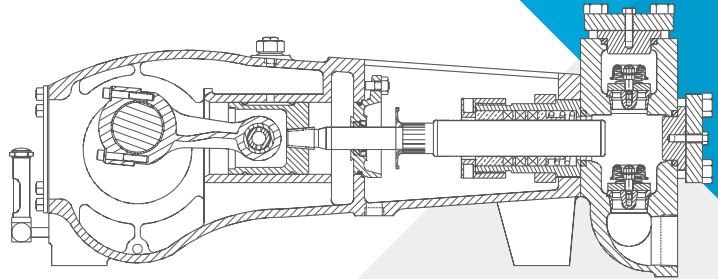


MA-15H/15M

TRIPLEX PLUNGER PUMP



No. of Plungers	3
Maximum Rated Speed.....	650 rpm
Stroke Length	1.50 in. 38.1 mm
Maximum Rated Power	15.0 hp 11.2 kW
Maximum Rod Load	1828 lbs. 8.04 kN
Weight 15M	235 lbs.
Weight 15H	255 lbs.

ENGLISH UNITS (MA-15M)

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI	*GALLON PER/ REV.	250 RPM US GPM	350 RPM US GPM	450 RPM US GPM	550 RPM US GPM	650 RPM US GPM
1.625	2.125	881	0.040	10.1	14.1	18.2	22.2	26.3
1.500	2.125	1034	0.034	8.6	12.0	15.5	18.9	22.4
1.375	2.125	1231	0.029	7.2	10.1	13.0	15.9	18.8
1.250	2.125	1489	0.024	6.0	8.4	10.8	13.1	15.5
1.125	1.750	1839	0.019	4.8	6.8	8.7	10.7	12.6
1.000	1.750	2327	0.015	3.8	5.4	6.9	8.4	9.9
0.875	1.500	3040	0.012	2.9	4.1	5.3	6.4	7.6
hp Required @ rpm				5.8	8.1	10.4	12.7	15.0

METRIC UNITS (MA-15M)

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX PRESS. BAR	*LITER PER/REV.	250 RPM LPM	350 RPM LPM	450 RPM LPM	550 RPM LPM	650 RPM LPM
41.3	54.0	61	0.153	38.2	53.5	68.8	84.1	99.4
38.1	54.0	71	0.130	32.6	45.6	58.6	71.6	84.6
34.9	54.0	85	0.109	27.3	38.3	49.2	60.2	71.1
31.8	54.0	103	0.091	22.6	31.7	40.7	49.8	58.8
28.6	44.5	127	0.073	18.4	25.7	33.0	40.4	47.7
25.4	44.5	161	0.058	14.5	20.3	26.1	31.8	37.6
22.2	38.1	210	0.044	11.1	15.5	19.9	24.4	28.8
kW Required @ rpm				4.3	6.0	7.8	9.5	11.1

*Displacement based on 100% Volumetric Efficiency

**Power based on 90% Mechanical Efficiency

*Displacement based on 100% Volumetric Efficiency

Power based on 90% Mechanical Efficiency

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

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

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

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

MA-15H/15M

ENGLISH UNITS

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI	*GALLON PER/ REV.	250 RPM US GPM	350 RPM US GPM	450 RPM US GPM	550 RPM US GPM	650 RPM US GPM
.750	1.500	5000	.00860	2.2	3.0	3.9	4.7	5.6
hp Required @ rpm**				5.9	8.3	10.4	12.6	15.0

METRIC UNITS

PLUNGER SIZE MM	STUFFING BOX BORE MM	MAX PRESS. BAR	*LITER PER/ REV.	200 RPM LPM	300 RPM LPM	400 RPM LPM	500 RPM LPM	600 RPM LPM
19.0	38.1	285.3	0.0325	8.1	11.4	14.6	17.9	21.1
kW Required @ rpm**				4.3	6.2	7.7	9.4	11.2

*Displacement based on 100% Volumetric Efficiency

**Power based on 90% Mechanical Efficiency

*Displacement based on 100% Volumetric Efficiency

Power based on 90% Mechanical Efficiency

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

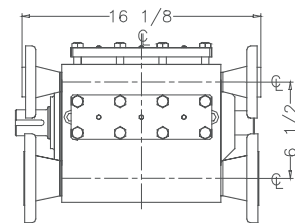
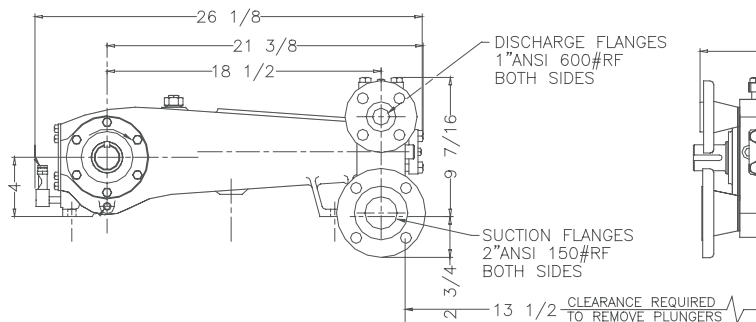
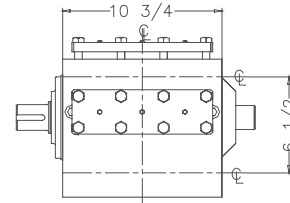
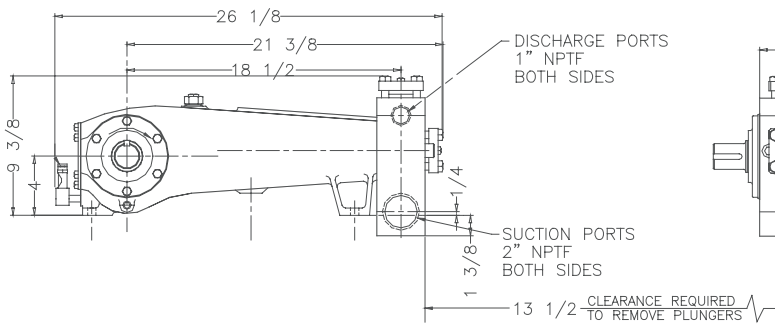
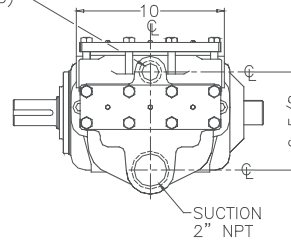
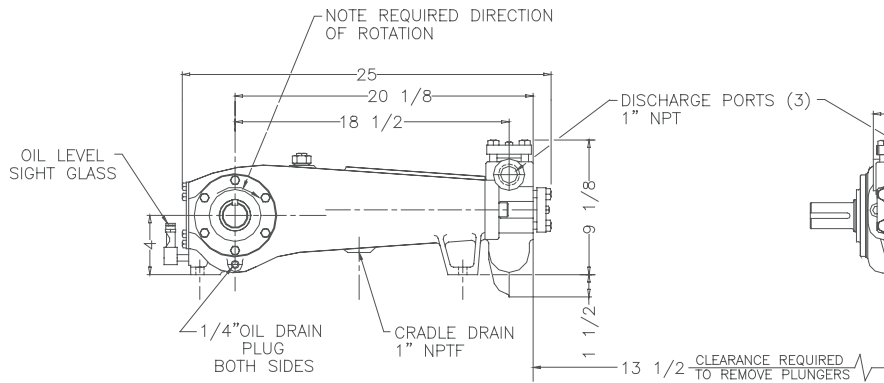
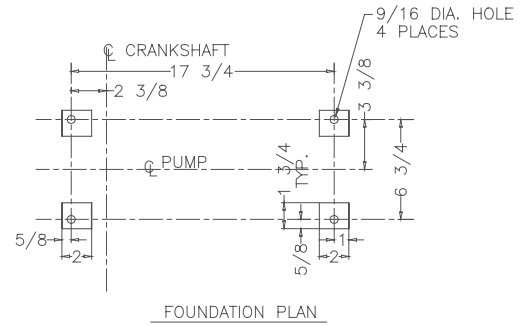
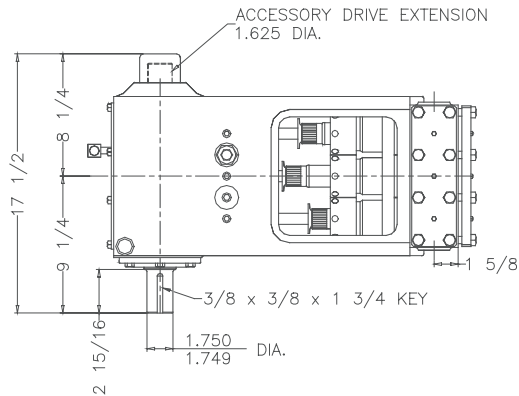
$$lkW = \frac{M^3/HR \times (\text{Discharge Bar} - 1/2 \text{ Suction Bar})}{17.99}$$

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

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

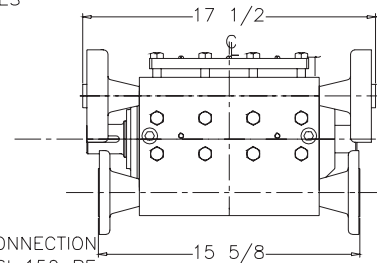
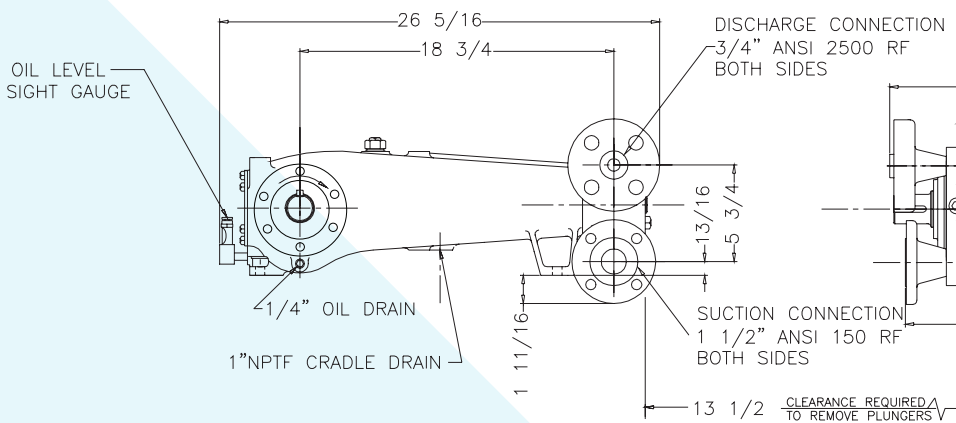
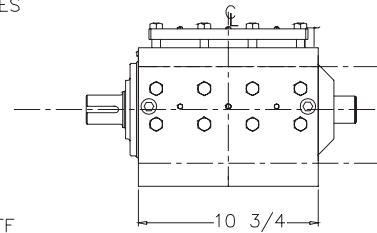
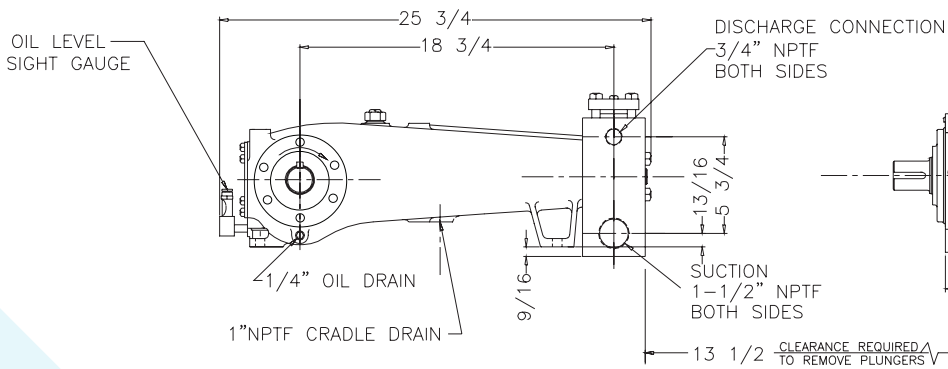
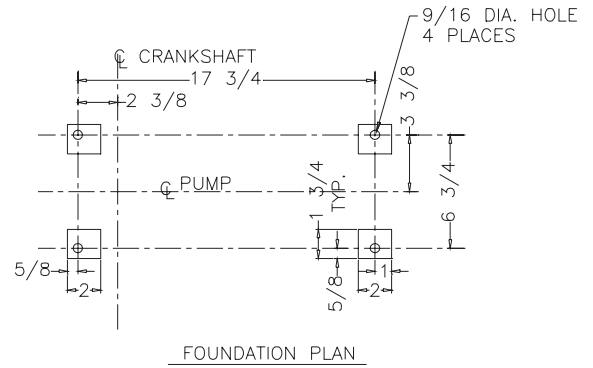
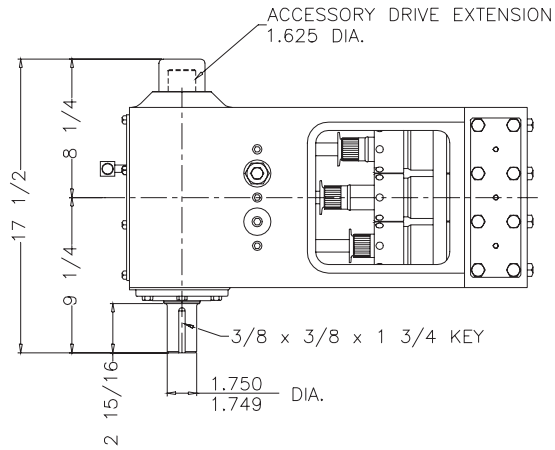
MA-15M TRIPLEX PUMP

Measurements shown in inches



MA-15H TRIPLEX PUMP

Measurements shown in inches



ENGINEERING DATA

MA-15M AND MA-15H TRIPLEX PUMPS

POWER END ENGINEERING DATA

Max. Input HP @ Speed	15 HP @ 650 rpm
Rated Continuous Plunger Load	1,828 lb.
Normal Continuous Speed Range	150 to 600 rpm
Minimum Speed	100 rpm
Oil Capacity	2 U.S. Qrts
Power End Oiling System	Splash & Scoop
Power Frame, One-Piece	Cast Iron
Crosshead, Full Cylindrical	Cast Iron
Crosshead, Dia. x Length	2 5/8 x 2 7/8 in.
Crankshaft	Ductile Iron
Crankshaft Diameters:	
At Tapered Roller Bearings	2.167 in.
At Crankpin Bearings	1.750 x 1.063 in.
Crosshead (Wrist) Pin, Case-Hardened and Ground	AISI 8620
Main Bearings, Tapered Roller	Timken®
Crankpin Bearings, Precision Automotive	Babbitt-Lined
Extension (Pony) Rod, Integral w/ Plungers	316 S.S
Connecting Rod, Automotive Type	Ductile Iron
Average Crosshead Speed @ 600 rpm.....	150 fpm
Minimum Life Expectancy, Main Bearings, L ₁₀	60,000+ hr.

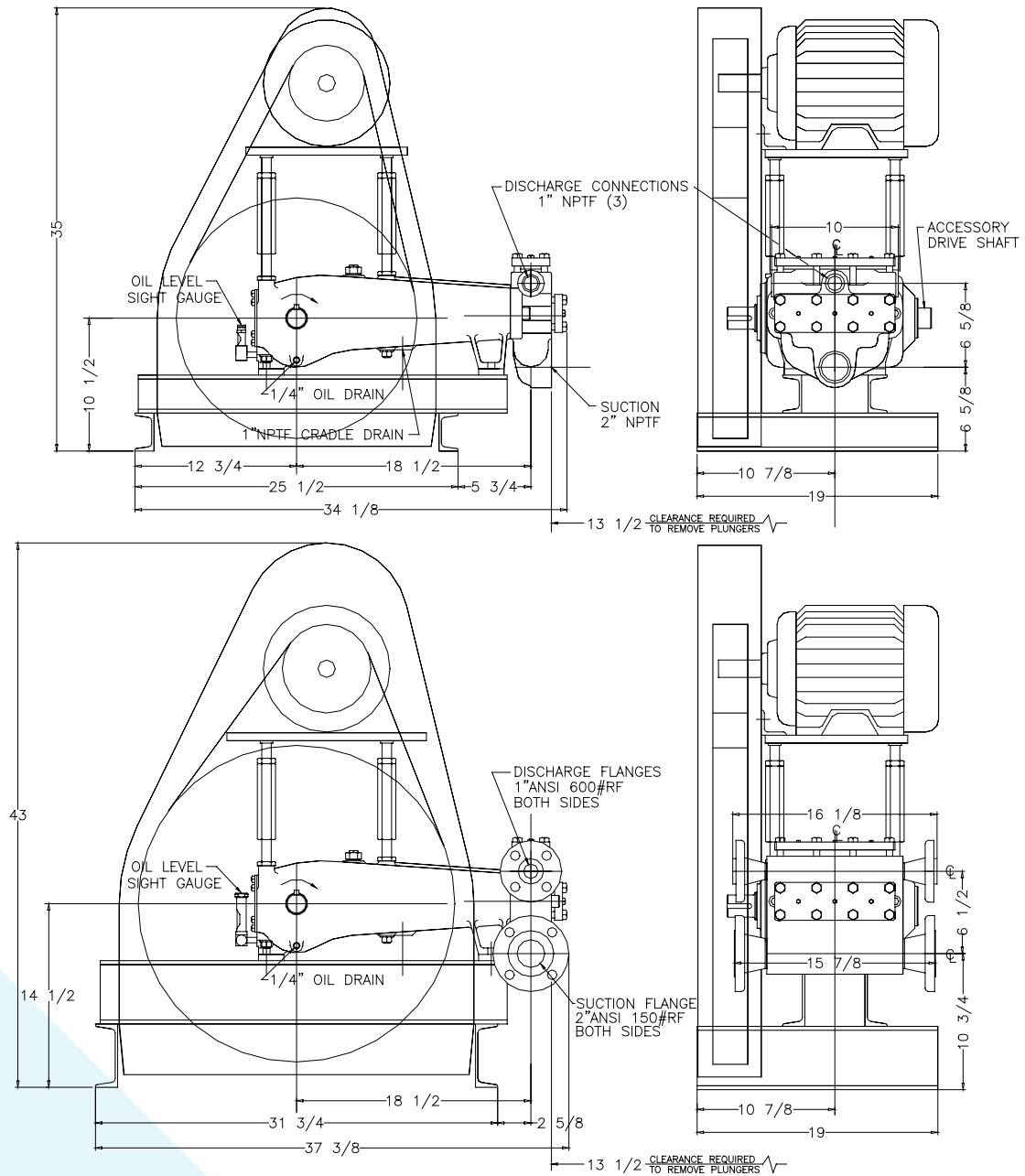
LIQUID END ENGINEERING DATA

Max. Continuous Working Pressure 15M	3,040 psi
15H	5,000 psi
Hydrostatic Test 15M	4,560 psi
15H	7,500 psi
Liquid End Materials, A.S.T.M.	
Nickel Aluminum Bronze 15M	B148-C955
Carbon Steel Block 15H/15M.....	A516 Gr. 70 or A105
Stainless Steel Block 15H/15M.....	Various Grades
Ductile Iron 15M.....	A536 80-55-06
Plunger Type Rokide (Chromium Oxide-Coated)	316 Stainless Steel
	Tungsten Carbide, Ceramic and other types of plungers also available
Stuffing Boxes, Field-Removable and Replaceable	Carbon Steel or Stainless Steel
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 Cyl. Head Plugs	316 S.S.
Retainer Plates, Steel, A.S.T.M.	A36
Seals, Stuffing Boxes, Valve Covers	Buna-N
Bolting, High Strength, Heat Treated	Alloy Steel
Valve Types Available	
Dual Stem Guided	17-4PH S.S
Stainless Steel Disc	17-4PH S.S
Abrasion Resistant	17-4PH S.S
Valve Spring Material	Inconel®
Valve Seat, Liquid Passage Area573 sq.in.
Avg. Liquid Velocity with Largest Diameter Plungers @ 600 rpm	
thru Dual Stem Guided Valves (15M).....	9.04 fps
(15H)	1.93 fps
thru Suction Manifold (15M).....	2.47 fps
(15H).....	0.94 fps
thru Discharge Manifold (15M)	9.90 fps
(15H)	3.75 fps

All drawings and specifications subject to change without notice.

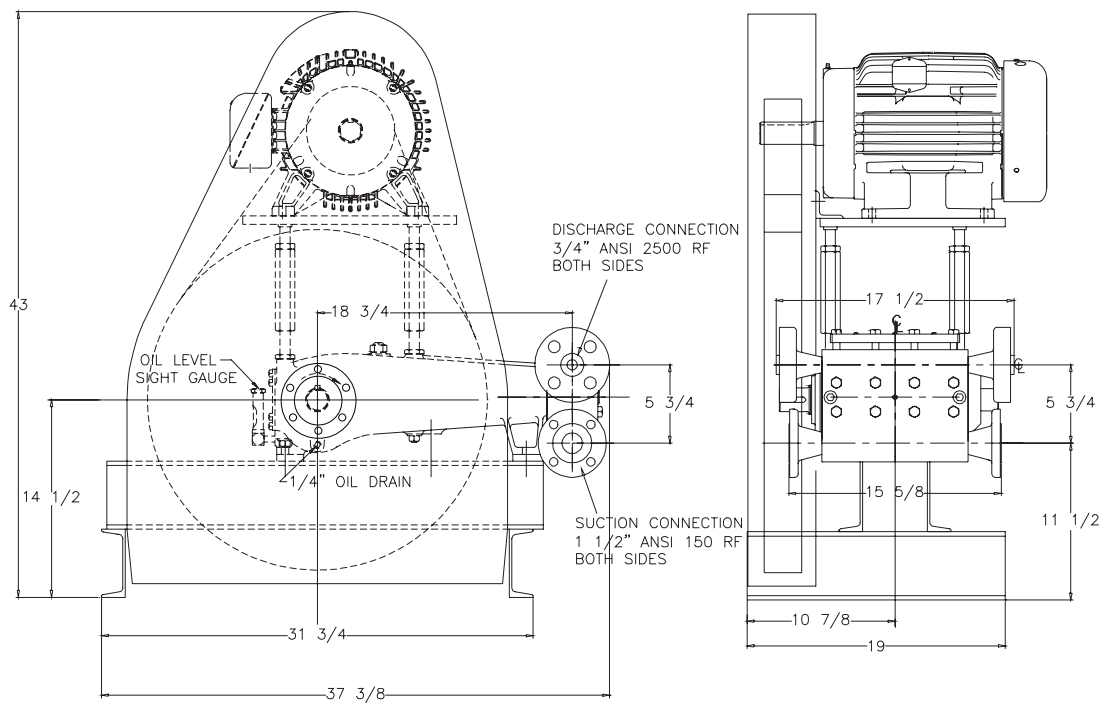
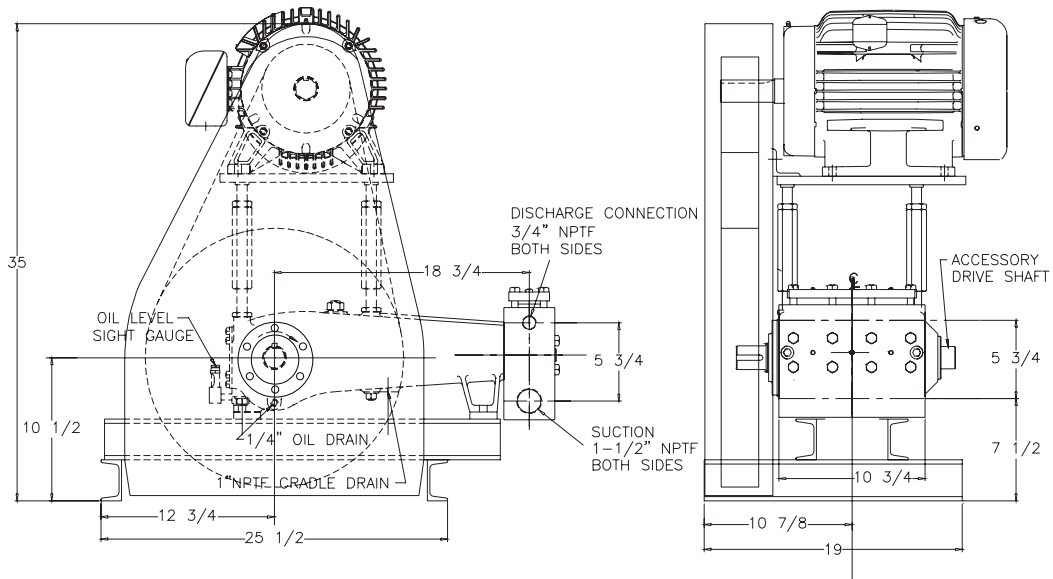
MA-15M TRIPLEX PUMP

Measurements shown in inches



MA-15H TRIPLEX PUMP

Measurements shown in inches



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