



Hydraulic Hand Pumps

- P350, P1000, P2001, P4301 and P8701 feature two-speed operation which reduces operator fatigue.
- Internal pressure relief valve for over load protection.
- External load release valve for Single Acting Cylinder usage.
- Large oil capacities to power a wide range of cylinders and tools.
- Models P350 and P1000 are constructed of high strength lightweight aluminium alloy for easy handling.
- Maximum working pressure: 10,000 psi / 700 bar.



P1000

Aluminium Reservoir The Ultra Light Weight

P350 and P1000 hand pumps are aluminium and the preferred choice when portability is important.

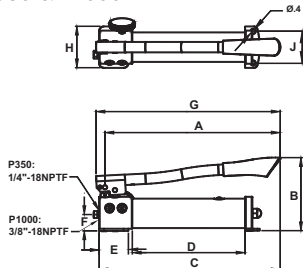


P601S

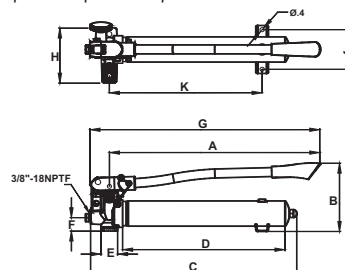


P350

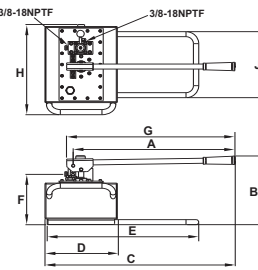
P350 & P1000



P601S, P1201, P2001, & P4301



P8701



Model Number	Pressure Rating		Oil Displacement per Stroke		Max. Operating Force	Piston Stroke	Oil Outlet Port	A	B	C	D	E	F	G	H	J	K	Weight
	1 st Stage	2 nd Stage	1 st Stage	2 nd Stage														
	(bar)	(bar)	(c.c.)	(c.c.)														
USABLE OIL CAPACITY: 600 C.C. (SINGLE SPEED - SINGLE ACTING)																		
P601S	-	700	-	2.46	486	20.0	3/8"-18NPTF	506	164	496	390	40	32	553	132	95	367	5.9
USABLE OIL CAPACITY: 350 C.C. (TWO SPEED - SINGLE ACTING) ALUMINIUM																		
P350	14	700	3.0	0.75	390	9.6	1/4"-18NPTF	359	150	371	231	60	34	377	85	65	-	3.0
USABLE OIL CAPACITY: 1000 C.C. (TWO SPEED - SINGLE ACTING) ALUMINIUM																		
P1000	14	700	13.2	2.30	585	20.7	3/8"-18NPTF	518	162	505	380	92	32	542	120	100	430	6.0
USABLE OIL CAPACITY: 2000 C.C. (TWO SPEED - SINGLE ACTING)																		
P2001	12	700	13.2	2.30	585	20.7	3/8"-18NPTF	519	169	607	471	60	46	542	120	95	-	9.5
USABLE OIL CAPACITY: 4100 C.C. (TWO SPEED - SINGLE ACTING)																		
P4301	14	700	13.2	2.30	585	20.7	3/8"-18NPTF	506	192	575	439	60	44	530	120	95	545	17.0
USABLE OIL CAPACITY: 7800 C.C. (TWO SPEED - SINGLE ACTING)																		
P8701	20	700	119.3	4.73	637	42.5	3/8"-18NPTF	655	295	771	293	614	210	684	387	284	-	35.0



Hydraulic Hand Pumps (Manual Control Valve)

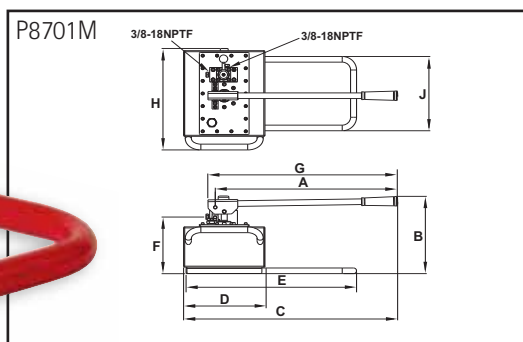
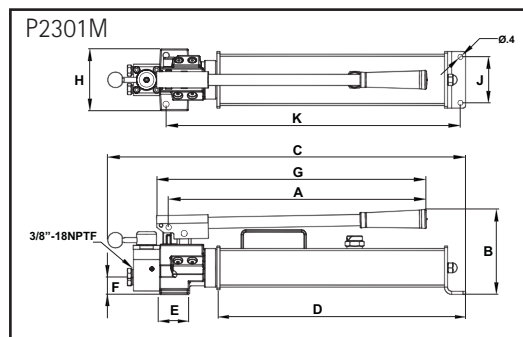
- Internal pressure relief valve for over load protection.
- External load release valve for Single Acting Cylinder usage.
- Large oil capacities to power a wide range of cylinders and tools.
- Maximum working pressure: 10,000 psi / 700 bar.
- 4-Way manual control valve for operation of double acting cylinders.



P2301M



P8701M



Model Number	Pressure Rating		Oil Displacement per Stroke		Max. Operating Force	Piston Stroke	Oil Outlet Port	A	B	C	D	E	F	G	H	J	K	Weight
	1 st Stage	2 nd Stage	1 st Stage	2 nd Stage														
	(bar)	(bar)	(c.c.)	(c.c.)														
USABLE OIL CAPACITY: 2100 c.c. (Two Speed - Single Acting)																		
P2301M	14	700	13.20	2.30	585	20.7	3/8"-18NPTF	502	169	602	467	60	44	526	120	90	573	14.6
USABLE OIL CAPACITY: 7800 c.c. (Two Speed - Double Acting)																		
P8701M	20	700	119.80	4.73	650	425.0	3/8"-18NPTF	655	295	771	293	614	210	684	387	284	-	35.2



Air Hydraulic Pumps

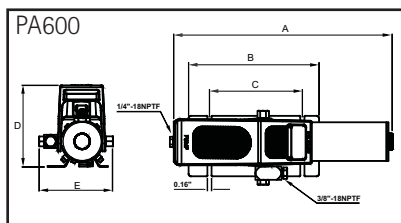
- High Strength reinforced alloy aluminium reservoir is lightweight and corrosion resistant.
- Internal pressure relief valve for over load protection.
- Suggested air pressure range: 90-175 psi / 6-12 bar.
- Designed to be used with single acting cylinders.
- PA1500M and PA3801M are designed to be used with double acting cylinders.
- Dust cover protection for the release control valve.
- Dual stage release valve.
- Model PA2000 features high pressure, high flow performance.
- Maximum working pressure: 10,000 psi / 700 bar.
- PA600H same as PA600, but with Hand Operation



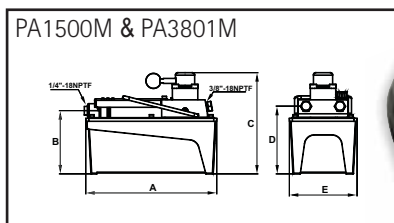
PA1500



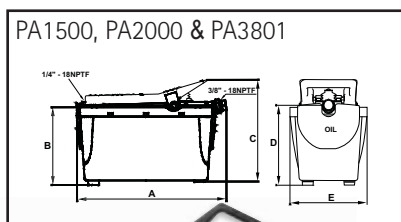
PA1500M



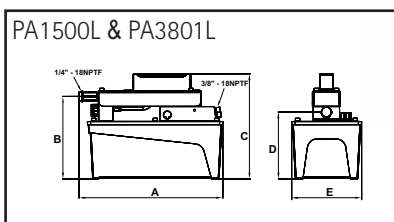
PA600



PA1500M & PA3801M



PA1500, PA2000 & PA3801



PA1500L & PA3801L



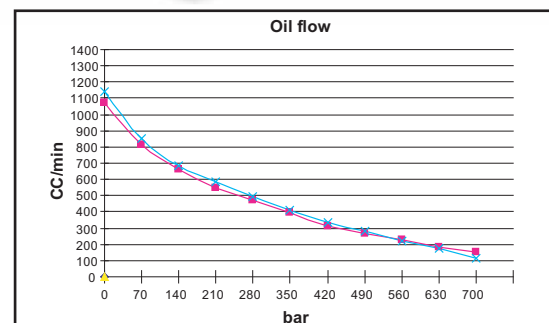
PA1500L



PA600

Remote Control

PA1500L comes with a remote control that extends 12 feet. The remote control offers easy 2 button operation for precision advanced, hold and retract functions.



Model Number	Used with Cylinder	Pressure Rating	Output Flow Rate (L/min)		Air Pressure Range	Air Input Port	Oil Outlet Port	Dimensions					Weight
		(BAR)	No Load	Load	(BAR)			A	B	C	D	E	(kg)
USABLE OIL CAPACITY: 600 C.C.													
PA600	Single Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	426	250	178	156	142	6.4
USABLE OIL CAPACITY: 600 C.C. (WITH HAND OPERATION)													
PA600H	Single Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	426	250	178	114	146	5.7
USABLE OIL CAPACITY: 1500 C.C.													
PA1500	Single Acting	700	1.07	0.18	8-14	1/4"-18NPTF	3/8"-18NPTF	267	126	185	131	136	8.2
USABLE OIL CAPACITY: 2000 C.C.													
PA2000	Single Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	294	149	207	157	152	9.1
USABLE OIL CAPACITY: 3800 C.C.													
PA3801	Single Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	321	129	187	133	187	12.3
USABLE OIL CAPACITY: 7550 C.C.													
PA7550	Single Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	321	153	211	156	214	16.4
USABLE OIL CAPACITY: 1500 C.C. (WITH REMOTE CONTROL)													
PA1500L	Single Acting	700	0.90	0.16	8-14	1/4"-18NPTF	3/8"-18NPTF	279	160	204	130	136	8.8
USABLE OIL CAPACITY: 3800 C.C.													
PA3801L	Single Acting	700	0.90	0.16	8-14	1/4"-18NPTF	3/8"-18NPTF	321	163	207	132	187	13.8
USABLE OIL CAPACITY: 1500 C.C. (WITH VALVE)													
PA1500M	Double Acting	700	1.07	0.18	8-14	1/4"-18NPTF	3/8"-18NPTF	267	127	202	135	136	8.7
USABLE OIL CAPACITY: 3800 C.C. (WITH VALVE)													
PA3801M	Double Acting	700	1.00	0.15	7-14	1/4"-18NPTF	3/8"-18NPTF	321	129	205	138	187	13.2



Electric Motor Pumps

- Quiet operation meets OSHA regulations (80dBA).
- 2 Speed operation allows for faster cylinder advance.
- Full load starting capacities.
- Large easy-carry handles.
- Internal filter keeps contamination from damaging pump.
- Rugged durable design meets the demands of industrial application.
- Precision components to minimize wear and improve overall dependability.
- Available in 3-way or 4-way configuration.
- Ideal for on site construction as well as maintenance.

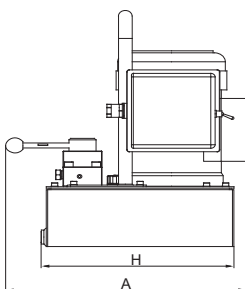
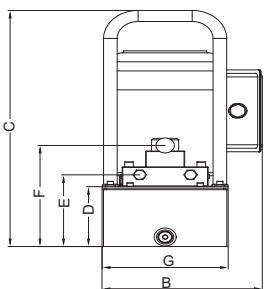
Electrical Pumps

*will be delivered with-
out hydraulic oil inside.*

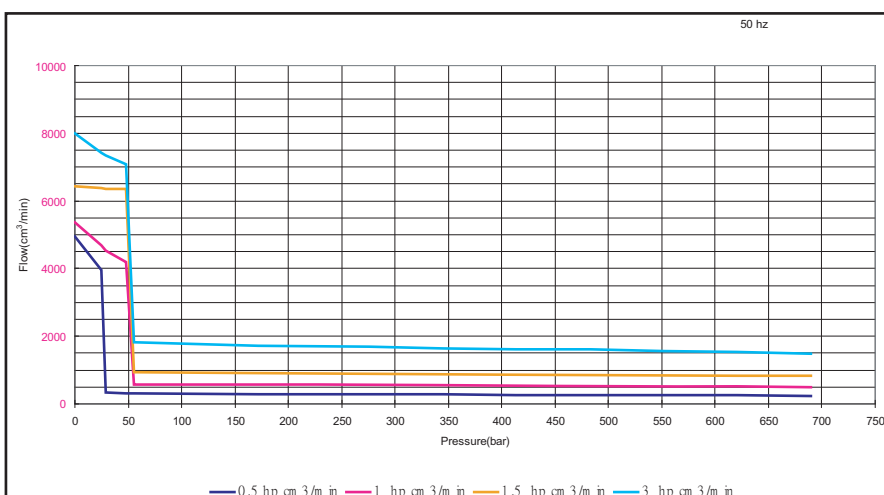
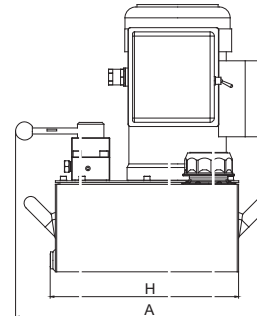
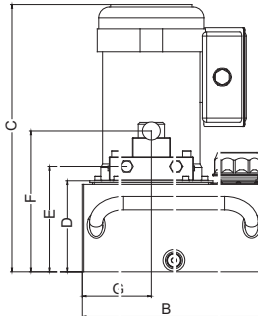
PEW1503T



PE0501T



PE1002T, PE1503T, PE3005T



PEW01 Remote Control

Model Number	Model with Remote Control	Motor Size (kW)	Usable Oil Capacity (Liter)	Pressure Rating (bar)		Oil Output Flow Rate (Liter)		Valve Type	Valve Function	Current Draw (amps)	Motor Voltage (volts)	Sound Level (dBA)	A	B	C	D	E	F	G	H	W.t. for PE (kgs)	W.T. for PEW (kg)
				1st Stage	2nd Stage	1st Stage	2nd Stage						(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kgs)	(kg)
PE0501T	PEW0501T	0.37	3.8	25		3.94	0.246	Manual	4-way 3-position	5	230	80	379	261	485	120	144	203	205	314	28.5	29.0
PE1002T	PEW1002T	0.75	7.6	48	700	4.18	0.492			6			421	305	454	152	176	234	115	314	33.0	33.5
PE1503T	PEW1503T	1.12	11.4			6.3	0.82			9			421	305	502	185	209	267	115	314	41.5	42.0
PE3005T	PEW3005T	2.24	19.4			7.1	1.476			17			421	305	674	312	336	394	115	314	47.0	47.5

Cylinder Accessories

Fitting



Gauge



Hose



Hydraulic Oil



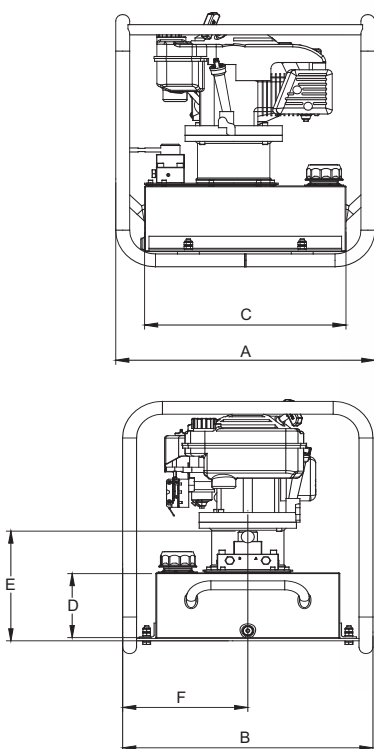
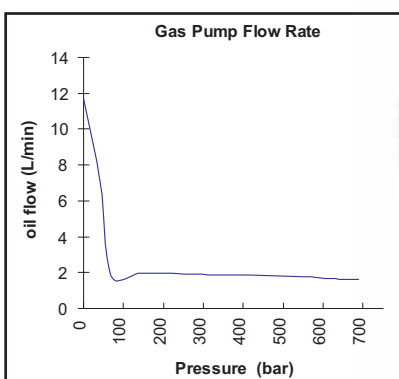


Gasoline Engine Pumps

- Gas pump will provide 10,000 psi / 700 Bar hydraulic force at remote locations.
- Industrial grade 5.5 hp Honda gas engine.
- Manual control valve for use with single or double acting cylinders or tools.
- Two speed pump designed for rapid cylinder advance.
- Gas pump features a sturdy protective roll cage for use in the toughest environments.

Gasoline Pumps

will be delivered without hydraulic oil inside.



PG5505

Model Number	Motor Size	Max. Pressure Output	Pressure Rating		Oil Output Flow Rate		Valve Type	Valve Function	Rotation Speed	Sound Level	A	B	C	D	E	F	Weight
			(bar)		(L/min)												
	(kW)	(bar)	1st Stage	2nd Stage	1st Stage	2nd Stage					rpm	dBA	(mm)	(mm)	(mm)	(mm)	(mm)
USABLE OIL CAPACITY: 19 LITER																	
PG5505	4.1	700	48	700	11.68	1.64	Manual	4-way 3-Position	3600	93	592	572	460	159	273	283	55



Mini Jacks

- Low Profile mini jack.
- Pocket size and light weight.
- Convenient for storage.



Interchangeable
Saddle

Mini Jacks

Model Number	Capacity kN	Min. Height (mm)	Max. Height (mm)	Hydraulic Lifting (mm)	Base Size (L x W) (mm)	Weight (kg)
CAPACITY: 5 TON						
J11050	50	60	80	19	105 x 120	2.1
CAPACITY: 5 TON						
J11055	50	86	124	38	105 x 120	2.4
CAPACITY: 10 TON						
J11100	100	121	159	41	124 x 110	5.7
CAPACITY: 20 TON						
J11200	200	130	171	41	137 x 121	7.6

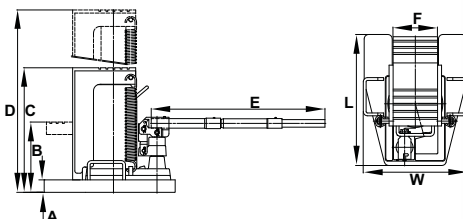
J11050



J11100

Toe Jacks

- Heat treated and chrome plated medium-carbon steel cylinder.
- Chrome plated ram promotes longer seal life and optimum performance.
- U.S. Patented by-pass device protects hydraulic system from over traveling damage.



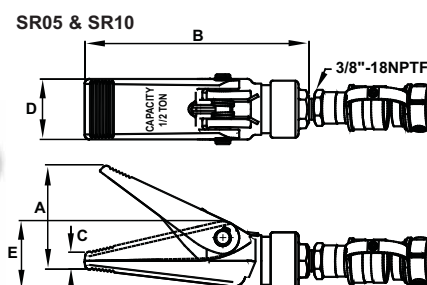
J13200

Toe Jacks

Model Number	Capacity kN	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	L (mm)	W (mm)	Weight (kg)
CAPACITY: 3 TON										
J13060	30	16	146	230	360	600	88	215	190	17.8
CAPACITY: 6 TON										
J13120	60	22	152	267	397	600	80	280	190	27.2
CAPACITY: 10 TON										
J13200	100	28	158	280	410	600	100	295	234	39.5

Spreaders

- Designed to work in confined working areas.
- Jaws close automatically with the return spring after the pressure is released.
- Multi-purpose applications: to spread, lift, level machinery or collision repair.



Spreaders

Model Number	Capacity kN	Cylinder Effective Area	Oil Capacity	Dimensions					Weight
		(mm²)	(mm³)	A	B	C	D	E	(kg)
CAPACITY: 0.5 TON									
SR05	5	7.9	9.5	90	192	13	52	60	2.2
CAPACITY: 1 TON									
SR10	10	7.0	14.1	99	167	12	55	56	2.2

Cylinder Accesories

Saddle

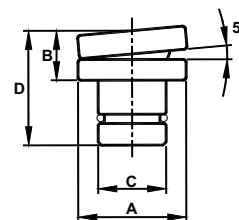
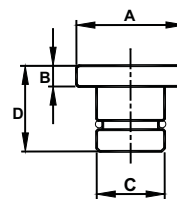
Model Number	Saddle Type	For use with Cylinder Capacity	Dimension (mm)			
		Ton	A	B	C	D
SD05	Grooved	5	25	6	17	20
SD10		10	35	6	22	27
SD15		15	38	7	22	30
SD25		25	50	7	36	29
SDT10	Tilt	10	35	16	22	38
HTD10	Threaded	10	1 1/4"-11 1/2NPTF	24	1"-8UNC	45



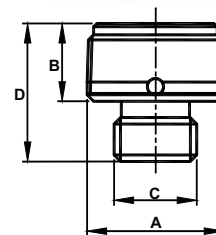
SD10



SDT10

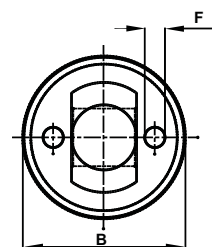


HTD10



Clevis

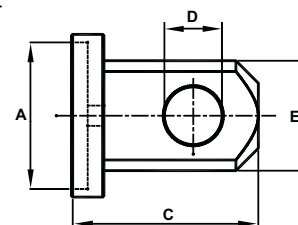
Model Number	Clevis Type	For use with Cylinder Capacity	Dimension (mm)						
		Ton	A	B	C	D	E	F	G
CEP05	Plunger	5	3/4"-16UNF	29	57	16	16	14	-
CEP10		10 + 15	1"-8UNC	43	84	22	19	25	-
CEP15									
CEP25		25	1 1/2"-16	57	97	32	22	38	-
CEB05	Base	5	38.6	44	54	16	7	29	-
CEB10		10	57.9	64	73	22	43	8	-
CEB15		15	70.4	76	73	22	43	10	-
CEB25		25	86.4	95	86	32	57	14	-
CP10*	Plunger & Base	HP1006 only	M30x2	75	160	30	95	35	65



CEB15



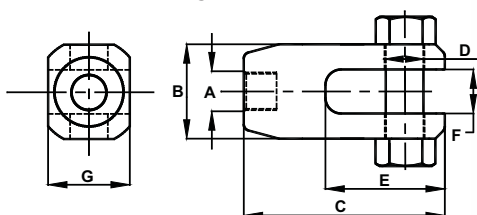
CEB15-Plunger



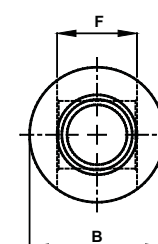
CEP15



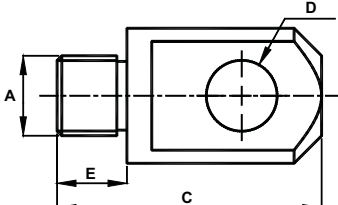
CP10-Clevis Plunger & Base



CP10



CEP15-Base

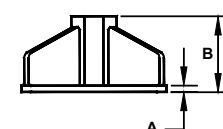
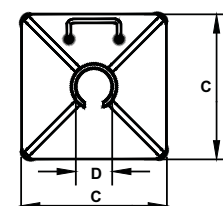


Base

Model Number	For use with Cylinder Capacity	Dimension (mm)			
	Ton	A	B	C	D
CB05	5	8	118	200	39
CB10	10	10	120	230	58
CB15	15	12	122	254	70
CB25	25	16	126	280	87



CB10





Hydraulic Accesories

Pressure Gauge

Model Number	Face Diameter	Thread	Pressure Range		Graduation			
					Major Graduation	Minor Graduation	Major Graduation	Minor Graduation
	(mm)	D	A	B	(psi)		(bar)	
WET								
GBW1460	63	1/4"-18NPTF	0-10,000	0-700	1000	500	100	20

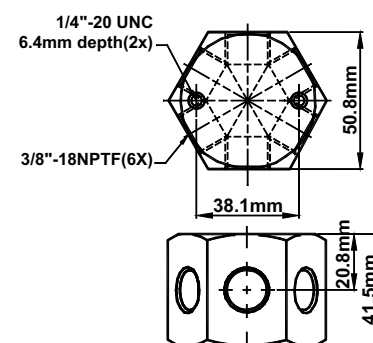


GW2514

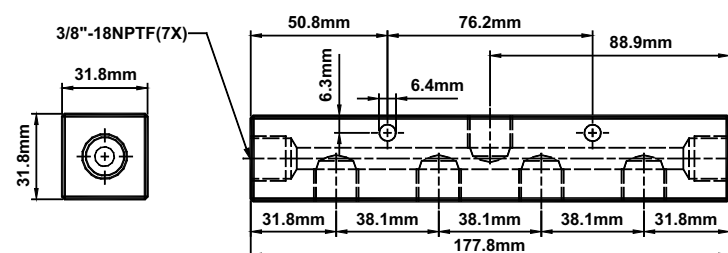
Manifold

Model Number	Number of Ports	Port Size	Mounting Hole
6-PORT HEXAGON MANIFOLD			
CMH6	6	3/8"-18NPTF	1/4"-20UNC
17.8 CM LONG MANIFOLD			
CM7	7	3/8"-18NPTF	1/4"-20UNC
35.6 CM LONG MANIFOLD			
CM14	7	3/8"-18NPTF	1/4"-20UNC

CMH6

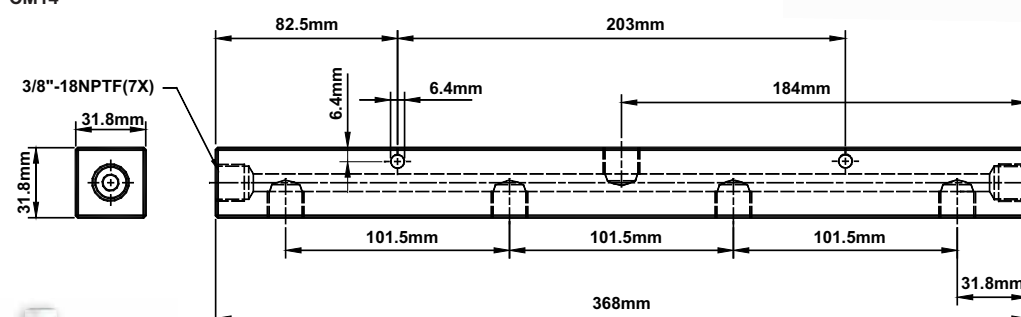


CM7



CM7

CM14



HV155

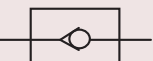
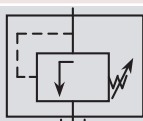


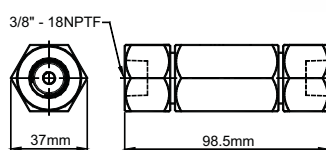
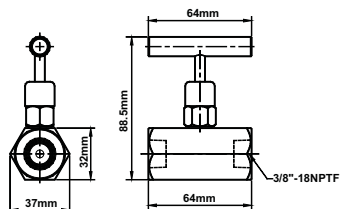
CM14

Hydraulic Oil

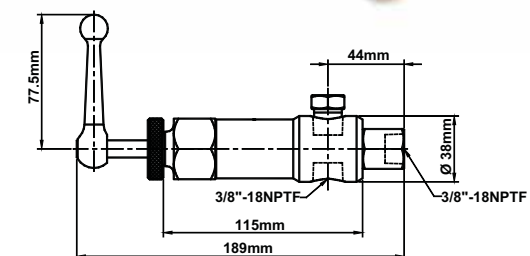
Model Number	Volume (liter)	Oil Type	Viscosity	For Pump
HV151	1	Hydro HV15	15	Hand / Air
HV155	5			
HV685	5	Hydro HV68	68	Electric

Flow Control Valve

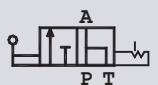
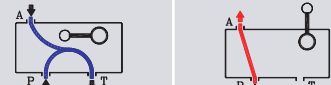
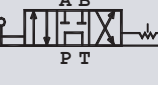
Model Number	Ports	Application	Hydraulic Symbol
NEEDLE VALVE			
CVN1	1/4"-18NPTF	Controls cylinder speed and acts as temporary shutt-off valve for load holding.	
CVN3	3/8"-18NPTF		
CHECK VALVE			
CVC3	3/8"-18NPTF	Allows flow in one direction only.	
PRESSURE RELIEF VALVE			
CVR3	3/8"-18NPTF	Controls pressure developed by the pump in hydraulic loop. By-pass occurred when pre-set pressure is reached. Turns clockwise to increase pressure counter clockwise to decrease. Return line hose / 1 meter length is included.	



CVR3

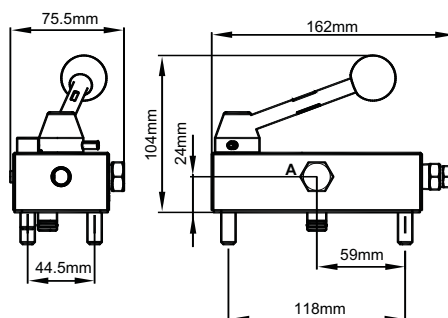


Manual Control Valve

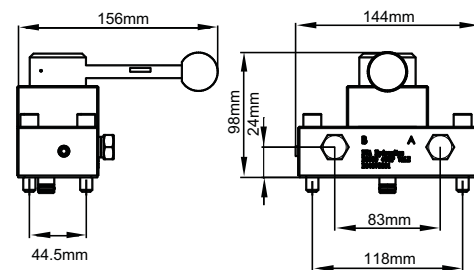
Model Number	Ports	Hydraulic Symbol	Schematic Flowpath	Weight (kg)
MANUAL: 3-WAY, 2-POSITION				
PW2	3/8"-18NPTF			1.8
MANUAL: 3-WAY, 3-POSITION				
PW3	3/8"-18NPTF			1.8
MANUAL: 4-WAY, 3-POSITION				
PW4	3/8"-18NPTF			1.4



PW3



PW2 - Two Way Control Valve

PW3 - Three Way Control Valve
PW4 - Four Way Control Valve



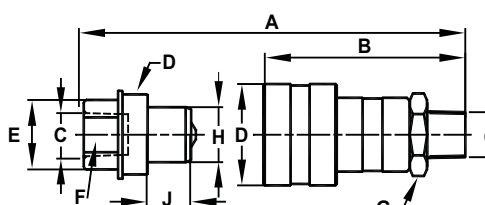
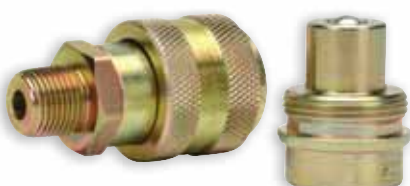
Hydraulic Accesories

Coupler

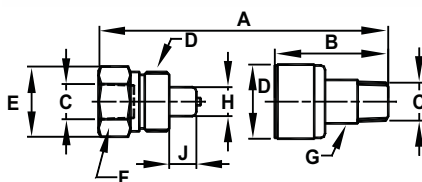
Model Number			Dimensions (mm)									Dust Cap(s)
Complete Set	Male Half	Female Half	A*	B	C	D	E	F	G	H	J	
HIGH-FLOW COUPLER												
CH38	CH38M	CH38F	81.1	72.1	3/8"-18NPTF	1 3/16"-16	28	24	25	19	16	Female
REGULAR-FLOW COUPLER												
CR38	CR38M	CR38F	80	55.9	3/8"-18NPTF	15/16"-20	26	24	19	13	13	Female
ZINC COUPLER												
CRZ14	CRZ14M	CRZ14F	61.5	42.4	1/4"-18NPTF	13/16"-20	24	21	15	10	9	Female & Male

* Value A is total length when male and female couplers are connected.

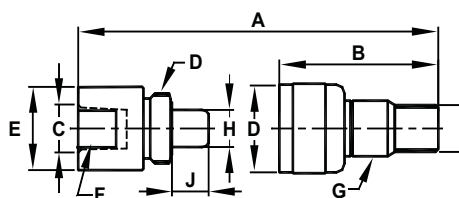
CH38



CRZ14



CR38



Hose

Model Number	Hose End Fittings	Operating Pressure	Oil Volume	Hose Length	Weight
		(BAR)	(cc)	(m)	(kg)
Hose I.D.: 6.35 mm / 1/4"					
CS1414	1/4"-18NPTF	700	230.0	1.8	1.1
CS3814	3/8"-18NPTF			1.8	1.4
Hose I.D.: 9.5 mm / 3/8"					
CS1438	1/4"-18NPTF	700	515.0	1.8	1.5
CS3838	3/8"-18NPTF			1.8	1.6



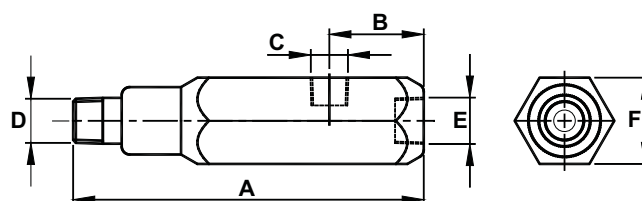
CS3814

Fitting / Gaug Adaptor

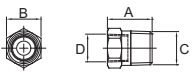
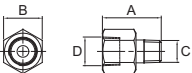
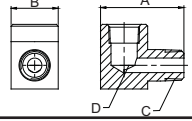
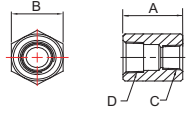
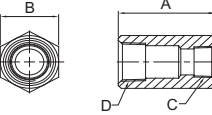
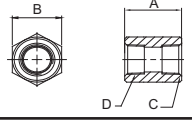
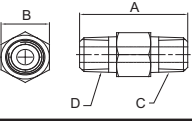
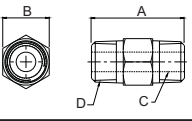
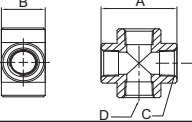
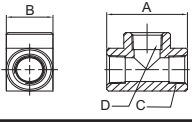
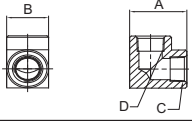
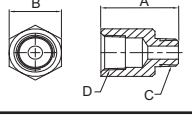
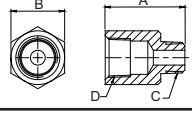
Model Number	Dimensions (mm)					
	A	B	C	D	E	F
CF3814	130	35	1/4"-18NPTF	3/8"-18NPTF	3/8"-18NPTF	32



CF3814



Fittings

Model Number	Description	Picture	Drawing	Dimensions			
				A (mm)	B (mm)	C	D
CA3814	Fitting			35	23	Male: 1/4"-18NPTF	Female: 3/8"-18 NPTF
CB1438	Bushing			22	17	Male: 3/8"-18NPTF	Female: 1/4"-18 NPTF
FT101	2-way 90° Connector			46	26	Male: 3/8"-18NPTF	Female: 3/8"-18 NPTF
FT102	Coupling			30	26	Female: 1/4"-18NPTF	Female: 3/8"-18 NPTF
FT112	Coupling			48	29	Female: 1/2"-14NPTF	Female: 3/8"-18 NPTF
FT103	Coupling			30	26	Female: 3/8"-18NPTF	Female: 3/8"-18 NPTF
FT104	Male Connector			38	17	Male: 1/4"-18NPTF	Male: 1/4"-18 NPTF
FT114	Male Connector			38	19	Male: 3/8"-18NPTF	Male: 3/8"-18 NPTF
FT105	4-Way Connector			45	26	Female: 3/8"-18NPTF	Female: 3/8"-18 NPTF
FT106	3-Way Connector			45	26	Female: 3/8"-18NPTF	Female: 3/8"-18 NPTF
FT107	2-Way 90° Connector			35.5	26	Female: 3/8"-18NPTF	Female: 3/8"-18 NPTF
FT108	Adaptor			43	29	Female: 1/2"-14NPTF	Male: 3/8"-18 NPTF
FT118	Adaptor			43	29	Female: 1/4"-18NPTF	Male: 1/2"-14 NPTF



Pumps / Cylinders Operation and Speed Charts

Model Number	Number of stroke per cm of Cylinder Plunger Travel															
	5 ton (45 kN)		10 ton (89 kN)		15 ton (133 kN)		25 ton (222 kN)		30 ton (267 kN)		50 ton (445 kN)		75 ton (667 kN)		95 ton (845 kN)	
	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load
POWER SOURCE: MANUAL																
P601S	3	3	6	6	9	9	14	14	17	17	29	29	42	42	54	54
P350	3	9	5	19	7	27	12	42	14	53	24	89	35	130	45	166
P1000																
P2001	1	3	2	7	2	9	3	15	4	19	6	31	8	45	10	58

Model Number	Seconds per cm of Cylinder Plunger Travel															
	5 ton (45 kN)		10 ton (89 kN)		15 ton (133 kN)		25 ton (222 kN)		30 ton (267 kN)		50 ton (445 kN)		75 ton (667 kN)		95 ton (845 kN)	
	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load
POWER SOURCE: AIR (BASED ON 7 BAR AIR PRESSURE)																
PA600	0.4	2.7	0.9	5.9	1.3	8.2	2.0	13.3	2.6	16.8	4.3	28.4	6.3	41.6	8.0	53.1
PA1500	0.4	2.3	0.9	4.9	1.3	6.9	2.0	11.1	2.6	14.0	4.3	23.7	6.3	34.7	8.0	44.3
PA2000	0.4	2.1	0.9	4.5	1.2	6.3	1.9	10.3	2.4	12.9	4.0	21.9	5.8	32.0	7.5	40.9
PA3801	0.4	2.7	0.9	5.9	1.2	8.2	1.9	13.3	2.4	16.8	4.0	28.4	5.8	41.6	7.5	53.1
PA1500L	0.5	2.5	1.1	5.5	1.6	7.7	2.5	12.5	3.2	15.7	5.4	26.6	7.8	39.0	10.0	49.8
PA3801L	0.4	2.7	0.9	5.9	1.2	8.2	1.9	13.3	2.4	16.8	4.0	28.4	5.8	41.6	7.5	53.1
PA1500M	0.4	2.7	0.9	5.9	1.3	8.2	2.0	13.3	2.6	16.8	4.3	28.4	6.3	41.6	8.0	53.1
POWER SOURCE: ELECTRIC (SPEED BASED ON 50Hz)																
PE0501T	0.1	1.7	0.2	3.7	0.3	5.2	0.5	8.3	0.6	10.5	0.9	17.8	1.3	26.0	1.7	33.2
PE1002T	0.1	0.9	0.2	1.8	0.2	2.6	0.4	4.1	0.5	5.2	0.7	8.7	1.1	12.8	1.3	16.3
PE1503T	0.1	0.5	0.2	1.1	0.2	1.5	0.3	2.5	0.4	3.1	0.6	5.2	0.8	7.7	1.0	9.8
PE3005T	0.1	0.3	0.1	0.6	0.2	0.9	0.2	1.4	0.3	1.7	0.4	2.9	0.6	4.3	0.8	5.4
POWER SOURCE: GASOLINE																
PG5505	0.1	0.4	0.1	0.8	0.2	1.2	0.2	1.9	0.3	2.3	0.5	3.9	0.7	5.7	0.8	7.3

Cylinder Plunger Speed

- Formula: $V = A \div Q$

$$\text{Cylinder Plunger Speed (sec/cm)} = \frac{\text{Cylinder effective Area (cm}^2\text{)}}{\text{Oil Output Flow Rate (cm}^3\text{/min)}} \times \frac{60(\text{sec})}{1(\text{min})}$$

Force

- Formula: $F = P \times A$

$$\text{Force (kgs)} = \text{Hydraulic Working Pressure (kg/cm}^2\text{)} \times \text{Cylinder Effective Area (cm}^2\text{)}$$

Cylinder Oil Capacity

$$\text{Oil Capacity (cm}^3\text{)} = \text{Cylinder Effective Area (cm}^2\text{)} \times \text{Cylinder Stroke (cm}^1\text{)}$$

Cylinder Effective Area

$$\text{Cylinder Effective Area} = \pi \times \frac{(\text{Cylinder Bore Diameter})^2}{4}$$

Where: $\pi = 3.14159$

1Kgf=9.81N

1N=1KG-m/sec²

iKey to measurements			
Weight:		Other measurements:	
1 pound (lb.)	= 0.4536 kg	1 in	= 25.4 mm
1 kg	= 2.205 lbs	1 mm	= 0.039 in
1 ton (short, US)	= 2000 lbs	1 in ²	= 6.452 cm ²
1 ton (metric)	= 2205 lbs	1 cm ²	= 0.155 in ²
Volume:		Pressure:	
1 in ³	= 16.387 cm ³	1 psi (lb/in ²)	= 0.069 bar
1 cm ³	= 0.061 in ³	1 bar	= 14.5 psi
1 liter	= 61.02 in ³	1 kPa	= 0.145 psi
	= 0.264 gal (US)		
1 gal (US, liquid)	= 3.785 liter	Temperature:	
	= 231 in ³	0°F	= (0°C x 1.8) + 32
	= 3785 cm ³	0°C	= (0°F - 32) / 1.8



Confidence Built on Quality

ISO 9001

BVA products are manufactured through an International Quality Assurance System, ISO 9001/9002, which involves consistent observation of administration, management, manufacturing, and production control. Under this system, the related operations are monitored on all aspects of the production of BVA products from the purchase order, the assembly line, to shipping the order from the distribution center.

BVA Products comply with the following industry standards

ANSI B30.1

The cylinders comply with load testing requirements and / or the safety factor for material yield strength, while still functioning properly and without oil leakage.

ANSI B40.1

Under ANSI standards, BVA pressure gauges meet criteria for grade A.

SAE 100

BVA hydraulic hoses comply with the Material Handling Institute's specification of minimum life cycles and minimum burst pressure rating.



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