



INDUSTRIAL TOOLS

VIC-TORQ



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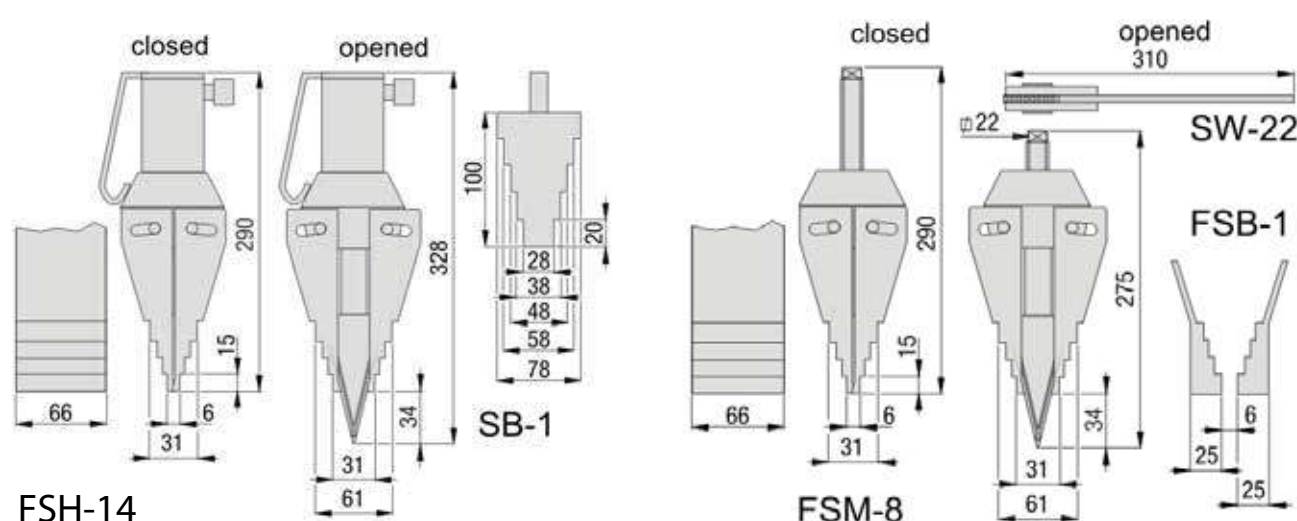
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Hydraulic Flange Spreader

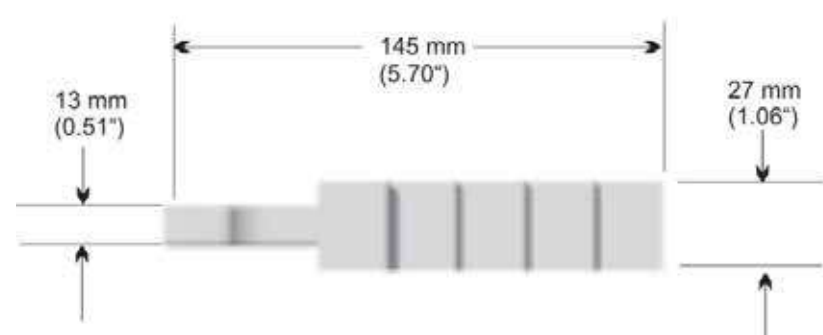
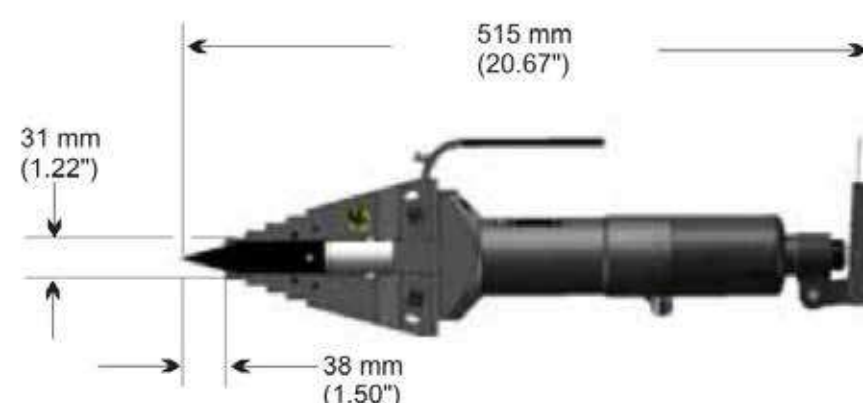
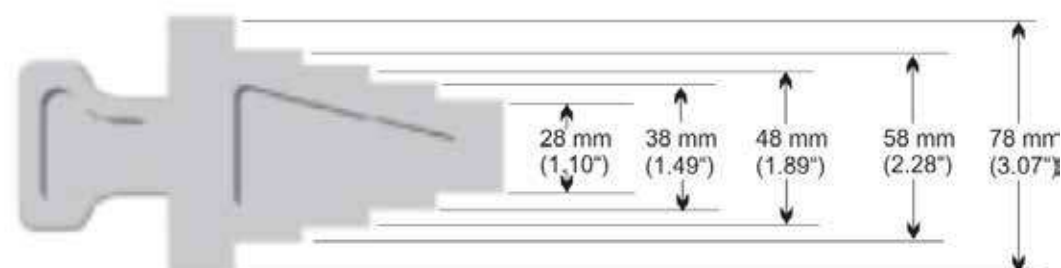
Requires access gap of only 6 mm
 Portable tools to safely spread flange joints
 Few moving parts mean durability and low maintenance
 Available for both mechanical and hydraulic options



Max Force(ton)	Model	Max Spread (mm)	Tip Clearance (mm)	Spreader Type	Oil Cap (cm ³)	W (kg)
8	FSM-8	81	6	Mechanical	/	8
14	FSH-14	81	6	Hydraulic	78	9
14	FSH-14H	81	6	Hydraulic	156	38

Integral Hydraulic Flange Spreader

Portable and compact design
 No need extra hose and pump



Max Force(ton)	Model	Max Spread (mm)	Tip Clearance (mm)	Spreader Type	Oil Cap (cm ³)	W (kg)
14	FSH-15	81	6	Hydraulic	78	10

24Ton External Hydraulic Flange Spreader

Requires access gap of only 6 mm
Increased step depth on upper steps
Rapid disassembly and assembly
Working Pressure:700 bar



Model	Capacity	Tip Clearance	Maxium Spread	Jaw Width	Power Source	N.W(kg)
FSW25TE	24Ton	6mm	103.5mm	60mm	Hydraulic	15

24Ton Integral Hydraulic Flange Spreader

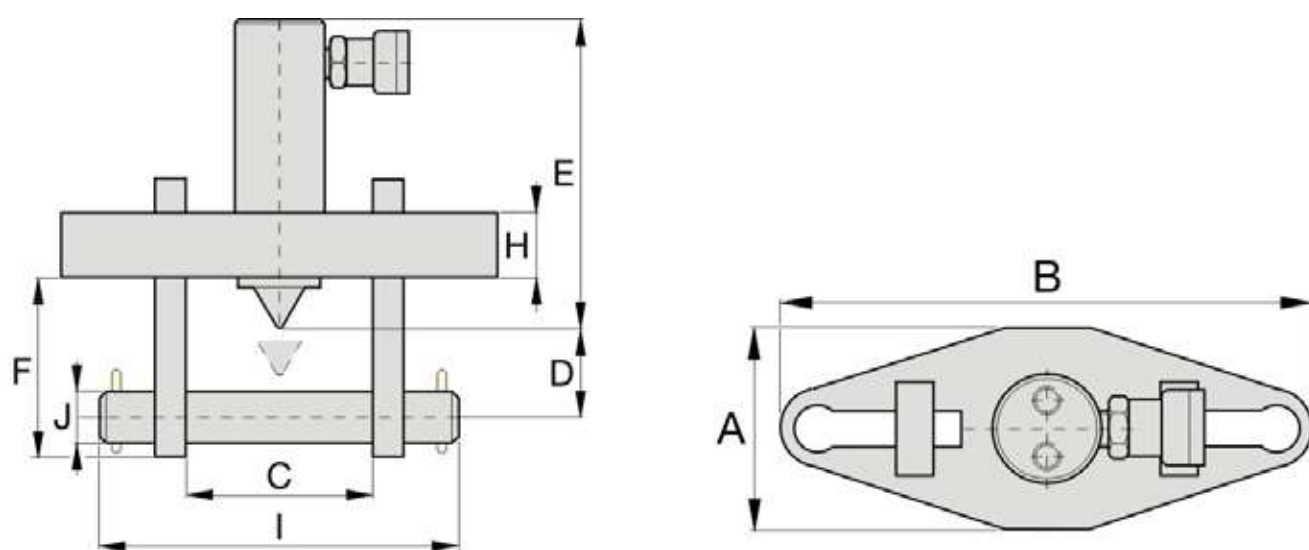
Working Pressure:700 bar
Practical, portable and light in weight
Requires access gap of only 6 mm
No need extra hose and pump
Rapid disassembly and assembly



Model	Capacity	Tip Clearance	Maxium Spread	Jaw Width	Power Source	N.W(kg)
FSW25TI	24Ton	6mm	103.5mm	60mm	Hydraulic	14

Hydraulic Flange Spreader

- Light weight, easy to operate
- Compact and ergonomic design
- Adjustable jaw size from 70mm to 216mm
- Single-acting, spring return



Maximum Flange Thickness (mm)	Stud Size (mm)	Standard Wedge (mm)	Capa- city ton	Stroke (mm)	Oil Capa- city (cm³)	Model Number	Dimensions (mm)										 (kg)
							A	B	C		D	E	F	H	I	J	
									Min.	Max.							
2 x 57	19 - 28	3 - 28	5	38	24.6	FS-56	76	209	70	155	32	196	88	25	206	19	11.5
2 x 92	31- 41	3 - 28	10	54	78.7	FS-109	108	279	104	216	50	152	114	38	273	31	18.1

Integral Vertical Lifting Wedge

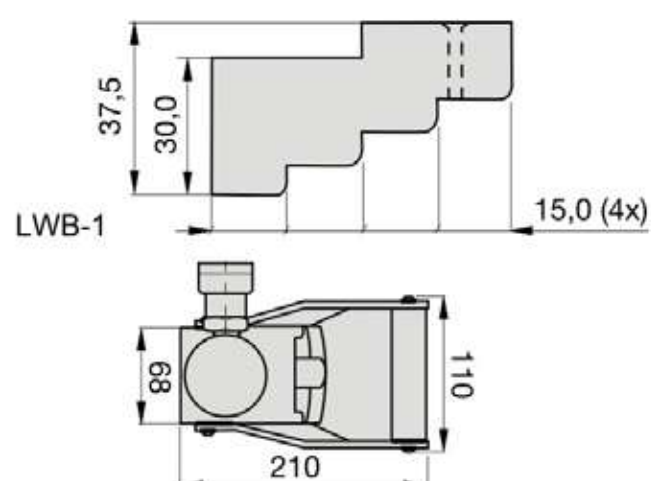
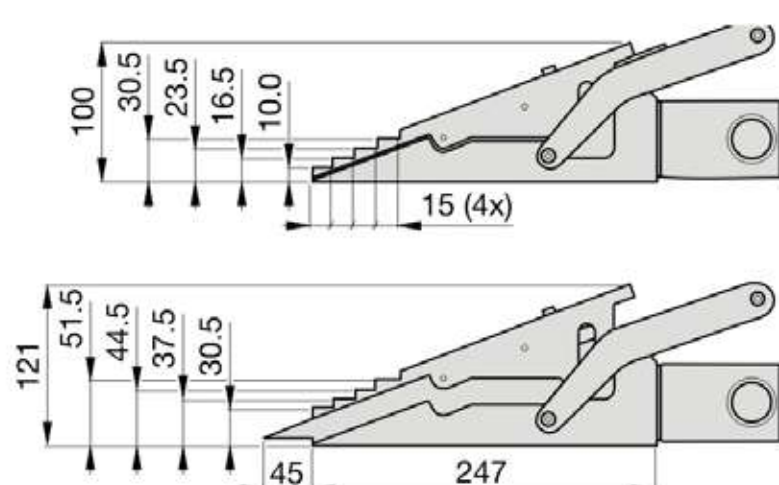
- Requires very small access gap of 10mm
- Each step can spread under full load



Model	Max Force (ton)	Tip Clearance (mm)	Stroke (mm)	Max Spread (mm)	Weight (kg)
LW 18	18	10	21	81	13

Hydraulic Vertical Lifting Wedge

- Requires very small access gap of 10mm
- Lifting force 16 ton at 700 bar
- Each step can spread under full load
- Single acting, spring return



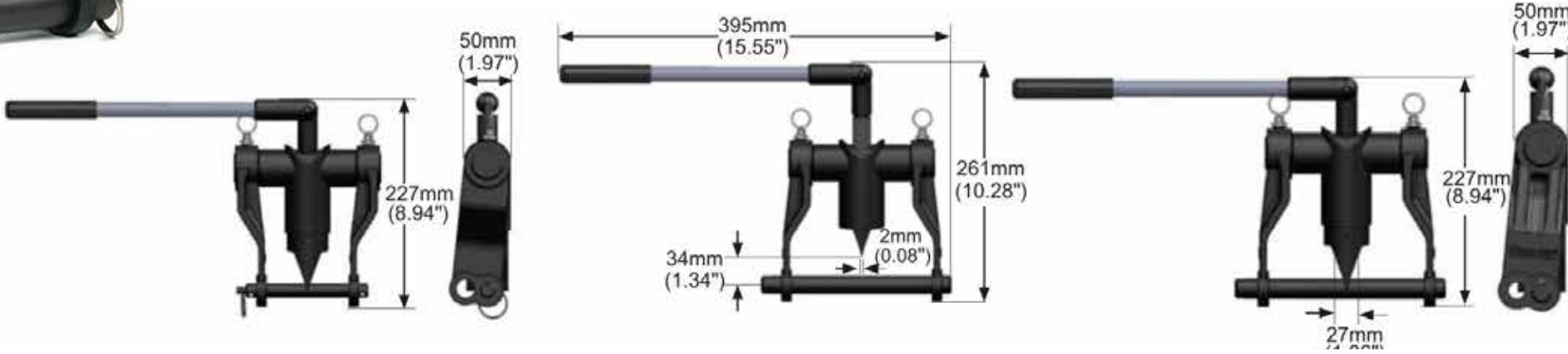
Maximum Lifting Force ton (kn)	Lifting Stroke (mm)	Model	Tip Clearance (mm)	Maximum Operating Pressure (bar)	Oil Capacity (cm³)	 (kg)
16 (157)	21	LW-16	10	700	78	9.0

Mini-Gap Flange Spreader

Unique double angled wedge produces greater spreading force without reducing spreading distance
Robust light weight tool
Requires access gap of only 2mm



Model	Cap (ton)	Min/Max spread (mm)	W (kg)
MS7TM	7	2-27	12



Integral Flange Spreader

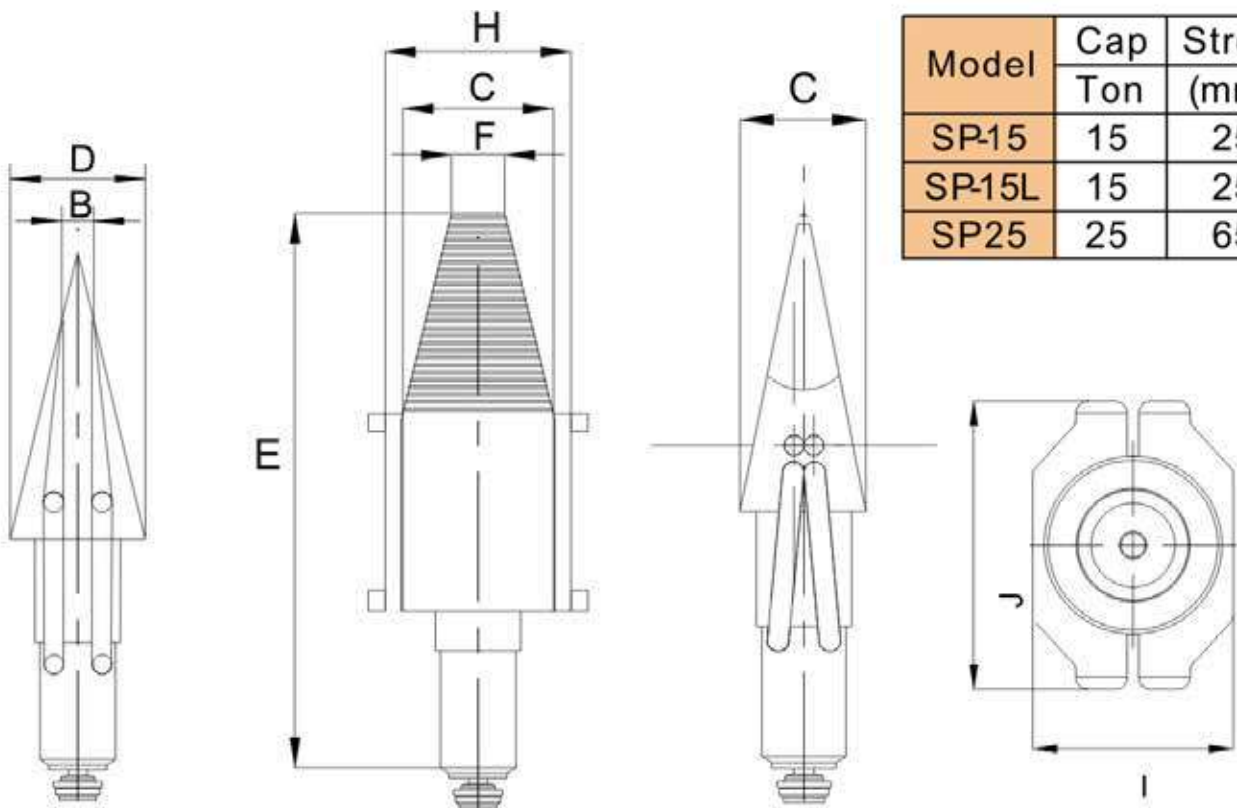
Cylinder built-in
No need extral pump and hose
Working simple and quick



Model	Cap (ton/kn)	Tip Clearance (mm)	Min/Max Spread (mm)	Weight (kg)
FS-108	8/80	3	90-220	6

Hydraulic Spreader

Vertical lifting Loaded
Easy for operation,light weight and much workable in limited space
Apply gap 5-40mm



Model	Cap	Stroke	Spread (mm)		C	D	E	F	G	H	I	J	W
	Ton	(mm)	Min-A	Max-B	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
SP15	15	25	6	16	36	46	232	31	45	55	63	63	3.3
SP15L	15	25	6	16	36	46	232	31	45	55	63	63	3.3
SP25	25	65	8	25	43	59	342	50	70	82	70	102	7.8



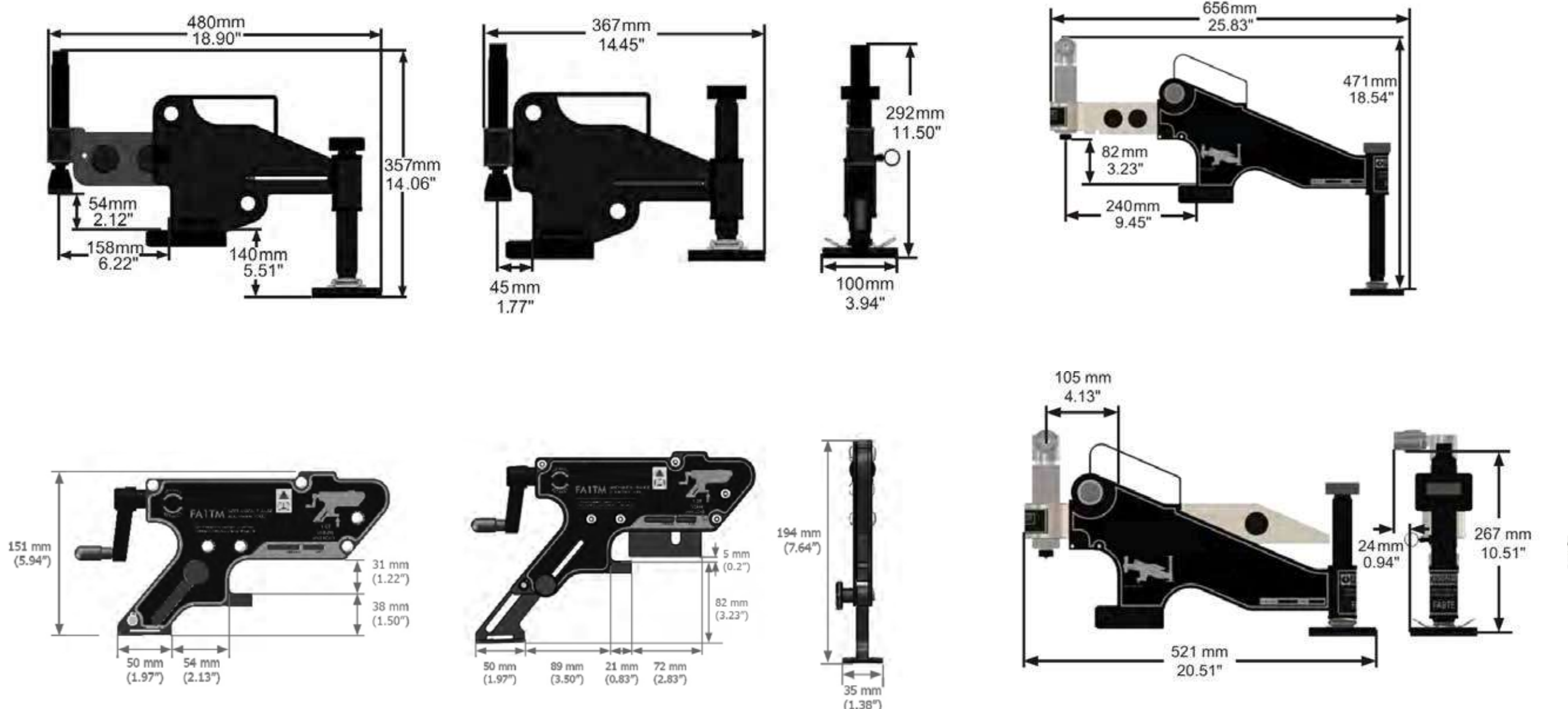
Flange Alignment Tool

Max Bolt Size:16-31.5mm

Cap:1-9ton(10-90kn)

Max Working Pressure:700bar

Model	Capacity (ton/kN)	Operation Type	Min Bolt Size (in/mm)	Flange Thickness (in/mm)	N.W(kg)
FA-1TM	10/1	Mechanical	0.63/16	0.55- 3.29/14-82	3
FA-4TM	40/4	Mechanical	0.95/24	1.18-5.23/30-133	9
FA-9TM	9/90	Mechanical	1.24/31.5	3.66-9.00/93-228	17
FA-9TE	9/90	Hydraulic	1.24/31.5	3.66-9.00/93-228	17



Hydraulic Wedgie and Spread Cylinder

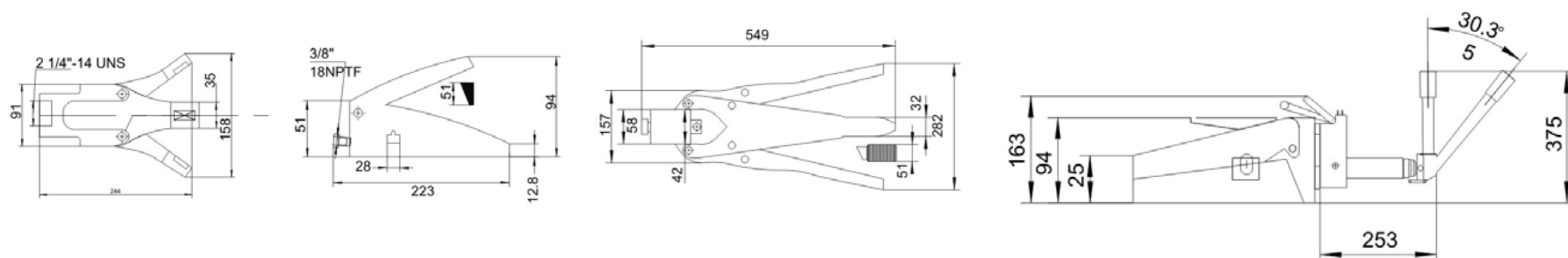
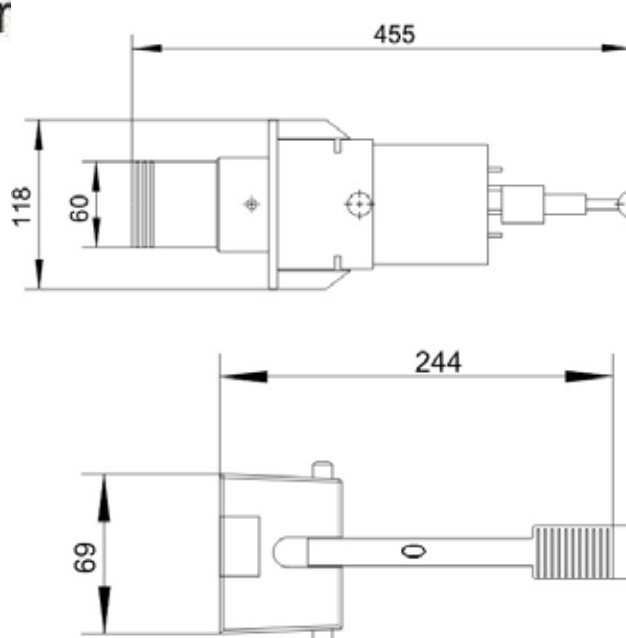
WR-3 integrated pump offers portable power

WR-15 for long stroke spreading applications

WR-5 for use in very confined space

Single acting, spring return

Model	Cap (ton/kN)	Tip Clearance (mm)	Max Spread (mm)	Cylinder Effective Area(cm ²)	Oil Cpa (cm ³)	W (kg)
WR-5	1/9	12	94	6.5	10	3
WR-13	1.5/12	25	94	14.4	X	13
WR-15	0.75/6	32	292	14.5	64	12
A-92	1/9	35	158	X	X	4



NS-Series Hydraulic Nut Splitter



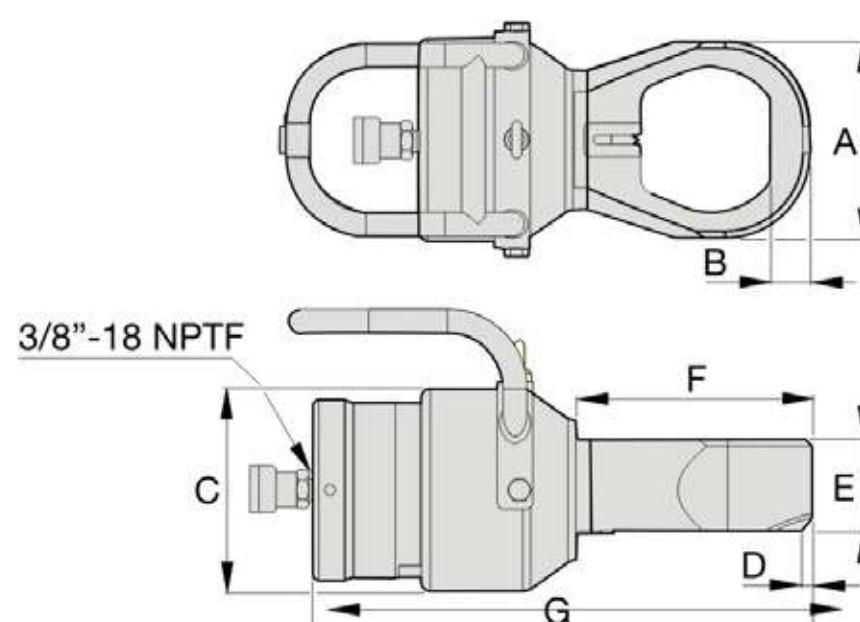
Blade Cutting Depth Scale
Adjustable cutting depth scale for controlled blade extension, which avoids damage to bolt threads. The scale indicates the bolt range in metric and imperial values on each cutting head.

Capacity: 917-1711kN

Hexagon Nut Size: 70-130mm

Bolt Range: M45-M90

Maximum Operating Pressure: 700 bar



- Specially designed to suit standard ANSI B16.5 / BS1560 flanges
- Single-acting (spring return) or double-acting cylinder
- Tri-blade technology provides three cutting surfaces on a single blade
- Interchangeable heads provide maximum nut range flexibility
- Preset scale allows controlled blade extension, which avoids damage to bolt threads
- Grip tape and handle included for more secure manoeuvrability
- Nickel-plated cylinder body for excellent corrosion protection and improved durability in harsh environments
- Internal Pressure Relief Valve for overload protection



Heavily corroded and weathered nuts are quickly split and removed using a NS-Series nut splitter.

NUT SPLITTER SPECIFICATIONS

Bolt Range (mm)	Nut Range (mm)	Capacity ton (kn)	Oil Cap (cm ³)	Model	Dimensions							 (kg)	Hydraulic Cylinder	Cutting Head	Replacement Blade
					A	B	C	D	E	F	G				
M45 - M52	70 - 80	103 (917)	377	NS-7080	132	28	180	8.0	81	186	412	37.0	NSC-70	NSH-7080	NSB-70
M45 - M56	70 - 85	103 (917)	377	NS-7085	145	30	180	8.0	81	196	422	37.0	NSC-70	NSH-7085	NSB-70
M45 - M64	70 - 95	103 (917)	377	NS-7095	160	32	180	8.0	81	201	432	38.5	NSC-70	NSH-7095	NSB-70
M45 - M72	70 - 105	103 (917)	377	NS-70105	174	35	180	9.0	81	209	443	39.5	NSC-70	NSH-70105	NSB-70
M76 - M80	110 - 115	193 (1711)	819	NS-110115	189	36	234	3.7	111	234	472	69.0	NSC-110	NSH-110115	NSB-110
M76 - M90	110 - 130	193 (1711)	819	NS-110130	219	41	234	2.5	111	242	493	71.5	NSC-110	NSH-110130	NSB-110

NC-Series Hydraulic Nut Splitter



Hydraulic Nut Splitters are available as sets (pump, tool, gauge, gauge adaptor, couplers and hose) for your ordering convenience.

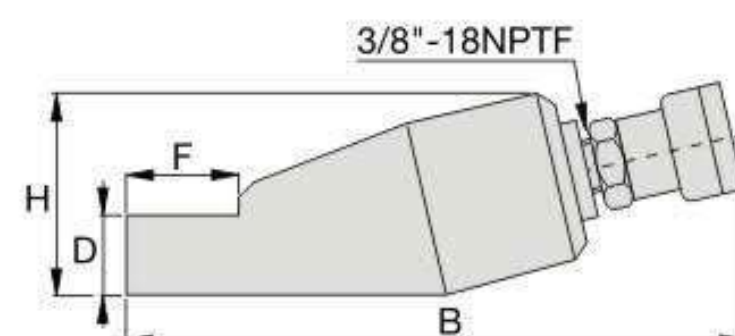
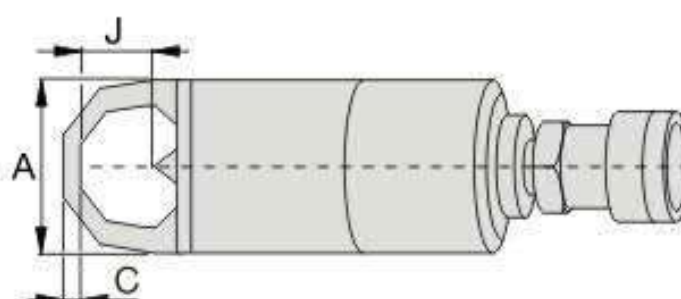
Capacity: 49-882kN (5-90ton)

Bolt Range: M6-M48

Maximum Operating Pressure: 700 bar



- Compact and ergonomic design, easy to use
- Unique angled head design
- Single-acting, spring return cylinder
- Heavy duty chisels can be reground
- Nut Splitters include spare chisel, spare set screw and wrench used to secure the chisel.
- Applications include service trucks, piping industry, tank cleaning, petrochemical, steel construction, mining, etc.

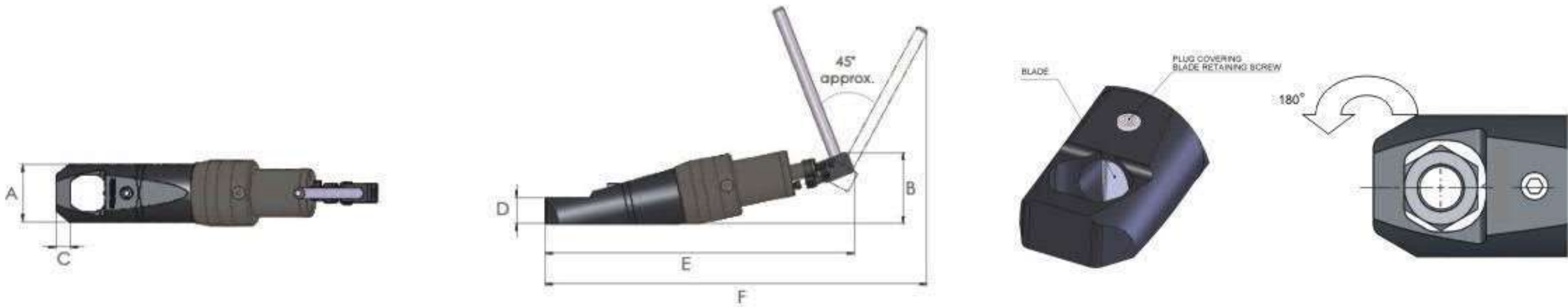


Bolt Range (mm)	Hexagon Nut (mm)	Capacity ton (kN)	Oil Capacity (cm ³)	Model	Dimensions (mm)							 (kg)	Replacement Chisel Model
					A	B	C	D	F	H	J		
M6 - M12	10 - 19	5 (49)	15	NC-1319	40	170	7	19	28	48	21	1.2	NCB-1319
M12 - M16	19 - 24	10 (98)	20	NC-1924	54	191	10	26	40	62	25	2.0	NCB-1924
M16 - M22	24 - 32	15 (147)	60	NC-2432	64	222	13	29	51	72	33	3.0	NCB-2432
M22 - M27	32 - 41	20 (196)	80	NC-3241	75	244	17	36	66	88	43	4.4	NCB-3241
M27 - M33	41 - 50	35 (343)	155	NC-4150	94	288	21	45	74	105	54	8.2	NCB-4150
M33 - M39	50 - 60	50 (490)	240	NC-5060	106	318	23	54	90	128	60	11.8	NCB-5060
M39 - M48	60 - 75	90 (882)	492	NC-6075	156	393	26	72	110	181	80	34.1	NCB-6075

Intergal Hydraulic Nut Splitter

Angled body design on all models
Manufactured from high quality steel
Provides necessary clearance on flanges and flat surfaces
All models incorporate an integral hydraulic pump with multi-positional lever for even greater versatility.

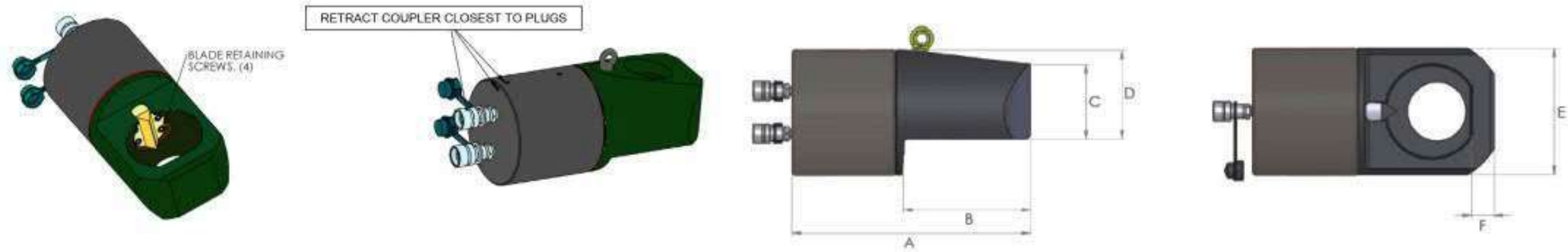
Model	Hexagon AF Sizes		Bolt Sizes		W (kg)	Dimension(mm)					
	mm	inch	mm	imperial		A	B	C	D	E	F
HNS2432	17 - 32	11/16" - 1 1/4"	M10 - M22	1/2" - 3/4"	5	64	88	125	30	380	455
HNS3241	32 - 41	1 1/4" - 1 5/8"	M22 - M27	3/4" - 1"	7	78	101	20	37	440	540
HNS4150	41 - 50	1 5/8" - 2"	M27 - M33	1" - 1 1/4"	11	94	112	21	43	471	566



Double Acting Hydraulic Nut Splitter

Working pressure 700 Bar
Double acting design
Splitting blades are easy to remove and re-install after re-sharpening or when a replacement blade is required.

Model	HexagonAF Sizes		Stud Bolt Thread Sizes		W(kg)	Dimension(mm)					
	mm	inch	metric	imperial		A	B	C	D	E	F
DNS75105	75 - 105	2 15/16" - 4 1/4"	M48 - M72	1 7/8" - 2 3/4"	51	379.5	192	99.5	130.5	183	34
DNS105135	105 - 135	4 1/4" - 5 3/8"	M72 - M95	2 3/4" - 3 1/2"	98	451	240	140	167.5	235	41



Manual Torque Multiplier(MDS)

Planetary gear train multipliers torque output

Ideal for nut dimension application in confined space, light weight and easy handling

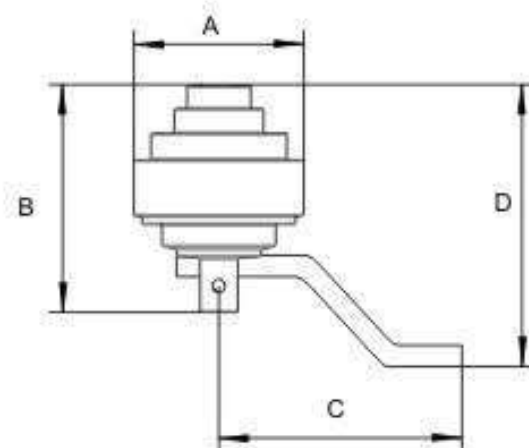
Reaction foot can adjust to replace all types of impact sockets in 360°

Applicable to a variety of large diameter bolt nut

Customized order is available according to individual requirement

Model	Torque (mm)	Nut Size	Bolt Size	Ratio	Input S	Output S	W (kg)
MDS-15	1500	S30-S46	M20-M30	5:1	1/2"	1"	2.6
MDS-20	2000	S32-S55	M22-M36	16:1	1/2"	1"	3.9
MDS-35	3500	S46-S70	M30-M45	18:1	1/2"	1"	5.5
MDS-42	4200	S50-S75	M33-M48	20:1	1/2"	1 1/2"	6
MDS-55	5500	S55-S80	M36-M52	22:1	1/2"	1 1/2"	7.5
MDS-75	7500	S65-S90	M42-M60	26:1	1/2"	1 1/2"	10
MDS-100	10000	S80-S105	M52-M72	60:1	1/2"	1 1/2"	17
MDS-150	15000	S90-S115	M60-M80	75:1	1/2"	2"	25
MDS-200	20000	S105-S135	M72-M95	90:1	1/2"	2"	31

Model	A	B	C	D
MDS-15	88	125	92	150
MDS-20	88	160	123	200
MDS-35	95	175	168	220
MDS-42	105	205	200	260
MDS-55	110	210	208	268
MDS-75	127	240	210	298
MDS-100	142	270	245	345
MDS-150	152	298	266	390
MDS-200	182	320	308	410



Manual Torque Multiplier(HT3)

With 5:1 torque ratio

Repeatable accuracy of $\pm 4\%$

Two stages planet gear

Model	Torque Range		Ratio	Input S	Output S	W (kg)	A (mm)	B (mm)	C (mm)	D (mm)
	N.m	lbf.ft								
HT3-1300	1300	960	5:1	1/2"	3/4"	5.1	108	126	210	180
HT3-2700	2700	2000	5:1	3/4"	1"	5.1	108	128	210	186

Model	Torque Range		Ratio	Input S	Output S	W (kg)	A (mm)	B (mm)	C (mm)
	N.m	lbf.ft							
HT4-3000	3000	2200	15.5:1	1/2"	1"	8	108	156	450
HT4-4500	4500	3300	26:1	1/2"	1"	9	108	173	450

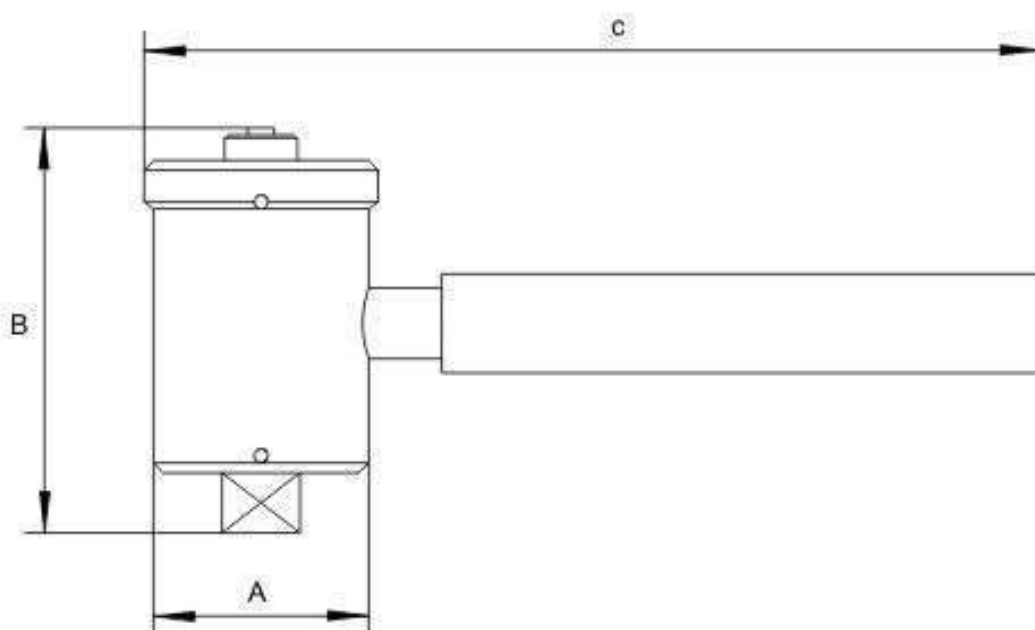
Manual Torque Multiplier(HT4)

With 15.5:1 and 26:1 torque ratio

Repeatable accuracy of $\pm 4\%$

Two stages planet gear

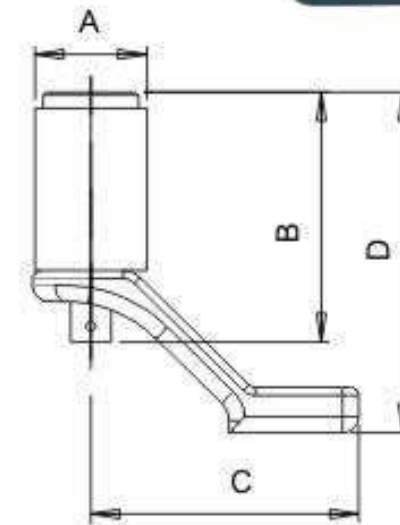
With anti-win-up ratchet(Anti backlash)



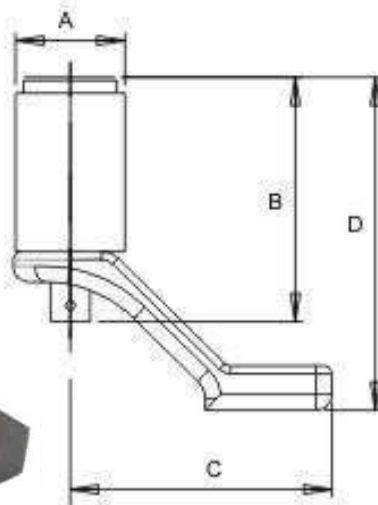
Manual Torque Multiplier(HT52&HT72)

Anti-win-up ratchet is available
Repeatability accuracy of :±4%

Model	Torque Range		Ratio	Input S	Output S	W (kg)	A (mm)	B (mm)	C (mm)	D (mm)
	N.m	lbf.ft								
HT52/22-01	1000	740	22:1	3/8"	3/4"	2.3	52	139	131	175
HT52/22-02	1000	740	22:1	1/2"	3/4"	2.3	52	139	131	175
HT52/22-03	1000	740	22:1	3/8"	3/4"	2.5	52	150.1	131	186.3
HT52/22-04	1000	740	22:1	1/2"	3/4"	2.5	52	150.1	131	186.3
HT52/4.5	1000	740	4.5:1	1/2"	3/4"	1.9	52	115	131	150.3
HT72/5-01	1000	740	5:1	1/2"	3/4"	3.1	72	144	165	188
HT72/5-02	1500	1100	5:1	1/2"	1"	3.1	72	144	165	188
HT72/5-03	2000	1450	5:1	3/4"	1"	3.1	72	144	165	188
HT72/25-01	1000	740	25:1	1/2"	3/4"	3.4	72	165	165	188
HT72/25-02	2000	1450	25:1	1/2"	1"	3.4	72	165	165	188
HT72/25-03	1000	740	25:1	1/2"	3/4"	3.7	72	174	165	218
HT72/25 04	2000	1450	25:1	1/2"	1"	3.7	72	174	165	218



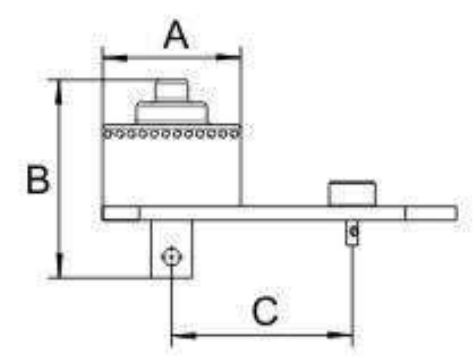
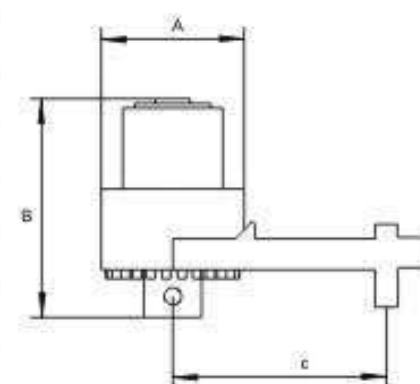
Manual Torque Multiplier(HT30&HT45&HT60)



Model	Torque Range		Ratio	Input S	Output S	W (kg)	A (mm)	B (mm)	C (mm)	D Min (mm)	D Max (mm)
	N.m	lbf.ft									
HT30/5	3000	2200	5:1	3/4"	1"	7	108	192	140	224.2	252.4
HT30/15	3000	2200	15:1	1/2"	1"	9	108	210.9	140	243.2	271.4
HT30/25	3000	2200	25:1	1/2"	1"	9	108	210.9	140	243.2	241.4
HT45/26	4500	3300	26:1	1/2"	1"	13	108	228.0	174	/	322
HT60/25	6000	4400	25:1	1/2"	1 1/2"	15	119	256	174	311.5	337
HT60/125	6000	4400	125:1	1/2"	1 1/2"	16.1	119	284.7	174	340.5	366

Heavy Duty Hand Torque Multiplier

Model	Torque Range		Ratio	Input S	Output S	W (kg)	A (mm)	B (mm)	C Min (mm)	C Max (mm)
	N.m	lbf.ft								
HT1	1700	1250	5:1	1/2"	3/4"	5.2	108	106	83	217
HT2/5	1700	1250	5:1	3/4"	1"	5.2	108	126	83	217
HT2/25	1700	1250	25:1	1/2"	1"	8	119	141.5	83	264
HT5/5	3400	2500	5:1	3/4"	1"	7.2	108	142.1	86	264
HT5/25	3400	2500	25:1	1/2"	1"	10	119	167.6	86	264
HT6/5	3400	2500	5:1	3/4"	1 1/2"	8	119	144.7	86	264
HT6/25	3400	2500	25:1	1/2"	1 1/2"	10	119	172	86	264
HT7/5	6000	4500	5:1	3/4"	1 1/2"	15	144	174.8	146	333
HT7/25-1	6000	4500	25:1	1/2"	1 1/2"	17	144	201.1	146	333
HT7/25-2	6000	4500	25:1	1/2"	1 1/2"	19	144	226	146	333
HT7/125-1	6000	4500	125:1	1/2"	1 1/2"	15.5	130	201.1	163.4	337
HT7/125-2	6000	4500	125:1	1/2"	1 1/2"	17	130	226	163.4	337
HT9/25	9500	7000	25:1	3/4"	1 1/2"	26	184	200.1	171	351
HT9/125	9500	7000	125:1	1/2"	1 1/2"	28	184	220.1	171	351
HT11/25	20000	14700	25:1	3/4"	2 1/2"	44	212	265.6	/	500
HT11/125	20000	14700	125:1	1/2"	2 1/2"	46	212	293.4	/	500
HT12/875	34000	25000	87.5:1	1/2"	2 1/2"	48	240	337	/	
HT13/125	47500	35000	125:1	3/4"	2 1/2"	103	315	379	/	



Hydraulic Square Drive Torque Wrench



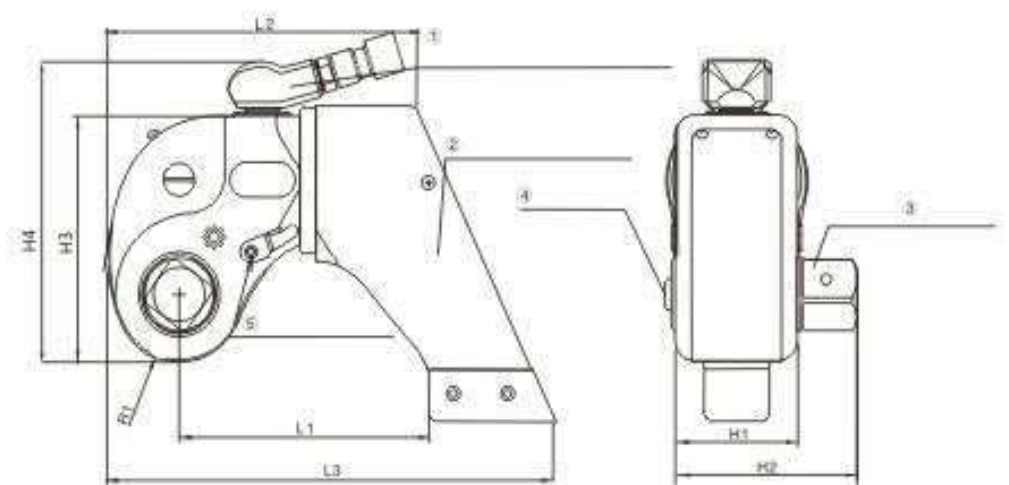
Square drive torque wrench are designed with accuracy, reliability and easy of use

A fully positionable, 360 rotating reaction arm allows

you to put torque wrench head where you need it

The multi-port swiveling inlet keeps the hydraulic hose out of your way while you work

Oxidation treatment provide excellent corrosion protection and durability in harsh environment

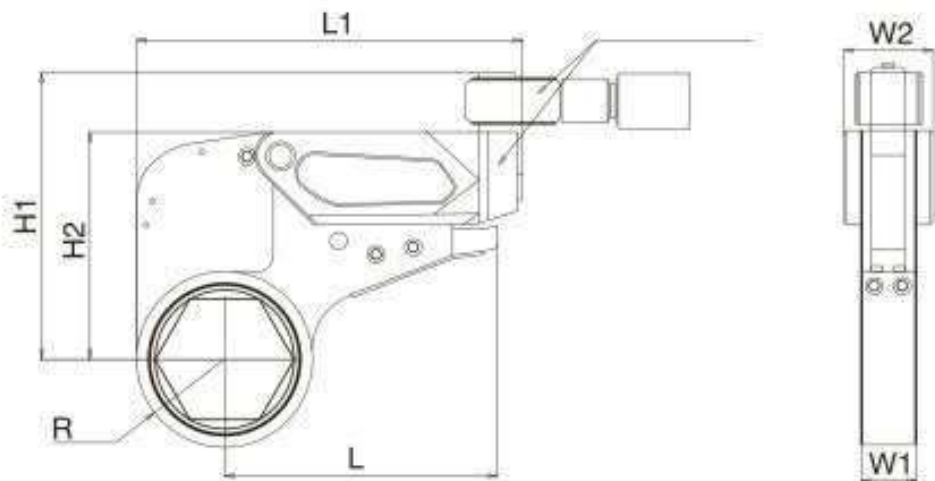


Torque Range (Nm)	Square Drive (inch)	Model	R1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	W (kg)
164 - 1760	3/4	VIC1	25.8	102	130	182	52	77	96	133	2.2
433 - 4332	1	VIC3	34.8	140	170	249	70	98	127	165	4.1
742 - 7420	1 1/2	VIC5	39.8	160	202	286	81	125	149	184	6.9
1015 - 10430	1 1/2	VIC8	46.8	184	228	326	90	134	172	207	11
1509 - 15090	1 1/2	VIC10	50.8	192	237	336	100	144	181	216	13
1940 - 19409	2 1/2	VIC15	56.8	223	273	391	110	164	206	241	20.2
2504 - 26447	2 1/2	VIC20	59.8	248	287	433	120	187	221	256	25.3
3309 - 34626	2 1/2	VIC25	70.8	256	323	464	138	206	258	293	34
4741 - 47414	2 1/2	VIC35	76.8	271	351	494	153	217	279	315	44
6925 - 69247	2 1/2	VIC50	78.8	295	376	528	162	226	291	326	53

Hydraulic Low Profile Torque Wrench



The low profile design is made to fit in small spaces
Interchangeable head design, no tools need for change
Ultra-light, ultra-thin makes tools completely no space restriction



Torque (Nm)	Power Head No	Working Head No	R1 (mm)	L1 (mm)	L (mm)	H1 (mm)	H2 (mm)	W1 (mm)	W2 (mm)	W (kg)
244-2534	TORQ2	TORQ2-50	41.3	205	147	129	100	32	50	3
489-5392	TORQ4	TORQ4-65	53.8	251.3	188	163	136	41	66	5.2
1017-10452	TORQ8	TORQ8-90	68.8	302.5	233	191	166	53	83	10
1724-16245	TORQ14	TORQ14-115	85.3	367	283	223	198	64	99	17
2247-22899	TORQ18	TORQ18-135	98.8	400.5	308	246	224	70	110	23
4064-40639	TORQ30	TORQ30-155	115.8	457.5	364	282	265	84	132	39

Optional Hexagon Reducer Inserts

Power Head	Working Head	A/B(mm)	Reducer No	A/B(mm)	Reducer No	A/B(mm)	Reducer No
LPT2	LPT2-32	32/27	2H3227				
	LPT2-36	36/30	2H3630	36/27	2H3627		
	LPT2-41	41/32	2H4132	41/30	2H4130	41/27	2H4127
	LPT2-46	46/36	2H4636	46/32	2H4632	46/30	2H4630
	LPT2-50	50/41	2H5041	50/36	2H5036	50/32	2H5032
LPT4	LPT4-32	32/27	4H3227				
	LPT4-36	36/30	4H3630	36/27	4H3627		
	LPT4-41	41/32	4H4132	41/30	4H4130	41/27	4H4127
	LPT4-46	46/36	4H4636	46/32	4H4632	46/30	4H4630
	LPT4-50	50/41	4H5041	50/36	4H5036	50/32	4H5032
	LPT4-55	55/46	4H5546	55/41	4H5541	55/36	4H5536
	LPT4-60	60/50	4H6050	60/46	4H6046	60/41	4H6041
	LPT4-65	65/55	4H6555	65/50	4H6550	65/46	4H6546
LPT8	LPT8-55	55/46	8H5546	55/41	8H5541		
	LPT8-60	60/50	8H6050	60/46	8H6046		
	LPT8-65	65/55	8H6555	65/50	8H6550	65/46	8H6546
	LPT8-70	70/60	8H7060	70/55	8H7055	75/50	8H7550
	LPT8-75	75/65	8H7565	75/60	8H7560	75/55	8H7555
	LPT8-80	80/70	8H8070	80/65	8H8065	80/60	8H8060
	LPT8-85	85/75	8H8575	85/70	8H8570	85/65	8H8565
	LPT8-90	90/80	8H9080	90/75	8H9075	90/70	8H9070
LPT14	LPT14-75	75/65	14H7565				
	LPT14-80	80/70	14H8070	80/65	14H8065		
	LPT14-85	85/75	14H8575	85/70	14H8570	85/65	14H8565
	LPT14-90	90/80	14H9080	90/75	14H9075	90/70	14H9070
	LPT14-95	95/85	14H9585	95/80	14H9580	95/75	14H9575
	LPT14-100	100/90	14H10090	100/85	14H10085	100/80	14H10080
	LPT14-105	105/95	14H10595	105/90	14H10590	105/85	14H10585
	LPT14-110	110/100	14H110100	110/95	14H11095	110/90	14H11090
LPT18	LPT18-85	85/75	18H8575				
	LPT18-90	90/80	18H9080	90/75	18H9075		
	LPT18-95	95/85	18H9585	95/80	18H9580	95/75	18H9575
	LPT18-100	100/90	18H10090	100/85	18H10085	100/80	18H10080
	LPT18-105	105/95	18H10595	105/90	18H10590	105/85	18H10585
	LPT18-110	110/100	18H110100	110/95	18H11095	110/90	18H11090
	LPT18-115	115/105	18H115105	115/100	18H115100	115/95	18H11595
	LPT18-120	120/110	18H120110	120/105	18H120105	120/100	18H120100
LPT30	LPT18-130	130/120	18H130120	130/115	18H130115	130/110	18H130110
	LPT30-90	90/80	30H9080				
	LPT30-95	95/85	30H9585	95/80	30H9580		
	LPT30-100	100/90	30H10090	100/85	30H10085	100/80	30H10080
	LPT30-105	105/95	30H10595	105/90	30H10590	105/85	30H10585
	LPT30-110	110/100	30H110100	110/95	30H11095	110/90	30H11090
	LPT30-115	115/105	30H115105	115/100	30H115100	115/95	30H11595
	LPT30-120	120/110	30H120110	120/105	30H120105	120/100	30H120100
	LPT30-130	130/120	30H130120	130/115	30H130115	130/110	30H130110
	LPT30-145	145/130	30H145130	145/120	30H145120	145/115	30H145115
	LPT30-155	155/145	30H155145	155/130	30H155130	155/120	30H155120

Electric Torque Wrench Pump

Ideal to work with PT&LPT series hydraulic torque wrench

Different voltage(110,220 and 380) 50/60Hz are available

Digital display is available



TWP-200D



TWP-200



Model	Wrench Qty	Power	Voltage	Oil flow (L/min)			Tank Oil	Net.W.
		KW	V	700 bar	320 bar	60 bar		
TWP-200-1	1	1.3	220	1.2	1.6	8	7.6	27
TWP-200-2	2	1.3	220	1.2	1.6	8	7.6	27.5
TWP-200-4	4	1.3	220	1.2	1.6	8	7.6	28
TWP-200D-1	1	1.3	220	0.9	1.6	8.2	7.6	28.5
TWP-200D-2	2	1.3	220	0.9	1.6	8.2	7.6	29



Model	Wrench Qty	Power	Voltage	Oil flow (L/min)		Tank Oil	Net.W.
		KW	V	700 bar	60 bar		
TWP-400-1	1	1.3	220	1.1	8	7.6	27
TWP-400-2	2	1.3	220	1.1	8	7.6	27.5
TWP-300-1	1	2.2	380	1.3	12	12	47
TWP-300-2	2	2.2	380	1.3	12	12	47.5



Pneumatic Torque Pump

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

Model	Oil Flow(L/min)			Oil Cap(L)	Air Preussre Range(bar)	W (kg)
	700bar	300bar	70 bar			
TWP-500P	0.8	1.6	8	7.6	4-8	21

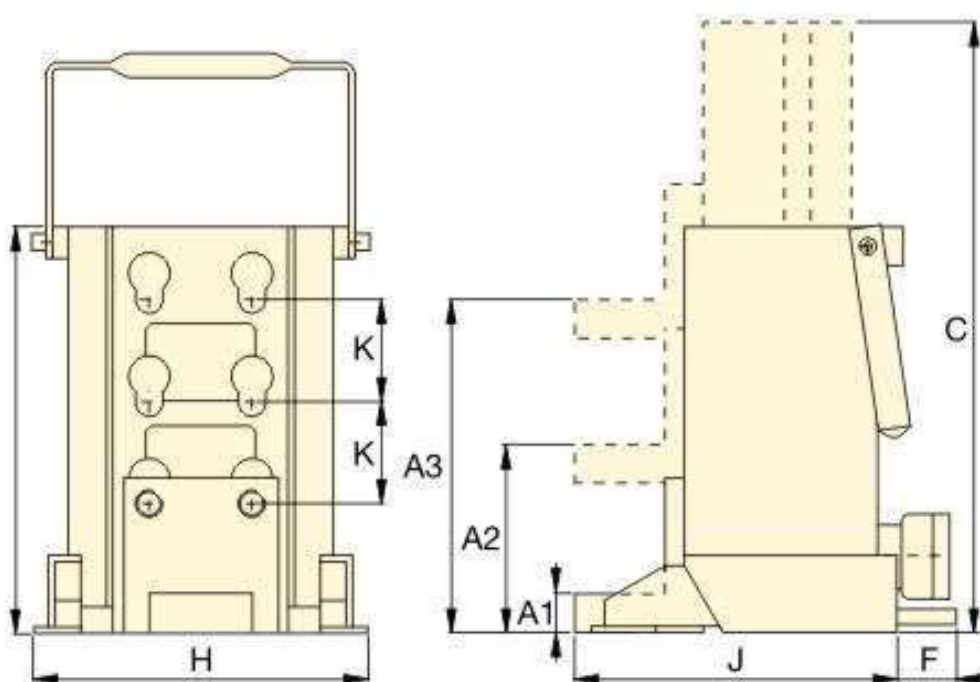
High Pressure Twin Hose

Internal Dia(mm)	Length(m)	Working Pressure(bar)	Twin Hose Model	Quick Coupling	W(kg)
6.4	3	700	HPH3-1/4	CT-901	3
	6		HPH6-1/4	CT-901	4
	9		HPH9-1/4	CT-901	6
	12		HPH12-1/4	CT901	9



Hydraulic Machine Lifts

Lifting heavy equipment with minimum available access
Precision guided to reduce friction and isolate cylinder from side-loads
Two extendable support feet provide extra stability

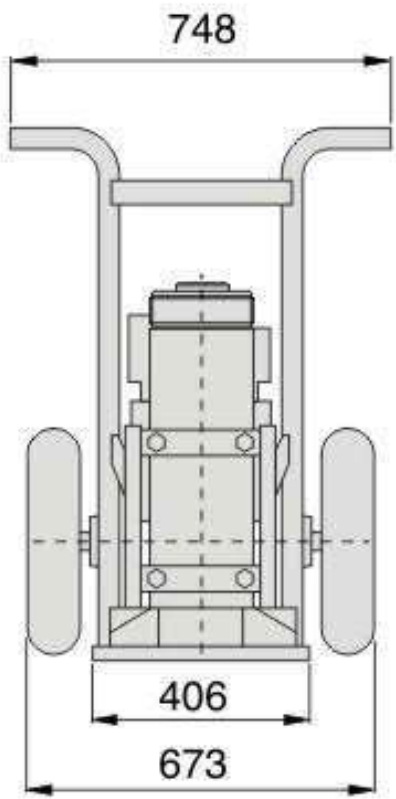
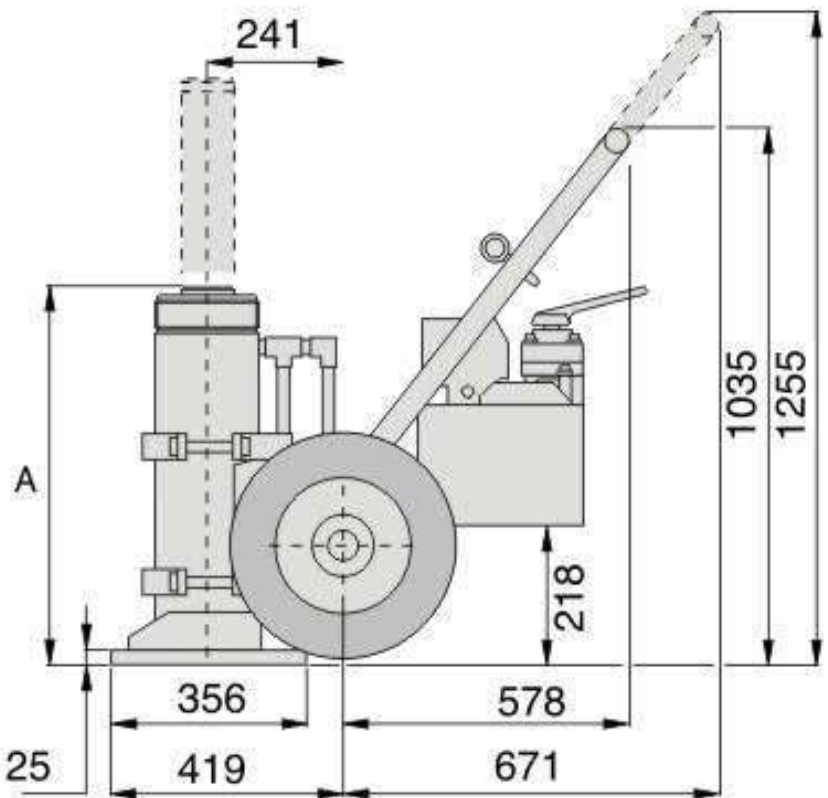


Model	Capacity	Toe Clearance(mm)			Stroke	Oil Cap	Dimensions						N.W
	ton (kN)	Min(A1)	Central(A2)	Max(A3)	(mm)	(cm³)	Total Ext.H(C)	Total Body H(D)	F	H	J	K	(kg)
SOH-10-6	8.5(75)	20	95	169	136	224	430	294	—	190	214	74	26
SOH-23-6	20(178)	30	110	190	157	525	472	320	65	265	250	80	45



Hydraulic Toughlift Jacking System

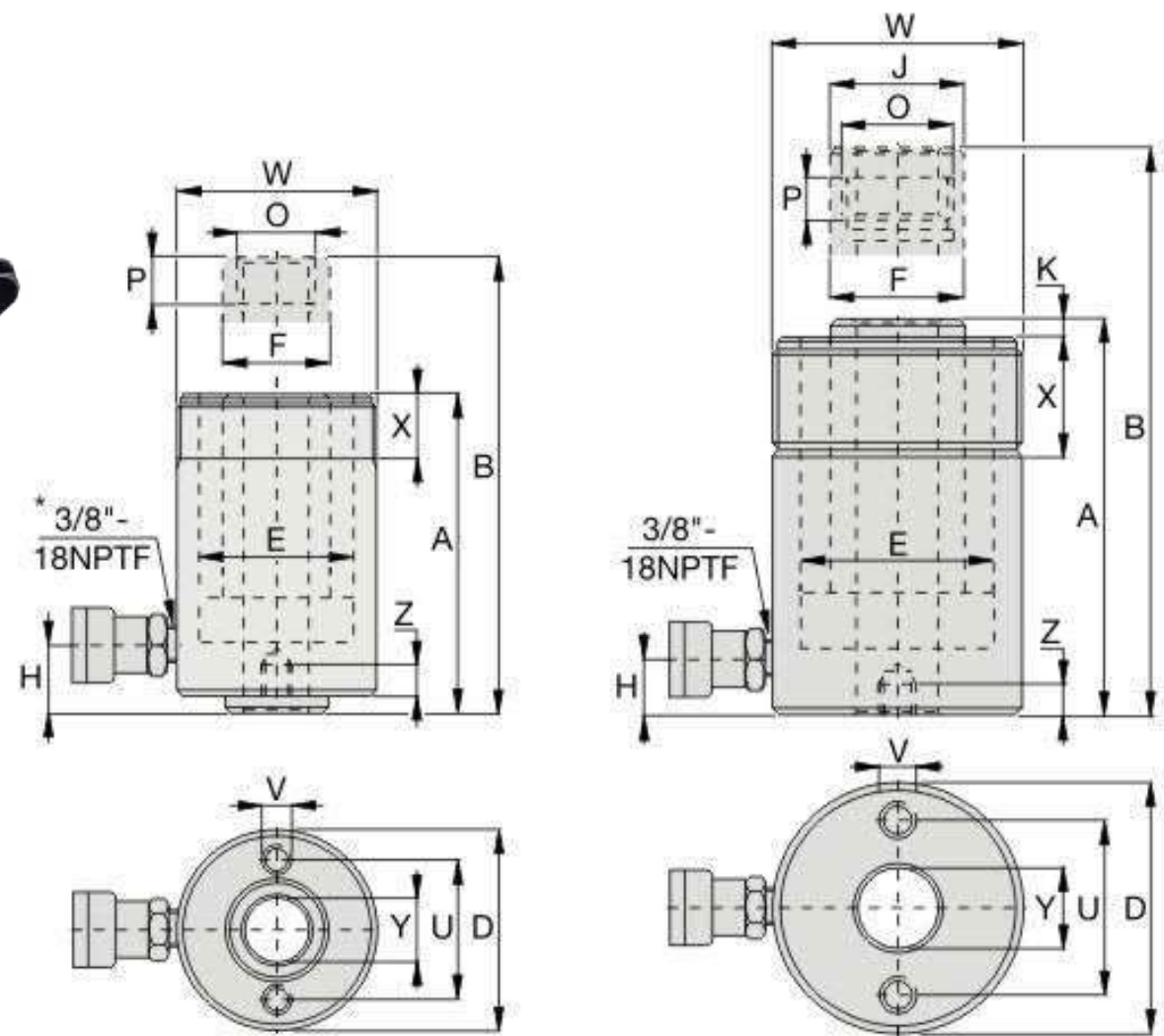
Capacity:	50-100 ton
Stroke:	330-508mm
Maximum Operating Pressure:	700 bar



- The strong and heavy-duty structure makes the machine have a long service life.
- Large base pad supports oil cylinder.
- Omni-directional wheels are convenient for transportation and placement.
- Hydraulic control check valve provides pressure self - locking in case of emergency.
- The cylinder and pump are easy to disassemble and can be easily used in other occasions or for maintenance.

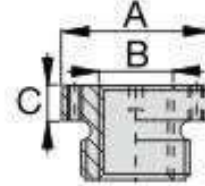
Pump type	Capacity ton (kn)	Stroke (mm)	Model	Collapsed Height (mm)	Speed mm/sec		 (kg)
					load	no-load	
Electric pump	50 (498)	330	RJI-5013	535	0.05	0.51	270
		508	RJI-5020	759	0.05	0.51	283
	100 (933)	330	RJI-10013	549	0.08	0.95	295
		457	RJI-10018	713	0.08	0.95	327

RCH-Series Hollow Plunger Cylinder



- Hollow plunger design allows for both, pull and push forces
- Single-acting, spring return
- Nickel-plated, floating center tube on models over 20 ton increases product life
- Baked enamel finish for increased corrosion resistance
- Collar threads for easy fixturing

Optional Heat Treated Hollow Saddles					
Saddle Type	Cylinder Model Number	Saddle Model Nr.	Saddle Dimensions (mm)		
			A	B	C
Threaded Hollow	RCH-202, 206	HP-2015	53	1" - 8	9
	RCH-302, 306	HP-3015	63	1 1/4" - 7	9
	RCH-603, 606	HP-5016	91	1 5/8" - 5 1/2	12
	RCH-1003	HP-10016	126	2 1/2" - 8	13



Base Mounting Hole Dimensions (mm)			
Model Number	Bolt Circle U	Thread V	Thread Depth Z
RCH-120	50.8	5/16"-18UNC	9.0
RCH-121	-	-	-
RCH-1211	-	-	-
RCH-123	50.8	5/16"-18UNC	12.7
RCH-202	82.6	3/8"-16UNC	9.4
RCH-206	82.6	3/8"-16UNC	9.4
RCH-302	92.2	3/8"-16UNC	14.0
RCH-306	92.2	3/8"-16UNC	14.0
RCH-603	130.3	1/2"-13UNC	14.0
RCH-606	130.3	1/2"-13UNC	14.0
RCH-1003	177.8	5/8"-11UNC	19.0

Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.	Coll. Height	Ext. Height	Out. Dia.	Cyl. Bore Dia.	Plgr. Dia.	Cyl. Base to Advance Port	Saddle Dia.	Saddle Protrusion from Plgr.	Plunger Internal Thread	Plunger Thread Length	Collar Thread	Collar Thread Length	Center Hole Dia.	
ton (kn)	(mm)		(cm ²)	(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	H (mm)	J (mm)	K (mm)	O	P (mm)	W	X (mm)	Y (mm)	(kg)
13(125)	8	RCH-120	17.9	14	55	63	69	54.1	35.1	9	-	-	3/4" -16 UN	16	2 3/4" -16	30	19.6	1.5
	42	RCH-121*	17.9	75	120	162	69	54.1	35.1	25	-	-	-	-	2 3/4" -16	30	19.6	2.8
	42	RCH-1211	17.9	75	120	162	69	54.1	35.1	25	-	-	3/4" -16 UN	16	2 3/4" -16	30	19.6	2.8
	76	RCH-123	17.9	136	184	260	69	54.1	35.1	25	-	-	-	-	2 3/4" -16	30	19.6	4.4
20(215)	49	RCH-202*	30.7	150	162	211	98	73.1	54.1	19	54	9.7	1 9/16" -16 UN	19	3 7/8" -12	38	26.9	7.7
	155	RCH-206	30.7	476	306	461	98	73.1	54.1	25	54	9.7	1 9/16" -16 UN	19	3 7/8" -12	38	26.9	14.1
30(326)	64	RCH-302*	46.6	298	178	242	114	88.9	63.5	21	63	9.0	1 13/16" -16 UN	22	4 1/2" -12	42	33.3	10.9
	155	RCH-306	46.6	722	330	485	114	88.9	63.5	25	63	9.0	1 13/16" -16 UN	22	4 1/2" -12	42	33.3	21.8
60(576)	76	RCH-603*	82.3	626	247	323	159	123.9	91.9	31	91	12.0	2 3/4" -16 UN	19	6 1/4" -12	48	53.8	28.1
	153	RCH-606	82.3	1259	323	476	159	123.9	91.9	31	91	12.0	2 3/4" -16 UN	19	6 1/4" -12	48	53.8	35.4
95(931)	76	RCH-1003*	133.0	1011	254	330	212	165.1	127.0	38	126	12.0	4" -16 UN	25	8 3/8" -12	60	79.0	63.0

RC-Series Single Acting Cylinder

Capacity: **5-95 ton**

Stroke: **16-362mm**

Maximum Operating Pressure: **700 bar**

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height (mm)	 (kg)
5 (45)	16	RC-50**	6.5	10	41	1.0
	25	RC-51	6.5	16	110	1.0
	76	RC-53	6.5	50	165	1.5
	127	RC-55*	6.5	83	215	1.9
	177	RC-57	6.5	115	273	2.4
	232	RC-59	6.5	151	323	2.8
10 (101)	26	RC-101	14.5	38	89	1.8
	54	RC-102*	14.5	78	121	2.3
	105	RC-104	14.5	152	171	3.3
	156	RC-106*	14.5	226	247	4.4
	203	RC-108	14.5	294	298	5.4
	257	RC-1010*	14.5	373	349	6.4
	304	RC-1012	14.5	441	400	6.8
	356	RC-1014	14.5	516	450	8.2
15 (142)	25	RC-151	20.3	51	124	3.3
	51	RC-152	20.3	104	149	4.1
	101	RC-154*	20.3	205	200	5.0
	152	RC-156*	20.3	308	271	6.8
	203	RC-158	20.3	411	322	8.2
	254	RC-1510	20.3	516	373	9.5
	305	RC-1512	20.3	619	423	10.9
	356	RC-1514	20.3	723	474	11.8
25 (232)	26	RC-251	33.2	86	139	5.9
	50	RC-252*	33.2	166	165	6.4
	102	RC-254*	33.2	339	215	8.2
	158	RC-256*	33.2	525	273	10.0
	210	RC-258	33.2	697	323	12.2
	261	RC-2510	33.2	867	374	14.1
	311	RC-2512	33.2	1033	425	16.3
	362	RC-2514*	33.2	1202	476	17.7
30(295)	209	RC-308	42.1	880	387	18.1
50 (498)	51	RC-502	71.2	362	176	15.0
	101	RC-504	71.2	719	227	19.1
	159	RC-506*	71.2	1131	282	23.1
	337	RC-5013	71.2	2399	460	37.6
75 (718)	156	RC-756	102.6	1601	285	29.5
	333	RC-7513	102.6	3417	492	59.0
95 (933)	168	RC-1006	133.3	2239	357	59.0
	260	RC-10010	133.3	3466	449	72.6

RC-50 cylinder has a non removable grooved saddle and no collar thread.



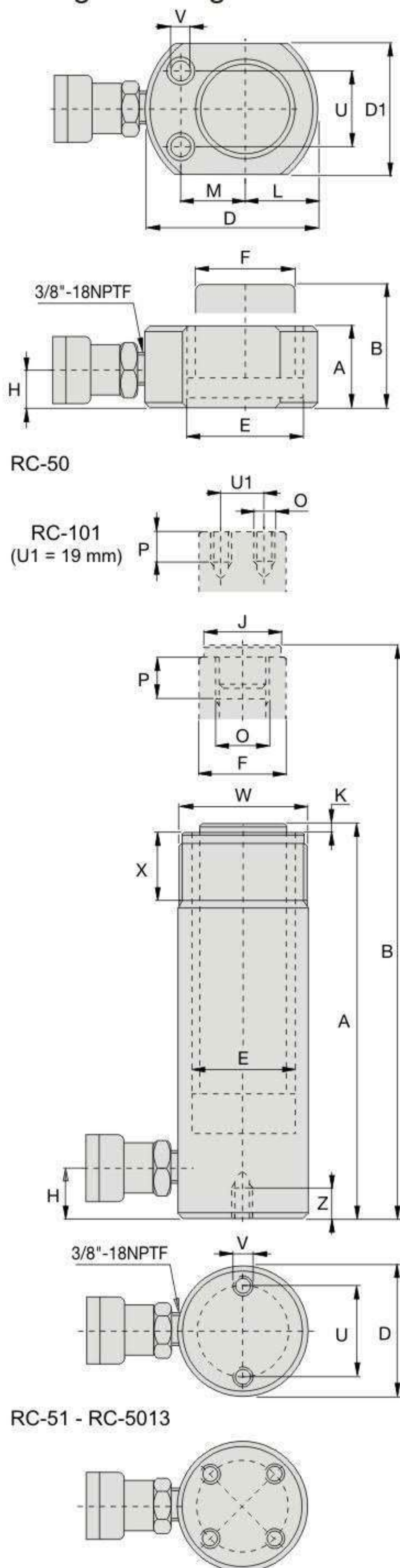
Think Safety
Manufacturer's rating of load and stroke are maximum safe limits. Good practice encourages using only 80% of these ratings.



Saddles
All RC cylinders are equipped with hardened removable grooved saddles. For tilt and flat saddles, see the RC-Series accessory page.

- The exclusive Golden Ring design absorbs eccentric loading without galling cylinder parts
- Collar threads, plunger threads and base mounting holes enable easy fixturing (on most models)
- Designed for use in all positions
- High strength alloy steel for durability
- Nickel plating available on most models
- Heavy duty return springs
- Baked enamel finish for increased corrosion resistance
- CR-400 coupler and dust cap included on all models
- Plunger wiper reduces contamination, extending cylinder life.

Single Acting General Purpose Cylinder



Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective (cm ²)	Oil Capacity (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Dia. D (mm)
5 (45)	16	RC-50**	6.5	10	41	57	58***
	25	RC-51	6.5	16	110	135	38
	76	RC-53	6.5	50	165	241	38
	127	RC-55*	6.5	83	215	342	38
	177	RC-57	6.5	115	273	450	38
	232	RC-59	6.5	151	323	555	38
10 (101)	26	RC-101	14.5	38	89	115	57
	54	RC-102*	14.5	78	121	175	57
	105	RC-104	14.5	152	171	276	57
	156	RC-106*	14.5	226	247	403	57
	203	RC-108	14.5	294	298	501	57
	257	RC-1010*	14.5	373	349	606	57
	304	RC-1012	14.5	441	400	704	57
	356	RC-1014	14.5	516	450	806	57
15 (142)	25	RC-151	20.3	51	124	149	69
	51	RC-152	20.3	104	149	200	69
	101	RC-154*	20.3	205	200	301	69
	152	RC-156*	20.3	308	271	423	69
	203	RC-158	20.3	411	322	525	69
	254	RC-1510	20.3	516	373	627	69
	305	RC-1512	20.3	619	423	728	69
	356	RC-1514	20.3	723	474	830	69
25 (232)	26	RC-251	33.2	86	139	165	85
	50	RC-252*	33.2	166	165	215	85
	102	RC-254*	33.2	339	215	317	85
	158	RC-256*	33.2	525	273	431	85
	210	RC-258	33.2	697	323	533	85
	261	RC-2510	33.2	867	374	635	85
	311	RC-2512	33.2	1033	425	736	85
	362	RC-2514*	33.2	1202	476	838	85
30 (295)	209	RC-308	42.1	880	387	596	101
50 (498)	51	RC-502	71.2	362	176	227	127
	101	RC-504	71.2	719	227	328	127
	159	RC-506*	71.2	1131	282	441	127
	337	RC-5013	71.2	2399	460	797	127
75 (718)	156	RC-756	102.6	1601	285	441	146
	333	RC-7513	102.6	3417	492	825	146
95 (933)	168	RC-1006	133.3	2239	357	525	177
	260	RC-10010	133.3	3466	449	709	177

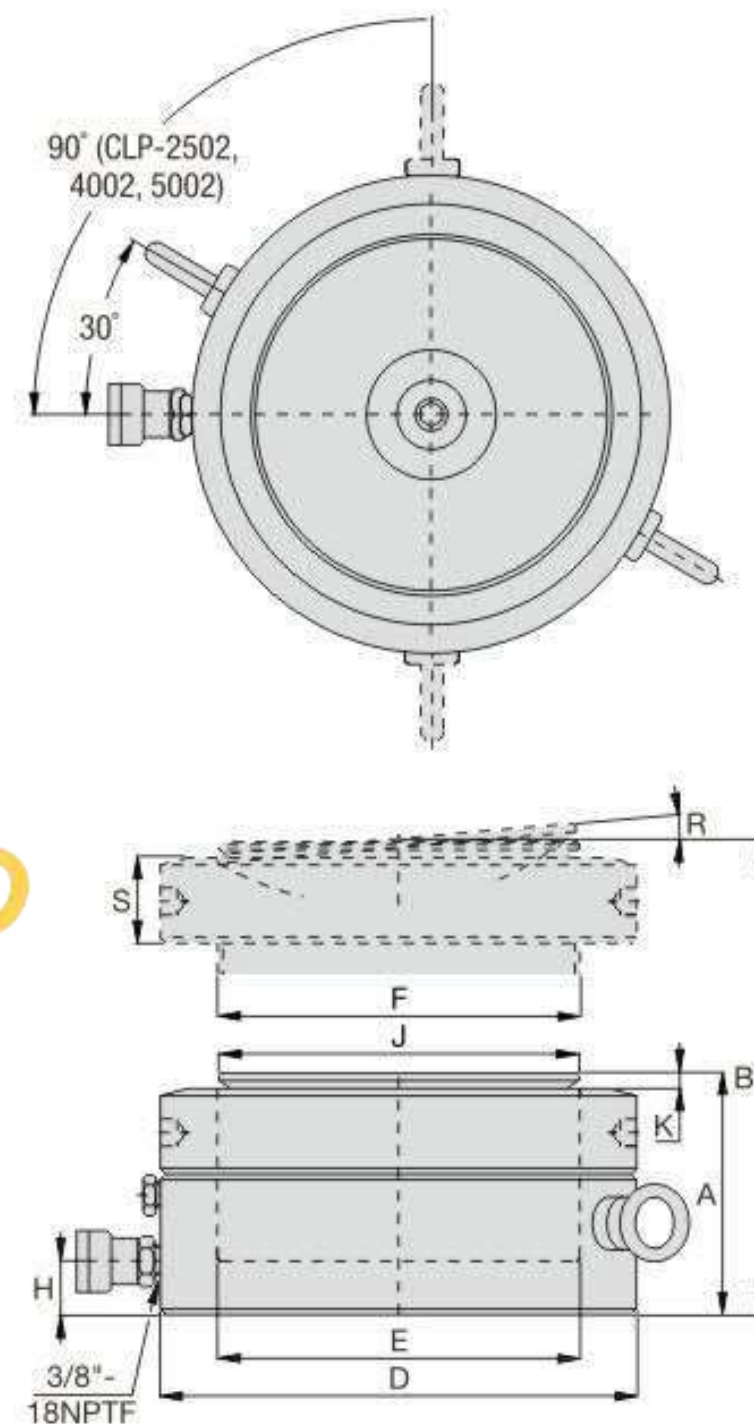
D1=41mm, L=20mm, M=25mm.

RC-50 cylinder has a non removable grooved saddle and no collar thread.

RC-Series Single Acting Cylinder

Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Adv. Port H (mm)	Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Plunger Internal Thread O	Plunger Thread Length P (mm)	Base Mounting Holes			Collar Thread W	Collar Thread Length X (mm)	(kg)	Model Number
							Bolt Circle U (mm)	Thread V	Thd. Depth Z (mm)				
28.7	25.4	19	**	**	**	**	28	5,6 mm	—	—	—	1.0	RC-50**
28.7	25.4	19	25	6	$\frac{3}{4}$ " - 16 UN	14	25	$\frac{1}{4}$ " - 20 UN	14	$\frac{1}{2}$ " - 16 UN	28	1.0	RC-51
28.7	25.4	19	25	6	$\frac{3}{4}$ " - 16 UN	14	25	$\frac{1}{4}$ " - 20 UN	14	$\frac{1}{2}$ " - 16 UN	28	1.5	RC-53
28.7	25.4	19	25	6	$\frac{3}{4}$ " - 16 UN	14	25	$\frac{1}{4}$ " - 20 UN	14	$\frac{1}{2}$ " - 16 UN	28	1.9	RC-55*
28.7	25.4	19	25	6	$\frac{3}{4}$ " - 16 UN	16	25	$\frac{1}{4}$ " - 20 UN	14	$\frac{1}{2}$ " - 16 UN	28	2.4	RC-57
28.7	25.4	19	25	6	$\frac{3}{4}$ " - 16 UN	16	25	$\frac{1}{4}$ " - 20 UN	14	$\frac{1}{2}$ " - 16 UN	28	2.8	RC-59
42.9	38.1	19	—	—	#10 - 24 UN	6	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14	26	1.8	RC-101
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	2.3	RC-102*
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	3.3	RC-104
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	4.4	RC-106*
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	5.4	RC-108
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	6.4	RC-1010*
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	6.8	RC-1012
42.9	38.1	19	35	6	1" - 8 UN	19	39	$\frac{5}{16}$ " - 18 UN	12	$\frac{2}{4}$ " - 14 UN	26	8.2	RC-1014
50.8	41.4	19	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	3.3	RC-151
50.8	41.4	19	38	9	1" - 8 UN	22	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	4.1	RC-152
50.8	41.4	19	38	9	1" - 8 UN	22	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	5.0	RC-154*
50.8	41.4	25	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	6.8	RC-156*
50.8	41.4	25	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	8.2	RC-158
50.8	41.4	25	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	9.5	RC-1510
50.8	41.4	25	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	10.9	RC-1512
50.8	41.4	25	38	9	1" - 8 UN	25	48	$\frac{3}{8}$ " - 16 UN	12	$\frac{2}{4}$ " - 16 UN	30	11.8	RC-1514
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	5.9	RC-251
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	6.4	RC-252*
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	8.2	RC-254*
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	10.0	RC-256*
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	12.2	RC-258
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	14.1	RC-2510
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	16.3	RC-2512
65.0	57.2	25	50	10	$\frac{1}{2}$ " - 16 UN	25	58	$\frac{1}{2}$ " - 13 UN	19	$\frac{3}{16}$ " - 12 UN	49	17.7	RC-2514*
73.2	57.2	57	50	10	$\frac{1}{2}$ " - 16 UN	25	—	—	—	$\frac{3}{16}$ " - 12 UN	49	18.1	RC-308
95.2	79.5	33	71	2	—	—	95	$\frac{1}{2}$ " - 13 UN	19	5" - 12 UN	55	15.0	RC-502
95.2	79.5	33	71	2	—	—	95	$\frac{1}{2}$ " - 13 UN	19	5" - 12 UN	55	19.1	RC-504
95.2	79.5	35	71	2	—	—	95	$\frac{1}{2}$ " - 13 UN	19	5" - 12 UN	55	23.1	RC-506*
95.2	79.5	35	71	2	—	—	95	$\frac{1}{2}$ " - 13 UN	19	5" - 12 UN	55	37.6	RC-5013
114.3	95.2	30	71	5	—	—	—	—	—	$\frac{5}{4}$ " - 12 UN	44	29.5	RC-756
114.3	95.2	30	71	5	—	—	—	—	—	$\frac{5}{4}$ " - 12 UN	44	59.0	RC-7513
130.3	104.9	41	71	2	—	—	140	$\frac{3}{4}$ " - 10 UN	25	$\frac{6}{8}$ " - 12 UN	44	59.0	RC-1006
130.3	104.9	41	71	2	—	—	140	$\frac{3}{4}$ " - 10 UN	25	$\frac{6}{8}$ " - 12 UN	44	72.6	RC-10010

CLP-Series Pancake Lock Nut Cylinder



Capacity: **60-520 ton**

Stroke: **45-50mm**

Maximum Operating Pressure: **700 bar**



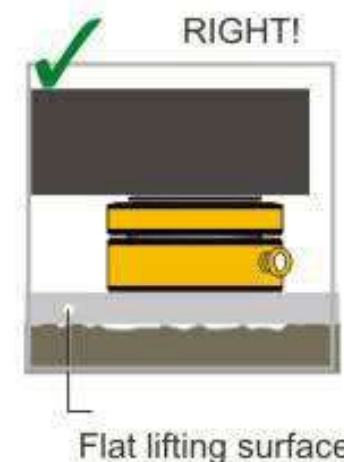
Tilt Saddles

All CLP-Series cylinders include integral tilt saddles with maximum tilt angles up to 5°.

- Extremely low height for use in confined areas
- Lock nut for positive and safe mechanical load holding over a long period of time
- Single-acting, load return
- Optional special synthetic coating for improved corrosion resistance and lower friction for smoother operation
- Overflow port functions as a stroke limiter



Cylinders Require A Solid Lifting Surface For Correct Support. Use Of Pancake Cylinders On Surfaces Such As Sand, Mud Or Dirt, May Result In Cylinder Damage!



Cylinder Capacity ton (kN)	Stroke (mm)	Model Number*	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Base to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plgr. K (mm)	Saddle Max. Tilt Angle R	Lock Nut Height S (mm)	Lock Nut Weight (kg)
60 (606)	50	CLP-602	86.6	432	125	175	140	105.0	Tr 104 x 4	19	96	6	5°	28	15
100 (1027)	50	CLP-1002	146.8	734	137	187	175	136.7	Tr 136 x 6	21	126	8	5°	31	26
160 (1619)	45	CLP-1602	231.3	1040	148	193	220	171.6	Tr 171 x 6	27	160	9	5°	40	44
200 (1999)	45	CLP-2002	285.6	1285	155	200	245	190.7	Tr 190 x 6	30	180	10	5°	43	57
260 (2567)	45	CLP-2502	366.8	1650	159	204	275	216.1	Tr 216 x 6	32	200	11	5°	44	74
400 (3916)	45	CLP-4002	559.5	2517	178	223	350	266.9	Tr 266 x 6	39	250	11	4°	55	134
520 (5114)	45	CLP-5002	730.6	3287	192	237	400	305.0	Tr 305 x 6	48	290	10	3°	62	189

Capacity: **50-1000 ton**

Stroke: **50-300mm**

Maximum Operating Pressure: **700 bar**

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height (mm)	 (kg)
50 (496)	50	CLL-502	70.9	355	164	15
	100	CLL-504	70.9	709	214	20
	150	CLL-506	70.9	1064	264	25
	200	CLL-508	70.9	1418	314	30
	250	CLL-5010	70.9	1773	364	35
	300	CLL-5012	70.9	2127	414	40
100 (929)	50	CLL-1002	132.7	664	187	30
	100	CLL-1004	132.7	1327	237	39
	150	CLL-1006	132.7	1991	287	48
	200	CLL-1008	132.7	2654	337	56
	250	CLL-10010	132.7	3318	387	64
	300	CLL-10012	132.7	3981	437	73
150 (1390)	50	CLL-1502	198.6	993	209	53
	100	CLL-1504	198.6	1986	259	66
	150	CLL-1506	198.6	2979	309	78
	200	CLL-1508	198.6	3972	359	92
	250	CLL-15010	198.6	4965	409	104
	300	CLL-15012	198.6	5958	459	117
200 (1859)	50	CLL-2002	265.6	1330	243	83
	150	CLL-2006	265.6	3989	343	117
	300	CLL-20012	265.6	7995	493	170
250 (2562)	50	CLL-2502	366.1	1832	249	116
	150	CLL-2506	366.1	5496	349	162
	300	CLL-25012	366.1	10995	499	234
300 (3193)	50	CLL-3002	456.2	2281	295	173
	150	CLL-3006	456.2	6843	395	233
	300	CLL-30012	456.2	13740	545	323
400 (3919)	50	CLL-4002	559.9	2800	335	250
	150	CLL-4006	559.9	8399	435	327
	300	CLL-40012	559.9	16800	585	441
500 (5118)	50	CLL-5002	731.1	3653	375	367
	150	CLL-5006	731.1	10959	475	466
	300	CLL-50012	731.1	21930	625	617
600 (5983)	50	CLL-6002	854.8	4277	395	446
	150	CLL-6006	854.8	12830	495	562
	300	CLL-60012	854.8	25650	645	737
800 (8238)	50	CLL-8002	1176.9	5882	455	709
	150	CLL-8006	1176.9	17645	555	870
	300	CLL-80012	1176.9	35370	705	1110
1000 (10260)	50	CLL-10002	1466.4	7329	495	949
	150	CLL-10006	1466.4	21986	595	1141
	300	CLL-100012	1466.4	43980	745	1430

CLL-Series Lock Nut Cylinder



Saddles

All CLL cylinders are equipped with bolt-on removable grooved saddles.

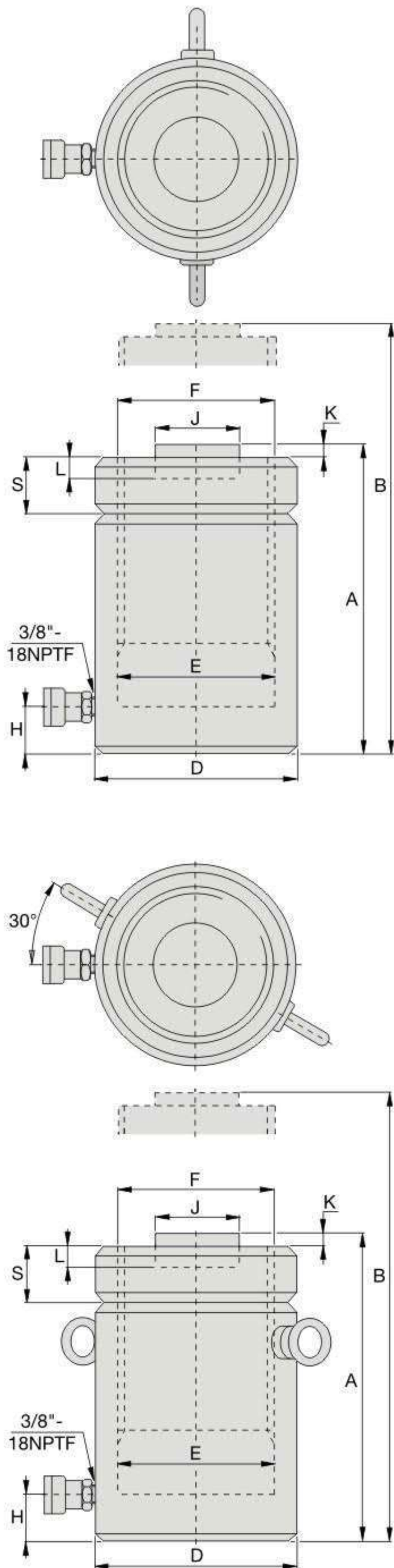
For information on optional tilt saddles, see selection chart at next page.

- Single-acting, load return
- Safety Lock Nut for mechanical load holding
- Special synthetic coating for improved corrosion resistance and lower friction for smoother operation
- Overflow port functions as a stroke limiter
- Interchangeable, hardened grooved saddles are standard

To Secure Loads Mechanically

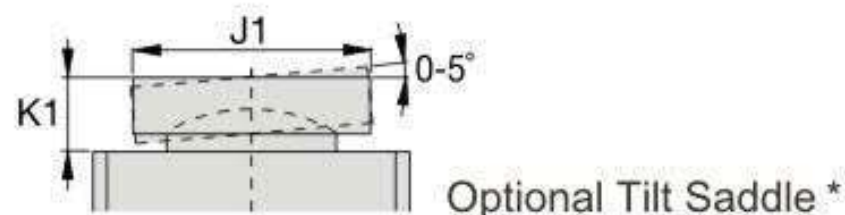


Single Acting Lock Nut Cylinder



Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)
50 (496)	50	CLL-502	70.9	355
	100	CLL-504	70.9	709
	150	CLL-506	70.9	1064
	200	CLL-508	70.9	1418
	250	CLL-5010	70.9	1773
	300	CLL-5012	70.9	2127
100 (929)	50	CLL-1002	132.7	664
	100	CLL-1004	132.7	1327
	150	CLL-1006	132.7	1991
	200	CLL-1008	132.7	2654
	250	CLL-10010	132.7	3318
	300	CLL-10012	132.7	3981
150 (1390)	50	CLL-1502	198.6	993
	100	CLL-1504	198.6	1986
	150	CLL-1506	198.6	2979
	200	CLL-1508	198.6	3972
	250	CLL-15010	198.6	4965
	300	CLL-15012	198.6	5958
200 (1859)	50	CLL-2002	265.6	1330
	150	CLL-2006	265.6	3989
	300	CLL-20012	265.6	7995
250 (2562)	50	CLL-2502	366.1	1832
	150	CLL-2506	366.1	5496
	300	CLL-25012	366.1	10995
300 (3193)	50	CLL-3002	456.2	2281
	150	CLL-3006	456.2	6843
	300	CLL-30012	456.2	13740
400 (3919)	50	CLL-4002	559.9	2800
	150	CLL-4006	559.9	8399
	300	CLL-40012	559.9	16800
500 (5118)	50	CLL-5002	731.1	3653
	150	CLL-5006	731.1	10959
	300	CLL-50012	731.1	21930
600 (5983)	50	CLL-6002	854.8	4277
	150	CLL-6006	854.8	12830
	300	CLL-60012	854.8	25650
800 (8238)	50	CLL-8002	1176.9	5882
	150	CLL-8006	1176.9	17645
	300	CLL-80012	1176.9	35370
1000 (10260)	50	CLL-10002	1466.4	7329
	150	CLL-10006	1466.4	21986
	300	CLL-100012	1466.4	43980

CLL-Series Lock Nut Cylinder



Coll. Height A (mm)	Ext. Height B (mm)	Outs. Dia. D (mm)	Cyl. Bore Dia. E (mm)	Plunger Dia. (threaded) F (mm)	Base to Adv. Port H (mm)	Standard Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Depth of Plunger Hole L (mm)	Lock-nut Height S (mm)	 (kg)	Model Number	* Optional Tilt Saddle		
												Saddle Dia. J1 (mm)	Saddle Height K1 (mm)	Saddle Model Number
164	214	125	95.0	Tr 95 x 4	30	71	2	13	36	15	CLL-502	71	24	CAT-100
214	314	125	95.0	Tr 95 x 4	30	71	2	13	36	20	CLL-504	71	24	CAT-100
264	414	125	95.0	Tr 95 x 4	30	71	2	13	36	25	CLL-506	71	24	CAT-100
314	514	125	95.0	Tr 95 x 4	30	71	2	13	36	30	CLL-508	71	24	CAT-100
364	614	125	95.0	Tr 95 x 4	30	71	2	13	36	35	CLL-5010	71	24	CAT-100
414	714	125	95.0	Tr 95 x 4	30	71	2	13	36	40	CLL-5012	71	24	CAT-100
187	237	165	130.0	Tr 130 x 6	30	71	2	13	44	30	CLL-1002	71	24	CAT-100
237	337	165	130.0	Tr 130 x 6	30	71	2	13	44	39	CLL-1004	71	24	CAT-100
287	437	165	130.0	Tr 130 x 6	30	71	2	13	44	48	CLL-1006	71	24	CAT-100
337	537	165	130.0	Tr 130 x 6	30	71	2	13	44	56	CLL-1008	71	24	CAT-100
387	637	165	130.0	Tr 130 x 6	30	71	2	13	44	64	CLL-10010	71	24	CAT-100
437	737	165	130.0	Tr 130 x 6	30	71	2	13	44	73	CLL-10012	71	24	CAT-100
209	259	205	159.0	Tr 159 x 6	39	130	2	25	44	53	CLL-1502	130	20	CAT-200
259	359	205	159.0	Tr 159 x 6	39	130	2	25	44	66	CLL-1504	130	20	CAT-200
309	459	205	159.0	Tr 159 x 6	39	130	2	25	44	78	CLL-1506	130	20	CAT-200
359	559	205	159.0	Tr 159 x 6	39	130	2	25	44	92	CLL-1508	130	20	CAT-200
409	659	205	159.0	Tr 159 x 6	39	130	2	25	44	104	CLL-15010	130	20	CAT-200
459	759	205	159.0	Tr 159 x 6	39	130	2	25	44	117	CLL-15012	130	20	CAT-200
243	293	235	184.0	Tr 184 x 6	50	130	2	25	50	83	CLL-2002	130	20	CAT-200
343	493	235	184.0	Tr 184 x 6	50	130	2	25	50	117	CLL-2006	130	20	CAT-200
493	793	235	184.0	Tr 184 x 6	50	130	2	25	50	170	CLL-20012	130	20	CAT-200
249	299	275	216.0	Tr 216 x 6	50	150	2	25	56	116	CLL-2502	150	21	CAT-250
349	499	275	216.0	Tr 216 x 6	50	150	2	25	56	162	CLL-2506	150	21	CAT-250
499	799	275	216.0	Tr 216 x 6	50	150	2	25	56	234	CLL-25012	150	21	CAT-250
295	345	310	241.0	Tr 241 x 6	59	139	5	25	60	173	CLL-3002	195	75	CAT-300
395	545	310	241.0	Tr 241 x 6	59	139	5	25	60	233	CLL-3006	195	75	CAT-300
545	845	310	241.0	Tr 241 x 6	59	139	5	25	60	323	CLL-30012	195	75	CAT-300
335	385	350	267.0	Tr 266 x 6	70	159	5	25	70	250	CLL-4002	225	85	CAT-400
435	585	350	267.0	Tr 266 x 6	70	159	5	25	70	327	CLL-4006	225	85	CAT-400
585	885	350	267.0	Tr 266 x 6	70	159	5	25	70	441	CLL-40012	225	85	CAT-400
375	425	400	305.0	Tr 305 x 6	80	179	5	25	80	367	CLL-5002	250	91	CAT-500
475	625	400	305.0	Tr 305 x 6	80	179	5	25	80	466	CLL-5006	250	91	CAT-500
625	925	400	305.0	Tr 305 x 6	80	179	5	25	80	617	CLL-50012	250	91	CAT-500
395	445	430	330.0	Tr 330 x 6	85	194	5	25	85	446	CLL-6002	275	96	CAT-600
495	645	430	330.0	Tr 330 x 6	85	194	5	25	85	562	CLL-6006	275	96	CAT-600
645	945	430	330.0	Tr 330 x 6	85	194	5	25	85	737	CLL-60012	275	96	CAT-600
455	505	505	387.0	Tr 387 x 6	100	224	5	25	100	709	CLL-8002	320	123	CAT-800
555	705	505	387.0	Tr 387 x 6	100	224	5	25	100	870	CLL-8006	320	123	CAT-800
705	1005	505	387.0	Tr 387 x 6	100	224	5	25	100	1110	CLL-80012	320	123	CAT-800
495	545	560	432.0	Tr 432 x 6	110	249	5	25	110	949	CLL-10002	360	136	CAT-1000
595	745	560	432.0	Tr 432 x 6	110	249	5	25	110	1141	CLL-10006	360	136	CAT-1000
745	1045	560	432.0	Tr 432 x 6	110	249	5	25	110	1430	CLL-100012	360	136	CAT-1000

RCS-Series Low Height Cylinder

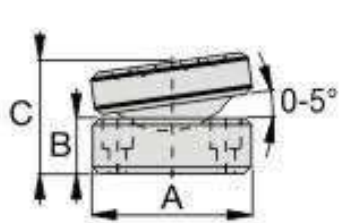


Capacity: **10-90 ton**

Stroke: **38-57mm**

Maximum Operating Pressure: **700 bar**

Optional Bolt On Tilt Saddle Dimensions (mm)

For Cylinder Model	Model	A	B	C*	
RCS-101	CAT-11	35	11	21	
RCS-201, -302, -502	CAT-51	50	15	29	
RCS-1002	CAT-101	71	17	35	

- Lightweight, low profile design for use in confined spaces
- Single-acting, spring return
- Baked enamel finish for increased corrosion resistance
- Plunger wiper reduces contamination, extending cylinder life
- Grooved plunger end with threaded holes for mounting tilt saddles
- Integral handle on RCS-1002 for easy carrying
- Steel plunger surface is chromium-plating

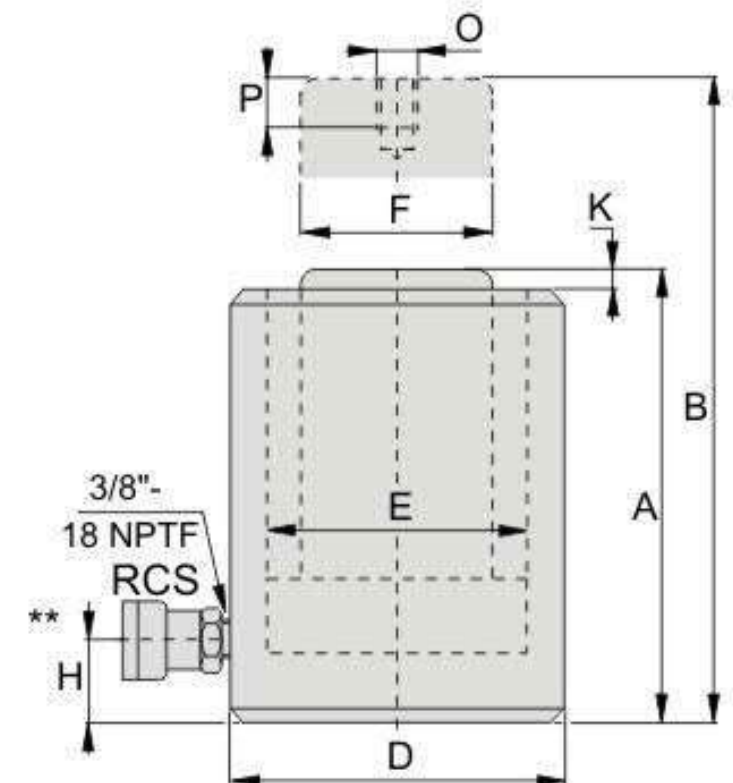
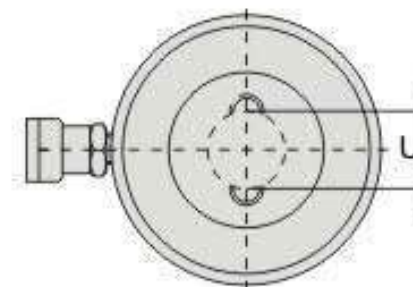
* 'C' dimension equals saddle protrusion from plunger. Mounting screws are included.

Cyl. Capacity ton (kn)	Stroke (mm)	Model Number	Cyl. Effect. Area (cm ²)	Oil Cap. (cm ³)
10 (101)	38	RCS-101*	14.5	55
20 (201)	45	RCS-201*	28.7	129
30 (295)	62	RCS-302*	42.1	261
45 (435)	60	RCS-502*	62.1	373
90 (887)	57	RCS-1002*	126.7	722



Saddles

All RCS-Series cylinders have plunger mounting holes for installation of tilt saddles. See table for selection and dimensional information.



Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Advance Port H (mm)	Plunger Protrusion from Base K (mm)	Plunger to Base L (mm)	Plunger to Mtg. Hole M (mm)	Thread O (mm)	Thread Depth P (mm)	Bolt Circle U (mm)	 (kg)	Model Number
88	126	69	42.9	38.1	17	5	—	—	M4	8	26	4.1	RCS-101*
98	143	92	60.5	50.8	17	3	—	—	M5	8	40	5.0	RCS-201*
117	179	101	73.2	66.5	19	3	—	—	M5	8	40	6.8	RCS-302*
122	182	124	88.9	69.8	23	2	—	—	M5	8	40	10.9	RCS-502*
141	198	165	127.0	92.2	31	1	—	—	M8	10	55	22.7	RCS-1002*

*5° angle position of coupler on RCS-101, 201, 302

CLSG-Series High Tonnage Cylinder

Capacity: **50-1000 ton**

Stroke: **50-300mm**

Maximum Operating Pressure: **700 bar**

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height (mm)	 (kg)
50 (539)	50	CLSG-502	77.0	385	162	17
	100	CLSG-504	77.0	770	212	20
	150	CLSG-506	77.0	1155	262	23
	200	CLSG-508	77.0	1540	312	27
	250	CLSG-5010	77.0	1924	362	31
	300	CLSG-5012	77.0	2309	412	34
100 (929)	50	CLSG-1002	132.7	664	182	19
	100	CLSG-1004	132.7	1327	232	29
	150	CLSG-1006	132.7	1991	282	40
	200	CLSG-1008	132.7	2655	332	50
	250	CLSG-10010	132.7	3318	382	61
	300	CLSG-10012	132.7	3982	432	71
150 (1390)	50	CLSG-1502	198.6	993	196	39
	100	CLSG-1504	198.6	1986	246	52
	150	CLSG-1506	198.6	2978	296	65
	200	CLSG-1508	198.6	3971	346	78
	250	CLSG-15010	198.6	4964	396	92
	300	CLSG-15012	198.6	5957	446	105
200 (1861)	50	CLSG-2002	265.9	1330	216	55
	150	CLSG-2006	265.9	3989	316	91
	300	CLSG-20012	265.9	7977	466	146
250 (2565)	50	CLSG-2502	366.4	1832	235	102
	150	CLSG-2506	366.4	5497	335	136
	300	CLSG-25012	366.4	10993	485	207
300 (3193)	50	CLSG-3002	456.2	2281	312	184
	150	CLSG-3006	456.2	6843	412	232
	300	CLSG-30012	456.2	13685	562	303
400 (3919)	50	CLSG-4002	559.9	2800	375	270
	150	CLSG-4006	559.9	8399	475	330
	300	CLSG-40012	559.9	16797	625	421
500 (5114)	50	CLSG-5002	730.6	3653	419	401
	150	CLSG-5006	730.6	10959	519	480
	300	CLSG-50012	730.6	21918	669	599
600 (5987)	50	CLSG-6002	855.3	4276	429	474
	150	CLSG-6006	855.3	12829	529	565
	300	CLSG-60012	855.3	25659	679	701
800 (8234)	50	CLSG-8002	1176.3	5881	474	741
	150	CLSG-8006	1176.3	17644	574	880
	300	CLSG-80012	1176.3	35288	724	1058
1000 (10260)	50	CLSG-10002	1465.7	7329	564	1062
	150	CLSG-10006	1465.7	21986	664	1213
	300	CLSG-100012	1465.7	43972	814	1439

Standard Features

- Interchangeable, hardened grooved saddles
- Top and side mounted lifting eye capability
- Integral stop ring provides piston blow-out protection
- Baked enamel outside finish and plated pistons provide superior corrosion protection
- Interchangeable, hardened grooved saddles are standard
- Base mounting holes are standard on all models
- Plunger wiper reduces contamination, extending cylinder life
- Single-acting, load return.

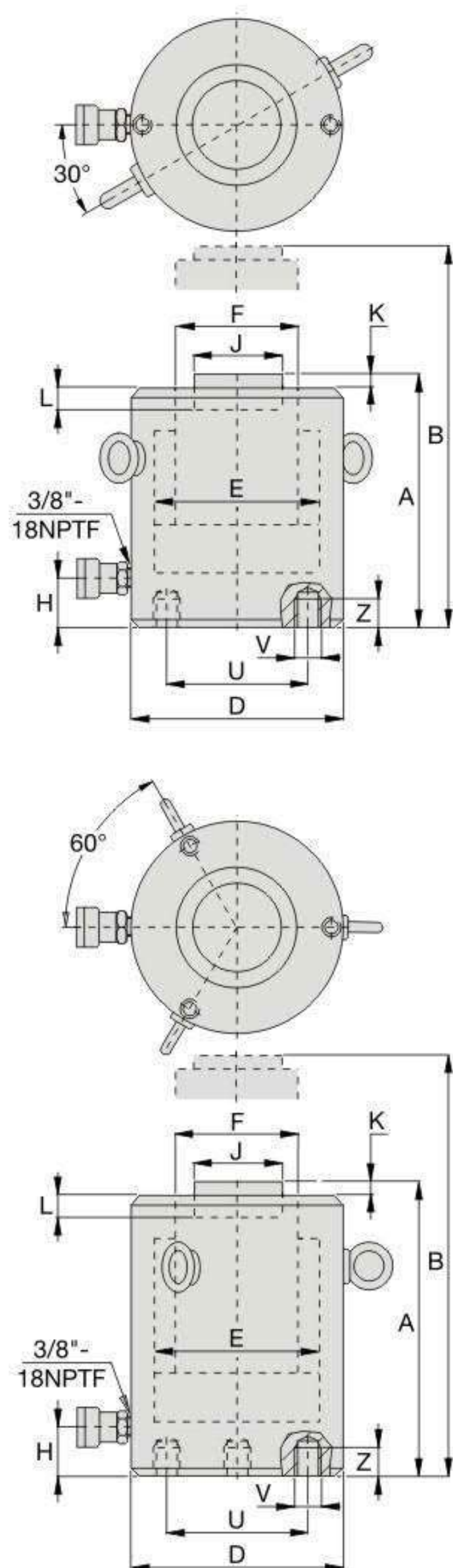
Saddles

All CLSG-Series cylinders are equipped with bolt-on removable grooved saddles. For information on optional tilt saddles, see selection chart.

Base Mounting Hole ¹⁾ Dimensions (mm)

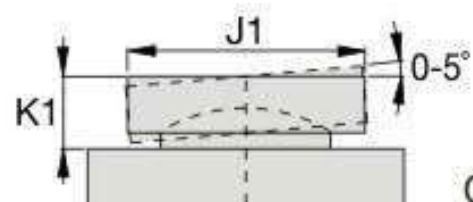
Model / Capacity ton	Bolt Circle U	Thread Size V	Min. Thread Depth Z
CLSG-50	65	2x M12	22
CLSG-100	95	2x M12	22
CLSG-150	130	2x M12	22
CLSG-200	165	3x M12	22
CLSG-250	190	3x M12	22
CLSG-300	180	3x M16	30
CLSG-400	205	3x M16	30
CLSG-500	250	3x M24	36
CLSG-600	275	3x M24	36
CLSG-800	330	3x M24	36
CLSG-1000	375	3x M24	36

Single Acting High Tonnage Cylinder



Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)
50 (539)	50	CLSG-502	77.0	385
	100	CLSG-504	77.0	770
	150	CLSG-506	77.0	1155
	200	CLSG-508	77.0	1540
	250	CLSG-5010	77.0	1924
	300	CLSG-5012	77.0	2309
100 (929)	50	CLSG-1002	132.7	664
	100	CLSG-1004	132.7	1327
	150	CLSG-1006	132.7	1991
	200	CLSG-1008	132.7	2655
	250	CLSG-10010	132.7	3318
	300	CLSG-10012	132.7	3982
150 (1390)	50	CLSG-1502	198.6	993
	100	CLSG-1504	198.6	1986
	150	CLSG-1506	198.6	2978
	200	CLSG-1508	198.6	3971
	250	CLSG-15010	198.6	4964
	300	CLSG-15012	198.6	5957
200 (1861)	50	CLSG-2002	265.9	1330
	150	CLSG-2006	265.9	3989
	300	CLSG-20012	265.9	7977
250 (2565)	50	CLSG-2502	366.4	1832
	150	CLSG-2506	366.4	5497
	300	CLSG-25012	366.4	10993
300 (3193)	50	CLSG-3002	456.2	2281
	150	CLSG-3006	456.2	6843
	300	CLSG-30012	456.2	13685
400 (3919)	50	CLSG-4002	559.9	2800
	150	CLSG-4006	559.9	8399
	300	CLSG-40012	559.9	16797
500 (5114)	50	CLSG-5002	730.6	3653
	150	CLSG-5006	730.6	10959
	300	CLSG-50012	730.6	21918
600 (5987)	50	CLSG-6002	855.3	4276
	150	CLSG-6006	855.3	12829
	300	CLSG-60012	855.3	25659
800 (8234)	50	CLSG-8002	1176.3	5881
	150	CLSG-8006	1176.3	17644
	300	CLSG-80012	1176.3	35288
1000 (10260)	50	CLSG-10002	1465.7	7329
	150	CLSG-10006	1465.7	21986
	300	CLSG-100012	1465.7	43972

CLSG-Series High Tonnage Cylinder

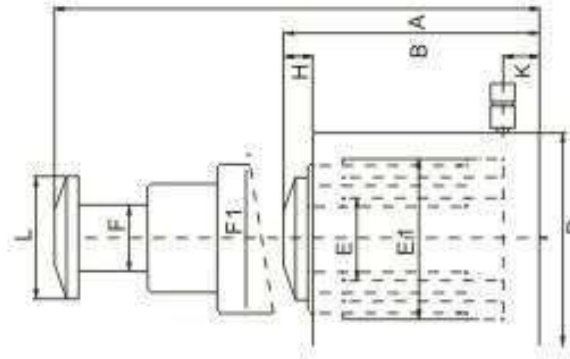


Optional Tilt Saddle *

Collapsed Height A (mm)	Extended Height B (mm)	Outside Dia. D (mm)	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Adv. Port H (mm)	Standard Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Depth of Plunger Hole L (mm)	 (kg)	Model Number	* Optional Tilt Saddle		
											Saddle Dia. J1 (mm)	Saddle Height K1 (mm)	Saddle Model No
162	212	130	99.0	70.0	52	50	1	19	17	CLSG-502	50	24	CATG-50
212	312	130	99.0	70.0	52	50	1	19	20	CLSG-504	50	24	CATG-50
262	412	130	99.0	70.0	52	50	1	19	23	CLSG-506	50	24	CATG-50
312	512	130	99.0	70.0	52	50	1	19	27	CLSG-508	50	24	CATG-50
362	612	130	99.0	70.0	52	50	1	19	31	CLSG-5010	50	24	CATG-50
412	712	130	99.0	70.0	52	50	1	19	34	CLSG-5012	50	24	CATG-50
182	232	165	130.0	95.0	54	75	1	19	19	CLSG-1002	73	29	CATG-100
232	332	165	130.0	95.0	54	75	1	19	29	CLSG-1004	73	29	CATG-100
282	432	165	130.0	95.0	54	75	1	19	40	CLSG-1006	73	29	CATG-100
332	532	165	130.0	95.0	54	75	1	19	50	CLSG-1008	73	29	CATG-100
382	632	165	130.0	95.0	54	75	1	19	61	CLSG-10010	73	29	CATG-100
432	732	165	130.0	95.0	54	75	1	19	71	CLSG-10012	73	29	CATG-100
196	246	205	159.0	114.0	61	94	1	19	39	CLSG-1502	91	31	CATG-150
246	346	205	159.0	114.0	61	94	1	19	52	CLSG-1504	91	31	CATG-150
296	446	205	159.0	114.0	61	94	1	19	65	CLSG-1506	91	31	CATG-150
346	546	205	159.0	114.0	61	94	1	19	78	CLSG-1508	91	31	CATG-150
396	646	205	159.0	114.0	61	94	1	19	92	CLSG-15010	91	31	CATG-150
446	746	205	159.0	114.0	61	94	1	19	105	CLSG-15012	91	31	CATG-150
216	266	235	184.0	133.0	67	113	1	24	55	CLSG-2002	118	35	CATG-200
316	466	235	184.0	133.0	67	113	1	24	91	CLSG-2006	118	35	CATG-200
466	766	235	184.0	133.0	67	113	1	24	146	CLSG-20012	118	35	CATG-200
235	285	275	216.0	165.0	73	145	1	24	102	CLSG-2502	144	46	CATG-250
335	485	275	216.0	165.0	73	145	1	24	136	CLSG-2506	144	46	CATG-250
485	785	275	216.0	165.0	73	145	1	24	207	CLSG-25012	144	46	CATG-250
312	362	310	241.0	197.0	101	177	1	19	184	CLSG-3002	160	62	CATG-300
412	562	310	241.0	197.0	101	177	1	19	232	CLSG-3006	160	62	CATG-300
562	862	310	241.0	197.0	101	177	1	19	303	CLSG-30012	160	62	CATG-300
375	425	350	267.0	216.0	114	196	3	27	270	CLSG-4002	193	51	CATG-400
475	625	350	267.0	216.0	114	196	3	27	330	CLSG-4006	193	51	CATG-400
625	925	350	267.0	216.0	114	196	3	27	421	CLSG-40012	193	51	CATG-400
419	469	400	305.0	248.0	114	228	3	27	401	CLSG-5002	228	63	CATG-500
519	669	400	305.0	248.0	114	228	3	27	480	CLSG-5006	228	63	CATG-500
669	969	400	305.0	248.0	114	228	3	27	599	CLSG-50012	228	63	CATG-500
429	479	430	330.0	267.0	114	247	3	27	474	CLSG-6002	241	76	CATG-600
529	679	430	330.0	267.0	114	247	3	27	565	CLSG-6006	241	76	CATG-600
679	979	430	330.0	267.0	114	247	3	27	701	CLSG-60012	241	76	CATG-600
474	524	505	387.0	317.0	149	297	3	27	741	CLSG-8002	287	75	CATG-800
574	724	505	387.0	317.0	149	297	3	27	880	CLSG-8006	287	75	CATG-800
724	1024	505	387.0	317.0	149	297	3	27	1058	CLSG-80012	287	75	CATG-800
564	614	560	432.0	343.0	174	323	3	27	1062	CLSG-10002	311	93	CATG-1000
664	814	560	432.0	343.0	174	323	3	27	1213	CLSG-10006	311	93	CATG-1000
814	1114	560	432.0	343.0	174	323	3	27	1439	CLSG-100012	311	93	CATG-1000

Telescopic Cylinder

Max Working Pressure: 700 Bar
Telescopic Design, single-acting



Model	Cap (ton)	Stage	Stroke (mm)	Collaps H (mm)	Effective Area (cm ²)	Oil Cap (cm ³)	B (mm)	A (mm)	W (kg)	E1 (mm)	F (mm)	F1 (mm)	L (mm)	K (mm)	H (mm)
TC10-2	10	2	270	250	15.9	810	250	520	18	75	36	68	50	20	26
		1	135		44.15										
TC10-3	10	3	435	280	15.9	2250	280	715	40	110	36	95	75	21	19
		2	290		44.15										
		1	145		95										
TC15-2	15	2	300	280	23.7	1308	280	580	28	90	50	80	66	25	16
		1	150		63.5										
TC15-3	15	3	510	320	23.7	3543	320	820	60	125	50	110	95	25	19
		2	340		63.5										
		1	170		122.6										
TC30-2	30	2	300	304	44.15	2088	304	604	45	110	68	100	89	27	18
		1	150		95										
TC30-3	30	3	600	366	44.15	6803	366	966	106	160	68	150	123	27	20
		2	400		95										
		1	200		201										



Mechanical Jack

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

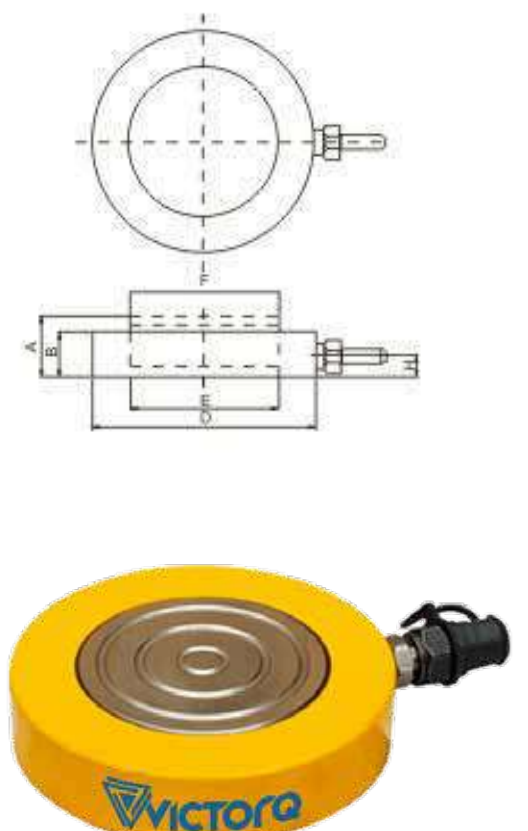


Model	Capacity (ton)	Stroke (mm)	Effective Area (mm ²)	W (kg)	Collaps H (mm)
SMC0525	5	25	8.02	2	52
SMC1025	10	25	13.85	3	54
SMC2005	20	5	28.27	2	35
SMC3005	30	5	38.49	3	36
SMC5005	50	5	66.48	4	40

Ultra Low Height Cylinder

Working pressure: 1500 Bar.
Single acting, load return. Workable for limited work space

Model No	Cap (ton)	Stroke (mm)	Volume (mm ³)	CollapH (mm)	Ext H (mm)	OutsD (mm)	W (kg)	Plunger D (mm)	Oil Input Position (mm)
LHC-00510	5	10	3.46	30	40	60	3.5	21	12
LHC-01010	10	10	7.04	30	40	70	4	30	12
LHC-02510	25	10	17.35	30	40	90	4.6	47	11.5
LHC-05510	50	10	36.32	30	40	118	4.8	68	11.5
LHC-10010	100	10	69.4	30	40	152	5.3	94	11.5
LHC-12010	120	10	78.54	33	40	160	6.1	100	11.5
LHC-15010	150	10	105.68	31	41	180	8.5	116	12.5
LHC-20010	200	10	136.58	32	42	204	9.5	132	13.5



CLRG-Series High Tonnage Cylinder

Capacity: **50-1000 ton**

Stroke: **50-300mm**

Maximum Operating Pressure: **700 bar**

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Collap Height (mm)
			Push	Pull	Push	Pull	
50 (539)	50	CLRG-502	77.0	38.5	385	192	162
	100	CLRG-504	77.0	38.5	770	385	212
	150	CLRG-506	77.0	38.5	1155	577	262
	200	CLRG-508	77.0	38.5	1540	770	312
	250	CLRG-5010	77.0	38.5	1924	962	362
	300	CLRG-5012	77.0	38.5	2309	1155	412
100 (929)	50	CLRG-1002	132.7	61.9	664	309	179
	100	CLRG-1004	132.7	61.9	1327	619	229
	150	CLRG-1006	132.7	61.9	1991	928	279
	200	CLRG-1008	132.7	61.9	2655	1237	329
	250	CLRG-10010	132.7	61.9	3318	1546	379
	300	CLRG-10012	132.7	61.9	3982	1856	429
150 (1390)	50	CLRG-1502	198.6	96.5	993	482	196
	100	CLRG-1504	198.6	96.5	1986	965	246
	150	CLRG-1506	198.6	96.5	2978	1447	296
	200	CLRG-1508	198.6	96.5	3971	1930	346
	250	CLRG-15010	198.6	96.5	4964	2412	396
	300	CLRG-15012	198.6	96.5	5957	2895	446
200 (1861)	50	CLRG-2002	265.9	127.0	1330	635	212
	150	CLRG-2006	265.9	127.0	3989	1905	312
	300	CLRG-20012	265.9	127.0	7977	3809	462
250 (2565)	50	CLRG-2502	366.4	152.6	1832	763	235
	150	CLRG-2506	366.4	152.6	5497	2289	335
	300	CLRG-25012	366.4	152.6	10993	4578	485
300 (3193)	50	CLRG-3002	456.2	151.4	2281	757	322
	150	CLRG-3006	456.2	151.4	6843	2270	422
	300	CLRG-30012	456.2	151.4	13685	4541	572
400 (3919)	50	CLRG-4002	559.9	193.5	2800	967	374
	150	CLRG-4006	559.9	193.5	8399	2902	474
	300	CLRG-40012	559.9	193.5	16797	5804	624
500 (5114)	50	CLRG-5002	730.6	247.6	3653	1238	419
	150	CLRG-5006	730.6	247.6	10959	3713	519
	300	CLRG-50012	730.6	247.6	21918	7427	669
600 (5987)	50	CLRG-6002	855.3	295.4	4276	1477	429
	150	CLRG-6006	855.3	295.4	12829	4431	529
	300	CLRG-60012	855.3	295.4	25659	8862	679
800 (8234)	50	CLRG-8002	1176.3	387.0	5881	1935	484
	150	CLRG-8006	1176.3	387.0	17644	5806	584
	300	CLRG-80012	1176.3	387.0	35288	11611	734
1000 (10260)	50	CLRG-10002	1465.7	541.7	7329	2709	564
	150	CLRG-10006	1465.7	541.7	21986	8126	664
	300	CLRG-100012	1465.7	541.7	43972	16252	814



Pump Selection

A double-acting cylinder must be powered by a pump with a 4-way valve.

- Double-acting, for positive retraction
- Integral stop ring provides piston blow-out protection
- Safety valve in retract side of cylinder helps to prevent damage in case of accidental over-pressurization
- Plunger wiper reduces contamination, extending cylinder life
- Baked enamel finish and plated pistons provide

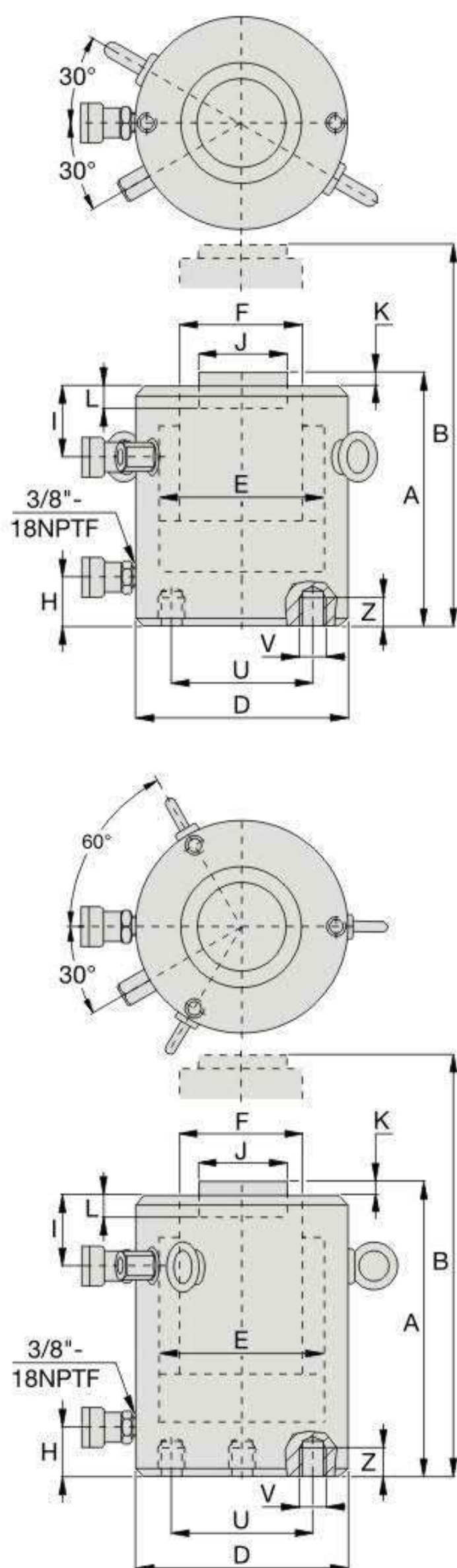
Saddles

All CLRG cylinders are equipped with bolt-on removable grooved saddles. For information on optional tilt saddles, see selection chart.

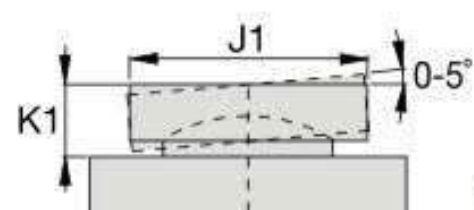
Base Mounting Hole Dimensions (mm)

Model / Capacity ton	Bolt Circle U	Thread Size V	Min. Thread Depth Z
CLRG-50	65	2x M12	22
CLRG-100	95	2x M12	22
CLRG-150	130	2x M12	22
CLRG-200	165	3x M12	22
CLRG-250	190	3x M12	22
CLRG-300	180	3x M16	30
CLRG-400	205	3x M16	30
CLRG-500	250	3x M24	36
CLRG-600	275	3x M24	36
CLRG-800	330	3x M24	36
CLRG-1000	375	3x M24	36

Double Acting High Tonnage Cylinder



Cylinder Capacity ton (kn)	Stroke (mm)	Model	Maximum Cylinder Capacity (kn)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)	
			Push	Pull	Push	Pull	Push	Pull
50	50	CLRG-502	539	269	77.0	38.5	385	192
	100	CLRG-504	539	269	77.0	38.5	770	385
	150	CLRG-506	539	269	77.0	38.5	1155	577
	200	CLRG-508	539	269	77.0	38.5	1540	770
	250	CLRG-5010	539	269	77.0	38.5	1924	962
	300	CLRG-5012	539	269	77.0	38.5	2309	1155
100	50	CLRG-1002	929	433	132.7	61.9	664	309
	100	CLRG-1004	929	433	132.7	61.9	1327	619
	150	CLRG-1006	929	433	132.7	61.9	1991	928
	200	CLRG-1008	929	433	132.7	61.9	2655	1237
	250	CLRG-10010	929	433	132.7	61.9	3318	1546
	300	CLRG-10012	929	433	132.7	61.9	3982	1856
150	50	CLRG-1502	1390	675	198.6	96.5	993	482
	100	CLRG-1504	1390	675	198.6	96.5	1986	965
	150	CLRG-1506	1390	675	198.6	96.5	2978	1447
	200	CLRG-1508	1390	675	198.6	96.5	3971	1930
	250	CLRG-15010	1390	675	198.6	96.5	4964	2412
	300	CLRG-15012	1390	675	198.6	96.5	5957	2895
200	50	CLRG-2002	1861	889	265.9	127.0	1330	635
	150	CLRG-2006	1861	889	265.9	127.0	3989	1905
	300	CLRG-20012	1861	889	265.9	127.0	7977	3809
250	50	CLRG-2502	2565	1068	366.4	152.6	1832	763
	150	CLRG-2506	2565	1068	366.4	152.6	5497	2289
	300	CLRG-25012	2565	1068	366.4	152.6	10993	4578
300	50	CLRG-3002	3193	1060	456.2	151.4	2281	757
	150	CLRG-3006	3193	1060	456.2	151.4	6843	2270
	300	CLRG-30012	3193	1060	456.2	151.4	13685	4541
400	50	CLRG-4002	3919	1354	559.9	193.5	2800	967
	150	CLRG-4006	3919	1354	559.9	193.5	8399	2902
	300	CLRG-40012	3919	1354	559.9	193.5	16797	5804
500	50	CLRG-5002	5114	1733	730.6	247.6	3653	1238
	150	CLRG-5006	5114	1733	730.6	247.6	10959	3713
	300	CLRG-50012	5114	1733	730.6	247.6	21918	7427
600	50	CLRG-6002	5987	2068	855.3	295.4	4276	1477
	150	CLRG-6006	5987	2068	855.3	295.4	12829	4431
	300	CLRG-60012	5987	2068	855.3	295.4	25659	8862
800	50	CLRG-8002	8234	2709	1176.3	387.0	5881	1935
	150	CLRG-8006	8234	2709	1176.3	387.0	17644	5806
	300	CLRG-80012	8234	2709	1176.3	387.0	35288	11611
1000	50	CLRG-10002	10260	3792	1465.7	541.7	7329	2709
	150	CLRG-10006	10260	3792	1465.7	541.7	21986	8126
	300	CLRG-100012	10260	3792	1465.7	541.7	43972	16252



Optional Tilt Saddle *

CLRG-Series High Tonnage Cylinder

Collaps. Height A (mm)	Extend. Height B (mm)	Outside Dia. D (mm)	Cyl. Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Advance Port H (mm)	Top to Retract Port I (mm)	Standard Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Depth of Plunger Hole L (mm)	 (kg)	Model	Optional Tilt Saddle *		
												Saddle Dia. J1 (mm)	Saddle Height K1 (mm)	Saddle Model Number
162	212	130	99	70	52	33	50	1	19	17	CLRG-502	50	24	CATG-50
212	312	130	99	70	52	33	50	1	19	20	CLRG-504	50	24	CATG-50
262	412	130	99	70	52	33	50	1	19	23	CLRG-506	50	24	CATG-50
312	512	130	99	70	52	33	50	1	19	27	CLRG-508	50	24	CATG-50
362	612	130	99	70	52	33	50	1	19	31	CLRG-5010	50	24	CATG-50
412	712	130	99	70	52	33	50	1	19	34	CLRG-5012	50	24	CATG-50
179	229	165	130	95	54	48	75	1	19	29	CLRG-1002	73	29	CATG-100
229	329	165	130	95	54	48	75	1	19	34	CLRG-1004	73	29	CATG-100
279	429	165	130	95	54	48	75	1	19	40	CLRG-1006	73	29	CATG-100
329	529	165	130	95	54	48	75	1	19	46	CLRG-1008	73	29	CATG-100
379	629	165	130	95	54	48	75	1	19	52	CLRG-10010	73	29	CATG-100
429	729	165	130	95	54	48	75	1	19	58	CLRG-10012	73	29	CATG-100
196	246	205	159	114	61	56	94	1	19	39	CLRG-1502	91	31	CATG-150
246	346	205	159	114	61	56	94	1	19	52	CLRG-1504	91	31	CATG-150
296	446	205	159	114	61	56	94	1	19	65	CLRG-1506	91	31	CATG-150
346	546	205	159	114	61	56	94	1	19	78	CLRG-1508	91	31	CATG-150
396	646	205	159	114	61	56	94	1	19	92	CLRG-15010	91	31	CATG-150
446	746	205	159	114	61	56	94	1	19	105	CLRG-15012	91	31	CATG-150
212	262	235	184	133	67	66	113	1	24	55	CLRG-2002	118	35	CATG-200
312	462	235	184	133	67	66	113	1	24	91	CLRG-2006	118	35	CATG-200
462	762	235	184	133	67	66	113	1	24	146	CLRG-20012	118	35	CATG-200
235	285	275	216	165	73	78	145	1	24	89	CLRG-2502	144	46	CATG-250
335	485	275	216	165	73	78	145	1	24	136	CLRG-2506	144	46	CATG-250
485	785	275	216	165	73	78	145	1	24	207	CLRG-25012	144	46	CATG-250
322	372	310	241	197	101	75	177	1	19	184	CLRG-3002	160	62	CATG-300
422	572	310	241	197	101	75	177	1	19	232	CLRG-3006	160	62	CATG-300
572	872	310	241	197	101	75	177	1	19	303	CLRG-30012	160	62	CATG-300
374	424	350	267	216	114	105	196	3	27	270	CLRG-4002	193	51	CATG-400
474	624	350	267	216	114	105	196	3	27	330	CLRG-4006	193	51	CATG-400
624	924	350	267	216	114	105	196	3	27	421	CLRG-40012	193	51	CATG-400
419	469	400	305	248	114	135	228	3	27	401	CLRG-5002	228	63	CATG-500
519	669	400	305	248	114	135	228	3	27	480	CLRG-5006	228	63	CATG-500
669	969	400	305	248	114	135	228	3	27	599	CLRG-50012	228	63	CATG-500
429	479	430	330	267	114	135	247	3	27	474	CLRG-6002	241	76	CATG-600
529	679	430	330	267	114	135	247	3	27	565	CLRG-6006	241	76	CATG-600
679	979	430	330	267	114	135	247	3	27	701	CLRG-60012	241	76	CATG-600
484	534	505	387	317	149	135	297	3	27	741	CLRG-8002	287	75	CATG-800
584	734	505	387	317	149	135	297	3	27	868	CLRG-8006	287	75	CATG-800
734	1034	505	387	317	149	135	297	3	27	1058	CLRG-80012	287	75	CATG-800
564	614	560	432	343	174	170	323	3	27	1062	CLRG-10002	311	93	CATG-1000
664	814	560	432	343	174	170	323	3	27	1213	CLRG-10006	311	93	CATG-1000
814	1114	560	432	343	174	170	323	3	27	1439	CLRG-100012	311	93	CATG-1000

RRH-Series Hollow Plunger Cylinder

Capacity: **30-145 ton**

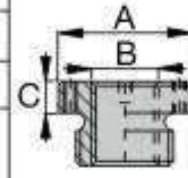
Stroke: **38-258 mm**

Center Hole Diameter: **33.3-79.2 mm**

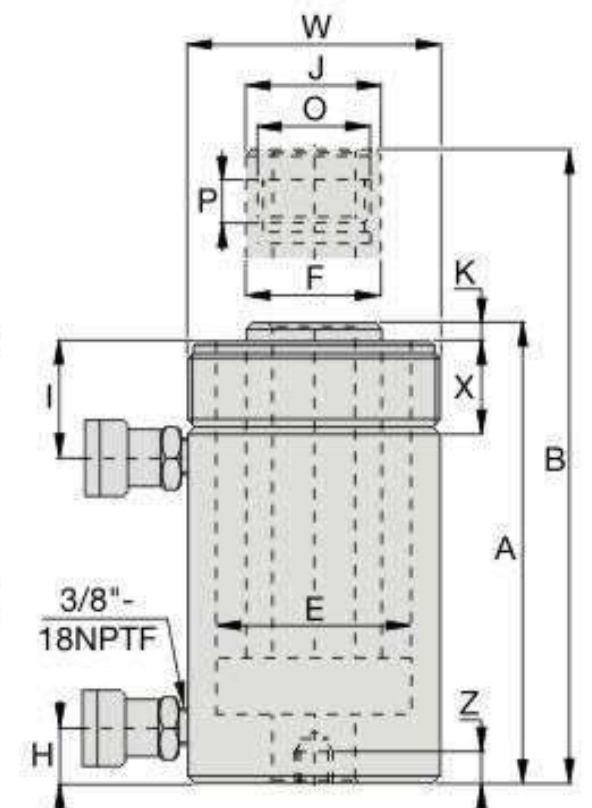
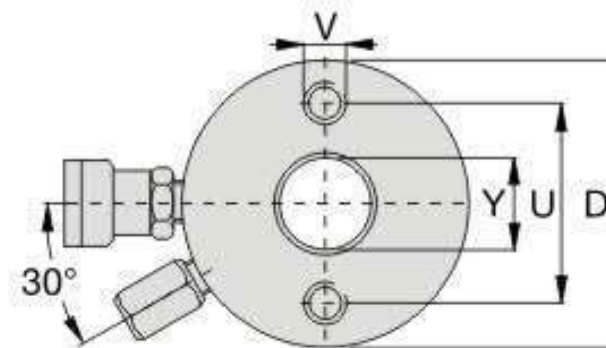
Maximum Operating Pressure: **700 bar**



Optional Heat Treated Hollow Saddles					
Saddle Type	Cylinder Model Number	Saddle Model Nr.	Saddle Dimensions		
			A	B	C
Threaded Hollow	RRH-307, 3010	HP-3015	63	1¼" - 7	9
	RRH-603, 606, 6010	HP-5016	91	1⅝" - 5½	12
	RRH-1001, 1003, RRH-1006, 10010	HP-10016	126	2½" - 8	13



- Relief valves prevent damage in case of over-pressurisation
- Baked enamel finish for increased corrosion resistance
- Collar threads enable easy fixturing(except RRH-1001 and RRH-1508)
- Double-acting version for fast retraction
- Nickel-plated, floating center tube increases product life
- Hollow plunger allows for both pull and push forces
- CR-400 coupler and dust cap included on all models
- Plunger wiper reduces contamination,extending cylinder life.



Cylinder ton	Stroke (mm)	Model Number	Max. Cylinder Capacity (kn)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)	
			Advance	Retract	Advance	Retract	Advance	Retract
30	178	RRH-307	326	213	46.6	30.4	829	541
	258	RRH-3010	326	213	46.6	30.4	1202	784
60	89	RRH-603	576	380	82.3	54.2	733	482
	166	RRH-606	576	380	82.3	54.2	1366	900
	257	RRH-6010	576	380	82.3	54.2	2115	1393
95	38	RRH-1001	931	612	133.0	87.4	505	333
	76	RRH-1003	931	612	133.0	87.4	1011	666
	153	RRH-1006	931	612	133.0	87.4	2035	1337
	257	RRH-10010	931	612	133.0	87.4	3420	2246
145	203	RRH-1508	1429	718	204.1	102.6	4144	2083

Base Mounting Hole Dimensions(mm)			
Model Number	Bolt Circle U	Thread V	Thread Depth Z
RRH-307	92.2	3/8" - 16	15.7
RRH-3010	92.2	3/8" - 16	15.7
RRH-603	130.0	1/2" - 13	14.0
RRH-606	130.0	1/2" - 13	14.0
RRH-6010	130.0	1/2" - 13	14.0
RRH-1001	177.8	5/8" - 11	19.0
RRH-1003	177.8	5/8" - 11	19.0
RRH-1006	177.8	5/8" - 11	19.0
RRH-10010	177.8	5/8" - 11	19.0
RRH-1508	-	-	-

Coll. Height A (mm)	Ext. Height B (mm)	Out. Dia. D (mm)	Cyl. Bore Dia. E (mm)	Plgr. Dia. F (mm)	Cyl. Base to Adv. Port H (mm)	Cyl. Top to Return Port I (mm)	Saddle Dia. J (mm)	Saddle Protr. fr. Plgr. K (mm)	Thread O	Plunger Thread Length P (mm)	Collar Thread W	Collar Thread Length X (mm)	Center Hole Dia. Y (mm)	(kg)	Model
330	508	114	88.9	63.5	25	60	63	9	1⅜"-16	22	4½"-12	42	33.3	21	RRH-307
431	689	114	88.9	63.5	25	60	63	9	1⅜"-16	22	4½"-12	42	33.3	27	RRH-3010
247	336	159	123.9	91.9	31	66	91	12	2¾"-16	19	6¼"-12	48	53.8	28	RRH-603
323	489	159	123.9	91.9	31	66	91	12	2¾"-16	19	6¼"-12	48	53.8	35	RRH-606
438	695	159	123.9	91.9	31	66	91	12	2¾"-16	19	6¼"-12	48	53.8	45	RRH-6010
165	203	212	165.1	127.0	38	44	126	12	4"-16	25	-	-	79.2	33	RRH-1001
254	330	212	165.1	127.0	38	85	126	12	4"-16	25	8⅜"-12	60	79.2	61	RRH-1003
342	495	212	165.1	127.0	38	85	126	12	4"-16	25	8⅜"-12	60	79.2	79	RRH-1006
460	717	212	165.1	127.0	38	85	126	12	4"-16	25	8⅜"-12	60	79.2	106	RRH-10010
349	552	247	190.5	152.4	38	60	127	4	4¼"-12	25	-	-	79.2	111	RRH-1508

RR-Series Double Acting Cylinder



Capacity: **10-520 ton**

Stroke: **57-1219 mm**

Maximum Operating Pressure: **700 bar**



Saddles
All RR-cylinders are equipped with bolt-on removable hardened steel saddles.



Saddles
All RR-cylinders are equipped with bolt-on removable hardened steel saddles.

- Collar threads, plunger threads and base mounting holes for easy fixturing (on most models)
- Baked enamel finish for increased corrosion resistance
- Removable hardened saddles protect plunger during lifting and pressing
- Built-in safety valve prevents accidental over-pressurization
- CR-400 couplers included on all models
- Plunger wiper reduces contamination, extending cylinder life.

Optional Snap-in Saddles
Optional snap-in saddles for RR-Series double-acting cylinders:

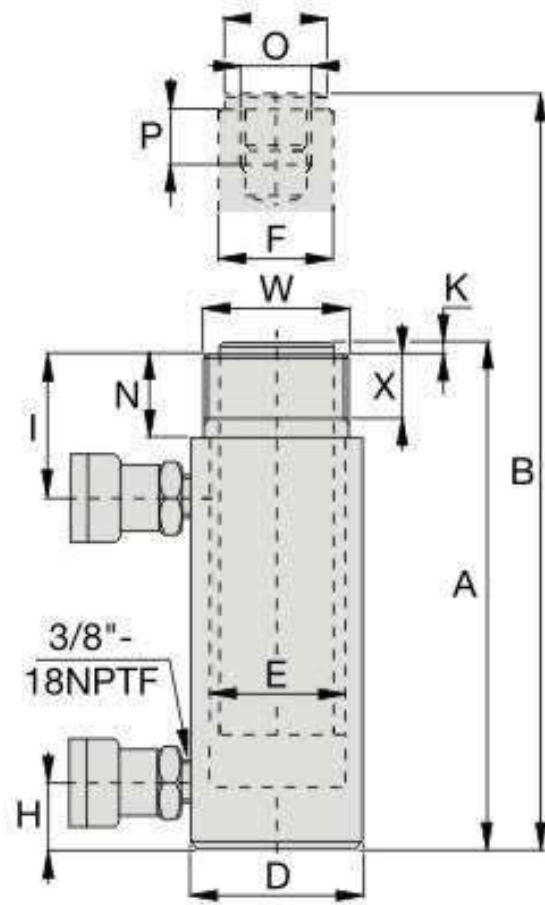
Saddle Type	Cylinder Model Number	Saddle Model
Flat	RR-1010, 1012	A-102F
Tilt	RR-1010, 1012	CAT-10
	RR-308, 3014	CAT-50
	RR-506, 5013	CAT-100
	RR-5020, 756 RR-7513	

Standard Saddles:

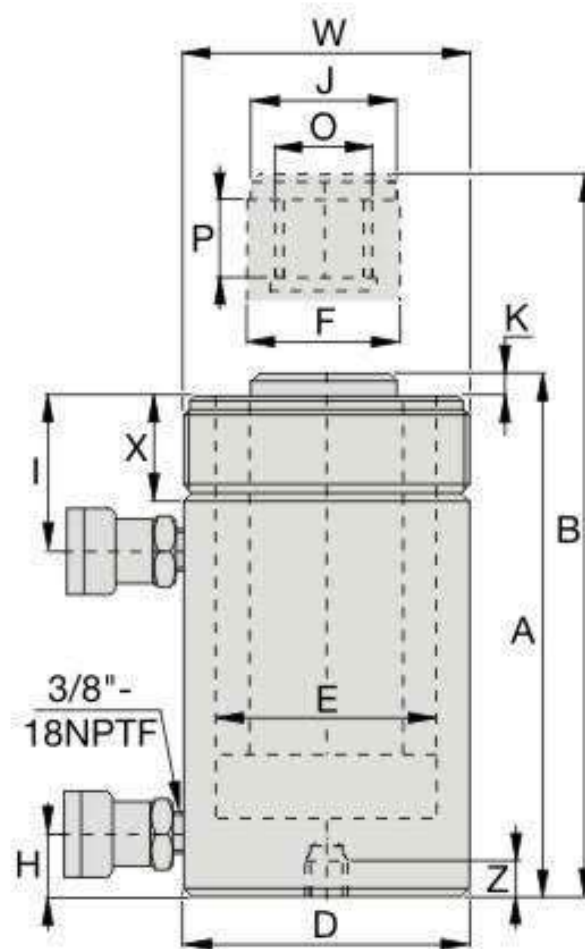
Grooved	RR-1010, 1012	A-102G
	RR-308, 3014	A-252G

Cylinder Capacity ton (kn)	Stroke (mm)	Model	Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Coll. Height (mm)
			Push	Pull	Push	Pull	
10 (101)	254	RR-1010	14.5	4.8	368	122	409
	305	RR-1012	14.5	4.8	442	147	457
30 (295)	209	RR-308	42.1	19.1	879	400	395
	368	RR-3014	42.1	19.1	1549	703	549
50 (498)	156	RR-506	71.2	21.5	1111	335	331
	334	RR-5013	71.2	21.5	2378	718	509
	511	RR-5020	71.2	21.5	3638	1099	733
75 (718)	156	RR-756	102.6	31.4	1601	490	347
	333	RR-7513	102.6	31.4	3417	1046	525
95 (933)	168	RR-1006	133.3	62.2	2238	1045	357
	333	RR-10013	133.3	62.2	4439	2071	524
	460	RR-10018	133.3	62.2	6132	2861	687
140 (1386)	57	RR-1502	198.1	95.4	1129	544	196
	156	RR-1506	198.1	95.4	3090	1488	385
	333	RR-15013	198.1	95.4	6597	3177	582
	815	RR-15032	198.1	95.4	16145	7775	1116
200 (1995)	152	RR-2006	285.0	145.3	4332	2209	430
	330	RR-20013	285.0	145.3	9405	4795	608
	457	RR-20018	285.0	145.3	13025	6640	765
	610	RR-20024	285.0	145.3	17385	8863	917
	914	RR-20036	285.0	145.3	26049	13280	1222
	1219	RR-20048	285.0	145.3	34741	17712	1527
325 (3201)	153	RR-3006	457.3	243.2	6997	3721	485
	305	RR-30012	457.3	243.2	13947	7418	638
	457	RR-30018	457.3	243.2	20889	11114	790
	609	RR-30024	457.3	243.2	27850	14811	943
	915	RR-30036	457.3	243.2	41843	22253	1247
	1219	RR-30048	457.3	243.2	55745	29646	1552
440 (4292)	152	RR-4006	613.1	328.1	9319	4987	538
	305	RR-40012	613.1	328.1	18700	10007	690
	457	RR-40018	613.1	328.1	28018	14995	843
	610	RR-40024	613.1	328.1	37400	20014	995
	914	RR-40036	613.1	328.1	56037	29988	1300
	1219	RR-40048	613.1	328.1	74737	39996	1605
520 (5108)	153	RR-5006	729.7	405.4	11164	6203	577
	305	RR-50012	729.7	405.4	22256	12365	730
	457	RR-50018	729.7	405.4	33347	18526	882
	609	RR-50024	729.7	405.4	44440	24689	1035
	915	RR-50036	729.7	405.4	66768	36973	1339
	1219	RR-50048	729.7	405.4	88951	49418	1644

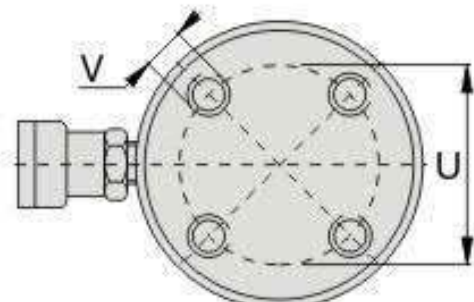
Double Acting Cylinder



RR-1010 - RR-3014

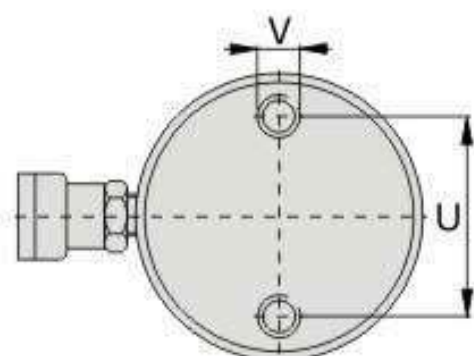


RR-506 - RR-50048



RR-1006 - RR-30048

No mounting holes on:
RR-506, 5013
RR-756, 7513
RR-1502, 15013



RR-4006 - RR-50048

Cylinder Capacity ton	Stroke (mm)	Model Number	Max. Cylinder Capacity (kN)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Coll. Height	Ext. Height	Outside Dia.
			Push	Pull	Push	Pull	Push	Pull	A (mm)	B (mm)	D (mm)
10	254	RR-1010 *	101	33	14.5	4.8	368	122	409	663	73
	305	RR-1012 *	101	33	14.5	4.8	442	147	457	762	73
30	209	RR-308 *	295	53	42.1	19.1	879	400	395	604	101
	368	RR-3014 *	295	53	42.1	19.1	1549	703	549	917	101
50	156	RR-506	498	103	71.2	21.5	1111	335	331	487	127
	334	RR-5013	498	103	71.2	21.5	2378	718	509	843	127
	511	RR-5020	498	103	71.2	21.5	3638	1099	733	1244	127
75	156	RR-756	718	156	102.6	31.4	1601	490	347	503	146
	333	RR-7513	718	156	102.6	31.4	3417	1046	525	858	146
95	168	RR-1006	933	435	133.3	62.2	2238	1045	357	525	177
	333	RR-10013	933	435	133.3	62.2	4439	2071	524	857	177
	460	RR-10018	933	435	133.3	62.2	6132	2861	687	1147	177
140	57	RR-1502	1386	668	198.1	95.4	1129	544	196	253	203
	156	RR-1506	1386	668	198.1	95.4	3090	1488	385	541	203
	333	RR-15013	1386	668	198.1	95.4	6597	3177	582	915	203
	815	RR-15032	1386	668	198.1	95.4	16145	7775	1116	1931	203
200	152	RR-2006	1995	1017	285.0	145.3	4332	2209	430	582	247
	330	RR-20013	1995	1017	285.0	145.3	9405	4795	608	938	247
	457	RR-20018	1995	1017	285.0	145.3	13025	6640	765	1222	247
	610	RR-20024	1995	1017	285.0	145.3	17385	8863	917	1527	247
	914	RR-20036	1995	1017	285.0	145.3	26049	13280	1222	2136	247
	1219	RR-20048	1995	1017	285.0	145.3	34741	17712	1527	2746	247
325	153	RR-3006	3201	1703	457.3	243.2	6997	3721	485	638	311
	305	RR-30012	3201	1703	457.3	243.2	13947	7418	638	943	311
	457	RR-30018	3201	1703	457.3	243.2	20889	11114	790	1247	311
	609	RR-30024	3201	1703	457.3	243.2	27850	14811	943	1552	311
	915	RR-30036	3201	1703	457.3	243.2	41843	22253	1247	2162	311
	1219	RR-30048	3201	1703	457.3	243.2	55745	29646	1552	2771	311
440	152	RR-4006	4292	2297	613.1	328.1	9319	4987	538	690	358
	305	RR-40012	4292	2297	613.1	328.1	18700	10007	690	995	358
	457	RR-40018	4292	2297	613.1	328.1	28018	14995	843	1300	358
	610	RR-40024	4292	2297	613.1	328.1	37400	20014	995	1605	358
	914	RR-40036	4292	2297	613.1	328.1	56037	29988	1300	2214	358
	1219	RR-40048	4292	2297	613.1	328.1	74737	39996	1605	2824	358
520	153	RR-5006	5108	2838	729.7	405.4	11164	6203	577	730	397
	305	RR-50012	5108	2838	729.7	405.4	22256	12365	730	1035	397
	457	RR-50018	5108	2838	729.7	405.4	33347	18526	882	1339	397
	609	RR-50024	5108	2838	729.7	405.4	44440	24689	1035	1644	397
	915	RR-50036	5108	2838	729.7	405.4	66768	36973	1339	2254	397
	1219	RR-50048	5108	2838	729.7	405.4	88951	49418	1644	2863	397

* RR-1010 and RR-1012:N=32mm RR-308 and RR-3014:N=55mm

RR-Series Double Acting Cylinder



safety valve pressure setting

RR-308/3014: 275 bar

RR-506/5013/5020: 480 bar

RR-756/7513: 495 bar

Cyl. Bore Dia. E (mm)	Plgr. Dia. F (mm)	Base to Adv. Port H (mm)	Top to Ret. Port I (mm)	Saddle Dia. J (mm)	Saddle Protr. fr. Plgr. K (mm)	Plunger Internal Thread O	Plunger Thread Length P (mm)	Base Mounting Holes			Collar Thread W	Collar Thread Length X (mm)	 (kg)	Model Number
								Bolt C. Dia. U (mm)	Thread V	Thd. Depth Z (mm)				
42.9	34.9	36	57	35	6	1"- 8	25	—	—	—	2¼"- 14	26	12	RR-1010*
42.9	34.9	36	57	35	6	1"- 8	25	—	—	—	2¼"- 14	26	14	RR-1012*
73.2	54.1	39	81	50	10	1½"- 16	25	—	—	—	3 ⁵ / ₁₆ "- 12	49	18	RR-308*
73.2	54.1	39	81	50	10	1½"- 16	25	—	—	—	3 ⁵ / ₁₆ "- 12	49	29	RR-3014*
95.2	79.5	28	76	71	2	1"- 12	25	—	—	—	5"- 12	44	30	RR-506
95.2	79.5	28	76	71	2	1"- 12	25	—	—	—	5"- 12	44	52	RR-5013
95.2	79.5	57	76	71	2	1"- 12	25	76	½"- 13	25	5"- 12	44	68	RR-5020
114.3	95.2	30	76	71	6	1"- 12	38	—	—	—	5¾"- 12	38	41	RR-756
114.3	95.2	30	81	71	6	1"- 12	38	—	—	—	5¾"- 12	38	68	RR-7513
130.3	95.2	38	71	76	3	1¾"- 12	35	139	¾"- 10	25	6 ⁷ / ₈ "- 12	50	61	RR-1006
130.3	95.2	38	71	76	3	1¾"- 12	35	139	¾"- 10	25	6 ⁷ / ₈ "- 12	50	93	RR-10013
130.3	95.2	41	92	76	3	1¾"- 12	35	139	¾"- 10	25	6 ⁷ / ₈ "- 12	50	117	RR-10018
158.8	114.3	22	66	95	19	—	—	—	—	—	—	—	49	RR-1502
158.8	114.3	49	84	114	19	3 ³ / ₈ "- 16	35	158	¾"- 16	28	8"- 12	55	93	RR-1506
158.8	114.3	49	84	114	19	3 ³ / ₈ "- 16	35	158	¾"- 16	28	8"- 12	55	124	RR-15013
158.8	114.3	76	88	114	19	3 ³ / ₈ "- 16	35	—	—	—	8"- 12	55	238	RR-15032
190.5	133.4	57	96	133	22	—	—	127	1"- 8	25	—	—	147	RR-2006
190.5	133.4	57	96	133	22	2½"- 12	63	127	1"- 8	25	9¾"- 12	54	199	RR-20013
190.5	133.4	85	101	133	22	2½"- 12	63	127	1"- 8	25	9¾"- 12	54	204	RR-20018
190.5	133.4	85	101	133	22	2½"- 12	63	127	1"- 8	25	9¾"- 12	54	279	RR-20024
190.5	133.4	85	101	133	22	2½"- 12	63	127	1"- 8	25	9¾"- 12	54	383	RR-20036
190.5	133.4	85	101	133	22	2½"- 12	63	127	1"- 8	25	9¾"- 12	54	483	RR-20048
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	200	RR-3006
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	312	RR-30012
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	385	RR-30018
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	469	RR-30024
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	628	RR-30036
241.3	165.1	88	114	165	28	2½"- 12	82	158	1¼"- 7	44	12¼"- 12	58	780	RR-30048
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	303	RR-4006
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	399	RR-40012
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	453	RR-40018
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	597	RR-40024
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	792	RR-40036
279.4	190.5	108	133	190	28	3"- 12	95	203	1½"- 6	50	14 ¹ / ₈ "- 8	65	980	RR-40048
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	432	RR-5006
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	589	RR-50012
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	680	RR-50018
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	816	RR-50024
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	1002	RR-50036
304.8	203.2	120	152	203	28	3¼"- 12	108	203	1¾"- 5	57	15 ⁵ / ₈ "- 8	79	1224	RR-50048

BRC, BRP-Series Pulling Cylinder



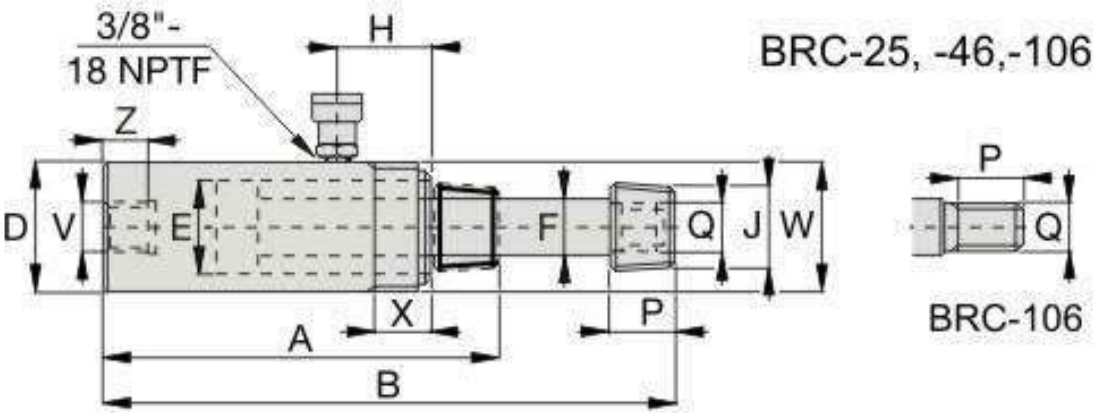
Capacity: **2.5-50 ton**

Stroke: **127-155 mm**

Maximum Operating Pressure: **700 bar**

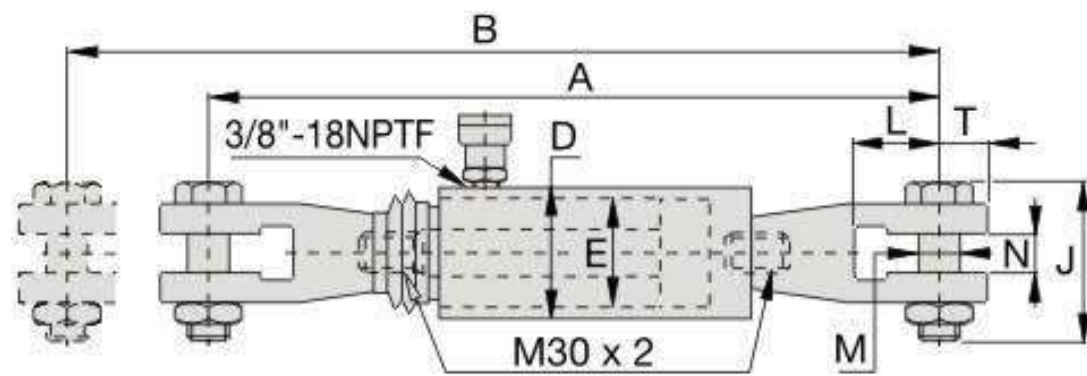
- High strength alloy steel construction
- Plunger blow-out protection to prevent rod over-extension
- Hard chrome-plated plunger for long life
- Replaceable links on BRP-models
- Baked enamel finish for increased corrosion resistance
- CR-400 coupler and dust cap included on all models
- Plunger wiper reduces contamination, extending cylinder life
- Single-acting, spring return.

BRC Cylinder Mounting Dimensions (mm)				
Model Number	Base Mounting Hole V	Collar Thread W	Collar Thd. Lgth. X	Mtg. Thd. Lgth. Z
BRC-25	3/4"-14 NPT	1 1/2"- 16 UN	24	17
BRC-46	1 1/4"-11 1/2 NPT	2 1/4"- 14 UN	26	24
BRC-106	M30 x 2	M85 x 2	25	24

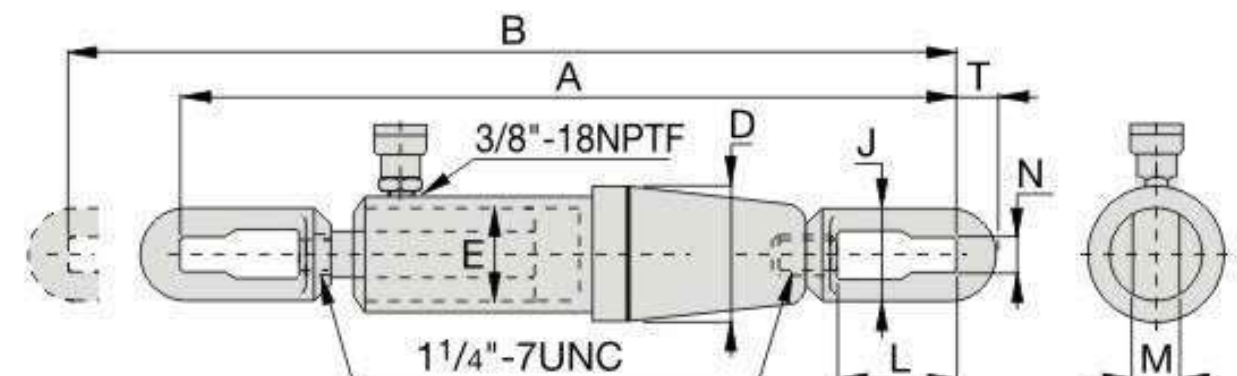


Single Acting Pulling Cylinder

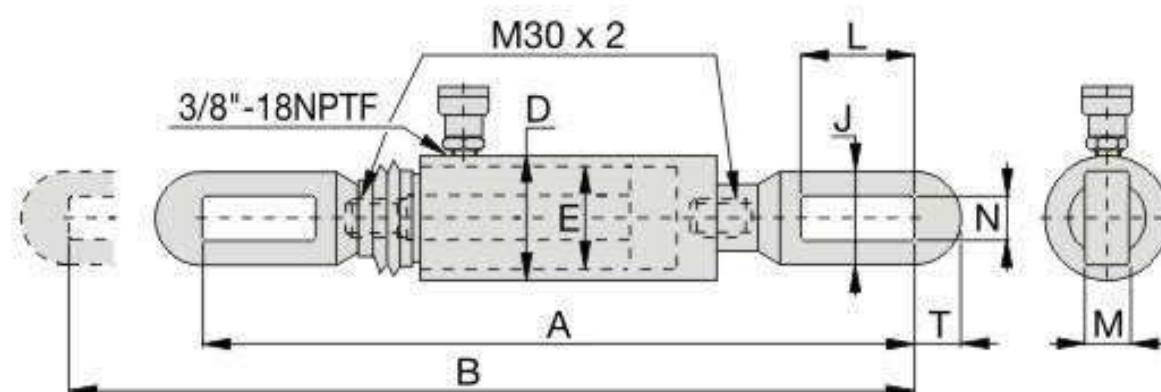
Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.	Coll. Height	Ext. Height	Outs. Dia.	Cyl. Bore Dia.	Plgr. Dia.	Top to Inlet Port	Saddle Diameter	Plgr. Thd. Lgth.	Plunger Outside Thread	
ton (kn)	(mm)		(cm ²)	(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	H (mm)	J (NPT)	P (mm)	Q	(kg)
2.5 (24)	127	BRC-25	3.5	45	264	391	48	28.4	19.0	45	3/4"-14	28	1 1/16"-24	1.8
5 (51)	140	BRC-46	7.3	101	301	441	57	42.9	30.2	42	1 1/4"-11 1/2	32	1 3/16"-16	4.5
10 (105)	151	BRC-106	15.0	228	289	440	85	54.1	31.8	39	—	25	M30x2	9.5



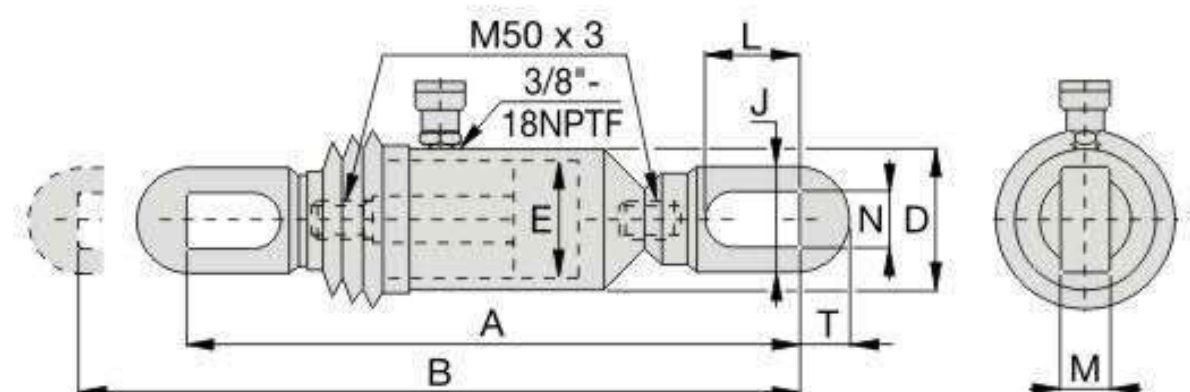
BRP-106C



BRP-306



BRP-106L



BRP-606

Cylinder Capacity	Stroke	Model	Cyl. Effect. Area	Oil Cap.	Coll. Height	Ext. Height	Outside Dia.	Cyl. Bore Dia.	Link Height	Link Opening	Link Thickness	Link Width	Slot to Link End	
ton (kn)	(mm)		(cm ²)	(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	J (mm)	L (mm)	M (mm)	N (mm)	T (mm)	(kg)
10 (105)	151	BRP-106C*	15.0	227	587	738	85	54.1	119	62	30	35	32	15.9
	151	BRP-106L*	15.0	227	541	692	85	54.1	67	115	22	30	32	13.2
30 (326)	155	BRP-306*	46.6	722	1085	1240	136	88.9	114	145	35	39	50	48.1
50 (505)	152	BRP-606*	72.1	1096	719	871	140	110.0	130	149	39	50	70	53.5

* Available as set, see note on previous page. NOTE: BRP-106C, BRP-106L and BRP-606 are fitted with rubber bellows for rod protection.

RSM-Series Low Height Cylinder



Capacity: **5-150 ton**

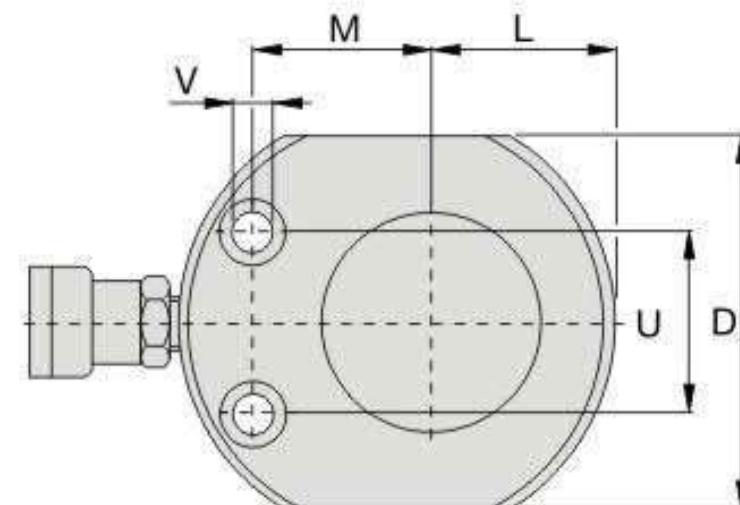
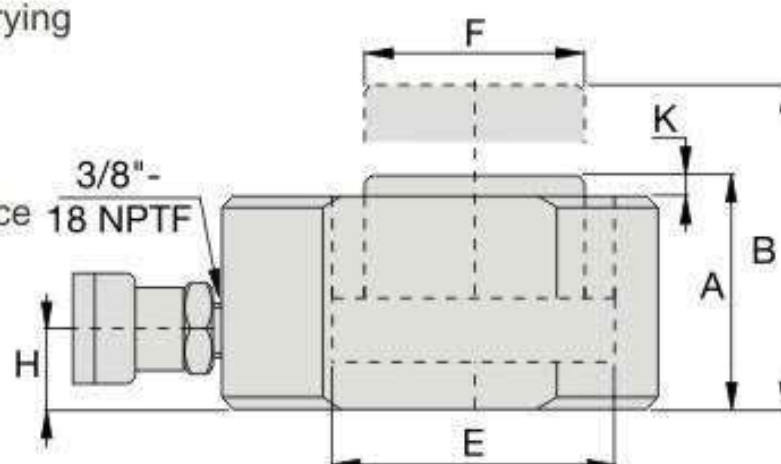
Stroke: **6-16mm**

Maximum Operating Pressure: **700 bar**

RSM Cylinder Mounting Hole Dimensions(mm)

Model	Bolt Circle U	Hole Dia. V	Counter Bore Dia.	Counter Bore Depth
RSM-50	28.5	5.5	9.1	4.3
RSM-100	36.6	7.1	10.7	7.9
RSM-200	49.3	10.0	15.1	9.9
RSM-300	52.3	10.0	15.9	11.2
RSM-500	66.5	11.0	19.0	12.7
RSM-750	76.2	13.5	20.6	14.2
RSM-1000	76.2	13.5	20.6	14.2
RSM-1500	117.3	13.5	20.6	14.2

- Compact, flat design for use where most other cylinders will not fit
- Single-acting, spring return
- RSM-750, 1000 and 1500 have handles for easy carrying
- Mounting holes permit easy fixturing
- Baked enamel finish for increased corrosion resistance
- Hard chrome plated high quality steel plungers
- Grooved plunger ends require no saddle.



Cyl. Capacity ton (kn)	Stroke (mm)	Model	Cyl. Effect. Area (cm ²)	Oil Cap. (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Advance Port H (mm)	Plunger Protrusion from Base K (mm)	Plunger to Base L (mm)	Plunger to Mtg. Hole M (mm)	Thread O (mm)	Thread Depth P (mm)	Bolt Circle U (mm)	 (kg)
5 (45)	6	RSM-50	6.5	4	32	38	58 x 41	28.7	25.4	16	1	20	22	—	—	—	1.0
10 (101)	12	RSM-100	14.5	18	42	54	82 x 55	42.9	38.1	19	1	27	34	—	—	—	1.4
20 (201)	11	RSM-200	28.7	32	51	62	101 x 76	60.5	50.8	19	1	39	39	—	—	—	3.1
30 (295)	13	RSM-300	42.1	55	58	71	117 x 95	73.2	63.4	19	2	47	44	—	—	—	4.5
45 (435)	16	RSM-500	62.1	99	66	82	140 x 114	88.9	69.8	19	2	57	53	—	—	—	6.8
75 (718)	16	RSM-750	102.6	164	79	95	165 x 139	114.3	82.6	19	2	69	66	—	—	—	11.3
90 (887)	16	RSM-1000	126.7	203	85	101	178 x 153	127.0	92.2	19	2	76	74	—	—	—	14.5
150 (1386)	16	RSM-1500	198.1	317	100	116	215 x 190	158.8	114.3	23	2	95	82	—	—	—	26.3

RSMB-Series Low Height Cylinder



Capacity: **10-50 ton**

Stroke: **25-64mm**

Maximum Operating Pressure: **700 bar**

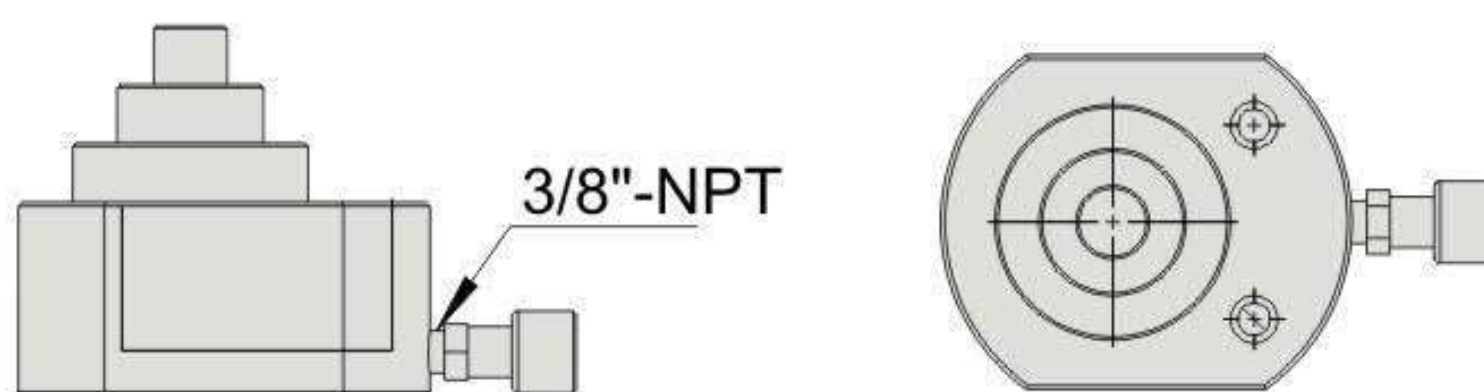
The RSMB series multi-section jacks are suitable for using in a limited space, in the effective body height, increase the stroke of the jack, so that the weight rises higher and the useage is more convenient. The products are widely used in the installation and maintenance of large and medium-sized machinery and equipment in petroleum, chemical, electric power, pharmaceutical, metallurgy, steel, automobile, ship and bridge industries. It is an ideal tool for installation and maintenance workers.

In addition to the quality characteristics and jacking ability of the standard jack, the multi-section jack also has an extra long journey. Can avoid the jacking up, padding. This process is repeated to save time and improve work efficiency. In most applications. The user only needs to place a multi-stage jack at a time to complete the jacking work.

- Compact, flat design to use the place of most other cylinders will not fit
- Mounting holes permit easy fixturing
- Baked enamel finish for increased corrosion resistance
- Hard chrome plated high quality steel plungers
- Grooved plunger ends require no saddle.
- Single-acting, gravity retraction

RSMB Series It's designed recently to be multi-section hydraulic jack, which is very suitable for narrow space as well as the place needs longer trip. It is already applied to power, communication, machinery, bridges, steel industries, etc.

Cylinder-Pump Sets All cylinders marked with an * are available as sets (cylinder, gauge, couplers, hose and pump) for your ordering convenience.

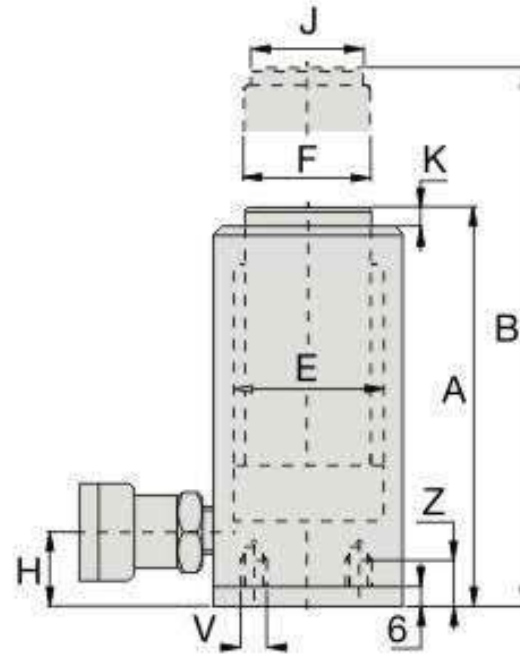


Model	Output (T)	Stroke (mm)	Collapsed Height (mm)	Oil Cap. (cc)	Extended Height (mm)	Outside Diameter X Flat side (mm)	Weight (kg)
RSMB-100	10	25	42	22	67	Ø82×55	1.5
RSMB-200	20	26	51	41	77	Ø101×76	2.4
RSMB-300	30	53	58	58	111	Ø117×95	4.5
RSMB-500	50	64	66	113	130	Ø140×114	7.0

RAC-Series Single Acting Aluminium Cylinder

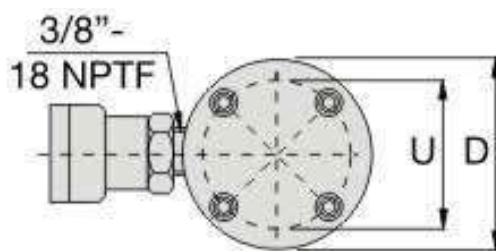


- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-loads of up to 10%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles included on all models
- Steel base plate and saddle for protection against load-induced damage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



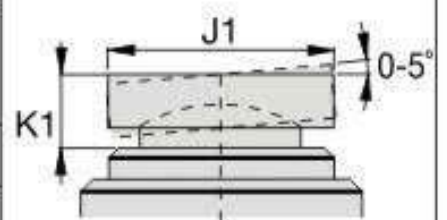
Steel Base Plate Mounting Holes			
Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RAC-20	70	M6	12
RAC-30	80	M6	12
RAC-50	110	M6	12
RAC-100	150	M6	12
RAC-150	200	M6	12

Including Base Plate Height of 6 mm



Optional Bolt-on Tilt Saddle Dimensions (mm)

For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RAC-50	CATG-50	50	24
RAC-100	CATG-150	91	31
RAC-150	CATG-200	118	35



Cylinder Capacity ton (kn)	Stroke (mm)	Model	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	(kg)
20 (218)	50	RAC-202	31.2	156	174	224	85	63	50	27	40	3	3.6
	100	RAC-204	31.2	312	224	324	85	63	50	27	40	3	4.1
	150	RAC-206	31.2	468	274	424	85	63	50	27	40	3	4.6
	200	RAC-208	31.2	624	324	524	85	63	50	27	40	3	5.1
	250	RAC-2010	31.2	780	374	624	85	63	50	27	40	3	5.6
30 (309)	50	RAC-302	44.2	221	181	231	100	75	60	32	40	3	4.5
	100	RAC-304	44.2	442	231	331	100	75	60	32	40	3	5.2
	150	RAC-306	44.2	663	281	431	100	75	60	32	40	3	5.9
	200	RAC-308	44.2	884	331	531	100	75	60	32	40	3	6.6
	250	RAC-3010	44.2	1105	381	631	100	75	60	32	40	3	7.3
50 (496)	50	RAC-502	70.9	354	186	236	130	95	80	30	50	3	8.5
	100	RAC-504	70.9	709	236	336	130	95	80	30	50	3	9.8
	150	RAC-506	70.9	1063	286	436	130	95	80	30	50	3	11.1
	200	RAC-508	70.9	1417	336	536	130	95	80	30	50	3	12.4
	250	RAC-5010	70.9	1771	386	636	130	95	80	30	50	3	13.7
100 (1002)	50	RAC-1002	143.1	715	221	271	180	135	110	46	94	3	17.3
	100	RAC-1004	143.1	1431	271	371	180	135	110	46	94	3	19.6
	150	RAC-1006	143.1	2147	321	471	180	135	110	46	94	3	21.9
	200	RAC-1008	143.1	2863	371	571	180	135	110	46	94	3	24.2
	250	RAC-10010	143.1	3578	421	671	180	135	110	46	94	3	26.5
150 (1589)	50	RAC-1502	227.0	1135	243	293	230	170	140	51	113	3	25.3
	100	RAC-1504	227.0	2270	293	393	230	170	140	51	113	3	29.3
	150	RAC-1506	227.0	3405	343	493	230	170	140	51	113	3	33.3
	200	RAC-1508	227.0	4540	393	593	230	170	140	51	113	3	37.3
	250	RAC-15010	227.0	5675	443	693	230	170	140	51	113	3	41.3

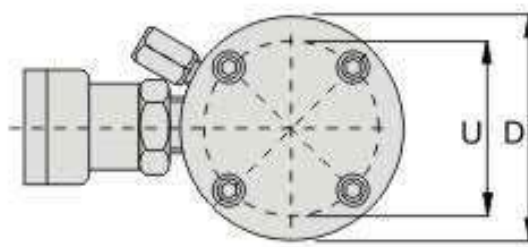
- Double-acting for rapid retraction, regardless of hose lengths or system losses
- Composite bearings increase cylinder life and sideload resistance
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles included on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- Built-in safety valve prevents accidental over-pressurization.

RAR-Series Double Acting Aluminium Cylinder

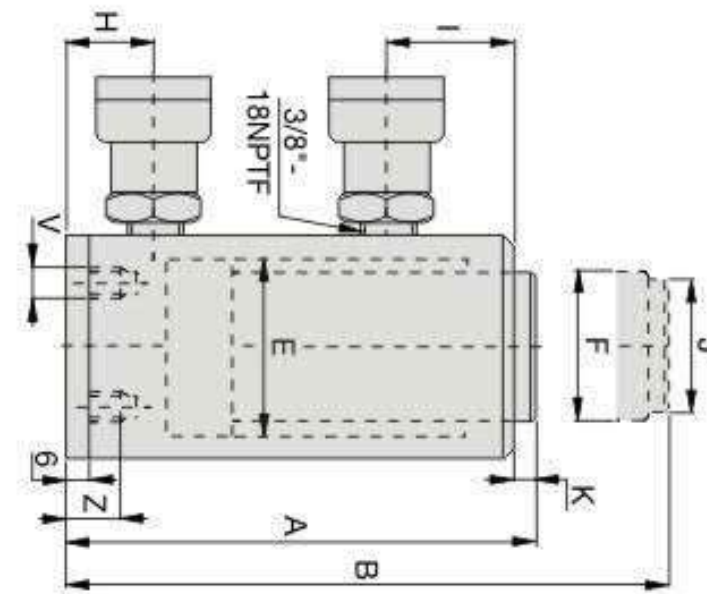
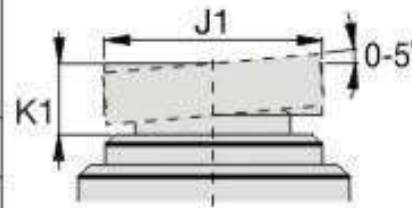


Steel Base Plate Mounting Holes			
Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth ¹⁾ Z (mm)
RAR-20	93	M6	12
RAR-30	105	M6	12
RAR-50	110	M6	12
RAR-100	165	M6	12
RAR-150	200	M6	12

Including Base Plate Height of 6 mm

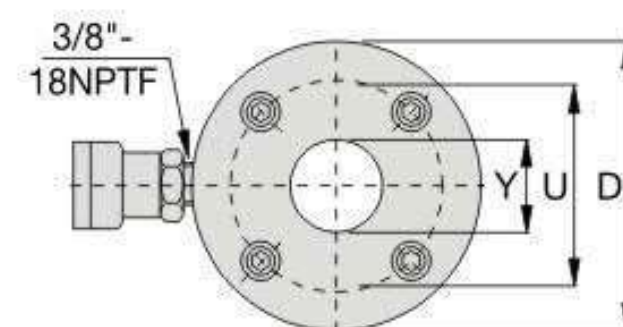


Optional Bolt-on Tilt Saddle Dimensions (mm)			
For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RAR-50	CATG-50	50	24
RAR-100	CATG-150	73	29
RAR-150	CATG-200	91	31



Cyl Cap ton	Stroke (mm)	Model	Max Cylinder Cap (kn)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		H A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Top to Retract Port I (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Saddle Weight (kg)
			Push	Pull	Push	Pull	Push	Pull										
20	50	RAR-202	218	130	31.2	18.6	156	93	189	239	113	63	40	30	50	30	3	7.4
	100	RAR-204	218	130	31.2	18.6	312	186	239	339	113	63	40	30	50	30	3	8.0
	150	RAR-206	218	130	31.2	18.6	468	279	289	439	113	63	40	30	50	30	3	8.6
	200	RAR-208	218	130	31.2	18.6	624	372	339	539	113	63	40	30	50	30	3	9.2
	250	RAR-2010	218	130	31.2	18.6	780	465	389	639	113	63	40	30	50	30	3	9.8
30	50	RAR-302	309	179	44.2	24.5	221	123	201	251	125	75	50	30	55	40	3	8.6
	100	RAR-304	309	179	44.2	24.5	442	245	251	351	125	75	50	30	55	40	3	9.5
	150	RAR-306	309	179	44.2	24.5	663	368	301	451	125	75	50	30	55	40	3	10.4
	200	RAR-308	309	179	44.2	24.5	884	490	351	551	125	75	50	30	55	40	3	11.3
	250	RAR-3010	309	179	44.2	24.5	1105	613	401	651	125	75	50	30	55	40	3	12.2
50	50	RAR-502	496	187	70.9	26.7	354	134	201	251	145	95	75	30	56	50	3	11.1
	100	RAR-504	496	187	70.9	26.7	709	267	251	351	145	95	75	30	56	50	3	12.7
	150	RAR-506	496	187	70.9	26.7	1063	401	301	451	145	95	75	30	56	50	3	14.3
	200	RAR-508	496	187	70.9	26.7	1417	534	351	551	145	95	75	30	56	50	3	15.9
	250	RAR-5010	496	187	70.9	26.7	1771	668	401	651	145	95	75	30	56	50	3	17.5
100	50	RAR-1002	1002	557	143.1	79.5	715	398	251	301	185	135	90	43	80	75	3	16.4
	100	RAR-1004	1002	557	143.1	79.5	1431	795	301	401	185	135	90	43	80	75	3	19.3
	150	RAR-1006	1002	557	143.1	79.5	2147	1193	351	501	185	135	90	43	80	75	3	22.2
	200	RAR-1008	1002	557	143.1	79.5	2863	1590	401	601	185	135	90	43	80	75	3	25.1
	250	RAR-10010	1002	557	143.1	79.5	3578	1988	451	701	185	135	90	43	80	75	3	28.0
150	50	RAR-1502	1589	924	227.0	132.0	1135	660	248	298	230	170	110	38	75	113	3	24.2
	100	RAR-1504	1589	924	227.0	132.0	2270	1320	298	398	230	170	110	38	75	113	3	28.9
	150	RAR-1506	1589	924	227.0	132.0	3405	1980	348	498	230	170	110	38	75	113	3	33.2
	200	RAR-1508	1589	924	227.0	132.0	4540	2640	398	598	230	170	110	38	75	113	3	37.9
	250	RAR-15010	1589	924	227.0	132.0	5675	3300	448	698	230	170	110	38	75	113	3	42.6

RACH-Series Single Acting Aluminium Hollow Cylinder



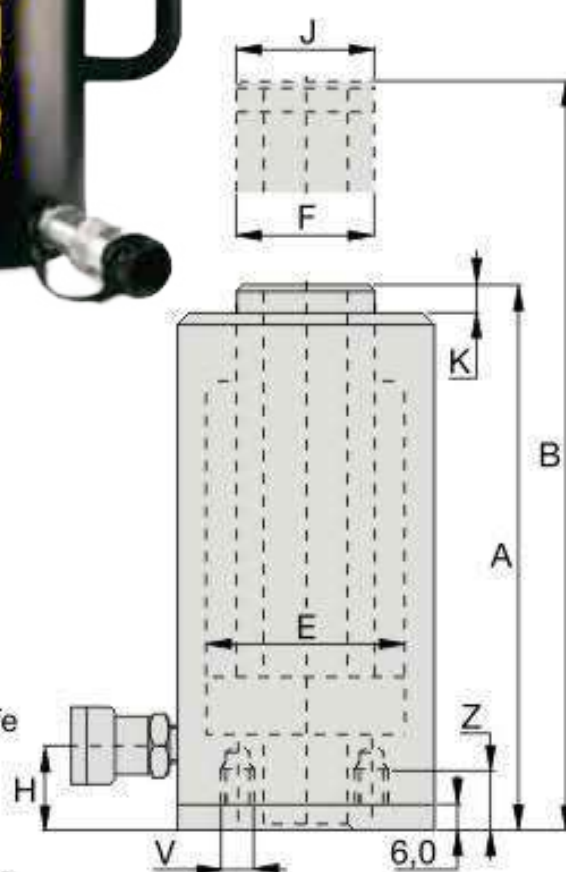
Capacity: **20-150 ton**

Stroke: **50-250 mm**

Center Hole Diameter: **27-79 mm**

Maximum Operating Pressure: **700 bar**

- All RACH-cylinders are equipped with bolt-on hollow removable saddles of hardened steel.
- Hollow plunger design allows for both pull and push forces
- Composite bearings increase cylinder life and sideload resistance
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Floating center tube increases seal and product life
- Handles standard on all models
- Steel base plate and saddle for protection against load-induced damage



Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RACH-20	80	M6	12
RACH-30	110	M6	12
RACH-60	160	M6	12
RACH-100	230	M6	12
RACH-150	245	M6	12

Including Base Plate Height of 6 mm

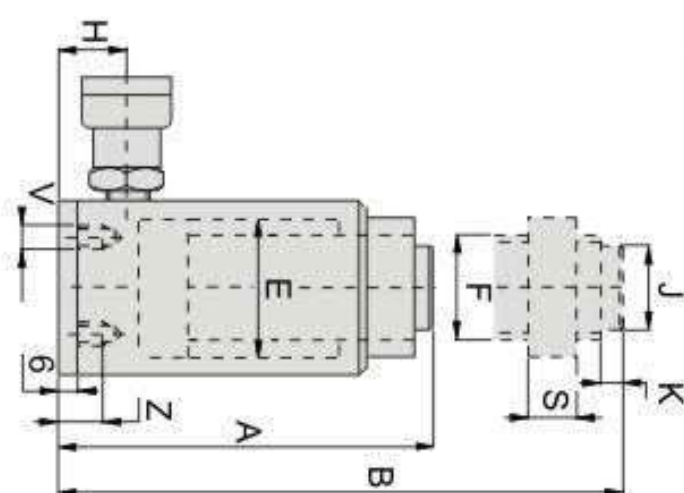
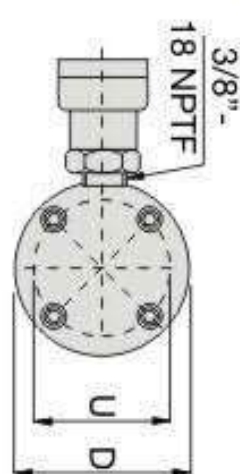
Cyl Cap ton (kn)	Stroke (mm)	Model	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Center Hole Dia Y (mm)	(kg)
20 (229)	50	RACH-202	32.7	164	188	238	100	75	55	29	55	10	27	5.2
	100	RACH-204	32.7	327	251	351	100	75	55	29	55	10	27	6.1
	150	RACH-206	32.7	491	315	465	100	75	55	29	55	10	27	7.1
	200	RACH-208	32.7	654	378	578	100	75	55	29	55	10	27	8.0
	250	RACH-2010	32.7	818	442	692	100	75	55	29	55	10	27	9.0
30 (358)	50	RACH-302	51.1	256	208	258	130	95	70	29	70	10	34	8.0
	100	RACH-304	51.1	511	267	367	130	95	70	29	70	10	34	9.5
	150	RACH-306	51.1	766	333	483	130	95	70	29	70	10	34	11.2
	200	RACH-308	51.1	1022	395	595	130	95	70	29	70	10	34	12.9
	250	RACH-3010	51.1	1277	458	708	130	95	70	29	70	10	34	14.5
60 (596)	50	RACH-602	84.7	423	251	301	180	130	100	61	100	12	54	16.2
	100	RACH-604	84.7	847	315	415	180	130	100	61	100	12	54	19.5
	150	RACH-606	84.7	1270	380	530	180	130	100	61	100	12	54	25.6
	200	RACH-608	84.7	1694	445	645	180	130	100	61	100	12	54	26.0
	250	RACH-6010	84.7	2117	510	760	180	130	100	61	100	12	54	29.6
100 (1157)	50	RACH-1002	164.6	823	258	308	250	185	145	61	145	14	79	33.8
	100	RACH-1004	164.6	1646	325	425	250	185	145	61	145	14	79	39.8
	150	RACH-1006	164.6	2487	391	541	250	185	145	61	145	14	79	46.2
	200	RACH-1008	164.6	3291	459	659	250	185	145	61	145	14	79	52.2
	250	RACH-10010	164.6	4114	527	777	250	185	145	61	145	14	79	58.8
150 (1588)	50	RACH-1502	225.8	1129	280	330	275	205	150	61	145	14	79	48.9
	100	RACH-1504	225.8	2258	360	460	275	205	150	61	145	14	79	55.7
	150	RACH-1506	225.8	3387	430	580	275	205	150	61	145	14	79	63.0
	200	RACH-1508	225.8	4517	500	700	275	205	150	61	145	14	79	70.1
	250	RACH-15010	225.8	5646	570	820	275	205	150	61	145	14	79	77.2

Capacity: **20-150 ton**

Stroke: **50-250 mm**

Maximum Operating Pressure: **700 bar**

RACL-Series Aluminium Lock Nut Cylinder



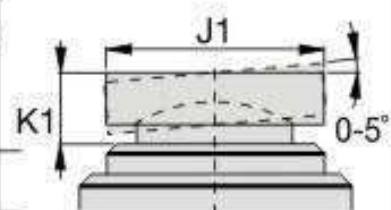
Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RACL-20	70	M6	12
RACL-30	80	M6	12
RACL-50	110	M6	12
RACL-100	150	M10	12
RACL-150	200	M10	12

Including Base Plate Height of 6 mm

Optional Bolt-on Tilt Saddle Dimensions (mm)

Cylinder Model ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RACL-50	CATG-50	50	24
RACL-100	CATG-150	91	31
RACL-150	CATG-200	118	35

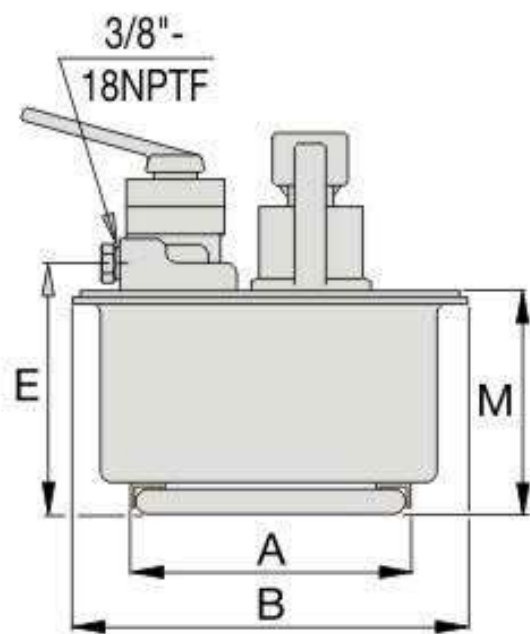


- Aluminium Lock Nut provides mechanical load holding for extended periods
- Composite bearings increase cylinder life and side load resistance
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- Hardened steel stop ring increasing cylinder life and resistance to side-loads of up to 5%

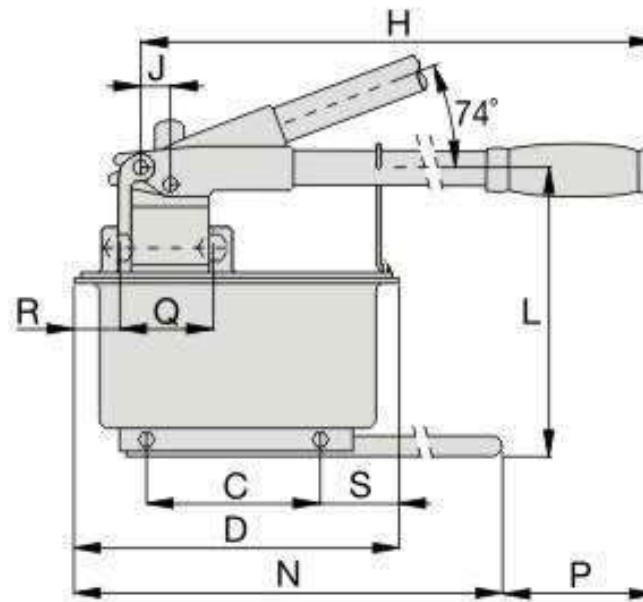
Cyl Cap ton (kn)	Stroke (mm)	Model	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Lock Nut H S (mm)	(kg)
20 (218)	50	RACL-202	31.2	156	224	274	85	63	Tr 55 x 4	27	40	3	50	4.0
	100	RACL-204	31.2	312	274	374	85	63	Tr 55 x 4	27	40	3	50	4.6
	150	RACL-206	31.2	468	324	474	85	63	Tr 55 x 4	27	40	3	50	5.2
	200	RACL-208	31.2	624	374	574	85	63	Tr 55 x 4	27	40	3	50	5.8
	250	RACL-2010	31.2	780	424	674	85	63	Tr 55 x 4	27	40	3	50	6.4
30 (309)	50	RACL-302	44.2	221	231	281	100	75	Tr 60 x 4	33	40	3	50	5.4
	100	RACL-304	44.2	442	281	381	100	75	Tr 60 x 4	33	40	3	50	6.1
	150	RACL-306	44.2	663	331	481	100	75	Tr 60 x 4	33	40	3	50	6.8
	200	RACL-308	44.2	883	381	581	100	75	Tr 60 x 4	33	40	3	50	7.5
	250	RACL-3010	44.2	1105	431	681	100	75	Tr 60 x 4	33	40	3	50	8.2
50 (496)	50	RACL-502	70.9	354	236	286	130	95	Tr 80 x 4	30	50	3	50	9.3
	100	RACL-504	70.9	709	286	386	130	95	Tr 80 x 4	30	50	3	50	10.6
	150	RACL-506	70.9	1063	336	486	130	95	Tr 80 x 4	30	50	3	50	11.9
	200	RACL-508	70.9	1417	386	586	130	95	Tr 80 x 4	30	50	3	50	13.2
	250	RACL-5010	70.9	1771	436	686	130	95	Tr 80 x 4	30	50	3	50	14.5
100 (1002)	50	RACL-1002	143.1	716	296	346	180	135	Tr 110 x 6	46	94	3	75	21.9
	100	RACL-1004	143.1	1431	346	446	180	135	Tr 110 x 6	46	94	3	75	24.2
	150	RACL-1006	143.1	2147	396	546	180	135	Tr 110 x 6	46	94	3	75	26.5
	200	RACL-1008	143.1	2863	446	646	180	135	Tr 110 x 6	46	94	3	75	28.8
	250	RACL-10010	143.1	3578	496	746	180	135	Tr 110 x 6	46	94	3	75	31.1
150 (1589)	50	RACL-1502	227.0	1135	323	373	230	170	Tr 140 x 6	51	113	3	80	32.2
	100	RACL-1504	227.0	2270	373	473	230	170	Tr 140 x 6	51	113	3	80	36.2
	150	RACL-1506	227.0	3405	423	573	230	170	Tr 140 x 6	51	113	3	80	40.2
	200	RACL-1508	227.0	4540	473	673	230	170	Tr 140 x 6	51	113	3	80	44.2
	250	RACL-15010	227.0	5675	523	773	230	170	Tr 140 x 6	51	113	3	80	48.2

Hydraulic Hand Pump

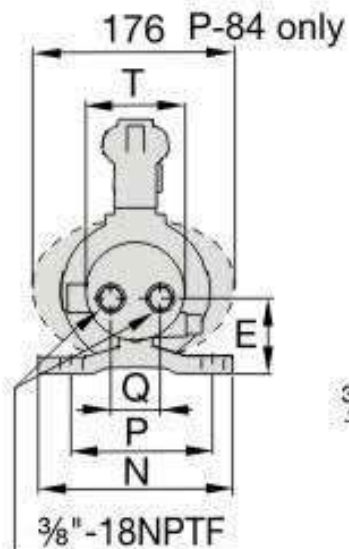
Reduced handle effort and ergonomic grip for less operator fatigue
 Quick grip handle allows for easy transport
 Hand pump by foot operated is available
 Two-speed operation for fast and easy operation
 4-way valving on the P-84 and P-464 for operation of double-acting cylinders
 Light weight and compact design



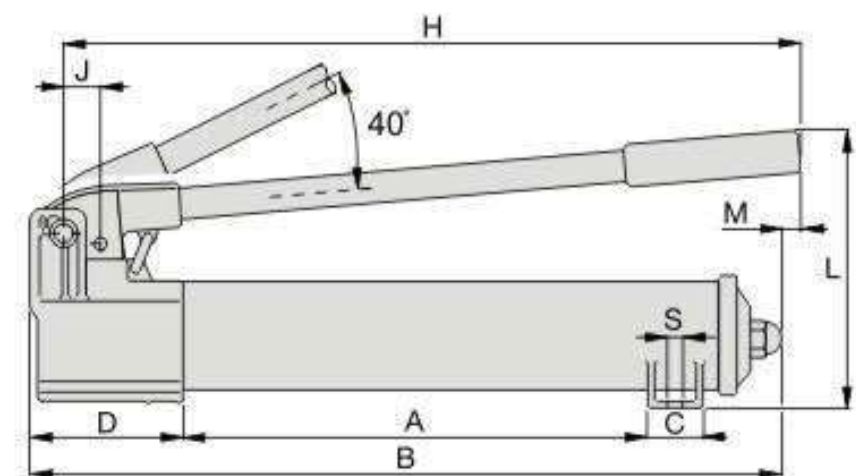
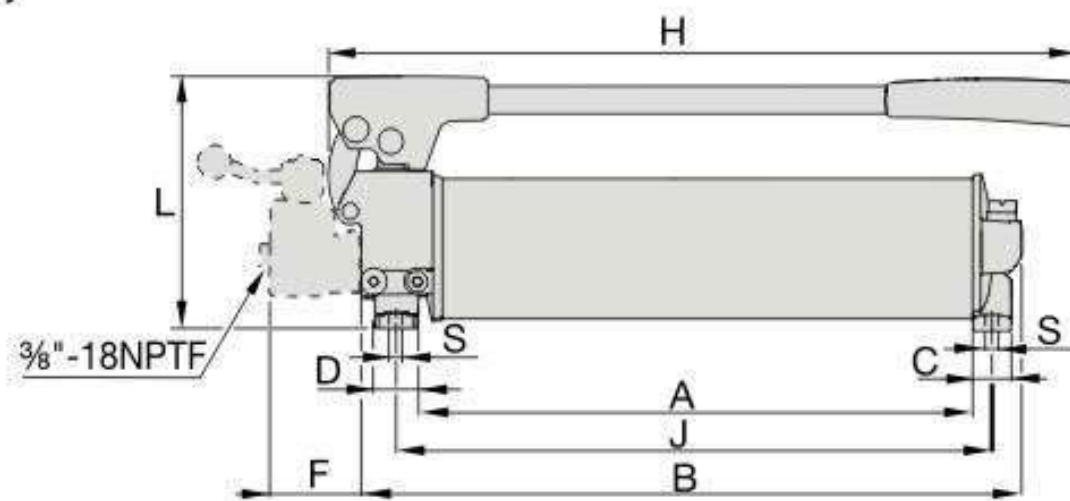
P-462, P-464



P-392



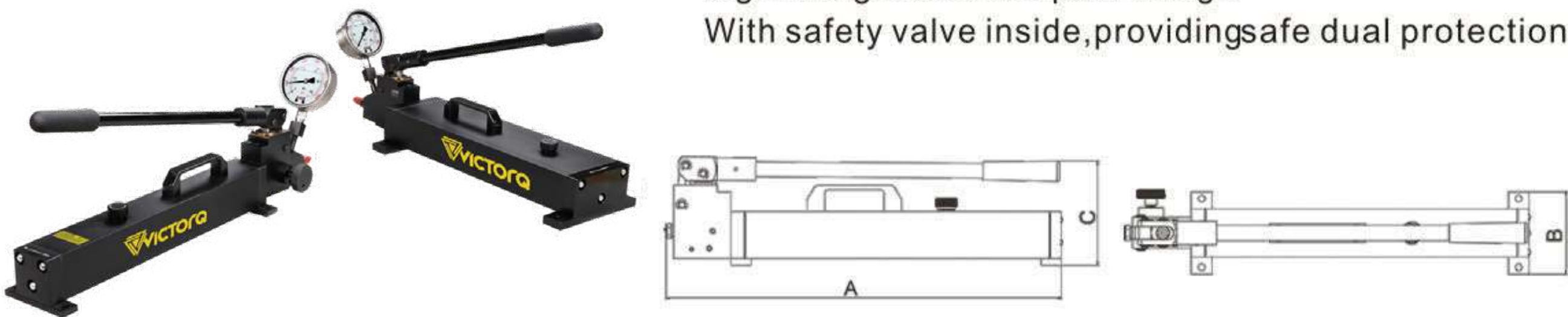
P-80, P-84



Model	Usable Oil (cm ³)	Type	Pressure(bar)		Oil Cap(cm ³)		Dimensions(mm)			Weight (kg)	Oil Port (NPT)
			1st Stage	2nd Stage	1st Stage	2nd Stage	A	D	H		
P-142	500	Single Acting	10	700	3.5	0.7	340	160	110	2	3/8
P-392	1000		12	700	11.4	2.3	540	190	120	3.15	3/8
P-400	3000		15	700	11.4	2.3	660	190	150	7	3/8
P-462	7423		14	700	126.22	4.75	650	308	280	28	3/8
P-462XL	10000		14	700	126.22	4.75	650	308	280	35.8	3/8
P-80	2200	Double Acting	25	700	16.22	2.46	545	170	148	11	3/8
P-801	4080		25	700	16.22	2.46	659	174	146	15	3/8
P-84	2200		25	700	16.22	2.46	545	170	148	11.8	3/8
P-841	4080		25	700	16.22	2.46	675	174	146	14.9	3/8
P-464	7423		14	700	126.22	4.75	650	308	280	28	3/8
P-464XL	10000		14	700	126.22	4.65	650	308	280	36.8	3/8

High Pressure Hand Pump

Two speeds operation,increasing the work efficiency
Light weight and compact design
With safety valve inside,providingsafe dual protection



ModelNo	Usable Oil	Pressure Rating (Bar)		Oil capacity(cm³)		Dimension (mm)			Oil Port	W
	(cm³)	1st Stage	2nd Stage	1st Stage	2nd Stage	A	B	C		(kg)
HPP-1000	2000	30	1000	31	1.65	700	150	190	G1/4"	8
HPP-1500	2000	20	1500	16	1	700	150	190		10
HPP-2000	3000	20	2000	31	1.2	720	130	240		12
HPP 2800	2000	20	2800	18	2 6	730	150	190		14

Air Hydraulic Foot Pump

All air pumps are designed to be used with single acting cylinders
High pressure air hydraulic foot pumps feature rugged construction built for long life and easy service
Built-in safety valve ensuring operating safety against overloading



Model	Usable Oil	Pneumatic Output	Air Pressure	Packing Size	Weight
	cm³	kg/psi	bar/psi	mm	kg
AFP-700A	690	700/1000	8/120	370*180*190	10
AFP-700B	1700	700/1000	8/120	280*150*200	12

Electric Pump

Model	Valve	Cylinder Optional	Max Flow	Oil Cap	Voltage	Power		
			(L/min)	(L)	(V)	(KW)		
MD112-1	Manual Valve	Double Acting	1	12	1-220V	1.5		
MD220-1			2	20	1-220V	3		
MS112-1	Manual Valve	Single Acting	1	12	1-220V	1.5		
MS220-1			2	20	1-220V	3		
SS112-1	Solenoid Valve		1	12	1-220V	1.5		
SS112-3			1	12	3-380V	1.5		
SS212-1			2	12	1-220V	3		
SS212-3			2	12	3-380V	2.2		
SS120-1			1	20	1-220V	1.5		
SS120-3			1	20	3-380V	1.5		
SS220-1			2	20	1-220V	3		
SS220-3			2	20	3-380V	2.2		
SD112-1			Solenoid Valve	Double Acting	1	12	1-220V	1.5
SD112-3					1	12	3-380V	1.5
SD212-1					2	12	1-220V	3
SD212-3					2	12	3-380V	2.2
SD120-1					1	20	1-220V	1.5
SD120-3					1	20	3-380V	1.5
SD220-1	2	20			1-220V	3		
SD220-3	2	20			3-380V	2.2		



110V/220V/380V are available

Lasteko electric pump is specially for hydraulic cylinder of max. pressure 700 Bar

Lasteko electric pump is assembled using Germany components fitted with various size of oil reservoirs

Both single-acting & double-acting are possible

Below is just standard specification for reference. Cylinder pump customized is available, please advise LASTEKO details if needed

Gear Pusher



Portable,workable for bearing ranged 36-270mm
Cold Bearing,no need power pack

Cap(ton)	Model	Reach(mm)	Spread(mm)	Stroke(mm)	W (kg)	Pusher Type
12	LM-130	55-395	36-130	/	5	Mechanical
12	LM-270	55-385	58-270	82	15	Hydraulic

Integral Puller



2 jaws and 3 jaws are both available
No need hose or pump
Anti-overloading valve installed

Cap (ton)	Model	Reach (mm)	Stroke (mm)	Spread (mm)	W(kg)
4	LM-4in	152	55	30-150	5
6	LM-6in	152	82	30-200	6
	LM-6inL	190			7
8	LM-8in	190	82	30-250	8
	LM-8inL	229			9
15	LM-15in	229	82	30-280	10
	LM-15inL	300			13

Integral Cobra Puller

Cap (ton)	Model	Reach (mm)	Stroke (mm)	Spread (mm)	W (kg)
10	LM-10inC	182	82	30-280	8
	LM-10inCL	220			
12	LM-12inC	220	82	50-305	10
	LM-12inCL	259			
20	LM-20inC	259	82	50-356	12
	LM-20inCL	300			15
25	LM-25inC	300	110	50-406	19.5
	LM-25inCL	375			24.5
30	LM-30inC	375	110	50-540	45

YL-Series, Split Hydraulic Three-jaw Puller

Self-centering, easy to convert, 2- or 3-arm puller.
The arms slide inwards or outwards simultaneously.
Economical:2/3-arm combination puller, 2 pullers for the price of one.
The greater the pulling force, the tighter the jaws grip the object concerned
The arms cannot bend or deflect.
Accessory sets are available for the 5 and 50 ton pullers.
Advantages of self-centering pullers:
Prevent damage to shaft and object being pulled.
Work efficient and save time.
Supplied in handy carrying case.



Model	Capacity ton (kN)	Spread (mm)	Shaft length (mm)	Stroke (mm)
YL-5T	5(49)	200	140	50
YL-10T	10(98)	250	160	50
YL-20T	20(196)	350	200	50
YL-30T	30(294)	400	250	50
YL-50T	50(490)	500	300	50

Separated Hydraulic Puller

Cap (ton)	Model	Reach(mm)	Stroke(mm)	Spread(mm)	Weight(kg)
15	LM-105	229	82	50-280	14
	LM-105L	300			18
17.5	LM-107C	259	82	50-356	16.5
	LM-107CL	300			19
22.5	LM-203C	300	110	50-406	27
	LM-203CL	375			29
25	LM-205C	375	110	50-400	32
50	LM-500CA	405/365	250	50-1200	90
	LM-500CS	405		50-800	58
	LM-500CL	365		50-1200	72



Mechanical Self-Centering Puller

Three Jaws move simultaneously, self-centering, easy for operating
Capacity ranges from 7-30 tons

Cap(ton)	Model	Reach(mm)	Spread (mm)	W(kg)
7	LM-7	225	60-280	7
10	LM-10	385	60-430	15.5
17	LM-17	480	60-500	26
30	LM-30	585	60-600	59

Hydraulic Self-Centering Puller

Three Jaws move simultaneously, self-centering, easy for operating
Capacity ranges from 10-60 tons

Cap(ton)	Model	Reach (mm)	Stroke (mm)	W(kg)	Hose(m)	Pump	Cylinder
10	LM-10S	296	60-430	13	3	P-392	RCH-123
20	LM-20S	340	60-500	35	3	P-392	RCH-202
30	LM-30S	420	60-500	61	3	P-80	RCH-302
60	LM-60S	727	60-433	90.5	3	P-80	RCH-603



BHP-Series, Master Puller Sets

- Supplied with a full hydraulic set including pump, hose, cylinder, gauge, gauge adaptor and wooden case
- High quality, forged steel components provide superior reliability and service
- Sets include speed crank and adjusting screw for fast contact to work before hydraulics are applied
- All Master Puller Sets include a Grip Puller, a Cross Bearing Puller, a Bearing Cup Puller and a Bearing Puller Attachment, which can be ordered separately, see items nr. 10, 20, 30 and 50.



WARNING

Do not exceed 50% of the rated puller capacity when using a double crosshead (2 grip arms) or when using puller legs in combination with bearing puller attachment.



Master Puller Set Capacity	8 ton	20 ton	30 ton	50 ton
Model Number	BHP-1752	BHP-2751G	BHP-3751G	BHP-5751G
Included Hydraulics/Set W	37 kg	90 kg	172 kg	298 kg
Hand Pump	P-392	P-392	P-392	P-80
Cylinder	RCH-1211	RCH-202	RCH-302	RCH-603
Saddle	–	HP-2015	HP-3015	HP-5016
Hose	HB-7206QB	HC-7206	HC-7206	HC-7206
Gauge	GF-120B	GF-813B	GF-813B	GF-813B
Gauge Adaptor	GA-3	GA-3	GA-3	GA-3
Included Pullers	BHP-1762	BHP-252	BHP-352	BHP-552
	BHP-1772	BHP-262	BHP-362	BHP-562
	BHP-180	BHP-280	BHP-380	BHP-580
	BHP-181	BHP-282	BHP-382	BHP-582
Case	CM-6	CW-350	CW-350	CW-750

Grip Puller Sets

- Precise hydraulic control allows fast, efficient and safe pulling
- High quality, forged steel components provide superior reliability and service
- Available with and without full hydraulic set.

Grip Puller Set Capacity		8 ton	20 ton	30 ton	50 ton
Model Number		BHP-152	BHP-251G	BHP-351G	BHP-551G
Included Hydraulics/Set W		22 kg	56 kg	91 kg	160 kg
Hand Pump		P-392	P-392	P-392	P-80
Cylinder		RCH-1211	RCH-202	RCH-302	RCH-603
Saddle		–	HP-2015	HP-3015	HP-5016
Hose		HB-7206QB	HC-7206	HC-7206	HC-7206
Gauge		GF-120B	GF-813B	GF-813B	GF-813B
Gauge Adaptor		GA-3	GA-3	GA-3	GA-3
Grip Puller	Model Number ▶	BHP-1762*	BHP-252*	BHP-352*	BHP-552*
Maximum Spread (mm)	2-jaw	249	400	593	899
	3-jaw	249	499	800	1100
Maximum Reach (mm)	2-jaw	252	300	387	700
	3-jaw	252	300	387	700
Jaw (mm)	Thickness	15	20	24	30
	Width	23	27	38	39
Adjusting Screw (mm)	Thread	¾"- 16 UNF	1"- 8 UNC	1¼"- 7 UNC	1½"- 5.5 UNC
	Length	400	675	795	975
Case		CW-166	CW-166	CW-350	CW-750



Cross Bearing Puller Sets

- Precise hydraulic control allows fast, efficient and safe pulling
- High quality, forged steel components provide superior reliability and service.



Cross Bearing Puller Set Capacity		8 ton	20 ton	30 ton	50 ton
Model Number		BHP-162	BHP-261G	BHP-361G	BHP-561G
Included Hydraulics/Set W		26 kg	62 kg	121 kg	185 kg
Hand Pump		P-392	P-392	P-392	P-80
Cylinder		RCH-1211	RCH-202	RCH-302	RCH-603
Saddle		–	HP-2015	HP-3015	HP-5016
Hose		HB-7206QB	HC-7206	HC-7206	HC-7206
Gauge		GF-120B	GF-813B	GF-813B	GF-813B
Gauge Adaptor		GA-3	GA-3	GA-3	GA-3
Cross Bearing Puller		BHP-1772	BHP-262	BHP-362	BHP-562
Spread (mm)	Maximum	266	351	454	570
	Minimum	106	139	179	220
Reach (mm)	Maximum	462	571	711	863
	Minimum	106	139	179	220
Adjusting Screw (mm)	Diameter	3/4"- 16 UNF	1"- 8 UNC	1 1/4"- 7 UNC	1 5/8"- 5.5 UNS
	Length	400	675	795	975
Leg (mm)	Length	105	239	203	609
	Length	354	419	457	863
	Length	–	571	711	–
	Length	–	114	–	–
Upper Leg Ends	Thread	3/4"- 16 x 25	3/4"- 16 x 25	1-14 x 35	1 1/4"- 12 x 38
Lower Leg Ends	Thread	5/8"- 18 x 25	5/8"- 18 x 25	1-14 x 27	1 1/4"- 12 x 38
Bearing Cup Puller Model		BHP-180	BHP-280	BHP-380	BHP-580
Bearing Puller Model		BHP-181	BHP-282	BHP-382	BHP-582
Case		CM-6	CW-187	CW-350	MK-05

Automatic Vehicle Hydraulic Puller

Double-acting designed to disassemble heavy bearings, gears and so on

Fully automatic operation design

Possible for two claws or three claws



Model	Stroke (mm)	Working Cap(ton)	Min Open /Pulling Depth(mm)	Max Open /Pulling Depth(mm)	Voltage (V)	Center Height Range(mm)	Overall Length(mm)	Weight (kg)
LM-50B	337	50	100/381	1220/178	380	450-1120	2286	620
LM-50LB	337	50	64/651	1150/559	380	450-1120	2590	660
LM-100B	320	100	120/580	1400/425	380	500-1250	2300	680
LM-200B	320	200	285/680	1500/520	380	720-1500	2500	1040

Automatic Vehicle Hydraulic Puller

Fully automatic operation design
With trolley, it can easily move around



Model	Capacity (Ton)	Stroke (mm)	Spread Range (mm)	Pulling Depth @Min Open(mm)	Pulling Depth @Max Open(mm)	Weight (kg)
LM-100C	100	200	200-1000	450	375	720
LM-200C	200	250	300-1500	680	550	1300
LM-300C	300	300	400-1800	980	750	1820
LM-500C	500	350	500-2000	1050	920	2100
LM-630C	630	350	500-2000	1250	1000	2500



Vehicle Hydraulic Puller

Working Pressure:700bar
Used for dismantling large shafts and performance work pieces
Double-acting designed

Model	Capacity (Ton)	Stroke (mm)	Min Spread (mm)	Max Spread (mm)	Working Pressure (Mpa)	Weight (kg)
LM-80A	80	280	130	370	70	550
LM-100A	100	350	170	420	70	780
LM-150A	150	400	210	450	70	1080
LM-200A	200	500	450	650	70	1250

Vehicle Hydraulic Puller



Model	Stroke (mm)	Working Cap(ton)	Min Open /Pulling Depth(mm)	Max Open /Pulling Depth(mm)	Voltage (V)	Center Height Range(mm)	Overall Length(mm)	Weight (kg)
LM-100D	250	100	381/1066	1219/863	380	305-915	3015	520
LM-60D	250	60	140/790	1000/650	380	305-915	2885	700
LM-200D	280	200	450/1200	1450/995	380	450-1050	3500	1020

H-Series, Hydraulic Workshop Presses



Capacity: 10-200 ton

Maximum Daylight×Width: 1384×1219mm

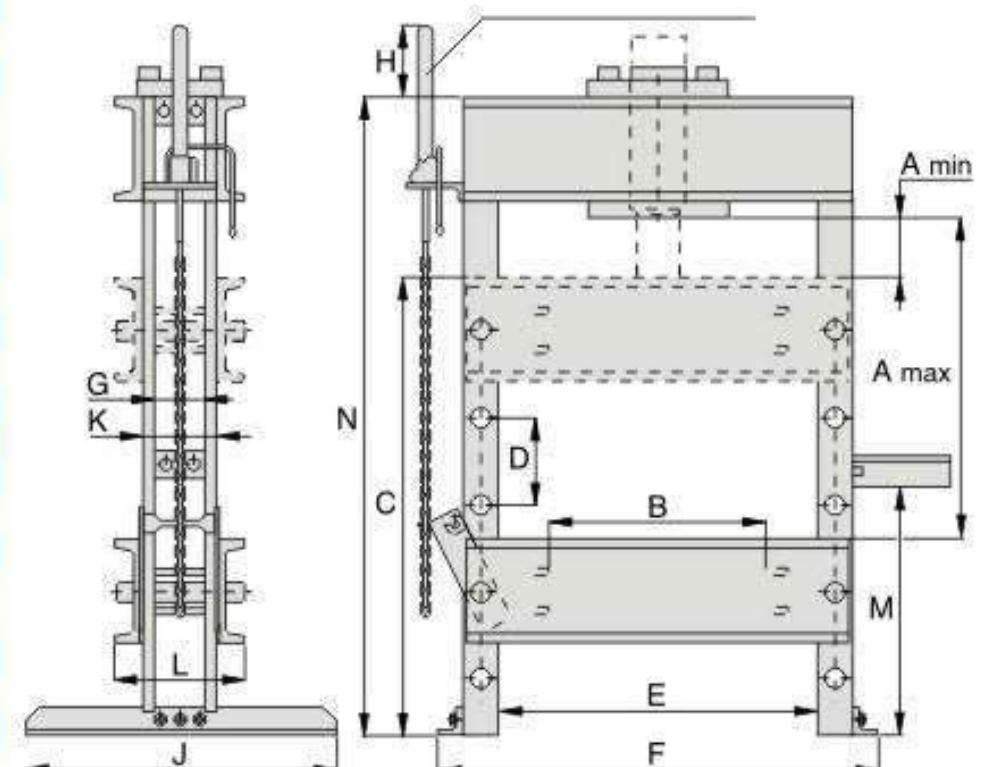
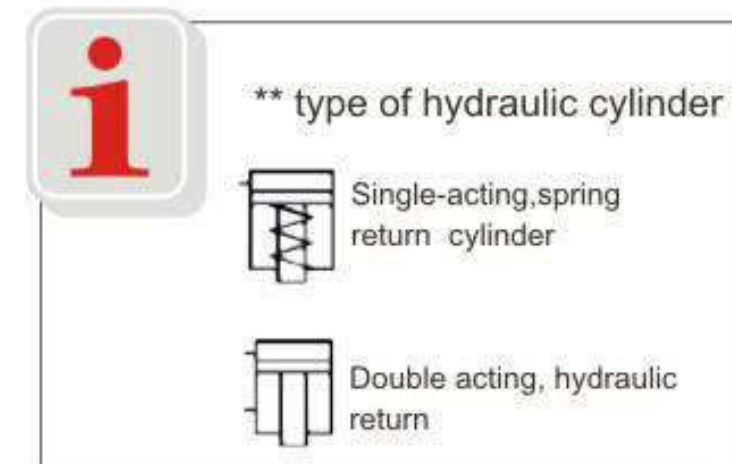
Maximum Operating Pressure: 700 bar

Capacity (tons)	Model	Pump Model	Cylinder Model	Hydraulic Cutterheads size					
				A Maximum	A Minimum	B	C	D	E
10	IPE-1215	IPE-220	RC-1010	1016	62	—	1187	127	473
	IPH-1240	P-392	RC-1010	1016	62	—	1187	127	473
	IPH-1234	P-84	RR-1010	1016	62	—	1187	127	473
25	IPE-2505	IPE-220	RC-256	1384	177	—	1447	301	736
	IPE-2510	IPE-220	RC-2514	1384	177	—	1447	301	736
	IPH-2531	P-80	RC-2514	1384	177	—	1447	301	736
30	IPE-3060	IPE-220	RR-3014	1384	177	—	1447	301	736
	IPH-3080	P-84	RR-3014	1384	177	—	1447	301	736
50	IPE-5010	IPE-220	RC-5013	1233	179	476	1371	263	730
	IPH-5030	P-462	RC-506	1233	179	476	1371	263	730
	IPH-5031	P-80	RC-506	1233	179	476	1371	263	730
	IPE-5005	IPE-220	RC-506	1233	179	476	1371	263	730
	IPE-5060	IPE-220	RR-5013	1233	179	476	1371	263	730
	IPH-5080	P-464	RR-5013	1233	179	476	1371	263	730
100	IPE-10010	IPE-220	RC-10010	1079	177	508	1295	296	889
	IPH-10030	P-462	RC-10010	1079	177	508	1295	296	889
	IPE-10060	IPE-220	RR-10013	1079	177	508	1295	296	889
	IPH-10080	P-464	RR-1006	1079	177	508	1295	296	889
150	IPE-15065	IPE-220	RR-15013	1231	317	711	1384	254	1219
200	IPE-20065	IPE-220	RR-20013	1231	317	711	1384	254	1219

Hydraulic Workshop Presses

Capacity tons(kn)	Maximum Vertical Daylight (mm)	Maximum Bed Width (mm)	Power Type				Model	Hydraulic pump model			Speed mm/sec.*	
			Type		Valve					stroke (mm)	Tool Feed Speed	Punching Speed
			Hand	Electric	Hand	Electric						
10 (89)	1016	473		●	●		IPE-1215	●		254	28	3.8
	1016	473	●		●		IPH-1240	●		254	{7.8}	{1.7}
	1016	473	●		●		IPH-1234		●	254	{11}	{1.7}
25 (223)	1384	736		●	●		IPE-2505	●		152	16	1.6
	1384	736		●		●	IPE-2510	●		355	23	3.6
	1384	736	●		●		IPH-2531	●		355	{4.9}	{0.7}
30 (267)	1384	736		●		●	IPE-3060		●	355	18	2.8
	1384	736	●		●		IPH-3080		●	355	{3.6}	{0.7}
50 (445)	1233	730		●		●	IPE-5010	●		330	20	1.9
	1233	730	●		●		IPH-5030	●		152	{19}	{0.7}
	1233	730	●		●		IPH-5031	●		152	{2.3}	{0.3}
	1233	730		●	●		IPE-5005	●		152	7.7	0.8
	1233	730		●		●	IPE-5060		●	330	20	1.9
	1233	730	●		●		IPH-5080		●	330	{19}	{0.7}
100 (890)	1079	889		●		●	IPE-10010	●		254	14	1.0
	1079	889	●		●		IPH-10030	●		254	{10}	{0.4}
	1079	889		●		●	IPE-10060		●	330	11	1.0
	1079	889	●		●		IPH-10080		●	152	{10}	{0.4}
150 (1335)	1231	1219		●		●	IPE-15065			330	9	1.4
200 (1780)	1231	1219		●		●	IPE-20056			330	6.7	1.0

Hydraulic Cutterheads size									Model
F	G	H	J	K	L	M	N	(kg)	
632	—	—	755	108	189	889	1320	135	IPE-1215
632	—	—	755	108	189	889	1320	71	IPH-1240
632	—	—	755	108	189	889	1320	85	IPH-1234
1028	101	336	762	133	271	673	1930	274	IPE-2505
1028	101	336	762	133	271	673	1930	313	IPE-2510
1028	101	336	762	133	271	673	1930	281	IPH-2531
1028	101	336	762	133	271	673	1930	325	IPE-3060
1028	101	336	762	133	271	673	1930	301	IPH-3080
1085	127	222	914	184	333	781	1930	495	IPE-5010
1085	127	222	914	184	333	781	1930	439	IPH-5030
1085	127	222	914	184	333	781	1930	420	IPH-5031
1085	127	222	914	184	333	781	1930	421	IPE-5005
1085	127	222	914	184	333	781	1930	499	IPE-5060
1085	127	222	914	184	333	781	1930	455	IPH-5080
1295	171	222	914	222	395	841	1930	776	IPE-10010
1295	171	222	914	222	395	841	1930	751	IPH-10030
1295	171	222	914	222	395	841	1930	816	IPE-10060
1295	171	222	914	222	395	841	1930	755	IPH-10080
1706	231	333	1117	333	555	1212	2286	1794	IPE-15065
1706	231	333	1117	333	555	1212	2286	1794	IPE-20065



Hydraulic Hose

Inner Dia:6.4mm
Length:2-15m(or per request)
Max Operation pressure:700 bar
Ratio:1:4

Model	Length(m)	Couplers		w(kg)
		End1	End2	
H-7206	2	3/8" NPTF	3/8" NPTF	0.9
H-7210	3			1.4
H-7220	6			2.8
H-7230	9			4.5
H-7240	12			6.3
H-7250	15			7.9
HC-7206	2	CH-604	3/8" NPTF	1.3
HC-7210	3			1.8
HC-7220	6			3.2
HC-7230	9			5.0
HC-7240	12			6.9
HC-7250	15			8.5
HC-7206C	2	CH-604	CH-604	1.7
HC-7210C	3			2.3
HC-7220C	6			3.7
HC-7230C	9			5.5
HC-7240C	12			7.4
HC-7250C	15			9.0



Quick Coupling

Max Operation pressure:700 bar
Thread:1/4" NPT 3/8"NPT

Model	Female	Male	Thread
C604	CR604	CH604	3/8"NPT
CT901	C901	T901	1/4"NPT



Simple Manifold

Type	Model	QuickCoupler
one for two	M - 2-3/8"	NPT-3/8"
	M - 2-1/4"	NPT-1/4"
one for four	M - 4-3/8"	NPT-3/8"
	M - 4-1/4"	NPT-1/4"
one for six	M - 6-3/8"	NPT-3/8"
	M - 6-1/4"	NPT-1/4"
one for eight	M - 8-3/8"	NPT-3/8"
	M - 8-1/4"	NPT-1/4"
one for ten	M - 10-3/8"	NPT-3/8"
	M - 10-1/4"	NPT-1/4"



Hydraulic Gauge

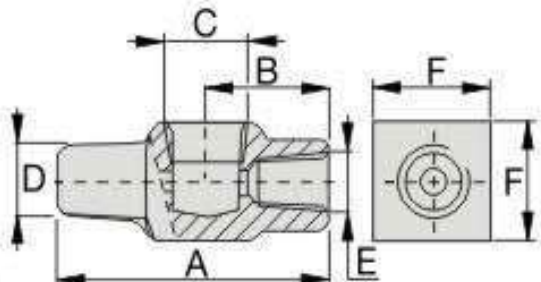
Model	Dia(mm)	Thread	Pressure
HG-63-70	63	NPT1/4"	0-700bar
HG-100-70	100	G1/2	0-700bar



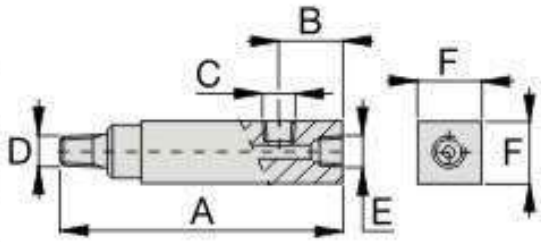
Gauge Accessory



Gauge Adaptors (GA-Series) For easy mounting of a pressure gauge onto your system Male end screws into pump or cylinder port, female end accepts hose or coupler, 3 rd port is for gauge connection GA-918 provides for swivel connection									
Model Number	Gauge Port (NPTF)	Male End (NPTF)	Female End (NPTF)	Dimensions(mm)					
				A	B	C	D	E	F
GA-1	1/2"	3/8"	3/8"	71	31	1/2" NPTF	3/8" NPTF	3/8" NPTF	32
GA-2	1/2"	3/8"		155	35	1/2" NPTF	3/8" NPTF	3/8" NPTF	32
GA-3	1/4"	3/8"		133	48	1/4" NPTF	3/8" NPTF	3/8" NPTF	32
GA-4	1/2"	1/4"		111	35	1/2" NPTF	1/4" NPTF	3/8" NPTF	32



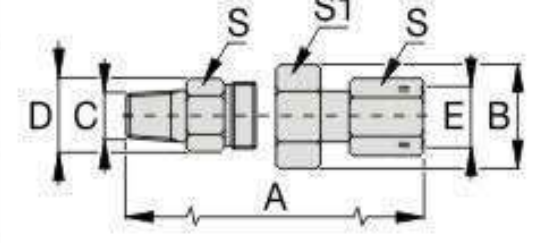
GA-1



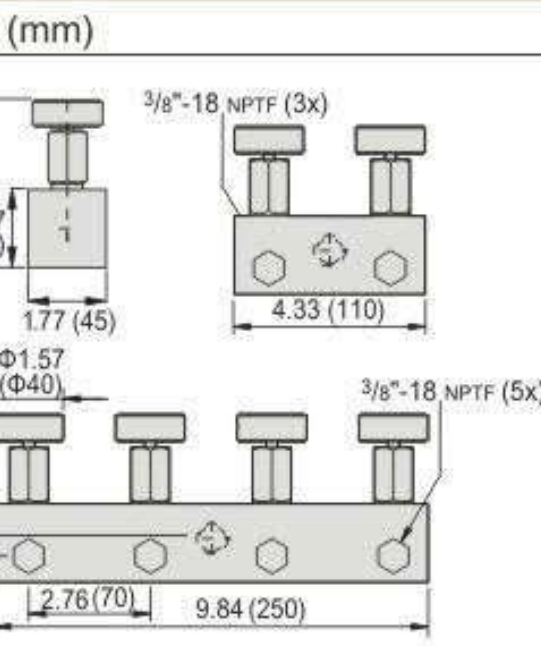
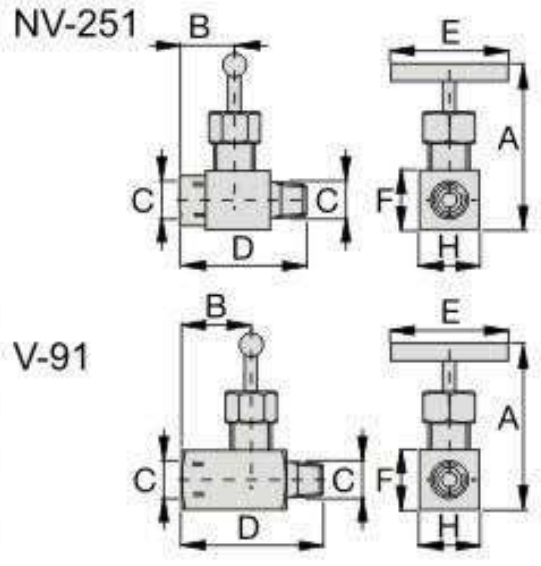
GA-2, GA-3, GA-4



Swivel Adaptor (GA-918) Simplifies gauge installation and reading								
Model Number	Dimensions (mm)							
	A	B	C	D	E	S	S1	
GA-918	117	43	1/2" NPTF	28.5	1/2" NPTF	29	38	



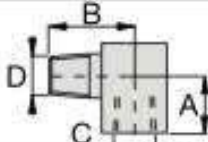
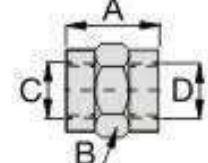
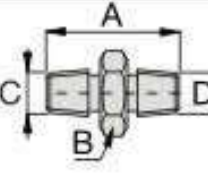
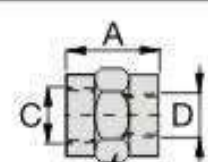
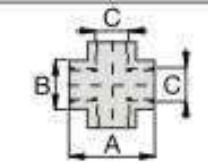
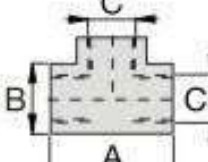
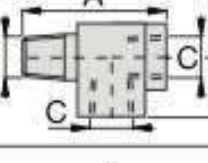
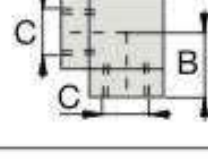
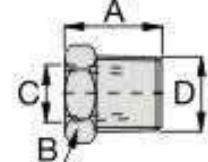
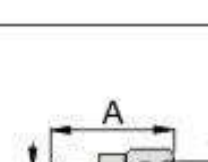
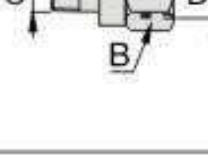
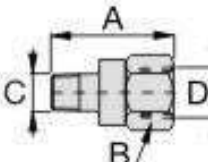
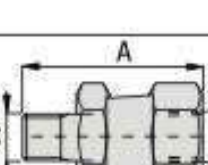
Needle Valves (V- and NV-Series) Both NV-251 and V-91 provide positive shut-off 303 stainless steel stem, 16 threads/in (NV-251)									
Model Number	Orifice (mm)	Thread Size	Dimensions (mm)						
			A	B	C	D	E	F	H
NV-251	4.3	1/4" NPTF	57	29	1/4" NPTF	57	46	19	19
V-91	4.8	1/2" NPTF	89	32	1/2" NPTF	64	32	37	37



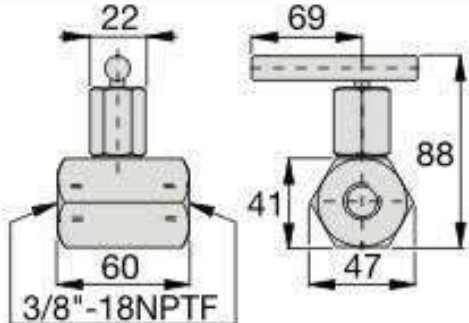
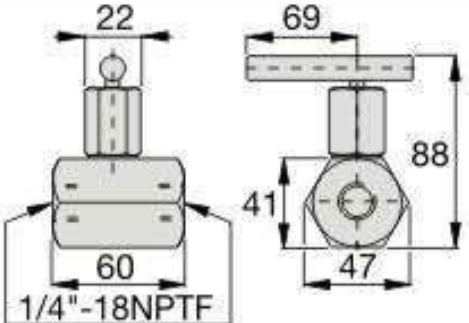
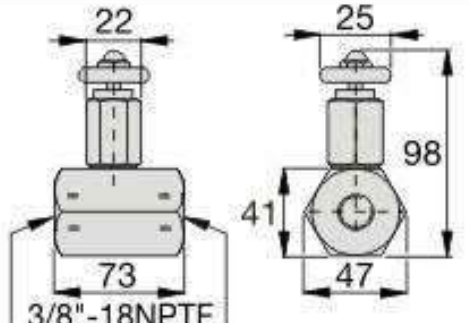
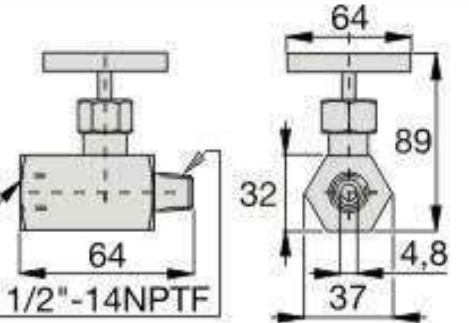
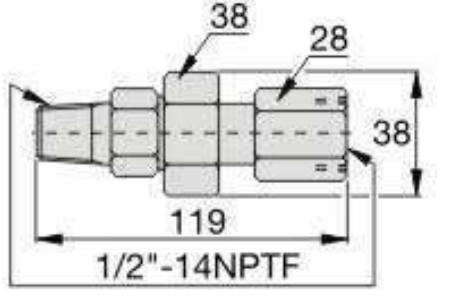
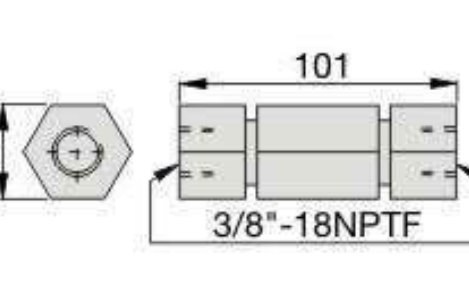
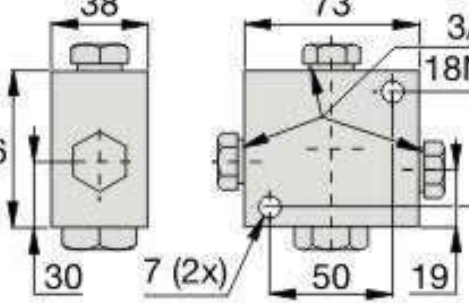
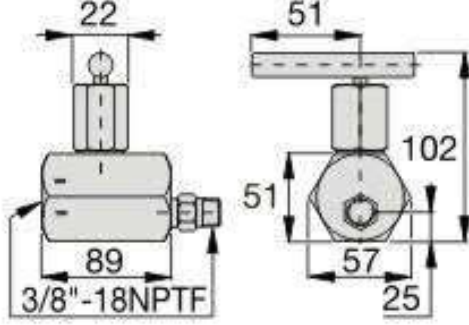
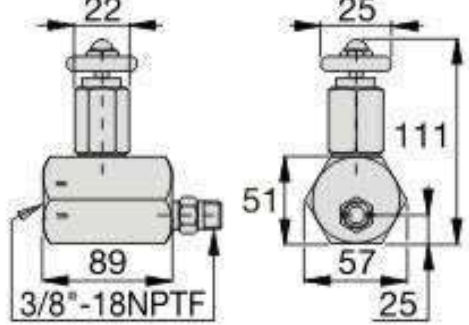
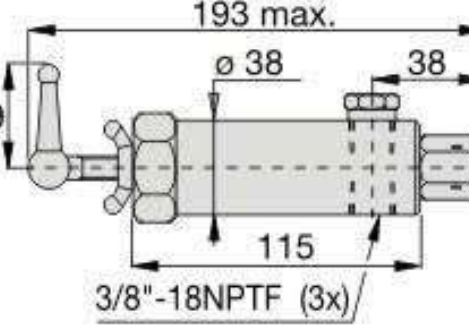
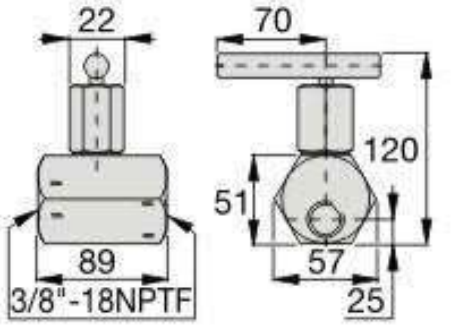
Manifolds

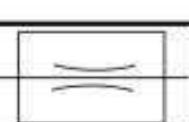
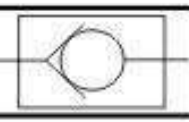
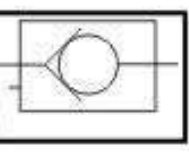
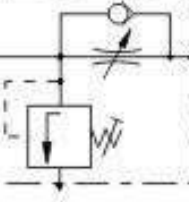
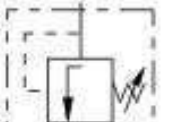
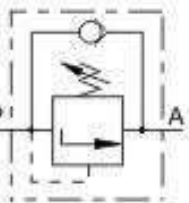
Description		Model	Dimensions (mm)	
6-port Manifold, hexagon Plugs furnished for all ports 3/8"-18 NPTF .		A-66		
Control Manifolds For control of two or four single-acting cylinders simultaneously. AM-2 with 5 ports 3/8"NPTF AM-4 with 7 ports 3/8"NPTF .		AM-2 AM-4		

FZ Fittings Series

Fittings		700 bar	Model	Dimensions (mm)				
From: 3/8"-NPTF	Male		FZ-1616	A	B	C	D	
To: 3/8"-NPTF	Female			23	33	3/8"-18 NPTF	3/8"-18 NPTF	
Reducing Connector			FZ-1615	28	25	3/8"-18 NPTF	1/4"-18 NPTF	
From: 3/8"-NPTF	Female		FZ-1625	47	29	1/2"-14 NPTF	3/8"-18 NPTF	
To: 1/4"-NPTF	Female							
From: 1/2"-NPTF	Female		FZ-1608	38	16	1/4" -18 NPTF	1/4"-18 NPTF	
To: 3/8"-NPTF	Female		FZ-1619	51	19	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF	Female		FZ-1617	37	19	3/8"-18 NPTF	3/8"-18 NPTF	
To: 3/8"-NPTF	Female							
Hexagon Nipple			FZ-1614	29	23	3/8"-18 NPTF	3/8"-18 NPTF	
From: 1/4"-NPTF	1/4"-NPTF		FZ-1605	29	19	1/4"-18 NPTF	1/4"-18 NPTF	
3/8"-NPTF	3/8"-NPTF							
3/8"-NPTF	3/8"-NPTF							
Coupling			FZ-1613	45	25	3/8"-18 NPTF	—	
From: 3/8"-NPTF	3/8"-NPTF		FZ-1612	45	25	3/8"-18 NPTF	—	
1/4"-NPTF	1/4"-NPTF							
1/4"-NPTF	1/4"-NPTF							
Cross			FZ-1637	45	24	1/4"-18 NPTF	—	
From: 3/8"-NPTF	Female		BFZ-16312	56	26	3/8"-18 NPTF	3/8"-18 NPTF	
To: 3/8"-NPTF	Female							
1/4"-NPTF	1/4"-NPTF							
Tee			FZ-1610	33	20	3/8"-18 NPTF	—	
From: 3/8"-NPTF	3/8"-NPTF		FZ-1638	36	24	1/4"-18 NPTF	—	
3/8"-NPTF	3/8"-NPTF							
1/4"-NPTF	1/4"-NPTF							
Street Tee			FZ-1630	19	19	1/4"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF	Female		BFZ-1630	28	22	1/4"-18 NPTF	1/2"-14 NPTF	
To: 3/8"-NPTF	Male							
1/4"-NPTF	1/4"-NPTF							
Elbow			BFZ-16301	19	19	G 1/4"	3/8"-18 NPTF	
From: 1/4"-NPTF	1/4"-NPTF		BFZ-16411	35	19	1/4"-18 NPTF	G 1/4"	
3/8"-NPTF	3/8"-NPTF							
1/4"-NPTF	1/4"-NPTF							
Reducer			BFZ-16421	31	19	1/8"-27 NPTF	G 1/4"	
From: 3/8"-NPTF	1/4"-NPTF		BFZ-16323	43	24	1/4"-18 NPTF	G 3/8"	
To: 1/4"-NPTF	1/2"-NPTF							
3/8"-NPTF	G 1/4"							
Adaptor			BFZ-16324	43	24	3/8"-18 NPTF	G 3/8"	
From: 1/4"-NPTF	3/8"-NPTF		FZ-1055	44	23	1/4"-18 NPTF	3/8"-18 NPTF	
To: 3/8"-NPTF	1/4"-NPTF							
1/4"-NPTF	1/8"-NPTF							
Adaptor			FZ-1642	30	19	1/8"-27 NPTF	1/4"-18 NPTF	
From: 1/4"-NPTF	1/8"-NPTF		FZ-1634	42	28	3/8"-18 NPTF	1/2"-18 NPTF	
To: 1/2"-NPTF	3/8"-NPTF							
1/2"-NPTF	3/8"-NPTF							
Swivel Fitting			FZ-1660	40	22	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF	Male							
To: 3/8"-NPTF	Female							

Pressure and Flow Control Valve

 V-82	 V-182	 V-8F	 V-91
 V-10	 V-17	 V-42	
 V-66, V-66NV	 V-66F	 V-152, V-152NV	 V-161

Valve Type and Model Number		Description	Hydraulic Symbol
Needle Valve V-82 V-182 V-8F		V-82: To control cylinder speed. Can also be used as shut-off valve for temporary load holding. $\frac{3}{8}$ " NPTF female ports. V-182: Same as V-82, but with $\frac{1}{4}$ " NPTF female ports. Also suitable for gauge snubbing (also V-82). V-8F: Like V-82, but with very fine metering for precise flow control. Not recommended as shut-off valve.	
Snubber Valve V-91		V-91: Infinitely adjustable for metering oil out of a gauge to prevent snapping of gauge pointer when load or pressure is suddenly released. Also suitable as shut-off valve to protect the gauge during high cycling applications. $\frac{1}{2}$ " NPTF male and female threads for use with GA-1, GA-2 or GA-4 gauge adaptors.	
Auto Damper Valve V-10		V-10: To be used when gauge pressure must be monitored during high cycle applications. Creates a flow resistance when load is released suddenly. No adjustments are necessary. $\frac{1}{2}$ " NPTF for use with GA-1, GA-2 or GA-4 gauge adaptors. male and female threads	
Check Valve V-17		V-17: Ruggedly built to resist shock and operate with low pressure drop. Closes smoothly without pounding. $\frac{3}{8}$ " NPTF female port.	
Pilot Operated Check Valve V-42		V-42: Can be mounted at the cylinder to hold the load in case of system pressure loss. Normally used with double-acting cylinders where pilot port receives pressure from a Tee-fitting in the cylinder retract line. $\frac{3}{8}$ " NPTF female ports. Pilot pressure ratio 14% (6,5:1).	
Manually Operated Check Valve V-66, V-66NV * V-66F		V-66, V-66NV: For load holding applications with single and double acting cylinders. Valves allow oil to flow back to tank when cylinder retracts. V-66NV with Viton seals, nickel-plated. V-66F: Similar to V-66, but with very fine metering capability for precise flow control. V-66F is not designed for load holding.	
Pressure Relief Valve V-152 V-152NV *		V-152: Limits pressure developed by the pump in hydraulic circuit, thus limiting the force imposed on other components. Valve opens whenever preset pressure is reached. To increase pressure setting, turn handle clockwise. Includes: • 0,9 m return line hose kit, • $\pm 3\%$ repeatability, • 55-700 bar adjustment range.	
Sequence Valve V-161		V-161: To control oil flow to a secondary circuit. Flow is blocked until system pressure rises to the V-161 setting. When this pressure level is reached, the V-161 opens to allow flow to the secondary circuit. A pressure differential is always maintained between the primary and secondary circuit. Min. operating pressure: 140 bar.	



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