



# BVA<sup>®</sup>

## HYDRAULICS

*Built to Last*



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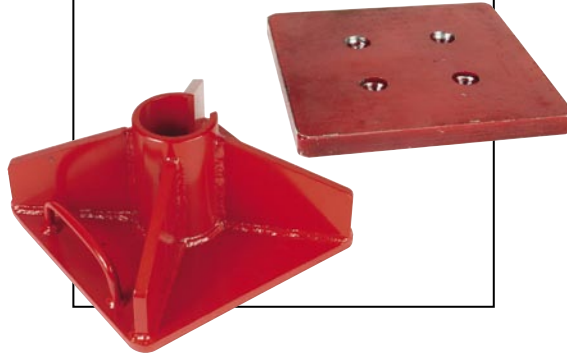
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# ➤ Single Acting Cylinders

- 39 Models
- Internal plunger threads
- Snap in grooved saddles
- Rod wiper seals out dirt and contamination
- Collar fixture threads
- Two base mounting holes on most models
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- Collar thread protector
- One piece high grade alloy bearing for side load protection and long life
- Polyurethane cup seal provides for optimum performance
- Industrial hard chrome plated ram helps prevent rust and corrosion
- Solid steel cylinder body
- Heavy duty return spring provides quicker retraction
- Ideal for lifting and pressing
- Maximum working pressure: 10,000 psi / 700 bar



H1010

## Cylinder Accessories

Saddle



Hose



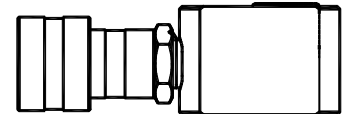
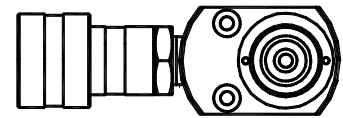
Gauge



Base



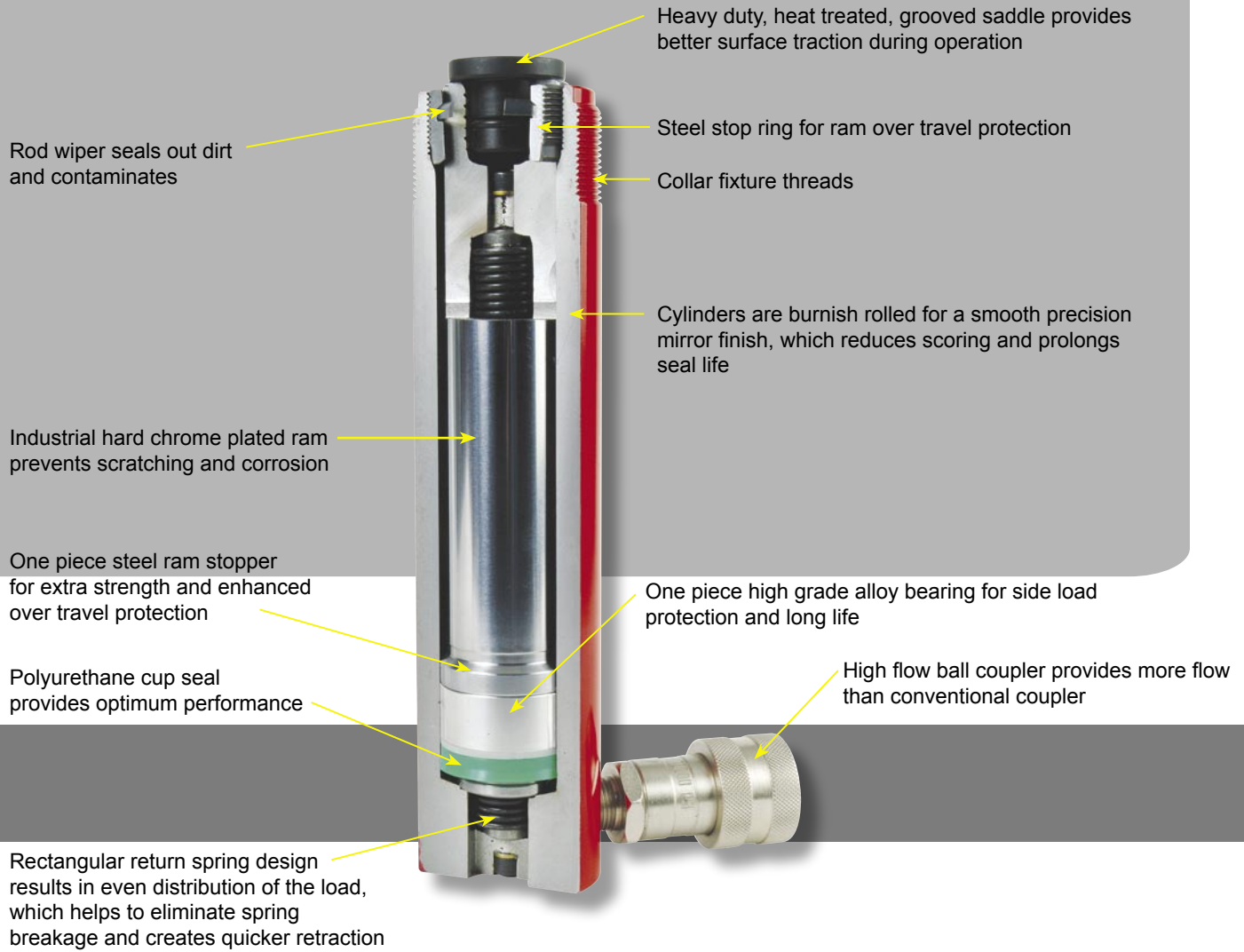
H0500 only



• Please refer to page 6-7 for 15-100 ton specification

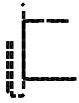
Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.	Plunger Dia.	Saddle Dia.
					A	B				
(tons)	(in)		(in <sup>2</sup> )	(in <sup>3</sup> )	(in)	(in)	(in)	(in)	(in)	(in)
5	0.63	H0500	1.10	0.69	1.61	2.24	1.18	2.36 x 1.58	0.98	N/A
	1.00	H0501			4.58	5.58				
	3.07	H0503			6.65	9.72				
	5.08	H0505	1.00	5.08	8.70	13.78	1.13	1.50	1.00	0.98
	7.09	H0507			10.71	17.80				
	9.09	H0509			12.72	21.81				
10	1.00	H1001	2.24	2.24	3.62	4.62	1.69	2.26	1.49	N/A
	2.01	H1002			4.84	6.85				
	4.02	H1004	2.24	17.81	6.85	10.87	1.69	2.26	1.49	1.38
	5.94	H1006			9.84	15.78				
	7.95	H1008			11.85	19.80				
	9.96	H1010			13.86	23.82				
	11.97	H1012			15.87	27.84				
	14.02	H1014			17.72	31.74				

# The Difference



Base to Inlet Port	Collar Thread	Collar Thread Length	Plunger Internal Thread	Plunger Thread Length	Base Mounting Hole			Weight	Model Numbers
					Bolt Circle	Thread	Thread Depth		
G	H	L	J	K	X	Y	Z		
(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)	
0.75	N/A	N/A	N/A	N/A	1.10	0.2	N/A	2.9	H0500
								3.1	H0501
								3.5	H0503
0.79	1 1/2"-16	1.10	3/4"-16UNF	0.63	1.00	1/4"-20UNC	0.55	4.4	H0505
								4.9	H0507
								5.7	H0509
0.77	2 1/4"-14	1.30	#10-24UNC	0.24	1.56	5/16"-18UNC	0.55	4.0	H1001
								6.6	H1002
								8.2	H1004
								9.5	H1006
0.77	2 1/4"-14	1.30	1"-8UNC	0.79	1.56	5/16"-18UNC	0.55	11.9	H1008
								14.1	H1010
								15.0	H1012
								16.6	H1014

# ➤ Single Acting Cylinders



• Please refer to page 4-5 for 5-10 ton specification

Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.	Plunger Dia.	Saddle Dia.
					A	B				
(tons)	(in)		(in <sup>2</sup> )	(in <sup>3</sup> )	(in)	(in)	(in)	(in)	(in)	(in)
15	0.99	H1501	3.14	3.11	4.88	5.87	2.00	2.75	1.63	1.50
	2.01	H1502		6.31	5.87	7.88				
	3.98	H1504		12.50	7.87	11.85				
	5.87	H1506		18.43	10.67	16.54				
	7.87	H1508		24.71	12.68	20.55				
	9.88	H1510		31.02	14.69	24.57				
	12.01	H1512		37.71	16.65	28.66				
	14.02	H1514		44.02	18.66	32.68				
25	1.02	H2501	5.14	5.24	5.84	6.86	2.56	3.35	2.24	1.97
	2.01	H2502		10.33	6.82	8.83				
	3.94	H2504		20.25	8.78	12.72				
	5.94	H2506		30.53	10.79	16.73				
	7.95	H2508		40.86	12.80	20.75				
	9.96	H2510		51.19	14.80	24.76				
	12.24	H2512		62.91	16.73	28.97				
	14.25	H2514		73.25	18.74	32.99				
30	8.27	H3008	6.49	53.67	15.24	23.51	2.87	4.00	2.24	2.13
55	2.01	H5502	10.99	22.06	6.93	8.94	3.74	5.00	3.15	2.76
	3.98	H5504		43.69	8.94	12.91				
	6.22	H5506		68.34	11.14	17.36				
	13.27	H5513		145.77	18.15	31.42				
75	6.14	H7506	16.10	98.88	11.22	17.36	4.53	5.79	3.74	2.76
	13.11	H7513		211.07	19.37	31.42				
100	6.61	H10006	20.57	136.08	14.06	20.69	5.12	6.97	4.13	2.76
	10.24	H10010		210.60	17.68	27.93				



Base to Inlet Port	Collar Thread	Collar Thread Length	Plunger Internal Thread	Plunger Thread Length	Base Mounting Hole			Weight	Model Numbers
					Bolt Circle	Thread	Thread Depth		
					X	Y	Z		
(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)	
0.98	2 3/4"-16	1.18	1"-8UNC	0.98	1.88	3/8"-16UNC	0.51	7.3	H1501
								8.6	H1502
								11.2	H1504
								15.4	H1506
								17.6	H1508
								20.5	H1510
								23.1	H1512
								26.0	H1514
0.98	3 5/16"-12	1.93	1 1/2"-16	1.18	2.31	1/2"-13UNC	0.75	13.5	H2501
								14.6	H2502
								19.2	H2504
								23.2	H2506
								27.1	H2508
								30.9	H2510
								33.7	H2512
								37.7	H2514
1.97	3 5/16"-12	1.93	1 1/2"-16	1.18	N/A			40.8	H3008
1.22	5" - 12	2.17	N/A		3.75	1/2"-13UNC	0.75	34.2	H5502
								42.6	H5504
								51.8	H5506
								81.1	H5513
1.18	5 3/4" - 12	1.73			N/A			67.5	H7506
								115.5	H7513
1.57	6 7/8" - 12	1.73	N/A		5.50	3/4"-10UNC	1	115.5	H10006
								151.5	H10010

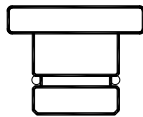
# Cylinder Accessories

## Saddle

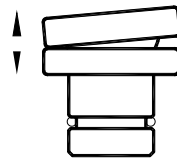
Saddle Type	Model Number	For use with Cylinder Capacity (tons)	Dimensions (in)			
			A	B	C	D
Grooved	SD05	5	0.98	0.24	0.67	0.81
	SD10	10	1.38	0.24	0.87	1.06
	SD15	15	1.50	0.28	0.87	1.18
	SD25	25	1.97	0.28	1.42	1.14
Tilt	SDT10	10	1.38	0.63	0.87	1.50
Threaded	HTD10	10	1 1/4"-11.5NPTF	0.95	1"-8UNC	1.77



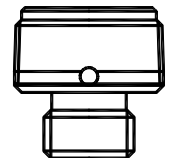
SD10



SDT10



HTD10



## Clevis

Clevis Type	For use with Cylinder Capacity (tons)	Model Number	Dimensions (in)						
			A	B	C	D	E	F	G
Plunger	5	CEP05	3/4"-16UNF	1.13	2.25	0.63	0.62	0.56	-
	10 and 15	CEP10	1"-8UNC	1.69	3.31	0.88	0.75	1.00	-
		CEP15	1"-8UNC	1.69	3.31	0.88	0.75	1.00	-
	25	CEP25	1 1/2"-16	2.25	3.81	1.25	0.87	1.50	-
Base	5	CEB05	1.52	1.75	2.13	0.63	0.26	1.13	-
	10	CEB10	2.28	2.50	2.87	0.88	1.69	0.32	-
	15	CEB15	2.77	3.00	2.87	0.88	1.69	0.38	-
	25	CEB25	3.40	3.75	3.37	1.25	2.25	0.56	-
Plunger & Base	HP1006 only	CP10*	M30x2	2.95	6.30	1.18	3.74	1.38	2.56

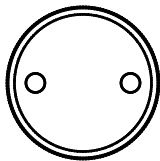
Clevis Plunger & Base



\* 2-pc set with an adapter



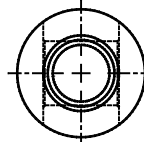
CEB15



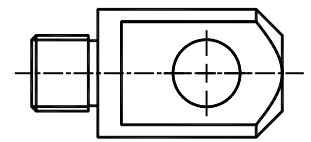
Base



CEP15



Plunger



Z030

## Plate

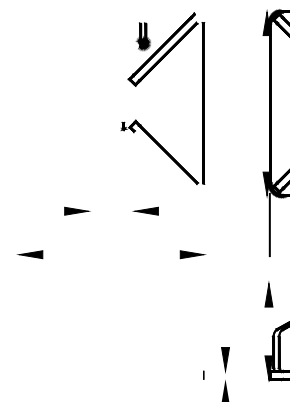
For use with Cylinder Capacity (tons)	Model Number	Dimensions (in)		
		Length	Width	Thickness
30	Z030	6.00	6.00	0.50
50	Z050	8.13	8.00	0.38



CB10

## Base

For use with Cylinder Capacity (tons)	Model Number	Dimensions (in)			
		A	B	C	D
5	CB05	0.32	4.65	7.87	1.54
10	CB10	0.39	4.72	9.06	2.28
15	CB15	0.47	4.80	10.00	2.76
25	CB25	0.63	4.96	11.02	3.41



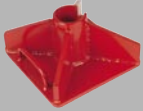


# ➤ Threaded Cylinders

- High quality threaded single acting cylinders
- Removable threaded plunger adapter allows for the use of a variety of threaded attachments
- Used to attach accessories to rod end and base
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories

Base



Hose



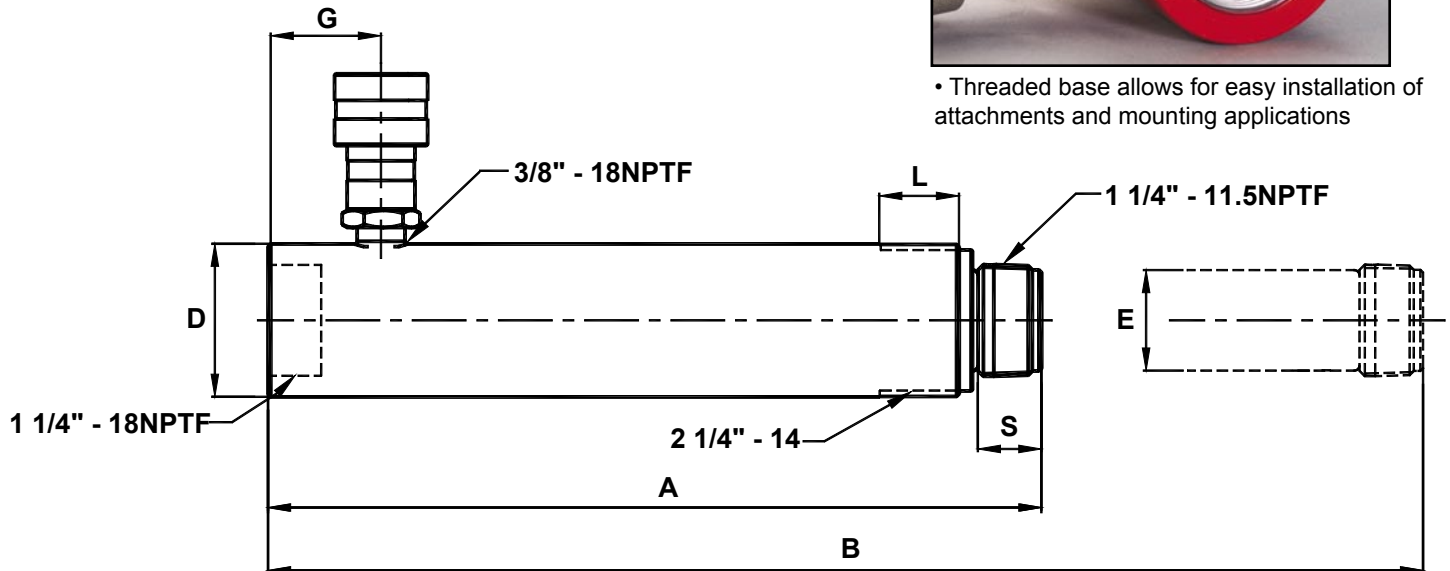
Gauge



Air Pump



• Threaded base allows for easy installation of attachments and mounting applications



Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Plunger Dia.	Base to Inlet Port	Collar Thread Length	Saddle Height	Weight
					A	B	D	E	G	L	S	
(tons)	(in)		(in <sup>2</sup> )	(in <sup>3</sup> )	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)
10	5.95	HT1006	2.24	13.33	11.46	17.41	2.26	1.49	1.67	1.13	0.94	10.6
10	9.96	HT1010		22.30	15.47	25.43						14.1

# ➤ Aluminum Cylinders

- Lightweight aluminum alloy construction
- Up to 60 percent lighter than comparable tonnage steel rams
- Convenient carry handle
- Hard anodized aluminum piston rod provides extra protection against corrosion and wear
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories

Plate



Hose



Gauge



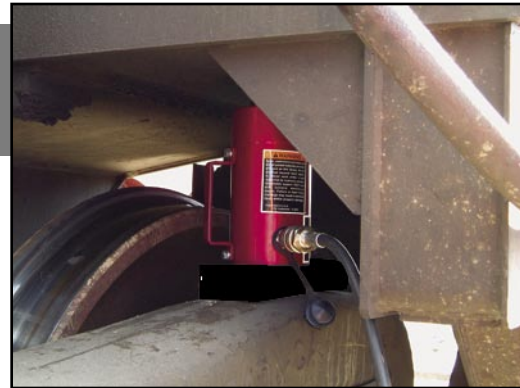
Air Pump



HU3004

HU5006

HU5002



- Lightweight, yet powerful

Cylinder Capacity (tons)	Stroke (in)	Model Number	Cylinder Effective Area (in <sup>2</sup> )	Oil Capacity (in <sup>3</sup> )	Collapsed Height	Extended Height	Cylinder Bore Dia. (in)	Outside Dia. (in)	Plunger Dia. (in)	Saddle Dia. (in)	Base to Inlet Port (in)	Wt. (lbs)
					A (in)	B (in)						
30	2.00	HU3002	6.50	13.00	6.50	8.50	2.90	4.50	2.50	2.00	1.5	11.0
	4.00	HU3004		26.00	8.50	12.50						14.0
	6.00	HU3006		39.00	10.50	16.50						17.0
50	2.00	HU5002	11.00	22.00	6.50	8.50	3.70	5.50	3.10	2.50	1.5	17.0
	4.00	HU5004		44.00	8.50	12.50						21.0
	6.00	HU5006		66.00	10.50	16.50						25.0
	10.00	HU5010		110.00	14.50	24.50						34.0
75	4.00	HU7504	15.00	60.00	8.50	12.50	4.40	6.50	3.90	3.00	1.5	29.0
	6.00	HU7506		90.00	10.50	16.50						35.0
100	2.00	HU10002	20.70	41.40	6.50	8.50	5.10	8.00	4.30	3.50	1.5	36.0
	4.00	HU10004		82.80	8.50	12.50						43.0
	6.00	HU10006		124.40	10.50	16.50						51.0
	10.00	HU10010		207.0	14.50	24.50						68.0

# ➤ Flat Body Cylinders

- Made of high quality steel
- Extremely low collapsed height for applications with minimal clearance at the lift point
- Great for areas of low clearance
- Maximum working pressure 10,000 psi / 700 bar

## Cylinder Accessories

Fitting



Gauge



Hose



Hand Pump



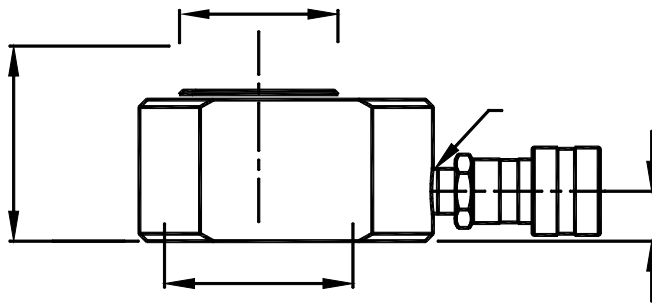
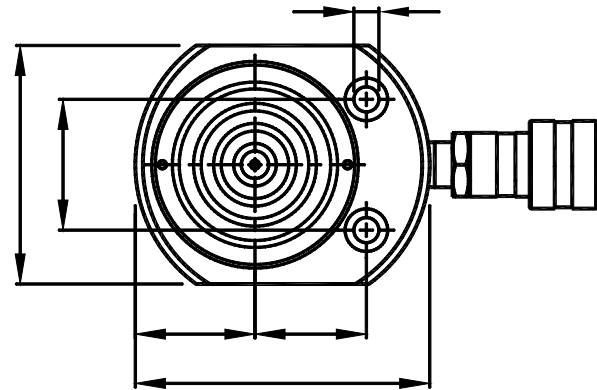
HF0503



HF1005



HF2005



HF3005

Cylinder Mounting Hole Dimensions (in)

Model Number	Hole Pitch	Hole Dia	Counter Bore Dia.	Counter Bore Depth
	X	Y		
	(in)	(in)	(in)	(in)
HF0503	1.12	0.20	0.31	0.17
HF1005	1.44	0.28	0.42	0.31
HF2005	1.94	0.40	0.59	0.39
HF3005	2.06	0.40	0.63	0.44

Cylinder Capacity (tons)	Stroke (in)	Model Number	Cylinder Effective Area (in <sup>2</sup> )	Oil Capacity (in <sup>3</sup> )	Collapsed Height	Extended Height	Cylinder Bore Dia. (in)	Outside Dim. (in)	Plunger Dia. (in)	Base to Port (in)	Plunger to Base (in)	Plunger to Mtg. Hole (in)	Weight (lbs)
					A (in)	B (in)							
5	0.24	HF0503	1.10	0.26	1.26	1.50	1.18	2.4x1.6	0.98	0.69	0.80	0.87	1.3
10	0.43	HF1005	2.36	1.01	1.69	2.12	1.73	3.3x2.2	1.50	0.77	1.12	1.32	3.3
20	0.43	HF2005	4.38	1.88	2.01	2.44	2.36	4.0x3.0	2.00	0.75	1.54	1.56	5.9
30	0.51	HF3005	6.49	3.31	2.31	2.82	2.87	4.6x3.8	2.50	0.79	1.88	1.75	9.7

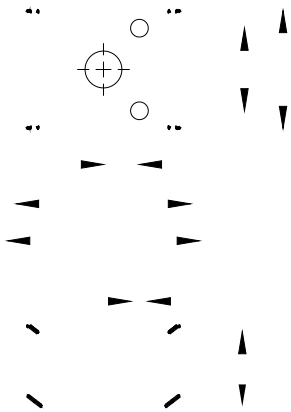
# ➤ Flat Body Cylinder Kit

- Various height magnetic adapters
- Carrying case
- Perfect for low clearance areas needing a little height boost
- Maximum working pressure: 10,000 psi / 700 bar



HF0503B

\* Patent pending



Cylinder Capacity (tons)	Stroke (in)	Model Number	Cylinder Model	Oil Capacity (in <sup>3</sup> )	Collapsed Height (in)	Adapter	Adapter Dimensions (in)						
							A	B	C	D	E	F	G
5	0.24	HF0503B	HF0503	0.26	1.26	I	0.25	1.61	2.56	2.32	0.48	1.10	0.24
						II	0.5						
						III	1						
						IV	1.25						
10	0.43	HF1005B	HF1005	1.02	1.69	I	0.39	2.20	3.54	3.23	0.81	1.46	0.28
						II	0.79				N/A		
						III	1.57						
20	0.43	HF2005B	HF2005	1.90	2.01	I	0.39	2.99	4.25	3.94	1.08	1.93	0.39
						II	0.79				N/A		
						III	1.57						
30	0.51	HF3005B	HF3005	3.32	2.31	I	0.39	3.75	4.76	4.45	1.32	2.06	0.39
						II	0.79				N/A		
						III	1.57						

# ➤ Low Profile Cylinders

- Compact design for use in confined spaces
- Rod wiper helps seal out dirt and contamination
- Specially designed return spring ensures a quick retraction and extends the life of the spring
- Industrial hard chrome plated ram helps prevent scratching and corrosion
- Plunger end is grooved to reduce load slippage
- Includes high flow ball coupler and dust cap
- Coupler is tilted upward for added clearance
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories

Fitting



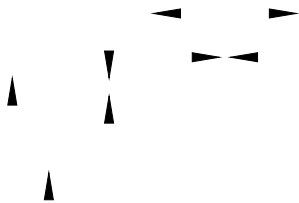
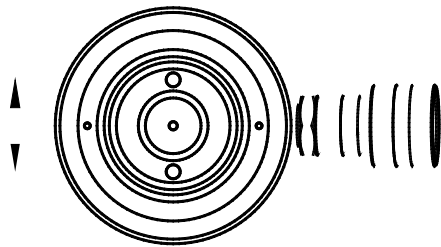
Hose



Gauge



Hand Pump



HL1001



HL2002



HL3002



• Low profile cylinders are great for confined spaces

Cylinder Cap. (tons)	Stroke (in)	Model Number	Cylinder Effective Area (in <sup>2</sup> )	Oil Cap. (in <sup>3</sup> )	Collapsed Height	Extended Height	Cylinder Bore Dia. (in)	Outside Dia. (in)	Plunger Dia. (in)	Plunger Mounting			Wt. (lbs)
					A (in)	B (in)				C (in)	D (in)	E (in)	
10	1.50	HL1001	2.35	3.53	3.48	4.98	1.73	2.75	1.50	1.03	M4		5.7
20	1.75	HL2002	4.37	7.65	3.90	5.65	2.36	3.63	2.00	1.56	M4	0.32	11.0
30	2.44	HL3002	6.49	15.84	4.61	7.05	2.87	4.00	2.50	1.56	M5		15.0

# ➤ Hollow Hole Cylinders

- 6 standard models
- Minimum leak risk
- Ideal for some pulling and pushing application
- Heavy duty compression spring
- Dual wipers help prevent contamination
- Collar thread protector
- High flow coupler with dust cap
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories

Fitting



Hose



Gauge



Hand Pump

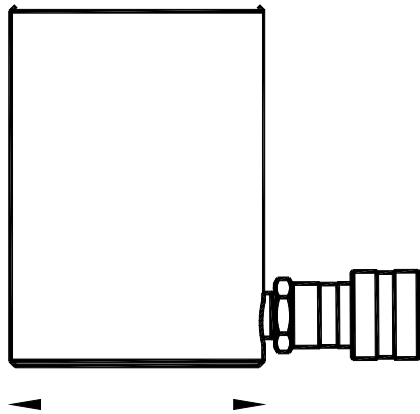


HC3006



HC3002

HC6003



Cyl. Cap.	Stroke	Model Number	Cylinder Effective Area	Oil Cap.	Min. Ht.	Max. Ht.	O.D.	Plunger				Collar Thread		Base to Inlet Port	Wt.
								I.D.	O.D.	Internal Thread	Internal Thread Length	Dia.	Lgth.		
								C	E	J		H	L		
(tons)	(in)		(in <sup>2</sup> )	(in <sup>3</sup> )	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)
20	2.00	HC2002	5.30	10.60	6.19	8.19	4.00	1.06	2.13	1 9/16"-16	0.75	3 7/8"-16	1.50	0.80	17.0
	6.00	HC2006		31.80	11.19	17.19									31.0
30	2.50	HC3002	8.64	21.60	7.00	9.50	5.00	1.31	2.50	1 13/16"-16	0.88	4 1/2"-12	1.75	0.81	26.0
	6.13	HC3006		52.96	12.25	18.38									52.0
60	3.00	HC6003	14.58	43.74	8.66	11.66	6.75	2.13	4.00	2 3/4"-16	0.75	6 1/4"-12	2.00	1.00	68.0
100	3.00	HC10003	20.60	61.80	9.00	12.00	8.25	3.13	5.00	4"-16	1.00	N/A		1.00	99.0

# ➤ Pull Cylinders

- High strength steel construction
- One piece high grade alloy bearing for side load protection and longer life
- Polyurethane cup seal helps provide for optimum performance
- External plunger threads
- Internal base threads
- Used for pulling and tensioning
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories

Fitting



Gauge



Hose



Air Pump



HP0205



HP0505



HP1006



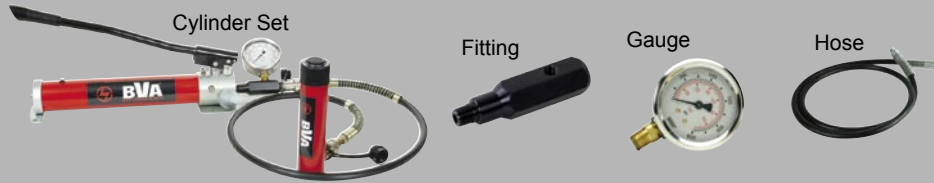
Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Top to Inlet Port	Collar		Weight	
					A	B				D	C		G
(tons)	(in)		(in <sup>2</sup> )	(in <sup>3</sup> )	(in)	(in)	(in)	(in)	(in)	(in)	H	L	(lbs)
2.5	5.00	HP0205	0.56	2.78	10.55	15.55	1.89	1.13	1.65	1 1/2"-16	0.98	6.4	
5	5.55	HP0505	1.14	6.34	11.85	17.35	2.25	1.69	1.50	2 1/4"-14	1.00	9.3	
10	5.95	HP1006	2.44	14.48	11.75	17.70	3.35	2.17	1.50	M85x2	1.00	20.9	

Model Number	Adapter		Plunger			Base Mounting Hole	
	Thread	Length	Dia.	Thread Length	Thread	Thread	Depth
	F	P	E	K	Q	Y	Z
	(in)	(in)	(in)	(in)	(mm)		(in)
HP0205	3/4"-14NPTF	1.13	0.75	0.76	M16 x 1.5	3/4"-14NPTF	0.72
HP0505	1 1/4"-11.5NPTF	1.25	1.18	0.93	M28 x 1.5	1 1/4"-11.5NPTF	0.95
HP1006	-	-	1.26	1.02	M30 x 2	M30x2	0.98

# ➤ Hand Pumps

- P350, P1000 and P2001 feature 2 speed operation
- Pressure relief valve for overload protection
- Load release valve for single acting cylinder usage
- Large oil capacities to power a wide range of cylinders and tools
- P350 and P1000 are constructed of high strength lightweight aluminum alloy for easy handling and corrosion resistance
- All hand pumps function in horizontal positions and will also function in some vertical positions
- Maximum working pressure: 10,000 psi / 700 bar

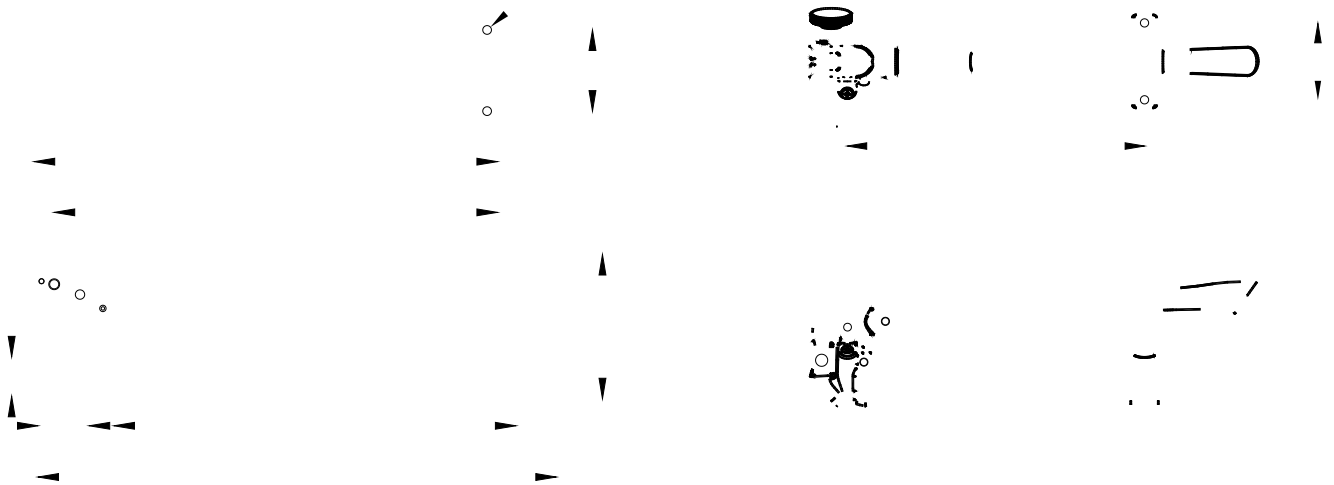
## Cylinder Accessories



P2001



P601S



Used with Cylinder	Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating		Oil Displacement per Stroke		Max. Operating Force (lbs)	Piston Stroke (in)	Oil Outlet Port	Weight (lbs)
				(psi)		(in <sup>3</sup> )					
				1st Stage	2nd Stage	1st Stage	2nd Stage				
Single Acting	Single-speed	36.5	P601S				0.15	109.00	0.79	3/8"-18NPTF	13.0
	Two-speed	21.4	P350	200	10,000	0.18	0.05	88.00	0.38	1/4"-18NPTF	6.6
		61.0	P1000			0.81	0.14	132.00	0.82	3/8"-18NPTF	13.2
		122.0	P2001			0.81	0.14	132.00	0.82	3/8"-18NPTF	20.9





- Towbars are used by aircraft ground support for private planes, commercial and heavy aircraft



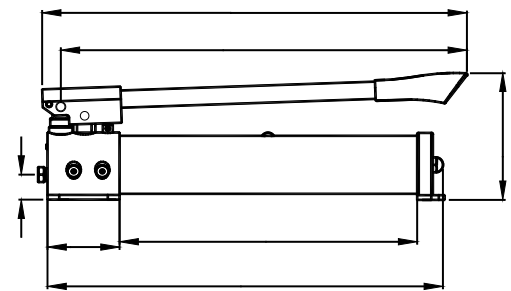
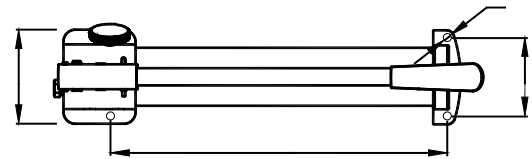
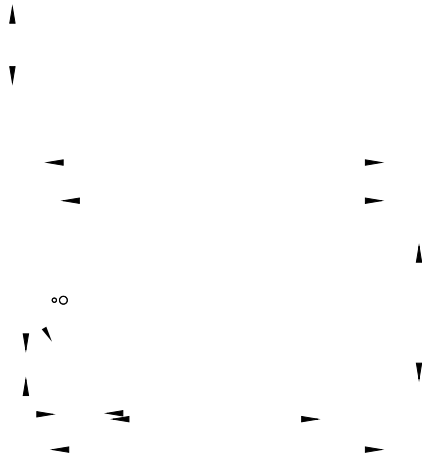
- Handpump can be used in a variety of industrial settings



P350



P1000



Model Number	Dimensions (in)									
	A	B	C	D	E	F	G	H	J	K
P601S	19.92	6.46	19.53	15.35	1.57	1.26	21.77	5.20	3.74	14.45
P350	14.13	5.91	14.61	9.09	2.36	1.34	14.84	3.35	2.56	-
P1000	20.39	6.38	19.88	14.96	3.62	1.26	21.34	4.72	3.94	16.93
P2001	20.43	6.65	23.90	18.54	2.36	1.81	21.34	4.72	3.74	-

# ➤ Air Pumps

- High strength reinforced aluminum alloy reservoir is lightweight and corrosion resistant
- Pressure relief valve for overload protection
- Suggested air pressure range: 90 – 175 psi / 6 – 12 bar
- Designed to be used with single acting cylinders
- Dust cover protection for the release control valve
- Dual stage release control valve
- PA2000 offers a turbo function that features high flow at high pressure condition
- PA1500M and PA3801M offer a 4-way control valve for operation of double acting cylinders
- Maximum working pressure: 10,000 psi / 700 bar

## Cylinder Accessories



PA600



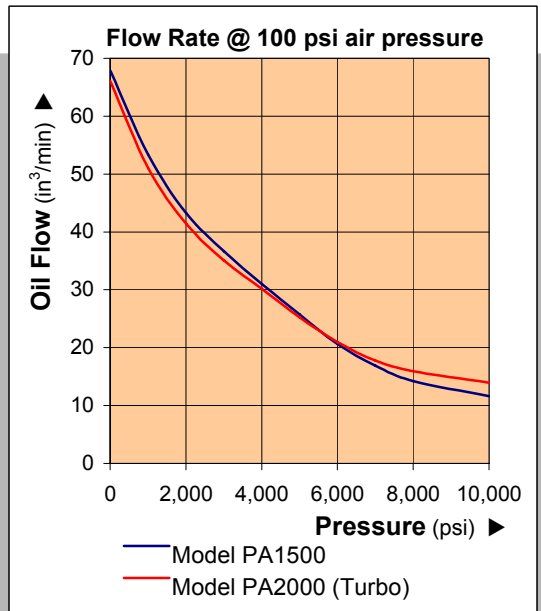
PA1500L



Used with Cylinder	Usable Oil Cap. (in <sup>3</sup> )	Model Number	Pressure Rating (psi)	Oil Output Flow Rate (in <sup>3</sup> /min)		Input Air Pressure Range (psi)	Dimensions (in)					Weight (lbs)
				No Load	Load		A	B	C	D	E	
Single Acting	36.6	PA600	10,000	61	9	90-175	16.54	9.84	7.01	6.18	5.59	14.1
	91.5	PA1500		66	11		10.35	5.00	7.28	5.16	5.35	18.1
	122.1	PA2000		65	12		11.57	6.02	7.91	6.18	5.98	20.1
	231.9	PA3801		65	11		12.64	5.08	7.36	5.24	7.36	27.1
	91.5	PA1500L		61	10		10.98	6.30	8.03	5.12	5.35	19.4
	231.9	PA3801L		61	10		12.64	6.42	8.15	5.20	7.36	30.4
Double Acting	91.5	PA1500M	10,000	66	11	90-175	10.35	5.00	7.99	5.35	5.35	22.1



• Air hydraulic pump is compatible with a wide variety of industrial applications



PA1500

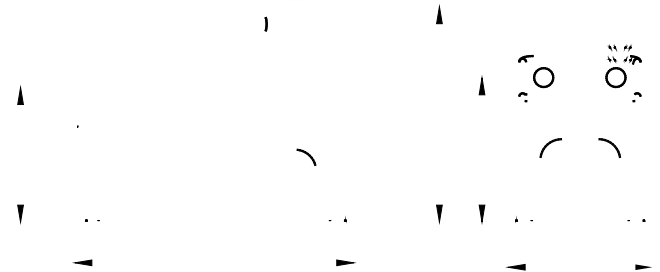
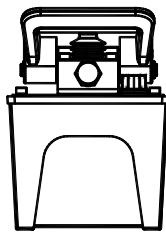
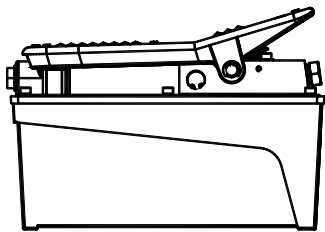


PA3801

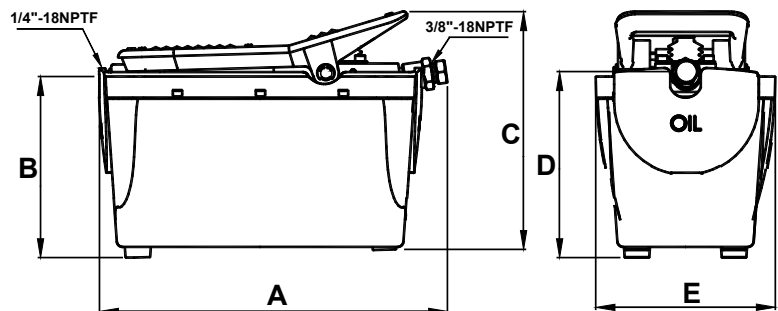


PA1500M

• Drawing for PA1500 and PA3801



PA2000



# ➤ Pump / Cylinder Combo

- Matched sets provide a combination of components for single acting cylinder applications
- Ordering is as easy as 1, 2, 3
  1. Select the cylinder you want
  2. Select the pump you want
  3. Choose the set number



SP10-1006

Each set includes

3/8" , 6 foot Hydraulic Hose

Fitting

3/8" High Flow Male Coupler

4" Wet Gauge

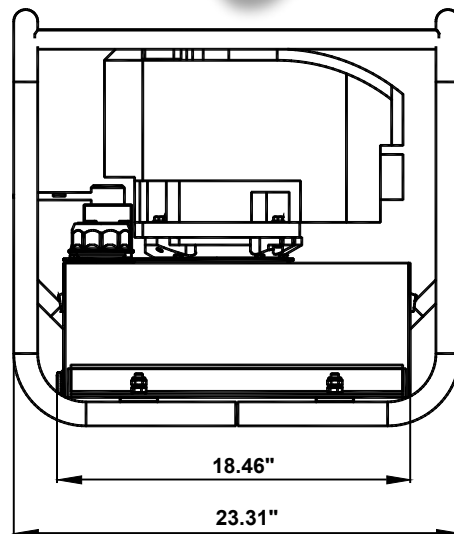
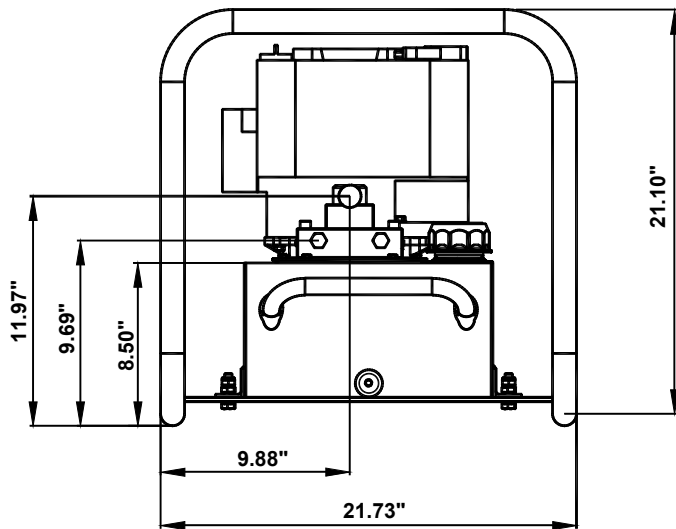
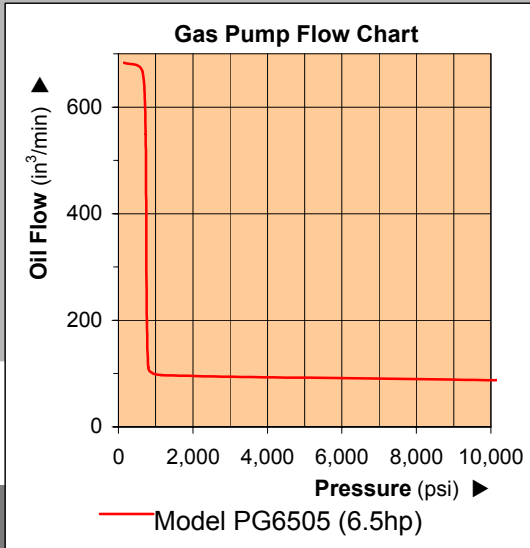


- SP3-0505 includes 2.5" wet gauge

Type	Combo Cap. (ton)	Cylinder			Combo Model Number						
		Model	Stroke (in)	Collapsed Height (in)	with Hand Pump			with Air Pump			
					Model P350	Model P1000	Model P2001	Model PA1500	Model PA1500L	Model PA3801	
Single Acting Cylinders	5	H0505	5.08	8.70	<b>SP3-0505</b>						
	10	H1002	2.01	4.84		<b>SP10-1002</b>			<b>SA15-1002</b>		
		H1006	5.94	2.24		<b>SP10-1006</b>			<b>SA15-1006</b>	<b>SAL15-1006</b>	
		H1010	9.96	13.86		<b>SP10-1010</b>			<b>SA15-1010</b>	<b>SAL15-1010</b>	
		HT1006	5.95	11.46		<b>SP10-1006T</b>			<b>SA15-1006T</b>	<b>SAL15-1006T</b>	
		HT1010	9.96	15.47		<b>SP10-1010T</b>			<b>SA15-1010T</b>	<b>SAL15-1010T</b>	
	15	H1504	3.86	8.66		<b>SP10-1504</b>			<b>SA15-1504</b>		
		H1506	5.87	10.67		<b>SP10-1506</b>			<b>SA15-1506</b>		
	25	H2502	2.01	6.82		<b>SP10-2502</b>			<b>SA15-2502</b>		
		H2504	3.94	8.78		<b>SP10-2504</b>			<b>SA15-2504</b>		
H2506		5.94	10.79		<b>SP10-2506</b>			<b>SA15-2506</b>			
H2508		7.95	12.80				<b>SP20-2508</b>	<b>SA15-2508</b>			
55	H5506	6.25	11.13				<b>SP20-5506</b>	<b>SA15-5506</b>			
100	H10006	6.63	13.25							<b>SA38-10006</b>	
Single Acting Aluminum Cylinders	30	HU3002	2.00	6.50		<b>SP10-3002U</b>			<b>SA15-3002U</b>		
		HU3006	6.00	10.50		<b>SP10-3006U</b>			<b>SA15-3006U</b>		
	50	HU5006	6.00	10.50		<b>SP10-5006U</b>			<b>SA15-5006U</b>		
	100	HU10006	6.00	10.50							<b>SA38-10006U</b>
Single Acting Low Profile Cylinder	10	HL1001	1.50	3.48	<b>SP3-1001L</b>				<b>SA15-1001L</b>		
	20	HL2002	1.75	3.90	<b>SP3-2002L</b>				<b>SA15-2002L</b>		
	30	HL3002	2.44	4.61		<b>SP10-3002L</b>			<b>SA15-3002L</b>		

# ➤ Gas Engine Pump

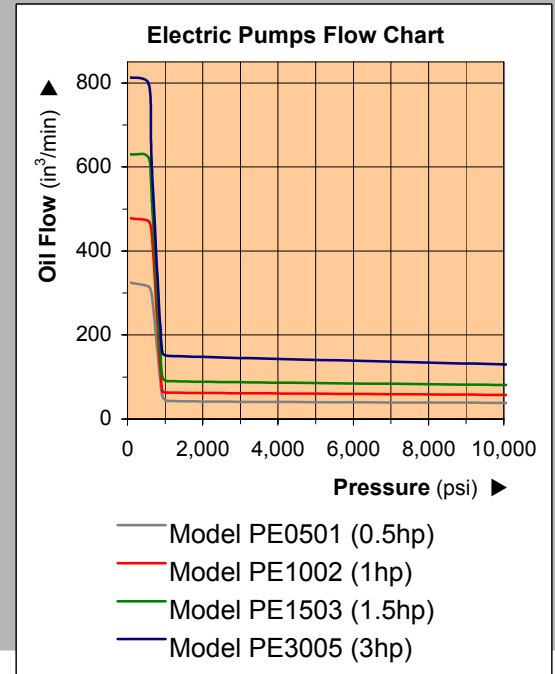
- Gas pump will provide 10,000 psi hydraulic force at remote locations
- Industrial grade 6.5 hp Briggs & Stratton Intek series gas engine
- Manual control valve for use with single or double acting cylinders or tools
- Two speed pump designed for rapid cylinder advance
- Gas pump features a sturdy protective roll cage for use in the toughest environments



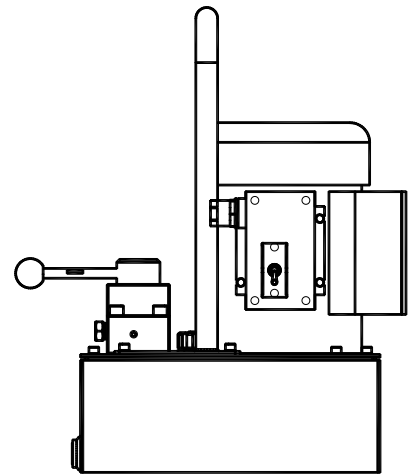
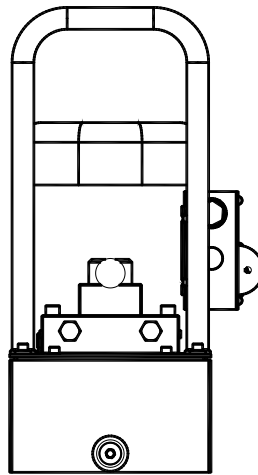
Motor Size (hp)	Usable Oil Capacity (gal)	Model Number	Pressure Rating (psi)		Oil Output Flow Rate (in <sup>3</sup> )		Valve Type	Valve Function	Rotation Speed (rpm)	Sound Level (dBA)	Weight (lbs)
			1st Stage	2nd Stage	1st Stage	2nd Stage					
6.50	5.00	PG6505	580	10,000	610	67	Manual	4-way, 3-position	3600	95	84.0

# ➤ Electric Motor Pumps

- Quiet operation meets OSHA regulations (80dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- Precision components to minimize wear and improve overall dependability
- Designed to minimize the number of moving parts and maximize overall pump efficiency
- Available in 3-way or 4-way configuration
- Ideal for on site construction as well as maintenance



## Cylinder Accessories



Motor Size	Usable Oil Cap.	Model Number	Model with Pendant Switch	Pressure Rating		Oil Output Flow Rate		Valve Type	Valve Function	Current Draw	Motor Voltage	Sound Level	W.t. for PE	W.t. for PEW
				(psi)	(in <sup>3</sup> )									
(hp)	(gal)			1st Stage	2nd Stage	1st Stage	2nd Stage			(amps)	(volts)	(dBA)	(lbs)	(lbs)
0.50	1.00	PE0501	PEW0501	580	10,000	305	18	Manual	4-way, 3-position	8	115	80	48.0	50.0
1.00	2.00	PE1002	PEW1002			458	37			15			60.0	62.0
1.50	3.00	PE1503*	PEW1503			610	61			17			75.0	77.0
3.00	5.00	PE3005	PEW3005			793	110			15			108.0	110.0

\* 5 gal reservoir is available for this model



• E-pump is compatible with a wide variety of industrial applications



PE1002



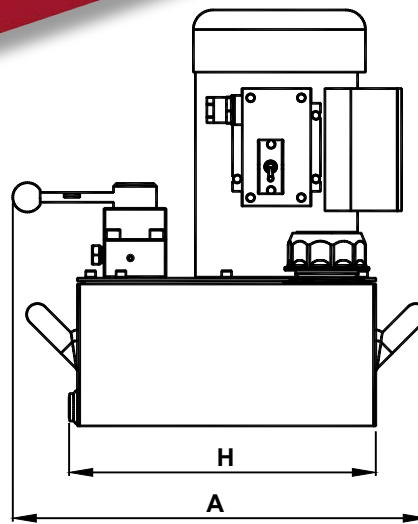
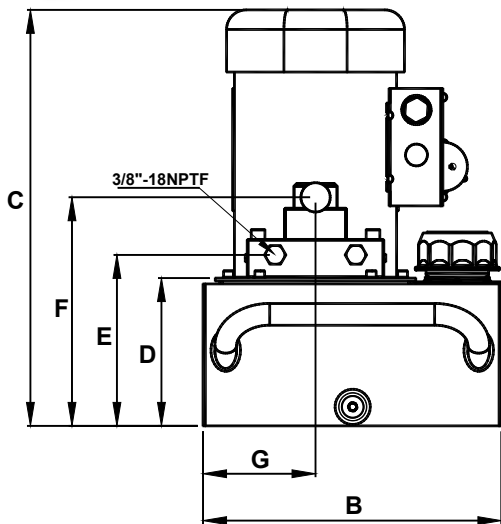
PEW1503



PE3005



• PEW01 Pendant Switch



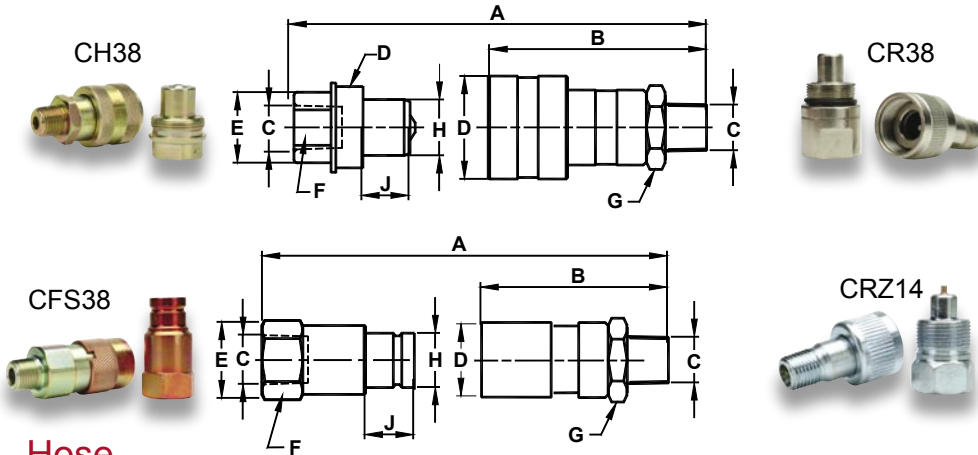
Model Number	Dimensions (in)							
	A	B	C	D	E	F	G	H
PE0501	15.67	10.16	18.62	4.72	5.67	7.99	8.07	12.36
PE1002	16.65	12.01	16.73	5.94	6.89	9.21	4.53	12.36
PE1503	16.65	12.01	19.02	7.24	8.19	10.51	4.53	12.36
PE3005	16.65	12.01	24.65	12.48	13.43	15.75	4.53	12.36

# Hydraulic Accessories

## Coupler

Coupler Type	Model Number			Dimensions (in)									Dust Cap(s)
	Complete Set	Male Half	Female Half	A*	B	C	D	E	F	G	H	J	
High-Flow Coupler	CH38	CH38M	CH38F	3.35	2.84	3/8"-18NPTF	1 3/16"-16	1.10	0.94	1.00	0.75	0.63	Female
Flush-Face Coupler	CFS38	CFS38M	CFS38F	4.36	2.85	3/8"-18NPTF	1.19	1.21	1.06	1.12	0.79	0.63	N/A
Regular-Flow Coupler	CR38	CR38M	CR38F	3.15	2.20	3/8"-18NPTF	15/16"-20	1.04	0.94	0.73	0.50	0.53	Female
Zinc Coupler	CRZ14	CRZ14M	CRZ14F	2.42	1.67	1/4"-18NPTF	13/16"-20	0.95	0.83	0.58	0.39	0.35	Female & Male

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



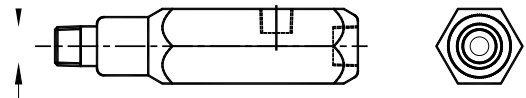
## Hose

Hose I.D. (in)	Model Number	Hose End Fittings	Operating Pressure (psi)	Hose Length (ft)	Weight (lbs)
1/4"	CS1414	1/4"-18NPTF	10,000	6	2.5
	CS3814	1/4"-18NPTF		6	3.0
	CS3814C	3/8"-18NPTF		10	5.0
	CS3814D	3/8"-18NPTF		20	10.5
3/8"	CS1438	1/4"-18NPTF		6	3.2
	CS3838	1/4"-18NPTF		6	3.5
	CS3838C	3/8"-18NPTF		10	6.5
	CS3838D	3/8"-18NPTF		20	13.5



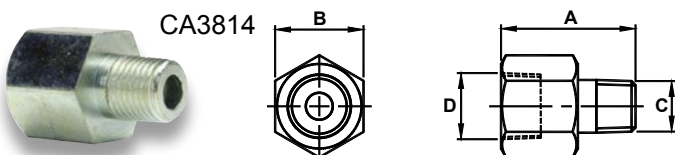
## Fitting

Model Number	Dimensions (in)					
	A	B	C	D	E	F
CF3814	5.12	1.38	1/4"-18NPTF	3/8"-18NPTF	3/8"-18NPTF	1.25



## Adapter & Bushing

Description	Model Number	Male Thread	Female Thread	Dimensions (in)	
		C	D	A	B
Adapter	CA3814	1/4"-18NPTF	3/8"-18NPTF	1.39	0.91
Bushing	CB1438	3/8"-18NPTF	1/4"-18NPTF	0.87	0.67





## Hydraulic Oil

Volume (gal)	Model Number	Viscosity Index	Viscosity @ 100°F (S.U.S.)	Viscosity @ 210°F (S.U.S.)	Viscosity @ 0°F (S.U.S.)	Flash Point (°F)	Pour Point (°F)	Aniline Point (°F)
1	F01	125	362	61	62	351	-44	200
5	F05							



## Pressure Gauge

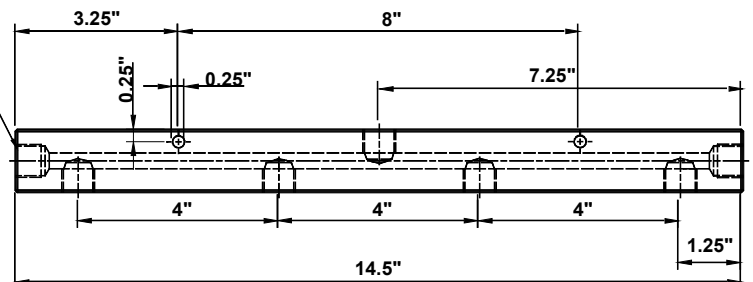
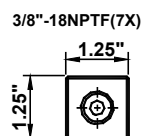
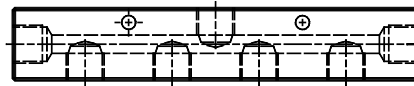
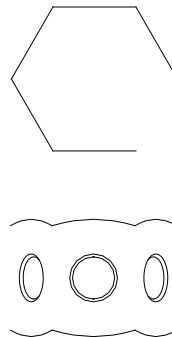
Gauge Type	Model Number	Face Diameter	Thread	Pressure Range		Graduation			
						Major Graduation	Minor Graduation	Major Graduation	Minor Graduation
		(in)	(in)	(psi)	(bar)	(psi)		(bar)	
Dry	GD2514	2.50	1/4"-18NPTF	0-10,000	0-700	1000	200	100	10
	GD4014	4.00							
Wet	GW2514	2.50							
	GW4014	4.00							

GW2514



## Manifolds

Type	Model Number	Number of Ports	Port Size	Mouting Hole
6-Port Hexagon Manifold	CMH6	6	3/8"-18NPTF	1/4"-20UNC
7" Long Manifold	CM7	7		
14" Long Manifold	CM14	7		



## Flow Control Valve

Valve Type	Model Number	Ports	Application	Hydraulic Symbol
Needle Valve	CVN1	1/4"-18NPTF	Controls cylinder speed and acts as temporary shut-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	



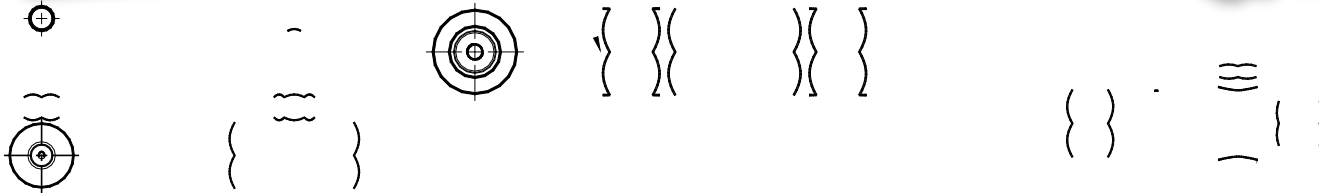
CVN3



CVC3

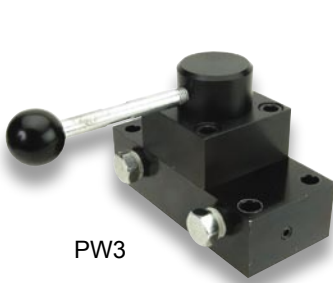


CVR3

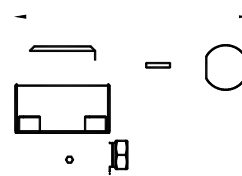
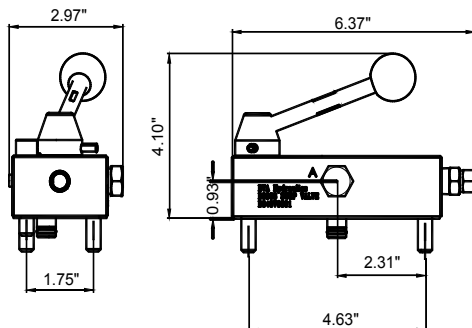


## Manual Control Valve

Valve Operation	Valve Type	Model Number	Hydraulic Symbol	Schematic Flowpath	Port	Weight (lbs)
Manual	3-way, 2-position	PW2			3/8"-18NPTF	4
	3-way, 3-position	PW3			3/8"-18NPTF	4
	4-way, 3-position	PW4			3/8"-18NPTF	3



PW3



6.1

• PW2 Two Way Control Valve

• PW3 Three Way Control Valve  
• PW4 Four Way Control Valve

# ➤ Maintenance Kits

- Sets are portable for easy use in the plant or on the job site
- Custom fitted, rugged blow molded storage case
- 10 ton set has wheel for easy movement
- Designed for applications of pushing, spreading, pressing and more
- Pumps are rated from 8,000 to 10,000 psi



Capacity (tons)	Model Number	Ram		Number of attachments	Weight (lbs)
		Collapsed Height (in <sup>2</sup> )	Extended Height (in <sup>2</sup> )		
4	J50040	11.00	15.75	14	46.0
10	J50100	13.63	19.75	13	81.0

\*When extension tubes and/or offset attachments are used, the capacity is reduced.

Contents of Kit	Part Number	
	Model 50040	Model 50100
Hand Pump	434-0-1000-104	435-0-1000-101
Ram	434-1-2000-105	435-1-2000-102
Hose	434-4-3000-108	434-4-3000-108
Hose Coupler	434-3-3301-106	434-3-3301-106
Ram Coupler	434-4-3201-108	434-4-3201-108
Dust Cover, Hose	434-6-3313-101	434-6-3313-101
Dust Cover, Ram	434-6-3312-109	434-6-3312-109
Case	434-6-7107-106	435-6-7102-105
Hydraulic Spreader	434-4-4100-107	434-4-4100-107
Serrated Saddle	431-6-4660-409	430-6-4660-402
Rubber Head	431-3-4700-306	430-4-4700-204
Wedge Head	431-6-4640-302	430-6-4640-406
Combination Head (900)	431-6-4650-507	430-6-4650-500
Plunger Toe	434-6-4630-209	430-6-4630-504
Ram Toe	434-6-4620-105	430-6-4620-107
Flat Base	431-2-4800-102	430-6-4801-202
Male Connector	431-4-4400-108	435-4-4400-106
Extension Tube	3" - 431-3-4615-204	4" - 435-3-4611-103
	6 1/8" - 431-3-4611-206	10" - 435-3-4613-107
	8 1/2" - 431-3-4612-208	18" - 435-3-4614-202
	16 1/2" - 431-3-4613-200	27" - 435-3-4615-101
	19 1/2" - 431-3-4614-202	

# ➤ Orbital Pump Bottle Jacks

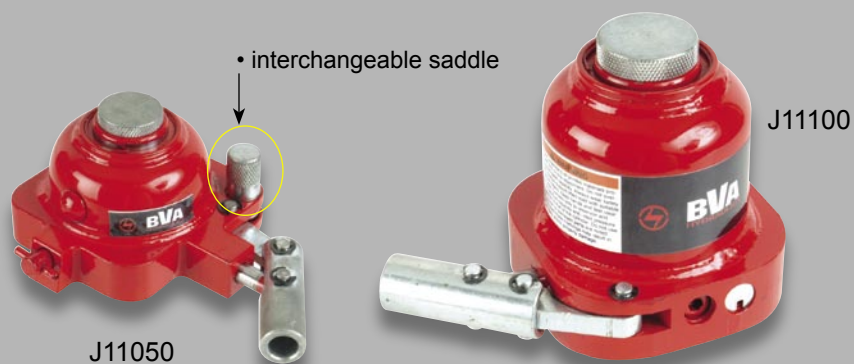
- Textured, heat treated saddle provides lifting area with secure grip
- Heat treated extension screw allows height adjustment and maximum lift height
- U.S. Patented by-pass device protects hydraulic system from over traveling damage
- Industrial hard chrome plated ram prevents scratching and corrosion
- A wide, rugged base provides stability and strength
- Critical stress points are reinforced in all models for added durability and dependability
- Fully serviceable design



Capacity (tons)	Model Number	Min. Height (in)	Max. Height (in)	Extension Screw (in)	Hydraulic Lifting (in)	Base Size (L x W) (in)	Weight (lbs)
12	J10124	9.50	18.63	3.13	6.00	7.50 x 4.63	20.0
	J10126	6.13	10.63	1.63	3.00		17.0
20	J10204	9.63	18.75	3.88	5.13	7.50 x 5.38	30.0
	J10206	6.50	11.25	2.00	2.75		23.0

# ➤ Mini Jacks

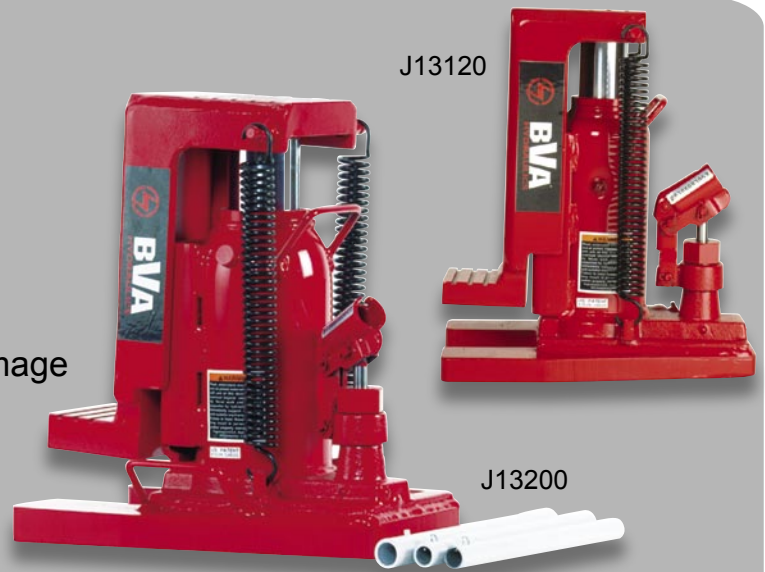
- Low Profile mini jack
- Pocket size and light weight
- Convenient for storage



Capacity (tons)	Model Number	Min. Height (in)	Max. Height (in)	Hydraulic Lifting (in)	Base Size (L x W) (in)	Weight (lbs)
5	J11050	2.37	3.13	0.76	4.13 x 4.00	4.6
5	J11055	3.37	4.88	1.51		5.3
10	J11100	4.75	6.25	1.63	4.88 x 4.38	12.5
20	J11200	5.13	6.75	1.63	5.38 x 4.75	16.7

# ➤ 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



Capacity (tons)	Model Number	Toe Saddle		Head Saddle		Hydraulic Lifting (in)	Base Size (L x W) (in)	Weight (lbs)
		Min. Height (in)	Max. Height (in)	Min. Height (in)	Max. Height (in)			
6	J13120	0.88	6.00	10.50	15.63	5.13	11.00 x 7.50	55.0
10	J13200	1.13	6.25	11.00	16.13		11.63 x 9.00	84.0

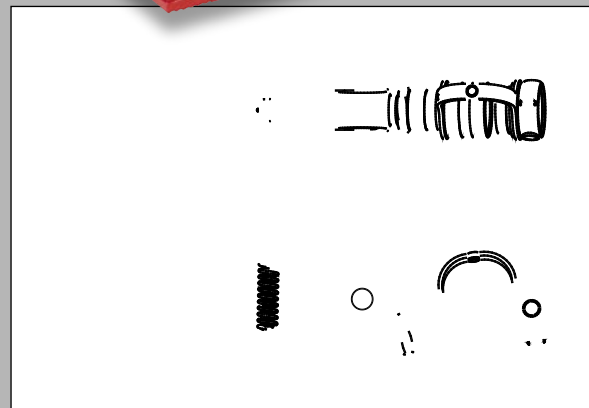
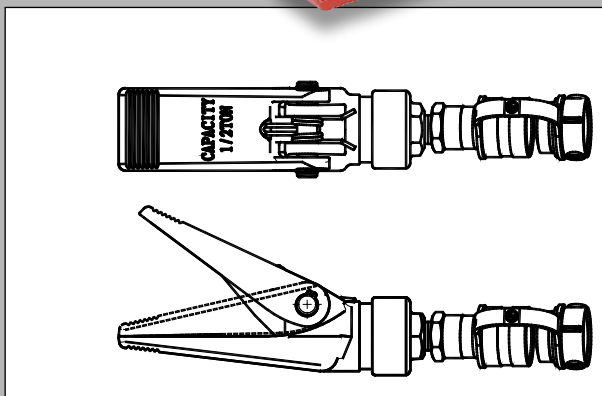
# ➤ Spreaders



SR05



SR10



Cylinder Capacity (tons)	Model Number	Cylinder Effective Area (in <sup>2</sup> )	Oil Capacity (in <sup>3</sup> )	Dimensions (in)					Weight (lbs)
				A	B	C	D	E	
0.5	SR05	1.22	0.58	3.54	7.57	0.51	2.05	2.36	4.8
1	SR10	1.09	0.86	3.90	6.57	0.47	2.17	2.20	4.8

# ➤ Pumps/Cylinders Operation & Speed Charts

Number of Stroke per Inch of Cylinder Plunger Travel																	
Cylinder Capacity		5 ton		10 ton		15 ton		25 ton		30 ton		55 ton		75 ton		100 ton	
Power Source	Pump Model	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load
Manual	P601S	7	7	15	15	21	21	35	35	43	43	74	74	108	108	138	138
	P350	6	20	13	45	18	63	29	103	36	130	62	221	90	323	115	412
	P1000 & P2001	2	7	3	16	4	23	7	37	8	47	14	79	20	115	26	147
Seconds per inch of Cylinder Plunger Travel																	
Cylinder Capacity		5 ton		10 ton		15 ton		25 ton		30 ton		55 ton		75 ton		100 ton	
Power Source	Pump Model	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load	No Load	Load
Air (based on 100psi air pressure)	PA600	1.0	6.7	2.2	15.0	3.1	20.9	5.1	34.3	6.4	43.1	10.9	73.6	15.9	107.4	20.3	137.3
	PA1500 & PA1500M	0.9	5.5	2.0	12.2	2.9	17.1	4.7	28.1	5.9	35.3	10.0	60.2	14.7	87.9	18.7	112.3
	PA2000	0.9	5.0	2.1	11.2	2.9	15.7	4.8	25.7	6.0	32.3	10.2	55.2	14.9	80.6	19.0	102.9
	PA3801	0.9	5.5	2.1	12.2	2.9	17.1	4.8	28.1	6.0	35.3	10.2	60.2	14.9	87.9	19.0	112.3
	PA1500L & PA3801L	1.0	6.0	2.2	13.5	3.1	18.9	5.1	30.9	6.4	38.8	10.9	66.3	15.9	96.7	20.3	123.5
Electric (speed based on 60Hz)	PE0501	0.2	3.3	0.4	7.5	0.6	10.5	1.0	17.2	1.3	21.6	2.2	36.8	3.2	53.7	4.1	68.6
	PE1002	0.1	1.6	0.3	3.6	0.4	5.1	0.7	8.3	0.8	10.5	1.4	17.9	2.1	26.1	2.7	33.4
	PE1503	0.1	1.0	0.2	2.2	0.3	3.1	0.5	5.1	0.6	6.4	1.1	10.9	1.6	15.9	2.0	20.3
	PE3005	0.1	0.5	0.2	1.2	0.2	1.7	0.4	2.8	0.5	3.5	0.8	6.0	1.2	8.8	1.6	11.2
Gasoline	PG6505	0.1	0.9	0.2	2.0	0.3	2.8	0.5	4.6	0.6	5.8	1.1	9.9	1.6	14.4	2.0	18.4

## Cylinder Plunger Speed

Formula  $V = A / Q$

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

## Force

Formula  $F = P \times A$

$$\text{Force (lbs)} = \text{Hydraulic Working Pressure (lb/in}^2\text{)} \times \text{Cylinder Effective Area (in}^2\text{)}$$

## Cylinder Oil Capacity

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

## Cylinder Effective Area

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

where,  $\pi = 3.14159$

Key to measurements			
Weight:		Other measurements:	
1 pound (lb.)	=0.4536 kg	1 in	=25.4 mm
1 kg	=2.205 lbs	1mm	=0.039 in
1 ton (short, US)	=2000 lbs	1 in <sup>2</sup>	=6.452 cm <sup>2</sup>
1 ton (metric)	=2205 lbs	1 cm <sup>2</sup>	=0.155 in <sup>2</sup>
Volume:		Pressure:	
1 in <sup>3</sup>	=16.387 cm <sup>3</sup>	1 psi (lb/in <sup>2</sup> )	=0.69 bar
1 cm <sup>3</sup>	=0.061 in <sup>3</sup>	1 bar	=14.5 psi
1 liter	=61.02 in <sup>3</sup>	1 kPa	=0.145 psi
	=0.264 gal (US)		
1 gal (US, liquid)	=3.785 liter	Temperature:	
	=231 in <sup>3</sup>	0°F	=(0°C x 1.8)+32
	=3785 cm <sup>3</sup>	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.



Kansas City, MO  
Sales, Marketing, Engineering, and Distribution

## **Limited Lifetime Warranty**

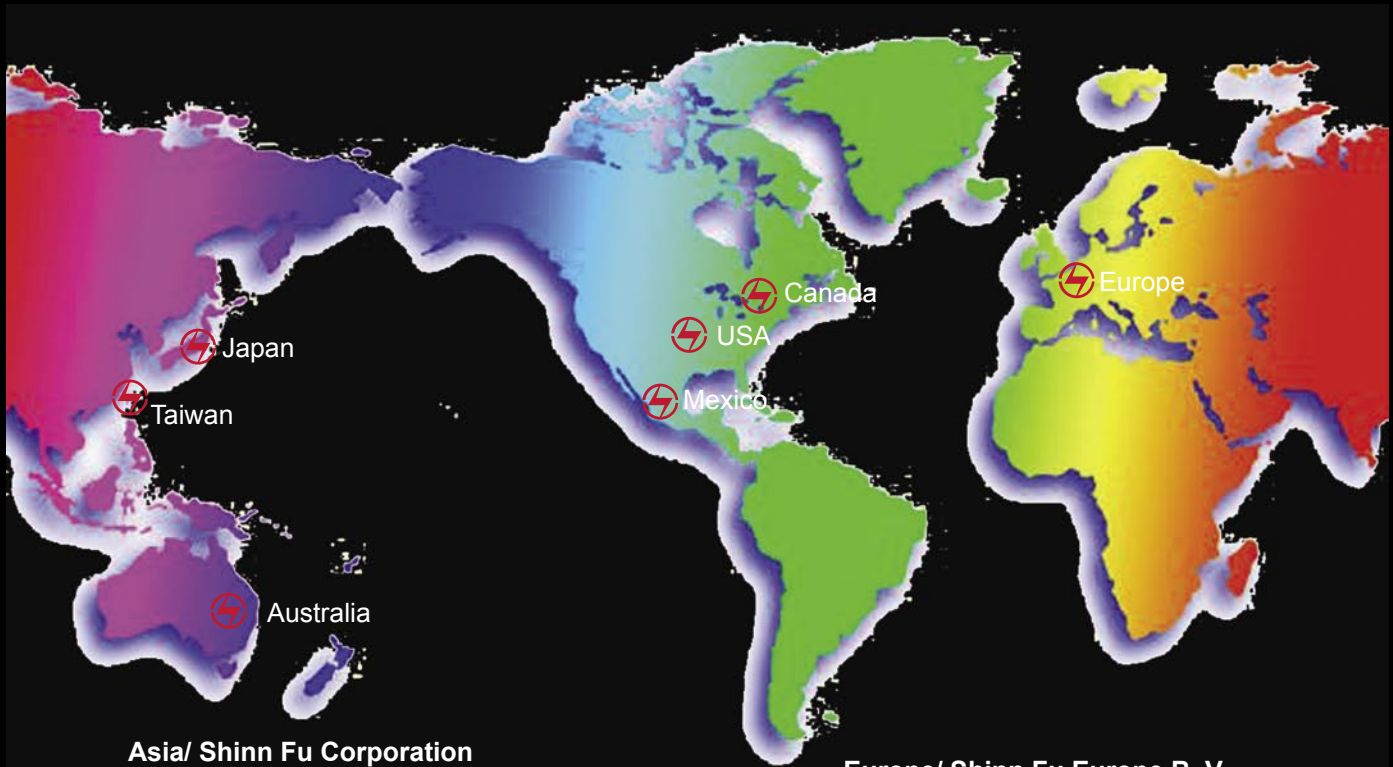
BVA Hydraulics warrants this product to be free from defects in material and workmanship for the life of the product. This warranty applies to the original purchaser.

As well, normal wear shall not constitute a defect and shall not be considered for warranty credit. We have complete confidence that the BVA Hydraulics product you purchase will meet or exceed your performance requirement. However, in the unlikely event that a BVA Hydraulics product fails due to material or workmanship defect you may contact SFA Companies for disposition. Except where such limitations and exclusions are specifically prohibited by law, the consumer's sole and exclusive remedy shall be the repair or replacement of the defective product. BVA Hydraulics shall not be liable for any consequential or incidental damage or loss whatsoever. Any and all expressed and implied warranties, including without limitation, any warranties of merchantability and fitness for a particular purpose, are limited to the original purchaser. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.



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