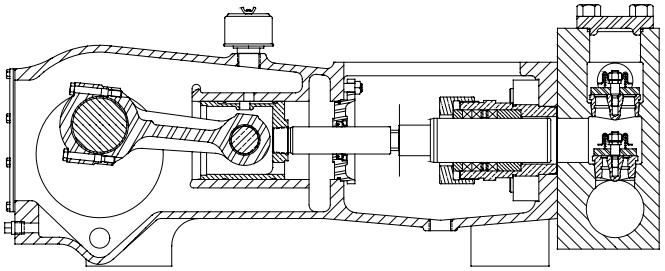
PENTAIR

MYERS® APLEX SERIES



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

TRIPLEX PLUNGER PUMP

Intermittent Duty Only

No. of plungers 3
Maximum rated speed ..... 450 RPM
Stroke length ..... 4.25 in. 108.0 mm
Maximum rated power ..... 230 hp 171.4 kW
Maximum rod load ..... 14,280 lbs. 63.40 kN
Weight SC-170 ..... 1850 lbs.
SC-170L ..... 2050 lbs.
SC-170H ..... 2025 lbs.
SC-170DD ..... 2325 lbs.

ENGLISH UNITS **SC-170**

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

ENGLISH UNITS **SC-170L**

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

ENGLISH UNITS **SC-170H**

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

ENGLISH UNITS **SC-170DD**

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	.8778	219.4	263.3	307.2	351.1	395.0
4.250	PISTON	1000	.7830	195.7	234.9	274.0	313.2	352.3
4.000	PISTON	1136	.6936	173.4	208.0	242.7	277.4	312.1
hp REQUIRED @ RPM				128.0	175.0	179.2	204.9	230.5

METRIC UNITS **SC-170**

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

METRIC UNITS **SC-170L**

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

METRIC UNITS **SC-170H**

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				95.2	114.3	133.3	152.4	171.5

METRIC UNITS **SC-170DD**

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

Power based on 90% Mechanical Efficiency

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

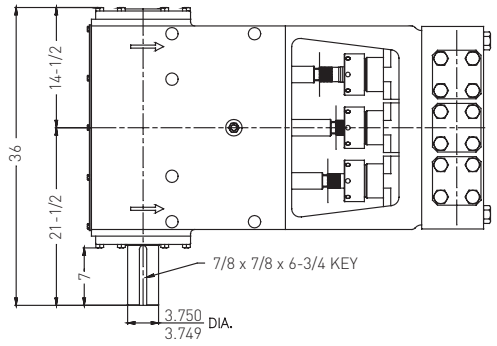
$$PUMP\ RPM = \frac{USGPM\ Desired}{USGPM\ per\ Revolution\ of\ Selected\ Plunger}$$

$$IkW = \frac{M^3/HR \times (Discharge\ Bar - 1/2\ SuctionBar)}{17.99}$$

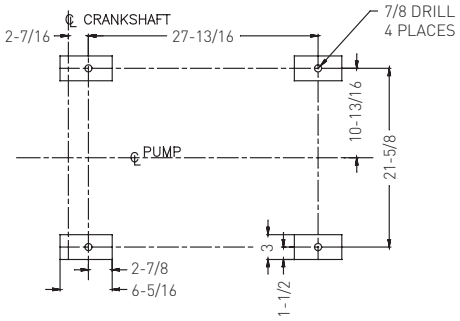
$$PUMP\ RPM = \frac{M^3/HR\ Desired}{M^3\ per\ Revolution\ of\ Selected\ Plunger}$$

Triplex Pump
(Measurements in inches)

SC-170



SC-170 Series



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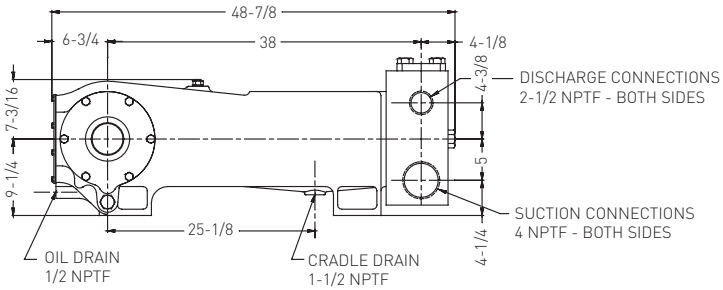

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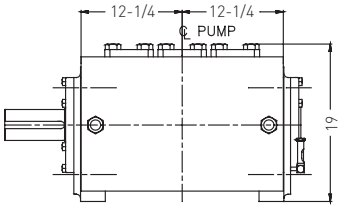

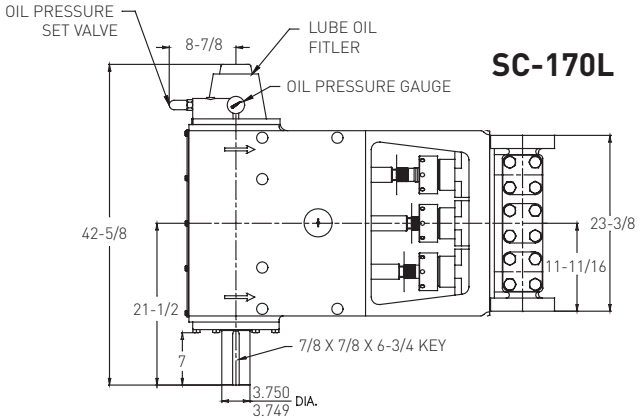

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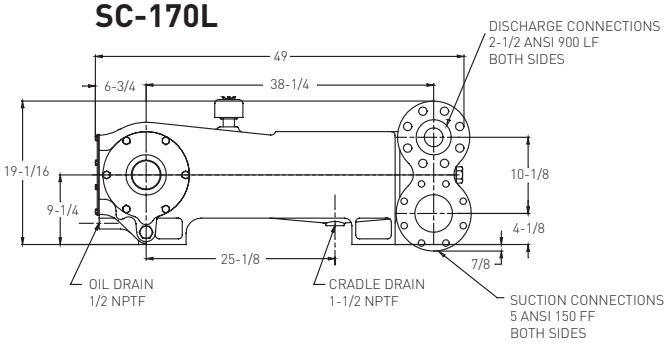

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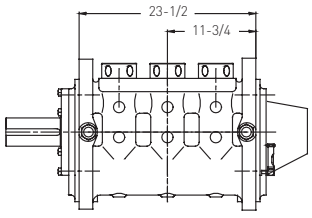

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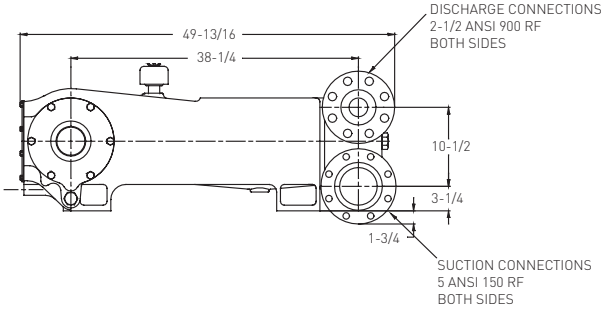

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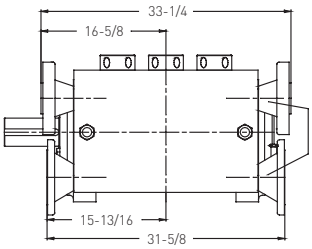
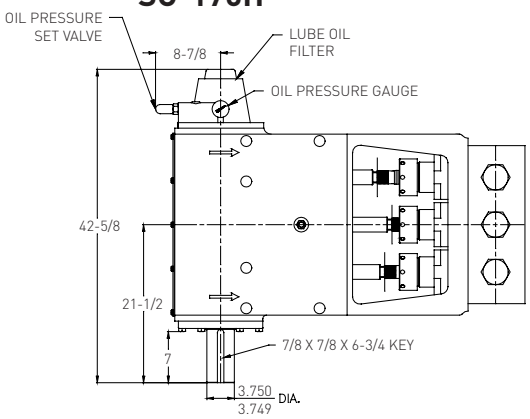


Triplex Pump
(Measurements in inches)

SC-170H



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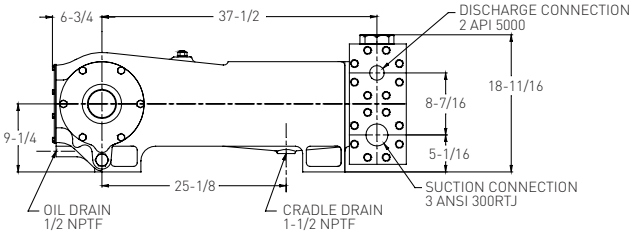

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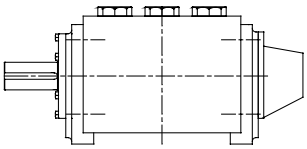
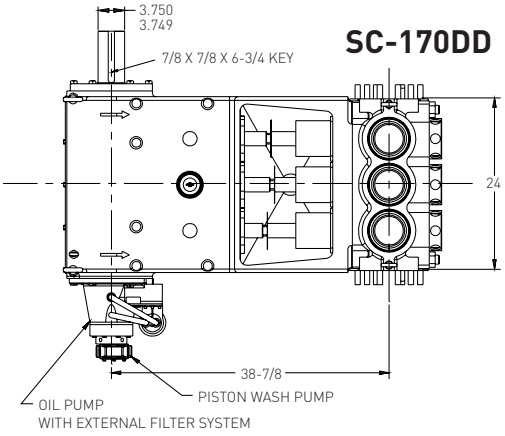


SC-170DD



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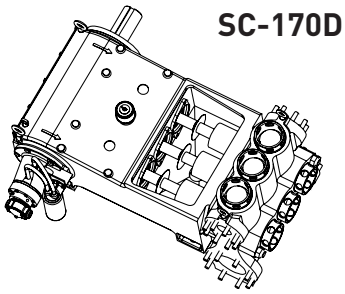

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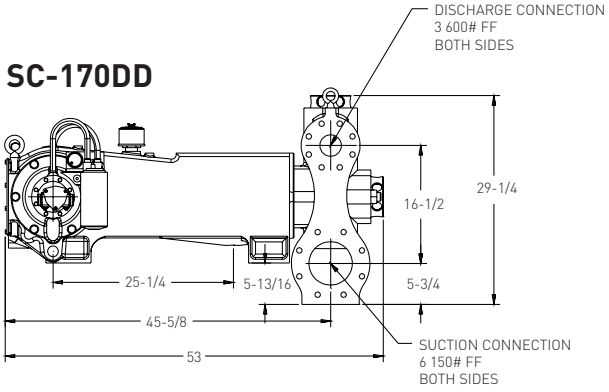

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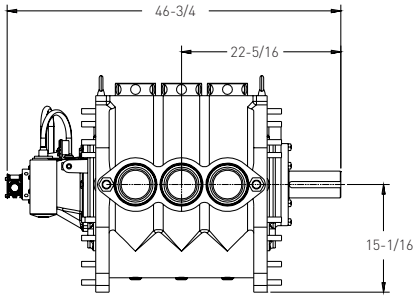


ENGINEERING DATA

SC-170(L)(H)(DD) Triplex Pump

POWER END ENGINEERING DATA

Max. Input Power @ Speed	230 HP @ 450 RPM
Rated Continuous 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 SC-170(H)	Ductile Iron
Crankshaft SC-170L(DD)	Forged and Nitrided Steel
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 SC-170(H)	Babbitt-Lined
Crankpin Bearings, Precision Automotive SC-170L(DD)	Steel Backed, Babbitt-Lined
Extension (Pony) Rod Integral w/ Plungers SC-170(H)	17-4 PH S.ST.
Extension (Pony) Rod, Integral w/ Plungers SC-170L	316 S.ST.
Extension (Pony) Rod SC-170DD	17-4 PH S.ST. Hardened
Connecting Rod, Automotive Type	Ductile Iron
Average Crosshead Speed @ 450 RPM SC-170	267 fpm
SC-170L(H)(DD)	318 fpm
Minimum Life Expectancy, Main Bearings, L_{10} SC-170L(H)(DD)	45,000+ hr.

LIQUID END ENGINEERING DATA

Max. Continuous Working Pressure SC-170	3,500 psi
SC-170L	1,862 psi
SC-170H	5,600 psi
SC-170DD	1,480 psi
Hydrostatic Test SC-170	5,250 psi
SC-170L	3,330 psi
SC-170H	9,640 psi
SC-170DD	2,220 psi
Liquid End Materials, A.S.T.M.	
Carbon Steel SC-170(DD)	A516 Gr.70
Carbon Steel Block SC-170L	A105
Carbon Steel Block SC-170H	4140
Ductile Iron Casting SC-170L	A536 80-55-06
Stainless Steel Block SC-170H	15-5PH S.ST.
Plunger Type Rokide® Stainless Steel, (Chromium Oxide-Coated) SC-170	416 or 316 S.ST.
Plunger Type Rokide® (Chromium Oxide-Coated) SC-170L(H)	316 S.ST.
Stuffing Boxes, Field-Removable and Replaceable, Carbon Steel SC-170	1020
Stuffing Boxes, Field-Removable and Replaceable SC-170L	Ductile Iron

Packing Types Available:
- Gland-Loaded, Non-Adjustable SC-170 ..... Style 838
- Spring-Loaded, Braided PTFE coating & Aramid Fiber SC-170(L) ..... Style 140
- Spring-Loaded, Cup-Type SC-170(L)(H) ..... Style 120X
- Spring-Loaded, Aramid Fiber SC-170H ..... Style 140
- Spring-Loaded, Garlock ..... Style 8921K

Valve Cover and Cyl. Head Plugs SC-170 ..... A36
SC-170L ..... 316 S.ST.
Piston Liner Type SC-170L ..... Chrome Oxide Coated 4140
Piston Liner Type SC-170DD ..... High Chrome Iron
Piston Cups Available: SC-170L(DD)
- Urethane
- HSN and Aramid Fiber
- Nitrile

Retainer Plates, Ductile Iron, A.S.T.M. SC-170L(DD) A536 80-55-06
Seals, Stuffing Boxes, Valve Covers ..... Buna-N
Bolting, High Strength, Heat Treated SC-170H ..... Alloy Steel
Valve Type SC-170 ..... 17-4PH S.ST.
Disc Valve Types
- Regularly Furnished, Abrasion Resistant SC-170L ..... 17-4PH S.ST. and Polyurethane Insert
- Optional, Hardened and Lapped SC-170L ..... 17-4 PH S.ST.

Valve Types Available:
- Standard, Hardened and Lapped SC-170H ..... 17-4PH S.ST.
- Optional, Abrasion Resistant SC-170H ..... 17-4PH S.ST.

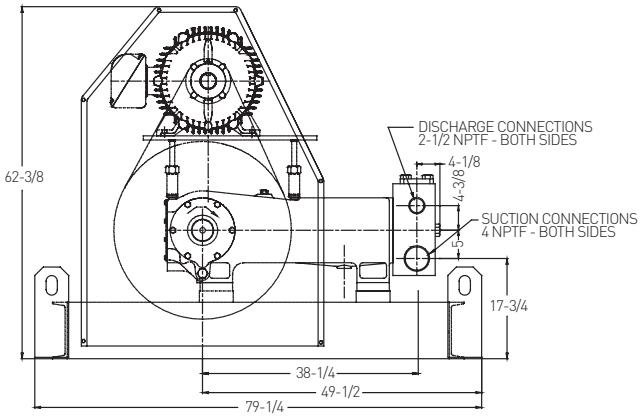
Valve Type
- Abrasion Resistant (Wing and Post Guided) SC-170DD

Valve Spring Material SC-170(H) ..... 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 ..... 9.71 fps
  - SC-170L ..... 7.26 fps
  - SC-170H ..... 8.0 fps
  - SC-170DD ..... 11.2 fps
- thru Suction Manifold SC-170 ..... 4.54 fps
  - SC-170L ..... 3.82 fps
  - SC-170H ..... 3.4 fps
  - SC-170DD ..... 3.14 fps
- thru Discharge Manifold SC-170 ..... 10.24 fps
  - SC-170L ..... 18.09 fps
  - SC-170H ..... 7.6 fps
  - SC-170DD ..... 12.6 fps

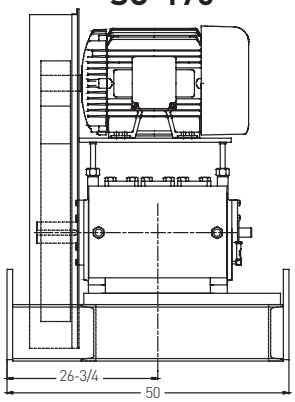
All drawings and specifications subject to change without notice.

Triplex Pump
(Measurements in inches)

SC-170



SC-170



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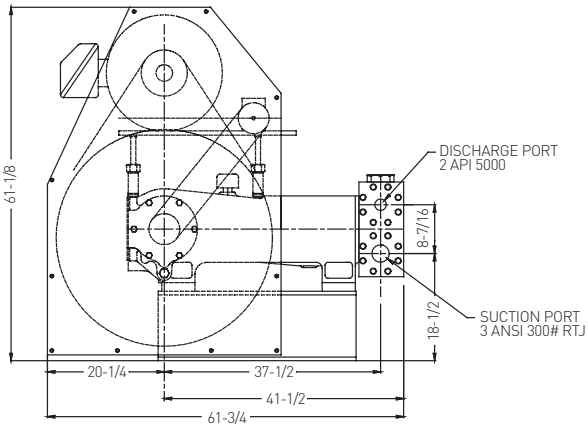

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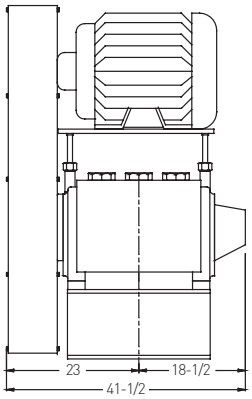
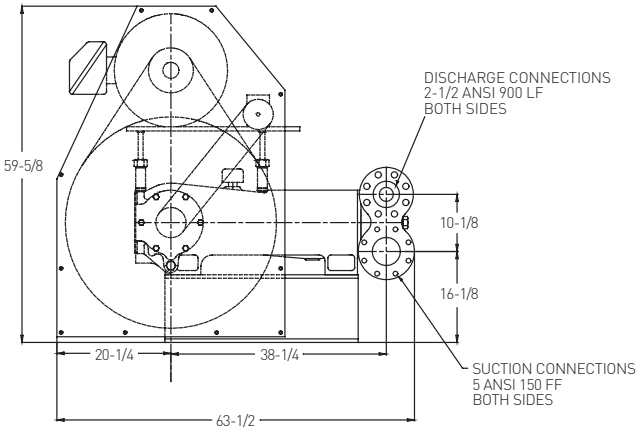


SC-170L



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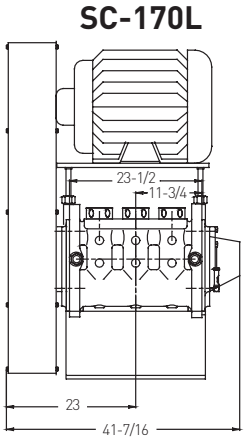
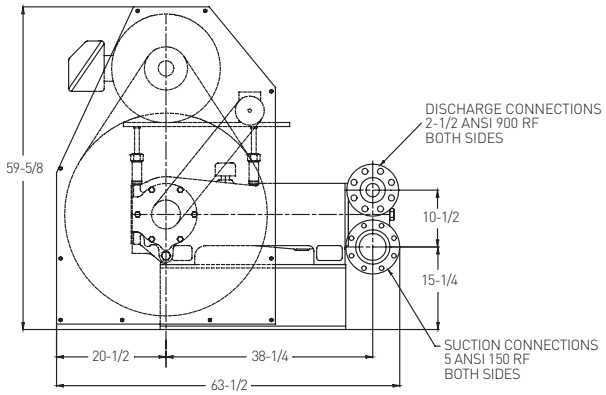


Triplex Pump
(Measurements in inches)

SC-170L



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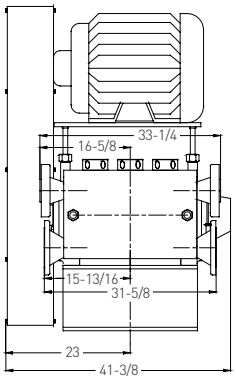
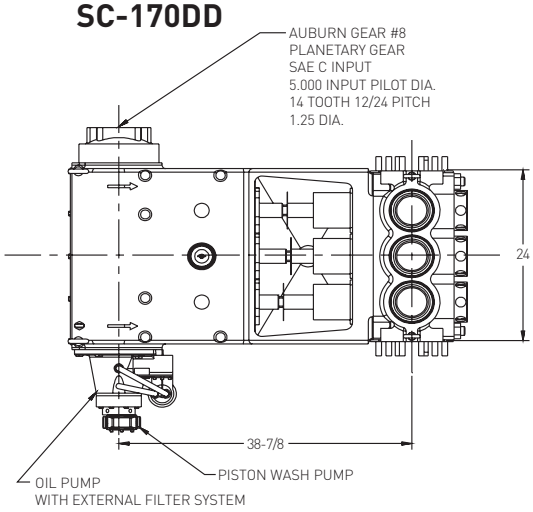


SC-170DD



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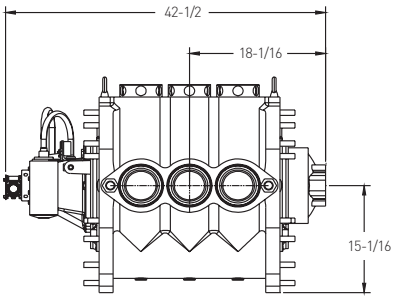

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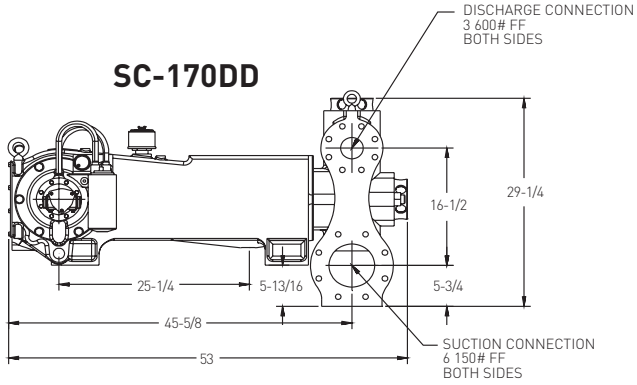

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