

CLARK SOLUTIONS

700 Series Rotary Gear Pump

Pressure to 2000 PSI, Flow to 5.0 GPM, Drive Speed to 1725 RPM

DESCRIPTION

700 Series pumps are high pressure pumps designed to provide quiet and efficient service at standard motor speeds. Typical applications are hydraulic and metering service.

The pumps are available in cast iron and ductile iron. They are designed to operate at speeds to 1725 RPM, pressures to 2000 PSI, and flow rates to 5.0 GPM. The standard seal is a lip seal and lubrication of the anti-friction bearings is accomplished by the circulation of the pumped liquid. All models are available with foot or flange mounting.

These pumps have an outstanding record for reliable performance and long life. 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.

SPECIFICATIONS

GENERAL

Design: Drive speeds to 1725 RPM; discharge pressures to 2000 PSI; flow rates to 5.0 GPM; foot or flange mounted

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

Gears: Spur gears

Bearings: Anti-friction needle roller bearings.

Seal: Lip Seal

Lubrication: Self-lubricating using the pumped liquid.

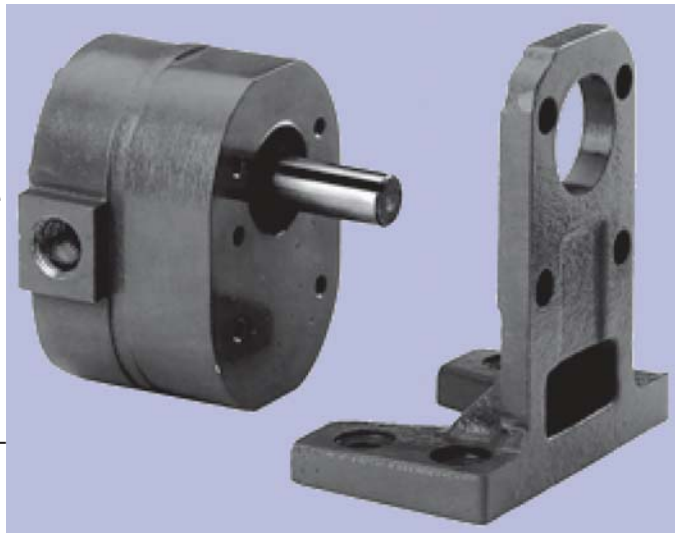
Rotation: Clockwise or counter-clockwise, specify at time of order.

Liquid Viscosities: 100 SSU to 1000 SSU. Clean liquids having good lubricating quality.

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

Drive Options: A-Drive (pump connected to C-face motor with adapter bracket and coupling). A version of the A-Drive with a shorter, more compact bracket is also available.

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



700 Series Gear 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.

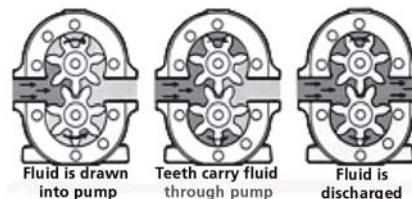
• BEARINGS

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

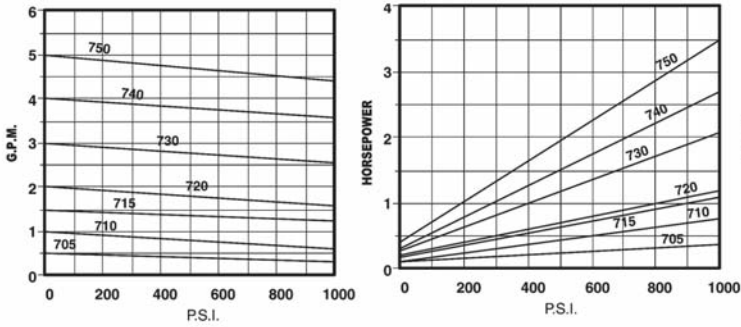
Lip seal provides an ample safeguard against liquid leakage and the entrance of air.

PRINCIPLE OF OPERATION

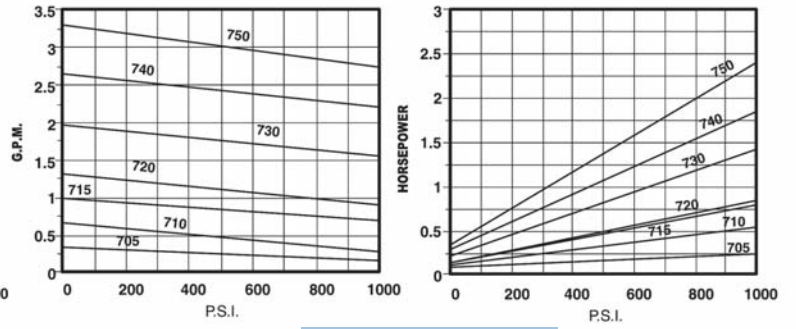


FLOW CURVES

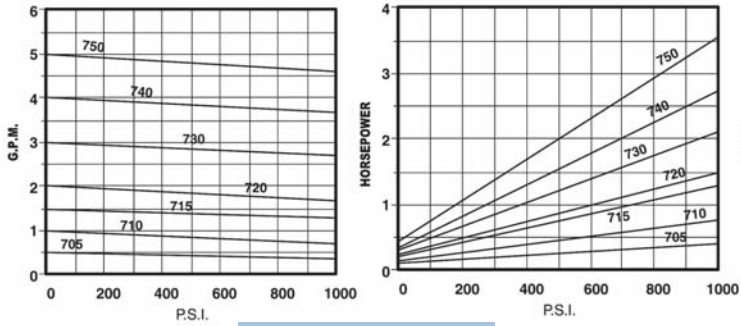
1725 RPM- 70 SSU LIQUID



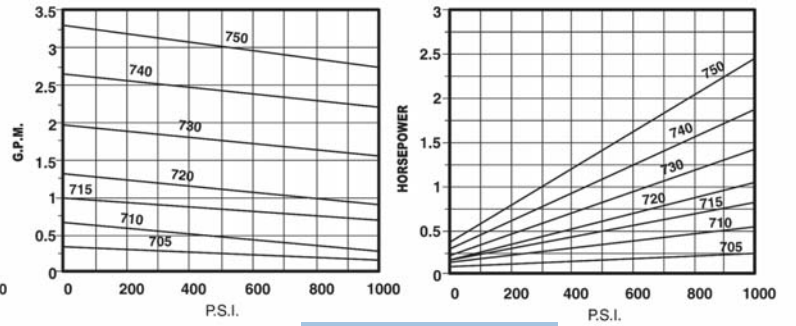
1140 RPM- 70 SSU LIQUID



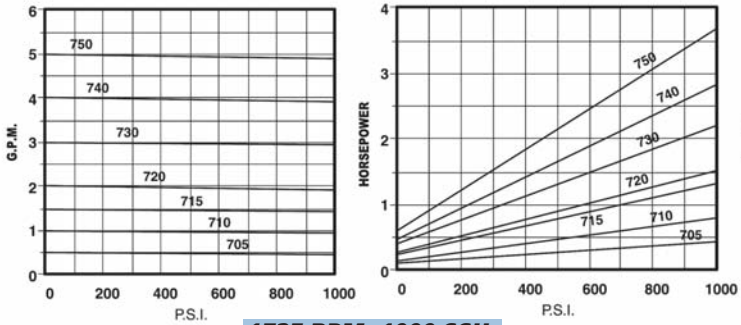
1725 RPM- 100 SSU



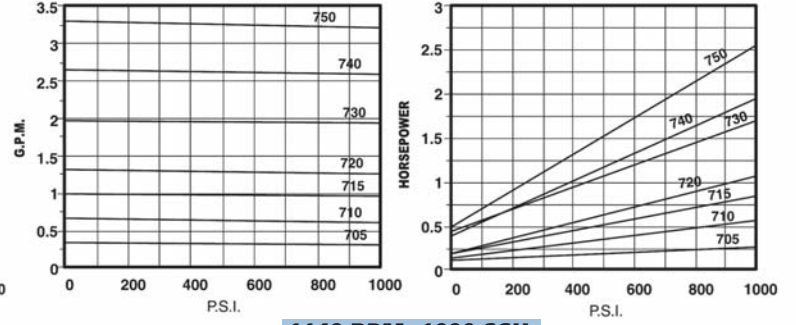
1140 RPM- 100 SSU



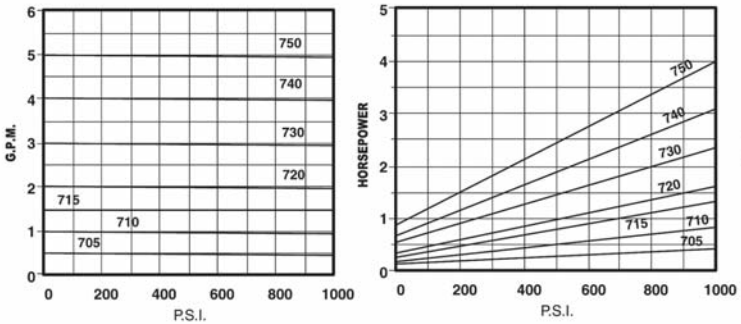
1725 RPM- 500 SSU



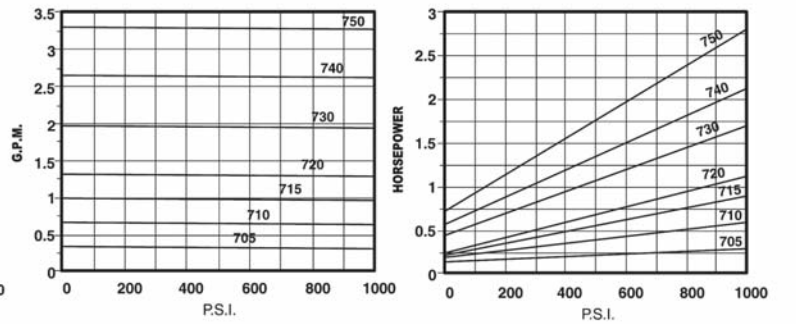
1140 RPM- 500 SSU



1725 RPM- 1000 SSU



1140 RPM- 1000 SSU



PUMP DIMENSIONS (INCHES)

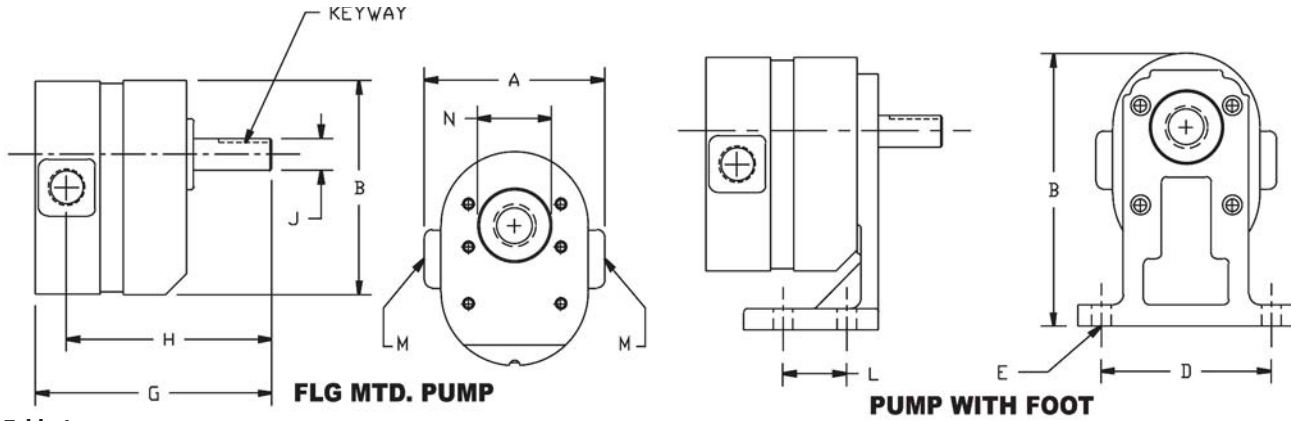


Table 1

Model	A	B	D	E	G	H	J	L	M	N	Keyway
705	3.19	4.81	3.00	11/32	3.84	3.27	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
710	3.19	4.81	3.00	11/32	3.95	3.38	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
715	3.19	4.81	3.00	11/32	4.05	3.47	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
720	3.19	4.81	3.00	11/32	4.14	3.56	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
730	3.19	4.81	3.00	11/32	4.34	3.77	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
740	3.19	4.81	3.00	11/32	4.55	3.97	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8
750	3.19	4.81	3.00	11/32	4.75	4.17	0.56	1.13	3/8 NPT	1.25	1/8 X 1/16 X 7/8

OPERATING CHARACTERISTICS

Delivery and horsepower are based on liquid viscosity if 100 SSU at speed and pressures shown.

Table 2

Model	Gallons per Revolution	Slip GPM/PSI	Drive Speed RPM	0 PSI		500 PSI		1000 PSI		1500 PSI		2000 PSI	
				GPM	HP	GPM	HP	GPM	HP	GPM	HP	GPM	HP
705	0.0003	0.00013	1725	0.50	0.11	0.43	0.25	0.37	0.40	0.31	0.55	-	-
710	0.0006	0.0002	1725	1.00	0.14	0.90	0.45	0.80	0.77	0.70	1.12	0.60	1.45
715	0.0009	0.0002	1725	1.50	0.21	1.40	0.65	1.30	1.30	1.20	1.68	1.10	2.20
720	0.0012	0.0002	1725	2.00	0.25	1.90	0.85	1.80	1.50	1.70	2.22	1.60	2.90
730	0.0018	0.0003	1725	3.00	0.31	2.85	1.15	2.70	2.10	2.55	3.10	-	-
740	0.0024	0.0003	1725	4.00	0.36	3.85	1.47	3.70	2.75	3.63	3.37	-	-
750	0.0030	0.0004	1725	5.00	0.45	4.80	1.90	4.60	3.55	-	-	-	-

PUMP DIMENSIONS (INCHES) DIRECT COUPLED TO STANDARD C-FACE MOTOR(SMALL BRACKET)

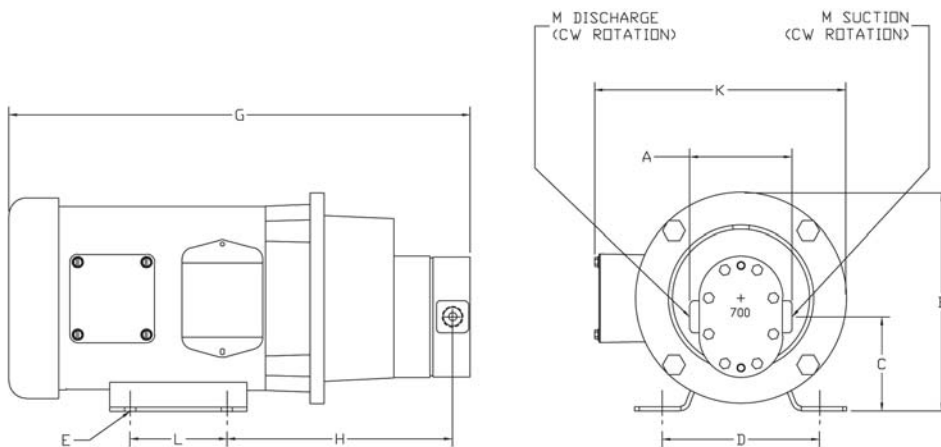


Table 3

Model	Motor Frame	A	B	C	D	E	G	H	K	L	M
705-SB	56C	3.16	6.88	2.92	4.88	0.34	14.28	6.98	8.31	3.00	3/8 NPT
710-SB	56C	3.16	6.88	2.92	4.88	0.34	14.38	7.08	8.31	3.00	3/8 NPT
715-SB	56C	3.16	6.88	2.92	4.88	0.34	14.48	7.18	8.31	3.00	3/8 NPT
720-SB	56C	3.16	6.88	2.92	4.88	0.34	14.58	7.28	8.31	3.00	3/8 NPT
730-SB	56C	3.16	6.88	2.92	4.88	0.34	14.78	7.48	8.31	3.00	3/8 NPT
740-SB	56C	3.16	6.88	2.92	4.88	0.34	14.98	7.68	8.31	3.00	3/8 NPT
750-SB	56C	3.16	6.88	2.92	4.88	0.34	15.18	7.88	8.31	3.00	3/8 NPT

PUMP DIMENSIONS (INCHES) DIRECT COUPLED TO STANDARD C-FACE MOTOR (A-DRIVE)

700 Series pumps are available direct coupled to a NEMA C-Face foot mounted motor. This assembly, referred to as an A-Drive, ensures accurate alignment and requires less space and is less costly than a pump and motor mounted on a baseplate.

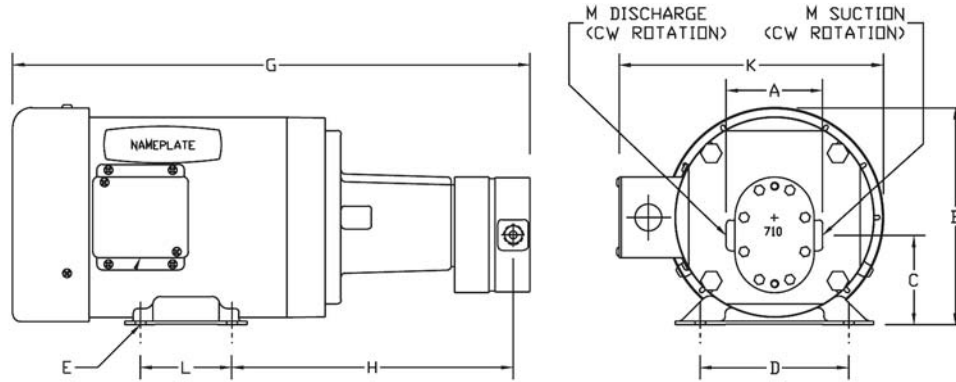


Table 4

Model	Motor Frame	A	B	C	D	E	G	H	K	L	M
705A	56C	3.16	6.88	2.92	4.88	0.34	16.86	9.13	8.31	3.00	3/8
710A	56C	3.16	6.88	2.92	4.88	0.34	16.96	9.23	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	18.68	9.54	8.56	5.00	3/8
745A	56C	3.16	6.88	2.92	4.88	0.34	17.06	9.33	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	18.78	9.54	8.56	5.00	3/8
	182TC	3.16	8.69	3.92	7.50	0.41	20.31	10.83	9.81	4.50	3/8
	184TC	3.16	8.69	3.92	7.50	0.41	20.31	10.83	9.81	5.50	3/8
720A	56C	3.16	6.88	2.92	4.88	0.34	17.16	9.43	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	18.88	9.74	8.56	5.00	3/8
	182TC	3.16	8.69	3.92	7.50	0.41	20.41	10.93	9.81	4.50	3/8
	184TC	3.16	8.69	3.92	7.50	0.41	20.41	10.93	9.81	5.50	3/8
730A	56C	3.16	6.88	2.92	4.88	0.34	17.36	9.63	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	19.08	9.91	8.56	5.00	3/8
	182TC	3.16	8.69	3.92	7.50	0.41	20.61	11.13	9.81	4.50	3/8
	184TC	3.16	8.69	3.92	7.50	0.41	20.61	11.13	9.81	5.50	3/8
	213TC	3.16	10.25	4.67	8.50	0.41	22.52	12.01	12.16	5.50	3/8
740A	56C	3.16	6.88	2.92	4.88	0.34	17.56	9.83	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	19.28	10.14	8.56	5.00	3/8
	182TC	3.16	8.69	3.92	7.50	0.41	20.81	11.33	9.81	4.50	3/8
	184TC	3.16	8.69	3.92	7.50	0.41	20.81	11.33	9.81	5.50	3/8
	213TC	3.16	10.25	4.67	8.50	0.41	22.72	12.21	12.16	5.50	3/8
750A	56C	3.16	6.88	2.92	4.88	0.34	17.76	10.03	8.31	3.00	3/8
	145TC	3.16	6.88	2.92	5.50	0.34	19.48	10.34	8.56	5.00	3/8
	182TC	3.16	8.69	3.92	7.50	0.41	21.01	11.53	9.81	4.50	3/8
	184TC	3.16	8.69	3.92	7.50	0.41	21.01	11.53	9.81	5.50	3/8
	213TC	3.16	10.25	4.67	8.50	0.41	22.92	12.41	12.16	5.50	3/8

ORDERING INFORMATION

ORDER PUMP ONLY 713-A-B-E

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

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

A		B	C	D																																		
Pump Model Select Flange or Foot Mount		Direction of Rotation	Pump/Motor Drive	*Standard C Frame Motors																																		
Flange Mount (also used with A-Drive assembly) 9705= Model 705 pump 9710= Model 710pump 9715= Model 715 pump 9720= Model 720 pump 9730= Model 730 pump 9740= Model 740 pump 9750= Model 750 pump	Foot Mount 705= 705 710= 740 715= 715 720= 720 730= 730 740= 740 750= 750	2=Clockwise 3= Counter-clockwise	1) Select Model & Motor Frame From Tables 3 or 4 2) Choose Factory or Field Assembly. --Field A=Factory Example: 730A-182TCA	1) Specify Motor Horsepower 2)Specify Motor Speed 3) Specify Electrics <table border="0"> <tr> <td>HP</td> <td>RPM</td> <td>Electrics</td> <td>Enclosure</td> </tr> <tr> <td>1=0.5</td> <td>A=1725</td> <td>1=230/460, 3/60</td> <td>A=TEFC</td> </tr> <tr> <td>2=0.75</td> <td>B=1140</td> <td></td> <td></td> </tr> <tr> <td>3=1.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4=1.5</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5=2.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6=3.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7=5.5</td> <td></td> <td></td> <td></td> </tr> </table> Example: 3-B-1-A *Call us with your motor requirements, many other electrics, encl-	HP	RPM	Electrics	Enclosure	1=0.5	A=1725	1=230/460, 3/60	A=TEFC	2=0.75	B=1140			3=1.0				4=1.5				5=2.0				6=3.0				7=5.5					
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E- Options

Opt 1= Ductile Iron Casing