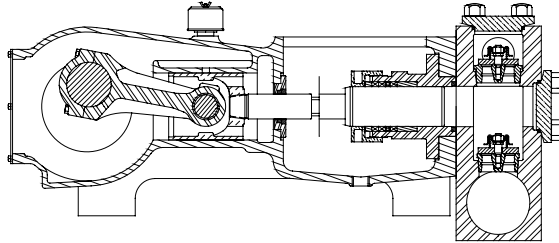


## APLEX SERIES MA-155M-HD ( L-HD )( H-HD ) Triplex Plunger Pump



No. of plungers .....	3
Maximum rated speed .....	450 rpm
Stroke length .....	4.50 in. 114.3 mm
Maximum rated power .....	175.0 hp 130.4 kW
Maximum rod load .....	10,259 lbs. 45.5 kN
Weight MA-155M-HD .....	2500 lbs.
MA-155L-HD .....	2680 lbs.
MA-155H-HD .....	2935 lbs.

**ENGLISH UNITS**
**MA-155M-HD**

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
2.750	3.500	1728	0.347	86.8	104.1	121.5	138.8	156.2
2.625	3.500	1900	0.316	79.1	94.9	110.7	126.5	142.3
2.500	3.500	2100	0.287	71.7	86.1	100.4	114.8	129.1
2.375	3.500	2316	0.259	64.7	77.7	90.6	103.6	116.5
2.250	3.000	2581	0.232	58.1	69.7	81.3	92.9	104.6
2.125	3.000	2900	0.207	51.8	62.2	72.5	82.9	93.3
2.000	3.000	3265	0.184	45.9	55.1	64.3	73.4	82.6
1.875	3.000	3600	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

97.2

116.7

136.1

155.6

175.0

**METRIC UNITS**
**MA-155M-HD**

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	134.4	1.314	328.5	394.2	459.9	525.6	591.3
66.7	88.9	130.6	1.197	299.3	359.2	419.1	478.9	538.8
63.5	88.9	144.1	1.086	271.5	325.8	380.1	434.4	488.7
60.3	88.9	159.6	0.980	245.0	294.0	343.0	392.0	441.0
57.2	76.2	177.9	0.880	219.9	263.9	307.9	351.9	395.9
54.0	76.2	200.0	0.785	196.2	235.4	274.6	313.9	353.1
50.8	76.2	225.1	0.695	173.8	208.5	243.2	278.0	312.8
47.6	76.2	248.2	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

72.5

87.0

101.5

116.0

130.5

**ENGLISH UNITS**
**MA-155L-HD**

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	817	0.734	183.6	220.3	257.0	293.8	330.5
3.875	5.000	870	0.689	172.3	206.8	241.2	275.7	310.1
3.750	5.000	929	0.645	161.4	193.6	225.9	258.2	290.5
3.625	5.000	995	0.603	150.8	180.9	211.1	241.3	271.4
3.500	4.500	1067	0.562	140.6	168.7	196.8	224.9	253.0
3.375	4.500	1147	0.523	130.7	156.8	183.0	209.1	235.3
3.250	4.500	1237	0.485	121.2	145.4	169.7	193.9	218.2
3.125	4.000	1338	0.448	112.1	134.5	156.9	179.3	201.7
3.000	4.000	1451	0.413	103.3	123.9	144.6	165.2	185.9
2.875	4.000	1580	0.379	94.8	113.8	132.8	151.8	170.7

hp Required @ rpm

97.3

116.8

136.2

155.7

175.0



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

## METRIC UNITS

## MA-155L-HD

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	56.3	2.780	695.0	834.0	973.0	1112.0	1251.0
98.4	127.0	60.0	2.610	652.5	783.0	913.5	1044.0	1174.5
95.3	127.0	64.0	2.444	610.9	733.0	855.2	977.4	1099.6
92.1	127.0	68.6	2.283	570.9	685.0	799.2	913.4	1027.5
88.9	114.3	73.6	2.129	532.1	638.5	745.0	851.4	957.8
85.7	114.3	79.1	1.979	494.8	593.7	692.6	791.6	890.6
82.6	114.3	85.3	1.835	458.8	550.6	642.3	734.1	825.8
79.4	101.6	92.3	1.697	424.2	509.0	593.8	678.6	763.5
76.2	101.6	100.0	1.564	391.0	469.1	547.3	625.5	703.7
73.0	101.6	108.9	1.436	359.0	430.9	502.7	574.5	646.3
kW Required @ rpm				72.6	87.1	101.6	116.1	130.5

## ENGLISH UNITS

## MA-155H-HD

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
1.875	3.000	3715	0.161	40.3	48.4	56.5	64.5	72.6
1.750	3.000	4265	0.141	35.1	42.2	49.2	56.2	63.3
1.625	2.500	4946	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				97.2	116.7	136.1	155.6	175.0

## METRIC UNITS

## MA-155H-HD

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	256.1	0.611	152.8	183.3	213.8	244.4	274.9
44.4	76.2	294.0	0.532	133.1	159.7	186.3	212.9	239.5
41.2	63.5	341.0	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				72.5	87.0	101.5	116.0	130.5

\*Displacement based on 100% Volumetric Efficiency

Power based on 90% Mechanical Efficiency

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

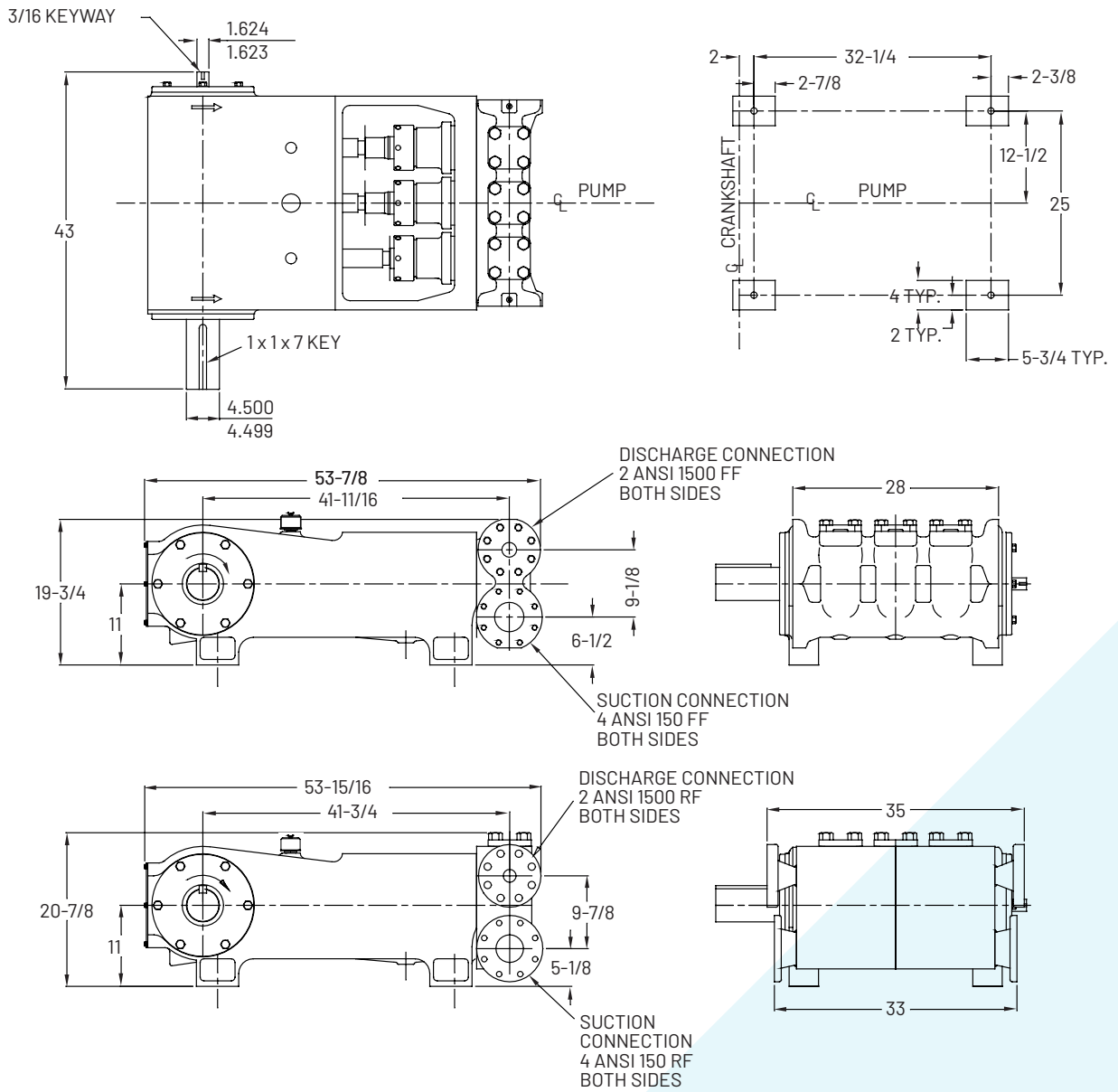
$$\text{Pump rpm} = \frac{USGPM \text{ Desired}}{USG \text{ per Revolution of Selected Plunger}}$$

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

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

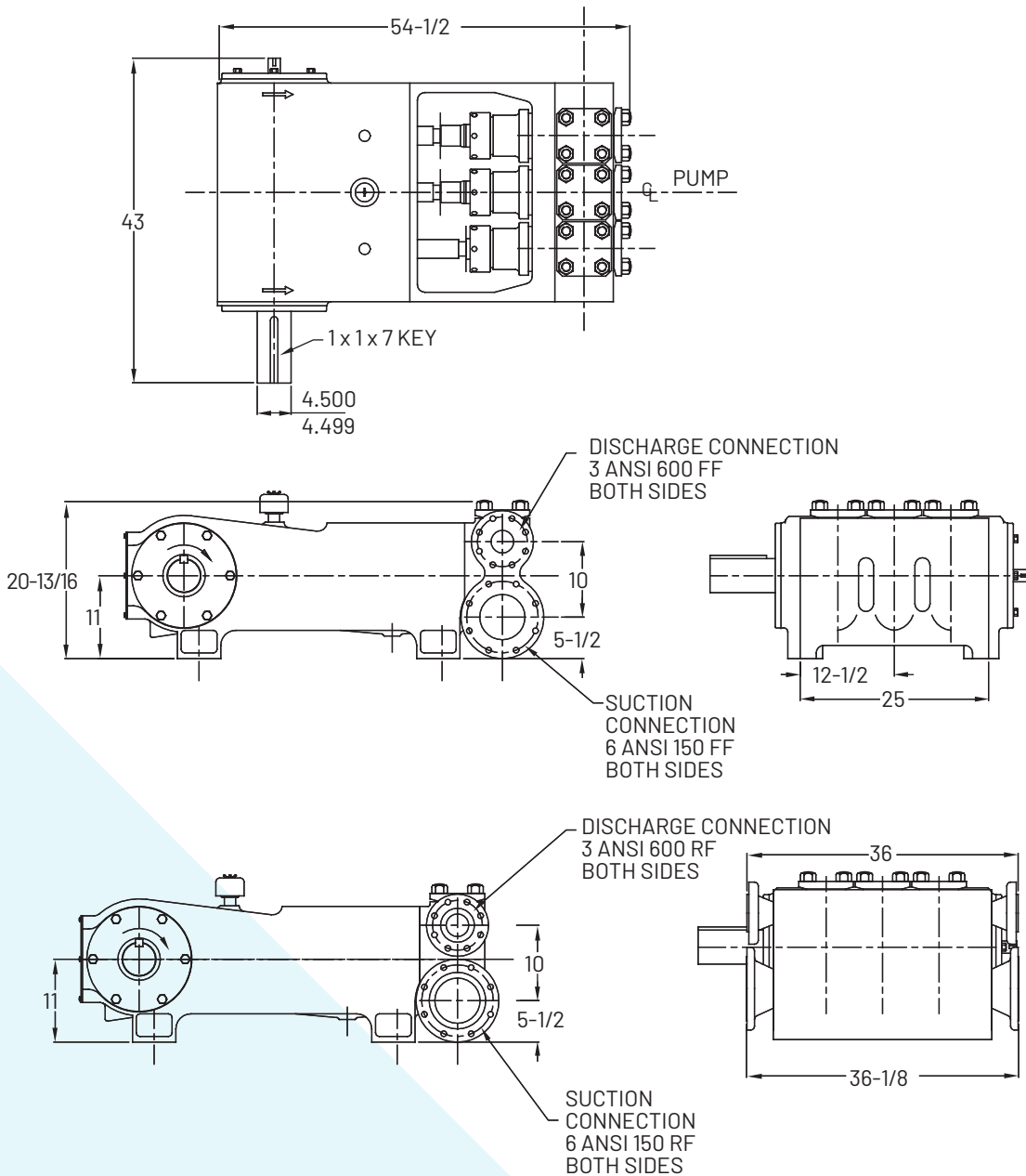
# APLEX SERIES MA-155M-HD ( L-HD ) ( H-HD ) Triplex Plunger Pump

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



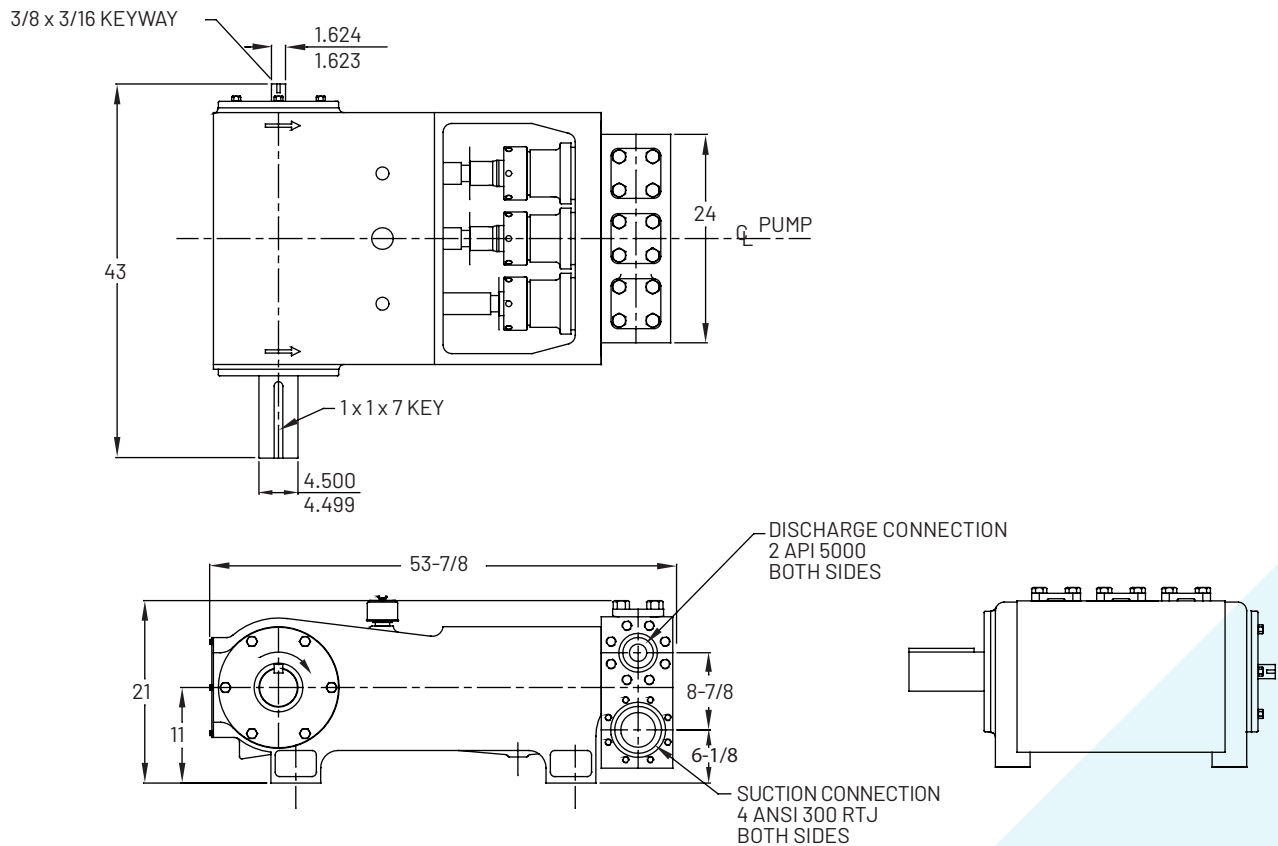
# APLEX SERIES MA-155M-HD ( L-HD )( H-HD ) Triplex Plunger Pump

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



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

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





# APLEX SERIES MA-155M-HD ( L-HD )( H-HD ) 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 <sub>10</sub> .....	60,000+ hr.

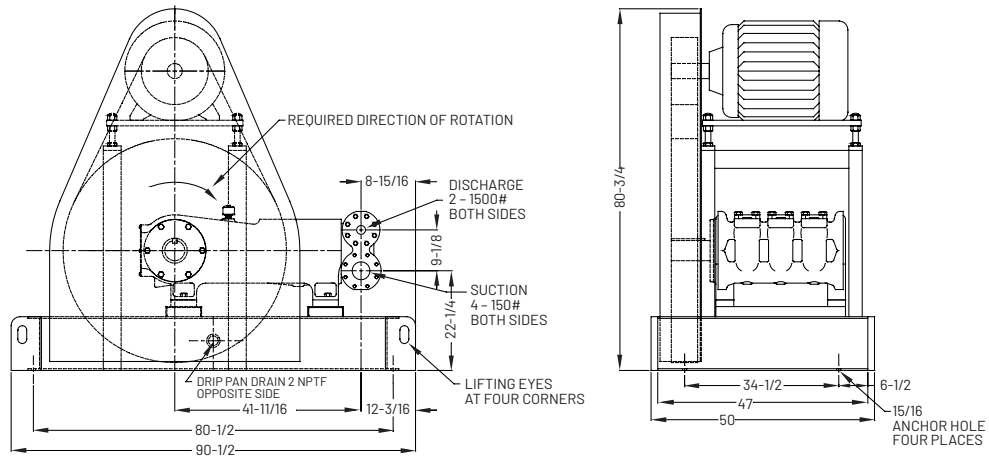
**LIQUID END ENGINEERING DATA**

Max. Continuous Working Pressure 155M-HD .....	3,600 psi
155L-HD .....	1,580 psi
155H-HD .....	5,000 psi
Hydrostatic Test 155M-HD .....	5,400 psi
155L-HD .....	2,370 psi
155H-HD .....	7,500 psi
Available Liquid End Materials, A.S.T.M.	
Stainless Steel Block 155M-HD, 155L-HD .....	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-HD, 155L-HD .....	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-HD, 155L-HD .....	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-HD .....	3.9 sq.in.
155L-HD .....	6.54 sq.in.
155H-HD .....	2.3 sq.in.
Avg. Liquid Velocity @ 450 rpm	
thru Valves 155M-HD .....	8.5 fps
155L-HD .....	10.8 fps
155H-HD .....	6.75 fps
thru Suction Manifold 155M-HD .....	3.9 fps
155L-HD .....	3.7 fps
155H-HD .....	1.9 fps
thru Discharge Manifold 155M-HD .....	16.0 fps
155L-HD .....	15.0 fps
155H-HD .....	7.4 fps

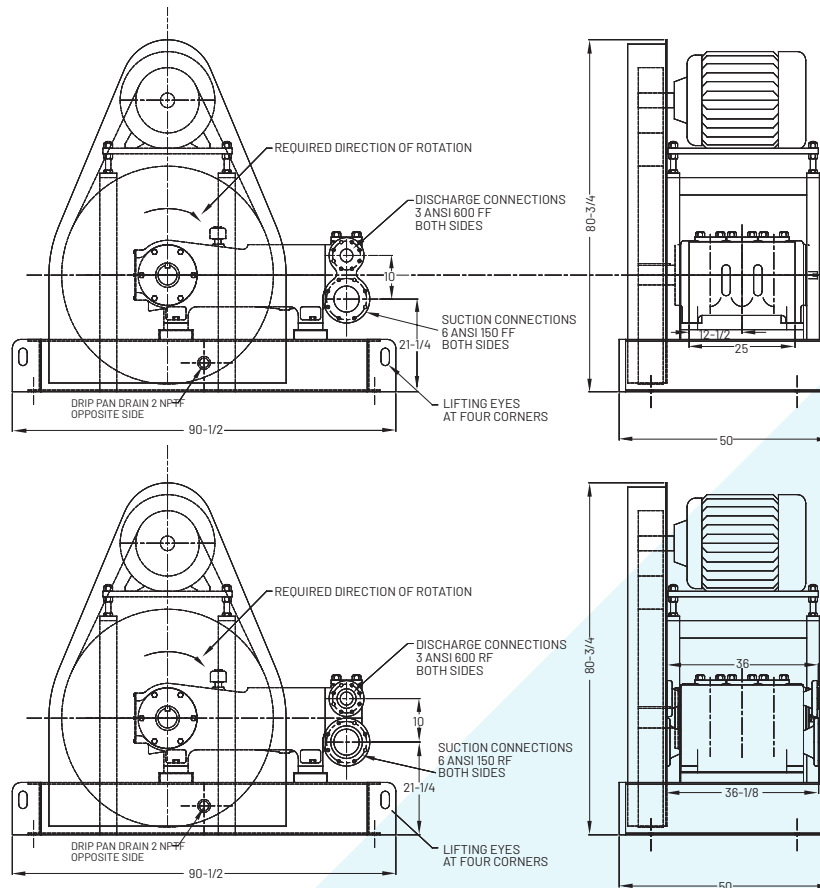
All drawings and specifications subject to change without notice.

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

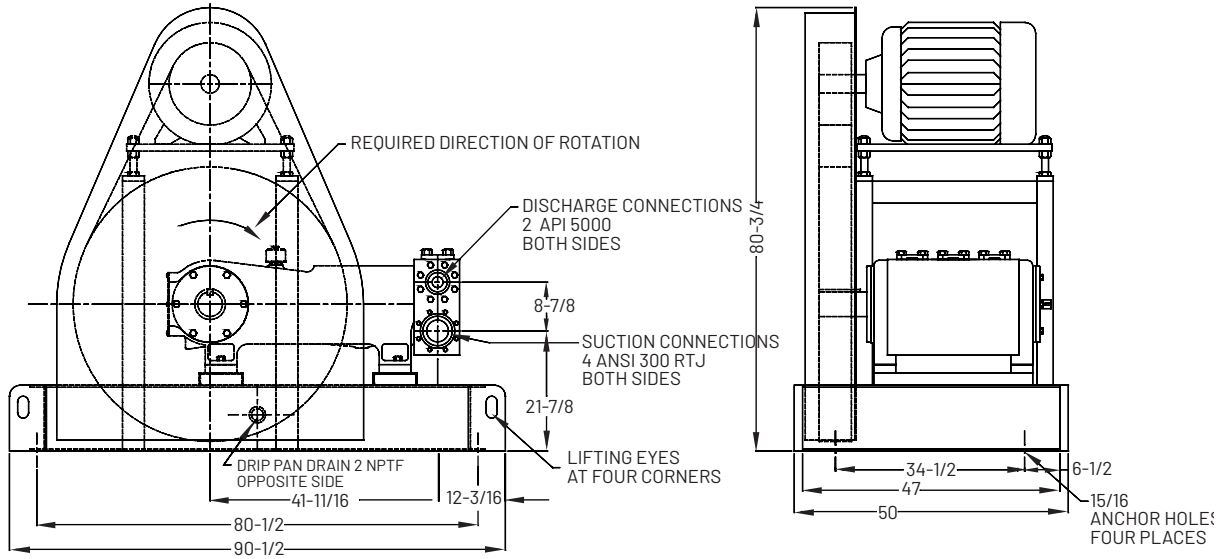
## MA-155M-HD Triplex Pump (Measurements shown in inches)



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



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



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