

CLARK SOLUTIONS

Heavy Duty S Series Rotary Gear Pump

Pressure to 300 PSI, Flow to 175 GPM, Drive Speed to 1800 RPM

DESCRIPTION

Heavy Duty S Series pumps are capable of higher pressures and flow rates than the standard S-Series.

The pumps are available in cast iron (standard) and ductile iron. They are designed to operate at speeds to 1140 RPM, pressures to 300 PSI, and flow rates to 175 GPM. The standard seal is a mechanical self adjusting seal with Buna-N elastomer. Lubrication of the anti-friction bearings is accomplished by the circulation of the pumped liquid. All models are available with foot mounting.

These pumps are self-priming and uni-directional. The machining of the gears, shafts and housing faces are held to exacting tolerances (within 0.0005") resulting in a pump with better lift, reduced slippage and longer service life. Standard pumps operate to 250°F and, with modifications, to 500°F.

Helical gears provide very smooth and quiet operation at direct motor speeds in hydraulic, lubrication and transfer applications in almost every industry classification.

SPECIFICATIONS

GENERAL

Design: Drive speeds to 1140 RPM; discharge pressures to 300 PSI; flow rates to 175 GPM; foot mounted

Material: Cast Iron casings with precision machined, heat treated gears and case hardened shafts. Pumps are also available in Ductile Iron.

Gears: Helical gears

Bearings: Anti-friction. Also available with iron or carbon graphite sleeve bearings.

Seal: Self adjusting mechanical seal with Buna-N elastomer. Also available with compression packing. Mechanical seal available with different elastomers for pumping different types of liquids.

Lubrication: Self-lubricating using the pumped liquid. Also available for handling non-lubricating liquids.

Rotation: Clockwise or counter-clockwise rotation. A reversible back drain permits direction of rotation to be easily changed in the field.

Liquid Viscosities: 100 SSU to 100,000 SSU. Adaptable for handling liquids of higher or lower viscosities.

Suction Lift: Up to 28" Hg / 31 feet depending on the type of liquid being pumped.

Drive Options: D-Drive (pump coupled to motor mounted on base plate); GR-Drive (pump coupled to gear reducer coupled to motor mounted on baseplate); B-Drive (pump and motor connected by V-belt and pulleys mounted on baseplate).

Accessories: Repair Kits, Gear Sets, Bearing Kits, and Seal Kits.



Foot Mounted Pump



FEATURES

• PRECISION GROUND JOINTS

NO GASKETS- Perhaps the biggest advantage to these pumps. As gaskets are not used, original tolerances are maintained for consistent performance and the time once lost in halting operations to replace a worn gasket is saved.

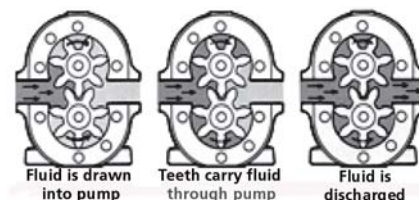
• BEARINGS

Anti-friction bearings minimize friction and provide higher load ratings for medium to high pressure service. Anti-friction and sleeve type bearings are replaceable.

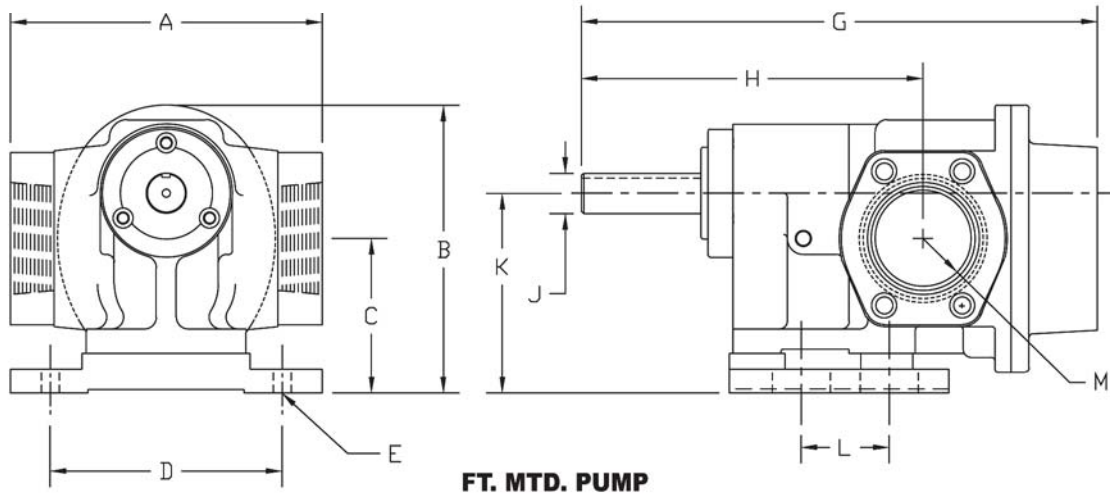
• SEALS

Self-adjusting mechanical seal provides an ample safeguard against liquid leakage and the entrance of air.

PRINCIPLE OF OPERATION



PUMP DIMENSIONS (INCHES)



FT. MTD. PUMP

Table 1

Model	A	B	C	D	G	H	J	K	M	Keyway
6S	8	6.25	2.91	5.25	13.88	9.56	1	4.25	2	1/4 x 1/8
8S	9.75	9.00	4.58	7.25	16.13	10.63	1 1/4	6.25	3	1/4 x 1/8
10S	9.75	9.00	4.58	7.25	16.13	10.63	1 1/4	6.25	3	1/4 x 1/8
12S	12.125	11.56	6.06	10.00	18.50	11.94	1 1/2	8.00	4	3/8 x 3/16
14S	12.125	11.56	6.06	10.00	18.50	11.94	1 1/2	8.00	4	3/8 x 3/16

OPERATING CHARACTERISTICS

Table 2

Model	Gallons per Revolution	Slip GPM/PSI	Drive Speed RPM	0 PSI		50 PSI		75 PSI		100 PSI		200 PSI		300 PSI	
				GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP
6S	0.0361	0.008	600	21.7	0.6	21.5	1.3	21.4	1.6	21.3	1.9	20.8	3.2	20.4	4.5
			860	31.1	0.8	30.8	1.8	30.6	2.3	30.5	2.7	29.8	4.6	29.2	6.5
			1140	41.2	1.1	40.8	2.4	40.6	3.0	40.4	3.6	39.5	6.1	38.7	8.6
8S	0.056	0.013	600	33.6	0.9	33.3	1.9	33.2	2.5	32.9	2.9	32.3	4.9	31.6	7.0
			860	48.2	1.3	47.8	2.8	47.5	3.5	47.2	4.2	46.2	7.1	45.3	10.0
			1140	63.9	1.7	63.3	3.7	63.0	4.7	62.6	5.6	61.3	9.4	60.0	13.3
10S	0.079	0.018	600	47.7	1.3	47.2	2.7	47.0	3.5	46.7	4.2	45.8	7.1	44.8	9.9
			860	68.3	1.8	67.7	3.9	67.4	5.0	67.0	6.0	65.6	10.1	64.3	14.3
			1140	90.6	2.4	89.7	5.2	89.3	6.6	88.8	7.9	87.0	13.4	85.2	18.9
12S	0.113	0.026	600	67.8	1.8	67.1	3.8	66.8	4.9	66.4	5.9	65.1	10.1	63.7	14.1
			860	97.2	2.6	96.2	5.5	95.7	7.0	95.2	8.4	93.2	14.4	91.3	20.2
			1140	128.8	3.4	127.5	7.3	126.9	9.3	126.2	11.2	123.6	19.1	121.0	26.8
14S	0.204	0.035	600	122.2	3.2	121.0	6.9	120.3	8.8	119.7	10.6	117.3	18.1	114.8	25.5
			860	175.1	4.6	173.4	9.9	172.5	12.6	171.6	15.2	168.1	25.9	164.6	36.5

Delivery and horsepower are based on liquid viscosity of 300 SSU at speed and pressures shown.

FLOW CURVES

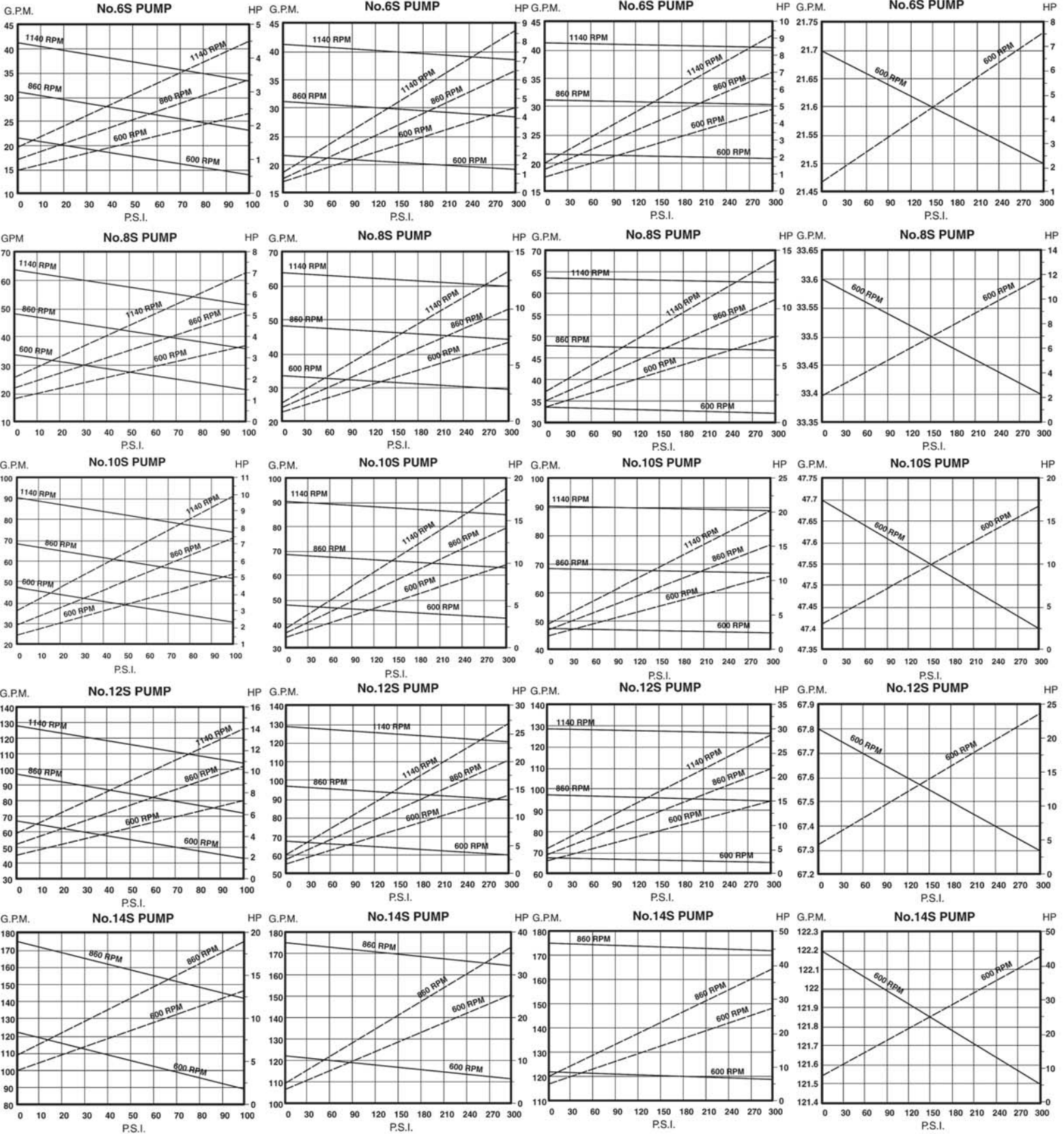
SOLID LINE = GPM BROKEN LINE= HP

32 SSU LIQUID

300 SSU LIQUID

1,000 SSU LIQUID

5,000 SSU LIQUID



PUMP DIMENSIONS (INCHES) BASE MOUNTED TO STANDARD FOOT MOUNTED MOTOR

Heavy Duty S Series pumps are available as base mounted pump and motor assemblies. Each assembly includes the base, flexible coupling, coupling guard, riser blocks (if required), lifting eye-bolts, and mounting hardware. The fabricated steel or channel steel bases are available with optional features such as drip-lip construction, drain plugs, mounting lugs, casters, etc..

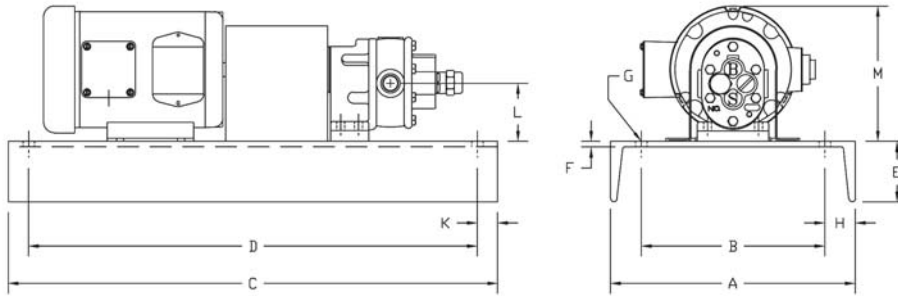


Table 3

Model	Motor Frame	A	B	C	D	E	F	G	H	K	L	M
6SD	213T	15.00	12.00	34.00	32.00	3.41	0.41	0.56	1.50	1.00	4.16	10.25
	215T	15.00	12.00	36.00	34.00	3.41	0.41	0.56	1.50	1.00	4.16	10.25
	254T	18.00	15.00	42.00	40.00	3.95	0.45	0.56	1.50	1.00	5.16	12.88
	256T	18.00	15.00	44.00	42.00	3.95	0.45	0.56	1.50	1.00	5.16	12.88
8SD	215T	18.00	15.00	42.00	40.00	3.95	0.45	0.56	1.50	1.00	4.83	10.25
	254T	18.00	15.00	42.00	40.00	3.95	0.45	0.56	1.50	1.00	4.83	12.88
	256T	18.00	15.00	44.00	42.00	3.95	0.45	0.56	1.50	1.00	4.83	12.88
	284T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	5.58	14.63
10SD	286T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	5.58	14.63
	215T	18.00	15.00	42.00	40.00	3.95	0.45	0.56	1.50	1.00	4.83	10.25
	254T	18.00	15.00	42.00	40.00	3.95	0.45	0.56	1.50	1.00	4.83	12.88
	256T	18.00	15.00	44.00	42.00	3.95	0.45	0.56	1.50	1.00	4.83	12.88
12SD	284T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	5.58	14.63
	286T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	5.58	14.63
	286T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	5.58	14.63
	324T	30.00	26.00	60.00	56.00	3.72	0.72	0.75	2.00	2.00	6.06	16.50
	326T	30.00	26.00	60.00	56.00	3.72	0.72	0.75	2.00	2.00	6.06	16.50
	326T	30.00	26.00	60.00	56.00	3.72	0.72	0.75	2.00	2.00	6.06	16.50
14SD	254T	18.00	15.00	48.00	46.00	3.95	0.45	0.56	1.50	1.00	6.06	12.88
	256T	18.00	15.00	48.00	46.00	3.95	0.45	0.56	1.50	1.00	6.06	12.88
	284T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	6.06	14.63
	286T	24.00	20.00	48.00	44.00	3.17	0.51	0.63	2.00	2.00	6.06	14.63
	324T	30.00	26.00	60.00	56.00	3.72	0.72	0.63	2.00	2.00	6.06	16.50
	326T	30.00	26.00	60.00	56.00	3.72	0.72	0.75	2.00	2.00	6.06	16.50
	364T	30.00	26.00	60.00	56.00	3.72	0.72	0.75	2.00	2.00	7.06	18.50

ORDERING INFORMATION

ORDER PUMP ONLY 713-A-B-E

ORDER PUMP & DRIVE 713-A-B-C-D-E

Pump		Drive	Assembly
A	B	C	D
Pump Model	Turning Direction	Pump Drive/Bracket	Assembly: Pump & Bracket
60= Foot Mount Model 6S 80= Foot Mount Model 8S 100= Foot Mount Model 10S 120= Foot Mount Model 12S 140=Foot Mount Model 14S	2= CW 3= CCW	*Select Model & Motor Frame From Table 3 Example: 12SD-182TC *Call us for other mounting/drive options	A= Factory Assembly B= Field Assembly

E- Options

Opt 1= Ductile Iron Casing
Opt 4= Carbon Graphite Bearings
opt 7= Iron Sleeve Bearings

ORDER PUMP, DRIVE AND MOTOR 713-A-B-C-D-E-F

F Motor

Specify motor frame, motor speed, horse power, voltage, frequency & enclosure rating

Please call us to discuss your motor requirements. We offer a complete range of AC & DC motors as well as variable frequency drives.