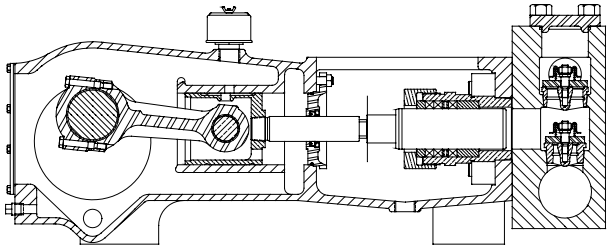
PENTAIR MYERS

DATASHEET

TRIPLEX PLUNGER PUMP

APLEX SERIES SC-170(L)(H)(DD)



INTERMITTENT DUTY ONLY

NO. OF PLUNGERS	3
MAXIMUM RATED SPEED	450 RPM
STROKE LENGTH	4.25 in. (180.0 mm)
MAXIMUM RATED POWER	230 hp (171.4 kW)
MAXIMUM ROD LOAD	14,280 lbs. (63.40 kN)
WEIGHT SC-170	1850 lbs.
WEIGHT SC-170L	2050 lbs.
WEIGHT SC-170H	2025 lbs.
WEIGHT SC-170DD	2325 lbs.

SC-170 ENGLISH UNITS

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI	*GALLON PER/ REV.	250 RPM US GPM	300 RPM US GPM	350 RPM US GPM	400 RPM US GPM	450 RPM US GPM
3.500	4.500	1484	0.531	132.8	159.3	185.9	212.4	239.0
3.375	4.500	1596	0.494	123.4	148.1	172.8	197.5	222.2
3.250	4.500	1721	0.458	114.5	137.4	160.3	183.2	206.0
3.125	4.000	1862	0.423	105.8	127.0	148.2	169.3	190.5
3.000	4.000	2020	0.390	97.5	117.0	136.6	156.1	175.6
2.875	4.000	2199	0.358	89.6	107.5	125.4	143.3	161.2
2.750	4.000	2404	0.328	82.0	98.4	114.7	131.1	147.5
2.625	4.000	2638	0.299	74.7	89.6	104.5	119.5	134.4
2.500	3.250	2909	0.271	67.7	81.3	94.8	108.4	121.9
hp REQUIRED @ RPM				127.8	153.3	178.9	204.4	230.0

SC-170 METRIC UNIT

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX PRESS. BAR	*LITER PER/ REV	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
88.9	114.3	102.3	2.010	502.5	603.0	703.5	804.0	904.5
85.7	114.3	110.0	1.869	467.3	560.8	654.2	747.7	841.1
82.6	114.3	118.7	1.733	433.3	520.0	606.7	693.3	780.0
79.4	101.6	128.4	1.602	400.6	480.7	560.8	641.0	721.1
76.2	101.6	139.3	1.477	369.3	443.1	517.0	590.8	664.7
73.0	101.6	151.6	1.356	339.1	406.9	474.7	542.5	610.3
69.9	101.6	165.7	1.241	310.2	372.3	434.3	496.4	558.4
66.7	101.6	181.9	1.131	282.7	339.2	395.7	452.3	508.8
63.5	82.6	200.6	1.026	256.4	307.7	358.9	410.2	461.5
kW REQUIRED @ RPM				95.2	114.3	133.3	152.4	171.5

SC-170H ENGLISH UNITS

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI.	* GALLON PER/ REV.	250 RPM US GPM	300 RPM US GPM	350 RPM US GPM	400 RPM US GPM	450 RPM US GPM
2.375	3.250	3223	0.245	61.1	73.4	85.6	97.8	110.0
2.250	3.250	3592	0.219	54.9	65.8	76.8	87.8	98.8
2.125	3.250	4027	0.196	48.9	58.7	68.5	78.3	88.1
2.000	2.875	4548	0.173	43.4	52.0	60.7	69.4	78.0
1.875	2.875	5172	0.152	38.1	45.7	53.3	61.0	68.6
1.750	2.875	5600	0.133	33.2	39.8	46.5	53.1	59.7
hp REQUIRED @ RPM				127.8	153.3	178.9	204.4	230.0

SC-170H METRIC UNIT

PLUNGER SIZE MM.	STUFFING BOX BORE MM.	MAX PRESS. BAR	* LITER PER/ REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
60.3	82.6	222.3	0.926	231.4	277.6	323.9	370.2	416.5
57.1	82.6	247.7	0.831	207.7	249.3	290.8	332.4	373.9
53.9	82.6	277.7	0.741	185.3	222.4	259.4	296.5	333.5
50.8	73.0	313.7	0.656	164.1	196.9	229.7	262.6	295.4
47.6	73.0	356.7	0.577	144.2	173.1	201.9	230.8	259.6
44.5	73.0	386.2	0.503	125.7	150.8	175.9	201.1	226.2
kW REQUIRED @ RPM				165.8	199.0	232.1	265.2	298.3

SC-170L ENGLISH UNITS

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI	*GALLON PER/ REV.	250 RPM US GPM	300 RPM US GPM	350 RPM US GPM	400 RPM US GPM	450 RPM US GPM
4.000	PISTON	1136	0.694	173.4	208.1	242.8	277.4	312.1
3.500	4.500	1484	0.531	132.8	159.3	185.9	212.4	239.0
3.375	4.500	1596	0.494	123.4	148.1	172.8	197.5	222.2
3.250	4.500	1721	0.458	114.5	137.4	160.3	183.2	206.0
3.125	4.000	1862	0.423	105.8	127.0	148.2	169.3	190.5
hp REQUIRED @ RPM				127.7	153.3	178.8	204.4	230.0

SC-170L METRIC UNIT

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX PRESS. BAR	*LITER PER/ REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
101.6	PISTON	78.3	2.626	656.4	787.7	919.0	1050.2	1181.5
88.9	114.3	102.3	2.010	502.5	603.0	703.5	804.0	904.5
85.3	114.3	110.0	1.869	467.3	560.8	654.2	747.7	841.1
82.6	114.3	118.7	1.733	433.3	520.0	606.7	693.3	780.0
79.4	101.6	128.4	1.602	400.6	480.7	560.8	641.0	721.1
kW REQUIRED @ RPM				95.2	114.3	133.3	152.4	171.5

SC-170DD ENGLISH UNITS

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI.	*GALLON PER/ REV.	250 RPM US GPM	300 RPM US GPM	350 RPM US GPM	400 RPM US GPM	450 RPM US GPM
4.500	PISTON	900	0.8778	219.4	263.3	307.2	351.1	395.0
4.250	PISTON	1000	0.7830	195.7	234.9	274.0	313.2	352.3
4.000	PISTON	1136	0.6936	173.4	208.0	242.7	277.4	312.1
hp REQUIRED @ RPM				128.0	175.0	179.2	204.9	230.5

SC-170DD METRIC UNIT

PLUNGER SIZE MM.	STUFFING BOX BORE MM.	MAX PRESS. BAR	* LITER PER/ REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
114.3	PISTON	62.0	3.32	830.5	996.6	1162.8	1329.0	1495.2
107.9	PISTON	68.9	2.96	740.8	889.1	1037.2	1185.5	1333.6
101.6	PISTON	78.3	2.62	656.3	787.3	918.7	1050.0	1181.4
kW REQUIRED @ RPM				95.4	130.4	133.6	152.7	171.8

*Displacement based on 100% Volumetric Efficiency

$$Ihp = \frac{USGPM \times (Discharge\ psig - 1/2\ Suction\ psig)}{1542}$$

$$PUMP\ RPM = \frac{USGPM\ Desired}{USG\ per\ Revolution\ of\ Selected\ Plunger}$$

Power based on 90% Mechanical Efficiency

$$IkW = \frac{M^3/HR \times (Discharge\ Bar - 1/2\ Suction\ Bar)}{32.4}$$

$$PUMP\ RPM = \frac{M^3/HR\ Desired}{M^3\ per\ Revolution\ of\ Selected\ Plunger}$$

ENGINEERING DATA

POWER END ENGINEERING DATA

Max. Input Power @ Speed	230 HP @ 450 RPM
Rated Plunger Load	14,280 lbs.
Minimum Speed	100 RPM
Oil Capacity	18 U.S. Qts.
Power End Oiling System	Pressure Lubrication
Power Frame, One-Piece	Cast Iron
Crosshead, Full Cylindrical	Cast Iron
Crosshead, Dia. x Length	5 3/4 x 6 3/16 in.
Crankshaft	AISI 4140 Steel, Nitrided
Crankshaft Diameters:	
At Tapered Roller Bearings	4 in.
At Crankpin Bearings, Dia. x Length	4 x 3 in.
Crosshead (Wrist) Pin, Case-Hardened and Ground	AISI 8620
Main Bearings, Tapered Roller	Timken®
Crankpin Bearings, Precision Automotive	Steel Backed, Babbitt-Lined
Extension (Pony) Rod	17-4 PH S.ST.
Connecting Rod, Automotive Type	Ductile Iron
Average Crosshead Speed @ 450 RPM	318 fpm
Minimum Life Expectancy, Main Bearings, L_{10}	45,000+ hr.

LIQUID END ENGINEERING DATA

Max. Continuous Working Pressure SC-170	3,000 psi
SC-170L	1,862 psi
SC-170H	5,600 psi
SC-170DD	1,136 psi
Hydrostatic Test SC-170	4,500 psi
SC-170L	3,330 psi
SC-170H	9,640 psi
SC-170DD	1,700 psi
Liquid End Materials, A.S.T.M.	
Carbon Steel Block	Various Grades
Ductile Iron Casting SC-170L, SC-170DD	A536 80-55-06
Stainless Steel Block	Various Grades
Plunger Type Rokide® (Chromium Oxide-Coated)	Tungsten Carbide, Ceramic and other types also available
Stuffing Boxes, Field-Removable and Replaceable	Same as fluid end
Packing Types Available:	
Gland-Loaded, Non-Adjustable	Style 838
Spring-Loaded, Braided PTFE coating & Aramid Fiber	Style 0140, 0140, 8921K
Spring-Loaded, Cup-Type	Style 120X

LIQUID END ENGINEERING DATA continued:

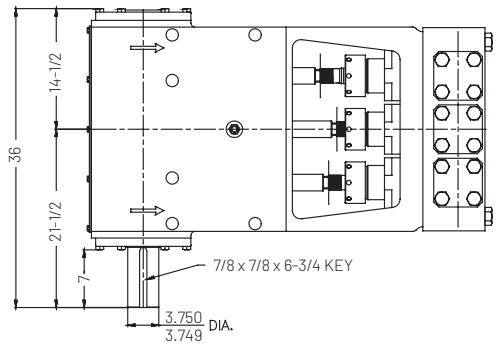
Valve Cover and Cyl. Head Plugs	Dependant on Fluid End Material
Piston Liner Type SC-170DD, SC-170L	High Chrome Iron
Piston Cups Available: SC-170L(DD)	Nitrile Rubber
Seals, Stuffing Boxes, Valve Covers	Nitrile
Valve Types Available:	
Hardened and Lapped	17-4PH S.ST.
Abrasion Resistant	17-4PH S.ST. w/ Polyurethane Insert
Disc Style	Acetal
Valve Spring Material	Inconel®
Valve Seat, Liquid Passage Area SC-170	3.925 sq.in.
SC-170L	6.26 sq.in.
SC-170H	2.3 sq.in.
SC-170DD	5.3 sq.in.
Avg. Liquid Velocity @ 450 RPM	
thru Valves SC-170	13.0 fps
SC-170L	10.6 fps
SC-170H	10.2 fps
SC-170DD	15.9 fps
thru Suction Manifold SC-170	6.1 fps
SC-170L	5.1 fps
SC-170H	5.0 fps
SC-170DD	4.5 fps
thru Discharge Manifold SC-170	15.6 fps
SC-170L	20.4 fps
SC-170H	11.2 fps
SC-170DD	17.9 fps

All drawings and specifications subject to change without notice.

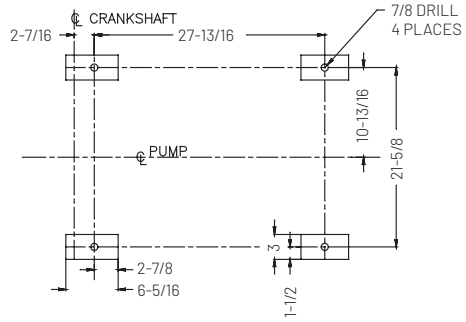
DIMENSIONAL DATA

Measurements in inches.

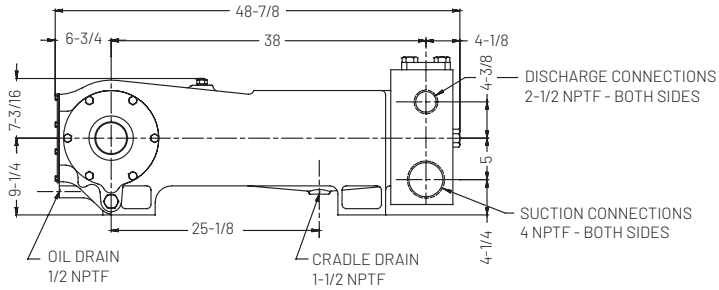
SC-170



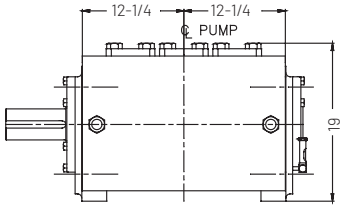
SC-170 SERIES



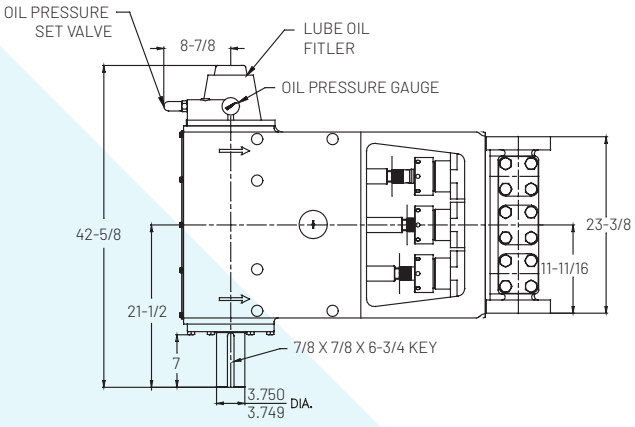
SC-170



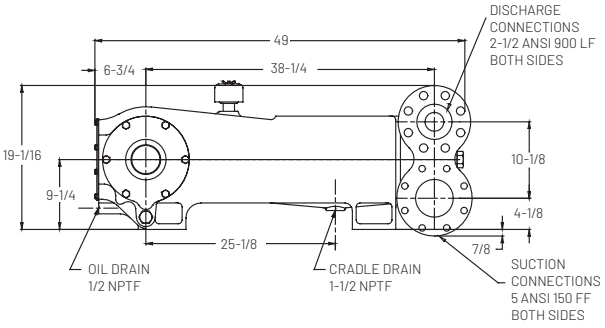
SC-170



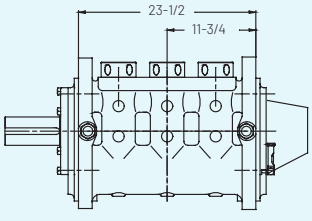
SC-170L



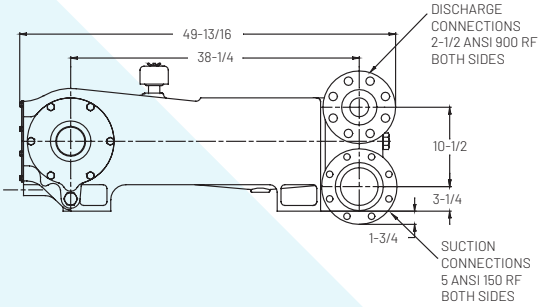
SC-170L



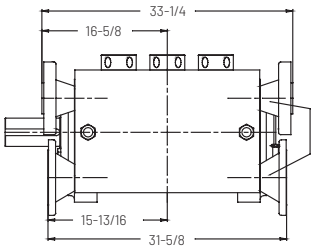
SC-170L



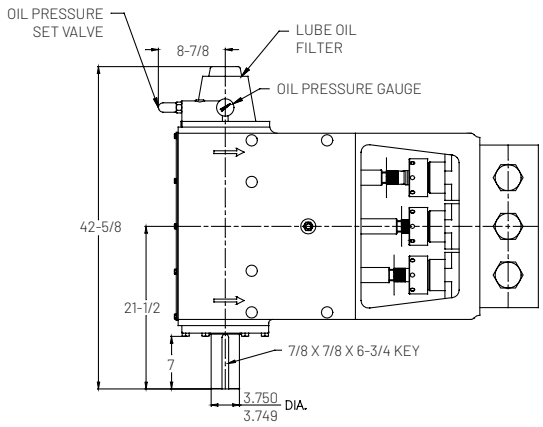
SC-170L



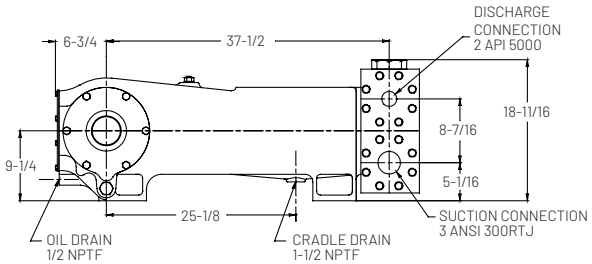
SC-170L



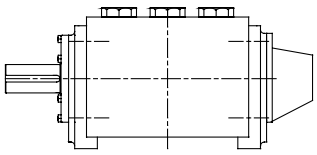
SC-170H



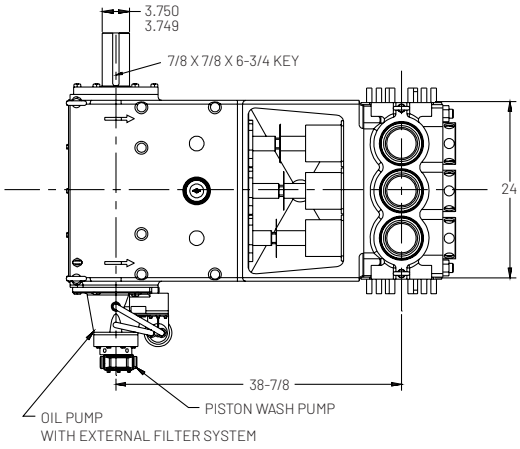
SC-170H



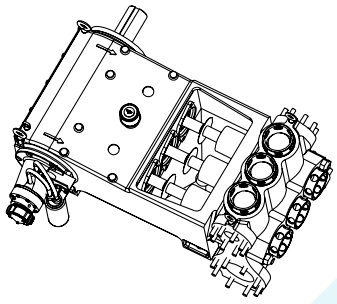
SC-170H



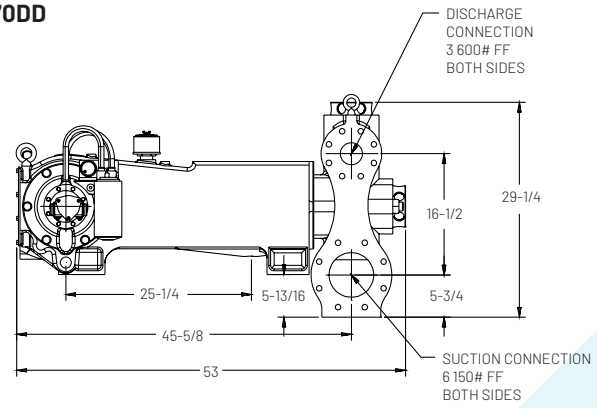
SC-170DD



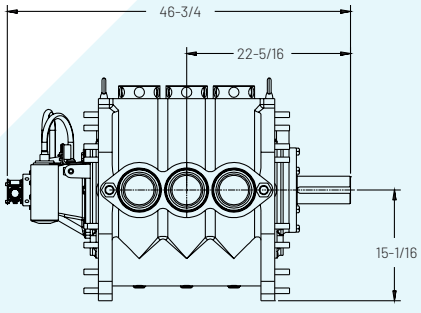
SC-170DD



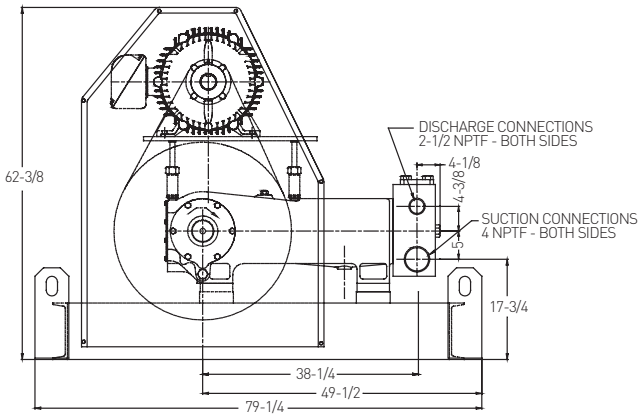
SC-170DD



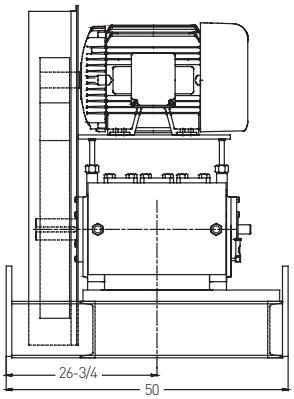
SC-170DD



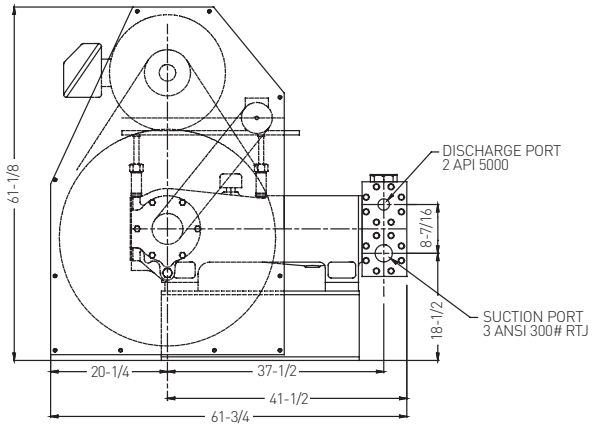
SC-170



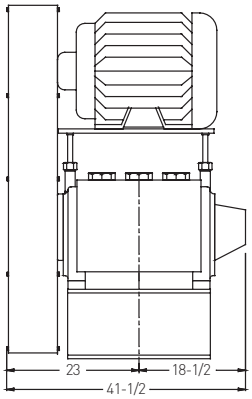
SC-170



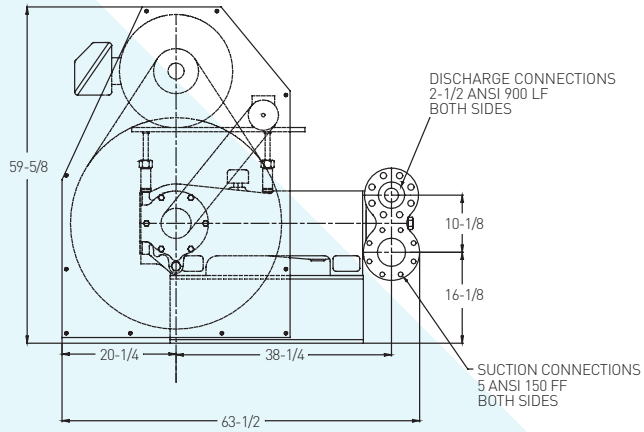
SC-170H



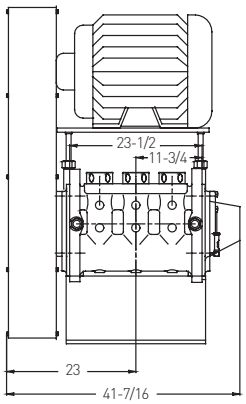
SC-170H



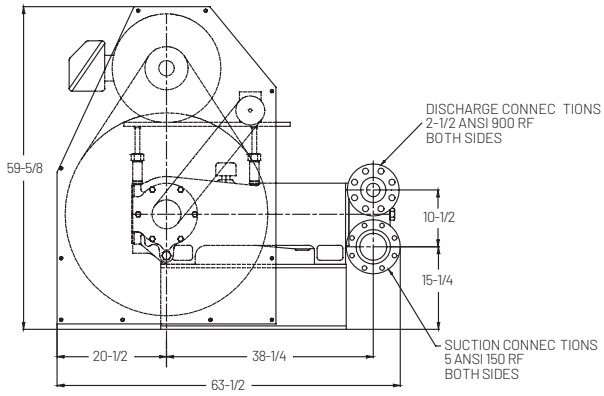
SC-170L



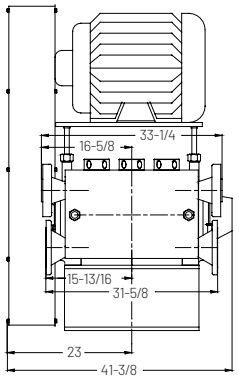
SC-170L



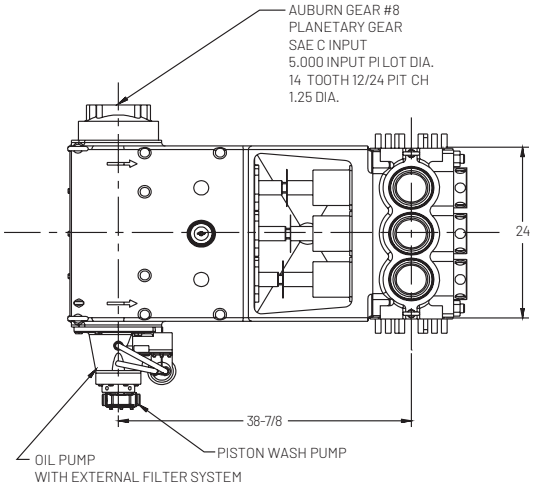
SC-170L



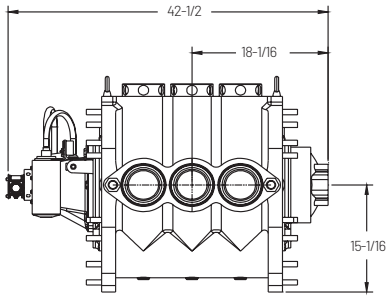
SC-170L



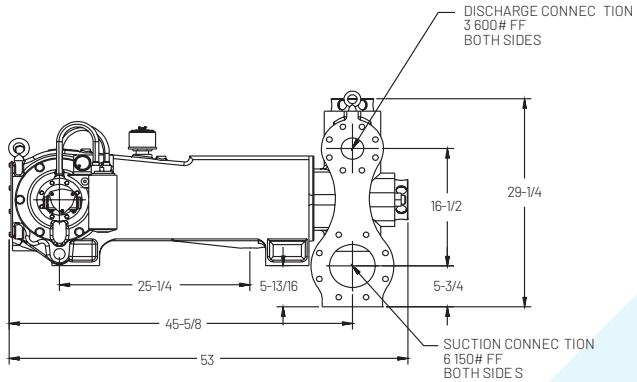
SC-170DD



SC-170DD



SC-170DD



1101 Myers Parkway,
Ashland, OH 44805, USA
Ph: 855.274.8948
Fx: 800.426.8947

490 Pinebush Road,Unit 4,
Cambridge,Ontario N1T 0A5,Canada
Ph: 800.363.7867

pentair.com

All indicated Pentair trademarks and logos are property of Pentair. Third party registered and unregistered trademarks and logos are the property of their respective owners. Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice. Pentair is an equal opportunity employer.

Inconel® is a registered trademark of the Special Metals family of companies.
Timken® is a registered trademark of The Timken Company.
Rokide® is a registered trademark of Saint-Gobain Abrasives, Inc.

©2021 Pentair. All Rights Reserved.

MA3012 (10-15-21)