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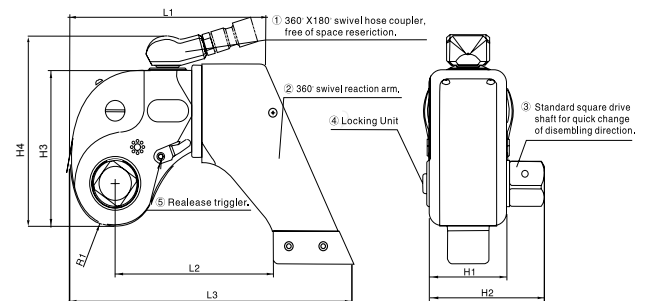
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➤ Square Drive Hydraulic Torque Wrench

- Max Working Pressure: 700 Bar;
- Compact design, made of TITAL-919 alloy, a high strength and ultra-light space material with the strength and toughness of the fuselage significantly strengthened;
- 360° swivel hose coupler. Completely free of space restriction;
- The trigger lock needs only slight pressure to be operated, and the reaction arm can be situated 360° on the support as required;
- A precise ratchet is adopted with 3% accuracy.



The drive shaft can be either hexagon or square. The reaction arm can also be customized as per different working requirements.



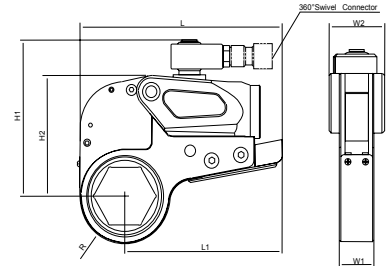
Art.No	Torque Range (Nm)	Drive Shaft (inch)	L1 (mm)	L3 (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	R1 (mm)	L2 (mm)	Weight (kg)
ZV 1MXTA	164-1760	3/4	130	182	52	77	96	133	25.8	102	2
ZV 3MXTA	433-4332	1	170	249	70	98	127	165	34.8	140	4
ZV 5MXTA	742-7420	1-1/2	202	286	81	125	149	184	39.8	160	7
ZV 8MXTA	1015-10430	1-1/2	228	326	90	134	172	207	46.8	184	10.6
ZV 10MXTA	1509-15090	1-1/2	237	336	100	144	181	216	50.8	192	12.9
ZV 15MXTA	1940-19409	2-1/2	273	391	110	164	206	241	56.8	223	20
ZV 20MXTA	2504-26447	2-1/2	287	433	120	187	221	256	59.8	248	25
ZV 25MXTA	3309-34626	2-1/2	323	464	138	206	258	293	70.8	256	33.8
ZV 35MXTA	4741-47414	2-1/2	351	494	153	217	279	315	76.8	271	43
ZV 50MXTA	6925-69247	2-1/2	376	528	162	226	291	326	78.8	295	52

➤ Ratchet Cassette Hydraulic Torque Wrench

- Pancake design ,made of strong and light space material TITAL-919 alloy to improve the strength and life;
- Wide application range. One power unit head can be used with several working heads, add-on reducer inserts or inter-changeable cassettes, no need for special tools;
- 360°swivel hose coupler. Completely free of space restriction;
- Interchangeable working head covering all sizes, more safe;
- Ultra-light, ultra-thin and big torsion fit for various restricted spaces.



Art. No	Torque Range (Nm)	Power Unit Art. No.	Ratchet Cassette Art. No.	L (mm)	H1 (mm)	H2 (mm)	W1 (mm)	W2 (mm)	R (mm)	L1 (mm)	Weight (kg)
ZV 2XLCT	244-2534	2XT	2LC-50	205	129	100	32	50	41.3	147	2.2
ZV 4XLCT	489-5392	4XT	4LC-65	251.3	163	136	41	66	53.8	188	5.0
ZV 8XLCT	1017-10452	8XT	8LC-90	302.5	191	166.5	53	83	68.8	233	9.6
ZV 14XLCT	1724-16245	14XT	14LC-115	367	223	198	64	99	85.3	283	16.9
ZV 18XLCT	2247-22899	18XT	18LC-135	400.5	246	224	70	110	98.8	308	22.9
ZV 30XLCT	4064-40639	30XT	30LC-155	457.5	282	265	84	132	115.8	364	38



➤ Ratchet Links & Reducer Inserts

Power Unit.No	Ratchet Link No.	A/F Size	Optional Add-on Reducer Inserts Specifications					
			Art No.	A/B (mm)	Art No.	A/B (mm)	Art No.	A/B (mm)
2XT	2LC-32	32	2G3227	32/27				
	2LC-36	36	2G3630	36/30	2G3627	36/27		
	2LC-41	41	2G4132	41/32	2G4130	41/30	2G4127	41/27
	2LC-46	46	2G4636	46/36	2G4632	46/32	2G4630	46/30
	2LC-50	50	2G5041	50/41	2G5036	50/36	2G5032	50/32
4XT	4LC-32	32	4G3227	32/27				
	4LC-36	36	4G3630	36/30	4G3627	36/27		
	4LC-41	41	4G4132	41/32	4G4130	41/30	4G4127	41/27
	4LC-46	46	4G4636	46/36	4G4632	46/32	4G4630	46/30
	4LC-50	50	4G5041	50/41	4G5036	50/36	4G5032	50/32
	4LC-55	55	4G5546	55/46	4G5541	55/41	4G5536	55/36
	4LC-60	60	4G6050	60/50	4G6046	60/46	4G6041	60/41
	4LC-65	65	4G6555	65/55	4G6550	65/50	4G6546	65/46
	8LC-55	55	8G5546	55/46	8G5541	55/41		
	8LC-60	60	8G6050	60/50	8G6046	60/46		
8XT	8LC-65	65	8G6555	65/55	8G6550	65/50	8G6546	65/46
	8LC-70	70	8G7060	70/60	8G7055	70/55	8G7550	75/50
	8LC-75	75	8G7565	75/65	8G7560	75/60	8G7555	75/55
	8LC-80	80	8G8070	80/70	8G8065	80/65	8G8060	80/60
	8LC-85	85	8G8575	85/75	8G8570	85/70	8G8565	85/65
	8LC-90	90	8G9080	90/80	8G9075	90/75	8G9070	90/70
	14LC-75	75	14G7565	75/65				
	14LC-80	80	14G8070	80/70	14G8065	80/65		
14XT	14LC-85	85	14G8575	85/75	14G8570	85/70	14G8565	85/65
	14LC-90	90	14G9080	90/80	14G9075	90/75	14G9070	90/70
	14LC-95	95	14G9585	95/85	14G9580	95/80	14G9575	95/75
	14LC-100	100	14G10090	100/90	14G10085	100/85	14G10080	100/80
	14LC-105	105	14G10595	105/95	14G10590	105/90	14G10585	105/85
	14LC-110	110	14G110100	110/100	14G11095	110/95	14G11090	110/90
	14LC-115	115	14G115105	115/105	14G115100	115/100	14G11595	115/95
	18LC-85	85	18G8575	85/75				
18XT	18LC-90	90	18G9080	90/80	18G9075	90/75		
	18LC-95	95	18G9585	95/85	18G9580	95/80	18G9575	95/75
	18LC-100	100	18G10090	100/90	18G10085	100/85	18G10080	100/80
	18LC-105	105	18G10595	105/95	18G10590	105/90	18G10585	105/85
	18LC-110	110	18G110100	110/100	18G11095	110/95	18G11090	110/90
	18LC-115	115	18G115105	115/105	18G115100	115/100	18G11595	115/95
	18LC-120	120	18G120110	120/110	18G120105	120/105	18G120100	120/100
	18LC-130	130	18G130120	130/120	18G130115	130/115	18G130110	130/110
30XT	30LC-90	90	30G9080	90/80				
	30LC-95	95	30G9585	95/85	30G9580	95/80		
	30LC-100	100	30G10090	100/90	30G10085	100/85	30G10080	100/80
	30LC-105	105	30G10595	105/95	30G10590	105/90	30G10585	105/85
	30LC-110	110	30G110100	110/100	30G11095	110/95	30G11090	110/95
	30LC-115	115	30G115105	115/105	30G115100	115/100	30G11595	115/95
	30LC-120	120	30G120110	120/110	30G120105	120/105	30G120100	120/100
	30LC-130	130	30G130120	130/120	30G130115	130/115	30G130110	130/110
30LC-145	145	30G145130	145/130	30G145120	145/120	30G145115	145/115	
30LC-155	155	30G155145	155/145	30G155130	155/130	30G155120	155/120	

➤ Electric Torque Pump

- Max. Pressure: 700 Bar;
- Light weight with AL material outside;
- High efficient air cooling system for long time working;
- Can be operated by remote control.



Art No.	Max Flow (L/min)	Min Flow (L/min)	Motor (KW)	Remote Cable (m)	Tank Oil (L)	Cooling System	Way of Control	Wrench Qty	Weight (kg)
ZV KLV-2000	8	1.2	1.3	6	6	Air	Conventional	1	30
ZV KLV-3000	12	1.9	1.5	6	12	Air	Conventional	2	35
ZV TSP-302	8.2	0.8	1.3	6	8	Air	Conventional	2	33
ZV TSP-302D	8.2	0.8	1.3	6	8	Air	Digital	2	33

➤ Pneumatic Torque Pump

- Three stage manual pump, available for 2 wrenches load;
- Super light weight, easy to be moved around;
- Output pressure adjustable within 40-700 Bar;
- Reliable cooling system assures the pump adaptable in extreme environment;
- Durable aluminum oil tank with excellent heat dissipation.



Art No.	Oil Flow (L/min)			Power (KW)	Oil Capacity (L)	Compressed Air (bar)	Weight (kg)
	@700bar	@300bar	@70bar				
ZV LPW-2000	0.63	1.26	7.0	1.1	5	0.4-0.8	22

➤ Hydraulic Hose

- With quick couplers matched with the ones on wrenches.

Art No.	Length (m)	Working Pressure (bar)	Breaking Pressure (bar)	Quick Coupling	Weight (kg)
ZV HC-7210T	3	700	2800	CT-901	1.5
ZV HC-7220T	6	700	2800	CT-901	2
ZV HC-7240T	9	700	2800	CT-901	3



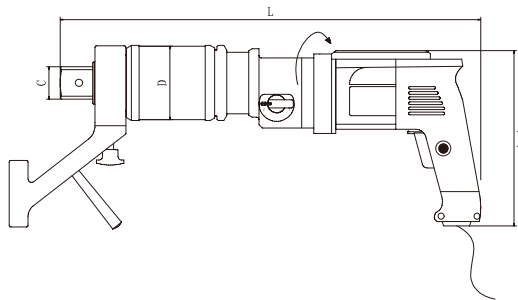
➤ Sockets

- Sockets can be supplied at request.
- Please identify the square size and nut size if needed.



➤ Digital Electric Torque Wrench -Vertical Type

- Pump and hose are no longer needed. To do precise bolting process, it only requires power supply of 220-240V 50-60Hz;
- Continuous rotation without impact. When reaching the setted torque, it will stop automatically. More functional than hydraulic wrench by intermittent drive;
- Single-chip intelligent torque control system, with fault self-checking function and power-off memory function.
- Accuracy: $\pm 5\%$;
- Two ways of torque setting:
 - *Set the torque manually;
 - *System recommends torque as per bolt parameters;
- Human-computer interface. Torque value is shown directly on LCD display. 'Torque table' is not needed;
- Double anti-overload protection. Electronic system against over-tighten and the clutch against overload, they can protect driving components effectively.



Model selection:
For loosening, the torque should be **50%** bigger than tightening.

Art No.	Torque Range (Nm)	Square C	D (mm)	L (mm)	E (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXE-08V	100-800	3/4"	88	429	208	20	7.5
ZV DXE-12V	200-1200	1"	88	434	208	18	7.6
ZV DXE-26V	400-2600	1"	88	455	208	7	8.2
ZV DXE-38V	500-3800	1-1/2"	96	475	208	5	9.8
ZV DXE-60V	1000-6000	1-1/2"	114	510	208	4	12.3
ZV DXE-80V	1200-8000	1-1/2"	129	558	208	2	18.0
ZV DXE-100V	1800-10000	1-1/2"	129	558	208	2	18.2
ZV DXE-120V	2000-12000	1-1/2"	129	558	208	1.5	18.4

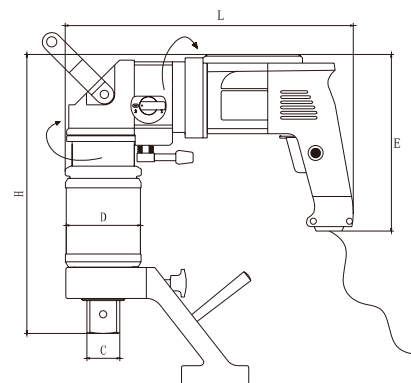
*Above weight does not include reaction arm. Non-load speed is the speed at gear 2 without load.

➤ Digital Electric Torque Wrench -Angled Type

- Pump and hose are no longer needed. To do precise bolting process, it only requires power supply of 220-240V 50-60Hz;
- Compared to straight type, the angled is more suitable for limited working space, accuracy: $\pm 5\%$;
- Double speed design, high/low speed can be shifted freely;
- Special design of one-piece reaction arm, it's much better on strength and using life than casting and weld pieces;
- Adjustable by 360-degree;
- Pistol handle of human engineering. Its cushion rubber can reduce 50% of the vibration. Free connection of power handle and drive units, it can rotate oppositely Industrial grade design for continuous using, It can meet the needs of production assembly, engineering installation and maintenance.



Model selection:
For loosening, the torque should be **50%** bigger than tightening.

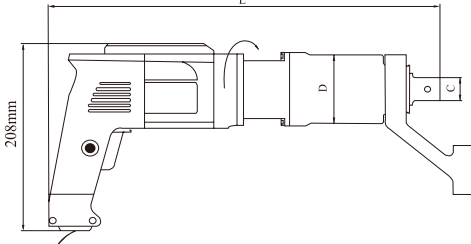


Art.No	Torque Range (Nm)	Square C	L (mm)	E (mm)	D (mm)	H (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXE-08A	100-800	3/4"	339	208	88	248	20	8.7
ZV DXE-12A	200-1200	1"	339	208	88	253	18	8.8
ZV DXE-26A	400-2600	1"	339	208	88	274	7	9.4
ZV DXE-38A	500-3800	1-1/2"	339	208	96	294	5	11.0
ZV DXE-60A	1000-6000	1-1/2"	339	208	114	329	4	13.5
ZV DXE-80A	1200-8000	1-1/2"	339	208	129	378	2	19.2
ZV DXE-100A	1800-10000	1-1/2"	339	208	129	378	2	19.4
ZV DXE-120A	2000-12000	1-1/2"	339	208	129	378	1.5	19.6

*Above weight does not include reaction arm. Non-load speed is the speed at gear 2 without load.

➤ Single Speed Electric Torque Wrench

- Input: 220–240V AC, 50/60Hz;
- Preset torque and automatic shut off when reaching the set torque;
- High output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$;
- Digital torque control system with LCD display;
- Free connection of power handle and drive unit;
- Portable and durable design, low noise with overload protection.



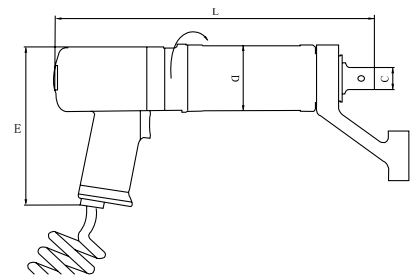
Model selection:
For loosening, the torque should be **50%** bigger than tightening.

Art.No	Torque Range (Nm)	Square C	L (mm)	D (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXES-04	80–450	3/4"	395	76	21	5.4
ZV DXES-08	100–850	3/4"	395	76	12	5.4
ZV DXES-12	200–1200	1"	400	76	9	5.5

*Above weight does not include reaction arm.

➤ Single Speed Pneumatic Torque Wrench

- Air pressure requirements: not less than 6 Bar;
- Air flow requirements: DXPS–06,10,15, not less than 600L/min, DXPS–20, not less than 1000L/min;
- Preset torque, output and repeat accuracy: $\pm 5\%$ and $\pm 3\%$;
- Powerful and low noise, less than 80Dba;
- Free connection of power handle and gear box, could be rotated 360°
- Portable and durable design, low noise with overload protection;
- Good choice for continuous working in production assembly and maintenance.



As the reverse torque of pneumatic wrench is much higher, **30%** reserved torque is enough.

Art.No	Forward Torque (Nm)	Square C	L (mm)	E (mm)	D (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXPS-06	70–650	3/4"	300	186	76	23	4.9
ZV DXPS-10	120–1060	1"	300	186	76	13	5.0
ZV DXPS-15	170–1500	1"	300	186	76	10	5.0

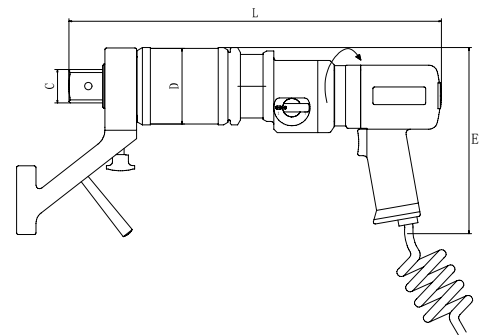
*Above weight does not include reaction arm.

➤ Pneumatic Torque Wrench-Vertical Type

- 6 Bar compressed air, air consumption under max.power : 600L/min;
- Powerful and low noise, less than 80DbA under max.power;
- Set and control torque by adjusting the pressure on air register;
- Accuracy: $\pm 5\%$, repeatability: $\pm 1\%$;
- Optional digital air register, torque precision: $\pm 3\%$, repeatability: $\pm 1\%$;
- Compact planet design, small size, higher torque/weight ratio;
- 4-way type of power control system, large-span torque;
- 7-vane type high performance air motor, high efficiency, no impact torque can be continually output;
- Design of reverse pressure-bias motor provide the max.power and torque in reversing mode, satisfying the request of higher torque when losing bolts;
- Positive/reverse button by single hand, switch valve of TOUCH type;
- Excellent performance of continuous running can meet high workload.



As the reverse torque of pneumatic wrench is much higher, 30% reserved torque is enough.



Art.No	Forward Torque (Nm)	Square C (mm)	L (mm)	E (mm)	D (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXP-14V	200-1400	1"	370	186	88	22	6.7
ZV DXP-29V	410-2900	1"	390	186	88	9	7.3
ZV DXP-40V	560-4000	1-1/2"	410	186	96	7	9.2
ZV DXP-62V	870-6200	1-1/2"	445	186	114	5	11.4
ZV DXP-120V	1880-12000	1-1/2"	484	186	129	2	17.4

*Above weight does not include reaction arm. Non-load speed is the speed at gear 2 without load.

➤ Pneumatic Torque Wrench-Angled Type

- 6 Bar compressed air, air consumption under max. power : 600L/min;
- Angled type is more suitable for limited working space;
- Low noise motor , the noise is much lower;
- Torque precision: $\pm 5\%$, repeatability: $\pm 1\%$;
- Optional digital air register, torque precision: $\pm 3\%$, repeatability: $\pm 1\%$;
- Shift high/low speed mechanically , greatly promote working efficiency;
- Reaction arm of high strength ,anti-easily-broken, adjustable by 360-degree;
- Equipped with brake & cutoff system to protect the operator;
- New ergonomics-design handle, which is freely connected with drive Units and can be rotated, improves operation convenience and comfort.



As the reverse torque of pneumatic wrench is much higher ,30% reserved torque is enough.

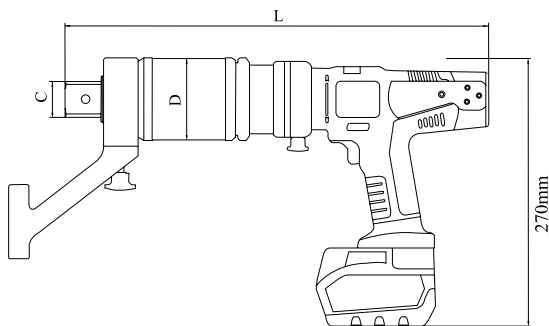


Art.No	Forward Torque (Nm)	Square C	L (mm)	E (mm)	D (mm)	H (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXP-14A	200-1400	1"	259	186	88	253	22	7.9
ZV DXP-29A	410-2900	1"	259	186	88	274	9	8.7
ZV DXP-40A	560-4000	1-1/2"	259	186	96	294	7	10.4
ZV DXP-62A	870-6200	1-1/2"	259	186	114	329	5	12.3
ZV DXP-120A	1880-12000	1-1/2"	259	186	129	378	2	18.6

*Above weight does not include reaction arm. Non-load speed is the speed at gear 2 without load.

➤ Rechargeable Digital Torque Wrench

- Ultra-powerful battery is 2 times of common battery;
- Chargeable design makes operation more convenient;
- Digital setting display control function;
- Tightening/loosening repeatability is less than 3%;
- Quick charge function, charging time less than 60 minutes;
- Equipped with latest digital torque control system to ensure the accuracy of setted torque;
- ABS strong case, easy to transport and store;
- Standard set includes two pcs of 28V super-powerful Li battery.

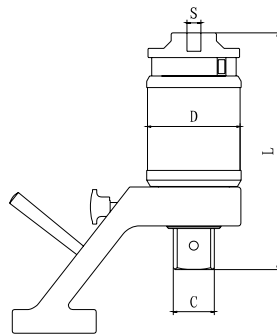


Art.No	Torque Range (Nm)	Square C	L (mm)	E (mm)	D (mm)	Non-load Speed (rpm)	Weight (kg)
ZV DXEC-70	100-700	3/4"	376	270	88	18	7.1
ZV DXEC-100	200-1000	1"	383	270	88	13	7.2
ZV DXEC-120	200-1200	1"	383	270	88	11	7.2
ZV DXEC-250	300-2500	1"	430	270	88	5	9.0
ZV DXEC-320	400-3200	1"	430	270	88	4	9.0
ZV DXEC-400	500-4000	1-1/2"	440	270	88	3	9.6

*Above weight does not include reaction arm. Non-load speed is the speed at gear 2 without load.

➤ Manual Torque Multiplier

- Manual type, suitable for the occasions where it requires for high torque but power supply or space is limited;
- Torque increasing system of precise planetary gears, compact structure, strong and durable, easy maintenance, accuracy: $\pm 5\%$;
- All models are equipped with anti-returning device, to improve operation convenience and security;
- High torque/weight ratio, assisted with manual torque wrench, to easily realize precise assembly of bolts/nuts;
- Easily switch from clockwise to anti-clockwise direction by the reversing bar and buttons.



Do not drive manual force multiplier by impact power tools. It may destroy the drive system. It is advised to be assisted with manual torque tools.

Customized reaction arms are for options

Art.No	Max.Torque (Nm)	Reducing Ratio	Input Square S	Output Square C	D (mm)	L (mm)	Weight (kg)
ZV MT-12	1200	1:4	1/2"	1"	88	145	3.0
ZV MT-20	2000	1:4	3/4"	1"	88	156	3.0
ZV MT-30	3000	1:10	1/2"	1"	88	200	5.0
ZV MT-42	4200	1:14	1/2"	1-1/2"	96	210	7.0
ZV MT-62	6200	1:20	1/2"	1-1/2"	114	242	9.0
ZV MT-120	12000	1:43	1/2"	1-1/2"	129	281	16.0

*Above weight does not include reaction arm.

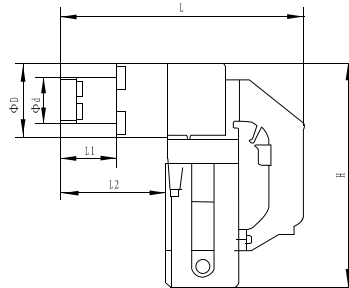
➤ Ratchet Spanner for Manual Torque Multiplier

- Clockwise/counter-clockwise switchable ratchet head, stereo torque wrench. Accuracy: 3%

Art.No	Square	Max.Torque (Nm)	L (mm)	Weight (kg)
ZV RS-200	1/2"	200	463	1.0
ZV RS-300	3/4"	335	523	1.2
ZV RS-400	1/2"	335	700	2.0
ZV RS-300D	1/2"	300	590	1.4
ZV RS-400D	3/4"	300	590	1.4



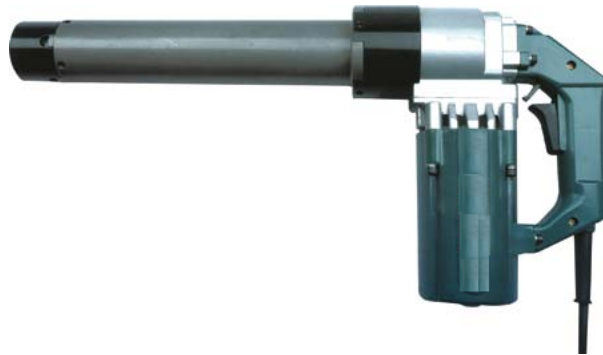
➤ Torsional Shear Wrench



Art.No	Power Supply (V/Hz)	Max. Current (A)	Max. Power (W)	Speed (r/min)	Weight (kg)	For bolt size	Size						Sockets for option
							Φd	ΦD	L2	L1	L	H	
ZV TSW-22	220/50	6.5	1300	16	6.9	M16-22	57	90	120	70	290	270	M16
ZV TSW-24	220/50	6.5	1300	12	8.5	M16-24	60	90	180	120	350	270	M16/M20
ZV TSW-27	220/50	7	1400	5	9	M22-27	73	105	220	140	400	280	M22
ZV TSW-30	220/50	7	1400	5	9.5	M24-30	74	105	230	145	405	280	M24

➤ Long Torsional Shear Wrench

- Long torsional shear wrench can be customized as per different working conditions, matched with different sizes of sockets. Long shaft will more suitable for long & narrow working space.



Art.No	Power Supply (V/Hz)	Max. current (A)	Max. power (W)	Speed (r/min)	Weight (kg)	For bolt size
ZV TSWL-24	220/50	6.5	1300	12	9.2	M16-24

➤ Manual Torque Multiplier

- Ideal for nut dimension application in confined space, light weight and easy handling;
- Planetary gear train multipliers torque output;
- Reaction foot can adjust to replace all types of impact sockets in 360° ;
- Applicable to a variety of large diameter bolt nut;
- Customized orders are welcomed according to individual requirements.

Art.No	Torque (Nm)	For nut size	Bolt available	Ratio	Input square	Output square	Weight (kg)
ZV MDS-15	1500	S30-46	M20-30	1:5	1/2"	1"	2.6
ZV MDS-20	2000	S32-55	M22-36	1:16	1/2"	1"	3.9
ZV MDS-35	3500	S46-70	M30-45	1:18	1/2"	1"	5.5
ZV MDS-42	4200	S50-75	M33-48	1:20	1/2"	1 1/2"	6
ZV MDS-55	5500	S55-80	M36-52	1:22	1/2"	1 1/2"	7.5
ZV MDS-75	7500	S65-90	M42-60	1:26	1/2"	1 1/2"	10
ZV MDS-100	10000	S80-105	M52-72	1:60	1/2"	1 1/2"	17
ZV MDS-150	15000	S90-115	M60-80	1:75	1/2"	2"	25
ZV MDS-200	20000	S105-135	M72-95	1:90	1/2"	2"	31



➤ Mechanical hand torque multiplier

- Guaranteed accuracy: Better than $\pm 4\%$
- With a two-stage planet gear.

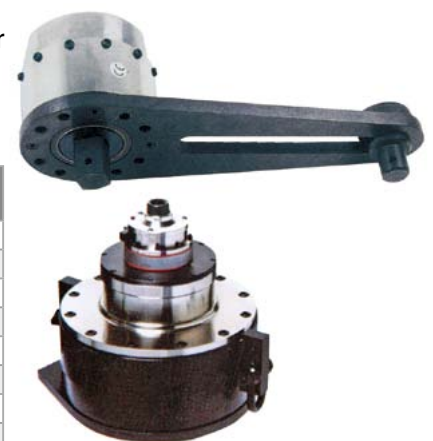
Art.No	Torque (Nm)	Ratio	Input square	Output square	Weight (kg)
ZV HT1300	1300	5:1	1/2"	3/4"	5
ZV HT2700	2700	5:1	3/4"	1"	5
ZV HT3000	3000	15.5:1	1/2"	1"	7.1
ZV HT4500	4500	26:1	1/2"	1"	7.1



➤ Heavy Duty Torque Multiplier

- With anti-wind-up ratchet
- With non-destructive 'Slipper' overload safety mechanism for gear protection.
- Max. Torque to 47500Nm.

Art.No	Torque (Nm)	Ratio	Input square	Output square	Weight (kg)
ZV HT1700	1700	25:1	1/2"	1"	7.8
ZV HT3400	3400	25:1	1/2"	1"	10.1
ZV HT6000A	6000	25:1	1/2"	1 1/2"	17.0
ZV HT6000B	6000	125:1	1/2"	1 1/2"	18.5
ZV HT9500A	9500	25:1	3/4"	1 1/2"	25.7
ZV HT9500B	9500	125:1	1/2"	1 1/2"	27.2
ZV HT20000A	20000	25:1	3/4"	2 1/2"	32.1
ZV HT20000B	20000	125:1	1/2"	2 1/2"	32.1
ZV HT47500	47500	125:1	3/4"	2 1/2"	95.2



➤ Recommended torque table

Bolts strength grade			4.8	6.8	8.8	10.9	12.9
Minimum breaking strength			3920 Bar	5880 Bar	7840 Bar	9410 Bar	11760 Bar
Bolt Size	Outer Hex (mm)	Inner Hex (mm)	Recommended torque				
			Nm	Nm	Nm	Nm	Nm
M14	22	12	69	98	137	165	225
M16	24	14	98	137	206	247	353
M18	27	14	137	206	284	341	480
M20	30	17	176	296	402	569	680
M22	32	17	225	333	539	765	911
M24	36	19	314	470	686	981	1176
M27	41	19	441	637	1029	1472	1764
M30	46	22	588	882	1225	1962	2352
M33	50	24	735	1127	1470	2060	2450
M36	55	27	980	1470	1764	2453	2940
M39	60	27/30	1176	1764	2156	2943	3626
M42	65	32	1519	2352	2744	3826	4606
M45	70	/	1764	2744	3136	4415	5390
M48	75	36	2254	3430	3920	5592	6664
M52	80	36	2744	4116	4704	6573	8330
M56	85	41	3528	5149	5978	8437	10290
M60	90	46	4018	5978	7742	10791	13230
M64	95	46	4998	7448	8820	12600	14575
M68	100	50	5684	8526	10780	15400	17604
M72	105	55	6468	9800	12642	18060	21100
M76	110	60	7350	10780	14700	21000	24492
M80	115	65	8143	12250	18130	25900	28192
M85	120	70	8820	13720	22050	31500	34230
M90	130	70/75	10584	16170	24500	35000	41060
M100	145	85	13720	20090	33996	38720	57402
M110	155	/	16366	24990	45848	52267	77483
M120	175	/	19894	29890	60398	68832	102039

Note:

- 1.The above is only for reference, when dealing with specific connection, pls refer to the technological requirements.
- 2.The above data is from Germany industrial standard. Torque for bolt to yield limit when 70%.
- 3.The Recommended torque: in accordance with 70–80% of table data when locking bolts.
4. Loosening torque should be 150% of the tightening torque.

Common Torque Units Conversion

1Nm=0.7376Ft.lbs	1Ft.lbs=1.3558Nm
1Nm=8.8507Ft.in	1Ft.in=0.1130Nm
1Nm=0.1019Kgf.m	1Kgf.m=9.8068Nm
1Nm=10.1970Kgf.cm	1Kgf.cm=0.0981Nm

➤ Hydraulic Bolt Tensioner

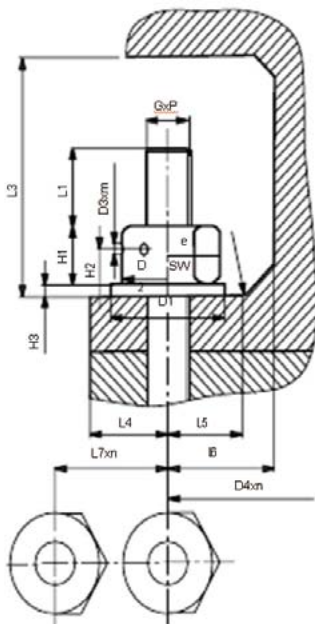


- Common hydraulic bolt tensioner;
- Interchangeable hydraulic bolt tensioner;
- Single-stage automatic return hydraulic bolt tensioner;
- Multistage automatic return hydraulic bolt tensioner.

All our bolt tensioners are customized as per the specific work conditions. Pls provide the details by filling the form below.



Technical Data
Please quote SI unit
For different installation positions, please attach a sketch or cut-away drawing
If also to be used with threads of different dimensions, fill in separate sheets.



Screw	Locking thread x pitch	G1*P1	
	Tensioning thread x pitch	G2*P2	
	Stud length	L1	
	Tension thread length	L2	
	Trunnion length	L3	
	Shaft diameter	D1	
	Stud material		
Nut	Width across corners	E	
	Wrench size	SW	
	Nut diameter	D3	
	Nut height	H1	
	Height of setting rod	H2	
	Diameter of setting rod	D2	
	Number of setting rod holes	m	
Washer	Inner washer diameter	D4	
	Out washer diameter	D5	
	Washer thickness	H3	
Installation position	Thread overhang over Nut	L4	
	Installation height limit	L5	
	Flange radius	4	
	Distance from flange rim	A1	
	Distance to inner flange rim	A3	
	Distance to radius	A1	
	Diameter of bolt circle	LK	
	Number of screws	n	
	Minimum hole separation	LA	
	Max. permissible surface of flange material	P	
Possible thread details, e.g. standard and tolerance class			



➤ Mechanical Nut Splitter

- Body carbon steel drop-forged, and chrome plated. cr-v steel blade

Art No.	For Nut Size (mm)	Weight (kg)
ZV NT-1	9–12mm	1.6kg/ 4pcs set
ZV NT-2	12–16mm	
ZV NT-3	16–22mm	
ZV NT-4	19–24mm	

➤ Integral Hydraulic Nut Splitter



Art No.	Capacity (ton)	For nut (mm)	For Bolt
ZV NI2432	15	24–32	M16–22
ZV NI3241	20	32–41	M22–27
ZV NI4150	35	41–50	M27–33

➤ Separated Hydraulic Nut Splitter



- Compact and ergonomic design, easy to use;
- Unique angled head design;
- Single-acting spring return cylinder;
- Matched with hand pump & hose.

Art No.	For nut range (mm)	Capacity (ton)	For bolt range	Weight (kg)
ZV NC-1319	10–19	5	M6–12	1.2
ZV NC-1924	19–24	10	M12–16	2.0
ZV NC-2432	24–32	15	M16–22	3.0
ZV NC-3241	32–41	20	M22–27	4.4
ZV NC-4150	41–50	35	M27–33	8.2
ZV NC-5060	50–60	50	M33–39	11.8
ZV NC-6075	60–75	90	M39–48	34.1

➤ Heavy Duty Hydraulic Nut Splitter

- Single-acting, spring return;
- Tri-blade technology provides three cutting surfaces on a single blade;
- Interchangeable heads provide maximum nut range flexibility;
- Preset scale allows controlled blade extension, which avoids damage to bolt threads;
- Grip tape and handle included for more secure manoeuvrability;
- Nickel-plated cylinder body for excellent corrosion protection and improved durability in harsh environments;
- Internal Pressure Relief Valve for overload protection.



Art.No	For nut range	Capacity (ton)	For bolt range	Weight (kg)
ZV NS-7080	70–80	103	M45–52	37.0
ZV NS-7085	70–85	103	M45–56	37.0
ZV NS-7095	70–95	103	M45–64	39.0
ZV NS-70105	70–105	103	M45–72	40.0
ZV NS-110115	110–115	193	M76–80	69.0
ZV NS-110130	110–115	193	M76–90	72.0

➤ Single-acting Aluminum Cylinder

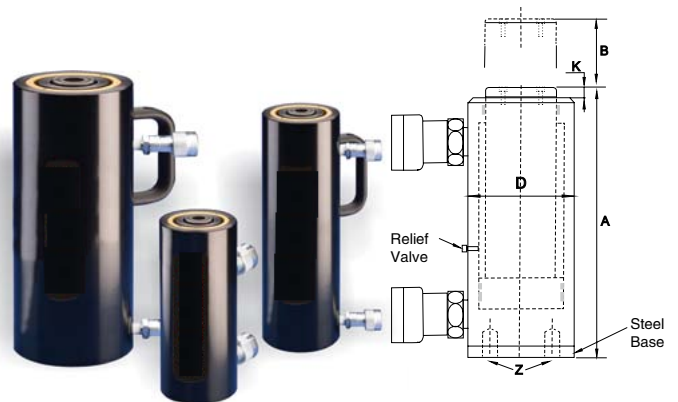
- Max Working Pressure: 700 Bar;
- Light weight;
- Single acting cylinders with heavy duty return springs and are designed to be used in all orientations;
- 50 ton and larger cylinders have been surface treated for rigidity and have carry handles;
- The stop-ring avoids cylinder piston rod over-reaching, accommodating maximum cylinder extension.



Art.No	Capacity (ton)	Stroke B(mm)	Oil Capacity (cm ³)	Collaps. Height A(mm)	D (mm)	Saddle Protr. From Plgr.K(mm)	Weight (kg)
ZV RAC-202	20	50	156	174	85	3	3.6
ZV RAC-204		100	312	224	85	3	4.1
ZV RAC-206		150	468	274	85	3	4.6
ZV RAC-302	30	50	221	181	100	3	4.5
ZV RAC-304		100	442	231	100	3	5.2
ZV RAC-306		150	663	281	100	3	5.9
ZV RAC-502	50	50	354	186	130	3	8.5
ZV RAC-504		100	709	236	130	3	9.5
ZV RAC-506		150	1063	286	130	3	11.1
ZV RAC-1004	100	100	1431	271	180	3	19.6
ZV RAC-1006		150	2147	321	180	3	21.9
ZV RAC-1008		200	2863	371	180	3	24.2
ZV RAC-1506	150	150	3405	343	230	3	33.3

➤ Double-acting Aluminum Cylinder

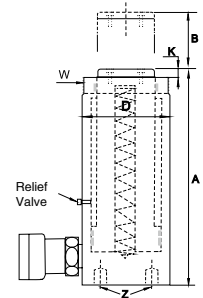
- Light weight;
- These double acting cylinders enable quick retraction and are designed to be used in all orientations;
- 50 ton and larger cylinders have been surface treated for rigidity and have carry handles;
- 20T and 30T cylinders are available on request;
- Over-pressurisation is prevented due to built in safety valves
- The stop-ring avoids cylinder piston rod over-reaching, accommodating maximum cylinder extension;
- Cylinder piston rod wiper reduces contamination, extending cylinder life;
- Removable hardened saddles protect cylinder piston rod during lifting and pressing.



Art.No	Capacity (ton)	Stroke B (mm)	Cylinder Max. Capacity Push(kn)/Pull		Oil Capacity Push(cm ³)/Pull		Collaps. Height A (mm)	Outside Dia.D (mm)	Saddle Protr. From Plgr.K (mm)	Weight (kg)
ZV RAR-502	50	50	496	187	354	134	201	145	3	11.1
ZV RAR-504	50	100	496	187	709	267	251	145	3	12.7
ZV RAR-506	50	150	496	187	1063	401	301	145	3	14.3
ZV RAR-1004	100	100	1002	557	1431	795	301	185	3	19.3
ZV RAR-1006	100	150	1002	557	2147	1193	351	185	3	24.2
ZV RAR-1008	100	200	1002	557	2863	1590	401	185	3	25.1
ZV RAR-1506	150	150	1589	924	3405	1979	348	230	3	33.2

➤ Single-acting Hydraulic Cylinder

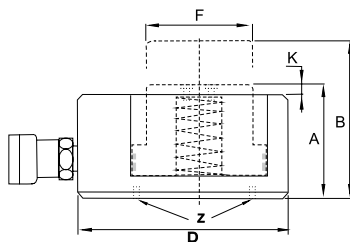
- Max Working Pressure: 700 Bar;
- Single acting cylinders with heavy duty return springs and are designed to be used in all orientations;
- Base mounting holes along with ram and collar threads enable various installation options;
- Durability is enhanced by using high strength alloy steel;
- Corrosive resistant baked enamel can be upgraded to nickel plating on most models;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension.



Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collaps. Height A (mm)	Outside Dia. D (mm)	Bolt Circle Z (mm)	Saddle Height K (mm)	Collar Thread W	Weight (g)
ZV RC-50	5 (45)	16	10	41	58	28	–	–	1.0
ZV RC-51		25	16	110	38	25	6	1 1/2"-16	1.0
ZV RC-53		76	50	165	38	25	6	1 1/2"-16	1.5
ZV RC-55		127	83	215	38	25	6	1 1/2"-16	1.9
ZV RC-57		177	115	273	38	25	6	1 1/2"-16	2.4
ZV RC-59		232	151	323	38	25	6	1 1/2"-16	2.8
ZV RC-101	10 (101)	26	38	89	57	39	–	2 1/4"-14	1.8
ZV RC-102		54	78	121	57	39	6	2 1/4"-14	2.3
ZV RC-104		105	152	171	57	39	6	2 1/4"-14	3.3
ZV RC-106		156	226	247	57	39	6	2 1/4"-14	4.4
ZV RC-108		203	294	298	57	39	6	2 1/4"-14	5.4
ZV RC-1010		257	373	349	57	39	6	2 1/4"-14	6.4
ZV RC-1012		304	441	400	57	39	6	2 1/4"-14	6.8
ZV RC-1014	356	516	450	57	39	6	2 1/4"-14	8.2	
ZV RC-151	15 (142)	25	51	124	69	47	9	2 3/4"-16	3.3
ZV RC-152		51	104	149	69	47	9	2 3/4"-16	4.1
ZV RC-154		101	205	200	69	47	9	2 3/4"-16	5.0
ZV RC-156		152	308	271	69	47	9	2 3/4"-16	6.8
ZV RC-158		203	411	322	69	47	9	2 3/4"-16	8.2
ZV RC-1510		254	516	373	69	47	9	2 3/4"-16	9.5
ZV RC-1512		305	619	423	69	47	9	2 3/4"-16	10.9
ZV RC-1514	356	723	474	69	47	9	2 3/4"-16	11.8	
ZV RC-251	25 (232)	26	86	139	85	58	10	3 5/16"-12	5.9
ZV RC-252		50	166	165	85	58	10	3 5/16"-12	6.4
ZV RC-254		102	339	215	85	58	10	3 5/16"-12	8.2
ZV RC-256		158	525	273	85	58	10	3 5/16"-12	10.0
ZV RC-258		210	697	323	85	58	10	3 5/16"-12	12.2
ZV RC-2510		261	867	374	85	58	10	3 5/16"-12	14.1
ZV RC-2512		311	1033	425	85	58	10	3 5/16"-12	16.3
ZV RC-2514	362	1202	476	85	58	10	3 5/16"-12	17.7	
ZV RC-308	30(295)	209	880	387	101	–	10	3 5/16"-12	18.1
ZV RC-502	50 (498)	51	362	176	127	95	2	5"-12	15.0
ZV RC-504		101	719	227	127	95	2	5"-12	19.1
ZV RC-506		159	1131	282	127	95	2	5"-12	23.1
ZV RC-5013		337	2399	460	127	95	2	5"-12	37.6
ZV RC-756	75 (718)	156	1601	285	146	–	5	5 3/4"-12	29.5
ZV RC-7513	333	3417	492	146	–	5	5 3/4"-12	59.0	
ZV RC-1006	95(933)	168	2239	357	177	139	2	6 7/8"-12	59.0
ZV RC-10010		260	3466	449	177	139	2	6 7/8"-12	72.6

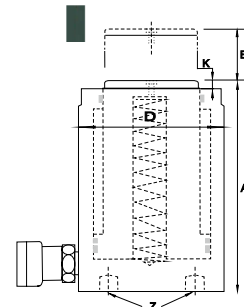
➤ RSM-Series, Low Height Cylinder

- Max Working Pressure: 700 Bar;
- Single acting cylinders with heavy duty return springs and are designed to be used in all orientations;
- These flat cylinders will fit where other cylinders collapsed height will not enable placement;
- Coated with corrosive resistant baked enamel;
- Steel cylinder piston rods are hard chrome plated;
- Saddles are not required due to grooved cylinder piston rod ends;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension;



➤ RCS-Series, Low Height Cylinder

- Single acting cylinders with heavy duty return springs and are designed to be used in all orientations;
- Light weight, low profile design for use in confined spaces;
- Coated with corrosive resistant baked enamel;
- Steel cylinder piston rods are hard chrome plated with bronze plating available on request;
- Saddles are not required due to grooved cylinder piston rod ends;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension.

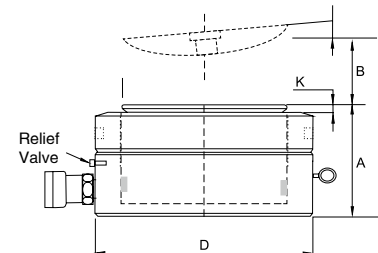


Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collapsed Height A(mm)	Outside Dia.D (mm)	Plunger Dia. F (mm)	Saddle Protr. From Plgr. K (mm)	Bolt Circle Z(mm)	Weight (kg)
ZV RSM-50	5(45)	6	4	32	58X41	25.4	1	–	1.0
ZV RSM-100	10(10)	12	18	42	82X55	38.1	1	–	1.4
ZV RSM-200	20(201)	11	32	51	101X76	50.8	1	–	3.1
ZV RSM-300	30(295)	13	55	58	117X95	63.4	2	–	4.5
ZV RSM-500	45(435)	16	99	66	140X114	69.8	2	–	6.8
ZV RSM-750	75(718)	16	164	79	165X139	82.6	2	–	11.3
ZV RSM-1000	90(887)	16	203	85	178X153	92.2	2	–	14.5
ZV RSM-1500	150(1386)	16	317	100	215X190	114.3	2	–	26.3
ZV RCS-101*	10(101)	38	55	88	69	–	5	26	4.1
ZV RCS-201*	20(201)	45	129	98	92	–	3	40	5.0
ZV RCS-302*	30(295)	62	261	117	101	–	3	40	6.8
ZV RCS-502*	45(435)	60	373	122	124	–	2	40	10.9
ZV RCS-1002*	90(887)	57	722	141	165	–	1	55	22.7

➤ Pancake Lock Nut Cylinder

- Max Working Pressure: 700 Bar;
- Single acting, load return;
- Extremely low profile design for use in confined spaces ;
- Supports loads mechanically for extended periods enabling hydraulic pressure release;
- Overflow port prevents the piston rod from over extending;

- Optional synthetic coating for improved corrosion resistance and lower friction for smoother operation to withstand side load forces up to 3% of rated cylinder capacity without scoring is available.



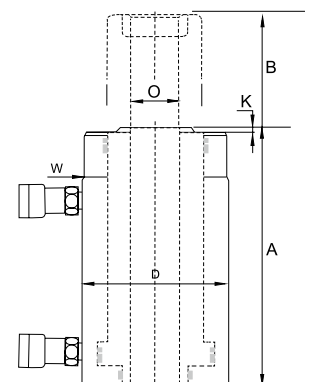
Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collaps. Height A(mm)	Outside Dia. D (mm)	Cylinder Effective Area (cm ²)	Saddle Protr. From Plgr. K (mm)	Weight (kg)
ZV CLP-602	60(606)	50	432	125	140	86.6	6	15
ZV CLP-1002	100(1027)	50	734	137	175	146.8	8	26
ZV CLP-1602	160(1619)	45	1040	148	220	231.3	9	44
ZV CLP-2002	200(1999)	45	1285	155	245	285.6	10	57
ZV CLP-2502	260(2567)	45	1650	159	275	366.8	11	74
ZV CLP-4002	400(3916)	45	2517	178	350	559.5	11	134
ZV CLP-5002	520(5114)	45	3287	192	400	730.6	10	189

➤ Double-acting Hollow Plunger Cylinder

- These double acting cylinders enable fast and controlled retraction;
- The hollow rod design enables pulling and tensioning;
- Threaded collars enable convenient placement ;
- Coated with corrosive resistant baked enamel;
- All cylinders have a nickel-plated floating centre tube to increase their working life;
- Cylinder piston rod wiper reduces contamination, extending cylinder life;
- Over-pressurisation is prevented due to built in safety valves.

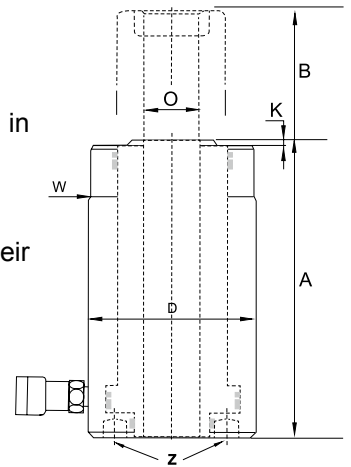


Art.No	Capacity (ton) (kN)	Stroke B (mm)	Max.Capacity (kN)		Oil Capacity (cm ³)		Collaps. Height A (mm)
			Push	Pull	Push	Pull	
ZV RRH-307	30	178	326	213	829	541	330
ZV RRH-3010		258	326	213	1202	784	431
ZV RRH-603	60	89	576	380	733	482	247
ZV RRH-606		166	576	380	1366	900	323
ZV RRH-6010		257	576	380	2115	1393	438
ZV RRH-1001	95	38	931	612	505	333	165
ZV RRH-1003		76	931	612	1011	666	254
ZV RRH-1006		153	931	612	2035	1337	342
ZV RRH-10010		257	931	612	3420	2246	460
ZV RRH-1508	145	203	1429	718	4144	2083	349



➤ Single-acting Hollow Plunger Cylinder

- Max Working Pressure: 700 Bar;
- Single acting cylinders with heavy duty return springs and are designed to be used in all orientations;
- Hollow rod design enables pulling and tensioning;
- Threaded collars enable convenient placement;
- All cylinders above 20 ton have a nickel-plated floating centre tube to increase their working life;
- Coated with corrosive resistant baked enamel.



Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collaps. Height A (mm)	Outside Dia. D (mm)	Cylinder Effective Area (cm ²)	Saddle Protr. From Plgr. K (mm)	Center Hole Dia. O (mm)	Bolt Circle Z (mm)	Weight (kg)
ZV RCH-120	13 (125)	8	14	55	69	17.9	-	19.6	50.8	1.5
ZV RCH-121*		42	75	120	69	17.9	-	19.6	-	2.8
ZV RCH-1211		42	75	120	69	17.9	-	19.6	-	2.8
ZV RCH-123		76	136	184	69	17.9	-	19.6	50.8	4.4
ZV RCH-202*	20 (215)	49	150	162	98	30.7	9.7	26.9	82.6	7.7
ZV RCH-206		155	476	306	98	30.7	9.7	26.9	82.6	14.1
ZV RCH-302*	30 (326)	64	298	178	114	46.6	9.0	33.3	92.2	10.9
ZV RCH-306		155	722	330	114	46.6	9.0	33.3	92.2	21.8
ZV RCH-603*	60 (576)	76	626	247	159	82.3	12.0	53.8	130.3	28.1
ZV RCH-606		153	1259	323	159	82.3	12.0	53.8	130.3	35.4
ZV RCH-1003*	95(931)	76	1011	254	212	133.0	12.0	79.0	177.8	63.0

➤ Super Jack

- Mechanically operated;
- Impact resistant structure, light weight, portable, easy to repair, safe and reliable to operate;
- It is fit for railway maintenance, mining and construction as well as for other heavy load holding requirements.

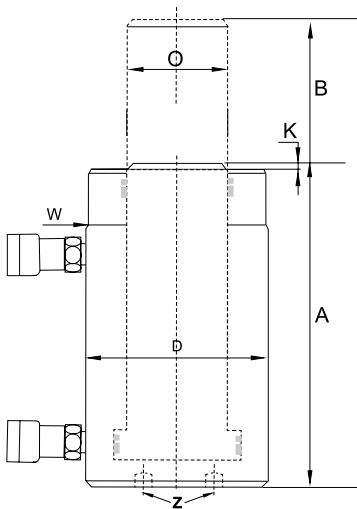
Art.No	Lift Capacity (ton)	Lowest Height	Lift Height	Weight (kg)
		(mm)		
ZV M3110	3.2	220	110	5
ZV M5130	5	250	130	6
ZV M8140	8	260	140	7
ZV M10150	10	280	150	9
ZV M16180	16	320	180	12
ZV M20180	20	325	180	13
ZV M25130	25	275	130	11
ZV M32200	32	395	200	20
ZV M50250	50	452	250	36
ZV M100200	100	452	200	72
ZV M200200	200	472	200	130



➤ Double-acting Hydraulic Cylinder



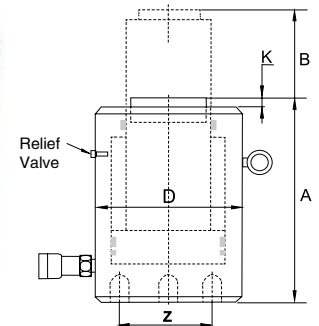
- Max Working Pressure: 700 Bar;
- These double acting cylinders enable quick retraction and are designed to be used in all orientations;
- Base mounting holes along with ram and collar threads enable various installation options;
- Unique loading design enables it to bear unbalanced loads up to 3% capacity with no damage to the cylinder;
- The cylinder piston rod is protected from damage by the interchangeable hardened saddles;
- Cylinder piston rod wiper reduces contamination, extending cylinder life;
- Over-pressurisation is prevented due to built in safety valves;
- Coated with corrosive resistant baked enamel.



Art.No	Capacity (ton) (kN)	Stroke B (mm)	Max .Cylinder Capacity(Kn)		Oil Capacity (cm ³)		Bolt Circle Z (mm)	Collaps. Height A (mm)
			Push	Pull	Push	Pull		
ZV RR-1010*	10	254	101	33	368	122	-	409
ZV RR-1012*	(101)	305	101	33	442	147	-	457
ZV RR-308*	30	209	295	53	879	400	-	395
ZV RR-3014*	(295)	368	295	53	1549	703	-	549
ZV RR-506	50 (498)	156	498	103	1111	335	-	331
ZV RR-5013		334	498	103	2378	718	-	509
ZV RR-5020		511	498	103	3638	1099	76	733
ZV RR-756	75	156	718	156	1601	490	-	347
ZV RR-7513	(718)	333	718	156	3417	1046	-	525
ZV RR-1006	95 (933)	168	933	435	2238	1045	139	357
ZV RR-10013		333	933	435	4439	2071	139	524
ZV RR-10018		460	933	435	6132	2861	139	687
ZV RR-1502	140 (1386)	57	1386	668	1129	544	-	196
ZV RR-1506		156	1386	668	3090	1488	158	385
ZV RR-15013		333	1386	668	6597	3711	158	582
ZV RR-15032	200 (1995)	815	1386	668	16145	7775	-	1116
ZV RR-2006		152	1995	1017	4332	2209	127	430
ZV RR-20013		330	1995	1017	9405	4795	127	608
ZV RR-20018	200 (1995)	457	1995	1017	13025	6640	127	165
ZV RR-20024		610	1995	1017	17385	8863	127	917
ZV RR-20036		914	1995	1017	26049	13280	127	1222
ZV RR-20048	325 (3201)	1219	1995	1017	34741	17712	127	1527
ZV RR-3006		153	3201	1703	6997	3721	158	485
ZV RR-30012		305	3201	1703	13947	7418	158	638
ZV RR-30018	325 (3201)	457	3201	1703	20889	11114	158	790
ZV RR-30024		609	3201	1703	27850	14811	158	943
ZV RR-30036		915	3201	1703	41843	22253	158	1247
ZV RR-30048	440 (4292)	1219	3201	1703	55745	29646	158	1552
ZV RR-4006		152	4292	2297	9319	4987	203	538
ZV RR-40012		305	4292	2297	18700	10007	203	690
ZV RR-40018	440 (4292)	457	4292	2297	28018	14995	203	843
ZV RR-40024		610	4292	2297	37400	20014	203	995
ZV RR-40036		914	4292	2297	56037	29988	203	1300
ZV RR-40048	520 (5108)	1219	4292	2297	74737	39996	203	1605
ZV RR-5006		153	5108	2838	11164	6203	203	577
ZV RR-50012		305	5108	2838	22256	12365	203	730
ZV RR-50018	520 (5108)	457	5108	2838	33347	18526	203	882
ZV RR-50024		609	5108	2838	44440	24689	203	1035
ZV RR-50036		915	5108	2838	66768	36973	203	1339
ZV RR-50048	520 (5108)	1219	5108	2838	88951	49418	203	1644

➤ Single-Acting High Tonnage Cylinder

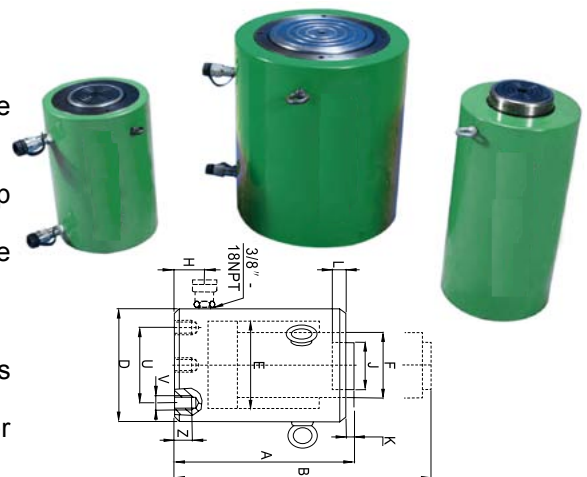
- Max Working Pressure: 700 Bar;
- Single acting, load return;
- Base mounting holes are standard on all models;
- Unique loading design enables it to bear unbalanced loads up to 3% capacity with no damage to the cylinder;
- The cylinder piston rod is protected from damage by the interchangeable hardened saddles;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension;
- The dust ring prevents contamination and enhances longer cylinder life.



Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collaps. Height A (mm)	Outside Dia. D (mm)	Saddle Protr. From Plgr. K (mm)	Weight (kg)	Optional Tilt Saddle
								Saddle Model
ZV CLSG-502	50 (539)	50	385	162	130	1	17	GATG-50
ZV CLSG-504		100	770	212	130	1	20	GATG-50
ZV CLSG-506		150	1155	262	130	1	23	GATG-50
ZV CLSG-508		200	1540	312	130	1	27	GATG-50
ZV CLSG-5010		250	1924	362	130	1	31	GATG-50
ZV CLSG-5012		300	2309	412	130	1	34	GATG-50
ZV CLSG-1002	100 (929)	50	664	182	165	1	19	GATG-100
ZV CLSG-1004		100	1327	232	165	1	29	GATG-100
ZV CLSG-1006		150	1991	282	165	1	40	GATG-100
ZV CLSG-1008		200	2655	332	165	1	50	GATG-100
ZV CLSG-10010		250	3318	382	165	1	61	GATG-100
ZV CLSG-10012		300	3982	432	165	1	71	GATG-100
ZV CLSG-1502	150 (1390)	50	993	196	205	1	39	GATG-150
ZV CLSG-1504		100	1986	246	205	1	52	GATG-150
ZV CLSG-1506		150	2978	296	205	1	65	GATG-150
ZV CLSG-1508		200	3971	346	205	1	78	GATG-150
ZV CLSG-15010		250	4964	396	205	1	92	GATG-150
ZV CLSG-15012		300	5957	446	205	1	105	GATG-150
ZV CLSG-2002	200 (1861)	50	1330	216	235	1	55	GATG-200
ZV CLSG-2006		100	3989	316	235	1	91	GATG-200
ZV CLSG-20012		300	7977	466	235	1	146	GATG-200
ZV CLSG-2502	250 (2565)	50	1832	235	275	1	89	GATG-250
ZV CLSG-2506		100	5497	335	275	1	136	GATG-250
ZV CLSG-25012		300	10993	485	275	1	207	GATG-250
ZV CLSG-3002	300 (3193)	50	2281	312	310	1	184	GATG-300
ZV CLSG-3006		150	6843	412	310	1	232	GATG-300
ZV CLSG-30012		300	13685	562	310	1	303	GATG-300
ZV CLSG-4002	400 (3919)	50	2800	375	350	3	270	GATG-400
ZV CLSG-4006		150	8399	475	350	3	330	GATG-400
ZV CLSG-40012		300	16797	625	350	3	421	GATG-400
ZV CLSG-5002	500 (5114)	50	3653	419	400	3	401	GATG-500
ZV CLSG-5006		150	10959	519	400	3	480	GATG-500
ZV CLSG-50012		300	21918	669	400	3	599	GATG-500
ZV CLSG-6002	600 (5987)	50	4276	429	430	3	474	GATG-600
ZV CLSG-6006		150	12829	529	430	3	565	GATG-600
ZV CLSG-60012		300	25659	679	430	3	701	GATG-600
ZV CLSG-8002	800 (8234)	50	5881	474	505	3	741	GATG-800
ZV CLSG-8006		150	17644	574	505	3	868	GATG-800
ZV CLSG-80012		300	35288	724	505	3	1058	GATG-800
ZV CLSG-10002	1000 (10260)	50	7329	564	560	3	1062	GATG-1000
ZV CLSG-10006		150	21986	664	560	3	1213	GATG-1000
ZV CLSG-100012		300	43972	814	560	3	1439	GATG-1000

➤ Double-acting High Tonnage Cylinder

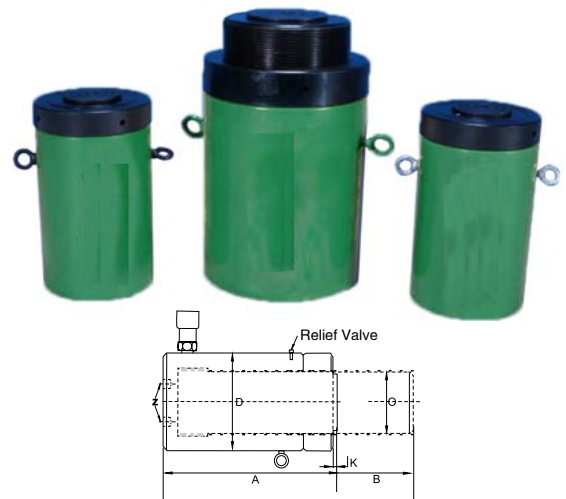
- Max Working Pressure: 700 Bar;
- These double acting cylinders enable quick retraction and are designed to be used in all orientations ;
- Base mounting holes are standard on all models;
- Unique loading design enables it to bear unbalanced loads up to 3% capacity with no damage to the cylinder;
- The cylinder piston rod is protected from damage by the interchangeable hardened saddles;
- Tilt saddles are optional;
- Over-pressurisation is prevented due to built in safety valves;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension;
- The dust ring prevents contamination and enhances longer cylinder life.



Art.No	Capacity (ton) (kN)	Stroke (mm)	Oil Capacity (cm ³)		Collaps. Height A (mm)	Outside Dia. D (mm)	Plunger Dia. F (mm)	Ext. Height B (mm)	Cyl.Top to Return Port L (mm)	Saddle Dia. J (mm)	Saddle Protr. Fr.Plgr.K (mm)	Weight (kg)
			Push	Pull								
ZV CLRG-502	50 (539)	50	385	192	162	130	70	212	33	50	1	17
ZV CLRG-504		100	770	385	212	130	70	312	33	50	1	20
ZV CLRG-506		150	1155	577	262	130	70	412	33	50	1	23
ZV CLRG-508		200	1540	770	312	130	70	512	33	50	1	27
ZV CLRG-5010		250	1924	962	362	130	70	612	33	50	1	31
ZV CLRG-5012		300	2309	1155	412	130	70	712	33	50	1	34
ZV CLRG-1002	100 (929)	50	664	309	179	165	95	229	48	75	1	19
ZV CLRG-1004		100	1327	619	229	165	95	329	48	75	1	29
ZV CLRG-1006		150	1991	928	279	165	95	429	48	75	1	40
ZV CLRG-1008		200	2655	1237	329	165	95	529	48	75	1	50
ZV CLRG-10010		250	3318	1546	379	165	95	629	48	75	1	61
ZV CLRG-10012		300	3982	1856	429	165	95	729	48	75	1	71
ZV CLRG-1502	150 (1390)	50	993	482	196	205	114	246	56	94	1	39
ZV CLRG-1504		100	1986	965	246	205	114	346	56	94	1	52
ZV CLRG-1506		150	2978	1447	296	205	114	446	56	94	1	65
ZV CLRG-1508		200	3971	1930	346	205	114	546	56	94	1	78
ZV CLRG-15010		250	4964	2412	396	205	114	646	56	94	1	92
ZV CLRG-15012		300	5957	2895	446	205	114	746	56	94	1	105
ZV CLRG-2002	200 (1861)	50	1330	635	216	235	133	262	66	113	1	55
ZV CLRG-2006		100	3989	1905	316	235	133	462	66	113	1	91
ZV CLRG-20012		300	7977	3809	466	235	133	762	66	113	1	146
ZV CLRG-2502	250 (2565)	50	1832	763	235	275	165	285	78	145	1	89
ZV CLRG-2506		100	5497	2289	335	275	165	485	78	145	1	136
ZV CLRG-25012		300	10993	4578	485	275	165	785	78	145	1	207
ZV CLRG-3002	300 (3193)	50	2281	757	312	310	197	372	75	177	1	184
ZV CLRG-3006		150	6843	2270	412	310	197	572	75	177	1	232
ZV CLRG-30012		300	13685	4541	562	310	197	872	75	177	1	303
ZV CLRG-4002	400 (3919)	50	2800	967	375	350	216	424	105	196	3	270
ZV CLRG-4006		150	8399	2902	475	350	216	624	105	196	3	330
ZV CLRG-40012		300	16797	5804	625	350	216	924	105	196	3	421
ZV CLRG-5002	500 (5114)	50	3653	1238	419	400	248	469	135	228	3	401
ZV CLRG-5006		150	10959	3713	519	400	248	669	135	228	3	480
ZV CLRG-50012		300	21918	7427	669	400	248	969	135	228	3	599
ZV CLRG-6002	600 (5987)	50	4276	1477	429	430	267	479	135	247	3	474
ZV CLRG-6006		150	12829	4431	529	430	267	679	135	247	3	565
ZV CLRG-60012		300	25659	8862	679	430	267	979	135	247	3	701
ZV CLRG-8002	800 (8234)	50	5881	1935	474	505	317	534	135	297	3	741
ZV CLRG-8006		150	17644	5806	574	505	317	734	135	297	3	868
ZV CLRG-80012		300	35288	11611	724	505	317	1034	135	297	3	1058
ZV CLRG-10002	1000 (10260)	50	7329	2709	564	560	343	614	170	323	3	1062
ZV CLRG-10006		150	21986	8126	664	560	343	814	170	323	3	1213
ZV CLRG-100012		300	43972	16252	814	560	343	1114	170	323	3	1439

➤ Lock Nut Cylinder

- Max Working Pressure: 700 Bar;
- Single acting, load return;
- Supports loads mechanically for extended periods enabling hydraulic pressure release;
- Base mounting holes are standard on all models;
- Unique loading design enables it to bear unbalanced loads up to 3% capacity with no damage to the cylinder;
- Over-pressurisation is prevented due to built in safety valves;
- The cylinder piston rod is protected from damage by the interchangeable hardened saddles;
- The stop ring avoids the piston rod over-reaching and enables maximum cylinder extension;
- The dust ring prevents contamination and enhances longer cylinder life ;
- Coated with corrosive resistant baked enamel.



Art.No	Capacity (ton) (kN)	Stroke B (mm)	Oil Capacity (cm ³)	Collaps. Height A (mm)	Outside Dia. D (mm)	Plunger Dia. O (mm)	Saddle Protr. From Plgr. K (mm)	Weight (kg)	Optional Tilt Saddle
									Saddle Model
ZV CLL-502	50 (496)	50	355	164	125	Tr 95x4	2	15	CAT-100
ZV CLL-504		100	709	214	125	Tr 95x4	2	20	CAT-100
ZV CLL-506		150	1064	264	125	Tr 95x4	2	25	CAT-100
ZV CLL-508		200	1418	314	125	Tr 95x4	2	30	CAT-100
ZV CLL-5010		250	1773	364	125	Tr 95x4	2	35	CAT-100
ZV CLL-5012		300	2127	414	125	Tr 95x4	2	40	CAT-100
ZV CLL-1002	100 (929)	50	664	187	165	Tr 130x6	2	30	CAT-100
ZV CLL-1004		100	1327	237	165	Tr 130x6	2	39	CAT-100
ZV CLL-1006		150	1991	287	165	Tr 130x6	2	48	CAT-100
ZV CLL-1008		200	2654	337	165	Tr 130x6	2	56	CAT-100
ZV CLL-10010		250	3318	387	165	Tr 130x6	2	64	CAT-100
ZV CLL-10012		300	3981	437	165	Tr 130x6	2	73	CAT-100
ZV CLL-1502	150 (1390)	50	993	209	205	Tr 159x6	2	53	CAT-200
ZV CLL-1504		100	1986	259	205	Tr 159x6	2	66	CAT-200
ZV CLL-1506		150	2979	309	205	Tr 159x6	2	78	CAT-200
ZV CLL-1508		200	3972	359	205	Tr 159x6	2	92	CAT-200
ZV CLL-15010		250	4965	409	205	Tr 159x6	2	104	CAT-200
ZV CLL-15012		300	5958	459	205	Tr 159x6	2	117	CAT-200
ZV CLL-2002	200 (1859)	50	1330	243	235	Tr 184x6	2	83	CAT-200
ZV CLL-2006		100	3989	343	235	Tr 184x6	2	117	CAT-200
ZV CLL-20012		300	7995	493	235	Tr 184x6	2	170	CAT-200
ZV CLL-2502	250 (2562)	50	1832	249	275	Tr 216x6	2	116	CAT-250
ZV CLL-2506		100	5496	349	275	Tr 216x6	2	162	CAT-250
ZV CLL-25012		300	10995	499	275	Tr 216x6	2	234	CAT-250
ZV CLL-3002	300 (3193)	50	2281	295	310	Tr 241x6	5	173	CAT-300
ZV CLL-3006		150	6843	395	310	Tr 241x6	5	233	CAT-300
ZV CLL-30012		300	13740	545	310	Tr 241x6	5	323	CAT-300
ZV CLL-4002	400 (3919)	50	2800	335	350	Tr 266x6	5	250	CAT-400
ZV CLL-4006		150	8399	435	350	Tr 266x6	5	327	CAT-400
ZV CLL-40012		300	16800	585	350	Tr 266x6	5	441	CAT-400
ZV CLL-5002	500 (5118)	50	3653	375	400	Tr 305x6	5	367	CAT-500
ZV CLL-5006		150	10959	475	400	Tr 305x6	5	466	CAT-500
ZV CLL-50012		300	21930	625	400	Tr 305x6	5	617	CAT-500
ZV CLL-6002	600 (5983)	50	4277	395	430	Tr 330x6	5	446	CAT-600
ZV CLL-6006		150	12830	495	430	Tr 330x6	5	562	CAT-600
ZV CLL-60012		300	25650	645	430	Tr 330x6	5	737	CAT-600
ZV CLL-8002	800 (8238)	50	5882	455	505	Tr 387x6	5	709	CAT-800
ZV CLL-8006		150	17645	555	505	Tr 387x6	5	870	CAT-800
ZV CLL-80012		300	35370	705	505	Tr 387x6	5	1110	CAT-800
ZV CLL-10002	1000 (10260)	50	7329	495	560	Tr 432x6	3	949	CAT-1000
ZV CLL-10006		150	21986	595	560	Tr 432x6	3	1141	CAT-1000
ZV CLL-100012		300	43980	745	560	Tr 432x6	3	1430	CAT-1000

➤ Telescopic Low Height Hydraulic Cylinder

- Multi-section compact design, easy to use, single-acting, spring retract;
- Surface painted enhance corrosion resistance, and it has a anti-dust ring to reduce pollution and extend life span;
- The purpose of two hoses on the top of cylinder is to fix jack;
- It matches to both hand pump and electric pump.



Art No.	Capacity (Ton)	Stroke (mm)	Collapsed Height (mm)	Oil capacity (cm ³)	Extended Length (mm)	OD×flat side (mm)	Weight (kg)
ZV RSMB-100	10	25	42	22	67	82×55	1.5
ZV RSMB-200	20	26	51	41	77	101×76	2.4
ZV RSMB-300	30	53	58	58	111	117×95	4.5
ZV RSMB-500	50	64	66	113	130	140×114	7.0

➤ Hydraulic Machine Lift



Art No.	Claw Capacity (Ton)	Head Capacity (Ton)	Stroke (mm)	Weight (kg)
ZV YL-2	2	5	125	9
ZV YL-5	5	10	154	20
ZV YL-7	7.5	15	165	30
ZV YL-10	10	20	165	30
ZV YL-15	15	30	165	45
ZV YL-25	25	50	170	80

➤ Steel Bottle Jack

- Low handle effort;
- Automatic bypass port to prevent over-extension;
- Wiper seal for extended life;
- Chrome plating on both plungers;
- Safety relief valve to prevent overload;
- Fully serviceable;
- Cast pump linkage;
- Cast body;
- Handle included on all models.

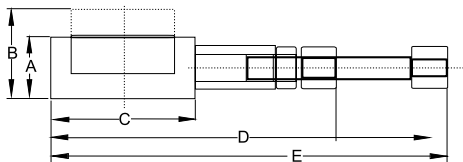


Art. No	Capacity (ton)	Min. Height (mm)	Lifting Height (mm)	Adjustable Height (mm)	Weight (kg)
ZV EBJ-2	2	148	80	50	2.2
ZV EBJ-3	3	170	110	50	3.4
ZV EBJ-5	5	180	110	60	4.3
ZV EBJ-8	8	195	125	60	5.2
ZV EBJ-10	10	195	125	60	6.0
ZV EBJ-12	12	210	125	60	6.8
ZV EBJ-16	16	220	140	60	8.0
ZV EBJ-20	20	235	145	60	11.0
ZV EBJ-32	32	285	180	/	17.0
ZV EBJ-50	50	300	180	/	34.0
ZV EBJ-100	100	335	180	/	78.0
ZV EBJ-200	200	375	200	/	140.0

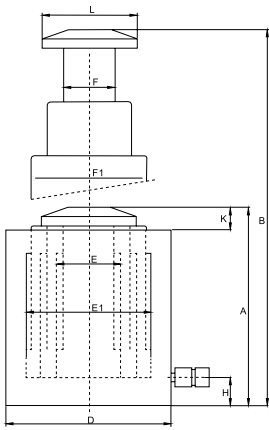
*For other sizes, please contact us for an offer.

➤ Mechanical Jack

- Very thin, flat design, suitable for restricted places;
- Light weight, portable design are ideal for operating without restriction;
- The material used promotes extended life;
- Lifting height can be adjusted precisely by 0.01mm.



Art.No	Capacity (ton)	Stroke (mm)	Effective Area (mm ²)	Outside size (mm)					Weight (kg)
				A	B	C	D	E	
ZV SMC0525	5	25	8.02	52	77	52	195	278	1.5
ZV SMC1025	10	25	13.85	54	79	62	237	348	2.2
ZV SMC2005	20	5	28.27	35	40	84	218	289	1.9
ZV SMC3005	30	5	38.49	36	41	95	236	314	2.3
ZV SMC5005	50	5	66.48	40	45	120	293	401	3.7



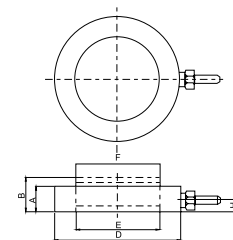
➤ Telescopic Cylinder

- Max Working Pressure: 700 Bar;
- Telescopic Single-acting Cylinders designed for use where there is a minimal clearance for insertion of cylinders and a very high lift is necessary;
- It can be freely used throughout 360.

Art.No	Capacity (ton)	Stage *	Total Stroke (mm)	Capacity (Kn)	Effective Area (cm ²)	Oil cap (cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	E1 (mm)	F (mm)	F1 (mm)	H (mm)	K (mm)	L (mm)	Weight (kg)
ZV 01027	10	2	270	109.1	15.9	810	250	520	110	45	75	36	68	20	26	50	17
		1	135	303.2	44.15												
ZV 01043	10	3	435	109.1	15.9	2250	280	715	152	45	110	36	95	21	19	75	39
		2	290	303.2	44.15												
		1	145	652.3	95												
ZV 01530	15	2	300	162.7	23.7	1308	280	580	125	55	90	50	80	25	16	66	26
		1	150	436	63.5												
ZV 01550	15	3	500	162.7	23.7	3543	320	820	175	55	125	50	110	25	19	95	60
		2	340	436	63.5												
		1	170	841.8	122.6												
ZV 03030	30	2	300	303.2	44.15	2088	304	604	152	75	110	68	100	27	18	89	43
		1	150	652.3	95												
ZV 03060	30	3	600	303.2	44.15	6803	366	966	220	75	160	68	150	27	20	123	106
		2	400	652.3	95												
		1	200	1380.2	201												

➤ Ultra low-height cylinder

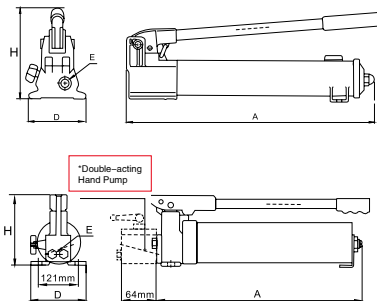
- Suitable for limited work space;
- Single acting, load return;
- Working pressure: 1500 Bar;
- Up to 2000 Bar for limited times.



Art.No	Capacity (ton)	Stroke (mm)	Oil capacity (cm ³)	Collapsed Height A (mm)	Extended Length B (mm)	Outside Dia. D (mm)	Inner Dia. E (mm)	Plunger Dia. F (mm)	Oil Input Position H (mm)	Weight (kg)
ZV STC-00510	5	10	3.46	30	40	60	21	21	12.0	3.6
ZV STC-01010	10	10	7.04	30	40	70	30	30	12.0	4.1
ZV STC-02510	25	10	17.35	30	40	90	47	47	11.5	4.6
ZV STC-05510	50	10	36.32	30	40	115	68	68	11.5	4.5
ZV STC-10010	100	10	69.40	30	40	144	94	94	11.5	5.2
ZV STC-12010	120	10	78.54	30	40	160	100	100	11.5	5.9
ZV STC-15010	150	10	105.68	31	41	176	116	116	12.5	8.5
ZV STC-20010	200	10	136.58	32	42	204	132	132	13.5	9.5

➤ Hand pump

- Max Working Pressure: 700 Bar;
- Carry handles for easy portability;
- Durable glass-filled nylon reservoir and nylon encapsulated aluminium pump base for maximum corrosion resistance;
- Professional choice for a wide range of industrial applications;
- Large oil capacities to power a wide range of cylinder or tools;
- Two-speed pumps provide fast pumping to meet the loading with the cylinder unloaded;
- Non-conductive fibreglass handle for operator safety;
- Internal pressure relief valve for overload protection.



Art.No	Usable Oil (cm ³)	Pump Type	Pressure Rating (bar)		Oil capacity (cm ³)		Dimensions (mm)			Oil Port Thread (NPT)E	Weight (kg)
			1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	A	H	D		
ZV P-142	350	Single-acting	13.8	700	7.0	1.0	310	127	137	3/8	2.2
ZV P-392	901		13.0	700	11.26	2.47	533	157	120	3/8	4.0
ZV P-80	2200		25.0	700	16.22	2.46	545	170	148	3/8	10.9
ZV P-801	4080		25.0	700	16.22	2.46	659	174	146	3/8	14.1
ZV P-462	7423		25.0	700	16.22	2.46	650	308	280	3/8	26.2
ZV P-462XL	10000		25.0	700	16.22	2.46	650	308	280	3/8	35.8
ZV P-84	2200	Double-acting	25.0	700	16.22	2.46	545	170	148	3/8	10.9
ZV P-841	4080		25.0	700	16.22	2.46	675	174	146	3/8	14.9
ZV P-464	7423		25.0	700	16.22	2.46	650	308	280	3/8	26.2
ZV P-464XL	10000		25.0	700	16.22	2.46	650	308	280	3/8	36.8

➤ Air Hydraulic Foot Pump

- Built-in safety valve ensuring operating safety against overloading;
- Gauge is oil filled to prohibit shock load damage and includes an external rubber guard for added protection. For light and corrosion free purposes;
- The Air Cylinder and Piston are made from 6061-T6 Aluminium Alloy;
- Air exhaust muffler for quieter operation. Air and oil inlet filters for reduced risk of damage from contamination;
- All air pumps are designed to be used with single acting cylinders.



Art.No	Usable Oil (cm ³)	Pressure Rating (bar)		Oil capacity (cm ³)		Dimensions (cm)			Control	Oil Tank Material	Weight (kg)
		1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	L	W	H			
ZV F001	2296	0-6	700	820	130	31.24	17.02	19.05	Foot	Plastic	11.8
ZV F002A	1607	0-6	700	820	130	26.16	13.46	18.54	Foot	Aluminum	8.6
ZV F002P	1607	0-6	700	820	130	26.16	13.46	18.54	Foot	Plastic	8.2
ZV F003	4510	0-6	700	820	130	31.75	17.78	19.05	Foot	Steel	12.7
ZV F004	7248	0-6	700	820	130	27.94	22.35	25.4	Foot	Steel	16
ZV F005	1607	0-6	700	820	130	26.16	13.46	18.54	Hand	Aluminum	9.5

➤ Hydraulic Cylinder Pump

- Both electric and gasoline engine pumps are available. Key components are from Germany. They are assembled with different tanks, valves, and manifolds to get different oil capacity and flow. Both single acting & double acting is possible. All electric models come with remote control of 6m cable. The pump is specially for hydraulic cylinder of max. pressure 700 Bar.



Art.No	Valve Type	High Pressure Flow (L/min)	Oil Tank (L)	Usable Oil (L)	Power (KW)	Voltage
ZV PEA321	Manual Valve(Double acting cylinder)	1.0	12	9	1.5	220V 1ph,50HZ
ZV PEA431	Manual Valve(Double acting cylinder)	2.0	20	17	3.0	220V 1ph,50HZ
ZV PEB321	Manual Valve(Single acting cylinder)	1.0	12	9	1.5	220V 1ph,50HZ
ZV PEB431	Manual Valve(Single acting cylinder)	2.0	20	17	3.0	220V 1ph,50HZ
ZV PEC321	Solenoid Valve (Single acting cylinder)	1.0	12	9	1.5	220V 1ph,50HZ
ZV PEC322	Solenoid Valve (Single acting cylinder)	1.0	12	9	1.5	380V,3ph,50HZ
ZV PEC421	Solenoid Valve (Single acting cylinder)	2.0	12	9	3.0	220V 1ph,50HZ
ZV PEC422	Solenoid Valve (Single acting cylinder)	2.0	12	9	2.2	380V,3ph,50HZ
ZV PEC331	Solenoid Valve (Single acting cylinder)	1.0	20	17	1.5	220V 1ph,50HZ
ZV PEC332	Solenoid Valve (Single acting cylinder)	1.0	20	17	1.5	380V,3ph,50HZ
ZV PEC431	Solenoid Valve (Single acting cylinder)	2.0	20	17	3.0	220V 1ph,50HZ
ZV PEC432	Solenoid Valve (Single acting cylinder)	2.0	20	17	2.2	380V,3ph,50HZ
ZV PEH321	Solenoid Valve (Double acting cylinder)	1.0	12	9	1.5	220V 1ph,50HZ
ZV PEH322	Solenoid Valve (Double acting cylinder)	1.0	12	9	1.5	380V,3ph,50HZ
ZV PEH421	Solenoid Valve (Double acting cylinder)	2.0	12	9	3.0	220V 1ph,50HZ
ZV PEH422	Solenoid Valve (Double acting cylinder)	2.0	12	9	2.2	380V,3ph,50HZ
ZV PEH331	Solenoid Valve (Double acting cylinder)	1.0	20	17	1.5	220V 1ph,50HZ
ZV PEH332	Solenoid Valve (Double acting cylinder)	1.0	20	17	1.5	380V,3ph,50HZ
ZV PEH431	Solenoid Valve (Double acting cylinder)	2.0	20	17	3.0	220V 1ph,50HZ
ZV PEH432	Solenoid Valve (Double acting cylinder)	2.0	20	17	2.2	380V,3ph,50HZ
ZV PGB311	Manual Valve(Single acting cylinder)	0.3	12	9	/	/
ZV PGA311	Manual Valve(Double acting cylinder)	0.3	12	9	/	/

➤ Ultra-High Pressure Electric Pump

- Max Working Pressure: 1000-3000 Bar;
- Electric pump is fit for various industrial application fields. It can also be equipped to relative tools to fulfill pushing;
- Two stage, which helps to shorten time to promote working efficiency;
- Powerful induction motor can start with full load;
- Oil tank has 2 options, thus it is suitable for cylinders of various specifications. 380V motor;
- Two internally set relief valves, one is set at factory to protect over loading, the other is for adjusting system pressure.



Art.No	Working Pressure(Bar)	Output Flow(L/min)	Voltage(V)	Weight(kg)	Oil Tank(L)
ZV EP-100	1000	2	380	50	25
ZV EP-150	1500	2.5	380	50	25
ZV EP-200	2000	0.7	380	60	30
ZV EP-250	2500	0.9	380	60	30
ZV EP-300	3000	0.4	380	60	30

➤ Ultra-High Pressure Air Pump

- Max. working pressure: 1500-2800 Bar;
- Working medium suits water and most chemical liquids;
- Non welded construction and light;
- Compact design, requiring less space;



Art.No	Working Pressure(Bar)	Output Flow(L/min)	Air Input Connector	Output Connector	Weight(kg)	Oil Tank(L)
ZV HV-1500	1500	0.3	1/4BSP	1/4BSP	16	3.5
ZV HV-2250	2250	0.35	1/4BSP	1/4BSP	24	6
ZV HV-2800	2800	0.51	1/4BSP	1/4BSP	40	12

➤ Ultra-High Pressure Hand Pump

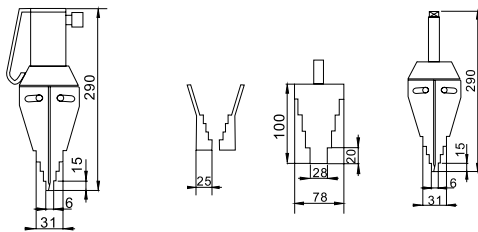
- TITAL alloy space material. Light weight, high strength, corrosion resistant and impact protected are suitable for a variety of aggressive environments;
- With two speeds, an automatic change-over valve switches with precision from low to high pressure smoothly;
- During low pressure, a greater flow is provided to save the operating time to increase work efficiencies;
- Built-in safety valve provides safe dual protection;



Art.No	Usable Oil (cm ³)	Pressure Rating (Bar)		Oil capacity (cm ³)		Dimensions (mm)			Oil Port Thread	Weight (kg)
		1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	L	W	H		
ZV P-1000	2.2	30	1000	32	1.6	630	150	190	G 1/4	9.0
ZV P-1500	2.2	20	1500	32	1.6					
ZV P-2000	2.2	20	2000	32	1.3					
ZV P-2800	2.2	20	2800	32	0.9					

➤ Flange Spreader

- Max Working Pressure: 700 Bar;
- For maintenance, commissioning, shutdowns, testing and valve change outs;
- No need for hammers, chisels, slings or chain blocks;
- Requires very small access gap of only 6 mm;
- Both mechanical and hydraulic options available.



Art.No	Max. Separation Force (ton)	Top End Thickness (mm)	Max. Separation Distance (mm)	Type	Oil Volume (cm ²)	Weight (kg)
ZV FSM-8	8	6	81	Mechanical	-	6.5
ZV FSH-14	14	6	81	Hydraulic	78	7.0

➤ Integral Hydraulic Flange Spreader

- Built inside, no extra pump and hose;
- Operation simple and efficient.



Art.No	Max. Separation Force (ton)	Top End Thickness (mm)	Max. Separation Distance (mm)	Type	Oil Volume (cm ²)	Weight (kg)
ZV FSH-15	14	6	81	Hydraulic	78	11

➤ Hydraulic Lifting Device

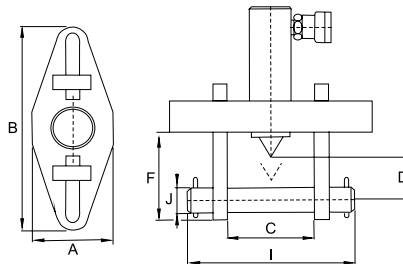
- Max Working Pressure: 700 Bar;
- Min installation space 10mm;
- Capacity is 16 ton @ 700 Bar;
- Every step can bear full load;
- Vertical lifting;
- Unique chain lock wedge shape design;
- Single acting, spring return;
- Including safety block SB-2.



Art.No	Max Lifting Capacity (ton)	Min Width (mm)	Stroke (mm)	Max. Separate Distance (mm)	Oil Capacity (cm ³)	Weight (kg)
ZV LW-16	16	10	21	81	78	9

➤ Hydraulic Flange Spreader

- Compact and ergonomic design, easy to use;
- Adjustable jaw widths from 70mm to 216mm for a wide range of applications;
- Single-acting, spring return cylinders for fast, trouble-free operation.



Art.No	Stud size (mm)	Capacity (ton)	Oil Capacity (cm ³)	Stroke (mm)	Standard wedge (mm)	Outside Size (mm)								Weight (kg)
						A	B	C		D	F	I	J	
								Min.	Max.					
ZV FS-56	19-28	5	24.6	38	3-28	76	209	70	155	32	88	206	19	11.5
ZV FS-109	31-41	10	78.7	54	3-28	108	108	104	216	50	114	273	31	18.0

➤ Flange Alignment Tool

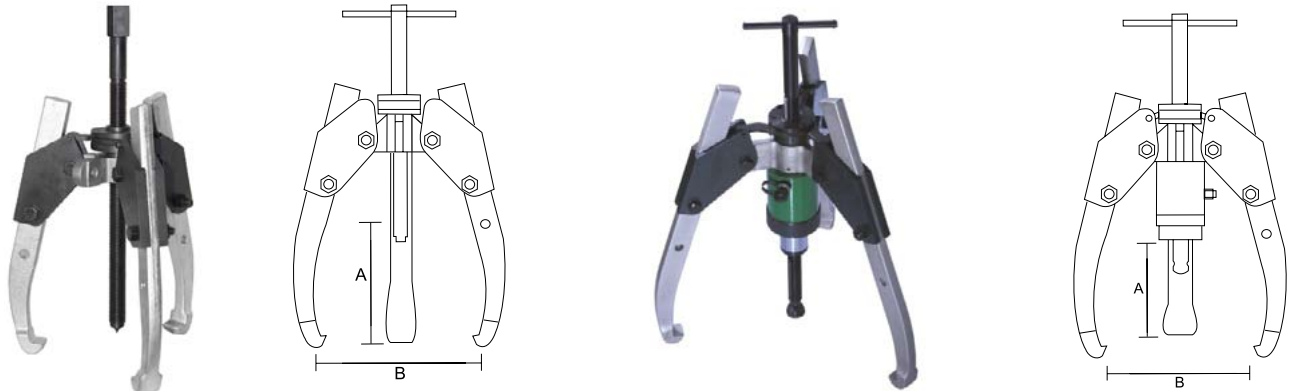
- It rectifies twist and rotational misalignment quickly, safely and without the need for an external power source
- Appropriate for use on most ANSI, API, BS and DIN flanges
- Reduces set-up time: no need for chains, pulleys or rigs
- Safety strap helps provide secure operation
- Can be installed and used in any position
- Portable, lightweight design enables easy transport and use, even in remote locations




Art.No	Capacity (ton)	Socket Range (mm)	Flange Thickness (mm)	Weight (kg)
ZV ATM-1	0.3	17-27.2	17-50	2.0
ZV ATM-3	3.0	25-54	30-115	9.7
ZV ATM-5	5.0	≥ 31.5	80-203	16.2



➤ Mechanical/Hydraulic Self-centering Puller

- Max Working Pressure: 700 Bar;
- Three-arm union, self-centering, easy to use;
- Claws of pullers are forged of high-strength alloy steel;
- Both mechanical and hydraulic puller are variable. Tonnage range: 7ton-60ton.

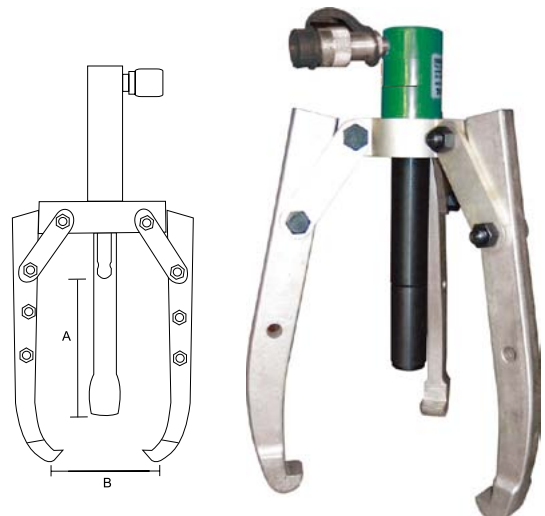


Art.No	Capacity (ton)	Max.Reach A(mm)	Spread Range B (mm)				Weight (kg)
ZV 1307ALT	7	225	60-280	-	-	-	4.5
ZV 1310ALT	10	385	60-430	-	-	-	10.5
ZV 1317ALT	17	480	60-500	-	-	-	25.5
ZV 1330ALT	30	585	60-600	-	-	-	58
ZV 1310THA	10	296	60-430	HC7210	P-392	RCH123	8.9
ZV 1318THA	20	340	60-500	HC7210	P-392	RCH202	18.25
ZV 1330THA	30	420	60-600	HC7210	P-80	RCH302	36.4
ZV 1352THA	60	727	60-920	HC7210	P-80	RCH603	86.5

➤ Three-arm Hydraulic Puller

- Two-arm and three-arm can be exchanged. Tonnage range: 5ton - 25ton;
- Claws are forged of high-strength alloy steel;
- Puller sets include hand pump, hydraulic hose, pressure gauge, gauge adaptor.

Art.No	Capacity (ton)	2/3 arms	Max.Reach (mm)	Spread range (mm)	Weight (kg)
ZV PH53	5	Yes	220	292	10
ZV PH102	10	Yes	250	400	25
ZV PH152	15	No	320	480	31
ZV PH252	25	No	260	578	65



➤ Separated Hydraulic Puller

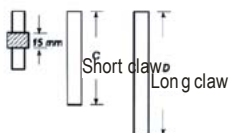
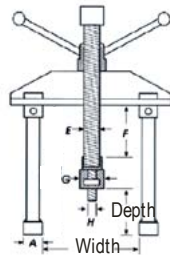
- Separated hydraulic gear puller;
- In case of different situations, it can choose to be driven by hand pump, pneumatic pump or electric pump. Thus it is time saving, labor saving and efficient tool;
- Adopt the design of high tension steel wire springs to get long life and quick retract;
- The surface is well electroplated to resist rust and abrasion;
- The claw are made of one piece of solid steel. Life span is ensured;
- Provided with safety net for models of big capacity.



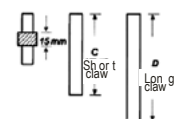
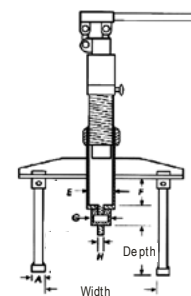
Art.No	Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Weight (kg)
ZV DM-105	15.0	229	50-280	82	13.8
ZV DM-105L		300			17.3
ZV DM-107C	17.5	259	50-356	82	16.4
ZV DM-107CL		300			18.6
ZV DM-203C	22.5	300	50-406	110	26.8
ZV DM-203CL		375			28.7
ZV DM-205C	25.0	375	50-540	110	31.5
ZV DM-500CA	50.0	405/635	50-1200	250	89.0
ZV DM-500CS		405	50-800		57.2
ZV DM-500CL		635	50-1200		72.1

➤ Mechanical/ Hydraulic Gear Pusher

Art.No		ZV DM-130
Output (ton)		12
Reach (mm)		55-395
Spread (mm)		36-130
Jaw Tip	A	30
	B	188
	C	90
Installer Body	C	230
	E	30
	F	160
	G	35
H		3/8 W16
Weight (kg)		4.2



Art.No		ZV DM-270
Output (ton)		12
Reach (mm)		55-385
Spread (mm)		58-270
Jaw Tip	A	35
	B	193
	C	90
Installer Body	C	230
	E	58
	F	130
	G	35
H		1/2 W12 M12x1.75P
Weight (kg)		14.5

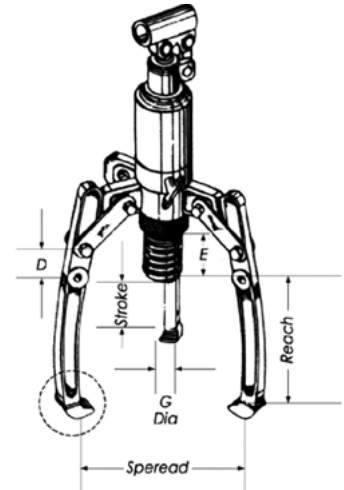


➤ Integral Pulling Tool

- Precise hydraulic control allows fast, efficient and safe pulling;
- Built-in safety valve avoids overloading;
- Available in 2 and 3 jaws design;
- Pump and hose are not necessary;
- The quick nut can adjust the operating distance so as to save time and effort;
- The central saddle rod can retract quickly.



Art.No	Ton Max. Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Claw Size (mm)				Pump Size (mm)			Weight (kg)
					A	B	C	D	E	F	G	
ZV DM-4in	4	152	30-150	55	11	6	22	32	53	42	22	4.5
ZV DM-6in	6	152	30-200	82	11	6	22	32	53	42	22	5.5
ZV DM-6inL	6	190	30-200	82	11	10	25	51	53	42	22	6.3
ZV DM-8in	8	190	30-250	82	11	10	25	51	53	50	22	7.2
ZV DM-8inL	8	229	30-250	82	14	10	29	51	53	50	22	8.1
ZV DM-15in	15	229	30-280	82	14	10	29	51	53	60	28	9.3
ZV DM-15inL	15	300	30-280	82	30	28	33	75	83	60	28	12.9

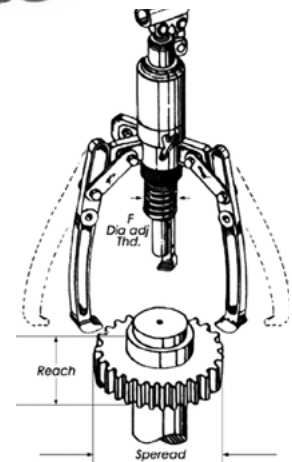


➤ Extra Style

- The jaw hook and hook shelf are made of forged alloy steel with high strength and it can be used durably all through its life;
- 10,12,20,25 and 30 ton for your option;
- The unique inner relief safety valve can prolong the life of the cylinder.



Art.No	Ton Max. Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Claw Size (mm)				Pump Size (mm)			Weight (kg)
					A	B	C	D	E	F	G	
ZV DM-10inC	10	182	30-280	82	11	6	22	32	113	42	22	7.5
ZV DM-10inCL	10	220	30-280	82	11	10	25	51	113	42	22	7.6
ZV DM-12inC	12	220	50-305	82	11	10	25	51	113	50	22	9.3
ZV DM-12inCL	12	259	50-305	82	14	10	29	51	113	50	22	9.7
ZV DM-20inC	20	259	50-356	82	14	10	29	51	113	60	28	12
ZV DM-20inCL	20	300	50-356	82	30	28	33	75	113	60	28	14.2
ZV DM-25inC	25	300	50-406	110	30	28	33	75	140	70	40	19.3
ZV DM-25inCL	25	375	50-406	110	27	26	38	78	140	70	40	24.3
ZV DM-30inC	30	375	50-540	110	27	36	38	78	170	74	45	45



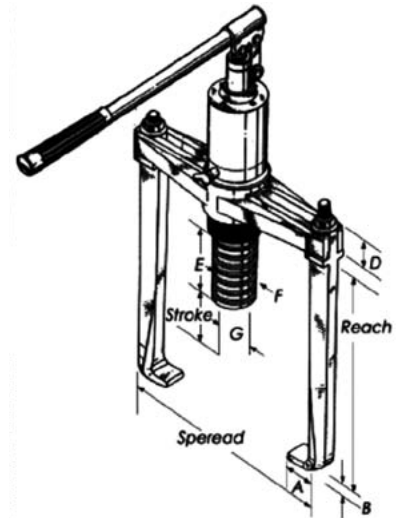
➤ Integrated Screw Hydraulic Puller

Art.No	Ton Max. Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Claw Size (mm)				Pump Size (mm)			Weight (kg)
					A	B	C	D	E	F	G	
ZV DM-601	6	275	30-235	82	16	30	83	42	22	6.2		
ZV DM-601E	10	310									113	
ZV DM-801	8	275	30-235	82	16	30	83	50	22	7.6		
ZV DM-801E	12	310									113	



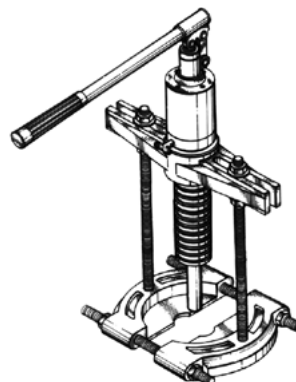
➤ Integrated Orthogonal Claw Hydraulic Puller

Art.No	Ton Max. Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Claw Size (mm)				Pump Size (mm)			Weight (kg)
					A	B	C	D	E	F	G	
ZV DM-602	6	190	95-210	82	15	8	23	30	83	42	22	6.5
ZV DM-602E	10	220										
ZV DM-802	8	210	95-220	82	15	9	26	30	83	50	22	7.5
ZV DM-802E	12	240										
ZV DM-603	6	190	95-210	82	15	8	23	30	83	42	22	8.5
ZV DM-603E	10	220										
ZV DM-802	8	210	95-220	82	15	9	26	30	83	50	22	9.5
ZV DM-803E	12	240										



➤ Integrated Chuck Orthogonal Claw Hydraulic Puller Set

Art.No	Ton Max. Capacity (ton)	Reach (mm)	Spread (mm)	Stroke (mm)	Claw Size (mm)				Pump Size (mm)			Weight (kg)
					A	B	C	D	E	F	G	
ZV DM-605	6	300/190	235-210	82	16/15	8	23	30	83	42	22	13.2
ZV DM-605E	10	330/220										
ZV DM-805	8	300/210	235-220	82	16/15	9	26	30	83	50	22	14.1
ZV DM-805E	12	330/240										



➤ Hydraulic Puller Set

Grip Puller Set

- Precise Hydraulic Control allows fast, efficient, and safe Puller;
- High quality, forged steel components provide superior reliability and service.



Capacity(ton)		8	20	30	50
Model No.		BHP-152	BHP-251G	BHP-351G	BHP-551G
Weight of the Set(kg)		22	56	91	160
Hand Pump		P-392	P-392	P-392	P-80
Hydraulic Cylinder		RCH-121	RCH-202	RCH-302	RCH-603
Saddle		---	HP-2015	HP-3015	HP-5016
Hose(m)		1.8	1.8	1.8	1.8
Pressure Gauge		✓	✓	✓	✓
Gauge Adaptor		✓	✓	✓	✓
Grip Puller		BHP-1762	BHP-252	BHP-352	BHP-552
Max. Spread (mm)	2 jaws	249	400	593	899
	3 jaws	249	499	800	1100
Max. Reach (mm)	2 jaws	252	300	387	700
	3 jaws	252	300	387	700
Jaw (mm)	Thickness	15	20	24	30
	Width	23	27	38	39
Adjusting Screw(mm)	Thread	3/4" -16UNF	1" -8UNC	1-1/4" -7UNC	1-5/8" -5.5UNC
	Length	400	675	795	975

➤ Hydraulic Puller Set

Crossing bearing puller set

- Precise Hydraulic Control allows fast, efficient, and safe Puller
- High quality, forged steel components provide superior reliability and service;
- Full set includes: hollow cylinder, hand pump, hydraulic hose, pressure gauge and gauge adaptor.



Capacity (ton)		8	20	30	50
Model No.		BHP-162	BHP-261G	BHP-361G	BHP-561G
Weight of the Set (kg)		26	62	121	185
Hand Pump		P-392	P-392	P-392	P-80
Hydraulic Cylinder		RCH-121	RCH-202	RCH-302	RCH-603
Saddle		--	HP-2015	HP-3015	HP-5016
Hose (m)		1.8	1.8	1.8	1.8
Pressure Gauge		✓	✓	✓	✓
Gauge Adaptor		✓	✓	✓	✓
Cross Bearing Puller		BHP-1772	BHP-262	BHP-362	BHP-562
Max. Spread(mm)	Max.	266	351	454	570
	Min.	106	139	179	220
Reach (mm)	Max.	462	571	711	863
Adjusting Screw(mm)	Diameter	3/4" -16UNF	1" -8UNC	1-1/4" -7UNC	1-5/8" -5.5UNC
	Length	400	675	795	975
Rod (mm)	Length	105	239	203	609
	Length	354	419	457	863
	Length	--	571	711	--
	Length	--	114	--	--
Rod upper end	Thread	3/4" -16*25	3/4" -16*25	1-14*35	1-1/4" -12*38
Rod lower end	Thread	5/8" -18*25	5/8" -18*25	1-14*27	1-1/4" -12*38
Bearing Cup Puller		BHP-180	BHP-180	BHP-380	BHP-580
Bearing Puller		BHP-181	BHP-282	BHP-382	BHP-582

➤ Hydraulic Puller Set

Master Puller Set

- Supplier with a full hydraulic set including pump, hose, cylinder, gauge, gauge adaptor and wooden case;
- All master puller sets include a Grip Puller, a Cross Bearing Puller, a Bearing Cup Puller and Bearing Puller Attachment;
- High quality, forged steel components provide superior reliability and service;
- Sets include speed crank and adjusting screw for fast contact to work before hydraulic pressure are applied.

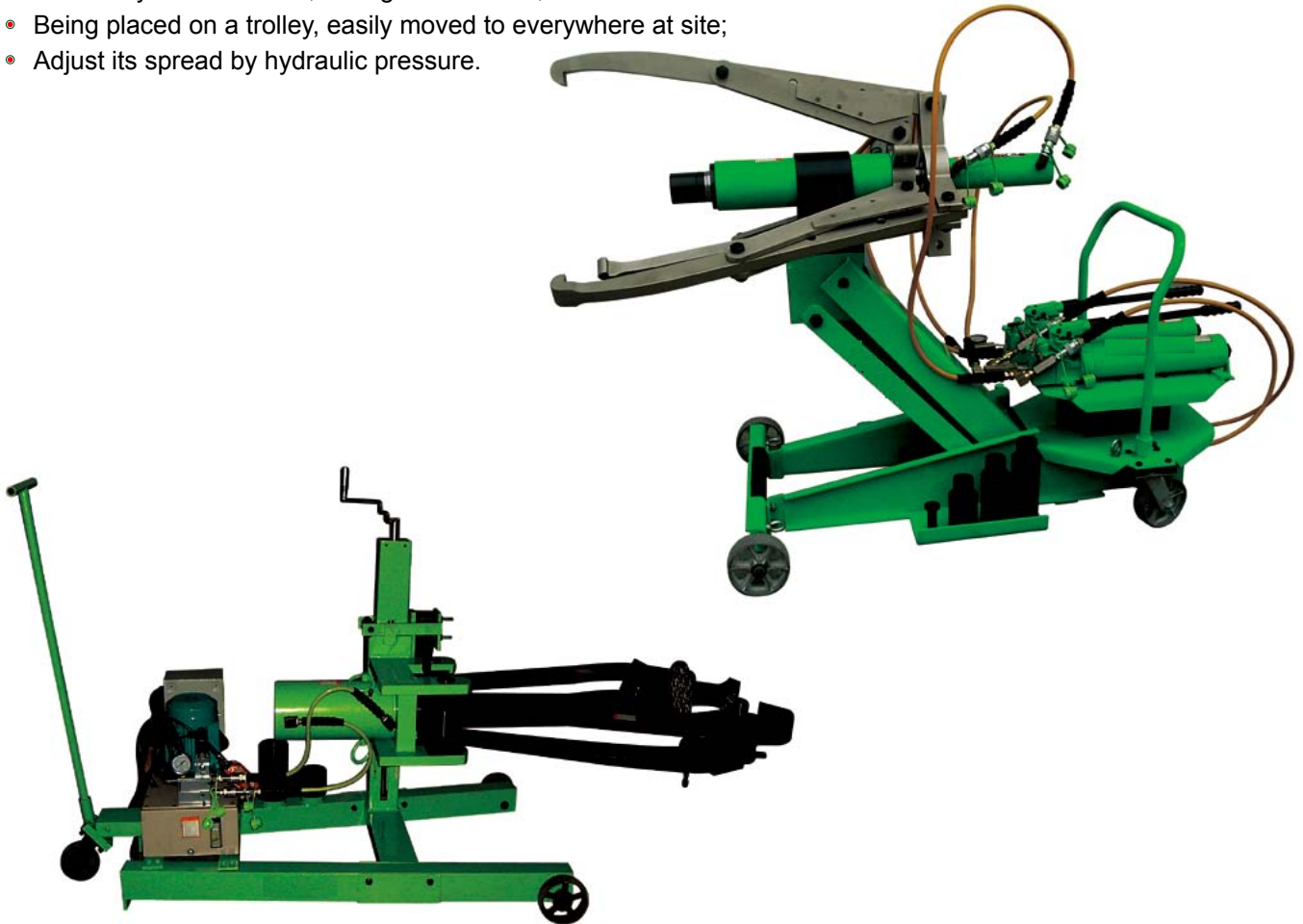


Capacity (ton)	8	20	30	50
Model No.	BHP-1752	BHP-2751G	BHP-3751G	BHP-5751G
Weight of the Set (kg)	37	90	172	298
Hand Pump	P-392	P-392	P-392	P-80
Hydraulic Cylinder	RCH-121	RCH-202	RCH-302	RCH-603
Saddle	---	HP-2015	HP-3015	HP-5016
Hose (m)	1.8	1.8	1.8	1.8
Pressure Gauge	✓	✓	✓	✓
Gauge Adaptor	✓	✓	✓	✓
Included Pullers	BHP-1762	BHP-252	BHP-352	BHP-552
	BHP-1772	BHP-262	BHP-362	BHP-562
	BHP-180	BHP-280	BHP-380	BHP-580
	BHP-181	BHP-282	BHP-382	BHP-582

➤ Hydraulic Trolley Puller



Designed to disassemble gears, bearings and other large equipment, it has following advantages:

- Operated by only one person;
- Double acting cylinder, quick hydraulic retract;
- Both two claws and three claws are available. Vertical direction can be adjusted freely;
- Hard alloy steel material, strong and durable;
- Being placed on a trolley, easily moved to everywhere at site;
- Adjust its spread by hydraulic pressure.

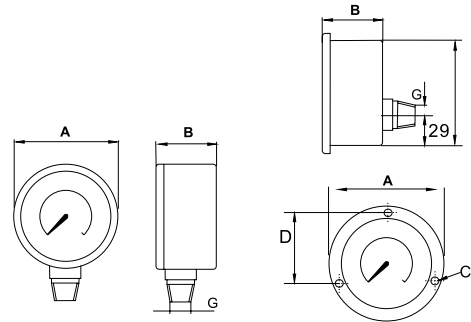


Art. No.	Pulling Capacity (ton)	Stroke (mm)	Min. Open (mm)	Pulling Depth @ Min.Open (mm)	Max. Open (mm)	Pulling Depth @ Max.Open (mm)	Height Range (mm)	Operation Way
ZV HTP-50M	50	337	64	651	1150	559	450-1120	Manual
ZV HTP-50A	50	337	64	651	1150	559	450-1120	Automatic
ZV HTP-100M	100	250	381	1066	1219	863	305-915	Manual lifting /Automatic pulling
ZV HTP-100A	100	250	381	1066	1219	863	305-915	Automatic

➤ Hydraulic Hose



	Hose End&Assembled Couplers		Hose Length (m)	700-series Thermo Plastic		900-series Operating Rubber	
	End1	End2		Art.No	Weight(kg)	Art.No	Weight(kg)
 <p>Max.Working Pressure:700bar</p>	3/8" NPTF	3/8" NPTF	0.9	ZV H-7203	0.7	ZV H-9203	0.9
			1.8	ZV H-7206	0.9	ZV H-9206	1.2
			3	ZV H-7210	1.4	ZV H-9210	1.8
			6	ZV H-7220	2.8	ZV H-9220	3.6
			9	ZV H-7230	4.5	ZV H-9230	5.9
			15	ZV H-7250	7.9	ZV H-9250	9.1
 <p>Max.Working Pressure:700bar</p>	3/8" NPTF	CH-604	0.9	ZV HC-7203	1.0	ZV HC-9203	1.3
			1.8	ZV HC-7206	1.3	ZV HC-9206	1.6
			3	ZV HC-7210	1.8	ZV HC-9210	2.2
			6	ZV HC-7220	3.2	ZV HC-9220	4.0
			9	ZV HC-7230	5.0	ZV HC-9230	6.5
			15	ZV HC-7250	8.5	ZV HC-9250	9.5

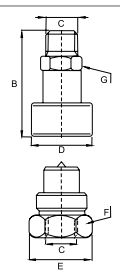
➤ Pressure Gauge



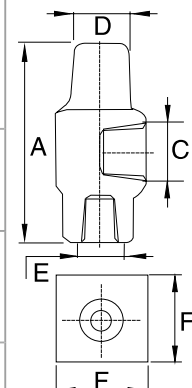




Pressure Range		63	100	100	100	100	Outside Size (mm)			
(bar)	(Psi)	1/4 NPTF Lower Mount	G1/4 Lower Mount	1/4 NPTF Lower Mount	3/8 NPTF Lower Mount	G1/2 Lower Mount	A	B	C	D
0-700	1-10000	701201	701203	701208	701210	701214	63	29	-	-
0-1000	1-15000	701202	701204	701209	701213	701215	63	29	-	-

➤ Quick Coupling

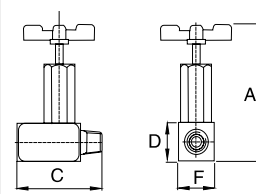

Complete Set Art.No	Max.Working Pressure (bar)	Types of coupler	Female	Male	Outside Size (mm)					
					B	C	D	E	F	G
C604	700		CR400	CH604	64	3/8"NPT	35	36	32	24
CT901	700		C901	T901	61	1/4"NPT	29	29	18	22




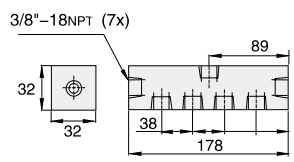

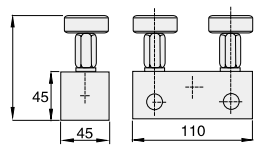
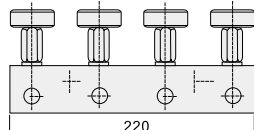
➤ Pressure Gauge Adaptor

Pic.	Art.No	Gauge Port NPTF	Male End NPTF	Female End NPTF	Dimensions(mm)					
					A	C	D	E	F	
	ZV GA-1	1/2"	3/8"	3/8"	71	1/2" NPT	3/8" NPT	3/8" NPT	32	
	ZV GA-2	1/2"			155	1/2" NPT	3/8" NPT	3/8" NPT	32	
	ZV GA-3	1/4"			133	1/4" NPT	3/8" NPT	3/8" NPT	32	
	ZV GA-4	1/2"			111	1/2" NPT	1/4" NPT	3/8" NPT	32	

➤ Valve

Pic.	Art.No	Orifice (mm)	Thread Size	Size(mm)				
				A	C	D	F	
	ZV V-66	8	3/8" NPT	88	3/8" NPT	41	58	
	ZV V-82						72	

➤ Manifold

Pic.	Art.No	Products Description	Size (mm)
	ZV A-64	178mm Long Manifold with 7 female ports	
	ZV AM-2	Premouted Manifold Functions as split-flow valve to control two single-acting cylinders simultaneously. All ports 3/8"–18NPTF	
	ZV AM-4		

➤ Hydraulic Tools Attachments

Art.No	Products Name		Size(mm)					
	Street Elbow		A	B	C	D		
ZV FZ-1616	From:3/8"-NPT Male To:3/8"-NPT Female			23	33	3/8"-18NPTF	3/8"-18NPT	
ZV FZ-1615	Reducing Connector			28	25	3/8"-18NPTF	1/4"-18NPTF	
	From:3/8"-NPT Female To:1/4"-NPT Female							
ZV FZ-1625	From:1/2"-NPT Female To:3/8"-NPT Female			47	29	1/2"-14NPTF	3/8"-18NPTF	
Hexagon Nipple				38	16	1/2"-18NPT	1/2"-18NPT	
Form: To:								
ZV FZ-1608	1/4"-NPT	1/4"-NPT						
ZV FZ-1619	3/8"-NPT	3/8"-NPT						
ZV FZ-16	3/8"-NPT	3/8"-NPT	37	19	3/8"-18NPT	3/8"-18NPT		
Coupling				29	23	3/8"-18NPTF	3/8"-18NPTF	
Form: To:								
ZV FZ-1614	3/8"-NPT	3/8"-NPT						
ZV FZ-1605	1/4"-NPT	1/4"-NPT	29	19	1/4"-18NPTF	1/4"-18NPTF		
Cross				45	25	3/8"-18NPTF	-	
ZV FZ-1613	From:3/8"-NPT Male To:3/8"-NPT Female							
Tee				45	25	3/8"-18NPTF	-	
Form: To:								
ZV FZ-1612	3/8"-NPT	3/8"-NPT						
ZV FZ-1637	1/4"-NPT	1/4"-NPT						
ZV FZ-16312	3/8"-NPT	3/8"-NPT	57	25	3/8"-18NPTF	-		
Elbow				33	20	3/8"-18NPTF	-	
Form: To:								
ZV FZ-1610	3/8"-NPT	3/8"-NPT						
ZV FZ-1638	1/4"-NPT	1/4"-NPT	36	24	1/4"-18NPTF	-		
Reducer				19	19	1/4"-18NPTF	3/8"-18NPTF	
Form: To:								
ZV FZ-1630	3/8"-NPT	1/4"-NPT						
ZV BFZ-1630	1/4"-NPT	1/2"-NPT						
ZV BFZ-16301	3/8"-NPT	G1/4"	19	19	G1/4"	3/8"-18NPTF		
Adaptor				35	19	1/4"-18NPT	G1/4"	
Form: To:								
ZV BFZ-16411	G1/4"	1/4"-NPT						
ZV BFZ-16421	G1/4"	1/8"-NPT						
ZV BFZ-16323	G3/8"	1/8"-NPT						
ZV BFZ-16324	G3/8"	3/8"-NPT	43	24	3/8"-18NPT	G3/8"		
Adaptor				47	24	3/8"-18NPT	M14X1,5	
Form: To:								
ZV BFZ-16322	M14X1,5	3/8"-NPT						
ZV FZ-1055	1/4"-NPT	3/8"-NPT						
ZV FZ-1642	1/4"-NPT	1/8"-NPT						
ZV FZ-1634	1/2"-NPT	3/8"-NPT	42	28	3/8"-18NPT	1/2"-14NPTF		