

No. of plungers ..... 3  
 Maximum rated speed ..... 550 rpm  
 Stroke length.....2.5 in. 63.5 mm  
 Maximum rated power.....40.0 HP 29.8 KW  
 Maximum rod load .....3456 lb. 15.3 kN  
 Weight ..... 750 lbs.

**ENGLISH UNITS**

MA-40M

PLUNGER SIZE IN.	STUFFING BOX BORE IN.	MAX PSI	*GALLON PER/REV.	200 RPM US GPM	250 RPM US GPM	350 RPM US GPM	450 RPM US GPM	550 RPM US GPM
2.250	2.875	867	0.1291	25.8	32.3	45.2	58.1	71.0
2.125	2.875	973	0.1151	23.0	28.8	40.3	51.8	63.3
2.000	2.875	1098	0.1020	20.4	25.5	35.7	45.9	56.1
1.875	2.875	1249	0.0896	17.9	22.4	31.4	40.3	49.3
1.750	2.875	1433	0.0781	15.6	19.5	27.3	35.1	43.0
1.625	2.500	1663	0.0673	13.5	16.8	23.6	30.3	37.0
1.500	2.500	1951	0.0574	11.5	14.3	20.1	25.8	31.6
1.375	2.250	2321	0.0482	9.6	12.1	16.9	21.7	26.5
1.250	2.250	2809	0.0398	8.0	10.0	13.9	17.9	21.9
1.125	1.750	3468	0.0323	6.5	8.1	11.3	14.5	17.8

HP REQUIRED @ RPM\*\*

14.5	18.1	25.4	32.7	40.0
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**METRIC UNITS**

MA-40M

PLUNGER SIZE MM.	STUFFING BOX BORE MM.	MAX PRESS. BAR	*LITER PER/REV.	200 RPM LPM	250 RPM LPM	350 RPM LPM	450 RPM LPM	550 RPM LPM
57.2	73.0	60	0.4887	97.7	122.2	171.0	219.9	268.8
54.0	73.0	67.0	0.4357	87.1	108.9	152.5	196.1	239.6
50.8	73.0	76	0.3861	77.2	96.5	135.1	173.7	212.4
47.6	73.0	86	0.3392	67.8	84.8	118.7	152.6	186.6
44.5	73.0	99	0.2956	59.1	73.9	103.5	133.0	162.6
41.3	63.5	115	0.2548	51.0	63.7	89.2	114.7	140.1
38.1	63.5	135	0.2172	43.4	54.3	76.0	97.7	119.5
34.9	57.1	160.0	0.1825	36.5	45.6	63.9	82.1	100.4
31.7	57.1	193.6	0.1507	30.1	37.7	52.7	67.8	82.9
28.5	44.5	239.1	0.1223	24.5	30.6	42.8	55.0	67.3

KW REQUIRED @ RPM\*\*

10.8	13.5	18.9	24.4	29.8
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\*Displacement based on 100% Volumetric Efficiency

\*\*Power based on 90% Mechanical Efficiency

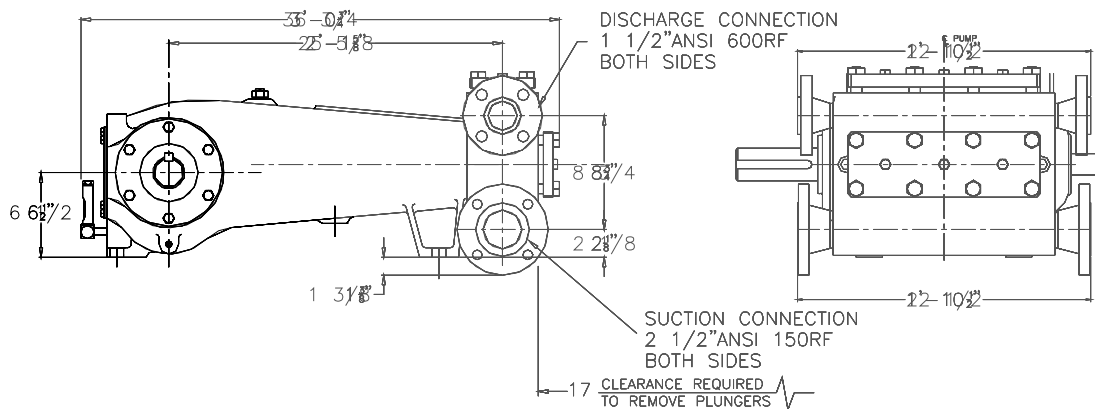
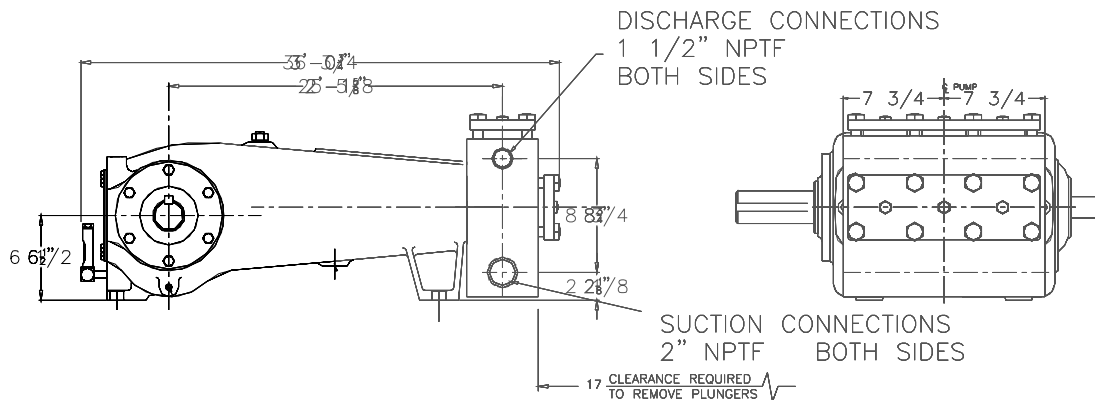
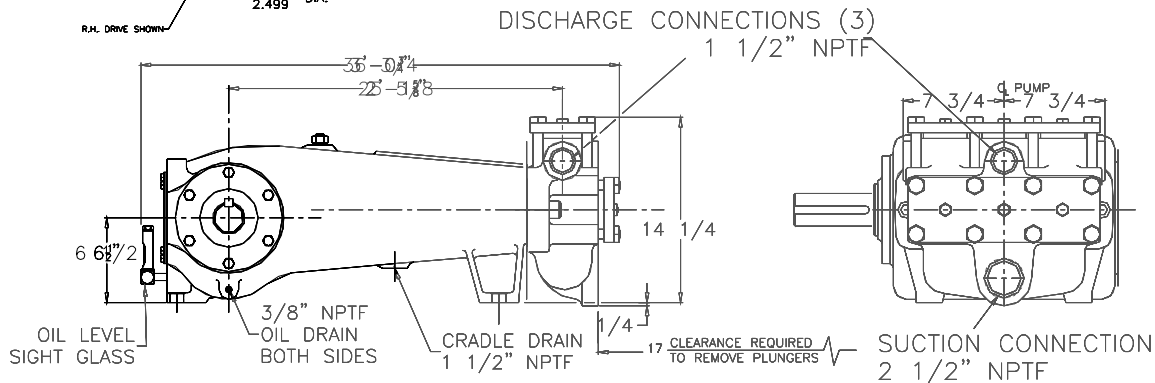
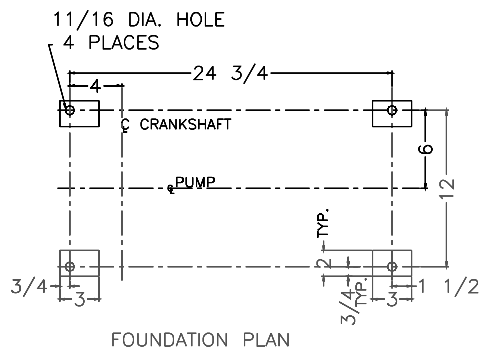
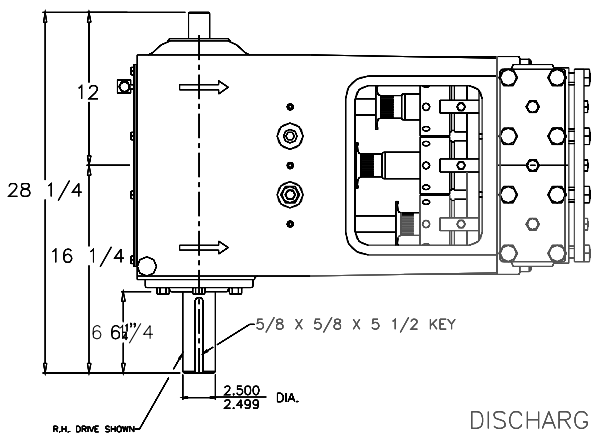
$$IHP = \frac{USGPM \times (\text{Discharge psig} - 1/2 \text{ Suction psig})}{1542}$$

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

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

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

# MA-40M Triplex Pump



# ENGINEERING DATA

## MA-40M Triplex Pump

### POWER END ENGINEERING DATA

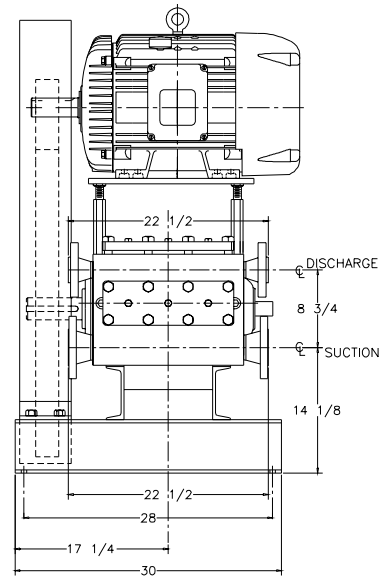
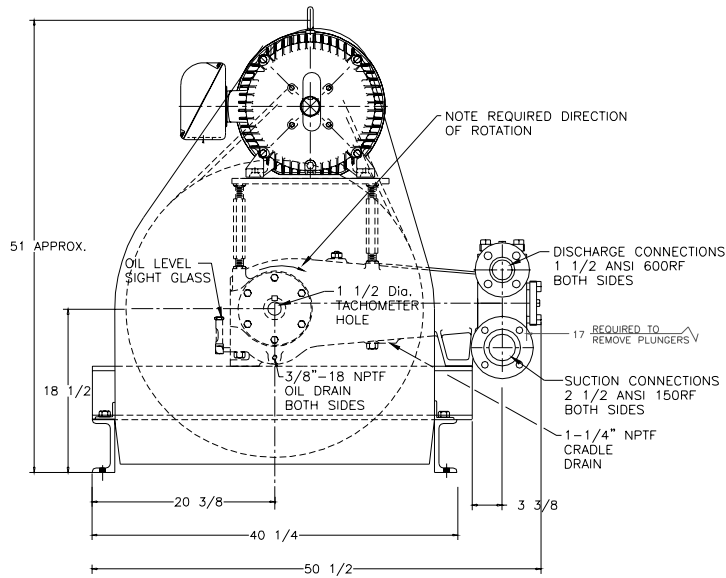
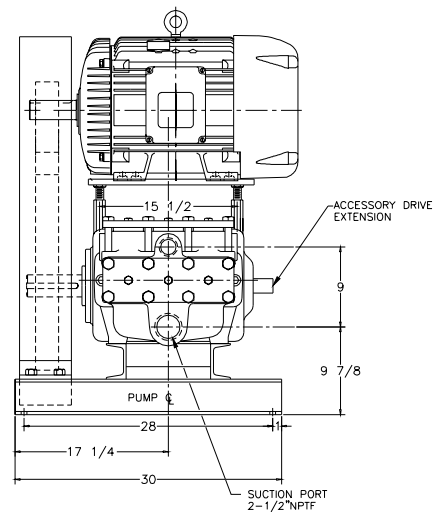
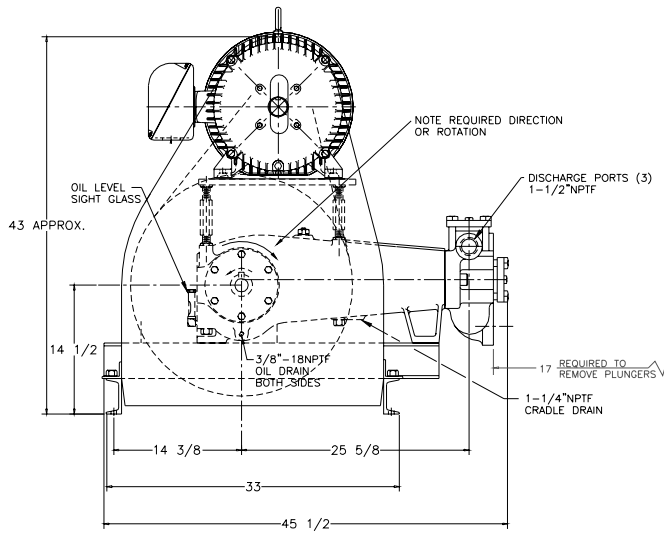
Max. Input Power @ Speed .....	40 HP@ 600 rpm
Rated Continuous Plunger Load .....	3,456 lb.
Max. Rated Continuous Speed .....	550 rpm
Normal Continuous Speed Range .....	150 to 500 rpm
Minimum Speed .....	100 rpm
Oil Capacity .....	5 U.S. Qrts
Power End Oiling System .....	Splash & Scoop
Power Frame, One-Piece .....	Cast Iron
Crosshead, Full Cylindrical .....	Cast Iron
Crosshead, Dia. x Length .....	4 x 4 1/2 in.
Crankshaft .....	Ductile Iron
Crankshaft Diameters:	
At Tapered Roller Bearings .....	3.35 in.
At Crankpin Bearings, Dia. x Length .....	2 3/4 x 2 in.
Crosshead (Wrist) Pin, Case-Hardened and Ground .....	AISI 8620
Wrist Pin Bushing, SAE 660, dia. x width .....	1 5/16 x 2 in.
Main Bearings, Tapered Roller .....	Timken
Crankpin Bearings, Precision Automotive .....	Steel Backed, Babbitt-Lined
Extension (Pony) Rod, Integral w/ Plungers .....	316 S.S.
Connecting Rod, Automotive Type .....	Ductile Iron
Average Crosshead Speed @ 550 rpm .....	229 fpm
Minimum Life Expectancy, Main Bearings, L <sub>10</sub> .....	100,000+ hr.

### LIQUID END ENGINEERING DATA

Max. Continuous Working Pressure .....	3,000 psi
Hydrostatic Test .....	4,500 psi
Available Liquid End Materials, A.S.T.M.	
Nickel Aluminum Bronze Casting .....	B148-C955
Carbon Steel Block .....	A516 Gr. 70 or A105
Stainless Steel Block .....	Various Grades
Ductile Iron Casting .....	A536 80-55-06
Plunger Type "Rokide" (Chromium Oxide-Coated) .....	316 S.S.
Stuffing Boxes, Field-Removable and Replaceable .....	Stainless Steel
Packing Types Available	
Gland-loaded, Non-Adjustable .....	Style 838
Spring-loaded, Braided Teflon & Kevlar .....	Style 140
Spring-loaded, cup-type .....	Style 120X
Spring-loaded, Garlock .....	Style 892IK
Valve Cover and Cyl. Head Plugs .....	316 S.S.
Retainer Plates, Ductile Iron, A.S.T.M. ....	A536 80-55-06
Seals, Stuffing Boxes, Valve Covers, Cyl. Heads .....	Buna-N
Valve Types	
Standard, Acetal Resin .....	"Delrin"
Optional, Hardened and Lapped .....	17-4 PH S.S.
Dual Stem Guided .....	17-4PH S.S.
Valve Spring Material .....	Inconel
Valve Seat, Liquid Passage Areas	
Plate (disc) Valves, (Delrin or S.S.) .....	2.3 sq.in.
Dual Stem Guided Valves .....	1.5 sq.in.
Avg. Liquid Velocity with 2 1/4" plungers @ 550 rpm	
thru Disc Valves .....	6.6 fps
thru Dual Stem Guided Valves .....	11.2 fps
thru Suction Manifold .....	4.12 fps
thru Discharge Manifold .....	12.8 fps

All drawings and specifications subject to change without notice.

# MA-40M Triplex Pump



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