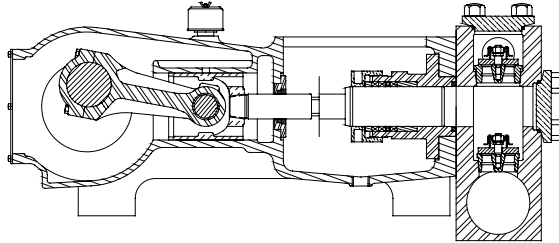


APLEX SERIES MA-155M (L) (H) Triplex Plunger Pump



No. of plungers	3
Maximum rated speed	450 rpm
Stroke length	4.50 in. 114.3 mm
Maximum rated power	155.0 hp 115.5 kW
Maximum rod load	9087 lbs. 40.3 kN
Weight MA-155M	2500 lbs.
MA-155L	2680 lbs.
MA-155H	2935 lbs.

ENGLISH UNITS
MA-155M

PLUNGER SIZE in.	STUFFING BOX BORE in.	MAX psi	*GALLON PER/REV.	250 RPM GPM	300 RPM GPM	350 RPM GPM	400 rpm US GPM	450 rpm US GPM
2.750	3.500	1530	0.347	86.8	104.1	121.5	138.8	156.2
2.625	3.500	1679	0.316	79.1	94.9	110.7	126.5	142.3
2.500	3.500	1852	0.287	71.7	86.1	100.4	114.8	129.1
2.375	3.500	2051	0.259	64.7	77.7	90.6	103.6	116.5
2.250	3.000	2286	0.232	58.1	69.7	81.3	92.9	104.6
2.125	3.000	2562	0.207	51.8	62.2	72.5	82.9	93.3
2.000	3.000	2892	0.184	45.9	55.1	64.3	73.4	82.6
1.875	3.000	3291	0.161	40.3	48.4	56.5	64.5	72.6
1.750	3.000	3600	0.141	35.1	42.2	49.2	56.2	63.3

hp Required @ rpm

86.1

103.3

120.5

137.8

155.0

METRIC UNITS
MA-155M

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
69.9	88.9	105.5	1.314	328.5	394.2	459.9	525.6	591.3
66.7	88.9	115.7	1.197	299.3	359.2	419.1	478.9	538.8
63.5	88.9	127.6	1.086	271.5	325.8	380.1	434.4	488.7
60.3	88.9	141.4	0.980	245.0	294.0	343.0	392.0	441.0
57.2	76.2	157.6	0.880	219.9	263.9	307.9	351.9	395.9
54.0	76.2	176.6	0.785	196.2	235.4	274.6	313.9	353.1
50.8	76.2	199.4	0.695	173.8	208.5	243.2	278.0	312.8
47.6	76.2	226.8	0.611	152.8	183.3	213.8	244.4	274.9
44.5	76.2	248.2	0.532	133.1	159.7	186.3	212.9	239.5

kW Required @ rpm

64.2

77.0

89.9

102.8

115.6

ENGLISH UNITS
MA-155L

PLUNGER SIZE in.	STUFFING BOX BORE in.	MAX psi	*GALLON PER/REV.	250 RPM GPM	300 RPM GPM	350 RPM GPM	400 RPM GPM	450 RPM GPM
4.000	5.000	724	0.734	183.6	220.3	257.0	293.8	330.5
3.875	5.000	771	0.689	172.3	206.8	241.2	275.7	310.1
3.750	5.000	823	0.645	161.4	193.6	225.9	258.2	290.5
3.625	5.000	881	0.603	150.8	180.9	211.1	241.3	271.4
3.500	4.500	945	0.562	140.6	168.7	196.8	224.9	253.0
3.375	4.500	1016	0.523	130.7	156.8	183.0	209.1	235.3
3.250	4.500	1096	0.485	121.2	145.4	169.7	193.9	218.2
3.125	4.000	1185	0.448	112.1	134.5	156.9	179.3	201.7
3.000	4.000	1285	0.413	103.3	123.9	144.6	165.2	185.9
2.875	4.000	1400	0.379	94.8	113.8	132.8	151.8	170.7

hp Required @ rpm

86.2

103.4

120.7

137.9

155.0



APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

METRIC UNITS

MA-155L

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	127.0	49.9	2.780	695.0	834.0	973.0	1112.0	1251.0
98.4	127.0	53.2	2.610	652.5	783.0	913.5	1044.0	1174.5
95.3	127.0	56.7	2.444	610.9	733.0	855.2	977.4	1099.6
92.1	127.0	60.7	2.283	570.9	685.0	799.2	913.4	1027.5
88.9	114.3	65.2	2.129	532.1	638.5	745.0	851.4	957.8
85.7	114.3	70.1	1.979	494.8	593.7	692.6	791.6	890.6
82.6	114.3	75.6	1.835	458.8	550.6	642.3	734.1	825.8
79.4	101.6	81.7	1.697	424.2	509.0	593.8	678.6	763.5
76.2	101.6	88.6	1.564	391.0	469.1	547.3	625.5	703.7
73.0	101.6	96.5	1.436	359.0	430.9	502.7	574.5	646.3
kW Required @ rpm				64.3	77.1	90.0	102.8	115.6

ENGLISH UNITS

MA-155H

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX psi.	*GALLON PER/ REV.	250 RPM US GPM	300 RPM GPM	350 RPM GPM	400 RPM GPM	450 RPM GPM
1.875	3.000	3289	0.161	40.3	48.4	56.5	64.5	72.6
1.750	3.000	3776	0.141	35.1	42.2	49.2	56.2	63.3
1.625	2.500	4379	0.121	30.3	36.4	42.4	48.5	54.5
1.500	2.500	5000	0.103	25.8	31.0	36.1	41.3	46.5
hp Required @ rpm				86.0	103.3	120.5	137.7	155.0

METRIC UNITS

MA-155H

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
47.6	76.2	226.7.1	0.611	152.8	183.3	213.8	244.4	274.9
44.4	76.2	226.3	0.532	133.1	159.7	186.3	212.9	239.5
41.2	63.5	301.9	0.459	114.7	137.6	160.6	183.5	206.5
38.1	63.5	344.7	0.391	97.8	117.3	136.8	156.4	176.0
kW Required @ rpm				64.1	77.0	89.9	102.7	115.6

*Displacement based on 100% Volumetric Efficiency

Power based on 90% Mechanical Efficiency

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

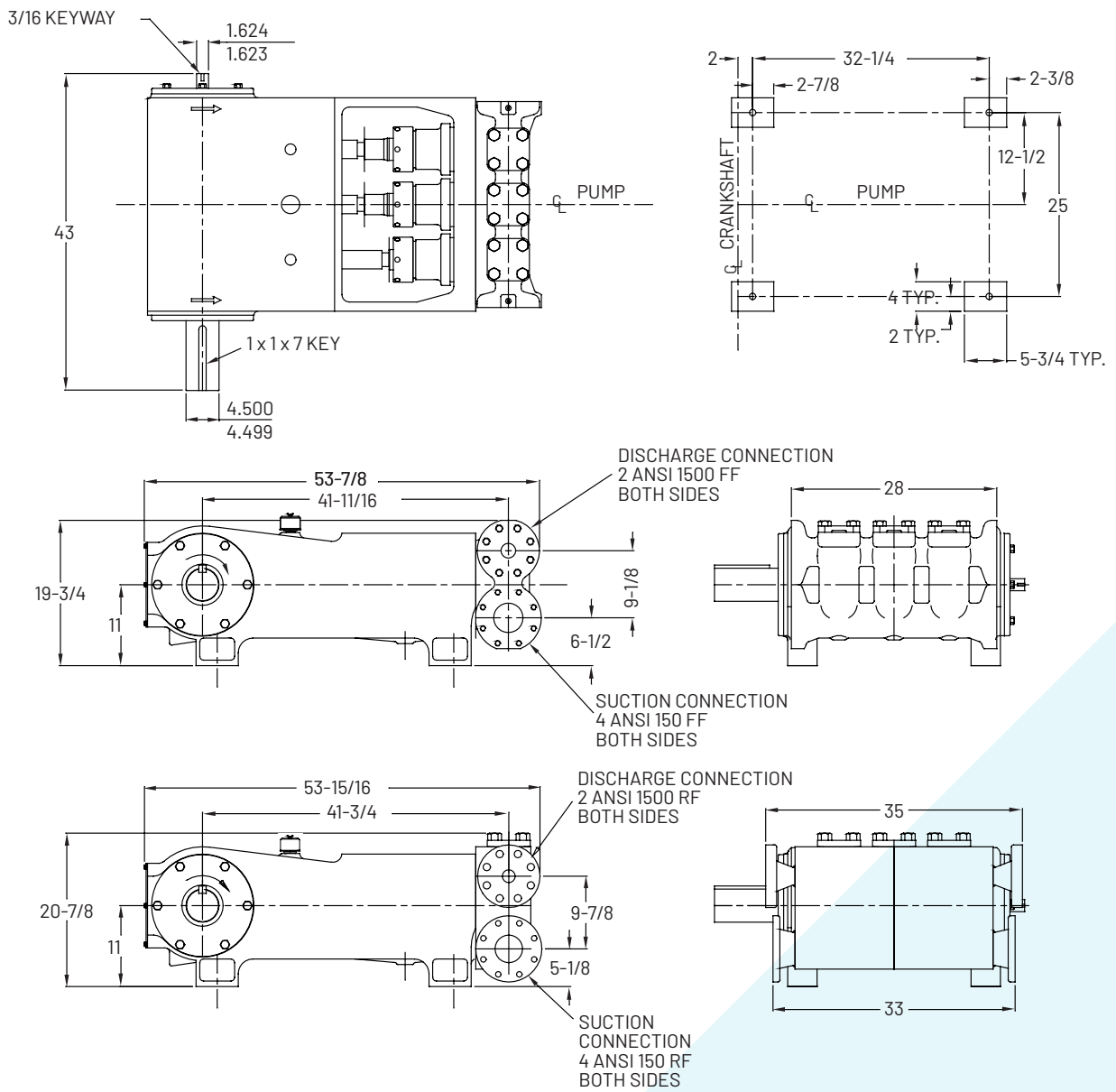
$$\text{Pump rpm} = \frac{USGPM \text{ Desired}}{USG \text{ per Revolution of Selected Plunger}}$$

$$lkW = \frac{M/HR \times (\text{Discharge Bar} - 1/2 \text{ Suction Bar})}{32.4}$$

$$\text{Pump rpm} = \frac{M/HR \text{ Desired}}{M' \text{ per Revolution of Selected Plunger}}$$

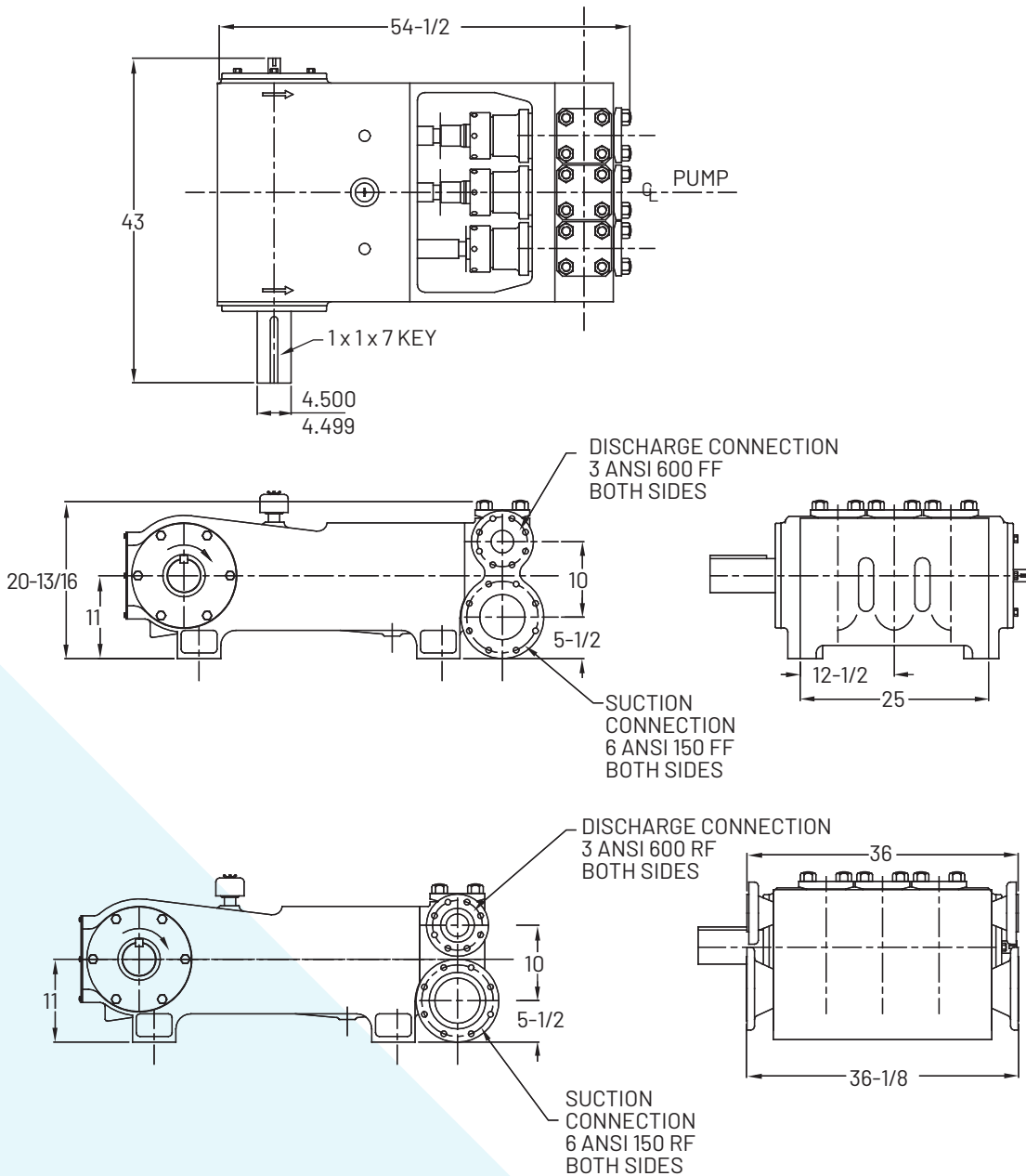
APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

MA-155M Triplex Pump (Measurements shown in inches)



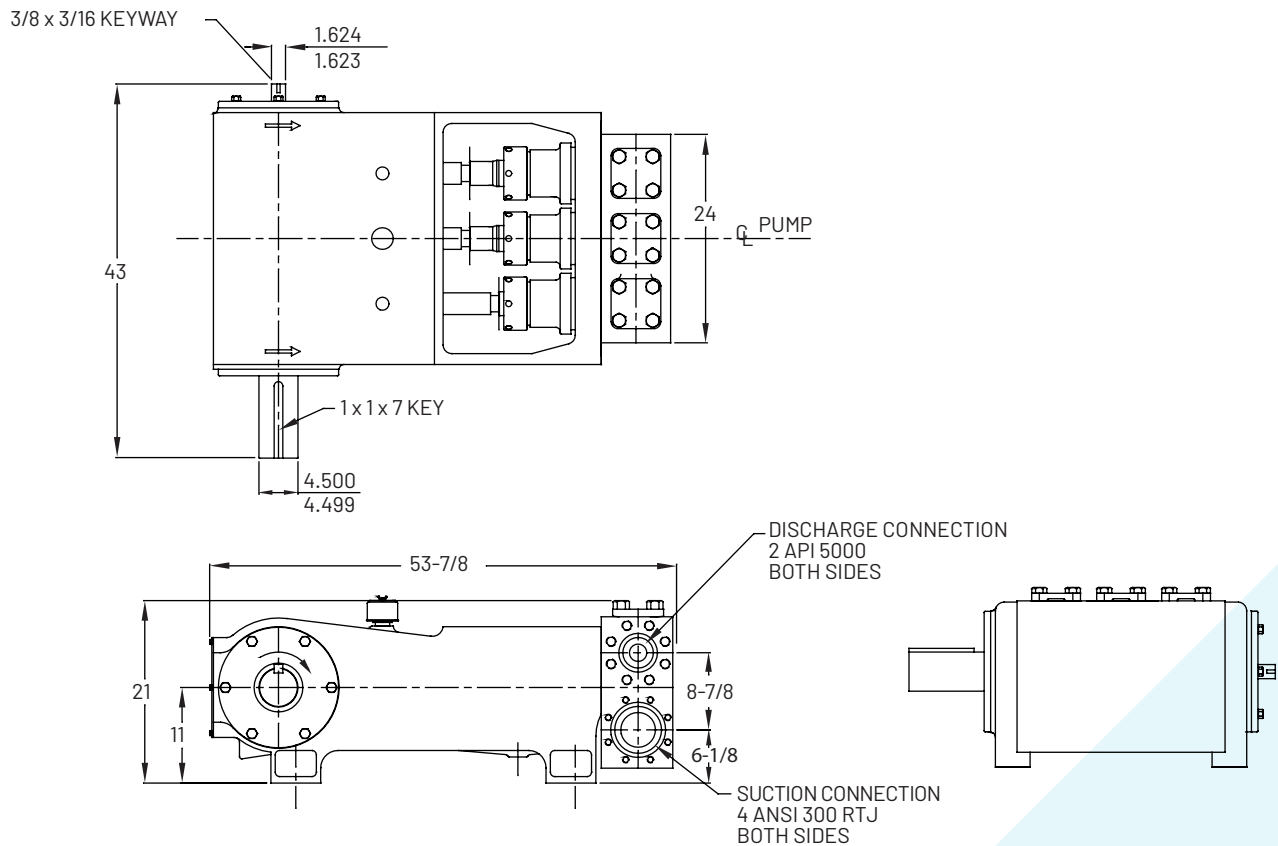
APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

MA-155L Triplex Pump (Measurements shown in inches)



APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

MA-155H Triplex Pump (Measurements shown in inches)





APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

POWER END ENGINEERING DATA

Max. Input hp @ Speed	175 @ 450 rpm
Rated Continuous Plunger Load	10,259 lbs.
Normal Continuous Speed Range	150 to 420 rpm
Minimum Speed	100 rpm
Oil Capacity	22 U.S. Qts
Power End Oiling System	Splash
Power Frame, One-Piece	Cast Iron
Crosshead, Full Cylindrical	Cast Iron
Dia. x Length	7-5/8 x 6-3/4 in.
Crankshaft	AISI 4140 Steel , Nitrided
Crankshaft Diameters:	
At Tapered Roller Bearings	4-3/4 in.
At Crankpin Bearings, Dia. x Length	4-1/2 x 3-3/4 in.
Crosshead (Wrist) Pin, Case-Hardened and Ground	AISI 8620
Wrist Pin Bushing, SAE 660, Dia. x Width	2.66 x 1.81 in.
Main Bearings, Tapered Roller	Timken®
Crankpin Bearings, Precision Automotive	Steel Backed, Babbitt-Lined
Extension (Pony) Rod	17-4 PH SST
Connecting Rod, Automotive Type	Ductile Iron
Average Crosshead Speed @ 450 rpm	338 fpm
Minimum Life Expectancy, Main Bearings, L ₁₀	60,000+ hr.

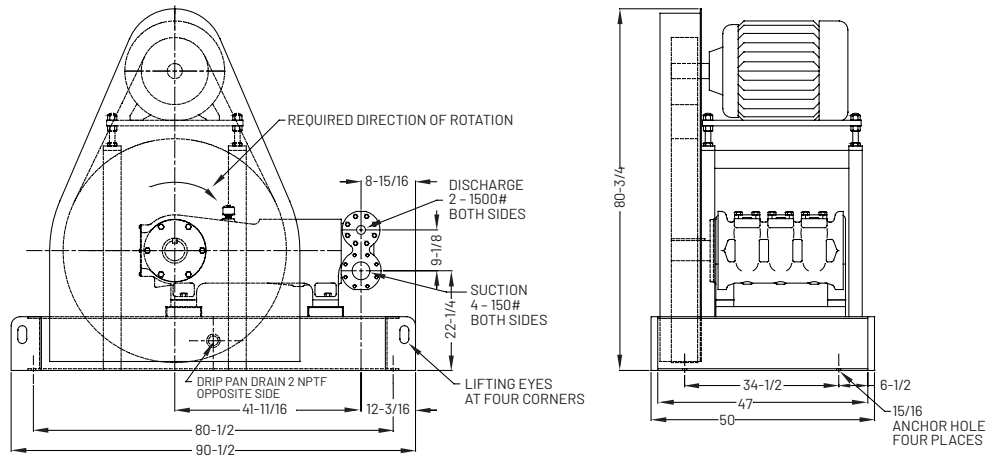
LIQUID END ENGINEERING DATA

Max. Continuous Working Pressure 155M	3,600 psi
155L	1,580 psi
155H	5,000 psi
Hydrostatic Test 155M	5,400 psi
155L	2,370 psi
155H	7,500 psi
Available Liquid End Materials, A.S.T.M.	
Stainless Steel Block 155M, 155L	Various Grades
Nickel Aluminum Bronze Casting	B148-C955
Carbon Steel Block	Various Grades
Plunger Type Rokide® (Chromium Oxide-Coated)	(Other types available include Tungsten Carbide, Ceramic)
Stuffing Boxes, Field-Removable and Replaceable	
Nickel Aluminum Bronze 155M, 155L	B148-C955
Stainless Steel	Various Grades
Carbon Steel	1020
Packing Types Available	
Gland-Loaded, Non-Adjustable	Style 838
Spring-Loaded, Braided PTFE Coating & Aramid Fiber	Style 140, 0141, 8921K
Spring-Loaded, Cup-Type	Style 120X
Valve Cover	Dependant on Fluid End Material
Seals, Stuffing Boxes, Valve Covers	Nitrile
Disc Valve Types:	
Standard Disc Type, Acetal Resin, 155M, 155L	Acetal
Optional Disc type, Hardened and Lapped Stainless Steel	17-4 PH S.ST.
Optional, Abrasion Resistant, Wing Guided	17-4 PH S.ST.
Valve Spring Material	Inconel®
Valve Seat, Liquid Passage Areas Disc Valves, 155M	3.9 sq.in.
155L	6.54 sq.in.
155H	2.3 sq.in.
Avg. Liquid Velocity @ 450 rpm	
thru Valves 155M	8.5 fps
155L	10.8 fps
155H	6.75 fps
thru Suction Manifold 155M	3.9 fps
155L	3.7 fps
155H	1.9 fps
thru Discharge Manifold 155M	16.0 fps
155L	15.0 fps
155H	7.4 fps

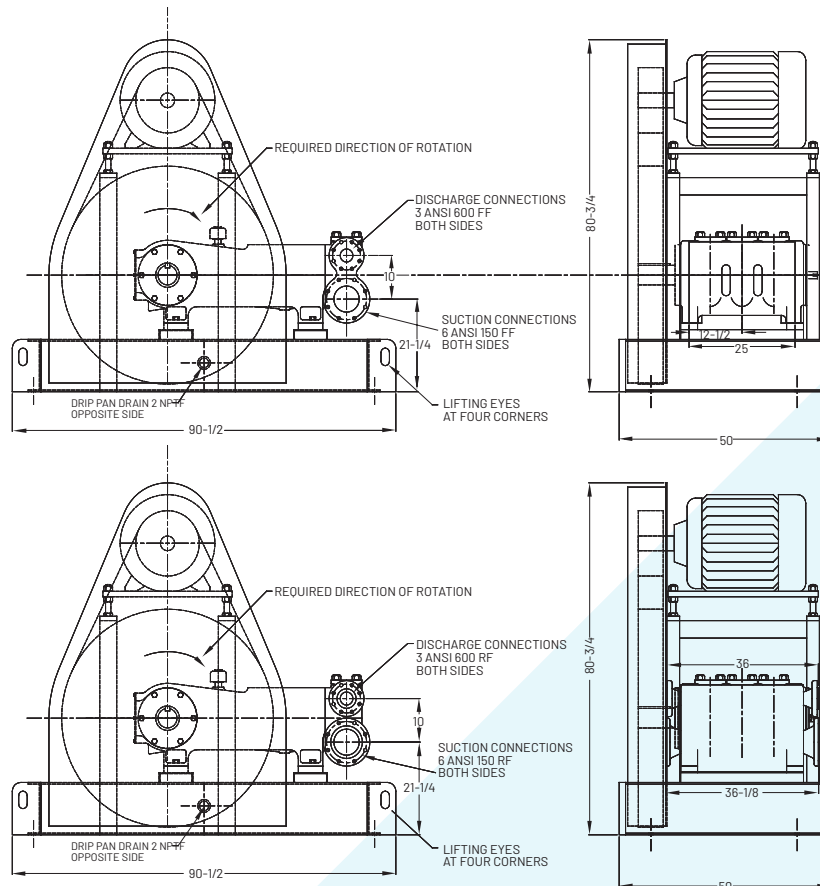
All drawings and specifications subject to change without notice.

APLEX SERIES MA-155M (L)(H) Triplex Plunger Pump

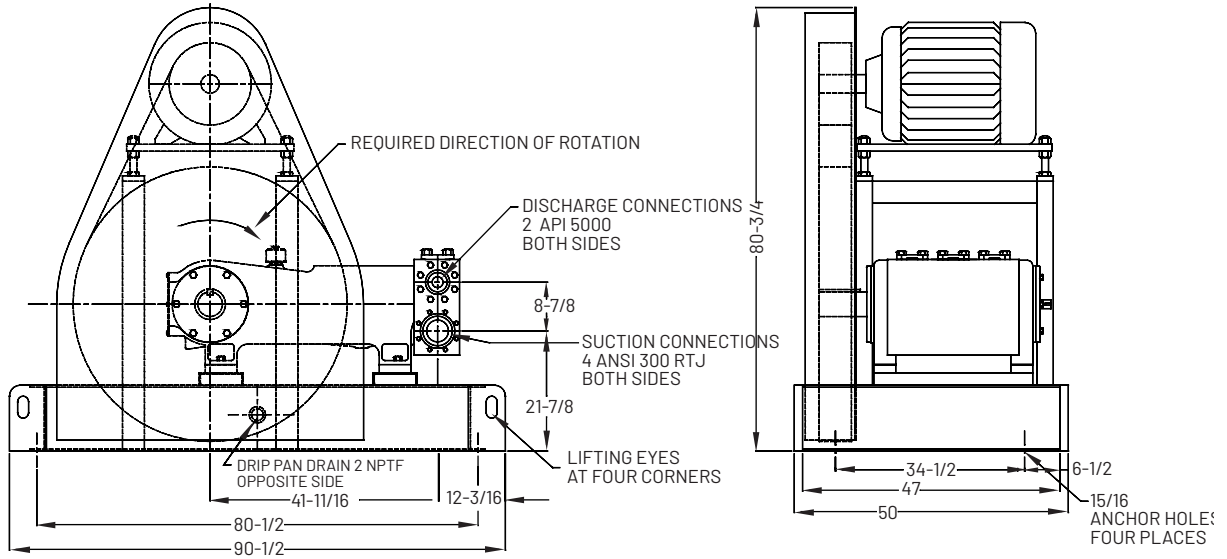
MA-155M Triplex Pump
(Measurements shown in inches)



MA-155L Triplex Pump
(Measurements shown in inches)



MA-155L Triplex Pump
 (Measurements shown in inches)



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