



APLEX SERIES

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

Number of Plungers.....	5
Maximum Rated Speed.....	450 rpm
Stroke Length.....	4.25 inches – 108.0 mm
Maximum Rated Power.....	240.0 hp – 178.8 kW
Maximum Rod Load.....	8,937 lbs. – 39.8 kN
Weight MA-240M.....	3,580 lbs.
MA-240L.....	3,450 lbs.
MA-240K.....	3,750 lbs.
MA-240H.....	3,800 lbs.

ENGLISH UNITS

MA-240K

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 RPM US GPM	400 GPM	450 GPM
4.500	5.250	562	1.463	365.8	438.9	512.1	585.2	658.4
4.375	5.250	595	1.383	345.7	414.9	484.1	553.2	622.3
4.250	5.250	629	1.305	326.3	391.5	456.8	522.0	587.3
4.125	5.000	669	1.229	307.2	368.7	430.2	491.6	553.1
4.000	5.000	711	1.156	289.0	346.8	404.6	462.4	520.2
3.875	5.000	758	1.085	271.3	325.5	379.8	434.0	488.3
3.750	5.000	809	1.016	254.0	304.8	355.6	406.4	457.2
3.625	4.500	866	.9494	237.4	284.8	332.3	379.8	427.2
3.500	4.500	929	.8851	221.3	265.5	309.8	354.0	398.3
hp REQUIRED @ rpm				133.3	160.0	186.5	213.1	240.0

METRIC UNITS

MA-240K

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	38.7	5.5389	1384.7	1661.7	1938.7	2245.6	2492.5
111.1	133.4	41.0	5.2360	1309.0	1570.8	1832.6	2094.4	2356.2
108.0	133.4	43.3	4.9407	1235.2	1482.2	1729.2	1976.3	2223.3
104.7	127.0	46.1	4.6529	1163.2	1395.8	1628.5	1861.2	2093.8
101.6	127.0	49.0	4.3766	1094.2	1313.0	1531.8	1750.6	1969.5
98.4	127.0	52.2	4.1078	1026.9	1232.3	1437.7	1643.1	1848.5
95.3	127.0	55.7	3.8466	961.7	1154.0	1346.1	1538.6	1731.0
92.1	114.3	59.7	3.5944	898.6	1078.3	1258.0	1437.8	1617.5
88.9	114.3	64.0	3.3510	837.8	1005.3	1172.9	1340.4	1508.0
kW REQUIRED @ rpm				99.3	119.2	138.9	158.7	178.8

ENGLISH UNITS

MA-240M

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX. PSI	*GALLON PER REV.	250 GPM	300 GPM	350 R GPM	400 GPM	450 GPM
2.250	3.250	2248	0.3568	91.4	109.7	128.0	146.3	164.6
2.125	3.250	2520	0.3263	81.6	97.9	114.2	130.5	146.8
2.000	2.875	2845	0.2890	72.2	86.7	101.2	115.6	130.1
1.875	2.875	3237	0.2540	63.5	76.2	88.9	101.6	114.3
hp REQUIRED @ rpm				133.0	157.2	186.2	212.8	240.0



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METRIC UNITS

MA-240M

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	155.0	1.3508	337.7	405.2	472.8	540.3	607.9
54.0	82.6	173.7	1.2354	308.9	370.6	432.4	494.2	555.9
50.8	73.0	196.1	1.0942	273.6	328.3	383.0	437.7	492.4
47.6	73.0	223.2	0.9616	240.4	288.5	336.6	384.6	432.7
kW REQUIRED @ rpm				99.0	117.0	138.7	158.5	178.8

ENGLISH UNITS

MA-240L

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	930	0.8851	221.3	265.5	309.8	354.0	398.3
3.375	4.500	1000	0.8230	205.7	246.9	288.0	329.2	370.3
3.250	4.500	1079	0.7631	190.8	228.9	267.1	305.3	343.4
3.125	4.000	1166	0.7056	176.4	211.7	246.9	282.2	317.5
3.000	4.000	1266	0.6502	162.6	195.1	227.6	260.1	292.6
2.875	4.000	1376	0.5972	149.3	179.2	209.0	238.9	268.7
2.750	4.000	1506	0.5464	136.6	163.9	191.2	218.6	245.9
2.625	4.000	1652	0.4978	124.5	149.4	174.2	199.1	224.0
2.500	3.250	1823	0.4516	112.9	135.5	158.0	180.6	203.2
2.375	3.250	2020	0.4075	101.9	122.3	142.6	163.0	183.4
hp REQUIRED @ rpm				133.0	157.2	186.2	212.8	240.0

METRIC UNITS

MA-240L

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	64.1	3.3510	837.8	1005.3	1172.9	1340.4	1508.0
85.7	114.3	68.9	3.1159	778.9	934.8	1090.6	1246.4	1402.2
82.6	114.3	74.4	2.8891	722.3	866.7	1011.2	1155.6	1300.1
79.4	101.6	80.4	2.6714	667.9	801.4	984.7	1068.6	1202.1
76.2	101.6	87.2	2.4617	615.4	738.5	861.6	984.7	1107.8
73.0	101.6	94.9	2.2610	565.3	678.3	791.4	904.4	1017.5
69.9	101.6	103.8	2.0687	517.2	620.6	724.0	827.5	930.9
66.7	101.6	113.9	1.8847	471.2	565.4	659.6	753.9	848.1
63.5	82.6	125.6	1.7098	427.5	512.9	598.4	683.9	769.4
60.3	82.6	139.2	1.5428	385.7	462.8	540.0	617.1	694.3
kW REQUIRED @ rpm				99.0	117.0	138.7	158.5	178.8



APLEX SERIES

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

ENGLISH UNITS

MA-240H

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	3237	0.2540	63.5	76.2	88.9	101.6	114.3
1.750	2.875	3716	0.2213	55.3	66.4	77.5	88.5	99.6
1.625	2.500	4309	0.1908	47.7	57.2	66.8	76.3	85.9
1.500	2.500	5000	0.1626	40.7	48.8	56.9	65.0	73.2
hp REQUIRED @ rpm				133.0	159.8	186.2	213.1	240.0

METRIC UNITS

MA-240H

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	223.1	0.9616	240.4	288.5	336.6	384.6	432.7
44.5	73.0	256.2	0.8378	209.5	251.3	293.2	335.1	377.0
41.3	63.5	297.1	0.7224	180.6	216.7	252.8	289.0	325.1
38.1	63.5	344.7	0.6156	153.9	184.7	215.5	246.2	277.0
kW REQUIRED @ rpm				99.0	119.0	138.7	158.7	178.8

*Displacement based on 100% Volumetric Efficiency

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

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

Power based on 90% Mechanical Efficiency

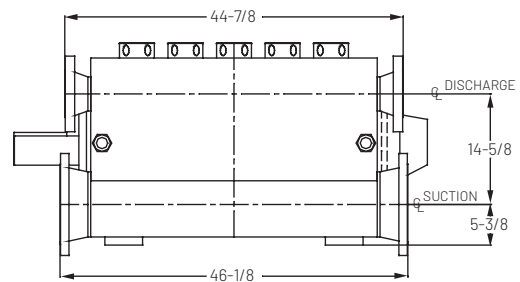
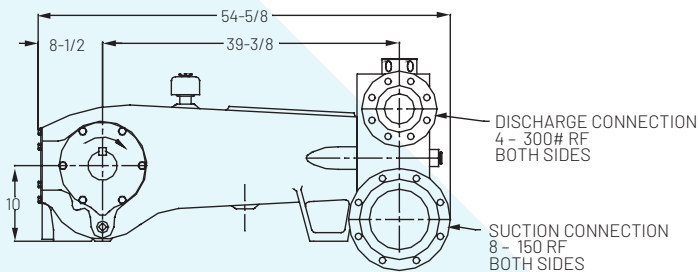
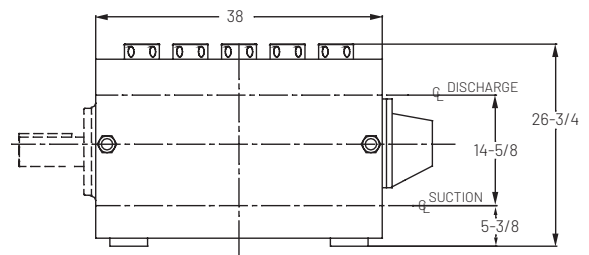
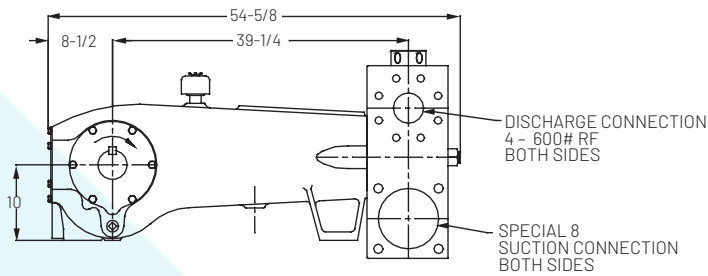
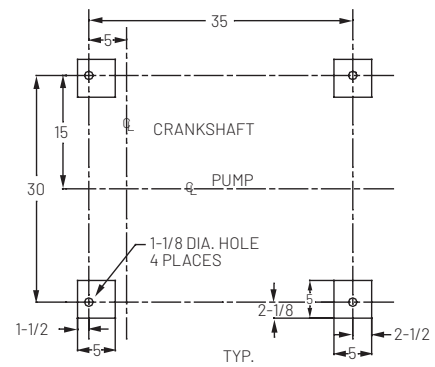
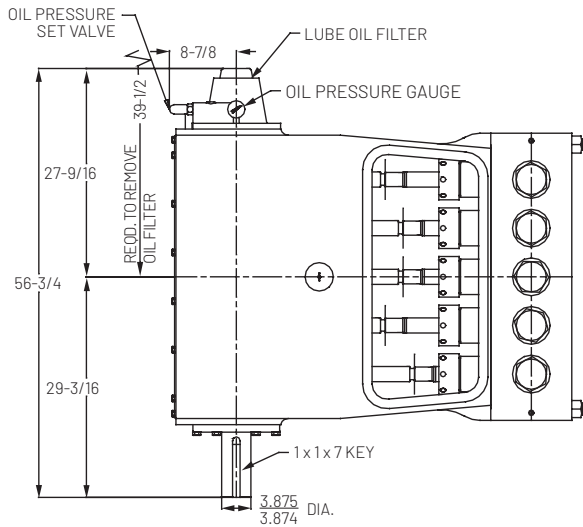
$$lkW = \frac{M^3/HR \times (\text{Discharge Bar} - 1/2 \text{ Suction Bar})}{32.4}$$

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

APLEX SERIES

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

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

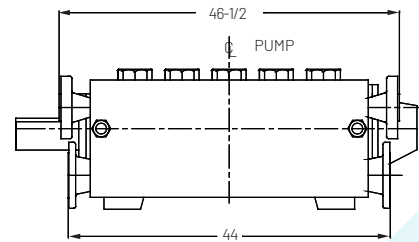
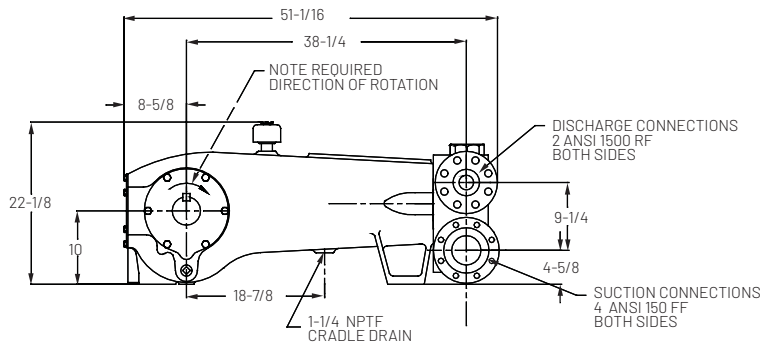
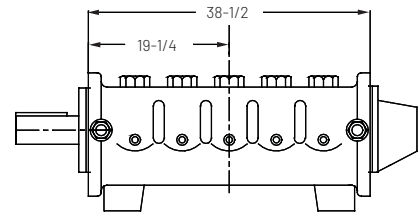
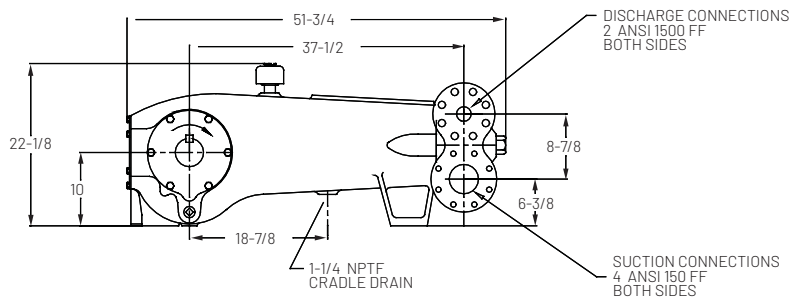


All drawings and specifications subject to change without notice.

APEX SERIES

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

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

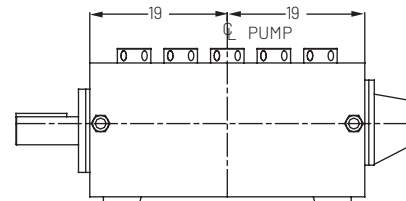
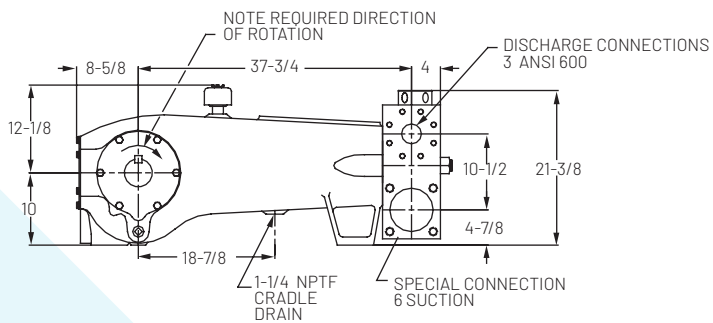
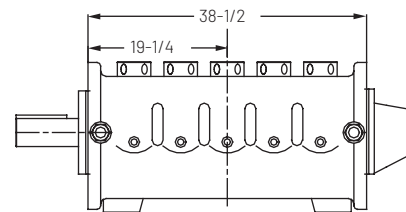
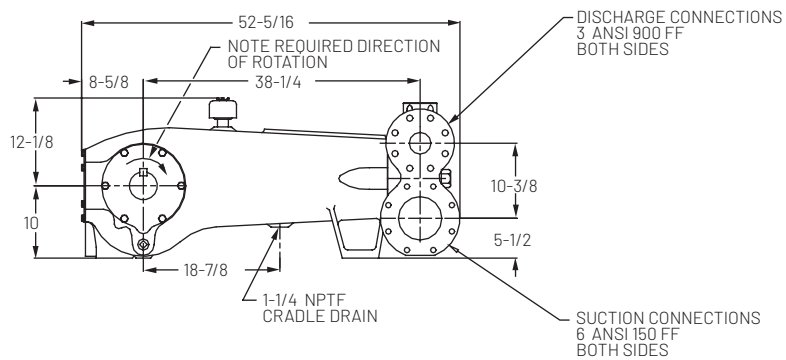


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APLEX SERIES

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

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



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APLEX SERIES

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

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

POWER END ENGINEERING DATA

Maximum Input hp @ Speed	240 hp @ 450 rpm
Rated Continuous Plunger Load	8,937 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	Ductile Iron
Crankshaft Diameters:	
At Tapered Roller Bearings.....	4 inches
At Crankpin Bearings, Diameter x Length	4 x 3 inches
At Center Bearings 240H	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	929 psi
240M	3,237 psi
240L	2,020 psi
240H	5,000 psi
Hydrostatic Test 240K.....	1,500 psi
240M	4,855 psi
240L	3,030 psi
240H	7,500 psi
Available Liquid End Materials, ASTM:	
Stainless Steel Block	Various Grades
Nickel Aluminum Bronze Casting 240K, 240M, 240L	B148-C955
Carbon Steel Block 240L	Various Grades



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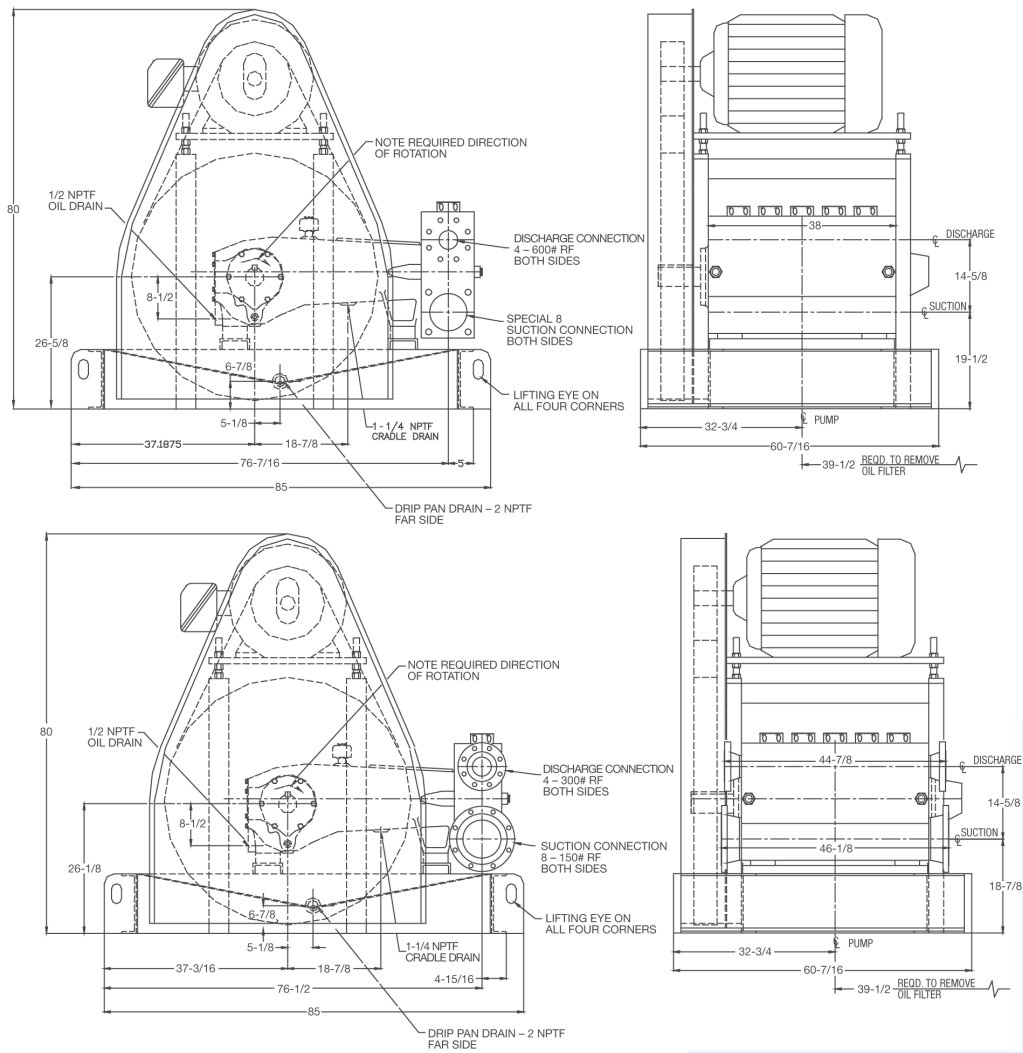
Plunger Type Rokide® (Chromium Oxide-Coated)	316 S.ST.
Other Types of plungers are also available such as ceramic & Tungsten Carbide)	
Stuffing Boxes, Field-Removable and Replaceable:	
Nickel Aluminum Bronze	B148-C954
Carbon Steel.....	1020
Stainless Steel.....	Various Grades
Packing Types Available:	
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	12.9 fps
240M	9.0 fps
240L	8.15 fps
240H	6.4 fps
Through Suction Manifold 240K.....	4.2 fps
240M	4.19 fps
240L.....	4.52 fps
240H	2.9 fps
Through Discharge Manifold 240K.....	16.8 fps
240M.....	16.7 fps
240L	18.1 fps
240H.....	11.9 fps

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APEX SERIES

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

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

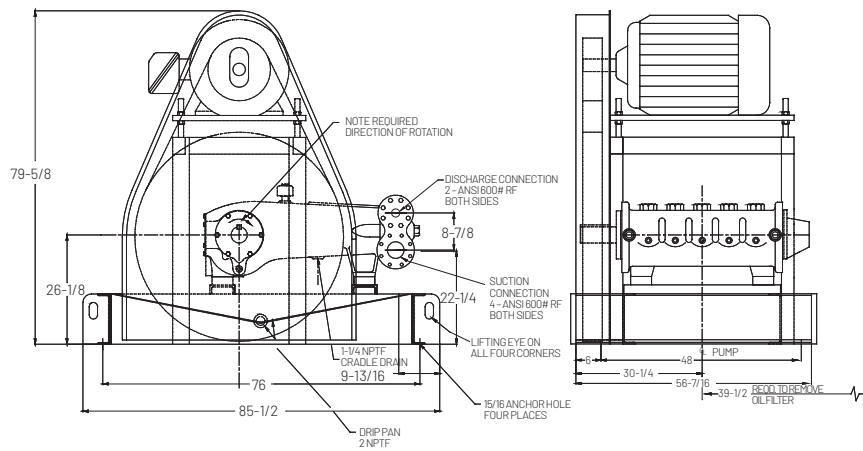


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APLEX SERIES

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

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

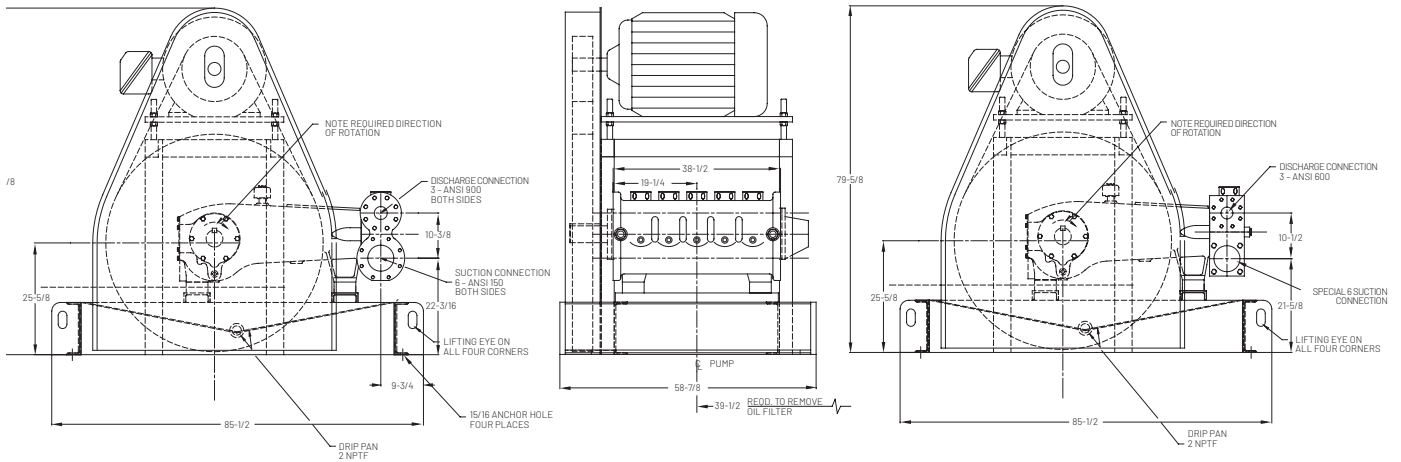


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APEX SERIES

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

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





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