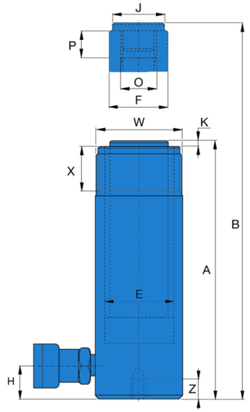
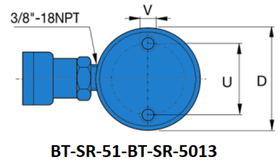
SR SERIES (Regular)

- Collar fixture threads, plunger threads and bottom mounting holes supply an easy fixture.
- With different mounting attachment, the application possibilities are greatly extended.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy steel body is durable for longworking life.
- Heavy duty return spring supply a fast and steady retraction.
- Chrome plated rod prevent rust and corrosion.



BT-SR-51-BT-SR-10010



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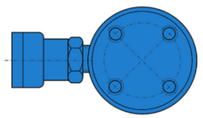

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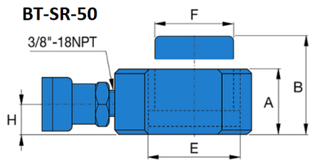
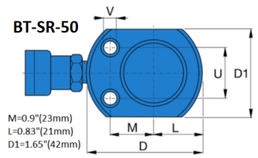
BT-SR-50



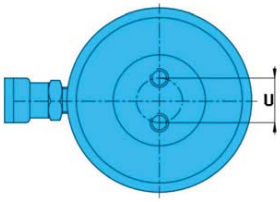
BT-SR-50

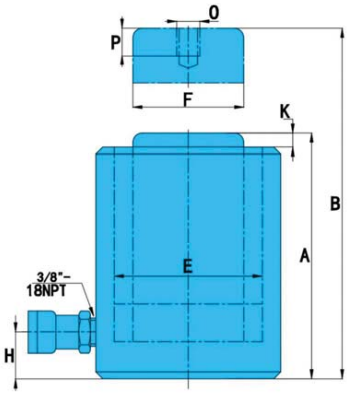


Model	Capacity (tons)	Stroke		Oil Capacity		Cylinder Effective Area		Weight		A Retracted Height		B Extended Height		D Outside Dia.		E Cyl. Bore Diam		F plunger Dia.		H Base to Port		J Saddle Dia.		K Saddle Height		O*P Piston Rod Internal Thread/ depth	W Collar Thread	X Collar Thread Length		V Bottom Thread Size"	Z Thread length		U Bolt Circle	
		mm	inch	cm^3	$inch^3$	cm^2	$inch^2$	kg	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			mm	inch		mm	inch	mm	inch
SR-50	5	15	0.59	11	0.67	7.1	1.10	0.6	1.32	42	1.65	57	2.24	39.0	1.54	30	1.18	25	0.98	19.0	0.75	/	/	/	/	/	/	/	/	5MM	/	/	29	1.14
SR-51		25	0.98	18	1.10	7.1	1.10	0.9	1.98	111	4.37	136	5.35	39.0	1.54	30	1.18	25	0.98	19.0	0.75	24	0.94	6.0	0.24	3/4"-16UN *16	1 1/2"-16UN	30.0	1.8	1/4"-20UN	9.5	0.37	25	0.98
SR-53		74	2.91	53	3.23	7.1	1.10	1.1	2.43	165	6.50	239	9.41	39.0	1.54	30	1.18	25	0.98	19.0	0.75	24	0.94	6.0	0.24	3/4"-16UN *16	1 1/2"-16UN	30.0	1.8	1/4"-20UN	9.5	0.37	25	0.98
SR-55		127	5.00	90	5.49	7.1	1.10	1.5	3.31	224	8.82	351	13.82	39.0	1.54	30	1.18	25	0.98	19.0	0.75	24	0.94	6.0	0.24	3/4"-16UN *16	1 1/2"-16UN	30.0	1.8	1/4"-20UN	9.5	0.37	25	0.98
SR-57		184	7.24	130	7.93	7.1	1.10	1.8	3.97	275	10.83	459	18.07	39.0	1.54	30	1.18	25	0.98	19.0	0.75	24	0.94	6.0	0.24	3/4"-16UN *16	1 1/2"-16UN	30.0	1.8	1/4"-20UN	9.5	0.37	25	0.98
SR-59		235	9.25	166	10.13	7.1	1.10	2.2	4.85	326	12.83	561	22.09	39.0	1.54	30	1.18	25	0.98	19.0	0.75	24	0.94	6.0	0.24	3/4"-16UN *16	1 1/2"-16UN	30.0	1.8	1/4"-20UN	9.5	0.37	25	0.98
SR-101	10	25	0.98	40	2.44	15.9	2.46	1.7	3.75	92	3.62	117	4.61	56.5	2.22	45	1.77	38	1.50	19.0	0.75	/	/	1.0	0.04	/	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-102		53	2.09	84	5.13	15.9	2.46	2.3	5.07	121	4.76	174	6.85	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-104		102	4.02	162	9.89	15.9	2.46	3.0	6.61	179	7.05	281	11.06	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-106		154	6.06	245	14.95	15.9	2.46	4.0	8.82	248	9.76	402	15.83	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-108		205	8.07	326	19.89	15.9	2.46	4.7	10.36	299	11.77	504	19.84	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-1010		257	10.12	408	24.90	15.9	2.46	5.4	11.90	351	13.82	608	23.94	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-1012		306	12.05	486	29.66	15.9	2.46	6.0	13.23	400	15.75	706	27.80	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-1014		357	14.06	567	34.60	15.9	2.46	6.8	14.99	451	17.76	808	31.81	56.5	2.22	45	1.77	38	1.50	19.0	0.75	35	1.38	6.0	0.24	1"-8UN*19	2 1/4"-14UN	28.5	1.12	5/16"-18UN	15.0	0.59	40	1.57
SR-151	15	25	0.98	49	2.99	19.6	3.04	2.5	5.51	124	4.88	149	5.87	69.5	2.74	50	1.97	45	1.77	19.0	0.75	/	/	3.0	0.12	/	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-152		50	1.97	98	5.98	19.6	3.04	3.0	6.61	149	5.87	199	7.83	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-154		101	3.98	198	12.08	19.6	3.04	4.2	9.26	204	8.03	305	12.01	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-156		152	5.98	298	18.19	19.6	3.04	5.1	11.24	271	10.67	423	16.65	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-158		203	7.99	398	24.29	19.6	3.04	6.3	13.89	322	12.68	525	20.67	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-1510		254	10.00	498	30.39	19.6	3.04	7.5	16.53	373	14.69	627	24.69	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-1512		305	12.01	598	36.49	19.6	3.04	8.7	19.18	424	16.69	729	28.70	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-1514		356	14.02	698	42.59	19.6	3.04	10	22.05	475	18.70	831	32.72	69.5	2.74	50	1.97	45	1.77	19.0	0.75	39	1.54	6.0	0.24	1"-8UN*19	2 3/4"-16UN	28.5	1.12	3/8"-16UN	15.0	0.59	48	1.89
SR-251	25	25	0.98	83	5.06	33.2	5.15	4.5	9.92	140	5.51	165	6.50	84.5	3.33	65	2.56	55	2.17	25.5	1.00	/	/	3.5	0.14	/	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-252		50	1.97	166	10.13	33.2	5.15	5.3	11.68	165	6.50	215	8.46	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-254		101	3.98	335	20.44	33.2	5.15	7.0	15.43	216	8.50	317	12.48	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-256		158	6.22	524	31.98	33.2	5.15	8.8	19.40	273	10.75	431	16.97	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-258		209	8.23	693	42.29	33.2	5.15	10.6	23.37	324	12.76	533	20.98	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-2510		260	10.24	862	52.60	33.2	5.15	12.3	27.12	375	14.76	635	25.00	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-2512		310	12.20	1028	62.73	33.2	5.15	14.0	30.86	425	16.73	735	28.94	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-2514		361	14.21	1198	73.11	33.2	5.15	15.7	34.61	476	18.74	837	32.95	84.5	3.33	65	2.56	55	2.17	25.5	1.00	50	1.97	9.5	0.37	1 1/2"-16UN*25.5	3 5/16"-12UN	49.0	1.93	1/2"-13UN	19.0	0.75	59	2.32
SR-502	50	52	2.05	362	22.09	70.9	10.99	11.0	24.25	175	6.89	227	8.94	127	5.00	95	3.74	80	3.15	35.0	1.38	80	3.15	3.0	0.12	M40*2*20	5"-12UN	55.0	2.17	1/2"-13UN	19.1	0.75	96	3.78
SR-504		109	4.29	766	46.74	70.9	10.99	16.0	35.27	232	9.13	341	13.43	127	5.00	95	3.74	80	3.15	35.0	1.38	80	3.15	3.0	0.12	M40*2*20	5"-12UN	55.0	2.17	1/2"-13UN	19.1	0.75	96	3.78
SR-506		159	6.26	1127	68.77	70.9	10.99	21.0	46.30	282	11.10	441	17.36	127	5.00	95	3.74	80	3.15	35.0	1.38	80	3.15	3.0	0.12	M40*2*20	5"-12UN	55.0	2.17	1/2"-13UN	19.1	0.75	96	3.78
SR-5010		260	10.24	1843	112.47	70.9	10.99	28.0	61.73	384	15.12	644	25.35	127	5.00	95	3.74	80	3.15	35.0	1.38	80	3.15	3.0	0.12	M40*2*20	5"-12UN	55.0	2.17	1/2"-13UN	19.1	0.75	96	3.78
SR-5013		337	13.27	2389	145.79	70.9	10.99	33.0	72.75	460	18.11	797	31.38	127	5.00	95	3.74	80	3.15	35.0	1.38	80	3.15	3.0	0.12	M40*2*20	5"-12UN	55.0	2.17	1/2"-13UN	19.1	0.75	96	3.78
SR-756	75	156	6.14	1620	98.86	103.9	16.10	30.0	66.14	314	12.36	470	18.50	146	5.75	115	4.53	95	3.74	32.0	1.26	95	3.74	3.0	0.12	M45*3*20	5 3/4"-16UN	45.0	1.77	3/4"- 10UN	26.0	1.02	115	4.53
SR-7513		334	13.15	3469	211.69	103.9	16.10	45.0	99.21	492	19.37	826	32.52	146	5.75	115	4.53	95	3.74	32.0	1.26	95	3.74	3.0	0.12	M45*3*20	5 3/4"-16UN	45.0	1.77	3/4"- 10UN	26.0	1.02	115	4.53
SR-1006	100	168	6.61	2195	133.95	130.7	20.26	35.0	77.16	357	14.06	525	20.67	177	6.97	130	5.12	105	4.13	42.0	1.65	105	4.13	3.0	0.12	M45*3*20	6 7/8-12	57.0	2.24	3/4"- 10UN	26.0	1.02	120	4.72
SR-10010		260	10.24	3397	207.30	130.7	20.26	65.0	143.30	449	17.68	709	27.91	177	6.97	130	5.12	105	4.13	42.0	1.65	105	4.13	3.0	0.12	M45*3*20	6 7/8-12	57.0	2.24	3/4"- 10UN	26.0	1.02	120	4.72

SL SERIES (Low Profile)

- Low height design suitable for using in the tight space.
- Mounting holes supply an easy fixture.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy Steel body is durable for long working life.
- Heavy duty return spring supply a fast and steady retraction.
- Chrome plated rod prevent rust and corrosion.



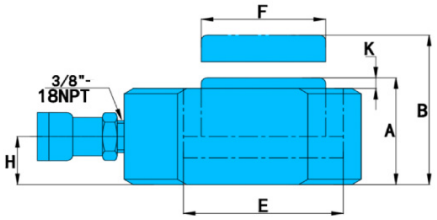


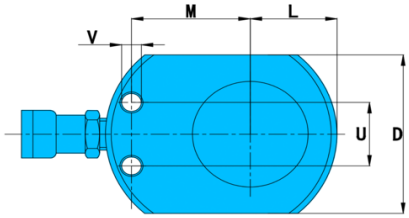
Model	Capacity (tons)	Stroke		Oil Capacity		Cylinder Effective Area	
		mm	inch	cm^3	$inch^3$	cm^2	$inch^2$
SL-101	10	38	1.50	60.4	3.69	15.9	2.46
SL-201	20	45	1.77	127.4	7.77	28.3	4.39
SL-302	30	62	2.44	259.2	15.82	41.8	6.48
SL-502	50	60	2.36	373.2	22.77	62.2	9.64
SL-1002	100	57	2.24	756.4	46.15	132.7	20.57

Model	A Retracted Height		B Extended Height		D Outside Dia.		E Bore Dia.		F Piston Dia.		H Base to Port		Weight	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
SL-101	88	3.46	126	4.96	69	2.72	45	1.77	36	1.42	18	0.71	2.5	5.5
SL-201	98	3.86	143	5.63	92	3.62	60	2.36	50	1.97	18	0.71	4.8	10.6
SL-302	117	4.61	179	7.05	101	3.98	75	2.95	65	2.56	18	0.71	6.5	14.3
SL-502	122	4.80	182	7.17	124	4.88	90	3.54	80	3.15	23	0.91	9.3	20.5
SL-1002	141	5.55	198	7.80	165	6.50	130	5.12	92	3.62	24	0.94	20.0	44.1

SF SERIES (Flat)

- Flat design for low height space requirement.
- Mounting holes supply an easy fixture.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy steel body is durable for long working life.
- Heavy duty return spring supply a fast and steady retraction.
- Chrome plated rod grevant rust and corrosion.





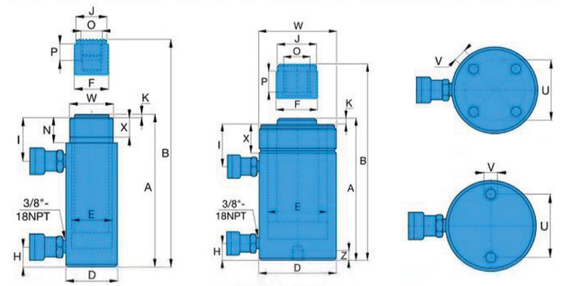
Model	Capacity (tons)	Stroke		Oil Cap.		Bore Dia.		Cylinder Effective Area		Weight	
		mm	inch	cm^3	$inch^3$	mm	inch	cm^2	$inch^2$	kg	lbs
SF-50	5	6	0.24	4.3	0.26	30	1.18	7.1	1.10	0.6	1.3
SF-100	10	10	0.39	15.9	0.97	45	1.77	15.9	2.46	1.5	3.3
SF-200	20	11	0.43	31.1	1.90	60	2.36	28.3	4.39	2.7	6.0
SF-300	30	13	0.51	53.3	3.25	73	2.87	41.8	6.48	4.3	9.5
SF-500	50	16	0.63	99.5	6.07	89	3.50	62.2	9.64	6.7	14.8
SF-1000	90	16	0.63	212.3	12.96	130	5.12	132.7	20.57	14.5	32.0
SF-1500	150	16	0.63	321.6	19.63	160	6.30	201.0	31.16	26.3	58.0

Model	A Retracted Height		B Extended Height		D Outside Dia.		E Cylinder Bore Dia.		F Piston Dia.		H Base to Port		K Saddle Height		M Piston to mount hole		U Bolt circle		V Hole dia.		Hole Depth		L Piston to base	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
SF-50	33	1.30	39	1.54	59x42	2.32 x 1.65	30	1.18	25	0.98	18	0.71	1	0.04	23	0.91	29	1.14	5	0.20	4.3	0.17	21	0.83
SF-100	43	1.69	53	2.09	83x56	3.27 x 2.20	45	1.77	36	1.42	19	0.75	1	0.04	34	1.34	37	1.46	7	0.28	7.9	0.31	28	1.10
SF-200	51	2.01	62	2.44	101x76	3.98 x 2.99	60	2.36	50	1.97	19	0.75	1	0.04	40	1.57	49	1.93	10	0.39	9.9	0.39	40	1.57
SF-300	58	2.28	71	2.80	117x95	4.61 x 3.74	75	2.95	65	2.56	19	0.75	2	0.08	45	1.77	52	2.05	11	0.43	11.2	0.44	48	1.89
SF-500	67	2.64	83	3.27	140x114	5.51 x 4.49	90	3.54	80	3.15	19	0.75	2	0.08	54	2.13	67	2.64	12	0.47	12.7	0.50	57	2.24
SF-1000	86	3.39	102	4.02	178x153	7.01 x 6.02	130	5.12	92	3.62	19	0.75	2	0.08	74	2.91	76	2.99	14	0.55	14.2	0.56	76	2.99
SF-1500	100	3.94	116	4.57	215x190	8.46 x 7.48	160	6.30	115	4.53	23	0.91	2	0.08	82	3.23	117	4.61	14	0.55	14.2	0.56	95	3.74

01 CYLINDERS

DR SERIES (D.A. Regular)

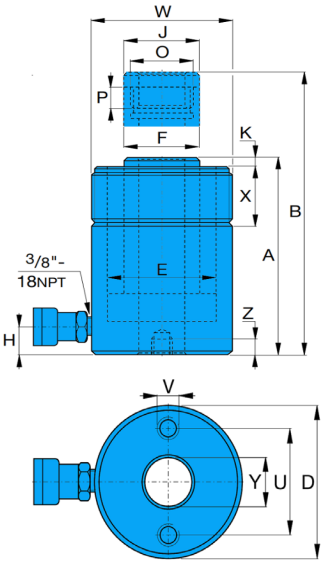
- Collar threads supply an easy fixture.
- With different mounting attachment, the application possibilities are greatly extended.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy steel body is durable for long working life.
- Chrome plated rod prevent rust and corrosion.



Model	Cylinder Capacity (tons)	Stroke		Oil Capacity				Effective Area				Cylinder Capacity		Weight		A Collapsed Height		B Extended Height		D Outside Dia.		E Bore Dia.		F Plunger Dia.		H Base to Adv. Port		I Top to return Port		J Saddle Dia.		K Saddle Protusion		O Plunger Int. Thread	P Thread Lenght		W Collar Thread	X Thread Lenght		U Bolt Circle		V Thread	Z Thread Depth	
		mm	inch	cm³		inch³		cm²		inch²		tons		kg	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		mm	inch		mm	inch	mm	inch		mm	inch
				Push	Pull	Push	Pull	Push	Pull	Push	Pull	Push	Pull																																
DR-1010	10	254	10.00	368	122	22.46	7.44	14.5	4.8	2.25	0.74	11.1	4	12	26.5	409	16.10	663	26.10	73	2.87	42.9	1.69	34.9	1.37	36	1.42	57	2.24	35	1.38	6	0.24	1" - 8	25	0.98	2-1/4" - 14	26	1.02	-	-	-	-	-
DR-1012		305	12.01	442	147	26.97	8.97	14.5	4.8	2.25	0.74	11.1	4	14	30.9	457	17.99	762	30.00	73	2.87	42.9	1.69	34.9	1.37	36	1.42	57	2.24	35	1.38	6	0.24	1" - 8	25	0.98	2-1/4" - 14	26	1.02	-	-	-	-	-
DR-308	30	209	8.23	879	400	53.64	24.41	42.1	19.1	6.53	2.96	32.5	6	18	39.7	395	15.55	604	23.78	101	3.98	73.2	2.88	54.1	2.13	39	1.54	81	3.19	50	1.97	10	0.39	1-1/2" - 16	25	0.98	3-5/16" - 12	49	1.93	-	-	-	-	-
DR-3014		368	14.49	1549	703	94.53	42.90	42.1	19.1	6.53	2.96	32.5	6	29	63.9	549	21.61	917	36.10	101	3.98	73.2	2.88	54.1	2.13	39	1.54	81	3.19	50	1.97	10	0.39	1-1/2" - 16	25	0.98	3-5/16" - 12	49	1.93	-	-	-	-	-
DR-506	50	156	6.14	1111	335	67.80	20.44	71.2	21.5	11.04	3.33	55.3	11.8	30	66.1	331	13.03	487	19.17	127	5.00	95.2	3.75	79.5	3.13	28	1.10	76	2.99	71	2.80	2	0.08	1" - 12	25	0.98	5" - 12	44	1.73	-	-	-	-	-
DR-5013		334	13.15	2378	718	145.11	43.81	71.2	21.5	11.04	3.33	55.3	11.8	52	114.6	509	20.04	843	33.19	127	5.00	95.2	3.75	79.5	3.13	28	1.10	76	2.99	71	2.80	2	0.08	1" - 12	25	0.98	5" - 12	44	1.73	-	-	-	-	-
DR-5020		511	20.12	3638	1099	222.00	67.06	71.2	21.5	11.04	3.33	55.3	11.8	68	149.9	733	28.86	1244	48.98	127	5.00	95.2	3.75	79.5	3.13	57	2.24	76	2.99	71	2.80	2	0.08	1" - 12	25	0.98	5" - 12	44	1.73	76	2.99	1/4" - 13	25	0.98
DR-756	75	156	6.14	1601	490	97.70	29.90	102.6	31.4	15.90	4.87	79.6	17.6	41	90.4	347	13.66	503	19.80	146	5.75	114.3	4.50	95.2	3.75	30	1.18	76	2.99	71	2.80	6	0.24	1" - 12	38	1.50	5-3/4" - 12	38	1.50	-	-	-	-	-
DR-7513		333	13.11	3417	1046	208.52	63.83	102.6	31.4	15.90	4.87	79.6	17.6	68	149.9	525	20.67	858	33.78	146	5.75	114.3	4.50	95.2	3.75	30	1.18	81	3.19	71	2.80	6	0.24	1" - 12	38	1.50	5-3/4" - 12	38	1.50	-	-	-	-	-
DR-1006	100	168	6.61	2238	1045	136.57	63.77	133.3	62.2	20.66	9.64	103.2	48	61	134.5	357	14.06	525	20.67	177	6.97	130.3	5.13	95.2	3.75	38	1.50	71	2.80	76	2.99	3	0.12	1-3/4" - 12	35	1.38	6-7/8" - 12	50	1.97	139	5.47	3/4" - 10	25	0.98
DR-10013		333	13.11	4439	2071	270.88	126.38	133.3	62.2	20.66	9.64	103.2	48	93	205.0	524	20.63	857	33.74	177	6.97	130.3	5.13	95.2	3.75	38	1.50	71	2.80	76	2.99	3	0.12	1-3/4" - 12	35	1.38	6-7/8" - 12	50	1.97	139	5.47	3/4" - 10	25	0.98
DR-10018		460	18.11	6132	2861	374.20	174.59	133.3	62.2	20.66	9.64	103.2	48	117	257.9	687	27.05	1147	45.16	177	6.97	130.3	5.13	95.2	3.75	41	1.61	92	3.62	76	2.99	3	0.12	1-3/4" - 12	35	1.38	6-7/8" - 12	50	1.97	139	5.47	3/4" - 10	25	0.98
DR-1502	150	57	2.24	1129	544	68.90	33.20	198.1	95.4	30.71	14.79	153.5	74	49	108.0	196	7.72	253	9.96	203	7.99	158.8	6.25	114.3	4.50	22	0.87	66	2.60	95	3.74	19	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-
DR-1506		156	6.14	3090	1488	188.56	90.80	198.1	95.4	30.71	14.79	153.5	74	93	205.0	385	15.16	541	21.30	203	7.99	158.8	6.25	114.3	4.50	49	1.93	84	3.31	114	4.49	19	0.75	3-3/8" - 16	35	1.38	8" - 12	55	2.17	158	6.22	3/4" - 16	28	1.10
DR-15013		333	13.11	6597	3177	402.57	193.87	198.1	95.4	30.71	14.79	153.5	74	124	273.4	582	22.91	915	36.02	203	7.99	158.8	6.25	114.3	4.50	49	1.93	84	3.31	114	4.49	19	0.75	3-3/8" - 16	35	1.38	8" - 12	55	2.17	158	6.22	3/4" - 16	28	1.10
DR-15032		815	32.09	16145	7775	985.23	474.46	198.1	95.4	30.71	14.79	153.5	74	238	524.7	1116	43.94	1931	76.02	203	7.99	158.8	6.25	114.3	4.50	76	2.99	88	3.46	114	4.49	19	0.75	3-3/8" - 16	35	1.38	8" - 12	55	2.17	-	-	-	-	-
DR-2006	200	152	5.98	4332	2209	264.35	134.80	285.0	145.3	44.18	22.52	221.0	112.5	147	324.1	430	16.93	582	22.91	247	9.72	190.5	7.50	133.4	5.25	57	2.24	96	3.78	133	5.24	22	0.87	-	-	-	-	-	-	-	-	127	5.00	1" - 8	25	0.98
DR-20013		330	12.99	9405	4795	573.93	292.61	285.0	145.3	44.18	22.52	221.0	112.5	199	438.7	608	23.94	938	36.93	247	9.72	190.5	7.50	133.4	5.25	57	2.24	96	3.78	133	5.24	22	0.87	2-1/2" - 12	63	2.48	9-3/4" - 12	54	2.13	127	5.00	1" - 8	25	0.98
DR-20018		457	17.99	13025	6640	794.83	405.20	285.0	145.3	44.18	22.52	221.0	112.5	204	449.7	765	30.12	1222	48.11	247	9.72	190.5	7.50	133.4	5.25	85	3.35	101	3.98	133	5.24	22	0.87	2-1/2" - 12	63	2.48	9-3/4" - 12	54	2.13	127	5.00	1" - 8	25	0.98
DR-20024		610	24.02	17385	8863	1060.90	540.85	285.0	145.3	44.18	22.52	221.0	112.5	279	615.1	917	36.10	1527	60.12	247	9.72	190.5	7.50	133.4	5.25	85	3.35	101	3.98	133	5.24	22	0.87	2-1/2" - 12	63	2.48	9-3/4" - 12	54	2.13	127	5.00	1" - 8	25	0.98
DR-20036		914	35.98	26049	13280	1589.60	810.39	285.0	145.3	44.18	22.52	221.0	112.5	383	844.4	1222	48.11	2136	84.09	247	9.72	190.5	7.50	133.4	5.25	85	3.35	101	3.98	133	5.24	22	0.87	2-1/2" - 12	63	2.48	9-3/4" - 12	54	2.13	127	5.00	1" - 8	25	0.98
DR-20048		1219	47.99	34741	17712	2120.02	1080.85	285.0	145.3	44.18	22.52	221.0	112.5	483	1064.8	1527	60.12	2746	108.11	247	9.72	190.5	7.50	133.4	5.25	85	3.35	101	3.98	133	5.24	22	0.87	2-1/2" - 12	63	2.48	9-3/4" - 12	54	2.13	127	5.00	1" - 8	25	0.98
DR-3006	300	153	6.02	6997	3721	426.98	227.07	457.3	243.2	70.88	37.70	354.6	190	200	440.9	485	19.09	638	25.12	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-30012		305	12.01	13947	7418	851.10	452.67	457.3	243.2	70.88	37.70	354.6	190	312	687.8	638	25.12	943	37.13	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-30018		457	17.99	20889	11114	1274.72	678.22	457.3	243.2	70.88	37.70	354.6	190	385	848.8	790	31.10	1247	49.09	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-30024		609	23.98	27850	14811	1699.51	903.82	457.3	243.2	70.88	37.70	354.6	190	469	1034.0	943	37.13	1552	61.10	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-30036		915	36.02	41843	22253	2553.41	1357.96	457.3	243.2	70.88	37.70	354.6	190	628	1384.5	1247	49.09	2162	85.12	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-30048		1219	47.99	55745	29646	3401.76	1809.11	457.3	243.2	70.88	37.70	354.6	190	780	1719.6	1552	61.10	2771	109.09	311	12.24	241.3	9.50	165.1	6.50	88	3.46	114	4.49	165	6.50	28	1.10	2-1/2" - 12	82	3.23	12-1/4" - 12	58	2.28	158	6.22	1-1/4" - 7	44	1.73
DR-4006	400	152	5.98	9319	4987	568.68	304.32	613.1	328.1	95.03	50.86	475.4	255	303	668.0	538	21.18	690	27.17	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-40012		305	12.01	18700	10007	1141.14	610.66	613.1	328.1	95.03	50.86	475.4	255	399	879.6	690	27.17	995	39.17	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-40018		457	17.99	28018	14995	1709.76	915.05	613.1	328.1	95.03	50.86	475.4	255	453	998.7	843	33.19	1300	51.18	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-40024		610	24.02	37400	20014	2282.28	1221.33	613.1	328.1	95.03	50.86	475.4	255	597	1316.2	995	39.17	1605	63.19	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-40036		914	35.98	56037	29988	3419.58	1829.98	613.1	328.1	95.03	50.86	475.4	255	792	1746.1	1300	51.18	2214	87.17	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-40048		1219	47.99	74737	39996	4560.72	2440.70	613.1	328.1	95.03	50.86	475.4	255	980	2160.5	1605	63.19	2824	111.18	358	14.09	279.4	11.00	190.5	7.50	108	4.25	133	5.24	190	7.48	28	1.10	3" - 12	95	3.74	14-1/8" - 8	65	2.56	203	7.99	1-1/2" - 6	50	1.97
DR-5006	500	153	6.02	11164	6203	681.27	378.53	729.7	405.4	113.10	62.84	565.7	315	432	952.4	577	22.72	730	28.74	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24
DR-50012		305	12.01	22256	12365	1358.14	754.56	729.7	405.4	113.10	62.84	565.7	315	589	1298.5	730	28.74	1035	40.75	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24
DR-50018		457	17.99	33347	18526	2034.95	1130.52	729.7	405.4	113.10	62.84	565.7	315	680	1499.1	882	34.72	1339	52.72	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24
DR-50024		609	23.98	44440	24689	2711.89	1506.61	729.7	405.4	113.10	62.84	565.7	315	816	1799.0	1035	40.75	1644	64.72	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24
DR-50036		915	36.02	66768	36973	4074.42	2256.23	729.7	405.4	113.10	62.84	565.7	315	1002	2209.0	1339	52.72	2254	88.74	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24
DR-50048		1219	47.99	88951	49418	5428.11	3015.66	729.7	405.4	113.10	62.84	565.7	315	1224	2698.5	1644	64.72	2863	112.72	397	15.63	304.8	12.00	203.2	8.00	120	4.72	152	5.98	203	7.99	28	1.10	3-1/4" - 12	108	4.25	15-5/8" - 8	79	3.11	203	7.99	1-3/4" - 5	57	2.24

SH SERIES (Hollow)

- Collar threads supply an easy fixture.
- With different mounting attachment, the application possibilities are greatly extended.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy steel body is durable for long working life.
- Chrome plated rod prevent rust and corrosion.

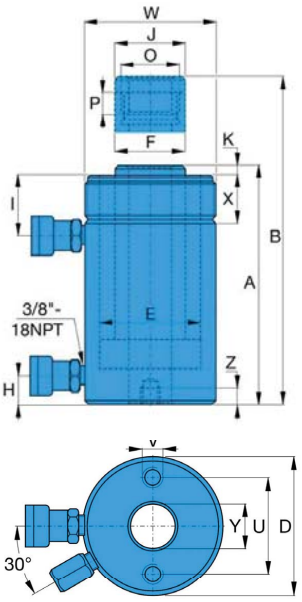


Model	Cylinder Capacity (tons)	Stroke		Oil Capacity		Cylinder Effective Area		Weight	
		mm	inch	cm^3	$inch^3$	cm^2	$inch^2$	kg	lbs
SH-120	12	8	0.32	14	0.85	17.9	2.77	1.5	3.3
SH-121	12	42	1.65	75	4.58	17.9	2.77	2.8	6.2
SH-123	12	76	2.99	136	8.30	17.9	2.77	4.4	9.7
SH-202	20	49	1.93	150	9.15	30.7	4.76	7.7	17.0
SH-206	20	155	6.10	476	29.05	30.7	4.76	14.1	31.1
SH-302	30	64	2.52	298	18.19	46.6	7.22	10.9	24.0
SH-306	30	155	6.1	722	44.06	46.6	7.22	21.8	48.1
SH-603	60	76	2.99	626	38.2	82.3	12.76	28.1	62.0
SH-606	60	153	6.02	1259	76.82	82.3	12.76	35.4	78.0
SH-1003	95	76	2.99	1011	61.7	20.6	3.19	63	138.9

Model	A Coll. Height		B Ext. Height		D Outside Dia.		F Plngr. Dia.		H Cyl. Base to Advance Port		J Saddle Diameter		K Saddle Protrusion from Plngr.		O Plunger Internal Thread	P Plunger Thread Length		W Collar Thread	X Collar Thread Length		Y Center Hole Dia.		U Bolt Circle		V Thread	Z Thread Depth	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		mm	inch		mm	inch	mm	inch	mm	inch		mm	inch
SH-120	83	3.27	91	3.58	78	3.07	44	1.73	23	0.91	45	1.77	8	0.31	M35*2	18	0.71	3"-16	30	1.18	20	0.79	57	2.24	5/16"-18	13	0.51
SH-121	146	5.75	188	7.40	78	3.07	44	1.73	23	0.91	45	1.77	8	0.31	M35*2	18	0.71	3"-16	30	1.18	20	0.79	57	2.24	5/16"-18	13	0.51
SH-123	191	7.52	267	10.51	78	3.07	44	1.73	23	0.91	45	1.77	8	0.31	M35*2	18	0.71	3"-16	30	1.18	20	0.79	57	2.24	5/16"-18	13	0.51
SH-202	162	6.38	211	8.31	98	3.86	54	2.13	19	0.75	54	2.13	10	0.39	1 9/16" -16	19	0.75	3 7/8" - 12	38	1.50	27	1.06	83	3.27	3/8"-16	9	0.35
SH-206	306	12.05	461	18.15	98	3.86	54	2.13	25	0.98	54	2.13	10	0.39	1 9/16" -16	19	0.75	3 7/8" - 12	38	1.50	27	1.06	83	3.27	3/8"-16	9	0.35
SH-302	209	8.23	273	10.75	114	4.49	65	2.56	21	0.83	65	2.56	9	0.35	1 13/16"-16	22	0.87	4 ½" - 12	42	1.65	33	1.30	92	3.62	3/8"-16	14	0.55
SH-306	330	12.99	485	19.09	114	4.49	65	2.56	21	0.83	65	2.56	9	0.35	1 13/16"-16	22	0.87	4 ½" - 12	42	1.65	33	1.30	92	3.62	3/8"-16	14	0.55
SH-603	247	9.72	323	12.72	159	6.26	90	3.54	31	1.22	91	3.58	12	0.47	2 ¾" -16	19	0.75	6 ¼" - 12	48	1.89	54	2.13	130	5.12	½"-13	14	0.55
SH-606	323	12.72	476	18.74	159	6.26	92	3.62	31	1.22	91	3.58	12	0.47	2 ¾" -16	19	0.75	6 ¼" - 12	48	1.89	54	2.13	130	5.12	½"-13	14	0.55
SH-1003	279	10.98	355	13.98	212	8.35	125	4.92	38	1.50	126	4.96	12	0.47	4" - 16	25	0.98	8 ⅜"-12	60	2.36	79	3.11	178	7.00	⅝"-11	19	0.75

DH SERIES (D.A. Hollow)

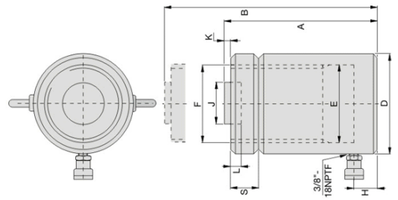
- Collar threads supply an easy fixture.
- With different mounting attachment, the application possibilities are greatly extended.
- Special designed cup seal provides for steady and durable performance.
- High strength alloy steel body is durable for long working life.
- Chrome plated rod prevent rust and corrosion.

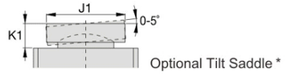


Model	Max. Cylinder Capacity (tons)		Stroke		Oil Capacity (cm^3)		Oil Capacity ($inch^3$)		Cylinder Effective Area (cm^2)		Cylinder Effective Area ($inch^2$)		Weight	
	Advance	Retract	mm	inch	Advance	Retract	Advance	Retract	Advance	Retract	Advance	Retract	kg	lbs
DH-307	36	24	178	7.01	829	541	50.59	33.01	46.6	30.4	7.22	4.71	21	46.3
DH-3010	36	24	258	10.16	1202	784	73.35	47.84	46.6	30.4	7.22	4.71	27	59.5
DH-603	64	42	89	3.50	733	482	44.73	29.41	82.3	54.2	12.76	8.40	28	61.7
DH-606	64	42	166	6.54	1366	900	83.36	54.92	82.3	54.2	12.76	8.40	35	77.2
DH-6010	64	42	257	10.12	2115	1393	129.07	85.01	82.3	54.2	12.76	8.40	45	99.2
DH-1001	103	68	38	1.50	505	333	30.82	20.32	133.0	87.4	20.62	13.55	33	72.8
DH-1003	103	68	76	2.99	1011	666	61.70	40.64	133.0	87.4	20.62	13.55	61	134.5
DH-1006	103	68	153	6.02	2035	1337	124.18	81.59	133.0	87.4	20.62	13.55	79	174.2
DH-10010	103	68	257	10.12	3420	2246	208.70	137.06	133.0	87.4	20.62	13.55	106	233.7
DH-1508	158	80	203	7.99	4144	2083	252.88	127.11	204.1	102.6	31.64	15.90	111	244.7

Model	A Coll. Height		B Ext. Height		D Outside Dia.		E Cylinder Bore Dia.		F Plngr. Dia.		H Cyl. Base to Advance Port		I Cylinder Top to Return Port		J Saddle Diame-ter		K Saddle Protru-sion from Plngr.		O Plunger Internal Thread	P Plunger Thread Length		W Collar Thread	X Collar Thread Length		Y Center Hole Dia.		U Bolt Circle		V Thread	Z Thread Depth	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		mm	inch		mm	inch	mm	inch	mm	inch		mm	inch
DH-307	330	12.99	508	20.00	114	4.49	88.9	3.50	63.5	2.50	25	0.98	60	2.36	63	2.48	9	0.35	1 13/16"-16	22	0.87	4 ½" - 12	42	1.65	33.3	1.31	92.2	3.63	3/8"-16	15.7	0.62
DH-3010	431	16.97	689	27.13	114	4.49	88.9	3.50	63.5	2.50	25	0.98	60	2.36	63	2.48	9	0.35	1 13/16"-16	22	0.87	4 ½" - 12	42	1.65	33.3	1.31	92.2	3.63	3/8"-16	15.7	0.62
DH-603	247	9.72	336	13.23	159	6.26	123.9	4.88	91.9	3.62	31	1.22	66	2.60	91	3.58	12	0.47	2 ¾" -16	19	0.75	6 ¼" - 12	48	1.89	53.8	2.12	130.0	5.12	½"-13	14	0.55
DH-606	323	12.72	489	19.25	159	6.26	123.9	4.88	91.9	3.62	31	1.22	66	2.60	91	3.58	12	0.47	2 ¾" -16	19	0.75	6 ¼" - 12	48	1.89	53.8	2.12	130.0	5.12	½"-13	14	0.55
DH-6010	438	17.24	695	27.36	159	6.26	123.9	4.88	91.9	3.62	31	1.22	66	2.60	91	3.58	12	0.47	2 ¾" -16	19	0.75	6 ¼" - 12	48	1.89	53.8	2.12	130.0	5.12	½"-13	14	0.55
DH-1001	165	6.50	203	7.99	212	8.35	165.1	6.50	127	5.00	38	1.50	44	1.73	126	4.96	12	0.47	4" - 16	25	0.98	-	-		79.2	3.12	177.8	7.00	⅝"-11	19	0.75
DH-1003	254	10.00	330	12.99	212	8.35	165.1	6.50	127	5.00	38	1.50	85	3.35	126	4.96	12	0.47	4" - 16	25	0.98	8 ⅜"-12	60	2.36	79.2	3.12	177.8	7.00	⅝"-11	19	0.75
DH-1006	342	13.46	495	19.49	212	8.35	165.1	6.50	127	5.00	38	1.50	85	3.35	126	4.96	12	0.47	4" - 16	25	0.98	8 ⅜"-12	60	2.36	79.2	3.12	177.8	7.00	⅝"-11	19	0.75
DH-10010	460	18.11	717	28.23	212	8.35	165.1	6.50	127	5.00	38	1.50	85	3.35	126	4.96	12	0.47	4" - 16	25	0.98	8 ⅜"-12	60	2.36	79.2	3.12	177.8	7.00	⅝"-11	19	0.75
DH-1508	349	13.74	552	21.73	247	9.72	190.5	7.50	152.4	6.00	38	1.50	60	2.36	127	5.00	4	0.16	4 ¼" - 12	25	0.98	-	-		79.2	3.12	-	-	-	-	-

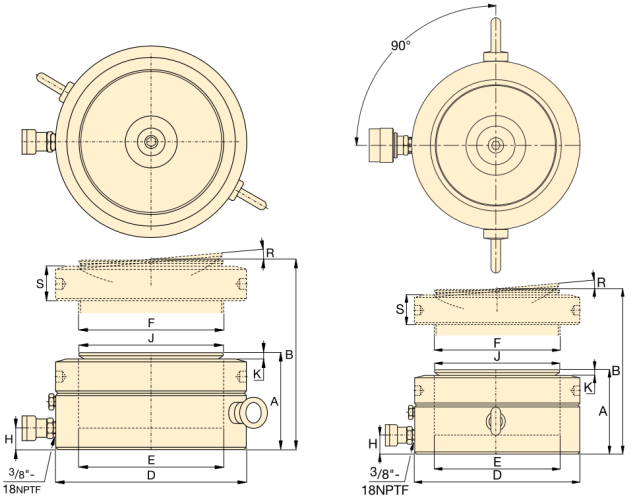
CLL SERIES
(Locknut)





Model	Cylinder Capacity tons (kN)	Stroke		Cylinder Effective Area		Oil Capacity		A Collapsed Height		B Extended Height		D Outside Diameter		E Cylinder Bore Diameter		F Plunger Dia. (threaded)	H Base to Adv. Port		J Standard Saddle Dia.		K Saddle Protrusion from Plunger		L Depth of Plunger Hole		S Lock-nut Height		Weight	
		mm	inch	cm^2	$inch^2$	cm^3	$inch^3$	mm	inch	mm	inch	mm	inch	mm	inch	mm	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
CLL-502	50 (496)	50	1.97	70.9	10.99	355	21.66	164	6.46	214	8.43	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	15	33.1
CLL-504		100	3.94	70.9	10.99	709	43.27	214	8.43	314	12.36	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	20	44.1
CLL-506		150	5.91	70.9	10.99	1064	64.93	264	10.39	414	16.30	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	25	55.1
CLL-508		200	7.87	70.9	10.99	1418	86.53	314	12.36	514	20.24	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	30	66.1
CLL-510		250	9.84	70.9	10.99	1773	108.20	364	14.33	614	24.17	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	35	77.2
CLL-512		300	11.81	70.9	10.99	2127	129.80	414	16.30	714	28.11	125	4.92	95.0	3.74	Tr 95 x 4	30	1.18	71	2.80	2	0.08	13	0.51	36	1.42	40	88.2
CLL-1002	100 (929)	50	1.97	132.7	20.57	664	40.52	187	7.36	237	9.33	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	30	66.1
CLL-1004		100	3.94	132.7	20.57	1327	80.98	237	9.33	337	13.27	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	39	86.0
CLL-1006		150	5.91	132.7	20.57	1991	121.50	287	11.30	437	17.20	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	48	105.8
CLL-1008		200	7.87	132.7	20.57	2654	161.96	337	13.27	537	21.14	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	56	123.5
CLL-10010		250	9.84	132.7	20.57	3318	202.48	387	15.24	637	25.08	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	64	141.1
CLL-10012		300	11.81	132.7	20.57	3981	242.94	437	17.20	737	29.02	165	6.50	130.0	5.12	Tr 130 x 6	30	1.18	71	2.80	2	0.08	13	0.51	44	1.73	73	160.9
CLL-1502	150 (1390)	50	1.97	198.6	30.78	993	60.60	209	8.23	259	10.20	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	53	116.8
CLL-1504		100	3.94	198.6	30.78	1986	121.19	259	10.20	359	14.13	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	66	145.5
CLL-1506		150	5.91	198.6	30.78	2979	181.79	309	12.17	459	18.07	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	78	172.0
CLL-1508		200	7.87	198.6	30.78	3972	242.39	359	14.13	559	22.01	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	92	202.8
CLL-15010		250	9.84	198.6	30.78	4965	302.98	409	16.10	659	25.94	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	104	229.3
CLL-15012		300	11.81	198.6	30.78	5958	363.58	459	18.07	759	29.88	205	8.07	159.0	6.26	Tr 159 x 6	39	1.54	130	5.12	2	0.08	25	0.98	44	1.73	117	257.9
CLL-2002	200 (1859)	50	1.97	265.6	41.17	1330	81.16	243	9.57	293	11.54	235	9.25	184.0	7.24	Tr 184 x 6	50	1.97	130	5.12	2	0.08	25	0.98	50	1.97	83	183.0
CLL-2006		150	5.91	265.6	41.17	3989	243.42	343	13.50	493	19.41	235	9.25	184.0	7.24	Tr 184 x 6	50	1.97	130	5.12	2	0.08	25	0.98	50	1.97	117	257.9
CLL-20012		300	11.81	265.6	41.17	7995	487.88	493	19.41	793	31.22	235	9.25	184.0	7.24	Tr 184 x 6	50	1.97	130	5.12	2	0.08	25	0.98	50	1.97	170	374.8
CLL-2502	250 (2562)	50	1.97	366.1	56.75	1832	111.80	249	9.80	299	11.77	275	10.83	216.0	8.50	Tr 116 x 6	50	1.97	150	5.91	2	0.08	25	0.98	56	2.20	116	255.7
CLL-2506		150	5.91	366.1	56.75	5496	335.39	349	13.74	499	19.65	275	10.83	216.0	8.50	Tr 116 x 6	50	1.97	150	5.91	2	0.08	25	0.98	56	2.20	162	357.1
CLL-25012		300	11.81	366.1	56.75	10995	670.96	499	19.65	799	31.46	275	10.83	216.0	8.50	Tr 116 x 6	50	1.97	150	5.91	2	0.08	25	0.98	56	2.20	234	515.9
CLL-3002	300 (3193)	50	1.97	456.2	70.71	2281	139.20	295	11.61	345	13.58	310	12.20	241.0	9.49	Tr 241 x 6	59	2.32	139	5.47	5	0.20	25	0.98	60	2.36	173	381.4
CLL-3006		150	5.91	456.2	70.71	6843	417.59	395	15.55	545	21.46	310	12.20	241.0	9.49	Tr 241 x 6	59	2.32	139	5.47	5	0.20	25	0.98	60	2.36	233	513.7
CLL-30012		300	11.81	456.2	70.71	13740	838.47	545	21.46	845	33.27	310	12.20	241.0	9.49	Tr 241 x 6	59	2.32	139	5.47	5	0.20	25	0.98	60	2.36	323	712.1
CLL-4002	400 (3919)	50	1.97	559.9	86.78	2800	170.87	335	13.19	385	15.16	350	13.78	267.0	10.51	Tr 266 x 6	70	2.76	159	6.26	5	0.20	25	0.98	70	2.76	250	551.2
CLL-4006		150	5.91	559.9	86.78	8399	512.54	435	17.13	585	23.03	350	13.78	267.0	10.51	Tr 266 x 6	70	2.76	159	6.26	5	0.20	25	0.98	70	2.76	327	720.9
CLL-40012		300	11.81	559.9	86.78	16800	1025.20	585	23.03	885	34.84	350	13.78	267.0	10.51	Tr 266 x 6	70	2.76	159	6.26	5	0.20	25	0.98	70	2.76	441	972.2
CLL-5002	500 (5118)	50	1.97	731.1	113.32	3653	222.92	375	14.76	425	16.73	400	15.75	305.0	12.01	Tr 305 x 6	80	3.15	179	7.05	5	0.20	25	0.98	80	3.15	367	809.1
CLL-5006		150	5.91	731.1	113.32	10959	668.76	475	18.70	625	24.61	400	15.75	305.0	12.01	Tr 305 x 6	80	3.15	179	7.05	5	0.20	25	0.98	80	3.15	466	1027.4
CLL-50012		300	11.81	731.1	113.32	21930	1338.25	625	24.61	925	36.42	400	15.75	305.0	12.01	Tr 305 x 6	80	3.15	179	7.05	5	0.20	25	0.98	80	3.15	617	1360.3
CLL-6002	600 (5983)	50	1.97	854.8	132.49	4277	261.00	395	15.55	445	17.52	430	16.93	330.0	12.99	Tr 330 x 6	85	3.35	194	7.64	5	0.20	25	0.98	85	3.35	446	983.3
CLL-6006		150	5.91	854.8	132.49	12830	782.93	495	19.49	645	25.39	430	16.93	330.0	12.99	Tr 330 x 6	85	3.35	194	7.64	5	0.20	25	0.98	85	3.35	562	1239.0
CLL-60012		300	11.81	854.8	132.49	25650	1565.26	645	25.39	945	37.20	430	16.93	330.0	12.99	Tr 330 x 6	85	3.35	194	7.64	5	0.20	25	0.98	85	3.35	737	1624.8
CLL-8002	800 (8238)	50	1.97	1176.9	182.42	5882	358.94	455	17.91	505	19.88	505	19.88	387.0	15.24	Tr 387 x 6	100	3.94	224	8.82	5	0.20	25	0.98	100	3.94	709	1563.1
CLL-8006		150	5.91	1176.9	182.42	17645	1076.76	555	21.85	705	27.76	505	19.88	387.0	15.24	Tr 387 x 6	100	3.94	224	8.82	5	0.20	25	0.98	100	3.94	870	1918.0
CLL-80012		300	11.81	1176.9	182.42	35370	2158.41	705	27.76	1005	39.57	505	19.88	387.0	15.24	Tr 387 x 6	100	3.94	224	8.82	5	0.20	25	0.98	100	3.94	1110	2447.1
CLL-10002	1000 (10260)	50	1.97	1466.4	227.29	7329	447.24	495	19.49	545	21.46	560	22.05	432.0	17.01	Tr432 x 6	110	4.33	249	9.80	5	0.20	25	0.98	110	4.33	949	2092.2
CLL-10006		150	5.91	1466.4	227.29	21986	1341.67	595	23.43	745	29.33	560	22.05	432.0	17.01	Tr432 x 6	110	4.33	249	9.80	5	0.20	25	0.98	110	4.33	1141	2515.5
CLL-100012		300	11.81	1466.4	227.29	43980	2683.82	745	29.33	1045	41.14	560	22.05	432.0	17.01	Tr432 x 6	110	4.33	249	9.80	5	0.20	25	0.98	110	4.33	1430	3152.6

CLP SERIES (Low Profile Locknut)

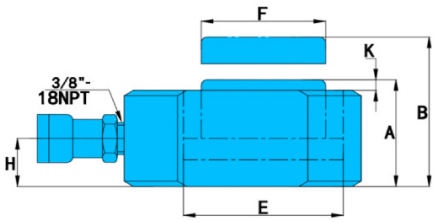


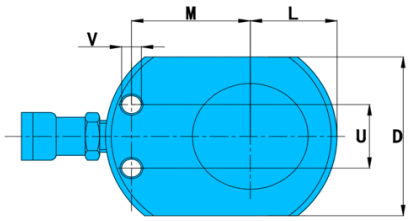
Model	Capacity tons (kN)	Stroke		Effective Area		Oil Capacity		A Collapsed Height		B Ext. Height		D Outside Dia.		E Cylinder Bore Dia.	
		mm	inch	cm^2	$inch^2$	cm^3	$inch^3$	mm	inch	mm	inch	mm	inch	mm	inch
CLP-602	60 (606)	50	1.97	87	13.5	432	26.4	125	4.92	175	6.89	140	5.51	105	4.13
CLP-1002	100 (1027)	50	1.97	147	22.8	734	44.8	137	5.39	187	7.36	175	6.89	137	5.39
CLP-1602	160 (1619)	45	1.77	231	35.8	1040	63.5	148	5.83	193	7.60	220	8.66	172	6.77
CLP-2002	200 (1999)	45	1.77	285	44.2	1285	78.4	155	6.10	200	7.87	245	9.65	191	7.52
CLP-2502	250 (2567)	45	1.77	366	56.7	1650	100.7	160	6.30	205	8.07	270	10.63	216	8.50
CLP-4002	400 (3916)	45	1.77	559	86.6	2517	153.6	178	7.01	223	8.78	350	13.78	267	10.51
CLP-5002	520 (5114)	45	1.77	730	113.2	3287	200.6	192	7.60	237	9.33	400	15.75	305	12.01

Model	F Plunger Dia.	H Base to Advance Port		J Saddle Dia.		K Saddle Protrusion from Plunger		R Saddle Max. Tilt Angle	S Lock Nut Height		Weight	
	mm	mm	inch	mm	inch	mm	inch		mm	inch	kg	lbs
CLP-602	Tr104X4	19	0.75	96	3.78	6	.24	5°	28	1.10	15	33.1
CLP-1002	Tr136X6	21	0.83	126	4.96	8	0.31	5°	31	1.22	26	57.3
CLP-1602	Tr171X6	27	1.06	160	6.30	9	0.35	5°	40	1.57	44	97.0
CLP-2002	Tr190X6	30	1.18	180	7.09	10	0.39	5°	43	1.69	57	125.7
CLP-2502	Tr216X6	32	1.26	200	7.87	11	0.43	5°	44	1.73	74	163.1
CLP-4002	Tr266X6	39	1.54	250	9.84	11	0.43	4°	55	2.17	134	295.4
CLP-5002	Tr305X6	48	1.89	290	11.42	10	0.39	3°	62	2.44	189	416.7

MSC SERIES (Multi-stage)

- Capacity: 4 - 100 Tons.
- Single-acting, load return.
- Up to 3% side-load of maximum capacity.
- Perfect for use in confined space.
- Mounting bolt holes for easy fixing.
- Longer stroke lenght save time and eliminate the use of temporary cribbing.



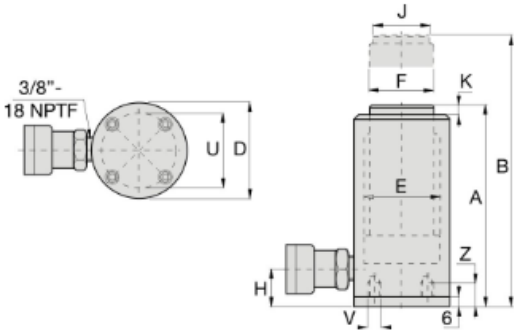


Model	Cylinder capacity (tons)	Stroke / Tonnage								
		Stage 1		tons	Stage 2		tons	Stage 3		tons
		mm	inch		mm	inch		mm	inch	
MSC-101L	10	13	0.51	10T	13	0.51	4T	-	-	-
MSC-201L	20	16	0.63	20T	14	0.55	5T	-	-	-
MSC-301L	30	14	0.55	30T	21	0.83	15T	19	0.75	5T
MSC-501L	50	20	0.79	50T	23	0.91	25T	22	0.87	5T
MSC-1001L	100	20	0.79	100T	24	0.94	35T	25	0.98	10T

Model	Oil capacity		Collapsed Height		Weight	
	cm^3	$inch^3$	mm	inch	kg	lbs
MSC-101L	22	1.34	51	2.01	6	13.23
MSC-201L	41	2.50	57	2.24	2	4.41
MSC-301L	58	3.54	63	2.48	5	11.02
MSC-501L	113	6.89	71	2.80	9	19.84
MSC-1001L	225	13.73	87	3.43	20	44.09

ALUMINUM (RAC)

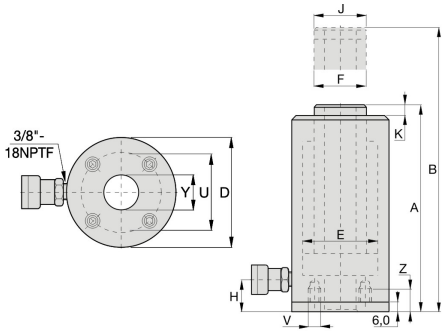
- Composite bearings prevent metal-to-metal contact increasing cylinder life and resistance to side-loads of up to 10%.
- Hard-Coat finish on all surfaces resists damage and extends cylinder life.
- Handles included on all models.
- Steel base plate and saddle for protection against load-induced damage.
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity.



Model	Cylinder Capacity tons (kN)	Stroke		Cylinder Effective Area		Oil Capacity Area		A Height		B Extended Height		D Outside Diameter		E Cylinder Bore Diameter		F Plunger Diameter		H Bottom to Advance Port		J Saddle Diameter		K Saddle Protrusion from Plunger		Weight	
		mm	inch	cm^2	$inch^2$	cm^3	$inch^3$	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
RAC-202	20 (218)	50	1.97	31.2	4.84	156	9.52	174	6.85	224	8.82	85	3.35	63	2.48	50	1.97	27	1.06	40	1.57	3	0.12	3.6	7.9
RAC-204		100	3.94	31.2	4.84	312	19.04	224	8.82	324	12.76	85	3.35	63	2.48	50	1.97	27	1.06	40	1.57	3	0.12	4.1	9.0
RAC-206		150	5.91	31.2	4.84	468	28.56	274	10.79	424	16.69	85	3.35	63	2.48	50	1.97	27	1.06	40	1.57	3	0.12	4.6	10.1
RAC-208		200	7.87	31.2	4.84	624	38.08	324	12.76	524	20.63	85	3.35	63	2.48	50	1.97	27	1.06	40	1.57	3	0.12	5.1	11.2
RAC-2010		250	9.84	31.2	4.84	780	47.60	374	14.72	624	24.57	85	3.35	63	2.48	50	1.97	27	1.06	40	1.57	3	0.12	5.6	12.4
RAC-302	30 (309)	50	1.97	44.2	6.85	221	13.49	181	7.13	231	9.09	100	3.94	75	2.95	60	2.36	32	1.26	40	1.57	3	0.12	4.5	9.9
RAC-304		100	3.94	44.2	6.85	442	26.97	231	9.09	331	13.03	100	3.94	75	2.95	60	2.36	32	1.26	40	1.57	3	0.12	5.2	11.5
RAC-306		150	5.91	44.2	6.85	663	40.46	281	11.06	431	16.97	100	3.94	75	2.95	60	2.36	32	1.26	40	1.57	3	0.12	5.9	13.0
RAC-308		200	7.87	44.2	6.85	884	53.94	331	13.03	531	20.91	100	3.94	75	2.95	60	2.36	32	1.26	40	1.57	3	0.12	6.6	14.6
RAC-3010		250	9.84	44.2	6.85	1105	67.43	381	15.00	631	24.84	100	3.94	75	2.95	60	2.36	32	1.26	40	1.57	3	0.12	7.3	16.1
RAC-502	50 (496)	50	1.97	70.9	10.99	354	21.60	186	7.32	236	9.29	130	5.12	95	3.74	80	3.15	30	1.18	50	1.97	3	0.12	8.5	18.7
RAC-504		100	3.94	70.9	10.99	709	43.27	236	9.29	336	13.23	130	5.12	95	3.74	80	3.15	30	1.18	50	1.97	3	0.12	9.8	21.6
RAC-506		150	5.91	70.9	10.99	1063	64.87	286	11.26	436	17.17	130	5.12	95	3.74	80	3.15	30	1.18	50	1.97	3	0.12	11.1	24.5
RAC-508		200	7.87	70.9	10.99	1417	86.47	336	13.23	536	21.10	130	5.12	95	3.74	80	3.15	30	1.18	50	1.97	3	0.12	12.4	27.3
RAC-5010		250	9.84	70.9	10.99	1771	108.07	386	15.20	636	25.04	130	5.12	95	3.74	80	3.15	30	1.18	50	1.97	3	0.12	13.7	30.2
RAC-1002	100 (1002)	50	1.97	143.1	22.18	715	43.63	221	8.70	271	10.67	180	7.09	135	5.31	110	4.33	46	1.81	94	3.70	3	0.12	17.3	38.1
RAC-1004		100	3.94	143.1	22.18	1431	87.32	271	10.67	371	14.61	180	7.09	135	5.31	110	4.33	46	1.81	94	3.70	3	0.12	19.6	43.2
RAC-1006		150	5.91	143.1	22.18	2147	131.02	321	12.64	471	18.54	180	7.09	135	5.31	110	4.33	46	1.81	94	3.70	3	0.12	21.9	48.3
RAC-1008		200	7.87	143.1	22.18	2863	174.71	371	14.61	571	22.48	180	7.09	135	5.31	110	4.33	46	1.81	94	3.70	3	0.12	24.2	53.4
RAC-10010		250	9.84	143.1	22.18	3578	218.34	421	16.57	671	26.42	180	7.09	135	5.31	110	4.33	46	1.81	94	3.70	3	0.12	26.5	58.4
RAC-1502	150 (1589)	50	1.97	227.0	35.19	1135	69.26	243	9.57	293	11.54	230	9.06	170	6.69	140	5.51	51	2.01	113	4.45	3	0.12	25.3	55.8
RAC-1504		100	3.94	227.0	35.19	2270	138.52	293	11.54	393	15.47	230	9.06	170	6.69	140	5.51	51	2.01	113	4.45	3	0.12	29.3	64.6
RAC-1506		150	5.91	227.0	35.19	3405	207.79	343	13.50	493	19.41	230	9.06	170	6.69	140	5.51	51	2.01	113	4.45	3	0.12	33.3	73.4
RAC-1508		200	7.87	227.0	35.19	4540	277.05	393	15.47	593	23.35	230	9.06	170	6.69	140	5.51	51	2.01	113	4.45	3	0.12	37.3	82.2
RAC-15010		250	9.84	227.0	35.19	5675	346.31	443	17.44	693	27.28	230	9.06	170	6.69	140	5.51	51	2.01	113	4.45	3	0.12	41.3	91.1

ALUMINUM (RACH)

- Composite bearings prevent metal-to-metal contact increasing cylinder life and resistance to side-loads of up to 10%.
- Hard-Coat finish on all surfaces resists damage and extends cylinder life.
- Handles included on all models.
- Steel base plate and saddle for protection against load-induced damage.
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity.



Model	Cylinder Capacity tons (kN)	Stroke		Cylinder Effective Area		Oil Capacity Area		A Height		B Extended Height		D Outside Diameter		E Cylinder Bore Diameter		F Plunger Diameter		H Bottom to Advance Port		J Saddle Diameter		K Saddle Protrusion from Plunger		Y Center Hole Dia.		Weight	
		mm	inch	cm^2	$inch^2$	cm^3	$inch^3$	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
RACH-202	20 (229)	50	1.97	32.7	5.07	164	10.01	188	7.40	238	9.37	100	3.94	75	2.95	55	2.17	29	1.14	55	2.17	10	0.39	27	1.06	5.2	11.5
RACH-204		100	3.94	32.7	5.07	327	19.95	251	9.88	351	13.82	100	3.94	75	2.95	55	2.17	29	1.14	55	2.17	10	0.39	27	1.06	6.1	13.5
RACH-206		150	5.91	32.7	5.07	491	29.96	315	12.40	465	18.31	100	3.94	75	2.95	55	2.17	29	1.14	55	2.17	10	0.39	27	1.06	7.1	15.7
RACH-208		200	7.87	32.7	5.07	654	39.91	378	14.88	578	22.76	100	3.94	75	2.95	55	2.17	29	1.14	55	2.17	10	0.39	27	1.06	8.0	17.6
RACH-2010		250	9.84	32.7	5.07	818	49.92	442	17.40	692	27.24	100	3.94	75	2.95	55	2.17	29	1.14	55	2.17	10	0.39	27	1.06	9.0	19.8
RACH-302	30 (358)	50	1.97	51.1	7.92	256	15.62	208	8.19	258	10.16	130	5.12	95	3.74	70	2.76	29	1.14	70	2.76	10	0.39	34	1.34	8.0	17.6
RACH-304		100	3.94	51.1	7.92	511	31.18	267	10.51	367	14.45	130	5.12	95	3.74	70	2.76	29	1.14	70	2.76	10	0.39	34	1.34	9.5	20.9
RACH-306		150	5.91	51.1	7.92	766	46.74	333	13.11	483	19.02	130	5.12	95	3.74	70	2.76	29	1.14	70	2.76	10	0.39	34	1.34	11.2	24.7
RACH-308		200	7.87	51.1	7.92	1022	62.37	395	15.55	595	23.43	130	5.12	95	3.74	70	2.76	29	1.14	70	2.76	10	0.39	34	1.34	12.9	28.4
RACH-3010		250	9.84	51.1	7.92	1277	77.93	458	18.03	708	27.87	130	5.12	95	3.74	70	2.76	29	1.14	70	2.76	10	0.39	34	1.34	14.5	32.0
RACH-602	60 (596)	50	1.97	84.7	13.13	423	25.81	251	9.88	301	11.85	180	7.09	130	5.12	100	3.94	61	2.40	100	3.94	12	0.47	54	2.13	16.2	35.7
RACH-604		100	3.94	84.7	13.13	847	51.69	315	12.40	415	16.34	180	7.09	130	5.12	100	3.94	61	2.40	100	3.94	12	0.47	54	2.13	19.5	43.0
RACH-606		150	5.91	84.7	13.13	1270	77.50	380	14.96	530	20.87	180	7.09	130	5.12	100	3.94	61	2.40	100	3.94	12	0.47	54	2.13	25.6	56.4
RACH-608		200	7.87	84.7	13.13	1694	103.37	445	17.52	645	25.39	180	7.09	130	5.12	100	3.94	61	2.40	100	3.94	12	0.47	54	2.13	26.0	57.3
RACH-6010		250	9.84	84.7	13.13	2117	129.19	510	20.08	760	29.92	180	7.09	130	5.12	100	3.94	61	2.40	100	3.94	12	0.47	54	2.13	29.6	65.3
RACH-1002	100 (1157)	50	1.97	164.6	25.51	823	50.22	258	10.16	308	12.13	250	9.84	185	7.28	145	5.71	61	2.40	145	5.71	14	0.55	79	3.11	33.8	74.5
RACH-1004		100	3.94	164.6	25.51	1646	100.45	325	12.80	425	16.73	250	9.84	185	7.28	145	5.71	61	2.40	145	5.71	14	0.55	79	3.11	39.8	87.7
RACH-1006		150	5.91	164.6	25.51	2487	151.77	391	15.39	541	21.30	250	9.84	185	7.28	145	5.71	61	2.40	145	5.71	14	0.55	79	3.11	46.2	101.9
RACH-1008		200	7.87	164.6	25.51	3291	200.83	459	18.07	659	25.94	250	9.84	185	7.28	145	5.71	61	2.40	145	5.71	14	0.55	79	3.11	52.2	115.1
RACH-10010		250	9.84	164.6	25.51	4114	251.05	527	20.75	777	30.59	250	9.84	185	7.28	145	5.71	61	2.40	145	5.71	14	0.55	79	3.11	58.8	129.6
RACH-1502	150 (1588)	50	1.97	225.8	35.0	1129	68.90	280	11.02	330	12.99	275	10.83	205	8.07	150	5.91	61	2.40	145	5.71	14	0.55	79	3.11	48.9	107.8
RACH-1504		100	3.94	225.8	35.0	2258	137.79	360	14.17	460	18.11	275	10.83	205	8.07	150	5.91	61	2.40	145	5.71	14	0.55	79	3.11	55.7	122.8
RACH-1506		150	5.91	225.8	35.0	3387	206.69	430	16.93	580	22.83	275	10.83	205	8.07	150	5.91	61	2.40	145	5.71	14	0.55	79	3.11	63.0	138.9
RACH-1508		200	7.87	225.8	35.0	4517	275.64	500	19.69	700	27.56	275	10.83	205	8.07	150	5.91	61	2.40	145	5.71	14	0.55	79	3.11	70.1	154.5
RACH-15010		250	9.84	225.8	35.0	5646	344.54	570	22.44	820	32.28	275	10.83	205	8.07	150	5.91	61	2.40	145	5.71	14	0.55	79	3.11	77.2	170.2

TC SERIES (Telescopic Cylinder)

- Max Working Pressure: 10,000 PSI.
- Telescopic Design, single-acting.

Model	Capacity (tons)	Stage	Stroke		Collaps H		Effective Area		Oil Cap		B		A		W		E1		F		F1		L		K		H	
			mm	inch	mm	inch	cm^2	$inch^2$	cm^3	$inch^3$	mm	inch	mm	inch	kg	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
TC10-2	10	2	270	10.63	250	9.84	15.9	2.46	810	49.43	250	9.84	520	20.47	18	39.7	75	2.95	36	1.42	68	2.68	50	1.97	20	0.79	26	1.02
		1	135	5.31			44.15	6.84																				
TC10-3	10	3	435	17.01	280	11.02	15.9	2.46	2250	137.30	280	11.02	715	28.15	40	88.2	110	4.33	36	1.42	95	3.74	75	2.95	21	0.83	19	0.75
		2	290	11.42			44.15	6.84																				
		1	145	5.71			95	4.73																				
TC15-2	15	2	300	11.81	280	11.02	23.7	3.67	1308	79.82	280	11.02	580	22.83	28	61.7	90	3.54	50	1.97	80	3.15	66	2.60	25	0.98	16	0.63
		1	150	5.91			63.5	9.84																				
TC15-3	15	3	510	20.08	320	12.60	23.7	3.67	3543	216.21	320	12.60	820	32.28	60	132.3	125	4.92	50	1.97	110	4.33	95	3.74	25	0.98	19	0.75
		2	340	13.39			63.5	9.84																				
		1	170	6.69			122.6	19.00																				
TC30-2	30	2	300	11.81	304	11.97	44.15	6.84	2088	127.42	304	11.97	604	23.78	45	99.2	110	4.33	68	2.68	100	3.94	89	3.50	27	1.06	18	0.71
		1	150	5.91			95	14.73																				
TC30-3	30	3	600	23.62	366	14.41	44.15	6.84	6803	415.14	366	14.41	966	38.03	106	233.7	160	6.30	68	2.68	150	5.91	123	4.84	27	1.06	20	0.79
		2	400	15.75			95	14.73																				
		1	200	7.87			201	31.16																				

SMC SERIES (Mechanical Jack)

- Light in weight.
- Lifting height with precisely +/- 0.01 mm.
- Thin, Portable and flat design, workable for any restricted places.

Model	Capacity (tons)	Stroke		Effective Area		Weight		Collaps H	
		mm	inch	mm^2	$inch^2$	kg	lbs	mm	inch
SMC-0525	5	25	0.98	8.02	0.01	2	4.41	52	2.05
SMC-1025	10	25	0.98	13.85	0.02	3	6.61	54	2.13
SMC-2005	20	5	0.20	28.27	0.04	2	4.41	35	1.38
SMC-3005	30	5	0.20	38.49	0.06	3	6.61	36	1.42
SMC-5005	50	5	0.20	66.48	0.10	4	8.82	40	1.57

ULH SERIES (Ultra Low Height Cylinder)

- Working pressure: 21,750 PSI.
- Single acting, load return. Workable for limited work space.

Model	Capacity (tons)	Stroke		Oil Volume		Collap H		Ext H		Outs D		W		Plunger D		Oil Input Position	
		mm	inch	cm^3	$inch^3$	mm	inch	mm	inch	mm	inch	kg	lbs	mm	inch	mm	inch
ULH-00510	5	10	0.39	3.46	0.21	30	1.18	40	1.57	60	2.36	3.5	7.7	21	0.83	12	0.47
ULH-01010	10	10	0.39	7.04	0.43	30	1.18	40	1.57	70	2.76	4.0	8.8	30	1.18	12	0.47
ULH-02510	25	10	0.39	17.35	1.06	30	1.18	40	1.57	90	3.54	4.6	10.1	47	1.85	11.5	0.45
ULH-05510	50	10	0.39	36.32	2.22	30	1.18	40	1.57	118	4.65	4.8	10.6	68	2.68	11.5	0.45
ULH-10010	100	10	0.39	69.40	4.24	30	1.18	40	1.57	152	5.98	5.3	11.7	94	3.70	11.5	0.45
ULH-12010	120	10	0.39	78.54	4.79	33	1.30	40	1.57	160	6.30	6.1	13.4	100	3.94	11.5	0.45
ULH-15010	150	10	0.39	105.68	6.45	31	1.22	41	1.61	180	7.09	8.5	18.7	116	4.57	12.5	0.49
ULH-20010	200	10	0.39	136.58	8.33	32	1.26	42	1.65	204	8.03	9.5	20.9	132	5.20	13.5	0.53

HP-80 & HP-84

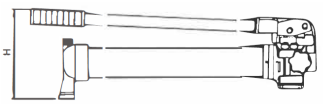
HP700

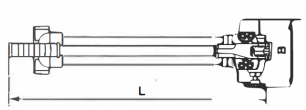
HP-180

HP700-4

HP SERIES (STEEL)

- Heavy duty steel structure.
- Two speed pump for faster and easier operation.
- Quick grip and locking handle, easy to carry.
- Built-in safety valve for overload protection.





Model	Reservoir Material	Usable Oil		Type	Pressure (Bar)		Pressure (Psi)		Oil Capacity (cm^3)		Oil Capacity (in^3)		Dimensions (mm)			Dimensions (inch)			Weight	
		cm^3	in^3		1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	L	B	H	L	B	H	kg	lbs
HP-180	Steel	400	24.4	S.A.	-	700	-	10000	-	2.00	-	0.10	353	108	117	13.90	4.25	4.61	9.0	19.8
HP700	Steel	900	54.0	S.A.	20	700	290	10000	13.00	2.30	0.80	0.10	620	150	192	24.41	5.91	7.56	11.3	24.9
HP700-3	Steel	1800	109.8	S.A.	20	700	290	10000	13.00	2.30	0.80	0.10	635	153	210	25.00	6.02	8.27	14.5	32.0
HP700-4	Steel	2800	170.9	S.A.	20	700	290	10000	13.00	2.30	0.80	0.10	647	145	205	25.47	5.71	8.07	15.4	34.0
HP-80	Steel	2200	134.3	S.A.	25	700	363	10000	16.22	2.46	1.00	0.20	556	156	183	21.89	6.14	7.20	11.0	24.3
HP700-D	Steel	2800	170.9	D.A.	20	700	290	10000	13.00	2.30	0.80	0.10	550	150	200	21.65	5.91	7.87	18.5	40.8
HP-84	Steel	2200	134.3	D.A.	25	700	363	10000	16.22	2.46	1.00	0.20	615	176	186	24.21	6.93	7.32	11.8	26.0
HP-464	Steel	7423	453.0	D.A.	14	700	203	10000	126.22	4.75	7.70	0.30	650	308	280	25.59	12.13	11.02	28.0	61.7

HPL SERIES (LIGHTWEIGHT)

- Lightweight and compact design.
- Two speed pump for faster and easier operation.
- Locking handle, easy to carry.
- Quick grip handle for easy to carry.

HPL

Model	Reservoir Material	Usable Oil		Type	Pressure (Bar)		Pressure (Psi)		Oil Capacity (cm^3)		Oil Capacity (in^3)		Dimensions (mm)			Dimensions (inch)			Weight	
		cm^3	in^3		1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	L	B	H	L	B	H	kg	lbs
HPL-142	Plastic	500	31	S.A.	10	700	145	10000	3.50	0.70	0.20	0.04	345	102	146	13.58	4.02	5.75	2.0	4.4
HPL-392	Plastic	1000	61	S.A.	12	700	174	10000	11.40	2.30	0.70	0.10	538	124	198	21.18	4.88	7.80	3.2	7.1
HPL-700A	Aluminum	900	55	S.A.	20	700	290	10000	13.00	2.30	0.80	0.10	615	133	185	24.21	5.24	7.28	5.3	11.7

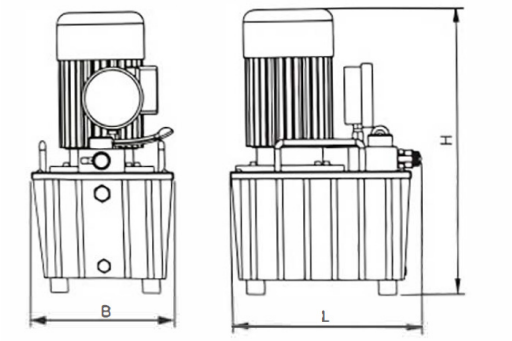
HP FOOT OPERATED

HPF-700

Model	Reservoir Material	Usable Oil		Type	Pressure (Bar)		Pressure (Psi)		Oil Capacity (cm^3)		Oil Capacity (in^3)		Dimensions (mm)			Dimensions (inch)			Weight	
		cm^3	in^3		1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	L	B	H	L	B	H	kg	lbs
HPF700	Steel	900	55	S.A.	20	700	290	10000	12.26	2.26	0.75	0.10	550	145	165	21.65	5.71	6.50	11.2	24.7

EEP SERIES

- Plunger design improve effective pressure on low voltage.
- Overload pressure protection.
- Lightweight and compact design.



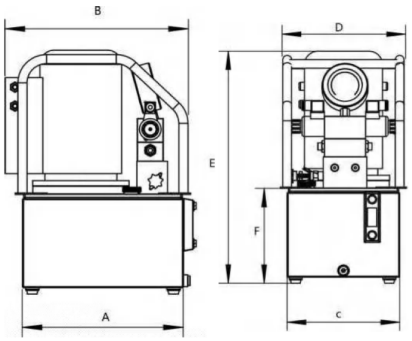
Model	Type	Valve	Power		Usable Oil		Pressure (Bar)		Pressure (Psi)	
			kW	HP	L	Gallon	1st Stage	2nd Stage	1st Stage	2nd Stage
EEP-VM	S.A.	Manual	0.75	1.0	7.0	1.5	70	700	1000	10000
EEP-VE	S.A.	Elect. /w Handle remote	0.75	1.0	7.0	1.5	70	700	1000	10000
EEP-VEF	S.A.	Elect. /w Foot remote	0.75	1.0	7.0	1.5	70	700	1000	10000

Model	Oil Capacity (cm^3)		Oil Capacity (in^3)		Dimensions (mm)			Dimensions (inch)			Weight	
	1st Stage	2nd Stage	1st Stage	2nd Stage	L	B	H	L	B	H	kg	lbs
EEP-VM	-	900	-	55	350	271	510	13.78	10.67	20.08	26	57.3
EEP-VE	5000	900	305	55	350	271	510	13.78	10.67	20.08	28	61.7
EEP-VEF	5000	900	305	55	350	271	510	13.78	10.67	20.08	28	61.7

EP11-HYB-VM

EP SERIES

- Max. Working Pressure : 10,000 Psi (700 Bar).
- Adjustable pressure valve.
- 2.0 Hp (1.5 kW) Motor, 1500 RPM.
- Brushless Motor.
- Wireless remote available.
- Cooling system.

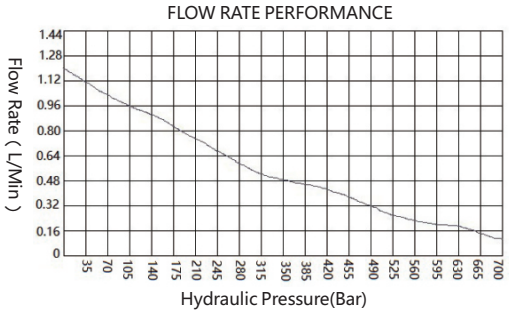


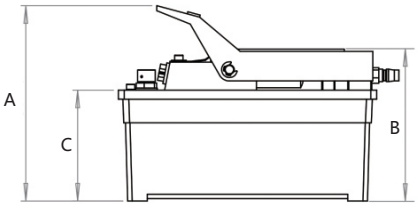
Model	Valve Type	Use for Cylinder	Reservoir reliable capacity		Oil Flow					
					1st Stage (0 Psi / 0 Bar)		2nd Stage (870 Psi /60 Bar)		3rd Stage (10,000 PSI / 690 Bar)	
			L	Gal.	L / min	inch³ / min	L / min	inch³ / min	L / min	inch³ / min
EP6-VM33	Manual	Single Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6-VM43	Manual	Double Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6HYB-VM	Manual	S.A and D.A.	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6-VE33	Solenoid	Single Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6-VE33RW	Solenoid /w wireless remote	Single Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6-VE43	Solenoid	Double Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6-VE43RW	Solenoid /w wireless remote	Double Acting	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6HYB-VE	Solenoid	S.A and D.A.	9.5	2.5	6.0	366	1.1	67	1.1	67
EP6HYB-VERW	Solenoid /w wireless remote	S.A and D.A.	9.5	2.5	6.0	366	1.1	67	1.1	67
EP11-VM33	Manual	Single Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11-VM43	Manual	Double Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11HYB-VM	Manual	S.A and D.A.	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11-VE33	Solenoid	Single Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11-VE33RW	Solenoid /w wireless remote	Single Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11-VE43	Solenoid	Double Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11-VE43RW	Solenoid /w wireless remote	Double Acting	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11HYB-VE	Solenoid	S.A and D.A.	19.0	5.0	11.2	683	2.2	134	2.2	134
EP11HYB-VERW	Solenoid /w wireless remote	S.A and D.A.	19.0	5.0	11.2	683	2.2	134	2.2	134

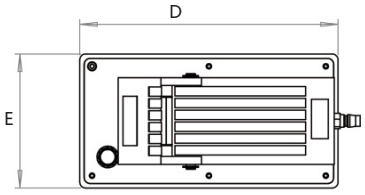
Model	Dimensions												Weight	
	A		B		C		D		E		F			
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
EP6-VM33	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	42	92
EP6-VM43	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	42	92
EP6HYB-VM	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	42	93
EP6-VE33	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	43	95
EP6-VE33RW	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	43	95
EP6-VE43	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	43	95
EP6-VE43RW	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	43	95
EP6HYB-VE	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	44	97
EP6HYB-VERW	335	13.19	397	15.63	245	9.65	264	10.39	482	18.98	179	7.05	44	97
EP11-VM33	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	46	102
EP11-VM43	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	46	102
EP11HYB-VM	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	47	103
EP11-VE33	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	48	106
EP11-VE33RW	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	48	106
EP11-VE43	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	48	106
EP11-VE43RW	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	48	106
EP11HYB-VE	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	49	108
EP11HYB-VERW	335	13.19	397	15.63	245	9.65	264	10.39	515	20.28	212	8.35	49	108

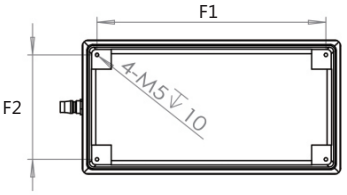
AFP SERIES • AIR FOOT PUMP

- The pump is smart and portable with small size and light package, which is widely used for single action cylinders.
- High quality seals and reasonable structure supply a strong force & excellent pressure-holding performance.
- Every part of the pump is processed fine and durable.
- With easy-economical repair unit, the pump can be used for long time with these recycle parts.







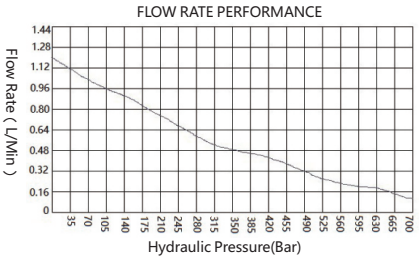


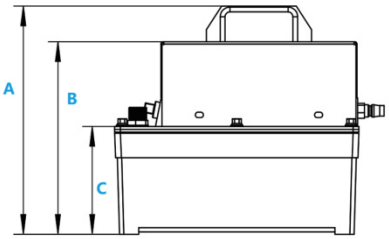
Model	Reservoir Type	Reservoir				Air Supply Required		Flow Rate				Oil port	Weight	
		Capacity		Usable				@0 PSi		@10,000 PSi				
		L	(inch³)	L	(inch³)	bar	psi	L/min	(inch³/min)	L/min	(inch³/min)		kg	lbs
AFP-1	Polyethylene reservoir	1.7	103.74	1.6	97.64	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	6.0	13.2
AFP-2	Aluminum reservoir	1.7	103.74	1.6	97.64	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	7.0	15.4
AFP-3	Polyethylene reservoir	2.3	140.35	2.1	128.15	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	6.8	15.0
AFP-4	Steel reservoir	3.8	231.89	3.5	213.58	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	10.0	22.0
AFP-5	Steel reservoir	5.0	305.12	4.6	280.71	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	12.0	26.5

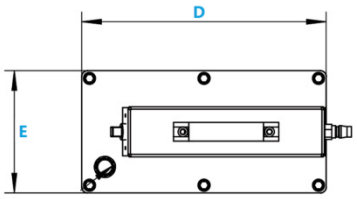
Model	A		B		C		D		E		F1*F2	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
AFP-1	200	7.87	148	5.83	113	4.45	255	10.04	128	5.04	233*105	9.17*4.13
AFP-2	200	7.87	148	5.83	113	4.45	263	10.35	136	5.35	234*107	9.21*4.21
AFP-3	210	8.27	153	6.02	115	4.53	315	12.40	175	6.89	220*102	8.66*4.02
AFP-4	195	7.68	152	5.98	110	4.33	330	12.99	190	7.48	/	/
AFP-5	195	7.68	152	5.98	110	4.33	372	14.65	231	9.09	/	/

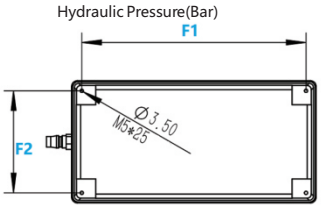
AFP-R SERIES• AIR FOOT PUMP

- Wire/wireless remote controlling pump, which can be suitable for different working situations.
- The pump is smart and portable with small size and light package, which is widely used for single-acting cylinders.
- High quality seals and reasonable structure supply a strong force & excellent pressure-holding performance.
- Every part of the pump is processed fine and durable.
- With easy-economical repair unit, the pump can be used for long time with these recycle parts.







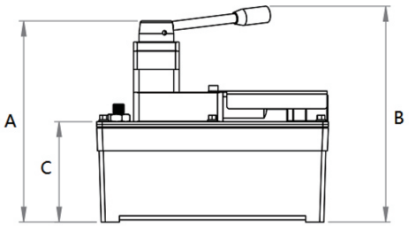


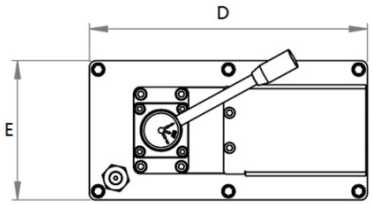
Model	Reservoir Type	Reservoir				Remote Type	Remote Wire length		Air Supply Required		Flow Rate				Oil port	Weight	
		Capacity		Usable							@0 PSi		@10,000 PSi				
		L	(inch³)	L	(inch³)		m	inch	bar	psi	L/ min	(inch³/ min)	L/ min	(inch³/ min)		kg	lbs
AFP-1R	Polyethylene reservoir	1.7	103.74	1.6	97.64	wire	2.5	98.4	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	6.6	14.6
AFP-2R	Aluminum reservoir	1.7	103.74	1.6	97.64	wire	2.5	98.4	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	7.6	16.8
AFP-3R	Polyethylene reservoir	2.3	140.35	2.1	128.15	wire	2.5	98.4	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	7.4	16.3
AFP-4R	Steel reservoir	3.8	231.89	3.5	213.58	wire	2.5	98.4	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	10.6	23.4
AFP-5R	Steel reservoir	5.0	305.12	4.6	280.71	wire	2.5	98.4	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	12.6	27.8
AFP-3RW	Polyethylene reservoir	2.3	140.35	2.1	128.15	wireless	/	/	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	7.5	16.5
AFP-4RW	Steel reservoir	3.8	231.89	3.5	213.58	wireless	/	/	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	10.7	23.6
AFP-5RW	Steel reservoir	5.0	305.12	4.6	280.71	wireless	/	/	3-8	44-116	1.22	74.45	0.095	5.80	3/8 NPT	12.7	28.0

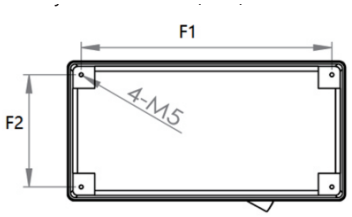
Model	A		B		C		D		E		F1*F2	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
AFP-1R	237	9.33	200	7.87	113	4.45	255	10.04	128	5.04	233*105	9.17*4.13
AFP-2R	237	9.33	200	7.87	113	4.45	263	10.35	136	5.35	234*107	9.21*4.21
AFP-3R	230	9.06	193	7.60	115	4.53	315	12.40	175	6.89	220*102	8.66*4.02
AFP-3RW	241	9.49	203	7.99	115	4.53	315	12.40	175	6.89	220*102	8.66*4.02
AFP-4R	217	8.54	180	7.09	110	4.33	330	12.99	190	7.48	/	/
AFP-5R	217	8.54	180	7.09	110	4.33	372	14.65	231	9.09	/	/
AFP-4RW	228	8.98	190	7.48	110	4.33	330	12.99	190	7.48	/	/
AFP-5RW	228	8.98	190	7.48	110	4.33	372	14.65	231	9.09	/	/

AFP-D SERIES • AIR FOOT PUMP

- The pump is smart and portable with small size and light package, which is widely used for single/double action cylinders.
- High quality seals and reasonable structure supply a strong force & excellent pressure-holding performance.
- Every part of the pump is processed fine and durable.
- With easy-economical repair unit, the pump can be used for long time with these recycle parts.







Model	Reservoir Type	Reservoir				Valve Type	Flow Rate				Oil port	Weight	
		Capacity		Usable			@0 PSi		@10,000 PSi				
		L	(inch³)	L	(inch³)		L/min	(inch³/min)	L/min	(inch³/min)		kg	lbs
AFP-1D	Polyethylene reservoir	1.7	103.74	1.6	97.64	Manual 3Way/4Way	1.22	74.45	0.095	5.80	3/8 NPT	6.0	13.2
AFP-2D	Aluminum reservoir	1.7	103.74	1.6	97.64	Manual 3Way/4Way	1.22	74.45	0.095	5.80	3/8 NPT	7.0	15.4
AFP-3D	Polyethylene reservoir	2.3	140.35	2.1	128.15	Manual 3Way/4Way	1.22	74.45	0.095	5.80	3/8 NPT	6.8	15.0
AFP-4D	Steel reservoir	3.8	231.89	3.5	213.58	Manual 3Way/4Way	1.22	74.45	0.095	5.80	3/8 NPT	10.0	22.0
AFP-5D	Steel reservoir	5.0	305.12	4.6	280.71	Manual 3Way/4Way	1.22	74.45	0.095	5.80	3/8 NPT	12.0	26.5

Model	A		B		C		D		E		F1*F2	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
AFP-1D	220	8.66	236	9.29	113	4.45	255	10.04	128	5.04	233*105	9.17*4.13
AFP-2D	220	8.66	236	9.29	113	4.45	263	10.35	136	5.35	234*107	9.21*4.21
AFP-3D	222	8.74	238	9.37	115	4.53	315	12.40	175	6.89	220*102	8.66*4.02
AFP-4D	217	8.54	233	9.17	110	4.33	330	12.99	190	7.48	/	/
AFP-5D	217	8.54	233	9.17	110	4.33	372	14.65	231	9.09	/	/

SERIES 200 (Hyd. Cutters)

- Double Acting Tool.
- Twinline hose.
- Compact Design.
- Handle to reduce physical burden.
- Control knob improve operator safety.
- Durable Blades.

RHCC257 - Lightweight cutting and expanding pliers	Specification	
	Preset pressure	630 bar	9137 psi
	Max. shear force	340 kN	76435 lbf
	Shear range	30mm round steel/16mm steel plate	1.18/0.63 inch
	Max. expansion force	33.88-43.86 kN	7617-9860 lbf
	Expansion distance	≥370 mm	14.6 inch
	Max. traction	52 kN	11690 lbf
	Traction distance	228 mm	9 inch
	Net Weight/G.W	15.6/22 kg	34.4/48.5 lbs

RHSP210 - Lightweight expander	Specification	
	Preset pressure	630 bar	9137 psi
	Max. expansion force	53.16-71.66 kN	11951-16110 lbf
	Max. expansion distance	604 mm	23.8 inch
	Max. traction	62 kN	13938
	Max. traction distance	465 mm	18.3 inch
	Net Weight/G.W	19.7/27.1 kg	43.4/59.7 lbs

RHC211 - Light cutter	Specification	
	Preset pressure	630 bar	9137 psi
	Max. shear force	420 kN	94420 lbf
	Shear range	32mm Q235round steel	1.26 inch
	Opening distance	128 mm	5.0 inch
	Net Weight/G.W	14.42/20.8 kg	31.8/45.9 lbs

SERIES 300 (Hyd. Cutters)

- Double Acting Tool.
- Streamlined Technology for hose makes operations safer, quicker and easier.
- Handle to reduce physical burden.
- Control knob improve operator safety.
- Durable Blades.

RHCC357B - Lightweight cutting and expanding pliers		Specification	
	Preset pressure	700 bar	10153 psi
	Max. shear force	387 kN	87001 lbf
	Shear range	33mm round steel/16mm steel plate	1.30/0.63 inch
	Max. expansion force	43.59-47.08 kN	9799-9799
	Expansion distance	375 mm	14.8 inch
	Max. traction	57 kN	129040 lbf
	Traction distance	228 mm	9.0 inch
	Net Weight/G.W	15.28/23 kg	33.7/50.7 lbs

RHSP310B - Lightweight expander		Specification	
	Preset pressure	700 bar	10153 psi
	Max. expansion force	51.48-68.25 kN	11573-15343 lbf
	Max. expansion distance	700 mm	27.6 inch
	Max. traction	41 kN	9217 lbf
	Max. traction distance	573 mm	22.6 inch
	Net Weight/G.W	20.19/29.4 kg	44.5/64.8 lbs

RHC311B - Light cutter		Specification	
	Preset pressure	700 bar	10153 psi
	Max. shear force	642 kN	144327 lbf
	Shear range	33mm Q235round steel	1.30 inch
	Opening distance	150 mm	5.9 inch
	Net Weight/G.W	13.88/22.4 kg	30.6/49.4 lbs

SERIES 500 (Hyd. Cutters)

- Double Acting Tool.
- Streamlined Technology for hose makes operations safer, quicker and easier.
- Handle to reduce physical burden.
- Control knob improve operator safety.
- Durable Blades.

RHCC557B - Lightweight cutting and expanding pliers	Specification	
Preset pressure	700 bar	10153 psi
Max. shear force	810 kN	182095 lbf
Shear range	40mm Q235round steel	1.57 inch
Max. expansion force	40.52-52.41 kN	9109 11782 lbf
Expansion distance	410 mm	16.1 inch
Max. traction	67 kN	15062 lbf
Traction distance	281 mm	11.1 inch
Net Weight/G.W	20.43/25.5 kg	45.0/56.2 lbs

RHSP510B - Lightweight expander	Specification	
Preset pressure	700 bar	10153 psi
Max. expansion force	230 kN	51706 lbf
Max. expansion distance	820 mm	32.3 inch
Max. traction	44.57-57.65 kN	10020-12960 lbf
Max. traction distance	665 mm	26.2 inch
Net Weight/G.W	21.11/28.5 kg	46.5/62.8 lbs

RHC511B - Light top support	Specification	
Preset pressure	700 bar	10153 psi
Max. shear force	1194 kN	268422 lbf
Shear range	40mm Q235round steel	1.57 inch
Opening distance	165 mm	5.9 inch
Net Weight/G.W	18.88/25.5 kg	41.6/56.2 lbs

RGP SERIES (Rescue tool Gas Pump)

- Honda Gas Engine.
- Dual output structure to use 2 tools at the same time.
- Lightweight with carrying handle for easy carry.

RGP SERIES (RESCUE TOOL GAS PUMP)	**RGP63** (Use with 200 Series)	**RGP700** (Use with 300 & 500 Series)
Max. Pressure	9,100 Psi (630 Bar)	10,150 Psi (700 Bar)
Engine Power	3 HP (2.2 kW)	3 HP (2.2 kW)
Flow rate Low Pressure	110 in^3/min (1.8L/min)	183 in^3/min (3.0L/min)
Flow rate High Pressure	30.5 in^3/min (0.5L/min)	43 in^3/min (0.7L/min)
Fuel Tank Capacity	0.66 Gal (3L)	0.66 Gal (3L)
Weight	53 lbs (24 kg)	55 lbs (25 kg)

04 HOLE PUNCH

HPH SERIES

- Max. working pressure 10,000 Psi (700 Bar).
- Made with alloy steel with high strength.
- Safe and clean operation.
- Double acting (except HPH-31 who's single acting with spring return).
- Heat threatment dies for high strenght.

HPH-A Models

HPH-H Models

HPH-31

HPH-50

Model	Output Force (tons)	Max. Thickness (mm)		Max. Thickness (inch)		Throat Depth		Standard Dies		Weight	
		Iron	Copper	Iron	Copper	mm	inch	mm	inch	kg	lbs
HPH-31	31	10	12	0.39	0.47	75	2.95	10.5, 13.8, 17.5	7/16", 9/16", 11/16"	17	37.5
HPH-50	50	15	20	0.59	0.79	115	4.53	16, 18, 22, 25	5/8", 11/16", 7/8", 1"	50	110.2
HPH-50A	50	16	20	0.63	0.79	118	4.65	16, 18, 22, 25	5/8", 11/16", 7/8", 1"	84	185.2
HPH-50H	50	16	20	0.63	0.79	118	4.65	16, 18, 22, 25	5/8", 11/16", 7/8", 1"	85	187.4
HPH-100A	100	20	20	0.79	0.79	135	5.31	22, 25,28,32	7/8", 1", 1-1/8", 1-1/4"	140	308.7
HPH-100H	100	20	20	0.79	0.79	135	5.31	22, 25,28,32	7/8", 1", 1-1/8", 1-1/4"	180	396.8
HPH-150A	150	25	27	0.98	1.06	150	5.91	22, 25,28,32	7/8", 1", 1-1/8", 1-1/4"	230	507.1
HPH-200A	200	30	32	1.18	1.26	160	6.30	22, 25,28,32	7/8", 1", 1-1/8", 1-1/4"	330	727.5

HKP SERIES (Knock out Punch)

- Split Structure.spring return.
- Easy operation labor saving fast speed.
- Processing is not subject to site location restrictions.
- Including manual pump 0.8m high-pressure hose tubing and quick coupling.
- Standard accessories B sets of punching dies.
- Fastening Engineering plastic box packaging storage Tools and accessories.

Model	Output Force (tons)	Ram Stroke		Punching Capacity mm			Punch Dies		Weight	
				Plate Thickeness		Punch Range mm				
		mm	inch	Stainless Steel	Iron Steel		mm	inch	kg	lbs
HKP-10A	10	11	0.43	1.6	3.0	16-060	16, 20, 26.2, 32.5, 39, 51	5/8", 13/16", 1", 1-1/4", 1-1/2", 2"	10.0	22.0
HKP-10B	10	11	0.43	1.6	3.0	16-060	22, 27, 34, 43, 49, 60	7/8", 1-1/16", 1-5/16", 1-11/16", 1-15/16", 2-3/8"	10.4	22.9
HKP-15	15	16	0.63	2.0	3.5	16-114	63, 76, 89, 100, 114	2-1/2", 3", 3-1/2", 3-15/16", 4-1/2"	16.7	36.8

Note: The hydraulic hole opener round mold is divided into A. B. C three groups of molds

PUL SERIES

- 2/3 claws use.
- Hydraulic cylinder is made of solid steel with high safety factor.
- Fast positionning adjustment nut design.
- To be uses with separately pump.

PUL INTEGRAL HYDRAULIC PULLER

Model	Output (tons)	Spread		Max Reach		Ram stroke		Body end			Claw Lenght		G.W.	
		mm	inch	mm	inch	mm	inch	E	F	G	mm	inch	kg	lbs
PUL-5	5	50-200	1.97-7.87	140	5.51	50	1.97	45	21	90	200	7.87	5.8	12.8
PUL-10	10	50-250	1.97-9.84	160	6.30	60	2.36	60	27	85	250	9.84	8.5	18.7
PUL-15	15	50-300	1.97-11.81	180	7.09	60	2.36	60	27	85	300	11.81	11	24.3
PUL-20	20	50-350	1.97-13.78	200	7.87	55	2.17	75	32	78	350	13.78	15	33.1
PUL-30	30	50-400	1.97-15.75	250	9.84	55	2.17	80	32	78	400	15.75	18	39.7
PUL-50	50	50-500	1.97-19.69	400	15.75	75	2.95	110	44	110	500	19.69	30	66.1

IPUL SERIES (Integrated Puller)

- 2 or 3 arms claws combination design.
- Detachable handle and 360° pressure direction.
- New type pull wheel for easy operation.

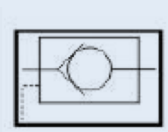
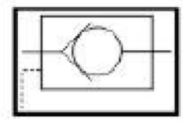
IPUL INTEGRAL HYDRAULIC PULLER

Model	Output (tons)	Spread		Max Reach		Ram stroke		Body end		Claw Lenght		G.W.	
		mm	inch	mm	inch	mm	inch	F	G	mm	inch	kg	lbs
IPUL-5	5	50-200	1.97-7.87	140	5.51	50	45	21	90	200	7.87	6.6	14.6
IPUL-10	10	50-250	1.97-9.84	160	6.30	60	60	27	85	250	9.84	10.5	23.2
IPUL-15	15	50-300	1.97-11.81	180	7.09	60	60	27	85	300	11.81	12.0	26.5
IPUL-20	20	50-350	1.97-13.78	200	7.87	55	75	32	78	350	13.78	17.0	37.5
IPUL-30	30	50-400	1.97-15.75	250	9.84	55	80	32	78	400	15.75	19.0	41.9
IPUL-50	50	50-500	1.97-19.69	400	15.75	75	110	44	110	500	19.69	36.0	79.4

MANIFOLDS (& Gauge adapters)

	Model	Description
	MAN-2	5 Ports manifold 3/8" NPTF
	MAN-4	7 Ports manifold 3/8" NPTF
	AM-21	Flow control manifold for 2 cylinders with 3/8" NPTF
	AM-41	Flow control manifold for 4 cylinders with 3/8" NPTF
	GA-2	1/2" NPTF Gauge Port, Male End 3/8" NPT, Female End 3/8" NPT
	GA-3	1/4" NPTF Gauge Port, Male End 3/8" NPT, Female End 3/8" NPT

VALVES

	Model	Description	Hydraulic Symbol
	V-82	**Needle Valve** 3/8" NPT Female port To control cylinder speed Can be used as temporary shutt-off valve Not recommended as shut-off valve	
	V-66	**Manually Operated Check Valve** For load holding application with single and double acting cylinder. Manual release holding	
	V-42	**Pilot Operated Check Valve** Normally used with double acting cylinders To hold the load in case of system pressure loss 3/8" NPT Female port	

COUPLERS

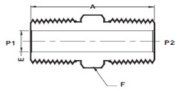
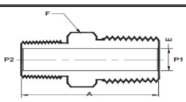
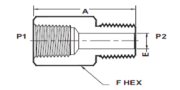
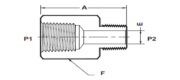
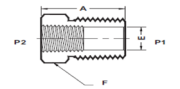
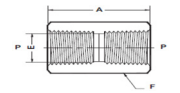
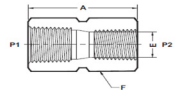
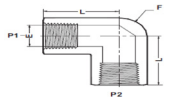
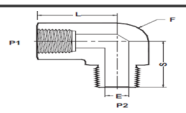
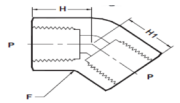
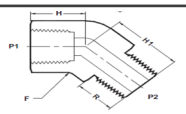
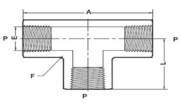
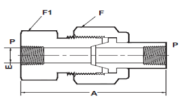
Model	Description	Model No.	Description
QCF06	 Female Screwed Q.C. 3/8" NPT Ext Male Thread	QCM06	 Male Screwed Q.C. 3/8" NPT Female Thread

HOSES

- Heavy duty rubber.
- Thermo-plastic.

Model		Internal Diameter inch	Hose Ends	Hose Length (FT)
HC Series Heavy Duty Rubber	PHC Series Thermo-plastic			
HC04-3	PHC04-3	0.25	3/8" NPTM	3
HC04-6	PHC04-6			6
HC04-10	PHC04-10			10
HC04-20	PHC04-20			20
HC04-30	PHC04-30			30
HC04-50	PHC04-50			50
HC04-QCM06-3	PHC04-QCM06-3	0.25	QCM06	3
HC04-QCM06-6	PHC04-QCM06-6			6
HC04-QCM06-10	PHC04-QCM06-10			10
HC04-QCM06-20	PHC04-QCM06-20			20
HC04-QCM06-30	PHC04-QCM06-30			30
HC04-QCM06-50	PHC04-QCM06-50			50
HC06-3	-	0.38	3/8" NPTM	3
HC06-6	-			6
HC06-10	-			10
HC06-20	-			20
HC06-30	-			30
HC06-50	-			50
HC06-QCM06-3	-	0.38	QCM06	3
HC06-QCM06-6	-			6
HC06-QCM06-10	-			10
HC06-QCM06-20	-			20
HC06-QCM06-30	-			30
HC06-QCM06-50	-			50

FITTINGS 10,000 PSI.

		Model No.	P1	P2	F (Hex)
Hex Nipple		VE-S6-V4N-HN	1/4 NPTM	1/4 NPTM	9/16
		VE-S6-V6N-HN	3/8 NPTM	3/8 NPTM	11/16
Hex Reducing Nipple		VE-S6-V6-HRN-4N	3/8 NPTM	1/4 NPTM	11/16
Adapter		VE-S6-V4-A-4N	1/4 NPTF	1/4 NPTM	3/4
		VE-S6-V6-A-6N	3/8 NPTF	3/8 NPTM	7/8
Reducing Adapter		VE-S6-V6-RA-4N	3/8 NPTF	1/4 NPTM	7/8
		VE-S6-V8-RA-4N	1/2 NPTF	1/4 NPTM	1-1/16
		VE-S6-V8-RA-8N	1/2 NPTF	3/8 NPTM	1-1/16
Reducing Bushing		VE-S6-V6-RB-4N	3/8 NPTM	1/4 NPTF	3/4
		VE-S6-V8-RB-4N	1/2 NPTM	1/4 NPTF	7/8
		VE-S6-V8-RB-6N	1/2 NPTM	3/8 NPTF	7/8
Hex Coupling		VE-S6-V4N-HC	1/4 NPTF	1/4 NPTF	3/4
		VE-S6-V6N-HC	3/8 NPTF	3/8 NPTF	7/8
Hex Reducing Coupling		VE-S6-V6-HRC-4N	3/8 NPTF	1/4 NPTF	7/8
Elbow Female		VE-S6-V4-EF-4N	1/4 NPTF	1/4 NPTF	11/16
		VE-S6-V6-EF-6N	3/8 NPTF	3/8 NPTF	13/16
Elbow Street		VE-S6-V4-ES-4N	1/4 NPTF	1/4 NPTM	11/16
		VE-S6-V6-ES-6N	3/8 NPTF	3/8 NPTM	13/16
45° Elbow Female		VE-S6-V6N-45EF	3/8 NPTF	3/8 NPTF	7/8
45° Elbow Steet		VE-S6-V4-45ES-4N	1/4 NPTM	1/4 NPTF	3/4
		VE-S6-V6-45ES-6N	3/8 NPTM	3/8 NPTF	7/8
Tee Female		VE-S6-V6N-TF	3/8 NPTF		13/16
Union Ball Joint		VE-S6-V6N-UBJ	3/8 NPTF	3/8 NPTF	1-1/2