

Power Team®

HIGH FORCE HYDRAULIC TOOLS & EQUIPMENT



CONSTRUCTION

- Professional Grade High Pressure Heavy Lifting Construction Cylinders, Pumps and Systems

- World-Wide Recognition
- Stock Availability
- Superior Quality
- Creative Solutions
- Reliability
- Experience
- Safety
- Aftersales Service



INTERNATIONAL
QUALITY
STANDARD

www.spxhydraulictech.com

SPXFLOW
HYDRAULIC TECHNOLOGIES

Tough Products for Tough Applications

POWER TEAM Over 85 years experience in supplying Professional Grade high performance, high-pressure Hydraulic Cylinders, Pumps, Pullers, Tools and Systems, serving the Construction & Industrial markets worldwide. With a global presence, POWER TEAM has sales offices throughout the world. World Headquarters is based in Rockford, Illinois, U.S.A. and Customer Service Centers are based in The Netherlands, China and Singapore.

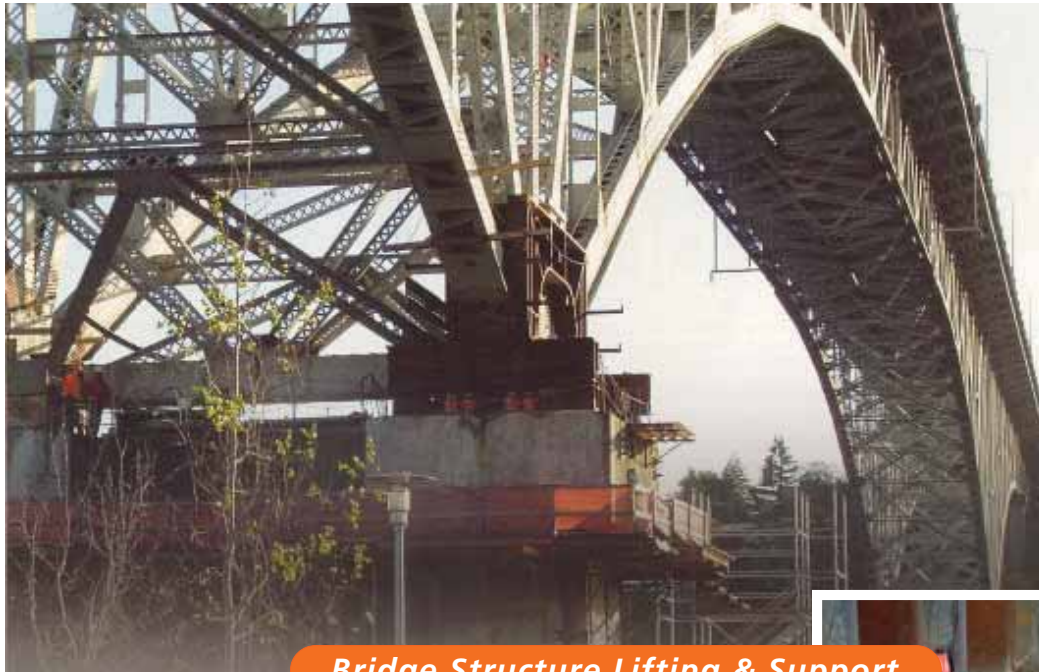
POWER TEAM Quality

POWER TEAM Products are built tough with strict ISO 9000 manufacturing processes and are covered by a Powerthon Lifetime Warranty*. POWER TEAM is registered for the coveted ISO 9001 international quality standard.

*Terms & Conditions applicable.

Global Distribution and Service

Wherever your job is in the world, the POWER TEAM network of distributors and service centers assures local product, parts and service availability.



Bridge Structure Lifting & Support

POWER TEAM Product Design Criteria

ALL POWER TEAM brand hydraulic components are designed and/or tested to be safe for use at maximum operating pressures of 10,000 psi (700 bar) unless otherwise specifically noted.

Quality Assurance

All of our hydraulic cylinders are subjected to quality checks during production. All steel bar is certified and has material traceability to the mill. Before leaving the factory, all cylinders are pressure tested to 12,500 psi (875 bar) to insure on-the-job reliability.

ASME B30.1

POWER TEAM hydraulic cylinders fully comply with the criteria set forth in the American Society of Mechanical Engineers standard ASME B30.1.

All cylinders comply to the demanding ASME B30.1 standard and are proof tested to 125% of capacity before leaving our factory. Typical cylinder burst pressures range from 25,000 to 35,000 psi (Safety Factor of 2:1)



POWER TEAM Hydraulic System Solution Provider in specialized construction projects:-

- **Synchronous Lifting, Lowering & Weighing Systems** for precise controlled hydraulic movement & weighing of Oil Rig Platforms, Heavy Structures & Machineries etc.
- High Tonnage, Heavy Lifting & Supporting of Bridges, Buildings, Structures, Ship Segments, Heavy Equipment & Machineries etc.
- **Stage Lifting Systems** of Oil Storage Tanks, Generators, Turbine Covers etc. to elevated height.
- **Integrated Hydraulic Systems** for Bridge Construction Equipment: Formwork Travelers, Launching Gantries, Movable Scaffolding Systems etc.
- Foundation Testing, Pipe Jacking, Tunneling, Bridge Maintenance, Oil Rig Construction, Power Plant Construction, Port / Harbor Construction etc.

Typical Hydraulic Applications in Industrial, Building & Heavy / Civil Construction:

- | | | |
|----------------------|----------------|------------------|
| • Lifting / Lowering | • Weighing | • Braking |
| • Erecting | • Hoisting | • Transportation |
| • Pulling | • Underpinning | • Tensioning |
| • Supporting | • Testing | • Load Testing |

Bridge Construction

Bridge projects that become bigger and more demanding require POWER TEAM products and systems. Difficult lifting and holding applications above and below ground require POWER TEAM pumps and cylinders. New spanning projects and maintenance of current spanning structures are served by POWER TEAM portable high performance, high-pressure hydraulic tools & systems.



Launching Gantry



Formwork Traveler



Movable Scaffolding System

Structure Jacking and Positioning

POWER TEAM products have lifted large and small structures as well as precious historical buildings. A broad range of reliable lifting, pulling or positioning solutions powered by POWER TEAM pumps matches the products to the job requirements.

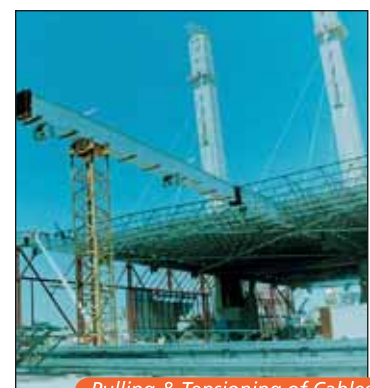
For precision synchronous lift & lowering of delicate structures, we offer computerized PLC system to control from 4 to 80 jacking points of up to 1,000 Ton capacity hydraulic cylinder each.

All cylinders comply to the demanding ASME B30.1 standard and are proof tested to 125% of capacity before leaving our factory.

Typical cylinder burst pressures range from 25,000 to 35,000 psi (Safety Factor of 2:1)



Synchronous Lifting & Weighing System of Oil Rig



Pulling & Tensioning of Cables

Post Tensioning & Stressing

POWER TEAM Center Hole cylinders provide an array of options for strand cable tensioning, anchor bolts, forcing screws and pulling systems. They are long lasting, easy to use, corrosion resistant and are designed to withstand static loads.

POWER TEAM compact, light weight PE55 VANGUARD, Electric Hydraulic Pumps for long, trouble free life in most demanding work environments and excellent choice for rugged applications. For operating single- or double-acting cylinders or stressing jacks.



Bridge Erection & Tensioning



PE55 - Prestressing / Post Tensioning

Bridge Bearing Repair & Maintenance

For decades, POWER TEAM has provided reliable lifting and holding systems for replacing bridge bearings. POWER TEAM products are designed to fit within your needs for compact solutions and critical maintenance.



Bridge Bearing Repair & Maintenance

Building & Civil Construction

POWER TEAM broad range of high tonnage hydraulic cylinders coupled with high performance high-pressure pumps has provided vast applications in lifting, testing, jacking, positioning solutions etc. Designed to work in some of the most difficult and harsh environments. Proven performance that meets your critical productivity timeline backed by reliable and proven reputation.



Foundation Testing



Pipe-Jacking



Low Clearance Lifting

Construction Equipment Repair & Maintenance

POWER TEAM offers a broad range of hydraulic and mechanical tools to keep your heavy equipment and machineries reliably operating. Tools include hydraulic pumps, cylinders, jacks, pullers, torque wrenches, nut splitters, floor cranes, shop presses, in-line flow testers etc.

➤ Power Team®



HEAVY LIFT CYLINDERS



THE MOST COMPREHENSIVE RANGE OF
HIGH PRESSURE HEAVY LIFT CYLINDERS

SPXFLOW

Engineered for Tough Applications

POWER TEAM's new cylinder platform offers the most advanced design construction to provide extended reliability. This new cylinder technology is comprised of four main design elements.

Value Delivered:

- 1. Patented piston design offers the most flexibility to assist in minimizing offset loading conditions with its unique piston design.*
- 2. Patented swivel load cap design provides a visual indicator to ensure that the load is properly aligned while centering the load concentration to deliver superior performance in the field.*
- 3. Patented seal band technology provides ongoing lubrication to the piston rod to minimize friction and wear.*
- 4. Main cylinder components have the POWER-TECH+ nitro-carburization surface treatment that produces a hard, wear resistant surface, and results in properties that are resistant to corrosion and surface stresses for maximum life.*
- 5. The new R_G cylinder platform offers the most comprehensive range of tonnage and strokes in the industry.*

A Closer Look at the

PATENTED SWIVEL CAP
MINIMIZES SIDE LOAD
CONDITIONS

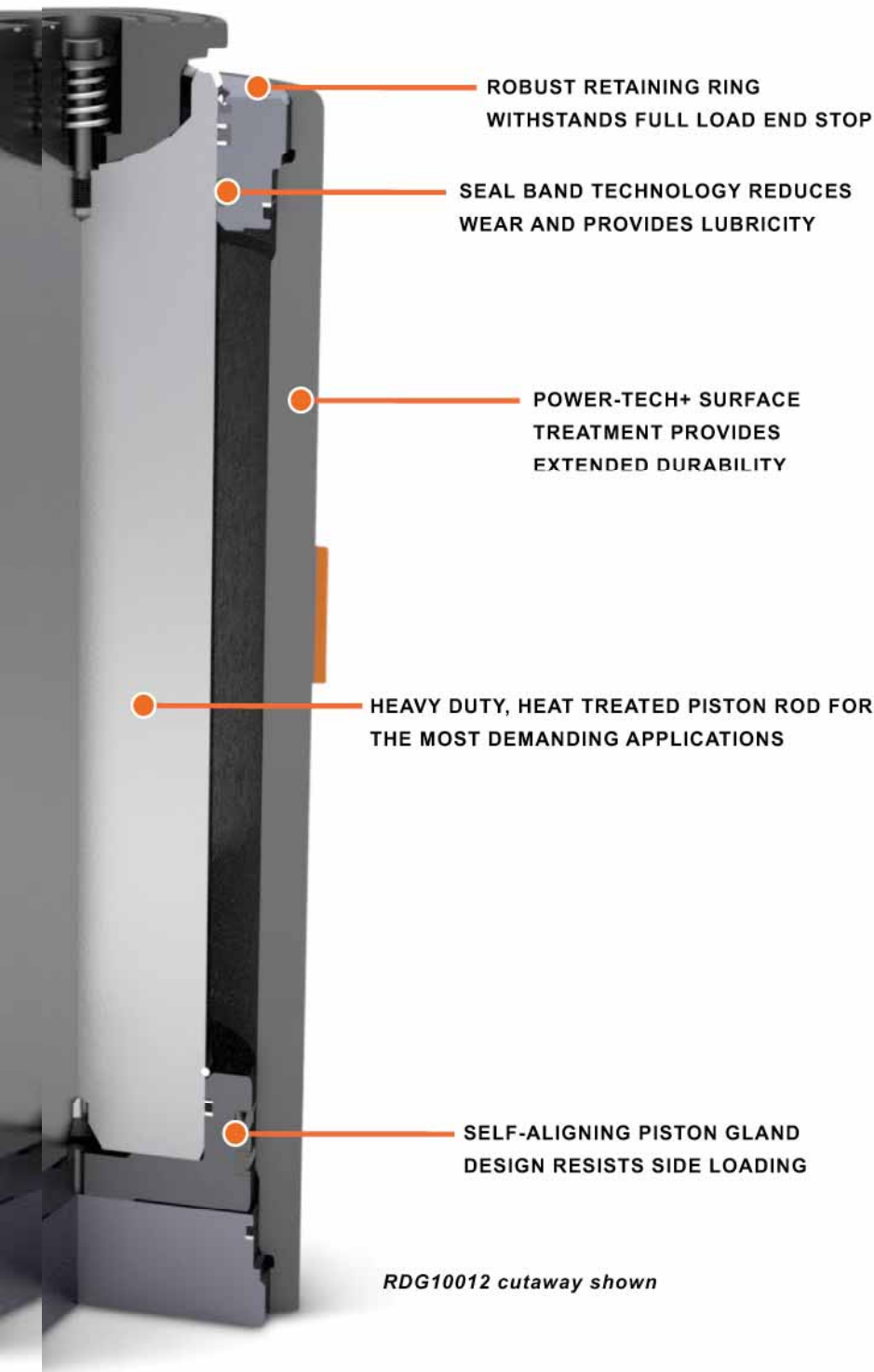
CARRYING EYELETS FOR
EASE OF POSITIONING

DESIGN COMPLIES WITH AMSE /
ANSI B30.1 SAFETY STANDARD

HIGH PRESSURE 3/8
NPTF FEMALE HALF
COUPLER(S) INCLUDED



New Cylinder Technology

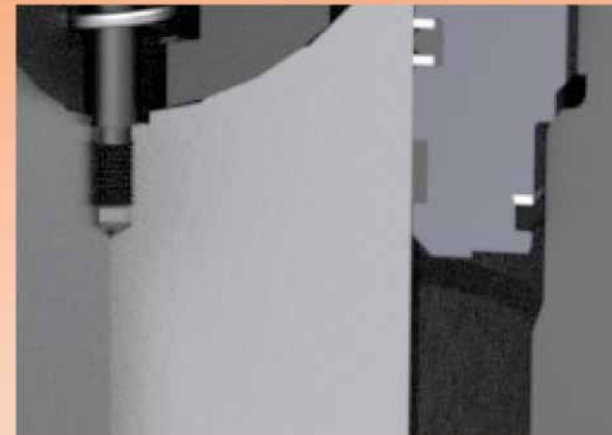


More patented features than other major high pressure tool providers

▶ Patented Swivel Cap Technology Reduces Binding During Off-Set Load Conditions



▶ New Sealing / Lubricity Technology Increases Reliability and Reduces Wear



▶ Patented Piston Rod Assembly Ensures Proper Alignment Under Harsh Conditions



Model Shown:
RGG Family



Features

- Single Acting load return hydraulic cylinder, tonnages ranging from 55 - 200
- Patented swivel cap provides concentrated load centering up to 5 degrees
- Sealing technology provides rod lubrication to reduce friction and wear
- Optimized piston gland design resists side loading conditions
- Robust retaining ring withstands full load end stop and conforms with ANSI B30.1 standards
- *Power-Tech+* nitro-carburization surface treatment inhibits corrosion and provides exceptional durability
- Base mounting holes standard on all models (they are not maintained to port location)
- One high flow 3/8" NPTF female half coupler and carry strap w/ eyelets are included

▶ RGG Series is perfect for any bridge construction application.



Analog Gauges

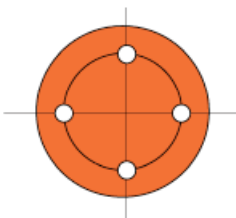


Power Team gauges feature an easily readable and highly visible, red Day-Glo® needle. High strength steel bourdon tube ensures high cycle life. Stainless steel cases and lens locking rings. Gauges have 1/4" NPT connections, and can be calibrated.

Ordering Information:

9440 (2.5 in.), **9052** (4 in.), and **9089** (6 in.)

▶ **Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

Tonnage	55	75	100	150	200
# of Base Mounting Holes	4	4	4	4	4
Base thread size	M12X1.75 - 6H	M12X1.75 - 6H	M16X1.5 - 6H	M16X1.5 - 6H	M20X1.5 - 6H
Base thread depth (mm)	18,01	18,01	15,75	22,86	30,48
Base Mounting Diameter (mm)	76,97	92,96	101,6	130,05	145,29
Orientation	Mounting hole orientation is not maintained to port location.				

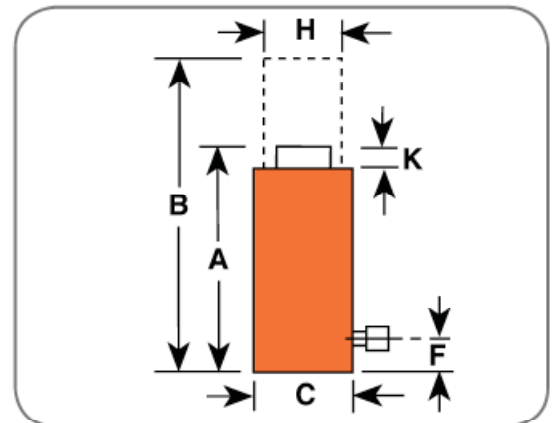


Cylinder Selection



When selecting a hydraulic cylinder(s) capacity and stroke, Power Team recommends that you size to 80% of the maximum rated capacity and stroke for the application - known as the "80% Rule". This will ensure additional safety factor and extend the product performance over time.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



► **Ordering Information**

Tonnage	Stroke	Order No	A	B	C	F	H	K	Swivel Cap Dia.	Bore Dia.	Cyl. Eff. Area (Advance)	Oil Cap.	Int. Press. at Cap.	Tons at 690 Bar	Weight						
			Ret. Height	Ext. Height	Out. Dia.	Base to Port	Piston Rod Dia.	Swivel Cap Protrusion								mm.	mm.	mm.	mm.	mm.	mm.
55	50,8	RGG552	199,1	249,9	131,1	41,0	69,8	17,0	70,6	95,3	71,3	362,0	687	50,1	17,7						
	101,6	RGG554	249,9	351,5	131,1	41,0	69,8	17,0	70,6	95,3	71,3	724,0	687	50,1	21,7						
	152,4	RGG556	300,7	453,1	131,1	41,0	69,8	17,0	70,6	95,3	71,3	1.086,0	687	50,1	27,1						
	203,2	RGG558	351,5	554,7	131,1	41,0	69,8	17,0	70,6	95,3	71,3	1.448,0	687	50,1	31,2						
	254,0	RGG5510	402,3	656,3	131,1	41,0	69,8	17,0	70,6	95,3	71,3	1.809,9	687	50,1	35,3						
	304,8	RGG5512	453,1	757,9	131,1	41,0	69,8	17,0	70,6	95,3	71,3	2.171,9	687	50,1	39,3						
	330,2	RGG5513	478,5	808,7	131,1	41,0	69,8	17,0	70,6	95,3	71,3	2.352,9	687	50,1	41,4						
	355,6	RGG5514	503,9	859,5	131,1	41,0	69,8	17,0	70,6	95,3	71,3	2.533,9	687	50,1	43,4						
75	50,8	RGG752	211,1	261,9	146,8	44,8	79,3	19,3	82,3	111,2	97,0	492,7	688	68,2	23,4						
	101,6	RGG754	261,9	363,5	146,8	44,8	79,3	19,3	82,3	111,2	97,0	985,3	688	68,2	30,5						
	152,4	RGG756	312,7	465,1	146,8	44,8	79,3	19,3	82,3	111,2	97,0	1.478,0	688	68,2	35,3						
	203,2	RGG758	363,5	566,7	146,8	44,8	79,3	19,3	82,3	111,2	97,0	1.970,7	688	68,2	40,2						
	254,0	RGG7510	414,3	668,3	146,8	44,8	79,3	19,3	82,3	111,2	97,0	2.463,3	688	68,2	45,1						
	304,8	RGG7512	465,1	769,9	146,8	44,8	79,3	19,3	82,3	111,2	97,0	2.956,0	688	68,2	49,9						
	330,2	RGG7513	490,5	820,7	146,8	44,8	79,3	19,3	82,3	111,2	97,0	3.202,3	688	68,2	52,3						
	355,6	RGG7514	515,9	871,5	146,8	44,8	79,3	19,3	82,3	111,2	97,0	3.448,7	688	68,2	54,8						
100	50,8	RGG1002	221,0	271,8	165,9	47,1	95,2	23,4	98,3	130,2	133,1	676,3	668	93,6	32,2						
	101,6	RGG1004	271,8	373,4	165,9	47,1	95,2	23,4	98,3	130,2	133,1	1.352,6	668	93,6	38,4						
	152,4	RGG1006	322,6	475,0	165,9	47,1	95,2	23,4	98,3	130,2	133,1	2.028,8	668	93,6	44,5						
	203,2	RGG1008	373,4	576,6	165,9	47,1	95,2	23,4	98,3	130,2	133,1	2.705,1	668	93,6	50,6						
	254,0	RGG10010	424,2	678,2	165,9	47,1	95,2	23,4	98,3	130,2	133,1	3.381,4	668	93,6	56,8						
	304,8	RGG10012	475,0	779,8	165,9	47,1	95,2	23,4	98,3	130,2	133,1	4.057,7	668	93,6	62,9						
	330,2	RGG10013	500,4	830,6	165,9	47,1	95,2	23,4	98,3	130,2	133,1	4.395,8	668	93,6	66,0						
	355,6	RGG10014	525,8	881,4	165,9	47,1	95,2	23,4	98,3	130,2	133,1	4.734,0	668	93,6	69,1						
150	50,8	RGG1502	238,0	288,8	195,6	53,5	114,2	24,1	117,6	158,8	198,0	1.005,6	674	139,2	46,7						
	101,6	RGG1504	288,8	390,4	195,6	53,5	114,2	24,1	117,6	158,8	198,0	2.011,3	674	139,2	54,9						
	152,4	RGG1506	339,6	492,0	195,6	53,5	114,2	24,1	117,6	158,8	198,0	3.016,9	674	139,2	63,1						
	203,2	RGG1508	390,4	593,6	195,6	53,5	114,2	24,1	117,6	158,8	198,0	4.022,5	674	139,2	71,2						
	254,0	RGG15010	441,2	695,2	195,6	53,5	114,2	24,1	117,6	158,8	198,0	5.028,2	674	139,2	79,4						
	304,8	RGG15012	492,0	796,8	195,6	53,5	114,2	24,1	117,6	158,8	198,0	6.033,8	674	139,2	87,6						
	330,2	RGG15013	517,4	847,6	195,6	53,5	114,2	24,1	117,6	158,8	198,0	6.536,6	674	139,2	91,7						
	355,6	RGG15014	542,8	898,4	195,6	53,5	114,2	24,1	117,6	158,8	198,0	7.039,4	674	139,2	95,7						
200	50,8	RGG2002	255,0	305,8	226,8	57,2	133,3	26,9	136,4	184,2	266,3	1.353,1	668	187,2	67,4						
	101,6	RGG2004	305,8	407,4	226,8	57,2	133,3	26,9	136,4	184,2	266,3	2.706,1	668	187,2	78,5						
	152,4	RGG2006	356,6	509,0	226,8	57,2	133,3	26,9	136,4	184,2	266,3	4.059,2	668	187,2	89,5						
	203,2	RGG2008	407,4	610,6	226,8	57,2	133,3	26,9	136,4	184,2	266,3	5.412,2	668	187,2	100,6						
	254,0	RGG20010	458,2	712,2	226,8	57,2	133,3	26,9	136,4	184,2	266,3	6.765,3	668	187,2	111,7						
	304,8	RGG20012	509,0	813,8	226,8	57,2	133,3	26,9	136,4	184,2	266,3	8.118,3	668	187,2	122,7						
	330,2	RGG20013	534,4	864,6	226,8	57,2	133,3	26,9	136,4	184,2	266,3	8.794,9	668	187,2	128,3						
	355,6	RGG20014	559,8	915,4	226,8	57,2	133,3	26,9	136,4	184,2	266,3	9.471,4	668	187,2	133,8						

Model Shown:
RGG Family



>Features

- Single Acting load return hydraulic cylinder, tonnages ranging from 250 - 600
- Patented swivel cap provides concentrated load centering up to 5 degrees
- Sealing technology provides lubrication to reduce friction and wear
- Optimized piston gland design resists side loading conditions
- Robust retaining ring withstands full load end stop and conforms with ANSI B30.1 standards
- *Power-Tech+* nitro-carburization surface treatment inhibits corrosion and provides exceptional durability
- Base mounting holes standard on all models (they are not maintained to port location)
- One high flow 3/8" NPTF female half coupler and carry strap w/ eyelets are included

▶ RGG Series is perfect for any building lift application.



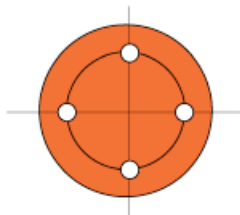
Load Lowering Valve



Precision metering for controlled cylinder piston return. Operation: Permits free flow when extending cylinder, built-in pressure relief and PosiCheck® locks and holds load in raised position until operator opens valve.

Ordering number: **9596**

▶ **Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

Tonnage	250	300	400	500	600
# of Base Mounting Holes	4	4	4	4	4
Base thread size	M24X3.0 - 6H	M24X3.0 - 6H	M30X3.5 - 6H	M30X3.5 - 6H	M33X2.0 - 6H
Base thread depth (mm)	37,0	37,0	45,7	45,7	49,5
Base Mounting Diameter (mm)	153,9	179,3	194,3	227,3	245,1
Orientation	Mounting hole orientation is not maintained to port location.				

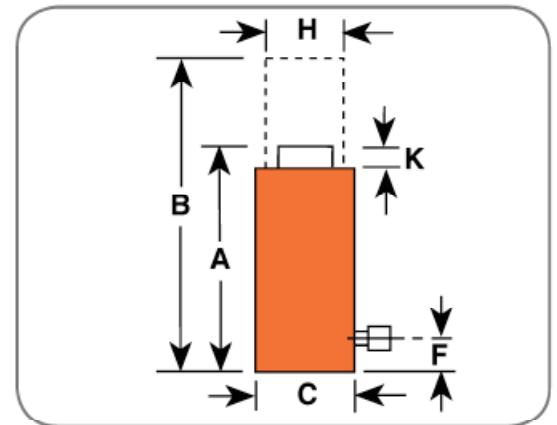


Cylinder Selection



When selecting a hydraulic cylinder(s) capacity and stroke, Power Team recommends that you size to 80% of the maximum rated capacity and stroke for the application - known as the "80% Rule". This will ensure additional safety factor and extend the product performance over time.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



Ordering Information

Tonnage	Stroke	Order No	A	B	C	F	H	K	Swivel Cap Dia.	Bore Dia.	Cyl. Eff. Area (Advance)	Oil Cap.	Int. Press. at Cap.	Tons at 690 Bar	Weight
			Ret. Height	Ext. Height	Out. Dia.	Base to Port	Piston Rod Dia.	Swivel Cap Protusion							
S. Tons	mm.		mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	sq.cm.	cu.cm.	Bar	M. Tons	kg
250	50,8	RGG2502	261,6	312,4	250,2	59,7	152,3	28,4	141,2	203,3	324,3	1.647,4	686	228,0	87,2
	101,6	RGG2504	312,4	414,0	250,2	59,7	152,3	28,4	141,2	203,3	324,3	3.294,8	686	228,0	101,2
	152,4	RGG2506	363,2	515,6	250,2	59,7	152,3	28,4	141,2	203,3	324,3	4.942,2	686	228,0	115,1
	203,2	RGG2508	414,0	617,2	250,2	59,7	152,3	28,4	141,2	203,3	324,3	6.589,6	686	228,0	129,1
	254,0	RGG25010	464,8	718,8	250,2	59,7	152,3	28,4	141,2	203,3	324,3	8.237,0	686	228,0	143,0
	304,8	RGG25012	515,6	820,4	250,2	59,7	152,3	28,4	141,2	203,3	324,3	9.884,4	686	228,0	156,9
	330,2	RGG25013	541,0	871,2	250,2	59,7	152,3	28,4	141,2	203,3	324,3	10.708,1	686	228,0	163,9
	355,6	RGG25014	566,4	922,0	250,2	59,7	152,3	28,4	141,2	203,3	324,3	11.531,8	686	228,0	170,9
300	50,8	RGG3002	272,8	323,6	281,4	63,0	165,0	32,5	169,2	228,7	410,4	2.084,9	650	288,5	114,0
	101,6	RGG3004	323,6	425,2	281,4	63,0	165,0	32,5	169,2	228,7	410,4	4.169,7	650	288,5	131,0
	152,4	RGG3006	374,4	526,8	281,4	63,0	165,0	32,5	169,2	228,7	410,4	6.254,6	650	288,5	148,0
	203,2	RGG3008	425,2	628,4	281,4	63,0	165,0	32,5	169,2	228,7	410,4	8.339,5	650	288,5	164,5
	254,0	RGG30010	476,0	730,0	281,4	63,0	165,0	32,5	169,2	228,7	410,4	10.424,3	650	288,5	182,0
	304,8	RGG30012	526,8	831,6	281,4	63,0	165,0	32,5	169,2	228,7	410,4	12.509,2	650	288,5	198,9
	330,2	RGG30013	552,2	882,4	281,4	63,0	165,0	32,5	169,2	228,7	410,4	13.551,6	650	288,5	207,4
	355,6	RGG30014	577,6	933,2	281,4	63,0	165,0	32,5	169,2	228,7	410,4	14.594,1	650	288,5	215,9
400	50,8	RGG4002	306,6	357,4	328,4	70,3	190,4	37,1	197,4	266,8	558,6	2.837,6	637	392,6	177,2
	101,6	RGG4004	357,4	459,0	328,4	70,3	190,4	37,1	197,4	266,8	558,6	5.675,1	637	392,6	200,1
	152,4	RGG4006	408,2	560,6	328,4	70,3	190,4	37,1	197,4	266,8	558,6	8.512,7	637	392,6	223,0
	203,2	RGG4008	459,0	662,2	328,4	70,3	190,4	37,1	197,4	266,8	558,6	11.350,2	637	392,6	245,8
	254,0	RGG40010	509,8	763,8	328,4	70,3	190,4	37,1	197,4	266,8	558,6	14.187,8	637	392,6	268,7
	304,8	RGG40012	560,6	865,4	328,4	70,3	190,4	37,1	197,4	266,8	558,6	17.025,4	637	392,6	291,6
	330,2	RGG40013	586,0	916,2	328,4	70,3	190,4	37,1	197,4	266,8	558,6	18.444,1	637	392,6	303,0
	355,6	RGG40014	611,4	967,0	328,4	70,3	190,4	37,1	197,4	266,8	558,6	19.862,9	637	392,6	314,5
500	50,8	RGG5002	311,9	362,7	359,7	73,6	203,1	39,4	216,2	292,2	670,0	3.403,7	664	471,0	205,0
	101,6	RGG5004	362,7	464,3	359,7	73,6	203,1	39,4	216,2	292,2	670,0	6.807,3	664	471,0	240,6
	152,4	RGG5006	413,5	565,9	359,7	73,6	203,1	39,4	216,2	292,2	670,0	10.211,0	664	471,0	267,4
	203,2	RGG5008	464,3	667,5	359,7	73,6	203,1	39,4	216,2	292,2	670,0	13.614,7	664	471,0	294,1
	254,0	RGG50010	515,1	769,1	359,7	73,6	203,1	39,4	216,2	292,2	670,0	17.018,4	664	471,0	320,8
	304,8	RGG50012	565,9	870,7	359,7	73,6	203,1	39,4	216,2	292,2	670,0	20.422,0	664	471,0	347,5
	330,2	RGG50013	591,3	921,5	359,7	73,6	203,1	39,4	216,2	292,2	670,0	22.123,9	664	471,0	360,9
	355,6	RGG50014	616,7	972,3	359,7	73,6	203,1	39,4	216,2	292,2	670,0	23.825,7	664	471,0	374,3
600	50,8	RGG6002	324,1	374,9	391,2	76,8	228,5	41,4	235,0	317,6	791,6	4.021,2	675	556,4	255,0
	101,6	RGG6004	374,9	476,5	391,2	76,8	228,5	41,4	235,0	317,6	791,6	8.042,5	675	556,4	287,7
	152,4	RGG6006	425,7	578,1	391,2	76,8	228,5	41,4	235,0	317,6	791,6	12.063,7	675	556,4	320,5
	203,2	RGG6008	476,5	679,7	391,2	76,8	228,5	41,4	235,0	317,6	791,6	16.085,0	675	556,4	353,2
	254,0	RGG60010	527,3	781,3	391,2	76,8	228,5	41,4	235,0	317,6	791,6	20.106,2	675	556,4	385,9
	304,8	RGG60012	578,1	882,9	391,2	76,8	228,5	41,4	235,0	317,6	791,6	24.127,4	675	556,4	418,7
	330,2	RGG60013	603,5	933,7	391,2	76,8	228,5	41,4	235,0	317,6	791,6	26.138,0	675	556,4	435,0
	355,6	RGG60014	628,9	984,5	391,2	76,8	228,5	41,4	235,0	317,6	791,6	28.148,7	675	556,4	451,4

Model Shown:
RDG Family



▶ RDG Series is perfect for any MRO application.



>Features

- Double Acting, hydraulic return cylinders, tonnages ranging from 55-200
- Patented swivel cap provides concentrated load centering up to 5 degrees
- Robust retaining ring withstands full load end stop and conforms with ANSI B30.1 standards
- Safety relief valve prevents over-pressurization of the retract circuit
- Sealing technology provides lubrication to reduce friction and wear
- *Power-Tech+* nitro-carburization surface treatment inhibits corrosion and provides exceptional durability
- Optimized piston gland design resists side loading conditions
- Base mounting holes standard on all models (they are not maintained to port location)
- Two high flow 3/8" NPTF female half coupler and carry strap w/ eyelets are included



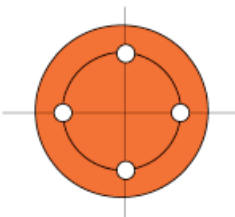
Pressure Control Sequence Valve



Used when one cylinder in a multi-cylinder application must advance before any other. Pressure setting is adjustable from 500 to 8,000 psi with adjustment screw; factory preset at 1,000 psi. Has 3/8" NPTF ports. No. 9597 – Pressure control sequencing valve. Wt., 5.6 lbs

Ordering number: **9597**

▶ **Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

Tonnage	55	75	100	150	200
# of Base Mounting Holes	4	4	4	4	4
Base thread size	M12X1.75 - 6H	M12X1.75 - 6H	M16X1.5 - 6H	M16X1.5 - 6H	M20X1.5 - 6H
Base thread depth (mm)	18,0	18,0	15,7	22,9	30,5
Base Mounting Diameter (mm)	77,0	93,0	101,6	139,1	145,3
Orientation	Mounting hole orientation is not maintained to port location.				

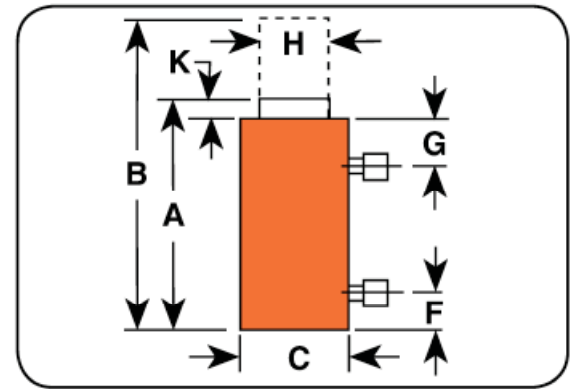


Cylinder Selection



When selecting a hydraulic cylinder(s) capacity and stroke, Power Team recommends that you size to 80% of the maximum rated capacity and stroke for the application - known as the "80% Rule". This will ensure additional safety factor and extend the product performance over time.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



Ordering Information

Tonnage	Stroke	Order No	A		B		C		F		G		H		K		Swivel Cap Dia.	Bore Dia.	Cyl. Eff. Area (Advance)	Cyl. Eff. Area (Retract)	Oil Cap. (Extend)	Oil Cap. (Retract)	Int. Press. at Cap.	Tons at 690 Bar	Weight
			Ret. Height	Ext. Height	Out. Dia.	Base to Port	Top to Port	Piston Rod Dia.	Swivel Cap Protrusion	mm.	mm.	mm.	mm.	mm.	mm.	mm.									
55	50,8	RDG552	199,1	249,9	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	362,0	167,6	687	50,1	17,8							
	101,6	RDG554	249,9	351,5	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	724,0	335,1	687	50,1	21,9							
	152,4	RDG556	300,7	453,1	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	1.086,0	502,7	687	50,1	27,3							
	203,2	RDG558	351,5	554,7	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	1.448,0	670,3	687	50,1	31,4							
	254,0	RDG5510	402,3	656,3	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	1.809,9	837,8	687	50,1	35,4							
	304,8	RDG5512	453,1	757,9	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	2.171,9	1.005,4	687	50,1	39,5							
	355,6	RDG5514	503,9	859,5	131,1	41,0	41,0	69,8	17,0	70,6	95,3	71,3	33,0	2.533,9	1.173,0	687	50,1	43,5							
75	50,8	RDG752	211,1	261,9	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	492,7	241,6	688	68,2	23,4							
	101,6	RDG754	261,9	363,5	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	985,3	483,2	688	68,2	30,6							
	152,4	RDG756	312,7	465,1	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	1.478,0	724,7	688	68,2	35,5							
	203,2	RDG758	363,5	566,7	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	1.970,7	966,3	688	68,2	40,4							
	254,0	RDG7510	414,3	668,3	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	2.463,3	1.207,9	688	68,2	45,2							
	304,8	RDG7512	465,1	769,9	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	2.956,0	1.449,5	688	68,2	50,1							
	355,6	RDG7514	515,9	871,5	146,8	44,8	44,8	79,3	19,3	82,3	111,2	97,0	47,6	3.448,7	1.691,1	688	68,2	55,0							
100	50,8	RDG1002	221,0	271,8	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	676,3	314,9	668	93,5	32,3							
	101,6	RDG1004	271,8	373,4	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	1.352,6	629,7	668	93,5	38,4							
	152,4	RDG1006	322,6	475,0	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	2.028,8	944,6	668	93,5	44,5							
	203,2	RDG1008	373,4	576,6	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	2.705,1	1.259,5	668	93,5	50,7							
	254,0	RDG10010	424,2	678,2	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	3.381,4	1.574,4	668	93,5	56,8							
	304,8	RDG10012	475,0	779,8	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	4.057,7	1.889,2	668	93,5	63,0							
	355,6	RDG10014	525,8	881,4	165,9	47,1	47,1	95,2	23,4	98,3	130,2	133,1	62,0	4.734,0	2.204,1	668	93,5	69,1							
150	50,8	RDG1502	238,0	288,8	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	1.005,6	485,1	674	139,1	46,8							
	101,6	RDG1504	288,8	390,4	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	2.011,3	970,2	674	139,1	54,9							
	152,4	RDG1506	339,6	492,0	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	3.016,9	1.455,3	674	139,1	63,1							
	203,2	RDG1508	390,4	583,6	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	4.022,5	1.940,4	674	139,1	71,3							
	254,0	RDG15010	441,2	695,2	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	5.028,2	2.425,5	674	139,1	79,5							
	304,8	RDG15012	492,0	796,8	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	6.033,8	2.910,7	674	139,1	87,7							
	355,6	RDG15014	542,8	898,4	195,6	53,5	53,5	114,2	24,1	117,6	158,8	198,0	95,5	7.039,4	3.395,8	674	139,1	95,8							
200	50,8	RDG2002	255,0	305,8	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	1.353,1	644,5	668	187,2	67,5							
	101,6	RDG2004	305,8	407,4	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	2.706,1	1.289,0	668	187,2	78,6							
	152,4	RDG2006	356,6	509,0	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	4.059,2	1.933,4	668	187,2	89,6							
	203,2	RDG2008	407,4	610,6	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	5.412,2	2.577,9	668	187,2	100,7							
	254,0	RDG20010	458,2	712,2	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	6.765,3	3.222,4	668	187,2	111,8							
	304,8	RDG20012	509,0	813,8	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	8.118,3	3.866,9	668	187,2	122,8							
	355,6	RDG20014	559,8	915,4	226,8	57,2	57,2	133,3	26,9	136,4	184,2	266,3	126,9	9.471,4	4.511,4	668	187,2	133,9							

Model Shown:
RDG Family



>Features

- Double Acting, hydraulic return cylinders, tonnages ranging from 250 - 600
- Patented swivel cap provides concentrated load centering up to 5 degrees
- Robust retaining ring withstands full load end stop and conforms with ANSI B30.1 standards
- Safety relief valve prevents over-pressurization of the retract circuit
- Sealing technology provides lubrication to reduce friction and wear
- *Power-Tech+* nitro-carburization surface treatment inhibits corrosion and provides exceptional durability
- Optimized piston gland design resists side loading conditions
- Two high flow 3/8" NPTF female half coupler and carry strap w/ eyelets are included

▶ RDG Series is perfect for mining MRO application.



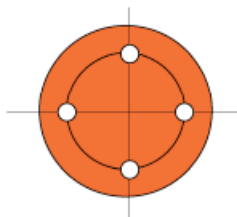
4 Port Control Manifold



For independent multiple-cylinder operation, feature needle valves for precise manual control. Designed for remote-mounted applications.

Ordering Information: **9644**

▶ Technical Dimensions, Base Mounting Holes



Four base mounting holes are 45° apart - standard on all models.

Tonnage	250	300	400	500	600
# of Base Mounting Holes	4	4	4	4	4
Base thread size	M24X3.0 - 6H	M24X3.0 - 6H	M30X3.5 - 6H	M30X3.5 - 6H	M33X2.0 - 6H
Base thread depth (mm)	37,0	37,0	45,7	45,7	49,5
Base Mounting Diameter (mm)	153,9	179,3	194,3	227,3	245,1
Base Mounting Orientation	Mounting hole orientation is not maintained to port location.				

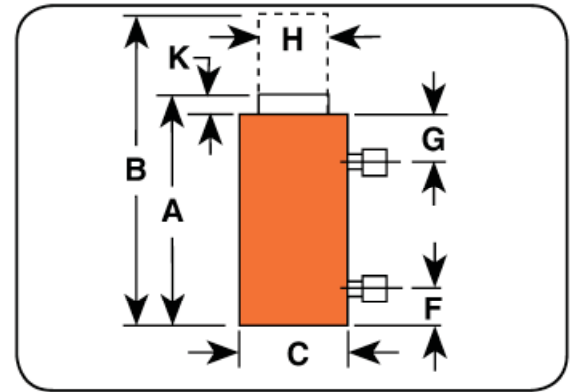


Cylinder Selection



When selecting a hydraulic cylinder(s) capacity and stroke, Power Team recommends that you size to 80% of the maximum rated capacity and stroke for the application - known as the "80% Rule". This will ensure additional safety factor and extend the product performance over time.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



Ordering Information

Tonnage	Stroke	Order No	A	B	C	F	G	H	K	Swivel Cap Dia.	Bore Dia.	Cyl. Eff. Area (Advance)	Cyl. Eff. Area (Retract)	Oil Cap. (Extend)	Oil Cap. (Retract)	Int. Press. at Cap.	Tons at 690 Bar	Weight
S. Tons	mm.		Ret. Height mm.	Ext. Height mm.	Out. Dia. mm.	Base to Port mm.	Top to Port mm.	Piston Rod Dia. mm.	Swivel Cap Protrusion mm.	mm.	mm.	sq.cm.	cu.cm.	cu.cm.	cu.cm.	Bar	M. Tons	kg
250	50,8	RDG2502	261,6	312,4	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	1.647,4	721,8	686	227,9	87,3
	101,6	RDG2504	312,4	414,0	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	3.294,8	1.443,6	686	227,9	101,2
	152,4	RDG2506	363,2	515,6	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	4.942,2	2.165,4	686	227,9	115,2
	203,2	RDG2508	414,0	617,2	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	6.589,6	2.887,3	686	227,9	129,2
	254,0	RDG25010	464,8	718,8	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	8.237,0	3.609,1	686	227,9	143,1
	304,8	RDG25012	515,6	820,4	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	9.884,4	4.330,9	686	227,9	157,0
	330,2	RDG25013	541,0	871,2	250,2	59,7	59,7	152,3	28,4	141,2	203,3	324,3	142,1	10.708,1	4.691,8	686	227,9	164,0
300	50,8	RDG3002	272,8	323,6	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	2.084,9	998,5	650	288,5	114,1
	101,6	RDG3004	323,6	425,2	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	4.169,7	1.997,1	650	288,5	131,1
	152,4	RDG3006	374,4	526,8	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	6.254,6	2.995,6	650	288,5	148,1
	203,2	RDG3008	425,2	628,4	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	8.339,5	3.994,2	650	288,5	165,1
	254,0	RDG30010	476,0	730,0	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	10.424,3	4.992,7	650	288,5	182,1
	304,8	RDG30012	526,8	831,6	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	12.509,2	5.991,3	650	288,5	199,0
	330,2	RDG30013	552,2	882,4	281,4	63,0	63,0	165,0	32,5	169,2	228,7	410,4	196,6	13.551,6	6.490,5	650	288,5	207,5
400	50,8	RDG4002	306,6	357,4	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	2.837,6	1.391,1	637	392,7	177,3
	101,6	RDG4004	357,4	459,0	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	5.675,1	2.782,3	637	392,7	200,2
	152,4	RDG4006	408,2	560,6	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	8.512,7	4.173,4	637	392,7	223,1
	203,2	RDG4008	459,0	662,2	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	11.350,2	5.564,6	637	392,7	245,9
	254,0	RDG40010	509,8	763,8	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	14.187,8	6.955,7	637	392,7	268,8
	304,8	RDG40012	560,6	865,4	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	17.025,4	8.346,9	637	392,7	288,6
	330,2	RDG40013	586,0	916,2	328,4	70,3	70,3	190,4	37,1	197,4	266,8	558,6	273,8	18.444,1	9.042,5	637	392,7	303,1
500	50,8	RDG5002	311,9	362,7	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	3.403,7	1.757,9	664	471,0	214,0
	101,6	RDG5004	362,7	464,3	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	6.807,3	3.515,8	664	471,0	240,7
	152,4	RDG5006	413,5	565,9	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	10.211,0	5.273,8	664	471,0	267,5
	203,2	RDG5008	464,3	667,5	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	13.614,7	7.031,7	664	471,0	294,1
	254,0	RDG50010	515,1	769,1	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	17.018,4	8.789,6	664	471,0	320,9
	304,8	RDG50012	565,9	870,7	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	20.422,0	10.547,5	664	471,0	347,6
	330,2	RDG50013	591,3	921,5	359,7	73,6	73,6	203,1	39,4	216,2	292,2	670,0	346,0	22.123,9	11.426,5	664	471,0	361,0
600	50,8	RDG6002	324,1	374,9	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	4.021,2	1.938,2	675	556,5	255,2
	101,6	RDG6004	374,9	476,5	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	8.042,5	3.876,4	675	556,5	288,0
	152,4	RDG6006	425,7	578,1	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	12.063,7	5.814,7	675	556,5	320,7
	203,2	RDG6008	476,5	679,7	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	16.085,0	7.752,9	675	556,5	353,4
	254,0	RDG60010	527,3	781,3	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	20.106,2	9.691,1	675	556,5	386,2
	304,8	RDG60012	578,1	882,9	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	24.127,4	11.629,3	675	556,5	418,9
	330,2	RDG60013	603,5	933,7	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	26.138,0	12.598,4	675	556,5	435,2
355,6	RDG60014	628,9	984,5	391,2	76,8	76,8	228,5	41,4	235,0	317,6	791,6	381,5	28.148,7	13.567,5	675	556,5	451,6	

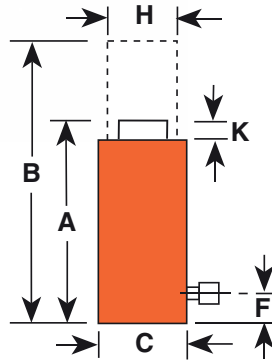
HIGH TONNAGE

R Series 55-1140 Ton Single-Acting Load Return



CYLINDERS

HIGH-TONNAGE,
LOW CYCLE,
GRAVITY RETURN.



R2802C

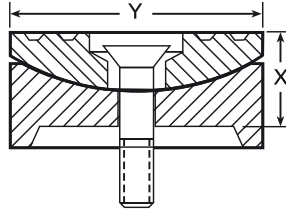
ASME B30.1
10,000 PSI

- Visible indicator band alerts when stroke limit is reached; overflow port ("weep hole") stroke limiter prevents piston from being overextended.
- Alloy heat treated piston and body for reliability and strength.
- Plated piston rod increases corrosion resistance and gives superior bearing support.

Cylinder Cap. (Tons)	Stroke		Cylinder Order No.	Oil Capacity (cu. cm.)	A	B	C	F	H	K
	(inch)	(mm)			Retracted Height (mm)	Extended Height (mm)	Outside Diameter (mm)	Base to Port (mm)	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)
55	2	50.8	R552C	362	125.4	176.2	127.0	25.4	95.3	3.2
55	4	101.6	R554C	725	176.2	277.8	127.0	25.4	95.3	3.2
55	6	152.4	R556C	1,087	227.0	379.4	127.0	25.4	95.3	3.2
55	8	203.2	R558C	1,449	277.8	481.0	127.0	25.4	95.3	3.2
55	10	254.0	R5510C	1,812	328.6	582.6	127.0	25.4	95.3	3.2
100	2	50.8	R1002C	676	139.7	190.5	165.1	25.4	130.2	3.2
100	4	101.6	R1004C	1,353	190.5	292.1	165.1	25.4	130.2	3.2
100	6	152.4	R1006C	2,029	241.3	393.7	165.1	25.4	130.2	3.2
100	8	203.2	R1008C	2,705	292.1	495.3	165.1	25.4	130.2	3.2
100	10	254.0	R10010C	3,382	342.9	596.9	165.1	25.4	130.2	3.2
100	12	304.8	R10012C	4,058	393.7	698.5	165.1	25.4	130.2	3.2
150	2	50.8	R1502C	1,006	161.9	212.7	204.8	31.8	158.8	3.2
150	4	101.6	R1504C	2,012	212.7	314.3	204.8	31.8	158.8	3.2
150	6	152.4	R1506C	3,018	263.5	415.9	204.8	31.8	158.8	3.2
150	8	203.2	R1508C	4,025	314.3	517.5	204.8	31.8	158.8	3.2
150	10	254.0	R15010C	5,031	365.1	619.1	204.8	31.8	158.8	3.2
150	12	304.8	R15012C	6,037	415.9	720.7	204.8	31.8	158.8	3.2
200	2	50.8	R2002C	1,354	190.5	241.3	235.0	41.3	184.2	3.2
200	4	101.6	R2004C	2,707	241.3	342.9	235.0	41.3	184.2	3.2
200	6	152.4	R2006C	4,061	292.1	444.5	235.0	41.3	184.2	3.2
200	8	203.2	R2008C	5,415	342.9	546.1	235.0	41.3	184.2	3.2
200	10	254.0	R20010C	6,769	393.7	647.7	235.0	41.3	184.2	3.2
200	12	304.8	R20012C	8,122	444.5	749.3	235.0	41.3	184.2	3.2
280	2	50.8	R2802C	1,860	209.5	260.3	276.2	47.6	215.9	3.2
280	4	101.6	R2804C	3,720	260.3	361.9	276.2	47.6	215.9	3.2
280	6	152.4	R2806C	5,579	311.1	463.5	276.2	47.6	215.9	3.2
280	8	203.2	R2808C	7,439	351.9	555.1	276.2	47.6	215.9	3.2
280	10	254.0	R28010C	9,299	412.7	666.7	276.2	47.6	215.9	3.2
280	12	304.8	R28012C	11,159	463.5	768.3	276.2	47.6	215.9	3.2
355	2	50.8	R3552C	2,323	231.8	282.6	298.5	54.0	241.3	3.2
355	4	101.6	R3554C	4,646	282.6	384.2	298.5	54.0	241.3	3.2
355	6	152.4	R3556C	6,969	333.4	485.8	298.5	54.0	241.3	3.2
355	8	203.2	R3558C	9,292	384.2	587.4	298.5	54.0	241.3	3.2
355	10	254.0	R35510C	11,616	435.0	689.0	298.5	54.0	241.3	3.2
355	12	304.8	R35512C	13,939	485.8	790.6	298.5	54.0	241.3	3.2
430	2	50.8	R4302C	2,838	263.5	314.3	330.2	63.5	266.7	3.2
430	4	101.6	R4304C	5,676	314.3	415.9	330.2	63.5	266.7	3.2
430	6	152.4	R4306C	8,514	365.1	517.5	330.2	63.5	266.7	3.2
430	8	203.2	R4308C	11,352	415.9	619.1	330.2	63.5	266.7	3.2
430	10	254.0	R43010C	14,190	466.7	720.7	330.2	63.5	266.7	3.2
430	12	304.8	R43012C	17,028	517.5	822.3	330.2	63.5	266.7	3.2
565	2	50.8	R5652C	3,707	292.1	342.9	377.8	69.9	304.8	3.2
565	4	101.6	R5654C	7,413	342.9	444.5	377.8	69.9	304.8	3.2
565	6	152.4	R5656C	11,120	393.7	546.1	377.8	69.9	304.8	3.2
565	8	203.2	R5658C	14,827	444.5	647.7	377.8	69.9	304.8	3.2
565	10	254.0	R56510C	18,533	495.3	749.3	377.8	69.9	304.8	3.2
565	12	304.8	R56512C	22,240	546.1	850.9	377.8	69.9	304.8	3.2
660	6	152.4	*R6606C	13,051	464.8	617.2	419.1		330.2	
880			*R8806C	17,375	508.0	660.4	495.3		381.0	
1,140			*R11406C	22,317	551.2	703.6	571.5		431.8	

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes. Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.

The HEAVY LIFTER Single-Acting Solution



Recommendation

Use Swivel Caps (Optional) to reduce the effects of off-center loading.

- Tilts up to 5°.
- Radial grooves on top of cap reduce load slippage.
- Notch across face of each cap helps keep loads having a protruding or round shaped centered.



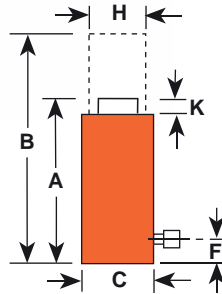
CYLINDERS

Cylinder Order No.	Bore Diameter (mm)	Effective Area (cm ²)	Metric Tons at 690 bar	Weight (kg)	Swivel Cap Order No. (Optional)	X	Y	Retracted Ht. (Cap & Cyl.) (mm)	Weight (Cap & Cyl.) (kg)
						Swivel Cap Protrusion (mm)	Swivel Cap Diameter (mm)		
R552C	95.3	71.2	50.1	12.3	420866	25.4	71.4	150.8	13.1
R554C	95.3	71.2	50.1	17.5	420866	25.4	71.4	201.6	18.3
R556C	95.3	71.2	50.1	22.7	420866	25.4	71.4	252.4	23.5
R558C	95.3	71.2	50.1	27.9	420866	25.4	71.4	303.2	28.7
R5510C	95.3	71.2	50.1	32.7	420866	25.4	71.4	354.0	33.5
R1002C	130.2	133.1	93.6	23.6	420866	25.4	71.4	165.1	24.4
R1004C	130.2	133.1	93.6	32.0	420866	25.4	71.4	215.9	32.8
R1006C	130.2	133.1	93.6	40.4	420866	25.4	71.4	266.7	41.2
R1008C	130.2	133.1	93.6	48.8	420866	25.4	71.4	317.5	49.6
R10010C	130.2	133.1	93.6	57.2	420866	25.4	71.4	368.3	58.0
R10012C	130.2	133.1	93.6	65.6	420866	25.4	71.4	419.1	66.4
R1502C	158.8	197.9	139.1	41.8	420867	38.1	130.2	200.0	45.8
R1504C	158.8	197.9	139.1	55.2	420867	38.1	130.2	250.8	59.2
R1506C	158.8	197.9	139.1	68.6	420867	38.1	130.2	301.6	72.6
R1508C	158.8	197.9	139.1	82.0	420867	38.1	130.2	352.4	86.0
R15010C	158.8	197.9	139.1	95.3	420867	38.1	130.2	403.2	99.3
R15012C	158.8	197.9	139.1	108.7	420867	38.1	130.2	454.0	112.7
R2002C	184.2	266.3	187.2	65.8	420867	38.1	130.2	228.6	69.8
R2004C	184.2	266.3	187.2	83.1	420867	38.1	130.2	279.4	87.1
R2006C	184.2	266.3	187.2	100.3	420867	38.1	130.2	330.2	104.3
R2008C	184.2	266.3	187.2	117.6	420867	38.1	130.2	381.0	121.6
R20010C	184.2	266.3	187.2	134.8	420867	38.1	130.2	431.8	138.8
R20012C	184.2	266.3	187.2	152.1	420867	38.1	130.2	482.6	156.1
R2802C	215.9	366.0	257.3	91.2	420868	44.5	149.2	254.0	97.3
R2804C	215.9	366.0	257.3	113.7	420868	44.5	149.2	304.8	119.8
R2806C	215.9	366.0	257.3	136.1	420868	44.5	149.2	355.6	142.2
R2808C	215.9	366.0	257.3	158.6	420868	44.5	149.2	396.4	164.7
R28010C	215.9	366.0	257.3	181.0	420868	44.5	149.2	457.2	187.1
R28012C	215.9	366.0	257.3	203.5	420868	44.5	149.2	508.0	209.6
R3552C	241.3	457.2	321.4	137.1	420869	69.9	195.3	301.7	153.9
R3554C	241.3	457.2	321.4	167.1	420869	69.9	195.3	352.5	183.9
R3556C	241.3	457.2	321.4	197.0	420869	69.9	195.3	403.3	213.8
R3558C	241.3	457.2	321.4	226.8	420869	69.9	195.3	454.1	243.6
R35510C	241.3	457.2	321.4	256.5	420869	69.9	195.3	504.9	273.3
R35512C	241.3	457.2	321.4	286.3	420869	69.9	195.3	555.7	303.1
R4302C	266.7	558.5	392.6	199.8	420870	79.4	225.4	342.9	223.4
R4304C	266.7	558.5	392.6	238.2	420870	79.4	225.4	393.7	261.8
R4306C	266.7	558.5	392.6	276.5	420870	79.4	225.4	444.5	300.1
R4308C	266.7	558.5	392.6	314.9	420870	79.4	225.4	495.3	338.5
R43010C	266.7	558.5	392.6	353.2	420870	79.4	225.4	546.1	376.8
R43012C	266.7	558.5	392.6	391.6	420870	79.4	225.4	596.9	415.2
R5652C	304.8	729.5	512.8	289.7	420871	92.1	250.8	384.2	325.1
R5654C	304.8	729.5	512.8	339.6	420871	92.1	250.8	435.0	375.0
R5656C	304.8	729.5	512.8	389.5	420871	92.1	250.8	485.8	424.9
R5658C	304.8	729.5	512.8	439.5	420871	92.1	250.8	536.6	474.9
R56510C	304.8	729.5	512.8	489.4	420871	92.1	250.8	587.4	524.8
R56512C	304.8	729.5	512.8	539.4	420871	92.1	250.8	638.2	574.8
*R6606C	330.2	856.3	600.0	472.0			254.0	464.8	472.0
*R8806C	381.0	1,140.1	800.0	718.1			292.1	508.0	718.1
*R11406C	431.8	1,464.4	1,000.0	1,031.8			317.5	551.2	1,031.8

* "-QC1 Special Cylinders" complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.

HIGH TONNAGE

R Series 500-1500 Ton Single-Acting Load Return



R5006C

Cyl. Cap. (tons)	Stroke (mm.)	Order No.	Oil Cap. (cm ³)	A	B	C	F	H	K	Cylinder Bore Dia. (mm.)	Effective Area (cm ²)	Internal Pressure at Cap. (psi)	Tons at 10,000 psi	Product Wt. (Kg.)
				Retracted Height (mm.)	Extended Height (mm.)	Outside Dia. (mm.)	Base to Port (mm.)	Piston Rod Dia. (mm.)	Piston Rod Protrusion (mm.)					
500	50	R5002C	3,653	479	529	400	114	248	63	305.0	730.6	9,725	504	420
500	100	R5004C	7,306	529	629	400	114	248	63	305.0	730.6	9,725	504	460
500	150	R5006C	10,959	579	729	400	114	248	63	305.0	730.6	9,725	504	499
500	200	R5008C	14,612	629	829	400	114	248	63	305.0	730.6	9,725	504	539
500	250	R50010C	18,265	679	929	400	114	248	63	305.0	730.6	9,725	504	578
500	300	R50012C	21,919	729	1029	400	114	248	63	305.0	730.6	9,725	504	618
600	50	R6002C	4,277	502	552	430	114	267	76	330.0	855.3	9,968	602	499
600	100	R6004C	8,553	552	652	430	114	267	76	330.0	855.3	9,968	602	544
600	150	R6006C	12,830	602	752	430	114	267	76	330.0	855.3	9,968	602	590
600	200	R6008C	17,106	652	852	430	114	267	76	330.0	855.3	9,968	602	635
600	250	R60010C	21,383	702	952	430	114	267	76	330.0	855.3	9,968	602	681
600	300	R60012C	25,659	752	1052	430	114	267	76	330.0	855.3	9,968	602	726
800	50	R8002C	5,881	546	596	505	149	317	75	387.0	1,176.3	9,664	828	776
800	100	R8004C	11,763	596	696	505	149	317	75	387.0	1,176.3	9,664	828	839
800	150	R8006C	17,644	646	796	505	149	317	75	387.0	1,176.3	9,664	828	903
800	200	R8008C	23,526	696	896	505	149	317	75	387.0	1,176.3	9,664	828	960
800	250	R80010C	29,407	746	996	505	149	317	75	387.0	1,176.3	9,664	828	1,034
800	300	R80012C	35,289	796	1096	505	149	317	75	387.0	1,176.3	9,664	828	1,093
1000	50	R10002C	7,329	654	704	560	174	343	93	432.0	1,465.7	9,695	1,031	1,112
1000	100	R10004C	14,657	704	804	560	174	343	93	432.0	1,465.7	9,695	1,031	1,187
1000	150	R10006C	21,986	754	904	560	174	343	93	432.0	1,465.7	9,695	1,031	1,263
1000	200	R10008C	29,315	804	1,004	560	174	343	93	432.0	1,465.7	9,695	1,031	1,338
1000	250	R100010C	36,644	854	1,104	560	174	343	93	432.0	1,465.7	9,695	1,031	1,414
1000	300	R100012C	43,972	904	1,204	560	174	343	93	432.0	1,465.7	9,695	1,031	1,489
1500	150	R15006C	33,093	855	1,005	690	215	430	125	530.0	2,206.2	9,661	1,553	2,045



Base Mounting Holes



Thread Depth	Thread Depth	Thread Depth	Thread Depth	B.C. Diameter
	(mm)		(mm)	
500	M24	3	36	250
600	M24	3	36	275
800	M24	3	36	330
1000	M24	3	36	375
1000	M24	3	36	480

- Hardened Integral Swival Cap to reduce the effects of off-center loading.
- Piston wiper to keep dirt, water and other contaminations out of the internal bearing and bore surfaces.
- Cylinder equipped with integral retainer ring and may be "dead-headed" without amage.
- Plated piston resists corrosion and abrasion.
- Base mounting holes are standard.
- Each cylinder has one 3/8" NPTF female half couplers.
- Maximum operating pressure 700 bar (10,000 psi).

HIGH TONNAGE

R Series Cylinders (Steel) 100-1140 Ton Double-Acting Hydraulic Return 700 bar (10,000 psi)



- High-tonnage, double-acting hydraulic cylinders for positive return.
- Cylinders come standard with swivel caps to reduce the effects of off-center loading.
- Cylinders may be "dead-ended" without damage.
- Hard chrome / nickel plated, heat treated piston rod reduces wear on piston and gland nut.
- Built-in safety relief valve prevents over-pressurization of the retract circuit.
- Each cylinder has two 3/8" NPTF female half couplers (9796).
- Comply with ASME B30.1
- Base mounting holes are optional unless specified.

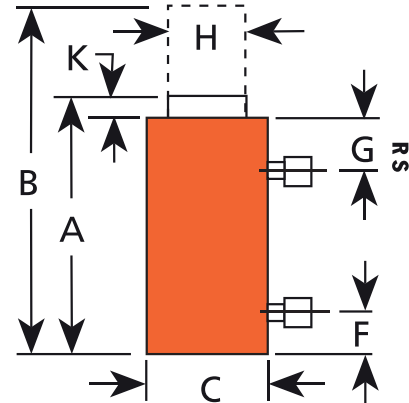
Cylinder Cap. (Tons)	Stroke		Cylinder Order No.	Oil Capacity		Retracted Height (mm)	Extended Height (mm)	Outside Diameter (mm)	Base to Port (mm)	Cyl Top to Port (mm)
	(inch)	(mm)		Push (cm ³)	Return (cm ³)					
100	2	50.8	R1002D	676	314	168.7	219.5	165.1	25.4	56.0
100	4	101.6	R1004D	1,353	628	219.5	321.1	165.1	25.4	56.0
100	6	152.4	R1006D	2,029	942	270.3	422.7	165.1	25.4	56.0
100	8	203.2	R1008D	2,705	1,256	321.1	524.3	165.1	25.4	56.0
100	10	254.0	R10010D	3,382	1,570	371.9	625.9	165.1	25.4	56.0
100	12	304.8	R10012D	4,058	1,884	422.7	727.5	165.1	25.4	56.0
150	2	50.8	R1502D	1,006	485	188.9	239.7	204.8	31.8	57.2
150	4	101.6	R1504D	2,012	970	239.7	341.3	204.8	31.8	57.2
150	6	152.4	R1506D	3,018	1,455	290.5	442.9	204.8	31.8	57.2
150	8	203.2	R1508D	4,025	1,940	341.3	544.5	204.8	31.8	57.2
150	10	254.0	R15010D	5,031	2,424	392.1	646.1	204.8	31.8	57.2
150	12	304.8	R15012D	6,037	2,909	442.9	747.7	204.8	31.8	57.2
200	2	50.8	R2002D	1,354	644	206.8	257.6	235.0	41.3	58.7
200	4	101.6	R2004D	2,707	1,287	257.6	359.2	235.0	41.3	58.7
200	6	152.4	R2006D	4,061	1,931	308.4	460.8	235.0	41.3	58.7
200	8	203.2	R2008D	5,415	2,575	359.2	562.4	235.0	41.3	58.7
200	10	254.0	R20010D	6,769	3,219	410.0	664.0	235.0	41.3	58.7
200	12	304.8	R20012D	8,122	3,862	460.8	765.6	235.0	41.3	58.7
280	2	50.8	R2802D	1,860	772	233.8	284.6	276.3	47.6	65.5
280	4	101.6	R2804D	3,720	1,544	284.6	386.2	276.3	47.6	65.5
280	6	152.4	R2806D	5,579	2,317	335.4	487.8	276.3	47.6	65.5
280	8	203.2	R2808D	7,439	3,089	386.2	589.4	276.3	47.6	65.5
280	10	254.0	R28010D	9,299	3,861	437.0	691.0	276.3	47.6	65.5
280	12	304.8	R28012D	11,159	4,633	487.8	792.6	276.3	47.6	65.5
355	2	50.8	R3552D	2,323	776	288.9	339.7	298.5	54.0	69.9
355	4	101.6	R3554D	4,646	1,553	339.7	441.3	298.5	54.0	69.9
355	6	152.4	R3556D	6,969	2,329	390.5	542.9	298.5	54.0	69.9
355	8	203.2	R3558D	9,292	3,105	441.3	644.5	298.5	54.0	69.9
355	10	254.0	R35510D	11,616	3,881	492.1	746.1	298.5	54.0	69.9
355	12	304.8	R35512D	13,939	4,658	542.9	847.7	298.5	54.0	69.9
430	2	50.8	R4302D	2,838	978	312.7	363.5	330.2	63.5	75.0
430	4	101.6	R4304D	5,676	1,956	363.5	465.1	330.2	63.5	75.0
430	6	152.4	R4306D	8,514	2,934	414.3	566.7	330.2	63.5	75.0
430	8	203.2	R4308D	11,352	3,913	465.1	668.3	330.2	63.5	75.0
430	10	254.0	R43010D	14,190	4,891	515.9	769.9	330.2	63.5	75.0
430	12	304.8	R43012D	17,028	5,869	566.7	871.5	330.2	63.5	75.0
565	2	50.8	R5652D	3,707	1,259	345.3	396.1	377.8	69.9	81.4
565	4	101.6	R5654D	7,413	2,517	396.1	497.7	377.8	69.9	81.4
565	6	152.4	R5656D	11,120	3,776	446.9	599.3	377.8	69.9	81.4
565	8	203.2	R5658D	14,827	5,035	497.7	700.9	377.8	69.9	81.4
565	10	254.0	R56510D	18,533	6,294	548.5	802.5	377.8	69.9	81.4
565	12	304.8	R56512D	22,240	7,552	599.3	904.1	377.8	69.9	81.4
660	6	152.4	*R6606D	13,051	4,537	520.7	673.1	419.1		
880			*R8806D	17,375	6,255	563.9	716.3	495.3		
1,140			*R11406D	22,317	8,244	607.1	759.5	571.5		

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.

HIGH TONNAGE

R Series Cylinders (Steel)
100-1140 Ton
Double-Acting Hydraulic Return
700 bar (10,000 psi)

The HEAVY LIFTER Double-Acting Solution



Cylinder Order No.	H	K	Bore Diameter (mm)	Effective Area (cm ²)	Metric Tons at 690 bar Push	Weight (Kg)
	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)				
R1002D	95.3	7.1	130.2	133.1	93.6	24.5
R1004D	95.3	7.1	130.2	133.1	93.6	30.0
R1006D	95.3	7.1	130.2	133.1	93.6	36.8
R1008D	95.3	7.1	130.2	133.1	93.6	39.9
R10010D	95.3	7.1	130.2	133.1	93.6	49.0
R10012D	95.3	7.1	130.2	133.1	93.6	58.2
R1502D	114.3	7.5	158.8	197.9	139.1	43.1
R1504D	114.3	7.5	158.8	197.9	139.1	52.4
R1506D	114.3	7.5	158.8	197.9	139.1	61.7
R1508D	114.3	7.5	158.8	197.9	139.1	71.0
R15010D	114.3	7.5	158.8	197.9	139.1	80.3
R15012D	114.3	7.5	158.8	197.9	139.1	89.6
R2002D	133.4	8.7	184.2	266.3	187.2	61.7
R2004D	133.4	8.7	184.2	266.3	187.2	73.3
R2006D	133.4	8.7	184.2	266.3	187.2	84.9
R2008D	133.4	8.7	184.2	266.3	187.2	96.7
R20010D	133.4	8.7	184.2	266.3	187.2	108.5
R20012D	133.4	8.7	184.2	266.3	187.2	120.3
R2802D	165.1	10.3	215.9	366.0	257.3	99.4
R2804D	165.1	10.3	215.9	366.0	257.3	117.1
R2806D	165.1	10.3	215.9	366.0	257.3	134.8
R2808D	165.1	10.3	215.9	366.0	257.3	152.8
R28010D	165.1	10.3	215.9	366.0	257.3	170.7
R28012D	165.1	10.3	215.9	366.0	257.3	188.7
R3552D	196.9	11.1	241.3	457.2	321.4	147.0
R3554D	196.9	11.1	241.3	457.2	321.4	169.1
R3556D	196.9	11.1	241.3	457.2	321.4	191.1
R3558D	196.9	11.1	241.3	457.2	321.4	213.2
R35510D	196.9	11.1	241.3	457.2	321.4	235.2
R35512D	196.9	11.1	241.3	457.2	321.4	257.3
R4302D	215.9	11.9	266.7	558.5	392.6	199.3
R4304D	215.9	11.9	266.7	558.5	392.6	226.3
R4306D	215.9	11.9	266.7	558.5	392.6	253.3
R4308D	215.9	11.9	266.7	558.5	392.6	279.4
R43010D	215.9	11.9	266.7	558.5	392.6	305.5
R43012D	215.9	11.9	266.7	558.5	392.6	331.6
R5652D	247.7	13.9	304.8	729.5	512.8	281.0
R5654D	247.7	13.9	304.8	729.5	512.8	315.7
R5656D	247.7	13.9	304.8	729.5	512.8	350.4
R5658D	247.7	13.9	304.8	729.5	512.8	385.4
R56510D	247.7	13.9	304.8	729.5	512.8	420.4
R56512D	247.7	13.9	304.8	729.5	512.8	455.4
*R6606D	266.7		330.2	856.3	600.0	492.0
*R8806D	304.8		381.0	1,140.1	800.0	745.4
*R11406D	342.9		431.8	1,464.4	1,000.0	1,071.0

Pump/Valve Selection

- Use pump with 4-way directional control valve to operate double-acting cylinder/s.



RD Series

- For high tonnage & higher cycle applications, opt for POWER TEAM 'RD' Series double-acting cylinders.



An Unequal Load Distribution

- Precision Synchronous Lift & Lowering System for lifting unequal load from 4 to 80 jacking points. Consult factory for details.

HIGH TONNAGE

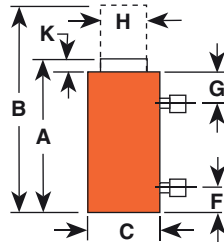
R Series

500 - 1500 Ton

Double-Acting, Hydraulic Return

HIGH-TONNAGE, LOW CYCLE, HYDRAULIC RETURN

- Hardened Integral Swivel Cap to reduce the effects of off-center loading.
- Piston wiper to keep dirt, water and other contaminations out of the internal bearing and bore surfaces.
- Piston wiper to keep dirt, water and other contaminants out of the internal bearing and bore surfaces.
- Double-acting for fast & positive retraction.
- Cylinder may be "dead-headed" without damage.
- Plated piston resists corrosion and abrasion.
- Built-in safety relief valve prevents over-pressurization of the retraction circuit.
- Each cylinder has two 3/8" NPTF female half couplers.
- Maximum operating pressure 700 bar (10,000 psi).



R10006D

Cyl. Cap. (tons)	Order Stroke (mm)	Order No.	Oil Capacity (cm ³)		A Re-tracted Height (mm)	B Ex-tended Height (mm)	C Outside Dia. (mm)	F to Port (mm)	G Top to Dia. (mm)	H Rod Dia. (mm)	K Piston Rod Protrusion (mm)	Cylinder Bore Dia. (in.)	Internal Effective Area (cm ²)	Internal Press. at Cap. (psi)	Tons at 10,000 psi	Prod. Wt. (kg)
			Push	Return												
500	50	R5002D	3,653	1,238	479	529	400	114	135	248	63	305	730.6	9,725	514	420
500	100	R5004D	7,306	2,476	529	629	400	114	135	248	63	305	730.6	9,725	514	460
500	150	R5006D	10,959	3,713	579	729	400	114	135	248	63	305	730.6	9,725	514	499
500	200	R5008D	14,612	4,951	629	829	400	114	135	248	63	305	730.6	9,725	514	539
500	250	R50010D	18,265	6,189	679	929	400	114	135	248	63	305	730.6	9,725	514	578
500	300	R50012D	21,919	7,427	729	1029	400	114	135	248	63	305	730.6	9,725	514	618
600	50	R6002D	4,277	1,477	502	552	430	114	135	267	76	330	855.3	9,968	602	499
600	100	R6004D	8,553	2,954	552	652	430	114	135	267	76	330	855.3	9,968	602	544
600	150	R6006D	12,830	4,431	602	752	430	114	135	267	76	330	855.3	9,968	602	590
600	200	R6008D	17,106	5,908	652	852	430	114	135	267	76	330	855.3	9,968	602	635
600	250	R60010D	21,383	7,385	702	952	430	114	135	267	76	330	855.3	9,968	602	681
600	300	R60012D	25,659	8,862	752	1052	430	114	135	267	76	330	855.3	9,968	602	726
800	50	R8002D	5,881	1,935	556	606	505	149	135	317	75	387	1,176.3	9,964	828	776
800	100	R8004D	11,763	3,870	606	706	505	149	135	317	75	387	1,176.3	9,964	828	839
800	150	R8006D	17,644	5,806	656	806	505	149	135	317	75	387	1,176.3	9,964	828	903
800	200	R8008D	23,526	7,741	706	906	505	149	135	317	75	387	1,176.3	9,964	828	960
800	250	R80010D	29,407	9,676	756	1,006	505	149	135	317	75	387	1,176.3	9,964	828	1,034
800	300	R80012D	35,289	11,611	806	1,106	505	149	135	317	75	387	1,176.3	9,964	828	1,093
1000	50	R10002D	7,329	2,709	654	704	560	174	170	343	93	432	1,465.7	9,695	1,031	1,112
1000	100	R10004D	14,657	5,417	704	804	560	174	170	343	93	432	1,465.7	9,695	1,031	1,187
1000	150	R10006D	21,986	8,126	754	904	560	174	170	343	93	432	1,465.7	9,695	1,031	1,263
1000	200	R10008D	29,315	10,836	804	1,004	560	174	170	343	93	432	1,465.7	9,695	1,031	1,338
1000	250	R100010D	36,644	13,543	854	1,104	560	174	170	343	93	432	1,465.7	9,695	1,031	1,414
1000	300	R100012D	43,972	16,252	904	1,204	560	174	170	343	93	432	1,465.7	9,695	1,031	1,489
1500	150	R15006D	33,093	11,309	855	1,005	690	215	170	430	125	530	2,206.2	9,661	1,553	2,045

Optional Swivel Cap

- Swivel Cap model is available at additional cost.
- To order cylinder with Swivel Cap, order with suffix '-S', eg. **R10006-S**
- No dimensional changes.

Base Mounting Holes

RxxxxD Series	Thread Size (mm)	No. of Holes	Thread Depth (mm)	B.C. Diameter (mm)
500	M24	3	36	250
600	M24	3	36	275
800	M24	3	36	330
1000	M24	3	36	375
1500	M30	3	45	480

LOCKING COLLAR

R L Series STEEL
55 - 1140 Ton
Single-Acting, Load Return



CYLINDERS



Locking Collar feature permits non-hydraulic support of load



R556L

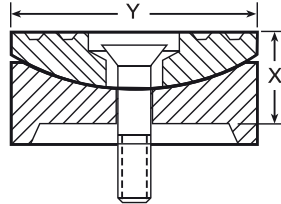
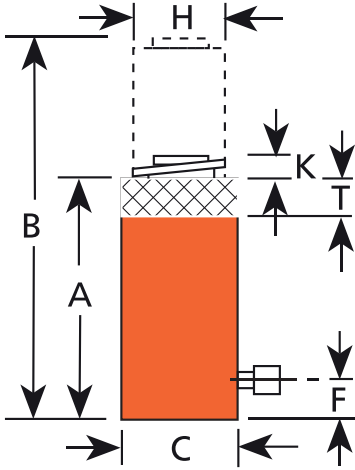
POSITIVE MECHANICAL LOCK TO SUPPORT LOAD.

- High-tonnage, locking collar, single-acting hydraulic cylinders.
- Safe & positive mechanical lock to support load.
- Support lifted load for extended periods of time with hydraulic pressure released.
- Visible indicator band alerts when stroke limit is reached; overflow port ("weep hole") stroke limiter prevents piston from being overextended.
- All cylinders feature hard chrome / nickel plated pistons to resist corrosion and abrasion.
- Each cylinder has one 3/8" NPTF female half coupler (9796).
- Comply with ASME B30.1
- Recommended to use with Swivel Caps (Optional)
- Base mounting holes are optional unless specified.

Cylinder Cap. (Tons)	Stroke		Cylinder Order No.	Oil Capacity (cm ³)	A	B	C	F	H	K	T
	(inch)	(mm)			Retracted Height (mm)	Extended Height (mm)	Outside Diameter (mm)	Base to Port (mm)	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)	Nut Thickness (mm)
55	2	50.8	R552L	362	161.9	212.7	125.4	25.4	95.3	3.2	36.5
55	4	101.6	R554L	725	212.7	314.3	125.4	25.4	95.3	3.2	36.5
55	6	152.4	R556L	1,087	263.5	415.9	125.4	25.4	95.3	3.2	36.5
55	8	203.2	R558L	1,449	314.3	517.5	125.4	25.4	95.3	3.2	36.5
55	10	254.0	R5510L	1,812	365.1	619.1	125.4	25.4	95.3	3.2	36.5
100	2	50.8	R1002L	676	184.2	235.0	165.1	25.4	130.2	3.2	44.5
100	4	101.6	R1004L	1,353	235.0	336.6	165.1	25.4	130.2	3.2	44.5
100	6	152.4	R1006L	2,029	285.8	438.2	165.1	25.4	130.2	3.2	44.5
100	8	203.2	R1008L	2,705	336.6	539.8	165.1	25.4	130.2	3.2	44.5
100	10	254.0	R10010L	3,382	387.4	641.4	165.1	25.4	130.2	3.2	44.5
100	12	304.8	R10012L	4,058	438.2	743.0	165.1	25.4	130.2	3.2	44.5
150	2	50.8	R1502L	1,006	206.4	257.2	204.8	31.8	158.8	3.2	44.5
150	4	101.6	R1504L	2,012	257.2	358.8	204.8	31.8	158.8	3.2	44.5
150	6	152.4	R1506L	3,018	308.0	460.4	204.8	31.8	158.8	3.2	44.5
150	8	203.2	R1508L	4,025	358.8	562.0	204.8	31.8	158.8	3.2	44.5
150	10	254.0	R15010L	5,031	409.6	663.6	204.8	31.8	158.8	3.2	44.5
150	12	304.8	R15012L	6,037	460.4	765.2	204.8	31.8	158.8	3.2	44.5
200	2	50.8	R2002L	1,354	241.3	292.1	235.0	41.3	184.2	3.2	50.8
200	4	101.6	R2004L	2,707	292.1	393.7	235.0	41.3	184.2	3.2	50.8
200	6	152.4	R2006L	4,061	342.9	495.3	235.0	41.3	184.2	3.2	50.8
200	8	203.2	R2008L	5,415	393.7	596.9	235.0	41.3	184.2	3.2	50.8
200	10	254.0	R20010L	6,769	444.5	698.5	235.0	41.3	184.2	3.2	50.8
200	12	304.8	R20012L	8,122	495.3	800.1	235.0	41.3	184.2	3.2	50.8
280	2	50.8	R2802L	1,860	247.7	298.5	276.2	47.6	215.9	3.2	57.2
280	4	101.6	R2804L	3,720	298.5	400.1	276.2	47.6	215.9	3.2	57.2
280	6	152.4	R2806L	5,579	349.3	501.7	276.2	47.6	215.9	3.2	57.2
280	8	203.2	R2808L	7,439	400.1	603.3	276.2	47.6	215.9	3.2	57.2
280	10	254.0	R28010L	9,299	450.9	704.9	276.2	47.6	215.9	3.2	57.2
280	12	304.8	R28012L	11,159	501.7	806.5	276.2	47.6	215.9	3.2	57.2
355	2	50.8	R3552L	2,323	292.1	342.9	298.5	54.0	241.3	3.2	60.3
355	4	101.6	R3554L	4,646	342.9	444.5	298.5	54.0	241.3	3.2	60.3
355	6	152.4	R3556L	6,969	393.7	546.1	298.5	54.0	241.3	3.2	60.3
355	8	203.2	R3558L	9,292	444.5	647.7	298.5	54.0	241.3	3.2	60.3
355	10	254.0	R35510L	11,616	495.3	749.3	298.5	54.0	241.3	3.2	60.3
355	12	304.8	R35512L	13,939	546.1	850.9	298.5	54.0	241.3	3.2	60.3
430	2	50.8	R4302L	2,838	333.4	384.2	330.2	63.5	266.7	3.2	69.9
430	4	101.6	R4304L	5,676	384.2	485.8	330.2	63.5	266.7	3.2	69.9
430	6	152.4	R4306L	8,514	435.0	587.4	330.2	63.5	266.7	3.2	69.9
430	8	203.2	R4308L	11,352	485.8	689.0	330.2	63.5	266.7	3.2	69.9
430	10	254.0	R43010L	14,190	536.6	790.6	330.2	63.5	266.7	3.2	69.9
430	12	304.8	R43012L	17,028	587.4	892.2	330.2	63.5	266.7	3.2	69.9
565	2	50.8	R5652L	3,707	371.2	422.0	377.8	69.9	304.8	3.2	79.4
565	4	101.6	R5654L	7,413	422.0	523.6	377.8	69.9	304.8	3.2	79.4
565	6	152.4	R5656L	11,120	473.1	625.5	377.8	69.9	304.8	3.2	79.4
565	8	203.2	R5658L	14,827	523.9	727.1	377.8	69.9	304.8	3.2	79.4
565	10	254.0	R56510L	18,533	574.7	828.7	377.8	69.9	304.8	3.2	79.4
565	12	304.8	R56512L	22,240	625.5	930.3	377.8	69.9	304.8	3.2	79.4
660	6	152.4	*R6606L	13,051	553.7	706.1	419.1		330.2		88.9
880			*R8806L	17,375	609.6	762.0	495.3		381.0		101.6
1,140			*R11406L	22,317	665.5	817.9	571.5		431.8		114.3

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.

POSITIVE MECHANICAL LOCK to Support Load



Recommendation

Use Swivel Caps (Optional) to reduce the effects of off-center loading.

- Tilts up to 5°.
- Radial grooves on top of cap reduce load slippage.
- Notch across face of each cap helps keep loads having a protruding or round shaped centered.

Cylinder Order No.	Bore Diameter (mm)	Effective Area (cm ²)	Metric Tons at 690 bar	Weight (kg)	Swivel Cap Order No. (Optional)	X		Y	
						Swivel Cap Protrusion (mm)	Swivel Cap Diameter (mm)	Retracted Ht. (Cap & Cyl.) (mm)	Weight (Cap & Cyl.) (kg)
R552L	95.3	71.2	50.1	15.3	420866	25.4	71.4	187.3	16.1
R554L	95.3	71.2	50.1	20.8	420866	25.4	71.4	238.1	21.6
R556L	95.3	71.2	50.1	26.3	420866	25.4	71.4	288.9	27.1
R558L	95.3	71.2	50.1	31.3	420866	25.4	71.4	339.7	32.1
R5510L	95.3	71.2	50.1	36.3	420866	25.4	71.4	390.5	37.1
R1002L	130.2	133.1	93.6	30.0	420866	25.4	71.4	209.6	30.8
R1004L	130.2	133.1	93.6	38.4	420866	25.4	71.4	260.4	39.2
R1006L	130.2	133.1	93.6	46.8	420866	25.4	71.4	311.2	47.6
R1008L	130.2	133.1	93.6	55.7	420866	25.4	71.4	362.0	56.5
R10010L	130.2	133.1	93.6	64.5	420866	25.4	71.4	412.8	65.3
R10012L	130.2	133.1	93.6	73.4	420866	25.4	71.4	463.6	74.2
R1502L	158.8	197.9	139.1	53.0	420867	38.1	130.2	244.5	57.0
R1504L	158.8	197.9	139.1	66.7	420867	38.1	130.2	295.3	70.7
R1506L	158.8	197.9	139.1	80.4	420867	38.1	130.2	346.1	84.4
R1508L	158.8	197.9	139.1	94.1	420867	38.1	130.2	396.9	98.1
R15010L	158.8	197.9	139.1	107.8	420867	38.1	130.2	447.7	111.8
R15012L	158.8	197.9	139.1	121.5	420867	38.1	130.2	498.5	125.5
R2002L	184.2	266.3	187.2	83.1	420867	38.1	130.2	279.4	87.1
R2004L	184.2	266.3	187.2	100.4	420867	38.1	130.2	330.2	104.4
R2006L	184.2	266.3	187.2	117.6	420867	38.1	130.2	381.0	121.6
R2008L	184.2	266.3	187.2	134.9	420867	38.1	130.2	431.8	138.9
R20010L	184.2	266.3	187.2	152.1	420867	38.1	130.2	482.6	156.1
R20012L	184.2	266.3	187.2	169.4	420867	38.1	130.2	533.4	173.4
R2802L	215.9	366.0	257.3	118.5	420868	44.5	149.2	292.2	124.6
R2804L	215.9	366.0	257.3	140.8	420868	44.5	149.2	343.0	146.9
R2806L	215.9	366.0	257.3	163.0	420868	44.5	149.2	393.8	169.1
R2808L	215.9	366.0	257.3	185.6	420868	44.5	149.2	444.6	191.7
R28010L	215.9	366.0	257.3	208.1	420868	44.5	149.2	495.4	214.2
R28012L	215.9	366.0	257.3	230.7	420868	44.5	149.2	546.2	236.8
R3552L	241.3	457.2	321.4	173.0	420869	69.9	195.3	362.0	189.8
R3554L	241.3	457.2	321.4	202.8	420869	69.9	195.3	412.8	219.6
R3556L	241.3	457.2	321.4	232.5	420869	69.9	195.3	463.6	249.3
R3558L	241.3	457.2	321.4	262.3	420869	69.9	195.3	514.4	279.1
R35510L	241.3	457.2	321.4	292.0	420869	69.9	195.3	565.2	308.8
R35512L	241.3	457.2	321.4	321.8	420869	69.9	195.3	616.0	338.6
R4302L	266.7	558.5	392.6	252.4	420870	79.4	225.4	412.8	276.0
R4304L	266.7	558.5	392.6	290.8	420870	79.4	225.4	463.6	314.4
R4306L	266.7	558.5	392.6	329.2	420870	79.4	225.4	514.4	352.8
R4308L	266.7	558.5	392.6	367.6	420870	79.4	225.4	565.2	391.2
R43010L	266.7	558.5	392.6	405.9	420870	79.4	225.4	616.0	429.5
R43012L	266.7	558.5	392.6	444.3	420870	79.4	225.4	666.8	467.9
R5652L	304.8	729.5	512.8	368.2	420871	92.1	250.8	463.3	403.6
R5654L	304.8	729.5	512.8	418.1	420871	92.1	250.8	514.1	453.5
R5656L	304.8	729.5	512.8	468.0	420871	92.1	250.8	565.2	503.4
R5658L	304.8	729.5	512.8	518.0	420871	92.1	250.8	616.0	553.4
R56510L	304.8	729.5	512.8	568.0	420871	92.1	250.8	666.8	603.4
R56512L	304.8	729.5	512.8	618.0	420871	92.1	250.8	717.6	653.4
*R6606L	330.2	856.3	600.0	568.3			254.0	553.7	568.3
*R8806L	381.0	1,140.1	800.0	871.8			292.1	609.6	871.8
*R11406L	431.8	1,464.4	1,000.0	1,262.0			317.5	665.5	1,262.0

Note: Supported loads not to exceed the rated capacity of the cylinders. Not intended to support additional dynamic loads, such as those applied by moving vehicles.

LOCKING COLLAR

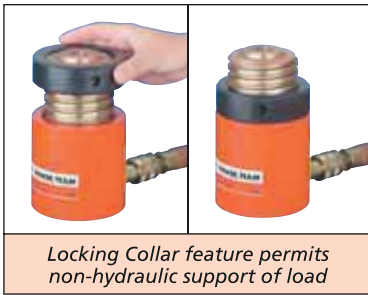
RL Series STEEL
500 - 1000 Ton
Single-Acting, Load Return

Hardened Integral Swivel Cap to reduce the effects of off-center loading.
 Locking Collar supports load mechanically for extended periods of time with hydraulic pressure released.
 Equipped with overflow port stroke limiter to prevent piston from being overextended.
 Special coating provides corrosion resistance and low friction for smoother operation.
 Each cylinder has one 3/8" NPTF female half coupler.
 Maximum operating pressure 700 bar (10,000 psi).



CYLINDERS

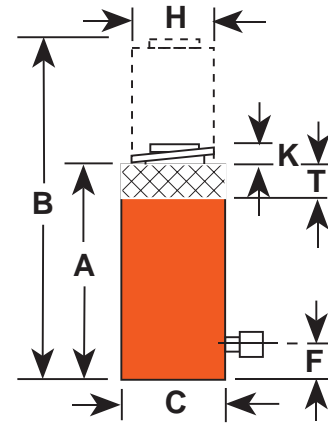
POSITIVE MECHANICAL LOCK TO SUPPORT LOAD



Locking Collar feature permits non-hydraulic support of load



R5008L



Cyl. Cap.	Stroke		Cylinder Order No.	Oil Capacity	A	B	C	F	H	---	K	T	---	---	
	Retracted Height	Extended Height			Outside Diameter	Base to Port	Piston Rod Diameter (Threaded)	Swivel Cap Diameter	Swivel Cap Protrusion	Nut Thickness	Bore Diameter	Effective Area	Weight		
mTon	in	mm	cm ³	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	kg
500	2	50	R5002L	3,653	461	511	400	80	Tr 305 x 6	250	91	80	305.0	730.6	397.0
	4	100	R5004L	7,306	511	611	400	80	Tr 305 x 6	250	91	80	305.0	730.6	447.0
	6	150	R5006L	10,959	561	711	400	80	Tr 305 x 6	250	91	80	305.0	730.6	496.0
	8	200	R5008L	14,612	611	811	400	80	Tr 305 x 6	250	91	80	305.0	730.6	547.0
	10	250	R50010L	18,265	661	911	400	80	Tr 305 x 6	250	91	80	305.0	730.6	597.0
	12	300	R50012L	21,919	711	1,011	400	80	Tr 305 x 6	250	91	80	305.0	730.6	647.0
600	2	50	R6002L	4,277	486	536	430	85	Tr 330 x 6	275	96	85	330.0	855.3	506.0
	4	100	R6004L	8,553	536	636	430	85	Tr 330 x 6	275	96	85	330.0	855.3	544.0
	6	150	R6006L	12,830	586	736	430	85	Tr 330 x 6	275	96	85	330.0	855.3	602.0
	8	200	R6008L	17,106	636	836	430	85	Tr 330 x 6	275	96	85	330.0	855.3	661.0
	10	250	R60010L	21,383	686	936	430	85	Tr 330 x 6	275	96	85	330.0	855.3	719.0
	12	300	R60012L	25,659	736	1,036	430	85	Tr 330 x 6	275	96	85	330.0	855.3	777.0
800	2	50	R8002L	5,881	573	623	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	779.0
	4	100	R8004L	11,763	623	723	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	859.0
	6	150	R8006L	17,644	673	823	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	940.0
	8	200	R8008L	23,526	723	923	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	1,020.0
	10	250	R80010L	29,407	773	1,023	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	1,100.0
	12	300	R80012L	35,289	823	1,123	505	100	Tr 387 x 6	320	123	100	387.0	1,176.3	1,180.0
1000	2	50	R10002L	7,329	626	676	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,049.0
	4	100	R10004L	14,657	676	776	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,145.0
	6	150	R10006L	21,986	726	876	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,241.0
	8	200	R10008L	29,315	776	976	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,338.0
	10	250	R100010L	36,644	826	1,076	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,434.0
	12	300	R100012L	43,972	876	1,176	560	110	Tr 432 x 6	360	136	110	432.0	1,465.7	1,530.0

DOUBLE ACTING

RD Series Cylinders

10 - 500 Ton

DOUBLE-Acting, Hydraulic Return

700 bar (10,000 psi)

HIGH TONNAGE PREMIUM DESIGN FOR HIGH LIFE

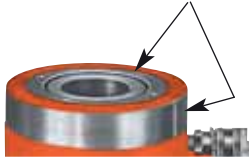
- High tonnage premium design for high cycle life.
- Perfect for bridge lifting, building reconstruction, shipyard, utility and mining equipment maintenance.
- Aluminum bronze overlay bearings provide long life.
- Chrome plated piston rod resists corrosion.
- Load cap snaps out to expose internal piston rod threads for pulling applications; threads withstand full tonnage.
- Grooved ring pattern in load cap helps guard against load slippage.
- Each cylinder has two 9796 3/8" NPTF female half couplers.
- Built-in safety relief valve prevents over-pressurization of the retract circuit.
- Feature mounting holes and collar threads.

CYLINDERS



Features of RD Series Cylinders

Threads withstand full load.



RD10013



RD300



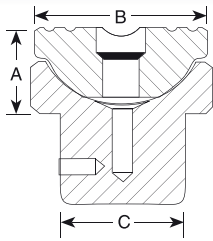
RD556

ASME B30.1

700 bar

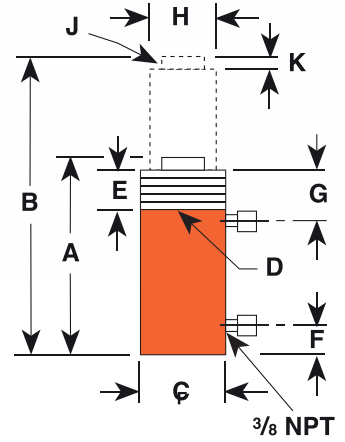
DOUBLE ACTING

RD Series Cylinders
10 - 500 Ton
DOUBLE-Acting, Hydraulic Return
700 bar (10,000 psi)



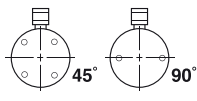
SWIVEL CAPS FOR "RD" CYLINDERS
 Reduce the effects of off center loading.
 Tilts up to 5 degrees.
 (Available as optional)

Cylinder Tonnage	Swivel Cap Order No.	Weight (kg)	A (mm)	B (mm)	C (mm)
10	350144	0,4	22,2	36,5	21,8
25	350145	0,6	28,6	54	36,5
55	351325	1,9	61,9	63,5	39,3
100	351324	5,1	75,0	95,3	67,5
150	351334	5,8	66,7	111,1	77,8



Cyl. Cap (Tons)	Stroke (mm)	Order No.	Oil Capacity (cm³)		Base Cylinder										Load Cap Dia. (mm)		Cyl. Eff. Area (cm²)		Metric Tons at 700 bar		Weight (kg)	
			Push	Pull	Re-tracted Height (mm)	Ex-tended Height (mm)	Out-side Dia. (mm)	Collar Thread Size (in.)	Thread Length (mm)	Port trusion (mm)	Piston to Port (mm)	Piston Rod Dia. (mm)	Piston Rod Int. Depth (mm)	Piston Rod Pro-trusion (mm)	Push	Pull	Push	Pull				
			Push	Pull	A	B	C	D	E	F	G	H	J	K	Push	Pull	Push	Pull				
10	4	158,8	RD106	228	90	296,9	455,6	76,2	2 3/4-12	41,3	25,4	63,5	33,3	1-8 x 25,4	6,4	34,9	42,9	14,4	5,7	10,2	4,0	10,0
10	4	254,0	RD1010	366	144	398,5	652,5	76,2	2 3/4-12	41,3	25,4	63,5	33,3	1-8 x 25,4	6,4	34,9	42,9	14,4	5,7	10,2	4,0	12,7
25	8	158,8	RD256	528	166	314,3	473,1	101,6	4-12	41,3	25,4	63,5	54,0	1 1/2-16 x 25,4	9,5	54,0	65,1	33,2	10,4	23,4	7,3	18,1
25	8	362,0	RD2514	1.205	376	517,5	879,5	101,6	4-12	41,3	25,4	63,5	54,0	1 1/2-16 x 25,4	9,5	54,0	65,1	33,2	10,4	23,4	7,3	29,5
55	28	158,8	RD556	1.132	577	329,4	488,2	127,0	5-12	41,3	33,3	63,5	66,7	1 1/8-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	27,9
55	28	333,4	RD5513	2.376	1.212	504,0	837,4	127,0	5-12	41,3	33,3	63,5	66,7	1 1/8-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	40,9
55	28	460,4	RD5518	3.280	1.673	657,2	1.117,6	127,0	5-12	41,3	33,3	63,5	66,7	1 1/8-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	64,5
80	44	333,4	RD8013	3.421	1.901	517,5	850,9	146,1	5 3/4-12	41,3	38,1	63,5	76,2	2 1/2 x 38,1	14,3	73,0	114,3	102,6	57,0	72,1	40,1	53,6
100	44	168,3	RD1006	2.242	959	350,0	518,3	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	57,2
100	44	333,4	RD10013	4.440	1.902	515,1	848,5	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	82,2
100	44	511,2	RD10020	6.809	2.919	718,3	1.229,5	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	118,0
150	73	168,3	RD1506	3.334	1.606	377,8	546,1	209,6	8 1/2-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	20,6	114,3	158,8	197,9	95,3	139,1	66,9	85,4
150	73	333,4	RD15013	6.604	3.180	542,9	876,3	209,6	8 1/2-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	20,6	114,3	158,8	197,9	95,3	139,1	66,9	123,5
150	73	460,4	RD15018	9.132	4.392	673,9	1.134,3	209,6	8 1/2-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	19,1	114,3	158,8	197,9	95,3	139,1	66,9	170,7
200	113	168,3	RD2006	4.485	2.457	406,4	574,7	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	118,9
200	113	333,4	RD20013	8.886	4.869	571,5	904,9	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	161,6
200	113	460,4	RD20018	12.270	6.722	723,9	1.184,3	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	200,7
300	147	152,4	RD3006	5.920	2.903	488,9	591,3	273,1	10 1/2-12	60,3	85,7	85,7	158,8	2 1/2-12 x 82,5	28,6	174,6	222,3	387,8	190,0	272,7	133,6	172,5
300	147	330,2	RD30013	12.825	6.281	630,2	960,4	273,1	10 1/2-12	60,3	85,7	85,7	158,8	2 1/2-12 x 82,5	28,6	174,6	222,3	387,8	190,0	272,7	133,6	296,9
400	186	152,4	RD4006	7.724	4.051	489,7	642,1	320,7	12 1/8-8	69,9	97,6	97,6	184,2	3-12 x 92,2	31,8	198,4	254,0	506,6	240,3	356,2	169,0	265,6
400	186	330,2	RD40013	16.744	8.790	667,5	997,7	320,7	12 1/8-8	69,9	97,6	97,6	184,2	3-12 x 92,2	31,8	198,4	254,0	506,6	240,3	356,2	169,0	349,6
500	245	152,4	RD5006	9.774	4.838	522,3	674,7	374,7	14 3/8-8	79,4	105,6	105,6	203,2	3 1/4-12 x 107,9	38,1	215,9	285,8	641,1	317,0	450,8	222,8	371,8
500	245	330,2	RD50013	21.189	10.480	700,1	1.030,3	374,7	14 3/8-8	79,4	105,6	105,6	203,2	3 1/4-12 x 107,9	38,1	215,9	285,8	641,1	317,0	450,8	222,8	495,8

NOTE: Base mounting holes are standard on all RD cylinders. Orientation of base mounting holes to coupler. Orientation on RD300, RD400 & RD500 series is random.



BASE MOUNTING HOLES FOR "RD" CYLINDERS

Tonnage	10	25	55	80	100	150	200	300	400	500
No. of Holes	2	4	4	4	4	4	4	4	4	6
Thread Size	3/8"-16	1/2"-13	5/8"-11	5/8"-11	3/4"-10	1"-8	1 1/4"-7	1 1/4"-7	1 1/2"-12	1 3/8"-12
Depth (mm)	16	19	22	22	25	25	32	44	48	51
B.C. Dia.	51	70	89	114	140	152	165	159	184	203
Orientation	90°	45°	45°	45°	45°	45°	45°	Random	Random	Random

CENTER HOLE

RH Series Cylinders 30 - 200 Ton Double-Acting 700 bar (10,000 psi)

CYLINDERS

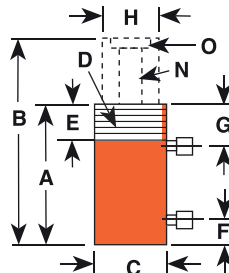


IDEAL FOR PULLING AND TENSIONING

- Interchangeable piston head inserts provide versatility of application (See page 18).
- Built-in safety feature prevents over-pressurization of the retract circuit.
- Plated piston rod resists wear; superior packings provide high cycle life without leakage.
- Corrosion-resistant standpipe has "Power Tech" treatment (See page 8).
- Each cylinder has 9796 3/8" NPTF female half couplers. The 60 ton thru 200 ton models are equipped with removable carrying handles.



30, 60, 100, 150, 200 Ton
Double-Acting Models
Feature Plain Collar



ASME B30.1
700 bar



30, 60, 100 Ton
Double-Acting Models Feature
Threaded Collar

Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm ³)		A	B	C	D	E	F	G	H	N	O	Mounting Holes (in.) and Bolt Circle (mm)	Cylinder Effective Area (cm ²)		Metric Tons at 700 bar		Weight (kg)	
			Push	Pull												Push	Pull	Push	Pull		
30	15	76,2	RH303	289	167	179,4	255,6	120,7	None	None	25,4	41,3	63,5	32,5	2-12	3/8-16 x 92,1	38,0	21,8	26,8	15,3	13,5
30	15	152,4	RH306D	580	333	281,0	433,4	120,7	None	None	25,4	41,3	63,5	32,5	2-12	7/16-20 x 92,1	38,0	21,8	26,8	15,3	20,4
30	20	257,2	RH3010	1.082	672	438,2	695,3	114,3	4 1/2-12	41	44,5	81,0	60,3	33,3	1 1/8-16	None	42,2	26,1	29,7	18,3	27,7
60	25	101,6	RH604D	807	338	241,3	342,9	177,8	None	None	39,7	57,2	101,6	54,0	3-12	1/2-13 x 130,2	79,4	33,2	55,8	25,1	16,2
60	25	127,0	RH605*	1.009	423	241,3	368,3	165,9	None	None	25,4	44,5	101,6	54,0	3-12	1/2-13 x 130,2	79,4	33,2	55,8	25,1	33,1
60	40	257,2	RH6010*	2.181	1.427	458,8	716,0	158,8	6 1/2-12	47,6	54,0	81,8	92,1	54,4	3-16	None	84,8	55,4	59,6	38,9	54,5
100	45	38,1	RH1001	526	233	165,1	203,2	212,7	None	None	31,8	58,7	127,0	79,8	4-16	5/8-11 x 177,8	138,0	60,8	97,0	42,7	38,6
100	50	152,4	RH1006*	1.971	1.076	314,3	466,7	184,2	None	None	37,3	59,1	111,1	52,4	None	1/2-13 x 139,7	129,2	70,5	90,8	49,6	43,1
100	45	257,2	RH10010*	3.552	1.556	495,3	752,5	215,9	8 1/2-12	57	63,5	91,7	139,7	79,8	4 1/2-12	None	138,0	60,8	97,0	42,7	109,0
150	70	127,0	RH1505*	2.475	1.207	311,2**	438,2	215,9	None	None	37,3	68,3	139,7	65,1	None	None	194,1	94,8	136,9	66,8	67,2
150	75	203,2	RH1508*	3.929	2.086	349,3	552,5	247,7	None	None	39,3	61,1	152,4	80,2	5-12	None	193,2	102,6	135,9	72,1	103,1
200	75	203,2	RH2008*	5.307	2.093	408,0	611,2	273,1	None	None	57,2	81,8	190,5	103,2	6-12	1/4-12 x 198,1	260,9	102,9	183,5	72,4	142,0

* Supplied with carrying handles.

** Measured with 19 mm high serrated insert installed.

Aluminum

CENTER HOLE

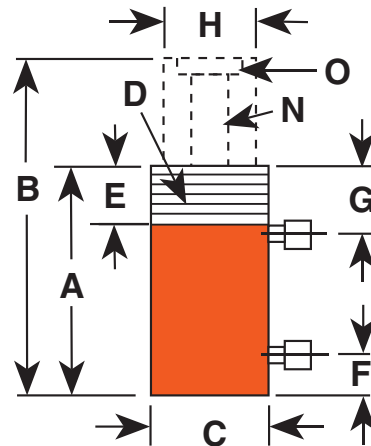
**RH Series
500 - 1300 Ton
Double-Acting**

IDEAL FOR PULLING AND TENSIONING OF CABLES, ANCHOR BOLTS, FORSING SCREWS, ETC.

- Center Hole provides both push and pull forces.
- Piston wiper to keep dirt, water and other contaminants out of the internal bearing and bore surfaces.
- Double-acting for fast & positive retraction.
- Cylinder may be "dead-headed" without damage.
- Plated piston resists corrosion and abrasion.
- Nickel plated standpipe provides high cycle life.
- Built-in safety relief valve prevents over pressurization of the retraction circuit.
- Optional collar threads and base mounting holes.
- Each cylinder has two 3/8" NPTF female half couplers.
- Maximum operating pressure 700 bar (10,000 psi).



RH5006D



Optional: Collar Threads, Base Mounting Holes

- Collar threads and base mounting holes do not come standard.
- Please specify to the factory if either of these options are required.

Cyl. Cap.	Stroke	Cylinder Order No.	Oil Capacity		A Retracted Height	B Extended Height	C Outside Diameter	F Base to Port	G Cyl. Top to Port	H Piston Rod Dia.	N Center Hole Dia.	Cylinder Effective Area		Internal Pressure at Cap		Metric Tons at 10,000 psi		Weight
			Push cm ³	Return cm ³								Push (cm ²)	Pull (cm ²)	Push (psi)	Pull (psi)	Push	Pull	
500	150	RH5006D	10,848	4,300	470	620	510	110	120	340	195	723.2	286.67	9,824	9,916	509	202	590
	200	RH5008D	14,464	5,733	520	720	510	110	120	340	195	723.2	286.67	9,824	9,916	509	202	645
	250	RH50010D	18,080	7,167	570	820	510	110	120	340	195	723.2	286.67	9,824	9,916	509	202	700
	300	RH50012D	21,696	8,600	620	920	510	110	120	340	195	723.2	286.67	9,824	9,916	509	202	755
700	150	RH7006D	15,360	7,917	505	655	600	130	135	380	230	1,024.0	227.80	9,714	9,977	720	370	860
	200	RH7008D	20,480	10,556	555	755	600	130	135	380	230	1,024.0	227.80	9,714	9,977	720	370	934
	250	RH70010D	25,600	13,195	605	855	600	130	135	380	230	1,024.0	227.80	9,714	9,977	720	370	1,008
	300	RH70012D	30,720	15,834	655	955	600	130	135	380	230	1,024.0	227.80	9,714	9,977	720	370	1,082
1000	150	RH10006D	21,489	9,498	570	720	750	160	150	500	310	1,432.6	633.20	9,919	9,874	1,008	445	1,454
	200	RH10008D	28,652	12,664	620	820	750	160	150	500	310	1,432.6	633.20	9,919	9,874	1,008	445	1,573
	250	RH100010D	35,815	15,830	670	920	750	160	150	500	310	1,432.6	633.20	9,919	9,874	1,008	445	1,692
	300	RH100012D	42,978	18,996	720	1,020	750	160	150	500	310	1,432.6	633.20	9,919	9,874	1,008	445	1,811
1300	150	RH13006D	28,511	13,042	655	805	870	190	185	570	355	1,900.7	869.47	9,719	9,806	1,337	612	2,297
	200	RH13008D	38,014	17,387	705	905	870	190	185	570	355	1,900.7	869.47	9,719	9,806	1,337	612	2,457
	250	RH130010D	47,518	21,737	755	1,005	870	190	185	570	355	1,900.7	869.47	9,719	9,806	1,337	612	2,617
	300	RH130012D	57,021	26,080	805	1,105	870	190	185	570	355	1,900.7	869.47	9,719	9,806	1,337	612	2,777

PANCAKE LOCKING COLLAR

PLC Series Cylinders
67-565 Ton

Single-Acting, load Return
700 bar (10,000 psi)

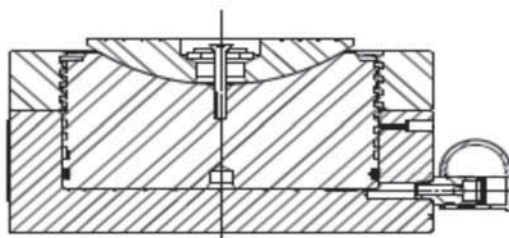
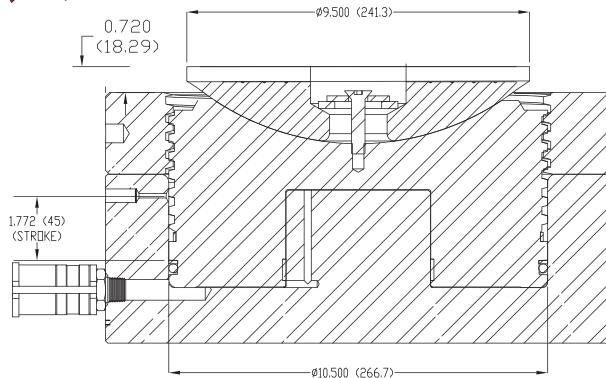
QPC surface treatment provide high corrosion resistance and wear resistance.

PLCxxxx - QC1 with advanced Center Guard design tremendously avoid side load damage.

**POSITIVE MECHANICAL LOCK TO SUPPORT LOAD.
IDEAL FOR CONFINED AREA APPLICATIONS.**



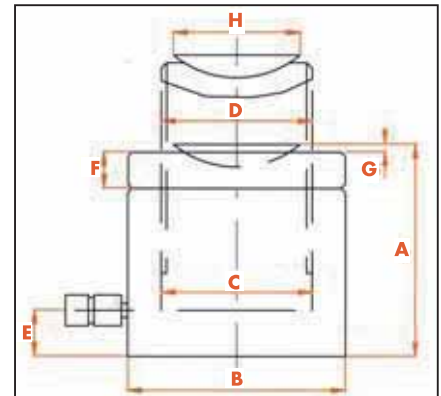
- Compact design - for use where space is limited
- Locking collar designed to support lifted load for extended periods of time with hydraulic pressure released
- Overflow port ("weep hole") prevents piston from being overextended under load.
- Special coating improves corrosion and abrasion resistance
- Cylinders come standard with hardened caps. Swivel caps reduce the effects of off-center loading and improves performance under side load.
- Equipped with 3/8" NPTF female half couplers



Integral Swivel Cap reduces the effects of off center loading.

Tilts up to 5 degrees.

Radial grooves on top of cap reduce load slippage.



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm ³)	A		B Outside Dia. (mm)	D Piston Rod Dia (mm)	F Nut Thickness (mm)	C Bore Dia. (mm)	Cylinder Effective Area (cm ²)	Metric Tons at 700 bar	Weight (kg)
				Retracted Ht. (mm)	Extended Ht. (mm)							
67	50.8	PLC672	437	125.7	176.5	147.3	104.4	24.1	104.7	86.09	61	15.0
110	50.8	PLC1102	745	137.7	188.5	177.8	136.7	30.5	136.7	146.66	103	26.0
180	50.8	PLC1802	1,176	153.9	204.7	228.6	171.7	38.1	171.7	231.55	163	44.0
220	50.8	PLC2202	1,448	160.8	211.6	254.0	190.5	40.6	190.5	285.02	200	57.0
280	50.8	PLC2802	1,860	164.8	215.6	279.4	215.9	41.9	215.9	366.10	257	75.0
430	45	PLC4302	2,514	183.9	228.9	355.6	266.7	55.5	266.7	558.65	393	134.0
565	45	PLC5652	3,283	197.9	242.9	406.4	304.8	59.7	304.8	729.66	513	189.0

SINGLE STRAND JACK

ZSJ Series

30 Ton

Double-Acting, Hydraulic Return



CYLINDERS



ZSJ30-8

Each strand is stressed one at a time accurately, fast & efficiently.

Ideally suited for work on slab-on-grade where dirt, heat and high volume use take their toll.

The jack of choice for high-rise and elevated work, thanks to fast return time and lightweight.

All hydraulic fluid controls are internal, more efficient and safer operation during tensioning and retraction.

For use with 12.7mm (0.50") and 15.2mm (0.60") strands depending on choice of wedge size.

Each cylinder has one male half & one female half 3/8" NPTF couplers.

Maximum operating pressure 700 bar (10,000 psi).



Wedge Size

Only one wedge size is supplied with each Jack for 12.7mm (0.50") or 15.2mm (0.60")

Please specify what size needed when ordering



Ordering Information

Cyl. Cap. mTon	Stroke		Cylinder Order No.	Oil Capacity cm ³	Retracted Height mm	Outside Diameter mm	Center Hole Diameter mm	Bore Diameter mm	Effective Area cm ²	Weight kg
	in	mm								
30	8	200.0	ZSJ30-8	940.0	496	115	25	95.0	47.0	27.0
30	31	800.0	ZSJ30-31	3,760.0	1,110	115	25	95.0	47.0	62.0

MULTISTRAND STRESSING JACK

ZSM Series
75-1000 Ton
DOUBLE-Acting, Hydraulic Return
700 bar (10,000 psi)

- All strands in a cable are stressed simultaneously accurately, fast & efficiently.
- Standard models available. Optional custom sizes, capacities & stressing heads design to suit specific requirements.
- Heat treated to increase material hardness and durability yielding prolonged service life.
- Electroplating provides corrosion & abrasion resistance.
- Easy to operate.
- Built-in safety relief valve prevents over-pressurization of the retraction circuit.
- For use with 12.7mm (0.50") and 15.2mm (0.60") strands depending on choice of wedge size.
- Frame is optional and custom build to requirement.
- Each cylinder has two 3/8" NPTF female half couplers.
- Maximum operating pressure 700 bar (10,000 psi).



Wedge Size

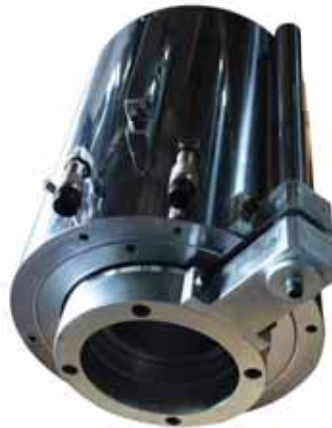
Only one wedge size is supplied with each Jack for 12.7mm (0.50") or 15.2mm (0.60")

Please specify what size needed when ordering

CYLINDERS



ZSM300-10



Ordering Information

Cyl. Cap.	Stroke	Cylinder Order No.	Oil Capacity		Retracted Height	Outside Diameter	Center Hole Diameter	Bore Diameter	Effective Area	Weight
			Push cm ³	Return cm ³						
mTon	mm				mm	mm	mm	mm	cm ²	kg
75	200.0	ZSM75-8	2,356	1,319	530	205	75.00	155.0	117.8	100.0
100	200.0	ZSM100-8	3,240	1,948	530	225	80.00	175.0	162.0	115.0
200	200.0	ZSM200-8	6,350	3,456	555	320	112.00	245.0	317.5	245.0
300	250.0	ZSM300-10	11,905	5,994	600	390	145.00	305.0	476.2	370.0
400	300.0	ZSM400-12	18,927	10,185	700	460	185.00	365.0	630.9	590.0
500	300.0	ZSM500-12	23,556	13,572	720	500	200.00	400.0	785.2	710.0
700	200.0	ZSM700-8	21,940	16,211	740	590	230.00	470.0	1,097.0	1,010.0
1000	200.0	ZSM1000-8	31,338	24,976	790	730	300.00	580.0	1,566.9	1,700.0

MOTION CONTROL SYSTEM (MCS)

Power Team® Synchronized Lifting and Lowering System

SYNC LIFTING



The Power Team® Motion Controller System provides positional control of a load in motion where load position is critical by means of cylinder synchronization.

Typical moving and weighting applications:

- Bridges
- Oil rig platforms
- Steel buildings
- Vessels & heat exchangers
- Stadium roofs
- Ships

FEATURES:

- Load Capacity: limited by cylinders (use with single or double acting cylinders).
- Intuitive graphic, touch screen control.
- Basic systems start at 4 or 8 Jacking Points.
- Safety features include: Full stop due to power failure, sensor failure, pressure overload, tolerance error, uncontrolled load movement, etc.
- Displayed information includes; startup diagnostics, position of lift points relative to starting position, pressure at each lift point, Status of each cylinder, and status of alarms.
- Lifting / lowering accuracy of +/- 1 mm (0.040 in.).
- Operating Pressure (up to) 10,000 psi.
- Standard system has a 40 gallon tank.



Every MCS includes one day of on-site training at one of SPX's Regional Headquarters (Rockford, IL USA or Singapore or the Netherlands). Training includes both classroom and hands-on instruction. Travel & lodging not included.

Hardware Included



Crate

Motion Control System (MCS) is protected with a robust cage and reusable shipping container.



Sensors

Linear Displacement Sensors have a range of 19.7 in (500 mm). (2 cases with 4 sensors each).



Cables

Cables for sensors are 100 ft (30.5 m) in length, eight sets and a hard plastic case.



Plug

Electrical plug female connector allows for quick attachment to your line cord.

Ordering Information

Order No.	Max Lift Points	Pump Flow	Reservoir Size gal (L)	Motor Voltage hp (VAC)	Control Voltage VDC	Max Pressure psi (bar)	Valves Included	Transducers Included	Weight w/oil lb (kg)
MCS-PE554-8	8	55 in ³ / min @ 10,000 psi (0.9 L/min @ 700 bar)	40 (150)	1.125 (230)	24	10,000 (700)	3P-4W and 2P-2W	Pressure and Linear Position	1700 (771)

MOTION CONTROL SYSTEM (MCS)

8 Point Motion Control System

The Main Benefit of a Motion Control System (MCS)

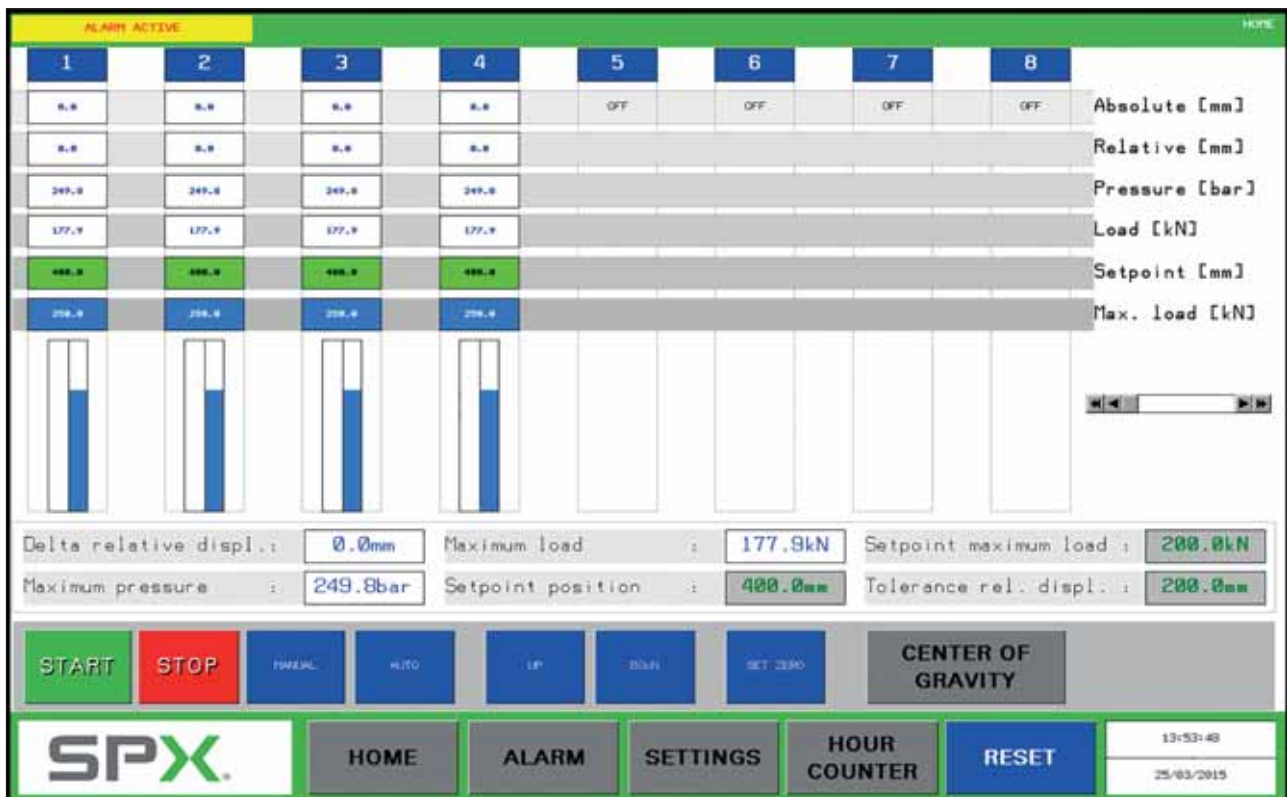
The Power Team MCS digitally controls the movement of an object, keeping it level within the user specified parameters. The primary reason to use a Power Team MCS is Internal Stress Reduction. When a large object is stationary, internal stresses are normalized. When the object is moved, stresses are induced. If the operator is not careful, the object can bend or twist creating a stress riser that can cause costly repairs or damage. The MCS system will assist in controlled positioning to manage the stresses created by synchronously lifting or lowering the object in unison.

► Easy to Use HMI Touch Screen Interface

Features	Benefits
Control of lifting, positioning or lowering loads from PLC	Safe and accurate movement of loads
State of the art software in the PLC	Enables accuracies as low as 1 mm (0.040 in)
NEMA 12 electrical box rating	Able to operate in wide range of temperature (32 –131°F, 0 – 55°C) and humidity (30 – 95% non-condensing)
Multiple safety features and auto diagnostics	Full stop due to power failure, sensor failure, pressure overload, tolerance error, uncontrolled load movement.
Data log card	Data recording and reporting capabilities



The home screen on the Motion Control System is easy to use and operate. It highlights all activities during use of the Motion Control System. For each cylinder in operation, the cylinders performance is captured and displayed on the HMI screen as illustrated below.



► Safety Features

The Power Team Motion Control System (MCS) has numerous safety features built into the digital controller which safely stop the movement in the event of an alarm. In addition, there are backup mechanical features which function even in the event of a power loss.

Digitally Controlled Safety Features		Mechanical Backup Safety Features
Max load exceeded	Hydraulic pump overload	Posi-Check® load lowering valve to hold load and provide a mechanical backup to safely control the lowering of the load.
Max pressure exceeded	E-Stop button activation	
Max displacement exceeded	Pressure sensor wire break	
Datalog error	Displacement sensor wire break	Manual lowering override to safely lower load in event of power loss.
System communication error	Two button start procedure prevents accidental starting	

► Common applications include:

- Bridge lifting, repositioning, maintenance & launching.
- Controlled movement and positioning of heavy equipment, buildings, concrete segments and other construction components.
- Structural testing in civil engineering.
- Lifting, weighing and/or determining center of gravity.
- Structure raising, leveling & shoring.



Pictured above: rudder installation for routine maintenance in a dry dock application.

Below: Positioning of HVAC equipment during installation.



HAND PUMPS

Hydraulic P Series
 2,5 | to 9,5 | Reservoir
 Two-Speed, Single and Double-Acting
 700 bar (10,000 psi)



P157/P159



P300



P460

- Rugged all metal construction. for strength and durability that won't burn through in welding environments.
- Heavy-duty, formed metal handle provides less flex, and less operator fatigue than round, or composite handles.
- Convenient fill port allows pumps on P157 and P159 to be filled in a horizontal or vertical position.
- Fill cap seal acts as safety valve to prevent over-pressurizing of reservoir.
- Relief valve inboard of check valve prevents loads from drifting down.
- Large valve knob gives added control for slowly metering loads down.
- Carrying handle

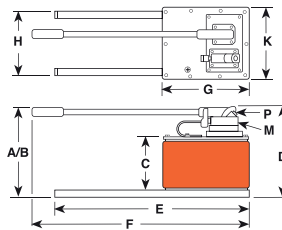
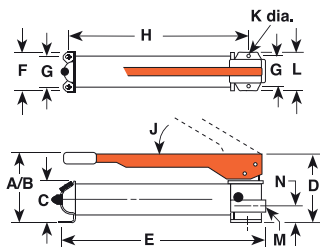


700 bar P55

Pump automatically shifts into the high pressure lift stage upon contact with the load.



P300 hand pump and 10 ton cylinders used for a vehicle lift.



FK59 FK159B

Foot pump conversion kit

No. FK59 - Foot pump conversion kit for use on P55/P59 pumps. Wt., 2,7 kg

No. FK159B - Foot pump conversion kit for use on P157/P159 and P300/P300D pumps. Wt., 2,7kg.

Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (deg.)	K (mm)	L (mm)	M (in)	N (mm)	P
P55	165,1	533,4	88,9	141,3	584,2	108,0	82,6	501,7	38°	7,9	120,7	3/8-NPTF	41,3	—
P157/P159	197	521	123,8	175	578	98,4	76,2	502	39°	7,9	95,3	3/8-NPTF	57,2	—
P300	210	533	114,3	175	575	215,9	190,5	526	39°	7,9	95,3	3/8-NPTF	57,2	—
P460	283	787	171,5	289	610	743	279,4	229	80°	241,3	—	3/8-NPTF	—	1/4 NPTF

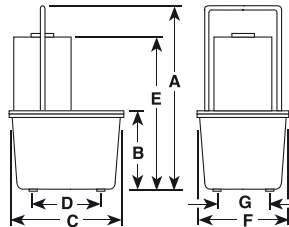
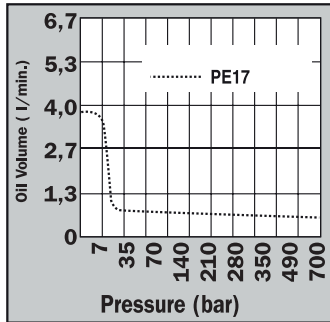
For Use With	Order No.	Volume & Pressure				Reservoir Handle Effort (kg)	Oil Capacity (cm³)	Usable Oil Capacity (cm³)	Oil Port (in)	Product Weight (kg)	
		Speed	Volume per Stroke (cm³)		Maximum Pressure (bar)						
* Single-Acting Cylinders	P55	1	—	2,6	—	700	66	902	738	3/8-NPTF	7,2
	P157	2	10,7	2,6	97	700	64	2491	2245	3/8-NPTF	11,8
	P159	2	42,6	2,6	22	700	64	2491	2245	3/8-NPTF	11,8
	P300	2	42,6	2,6	22	700	64	5700	5081	3/8-NPTF	25,1
** Double-Acting Cylinders	P460	2	120,5	4,8	22	700	41	9500	7539	3/8-NPTF	24,9
	P157D	2	10,7	2,6	97	700	64	2491	2245	3/8-NPTF	13,1
	P159D	2	42,6	2,6	22	700	64	2491	2245	3/8-NPTF	12,7
	P300D	2	42,6	2,6	22	700	64	5700	5081	3/8-NPTF	25,9
	P460D	2	120,5	4,8	22	700	41	9500	7539	3/8-NPTF	26,3

LP = Low Pressure HP = High Pressure

* Pump includes 2-Way Valve ** Pump includes 4-Way Valve

ELECTRIC PUMP

Hydraulic PE17 Series
262 cm³/min, 0.37 kW
Two-Speed
700 bar (10,000 psi)



700 bar



PE172SM



PE174

Pump No.	Max. Pressure Output bar	rpm	dBA at Idle and 700 bar	Amp Draw 220 V - at 700 bar	Oil Del. (liters./min. @) †				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Prod. Wt. with Oil (kg)
					0 bar	7 bar	350 bar	700 bar								
PE17 Series	700	2850	67/81*	5.3	4,8	3,1	0,33	0,26	470	178	289	181	378	235	130	20,4
PE17M Series	700	2850	67/81*	5.3	4,8	3,1	0,33	0,26	460	168	292	—	368	241	—	24,0

* Measured at 0,9 m distance, all sides.

† Typical delivery. Actual flow will vary with field conditions.

Amp Draw 115V - at 700 bar: 9.5 Amps.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch ††	Motor	Reservoir Usable (l)
Single-Acting	Base model pump with 0,37 kW pump with 7,6 l thermoplastic reservoir.	PE172-50-220	2-Way	9517	Advance Return (Auto†)	Remote Motor Control (3,1m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172-50-220, except has 9,5 l aluminum reservoir.	PE172M-50-220	2-Way	9517	Advance Return (Auto†)	Remote Motor Control (3,1m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting	PE172-50-220, except has solenoid operated valve.	PE172S-50-220	3-Way	9570	Advance Hold Return	Remote Motor & Valve (7,6 m)	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172S-50-220, except has aluminum reservoir.	PE172SM-50-220	3-Way	9570	Advance Hold Return	Remote Motor & Valve (7,6 m)	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting	Best suited for crimping, punching, pressing. Not for lifting. Thermoplastic reservoir.	PE172A-50-220 ∞	Auto./Dump Manifold	45554	Advance Return	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172A, except has aluminum reservoir.	PE172AM-50-220 ∞	Auto./Dump Manifold	45554	Advance Return	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting / Double-Acting	PE172-50-220, except has 9500 double-acting valve.	PE174-50-220	4-Way	9500	Advance Hold Return**	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting / Double-Acting	Same as PE174-50-220, except has aluminum reservoir.	PE174M-50-220	4-Way	9500	Advance Hold Return**	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6

* Available with 115V, 60 Hz motor (to order , remove suffix "50-220" behind pump order number).

** "Advance" position holds pressure with motor shut off.

† "Advance" position holds pressure with motor shut off. "Return" position advances cylinder with motor running and returns cylinder with motor shut off.

†† Control switch on PE17 series wired with line voltage.

∞ Not to be used for lifting.

NOTE: The remote motor control switch on 220V, 50 cycle PE17 series pumps is 24 volt.

NOTE: Usable oil is calculated with the oil fill at the recommended level of 38 mm below reservoir cover plate.

PUMPS

PE55 Series (1 1/8 HP)

Electric Pump HYDRAULIC PE55 VANGUARD®

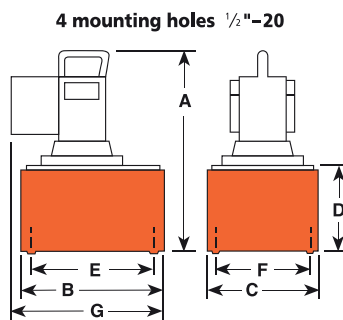
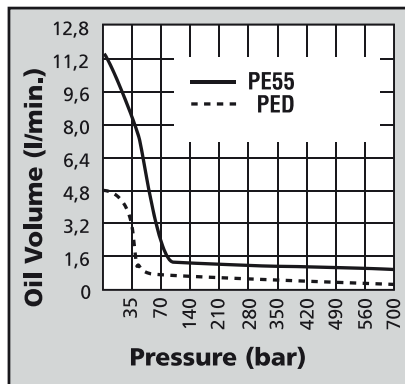
0,92 l/min - 0,84 kW

- 0.84 kW, 12,000 rpm, 220 volt, 50 Hz universal motor; draws 15 amps at full load, starts at reduced voltage. CSA rated for intermittent duty.
- 3,1 m remote motor control.
- True unloading valve achieves greater pump efficiency, allowing higher flows at maximum pressure.
- Reservoirs available in sizes up to 38 liters. Consult factory.
- Light weight and portable. Best weight to performance ratio of all POWER TEAM pumps.



PE554W
The new pump;
weather-resistant

Heavy duty
multiple-
applications pump.
Heavy construction
and concrete
stressing. Low
voltage starting
possible.



700 bar
LR19814
PE552

Pump No.	Max. Pressure Output bar	RPM	Noise level Idle and at 700 bar (dBA)	Amp Draw at 700 bar (220 V.)** (A)	Oil Del. (l/min at..)				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Prod. Wt. w/Oil (kg)
					0 bar	50 bar	350 bar	700 bar								
PE55-Series	700	12,000	90/89*	15	11,5	7,2	1,2	0,92	464	292	241	178	254	203	356	29,4
PE55-220									520						391	

* Noise level reading (dBA) measured at a 0,9 m distance, all sides
** Amp draw at 700 bar, 115 Volts 60 Hz is 25 Amps

For use with Cylinder Type	Description	Order No.	Reservoir Valve Type	Valve No.	Valve Function	Control Switch ††	Motor	Usable (l)
Single-Acting	Base model 0,84 kW pump with 9,5 l reservoir, remote motor control & 3-way valve.	PE552 50-220	3-Way	9582	Advance Return**	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting	0,84 kW pump with 9,5 l reservoir. Valve has "Posi-check" feature.	PE553- 50-220	3-Way†	9520	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	Base model 0,84 kW pump with 9,5 l res. and 4-way valve for double-acting systems.	PE554- 50-220	4-Way†	9506	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	PE554-50-220 except has 9500 tandem center valve.	PE554T- 50-220	4-Way	9500	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Double-Acting	Pump equipped with 3/4-way solenoid valve.	PE554S- 50-220	3/4-Way	9552	Advance Hold Return	Remote Motor & Valve	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	Same as PE554-50-220, except with weather protection enclosure.	PE554W- 50-220	4-Way†	9506	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6

* Pumps available with 115 volt, 60 Hz motors (to order remove the-50-220 suffix from the order code).
** Holds with motor shut off.
† Valves have "Posi-Check" feature.
†† Control switch wired with line voltage. All remotes are 3,1m long. Universal motor run on 220V/50Hz or 60Hz/Single phase.

PUMPS

PQ60 Series (2 HP)

Electric Pump HYDRAULIC PQ60 SERIES

0,98 l/min - 1,49 kW

- For operating single- or double-acting cylinders.
- Metal shroud keeps dirt and moisture out of motor and electrical components.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar. External relief valve is adjustable from 70 to 700 bar.
- Pumps operate below maximum OSHA noise limitation (74-76 dBA).
- Start and operate under full load, even with voltage reduced 10%.
- Equipped with a 1.49kW, 1,725rpm, Single-phase, 50Hz induction motor.

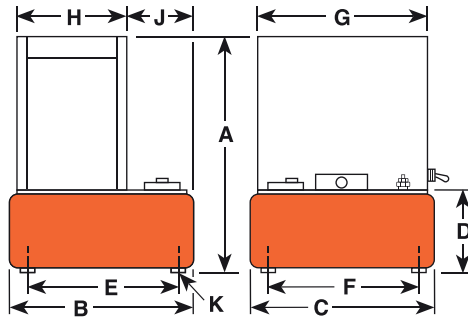
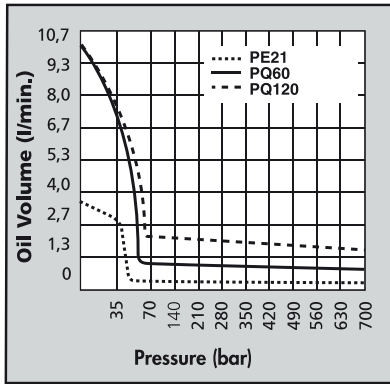
Pump designed specifically for heavy duty, extended cycle operation.



PQ603



700 bar
LR19814



Pump No.	Max. Pressure Output bar	RPM	Noise level at Idle and 700 bar (dBA)	Amp Draw at 700 bar (A)	Oil Del. (l/min at..)				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K*** (in)	Prod. Wt. w/Oil (kg)
					7 bar	70 bar	350 bar	700 bar											
PQ60-Series	700	1,725	74/76*	see below	12,0	1,1	1,1	0,98	638	362	394	184	308	338	373	237	122,2	1/2-20 UNF	76,6**

Amp draw 115V at 700 bar: 22 Amps
Amp draw 220V at 700 bar: 11 Amps

* Measured at a 0.9 m distance, all sides.
** Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.
*** For 50,8 mm dia. swivel casters, order (4) No. 10494.

For use with Cylinder Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Max. Amp Draw at 700 bar (A)	Motor	Reservoir Usable (l)
Single-Acting	1,49 kW pump with 21,6 l reservoir and manual valve.	PQ603-50-220	3-Way	9520*	Advance Hold Return	230 - 11 amps	1,49 kW, 220 Volt 50 Hz, Single Phase	20
Single-Acting	PQ603-50-220, except has solenoid operated remote valve.	PQ603S-50-220	3-Way	9599†	Advance Hold Return	230V - 11 amps	1,49 kW, 220 Volt 50 Hz, Single Phase	20
†† Single-Acting Double-Acting	1,49 kW pump with 21,6 l reservoir and manual valve.	PQ604-50-220	4-Way	9506*	Advance Hold Return	230 - 11 amps	1,49 kW, 220 Volt 50 Hz, Single Phase	20
Double-Acting	PQ604-50-220, except has solenoid operated remote valve.	PQ604S-50-220	4-Way	9512†	Advance Hold Return	230 - 11 amps	1,49 kW, 220 Volt 50 Hz, Single Phase	20

* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.
† 24V Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.
†† For single-acting operation, off the electric motor when manual valve in "Retract" position.
Available with 115 Volt, 60Hz motor (to order, remove suffix "-50-220" behind pump order number)

Electric Pump HYDRAULIC PQ120 SERIES

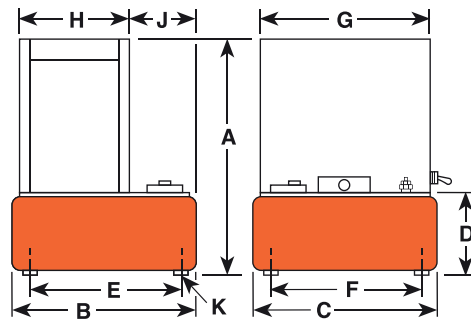
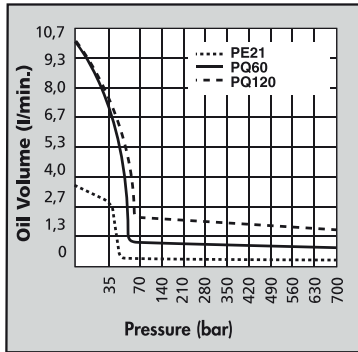
2,0 l/min - 2,24 kW

- Start and operate under full load, even with voltage reduced 10%.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar. External relief valve is adjustable from 70 to 700 bar.
- Pump prewired at factory with a 2,24 kW, 1,725rpm 380 volt, 50 Hz. 3 Phase induction motor. Other electrical configurations are available. See ordering information below.
- 24 volt control circuits on units with remote controls for added user/operator safety.
- 2,24 kW (3 phase) motor with thermal overload protection. Motor starter and heater element supplied as standard equipment; no hidden charges!
- Metal shroud keeps dirt and moisture out of motor and electrical components.
- Pumps operate below maximum OSHA noise limitation.



PQ1203

Low speed, high torque pump designed specifically for heavy duty, extended cycle operation. Ideal for press operation.



700 bar
LR19814

Pump No.	Max. Pressure Output bar	RPM	Noise level at Idle and 700 bar (dBA)	Amp Draw at 700 bar (A)	Oil Del. (l/min at...)				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K*** (in)	Prod. Wt. w/Oil (kg)
					7 bar	70 bar	350 bar	700 bar											
PQ120-Series	700	1,725	73/78*	see below	12,0	2,6	2,1	2,0	638	362	394	184	308	338	373	237	122,2	1/2-20 UNF	74,3**

Amp draw 230V at 700 bar: 10.5 Amps.
Amp draw 460V at 700 bar: 5.3 Amps.

* Measured at a 0,9 m distance, all sides.
** Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.
*** For 50,8 mm dia. swivel casters, order (4) No. 10494.

For use with Cylinder Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Motor	Reservoir Usable (l)
Single-Acting	2,24 kW pump with 21,6 l reservoir and manual valve.	PQ1203-50-380	3-Way	9520*	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
Single-Acting	PQ1203-50-380, except has solenoid operated remote valve.	PQ1203S-50-380	3-Way	9599†	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
†† Single-Acting/Double-Acting	2,24 kW pump with 21,6 l reservoir and manual valve.	PQ1204-50-380	4-Way	9506*	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
Double-Acting	PQ1204-50-380, except has solenoid operated remote valve.	PQ1204S-50-380	4-Way	9512†	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20

* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.
† 24V Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.
†† For single-acting operation, off the electric motor when manual valve in "Retract" position.
Available with 460 Volt, 60Hz, 3 phase motors (to order, remove suffix "50-380" behind pump order number), suitable for 440V, 50Hz, 3 phase
For 230 Volt, 60Hz, 3 phase motors (to order, change suffix "-230" behind pump order number)
380V/50Hz/3 phase also suitable for 415V/50Hz/3 phase.

PUMPS

PQ400 Series (10 HP)

Electric Pump HYDRAULIC PE400 SERIES

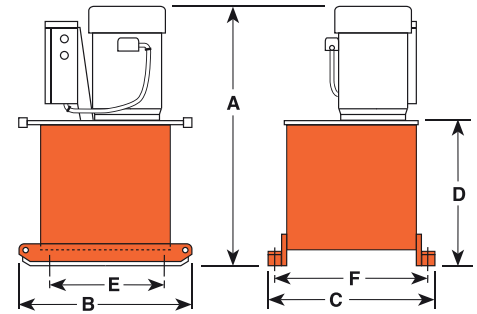
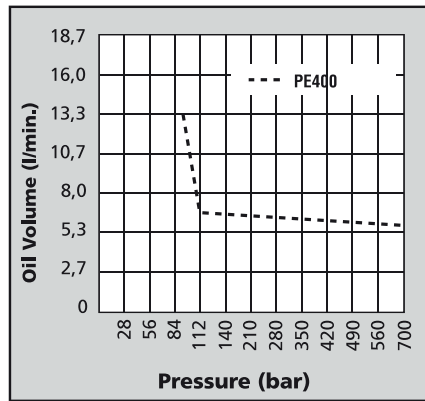
6,9 l/min - 7,46 kW

- Two-speed high output pump delivers up to 20 l/min of oil.
- Low noise level of 73-80 dBA.
- Integral electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption. Over-current protection prevents damage to motor as a result of overheating.
- "Stop" and "Start" control buttons are 24 volt. PE4004 has a 4-way/3-position manual valve. The PE4004S has a 4-way/3-position solenoid valve with a 24 volt remote hand switch.
- External pressure relief valve is adjustable from 100 to 700 bar.
- Heavy duty 102mm dia. casters assure easy maneuvering.
- 75,7 l (64,4 l usable) reservoir has a low oil level sight gauge.
- Powered by a dual voltage 7,46 kW, 3 phase, 1,725rpm induction motor.
- 3 phase motor has all the electrical components necessary to operate the pump. The customer has no hidden charges when making purchase.
- Deliver 20 l/min of oil at 15 bar, 6,9 l/min. of oil at 700 bar.

High tonnage
double-acting
cylinders. Single
or multiple
cylinder
applications.



PE4004S
700 bar



Pump No.	Max. Pressure Output bar	RPM	Noise level at Idle and 700 bar (dBA)	Amp Draw at 700 bar (A)	Oil Del. (l/min at..)				A* (mm)	B (mm)	C (mm)	D (mm)	E Castor Mfg. (mm)	F Castor Mfg. (mm)	Prod. Wt. w/Oil (kg)
					15 bar	90 bar	350 bar	700 bar							
PE4004-50-380	700	1,725	73/80	See below	20	19,7	7,4	6,9	924	635	610	540	394	546	223
PE4004S-50-380	700	1,725	73/80		20	19,7	7,4	6,9	924	635	610	540	394	546	229

Amp draw 230V at 700 bar: 34 Amps
Amp draw 460V at 700 bar: 17 Amps

* Add 127mm and 3,6 kg when casters are mounted.
(Units are supplied with four 102 mm dia. swivel casters.)

For use with Cylinder Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Motor††	Reservoir Usable (l)
†††Single-Acting/ Double-Acting	7,46 kW pump with 75,5 l reservoir and manual valve,	PE4004-50-380	4-Way	9506	Advance Hold Return	7,46 kW, 380 Volt 50 Hz, 3 Phase	64,4†
Double-Acting	PE4004, except has solenoid operated remote valve	PE4004S-50-380	4-Way	9512*	Advance Hold Return	7,46 kW, 380 volt 50 Hz, 3 Phase	64,4†

* 24V Solenoid valve with remote control.

† Usable oil is calculated with oil fill at recommended level at 57 mm below cover plate.

†† PE400 series also available in 230V, 60Hz and 460V, 60Hz. Please specify when ordering.

Example: 460V, 60Hz order PE4004 (also suitable for 440V, 50Hz, 3 phase) or for 230V, 60Hz order PE4004-230.

††† For single-acting operation, off the electric motor when manual valve in "Retract" position.

380V/50Hz/3 phase also suitable for 415V/50Hz/3 phase.

NOTE: Valves for spring return cylinders are available upon request. Consult the factory.

HOSES

Polyurethane, Rubber, Non-Conductive 700 bar / 10,000 psi

Non-conductive hose

For applications requiring electrical isolation by the hose, non-conductive hose has a leakage factor of less than 50 microamperes, considered a safe level of conductivity by SAE standards. The covering is polyurethane and colored orange for easy identification as non-conductive hose. The covering is not perforated, preventing moisture from entering the hose and affecting its overall conductivity. All non-conductive hoses have a minimum burst pressure of 2800 bar (40,000 psi).

Rubber hose

2-ply rated hose reinforced with two braids of high tensile steel wire. The rubber covering is oil and weather resistant.

Polyurethane hose

Made up of nylon core tube with polyester fiber reinforcement which will withstand the minimum SAE bend radius without shortening service life. These hoses last up to seven times longer than rubber hose, and are suitable for continuous service at temperatures from -40° to 150° F (-40° to 66°C).

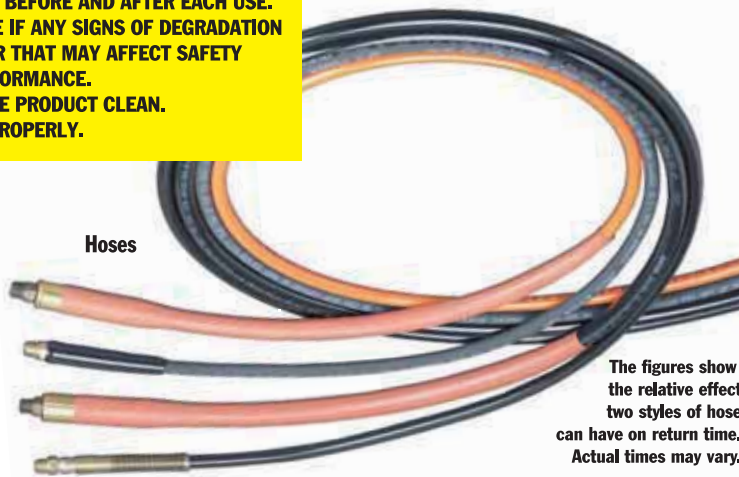
Hydraulic hose assembly

No. 9764 – Hose assembly consisting of 9767 (1,8 m hose), 6,4mm I.D. polyurethane with 9798 hose half coupler and 9800 dust cap.

No. 9754 – Hose assembly consisting of 9756 (1,8 m hose), 6,4 mm I.D. rubber with 9798 hose half coupler and 9800 dust cap.

BE SAFE!

- INSPECT BEFORE AND AFTER EACH USE.
- REPLACE IF ANY SIGNS OF DEGRADATION OR WEAR THAT MAY AFFECT SAFETY OR PERFORMANCE.
- KEEP THE PRODUCT CLEAN.
- STORE PROPERLY.



Hoses

The figures show the relative effect two styles of hose can have on return time. Actual times may vary.

- All have plastic hose guards except for the 1/4" I.D. polyurethane hoses which have spring guards.
- 3/8" NPTF fittings on both ends.
- Operating pressure is 700 bar (10,000psi). All comply with MHI standard U100.



A = 3/8" I.D. Polyurethane
B = 1/4" I.D. Polyurethane
C = 1/4" & 3/8" I.D. Rubber
D = 1/4" I.D. Non-Conductive

CYLINDER RETURN TIME

	No. 9769 3,1 m Hose 6,4 mm I.D.	No. 9781 3,1 m Hose 9,5 mm I.D.
Cylinder		
C2514C	51 sec.	14 sec.
C556C	1 min., 30 sec.	24 sec.
C5513C	4 min., 12 sec.	59 sec.
C10010C	6 min., 56 sec.	1 min., 3 sec.

Hose Type	Hose I.D.	Hose Length	Burst Rating	Order No.	Hose Type	Hose I.D.	Hose Length	Burst Rating	Order No.
Polyurethane	6,4 mm	0,6 m	1 400 bar	9765	Rubber, Wire-braid	6,4 mm	2,4 m	1 400 bar	9757
Polyurethane	6,4 mm	0,9 m	1 400 bar	9766	Rubber, Wire-braid	6,4 mm	3,1 m	1 400 bar	9758
Polyurethane	6,4 mm	1,8 m	1 400 bar	9767	Rubber, Wire-braid	6,4 mm	3,7 m	1 400 bar	9759
Polyurethane	6,4 mm	1,8 m	1 400 bar	9764*	Rubber, Wire-braid	6,4 mm	6,1 m	1 400 bar	9760
Polyurethane	6,4 mm	2,4 m	1 400 bar	9768	Rubber, Wire-braid	6,4 mm	9,1 m	1 400 bar	9761
Polyurethane	6,4 mm	3,1 m	1 400 bar	9769	Rubber, Wire-braid	6,4 mm	15,3 m	1 400 bar	9762
Polyurethane	6,4 mm	3,7 m	1 400 bar	9770	Rubber, Wire-braid	9,5 mm High Flow	0,9 m	1 400 bar	9733
Polyurethane	6,4 mm	6,1 m	1 400 bar	9771	Rubber, Wire-braid	9,5 mm High Flow	1,8 m	1 400 bar	9776
Polyurethane	6,4 mm	15,3 m	1 400 bar	9772	Rubber, Wire-braid	9,5 mm High Flow	3,1 m	1 400 bar	9777
Polyurethane	6,4 mm	22,9 m	1 400 bar	9750	Rubber, Wire-braid	9,5 mm High Flow	4,6 m	1 400 bar	9734
Polyurethane	6,4 mm	30,5	1 400 bar	9751	Rubber, Wire-braid	9,5 mm High Flow	6,1 m	1 400 bar	9778
Polyurethane	9,5 mm High Flow	1,8 m	2 100 bar	9780	Rubber, Wire-braid	9,5 mm High Flow	9,1 m	1 400 bar	9735
Polyurethane	9,5 mm High Flow	3,1 m	2 100 bar	9781	Rubber, Wire-braid	9,5 mm High Flow	12,2 m	1 400 bar	9736
Polyurethane	9,5 mm High Flow	6,1 m	2 100 bar	9782	Rubber, Wire-braid	9,5 mm High Flow	15,3 m	1 400 bar	9779
Polyurethane	9,5 mm High Flow	15,3 m	2 100 bar	9783	Non-Conductive	6,4 mm	1,8 m	2 800 bar	9773
Rubber, Wire-braid	6,4 mm	0,9 m	1 400 bar	9755	Non-Conductive	6,4 mm	3,1 m	2 800 bar	9774
Rubber, Wire-braid	6,4 mm	1,8 m	1 400 bar	9756	Non-Conductive	6,4 mm	6,1 m	2 800 bar	9775
Rubber, Wire-braid	6,4 mm	1,8 m	1 400 bar	9754*					

NOTE: Polyurethane hoses not recommended for use where heat or weld splatter conditions exist.

* Furnished with 9798 hose half coupler and 9800 dust cap.



COUPLERS

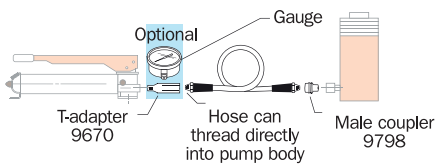
Standard & Flush-Face
700 bar / 10,000 psi



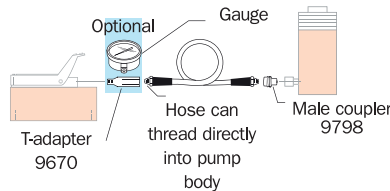
ACCESSORIES



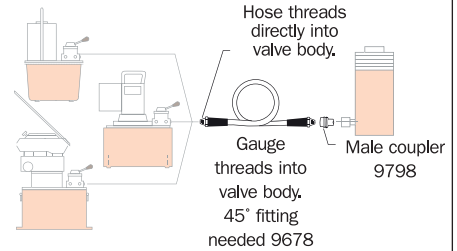
Hand pump system hook-up
T-adapter necessary for P12, P19, P23, P59 & P59F pumps.
All other hand pumps have a gauge mounting port.



Single-acting air pump system hook-up



Air, Electric & Gas Pumps with valve system hook-up



CYLINDER AND HOSE COUPLERS

Designed for use up to 700 bar with hydraulic jacks, cylinders, etc. They are the threaded union type for interchanging cylinders in seconds. Each half is valved with a precision ball for a tight shutoff when disconnected. These couplers also permit the separation of cylinders or hose from pump when at 0 psi with minimal oil loss.

No. 9795 – Complete quick coupler, 3/8" NPTF. (Includes two 9800 dust caps.)

No. 9798 – Male (hose) half coupler (less hose half dust cap), 3/8" NPTF.

No. 9796 – Female (cylinder) half coupler with No. 9800 dust cap, 3/8" NPTF.

No. 9796-V – Same as 9796, but with Viton seals.

No. 9796-E – Same as 9796, but with EPR seals.

No. 9799 – Optional metal dust cap (hose half).

No. 9797 – Optional metal dust cap (cylinder half).

NO-SPILL, PUSH-TO-CONNECT HYDRAULIC HOSE COUPLERS

High flow, no-spill, push-to-connect couplers with locking collar and flush face designed for high pressure applications. The flush-face concept makes it easy to clean both coupler ends before connecting. Our unique push-to-connect, "dry-break" design eliminates oil spillage. The locking collar makes accidental disconnects a thing of the past. For 700 bar operation. Designed to permit high oil flow.

No. 9792 – Female (cylinder) half quick coupler only. Wt., 0.1 kg.

No. 9793 – Male (hose) half quick coupler only. Wt., 0.1 kg.

No. 9794 – Complete quick coupler (male and female). Dust caps not included. Wt., 0.2 kg.

HYDRAULIC COUPLER DUST CAP

Dust cap fits either male or female half couplers.

No. 9800 – Dust cap. For male or female 3/8" NPTF half couplers. Wt., 0.1 kg.



9670

FITTINGS

Hydraulic Fittings:
All Applications.
700 bar (10,000 psi)

	9190	Hyd. tubing, 3/8" O.D. x .065" wall, 15,3 m. (10 pieces 1,53 m long.) Wt. 5,5 kg.
	9670	Tee adapter. For installing gauge between pump and hose coupling. Has 1/4" and 3/8" NPTF female and 3/8" NPTF male ports. Wt. 0,2 kg.
	9671	Double tee adapter. Permits use of more than one cylinder in series with one pump. Three 3/8" NPTF female ports. Wt. 0,5 kg.
	9672	Service tee. Two 3/8" NPTF female internal, one 3/8" NPTF male external. Wt. 0.3 kg.
	9673*	Swivel connector, 3/8" NPSM male, 1/4" NPSM female. Wt. 0,1 kg.
	9674	Male connector. 43 mm long, 1/4" x 3/8" NPTF. Wt. 0,1 kg.
	9675*	Swivel connector, 3/8" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.
	9676*	Swivel connector, 1/4" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.
	9677*	45° swivel connector, 3/8" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.
	9678	45° fitting. Used when mounting gauge at an angle on connection such as 9670. Male and female 1/4" NPTF ends. Wt. 0,1 kg.
	9679	Connector, 1/4" NPTF female and 3/8" NPTF male. Wt. 0.1 kg.
	9680	Coupling. Both ends 3/8" NPTF female. Wt. 0.1 kg.
	9681	Street elbow, Male and female 3/8" NPTF ends. Wt. 0,1 kg.
	9682	Male connector. 43 mm long, 3/8" NPTF male ends. Wt. 0,1 kg.
	9683	Male connector. 57 mm long, 3/8" NPTF male ends. Wt. 0,1 kg.
	9684	Male connector. 57 mm long, 1/4" NPTF male ends. Wt. 0,1 kg.
	9685	Coupling, 1/4" NPTF female and 3/8" NPTF female. Wt. 0,1 kg.

	9686	90° elbow, 3/8" NPTF female ends. Wt. 0.2 kg.
	9687	Pipe plug. Heat-treated, 3/8" NPTF. Wt. 0.1 kg.
	9688	Pipe plug. Heat-treated, 1/4" NPTF. Wt. 0.1 kg.
	9689	Connector, 1/4" NPTF male and 3/8" NPTF female. Wt. 0.1 kg.
	9690	Male connector. 43 mm long, 1/4" NPTF male ends. Wt. 0.1 kg.
	9692	Straight connector, 3/8" tube x 3/8" male NPTF. Wt. 0.1 kg.
	9693	90° elbow, 3/8" tube x 3/8" male NPTF. Wt. 0,1 kg.
	9694	45° elbow, 3/8" tube x 1/4" male NPTF. Wt. 0,1kg.
	9695	Tee, 3/8" tube. Wt. 0.1 kg.
	9696	Male run tee, 3/8" tube x 1/4" male NPTF. Wt. 0.1 kg.
	9697	Male branch tee, 3/8" tube x 1/4" male NPTF. Wt. 0.1 kg.
	9698	Cross, 3/8" tube. Wt. 0.2 kg.
	9699	45° gauge fitting, 3/8" NPTF male and female, and 1/4" NPTF female at 45°. Wt. 0,3 kg.
	9705	Fitting, swivel, 3/8" NPTF male to 3/8" NPTF female, 90° fitting with internal 370 micron screen. May be rotated 360° about male thread axis.

NOTE: Power Team hydraulic fittings are intended for use with our high pressure hydraulic products and are suitable for use at max. working pressures of 700 bar unless otherwise noted.

ACCESSORIES



* **CAUTION:** On part numbers 9673, 9675, 9676 and 9677 the female swivel end of these adapters is a straight pipe thread (NPSM) with a 30° seat. All male pipe fittings that are used with these female swivel adapters must have an internal 30° seat in order to effect a proper seal. All Power Team male fittings are manufactured with a 30° seat except 9687 and 9688.

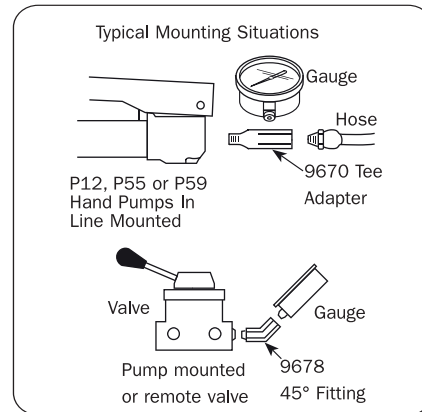
GAUGES

Analog & Digital
700 bar (10,000 psi)



ACCESSORIES

ASME B40.1
GRADE B



STANDARD PRESSURE GAUGE ORDERING INFORMATION

Face Dia.	psi / Bar	U.S. Short Tons	Major Graduations	Minor Graduations	Silicone Filled	Use With Cylinder Series	Gauge No.
63,5 mm	0-10,000 / 0-690	-	2500 psi, 100 Bar	500 psi, 20 Bar	No	All	9041
63,5 mm	0-10,000 / 0-690	-	2500 psi, 100 Bar	500 psi, 20 Bar	Yes	All	9040
100 mm	0-10,000 / 0-690	-	1000 psi, 100 Bar	200 psi, 10 Bar	No*	All	9051
100 mm	0-10,000 / 0-690	-	1000 psi, 100 Bar	200 psi, 10 Bar	Yes	All	9052
100 mm	0-10,000 / 0-690	0-17.5, 0-30 and 0-50	2000 psi, 5 Ton	200 psi, .5 Ton on 30, 50 Ton Scales; .2 Ton on 17.5 Ton Scale	No*	RT172, RT302, RT503	9059
100 mm	0-10,000 / 0-690	0-5	2000 psi, 1 Ton	200 psi, .1 Ton	No	C & RLS	9053
100 mm	0-10,000 / 0-690	0-10	2000 psi, 1 Ton	200 psi, .1 Ton	No*	C, RD, RH, RLS & RSS	9055
100 mm	0-10,000 / 0-690	0-25	2000 psi, 5 Ton	200 psi, .5 Ton	No*	C & RD	9063
100 mm	0-10,000 / 0-690	0-30	2000 psi, 5 Ton	200 psi, .5 Ton	No*	RH†, RLS & RSS	9065
100 mm	0-10,000 / 0-690	0-50	2000 psi, 5 Ton	200 psi, .5 Ton	No*	RH†, RLS & RSS	9067
100 mm	0-10,000 / 0-690	0-55	2000 psi, 5 Ton	200 psi, .5 Ton	No*	C, R, RA & RD	9069
100 mm	0-10,000 / 0-690	0-60	2000 psi, 5 Ton	200 psi, 1 Ton	No*	RH	9071
100 mm	0-10,000 / 0-690	0-100	2000 psi, 10 Ton	200 psi, 1 Ton	No*	C, R, RA, RD, RH, RLS†, RSS† & RT1004†	9075
100 mm	0-10,000 / 0-690	0-150	2000 psi, Initial 10 Then 20 Ton	200 psi, 2 Ton	No*	C, R, RD & RLS	9077
100 mm	0-10,000 / 0-690	0-200	2000 psi, 20 Ton 10 Then 20 Ton	200 psi, 2 Ton	No*	R, RD & RH†	9079
150 mm	0-10,000 / 0-690	-	1000 psi, 100 Bar	100 psi, 10 Bar	No*	All	9089

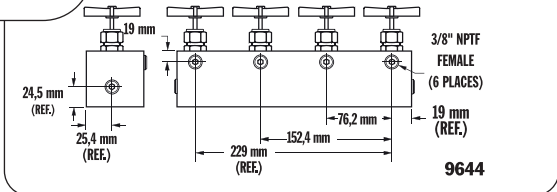
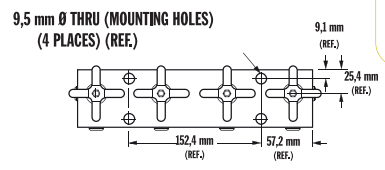
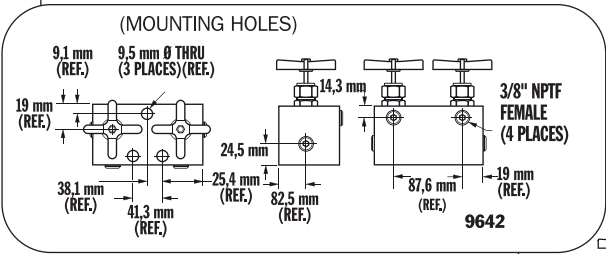
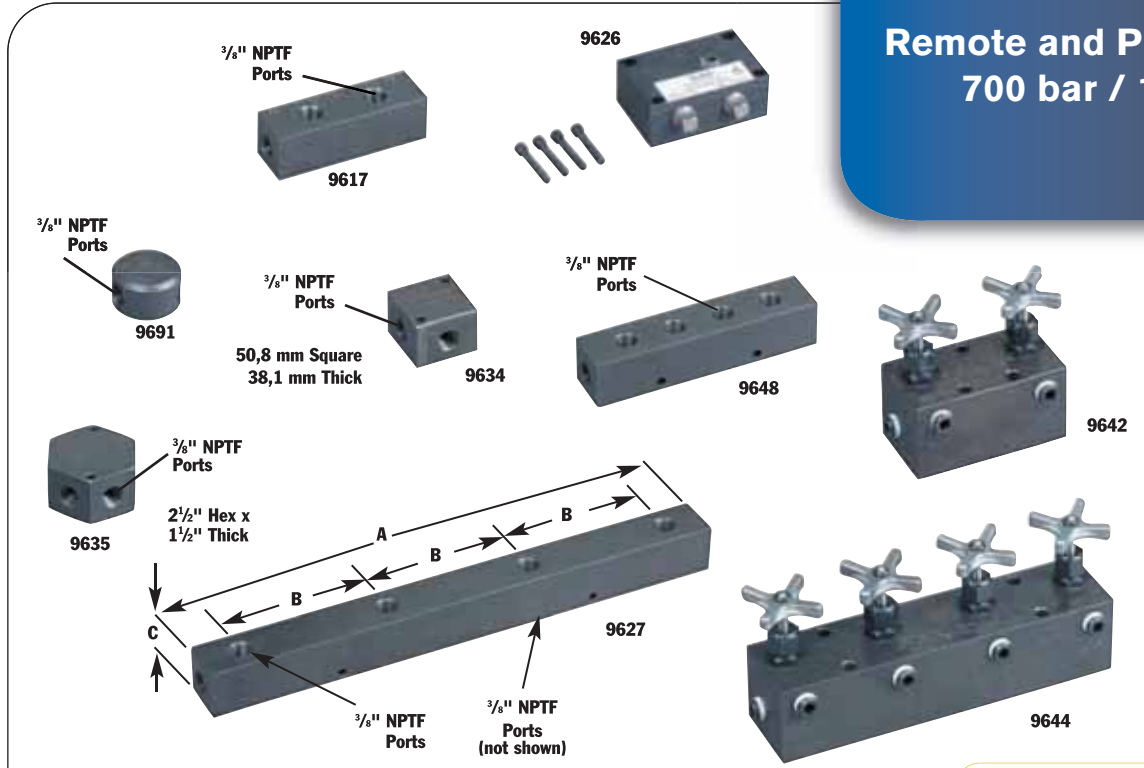
† The tonnage scale on the gauge is based on a different effective area.

A slight error in tonnage reading will occur relative to the different effective area.

Note: Remarketing & calibration of 9062 pressure gauge to metric tonne or kN scale based on given effective area of cylinder bore for load test or measurement available upon request. (See page 73)

MANIFOLDS

Remote and Pump Mounted 700 bar / 10,000 psi



Manifold No.	A (mm)	B (mm)	C (mm)
9627	406,4	114,3	38,1
9648	177,8	38,1	38,1

No. 9691 – "Y" Manifold
Extremely useful when connecting two hydraulic cylinders to a single line. Has three 3/8" NPTF ports. Wt. 0,45 kg.

No. 9634 – Manifold block
This manifold is for multiple-cylinder installations, has four 3/8" NPTF ports and two 1/4" mounting holes. Wt. 0,7 kg.

No. 9635 – Manifold block
This hex-shaped manifold offers extra versatility with six 3/8" NPTF ports and two 1/4" mounting holes. Wt. 0,9 kg.

No. 9617 – Manifold block
When a multiple-cylinder installation is required, this manifold is invaluable.

Has six 3/8" NPTF ports to handle larger multiple-cylinder systems. Wt. 1.4 kg.

No. 9648 – Manifold block
This 178 mm long manifold block has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt.1,2 kg.

No. 9627 – Manifold block
This 406,4 mm long manifold block allows you to mount the 9575 or 9596 valves without interference. Has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt. 2,7 kg.

No. 9626 – Pump mounted manifold block
Converts pumps with pump mounted valves for use with remote mounted valves. This manifold block is subplate mounted on the pump cover plate and

provides 3/8" NPTF pressure and return ports. Maximum recommended flow rate is 19 l/min. Note: If used on PE30 or PG30 series pump, 12,7mm longer mounting screws are required. Order four (4) No. 11956 screws separately.

9642 AND 9644 MANIFOLD BLOCKS WITH NEEDLE VALVES
For independent multiple-cylinder operation, feature needle valves for precise manual control. Designed for remote-mounted applications. Can be used with all Power Team pumps.

No. 9642 – Manifold with two needle valves for control of two cylinders. Has four 3/8" NPTF ports. Wt. 3,7 kg

No. 9644 – Manifold with four needle valves for control of four cylinders. Has six 3/8" NPTF ports. Wt. 7,4 kg

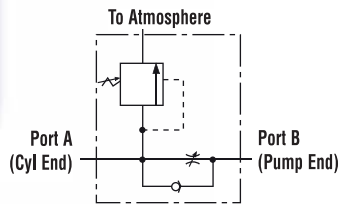
VALVES

Hydraulic In-Line

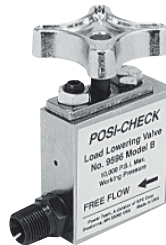


ACCESSORIES

**700 BAR (10,000 psi),
19 L/MIN MAX FLOW RATE.**



9596



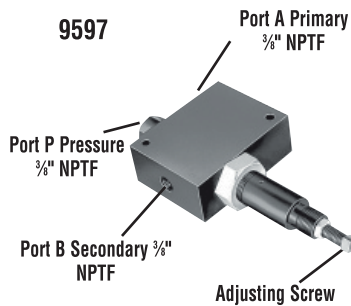
LOAD LOWERING VALVE (SAFETY CHECK VALVE)

Application: Precision metering for controlled cylinder piston return. For single-acting or double-acting cylinder.

Operation: Permits free flow when extending cylinder, built-in pressure relief and "Posi-Check®" locks and holds load in raised position until operator opens valve. May be pre-set to provide consistent metered return, or operator may select rate of return with each actuation. Has 3/8" NPTF ports.

NOTE: Pressure relief valve setting is 830 bar. Operating pressure is 700 bar and max. flow rate is 19 l/min.

No. 9596 – Load lowering valve. Wt., 1 kg.



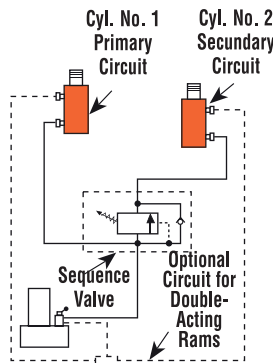
9597

Port A Primary
3/8" NPTF

Port P Pressure
3/8" NPTF

Port B Secondary
3/8" NPTF

Adjusting Screw



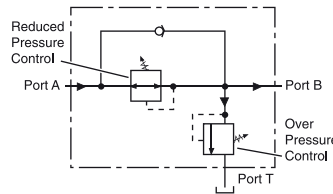
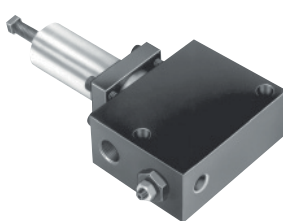
SEQUENCE VALVE

Application: Used when one cylinder in a multi-cylinder application must advance before any other.

Operation: Pump is connected to port "P" and separate cylinders to ports "A" and "B". When pressure is applied to port "P", cylinder "A" advances. Cylinder "B" will not advance until a predetermined pressure setting is reached in cylinder "A". Pressure setting is adjustable from 35 to 550 bar with adjustment screw; factory preset at 70 bar. Has 3/8" NPTF ports.

No. 9597 – Pressure control sequencing valve. Wt., 2,5 kg.

9608



PRESSURE REDUCING VALVE

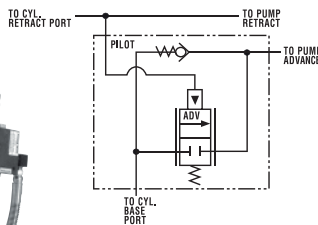
Application: Provides complete, independent pressure control to two or more clamping systems operated by a single power source.

Operation: Can be used to provide different pressures in various stages of a single system. Virtually zero leakage across valve means each system can be operated by a single continuous pressure source. Adjustable from 70 to 350 bar at outlet port "B" (secondary). Has 1/4" NPTF ports.

No. 9608 – Pressure reducing valve. Wt., 2,6 kg.

9720

9721



COUNTER BALANCE VALVE

Application: Double-acting cylinders. Provides positive holding and controlled, "chatter-free" lowering of a load.

Operation: Load is raised at flow rate of pump, and held when pump is shut off. When the pump is shifted to "retract", the counter balance valve will continue to hold the load until system pressure exceeds pressure caused by load. The load can then be lowered smoothly

to the flow rate of the pump. The counter balance valve is designed to operate with pumps having a high pressure flow rate of up to 1,9 l/min. and cylinder ratios of 3 to 1.

No. 9720 – Counter balance valve, including two male and two female half two hydraulic hoses, fittings and dust caps. Wt., 4,5 kg.

No. 9721 – Same as 9720, but does not include couplers, hoses, fittings and dust caps. Wt., 4,2 kg.

CAUTION: The 9720 patented counter balance valve has a pilot pressure as high as 210 bar. Because this pressure is applied to the rod end of the cylinder while it is already under load, the system should not be sized for loads greater than 80% of cylinder rated capacity.

CAUTION: To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve in conjunction with the directional valve used in your application. See above, this page.



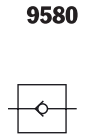
Shut-off valve

Application: This needle valve permits fine metering of hydraulic oil.
Operation: Can be used for controlling multiple single-acting cylinders.
No. 9575 – Shut off valve with 3/8" NPTF ports. Wt., 0,6 kg.



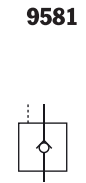
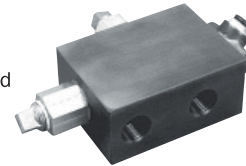
Check valve

Application: Permits flow of hydraulic oil in one direction only.
Operation: Installs right in hydraulic line.
No. 9580 – Check valve with 3/8" NPTF male ends. Wt., 0,2 kg.



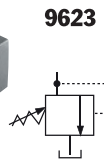
Pilot operated check valve

Application: For use with open or tandem center valves. Permits free flow of fluid in one direction.
Operation: Flow is blocked in opposite direction until pilot oil pressure is applied. This prevents the loss of pressure if the valve is inadvertently shifted or the pump line is broken. Minimum cracking pressure is 4,1 bar. Required pilot pressure is approximately 16% of checked system pressure.
No. 9581 – Pilot operated check valve with 3/8" NPTF ports. Wt., 1,7 kg.



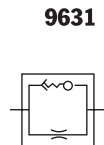
"In-line" pressure relief valve

Application: Single- or double-acting cylinders. For remote locations in a hydraulic circuit where maximum pressure requirements are less than basic overload valve setting in pump.
Operation: Adjustable from 70 to 700 bar. Valve is spring-loaded and direct-acting.
No. 9623 – Pressure relief valve with 3/8" NPTF ports. Wt., 0,9 kg.



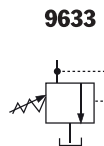
Metering valve

Application: For systems using large cylinders or extended lengths of hydraulic hose.
Operation: Controls surges by restricting flow if it exceeds 26,5 l / min. When flow subsides, valve reopens automatically. Has 3/8" NPTF male end to thread into return port of system control valve, and a 3/8" NPTF female end, permitting return hose to be directly connected.
No. 9631 – Metering valve. Wt., 0,1 kg.

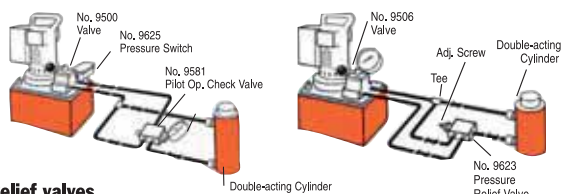


"In-line" pressure regulator valve

Application: Single- or double-acting cylinders. Permits adjusting operating pressures at various values below relief valve setting of pump.
Operation: Regulator valve is easily adjusted to maintain pressures between 20 and 700 bar. Maintains a given pressure setting within 3% over repeated cycles. Flow range is 0,3 l / min to 23 l / min.
No. 9633 – In-line pressure regulator valve with two 3/8" NPTF inlet ports, one 1/8" NPTF tank port and 1 m drain line kit. Wt., 0,9 kg.
Simply turn the handle clockwise to increase the pressure setting, counter-clockwise to reduce pressure.



Note: 1 m Drain Line Kit is included.



Relief valves

Application: Provide an economical means of protecting an hydraulic circuit against over pressurization.
Operation: These factory preset valves are designed for maximum flow rate of 19 l / min. Furnished with 1/8" NPTF male port. All valves weigh 0.1 kg. See chart to the right for ordering information.

1/8 NPT



RV21278 Series

Valve Order No.	Pressure Setting (bar)	Valve Order No.	Pressure Setting (bar)
RV21278	697/738	RV21278-52	366/407
RV21278-6	41/44	RV21278-55	386/428
RV21278-10	62/69	RV21278-57	400/442
RV21278-15	103/117	RV21278-60	421/462
RV21278-20	131/152	RV21278-65	455/497
RV21278-28	186/207	RV21278-70	490/531
RV21278-30	207/235	RV21278-75	524/566
RV21278-32	214/228	RV21278-80	559/600
RV21278-35	241/262	RV21278-83	580/621
RV21278-40	283/310	RV21278-86	600/642
RV21278-43	304/331	RV21278-88	614/662
RV21278-48	338/366	RV21278-90	628/669
RV21278-50	352/393		

Preset — Non-Serviceable

NOTE: Care should be exercised to protect workers from hot, pressurized hydraulic oil. Install these valves only in an enclosed or shielded area.

BOLTING SYSTEMS

About > Bolting Systems™

TOOLS

- Torque Wrenches
- Torque Wrench Accessories
- Bolt Tensioners
- Wind Tensioners
- Nut Splitters
- Flange Spreaders
- Flange Pullers
- Subsea Tensioners
- Subsea Accessories

PUMPS

- Infinite Stage Electric & Air
- Compact 1,500 Bar Electric Tensioner
- Compact O&M Torque Wrench
- Classic Series Electric & Air Hydraulic
- Standard Flow Tensioner Power Packs
- High Flow & Subsea Tensioner Power Packs
- Hand

ACCESSORIES

- Hoses
- Couplers
- Hydraulic Fluids
- Sockets
- Software
- Backup Wrenches

SPX Bolting Systems is a full service global manufacturer of controlled bolting solutions, including hydraulic torque and tensioning systems, industry specific certified training programs, system rentals and flange management database software. We are your partner in flange management, both in regards to infrastructure construction, operations and maintenance applications, enabling you to complete your project safely, in less time and on budget.

SPX Bolting Systems was formed when SPX Hydraulic Technologies, a division of SPX Corporation, acquired Torque Tension Systems LTD (TTS), of Ashington, UK. The new partnership combined the best high pressure (700 bar/10,000 psi) hydraulic power pack manufacturer, Power Team, with a premier torque and tensioning tool manufacturer, resulting in a “**best-in-class**” bolting system.

SPX Bolting Systems is dedicated to furthering controlled bolting solutions, engineering and manufacturing new technologies and utilizing advancements in material technology. This resulted in the continuous development of innovative products offering weight and size reduction, with increased safety, performance and durability.

SPX Bolting Systems has Rental, Sales & Service facilities located around the globe, with plans to add further service centers in other key locations to support our valuable customers. Repair & Calibration center locations include Houston, Texas, USA | Baton Rouge, LA, USA | Aberdeen, U.K. | Singapore and Perth, Australia. Additional customer service offices are located in the Netherlands and Shanghai. We also have a large distribution network that can offer local sales and service support in over 150 countries.

TORQUE WRENCH

HIGH CYCLE - TWHC

Max Torque 71,816 Nm at 700 bar
(53,000 lb-ft at 10,000 psi)

TORQUE WRENCH - HIGH CYCLE

Quality means Lower Cost of Ownership:

- Designed for high cycle life: 2-3x more than existing technology
- Increased reliability: Simple drive assembly means less downtime
- Corrosion resistant material for use in harsh environments

Enhanced Usability:

- Compact nose radius allows the tool to fit in tighter, hard-to-reach spaces
- Low weight, high strength design
- Fast operation, long stroke and optimum flow
- Multi-direction high flow swivel manifold
- Push button square drive reversal and reaction arm positioning
- Push-button release of square drive & reaction arm for all models except TWHC50.

Designed with Safety in Mind:

- Fully enclosed drive mechanism for operator safety
- Swivel manifold internal relief valve prevents retract side over-pressurization
- Fine tooth pawl prevents tool 'lock-on'



NEW TECHNOLOGY



HANDLES SOLD SEPARATELY

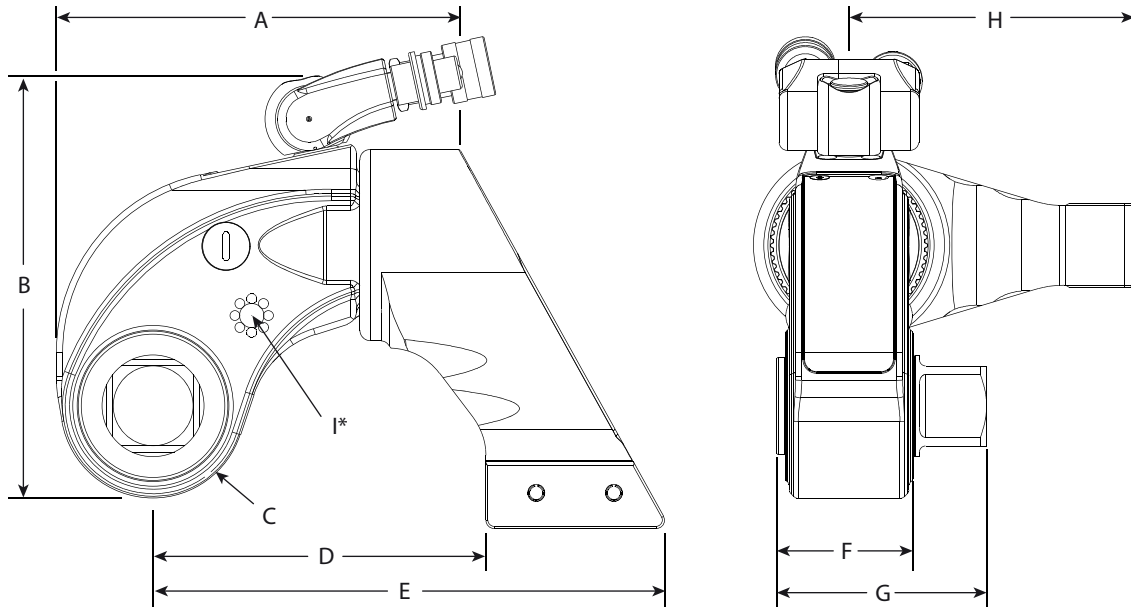
OK FOR SUBSEA



The tool's designed long-stroke mechanism imparts a minimum 30 degree nut rotation per stroke while maintaining a tight and compact nose radius: this is a clear advantage over the short stroke and back-up pawl mechanisms of light alloy competitive models. Fewer parts and reduced torsion in operation - equals reduced wear, maintenance and associated costs.

TORQUE WRENCH HIGH CYCLE - TWHC Specifications and Dimensional Data

TWHC



* Dimension I shows thread size (on both sides of the tool) for safety handle or lifting point. TWHC50 model available with lifting points only.

Tool Model	Min Torque		Max Torque		Square Drive	A mm (in)	B mm (in)	C mm (in)	D mm (in)	E mm (in)	F mm (in)	G mm (in)	H mm (in)	I mm (in)	Weight	
	lb-ft	Nm	lb-ft	Nm											Kg	lb
TWHC1	170	230	1,413	1,915	3/4	132 (5.20)	145 (5.71)	28 (1.10)	111.5 (4.39)	170.0 (6.69)	39.5 (1.56)	67.7 (2.67)	86.1 (3.39)	M6 x 1.0	2.8	6.2
TWHC3	376	510	3,136	4,249	1	165 (6.50)	173.5 (6.83)	36.5 (1.44)	129.6 (5.10)	197.7 (7.78)	53 (2.09)	83.7 (3.30)	105.1 (4.14)	M6 x 1.0	5.3	11.7
TWHC6	726	984	6,050	8,198	1-1/2	192 (7.56)	201.6 (7.94)	44 (1.73)	158.5 (6.24)	243.7 (9.59)	61 (2.40)	99.9 (3.93)	135.1 (5.32)	M8 x 1.25	8.8	19.4
TWHC50	6,360	8,628	53,000	71,816	2-1/2	404.5 (15.93)	356.6 (14.04)	88 (3.46)	266.5 (10.49)	446.6 (17.58)	115 (4.53)	192.2 (7.57)	258 (10.16)	M12 x 1.75	69	152

Ordering Information

Order No.	Description	Order No.	Description	Order No.	Description
TWHC1	Wrench	TWHC1H	Wrench with handle	DFTAS000001	Handle for TWHC1
TWHC3	Wrench	TWHC3H	Wrench with handle	DFTAS000001	Handle for TWHC3
TWHC6	Wrench	TWHC6H	Wrench with handle	DFTAS000002	Handle for TWHC6
TWHC50	Wrench				

TORQUE WRENCH

LOW CLEARANCE - TWLC

Max Torque 39,024 Nm at 700 bar
(28,800 lb-ft at 10,000 psi)

TORQUE WRENCH LOW CLEARANCE

The TWLC Series Wrench was designed for the most inaccessible bolting areas found in the industry. Its long neck, short height and small radius have all added to its great success.



Several link sizes are available for each drive.

Combine a drive body with a link to make a wrench. Each are sold separately.

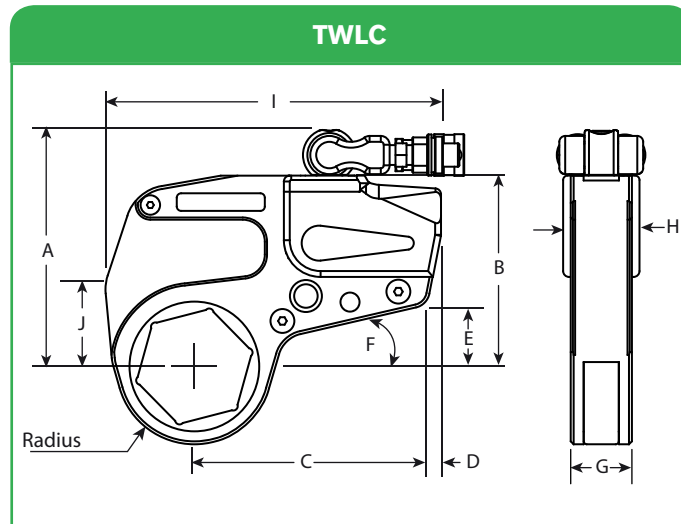
Shown with optional handle, refer to page 22 for details.

OK FOR SUBSEA



TORQUE WRENCH LOW CLEARANCE – TWLC Specifications and Dimensional Data

- Low weight, high strength design
- Superior torsional strength
- Fast operation cycle
- Fine tooth ratchet
- Floating piston design
- Link pin does not fall out
- Auto-connect drive piston
- Compact frame size
- Rigid steel body construction
- Swivel manifold internal relief valve prevents retract side over-pressurization
- “Hardened” steel reaction pad on TWLC8, 15 & 30
- Small nose radius
- Corrosion resistant finish
- Multi-axis high flow swivel manifold
- Simple design
- Consistent torque output



- Quick interchangeable heads, no tools necessary
- Replaceable reaction pad on larger models

Body Order No.	A		B		C		D		E		F		G		H	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
TWLC2	3.8	97	4.1	103	5	128	0.3	8	1.4	35	0.5	13	1.3	32	1.7	42
TWLC4	4.7	120	5.1	130	6.3	159	0.4	9	1.7	43	0.5	13	1.7	42	2	52
TWLC8	5.8	147	6.2	158	7	177	1	24.5	1.6	40	0.6	14	2.1	54	2.6	67
TWLC15	6.9	174	7.3	186	7.9	200	1.1	27	1.7	43	0.6	14	2.5	63	3	76
TWLC30	8.8	223	9.4	239	10.5	267	1	26	2.4	62	0.6	15	3.2	82	3.7	94

Body Order No.	Hex Range				Min Torque		Max Torque		Weight (Body Only)	
	in	in	mm	mm	lb-ft	Nm	lb-ft	Nm	lb	kg
TWLC2	1-1/8	2-3/8	26	60	189	256	1,575	2,134	2.2	1.0
TWLC4	1-5/16	3-1/8	33	80	477	646	3,975	5,386	4.4	2.0
TWLC8	1-7/8	3-15/16	49	100	954	1,293	7,950	10,772	7.7	3.5
TWLC15	2-7/16	4-5/8	62	116	1,782	2,415	14,850	20,122	15.4	7.0
TWLC30	3-1/8	6-1/16	80	155	3,456	4,683	28,800	39,024	31.9	14.5

CAUTION: Always read operating manual before using for proper use of tools and accessories.

NOTE: Reference dimensions shown and vary by links size. Exact dimensions can be found on our website.

Ordering Information

TO SPECIFY A TWLC SOLUTION:

1. Find a link for your application (nut size) (page 28-29)
2. Choose the appropriate Drive body (page 27)
3. Add reducers for additional nut sizes

Please order Drive Body and Link separately and pay attention to the same size, for Example TWLC2 and TWL2-041.

TORQUE WRENCH

LOW CLEARANCE - TWLC

Max Torque 39,024 Nm at 700 bar
(28,800 lb-ft at 10,000 psi)



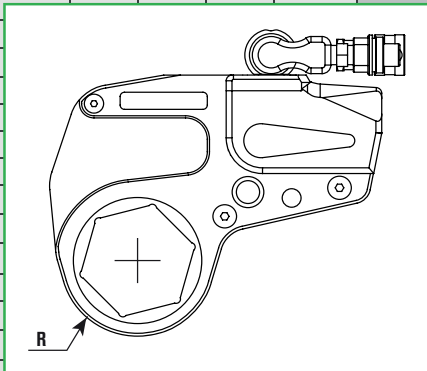
HYDRAULIC TOOLS

MORE SOLUTIONS ON NEXT PAGE

NOTE:

The sizes listed on these pages encompass both heavy hex and standard hex nut sizes. Check your local SPX Bolting Office for availability as some items may be special order.

Nut A/F		Link Order No.	TWLC2				Link Order No.	TWLC4				Link Order No.	TWLC8							
Inch	Metric		Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)		Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)		Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)				
1-1/8	26	TWL2-026																		
1-1/16	27	TWL2-027																		
1-1/8	29	TWL2-029																		
1-3/16	30	TWL2-030	31.5 (1.2)	180 (7.1)	38 (1.5)	2 (4.4)														
1-1/4	32	TWL2-032																		
1-5/16	33	TWL2-033																		
1-3/8	35	TWL2-035																		
1-7/16	36	TWL2-036																		
1-1/2	38	TWL2-150																		
1-9/16	40	TWL2-040	34.5 (1.4)	181 (7.1)	40 (1.6)	2 (4.4)														
1-5/8	41	TWL2-041																		
1-11/16	43	TWL2-043	37 (1.5)	183 (7.2)	40 (1.6)	2 (4.4)														
1-3/4	44	TWL2-044																		
1-13/16	46	TWL2-046																		
1-7/8	48	TWL2-188	40 (1.6)	185 (7.3)	43 (1.7)	2 (4.4)														
1-15/16	49	TWL2-049																		
2	50	TWL2-050																		
2-1/16	52	TWL2-052	42.5 (1.7)	185 (7.3)	43 (1.7)	2 (4.4)														
2-1/8	54	TWL2-054																		
2-3/16	55	TWL2-055																		
2-1/4	57	TWL2-057																		
2-5/16	59	TWL2-059	45.5 (1.8)	185 (7.3)	43 (1.7)	2 (4.4)														
2-3/8	60	TWL2-060																		
2-7/16	62																			
2-1/2	63																			
2-9/16	65																			
2-5/8	67																			
2-11/16	68																			
2-3/4	70																			
2-13/16	71																			
2-7/8	73																			
2-15/16	75																			
3	77																			
3-1/16	78																			
3-1/8	80																			
3-3/16	81																			
3-1/4	83																			
3-5/16	84																			
3-3/8	85																			
3-7/16	87																			
	89																			
3-1/2	90																			
3-9/16	91																			
3-5/8	92																			
3-11/16	94																			
3-3/4	95																			
3-13/16	97																			
	99																			
3-7/8	100																			



TORQUE WRENCH LOW CLEARANCE - TWLC

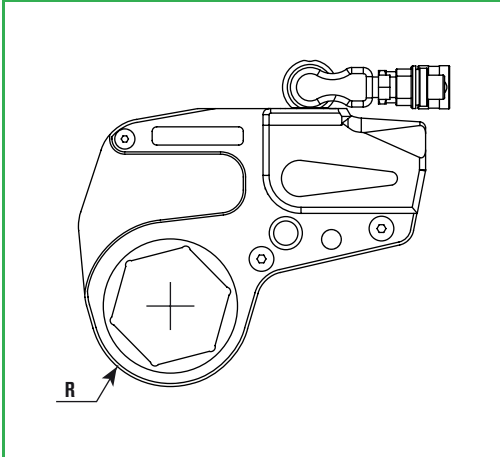
Ordering Information

TO SPECIFY A TWLC SOLUTION:

1. Find a link for your application (nut size) (page 28-29)
2. Choose the appropriate Drive body (page 27)
3. Add reducers for additional nut sizes

Please order Drive Body and Link separately and pay attention to the same size, for Example TWLC2 and TWL2-041.

Nut A/F		Link Order No.	TWLC15				TWLC30				Nut A/F		Link Order No.	TWLC30 (Continued)																				
Inch	Metric		Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)	Link Order No.	Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)	Inch		Metric	Radius R mm (in)	I mm (in)	J mm (in)	Weight (Link Only) kg (lb)																
2-7/16	62	TWL15-062	60.5 (2.4)	313 (12.3)	88 (3.5)	12.5 (27.5)						4-13/16	122	TWL30-122	99 (3.9)	400 (15.7)	109 (4.3)	28.5 (62.7)																
2-1/2	63	TWL15-063										4-7/8	124	TWL30-124					4-15/16	125	TWL30-125													
2-9/16	65	TWL15-065										5	127	TWL30-500					5-1/16	129	TWL30-129													
2-5/8	67	TWL15-067										5-1/8	130	TWL30-130					5-3/16	132	TWL30-132													
2-11/16	68	TWL15-068										63 (2.5)	313 (12.3)	88 (3.5)	12.5 (27.5)						5-1/4	133	TWL30-133	105 (4.1)	400 (15.7)	109 (4.3)	28.5 (62.7)							
2-3/4	70	TWL15-070																			5-3/8	135	TWL30-135					5-7/16	138	TWL30-138				
2-13/16	71	TWL15-071	72 (2.8)	313 (12.3)	88 (3.5)	13 (28.6)															5-1/2	140	TWL30-140					110 (4.3)	400 (15.7)	109 (4.3)	28.5 (62.7)			
2-7/8	73	TWL15-073																			TWL30-080	77 (3.0)	393 (15.5)									104 (4.1)	26.5 (58.3)	5-9/16
2-15/16	75	TWL15-075										TWL30-081	5-5/8	143	TWL30-143	5-11/16	144	TWL30-144																
3	77	TWL15-077										TWL30-083	5-3/4	145	TWL30-145	6	152	TWL30-152																
3-1/16	78	TWL15-313										TWL30-084	5-13/16	148	TWL30-148	6-1/16	154	TWL30-154																
3-1/8	80	TWL15-080										TWL30-085	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																
3-3/16	81	TWL15-081										TWL30-087	83 (3.3)	393 (15.5)	104 (4.1)	26.5 (58.3)	5-7/8	149	TWL30-149															
3-1/4	83	TWL15-083										TWL30-089					5-15/16	151	TWL30-151	6-1/16	154			TWL30-154										
3-5/16	84	TWL15-084										TWL30-090					6	152	TWL30-152	6-1/8	155			TWL30-155										
3-3/8	85	TWL15-085										TWL30-091					87.5 (3.4)	316 (12.4)	80 (3.1)	14 (30.8)	5-13/16			148	TWL30-148									
3-7/16	87	TWL15-087										TWL30-092									5-7/8			149	TWL30-149	6-1/8	155							TWL30-155
3-1/2	90	TWL15-090										TWL30-094									5-15/16			151	TWL30-151	6-1/8	155							TWL30-155
3-9/16	91	TWL15-091	TWL30-095	6	152	TWL30-152	6-1/8	155	TWL30-155																									
3-5/8	92	TWL15-092	TWL30-097	6-1/16	154	TWL30-154	6-1/8	155	TWL30-155																									
3-11/16	94	TWL15-094	TWL30-388	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
3-3/4	95	TWL15-095	TWL30-100	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
3-13/16	97	TWL15-097	TWL30-102	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
3-7/8	100	TWL15-100	TWL30-103	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4	102	TWL15-102	TWL30-105	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-1/16	103	TWL15-103	TWL30-106	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-1/8	105	TWL15-105	TWL30-425	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-3/16	106	TWL15-106	TWL30-110	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-1/4	108	TWL15-425	TWL30-111	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-5/16	110	TWL15-110	TWL30-113	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-3/8	111	TWL15-111	TWL30-114	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-7/16	113	TWL15-113	TWL30-115	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-1/2	114	TWL15-114	TWL30-116	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-3/4	115	TWL15-115	TWL30-463	6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-9/16	116	TWL15-116		6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-5/8	117	TWL15-463		6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-11/16	119			6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									
4-3/4	120			6-1/8	155	TWL30-155	6-1/8	155	TWL30-155																									



MORE SOLUTIONS ON NEXT PAGE

WIND TENSIONERS

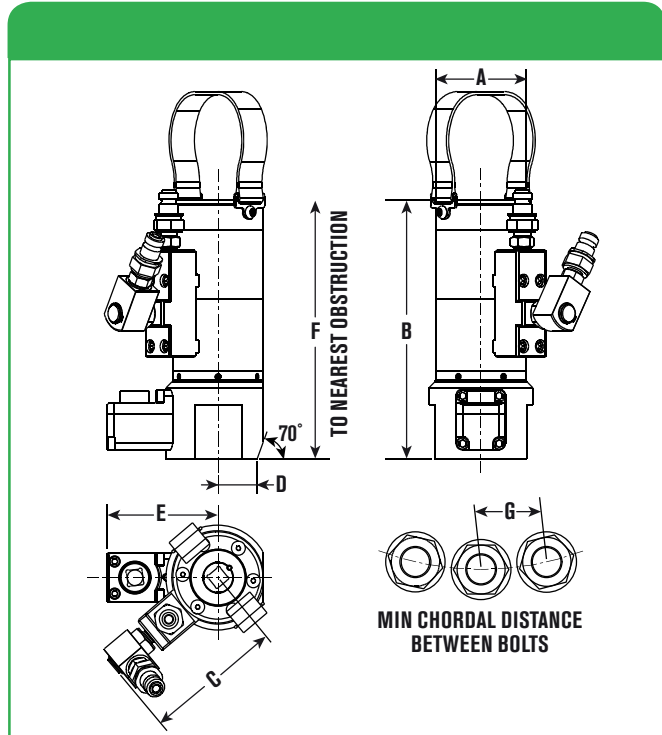
UP TOWER - WDD



Specifications and Dimensional Data

WDD UP TOWER WIND TENSIONERS

- Robust Gearbox Drive
- Auto-Engaging Geared Nut Rotator
- Small diameter, high load 2-Stage hydraulic load cell
- Fast application using 1/2" drive
- Cycle counter optional (Add "A" to end of part number)
- Max Pressure: 1,350 bar (19,580 psi)
- Twin coupling optional (Add "TC" to end of part number)



Tool Ref	A mm	B mm	C mm	D mm	E mm	F mm	G mm
WDD1-M30	74	210	112	37	91	290	64
WDD2-M33	79	214	115	39.5	93	298	70
WDD3-M36	85	239	117	42.5	96	332	76
WDD4-M39	92	249	121	46	99	348	79
WDD5-M42	98	255	124	49	102	360	90

Ordering Information

Order No.	Metric	Required Thread Protrusion mm	Stroke mm	Max Load kN	Hyd Area sq. mm	Wt kg
WDD1-M30	M30	63 - 70	7	467	3458	6.70
WDD2-M33	M33	67 - 74	7	569	4215	7.60
WDD3-M36	M36	71 - 80	10	671	4970	9.25
WDD4-M39	M39	72 - 86	10	801	5931	11.10
WDD5-M42	M42	80 - 92	10	926	6856	12.60

For twin hydraulic couplings (for multiple tool connection) add "TC" after part number. For cycle counter option, add "A" after code (eg. WDD1-M30A, WDD1-M30TCA)

WIND TENSIONERS

FOUNDATION - WSS & WSL

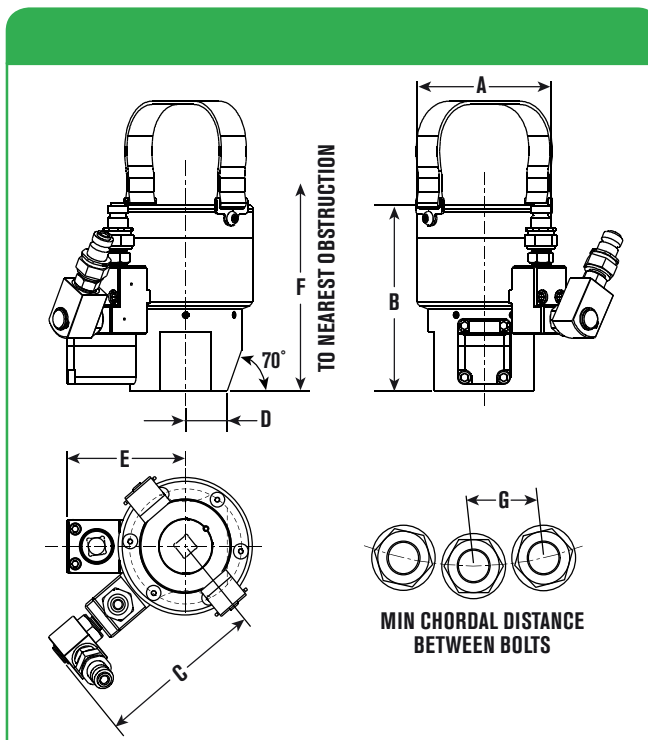


HYDRAULIC TOOLS

Specifications and Dimensional Data

WSD COMPACT TOWER WIND TENSIONERS

- Robust Gearbox Drive
- Auto-Engaging Geared Nut Rotator
- Low height hydraulic load cell
- Fast application using 1/2" drive
- Cycle counter optional (Add "A" to end of part number)
- Maximum operating pressure 1350 bar (19,580 psi)
- Twin coupling optional (Add "TC" to end of part number)



Tool Ref	A mm	B mm	C mm	D mm	E mm	F mm	G mm
WSD1-M30	103	138	127	32	91	211	68
WSD2-M33	112	140	132	35	93	218	74
WSD3-M36	122	149	136	37	96	233	82
WSD4-M39	133	153	142	42	99	238	88
WSD5-M42	140	157	146	45	102	250	93

Ordering Information

Order No.	Metric	Required Thread Protrusion mm	Stroke mm	Max Load kN	Hyd Area sq. mm	Wt kg
WSD1-M30	M30	63 - 81	7	467	3458	6.60
WSD2-M33	M33	67 - 86	7	569	4215	7.60
WSD3-M36	M36	71 - 93	10	671	4970	8.80
WSD4-M39	M39	72 - 95	10	801	5931	11.20
WSD5-M42	M42	80 - 96	10	926	6856	12.20

For twin hydraulic couplings (for multiple tool connection) add "TC" after part number. For cycle counter option, add "A" after code (eg. WDD1-M30A, WDD1-M30TCA)

WSS & WSL FOUNDATION WIND TENSIONERS

- Suitable for ISO Metric threaded and all-thread bars
- Geared or Manual Nut Rotator
- Long & short stroke models
- Maximum operating pressure 1350 bar (19,580 psi)
- Uses standard system 'nut' for reaction
- Contact factor for optional swivel coupling



WIND TENSIONERS

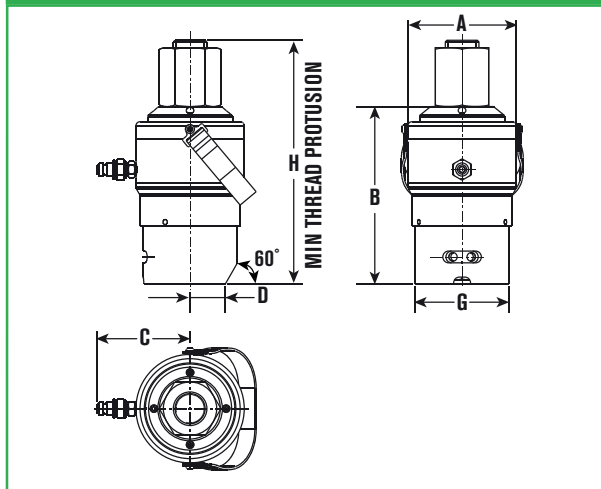
COMPACT TOWER - WSD

HYDRAULIC TOOLS

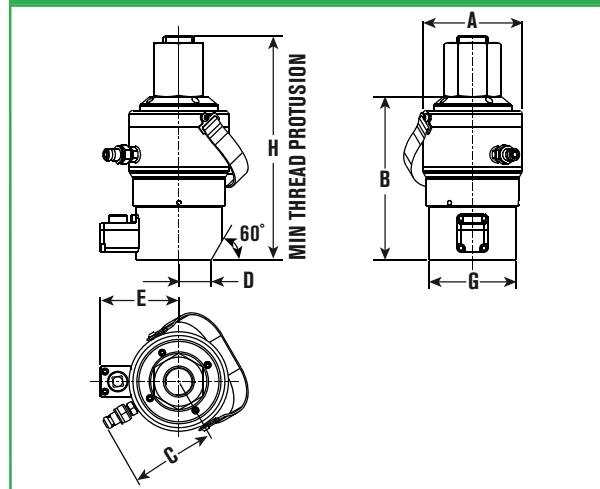


Specifications and Dimensional Data

Manual Nut Rotation Version



Gearbox Nut Rotation Version



Tool Ref	A mm	B mm	C mm	D mm	E mm	G mm	H mm
WSS1/WSS1-10	103	158	98	42	99	103	206
WSS1/WSS1-11	103	158	98	42	99	103	219
WSL1/WSL1-10	114	205	103	42	99	130	255
WSL1/WSL1-11	114	205	103	42	99	103	266
WSS2/WSS2-125	119	168	105	42	102	112	226
WSS2/WSS2-138	119	168	105	42	102	112	238
WSL2/WSL2-125	129	211	110	42	102	112	269
WSL2/WSL2-138	129	211	110	42	102	112	280

Ordering Information

Load Cell Order No.	Adaptor Kit** Order No.	Bar Size	Stroke mm	Max Load kN	Hyd Area sq mm	Wt kg
FOR GRADE 75 ksi ALL THREAD FOUNDATION BOLTS						
WSS1	WSS1-10	#10	10	470	3481	5.74
	WSS1-11	#11				5.85
WSL1	WSL1-10	#10	25	470	3481	9.00
	WSL1-11	#11				9.20
FOR GRADE 150 ksi ALL THREAD FOUNDATION BOLTS						
WSS2	WSS2-125	1-1/4"	10	760	5630	8.20
	WSS2-138	1-3/8"				8.30
WSL2	WSL2-125	1-1/4"	25	760	5630	12.30
	WSL2-138	1-3/8"				12.40

**For manual nut rotation Adaptor Kit add "M" after part number, for gearbox style nut rotation add "GB".

Note: For a complete tensioner, order load cell and adapter kit.

CLASSIC SERIES HYDRAULIC PUMPS

PE55 TWP-BS
700 bar / 10,000 psi



700 BAR (10,000 PSI) CLASSIC SERIES ELECTRIC HYDRAULIC PUMP

The PE55TWP-BS has been the market leading electric pump for over 30 years & is therefore tried & tested. A simple, light-weight design with a recent upgrade that has created a cost-effective workhorse.

Quality means Lower Life-Cycle Costs:

- Over 100,000 cycles
- Continuous duty up to 50°C (122°F) ambient
- Proven design = Proven reliability

Enhanced Usability:

- Two Speed High Performance pump
- Retract side internal relief valve protects tool
- Hand remote
- Four-tool manifold (-4 models only) allow use of up to four tools simultaneously
- 4" calibration capable gauge
- Use with single or double acting tools

Designed with Safety in Mind:

- Easily adjusted pressure regulator (relief) valve
- 103 bar (1,500 psi) pressure retract relief valve



252511
252512



DESIGNED FOR

Electric


Air


Gas


Hand


MAINTENANCE
& REPAIR

ORIGINAL
INSTALL

Split


Tension


Torque


Max Flow



CLASSIC SERIES HYDRAULIC PUMPS

PE55 TWP-BS
700 bar / 10,000 psi

Specifications and Dimensional Data

Size (L x W x H): 147 cm x 24 cm x 49 cm
18.5" x 9.5" x 19.2"

Weight: 29.5 kg (65 lb) [without oil]

Maximum Oil Capacity: (vented reservoir)
6.8 L (1.8 Gallons) [to fill line]
5.3 L (1.4 Gallons) [usable]

Operating Environment: -25°C to +50°C
(-13°F to +122°F)

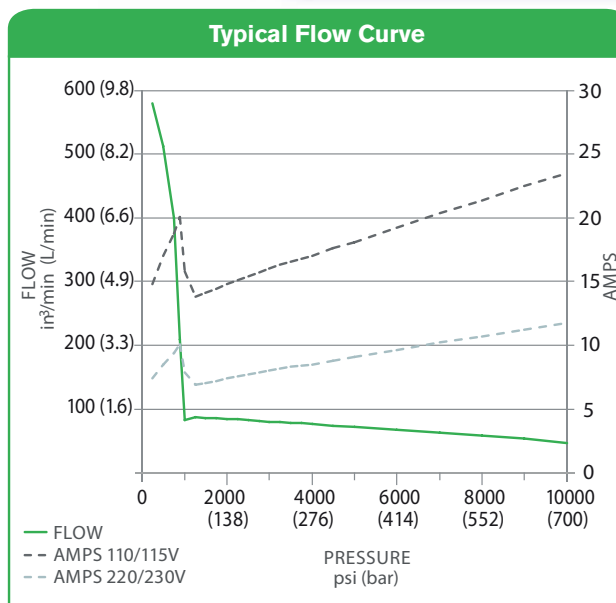
(When operating near temperature extremes, it is recommended to use hydraulic oils that are rated for those temperatures. Refer to service manuals and cooling options)

Sound Level: 87-92 dBA (max)

Pressure: 0 - 700 bar (0 - 10,000 psi)

Typical Flow: 11.5 L/min - 0.9 L/min
(704 in³/min - 56 in³/min)

Power: 1-1/8 hp Universal Motor
110/115V - 50/60 Hz (25 amps)
220/230V - 50/60 Hz (13 amps)



Order No.	Oil Delivery per min.	Oil Reservoir gal	Usable Oil in ³	Overall Width	Overall Length	Overall Height	Pump Weight w/Oil
PE55TWP-BS PE55TWP-220-BS	704 in ³ @ 100 psi 11.5 L/min @ 6.9 bar	2.5	324	17.14" 435 mm	9.5" 241 mm	18.12" 460 mm	75 lb 34 kg
	56 in ³ @ 10,000 psi 0.9 L/min @ 700 bar						
PE55TWP-4-BS PE55TWP-4-CF-BS PE55TWP-4-220-BS	704 in ³ @ 100 psi 11.5 L/min @ 6.9 bar	2.5	324	18.49" 470 mm	9.5" 241 mm	19.15" 487 mm	78 lb 35.5 kg
	56 in ³ @ 10,000 psi 0.9 L/min @ 700 bar						

Electrical Data

	Electric Motor	Electrical Control
PE55TWP-BS PE55TWP-4-BS PE55TWP-4-CF-BS	1-1/8 hp, 12000 rpm 110/150V, 50/60Hz, 25 amps	Remote control with 20-foot cord
PE55TWP-220-BS PE55TWP-4-220-BS	1-1/8 hp, 12000 rpm 220/230V, 50/60Hz, 13 amps	

Ordering Information

Order No.	Description
PE55TWP-BS	110/115V, 50/60 Hz, Single Tool
PE55TWP-4-BS	110/115V, 50/60 Hz, 4 Tool
PE55TWP-4-CF-BS	110/115V, 50/60 Hz, 4 Tool, with Cooling Fan
PE55TWP-220-BS	220/230V, 50/60 Hz, Single Tool
PE55TWP-4-220-BS	220/230V, 50/60 Hz, 4 Tool

Contact factory for CE pump options

Total Customer Satisfaction is Our Driving Force

A Pacesetter in SPX Hydraulic Technologies

As early as the 1950's, our entry into the challenging field of high pressure (10,000 psi) hydraulics opened new doors of opportunity. **POWER TEAM** offers you an extensive selection of hydraulic cylinders, power units, valves, accessories and hydraulically powered tools.

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POWER TEAM is registered for the coveted ISO 9001 international quality standard. The Power Team factory was recognized as one of the "10 Best Plants in the U.S.A." by Industry Week magazine. And we back up our quality claims with the Lifetime Marathon Warranty.* We design and build what we sell in our manufacturing facility located in Rockford, Illinois, U.S.A.

* Copies of this warranty are available from the factory upon request.

World-Wide Distributors Network

POWER TEAM provides a broad range of hydraulic tools & equipment that are being sold through dedicated stocking distributors all over the world. Providing you with product availability, immediate delivery, technical assistance and aftersales service.



**INTERNATIONAL
QUALITY
STANDARD**

World Class Hydraulic Tools

Torque Wrench



TWSD Series
SQUARE DRIVE



TWLC Series
LOW CLEARANCE

Pullers

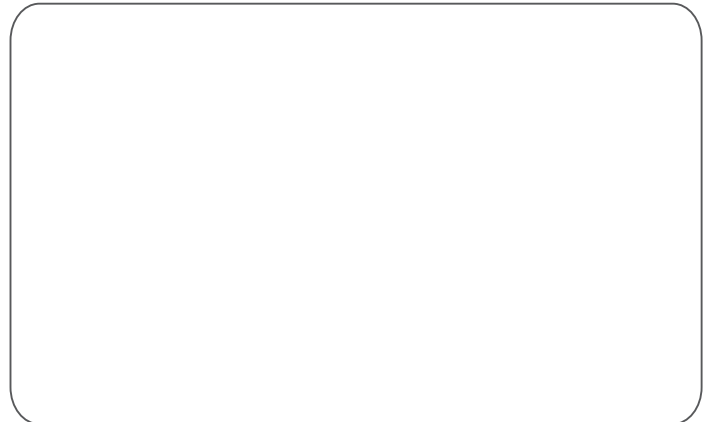


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