock reducing system with compressed air supply. SP models use a spring as shock reducing element and consequently do not require the air supply.
- Flexible - The bucking bars can fitted with serval different interchangeable dolly configurations via a quick change retainer for maximum flexibility.



**ZBB10SP**

Shock Reduced Bucking Bars



**ZBB16SP**

Shock Reduced Bucking Bars



**ZBB10SA**

Shock Reduced Bucking Bars



**ZBB16SA**

Shock Reduced Bucking Bars

Model	Net Weight lbs(kgs)	Diameter inch(mm)	Air Consumption l/s(cfm)
ZBB10SP	2.4(1.1)	2.0(48)	—
ZBB10SA	2.9(1.3)	2.0(48)	0.5(1.1)
ZBB16SP	3.7(1.7)	2.0(48)	—
ZBB16SA	4.2(1.9)	2.0(48)	0.5(1.1)



## Features

- Designed with following patents for assuring the best shock reduction and operator's comfort.
  - 1) Portable pneumatic tool **assembled with module units**.
  - 2) **Suspension vibration-reducing** means for portable pneumatic tools.
- Alloy steel made impact parts, heat-treated for durability.
- Spool valve allows slow heavy blows needed to drive rivets.
- **Ergonomic handle with rubber** made exhaust muffler for added operator's comfort.
- Optional patented universal swivel air inlet joint for the best maneuverability of the tool.



Patent pending in other countries



R.O.C.PAT.:  
174,032  
184,745



U.S.A.PAT.:  
6,149,356  
5,615,746



P.R.C.PAT.:  
ZL 00 2 53627.7

## Features

- Patented Shock Reduced Mechanism.
- Low vibration design to prevent operator's injury after long time use.
- Ergonomic handle with rubber made exhaust muffler for added operator's comfort.
- Optional patented Universal Swivel Air Inlet Joint for the best maneuverability of the tool.

Use for aero space & general automotive industries, etc.



**ZRH-132N**  
**ZRH-132NP** Low Vibration

2X Shock Reduced  
Air Riveting Hammer



**ZRH-133N**  
**ZRH-133NP** Low Vibration

3X Shock Reduced  
Air Riveting Hammer



**ZRH-134N**  
**ZRH-134NP** Low Vibration

4X Shock Reduced  
Air Riveting Hammer



- [ KIT Contents ]
- CA132901 X1
  - CA132902 X1
  - CA132903 X1
  - CA132904 X1
  - CA132905 X1
  - 192902 Retainer Spring X1



- [ KIT Contents ]
- CA132901 X1
  - CA132902 X1
  - CA132903 X1
  - CA132904 X1
  - CA132905 X1
  - 192902 Retainer Spring X1



- [ KIT Contents ]
- CA132901 X1
  - CA132902 X1
  - CA132903 X1
  - CA132904 X1
  - CA132905 X1
  - 192902 Retainer Spring X1

**ZRH-132NK**  
**ZRH-132NPK**

**ZRH-133NK**  
**ZRH-133NPK**

**ZRH-134NK**  
**ZRH-134NPK**

Patent pending  
in other countries



R.O.C.PAT.:  
184,745



P.R.C.PAT.:  
ZL 00 2 53627.7



U.S.A.PAT.NO.:  
5,533,579

Model	Chisel Shank Opening inch(mm)	Bore Diameter inch(mm)	Stroke Length inch(mm)	Blows Per Minute bpm	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Vibration m/s <sup>2</sup>	Rivet Size Steel Alum
<b>ZRH-132N</b>	0.401(10.2)	1/2(12.7)	2-1/4(57.2)	2580	90(6.2)	6.71(190)	2.9(1.3)	6	3/32 1/8
<b>ZRH-132NP</b>	0.401(10.2)	9/16(14.3)	2-1/4(57.2)	2580	90(6.2)	6.71(190)	2.9(1.3)	6	3/32 1/8
<b>ZRH-133N</b>	0.401(10.2)	1/2(12.7)	2-7/8(73)	2164	90(6.2)	7.42(210)	2.9(1.3)	6	5/32 3/16
<b>ZRH-133NP</b>	0.401(10.2)	9/16(14.3)	2-7/8(73)	2164	90(6.2)	7.42(210)	2.9(1.3)	6	5/32 3/16
<b>ZRH-134N</b>	0.401(10.2)	1/2(12.7)	3-1/16(77.8)	1740	90(6.2)	7.42(210)	3.7(1.7)	6	3/16 1/4
<b>ZRH-134NP</b>	0.401(10.2)	9/16(14.3)	3-1/16(77.8)	1740	90(6.2)	7.42(210)	3.7(1.7)	6	3/16 1/4

**For ZRH-131P  
ZRH-131PA, ZRH-131S**

- Round 10.08mm
- Material SCM440 Alloy
- Hardness: 48~51°



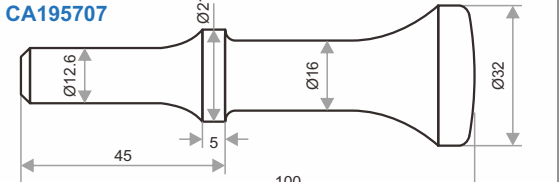
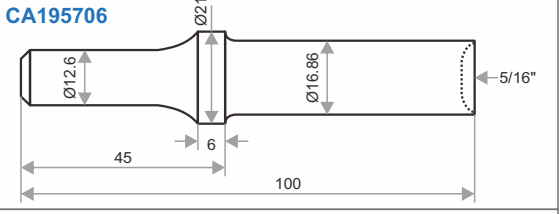
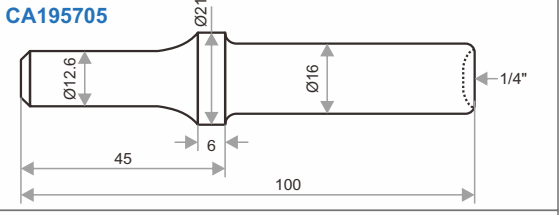
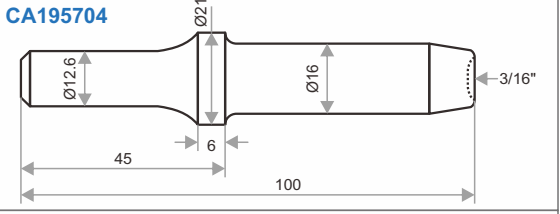
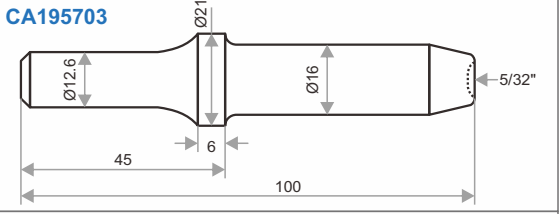
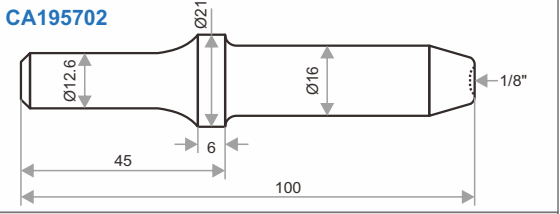
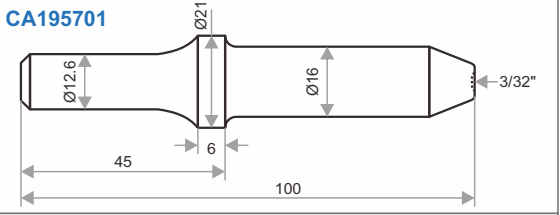
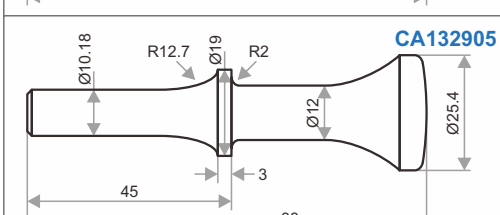
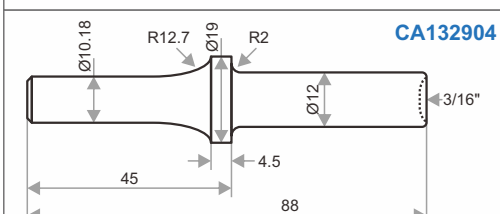
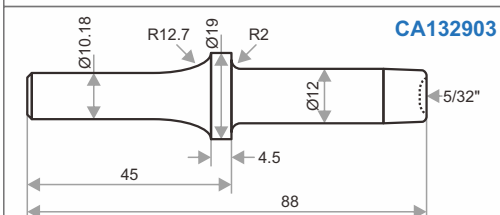
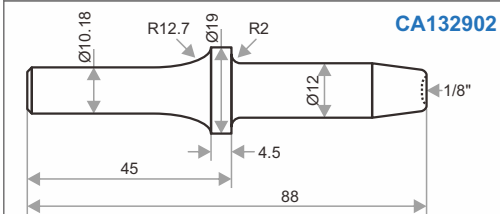
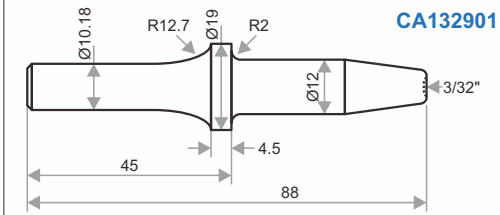
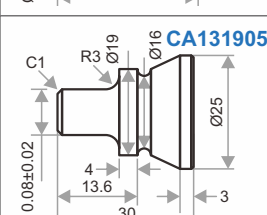
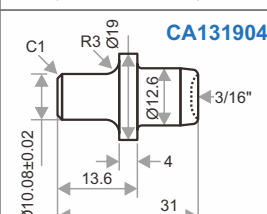
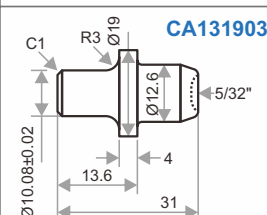
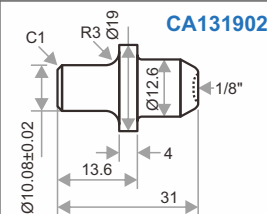
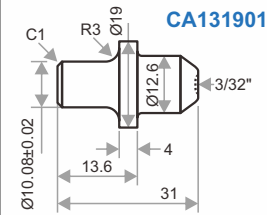
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ZRH-133P, ZRH-133PAP, ZRH-133S  
ZRH-134P, ZRH-134PAP, ZRH-134S  
ZRH-132N, ZRH-133N, ZRH-134N**

- Round 10.18mm
- Material SCM440 Alloy
- Hardness: 48~51°



**For ZRH-195P, ZRH-197P, ZRH-199P**

- Round 12.6mm
- Material SCM440 Alloy
- Hardness: 48~51°



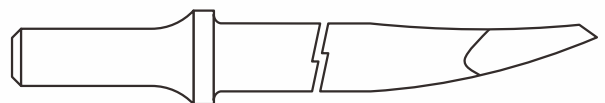
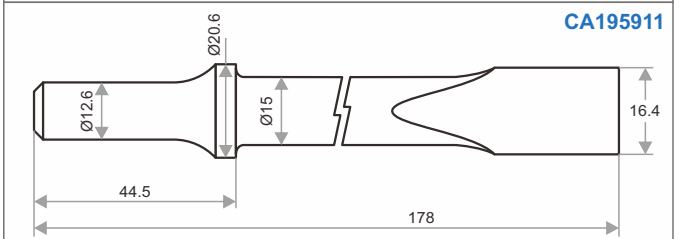
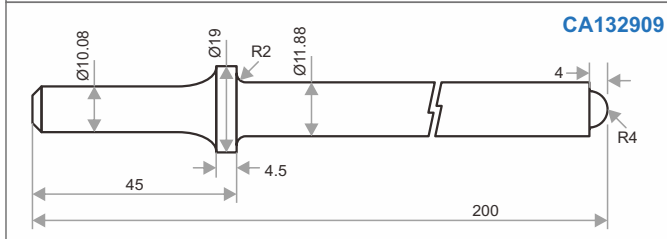
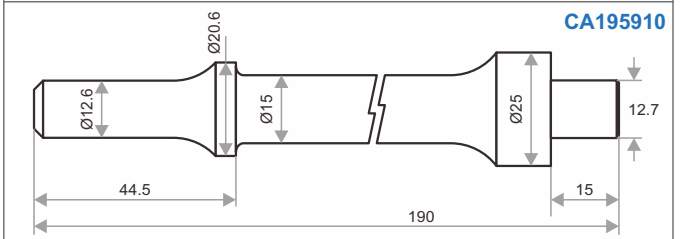
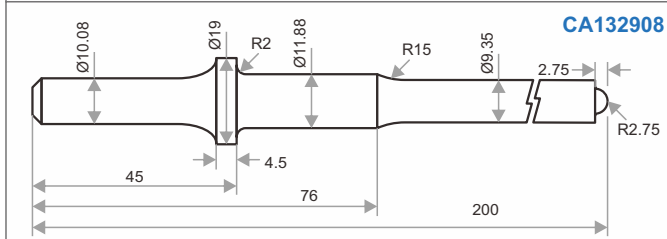
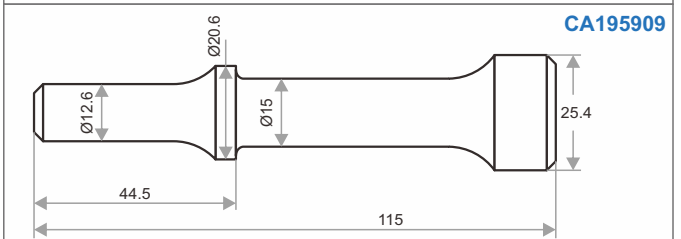
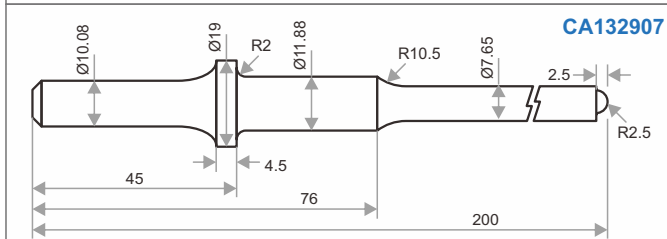
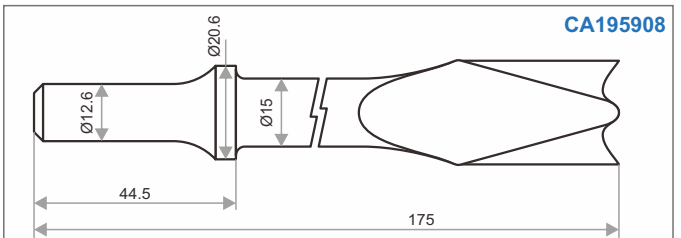
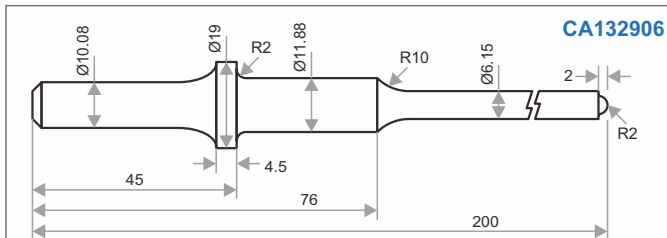
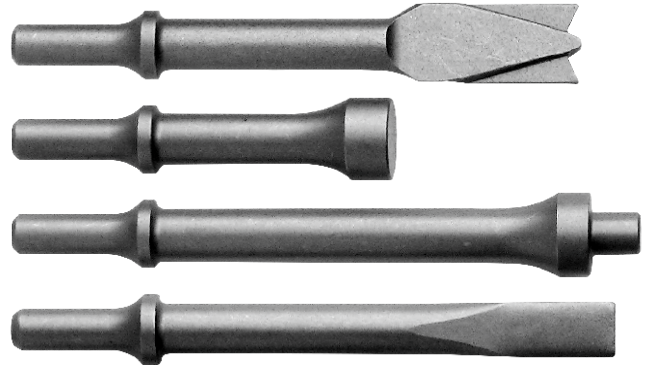
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ZRH-133P, ZRH-133PAP, ZRH-133S  
ZRH-134P, ZRH-134PAP, ZRH-134S  
ZRH-132N, ZRH-133N, ZRH-134N

- Round 10.18mm
- Material SCM440 Alloy
- Hardness: 48~51°



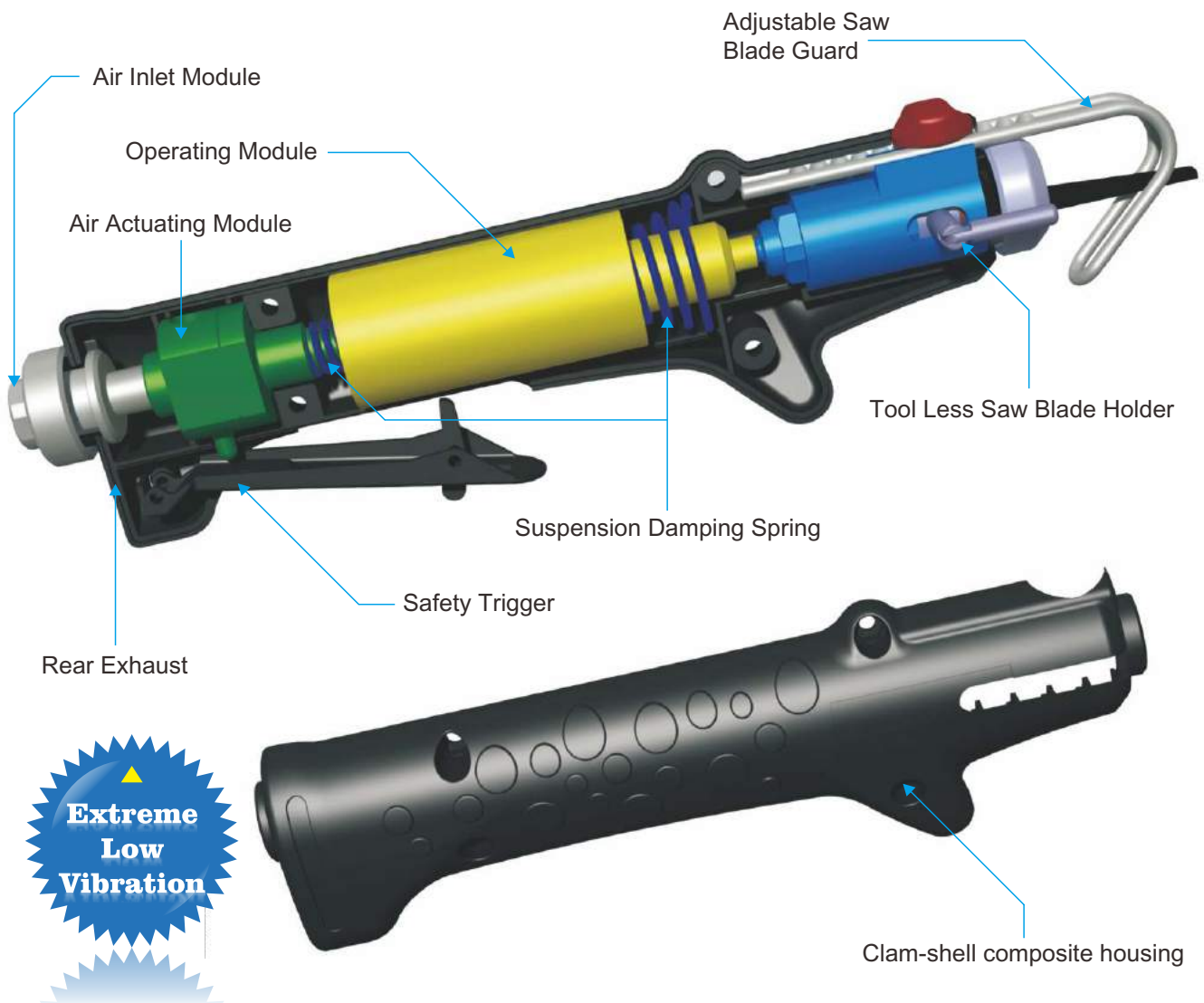
For ZRH-195P, ZRH-197P, ZRH-199P

- Round 12.6mm
- Material SCM440 Alloy
- Hardness: 48~51°



## Features

- Designed with following patents to assure extreme low vibration and operator's comfort.
  - 1) Portable pneumatic tool assembled with module units in clam shell composite housing.
  - 2) Suspension vibration-reducing means for portable pneumatic tools.
- Engineering plastic made clam-shell housing designed for easy service.
- Patented universal swivel air inlet joint for the best maneuverability of the tool.
- Safety trigger to prevent accidental start ups and provide operator's comfort.
- Rear exhaust directs air away from work-piece.



Patent pending in other countries



R.O.C.PAT.:  
174,032  
184,745



U.S.A.PAT.:  
6,149,356  
5,615,746



P.R.C.PAT.:  
ZL 00 2 53627.7




**ZS311K**  
Kit include:  
• Bi-metal blades  
18T X 5  
24T X 5  
32T X 5

10mm stroke

**ZS311**  
Metal Housing




**ZS317K**  
Kit include:  
• Bi-metal blades  
14T X 5  
18T X 5

25mm stroke

**ZS317**  
Metal Housing




**ZS319K**  
Kit include:  
• Bi-metal blades  
18T X 5  
24T X 5  
32T X 5

10mm stroke

**ZS319**  
Clam-Shell Composite Housing




**ZS329K**  
Kit include:  
• Bi-metal blades  
14T X 5  
18T X 5

25mm stroke

**ZS329**  
Clam-Shell Composite Housing




**ZS319HK**  
Kit include:  
• Bi-metal blades  
18T X 5  
24T X 5  
32T X 5

10mm stroke

**ZS319H**  
Clam-Shell Composite Housing




**ZS329HK**  
Kit include:  
• Bi-metal blades  
14T X 5  
18T X 5

25mm stroke

**ZS329H**  
Clam-Shell Composite Housing

\*10mm stroke models are good for 2mm steel sheet cutting.

\*25mm stroke models are good for 5mm steel sheet or pipe cutting.

COMPARISON CHART WITH COMPETITIVE DESIGNS IS AVAILABLE UPON REQUEST.

Model	Blow Per Min bpm	Stroke Length mm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>	Sound Pressure dB(A)
ZS311	9500	10	3.5(100)	1.5(0.7)	1/4	3/8(10)	1.8	85
ZS317	5000	25	3(90)	2.1(0.96)	1/4	3/8(10)	3.9	85
ZS319	9500	10	3(90)	1.12(0.51)	1/4	3/8(10)	3.7	85
ZS329	5000	25	2.8(80)	1.68(0.76)	1/4	3/8(10)	4.3	85
ZS319H	9500	10	3.5(100)	1.12(0.51)	1/4	3/8(10)	3.7	85
ZS329H	5000	25	3.5(100)	1.58(0.76)	1/4	3/8(10)	4.3	85

\*Operating Air Pressure: 90psi/6.2bar



10mm stroke

**ZS319-T2B**

Clam-Shell Composite Housing



20mm stroke

**ZS317M**

Vibration Reduced Mini Air Pipe Saw  
Metal Housing



**ZS317MK**

- Kit include:
- Bi-metal blades  
14T X 5  
18T X 5  
24T X 5



10mm stroke

**ZS311M**

Vibration Reduced Mini Air Body Saw  
Metal Housing



**ZS311MK**

- Kit include:
- Bi-metal blades  
18T X 5  
24T X 5  
32T X 5



10mm stroke

**ZS312M**

Vibration Reduced Mini Air Body Saw  
Metal Housing



**ZS312MK**

- Kit include:
- Bi-metal blades  
18T X 5  
24T X 5  
32T X 5

COMPARISON CHART WITH COMPETITIVE DESIGNS IS AVAILABLE UPON REQUEST.

Model	Blow Per Min bpm	Stroke Length mm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>	Sound Pressure dB(A)
<b>ZS319-T2B</b>	9500	10	3(90)	1.17(0.53)	1/4	3/8(10)	3.7	85
<b>ZS311M</b>	10000	10	7.6(215)	1.0(0.45)	1/4	3/8(10)	4.3	80.4
<b>ZS312M</b>	10000	10	7.6(215)	1.0(0.45)	1/4	3/8(10)	4.3	80.4
<b>ZS317M</b>	5800	20	6.9(195)	1.17(0.53)	1/4	3/8(10)	8.4	81.5

\*Operating Air Pressure: 90psi/6.2bar

Products and specifications subject to change without prior notice 139

## Vibration Reduced Pneumatic Roofing Cutter

- Designed to assure extreme low vibration for operator's comfort.
- Portable pneumatic tool assembled with module units in clam shell composite housing.
- Engineering plastic made clam-shell housing designed for easy service.
- Universal swivel air inlet joint for the best maneuverability of the tool.
- Blades offer efficient and fast cutting in cold weather to reduce down time.
- These blades cut through a variety of material including shingles, roofing paper, and asphalt roll roofing, etc.
- Blades offer seamless cutting of straight edges provides more efficient to the applications.
- Can be used on ANY ZIPP vibration reduced air saws for the best performance.



Shingles



Asphalt Roll Roofing



Roofing paper



**ZRC-311**  
Metal Housing



**ZRC-319**  
Composite Housing



3.5" Hook Roofing  
Cutter Blade Kit



**ZRC-311K**

Kit include:

- Bi-metal blades  
18T X 5  
24T X 5  
32T X 5
- 3.5" cutting blade X3



**ZRC-319K**

Kit include:

- Bi-metal blades  
18T X 5  
24T X 5  
32T X 5
- 3.5" cutting blade X3

Accessories	
<b>314990-3</b>	3 pcs
<b>314990-5</b>	5 pcs
<b>314990-10</b>	10 pcs

Each cutter includes 3 pcs 3.5Hook Roofing Cutter Blades

Model	Blow Per Minch bpm	Stroke Length mm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>	Sound Pressure dB(A)
<b>ZRC-311</b>	9500	10	3.5(100)	1.5(0.7)	1/4	3/8(10)	1.8	85
<b>ZRC-319</b>	9500	10	3.5(100)	1.12(0.51)	1/4	3/8(10)	3.7	85

\*Operating Air Pressure: 90psi/6.2bar



# Vibration Reduced Industrial Air Saw



45mm stroke

Cutting Capacity			
Pipe Material	Steel	Steel	Steel
Wall Thickness	2.4mm	3.5mm	5mm
Pipe O.D.	22mm	34mm	80mm
Saw Blade	14T.P.I Bacho Blades		
Cut Off Time(sec.)	9	21	470
<b>Test under same condition as:</b>			
1) 90psi air pressure.			
2) 5kg standard load weight on the tool while testing.			



[Standard Accessories]

- Patented Universal Swivel Joint X 1
- Carrying Box X 1
- Oiler Pot X 1
- Each of 300mm 14TPI & 8/12TPI Bi-Metal BAHCO Saw Blades (1/2" W x 12" L x 0.025" T ) X 1
- 3mm Hex Wrench X 1
- Hand Grip X 1

Model	Blow Per Min bpm	Stroke Length mm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>	Sound Pressure dB(A)
<b>ZS350D</b>	1200	45	4.6(130)	6.17(2.8)	1/4	3/8(10)	5	85

\*Operating Air Pressure: 90psi/6.2bar

## Applications

The most powerful Industrial Air Saw for clean, burr-free cuts with standard hacksaw blades in serving a wide range of industries and emergency services where reliability and durability are really matter such as Petrochemicals, Oil Rigs, Power Stations, Public Transport Facilities, Coal Mines, Fire Brigades, Airways & Airport Facilities, Railway, Garages, Car Manufacturers, Commercial Vehicle Builders, Boat Building, Reinforced Fiberglass, Shipyard use, Ministry of Defense-Army, Navy, Air Force, etc.

## Capacity Features

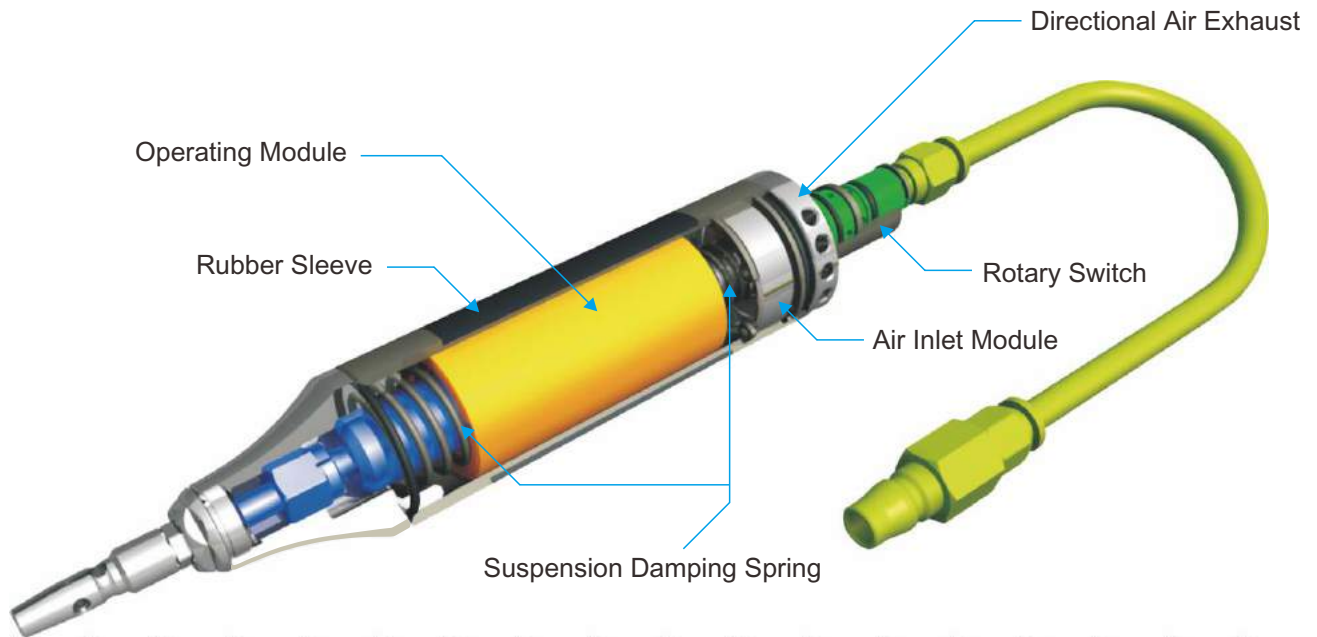
- Excellent sawing work of various materials, trims or shapes sheet metal, plastics, plates, fiberglass, plywood, or cut pipe, rod, bar in any place.
- Available anywhere in ship, in oil tank, in mining tunnel, in construction site, in plant, in water, for rescue work, in car accident, etc.
- Most versatile maintenance tool-used throughout industry.
- Clean and burr-free cuts with standard hacksaw blades.
- Adaptable for cutting a variety of materials with proper saw blades.
- Ideal for sustained usage and suitable for the most awkward places.
- Used throughout fiberglass boat building and car body repair shop industries.
- Powerful enough to easily and quickly cut through steel-flexible enough to enough to efficiently and accurately cut in even the most awkward place.

## Construction Features

- Designed with a patented vibration reduced mechanism to ensure the lowest vibration and most operator comfort.
- Few moving parts means breakdowns are virtually eliminated-ensuring total reliability and long trouble-free service.
- Safety Switch-essential for when changing blades.
- Quiet in operation-enables you to use it anywhere.
- Electro-chemical treated bores giving long-wearing quality.
- Slim, compact and lightweight design for easy portability.
- Blade and work piece cooled by exhausted air and oil.
- Special alloy steel made Nosepiece ensures the highest level of durability.
- Automatic and visible lubrication.
- Extremely low air consumption. Operates on normal compressed air supply.
- Safe to use in non-flame areas.
- 45MM stroke length and ability to accept short pieces of blades making it ideal for cutting in confined spaces and "Double skin" panels.

## Features

- High frequency with 1mm, 5mm & 10mm strokes for various kind of surface finishing works such as precise and delicate lapping of die & mold surface, finishing in confined area and general filing works.
- Designed with following patents to ensure extreme low vibration and operator's comfort.
  - Portable Pneumatic Tool assembled with module units.
  - Suspension Vibration-Reducing means for portable pneumatic tools.
- Throttle type flexible hose equipped for the best maneuverability of the tool.
- Adjustable side exhaust directs air away from operators.
- Rubber sleeve designed for operator's comfort.



Patent pending in other countries



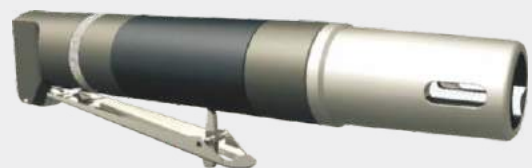
R.O.C.PAT.:  
174,032  
184,745



U.S.A.PAT.:  
6,149,356  
5,615,746



P.R.C.PAT.:  
ZL 00 2 53627.7



All rotary type Switch can be converted to safety lever type Switch upon request.

**Features**

- Ideal for precise and delicate filing castings, also perfect for lapping die and mold surface.
- High frequency with 0.5~1mm stroke for ZF-1, ZF-1T, ZF-1M, ZF-1MT
- High frequency with 3~5mm stroke for ZF-5, ZF-5T, ZF-5M, ZF-5MT
- High frequency with 7~10mm stroke for ZF-10, ZF-10T, ZF-10M, ZF-10MT



COMPARISON CHART WITH COMPETITIVE DESIGNS IS AVAILABLE UPON REQUEST.

Model	Blows Per Minute bpm	Stroke Length mm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Vibration m/s <sup>2</sup>	Sound Pressure dB(A)
ZF-1(T)	21000	0.5~1	4(120)	1.26(0.57)	1/4	3/8(10)	0.8	72
ZF-5(T)	11000	3~5	2.82(80)	1.54(0.7)	1/4	3/8(10)	3.6	83
ZF-10(T)	9000	7~10	3.89(110)	1.65(0.75)	1/4	3/8(10)	4.6	71
ZF-1M(MT)	21000	0.5~1	4(120)	0.73(0.33)	1/4	3/8(10)	0.8	72
ZF-5M(MT)	11000	3~5	2.82(80)	0.73(0.33)	1/4	3/8(10)	3.6	83
ZF-10M(MT)	9000	7~10	3.89(110)	0.73(0.33)	1/4	3/8(10)	4.6	71

\*Operating Air Pressure: 90psi/6.2bar

**Saw Blade**

-For ZS350D



**350812L(300-8/12-SL)**

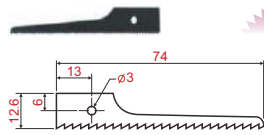


**350914L(300-14-ST)**

-For ZS311, ZS311M, ZS315, ZS319, ZS319H, ZS319-T2R, ZS319-T2B



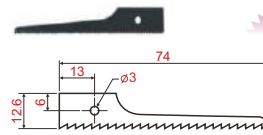
**18  
T.P.I**



**314918Z-5(5 pcs)  
314918Z-10(10 pcs)**



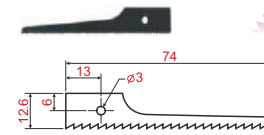
**24  
T.P.I**



**314924Z-5(5 pcs)  
314924Z-10(10 pcs)**



**32  
T.P.I**

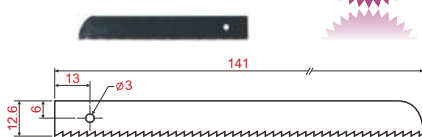


**314932Z-5(5 pcs)  
314932Z-10(10 pcs)**

-For ZS317, ZS317M, ZS329, ZS329H



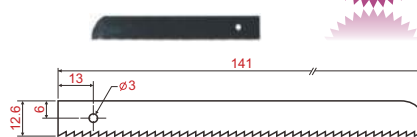
**14  
T.P.I**



**317914Z-5(5 pcs)  
317914Z-10(10 pcs)**



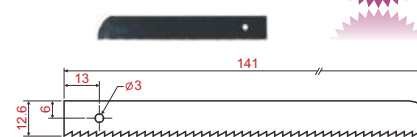
**18  
T.P.I**



**317918Z-5(5 pcs)  
317918Z-10(10 pcs)**



**24  
T.P.I**



**317924Z-5(5 pcs)  
317924Z-10(10 pcs)**

**Regular File**

-For ZF-5, ZF-5T, ZF-5M, ZF-5MT, ZF-10, ZF-10T, ZF-10M, ZF-10MT Type Air File, 5mm Shank Diameter



**325901**  
Rectangular File



**325902**  
Round File



**325903**  
Half Round File



**325904**  
Triangular File

**Diamond File**

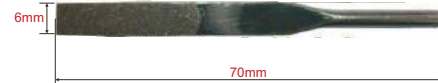
-For ZF-1, ZF-1T, ZF-1M, ZF-1MT Type Air Lapper, 3mm Shank Diameter



**201952**  
2mm Rectangular Diamond File

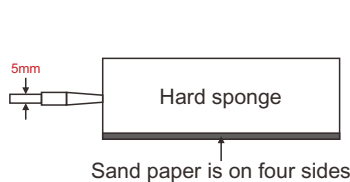


**201954**  
4mm Rectangular Diamond File



**201956**  
6mm Rectangular Diamond File

**Hard Sponge Sandpaper block**



- SB120-5** #120 100mm x 70mm x 25mm
- SB180-5** #180 100mm x 70mm x 25mm
- SB220-5** #220 100mm x 70mm x 25mm
- SB280-5** #280 100mm x 70mm x 25mm

## Air Metal Shear / Air Scissors

### ZP226

#### Air Metal Shear

- The ZP226 Air Shear is ideal for the trimming, outlining and shearing of various sheet.
- The heavy-duty cutting blades make clean cut in cold rolled steel up to 18-gauge.
- The shear is ideal for body shop, sheet metal shop, and machine shop.



### ZP227

#### Air Scissors

- The ZP227 Air Scissors is ideal for contour snip.
- The heavy duty blades make quick and clean snip.
- The scissors is ideal for body shop and machine shop.



### ZP228

#### Pistol-Grip Air Shear

- Lightweight and durable composite pistol-grip for great control.



### ZP229

#### Pistol-Grip Air Scissors

- Lightweight and durable composite pistol-grip for great control.



**ZS-01**  
Shear Head



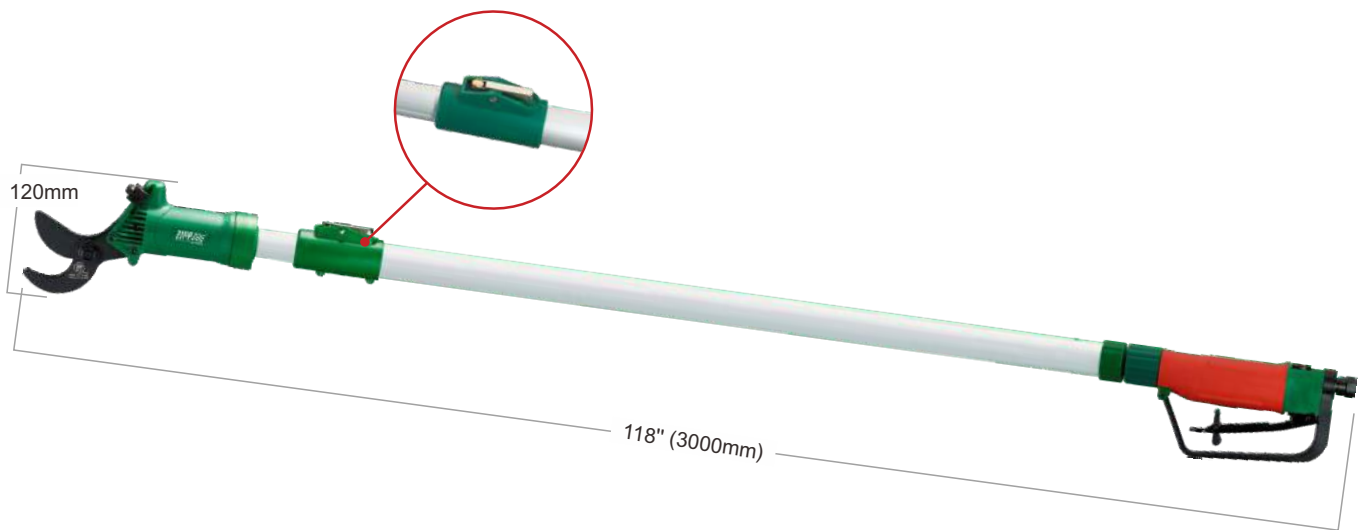
**ZS-02**  
Scissors Head

Model	Cutting Capacity Steel	Cutting Capacity Aluminum	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZP226	1.2mm	1.6mm	2.2(1)	10(255)	2600	1/4	3/8(10)	3.7
ZP227	1.2mm	1.6mm	2.2(1)	11.4(290)	2600	1/4	3/8(10)	3.7
ZP228	1.2mm	1.6mm	2.2(1)	7.8(200)	2600	1/4	3/8(10)	3.7
ZP229	1.2mm	1.6mm	2.2(1)	9.4(240)	2600	1/4	3/8(10)	3.7

## ZPS-471L

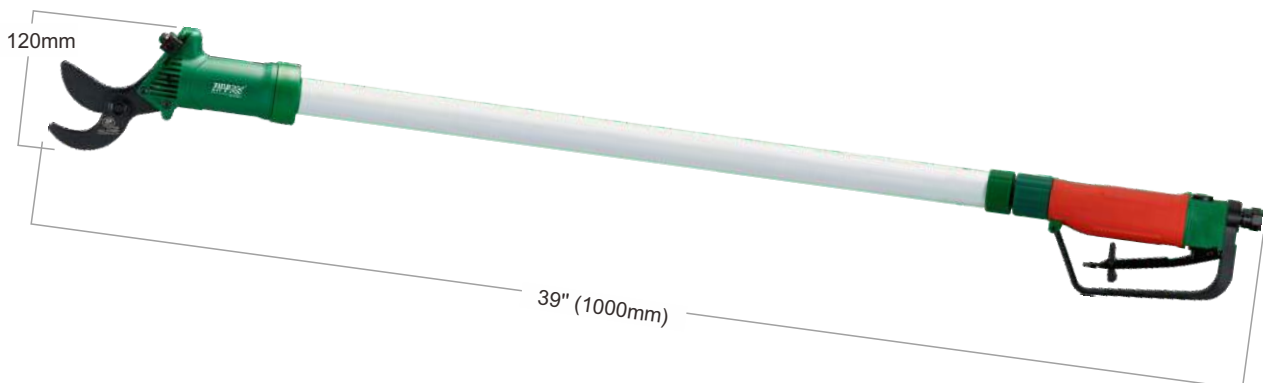
Telescopic Pneumatic Pruning Shear

- Can be extended up to 3.0M



## ZPS-471M

Telescopic Pneumatic Pruning Shear



## ZPS-471

Pneumatic Pruning Shear

- Durable construction delivers long hours of cutting power.
- Light Weight and easy operation.
- An unique safety lock associated with safety trigger preventing accident start-up.
- Forged blades for long last cutting.
- Telescopic extension pole for longer reach.
- Innovative tilt and rotation adjustment provides excellent reach and cutting application.

Air consumption: 0.073 Liter/Per triggering  
Cutting capacity: 25 m/m  
Net weight: 700 g  
Working pressure: 90 psi





**ZD300/ZD600/ZD900 0.7HP**  
1/2" Industrial Air Drill



**ZD3600 0.7HP**  
3/8" Industrial Air Drill  
**ZRD1600/ZRD2400 0.7HP**  
3/8" Industrial Air Reversible Drill



**ZRD220/ZRD400 0.7HP**  
**ZRD700 0.7HP**  
1/2" Industrial Air Reversible Drill



**ZRD3625C/ZRD3645C 0.7HP**  
1/2" Air Reversible Drill Composite Housing



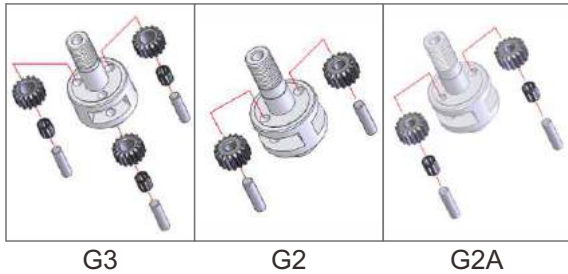
**ZRD3600C 0.7HP**  
3/8" Air Reversible Drill Composite Housing



**ZRR21 0.9HP**  
Blind Rivet & Rivet Nut Removal Tool  
Adjustable precise shaving in 0.01mm increment.

Model	Capacity inch(mm)	Spindle Size inch	Shaver skirt & Bits dia.	Free Speed rpm	Avg. Air Cons cfm(l/min)	Net Weight lbs(kgs)	Overall Length mm	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)
<b>ZRD220 ZRD400</b>	1/2(13)	3/8"-24	—	220 410	5(141)	3.8(1.7)	230	1/4	3/8(10)
<b>ZRD700</b>	1/2(13)	3/8"-24	—	700	5(141)	3.8(1.7)	230	1/4	3/8(10)
<b>ZD300 ZD600</b>	1/2(13)	3/8"-24	—	300 600	5(141)	3.8(1.7)	230	1/4	3/8(10)
<b>ZD900</b>	1/2(13)	3/8"-24	—	900	5(141)	3.8(1.7)	230	1/4	3/8(10)
<b>ZRD1600 ZRD2400</b>	3/8(10)	3/8"-24	—	1600 2200-2400	5(141)	2.5(1.1)	185 165	1/4	3/8(10)
<b>ZD3600</b>	3/8(10)	3/8"-24	—	3500	5(141)	2.5(1.1)	185	1/4	3/8(10)
<b>ZRD3600C</b>	3/8(10)	3/8"-24	—	1500	5(141)	2.2(1)	175	1/4	3/8(10)
<b>ZRD3625C</b>	1/2(13)	3/8"-24	—	220	5(141)	3.3(1.5)	185	1/4	3/8(10)
<b>ZRD3645C</b>	1/2(13)	3/8"-24	—	500	5(141)	3.3(1.5)	185	1/4	3/8(10)
<b>ZRR21-5/16</b>	—	—	5/16"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)
<b>ZRR21-3/8</b>	—	—	3/8"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)
<b>ZRR21-7/16</b>	—	—	7/16"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)
<b>ZRR21-1/2</b>	—	—	1/2"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)
<b>ZRR21-9/16</b>	—	—	9/16"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)
<b>ZRR21-5/8</b>	—	—	5/8"	21000	17(180)	3.3(1.5)	265	1/4	3/8(10)

- The tools feature an innovative and ergonomic composite housing and textured rubber grip that insulates against cold temperature and vibration and provides great comfort and controllability.
- The ZRD324 Air Drill features one-piece gear box structure that runs smoother and lasts longer.



G3

G2

G2A

Gear box options:

- One-piece gearbox for heavy duty application.
- Combination gearbox for general application.



**ZD322 0.5HP**  
3/8" Air Drill



**ZD322P 0.5HP**  
3/8" Air Drill



**ZD323 0.5HP**  
1/2" Air Drill



**ZD323P 0.5HP**  
1/2" Air Drill

Model	Chuck Size inch(mm)	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZD322/ZD322P</b>	3/8(10)	3/8"-24	2(0.9)	7.6(195)	2600	1/4	3/8(10)	3.7
<b>ZD323/ZD323P</b>	1/2(13)	3/8"-24	2.6(1.2)	9(230)	900	1/4	3/8(10)	3.7





**ZRD324 0.5HP**  
**ZRD324D 0.5HP** (Feathering Control)  
 3/8" Air Reversible Drill



**ZRD324P 0.5HP**  
**ZRD324DP 0.5HP** (Feathering Control)  
 3/8" Air Reversible Drill



**ZRD325 0.5HP**  
**ZRD325D 0.5HP** (Feathering Control)  
 1/2" Air Reversible Drill



**ZRD325P 0.5HP**  
**ZRD325DP 0.5HP** (Feathering Control)  
 1/2" Air Reversible Drill



**ZRD327 0.5HP**  
**ZRD327D 0.5HP** (Feathering Control)  
 1/2" Air Reversible Drill



**ZRD327P 0.5HP**  
**ZRD327DP 0.5HP** (Feathering Control)  
 1/2" Air Reversible Drill



**ZGD-D16-G1** Side Exhaust  
 5/8" Gear Type Air Drill-Outside trigger



**ZGD-D16-G1Z** Side Exhaust  
 5/8" Gear Type Air Drill-Inside trigger

**ZGD-D19-G1** Side Exhaust  
 3/4" Gear Type Air Drill-Outside trigger

**ZGD-D19-G1Z** Side Exhaust  
 3/4" Gear Type Air Drill-Inside trigger

Model	Chuck Size inch(mm)	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZRD324/324P/324D/324DP</b>	3/8(10)	3/8"-24	2(0.9)	7.6(195)	1800	1/4	3/8(10)	4
<b>ZRD325/325P/325D/325DP</b>	1/2(13)	3/8"-24	2.6(1.2)	9(230)	450	1/4	3/8(10)	4
<b>ZRD327/327P/327D/327DP</b>	1/2(13)	3/8"-24	2.6(1.2)	9(230)	700	1/4	3/8(10)	4
<b>ZGD-D16-G1/G1Z</b>	5/8(16)	—	13.98(6.34)	16.54(420)	1000	3/8	—	15
<b>ZGD-D19-G1/G1Z</b>	3/4(19)	—	15.52(7.04)	17.2(437)	1000	3/8	—	15

• Recommended Gauge Air Pressure: 60~90psi

**ZAD-3004P** **1HP**

(22000rpm)  
3/8" Air Drill



**ZAD-3004 pc** **1HP**

(22000rpm)  
3/8" Air Drill



**ZAD-336** **0.5HP**

3/8" 90° Angle Air Drill

- The Angle Air Drill is ideal for drilling applications of restricted areas.
- The powerful air motor provides high power output and stall torque resistance.



**ZAE-371** **0.5HP** (2600rpm)

**ZAE-3714** **0.5HP** (3600rpm)

Air Eraser

- Smart Eraser is designed for every user to get rid of any kind of marks on the plastic plate or painted surface.
- The user can do the removal very fast and clear without any damages on the surface.
- The original painting will as like the original.



**Z26036**  
Rubber Eraser  
3-8/15"X7/12"



**Z26036-7**  
Rubber Eraser  
4"X7/12"



**Z26036-2**  
Rubber Eraser  
3-8/15"X7/12"

**ZAD-356** **0.5HP** (2600rpm)

**ZAD-376** **0.5HP** (3600rpm)

3/8" Air Drill

- In-Line Drill is designed for low speed/high torque applications, such as drilling, sanding, and polishing.
- Keyless chuck comes with both ZAD-356 and ZAD-376.



**ZAD-356P** **0.5HP** (2600rpm)

**ZAD-376P** **0.5HP** (3600rpm)

3/8" Air Drill

- In-Line Drill is designed for low speed/high torque applications, such as drilling, sanding, and polishing.
- Keyless chuck comes with both ZAD-356P and ZAD-376P.



**ZTB-383** **0.5HP**

Air Tire Buffer

- The Tire Buffer is ideal for general purpose tire buffering.
- Featuring high power and stall torque resistance makes the tire buffering easy and efficient.



**ZBT265A6026TB**  
Tire Buffer Metal Wheel

**ZP384** **0.5HP** (2600rpm)

**ZP3843** **0.5HP** (3600rpm)

Air Tire Buffer

- The Tire Buffer is ideal for general purpose tire buffering.
- Featuring high power and stall torque resistance makes the tire buffering easy and efficient.



Model	Chuck Size inch(mm)	Spindle Thread inch	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAD-3004P</b>	3/8(10)	—	1.5(0.7)	7.2(185)	22000	1/4	3/8(10)	4.1
<b>ZAD-336</b>	3/8(10)	3/8"-24	2(0.9)	7.6(195)	1800	1/4	3/8(10)	3.7
<b>ZAD-356/356P</b>	3/8(10)	3/8"-24	1.8(0.8)	8.8(225)	2600	1/4	3/8(10)	3.7
<b>ZAD-376/376P</b>	3/8(10)	3/8"-24	1.8(0.8)	8.8(225)	3600	1/4	3/8(10)	3.7
<b>ZAE-371/3714</b>	—	5/16"-24	1.8(0.8)	8.8(225)	2600/3600	1/4	3/8(10)	3.7
<b>ZTB-383</b>	—	5/16"-24	1.8(0.8)	8.8(225)	2600	1/4	3/8(10)	3.7
<b>ZP384/3843</b>	—	3/8"-24	1.8(0.8)	8.8(225)	2600/3600	1/4	3/8(10)	3.5



## Benefits

- Superior Ergonomics.
- Easy to use & offer greater visibility on work surface.
- Safety & Convenience.
- Powerful at 1.0 hp.
- Durable.
- Specially tool developed for the removal of pinstripes, Car Decals and Stickers, double faced tapes.

## Features

- High quality alloy steel's bevel gear with precision teeth design for tool performance durable & longevity.
- Spindle lock button feature allows for faster eraser wheel changeovers.
- Fully adjustable side handle.
- 4" Eraser Wheel with eraser wheel hub for secured fastened on spindle & more stable operation.
- Eraser wheel's pad as spiral oriented design as running direction for smoothly removal operation.
- 5/16"-24 spindle female thread.
- 1.0hp motor & 2400 rpm free speed.



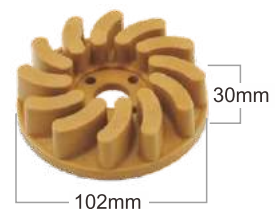
**ZAE-3308E 0.5HP** (2400rpm)  
Air Angle Eraser



**ZAE-30836E 1HP** (2400rpm)  
Air Angle Eraser



**ZST-BT29756-1**  
Eraser Wheel Hub



**ZBT29756**  
Eraser Wheel  
4"(102mm)

Model	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAE-30836E</b>	5/16"-24	3.1(1.4)	8.8(225)	2400	1/4	3/8(10)	4.1
<b>ZAE-3308E</b>	5/16"-24	2.2(1)	8.8(225)	2400	1/4	3/8(10)	3.5

## 0.3HP Industrial Right Angle Air Drills



**ZD2328** 0.3HP  
**ZD2328L** 0.3HP  
90° Industrial Angle Drill  
-Threaded type



**ZD2329** 0.3HP  
**ZD2329L** 0.3HP  
45° Industrial Angle Drill  
-Threaded type



**ZD2331** 0.3HP  
**ZD2331L** 0.3HP  
90° Industrial Angle Drill  
-Chuck type



**ZD2320** 0.3HP  
**ZD2320L** 0.3HP  
45° Industrial Angle Drill  
-Chuck type



**ZD2349** 0.3HP  
**ZD2349L** 0.3HP  
90° Industrial Angle Drill  
-Collet type



**ZD2340** 0.3HP  
**ZD2340L** 0.3HP  
45° Industrial Angle Drill  
-Collet type

• 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each tool

• 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each tool

Model	Spindle Thread inch	Chuck/Collet Capacity inch(mm)	Free Speed rpm	Net Weight lbs(kgs)	Overall Length mm	Avg. Air Cons cfm(l/min)	Sound Pressuse dB(A)	Vibration Level m/s <sup>2</sup>
<b>ZD2328</b>	1/4"-28	—	4000	1.4(0.64)	240	3(84)	81.5	<2.5
<b>ZD2328L</b>	1/4"-28	—	4000	1.65(0.75)	308	3(84)	81.5	<2.5
<b>ZD2329</b>	1/4"-28	—	4000	1.4(0.64)	256	3(84)	81.5	<2.5
<b>ZD2329L</b>	1/4"-28	—	4000	1.65(0.75)	333	3(84)	81.5	<2.5
<b>ZD2331</b>	—	1/8(3)	4000	1.4(0.64)	240	3(84)	81.5	<2.5
<b>ZD2331L</b>	—	1/8(3)	4000	1.65(0.75)	308	3(84)	81.5	<2.5
<b>ZD2320</b>	—	1/8(3)	4000	1.4(0.64)	256	3(84)	81.5	<2.5
<b>ZD2320L</b>	—	1/8(3)	4000	1.65(0.75)	333	3(84)	81.5	<2.5
<b>ZD2349</b>	—	(2.4~5.9)	4000	1.4(0.64)	240	3(84)	81.5	<2.5
<b>ZD2349L</b>	—	(2.4~5.9)	4000	1.65(0.75)	308	3(84)	81.5	<2.5
<b>ZD2340</b>	—	(2.4~5.9)	4000	1.4(0.64)	256	3(84)	81.5	<2.5
<b>ZD2340L</b>	—	(2.4~5.9)	4000	1.65(0.75)	333	3(84)	81.5	<2.5



Two Gear Mechanism

\*Exhaust Type: Adjust Side Exhaust \*Air Inlet Size: 1/4" PT/NPT \*Minch Hose Size: 3/8(10) inch(mm)

# 0.5HP Industrial Right Angle Air Drills



**ZD2333** 0.5HP  
**ZD2333L** 0.5HP  
90° Industrial Angle Drill  
-Threaded type



**ZD2332** 0.5HP  
**ZD2332L** 0.5HP  
45° Industrial Angle Drill  
-Threaded type



**ZD2335** 0.5HP  
**ZD2335L** 0.5HP  
90° Industrial Angle Drill  
-Chuck type



**ZD2334** 0.5HP  
**ZD2334L** 0.5HP  
45° Industrial Angle Drill  
-Chuck type



**ZD2352** 0.5HP  
**ZD2352L** 0.5HP  
90° Industrial Angle Drill  
-Collet type



**ZD2351** 0.5HP  
**ZD2351L** 0.5HP  
45° Industrial Angle Drill  
-Collet type

• 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each tool

• 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each tool

Model	Spindle Thread inch	Chuck/Collet Capacity inch(mm)	Free Speed rpm	Net Weight lbs(kgs)	Overall Length mm	Avg. Air Cons cfm(l/min)	Sound Pressuse dB(A)	Vibration Level m/s <sup>2</sup>
ZD2333	1/4"-28	—	3600	1.9(0.86)	259	3.5(99)	82	<2.5
ZD2333L	1/4"-28	—	3600	2.2(1)	327	3.5(99)	82	<2.5
ZD2332	1/4"-28	—	3600	1.9(0.86)	274	3.5(99)	82	<2.5
ZD2332L	1/4"-28	—	3600	2.2(1)	351	3.5(99)	82	<2.5
ZD2335	—	1/8(3)	3600	1.9(0.86)	259	3.5(99)	82	<2.5
ZD2335L	—	1/8(3)	3600	2.2(1)	327	3.5(99)	82	<2.5
ZD2334	—	1/8(3)	3600	1.9(0.86)	274	3.5(99)	82	<2.5
ZD2334L	—	1/8(3)	3600	2.2(1)	351	3.5(99)	82	<2.5
ZD2352	—	(2.4~5.9)	3600	1.9(0.86)	259	3.5(99)	82	<2.5
ZD2352L	—	(2.4~5.9)	3600	2.2(1)	327	3.5(99)	82	<2.5
ZD2351	—	(2.4~5.9)	3600	1.9(0.86)	274	3.5(99)	82	<2.5
ZD2351L	—	(2.4~5.9)	3600	2.2(1)	351	3.5(99)	82	<2.5



Two Gear Mechanism

\*Exhaust Type: Adjust Side Exhaust \*Air Inlet Size: 1/4" PT/NPT \*Minch Hose Size: 3/8(10) inch(mm)



## ZD90T

Thread type

- Spindle Thread: 1/4"-28



## ZD90TL

Thread type

- Spindle Thread: 1/4"-28



## ZD45T

Thread type

- Spindle Thread: 1/4"-28



## ZD45TL

Thread type

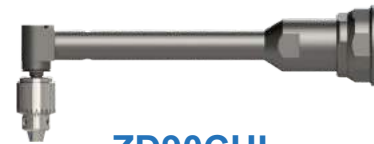
- Spindle Thread: 1/4"-28



## ZD90CH

Chuck type

- Chuck Capacity: 1/8(3) inch(mm)



## ZD90CHL

Chuck type

- Chuck Capacity: 1/8(3) inch(mm)



## ZD45CH

Chuck type

- Chuck Capacity: 1/8(3) inch(mm)



## ZD45CHL

Chuck type

- Chuck Capacity: 1/8(3) inch(mm)



## ZD90C

Collet type

- Collet Capacity: (2.4~5.9) inch(mm)
- 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each attachment



## ZD90CL

Collet type

- Collet Capacity: (2.4~5.9) inch(mm)
- 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each attachment



## ZD45C

Collet type

- Collet Capacity: (2.4~5.9) inch(mm)
- 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each attachment



## ZD45CL

Collet type

- Collet Capacity: (2.4~5.9) inch(mm)
- 2.4, 2.5, 3.1, 3.2, 4.5, 4.6, 5.8 & 5.9 mm collet will be supply with each attachment

## Air Die Grinder / Air Angle Die Grinder

- Ergonomic cushion-grip handle-Insulates against cold temperature in the hand, helps ease user fatigue, and insulates against vibration.
- Power/Speed Regulator-Allows for easy rpm adjustment.
- Rear exhaust-Directs the exhaust away from the user and the working areas.
- Twin-Bearing Spindle-This quality design results in super precise spindle concentricity less than 0.05mm and minimal vibration.

### ZDG-2319 0.3HP (7600rpm)

Medium Speed Mini Air Die Grinder

- Low profile for grinding restricted areas.
- Light weight for fatigue free use.
- Medium speed for specific grinding accessories.



### ZDG-231AL 0.3HP

3" Extension Mini Air Die Grinder



### ZDG-231L 0.3HP

5" Extension Mini Air Die Grinder



### ZDG-231 0.3HP

Mini Air Die Grinder

- The ZDG-231 Mini Die Grinder is suitable for light weld grinding, porting and polishing applications. It features a spindle concentricity less than 0.05mm.



### ZDG-231K 0.3HP

Mini Die Grinder Tool Kit

Specifications:

- 1 pc Die Grinder
- 2 pcs Spanners
- 5 pcs 1/4" Shank Grinding Stones
- 5 pcs 1/8" Shank Grinding Stones
- 1 pc 1/8" Collet
- 1 pc Nipple
- 1 pc Blow Case



### ZDG-236 0.3HP

Mini Air Angle Die Grinder

- The ZDG-236 Mini Angle Die Grinder allows easy handling in confined areas, and is capable of using carbide burs and other attachments for polishing, porting, and light metal removal.



### ZDG-236K 0.3HP

Mini Angle Die Grinder Tool Kit

Specifications:

- 1 pc Angle Die Grinder
- 1 pc 2" Roloc Pad
- 5 pcs 2" Roloc Scotch Discs
- 1 pc 1/8" Collet
- 1 pc Nipple
- 2 pcs Spanners
- 5 pcs 1/8" Shank Grinding Stones
- 5 pcs 1/4" Shank Grinding Stones
- 1 pc Blow Case



Model	Collet Size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Avg. Air Consumption cfm
ZDG-231	1/4(6)	0.9(0.4)	6.1(155)	25000	1/4	3/8(10)	3
ZDG-236	1/4(6)	1.1(0.5)	6.1(155)	20000	1/4	3/8(10)	3
ZDG-2319	1/4(6)	1.3(0.6)	7.3(185)	7600	1/4	3/8(10)	3
ZDG-231AL	1/4(6)	1.3(0.5)	8.6(220)	25000	1/4	3/8(10)	2.6
ZDG-231L	1/4(6)	1.5(0.7)	10.1(259)	25000	1/4	3/8(10)	2.6



**ZDG-S215 0.3HP**

Industrial 1/4" Air Die Grinder



**ZDG-S24B 0.3HP**

Industrial 1/4" Air Die Grinder

- High power, efficient motor for heavy grinding works.
- Side exhaust.
- Roll type throttle.
- Compact and durable steel housing for long service life.

Model	Size of Collet inch(mm)	Free Speed rpm	Operating Air Pressure psi(bar)	Avg. Air Consumption cfm(l/min)	Net Weight lbs(kgs)	Overall Length inch(mm)	Minch Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
ZDG-S215	1/4(6)	24000	90(6.2)	7.8(220)	1.46(0.66)	6-11/16(170)	3/8(10)	1/4
ZDG-S24B	1/4(6)	24000	90(6.2)	7.8(220)	1.7(0.77)	7-3/64(179)	3/8(10)	1/4



**ZAG213A 0.3HP**

Air Angle Grinder



**ZAG213B 0.3HP**

Air Angle Grinder



**ZAG213AF 0.3HP**

Air Angle Grinder



**ZAG213BF 0.3HP**

Air Angle Grinder

Model	Grinding Wheel inch(mm)	Free Speed rpm	Operating Air Pressure psi(bar)	Avg. Air Consumption cfm(l/min)	Net Weight lbs(kgs)	Overall Length inch(mm)	Minch Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
ZAG213A	2(50)	15000	90(6.2)	7.8(220)	1.46(0.66)	6-3/16(157)	3/8(10)	1/4
ZAG213B	2(50)	15000	90(6.2)	6.7(190)	1.64(0.74)	7-13/32(188)	3/8(10)	1/4
ZAG213AF	1/4(6)	15000	90(6.2)	7.8(220)	1.44(0.65)	6-3/16(157)	3/8(10)	1/4
ZAG213BF	1/4(6)	15000	90(6.2)	6.7(190)	1.61(0.73)	7-13/32(188)	3/8(10)	1/4



# Air Die Grinder / Air Angle Die Grinder

## ZP313 0.5HP

### Air Die Grinder

- The ZP313 Die Grinder is suitable for Many automotive and industrial high speed grinding applications. The grinder can be used to clean dies, rotors, backing plates and brake pad mounts.
- Grind valve seats, dress welds and enlarge holes.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



## ZP313K 0.5HP

### Air Die Grinder Tool Kit

- Specifications:
- 1 pc Die Grinder
  - 2 pcs Spanners
  - 5 pcs 1/4" Shank Grinding Stones
  - 5 pcs 1/8" Shank Grinding Stones
  - 1 pc 1/8" Collet
  - 1 pc Nipple
  - 1 pc Blow Case



## ZP314 0.5HP

### 3" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 3".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



## ZP319 0.5HP

### Air Angle Die Grinder

- The ZP319 Angle Die Grinder is ideal for high speed grinding and polishing.
- It can be used in finishing dies and metal molds, smoothing and shaping sheet metal and cast iron, weld finishing and other high speed polishing applications.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.

## ZP319K 0.5HP

### Angle Die Grinder Tool Kit

- Specifications:
- 1 pc Angle Die Grinder
  - 5 pcs 2" Roloc Scotch Discs
  - 5 pcs 3" Roloc Scotch Discs
  - 1 pc 1/8" Collet
  - 1 pc Nipple
  - 2 pcs Spanners
  - 5 pcs 1/8" Shank Grinding Stones
  - 5 pcs 1/4" Shank Grinding Stones
  - 1 pc Blow Molded Case
  - 2 pcs Roloc Pad
  - 2 pcs Bolts

## ZDG-356A 0.5HP (2600rpm)

## ZDG-376A 0.5HP (3600rpm)

### Low Speed Air Die Grinder

- In-Line Die Grinder is designed for low speed application.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



## ZDG-376AL 0.5HP (3600rpm)

### Low Speed Air Extension Die Grinder

- The die grinder come with 1/4"(6mm) or 3/8"(8mm) double angle collets for industrial application.



ZST-200E-29  
6mm COLLET

ZST-200E-29-1  
1/4" COLLET



## ZP315 0.5HP

### 5" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 5".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



## ZDG-3226 0.5HP

### 115° Air Angle Die Grinder

- The ZDG-3226 Angle Die Grinder is ideal for high speed grinding and polishing.
- It can be used in finishing dies and metal molds, smoothing and shaping sheet metal and cast iron, weld finishing and other high speed polishing applications.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



## ZAG-341 0.5HP

### 2" Air Angle Grinder

- The Angle Grinder features versatile application for grinding, including depressed disc.



ZBT288544-2GD060  
(#60Grit), 2"DISC WHEEL

Model	Collet Size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Avg. Air Consumption cfm
ZP313	1/4(6)	1.3(0.6)	7(178)	22000	1/4	3/8(10)	3.7
ZDG-356A/376A	1/4(6)	1.5(0.7)	7.8(200)	2600/3600	1/4	3/8(10)	3.7
ZDG-376AL	1/4(6)	2.2(1)	12(305)	3600	1/4	3/8(10)	3.5
ZP314	1/4(6)	1.5(0.7)	9.4(240)	22000	1/4	3/8(10)	3.7
ZP315	1/4(6)	1.8(0.8)	11(280)	22000	1/4	3/8(10)	3.7
ZP319/ZDG-3226	1/4(6)	1.5(0.7)	7(178)	18000	1/4	3/8(10)	3.7
ZAG-341	Grinding Wheel 2"	1.5(0.7)	7(178)	15000	1/4	3/8(10)	3.5

## Super Power Air Tools

- 0.9HP and 1HP air grinders come with 1/4" (6mm) or 3/8" (8mm) double angle collets for industrial application.



**ZST-200E-29**  
6mm COLLET  
**ZST-200E-29-1**  
1/4" COLLET



### ZDG-301 **0.9HP**

Air Die Grinder

- The ZDG-301 Die Grinder is suitable for many automotive and industrial high speed grinding applications. The grinder can be used to clean dies, rotors, backing plates and brake pad mounts.
- Grind valve seats, dress welds and enlarge holes.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



### ZDG-302 **0.9HP**

Air Angle Die Grinder

- The ZDG-302 Angle Die Grinder is ideal for high speed grinding and polishing.
- It can be used in finishing dies and metal molds, smoothing and cast iron, weld finishing and other high speed polishing application.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



### ZDG-301AL **1HP**

3.5" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 3.5".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



### ZDG-301L **1HP**

5.5" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 5.5".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



Model	Collet size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZDG-301</b>	1/4(6)	1.4(0.5)	7(180)	23000	1/4	3/8(10)	4.1
<b>ZDG-302</b>	1/4(6)	1.8(0.8)	7(180)	18000	1/4	3/8(10)	4.1
<b>ZDG-301AL</b>	1/4(6)	1.8(0.8)	9.4(240)	22000	1/4	3/8(10)	4.1
<b>ZDG-301L</b>	1/4(6)	2(0.9)	11(280)	22000	1/4	3/8(10)	4.1

# 1HP Extended Die Grinders

**ZDG-301L300** 1HP

**ZDG-3076L300** 1HP

12" Air Extension Die Grinder

**ZDG-301L500** 1HP

**ZDG-3076L500** 1HP

21-3/8" Air Extension Die Grinder

**ZDG-301L800** 1HP

**ZDG-3076L800** 1HP

31-1/2" Air Extension Die Grinder



**ZST-200E-29** 6mm COLLET  
**ZST-200E-29-2** 8mm COLLET  
**ZST-200E-29-1** 1/4" COLLET  
**ZST-200E-29-4** 3/8" COLLET

## Benefits

- Industrial extended shaft long die grinder design for high speed grinding & polishing in hard-to-reach areas
- By using 1/4" (6mm) or 3/8" (8mm) Double Angle Collets, the die grinder can be used in a wide range of grinding and polishing applications with various wheels
- 4000rpm models are excellent for grinding applications with flap sanding wheel
- High productivity
- Highest durability in demanding applications

## Features

- 12" (305 mm), 21-3/8" (543 mm), 31-1/2" (800 mm) extended body by Aluminum alloy structure.
- Comfort grip over-housing
- Streamlined safety lever
- Rear exhaust
- 1/4" (6mm) & 3/8" (8mm) industrial grade Double Angle collet holder
- 1.0 hp motor
- 22000 rpm free speed models and 3500 rpm free speed models



\* The length of extended body can be customize to extended as requirement.

Model	Collet size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZDG-301L300	1/4(6)	2.9(1.3)	17.5(445)	22000	1/4	3/8(10)	4.2
ZDG-301L500	1/4(6)	3.9(1.8)	27(688)	22000	1/4	3/8(10)	4.2
ZDG-301L800	1/4(6)	4.9(2.2)	37.1(943)	22000	1/4	3/8(10)	4.2
ZDG-3076L300	1/4(6)	3.5(1.6)	18.7(477)	3500	1/4	3/8(10)	4.2
ZDG-3076L500	1/4(6)	4.5(2)	28.3(719)	3500	1/4	3/8(10)	4.2
ZDG-3076L800	1/4(6)	5.5(2.5)	38.3(974)	3500	1/4	3/8(10)	4.2



**ZDG-S220 0.8HP**

Industrial 1/4" Air Die Grinder

- Can be used as sander for expandable / flap wheels, brushes.



**ZDG-S216 0.8HP**

Industrial 1/4" Air Die Grinder

- With 360° rotating rear exhaust muffler Safety Trigger.
- Use for heavy grinding works.



**ZDG-S206 0.8HP**

Industrial 1/4" Air Die Grinder

- Can be used as sander for expandable / flap wheels, brushes.



**ZDG-S235 0.8HP**

Industrial 1/4" Air Die Grinder

- Can be used as sander for expandable / flap wheels, brushes.



**P/N:**  
**24182-10 3/8"-24**  
**24182-13 1/2"-20**

Optional combo arbor ( interchange with # 24182 arbor set ) with 1/2"-20 or 3/8"-24 female thread for up to 3" wide wheels with 5/8" or 1" diameter center hole for use on model# **ZDG-S220**, **ZDG-S206** & **ZDG-S235** grinders.

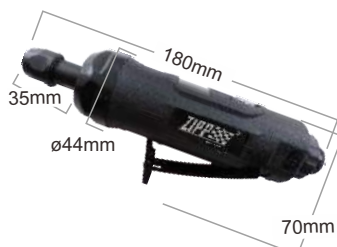
Model	Size of Collet inch(mm)	Free Speed rpm	Operating Air Pressure psi(bar)	Avg. Air Consumption cfm(l/min)	Net Weight lbs(kgs)	Overall Length inch(mm)	Minch Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
<b>ZDG-S220</b>	1/4(6)	2200	90(6.2)	5(141)	2(0.92)	8-5/8(220)	3/8(10)	1/4
<b>ZDG-S216</b>	1/4(6)	15000	90(6.2)	5(141)	1.8(0.8)	8(200)	3/8(10)	1/4
<b>ZDG-S206</b>	1/4(6)	600	90(6.2)	5(141)	2.6(1.2)	10(250)	3/8(10)	1/4
<b>ZDG-S235</b>	1/4(6)	3500	90(6.2)	5(141)	2(0.92)	8-5/8(220)	3/8(10)	1/4



### ZDGL-311 0.5HP

Low Noise Air Die Grinder

- The ZDGL-311 Die Grinder is suitable for many automotive and industrial high speed grinding applications. The grinder can be used to clean dies, rotors, backing plates and brake pad mounts.
- Grind valve seats, dress welds and enlarge holes.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding.

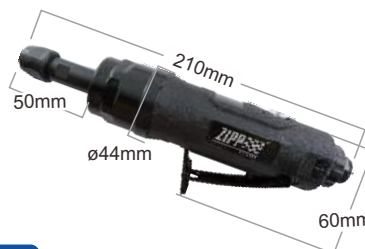


### ZDGL-356A 0.5HP (2600rpm)

### ZDGL-376A 0.5HP (3600rpm)

Low Speed, Low Noise Air Die Grinder

- In-Line Die Grinder is designed for low speed application.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



### ZDGL-311AL 0.5HP

Low Noise 3" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 3".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



### ZDGL-311L 0.5HP

Low Noise 5" Air Extension Die Grinder

- Extension Die Grinder is designed for high speed grinding and polishing in hard-to-reach areas.
- Features an extended reach of 5".
- By using 1/4"(6mm) or 1/8"(3mm) grinding accessories, the grinder can be used in a wide range of grinding and polishing applications.



### ZDGL-321 0.5HP

Low Noise Air Angle Die Grinder

- The ZDGL-321 & LA-2115 Angle Die Grinders are ideal for high speed grinding and polishing.
- It can be used in finishing dies and metal molds, smoothing and shaping sheet metal and cast iron, weld finishing and other high speed polishing applications.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



### ZDGL-3226 0.5HP

Low Noise 115° Air Angle Die Grinder

- The ZDGL-321 & ZDGL-3226 Angle Die Grinders are ideal for high speed grinding and polishing.
- It can be used in finishing dies and metal molds, smoothing and shaping sheet metal and cast iron, weld finishing and other high speed polishing applications.
- Can use with 1/4"(6mm) or 1/8"(3mm) grinding accessories.



Model	Collet size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZDGL-311	1/4(6)	1.3(0.6)	7(180)	22000	1/4	3/8(10)	3.1
ZDGL-356A/376A	1/4(6)	1.5(0.7)	8.2(210)	2600/3600	1/4	3/8(10)	3.1
ZDGL-311AL	1/4(6)	1.5(0.7)	9.6(245)	22000	1/4	3/8(10)	3.1
ZDGL-311L	1/4(6)	1.8(0.8)	11.2(285)	22000	1/4	3/8(10)	3.1
ZDGL-321/3226	1/4(6)	1.5(0.7)	7(180)	18000	1/4	3/8(10)	3.1



**ZAGL-341 0.5HP**

Low Noise 2" Air Angle Grinder

- The Angle Grinder features versatile application for grinding, including depressed disc.



**ZASL-342A 0.5HP**

Low Noise 2" Angle Sander

- Includes locking-type pad(2" diameter or 3" diameter).
- The Angle Sander is ideal for all types of sanding on small areas.



**ZACL-361 0.5HP**

Low Noise Air Cutter

- The 3" Cutter is ideal for a wide range of cutting applications.



**ZP163-LN 0.5HP**

Low Noise 3/8" Air Ratchet Wrench

**ZP161-LN 0.5HP**

Low Noise 1/2" Air Ratchet Wrench

- The ZP161-LN & ZP163-LN Air Ratchets are rugged, variable speed, reversible air ratchets.
- It's paddle-style trigger provides better speed control and the polyurethane handle helps maintain temperature and insulate vibration.
- Unique ratchet head design insures the wrench free of failure.



Model	Grinding Wheel	Sanding Wheel	Cutting Wheel	Square Drive	Max. Torque ft-lb(Nm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZAGL-341	2"	—	—	—	—	1.5(0.7)	7(180)	15000	1/4	3/8(10)	3.1
ZASL-342A	—	2", 3"	—	—	—	1.5(0.7)	7(180)	15000	1/4	3/8(10)	3.1
ZACL-361	—	—	3"	—	—	1.6(0.8)	7.6(195)	21000	1/4	3/8(10)	3.1
ZP163-LN ZP161-LN	—	—	—	3/8" 1/2"	50(69)	2.6(1.2)	10.4(265)	175	1/4	3/8(10)	3.1



**ZPD327 0.3HP**  
Micro Die Grinder



**ZPD212 0.12HP**  
Micro Die Grinder



**ZPD312 0.12HP**  
Micro Die Grinder



**ZPD412 0.15HP**  
Micro Die Grinder



**ZPD322 0.12HP**  
90° Air Micro Grinder



**ZPD323 0.12HP**  
120° Air Micro Grinder

Model	Free Speed rpm	Collet Size inch(mm)	Air Inlet Size inch-NPT/PT	Air Pressure kg(cm <sup>2</sup> )	Air Cons. l/min	Net Weight kg	Tool Dimension mm	Tool Length mm	Hose Length mm	Exhaust System
ZPD327	30000	1/4(6)	1/4	6	300	0.3	26.5	150	1500	Rear
ZPD212	60000	1/8(3)	1/4	6	180	0.24	17	140	1500	Rear
ZPD312	60000	1/8(3)	1/4	6	180	0.24	18	125	1500	Rear
ZPD412	70000	1/8(3)	1/4	6	180	0.13	17	140	1500	Rear
ZPD322	22000	-	1/4	6	240	0.345	-	140	1500	Rear
ZPD323	22000	-	1/4	6	240	0.355	-	140	1500	Rear



**ZP219 0.5HP**  
Air Nibbler

**Benefits**

- Easy to operate and control
- Perfect for accurate cutting and best for tight corners and circles
- Used for nibbling plastic, tin, aluminum and others metals original
- Ideal for paint and auto body shops, tinsmiths, and sheet metal shops

**Features**

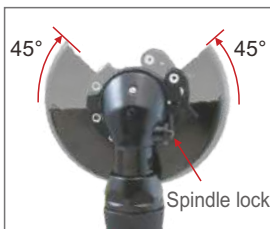
- 4.5mm diameter punch cuts rolled steel sheet up to 0.0478"/1.2mm (18 gauge) and aluminum up to 0.064"/1.628mm (14 gauge).
- The nibbler is capable of cutting 4.5mm in radius with accuracy and without distorted edges.
- Easy access to punch and die for quick replacement.
- Balanced, lightweight tool.



**ZAC-354 0.5HP**  
3" Air Angle Cutter



**ZAC-354L 0.5HP**  
3" Extended Air Angle Cutter



**ZAC-304 1HP**  
3" Air Angle Cutter



**ZBT25134-3GD**  
3" Disc Wheel (3"X3/8"X1/16")

**ZP250 0.5HP**  
Air Cutter

- The 3" Cutter is ideal for a wide range of cutting applications.

Model	Cutting Capacity Steel	Cutting Capacity Aluminum	Grinding Wheel	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZP219	1.2mm	1.6mm	—	2.2(1)	7.2(185)	2600	1/4	3/8(10)	3.7
ZAC-354	—	—	Cutting Wheel 3"	2.7(1.2)	8.6(220)	16000	1/4	3/8(10)	3.5
ZAC-354L	—	—	Cutting Wheel 3"	2.9(1.3)	11.4(290)	16000	1/4	3/8(10)	3.5
ZAC-304	—	—	Cutting Wheel 3"	2.9(1.3)	8.6(220)	16000	1/4	3/8(10)	4.1
ZP250	—	—	Cutting Wheel 3"	1.8(0.8)	7.6(193)	21000	1/4	3/8(10)	3.5



**ZAG-306B** **1HP** (Spindle Thread 5/8"-11)

**ZAG-306BM** **1HP** (Spindle Thread M14x2P)

4" Air Angle Grinder & Cutter

**ZAG-30656B** **1HP** (Spindle Thread 5/8"-11)

**ZAG-30656BM** **1HP** (Spindle Thread M14x2P)

4-1/2" Air Angle Grinder & Cutter

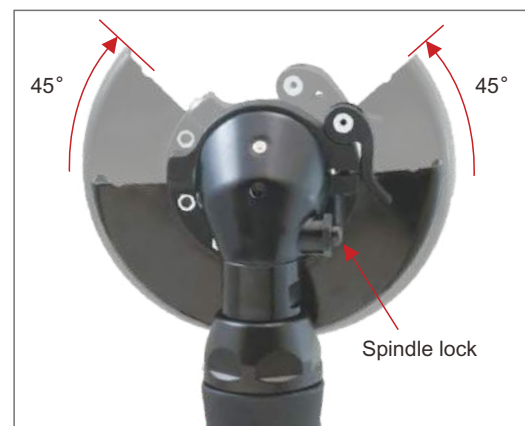


**Benefits**

- Compact head design.
- Superior Ergonomics.
- Easy to Use.
- Safety & Convenience.
- Powerful at 1.0 hp.
- Durable.
- Ideal for a variety of applications such as sanding with flap discs, grinding ..... especially in tight spaces.

**Features**

- High quality alloy steel's bevel gear with precision teeth design for tool performance durable & longevity.
- Spindle lock button feature allows for faster grinding wheel changeovers.
- 9 position adjustable swivel guard-120° adjustable for better operator protection & greater visibility of cutting operations.
- 4" (100mm) & 4.5" (115 mm) wheel capacity.
- 5/8"-11 & M14 x 2P spindle thread.
- 1.0hp motor & 11000 rpm free speed.



Model	Grinding Wheel	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAG-306B</b>	4"	2.2(1)	8.7(220)	11000	1/4	3/8(10)	4.1
<b>ZAG-306BM</b>	4"	2.2(1)	8.7(220)	11000	1/4	3/8(10)	4.1
<b>ZAG-30656B</b>	4-1/2"	2.2(1)	8.7(220)	11000	1/4	3/8(10)	4.1
<b>ZAG-30656BM</b>	4-1/2"	2.2(1)	8.7(220)	11000	1/4	3/8(10)	4.1

## ZAC-30540 **1HP**

4" Extended Air Cutter

## ZAC-305640 **1HP**

4-1/2" Extended Air Cutter



### Benefits

- Extended Length & Compact Gear Housing at height 39mm
- Ergonomic Grip
- Easy to Use
- Safety & Convenient
- Powerful at 1.0hp
- Durable
- Ideal for cutting composite, metal, exhaust pipes, hangers, body panels, hoses, and U-bolts, ... especially in tight spaces

### Features

- Cutting disc size: 4"/100mm, 4-1/2"/115 mm
- 7" = 180mm for better reach and easy access to restricted areas
- Composite ergonomic grip to reduce cold air transmission to operators
- Spindle lock system for easier wheel changing
- 9 position adjustable swivel guard - 120° adjustable for better operator protection & greater visibility of cutting operations
- Built-in speed regulator for easy adjustment
- Safety throttle lever to prevent accidental start up
- Rear exhaust with low noise
- 1 HP motor & 14000 rpm
- High quality bearing (larger bearing size) for better support internal gears
- High quality alloy steel for spiral bevels gears with precision teeth design for tool longevity



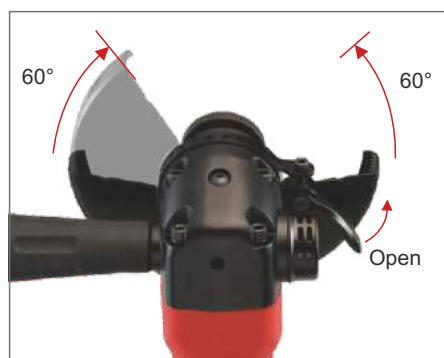
Model	Grinding Wheel	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZAC-30540	4"	3.2(1.4)	13.6(345)	14000	1/4	3/8(10)	4.1
ZAC-305640	4-1/2"	3.2(1.4)	13.6(345)	14000	1/4	3/8(10)	4.1

## Air Angle Grinders

**ZP321R 1.2HP** 100° 4" Heavy Duty Grinder

**ZP322R 1.2HP** 100° 4-1/2" Heavy Duty Grinder

**ZP323R 1.2HP** 100° 5" Heavy Duty Grinder



**ZBT80541**  
5" Disc Wheel  
5"x1/4"x7/8"

**ZAG-965R 1.3HP** 4" Angle Grinder

**ZAG-9656R 1.3HP** 4-1/2" Angle Grinder

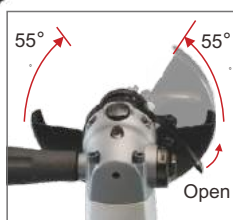
**ZAG-966R 1.3HP** 5" Angle Grinder

- 1.3 HP Motor for stall resistance.
- Safety lock-off throttle lever.
- One piece housing reduces maintenance costs.
- Heavy duty air cooled spiral gears and double bearings for durability.
- Ergonomic composite grip for comfort and reduced vibration.
- ANSI compliance wheel guard design.

Best for: Continuous use, heavy duty surface preparation, and material removal.

**ZAG-966C 1.3HP**

5" H.D. Angle Grinder With Central Vacuum Wheel Guard

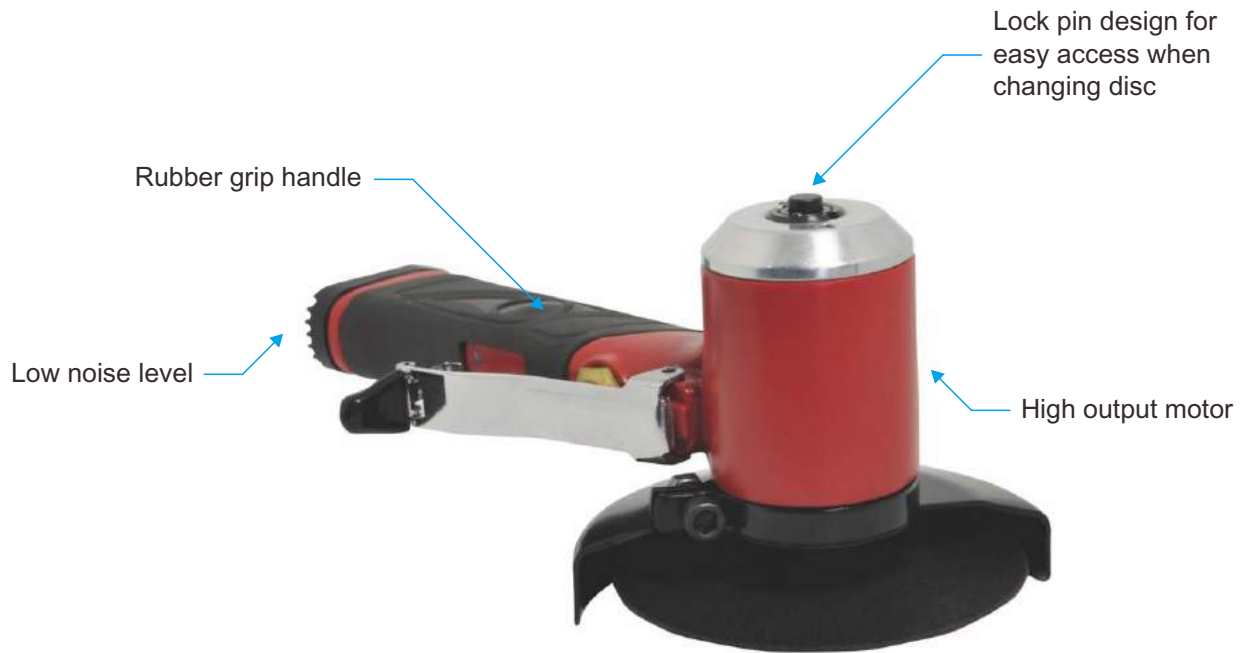


The trigger can be opened and adjust the shroud up to 55° so as to avoid from the hurt during operating

Model	Spindle Thread	Grinding Wheel	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZP321R</b>	3/8"-24, M10x1.5	4"	3.1(1.4)	8.2(210)	10000	1/4	3/8(10)	3.5
<b>ZP322R</b>	5/8"-11, M14x2	4-1/2"	3.1(1.4)	8.2(210)	10000	1/4	3/8(10)	3.5
<b>ZP323R</b>	5/8"-11, M14x2	5"	3.1(1.4)	8.2(210)	10000	1/4	3/8(10)	3.5
<b>ZAG-965R</b>	3/8"-24, M10x1.5	4"	4(1.8)	9(230)	11000	1/4	3/8(10)	3.8
<b>ZAG-9656R</b>	5/8"-11, M14x2	4-1/2"	4(1.8)	9(230)	11000	1/4	3/8(10)	3.8
<b>ZAG-966R</b>	5/8"-11, M14x2	5"	4(1.8)	9(230)	11000	1/4	3/8(10)	3.8
<b>ZAG-966C</b>	5/8"-11, M14x2	5"	4(1.8)	9(230)	11000	1/4	3/8(10)	3.8

## Features

- Low Vibration & Ergonomic handle design.
- Easy access to changing discs.

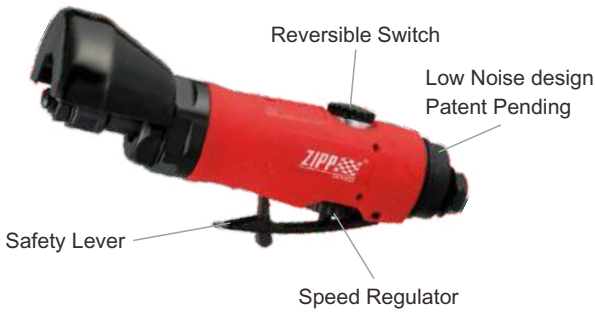


**ZAG-386 0.5HP**  
3" Air Cut Off Tool



**ZAG-387 0.7HP**  
4" Air Cut Off Tool

Model	Free Speed rpm	Capacity Size PAD	Horse Power HP	Air Inlet	Air Pressure kg/cm <sup>2</sup>	Air Cons. cfm	Weight kg	Overall Length mm
<b>ZAG-386</b>	18000	3"	0.82	1/4	6.3	4	0.83	225x115x105
<b>ZAG-387</b>	14000	4"	0.8	1/4	6.3	4.5	0.93	240x105x125



**ZRD368 0.7HP**  
3/8" 90° Angle Air Reversible Drill



**ZRC-361R 0.7HP**

3" Reversible Air Cutter

- Directs sparks away for personal safety.
- Reversible cutting providing powerful cutting application.
- Best cutting tool for restricted areas.



**ZRDG-363 0.7HP**

Reversible Air Die Grinder

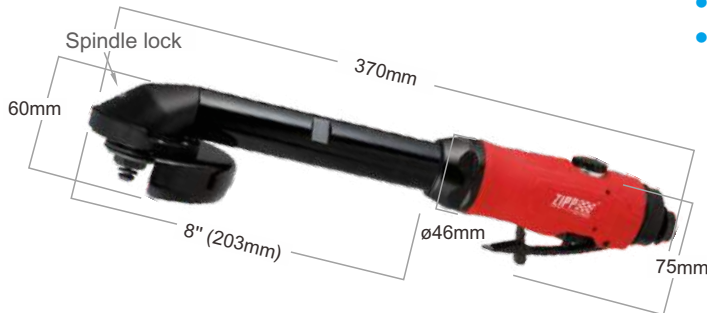
- Directs sparks away for personal safety.
- Reversible grinding for versatility.



**ZRAC-365B 0.7HP**

4" Extended Reversible Air Axial Cutter

- Directs sparks away for personal safety.
- Excellent for hard to reach areas.
- Low profile for restricted area applications.
- Versatile cutting applications for any cutting jobs.
- Spindle lock for disc replacement.



**ZRAG-366B 0.7HP (13000rpm)**

4" Reversible Air Axial Grinder

**ZRAG-367B 0.7HP (15000rpm)**

4" Reversible Air Axial Cutter

- Newly designed lower profile axial cutter providing versatile cutting applications.
- Best for restricted areas.
- Light weight ensures fatigue-free use.
- Spindle lock for disc replacement.



Model	Cutting Wheel	Collet size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZRC-361R	3"	—	2(0.9)	8(205)	18000	1/4	3/8(10)	3.6
ZRAC-365B	4"	—	2.4(1.1)	14.5(370)	15000	1/4	3/8(10)	3.6
ZRAG-366B/367B	4"	—	2.4(1.1)	9.4(240)	13000/15000	1/4	3/8(10)	3.6
ZRDG-363	—	1/4(6)	1.6(0.7)	7.6(195)	18000	1/4	3/8(10)	3.6
ZRD368	—	3/8(10)	2.4(1.1)	8.2(210)	1600	1/4	3/8(10)	3.6



## Benefits

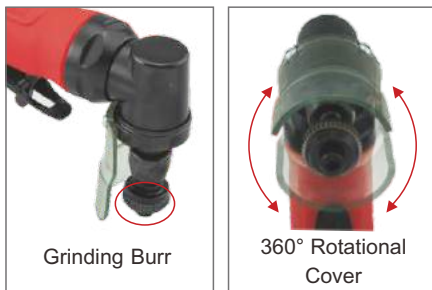
- Compact angle head housing design for quick and easy use.
- Ergonomic Grip
- 0.5hp Powerful & Durable
- Ideal tool & specifically designed to deal with the latest technique in vehicle assembly laser welding

## Features

- High speed cutting wheel made of a specially hardened metal. Depth of cut limitation-optional at either 0.8-1.0mm. The depth limiter ensures that the lower panel doesn't get damaged.
- Protection guard (transparent acetate material ) design for safety protection.
- High quality manufacturing and materials guarantee durability.
- High quality alloy steel for internal gears with precision gear teeth design for prolong the gear life.

### ZWR-3212 0.5HP

#### Laser welding removal Tool



Transparent Acetate Guard



**ST210145**  
Cutting Wheel  
25 x 4mm Diameter

- Solid Tungsten Carbide Cutting wheel with TiAlNcoating.
- Superior for high speed and dry cutting

### ZWR-3212K 0.5HP

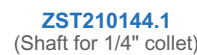
#### Laser welding removal Tool Kit

##### [ Specifications ]

- 1 pc Laser welding removal Tool
- 2 pcs Spanners
- 1 pc Cutting Wheel
- 1 pc Hex
- 1 pc Depth 0.8mm Shaft
- 1 pc Depth 1.0mm Shaft
- 1 pc Blow Molded Case



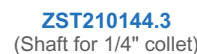
**ZST210144**  
(Shaft for 6mm collet)



**ZST210144.1**  
(Shaft for 1/4" collet)  
Shaft for Cutting Depth  
0.8mm for 25mm Cutting  
Wheel



**ZST210144.2**  
(Shaft for 6mm collet)



**ZST210144.3**  
(Shaft for 1/4" collet)  
Shaft for Cutting Depth  
1.0mm for 25mm Cutting  
Wheel

Model	Collet Size inch(mm)	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
<b>ZWR-3212</b>	1/4(6)	1.5(0.7)	7(180)	11000	1/4	3/8(10)	3.5

## Rust & Paint Removal Tools

Non-Vacuum

**ZTU-391** 0.5HP

Low Noise



Central-Vacuum

**ZTU-391C** 0.5HP



Self-Generated Vacuum

**ZTU-391S** 0.5HP



**HB-46-2**  
HOSE & BAG

- Innovative 180° rotational handle for precise leverage and control.
- Unique double side safety guards and integrated dust extraction.
- system for safe and clean operation.
- Planetary gear system for increased torque.
- Ergonomic cushion grip insulates against cold and vibration.
- Swivel exhaust outlet in rear of tool allows easy operations.
- Paddle style trigger for precise speed control.
- Increase the baffle and prevent hands from being injured.
- Integrated Safety and Dust Extraction System.



Removable Double Side Safety Guard.  
(Patent Pending)



Integrate Safety and Dust Extraction System.  
(Patent Pending)



180° Rotational Handle  
(Patent Pending)



Model	Spindle Thread mm	Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZTU391/391C/391S</b>	9	2.7(1.2)	10(254)	4000	1/4	3/8(10)	3.5

## Non-Vacuum

### ZTU-391K 0.5HP

Specifications:

- 1 pc Paint Removal Tool
- 1 pc Rubber Eraser Wheel
- 1 pc Stripping Wheel
- 1 pc Hub
- 3 pcs Wire Wheel
- 1 pc Nipple
- 1 pc Hex
- 1 pc Screw
- 1 pc Blow Molded Cast



## Central-Vacuum

### ZTU-391CK 0.5HP

Specifications:

- 1 pc Paint Removal Tool
- 1 pc Rubber Eraser Wheel
- 1 pc Stripping Wheel
- 1 pc Hub
- 3 pcs Wire Wheel
- 1 pc Nipple
- 1 pc Hex
- 1 pc Screw
- 1 pc Blow Molded Cast



#### ZST-BTRE115-30

Rubber eraser wheel  
Wheel diameter 4"(103mm)  
Wheel width 1.2"(30mm)



#### ZST-BTRE115-30A

Water based eraser  
Wheel diameter 4"(103mm)  
Wheel width 1.2"(30mm)



#### ZBT246655

Rubber eraser wheel  
Wheel diameter 4"(103mm)  
Wheel width 1.2"(30mm)



#### ZST-BT246652

Stripping wheel  
Wheel diameter 4"(103mm)  
Wheel width 1.2"(30mm)



#### ZBTWW103-23-7

Wire wheel(Coarse)  
Wire diameter 0.028"(0.7mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZBTWW103-23-5.5

Wire wheel(Medium)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZBTWW103-23-5

Wire wheel(Fine)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZST-BT246655A-K03

Hub  
Hub width 0.91"(23mm)



#### ZBTWW103-23-7ASS

Stainless steel wire(Coarse)  
Wire diameter 0.028"(0.7mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZBTWW103-23-5ASS

Stainless steel wire(Medium)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZBTWW103-23-5SS

Stainless steel wire(Fine)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.91"(23mm)



#### ZBTWW103-11-7AM

Wire wheel(Coarse)  
Wire diameter 0.028"(0.7mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)



#### ZBTWW103-11-5AM

Wire wheel(Medium)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)



#### ZBTWW103-11-5M

Wire wheel(Fine)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)



#### ZST-BT28068-K03

Hub  
Hub width 0.43"(11mm)



#### ZBTWW103-11-7ASS

Stainless steel wire(Coarse)  
Wire diameter 0.028"(0.7mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)



#### ZBTWW103-11-5ASS

Stainless steel wire(Medium)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)



#### ZBTWW103-11-5SS

Stainless steel wire(Fine)  
Wire diameter 0.019"(0.5mm)  
Wheel diameter 4"(103mm)  
Wheel width 0.43"(11mm)





## Benefits

- Mini compact design with angle head Housing at height 75 mm
- Ergonomic Grip
- Easy to use & convenient
- 0.3hp Powerful & Durable
- Ideal for use in paint shop applications for sanding nibs or for sanding small areas and for car headlights polish.
- Dual action for provide uniform sanding surface with a superior finish , ready for buffing application as next steps.

## Features

- Angle head dual action sander with 2" Velcro Pad, 1.2" Velcro Pad , Triangle mini Velcro Pad
- High quality bearing provide long tool life
- High quality alloy steel for spiral bevels gears with precision teeth design for tool longevity
- One piece balancer design for reducing vibration of dual action

### ZSR-242 **0.3HP**

#### Spot Repair Sander



### ZSR-242K **0.3HP**

#### Spot Repair Sander Kit

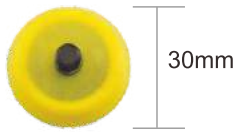
##### [ Specifications ]

- 1 pc Spot Repair Sander
- 1 pc 2" Velcro Pad
- 1 pc 1.2" Velcro Pad
- 1 pc Triangle mini Velcro Pad
- 1 pc Nipple
- 1 pc 2" Wool Pad
- 1 pc 1.2" Wool Pad
- 1 pc 2" Polishing Pad
- 1 pc 1.2" Polishing Pad
- 10 pcs 2" 120# Sandpapers
- 10 pcs 2" 180# Sandpapers
- 10 pcs 2" 320# Sandpapers
- 10 pcs 2" 600# Sandpapers
- 10 pcs 2" 1000# Sandpapers
- 10 pcs 2" 1500# Sandpapers
- 10 pcs Triangle mini 120# Sandpapers
- 10 pcs Triangle mini 180# Sandpapers
- 10 pcs Triangle mini 320# Sandpapers
- 10 pcs Triangle mini 600# Sandpapers
- 10 pcs Triangle mini 1000# Sandpapers
- 10 pcs Triangle mini 1500# Sandpapers
- 10 pcs 1.2" 120# Sandpapers
- 10 pcs 1.2" 180# Sandpapers
- 10 pcs 1.2" 320# Sandpapers
- 10 pcs 1.2" 600# Sandpapers
- 10 pcs 1.2" 1000# Sandpapers
- 10 pcs 1.2" 1500# Sandpapers
- 1 pc Blow Molded Case

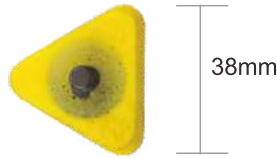


Model	Diameter Orbit mm	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	MinchHose Size inch(mm)	Avg. Air Cons. cfm
ZSR-242	2	1.1(0.5)	6.1(155)	13000	1/4	3/8(10)	2.6

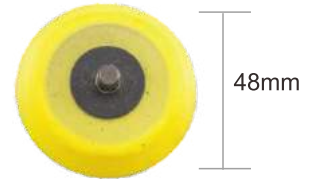
## Spot Repair Sander Accessories



**ZST13145**  
1.2" Velcro Pad



**ZST13144**  
Triangle mini Velcro Pad



**ZST13146**  
2" Velcro Pad



**ZBT131-30-1**  
1.2" Wool Pad



**ZBT131-2-1**  
2" Wool Pad



**ZBT131-30-2**  
1.2" Polishing Pad



**ZBT131-2-2**  
2" Polishing Pad



**ZP-131-32-120**  
120# Sandpaper (32mm)



**ZP-131-32-180**  
180# Sandpaper (32mm)



**ZP-131-32-320**  
320# Sandpaper (32mm)



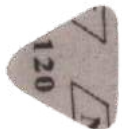
**ZP-131-32-600**  
600# Sandpaper (32mm)



**ZP-131-32-1000**  
1000# Sandpaper (32mm)



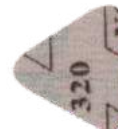
**ZP-131-32-1500**  
1500# Sandpaper (32mm)



**ZP-131-40-3-120**  
120# Sandpaper (40mm)



**ZP-131-40-3-180**  
180# Sandpaper (40mm)



**ZP-131-40-3-320**  
320# Sandpaper (40mm)



**ZP-131-40-3-600**  
600# Sandpaper (40mm)



**ZP-131-40-3-1000**  
1000# Sandpaper (40mm)



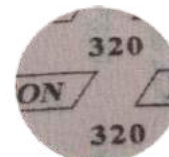
**ZP-131-40-3-1500**  
1500# Sandpaper (40mm)



**ZP-ZOS-2-120**  
120# Sandpaper (50.8mm)



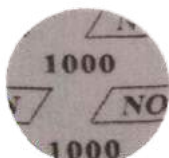
**ZP-ZOS-2-180**  
180# Sandpaper (50.8mm)



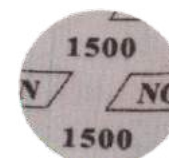
**ZP-ZOS-2-320**  
320# Sandpaper (50.8mm)



**ZP-ZOS-2-600**  
600# Sandpaper (50.8mm)



**ZP-ZOS-2-1000**  
1000# Sandpaper (50.8mm)



**ZP-ZOS-2-1500**  
1500# Sandpaper (50.8mm)

## Air Sander / Polisher

### ZVP-7N-7747 **0.6HP**

5" Vertical Sander / Polisher

- Includes ST-231A locking-type pad (3" diameter and 2" diameter).
- The Angle Sander is ideal for all types of sanding on small areas.



### ZNRS-71-6346 **0.3HP**

Nib Removal Sander - Orbit Dia. 3 mm

**Features:**

- Small Diameter Head Size for Better Visibility, Less Buffing
- Lightweight, Easy-Grip, Right Angle Tool
- Better Visibility, Less Buffing
- Precise Speed Control
- Rear Exhaust with Available Overhose



### ZP388 **0.25HP**

3" Mini Polisher - 1/4"-20 or M6x1.0

### ZP389 **0.25HP**

3" Mini Polisher - 5/16"-24

**Features:**

- Composite Motor Housing
- Handle Exhaust
- Low Noise 80 dB(A)



### ZP388K **0.25HP**

3" Mini Polisher - 1/4"-20 or M6x1.0

### ZP389K **0.25HP**

3" Mini Polisher - 5/16"-24



[ Accessories ]

- 1 pc 3" Mini Polisher
- 1 pc Key Wrench
- 1 pc 3" Velcro Sanding Pad (Installed)
- 1 pc 3-1/2" Bonnet
- 1 pc 3-1/2" Yellow Compounding Pad
- 1 pc 3-1/2" White Compounding Pad

Model	Free Speed rpm	Pad Size inch(mm)	Orbit Diameter inch(mm)	Spindle Thread	Air Consumption l/min(cfm)	Length inch(mm)	Net Weight lbs(kgs)	Sound Level dB(A)
ZVP-7N-7747	3500	5(125)	—	5/16"-24	110(3.9)	144x205x214mm	2.2(1)	80
ZNRS-71-6346	12000	1-1/4(32)	1/8(3)	—	28.3(1)	7-7/8(197)	1.1(0.5)	80
ZP388	3200	3(75)	—	1/4"-20 or M6X1.0	91(3.2)	4.6(116)	1.59(0.72)	80
ZP389	3200	3(75)	—	5/16"-24	91(3.2)	4.6(116)	1.59(0.72)	80

\*Operating Air Pressure: 90psi/6.2bar \*Air Inlet Size: 1/4 inch-NPT/PT \*Minch Hose Size: 3/8"(10mm)



**ZP385M / ZP385A** 0.3HP  
Air Mini Orbital Sander



**ZP385MK / ZP385AK** 0.3HP  
Air Mini Orbital Sander Kit

[ KIT Contents ]

- 2" / 3" Mini Orbital Sander (ZP385M or ZP385A) 1 pc
- 320 Grit Sanding Disc 10 pcs
- 400 Grit Sanding Disc 10 pcs
- 600 Grit Sanding Disc 10 pcs
- 2" Hook & Loop Type Pad 1 pc
- 3" Hook & Loop Type Pad 1 pc



**ZP386A** 0.3HP  
Air Mini Sander



**ZP386AK** 0.3HP  
Air Mini Sander Kit

[ KIT Contents ]

- 3" Mini Sander (ZP386A) 1 pc
- 80 Grit Sanding Disc 10 pcs
- 100 Grit Sanding Disc 10 pcs
- 120 Grit Sanding Disc 10 pcs
- Coarse Preparation Disc 1 pc
- Medium Preparation Disc 1 pc
- Fine Surface Preparation Disc 1 pc



**ZP387M / ZP387A** 0.3HP  
Air Mini Polisher



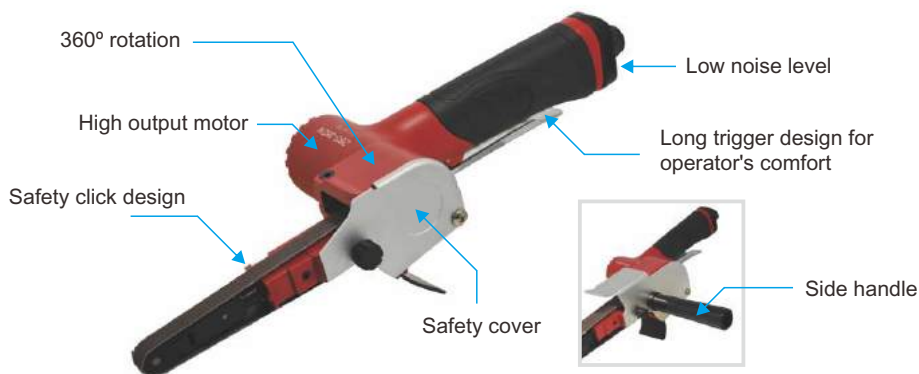
**ZP387MK / ZP387AK** 0.3HP  
Air Mini Polisher Kit

[ KIT Contents ]

- 3" Mini Polisher (ZP387M or ZP387A) 1 pc
- 3" Hard Compounding Pad 1 pc
- 3" Soft Compounding Pad 1 pc
- 3-1/2" Lambs wool Bonnet 1 pc
- 3" Hook & Loop Backing Pad 1 pc

Model	Pad Size inch(mm)	Spindle Thread inch(mm)	Free Speed rpm	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Overall Length inch(mm)	Air Inlet Size inch-NPT/PT	Minch Hose Size inch(mm)
<b>ZP385M</b>	2(51) or 3(76)	(M6)	16000	4(113)	2(0.98)	4-11/16(120)	1/4	3/8(10)
<b>ZP385A</b>	2(51) or 3(76)	5/16-24 UNC	16000	4(113)	2(0.98)	4-11/16(120)	1/4	3/8(10)
<b>ZP386A</b>	3(76)	1/4-20 UNC	18000	4(113)	1.5(0.68)	4-11/16(120)	1/4	3/8(10)
<b>ZP387M</b>	3(76)	(M6)	2000	4(113)	1.6(0.75)	5-1/4(138)	1/4	3/8(10)
<b>ZP387A</b>	3(76)	5/16-24 UNC	2000	4(113)	1.6(0.75)	5-1/4(138)	1/4	3/8(10)

# Air Belt Sander



- Low Vibration & Ergonomic handle design
- Easy changing sand belt
- 360° degree sanding direction



**ZBS-382 0.5HP**  
Air Belt Sander



**ZBS-383 0.5HP**  
Air Belt Sander



**ZBS-385 0.8HP**  
Air Belt Sander

Model	Wheel Material	Size of Belt mm	Free Speed rpm	Overall Length inch(mm)	Air Inlet Size inch-NPT/PT	Air Hose (I.D.)	Avg. Air Cons. cfm	Net Weight lbs(kgs)
ZBS-382A	RUBBER WHEEL	10X330	17000	12.83(326)	1/4	3/8"	4	1.94(0.88)
ZBS-382N	STEEL WHEEL	10X330	17000	12.83(326)	1/4	3/8"	4	1.94(0.88)
ZBS-382N1	STEEL WHEEL	6X457	17000	15.35(390)	1/4	3/8"	4	2.86(1.3)
ZBS-382N2	STEEL WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.18(0.99)
ZBS-382N3	STEEL WHEEL	13X457	17000	15.35(390)	1/4	3/8"	4	2.07(0.94)
ZBS-382N4	STEEL WHEEL	13X610	17000	17.72(450)	1/4	3/8"	4	2.18(0.99)
ZBS-382N5	STEEL WHEEL	13X330	17000	12.83(326)	1/4	3/8"	4	1.98(0.9)
ZBS-382N6	STEEL WHEEL	15X475	17000	15.35(390)	1/4	3/8"	4	1.98(0.9)
ZBS-382N7	STEEL WHEEL	8X475	17000	15.35(390)	1/4	3/8"	4	2.86(1.3)
ZBS-383	RUBBER WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.93(1.33)
ZBS-383A	RUBBER WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.93(1.33)
ZBS-383N	STEEL WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.93(1.33)
ZBS-383A1	RUBBER WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.93(1.33)
ZBS-383A2	RUBBER WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.93(1.33)
ZBS-383N1	STEEL WHEEL	20X330	17000	12.8(325)	1/4	3/8"	4	1.98(0.9)
ZBS-383N2	STEEL WHEEL	20X520	17000	16.02(407)	1/4	3/8"	4	2.18(0.99)
ZBS-385A	RUBBER WHEEL	30X540	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385A1	RUBBER WHEEL	20X520	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385N	STEEL WHEEL	30X540	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385Z2A	RUBBER WHEEL	20X520	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385Z2N	STEEL WHEEL	20X520	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385Z3A	RUBBER WHEEL	30X540	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)
ZBS-385Z3N	STEEL WHEEL	30X540	13000	16.34(415)	1/4	3/8"	5	3.3(1.5)



**ZBS-3892/ZBS-3893**  
Air Belt Sander



**ZBS-3894**  
Air Belt Sander



**ZBS-371**  
Air Belt Sander



**ZBS-371K**  
Air Belt Sander Kit



**371-AA**  
Contact Arm Assy  
for belt wide 8&10



**371-AD**  
Contact Arm Assy  
for belt wide 10&12



**371-BB**  
Contact Arm Assy  
for belt wide 3



**371-BF**  
Contact Arm Assy  
for belt wide 8&10



**371-BG**  
Contact Arm Assy  
for belt wide 3&5



**371-BH**  
Contact Arm Assy  
for belt wide 5&6



**371-CC**  
Contact Arm Assy  
for belt wide 10&12



**371-DE**  
Contact Arm Assy  
for belt wide 8&10

[ KIT Contents ]

- ZBS-371 1 pc
- 371-AA 1 pc
- 371-AD 1 pc
- 371-BB 1 pc
- 371-BF 1 pc
- 371-BG 1 pc
- 371-BH 1 pc
- 371-CC 1 pc
- 371-DE 1 pc
- 3 pcs Belt of Each Arm (#80, #100, #120) 24 pcs
- Blow Case 1 pc

Model	Wheel Material	Size of Belt mm	Free Speed rpm	Overall Length inch(mm)	Air Inlet Size inch-NPT/PT	Air Hose (I.D.)	Avg. Air Cons. cfm	Net Weight lbs(kgs)
<b>ZBS-3892</b>	STEEL WHEEL	20X640	13000	16.34(415)	1/4	3/8"	4	3.3(1.5)
<b>ZBS-3893A</b>	RUBBER WHEEL	30X640	13000	16.34(415)	1/4	3/8"	4	3.3(1.5)
<b>ZBS-3893G</b>	RUBBER WHEEL	30X760	3300	16.34(415)	1/4	3/8"	4	3.3(1.5)
<b>ZBS-3894</b>	RUBBER WHEEL	40X750	13000	16.34(415)	1/4	3/8"	4	3.3(1.5)
<b>ZBS-3894G</b>	RUBBER WHEEL	40X760	3300	16.34(415)	1/4	3/8"	4	3.3(1.5)
<b>ZBS-371</b>	STEEL WHEEL	10X330	16000	11.6(295)	1/4	3/8"	5	2.09(0.95)



**ZAP-342L 0.5HP** (2600rpm)  
Right Angle Buffer, 3" Diameter  
(3" Rotary Right Angle Polisher)



**ZAP3308 0.5HP** (4000rpm)  
**ZAP330825 0.5HP** (2400rpm)  
Angle Sander / Polisher



**Z26041** 3/8"x16NC  
**ZBT22749** M16-x2  
**ZBT22750** M14-x2  
**ZBT22751** 5/8"x11NC  
**Z23138** 1/4"x20

### ADAPTERS



**ZAP308 1HP** (4000rpm)  
**ZAP30825 1HP** (2400rpm)  
Angle Sander / Polisher



**ZBT1650-05G**  
5" FINE GRAY  
POLISHING PAD



**ZBT1650-03G**  
3" FINE GRAY  
POLISHING PAD



**ZBT1650-05Y**  
5" COARSE YELLOW  
POLISHING PAD



**ZBT1650-03Y**  
3" COARSE YELLOW  
POLISHING PAD



**ZBT1650-05W**  
5" WOOL WHEEL



**ZBT1650-03W**  
3" WOOL WHEEL



180° Rotational Handle



**Z210K-8**  
3" POLOC PAD



**ZBT22748**  
STRIPPING WHEEL



**Z26036-7**  
RUBBER ERASER



**ZBTOB-386V0Y-T10**  
5" PAD (Hook-up)



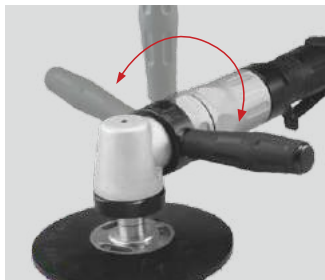
**ZBTOB-38-3V0Y-W80**  
3" 80g PAD (Hook-up)

Model	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAP-342L</b>	5/16"-24	2.6(1.2)	12.1(307)	2600	1/4	3/8(10)	3.5
<b>ZAP3308/ZAP330825</b>	5/16"-24	2.2(1)	8.8(225)	4000/2400	1/4	3/8(10)	3.5
<b>ZAP308/ZAP30825</b>	5/16"-24	2.2(1)	8.8(225)	4000/2400	1/4	3/8(10)	4.1

- Excellent for roughing body filler, rust removal, and smoothing welds.
- Both hands operating.
- Lightweight for easy handling.
- Outperforms than regular ones.

**ZAS-982** **1.3HP** (4500rpm)  
7" Angle Sander

**ZAS-983** **1.3HP** (2500rpm)  
7" Angle Polisher



180° Rotational Handle



Spindle Lock



Low noise design



**ZBT871-07W**  
7" Wool pad



**ZST77152** (5/8"-11 Thread)  
**ZST77152-1** (M14x2 Thread)  
7" Pad Hook-up



**ZST87158** (5/8"-11 Thread)  
**ZST87158.1** (M14x2 Thread)  
7" Plastic Pad



**ZST870S60** (5/8"-11 Thread)  
**ZST870S60.1** (M14x2 Thread)  
7" Rubber Backing Pad

Model	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAS-982</b>	5/8"-11, M14x2	5.1(2.3)	12.9(328)	4500	1/4	3/8(10)	3.8
<b>ZAS-983</b>	5/8"-11, M14x2	5.1(2.3)	12.9(328)	2500	1/4	3/8(10)	3.8



# Angle Sander / Angle Polisher

## ZAP-882 **1HP** (2500rpm)

7" Angle Polisher

### Benefits

- Powerful motor for productivity
- Maximize operator comfort
- Lightweight with side handle for easy handling
- Excellent for buffing and polishing flat and contoured surfaces

### Features

- Heavy-duty angle polisher
- 1.0 hp precision motor
- Built-in air regulator
- High quality alloy steel bevel gears with well hardened and ground
- Delivered with optional 7" Pad



## ZAS-883 **1HP** (4000rpm)

7" Angle Sander

### Benefits

- Powerful motor for productivity
- Low vibrations and durability
- Lightweight with side handle for easy handling
- Perfect for weld smoothing, paint, rust and stone removal

### Features

- Heavy-duty angle sander
- 1.0 hp precision motor
- Built-in air regulator
- High quality alloy steel bevel gears with well hardened and ground
- Delivered with optional 7" Pad
- Muffled rear exhaust



**ZBT871-07W**  
7" Wool pad



**ZST77152** (5/8"-11 Thread)  
**ZST77152-1** (M14x2 Thread)  
7" Pad Hook-up



**ZST87158** (5/8"-11 Thread)  
**ZST87158.1** (M14x2 Thread)  
7" Plastic Pad



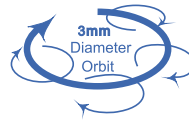
**ZST870S60** (5/8"-11 Thread)  
**ZST870S60.1** (M14x2 Thread)  
7" Rubber Backing Pad

Model	Spindle Thread	Net Weight lbs(kgs)	Length inch(mm)	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZAP-882</b>	5/8"-11, M14x2	3.9(1.7)	13.6(345)	2500	1/4	3/8(10)	3.8
<b>ZAS-883</b>	5/8"-11, M14x2	3.9(1.7)	13.6(345)	4000	1/4	3/8(10)	3.8

### AS-110

110° Air Angle Sander

- Rubber Sleeve for operator's comfort.
- Safety Trigger.
- 110° degree one piece housing design for longer life time.
- Adjustable Speed Regulator.
- Rear Exhaust.



### AOS-90-030

90° 2" Air Angle Orbital Sander

- Rubber Sleeve for operator's comfort.
- Safety Trigger.
- 90° degree one piece housing design for longer life time.
- Adjustable Speed Regulator.
- Rear Exhaust.



### ZDS-6637S 0.7HP

### ZDS-6651S 0.7HP

5" Dia. Disc Sanders

- Includes ZDS-6637S Locking-Type Pad (5" diameter): pad mounts to tool spindle without adapters.
- Governor speed control maintains rpm under load.
- Gearless for reduced maintenance and down-time.
- Removable side handle.



### ZOS-343 0.5HP

3" Orbital Sander

- Ideal for headlamp, windshield and small area repair and finishing.
- 2.5mm orbital diameter.



### ZP351 0.25HP

\*Non-vacuum.

3" Mini Orbital Palm Sander



0.25HP

**ZP354-5** Non-vacuum.

**ZP354-5C** Central vacuum.

**ZP354-5S** Self-Generated Vacuum

5" Air Random Orbital Sander



0.25HP

**ZP354-6** Non-vacuum.

**ZP354-6C** Central vacuum.

**ZP354-6S** Self-Generated Vacuum

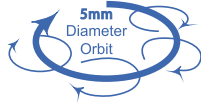
6" Air Random Orbital Sander

Model	Pad Size inch(mm)	Free Speed rpm	Avg. Air Cons. cfm(l/min)	Operating Air Pressure psi(bar)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Sound Pressure dB(A)
AS-110	2(51) or 3(76)	18000	7.07(200)	90(6.2)	1.19(0.54)	1/4	3/8(10)	85
AOS-90-030	2(51)	15000	7.07(200)	90(6.2)	1.43(0.65)	1/4	3/8(10)	87
ZDS-6637S/6651S	5(127)	2600/4000	4	90(6.2)	2(0.9)	1/4	3/8(10)	—
ZP351	3(76)	12000	2.5(70.8)	90(6.2)	1.54(0.7)	1/4	3/8(10)	81
ZOS-343	3(76)	15000	3.5(99.1)	90(6.2)	1.5(0.7)	1/4	3/8(10)	86
ZP354-5/6	5(127)/6(152)	12000	2.5(70.8)	90(6.2)	1.8(0.8)	1/4	3/8(10)	82
ZP354-5C/6C	5(127)/6(152)	12000	2.5(70.8)	90(6.2)	1.8(0.8)	1/4	3/8(10)	82
ZP354-5S/6S	5(127)/6(152)	12000	2.5(70.8)	90(6.2)	1.7(0.78)	1/4	3/8(10)	82



**ZOS-5N / ZOS-6N 0.3HP**

5"/6" Non-Vac.  
Random Orbital Sander



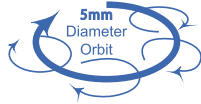
**ZOS-5NF / ZOS-6NF 0.3HP**

5"/6" Oil-Free Non-Vac.  
Random Orbital Sander



**ZOS-5C / ZOS-6C 0.3HP**

5"/6" Central-Vacuum  
Random Orbital Sander



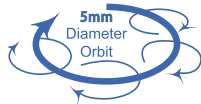
**ZOS-5CF / ZOS-6CF 0.3HP**

5"/6" Oil-Free Central-Vacuum  
Random Orbital Sander



**ZOS-5S / ZOS-6S 0.3HP**

5"/6" Self-Generated  
Vacuum Random Orbital Sander



**ZOS-5SF / ZOS-6SF 0.3HP**

5"/6" Oil-Free Self-Generated  
Vacuum Random Orbital Sander



Model	Pad Size inch(mm)	Free Speed rpm	Avg. Air Cons. cfm(l/min)	Operating Air Pressure psi(bar)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Sound Pressure dB(A)
<b>ZOS-5N</b> <b>ZOS-6N</b>	5(127) 6(152)	12000	6(170)	90(6.2)	1.86(0.84) 1.97(0.89)	1/4	3/8(10)	83
<b>ZOS-5C</b> <b>ZOS-6C</b>	5(127) 6(152)	12000	6(170)	90(6.2)	2.01(0.91) 2.12(0.96)	1/4	3/8(10)	83
<b>ZOS-5S</b> <b>ZOS-6S</b>	5(127) 6(152)	12000	6(170)	90(6.2)	2.01(0.91) 2.12(0.96)	1/4	3/8(10)	83
<b>ZOS-5NF</b> <b>ZOS-6NF</b>	5(127) 6(152)	12000	6(170)	90(6.2)	1.61(0.73) 1.72(0.78)	1/4	3/8(10)	83
<b>ZOS-5CF</b> <b>ZOS-6CF</b>	5(127) 6(152)	12000	6(170)	90(6.2)	1.77(0.8) 1.88(0.85)	1/4	3/8(10)	83
<b>ZOS-5SF</b> <b>ZOS-6SF</b>	5(127) 6(152)	12000	6(170)	90(6.2)	1.77(0.8) 1.88(0.85)	1/4	3/8(10)	83



**Random Orbital Polisher**

- Excellent for swirl-free polishing
- Probably the best polisher in the world!

**ZOP-35 0.3HP** (Orbital 5mm)  
3" Random Orbital Polisher



**ZOP-55 0.3HP** (Orbital 5mm)  
5" Random Orbital Polisher



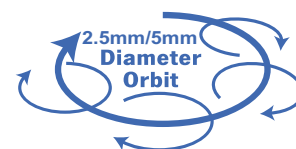
**ZHOP-510 0.5HP** (Orbital 10mm)  
5" Random Orbital Polisher



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit mm	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZOP-35</b>	3(75)	1.3(0.5)	5	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOP-55</b>	5(125)	1.5(0.7)	5	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZHOP-510</b>	5(125)	2.6(1.2)	10	80	0.8	11000	1/4	3/8(10)	3

# Random Orbital Sanders

- Low vibration for swirl-free finishes.
- Durable, lightweight composite housing design.
- Include low profile balanced sanding pad.



## 2.5mm (3" 80g PAD) Random Orbital Sanders

Non-Vacuum

**ZOS3-214-N3** 0.3HP 3"(75mm)



Central Vacuum

**ZOS3-214-C3** 0.3HP 3"(75mm)



Self-Generated Vacuum

**ZOS3-214-S3** 0.3HP 3"(75mm)



## 2.5mm Random Orbital Sanders

Non-Vacuum

**ZOS3-214-N5** 0.3HP 5"(125mm)

**ZOS3-214-N6** 0.3HP 6"(150mm)



Central Vacuum

**ZOS3-214-C5** 0.3HP 5"(125mm)

**ZOS3-214-C6** 0.3HP 6"(150mm)



Self-Generated Vacuum

**ZOS3-214-S5** 0.3HP 5"(125mm)

**ZOS3-214-S6** 0.3HP 6"(150mm)



## 5mm Random Orbital Sanders

Non-Vacuum

**ZOS-214-N5** 0.3HP 5"(125mm)

**ZOS-214-N6** 0.3HP 6"(150mm)



Central Vacuum

**ZOS-214-C5** 0.3HP 5"(125mm)

**ZOS-214-C6** 0.3HP 6"(150mm)



Self-Generated Vacuum

**ZOS-214-S5** 0.3HP 5"(125mm)

**ZOS-214-S6** 0.3HP 6"(150mm)



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZOS-214-N5/C5/S5</b>	5(125)	2(0.9)	3/16(5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS-214-N6/C6/S6</b>	6(150)	2(0.9)	3/16(5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS3-214-N5/C5/S5</b>	5(125)	2(0.9)	3/32(2.5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS3-214-N6/C6/S6</b>	6(150)	2(0.9)	3/32(2.5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS3-214-N3/C3/S3</b>	3(75)	1.8(0.8)	3/32(2.5)	80	0.8	11000	1/4	3/8(10)	1.6

- Low vibration for swirl-free finishes.
- Durable, lightweight composite housing design.
- Include low profile balanced sanding pad.



## 2.5mm Random Orbital Sanders

Non-Vacuum

**ZOS01-3-N5** 0.3HP 5"(125mm)  
**ZOS01-3-N6** 0.3HP 6"(150mm)



Central Vacuum

**ZOS01-3-C5** 0.3HP 5"(125mm)  
**ZOS01-3-C6** 0.3HP 6"(150mm)



Self-Generated Vacuum

**ZOS01-3-S5** 0.3HP 5"(125mm)  
**ZOS01-3-S6** 0.3HP 6"(150mm)



## 5mm Random Orbital Sanders

Non-Vacuum

**ZOS01-N5** 0.3HP 5"(125mm)  
**ZOS01-N6** 0.3HP 6"(150mm)



Central Vacuum

**ZOS01-C5** 0.3HP 5"(125mm)  
**ZOS01-C6** 0.3HP 6"(150mm)



Self-Generated Vacuum

**ZOS01-S5** 0.3HP 5"(125mm)  
**ZOS01-S6** 0.3HP 6"(150mm)



## 10mm Random Orbital Sanders

Non-Vacuum

**ZOS01-9-N5** 0.3HP 5"(125mm)  
**ZOS01-9-N6** 0.3HP 6"(150mm)



Central Vacuum

**ZOS01-9-C5** 0.3HP 5"(125mm)  
**ZOS01-9-C6** 0.3HP 6"(150mm)



Self-Generated Vacuum

**ZOS01-9-S5** 0.3HP 5"(125mm)  
**ZOS01-9-S6** 0.3HP 6"(150mm)

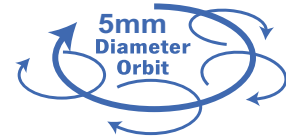


Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZOS01-N5/C5/S5</b>	5(125)	2(0.9)	3/16(5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS01-N6/C6/S6</b>	6(150)	2(0.9)	3/16(5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS01-3-N5/C5/S5</b>	5(125)	2(0.9)	3/32(2.5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS01-3-N6/C6/S6</b>	6(150)	2(0.9)	3/32(2.5)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS01-9-N5/C5/S5</b>	5(125)	2(0.9)	3/8(10)	80	0.8	11000	1/4	3/8(10)	1.6
<b>ZOS01-9-N6/C6/S6</b>	6(150)	2(0.9)	3/8(10)	80	0.8	11000	1/4	3/8(10)	1.6

**ZTHS-C5** **0.5HP** (3/16"(5mm)Orbit) (5"(125mm)Pad)

**ZTHS-C6** **0.5HP** (3/16"(5mm)Orbit) (6"(150mm)Pad)

Central Vacuum 2-Hand Random Orbital Sanders



**Benefits**

- Powerful and lightweight.
- Lube Free Design eliminates contamination of the work environment.
- 3-in-1 hose design same as FESTOOL IAS 2 Connection. supplies air, extracts dust, and provides an exhaust all through one hose.

**Features**

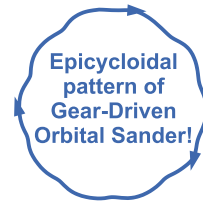
- Ergonomic housing design.
- Hardened Steel Alloy Cylinder for more durable & longevity.
- Innovative Anti-Dust Protection system.
- Lube Free Design eliminates contamination of the work environment



**ZTHG-C5** **0.5HP** (3/16"(5mm)Orbit) (5"(125mm)Pad)

**ZTHG-C6** **0.5HP** (3/16"(5mm)Orbit) (6"(150mm)Pad)

Central Vacuum 2-Hand Gear-Driven Sanders



**Benefits**

- Powerful and lightweight.
- 900 rpm motor produces excellent low speed torque.
- Unique epicycloidal pad motion generates torque-enhanced power, for consistent material removal.
- Lube Free Design eliminates contamination of the work environment.
- 3-in-1 hose design same as FESTOOL IAS 2 Connection. supplies air, extracts dust, and provides an exhaust all through one hose.

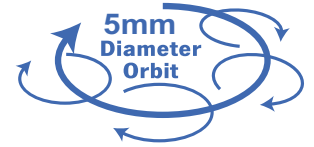
**Features**

- Long handle design for easy two-handed control.
- High quality alloy steel of gear driven gear with precision teeth design for durable tool life.
- Speed control lever is conveniently located for easy thumb adjustment.
- 3-in-1 hose design same as FESTOOL IAS 2 Connection.



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZTHS-C5</b>	5(125)	2.6(1.2)	3/16(5)	10000	1/4	3/8(10)	3
<b>ZTHS-C6</b>	6(150)	2.6(1.2)	3/16(5)	10000	1/4	3/8(10)	3
<b>ZTHG-C5</b>	5(125)	3.3(1.5)	3/16(5)	900	1/4	3/8(10)	3
<b>ZTHG-C6</b>	6(150)	3.5(1.6)	3/16(5)	900	1/4	3/8(10)	3

- The 2-hand handle and low vibration combined to provide superior control and flawless finishes.
- Durable lightweight composite housing design.



### 5mm 2-Hand Random Orbital Sanders

Non-Vacuum

**ZP347-5** 0.5HP 5"(125mm)

Central Vacuum

**ZP347-C5** 0.5HP 5"(125mm)

Self-Generated Vacuum

**ZP347-S5** 0.5HP 5"(125mm)



Non-Vacuum

**ZP347-6** 0.5HP 6"(150mm)

Central Vacuum

**ZP347-C6** 0.5HP 6"(150mm)

Self-Generated Vacuum

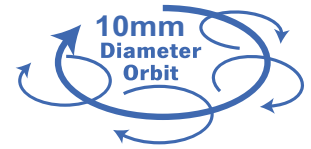
**ZP348** 0.5HP 6"(150mm)



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZP347-5/C5/S5</b>	5(125)	2.6(1.2)	3/16(5)	80	0.8	10000	1/4	3/8(10)	3
<b>ZP347-6/C6</b>	6(150)	2.6(1.2)	3/16(5)	80	0.8	10000	1/4	3/8(10)	3
<b>ZP348</b>	6(150)	2.6(1.2)	3/16(5)	80	0.8	10000	1/4	3/8(10)	3



- Large orbit for removing heavy material with swirl-free finish.
- Durable lightweight composite housing design.



## 10mm 2-Hand Random Orbital Sanders

Non-Vacuum

**ZP349-5** 0.5HP 5"(125mm)



Central Vacuum

**ZP349-C5** 0.5HP 5"(125mm)



Self-Generated Vacuum

**ZP349-S5** 0.5HP 5"(125mm)



Non-Vacuum

**ZP349-6** 0.5HP 6"(150mm)



Central Vacuum

**ZP349-C6** 0.5HP 6"(150mm)



Self-Generated Vacuum

**ZP350** 0.5HP 6"(150mm)



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZP349-5/C5/S5</b>	5(125)	2.6(1.2)	3/8(10)	80	0.8	10000	1/4	3/8(10)	3
<b>ZP349-6/C6</b>	6(150)	2.6(1.2)	3/8(10)	80	0.8	10000	1/4	3/8(10)	3
<b>ZP350</b>	6(150)	2.6(1.2)	3/8(10)	80	0.8	10000	1/4	3/8(10)	3

- The strength and power of this sander lets you remove heavy material and body filler on large, flat surfaces leaving a swirl-free finish.
- A long life, vibration-free performance



### 2-Hand Gear-Driven Sanders

Non-Vacuum

**ZP337-5** 0.5HP 5"(125mm)



Central Vacuum

**ZP337-C5** 0.5HP 5"(125mm)



Self-Generated Vacuum

**ZP337-S5** 0.5HP 5"(125mm)



Non-Vacuum

**ZP337-6** 0.5HP 6"(150mm)



Central Vacuum

**ZP337-C6** 0.5HP 6"(150mm)



Self-Generated Vacuum

**ZP337-S6** 0.5HP 6"(150mm)



Non-Vacuum

**ZGS-N8** 0.5HP 8"(200mm)



Central Vacuum

**ZGS-C8** 0.5HP 8"(200mm)



Self-Generated Vacuum

**ZGS-S8** 0.5HP 8"(200mm)



Model	Pad Dia inch(mm)	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZP337-5/C5/S5</b>	5(125)	3.3(1.5)	3/16(5)	82	<2.5	900	1/4	3/8(10)	3
<b>ZP337-6/C6/S6</b>	6(150)	3.5(1.6)	3/16(5)	82	<2.5	900	1/4	3/8(10)	3
<b>ZGS-N8/C8/S8</b>	8(200)	3.5(1.6)	3/16(5)	82	<2.5	900	1/4	3/8(10)	3

# Heavy Duty Jitterbug Sanders

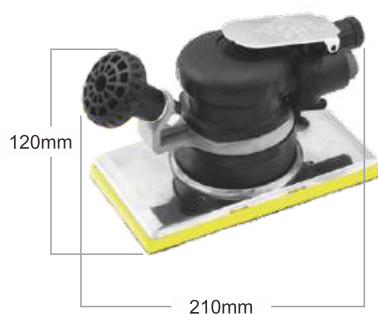
- Smooth, reliable and powerful.
- Long lasting durability with low maintenance.
- For all types of surface preparation and rapid removal of material from large areas.

## Heavy Duty Jitterbug Sanders

Non-Vacuum

**ZJS-NL4C 0.3HP**

**ZJS-NL4AC 0.3HP** (Clip type)



Central Vacuum

**ZJS-CL4C 0.3HP**



Self-Generated Vacuum

**ZJS-SL4C 0.3HP**



Non-Vacuum

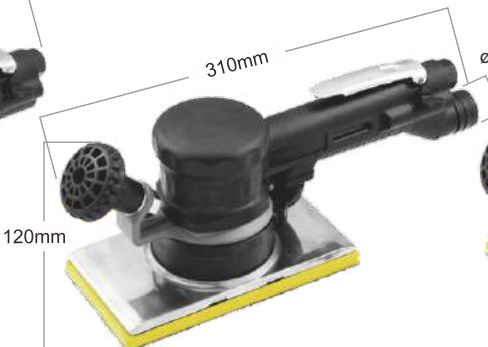
**ZHS-NL4C 0.5HP**

**ZHS-NL4AC 0.5HP** (Clip type)



Central Vacuum

**ZHS-CL4C 0.5HP**



Self-Generated Vacuum

**ZHS-SL4C 0.5HP**



Model	Net Weight lbs(kgs)	Dia. Orbit inch(mm)	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet inch	Min.Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZJS-NL4C/NL4AC/CL4C/SL4C</b>	2.6(1.2)	1/8(3.2)	80	0.8	8500	1/4	3/8(10)	1.6
<b>ZHS-NL4C/NL4AC/CL4C/SL4C</b>	3.3(1.5)	3/16(5)	80	0.8	8500	1/4	3/8(10)	3

- Compact design and comfortable grip.
- Heavy-duty construction for durable operations.
- Pad size: 75mm\*100mm for ZP339, 100mm\*110mm for ZOS-7511g a swirl-free finish.

## Jitterbug Sanders

Non-Vacuum

**ZP339 0.3HP**



Central Vacuum

**ZP339C 0.3HP**



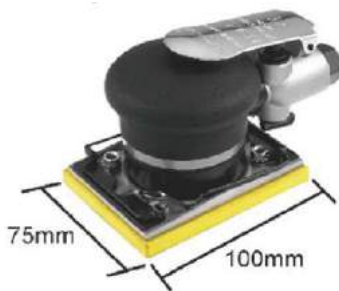
Self-Generated Vacuum

**ZP339S 0.3HP**



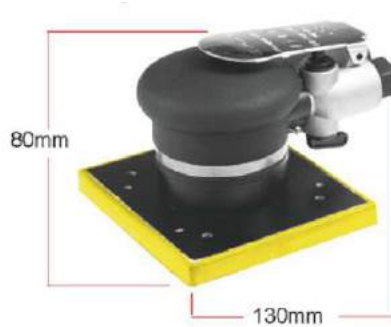
Non-Vacuum

**ZP339A 0.3HP** (Clip type)



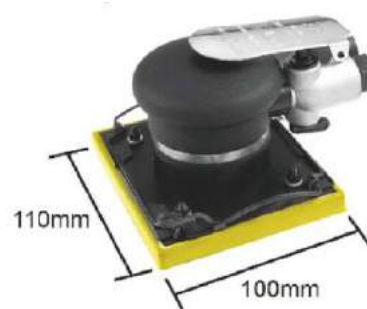
Non-Vacuum

**ZOS-7511 0.3HP**



Non-Vacuum

**ZOS-7511A 0.3HP** (Clip type)



- Compact design and comfortable grip.
- Heavy-duty construction for durable operations.
- Ideal for all types of surface sanding, polishing and scrubbing.

## Delta Sanders

Non-Vacuum

**ZP338 0.3HP**



Central Vacuum

**ZP338C 0.3HP**



Self-Generated Vacuum

**ZP338S 0.3HP**



Model	Net Weight lbs(kgs)	Diameter Orbit	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZP339/339C/339S/339A</b>	1.5(0.7)	3.2	80	0.8	10000	1/4	3/8(10)	1.6
<b>ZOS-7511/7511A</b>	1.5(0.7)	3.2	80	0.8	10000	1/4	3/8(10)	1.6
<b>ZP338/338C/338S</b>	1.5(0.7)	3.2	80	0.8	10000	1/4	3/8(10)	1.6

# Air Jitterbug Sanders

- Smooth, reliable and powerful.
- Long lasting durability with low maintenance.
- For all types of surface preparation and rapid removal of material from large areas.

## Heavy Duty Jitterbug Sanders

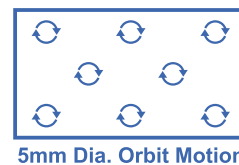
Non-Vacuum

**ZOS-927 0.3HP**



Non-Vacuum

**ZOS-927A 0.3HP** (Clip type)



Non-Vacuum

**ZP356 0.3HP**

**ZP356A 0.3HP** (Clip type)



Central Vacuum

**ZP356-C 0.3HP**



Self-Generated Vacuum

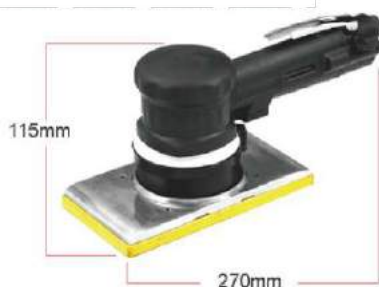
**ZP356-S 0.3HP**



Non-Vacuum

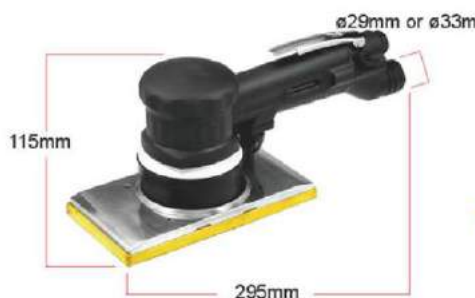
**ZHS-NL4 0.5HP**

**ZHS-NL4A 0.5HP** (Clip type)



Central Vacuum

**ZHS-CL4 0.5HP**

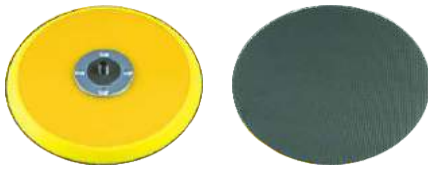


Self-Generated Vacuum

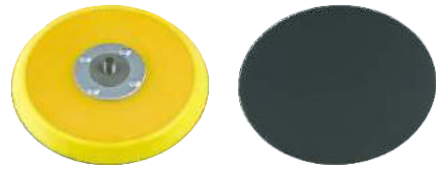
**ZHS-SL4 0.5HP**



Model	Net Weight lbs(kgs)	Diameter Orbit	Noise Level dB(A)	Vibration m/s <sup>2</sup>	rpm	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)	Avg. Air Cons. cfm
<b>ZOS-927/927A</b>	2.4(1.1)	3.2	80	0.8	8500	1/4	3/8(10)	1.6
<b>ZP356/356A</b>	2.6(1.2)	3.2	80	0.8	8500	1/4	3/8(10)	1.6
<b>ZP356-C</b>	2.6(1.2)	3.2	80	0.8	8500	1/4	3/8(10)	1.6
<b>ZP356-S</b>	2.6(1.2)	3.2	80	0.8	8500	1/4	3/8(10)	1.6
<b>ZHS-NL4/NL4A</b>	3.3(1.5)	5	80	0.8	7500	1/4	3/8(10)	3.1
<b>ZHS-CL4</b>	3.3(1.5)	5	80	0.8	7500	1/4	3/8(10)	3.1
<b>ZHS-SL4</b>	3.3(1.5)	5	80	0.8	7500	1/4	3/8(10)	3.1



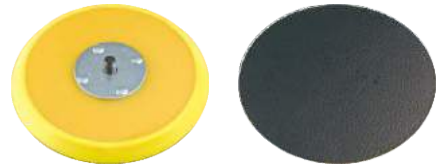
**ZBTOB-38-6V0Y-T10**  
6" PAD Hook-up (No-Hole)



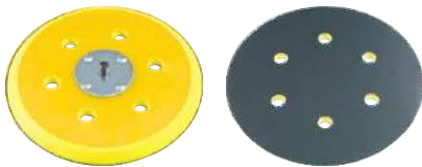
**ZBTOB-38-5V0Y-T10**  
5" PAD Hook-up (No-Hole)



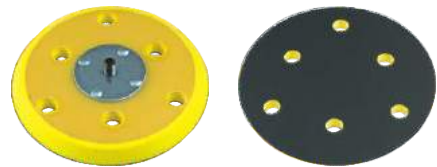
**ZBTOB-38-6P0Y-T10**  
6" PAD PSA (No-Hole)



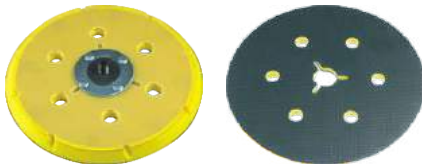
**ZBTOB-38-5P0Y-T10**  
5" PAD PSA (No-Hole)



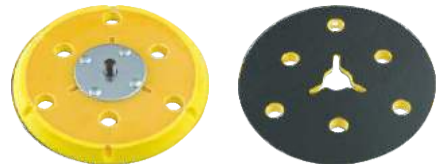
**ZBTOB-38-6V6Y-T10**  
6" PAD Hook-up (6-Hole)



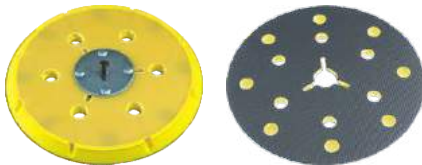
**ZBTOB-38-5V6Y-T10**  
5" PAD Hook-up (6-Hole)



**ZBTOB-38-6V7Y-T10**  
6" PAD Hook-up (7-Hole)



**ZBTOB-38-5V7Y-T10**  
5" PAD Hook-up (7-Hole)



**ZBTOB-38-6V15Y-T10**  
6" PAD Hook-up (15-Hole)



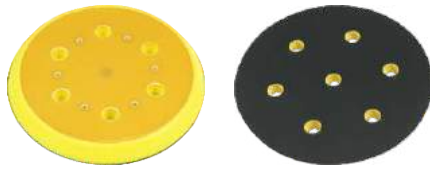
**ZBTOB-38-3V0Y-W80**  
3" PAD Hook-up (No-Hole)



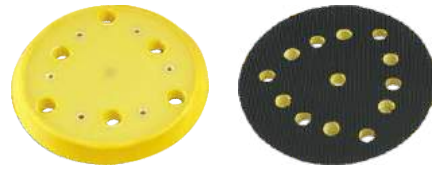
**ZBTOB-38-3V0Y-W30**  
3" PAD Hook-up (No-Hole)



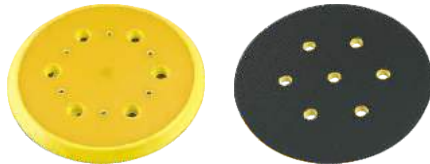
**ZBTOB-38-3V3Y-W80**  
3" PAD Hook-up (3-Hole)



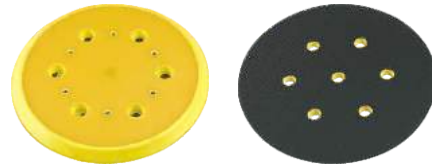
**ZBT2HG-51-5V0Y**  
5" PAD Hook-up (No-Hole)



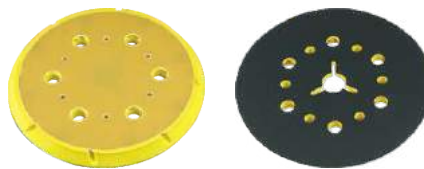
**ZBT2HG-51-5V6Y**  
5" PAD Hook-up (6-Hole)



**ZBT2HG-51-6V0Y**  
6" PAD Hook-up (No-Hole)



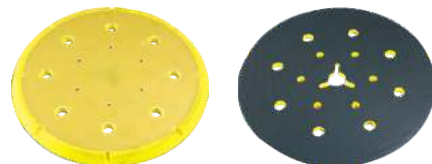
**ZBT2HG-51-6P0Y**  
6" PAD PSA (No-Hole)



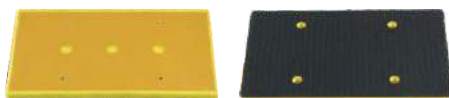
**ZBT2HG4-49-6V7Y**  
6" PAD Hook-up (7-Hole)



**ZBT2HG4-49-8V0Y**  
8" PAD Hook-up (No-Hole)



**ZBT2HG4-49-8V9Y**  
8" PAD Hook-up (9-Hole)



**ZBTL4-40V-100\*180-Y**  
Hook-up (No-Hole)  
95mm x 175mm PAD



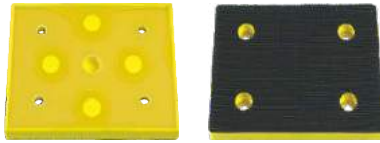
**ZBTL4-40P-100\*180-Y**  
PSA (No-Hole)  
95mm x 175mm PAD



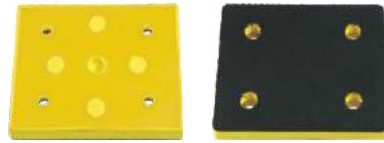
**ZBTL4-40V-100\*180-Y-3\*2\*3**  
Hook-up (8-Hole)  
95mm x 175mm PAD



**ZBTL4-40V-100\*180-Y-4\*4**  
Hook-up (8-Hole)  
95mm x 175mm PAD



**ZBT81339V-75\*100-Y**  
Hook-up (No-Hole)  
75mm x 100mm PAD



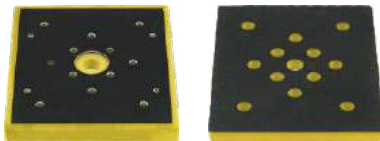
**ZBT81339P-75\*100-Y**  
PSA (No-Hole)  
75mm x 100mm PAD



**ZBT813S37V-75\*100-Y**  
Hook-up (4-Hole)  
75mm x 100mm PAD



**ZBT813S37P-75\*100-Y**  
PSA (4-Hole)  
75mm x 100mm PAD



**ZBT81438V-97\*109-Y**  
Hook-up (No-Hole)  
100mm x 110mm PAD



**ZBT81438P-97\*109-Y**  
PSA (No-Hole)  
100mm x 110mm PAD



**ZBT81539V-Y**  
Hook-up (No-Hole)  
**ZBT81539P-Y**  
PSA (No-Hole)  
75mm x 100mm PAD



**ZBT815S41-V-Y**  
Hook-up (No-Hole)  
75mm x 100mm PAD



**ZBT81642V-100\*110\*1.5-YV-100\*110-Y**  
Hook-up (No-Hole)  
100mm x 110mm PAD(PSA)



**ZBT81642P-100\*110\*1.5-Y(PSA)**  
PSA (No-Hole)  
100mm x 110mm PAD(PSA)





Sandpaper (75mm x 100mm)

- |                 |                  |
|-----------------|------------------|
| ZP-813-4-0-80#  | ZP-813-4-0-400#  |
| ZP-813-4-0-100# | ZP-813-4-0-600#  |
| ZP-813-4-0-120# | ZP-813-4-0-800#  |
| ZP-813-4-0-150# | ZP-813-4-0-1000# |
| ZP-813-4-0-180# | ZP-813-4-0-1200# |
| ZP-813-4-0-240# | ZP-813-4-0-1500# |
| ZP-813-4-0-320# |                  |



Sandpaper (75mm x 100mm)

- |                 |                  |
|-----------------|------------------|
| ZP-813-4-4-80#  | ZP-813-4-4-400#  |
| ZP-813-4-4-100# | ZP-813-4-4-600#  |
| ZP-813-4-4-120# | ZP-813-4-4-800#  |
| ZP-813-4-4-150# | ZP-813-4-4-1000# |
| ZP-813-4-4-180# | ZP-813-4-4-1200# |
| ZP-813-4-4-240# | ZP-813-4-4-1500# |
| ZP-813-4-4-320# |                  |



Sandpaper (100mm x 110mm)

- |                 |                  |
|-----------------|------------------|
| ZP-814-4-0-80#  | ZP-814-4-0-400#  |
| ZP-814-4-0-100# | ZP-814-4-0-600#  |
| ZP-814-4-0-120# | ZP-814-4-0-800#  |
| ZP-814-4-0-150# | ZP-814-4-0-1000# |
| ZP-814-4-0-180# | ZP-814-4-0-1200# |
| ZP-814-4-0-240# | ZP-814-4-0-1500# |
| ZP-814-4-0-320# |                  |



Sandpaper (75mm x 100mm)

- |                 |                  |
|-----------------|------------------|
| ZP-815-3-0-80#  | ZP-815-3-0-400#  |
| ZP-815-3-0-100# | ZP-815-3-0-600#  |
| ZP-815-3-0-120# | ZP-815-3-0-800#  |
| ZP-815-3-0-150# | ZP-815-3-0-1000# |
| ZP-815-3-0-180# | ZP-815-3-0-1200# |
| ZP-815-3-0-240# | ZP-815-3-0-1500# |
| ZP-815-3-0-320# |                  |



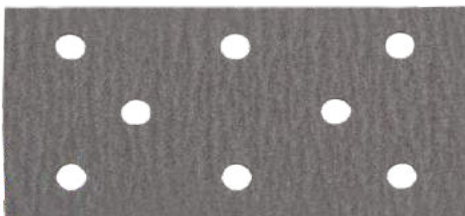
Sandpaper (75mm x 100mm)

- |                 |                  |
|-----------------|------------------|
| ZP-815-3-4-80#  | ZP-815-3-4-400#  |
| ZP-815-3-4-100# | ZP-815-3-4-600#  |
| ZP-815-3-4-120# | ZP-815-3-4-800#  |
| ZP-815-3-4-150# | ZP-815-3-4-1000# |
| ZP-815-3-4-180# | ZP-815-3-4-1200# |
| ZP-815-3-4-240# | ZP-815-3-4-1500# |
| ZP-815-3-4-320# |                  |



Sandpaper (95mm x 175mm)

- |                |                 |
|----------------|-----------------|
| ZP-L4-4-0-80#  | ZP-L4-4-0-400#  |
| ZP-L4-4-0-100# | ZP-L4-4-0-600#  |
| ZP-L4-4-0-120# | ZP-L4-4-0-800#  |
| ZP-L4-4-0-150# | ZP-L4-4-0-1000# |
| ZP-L4-4-0-180# | ZP-L4-4-0-1200# |
| ZP-L4-4-0-240# | ZP-L4-4-0-1500# |
| ZP-L4-4-0-320# |                 |



Sandpaper (95mm x 175mm)

- |                  |                   |
|------------------|-------------------|
| ZP-L4-3X2X3-80#  | ZP-L4-3X2X3-320#  |
| ZP-L4-3X2X3-100# | ZP-L4-3X2X3-600#  |
| ZP-L4-3X2X3-120# | ZP-L4-3X2X3-800#  |
| ZP-L4-3X2X3-150# | ZP-L4-3X2X3-1000# |
| ZP-L4-3X2X3-180# | ZP-L4-3X2X3-1200# |
| ZP-L4-3X2X3-240# | ZP-L4-3X2X3-1500# |

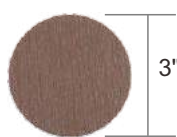


Sandpaper (95mm x 175mm)

- |                |                 |
|----------------|-----------------|
| ZP-L4-4x4-80#  | ZP-L4-4x4-400#  |
| ZP-L4-4x4-100# | ZP-L4-4x4-600#  |
| ZP-L4-4x4-120# | ZP-L4-4x4-800#  |
| ZP-L4-4x4-150# | ZP-L4-4x4-1000# |
| ZP-L4-4x4-180# | ZP-L4-4x4-1200# |
| ZP-L4-4x4-240# | ZP-L4-4x4-1500# |
| ZP-L4-4x4-320# |                 |

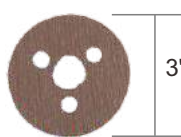
## Feature & Benefit

- Premium P-graded, heat-treated aluminum oxide abrasive for superior life, fast cut rate, and consistent finish.
- Unique fiber-reinforced, B-wt latex-saturated backing provides a 50-60% improvement in tear strength.
- Flexible; can be used wet.
- Water-based stearate, non-pigmented, No-Fil coating provides maximum load resistance and extended life with no color transfer to work.
- Typical applications include preparing primed and painted surfaces for finishing, stripping primer and paint, sanding plastic and fiberglass, and bare wood sanding.



Sandpaper (3")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-3X0-80#  | ZP-ZOS-3X0-400#  |
| ZP-ZOS-3X0-100# | ZP-ZOS-3X0-600#  |
| ZP-ZOS-3X0-120# | ZP-ZOS-3X0-800#  |
| ZP-ZOS-3X0-150# | ZP-ZOS-3X0-1000# |
| ZP-ZOS-3X0-180# | ZP-ZOS-3X0-1200# |
| ZP-ZOS-3X0-240# | ZP-ZOS-3X0-1500# |
| ZP-ZOS-3X0-320# |                  |



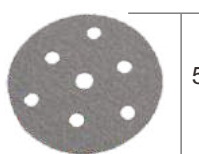
Sandpaper (3")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-3X4-80#  | ZP-ZOS-3X4-400#  |
| ZP-ZOS-3X4-100# | ZP-ZOS-3X4-600#  |
| ZP-ZOS-3X4-120# | ZP-ZOS-3X4-800#  |
| ZP-ZOS-3X4-150# | ZP-ZOS-3X4-1000# |
| ZP-ZOS-3X4-180# | ZP-ZOS-3X4-1200# |
| ZP-ZOS-3X4-240# | ZP-ZOS-3X4-1500# |
| ZP-ZOS-3X4-320# |                  |



Sandpaper (5")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-5X0-80#  | ZP-ZOS-5X0-400#  |
| ZP-ZOS-5X0-100# | ZP-ZOS-5X0-600#  |
| ZP-ZOS-5X0-120# | ZP-ZOS-5X0-800#  |
| ZP-ZOS-5X0-150# | ZP-ZOS-5X0-1000# |
| ZP-ZOS-5X0-180# | ZP-ZOS-5X0-1200# |
| ZP-ZOS-5X0-240# | ZP-ZOS-5X0-1500# |
| ZP-ZOS-5X0-320# |                  |



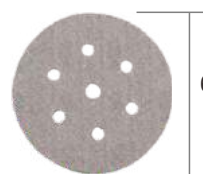
Sandpaper (5")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-5X7-80#  | ZP-ZOS-5X7-400#  |
| ZP-ZOS-5X7-100# | ZP-ZOS-5X7-600#  |
| ZP-ZOS-5X7-120# | ZP-ZOS-5X7-800#  |
| ZP-ZOS-5X7-150# | ZP-ZOS-5X7-1000# |
| ZP-ZOS-5X7-180# | ZP-ZOS-5X7-1200# |
| ZP-ZOS-5X7-240# | ZP-ZOS-5X7-1500# |
| ZP-ZOS-5X7-320# |                  |



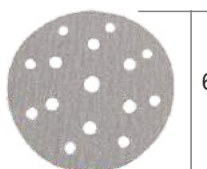
Sandpaper (6")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-6X0-80#  | ZP-ZOS-6X0-400#  |
| ZP-ZOS-6X0-100# | ZP-ZOS-6X0-600#  |
| ZP-ZOS-6X0-120# | ZP-ZOS-6X0-800#  |
| ZP-ZOS-6X0-150# | ZP-ZOS-6X0-1000# |
| ZP-ZOS-6X0-180# | ZP-ZOS-6X0-1200# |
| ZP-ZOS-6X0-240# | ZP-ZOS-6X0-1500# |
| ZP-ZOS-6X0-320# |                  |



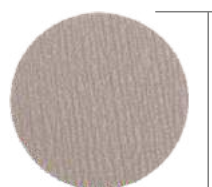
Sandpaper (6")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-6X7-80#  | ZP-ZOS-6X7-400#  |
| ZP-ZOS-6X7-100# | ZP-ZOS-6X7-600#  |
| ZP-ZOS-6X7-120# | ZP-ZOS-6X7-800#  |
| ZP-ZOS-6X7-150# | ZP-ZOS-6X7-1000# |
| ZP-ZOS-6X7-180# | ZP-ZOS-6X7-1200# |
| ZP-ZOS-6X7-240# | ZP-ZOS-6X7-1500# |
| ZP-ZOS-6X7-320# |                  |



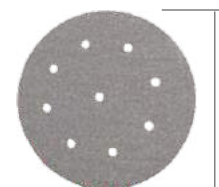
Sandpaper (6")

- |                  |                   |
|------------------|-------------------|
| ZP-ZOS-6X15-80#  | ZP-ZOS-6X15-400#  |
| ZP-ZOS-6X15-100# | ZP-ZOS-6X15-600#  |
| ZP-ZOS-6X15-120# | ZP-ZOS-6X15-800#  |
| ZP-ZOS-6X15-150# | ZP-ZOS-6X15-1000# |
| ZP-ZOS-6X15-180# | ZP-ZOS-6X15-1200# |
| ZP-ZOS-6X15-240# | ZP-ZOS-6X15-1500# |
| ZP-ZOS-6X15-320# |                   |



Sandpaper (8")

- |                 |                  |
|-----------------|------------------|
| ZP-ZOS-8X0-80#  | ZP-ZOS-8X0-400#  |
| ZP-ZOS-8X0-100# | ZP-ZOS-8X0-600#  |
| ZP-ZOS-8X0-120# | ZP-ZOS-8X0-800#  |
| ZP-ZOS-8X0-150# | ZP-ZOS-8X0-1000# |
| ZP-ZOS-8X0-180# | ZP-ZOS-8X0-1200# |
| ZP-ZOS-8X0-240# | ZP-ZOS-8X0-1500# |
| ZP-ZOS-8X0-320# |                  |

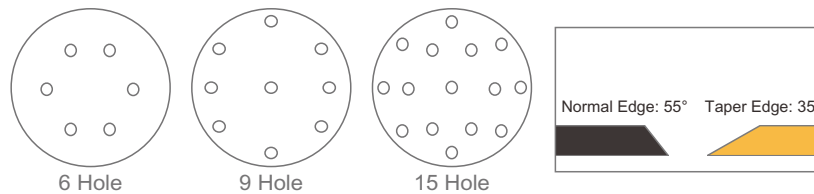


Sandpaper (8")

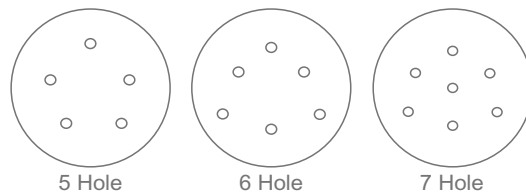
- |                 |                  |
|-----------------|------------------|
| ZP-HG4-8X9-80#  | ZP-HG4-8X9-400#  |
| ZP-HG4-8X9-100# | ZP-HG4-8X9-600#  |
| ZP-HG4-8X9-120# | ZP-HG4-8X9-800#  |
| ZP-HG4-8X9-150# | ZP-HG4-8X9-1000# |
| ZP-HG4-8X9-180# | ZP-HG4-8X9-1200# |
| ZP-HG4-8X9-240# | ZP-HG4-8X9-1500# |
| ZP-HG4-8X9-320# |                  |



## VELCRO 12000 rpm maximum, 5/16"-24 male thread



Model	Description	Thickness	Weight	Color
ZY-Q60-V/ZB-Q60-V	0 Hole	3/8"	130g/120g	Yellow/Black
ZY-Q66-V/ZB-Q66-V	6 Holes	3/8"	130g/120g	Yellow/Black
ZY-S66-V/ZB-S66-V	6 Holes Taper	3/8"	130g/120g	Yellow/Black
ZY-T609-V/ZB-T609-V	9 Holes	1/2"	130g/120g	Yellow/Black
ZY-T69-V/ZB-T69-V	15 Holes	1/2"	130g/120g	Yellow/Black



Model	Description	Thickness	Weight	Color
ZY-Q50-V/ZB-Q50-V	0 Hole	3/8"	130g/95g	Yellow/Black
ZY-Q55-V/ZB-Q55-V	5 Holes	3/8"	130g/95g	Yellow/Black
ZY-Q56-V/ZB-Q56-V	6 Holes	3/8"	130g/95g	Yellow/Black
ZY-Q57-V/ZB-Q57-V	7 Holes	3/8"	130g/95g	Yellow/Black



Model	Description	Thickness	Thread	Weight	Color
ZY-Q30-V6/ZB-Q30-V6	0 Hole	3/8"	M6	35g/25g	Yellow/Black
ZY-B30-V8/ZB-Q30-V8	0 Hole	3/8"	M8	35g/25g	Yellow/Black
ZB-T30-V	0 Hole	5/8"	M8	80g	Black



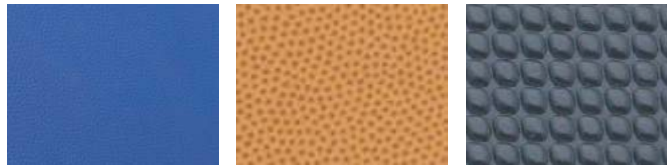
Model	Description	Thickness	Thread	Weight	Color
ZY-Q20-V6/ZB-Q20-V6	0 Hole	3/8"	M6	25g	Yellow/Black
ZY-Q20-V8/ZB-Q20-V8	0 Hole	3/8"	M8	25g	Yellow/Black

## SUPER SOFT 6000 rpm maximum



Model	Description	Thickness	Weight	Color
ZO-Q66-V	6" 6 Holes	3/8"	130g/120g	Orange
ZO-S66-V	6" 6 Holes Taper	3/8"	130g/120g	Orange
ZO-Q50-V	5" 0 Hole	3/8"	130g/95g	Orange

## Anti-Vibration Pads



Blue Vinyl

Basketball Vinyl

Black Dot

### PSA 12000 rpm maximum, 5/16"-24 male thread



6" (152mm)

Model	Description	Thickness	Weight	Color
ZY-Q60-P/ZB-Q60-P	0 Hole Blue Vinyl	3/8"	130g/120g	Yellow/Black
ZY-Q60-C/ZB-Q60-C	0 Hole Basketball Vinyl	3/8"	130g/120g	Yellow/Black
ZY-Q60-D/ZB-Q60-D	0 Hole Black Vinyl	3/8"	130g/120g	Yellow/Black



5" (125mm)

Model	Description	Thickness	Weight	Color
ZY-Q50-P/ZB-Q50-P	0 Hole Blue Vinyl	3/8"	130g/95g	Yellow/Black
ZY-Q50-C/ZB-Q50-C	0 Hole Basketball Vinyl	3/8"	130g/95g	Yellow/Black
ZY-Q50-D/ZB-Q50-D	0 Hole Black Vinyl	3/8"	130g/95g	Yellow/Black



3" (75mm)

Model	Description	Thickness	Thread	Weight	Color
ZY-Q30-P6/ZB-Q30-P6	0 Hole Blue Vinyl	3/8"	M6	35g/25g	Yellow/Black
ZY-Q30-P8/ZB-Q30-P8	0 Hole Blue Vinyl	3/8"	M8	35g/25g	Yellow/Black
ZY-Q30-C6/ZB-Q30-C6	0 Hole Basketball Vinyl	3/8"	M6	35g/25g	Yellow/Black
ZY-Q30-C8/ZB-Q30-C8	0 Hole Basketball Vinyl	3/8"	M8	35g/25g	Yellow/Black



2" (48mm)

Model	Description	Thickness	Thread	Weight	Color
ZY-Q20-P6/ZB-Q20-P6	0 Hole Blue Vinyl	3/8"	M6	25g	Yellow/Black
ZY-Q20-P8/ZB-Q20-P8	0 Hole Blue Vinyl	3/8"	M8	25g	Yellow/Black
ZY-Q20-C6/ZB-Q20-C6	0 Hole Basketball Vinyl	3/8"	M6	25g	Yellow/Black
ZY-Q20-C8/ZB-Q20-C8	0 Hole Basketball Vinyl	3/8"	M8	25g	Yellow/Black

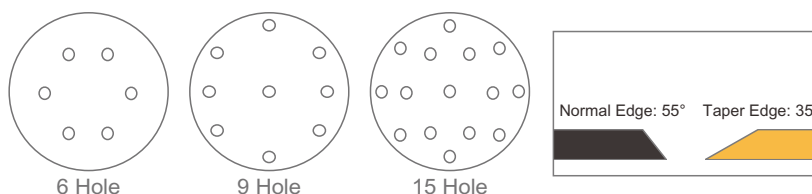
### SUPER SOFT 6000 rpm maximum



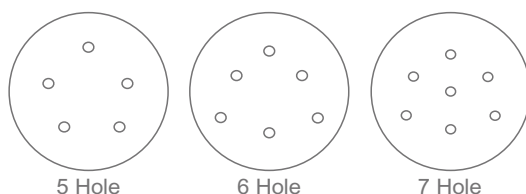
Model	Description	Thickness	Weight	Color
ZO-Q60-P	6" 0 Hole Blue Vinyl	3/8"	130g/120g	Orange
ZO-Q50-P	5" 0 Hole Blue Vinyl	3/8"	130g/95g	Orange
ZO-Q60-C	6" 0 Hole Basketball Vinyl	3/8"	130g/120g	Orange
ZO-Q50-C	5" 0 Hole Basketball Vinyl	3/8"	130g/95g	Orange
ZO-Q60-D	6" 0 Hole Black Vinyl	3/8"	130g/120g	Orange
ZO-Q50-D	5" 0 Hole Black Vinyl	3/8"	130g/95g	Orange



## SHORT NAP 12000 rpm maximum, 5/16"-24 male thread



Model	Description	Thickness	Weight	Color
ZY-Q60-E/ZB-Q60-E	0 Hole	3/8"	130g/120g	Yellow/Black
ZY-Q66-E/ZB-Q66-E	6 Holes	3/8"	130g/120g	Yellow/Black
ZY-S66-SV/ZB-S66-SV	6 Holes Taper	3/8"	130g/120g	Yellow/Black
ZY-T609-E/ZB-T609-E	9 Holes	1/2"	130g/120g	Yellow/Black
ZY-T69-E/ZB-T69-E	15 Holes	1/2"	130g/120g	Yellow/Black



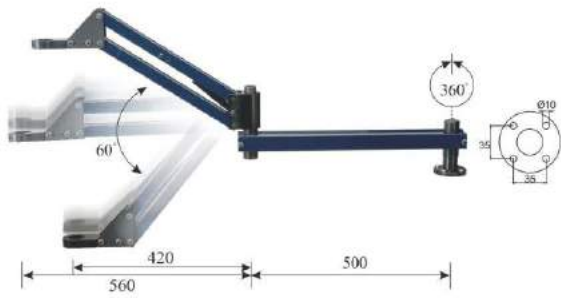
Model	Description	Thickness	Weight	Color
ZY-Q50-E/ZB-Q50-E	0 Hole	3/8"	130g/95g	Yellow/Black
ZY-Q55-E/ZB-Q55-E	5 Holes	3/8"	130g/95g	Yellow/Black
ZY-Q56-E/ZB-Q56-E	6 Holes	3/8"	130g/95g	Yellow/Black
ZY-Q57-E/ZB-Q57-E	7 Holes	3/8"	130g/95g	Yellow/Black



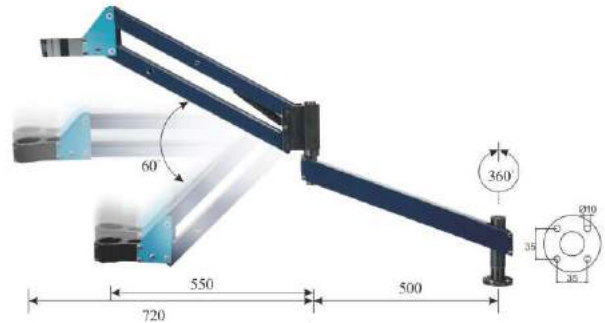
Model	Description	Thickness	Thread	Weight	Color
ZY-Q30-E6/ZB-Q30-E6	0 Hole	3/8"	M6	35g/25g	Yellow/Black
ZY-Q30-E6/ZB-Q30-E8	0 Hole	3/8"	M8	35g/25g	Yellow/Black



Model	Description	Thickness	Thread	Weight	Color
ZY-Q20-E6/ZB-Q20-E6	0 Hole	3/8"	M6	25g	Yellow/Black
ZY-Q20-E8/ZB-Q20-E8	0 Hole	3/8"	M8	25g	Yellow/Black

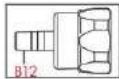


**RB16** Robot Arm



**RB24** Robot Arm

Model	New Weight kg	Tool Diameter mm	Clamping Jaw
<b>RB16</b>	5.89	38/44	
<b>RB24</b>	10.75	56.6	



Handle exhaust

**ZAT22AKH**

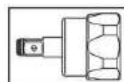
3/8" Air Tapping Tool



Push to start type Rear exhaust

**ZAT415B2**

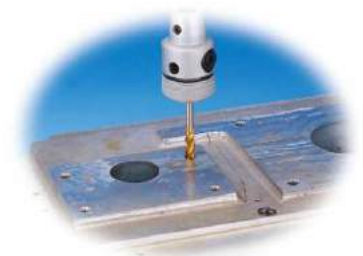
3/8" Air Tapping Tool



Handle exhaust

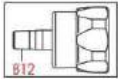
**ZAT712AKI**

3/8" Air Tapping Tool



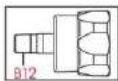
Model	Tapping Capacity Aluminum mm	Tapping Capacity Iron mm	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level dB(A)
<b>ZAT22AKH</b>	3-12	3-8	150	184(6.5)	7.87(200)	1/4	3.79(1.72)	82
<b>ZAT415B2</b>	1-3	1-3	1000	141(5)	11.02(280)	1/4	1.63(0.74)	77
<b>ZAT712AKI</b>	6-12	6-8	150	198(7)	9.65(245)	1/4	3.9(1.77)	82

Specification(air pressure at 90psi, 6.2bar, 6.3kg/cm<sup>2</sup>)



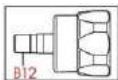
Handle exhaust

**ZAT22AK**  
Air Tapping Tool



Rear exhaust

**ZAT19AK**  
Air Tapping Tool



Rear exhaust

**ZAT23AK**  
Air Tapping Tool



Please specify tapping tool code & chuck standard while ordering.

### Air Tapping Tool Order Code Reference

Model	ZAT22AK	ZAT19AK	ZAT23AK
Size	Order Code		
M2		ZAT19AK-2	
M3	ZAT22AK-3	ZAT19AK-3	ZAT23AK-3
M4	ZAT22AK-4	ZAT19AK-4	ZAT23AK-4
M5	ZAT22AK-5	ZAT19AK-5	ZAT23AK-5
M6	ZAT22AK-6	ZAT19AK-6	ZAT23AK-6
M8	ZAT22AK-8	ZAT19AK-8	ZAT23AK-8
M10	ZAT22AK-10		ZAT23AK-10
M12	ZAT22AK-12		ZAT23AK-12

#### NOTICE:

When different sizes or standard chucks are needed, please refer to the chuck standards and size list and note on the purchase order, otherwise, the chuck will be JIS.

### Chuck standards and size list

FOR TAP	JIS			ISO			DIN 371			DIN 376		
	Thread	Ød	Order Code	Thread	Ød	Order Code	Thread	Ød	Order Code	Thread	Ød	Order Code
M2	3	2.5	TCJISM2									
M3	4	3.2	TCJISM3	3.15	2.5	TCISOM3	3.5	2.7	TCDIN371M3	2.2	—	TCDIN376M3
M4	5	4	TCJISM4	4	3.15	TCISOM4	4.5	3.4	TCDIN371M4	2.8	2.1	TCDIN376M4
M5	5.5	4.5	TCJISM5	5	4	TCISOM5	6	4.9	TCDIN371M5	3.5	2.7	TCDIN376M5
M6	6	4.5	TCJISM6	6.3	5	TCISOM6	6	4.9	TCDIN371M6	4.5	3.4	TCDIN376M6
M8	6.2	5	TCJISM8	8	6.3	TCISOM8	8	6.2	TCDIN371M8	6	4.9	TCDIN376M8
M10	7	5.5	TCJISM10	10	8	TCISOM10	10	8	TCDIN371M10	7	5.5	TCDIN376M10
M12	8.5	6.5	TCJISM12	9	7.1	TCISOM12				9	/	TCDIN376M12
FOR TAP	ANSI											
Thread	Ød		Order Code									
1/2"	9.322	6.985	TCANSIW1/2									

Model	Tapping Capacity Aluminum mm	Iron mm	Free Speed rpm	Air Consumption l/min(cfm)	Overall Length inch(mm)	Air Inlet P.T	Net Weight lbs(kgs)	Sound Level dB(A)
<b>ZAT22AK</b>	3-12	3-8	150	184(6.5)	10.04(255)	1/4	3.81(1.73)	82
<b>ZAT19AK</b>	2-8	2-4	350	226(8)	11.42(290)	1/4	3.7(1.68)	87
<b>ZAT23AK</b>	3-12	3-10	100	226(8)	12.2(310)	1/4	4.1(1.86)	87

Specification(air pressure at 90psi, 6.2bar, 6.3kg/cm<sup>2</sup>)

Products and specifications subject to change without prior notice 203



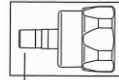
JIS, ISO, DIN371, DIS376, ANSI all standards chuck and sizes can using



## ZPTC-DT6

Professional Tapping Chuck

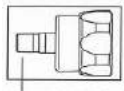
For { Drilling Machine  
Electric Drill  
Air Drill



B12

## ZPTC-B12A

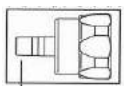
Professional Tapping Chuck



B12

## ZATC-B12B

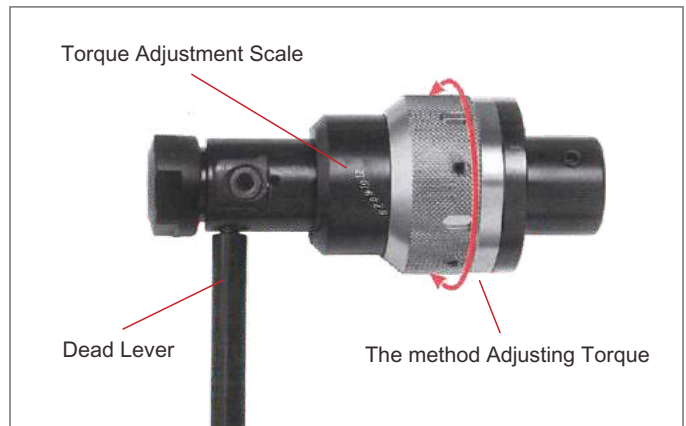
Adjustable Tapping Chuck



B16

## ZATC-B16C

Adjustable Tapping Chuck



SPECIFICATION (air pressure at 90psi, 6.2bar, 6.3kg/cm<sup>2</sup>)

Model	Tapping Size mm	Overall Length inch(mm)	Net Weight lbs(kgs)
ZPTC-DT6	3~8	4.72(120)	1.32(0.6)
ZPTC-B12A	3~8	4.72(120)	1.32(0.6)
ZATC-B12B	3~12	4.72(120)	1.9(0.86)
ZATC-B16C	3~12	4.72(120)	1.9(0.86)





Torque collet Chuck

METRIC THREAD					
No.1 Torque collet Chuck		JIS		ISO	
		Handle Diameter	Opposite	Handle Diameter	Opposite
M3	P0.5	4	3.2	3.15	2.5
M4	P0.7	5	4	4	3.15
M5	P0.8	5.5	4.5	5	4
M6	P1.0	6	4.5	6.3	5
M8	P1.25	6.2	5	8	6.3
M10	P1.5	7	5.5	10	8
M12	P1.75	8.5	6.5	9	7.1

IMPERIAL THREAD		
Torque collet Chuck	JIS	
	Handle Diameter	Opposite
W 1/8	4	3.2
W 3/16	5.5	4.5
W 1/4	6	4.5
W 5/16	6.1	5
W 3/8	7	5.5
W 7/16	8	6
W 1/2	9	7
W 9/16	10.5	8
W 5/8	12	9
W 3/4	14	11
W 7/8	17	13
W 1	20	15
W 1-1/8	22	17
W 1-1/4	24	19
W 1-3/8	26	21
W 1-1/2	30	23
W 1-5/8	32	26

METRIC THREAD					
No.2 Torque collet Chuck		JIS		ISO	
		Handle Diameter	Opposite	Handle Diameter	Opposite
M14	P2.0	10.5	8	11.2	9
M16	P2.0	12.5	10	12.5	10
M18	P2.5	14	11	14	11.2
M20	P2.5	15	12	14	11.2
M22	P2.5	17	13	16	12.5
M24	P3.0	19	15	18	14

METRIC THREAD					
No.3 Torque collet Chuck		JIS		ISO	
		Handle Diameter	Opposite	Handle Diameter	Opposite
M30	P3.5	23	17	20	16
M32		24	19		
M33	P3.5	25	19		
M34		26	21		
M35		26	21		
M36		28	21		
M38		28	21		
M39		30	23		
M40		30	23		
M42	P4.5	32	26		

JIS Pipe / Tube				
PT	PS	PF	Handle Diameter	Opposite
1/8	1/8	1/8	8	6
1/4	1/4	1/4	11	9
3/8	3/8	3/8	14	11
1/2	1/2	1/2	18	14
		5/8	19	15
5/8			20	15
3/4	3/4	3/4	23	17
		7/8	24	19
1	1	1	26	21
	1-1/8	1-1/8	28	21
1-1/4	1-1/4	1-1/4	32	26
1-3/8	1-3/8	1-3/8	35	26
1-1/2	1-1/2	1-1/2	38	29

## Industrial Angle Grinder



**0.9HP** ZAG4140AF / ZAG4140AM  
ZAG5110AF / ZAG5110AM  
ZAG5110AC / ZAG5110AP



**0.9HP** ZAG4140BF / ZAG4140BM  
ZAG5110BF / ZAG5110BM  
ZAG5110BC / ZAG5110BP



**2.0HP** ZAG7075AC / ZAG7075AN  
ZAG7075AP

**2.5HP** ZAG9060AC / ZAG9060AP  
ZAG9060AN



**2.0HP** ZAG7075BC / ZAG7075BN  
ZAG7075BP

**2.5HP** ZAG9060BC / ZAG9060BP  
ZAG9060BN



**0.9HP** ZAG460AC



**0.9HP** ZAG460BC

Model	Throttle Type	Grinding Wheel inch(mm)	Free Speed rpm	Spindle Thread Size	Angle Head Height inch(mm)	Overall Length inch(mm)	Net Weight kg	Max. Air Cons. cfm(m <sup>3</sup> /min)
ZAG4140AF	Roll	4(100)	13600	3/8x24UNF	3(76)	8-3/16(208)	2.0	33(0.95)
ZAG4140AM	Roll	4(100)	13600	M8x1.25P	3(76)	8-3/16(208)	2.0	33(0.95)
ZAG4140BF	Lever	4(100)	13600	3/8x24UNF	3(76)	9-11/16(246)	1.7	33(0.95)
ZAG4140BM	Lever	4(100)	13600	M8x1.25P	3(76)	9-11/16(246)	1.7	33(0.95)
ZAG5110AF	Roll	5(125)	10900	3/8x24UNF	3(76)	8-3/16(208)	1.8	33(0.95)
ZAG5110AM	Roll	5(125)	10900	M8x1.25P	3(76)	8-3/16(208)	1.8	33(0.95)
ZAG5110AC	Roll	5(125)	10900	5/8x11UNC	3(76)	8-3/16(208)	1.8	33(0.95)
ZAG5110AP	Roll	5(125)	10900	M14x2.0P	3(76)	8-3/16(208)	1.8	33(0.95)
ZAG5110BF	Lever	5(125)	10900	3/8x24UNF	3(76)	9-11/16(246)	1.6	33(0.95)
ZAG5110BM	Lever	5(125)	10900	M8x1.25P	3(76)	9-11/16(246)	1.6	33(0.95)
ZAG5110BC	Lever	5(125)	10900	5/8x11UNC	3(76)	8-3/16(208)	2.1	33(0.95)
ZAG5110BP	Lever	5(125)	10900	M14x2.0P	3(76)	8-3/16(208)	2.1	33(0.95)
ZAG7075AC	Roll	7(180)	7600	5/8x11UNC	3-27/64(87)	10(253)	4.05	56(1.6)
ZAG7075AN	Roll	7(180)	7600	M10x1.5P	3-27/64(87)	10(253)	4.05	56(1.6)
ZAG7075AP	Roll	7(180)	7600	M14x2.0P	3-27/64(87)	10(253)	4.05	56(1.6)
ZAG7075BC	Lever	7(180)	7600	5/8x11UNC	3-27/64(87)	11-13/16(300)	3.79	56(1.6)
ZAG7075BN	Lever	7(180)	7600	M10x1.5P	3-27/64(87)	11-13/16(300)	3.79	56(1.6)
ZAG7075BP	Lever	7(180)	7600	M14x2.0P	3-27/64(87)	10(253)	3.79	56(1.6)
ZAG9060AC	Roll	9(230)	5900	5/8x11UNC	4-1/2(115)	11(280)	4.32	67(1.9)
ZAG9060AN	Roll	9(230)	5900	M10x1.5P	4-1/2(115)	11(280)	4.32	67(1.9)
ZAG9060AP	Roll	9(230)	5900	M14x2.0P	4-1/2(115)	11(280)	4.32	67(1.9)
ZAG9060BC	Lever	9(230)	5900	5/8x11UNC	4-1/2(115)	12-13/64(310)	4.06	67(1.9)
ZAG9060BN	Lever	9(230)	5900	M10x1.5P	4-1/2(115)	12-13/64(310)	4.06	67(1.9)
ZAG9060BP	Lever	9(230)	5900	M14x2.0P	4-1/2(115)	12-13/64(310)	4.06	67(1.9)
ZAG460AC	Roll	-	6000	5/8x11UNC	3-55/64(98)	8-3/16(208)	1.4	33(0.95)
ZAG460BC	Lever	-	6000	5/8x11UNC	3-55/64(98)	8-3/16(208)	1.4	33(0.95)



**ZVG5120-BC** 1.4HP 5/8-11UNC  
**ZVG5120-BP** 1.4HP M14 x 2.0P



**ZVG770-BC** 2HP 5/8-11UNC  
**ZVG784-BC** 2HP 5/8-11UNC  
**ZVG770-BP** 2HP M14 x 2.0P  
**ZVG784-BP** 2HP M14 x 2.0P



**ZVG960B** 4HP  
**ZVG945B** 3.8HP



**ZVG660B** 4HP  
**ZVG645B** 3.8HP

Model	Grinding Wheel mm	Max. Dia Cup Wheel mm	Free Speed rpm	Net Weight kg	Air Hose Size inch(mm)	Max. Air Cons. cfm(m <sup>3</sup> /min)
<b>ZVG5120-BC</b>	125x6x22.2	—	12000	2.8	1/2(12.7)	42.4(1.2)
<b>ZVG5120-BP</b>	125x6x22.2	—	12000	2.8	1/2(12.7)	42.4(1.2)
<b>ZVG770-BC</b>	180x6x22.2	—	7000	4	1/2(12.7)	56.5(1.6)
<b>ZVG770-BP</b>	180x6x22.2	—	7000	4	1/2(12.7)	56.5(1.6)
<b>ZVG784-BC</b>	180x6x22.2	—	8400	4	1/2(12.7)	56.5(1.6)
<b>ZVG784-BP</b>	180x6x22.2	—	8400	4	1/2(12.7)	56.5(1.6)
<b>ZVG960B</b>	230x10x22.2	—	6000	5.8	3/4(19)	98.9(2.8)
<b>ZVG945B</b>	230x10x22.2	—	4500	5.8	3/4(19)	87.7(2.4)
<b>ZVG660B</b>	—	150x50x22.2	6000	5.9	3/4(19)	98.9(2.8)
<b>ZVG645B</b>	—	150x50x22.2	4500	5.9	3/4(19)	87.7(2.4)



**ZSG-105A** 1.3HP  
**ZSG-106A** 1.3HP  
Roll Throttle Type



**ZSG-105B** 1.3HP  
**ZSG-106B** 1.3HP  
Lever Throttle Type



**ZSG105AH** 1.4HP  
**ZSG106AH** 1.4HP  
Roll Throttle Type



**ZSG105BH** 1.4HP  
**ZSG106BH** 1.4HP  
Lever Throttle Type



**ZSG206B** 1.4HP  
Lever Throttle Type



**ZSG306B** 1.4HP  
Lever Throttle Type

Model	Throttle Type	Grinding Wheel inch(mm)	Free Speed rpm	Spindle Thread Size	Overall Length inch(mm)	Net Weight kg	HP	Air Hose Size	Air Inlet Thread Size	Max. Air Consumption scfm
<b>ZSG-105A</b>	Roll	5x3/4x1/2(inch) 125x19x12.7(mm)	7600	1/2x12	15-3/4(400)	2.79	1.3	12.7	3/8	20
<b>ZSG-105B</b>	Lever	5x3/4x1/2(inch) 125x19x12.7(mm)	7600	1/2x12	19-11/16(501)	2.79	1.3	12.7	3/8	20
<b>ZSG105AH</b>	Roll	5x3/4x1/2(inch) 125x19x12.7(mm)	7600	1/2x12	15-3/4(400)	2.79	1.3	12.7	3/8	20
<b>ZSG105BH</b>	Lever	5x3/4x1/2(inch) 125x19x12.7(mm)	7600	1/2x12	19-11/16(501)	2.79	1.3	12.7	3/8	20
<b>ZSG-106A</b>	Roll	6x1x5/8(inch) 150x25x15.8(mm)	6300	5/8x11	16-47/64(425)	4.14	1.4	12.7	3/8	24
<b>ZSG-106B</b>	Lever	6x1x5/8(inch) 150x25x15.8(mm)	6300	5/8x11	20-33/64(521)	4.14	1.4	12.7	3/8	24
<b>ZSG106AH</b>	Roll	6x1x5/8(inch) 150x25x15.8(mm)	6300	5/8x11	16-47/64(425)	4.14	1.4	12.7	3/8	24
<b>ZSG106BH</b>	Lever	6x1x5/8(inch) 150x25x15.8(mm)	6300	5/8x11	20-33/64(521)	4.14	1.4	12.7	3/8	24
<b>ZSG206B</b>	Lever	6x1x5/8(inch) 150x25x15.8(mm)	6300	5/8x11	20(510)	3.27	1.4	12.7	3/8	24
<b>ZSG306B</b>	Lever	5/8" Cone Wheel	6300	5/8x11	20(510)	4.1	1.4	12.7	3/8	24



High power, quality design

### Features & Benefits

- Texturing concrete
- Cleaning & stress relieving weld seams and joints
- Removing coatings, corrosion & other accumulated materials
- Chisel scalars for splitting, chipping, pointing and brick raking
- Convert to chisels in seconds
- Dust shroud attachments available
- Adjustable front tube extends needle life
- Heat treated piston and cylinder ensure excellent durability and long life





**ZKJ221-19** (19 pcs x Ø3)  
**ZKJ221-29** (29 pcs x Ø2)  
**ZKJ221A** Vacuum Type  
Medium Duty Pistol Grip Needle Scaler



**ZKJ3221-19** (19 pcs x Ø4)  
**ZKJ3221-28** (28 pcs x Ø3)  
Heavy Duty Pistol Grip Needle Scaler



**ZKJ222**  
Medium Duty Chisel Scaler



**ZKJ3222**  
Heavy Duty Chisel Scaler



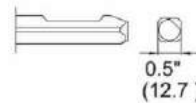
**ZKJ211-2B-19** (19 pcs x Ø3)  
**ZKJ211-2B-29** (29 pcs x Ø2)  
**ZKJ211A** Vacuum Type  
Medium Duty Needle Scaler



**ZKJ799NS-12** (12 pcs x Ø3)  
**ZKJ799NS-27** (27 pcs x Ø2)  
Light Duty Needle Scaler

Vacuum System

Chisel Shank 0.5"(12.7mm)



**110A025**

Needle scalars can be fitted with dust shroud

Model	Blows Per Min bpm	Numbers of Needles pcs	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Needle Diameter Øinch(Ømm)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ3221-19</b> <b>ZKJ3221-28</b>	2700	19 28	1.2(29.5)	0.86(22)	1/4	3/8(10)	3(85)	5/32x7(4x180) 1/8x7(3x180)	13.4(340)	8.6(3.9)
<b>ZKJ3222</b>	2000	-	1.2(29.5)	0.86(22)	1/4	3/8(10)	2(51)	-	11.6(295)	6(2.7)
<b>ZKJ221-19</b> <b>ZKJ221-29</b> <b>ZKJ221A</b>	3700	19 29 -	0.9(23)	1.3(33)	1/4	3/8(10)	3(85)	1/8x7(3x180) 5/64x7(2x180) -	13(330)	6(2.7)
<b>ZKJ222</b>	2700	-	0.9(23)	1.3(33)	1/4	3/8(10)	3(85)	-	11.6(295)	4.8(2.2)
<b>ZKJ211-2B-19</b> <b>ZKJ211-2B-29</b> <b>ZKJ211A</b>	3700	19 29 -	0.9(23)	1.3(33)	1/4	3/8(10)	3(85)	1/8x7(3x180) 5/64x7(2x180) -	14.8(375)	6.2(2.8)
<b>ZKJ799NS-12</b> <b>ZKJ799NS-27</b>	4200	12 27	0.7(18)	1(26)	1/4	3/8(10)	2(60)	1/8x7(3x180) 5/64x7(2x180)	14.2(360)	3.5(1.6)



Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).



**ZKJ211**  
Medium Duty Chisel Scaler



**ZKJ799F**  
Light Duty Chisel Scaler



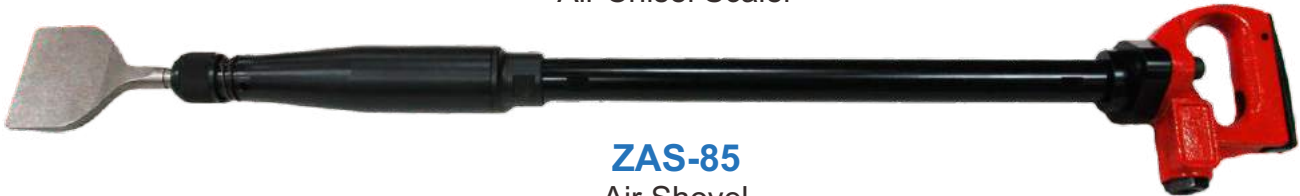
**ZFC-2540**  
Air Chisel Scaler



**ZKJ362L**  
Air Chisel Scaler



**ZKJ372L**  
Air Chisel Scaler




**ZAS-85**  
Air Shovel



**ZAS-85I**  
Air Shovel

Model	Blows Per Min bpm	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ211</b>	2700	0.9(23)	1.3(33)	1/4	3/8(10)	3(85)	13.2(335)	4.8(2.2)
<b>ZKJ799F</b>	3800	0.7(18)	1(26)	1/4	3/8(10)	2.5(70)	13(330)	3.5(1.6)
<b>ZFC-2540</b>	4000	63/64(25)	1-11/32(34)	1/4	3/8(10)	14(392)	7-1/2(190)	3.3(1.5)
<b>ZKJ362L</b>	4000	63/64(25)	1-11/32(34)	1/4	3/8(10)	14(392)	28-3/4(730)	5.7(2.6)
<b>ZKJ372L</b>	4600	1(25.4)	1-1/8(28.6)	3/8	3/8(10)	14(392)	29-5/8(752)	6.4(2.9)
<b>ZAS-85</b>	1700	1-3/8(35)	3-11/32(85)	3/8	1/2(12.7)	10.7(300)	35.4(900)	14.8(6.7)
<b>ZAS-85I</b>	1700	1-3/8(35)	3-11/32(85)	3/8	1/2(12.7)	10.7(300)	36.6(930)	12.1(5.5)

 Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).

## Air Needle Scalers

### Features & Benefits

- Needle scaler for industrial application
- Sturdy and simple design for heavy and wide applications
- Superior design with internal spring components provides greater durability



**ZKJ27**

Pistol Grip Needle Scaler



**ZNS-1228**



**ZKJ31-12** (12 pcs x Ø3)

**ZKJ31-27** (27 pcs x Ø2)

Composite Straight Needle Scaler



**ZKJ39-14** (14 pcs x Ø4)

**ZKJ39-28** (28 pcs x Ø3)

**ZKJ39-66** (66 pcs x Ø2)

**ZKJ39A** Vacuum Type  
Pistol Grip Needle Scaler



**ZNS1919**



**ZKJ35-23** (23 pcs x Ø3)

**ZKJ35-53** (53 pcs x Ø2)

Pistol Grip Needle Scaler

### Vacuum System



**28A023**

Needle scalers can be fitted with dust shroud



**ZKJ831**

Pistol Grip  
Needle Scaler



**ZNS1919C**

Model	Blows Per Min bpm	Numbers of Needles pcs	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Needle Diameter Øinch(Ømm)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ27</b>	4000	19	0.6(16)	0.6(16)	1/4	3/8(10)	2.5(70)	5/64x7(2x180)	11.2(285)	3.5(1.6)
<b>ZKJ31-12</b> <b>ZKJ31-27</b>	4000	12 27	0.8(20)	1.06(27)	1/4	3/8(10)	4(115)	1/8x7(3x180) 5/64x7(2x180)	13.6(345)	5.3(2.4)
<b>ZKJ35-23</b> <b>ZKJ35-53</b>	4000	23 53	0.94(24)	1.06(27)	1/4	3/8(10)	7(198)	1/8x7(3x180) 5/64x7(2x180)	13.2(335)	6.2(2.8)
<b>ZKJ39-14</b> <b>ZKJ39-28</b> <b>ZKJ39-66</b> <b>ZKJ39A</b>	3500	14 28 66 -	1.1(28)	1.1(28)	1/4	3/8(10)	7.4(210)	5/32x7(4x180) 1/8x7(3x180) 5/64x7(2x180) -	13.8(350)	7.9(3.6)
<b>ZKJ831</b>	3500	19	0.75(19)	2.7(70)	1/4	3/8(10)	6.6(187)	1/8x7(3x180)	14.6(370)	6(2.7)
<b>ZNS-1228</b>	2800	12	0.75(19)	1.6(41)	1/4	3/8(10)	2.1(60)	1/8x4.9(3x126)	11.6(295)	2.4(1.1)
<b>ZNS1919</b>	4000	19	0.75(19)	1.6(41)	1/4	3/8(10)	7.4(210)	1/8x7(3x180)	12(305)	4.9(2.2)
<b>ZNS1919C</b>	4000	19	0.75(19)	1.6(41)	1/4	3/8(10)	7.4(210)	1/8x7(3x180)	13(330)	4.9(2.2)



Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).





**ZKJ379F**  
**ZKJ379FL** (Locking Lever Type)  
 Medium Duty Chisel Scaler



**ZNS-1944NS**  
**ZNS-1944NSL** (Locking Lever Type)  
**ZNS-1944A** Vacuum Type  
 Medium Duty Needle Scaler



**ZKJ479NS**  
 Medium Duty Pistol  
 Grip Needle Scaler



Scaler Kits  
**ZKJ379K**

- 1 pc Needle Scaler
- 1 pc Moil Point Chisel
- 1 pc 20mm Flat Chisel
- 1 pc 35mm Bent Chisel
- 1 pc 1/4" Air Nipple
- 1 set Needle Attachment
- Net Weight 4 kg



**ZKJ479F**  
 Medium Duty Chisel Scaler

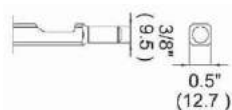


**ZKJ279NS**  
 Medium Duty Pistol  
 Grip Needle Scaler



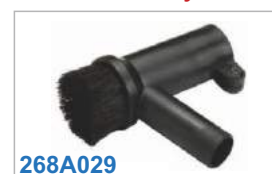
**ZKJ279F**  
 Medium Duty Chisel Scaler

Chisel Shank 3/8"(9.5mm)



**ZNS361**


**Vacuum System**



**268A029**

Needle scalars can be fitted with dust shroud

Model	Blows Per Min bpm	Numbers of Needles pcs	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Needle Diameter Øinch(Ømm)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ279NS</b>	4600	19	1(25)	1.5(38)	1/4	3/8(10)	8.2(232)	1/8x7(3x180)	18.1(460)	7(3.2)
<b>ZKJ279F</b>	4800	-	1(25)	1.5(38)	1/4	3/8(10)	8.2(232)	-	14.8(375)	5.3(2.4)
<b>ZNS-1944NS</b> <b>ZNS-1944NSL</b> <b>ZNS-1944A</b>	4600	19	1(25)	1.5(38)	1/4	3/8(10)	8.2(232)	1/8x7(3x180)	18.1(460)	6.2(2.8)
<b>ZKJ379F</b> <b>ZKJ379FL</b>	4800	-	1(25)	1.5(38)	1/4	3/8(10)	8.5(240)	-	15(380)	4.6(2.1)
<b>ZKJ479NS</b>	4600	19	1(25)	1.5(38)	1/4	3/8(10)	8.6(243)	1/8x7(3x180)	21.3(540)	7.3(3.3)
<b>ZKJ479F</b>	4800	-	1(25)	1.5(38)	1/4	3/8(10)	8(227)	-	17.3(440)	5.5(2.5)
<b>ZNS361</b>	4000	-	63/64(25)	1-11/32(34)	1/4	3/8(10)	14(392)	-	16-1/4(413)	5.7(2.6)

 Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).

## Features & Benefits

- Needle scaler designed to tackle a wide range of surface preparation tasks in construction, marine and petrochemical.
- Heaviest in the range of scalers.
- Heavy duty semi pistol grip.
- Adjustable front tube for longer needle life.
- The heavy duty scaler for the toughest applications such as roughing and dressing concrete and aggregate exposure, also ideal for removing the hardest scale and corrosion.
- Heavy rust and scale removal from steel structures such as bridges, ships and offshore platforms.
- Stippling of plain concrete for keying and decorative finishes.



**ZKJ231-35** (35 pcs x Ø4)  
**ZKJ231-49** (49 pcs x Ø3)  
**ZKJ231-66** (66 pcs x Ø2)  
**ZKJ231A** Vacuum Type  
 Heavy Duty Semi  
 Pistol Grip Needle Scaler



**ZKJ231-3B-19** (19 pcs x Ø4)  
**ZKJ231-3B-28** (28 pcs x Ø3)  
 Heavy Duty Semi  
 Pistol Grip Needle Scaler



**ZKJ383F**  
**ZKJ383FL** Safety lever  
 Heavy Duty Chisel Scaler



**ZKJ231B**  
 Heavy Duty Chisel Scaler



Focus on the front exhaust, effectively blocking dust, Welding slag.

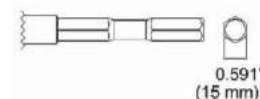


The control rod installation of safety devices, to increase the user security.



**ZKJ383NS**  
**ZKJ383NSL** Safety lever  
 Heavy Duty Needle Scaler

Chisel Shank 0.591"(15mm)



## Vacuum System

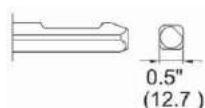


**120A025**  
 Needle scalers can be fitted with dust shroud



**ZKJ381**  
 Medium Duty Needle Scaler

Chisel Shank 0.5"(12.7mm)



Model	Blows Per Min bpm	Numbers of Needles pcs	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Needle Diameter Øinch(Ømm)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ231-35</b> <b>ZKJ231-49</b> <b>ZKJ231-66</b>	2500	35 49 66	1.3(33)	2(52)	1/4	3/8(10)	7.4(210)	5/32x7(4x180) 1/8x7(3x180) 5/64x7(2x180)	18.1(460)	13.2(6)
<b>ZKJ231-3B-19</b> <b>ZKJ231-3B-28</b>	3000	19 28	1.1(28)	1.5(39)	1/4	3/8(10)	6.2(176)	5/32x7(4x180) 1/8x7(3x180)	17.5(445)	10.4(4.7)
<b>ZKJ383NS</b> <b>ZKJ383NSL</b>	3500	19	0.9(23)	1.06(27)	1/4	3/8(10)	6.4(182)	1/8x7(3x180)	16.9(430)	6.2(2.8)
<b>ZKJ231B</b>	2000	-	1.3(33)	2(52)	1/4	3/8(10)	7.4(210)	-	17.7(450)	11(5)
<b>ZKJ383F</b> <b>ZKJ383FL</b>	4000	-	0.9(23)	1.06(27)	1/4	3/8(10)	6.4(182)	-	14.2(360)	4.2(1.9)
<b>ZKJ381</b>	4600	19	1(25)	1.3(33)	1/4	3/8(10)	6(170)	1/8x7(3x180)	16.5(420)	6(2.7)

**Warning:** Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).



## Features & Benefits

- Lightweight, easy to handle.
- Detachable taper fit cutter head reduces cost of replacement and extends piston life.
- Bush hammer tungsten carbide tipped pistons.
- Alternative cruciform tungsten carbide tipped pistons.
- Removal of rust, coatings, scale from steel structures and surface.
- Cleaning of cast iron, steel pipe and bell joints of gas lines maintained by utilities and gas companies.
- Removal of stubborn coatings and mastic residue from floor.
- Reduced Vibration improves operators control.



### ZKJ271

Triple Headed Scaling Hammer



### ZKJ271L

Triple Headed Scaling Hammer (straight)



### ZKJ311T

Single Headed Scaling Hammer



### ZKJ311

Single Headed Scaling Hammer



Standard Side Handle  
(fitted as standard)



Cruciform taper tungsten cutterhead  
(fitted as standard)




Single head cruciform piston  
(fitted as standard)



Single head cruciform tungsten piston  
(Optional)

Model	Blows Per Min bpm	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Overall Length inch(mm)	Net Weight lbs(kgs)
ZKJ271	2400	1.06(27)	1.024(26)	3/8	3/8(10)	7.8(223)	21.7(550)	8.8(4)
ZKJ271L	2400	1.06(27)	1.024(26)	3/8	3/8(10)	7.8(223)	20.5(520)	8.8(4)
ZKJ311	7000	1.18(30)	1.496(38)	1/4	3/8(10)	3.3(94)	22(560)	5.1(2.3)
ZKJ311T	7000	1.18(30)	1.496(38)	3/8	3/8(10)	3.3(94)	21.7(550)	5.3(2.4)

 Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).

## Applications

- Ice
- Floor tiles
- Residue
- Metal slag
- Adhesive
- Rubber coatings
- Asbestos
- Roofing materials
- Linoleum
- Chemical spillages
- Carpeting
- Bituminous

## Features

- Quick change chisel release
- Unique, light weight version
- Air efficient & economical to use
- Available in 3L, 4L, 5L and 6L lengths
- Three tools in one: chipping, scraping, de-scaling



Corrosion removal for inaccessible area

## One tool, multiple applications

### Long Reach Scraper Kits



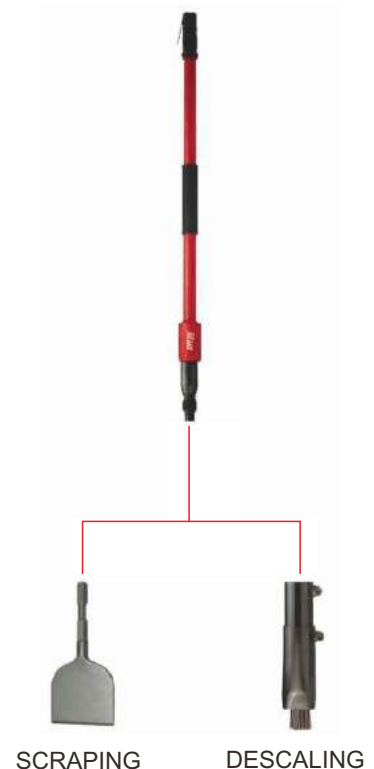
#### ZKJ241K

- 1 pc Long Reach Scraper
- 4 pcs Flat Chisel (40 / 50 / 70 / 100mm)
- 2 pcs Grip Tube 500mm
- 1 pc Grip Tube 300mm
- 1 pc Rubber Handle Grip
- 2 pcs Hex Wrench (6 / 2.5mm)
- 1 pc 1/4" Air Nipple
- Net Weight 11.5kg (241K) / 6.2kg (341K)



#### ZKJ341K

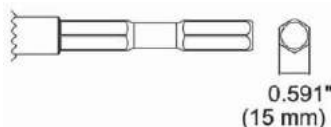
### 2 tools in one



## Features & Benefits

- Light weight aluminium tools for flexible vertical and floor application.
- Low air consumption, will run from small 2HP compressor.
- Clean up of paint & chemical spillages.
- Rail track and infrastructure maintenance.
- Peeling Paint removal in hard to reach areas.
- Quickly clean large areas.
- Remove paint from checker plate using needle attachment.
- Removal of glue residues from carpet tiles.
- Use close to wall for finishing large areas.
- Ceramic & linoleum floor tile removal using chisel or scraper.
- "Pointing" tool for mortar removal.
- Weld seam cleaning.
- Plaster and render removal.

Chisel Shank 0.591"(15mm) Hex

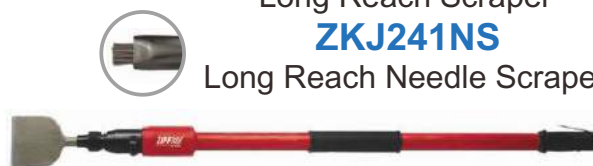


**ZKJ241-3L**

Long Reach Scraper

**ZKJ241NS**

Long Reach Needle Scraper

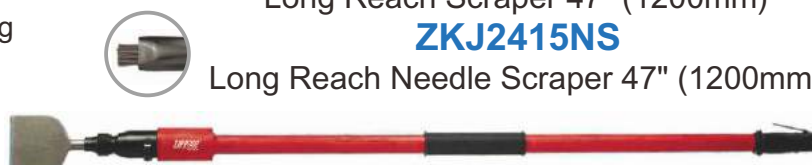


**ZKJ241-4L**

Long Reach Scraper 47" (1200mm)

**ZKJ2415NS**

Long Reach Needle Scraper 47" (1200mm)



**ZKJ241-5L**

Long Reach Scraper 59" (1500mm)

**ZKJ2416NS**

Long Reach Needle Scraper 59" (1500mm)

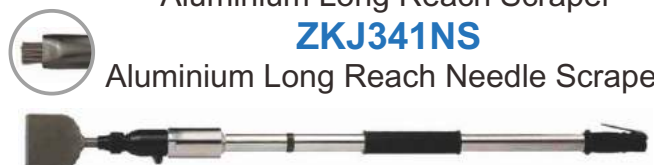


**ZKJ341-3L**

Aluminium Long Reach Scraper

**ZKJ341NS**

Aluminium Long Reach Needle Scraper

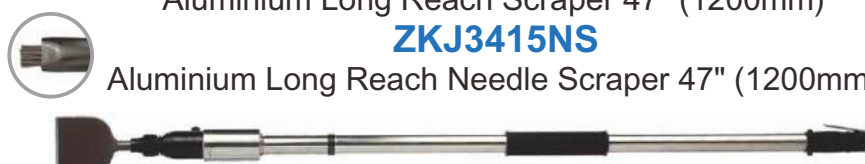


**ZKJ341-4L**

Aluminium Long Reach Scraper 47" (1200mm)

**ZKJ3415NS**

Aluminium Long Reach Needle Scraper 47" (1200mm)




**ZKJ341-5L**

Aluminium Long Reach Scraper 59" (1500mm)

**ZKJ3416NS**

Aluminium Long Reach Needle Scraper 59" (1500mm)

Model	Blows Per Min bpm	Numbers of Needles pcs	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Air Inlet inch	Min. Hose Size inch(mm)	Avg. Air Consumption cfm(l/min)	Needle Diameter Øinch(Ømm)	Net Weight lbs(kgs)
<b>ZKJ241-3L</b> <b>ZKJ241NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	2.8(80)	1/8x7(3x180)	10.6(4.8)
<b>ZKJ241-4L</b> <b>ZKJ2415NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	3.2(90)	1/8x7(3x180)	14.3(6.5)
<b>ZKJ241-5L</b> <b>ZKJ2416NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	4(114)	1/8x7(3x180)	16.1(7.3)
<b>ZKJ341-3L</b> <b>ZKJ341NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	2.8(80)	1/8x7(3x180)	8.2(3.7)
<b>ZKJ341-4L</b> <b>ZKJ3415NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	3.2(90)	1/8x7(3x180)	10.1(4.6)
<b>ZKJ341-5L</b> <b>ZKJ3416NS</b>	2400	- 28	1.12(28.5)	1.5(38)	1/4	3/8(10)	4(114)	1/8x7(3x180)	10.8(4.9)

 Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).

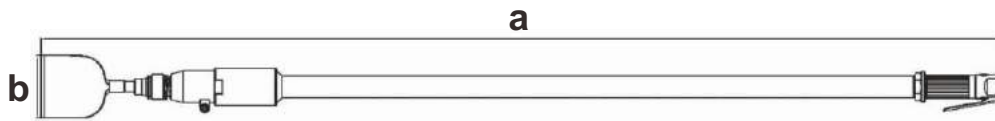
**Dimensions**

**Long Reach Scrapers**

Model	Description	
	a inch(mm)	b inch(mm)
<b>ZKJ241-3L</b>	23.6(600)	3.93(100)
<b>ZKJ241-4L</b>	47.2(1200)	3.93(100)
<b>ZKJ241-5L</b>	59(1500)	3.93(100)
<b>ZKJ341-3L</b>	23.6(600)	3.93(100)
<b>ZKJ341-4L</b>	47.2(1200)	3.93(100)
<b>ZKJ341-5L</b>	59(1500)	3.93(100)

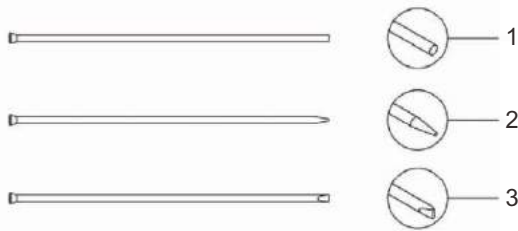
**Long Reach Needle Scaler**

Model	Description	
	a inch(mm)	b inch(mm)
<b>ZKJ241NS</b>	24(610)	3.93(100)
<b>ZKJ2415NS</b>	47.2(1200)	3.93(100)
<b>ZKJ2416NS</b>	59(1500)	3.93(100)
<b>ZKJ341NS</b>	24(610)	3.93(100)
<b>ZKJ3415NS</b>	47.2(1200)	3.93(100)
<b>ZKJ3416NS</b>	59(1500)	3.93(100)



**Optional Accessories**

Needle sets



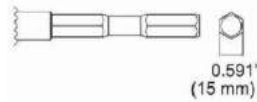
Item	Length inch(mm)	Width inch(mm)
1	7(180)	5/64(2)
1	5.9(150)	5/64(2)
1	4.9(125)	1/8(3)
1	7(180)	1/8(3)
1	7(180)	5/64(2)
2	7(180)	1/8(3)
3	7(180)	1/8(3)
3	7(180)	5/64(2)

Needle attachment



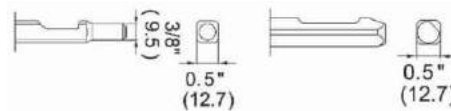
1. Needle holder for 28 needles  
Ø 3mm (1/8")
2. Needle holder for 19 needles  
Ø 4mm (5/32")

Chisel Shank 0.59" (15mm) Hex



Item	Model	Description	Length inch(mm)	Width inch(mm)
1	<b>ZST-13040</b>	1-1/2" Flat Chisel	8.7(220)	1.57(40)
2	<b>ZST-13050</b>	1-1/3" Flat Chisel	8.7(220)	1.96(50)
3	<b>ZST-13070</b>	2-3/4" Flat Chisel	8.7(220)	2.75(70)
4	<b>ZST-130100</b>	4" Flat Chisel	8.7(220)	3.93(100)

Chisel Shank 0.37" (9.5mm)



Chisel Shank 0.5" (12.7mm)



Item	Model	Description	Length inch(mm)	Width inch(mm)
1	<b>ZST-26850</b>	2" Flat Chisel	7(175)	1.96(50)
2	<b>ZST-26835</b>	1-1/3" Flat Chisel	7(175)	1.37(35)
3	<b>ZST-26820</b>	3/4" Flat Chisel	7(175)	0.78(20)
4	<b>ZST-26801</b>	Moil Point Chisel	7(175)	-
5	<b>ZST-27050</b>	2" Flat Chisel	7(175)	1.96(50)
6	<b>ZST-27035</b>	1-1/3" Flat Chisel	7(175)	1.37(35)
7	<b>ZST-27020</b>	3/4" Flat Chisel	7(175)	0.78(20)
8	<b>ZST-27001</b>	Moil Point Chisel	7(175)	-



**ZP209**

**Air Engraving Stylus**  
Lightweight, small diameter & metal body.

Model	Stroke Length mm	Blow Per Min. bpm	Operating Air Pressure psi(bar)	Avg. Air Cons. cfm(l/min)	Net Weight lbs(kgs)	Air Inlet Size inch-NPT/PT	Min. Hose Size inch(mm)
ZP209	1.2	34000	90(6.2)	0.24(6.8)	0.53(0.24)	1/4	1/4(6.5)



**ZAS132**  
Air Flux Chipper



**ZFC-2**  
Air Scraper



**ZP232 0.15HP**  
Air Scraper



**ZP232K 0.15HP**  
Air Scraper Kit

Model	Bore Diameter inch(mm)	Piston Diameter inch(mm)	Stroke Length inch(mm)	Blow Per Min. bpm	Operating Air Pressure psi(bar)	Avg. Air Consumption cfm(l/min)	Net Weight lbs(kgs)	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT
ZAS132	(18x14)	-	15/16(24)	2800	90(6.2)	2.12(60)	2.0(0.9)	3/8(10)	1/4
ZCF-2	-	0.87(22)	0.87(22)	4000	90(6.2)	8.8(250)	2.56(1.16)	3/8(10)	1/4
ZP232	1/2(12.7)	-	1/4(6.3)	4800	90(6.2)	2.8(80)	1.59(0.72)	3/8(10)	1/4



**ZSR-412**



**ZSR-302**



**ZSR-303**



**ZSR-302L**



**ZSR-303L**



**ZSR-304L**

Model	Speed bpm	Piston Diameter mm	Stroke mm	Overall Length mm	Weight kg	Min. Hose Size inch(mm)	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /min)
<b>ZSR-412</b>	1500	18	50	280~360	1.6	3/8(10)	1/4	14(0.4)
<b>ZSR-302</b>	1000	22	65	380~470	2.95	3/8(10)	3/8	17(0.5)
<b>ZSR-302L</b>	1000	22	65	870~980	3.75	3/8(10)	3/8	17(0.5)
<b>ZSR-303</b>	800	25.4	100	500~660	6	3/8(10)	3/8	24(0.7)
<b>ZSR-303L</b>	800	25.4	100	1060~1210	8	1/2(12.7)	1/2	24(0.7)
<b>ZSR-304L</b>	700	32	125	1080~1250	9.79	1/2(12.7)	1/2	30(0.85)





**ZCH280G-F** (2.6kg)



**ZP281GF** (5.5kg)



**ZP283GF** (6.5kg)



**ZCH280AG-F** (2.6kg)



**ZP282GF** (5.9kg)



**ZP284GF** (7.0kg)



**ZND5002** (5.4kg)



**ZND5004** (8.5kg)



**ZND5003** (8.04kg)



**ZND5005** (8.88kg)

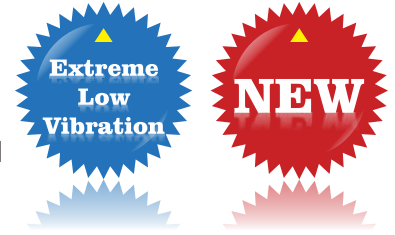


**ZP363L** (9.16kg)

Model	Chisel Shank Round inch(mm)	Chisel Shank Hex inch(mm)	Piston Diameter mm	Piston Stroke Length inch(mm)	Blows Per Minute bpm	Overall Length inch(mm)	Air Inlet Size inch-NPT/PT	Min. Hose Size inch	Avg. Air Cons. cfm	Joule
<b>ZCH280G-F</b>	0.55(14)	0.47(12)	20	1-3/4(45)	3000	9-9/16(243)	1/4	3/8	14	9.51
<b>ZCH280AG-F</b>	0.55(14)	0.47(12)	20	1-3/4(45)	3000	9-9/16(243)	1/4	3/8	14	9.51
<b>ZP281GF</b>	0.68(17.3)	0.58(14.7)	28.5	1(25.4)	2820	12-1/8(308)	3/8	1/2	21	19.74
<b>ZP282GF</b>	0.68(17.3)	0.58(14.7)	28.5	2(50)	2150	12-7/8(327)	3/8	1/2	21	27.3
<b>ZP283GF</b>	0.68(17.3)	0.58(14.7)	28.5	3(76)	1900	14-7/8(378)	3/8	1/2	24	28.01
<b>ZP284GF</b>	0.68(17.3)	0.58(14.7)	28.5	4(102)	1500	16-1/8(410)	3/8	1/2	28	30.41
<b>ZND5002</b>	0.68(17.3)	0.58(14.7)	27.9	1.81(46)	2940	14-1/2(390)	3/8	1/2	17	13.12
<b>ZND5003</b>	0.68(17.3)	0.58(14.7)	28.5	3.03(77)	2200	14(365)	3/8	1/2	34	22.9
<b>ZND5004</b>	0.68(17.3)	0.58(14.7)	28.5	3.7(94)	1900	15-1/4(400)	3/8	1/2	33	28
<b>ZND5005</b>	0.68(17.3)	0.58(14.7)	28.5	4.02(102)	1500	16-1/2(425)	3/8	1/2	30	30.46
<b>ZP363L</b>	0.68(17.3)	0.58(14.7)	28.5	3.7(94)	2280	35-3/8(900)	1/2	1/2	33	28

## Features

- Newly Patented Shock Reduced Mechanism.
- Gravity cast Aluminum Alloy 4 bolts handle withstands rugged use.
- Spline locking device prevents loosening of Handle & Cylinder. Grooved barrel for use with retainers.
- Alloy steel made Cylinder & Piston heat-treated for durability.
- Choice of Bushing- round bushing for chisel freely rotating or hexagonal Bushing for use with hexagonal Chisels.



## APPLICATIONS

The New ZCH series heavy duty Chipping Hammers are designed for rugged use in foundries, shipyards, refineries, fabrication shops and construction applications.

Available in 2" thru 4" stroke versions to offer the power levels necessary for a variety of use from light to medium chipping and trimming through heavy cutting.



Model	Chisel Shank Round inch(mm)	Chisel Shank Hex inch(mm)	Piston Diameter mm	Piston Stroke Length inch(mm)	Blows Per Minute bpm	Net Weight kg	Air Consumption cfm(m <sup>3</sup> /min)	Vibration m/s <sup>2</sup>	Power (Joule)
ZCH-2SRTI	0.68(17.3)	0.58(14.7)	28.5	2(50)	2150	8.71	30(0.85)	5	22.9
ZCH-2SRTO	0.68(17.3)	0.58(14.7)	28.5	2(50)	2150	8.87	30(0.85)	5	22.9
ZCH-3SRTI	0.68(17.3)	0.58(14.7)	28.5	3(76)	1900	9.54	32(0.9)	5	28
ZCH-3SRTO	0.68(17.3)	0.58(14.7)	28.5	3(76)	1900	9.51	32(0.9)	5	28
ZCH-4SRTI	0.68(17.3)	0.58(14.7)	28.5	4(102)	1500	9.55	33(0.95)	7	30.46
ZCH-4SRTO	0.68(17.3)	0.58(14.7)	28.5	4(102)	1500	9.87	33(0.95)	7	30.46

\*Air Inlet Size: 3/8(10) inch-NPT/PT, Min. Hose Size: 1/2 inch

## Features & Benefits

- Simple structure for less maintenance.
- Powerful hitting power and low reacting.
- Use for destroy the concretes, asphalt path, building and infrastructure.
- Medium size service/general demolition breaker.
- Long stroke cylinder provides maximum impact energy, giving a harder impact than similarly sized standard breakers.
- The best choice for applications in medium hard materials and where you need lower weight or low air consumption.



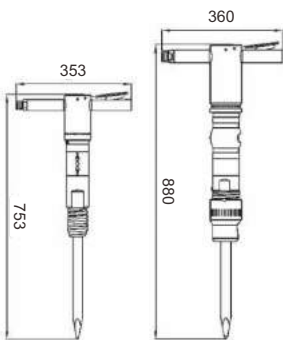
Reinforced cup retainer.



**ZKJ21S**  
Concrete Breaker



**ZKJ41S**  
Concrete Breaker



**ZKJ21S**

**ZKJ41S**



Unique Nut for (ZKJ21S ZKJ41S)



Hose Nipple 1/2", 1/4"



Hitch Cutter Retainer



Beehive Retainer Spring



Item	Model	Description	Length inch(mm)	Width inch(mm)
1	<b>ZST-10S01R</b>	Tapered Punch	17.7(450)	-
2	<b>ZST-30S01R</b>	Tapered Punch	17.7(450)	-
3	<b>ZST-30S45R</b>	Flat Chisel	17.7(450)	1.8(45)

Model	Blows Per Min bpm	Shank Size inch(mm)	Piston Diameter inch(mm)	Piston Stroke inch(mm)	Hose Int. Ø inch(mm)	Avg. Air Consumption cfm(l/min)	Overall Length inch(mm)	Net Weight lbs(kgs)
<b>ZKJ21S</b>	1300	1.02(26)	1.38(35)	5.9(150)	12.7(1/2)	35(990)	28.9(753)	31.1(14.1)
<b>ZKJ41S</b>	1000	1.18(30)	1.57(40)	9.2(235)	19(3/4)	42(1189)	34.6(880)	54.2(24.6)

Warning: Facial and operation of pneumatic tools, must wear eye protection. Recommended air pressure must equal or below @90psi (6.2 bar).

## Features

ZCH 2, 3, and 4" stroke chipper has a durable 4 bolt D handle and inside trigger for chipping concrete in parking garages, highway pillars and light demolition and building restoration.

- Machined from premium alloy steel
- Forged G handle
- Cast D handle with inside rubberized trigger
- High shock tool steel piston
- Rotatable exhaust deflector
- Inlet 3/8" with bushing, 7/8" with out bushing
- Available with .680 Round Chuck Model ZCH 2,3, or 4, R
- Available with .580 Hex Chuck ZCH 2,3,or 4, H
- Standard with oval collar retainer
- Optional Universal BALL retainer available
- Optional whip hose with oiler available



**ZCH-02C(H)**  
**ZCH-03C(H)**  
**ZCH-04C(H)**  
"C" Type



**ZCH-02D(H)**  
**ZCH-03D(H)**  
**ZCH-04D(H)**  
"D" Type Outer Trigger



**ZCH-02DI(H)**  
**ZCH-03DI(H)**  
**ZCH-04DI(H)**  
"D" Type Inner Trigger

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m³/m)	Chuck Sizes inch(mm)
<b>ZCH-02C(H)</b> <b>ZCH-02D(H)</b> <b>ZCH-02DI(H)</b>	13(6)	14(356)	1.125(29)	2(51)	2300	3/8(10)	29.75(0.84)	0.58(14.8) Hex 0.68(17.5) Rnd
<b>ZCH-03C(H)</b> <b>ZCH-03D(H)</b> <b>ZCH-03DI(H)</b>	14(6.4)	15.3(387)	1.125(29)	3(75)	2200	3/8(10)	31.5(0.89)	0.58(14.8) Hex 0.68(17.5) Rnd
<b>ZCH-04C(H)</b> <b>ZCH-04D(H)</b> <b>ZCH-04DI(H)</b>	15(7)	17(432)	1.125(29)	4(102)	1800	3/8(10)	33.23(0.94)	0.58(14.8) Hex 0.68(17.5) Rnd

## Features

Designed for light demolition jobs, hardpan and digging clay. Can be used horizontally with D handle and internal trigger.

- Forged alloy construction with one piece cylinder
- 4 bolt backhead
- Internal oiler
- Removable front head with latch
- Replaceable check bushing
- Optional muffler

**DO NOT apply air pressure over 100 psi / 7 bar to these tools.**



**ZCD-30**  
Clay Digger

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m³/m)	Chuck Sizes inch(mm)
<b>ZCD-30</b>	30(14)	23(584)	1.75(44)	3.375(86)	1550	3/8(10)	49(1.4)	1 x 4-1/4(25 x 108) 7/8 x 3-1/4(22 x 83)

## Features

Designed for light concrete demolition, all angles or confined spaces. D handle with external thumb trigger

- Rotatable exhaust muffler
- One piece machined premium alloy cylinder
- Safe bridged or stepped internal cylinder (piston will not exit bottom of tool)
- Utilizes 11X jumbo steels
- Spring held retainer
- Standard upper and lower hardened sleeves
- Urethane bumper for longer life
- Requires whip hose and oiler



**ZRB-6**  
Rivet Buster

## Features

Designed for light concrete demolition, all angles or confined spaces. D handle with external thumb trigger

- ZRB-8 designed for medium & ZRB-11 designed for heavy concrete demolition or cutting rivet heads. D handle with internal variable speed trigger.
- Rotatable rubber exhaust muffler or optional rotatable steel clip exhaust
- One piece machined premium alloy cylinder
- Safe bridged or stepped internal cylinder ( piston will not exit bottom of the tool )
- Standard upper & lower hardened sleeves
- Replaceable auto valve for extened life
- Utilizes 11X jumbo steels
- Spring retainer
- Urethane bumper for longer life
- Screened 1/2" NPT inlet
- Requires whip hose and oiler



Optional Steel clip  
Exhaust



**ZRB-8/ZRB-11**  
Rivet Buster

**DO NOT apply air pressure over 100 psi / 7 bar to these tools.**

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /m)	Chuck Sizes
<b>ZRB-6</b>	23(10.5)	17(432)	1.418(36)	2.75(70)	1560	3/4(19) 7/8(22.2)	40(1.2)	11 x JUMBO
<b>ZRB-8</b>	30(14)	22(572)	1.188(30)	8(203)	1140	1/2(12)	44(1.3)	11 x JUMBO
<b>ZRB-11</b>	33(15)	25-1/2(648)	1.188(30)	11(279)	850	1/2(12)	50(1.41)	11 x JUMBO



**ZRD-9**  
Hammer Drill

### Features

Designed for a wide variety of construction and maintenance applications such as driving or setting masonry anchors and drilling holes in concrete, bricks or rock. As a hammer, these tools can be used for chipping, scarifying, scaling and cleaning welds.

- Excellent power-to-weight ratio helps drill holes faster and easier than comparable electric rotary hammers
- Built-in oiler provides continuous lubrication
- Teasing throttle for precise control
- Rotation release button converts tool to a hammer
- Cushioned piston for smooth operation and long life
- With an adaptor, can be used with electric hammer drill bits
- Round spline version available



**ZRD-20**  
Light Weight Rock Drill

### Features

Designed for anchoring, shallow holes. D type handle allow horizontal drilling & collaring holes.

- D type handle with thumb trigger
- Forged alloy construction
- Built-in oiler
- Replaceable chuck, 7/8" x 3-1/4" Hex.



**ZRD-30**  
Rock Drill

### Features

Designed for light construction or soft rock drill with high speed & excellent flushing ability.

- Forged alloy construction
- Requires constant feed inline oiler
- Replaceable chuck, 7/8" x 4-1/4" or 7/8" x 3-1/4"
- Single throttle with three drilling speed: Stop, Blow, 1, 2, 3. 1 or slow is for collaring holes and remove drill from drilling hole.
  - rpm: 240
- Optional wet kit available
  - Water Consumption: 4.8 l/min



**ZRD-50**  
Rock Drill

### Features

Designed for medium to heavy duty construction drill suit for drilling medium rocks.

- Forged alloy construction
- Requires constant feed inline oiler
- Replaceable chuck, 1" x 4-1/4" or 7/8" x 4-1/4" or 7/8" x 3-1/4"
- Adjustable drilling speed
  - rpm: 180
- Optional muffler & wet kit available
  - Water Consumption: 6.7 l/min
  - Performance in Granite at 85-90psi(6-7bar): 24.4"/m(62 cm/m)



**ZRD-75**  
Rock Drill

### Features

Designed for heavy duty Quarry drill suit for drill granite.

- Forged alloy construction
- Internal oiler
- Replaceable chuck, 1" x 4-1/4" or 7/8" x 4-1/4"
- Three drilling speed: Stop, Blow, 1, 2, 3. 1 or slow is for collaring holes and remove drill from drilling hole.
- Optional wet kit available
- Optional muffler
- Optional constant feed inline oiler ( 6' 3/4" whip )
  - rpm: 200

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /m)	Chuck Sizes inch(mm)
<b>ZRD-9</b>	9(4)	15(375)	1-1/4(32)	1(25.4)	3400	3/8(10)	20(0.9)	3/4 Hex. Round spline shank
<b>ZRD-20</b>	16.5(7.5)	19(483)	1.94(49.18)	1.89(48)	2900	3/8(10)	36(1.2)	7/8 x 3-1/4(22 x 83)
<b>ZRD-30</b>	29(13)	19.5(495)	2.44(62)	1.44(37)	2700	3/4(19)	73(2.1)	7/8 x 4-1/4(22 x 108) 7/8 x 3-1/4(22 x 83)
<b>ZRD-50</b>	51(23)	20.5(521)	3(76)	2(51)	2300	3/4(19)	92.2(2.6)	1 x 4-1/4(25 x 108) 7/8 x 4-1/4(22 x 108) 7/8 x 3-1/4(22 x 83)
<b>ZRD-75</b>	61(27.5)	23.75(603)	2.63(67)	3.22(82)	2250	3/4(19)	98(2.77)	1 x 4-1/4(25 x 108) 7/8 x 4-1/4(22 x 108) 7/8 x 3-1/4(22 x 83)

## Features

Designed for light demolition works. 2" to 4" concrete sidewalks, pavement and breaking asphalt.

- One piece cylinder & 4 bolt backhead
- Forged alloy construction
- Replaceable chuck bushing
- Removable front head
- Internal oiler
- Optional muffler



**ZPB-30**  
Pavement Breaker

## Features

Designed for light or medium demolition works. 2" to 4" plus hard concrete, bridge deck resurfacing and asphalt.

- 4 bolt backhead
- Forged alloy construction
- Replaceable chuck bushing
- Removable front head ( bolt on )
- Tool requires inline oiler
- Optional muffler



**ZPB-40**  
Pavement Breaker

## Features

Designed for medium demolition works on rocks and 3" to 4" thick concrete pavement and asphalt.

- 4 bolt backhead
- Forged alloy construction
- Heavy duty side rod bolts and springs
- Replaceable chuck bushing
- Removable front head
- Internal oiler
- Optional muffler



**ZPB-60**  
Pavement Breaker

## Features

Designed for heavy demolition works, rocks, reinforced concrete and 5" to 6" plus thick concrete and pavement.

- 4 bolt backhead
- Forged alloy construction
- Heavy duty side rod bolts and springs
- Replaceable chuck bushing
- Removable front head
- Internal oiler
- Optional muffler



**ZPB-90**  
Pavement Breaker

**DO NOT apply air pressure over 100 psi / 7 bar to these tools.**

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /m)	Chuck Sizes inch(mm)
<b>ZPB-30</b>	34(15)	22.5(572)	1.75(44)	3.375(86)	1550	3/8(10)	49(1.4)	1 x 4-1/4(25 x 108) 7/8 x 3-1/4(22 x 83)
<b>ZPB-40</b>	39(18)	31(777)	1.69(43)	2.75(70)	1800	3/8(10)	49(1.4)	1 x 4-1/4(25 x 108)
<b>ZPB-60</b>	67(30)	25.63(651)	2.25(57)	4.1(104)	1400	3/4(19)	59(1.7)	1-1/4 x 6(32 x 154) 1-1/8 x 6(28 x 154)
<b>ZPB-90</b>	92.5(42)	28.75(730)	2.625(67)	6.06(154)	1250	3/4(19)	75(2.1)	1-1/4 x 6(32 x 154) 1-1/8 x 6(28 x 154)

## Features

This tamper is designed for soil compaction, temporary filling of holes or asphalt packing. Applications range from foundation and pavement repair to the installation of power or telephone poles. Comes with standard 6" cast iron butt.

- Side handle throttle
- Precision ground alloy cylinder
- Requires whip hose ( oiler optional )
- Optional butts - Pole of half moon butt / 6" Aluminum butt



**ZBT-6**  
Back Fill Tamper

DO NOT apply air pressure over 100 psi / 7 bar to these tools.

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /m)	Taper
<b>ZBT-6</b>	40(18)	48.25(1226)	1.5(38)	5.5(140)	800	1/2(13)	38.5(1.1)	804

## Features

Designed with long rech handle for digging in trenches & foundations. Used for clay, hardpan or forzen ground.

- 4 bolt backhead & one piece cylinder
- Forged alloy long handle
- Removable front head
- Replaceable chuck bushing
- Internal oiler
- Optional muffler



**ZTD-19**  
Trench Digger

DO NOT apply air pressure over 100 psi / 7 bar to these tools.

Model	Net Weight lbs(kgs)	Length inch(mm)	Bore inch(mm)	Stroke inch(mm)	Blows Per Minute	Air Inlet Size inch-NPT/PT	Avg. Air Cons. cfm(m <sup>3</sup> /m)	Chuck Sizes inch(mm)
<b>ZTD-19</b>	39(18)	31(777)	1.69(43)	2.75(70)	1800	3/8(10)	49(1.4)	1 x 4-1/4(25 x 108) 7/8 x 3-1/4(22 x 83)



## Features

- Patented water atomization mechanism.
- Patented 2 in 1 cap for use with regulator bottle or PET bottles.
- Easiest and fastest wet or dry cleaning tool for automotive interiors, engine bay, carpets, floor mats, etc.





**PATENTED**



For USA For EUROPE



Tube type

**ZTG3125**

Storm cleaning gun with brush - Ball type

**ZTG3125BS**

Storm cleaning gun & suction kit (large cover) - Ball type

**ZTG3125BSS**

Storm cleaning gun & suction kit (small cover) - Ball type



**ZCCWT-1311BS**

Large cover suction kit



**ZCTB-3125BSS**

Small cover suction kit

**ZTG1311A**

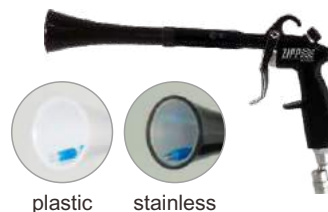
Storm cleaning gun with brush - Tube type

**ZTG1311BS**

Storm cleaning gun & suction kit (large cover) - Tube type

**ZTG1311BSS**

Storm cleaning gun & suction kit (small cover) - Tube type



plastic stainless

**ZTG-1211N**

Storm Cleaning Gun - Plastic tube

**ZTG-1211SN**

Storm Cleaning Gun - Stainless tube



**ZFG1411**

Foam gun

Model	Free Speed rpm	Air Inlet inch	L*W*H mm	Suggested Air Pressure psi	Net Weight lbs(kgs)	Avg. Air Cons. cfm	CUP	
<b>ZTG3125</b> <b>ZTG3125BS</b> <b>ZTG3125BSS</b>	8000	1/4	330*120*240 360*120*275 360*120*275	90	1.54(0.7) 2.65(1.2) 2.4(1.1)	9	1L	for European market only.
<b>ZTG1311A</b> <b>ZTG1311BS</b> <b>ZTG1311BSS</b>	8000	1/4	330*120*240 360*120*275 360*120*275	90	1.54(0.7) 2.65(1.2) 2.4(1.1)	9	1L	can't sell to USA & Japan.
<b>ZTG1211</b> <b>ZTG1211S</b>	3000	1/4	305*120*240	90	1.35(0.61)	6	1L	can't sell to USA
<b>ZTG1211N</b> <b>ZTG1211SN</b>	-	1/4	305*43*160	90	0.88(0.4)	6	-	can't sell to USA
<b>ZFG1411</b>	-	1/4	295*120*260	90	1.76(0.8)	13	1L	can't sell to Japan.

## Features



- Blind rivet capacity of 4.0mm ~ 6.4mm in all materials.
- Ideal for outdoor or off-line riveting applications where compressed air is not available.
- 18v Lithium-ion 3.0Ah battery.
- Tool stroke: 26mm.







**ZCR64N**

**KIT INCLUDES:** the tool, 4.0mm, 4.8/5.0mm & 6.4mm nose tips, 2 x 18v 3.0Ah batteries and fast charger in a blow-mold case

### Optional

Li-ion Battery Pack	Description	Charger	Description
 <b>641024</b>	18V 3.0Ah Li-ion	 <b>6430</b>	Input: AC100~240V 50/60 Hz Output: DC 18V
	Charging Time		Weight
	75min		0.8lbs(0.36kgs)
	Weight		
	1.34lbs(0.6kgs)		

### Power cord ( for charger use )

		
<b>UL</b>	<b>VD</b>	
		
<b>AS</b>	<b>UK</b>	
Part No.	Description	Weight
CG-DX0030-UL	for USA region	0.13lbs(62g)
CG-DX0030-VD	for Europe region	0.17lbs(79g)
CG-DX0030-AS	for Australia region	0.23lbs(105g)
CG-DX0030-UK	for England region	0.33lbs(151g)

Model	Voltage DC	Traction Power lbf(kgf)	Stroke Length inch(mm)	Max. Capacity	Weight with Li-ion battery pack lbs(kgs)	Charger
<b>ZCR64N</b>	18	3822(1734)	1-1/64(26)	Max. 1/4"(6.4mm) all material	4.25(1.93)	AC100V~240V

**Precision Gearbox**

Made in Taiwan, robust, low noise, less power consumption

**LED Light**

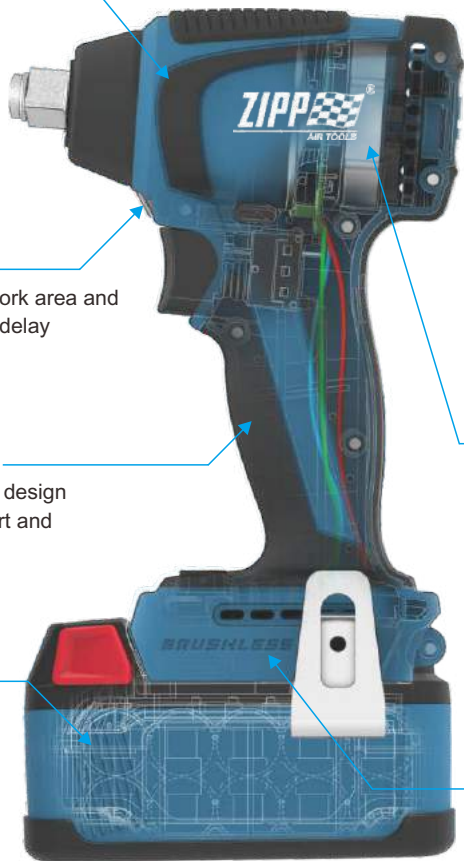
Illuminate work area and with 30 sec delay

**Rubber Grip Handle**

Ergonomic and slim design for maximum comfort and maneuverability

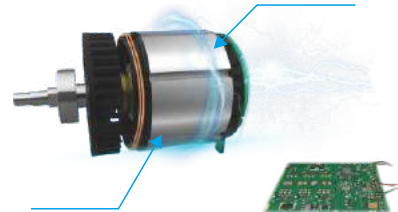
**High Efficient Li-ion Battery Pack**

High quality battery cells, longer cycle times, rubber protection, twin release buttons



**Brushless motors**

Designed and made by ZIPP TOOLS in house



**Less Friction and Heat**

Eliminating brushes can reduce friction and run cooler

**Service Free**

No need to replace brushes, commutator, and other wearable parts

**Brushless Motor**

Professional Brushless Motor & Controller provide more power, higher efficiency and longer lifetime

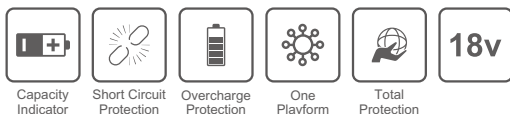
**Electronic Controlled Motor**

Precisely controls brushless motor and provides desired functions and protections

## 18V Lithium-Ion Battery Pack

### Features

- High quality Li-ion battery cells
- Robust structure with rubber protection
- Twin release buttons
- 3-position capacity indicator



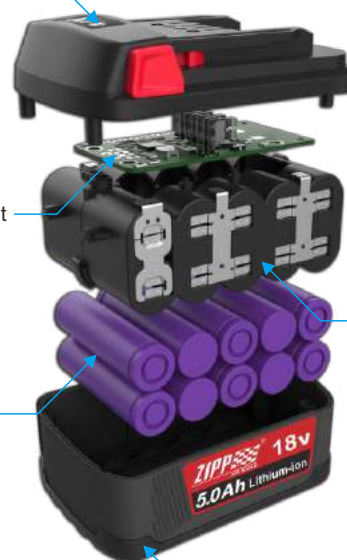
**Battery Capacity Indicator**

**Battery Management**

**Battery Bracket**

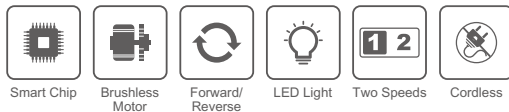
**High Quality Battery Cells**

**Rubber Protection**



## Features:

- Brushless EC motor, compact, more functions, longer run time, service free
- 135Nm high torque & 2 speed design
- 13mm (1/2") removable keyless chuck
- A built in magnetic hex bit holder is available when removing the keyless chuck
- Electronic 24 torque settings with digital display
- Auxiliary side handle increases ease of use and safety
- Variable speed switch for better control
- LED illuminates work area with 30 second delay after stopping the tool
- Ergonomics slim handle with soft grip for comfortable use



### ZCHD9211

Brushless Hammer Drill

### ZCHD9211-B

Brushless Hammer Drill  
-Bare Tool

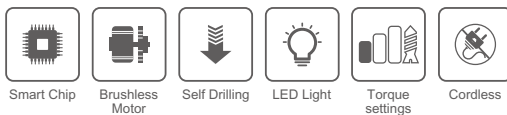


All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Max. Torque ft-lb(Nm)	Free speed rpm	Chuck / Shaft inch(mm)	Bump per minute bpm	Weight with Li-ion battery pack lbs(kgs)
ZCHD9211	18	100(135)	L 0~550/H 0~1650	1/2(13)	39600	3.75(1.7)

## Features:

- Brushless EC motor, compact, more functions, longer run time, service free
- 6mm (1/4") hex bit holder and 200 Nm max, fastening torque
- 4 speed/ torque modes, including a self drilling mode for fastening self-drilling screws
- Variable speed switch for better control
- LED illuminates work area with 30 second delay after stopping the tool
- Ergonomics slim handle with soft grip for comfortable use



### ZCID9411

Brushless Impact Driver

### ZCID9411-B

Brushless Impact Driver  
-Bare Tool

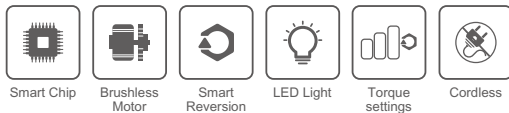


All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Max. Torque ft-lb(Nm)	Free speed rpm	Impact Per Minute ipm	Weight with Li-ion battery pack lbs(kgs)	Hex. Collet inch(mm)
ZCID9411	18	148(200)	L 0~1000/H 0~3800	L 0~2000/H 0~4300	1.98(0.9)	1/4(6)

### Features:

- Brushless EC motor, compact, more functions, longer run time, service free
- 3 speed / torque selections provide precise fastening control for a wide range of applications
- Smart reverse mode is used when the bolt / nut is loosened, the tool stops impact and rotation, then slowly removes the bolt / nut
- 135 mm short length and light weight
- Variable speed switch for better control
- LED illuminates work area with 30 second delay after stopping the tool
- Ergonomics slim handle with soft grip for comfortable use



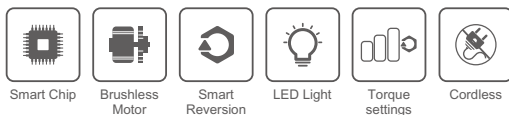
- ZCIW9561** Friction Ring Anvil 1/2" Brushless Impact wrench
- ZCIW9561-B** Friction Ring Anvil 1/2" Brushless Impact wrench-Bare Tool
- ZCIW9562** Friction Ring Anvil 3/8" Brushless Impact wrench
- ZCIW9562-B** Friction Ring Anvil 3/8" Brushless Impact wrench-Bare Tool

All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Max. Torque ft-lb(Nm)	Free speed rpm	Impact Per Minute ipm	Weight with Li-ion battery pack lbs(kgs)	Capacity inch(mm)
ZCIW9561	18	222(300)	L 0~1000/H 0~3600	L 0~2000/H 0~4400	3.64(1.65) with 4.0Ah battery	1/2(13)
ZCIW9562	18	185(250)	L 0~1000/H 0~3600	L 0~2000/H 0~4400	3.64(1.65) with 4.0Ah battery	3/8(10)

### Features:

- Brushless EC motor, compact, more functions, longer run time, service free
- 1000(ZCIW9566)/1060(ZCIW9567) Nm high torque & 4 speed/torque design
- Smart reverse mode is used when the bolt / nut is loosened, the tool stops impact and rotation, then slowly removes the bolt/nut
- Variable speed switch for better control
- LED illuminates work area with 30 second delay after stopping the tool
- Ergonomics slim handle with soft grip for comfortable use



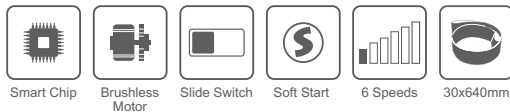
- ZCIW9566** Friction Ring Anvil 1/2" Brushless HQ impact wrench
- ZCIW9566-B** Friction Ring Anvil 1/2" Brushless HQ impact wrench-Bare Tool
- ZCIW9567** Friction Ring Anvil 3/4" Brushless HQ impact wrench
- ZCIW9567-B** Friction Ring Anvil 3/4" Brushless HQ impact wrench-Bare Tool

All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Max. Torque ft-lb(Nm)	Weight with Li-ion battery pack lbs(kgs)	Square Drive inch(mm)	Torque settings ft-lb(Nm)
ZCIW9566	18	740(1000)	7.72(3.5) with 4.0Ah battery	1/2(13)	Mode1: 50(70), Mode2: 220(300)
ZCIW9567	18	780(1060)	7.72(3.5) with 4.0Ah battery	3/4(19)	Mode3: 516(700), Mode4: 740(1000), 780(1060) Mode5: Auto Reverse Stop

## Features:

- Brushless EC motor, compact, more functions, longerrun time, service free
- Vibration control auxiliary handle can be used on right or left
- Sanding head can be tilted for different positions
- 6-speed selection for different applications
- Slide switch with lock-on function for operator convenience
- Smooth start increases safety and comfort
- Anti-restart design prevents accidental startup after power supply interruption
- Removable dust screen prevents dust to get into motor



**ZTBS-9641**  
Brushless Tube  
Belt Sander

**ZTBS-9641-B**  
Brushless Tube  
Belt Sander-Bare Tool

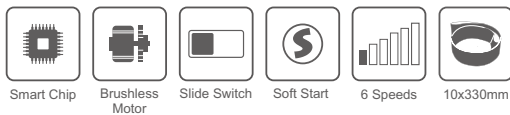


All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Dimensions of sanding belt mm	Max. pipe diameter mm	Wrap angle	Belt speeds in idle m/s	Dimension mm	Weight with Li-ion battery pack lbs(kgs)
<b>ZTBS-9641</b>	18	30x640	60	190°	7,11,15,18,22,26	408x202x103	6.68(3.03)

## Features:

- Brushless EC motor, compact, more functions, longer run time, service free
- Sanding head can be tilted for different positions
- Vibration control auxiliary handle for better operation (for ZBS9652 only)
- 6-speed selection for different applications
- Slide switch with lock-on function for operator convenience
- Smooth start increases safety and comfort
- Anti-restart design prevents accidental startup after power supply interruption
- Removable dust screen prevents dust to get into motor



**ZBS9651** Brushless Belt Sander  
**ZBS9651-B** Brushless Belt Sander-Bare Tool  
**ZBS9652** Brushless Belt Sander  
**ZBS9652-B** Brushless Belt Sander-Bare Tool

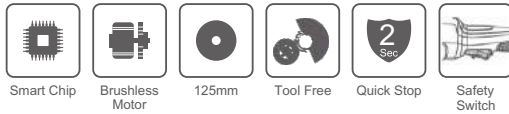


All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Voltage DC	Useful length of sanding belt arm inch(mm)	Sanding belt width inch(mm)	Sanding belt length inch(mm)	Belt speeds in idle m/s	Dimension mm	Weight with Li-ion battery pack lbs(kgs)
<b>ZBS9651</b>	18	4-3/4(120)	3/8(10)	13(330)	3,5,7,8,10,12	402x103x80	4.65(2.11)
<b>ZBS9652</b>	18	4-3/4(120)	13/16(20)	20-1/2(520)	5,8,11,13,16,19	514x125x95	5.95(2.7)

**Features:**

- Brushless EC motor, compact, more functions, longer run time, service free
- Automatic speed & torque adjustment during operation
- Electronic current limit design for overload protection
- Tool free adjustment for protection guard
- Quick stop in 2 sec. for better safety
- Safety trigger switch design
- Vibration control auxiliary handle can be used on right or left
- Smooth start increases safety and comfort
- Anti-restart design prevents accidental startup after power supply interruption
- Removable dust screen prevents dust to get into motor



**ZAG9611**




Brushless Angle Grinder

**ZAG9611-B**

Brushless Angle Grinder  
-Bare Tool

All models supply with 2 pcs BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.





Model	Voltage DC	Disk dia. inch(mm)	Disk hole dia. inch(mm)	Max cutting depth inch(mm)	Arbor Size	No load speed rpm	Dimension mm	Weight with Li-ion battery pack lbs(kgs)
<b>ZAG9611</b>	18	5(125)	7/8(22.23)	1-1/8(29)	5/8"-11(M14)	8500	300x230x101	5.25(2.38)

Optional	
<b>Li-ion Battery Pack</b>	<b>Description</b>
 <b>BT-DX0051</b>	18V 4.0Ah Li-ion
	Dimension
	115x80x60mm
	Weight
	1.44lbs(0.65kgs)
<b>Li-ion Battery Pack</b>	<b>Description</b>
 <b>BT-DX0052</b>	18V 5.0Ah Li-ion
	Dimension
	115x80x60mm
	Weight
	1.44lbs(0.65kgs)
<b>Charger</b>	<b>Description</b>
 <b>CG-DX0030</b>	Input: AC100~240V 50/60Hz Output: DC 18V Rated output current: 4A Rated input power: 100W
	Weight
	Dimension
	0.66lbs(0.3kgs)      103x120x45mm

**CG-DX0030**

Battery Capacity 4.0Ah: 80min

Battery Capacity 5.0Ah: 100min

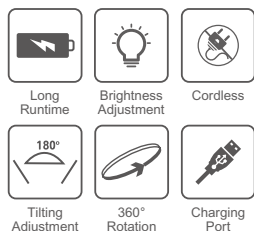
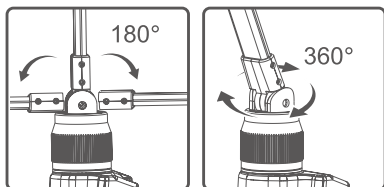
Power cord ( for charger use )	Part No.	Description	Weight
 <b>UL</b>	CG-DX0030-UL	for USA region	0.13lbs(62g)
 <b>VD</b>	CG-DX0030-VD	for Europe region	0.17lbs(79g)
 <b>AS</b>	CG-DX0030-AS	for Australia region	0.23lbs(105g)
 <b>UK</b>	CG-DX0030-UK	for England region	0.33lbs(151g)



# LED Work Lights

## Features:

- Conventional portable LED light bar using 18V battery
- 180° tilting at 8 positions and 360° rotation light head adjustment
- 2 modes of brightness adjustment
- Convenient USB port for charging mobile devices

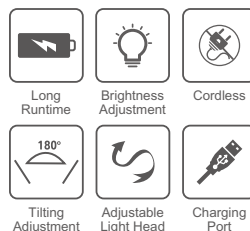
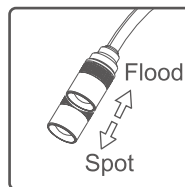


**ZL-1131-B**  
LED Foldable Light-Bar



## Features:

- Flexible gooseneck and portable LED light using 18V battery
- 180° tilting light head adjustment
- 2 modes of brightness adjustment
- Spot and flood lighting adjustment
- Convenient USB port for charging mobile devices



**ZL-1141-B**  
LED Inspection Light-Bar

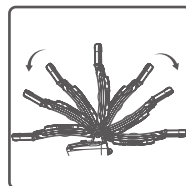


## Features:

- Conventional portable LED light bar using 18V battery
- 180° tilting at 8 positions and 360° rotation light head adjustment
- 2 modes of brightness adjustment
- Convenient USB port for charging mobile devices



**ZL-1151-B**  
LED Work Light-Bar



All model supplied bare, battery and charger need to purchase separately.

Model	Voltage DC	Low output	High output	Color temp.	USB port output	Weight with Li-ion battery pack lbs(kgs)
<b>ZL-1131-B</b>	18	100 Lm, Battery run time 38Hours	200 Lm, Battery run time 19Hours	6500K	5V/1A	3.42(1.55)
<b>ZL-1141-B</b>	18	100 Lm, Battery run time 38Hours	200 Lm, Battery run time 19Hours	6500K	5V/1A	3.42(1.55)
<b>ZL-1151-B</b>	18	1000 Lm, Battery run time 8Hours	2000 Lm, Battery run time 4Hours	6000K~7000K	5V/1A	3.86(1.75)



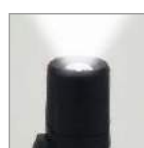
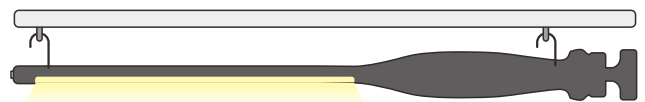
**ZL-9470W**  
15W COB LED  
Work Light - White

**ZL-8800W**  
8W COB LED  
Work Light - White

**ZL-5800W**  
5W LED  
Work Light - White

**ZL-5641W**  
8W COB LED  
Work Light - White

Model	Capacity of LED	Lithium Battery	Lighting up	Distance illumination of 50cm	Frequency	L*W*H mm	Weights g
<b>ZL-9470W</b>	15W COB LED	3.7V 2200mAh	2.5H(full light) 6H(micro light)	935 LUX / 458 LUM	50/60Hz	375*45*35	200
<b>ZL-8800W</b>	8W COB LED	3.7V 2200mAh	2.5H(full light) 6H(micro light)	450 LUX / 280 LUM	50/60Hz	445*38*33	226
<b>ZL-5800W</b>	5W LED	3.7V 2200mAh	2.5H(full light) 6H(micro light)	450 LUX / 260 LUM	50/60Hz	380*38*33	230
<b>ZL-5641W</b>	8W COB LED	3.7V 2200mAh	2.5H(full light) 6H(micro light)	450 LUX / 318 LUM	50/60Hz	210*26*28	127



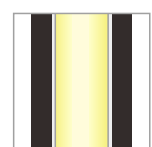
**ZL-8740W**  
8W COB Light  
3W LED TIP Light

- Use 8W light to make large area lighting.
- Use 3W lights for depth lighting.



**ZL-8740WU**  
8W COB Light  
3W LED Tip UV light

- Use 8W light to make large area lighting.
- Engine interior refrigerant detection by UV light.

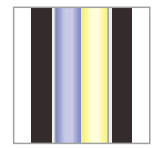


**ZL-9880W**  
20W LED - White



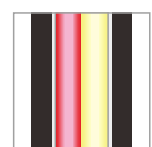
**ZL-9880WY**  
Dual color 10W LED  
- White & Yellow

- Single White color or Dual White & Yellow colors.
- Dual color model is perfect for car polishing inspection.
- Engine room lighting.



**ZL-9880WU**  
Dual color 10W LED  
- White & UV light

- Dual White color & UV light
- Engine interior refrigerant detection by UV light.
- Engine room lighting by white light.



**ZL-9880WR**  
Dual color 10W LED  
- White & Red flashing light

- Dual White color & Red flashing light
- Red flashing warning light.



Adjustable knob



USB charging port

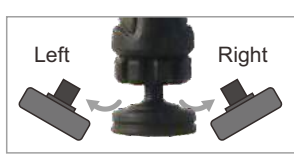


3W white or UV light with adjustable focal length



Back hook with magnet

Color switch for Dual color model



Rear end magnet & rotatable device



Model	Capacity of LED	Lithium Battery	Lighting up	Distance illumination of 50cm	IP	L*W*H mm	Weights g
<b>ZL-9880W</b>	20W	3.7V 3350mAh	3.5H(full light) 6H(micro light)	880 LUM / 1300 LUX (White)	IP54	475*50*42	280
<b>ZL-9880WY</b>	10W	3.7V 3350mAh	3.5H(full light) 6H(micro light)	620 LUM / 1000 LUX (White) 600 LUM / 950 LUX (Yellow)	IP54	475*50*42	280
<b>ZL-9880WU</b>	10W	3.7V 3350mAh	3.5H(full light) 6H(micro light)	620 LUM / 1000 LUX (White)	IP54	475*50*42	280
<b>ZL-9880WR</b>	10W	3.7V 3350mAh	3.5H(full light) 6H(micro light)	620 LUM / 1000 LUX (White) 142 LUM / 170 LUX (Red)	IP54	475*50*42	280
<b>ZL-8740W</b>	8W	3.7V/2200mAh	3H	400 LUM (8W)	IP44	230*30*40	145
<b>ZL-8740WU</b>	8W	3.7V/2200mAh	3H	400 LUM (8W)	IP44	230*30*40	145

- Yellow / white mixed light (ZL-9880WY): 770 LUM / 1400 LUX
- Frequency: 50/60Hz

Certified Cordless Screwdriver  
Evolution-One  
According to ISO 5359, VDI / VDE 2647



**Clutch**

- Two-Phase Clutch Design for Higher CMK
- One Million Cycle Maintenance Free

**MOTOR**

- Brushless, Maintenance Free
- New Patented Motor Accelerator For Better Tool Performance & The Enhancement of Efficiency



**ERGONOMICS**

- Anti-Slip Clamping Grip for Safe Handling
- LED Job Light
- Perfectly Balanced Tool

**PCB Board**

- Trouble-Shooting Display

**BATTERY**

- New Li-Ion Battery: Lighter & Compact
- Power Saving Mode: ECO, Normal, Sport For Longer Life and More Productive Use
- Long-Life Battery: 10.8V/4.0Ah (Order No. LBP32-02)



## Certified Cordless Screwdriver Evolution-One

According to ISO 5393, VDI / VDE 2647

Evolution One Series		The bits specification: 6.35 mm(1/4" Hex) For Industrial Use.		Specification are subject to change without prior notice.	
Model	Torque Range Nm	Idle Speed rpm	Voltage	Weight w/2.0Ah battery kg	CMK Value According to VDI 2647
ZBCP051500	1.0-5.0	320-1500	10.8V	1.3	CMK>2.2±10%
ZBCP061200	1.0-6.0	320-1200	10.8V	1.3	CMK>2.2±10%
ZBCP080850	1.5-8.0	120-850	10.8V	1.3	CMK>2.2±10%
ZBCP120300	1.5-12.0	120-300	10.8V	1.3	CMK>2.2±10%
ZBCP120400	2.0-12.0	110-400	10.8V	1.3	CMK>2.2±10%
ZBCP140300	2.0-14.0	110-300	10.8V	1.3	CMK>2.2±10%

New Evolution One Series		The bits specification: 6.35 mm(1/4" Hex) For Industrial Use.		Specification are subject to change without prior notice.	
Model	Torque Range Nm	Idle Speed rpm	Voltage	Weight w/2.0Ah battery kg	CMK Value According to VDI 2647
ZBCP090900	1.5-9.0	120-900	10.8V	1.3	CMK>2.5±10%
ZBCP120750	2.0-12.0	110-750	10.8V	1.3	CMK>2.5±10%

[Custom-made] Customized models available upon request. Please contact us for further information.

### More Features of New Evolution One

- New Patented Magnetic Levitation Motor
- Non-Vibration Bit Holder for A More Precise and Sensitive Tightening Process
- High Accuracy: CMK Value >2.5 ± 10%
- CMK Test Report Included(Dynamic)
- USB Interface For Parameter setting on Motor
- New pcB-Board: Diagnostic & Report

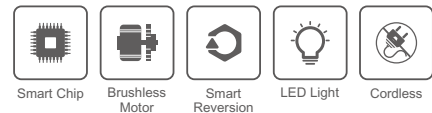
DC IN Model Are Also Available

Optional

Li-ion Battery Pack		DC-IN	Charger
			
<b>LBP31-02</b>	<b>LBP32-02</b>	<b>CH002</b>	<b>6C1001</b>
Description	Description		Description
10.8V 2.0Ah	10.8V 4.0Ah		Input: 100~240 VAC Charge Time: 60min
Weight	Weight		
265g	440g		
USB KIT		Bits	Power cord ( for charger use )
			
<b>E-6C1011</b>		Order No. DH Series High Quality & HRC 67	<b>CH002-02</b>
<b>Color Ring</b>		<b>Torque Adjusting Ring</b>	<b>CH002-03</b>
			<b>CH002-04</b>
<b>5L2023</b>		<b>5L2001</b>	<b>CH002-05</b>
<b>Hook</b>		<b>Belt Hook</b>	<b>CH002-06</b>
			<b>CH002-07</b>
<b>E-HK001</b>		#The Battery Is Not Included	<b>CH002-08</b>
		<b>7Q5103</b>	
			Part No.
			Description
			CH002-02 for USA region
			CH002-03 for India (Big) region
			CH002-04 for Europe region
			CH002-05 for UK region
			CH002-06 for Australia region
			CH002-07 for India (Small) region
			CH002-08 for USA region

### Features:

- Brushless EC motor, compact, more functions, longer run time, service free.
- Torque selections after calibration provide precise torque control for a wide range of applications.
- Smart reverse mode is used when the bolt / nut is loosened, the tool stops impact and rotation, then slowly removes the bolt / nut.
- Variable motor output control.
- LED illuminates work area with 30 second delay after stopping the tool.
- Ergonomics slim handle with soft grip for comfortable use.
- Connect to PC or NB through Bluetooth to calibrate the controllable torque range of the tool.
- Adjustable torque control parameters ( working time, bolt size, QC range, etc. )
- Fast target torque setting within the controllable torque range.
- Individual parameter storage for fast program reload to suit each application.
- Connect to PC or NB through Bluetooth to collect data.
- Connect to internet via software to upload data to the cloud server.



## ECB18IM4300 **Friction Ring Anvil** 18V Cordless Torque Control Impact Wrench 300Nm-Kit

## ECB18IM4300-B **Friction Ring Anvil** 18V Cordless Torque Control Impact Wrench 300Nm - Bare Tool

Kit model supply with 1 pc BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Capacity inch(mm)	Voltage DC	Max. Torque ft-lb(Nm)	Weight with battery pack lbs(kgs)
ECB18IM4300				3.47(1.57) with 4.0Ah battery
ECB18IM4300-B	1/2(13)	18	222(300)	2.03(0.92) Bare Tool

### Features:

- Brushless EC motor, compact, more functions, longer run time, service free.
- Torque selections after calibration provide precise torque control for a wide range of applications.
- Smart reverse mode is used when the bolt / nut is loosened, the tool stops impact and rotation, then slowly removes the bolt / nut.
- Variable motor output control.
- LED illuminates work area with 30 second delay after stopping the tool.
- Ergonomics slim handle with soft grip for comfortable use.
- Connect to PC or NB through Bluetooth to calibrate the controllable torque range of the tool.
- Adjustable torque control parameters ( working time, bolt size, QC range, etc. )
- Fast target torque setting within the controllable torque range.
- Individual parameter storage for fast program reload to suit each application.
- Connect to PC or NB through Bluetooth to collect data.
- Connect to internet via software to upload data to the cloud server.



## ECB18IP41555 18V Cordless Torque Control Impulse Wrench 15~55Nm-Kit

## ECB18IP41555-B 18V Cordless Torque Control Impulse Wrench 15~55Nm - Bare Tool

Kit model supply with 1 pc BT-DX0051 4.0Ah batteries, 1 pc CG-DX0030 charger in Blow Mold Case.

Model	Square Drive	Bolt Capacity mm	Measured on Hard Joint / ft-lb(Nm)				Weight with battery pack lbs(kgs)
			Min. Oil Pressure 30% motor output	80% motor output	Max. Oil Pressure 30% motor output	80% motor output	
ECB18IP41555							4.35(1.97) with 4.0Ah battery
ECB18IP41555-B	1/2" SD	M10~M12	15(20.34)	30(40.68)	30(40.68)	55(74.57)	2.91(1.32) Bare Tool

## Features

- Brush-less motor and no external power supply.
- Available in 100~120V & 220~240V.
- Easy to operate lever to control of motor speed.
- on/off switch, for easy and safe handling.
- Longer body enables optional two-hand grip.
- Brush-less motor means no need to change brushes, less down time.



Model	Power W	Orbit inch(mm)	Size of pad inch(mm)	Max. Speed rpm	Voltage main supply VAC	Weight kg	Plug Type
<b>ZES-6DC22</b>	350	3/16(5)	6(150)	2000~10000	220~240	0.92	Please specify when ordering



## Features

- Automatic syncs by both air tool and power tool.
- Lightweight and Powerful.
- Triple Filtration System.
- Light weight composite housing design.
- Use for both Electric & Air sanders.
- Two types startup control: manual or automatic startup.
- Speed adjustment for various sanding application.
- Ideal for wood furniture industry & automotive body shops.



### ZVC5111ES

Industrial Vacuum Cleaner with Rack

- LxWxH: 640x465x1290mm



#### [ Accessories ]

- 5M length vacuum & air hose set X 1
- Replaceable Filter X 1
- Dust collection bag X 1



### ZVC5111E

Industrial Vacuum Cleaner

- LxWxH: 640x465x500mm

\* Please specify the type of plug when ordering.

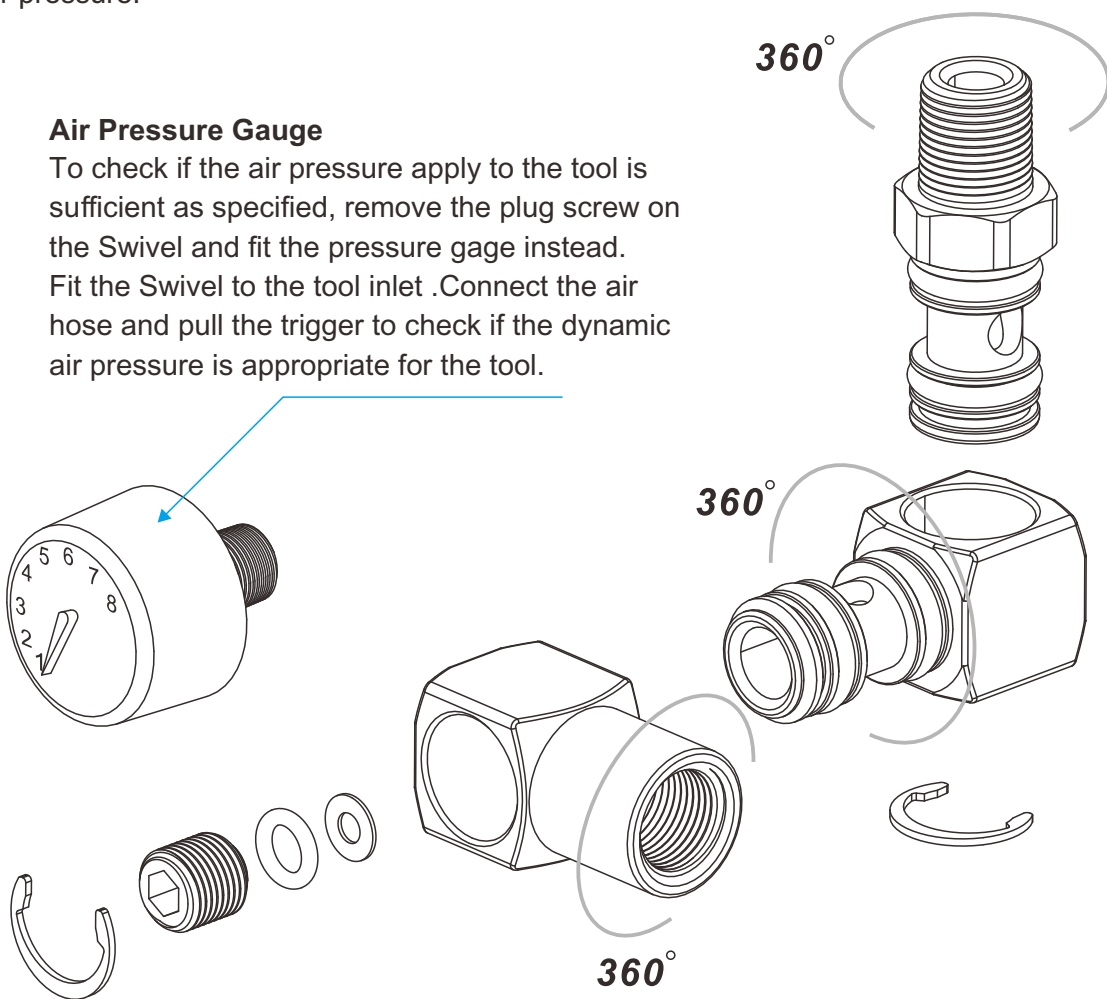
Model	Voltage	Power Consumption w	Max Vacuum mmH2O	Air Flow m <sup>3</sup> /min	Drum Capacity L	Weight kg
ZVC5111ES	220~240V	1200	2450	2.9	40	24.5
ZVC5111E	220~240V	1200	2450	2.9	40	16

### ZIPP SWIVEL-360° Free-directional rotation air hose universal joints.

- The ZIPP SWIVEL is a patented, uniquely designed "Universal Swivel Air Inlet Joint" that connects portable air tools to an air line. it swivels 360° to allow the hose hanging straight down to the floor no matter how the tool is held.
- The ZIPP SWIVEL is available in 5 types covering most popular sizes of Air tools in the field for superior maneuverability while increasing operator comfort and productivity.
- It will increase the life of air hoses and inlet fitting as well.
- The ZIPP SWIVEL can be efficiently used on Air Drills, Grinders, Polishers, Sanders, Staplers, Spray Gun, etc. **It is applicable with percussive or impact tools.**
- All types can be attached with a miniature 1" air pressure gauge for checking the most precise dynamic working air pressure right at the tool inlet.
- Unique pressure relief valve available as an option to prevent the tool working under abnormal higher air pressure.

#### Air Pressure Gauge

To check if the air pressure apply to the tool is sufficient as specified, remove the plug screw on the Swivel and fit the pressure gage instead. Fit the Swivel to the tool inlet .Connect the air hose and pull the trigger to check if the dynamic air pressure is appropriate for the tool.



Patent pending in other countries



U.S.A.PAT.:  
4,823,835



P.R.C.PAT.:  
ZL 2006 2 0001776.6

# Universal Swivel Air Inlet Joint



**ZA-922P(K)**

1/4" Swivel Joint Composite



**ZA-922(K)**

1/4" Swivel Joint-Alum.



**ZA-933(K)**

3/8" Swivel Joint-Alum.



**ZA-944(K)**

1/2" Swivel Joint-Alum.



**ZA-92R2(K)**

1/4" Swivel Joint w/Regulator



**ZA-92S2(K)**

1/4" Swivel Joint-Alum. w/Full Close type Regulator



**KIT ZA-9XX(K)**

Affix (K) denotes the Swivel Joint Packed with Pressure Gauge



**CA-1025B**

1/4" Mini Oiler



**82R2**

1/4" Air Regulator

[Accessories]

- Male thread: 1/4" PT/NPT
- Female thread: 1/4" PF
- Hex O.D.: 22mm



**CA-1037B**

3/8" Mini Oiler



**AG18**

Pressure gauge



**ZA-5SG2**

Pressure regulator w/gauge

3 units selectable:

psi, bar, Kpa



**HN-G1**

Digital Pressure gauge

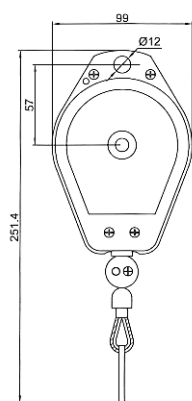
## Features

- Proof pressure: 200 psi
- Burst pressure: 250 psi (5 SEC)
- Accuracy:  $\pm 1.2$  psi  $\pm 1$  digit @ 25°C
- Media: clean air or non-corrosive gases
- Display: LCD size: 11 x 21 mm
- Battery: 1.5V DC x 2, non changeable
- Battery life: 3 yrs (working 1 hour/day) ; 2500 hrs (continue working)
- User interface: On/Off and change unit
- Operating temperature: 0~45 °C (32~115 °F)
- Storage temperature: -10~60 °C (14~140 °F)
- Face label: Toluene be able to wipe
- HN-G1 digital pressure gauge: IP63
- Auto-offtime set: 90 (SEC)
- Pressure port: brass 1/8" NPT male

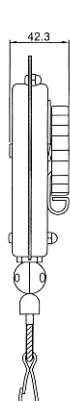
Model	Pipe Thread Size -Male PT/NPT	Pipe Thread Size -Female PF	Side Width J*: Hex mm	Side Width J*: SQ. mm	Air Flow Rate m <sup>3</sup> /min	Material
<b>ZA-922P</b>	1/4	1/4	17	19	0-0.75	Nylon+GF+Teflon
<b>ZA-922</b>	1/4	1/4	17	19	0-0.75	Alum. Alloy & Steel
<b>ZA-933</b>	3/8	3/8	17	19	0-1.35	Alum. Alloy & Steel
<b>ZA-944</b>	1/2	1/2	22	25.4	0-1.95	Alum. Alloy & Steel
<b>ZA-92R2</b>	1/4	1/4	17	19	0-0.75	Alum. Alloy Brass & Steel
<b>ZA-92S2</b>	1/4	1/4	17	19	0-0.75	Alum. Alloy & Steel
<b>82R2</b>	1/4	1/4	22	—	0-0.75	Brass & Steel

## Features

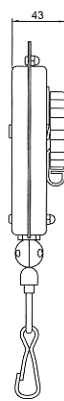
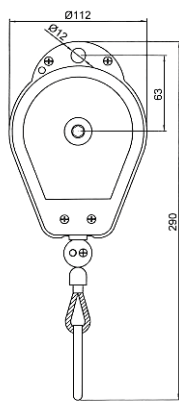
- Cost-efficient, practical and compact. It uses rotatory Adjusting Cover for easier tension adjustment without burden.
- Fast and convenient installation. In addition, anti-falling steel wire mounting holes are provided, which must be installed to avoid the failure of the original mounting location.
- The housing is made of rustproof iron shell. The steel wires and nylon ropes are available for option. Further, a ball-shape damper also can stop tool at a fixed height in its recover stroke.



ZSB600/ZSB1200/ZSB2000



ZSB3000/ZSB5000



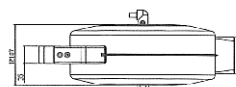
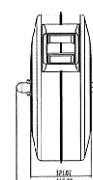
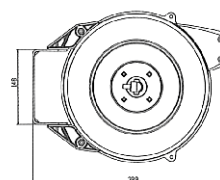
Tension Adjust Cap



Model	Capacity kg	Weight kg	Travel m	Rope option	Rope Dia mm
ZSB600	0.3~0.8	0.49	1.4	Nylon/Cable	2.5
ZSB1200	0.6~1.5	0.52	1.4	Nylon/Cable	2.5
ZSB2000	1.0~2.0	0.53	1.4	Nylon/Cable	2.5
ZSB3000	1.5~3.0	0.76	1.4	Cable	2.5
ZSB5000	3.0~5.0	0.81	1.4	Cable	2.5

## Features

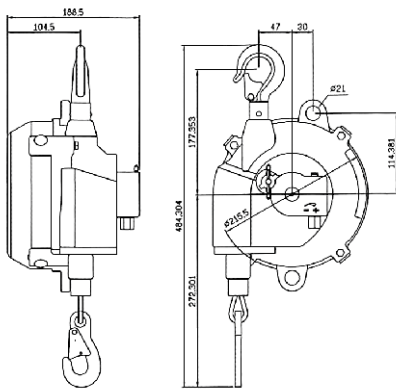
- Adopt 8mm inner dia, PU Braided hose.



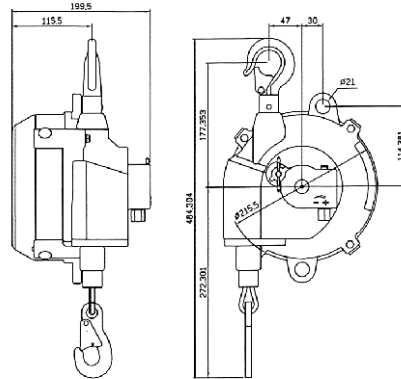
Model	Mox.pressure psi	Weight kg	Hose Length m	Hose Material	Hose Dia mm
ZHR-10	200	4.9	10	PU Braided	8*12

## Features

- Labor Saving: The spiral type outputs consistent suspension force.
- Productive: The user can easily drag the tool to where he wants and stop at easier access position to achieve smoother and more efficient operation.
- Efficient: The operator can handle the tool easily; thus, avoiding wasting time and consuming labor by lowering the tool and picking it again when taking the object at the same time.
- Cost-efficient: Rigid mechanism design makes the product more durable while bringing down the maintenance cost.
- Anti-Falling Device will lock the cable in case of spring breakage.



**ZSB40K/ZSB50K**



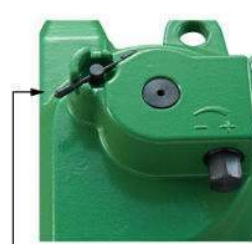
**ZSB60K/ZSB70K**



Tension Indicator



Tension Adjust by Worm Gear



Lock Spring Drum Position

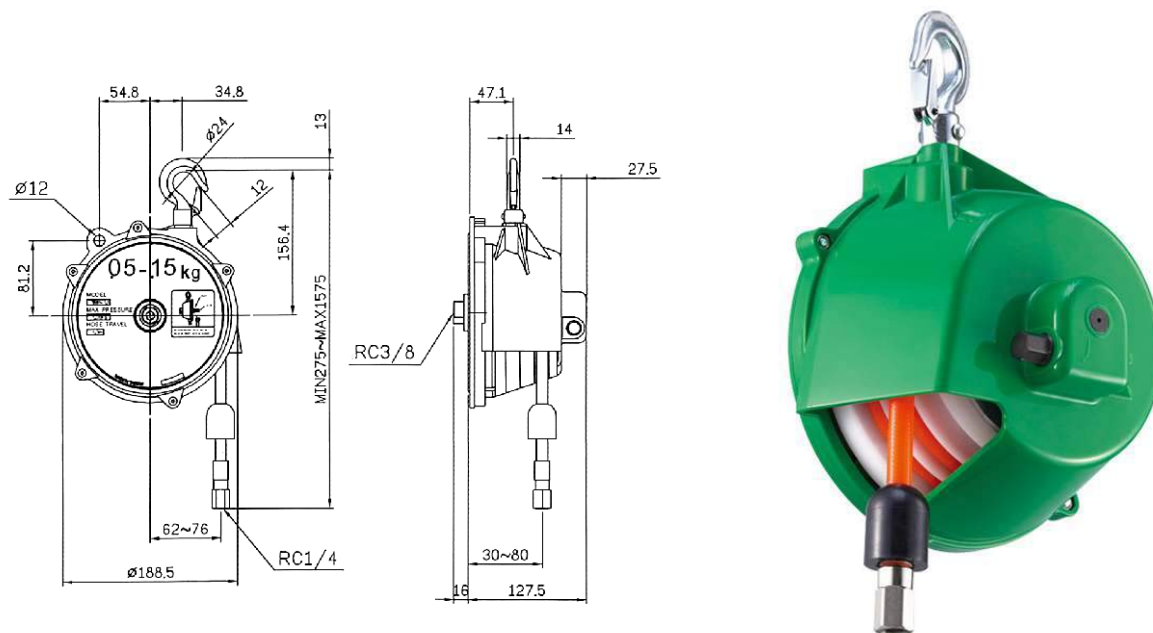


360° Swivel Hanger

Model	Capacity kg	Weight kg	Travel m	Rope option	Rope Dia mm
<b>ZSB40K</b>	30~40	9.7	1.5	Cable	4.8
<b>ZSB50K</b>	40~50	10.1	1.5	Cable	4.8
<b>ZSB60K</b>	50~60	11.1	1.5	Cable	4.8
<b>ZSB70K</b>	60~70	11.4	1.5	Cable	4.8

## Features

- Adopting 8.0 mm inner diameter hose to provide enough air flow to air tool and equipment.
- It achieves neat and orderly production line for enhancing the working efficiency.
- Tool anti-falling device is provided in case of the spring breaking.
- The installation is fast and convenient with 360 degrees install hook.
- Worm gear provides more precise force adjustment.



Model	Capacity kg	Weight kg	Travel m	Hose Material	Hose Dia mm
ZTHB15	0.5~1.5	2.2	1.3	PU Braided	8*12
ZTHB25	1.5~2.5	2.3	1.3	PU Braided	8*12
ZTHB35	2.5~3.5	2.4	1.3	PU Braided	8*12
ZTHB50	3.5~5.0	2.4	1.3	PU Braided	8*12
ZTHB65	5.0~6.5	2.5	1.3	PU Braided	8*12



**ZC-130-3A**  
3/8" F.R.L. Unit



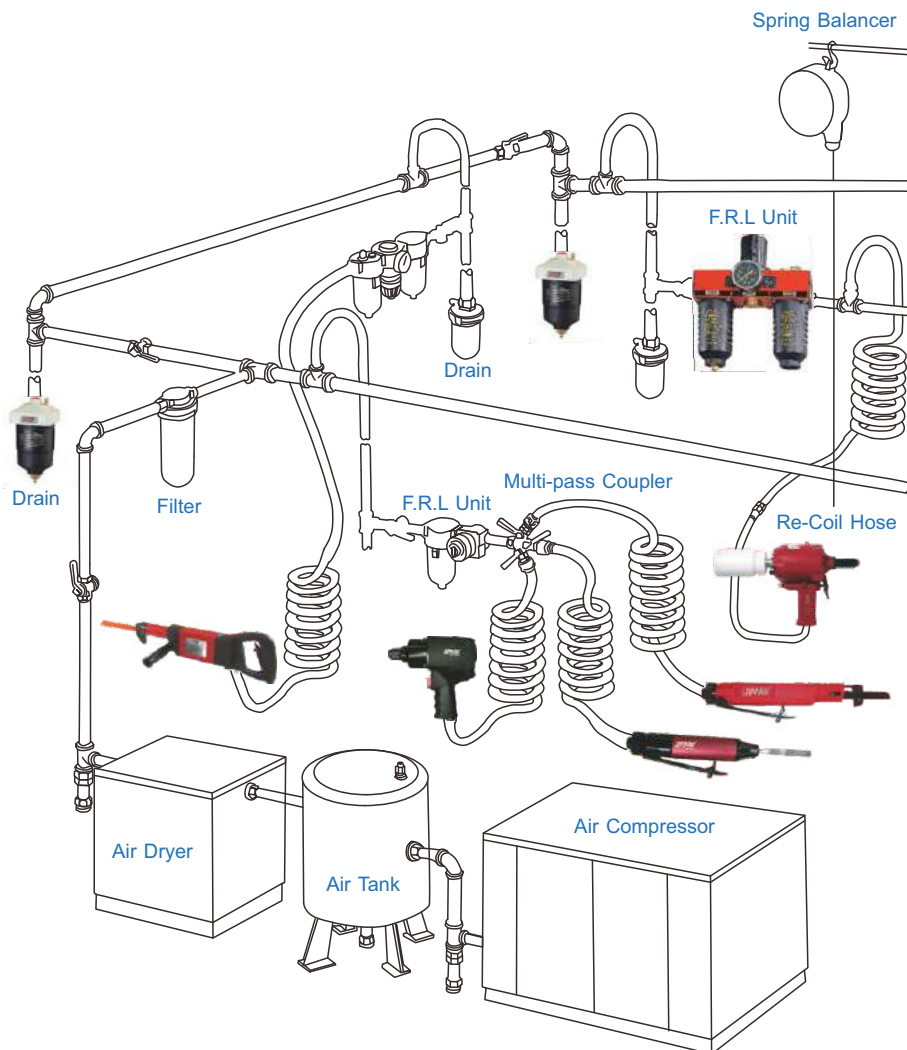
**ZC-130-4A**  
1/2" F.R.L. Unit

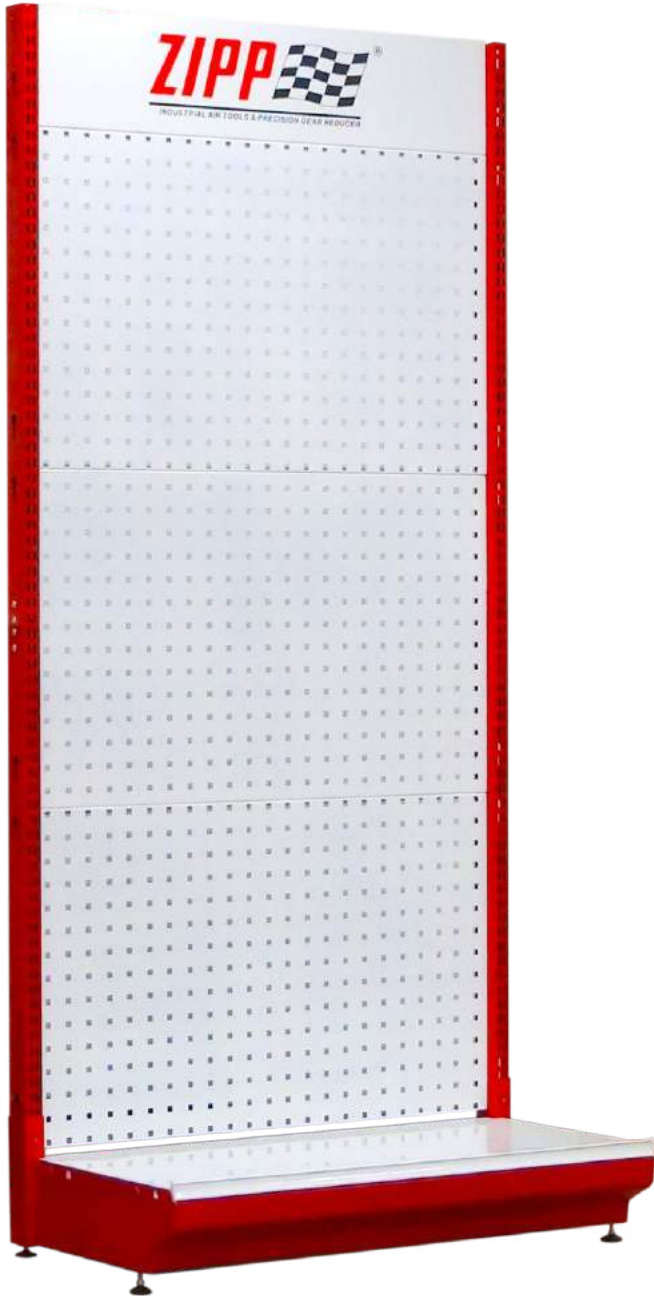


**ZD-130**  
Auto Drain

Model	Tubing Connection inch-PT/NPT	Filter Grade μ	Pressure Range. psi	Max. Service Pressure psi	Range of Service Temperature °C	Lubricant Storing Capacity cc	Net Weight kg
ZC-130-3A	3/8	5~40	20~130	145	5~60	120	2.9
ZC-130-4A	1/2	5~40	20~130	145	5~60	120	2.9
ZD-130	1/2	-	28~130	-	10~63	-	1.3

**Air Supply System**





**ZSH-1**  
1" Single Hook



**ZDH-1**  
1" Double Hook



**ZSH-2**  
2" Single Hook



**ZDH-2**  
2" Double Hook



**ZSH-4**  
4" Single Hook



**ZDH-4**  
4" Double Hook



**ZSH-8**  
8" Single Hook



**ZDH-8**  
8" Double Hook



**ZUH-1**  
U Shape Hook



**ZDS-2**  
Display Stand


	W inch(mm)	D inch(mm)	H inch(mm)
Over all size	37.2(945)	19.3(490)	82.7(2100)
	N.W. kgs	G.W. kgs	Cuft
Packing	31.5	33	2.73'

**ZDS-1S**  
Up Shelf w/ Bracket

	W inch(mm)	D inch(mm)	H inch(mm)
Over all size	35.8(910)	15(382)	7.9(20)
	N.W. kgs	G.W. kgs	Cuft
Packing	3.5	3.9	0.3'




# General Safety Guide


 Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the public to cause cancer, birth defects or other reproductive harm.

**WARNING** Some products with high pressure system and the following safety precautions must be followed at all time along with any other existing safely rules.


1. Read all manuals included with each product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Only persons well acquainted with these rules of safe operation should be allowed to use the air tool.
3. Do not exceed any pressure rating of any component in the system.

 Do NOT exceed the maximum operating pressure of the air tool (normally 90PSI).  
**WARNING** The air tool could explode and result in death or serious injury.


4. Disconnect the air tool from air supply before changing tools or attachments and during non-operation.

 Always wear approved safety glasses with shields & hearing protection.  
**WARNING**

5. Do not wear loose fitting clothing or apparel which contains loose straps or ties, etc. which could become entangled in moving parts of the tool and results in serious personal injury.
6. Do not wear jewelry, watches, identifications, necklace. etc. when operating any tool, they may be caught in moving parts and result in serious injury.
7. Do not depress trigger when connecting the air supply hose.
8. Always use attachments designed for use with air powered tools. Do not use damaged or worn attachments.

 DO NOT use hand tool sockets. Use impact quality sockets only.  
**WARNING**

9. Never trigger the tool when not applied to a work object. Attachments must be securely attached.  
Loose attachments can cause serious injury.
10. Protect air lines from damage or puncture.
11. Never point an air tool at oneself or any other person. Serious injury could occur.
12. Check air hoses for weak or worn condition before each use. Make sure all connections are secure.
13. Keep all nuts, bolts and screws tight and ensure equipment is in safe working condition.
14. Do not put hands near or under moving parts.

 Do NOT misuse the product, excessive exposure to vibration, work in awkward position and repetitive work motion.  
**WARNING**

## Maintenance

Air tools require lubrication throughout the lifetime of the tools. The air motor and bearing use compressed air to power the tool, due to the moisture of the compressed air will rust the air motor and other parts inside of the tools, therefore lubrication is required air daily. Failure to lubricate the air tool properly will dramatically shorten the life of the tool and will void the warranty.

 This air tool requires lubrication BEFORE initial use. also before and after each additional use.  
**WARNING**

### To lubricate the air tool manually:


1. Remove any attachment on the drive of air tools such as sockets, chisels and etc.
2. Disconnect the tool from the air supply source, place the air inlet faces up.
3. Depress the trigger or throttle and place about 5 c.c. of air tool oil into the air inlet.  
(Depressing the trigger or throttle will help circulating oil in the motor.)

#### NOTE:

Use SAE #10 grade oil if air tool oil is not available.

Keep out of the reach of children. If taken internally, do not induce vomiting, call a doctor immediately.

4. Connect the tool to air source, cover the exhaust end with a towel and run for about 20 to 30 seconds.

 Any excess oil in the motor is immediately expelled from the exhaust port. Always direct exhaust port away from people or objects.  
**WARNING**



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