



APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

Number of Plungers	5
Maximum Rated Speed.....	450 rpm
Stroke Length.....	4.25 inches – 108.0 mm
Maximum Rated Power	275 hp – 205 kW
Maximum Rod Load.....	10,300 lbs. – 45.8 kN
Weight MA-240K	3,750 lbs
MA-240L	3,450 lbs
MA-240M	3,240 lbs
MA-240H	3,800 lbs

ENGLISH UNITS

MA-240K-HD

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 GPM	400 GPM	450 GPM
4.500	5.250	644	1.463	365.8	438.9	512.1	585.2	658.4
4.375	5.250	681	1.383	345.7	414.9	484.1	553.2	622.3
4.250	5.250	722	1.305	326.3	391.5	456.8	522.0	587.3
4.125	5.000	766	1.229	307.2	368.7	430.2	491.6	553.1
4.000	5.000	815	1.156	289.0	346.8	404.6	462.4	520.2
3.875	5.000	868	1.085	271.3	325.5	379.8	434.0	488.3
3.750	5.000	927	1.016	254.0	304.8	355.6	406.4	457.2
3.625	4.500	992	.9494	237.4	284.8	332.3	379.8	427.2
3.500	4.500	1065	.8851	221.3	265.5	309.8	354.0	398.3
QUIRED @ rpm				153	183	214	244	275

METRIC UNITS

MA-240K-HD

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX. PRESS. BAR	*LITERS PER REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
114.3	133.4	44.4	5.5389	1384.7	1661.7	1938.7	2245.6	2492.5
111.1	133.4	46.9	5.2360	1309.0	1570.8	1832.6	2094.4	2356.2
108.0	133.4	49.8	4.9407	1235.2	1482.2	1729.2	1976.3	2223.3
104.7	127.0	52.8	4.6529	1163.2	1395.8	1628.5	1861.2	2093.8
101.6	127.0	56.2	4.3766	1094.2	1313.0	1531.8	1750.6	1969.5
98.4	127.0	59.8	4.1078	1026.9	1232.3	1437.7	1643.1	1848.5
95.3	127.0	63.9	3.8466	961.7	1154.0	1346.1	1538.6	1731.0
92.1	114.3	68.4	3.5944	898.6	1078.3	1258.0	1437.8	1617.5
88.9	114.3	73.4	3.3510	837.8	1005.3	1172.9	1340.4	1508.0
kW REQUIRED @ rpm				114	137	160	182	205

ENGLISH UNITS

MA-240M-HD

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 GPM	400 GPM	450 GPM
2.250	3.250	2585	0.3568	91.4	109.7	128.0	146.3	164.6
2.125	3.250	2900	0.3263	81.6	97.9	114.2	130.5	146.8
2.000	2.875	3271	0.2890	72.2	86.7	101.2	115.6	130.1
1.875	2.875	3500	0.2540	63.5	76.2	88.9	101.6	114.3
hp REQUIRED @ rpm				153.0	183	214	244	275



APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

METRIC UNITS

MA-240M-HD

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX. PRESS. BAR	*LITERS PER REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
57.2	82.6	178.2	1.3508	337.7	405.2	472.8	540.3	607.9
54.0	82.6	200.0	1.2354	308.9	370.6	432.4	494.2	555.9
50.8	73.0	225.5	1.0942	273.6	328.3	383.0	437.7	492.4
47.6	73.0	241.4	0.9616	240.4	288.5	336.6	384.6	432.7
kW REQUIRED @ rpm				114	137	160	182	205

ENGLISH UNITS

MA-240L-HD

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 GPM	400 GPM	450 GPM
3.500	4.500	1017	0.8851	221.3	265.5	309.8	354.0	398.3
3.375	4.500	1152	0.8230	205.7	246.9	288.0	329.2	370.3
3.250	4.500	1242	0.7631	190.8	228.9	267.1	305.3	343.4
3.125	4.000	1404	0.7056	176.4	211.7	246.9	282.2	317.5
3.000	4.000	1458	0.6502	162.6	195.1	227.6	260.1	292.6
2.875	4.000	1585	0.5972	149.3	179.2	209.0	238.9	268.7
2.750	4.000	1735	0.5464	136.6	163.9	191.2	218.6	245.9
2.625	4.000	1903	0.4978	124.5	149.4	174.2	199.1	224.0
2.500	3.250	2100	0.4516	112.9	135.5	158.0	180.6	203.2
2.375	3.250	2326	0.4075	101.9	122.3	142.6	163.0	183.4
hp REQUIRED @ rpm				153.0	183.0	214.0	244.0	275.0

METRIC UNITS

MA-240L-HD

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX. PRESS. BAR	*LITERS PER REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
88.9	114.3	73.8	3.3510	837.8	1005.3	1172.9	1340.4	1508.0
85.7	114.3	79.4	3.1159	778.9	934.8	1090.6	1246.4	1402.2
82.6	114.3	85.7	2.8891	722.3	866.7	1011.2	1155.6	1300.1
79.4	101.6	96.8	2.6714	667.9	801.4	984.7	1068.6	1202.1
76.2	101.6	100.4	2.4617	615.4	738.5	861.6	984.7	1107.8
73.0	101.6	109.3	2.2610	565.3	678.3	791.4	904.4	1017.5
69.9	101.6	119.6	2.0687	517.2	620.6	724.0	827.5	930.9
66.7	101.6	131.2	1.8847	471.2	565.4	659.6	753.9	848.1
63.5	82.6	144.7	1.7098	427.5	512.9	598.4	683.9	769.4
60.3	82.6	160.4	1.5428	385.7	462.8	540.0	617.1	694.3
kW REQUIRED @ rpm				114.0	137.0	160.0	182.0	205.0



APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP/PLUNGER PUMP

ENGLISH UNITS

MA-240H-HD

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 GPM	400 GPM	450 GPM
1.875	2.875	4300	0.2540	63.5	76.2	88.9	101.6	114.3
1.750	2.875	5000	0.2213	55.3	66.4	77.5	88.5	99.6
1.625	2.500	5700	0.1908	47.7	57.2	66.8	76.3	85.9
1.500	2.500	6700	0.1626	40.7	48.8	56.9	65.0	73.2
hp REQUIRED @ rpm				153.0	183.0	214.0	244.0	275.0

METRIC UNITS

MA-240H-HD

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX. PRESS. BAR	*LITERS PER REV.	250 RPM LPM	300 RPM LPM	350 RPM LPM	400 RPM LPM	450 RPM LPM
47.6	73.0	295.0	0.9616	240.4	288.5	336.6	384.6	432.7
44.5	73.0	339.1	0.8378	209.5	251.3	293.2	335.1	377.0
41.3	63.5	393.2	0.7224	180.6	216.7	252.8	289.0	325.1
38.1	63.5	461.1	0.6156	153.9	184.7	215.5	246.2	277.0
kW REQUIRED @ rpm				114.0	137.0	160.0	182.0	205.0

*Displacement based on 100% Volumetric Efficiency

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

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

Power based on 90% Mechanical Efficiency

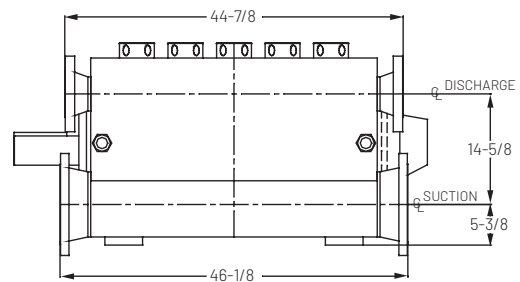
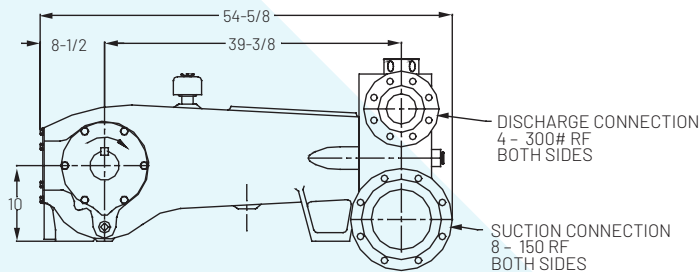
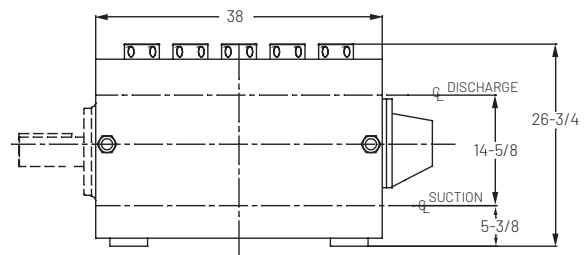
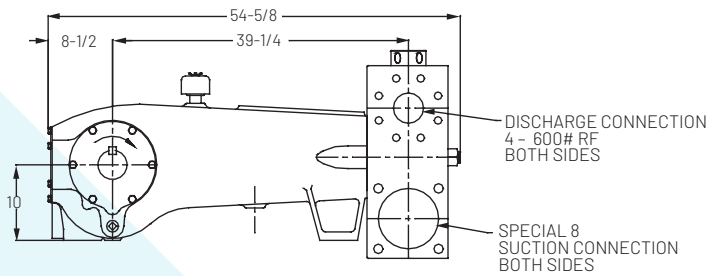
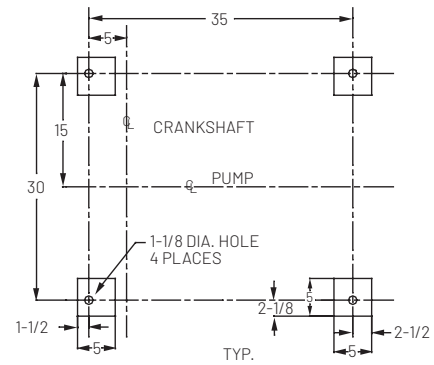
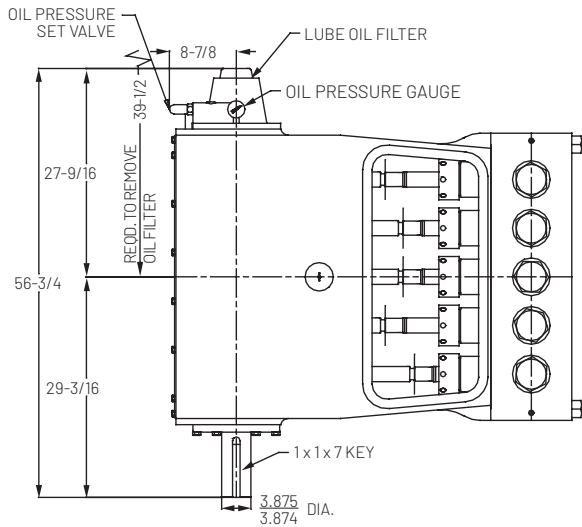
$$\text{IkW} = \frac{\text{M}^3/\text{HR} \times (\text{Discharge Bar} - 1/2 \text{ Suction Bar})}{32.4}$$

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

APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

MA-240K-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)

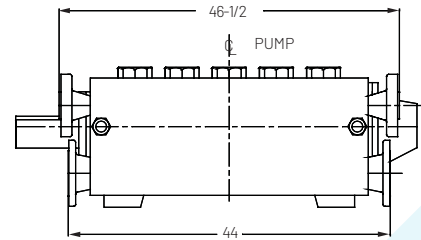
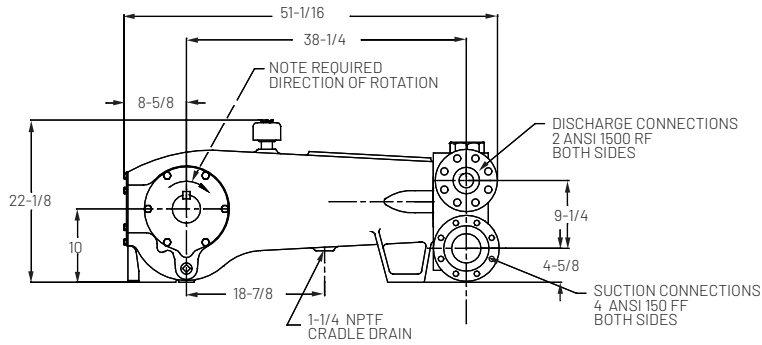
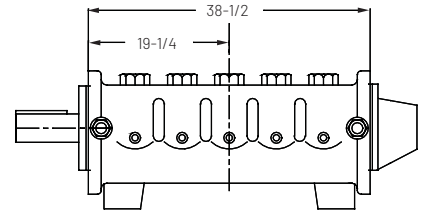
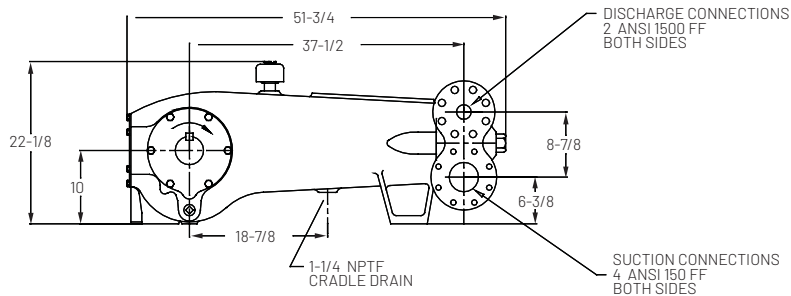


All drawings and specifications subject to change without notice.

APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD
QUINTUPLEX PLUNGER PUMP

MA-240M-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)

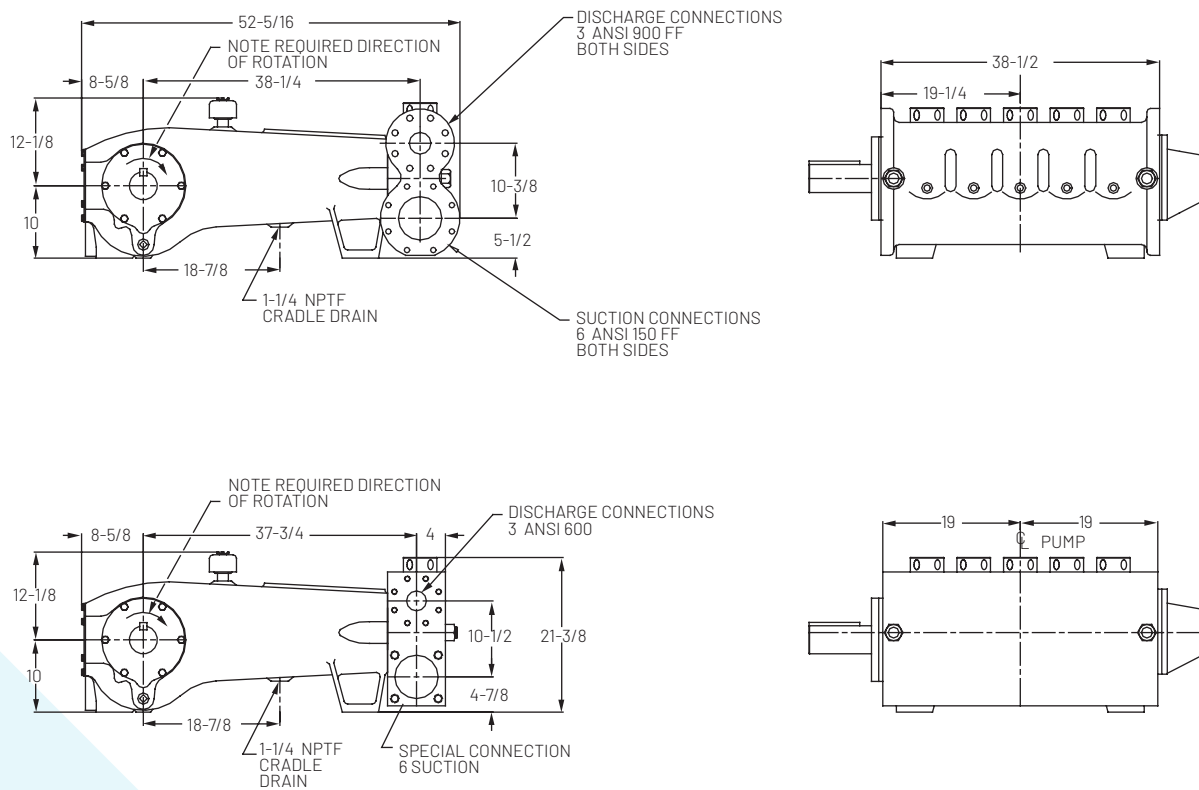


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APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

MA-240L-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)





APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMPPUNGER PUMP

ENGINEERING DATA - MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

POWER END ENGINEERING DATA

Maximum Input hp @ Speed	275 hp @ 450 rpm
Rated Continuous Plunger Load	10,300 lbs.
Normal Continuous Speed Range	150 to 400 rpm
Minimum Speed	100 rpm
Oil Capacity	.54 U.S. Quarts
Power End Oiling System	Pressure Lubrication System
Power Frame, One-Piece	Cast Iron
Crosshead, Full Cylindrical	Cast Iron
Crosshead, Diameter x Length	5-3/4 x 6-3/16 inches
Crankshaft	Forged & Nitrided Steel
Crankshaft Diameters:	
At Tapered Roller Bearings	4 inches
At Crankpin Bearings, Diameter x Length	4 x 3 inches
At Center Bearings	9-3/8 inches
Crosshead (Wrist) Pin, Case-Hardened and Ground	AISI 8620
Wrist Pin Bushing, SAE 660, Diameter x Width	2 x 3 in.
Main Bearings, Tapered Roller	Timken®
Center Bearings, Two Precision Steel Backed	Babbitt-Lined
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	318 fpm
Minimum Life Expectancy, Main Bearings, L ₁₀	75,000+ hrs.

LIQUID END ENGINEERING DATA

Maximum Continuous Working Pressure	240K-HD	1,065 psi
	240M-HD	3,500 psi
	240L-HD	2,326 psi
	240H-HD	6,700 psi
Hydrostatic Test	240K-HD	1,598 psi
	240M-HD	5,250 psi
	240L-HD	3,489 psi
	240H-HD	10,050 psi
Available Liquid End Materials, ASTM:		
	Stainless Steel Block	Various Grades
	Nickel Aluminum Bronze Casting 240K-HD, 240M-HD, 240L-HD	B148-C955
	Carbon Steel Block	Various Grades

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APLEX SERIES

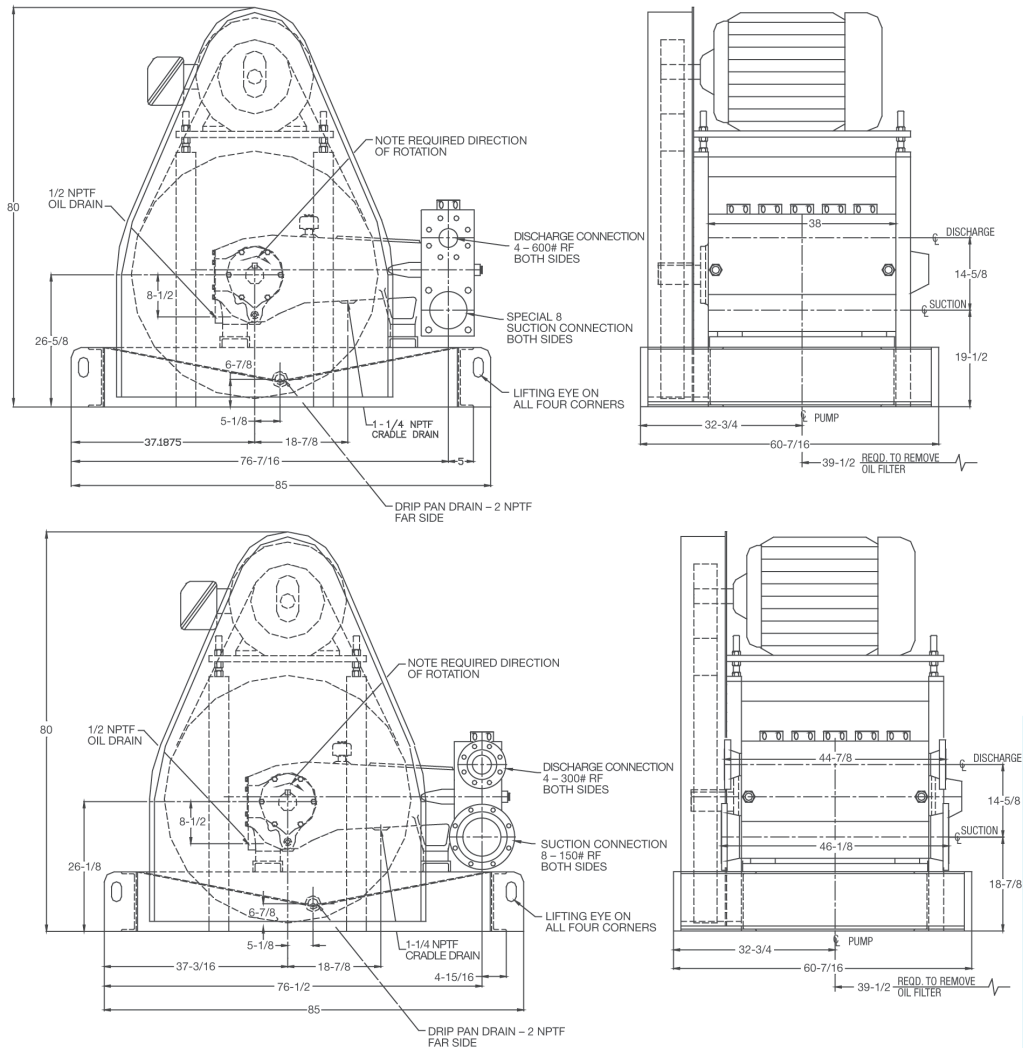
MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD QUINTUPLEX PLUNGER PUMP

Plunger Type Rokide® (Chromium Oxide-Coated)	316 S.ST.
Other Types of plungers are also available such as ceramic & Tungsten Carbide)	
Stuffing Boxes, Field-Removable and Replaceable:	
Nickel Aluminum Bronze	B148-C954
Carbon Steel.....	1020
Stainless Steel.....	Various Grades
Packing Types Available:	
Gland-Loaded, Non-Adjustable	Style 838
Spring-Loaded, Braided PTFE Coating & Aramid Fiber.....	Style 140, 141, 8921K
Spring-Loaded, Cup-Type	Style 120X
Valve Cover and Cylinder Head Plugs.....	Dependent on Fluid End Material
Seals, Stuffing Boxes, Valve Covers	Nitrile
Disc Valve Types, Acetal Resin (except 240H).....	Acetal
Optional, Hardened and Lapped.....	17-4 PH S.ST.
Valve Spring Material.....	Inconel®
Valve Seat, Liquid Passage Area 240K	6.54 square inches
240M	2.35 square inches
240L.....	6.26 square inches
240H	2.3 square inches
Average Liquid Velocity @ 450 rpm:	
Through Valves 240K-HD	12.9 fps
240M-HD	9.0 fps
240L-HD.....	8.15 fps
240H-HD	6.4 fps
Through Suction Manifold 240K.....	4.2 fps
240M-HD	4.19 fps
240L-HD.....	4.52 fps
240H-HD	2.9 fps
Through Discharge Manifold 240K-HD	16.8 fps
240M-HD.....	16.7 fps
240L-HD	18.1 fps
240H-HD.....	11.9 fps

APLEX SERIES

**MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD
QUINTUPLEX PLUNGER PUMP**

MA-240K-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)

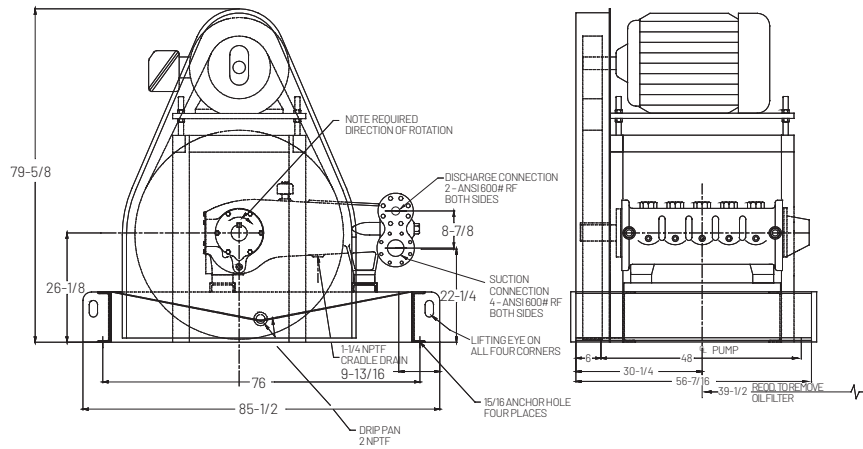


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APLEX SERIES

**MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD
QUINTUPLEX PLUNGER PUMP**

MA-240M-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)

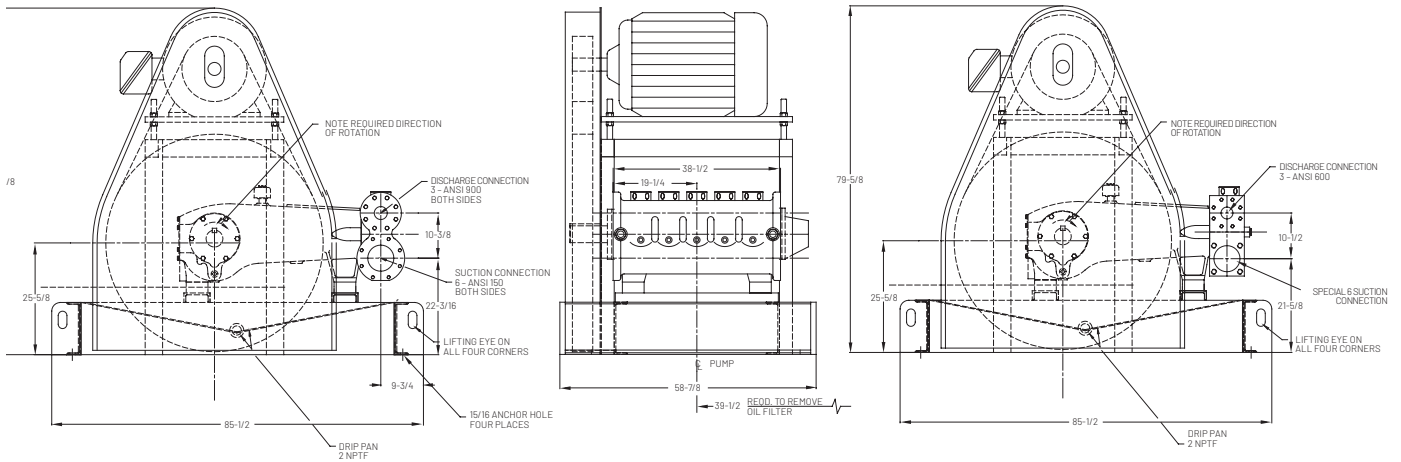


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APLEX SERIES

MA-240K-HD, MA-240M-HD, MA-240L-HD AND MA-240H-HD
QUINTUPLEX PLUNGER PUMP

MA-240L-HD QUINTUPLEX PUMP (MEASUREMENTS SHOWN IN INCHES)



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