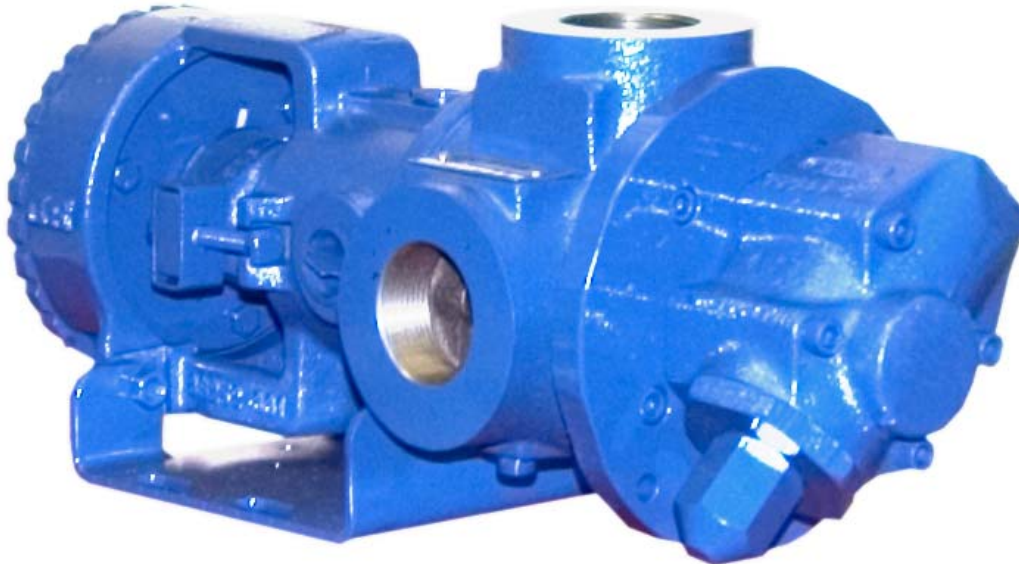


**GHS SERIES
 FLEXIBLE SEAL
 HEAVY DUTY STANDARD
 STAINLESS STEEL ROTARY
 GEAR PUMP**

This heavy duty series with internal “wetted” parts of 316 Stainless Steel is ideal for handling corrosive applications. Superior rotor shaft support and an integral maintenance-free radial/thrust bearing, reduce deflection and wear. Due to the “galling” nature of stainless, extra internal clearance is necessary. A capacity correction table for liquids less than 750 SSU is available in Section 500.



SHOWN ^W/INTERCHANGE FOOT BRACKET

The GHS stainless series is designed for applications in the operating ranges noted below. These units are available with head and backhead jackets for temperature control, silicon carbide bushings for wear resistance, and numerous shaft seal options described on the following pages.

FEATURES

- 200 PSI CAPABILITY
- BALL BEARING THRUST CONTROL
- ROTOR END CLEARANCE EXTERNALLY ADJUSTABLE
- EXCEPTIONAL SEAL VERSATILITY WITH INTERNAL SEAL VENT
- COMPUTER PROFILED GEARING FOR QUIET OPERATION
- MULTIPLE PORT POSITIONS
- FLEXIBLE SEAL DESIGN ALLOWS FOR A VARIETY OF INDUSTRY STANDARD SEALS OR PACKING

OPERATING RANGE

- CAPACITY (GPM): (3 TO 295)
 [LPM] : [11 TO 1116]
- PRESSURE (PSI) : [0 TO 200]
 [BAR] : [0 TO 14]
- VISCOSITY (SSU) : (28 TO 2,000,000)
 [cSt] : [1 TO 440,000]
- TEMPERATURE (F) : (-30° TO 675°)
 [C] : [-34° TO 358°]

APPLICATIONS

- USE WITH ANY CLEAN LIQUID COMPATIBLE WITH 316 STAINLESS STEEL
- ★ BOOSTER SERVICE
 - ★ CIRCULATING
 - ★ FILTERING
 - ★ LUBRICATING
 - ★ TRANSFERRING

EXTERIOR	BACKH.D.	ROTOR & IDLER	HOUSING PORTS	BUSHING	IDLER PIN	SHAFT	SHAFT SEALING		ROTA-TION	INTERNAL RELIEF VALVE	
							MECH. SEAL	PACKING		MATERIAL	SETTING
316 STAIN. STEEL	CAST IRON	316 STAIN. STEEL	GHC 180° FLG. GHS 90° NPT	CARBON GRAPHITE	COATED 316 SST	STAIN. STEEL	CARBON, SIC, TEFLON ENC.	CARBON FIBER	C.W.	316 STAINLESS STEEL	75 PSI [5 BAR]

G H C 1 DC 9 - B
G H S 1 DC 9 - B
 | | | | | | | | | | | |
 GEAR DUTY DESIGN PORT SIZE HYD. SIZE SEAL STYLE

Standard Models

MODEL NUMBER		NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
		MAXIMUM		ALTERNATIVE		DIFF. PRESSURE - PSI [BAR]			TEMP.	Wt.	Vol.
		GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM 60 Hz [50 HZ]	BELOW 38 SSU [4 cSt]	38 TO 100 SSU [21 cSt]	100 TO 250,000 SSU [55,000 cSt]	°F [°C]		
GHC 1 DC9-B ① ● ▸	GHS 1 DC9-B ① ● ● GHS 1 DC10-B ① ■ ■	9 [28]		6 [19]						32 [14,5]	2.9
GHC 1 DE9-B ① ● ▸	GHS 1 DE9-B ① ● ● GHS 1 DE10-B ① ■ ■	11 [35]		7 [22]						32 [14,5]	2.9
GHC 1-1/2 GC9-B ● ▸	GHS 1-1/2 GC9-B ● ● GHS 1-1/2 GC10-B ■ ■	16 [50]		10 [32]						63 [28,6]	2.9
	GHS 2 GC9-B ● ● GHS 2 GC10-B ■ ■									63 [28,6]	2.9
GHC 1-1/2 GF9-B ● ▸	GHS 1-1/2 GF9-B ● ● GHS 1-1/2 GF10-B ■ ■	23 [73]	1750 [1460]	15 [47]	1150 [960]					GHC ● 350 [177]	2.9
	GHS 2 GF9-B ● ● GHS 2 GF10-B ■ ■									63 [28,6]	2.9
GHC 1-1/2 GH9-B ● ▸	GHS 1-1/2 GH9-B ● ● GHS 1-1/2 GH10-B ■ ■	31 [98]		20 [63]		75 [5]	100 [7]	200 [14]		GHS ● 400 [204]	2.9
	GHS 2 GH9-B ● ● GHS 2 GH10-B ■ ■									63 [28,6]	2.9
GHC 1-1/2 GJ9-B ● ▸	GHS 1-1/2 GJ9-B ● ● GHS 1-1/2 GJ10-B ■ ■	38 [120]		25 [79]						500 [260]	2.9
	GHS 2 GJ9-B ● ● GHS 2 GJ10-B ■ ■									63 [28,6]	2.9
	GHS 2 JG9-B ● ● GHS 2 JG10-B ■ ■	40 [126]	1150 [960]	30 [95]	870 [725]					161 [73,2]	5.3
GHC 3 JG9-B ● ▸	GHS 3 JG9-B ● ● GHS 3 JG10-B ■ ■									161 [73,2]	5.3
	GHS 2 JJ9-B ● ● GHS 2 JJ10-B ■ ■	56 [177]		42 [133]						161 [73,2]	5.3
GHC 3 JJ9-B ● ▸	GHS 3 JJ9-B ● ● GHS 3 JJ10-B ■ ■									161 [73,2]	5.3

STANDARD MODELS CONTINUED

① 3450 [2875] RPM PERMISSIBLE TO 1,000 SSU [220 cSt.] AND 100 PSI [7 BAR]

● MECHANICAL SEAL
■ PACKING/LIP SEAL

▸ PORTS ARE COMPATIBLE WITH 150# ANSI FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL [DIN] FLANGES OR TAPPED [BSP] PORTS ARE AVAILABLE FOR EXPORT MARKET.

NOTE: RECOMMENDED PORT SIZES ARE SHOWN IN **BOLDFACE**. EXAMPLE: **GHC 1 DC9-B**, **GHS 1 DC9-B**

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Standard Models (Continued)

MODEL NUMBER		NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
		MAXIMUM		ALTERNATIVE		DIFF. PRESSURE - PSI [BAR]			TEMP.	Wt.	Vol.
		GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM 60 Hz [50 HZ]	BELOW 38 SSU [4 cSt]	38 TO 100 SSU [21 cSt]	100 TO 250,000 SSU [55,000 cSt]	°F [°C]	LBS [KG]	CU. FT.
GHC	GHS 2 JL9-B ●	77 [243]	1150 [960]	58 [133]	870 [725]	75 [5]	100 [7]	200 [14]	GHC	161 [73,2]	5.3
	GHS 2 JL10-B ■									161 [73,2]	
GHC 3 JL9-B ● †	GHS 3 JL9-B ●	107 [338]	960 [960]	81 [256]	580 [480]	75 [5]	100 [7]	200 [14]	GHC	161 [73,2]	5.3
	GHS 3 JL10-B ■									161 [73,2]	
GHC 3 JP9-B ● †	GHS 2 JP9-B ●	99 [375]	960 [960]	80 [252]	580 [480]	75 [5]	100 [7]	200 [14]	GHC	161 [73,2]	5.3
	GHS 2 JP10-B ■									161 [73,2]	
GHC 3 JP9-B ● †	GHS 3 JP9-B ●	132 [500]	960 [960]	80 [252]	580 [480]	75 [5]	100 [7]	200 [14]	GHC	161 [73,2]	5.3
	GHS 3 JP10-B ■									161 [73,2]	
GHC 3 NK9-B ● †	GHS 2 NK9-B ●	165 [624]	960 [960]	99 [312]	580 [480]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2 NK10-B ■									180 [81,8]	
GHC 3 NK9-B ● †	GHS 2-1/2 NK9-B ●	172 [542]	960 [960]	115 [362]	580 [480]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2-1/2 NK10-B ■									180 [81,8]	
GHC 3 NK9-B ● †	GHS 3 NK9-B ●	215 [678]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 3 NK10-B ■									180 [81,8]	
GHC 3 NM9-B ● †	GHS 2 NM9-B ●	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2 NM10-B ■									180 [81,8]	
GHC 3 NM9-B ● †	GHS 2-1/2 NM9-B ●	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2-1/2 NM10-B ■									180 [81,8]	
GHC 3 NP9-B ● †	GHS 3 NP9-B ●	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 3 NP10-B ■									180 [81,8]	
GHC 3 NP9-B ● †	GHS 2-1/2 NP9-B ●	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2-1/2 NP10-B ■									180 [81,8]	
GHC 3 NP9-B ● †	GHS 2 RM9-B ●	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2 RM10-B ■									180 [81,8]	
GHC 3 RM9-B ● †	GHS 2-1/2 RM9-B ● †	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 2-1/2 RM10-B ■ †									180 [81,8]	
GHC 3 RM9-B ● †	GHS 3 RM9-B ● †	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 3 RM10-B ■ †									180 [81,8]	
GHC 3 RM9-B ● †	GHS 4 RM9-B ● †	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 4 RM10-B ■ †									180 [81,8]	
GHC 3 RP9-B ● †	GHS 3 RP9-B ● †	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 3 RP10-B ■ †									180 [81,8]	
GHC 3 RP9-B ● †	GHS 4 RP9-B ● †	172 [542]	720 [600]	143 [451]	480 [400]	75 [5]	100 [7]	200 [14]	GHC	180 [81,8]	5.3
	GHS 4 RP10-B ■ †									180 [81,8]	

STANDARD MODELS CONTINUED

- MECHANICAL SEAL
- PACKING/LIP SEAL

† PORTS ARE COMPATIBLE WITH 150# ANSI FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL [DIN] FLANGES OR TAPPED [BSP] PORTS ARE AVAILABLE FOR EXPORT MARKET.

NOTE: RECOMMENDED PORT SIZES ARE SHOWN IN **BOLDFACE**. EXAMPLE: **GHC 1 DC9-B, GHS 1 DC9-B**

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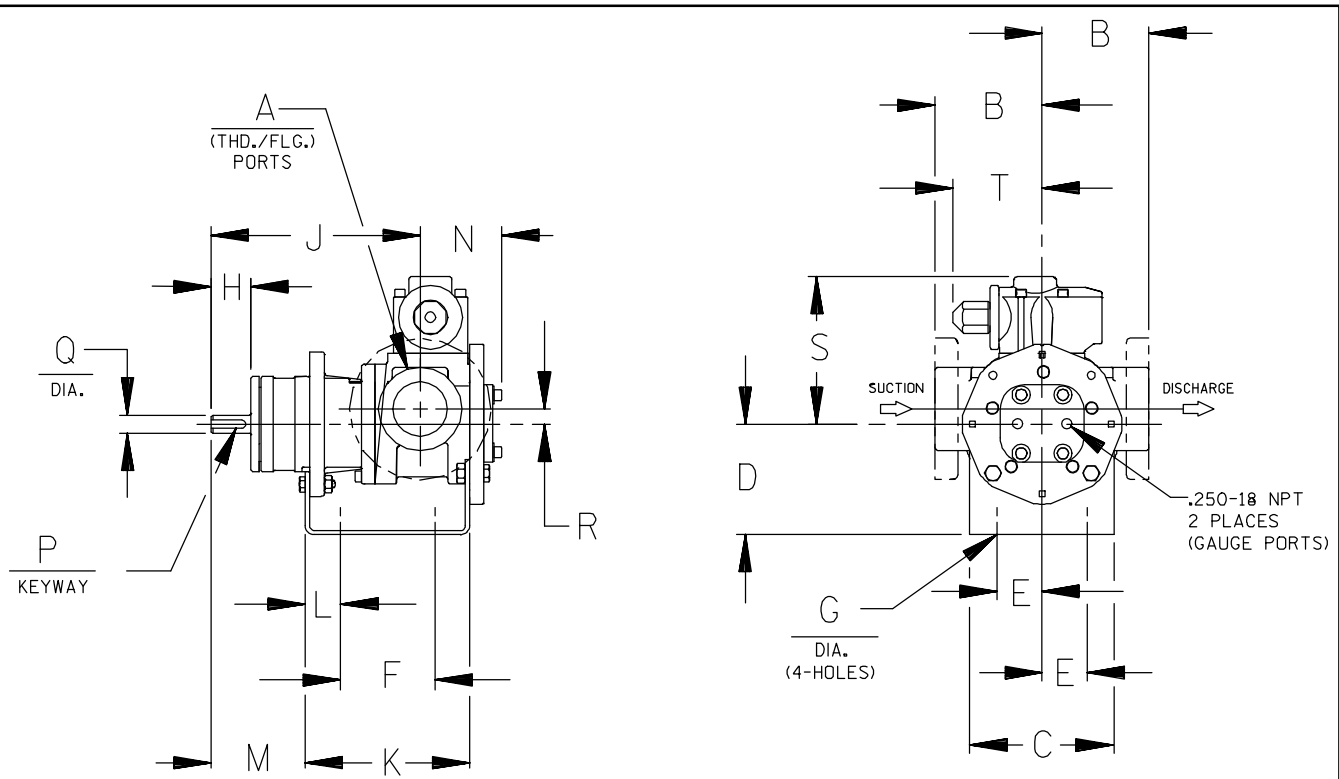
MODEL NUMBER		NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
		MAXIMUM		ALTERNATIVE		DIFF. PRESSURE - PSI [BAR]			TEMP.	Wt.	Vol.
		GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM 60 Hz [50 HZ]	BELOW 38 SSU [4 cSt]	38 TO 100 SSU [21 cSt]	100 TO 250,000 SSU [55,000 cSt]	°F [°C]	LBS [KG]	CU. FT.
GHC	GHS										
	GHS 3 RR9-B ● ▸ GHS 3 RR10-B ■ ▸	255 [804]	720 [600]	170 [536]	480 [400]	75 [5]	100 [7]	200 [14]	GHS ● 400 [204] ■ 500 [260]	357 [162]	10.7
	GHS 4 RR9-B ● ▸ GHS 4 RR10-B ■ ▸			196 [618]						357 [162]	
	GHS 4 RS9-B ● ▸ GHS 4 RS10-B ■ ▸			295 [930]						357 [162]	

▸ PORTS ARE COMPATIBLE WITH 150# ANSI STAINLESS STEEL FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL [DIN] FLANGES OR TAPPED [BSP] PORTS AVAILABLE FOR EXPORT MARKET.

NOTE: RECOMMENDED PORT SIZES ARE SHOWN IN BOLDFACE. EXAMPLE: **GHC 1 DC9-B, GHS 1 DC9-B**

APPLICATION RECOMMENDATIONS:		
APPLICATION	OPTIONS REQUIRED (Select One From Each Row)	OPERATING LIMITATIONS
GHS ONLY HIGH TEMPERATURE	25U, 25V, OR 25W 35J – 35M (AS REQ'D) 40R, 70K 61H OR 65Q	TEMPERATURE: 675 °F MAX. PRESSURE: 200 PSI MAX.
GHS ONLY JACKETED	40K, 40W, 41U, 41W	LIMIT JACKET PRESSURE TO 150 PSI

NOTE: PROPER PUMP APPLICATION REQUIRES CONSIDERATION OF ADDITIONAL FACTORS. PLEASE REVIEW APPLICATION GUIDE IN SECTION 500 OR CONSULT THE FACTORY.



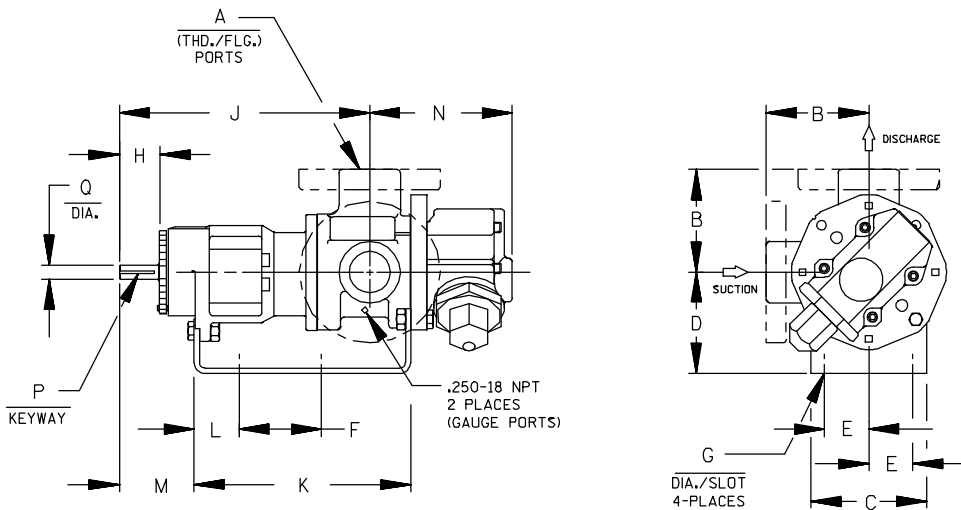
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MODEL NUMBERS	PUMP DIMENSIONS - INCHES [MILLIMETERS]																	
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
GHC D	1"	2.50 [64] †	4.00 [102]	3.50* [89]	1.62 [41]	3.12 [79]	.41 [10]	1.16 [30]	6.19 [157]	5.04 [128]	.76 [19]	2.62 [66]	2.74 [70]	.12 [3]	.50 [13]	.62 [16]	5.19 [132]	3.58 [91]
		4.00* [102] †		5.25 [133]										.75 [19]				
GHC G	1-1/2"	3.50 [89] †	5.88 [149]	3.50* [89]	1.62 [41]	4.00 [102]	.41 [10]	1.62 [41]	8.50 [216]	6.71 [170]	1.06 [27]	3.82 [97]	3.35 [85]	.19 [5]	.75 [19]	.62 [16]	6.00 [152]	3.62 [92]
		4.00* [102] †		4.50 [114]										5.25 [133]				
GHC J	3"	4.50 [114] †	6.88 [175]	4.50 [114]	2.88 [73]	4.25 [108]	.44 [11]	2.50 [64]	12.12 [308]	9.75 [248]	1.75 [44]	5.50 [140]	4.66 [118]	.25 [6]	1.00 [25]	1.12 [28]	9.06 [230]	6.75 [171]
		6.00* [152] †		5.25* [133]										6.25 [159]				

* STANDARD DIMENSION

† PORTS ARE COMPATIBLE WITH 125* OR 250* ANSI CAST IRON FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL (DIN) FLANGES OR TAPPED (BSP) PORTS AVAILABLE FOR EXPORT MARKET.

† 90° HOUSING



CAD FILE NO.: 16669G

MODEL NUMBERS	PUMP DIMENSIONS - INCHES [MILLIMETERS]														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
GHS D	1"	2.50* [641]	4.00 [102]	3.50* [891]	1.62 [41]	5.50 [140]	.41 [10]	1.16 [30]	8.43 [214]	7.54 [192]	1.09 [28]	2.29 [58]	4.98 [127]	.12 [3] x .75 [19]	.50 [13]
		4.00 † [102]		5.25 [133]											
GHS G	1-1/2" 2"	3.50* [891]	4.88 [124]	3.50* [891]	1.62 [41]	8.00 [203]	.41 [10]	1.62 [41]	12.06 [306]	10.72 [272]	1.52 [39]	3.35 [85]	5.70 [145]	.19 [5] x 1.25 [32]	.75 [19]
		4.00 † [102]		5.25 [133] 6.25 [159]											
GHS J	2" 3"	4.50* [114]	6.88 [175]	5.25* [133]	2.88 [73]	10.00 [254]	.44 [11]	2.50 [64]	15.68 [398]	14.31 [363]	2.77 [70]	4.48 [114]	8.50 [216]	.25 [6] x 2.00 [51]	1.00 [25]
		6.00 † [152]		6.25 [159] 7.00 [178] 8.00 [203]											
GHS N	2" 3"	5.12 [130]	8.00 [203]	4.50 [114]	2.88 [73]	10.00 [254]	.44 [11]	2.58 [66]	16.37 [416] *	15.14 [385]	2.69 [68]	4.56 [116]	8.72 [221] *	.25 [6] x 2.00 [51]	1.12 [32]
				5.25* [133]											
GHS R	2"	6.50 [165]	10.50 [267]	7.00 [178]	3.75 [95]	13.75 [349]	.52 [13]	2.25 [57]	17.87 [454]	17.36 [441]	1.86 [47]	4.70 [119]	11.31 [287]	.38 [10] x 1.88 [48]	1.44 [37]
	2-1/2"														
	3"														
	4"	7.19 † [183]													

* STANDARD DIMENSION

† PORTS ARE COMPATIBLE WITH 150# OR 300# ANSISTAINLESS STEEL FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL (DIN) FLANGES OR TAPPED (BSP) PORTS AVAILABLE FOR EXPORT MARKET.

† 180° HOUSING

GHC/GHS

FOR GHC DRIVE OPTIONS

AND DIMENSIONS

SEE SECTION 540

FOR GHS DRIVE OPTIONS

AND DIMENSIONS

SEE SECTION 545



PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

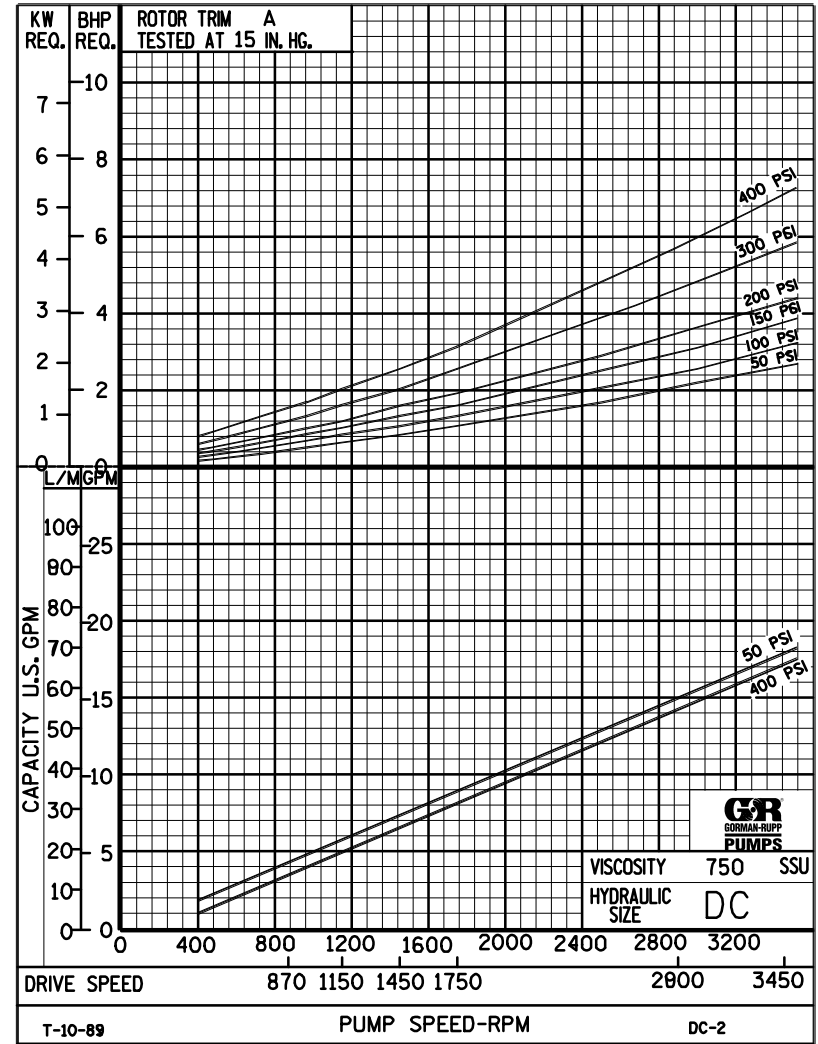
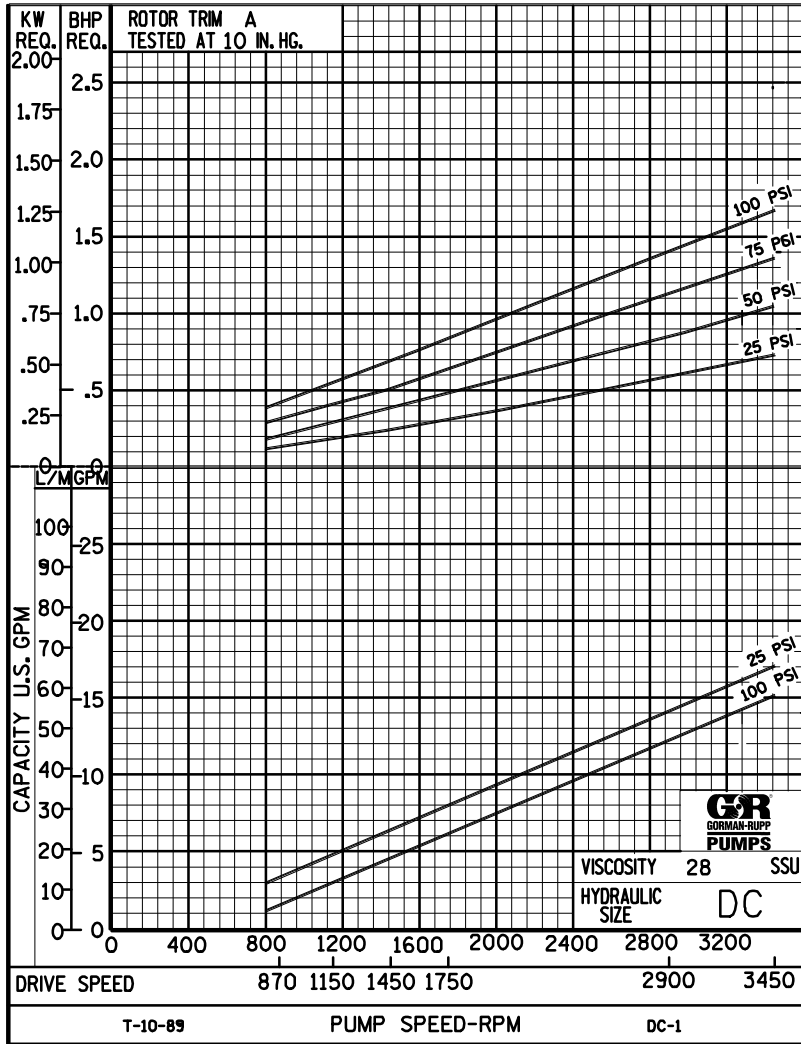
DC

Hydraulic Size

SEC. 500

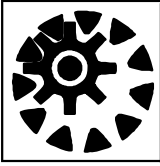
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January 2010



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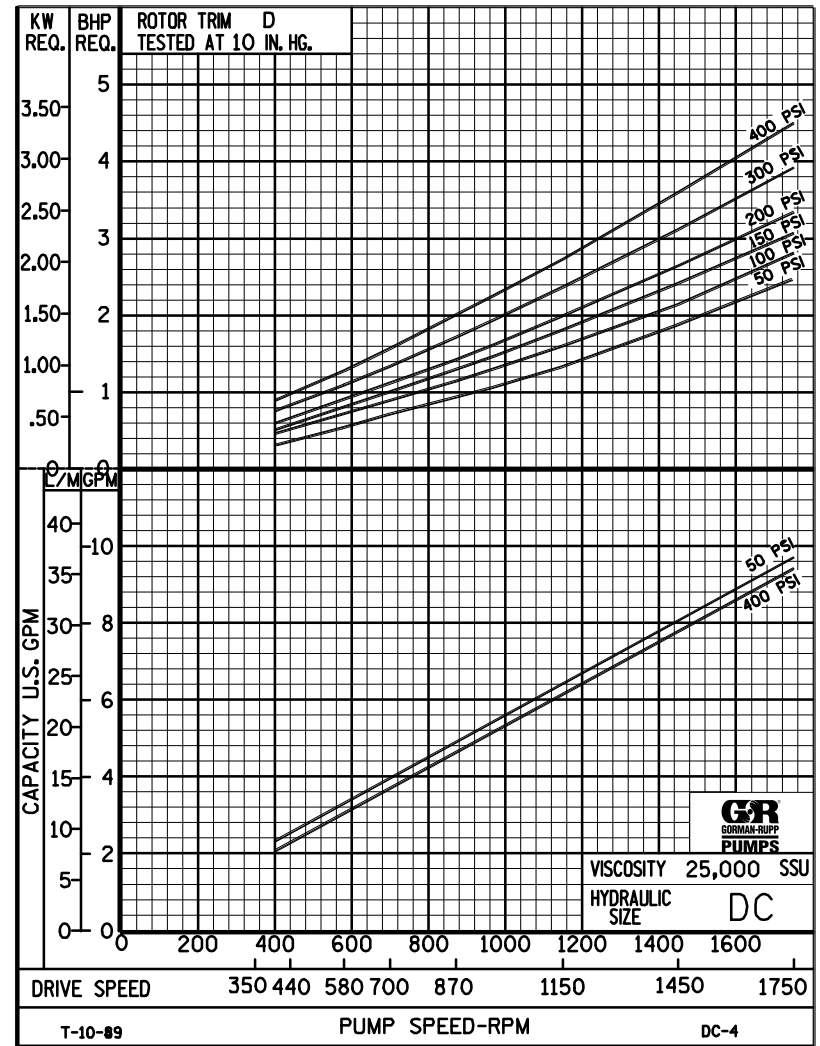
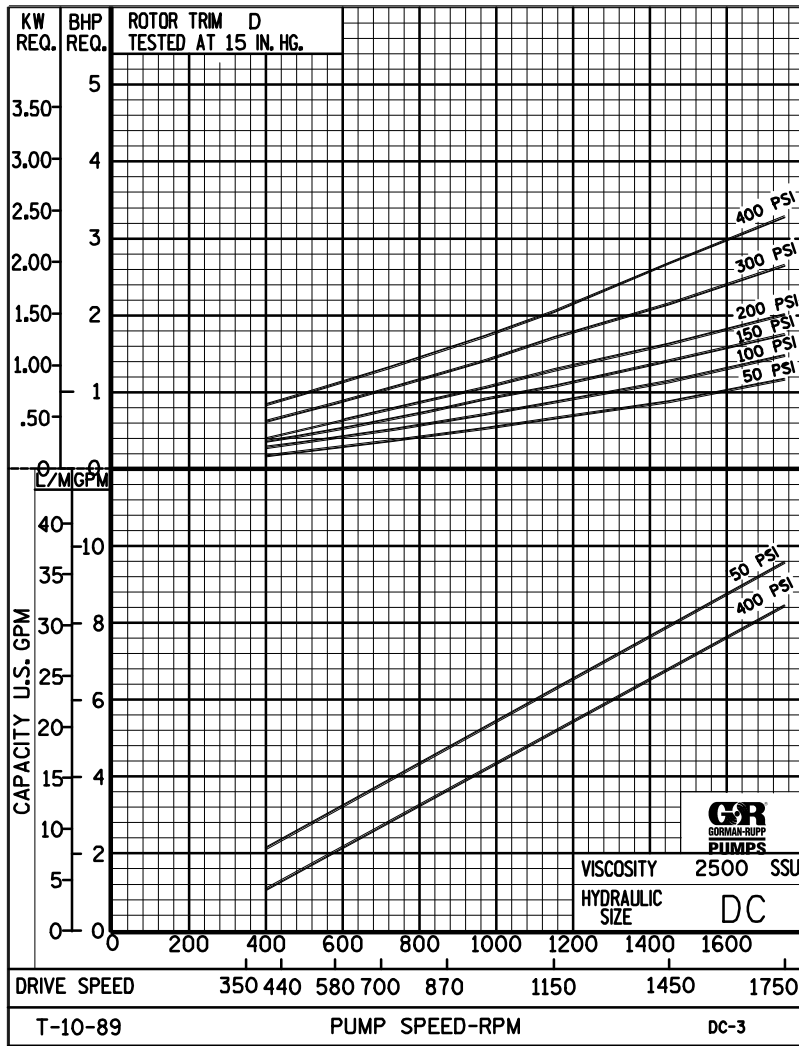
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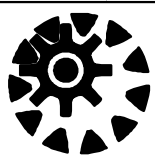
PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

DC Hydraulic Size



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DC

PUMP HYDRAULIC SIZE CHART

SEC. 500

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January 2010

**18 GPM
3450 RPM**

NOMINAL		ROTOR TRIM	VISCOSITY (SSU)	N.I.P.R. (PSIA)	FRICTION PIPE LOSS (PSI/FT) <small>(Based on Sch 40 Steel Pipe)</small>					FULL BYPASS RELIEF VALVE PRESSURE (PSI)					CAPACITY (GPM) / H.P. REQUIRED										
CAP. GPM	SPEED RPM				PIPE DIAMETER					CRACKING PRESS. (PSI)					DIFFERENTIAL PRESSURE (PSI)										
					3/4"	1"	1 1/4"	1 1/2"	2"	LOW PRES R/V			HI PRES R/V		MEDIUM DUTY AND HEAVY DUTY				HEAVY DUTY ONLY						
							50	75	100	150	200	25	50	75	100	150	200	300	400						
18	3450	STD	28	9.8	.01	.01	.01	.01	.01	70	95	123				17.0	16.0	15.0	15.0						
			32		.23	.08	.02	.01	.01							.73	1.1	1.4	1.7						
			38	9.8	.30	.10	.03	.01	.01	70	95	125	174			17.0	16.0	16.0	15.0	15.0					
			50		.36	.12	.03	.02	.01							.93	1.2	1.6	1.8	2.5					
			70	9.8	.40	.13	.04	.02	.01	70	96	127	175	229		17.0	17.0	17.0	16.0	16.0	16.0				
			100		.49	.16	.04	.02	.01							1.2	1.5	1.8	2.1	2.7	3.3				
			150	9.8	.52	.17	.04	.02	.01	70	97	130	176	230		18.0	17.0	17.0	17.0	17.0	16.0	16.0	15.0		
			200		.58	.22	.08	.04	.02							1.5	1.8	2.1	2.3	3.0	3.5	4.7	5.8		
			300	9.8	.70	.27	.09	.05	.02	71	99	133	177	232		18.0	18.0	17.0	17.0	17.0	17.0	17.0	16.0		
			500		1.15	.44	.15	.08	.03							2.1	2.3	2.6	2.8	3.5	4.0	5.3	6.5		
		750	9.8	1.72	.66	.22	.12	.05	72	101	136	179	234		18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0			
		1,000		2.30	.88	.29	.16	.06							2.5	2.6	2.9	3.1	3.8	4.3	5.5	6.8			
		2,000																							
		3,500																							
		5,000																							
		7,500																							
		10,000																							
		15,000																							
		20,000																							
		25,000																							
50,000																									
75,000																									
100,000																									
150,000																									
200,000																									
250,000																									

(NOTE) For speeds not shown on the pump hydraulic charts, consult factory.



DC

PUMP HYDRAULIC SIZE CHART

SEC. 500

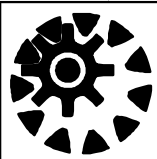
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January 2010

**9 GPM
1750 RPM**

NOMINAL		ROTOR TRIM	VISCOSITY (SSU)	N.I.P.R. (PSIA)	FRICTION PIPE LOSS (PSI/FT) (Based on Sch 40 Steel Pipe)					FULL BYPASS RELIEF VALVE PRESSURE (PSI)					CAPACITY (GPM) / H.P. REQUIRED													
CAP. GPM	SPEED RPM				PIPE DIAMETER					CRACKING PRESS. (PSI)					DIFFERENTIAL PRESSURE (PSI)													
					3/4"	1"	1 1/4"	1 1/2"	2"	LOW PRES R/V			HI PRES R/V		MEDIUM DUTY AND HEAVY DUTY				HEAVY DUTY ONLY									
9	1750	STD	28	2.8	.01	.01	.01	.01	.01	58	84	112			8.0	7.5	7.0	6.5										
			32		.07	.02	.01	.01	.01						.41	.57	.70	.85										
			38	2.8	.09	.03	.01	.01	.01	58	85	112	163			8.0	7.5	7.0	7.0	6.0								
			50		.11	.04	.01	.01	.01							.57	.64	.82	.94	1.4								
			70	2.8	.12	.04	.01	.01	.01	58	85	112	163	214			8.5	8.0	7.5	7.5	.7.0	6.0						
			100		.13	.05	.02	.01	.01								.74	.83	.93	1.0	1.4	1.8						
			150	2.8	.14	.06	.02	.01	.01	59	86	113	164	215			9.0	8.5	8.5	8.0	8.0	7.5	7.0	6.5				
			200		.29	.11	.04	.02	.01								.87	.96	1.1	1.2	1.5	1.8	2.5	3.1				
			300	2.8	.35	.13	.05	.03	.01	59	86	113	164	215			9.0	9.0	9.0	8.5	8.5	8.5	8.0	7.5				
			500		.58	.22	.07	.04	.02								.92	1.0	1.2	1.3	1.6	1.9	2.5	3.2				
		750	2.8	.86	.33	.11	.06	.02	59	87	113	164	215			9.0	9.0	9.0	9.0	9.0	8.5	8.5	8.0					
		1,000		1.15	.44	.15	.08	.03								.97	1.1	1.2	1.4	1.7	1.9	2.6	3.2					
		2,000	4.2	2.30	.88	.29	.16	.06	61	87	113	164	215			9.5	9.5	9.5	9.5	9.0	9.0	9.0	8.5					
		3,500		4.02	1.53	.51	.28	.10								1.1	1.2	1.4	1.5	1.8	2.1	2.7	3.3					
		5,000	5.1	5.74	2.19	.73	.40	.15	63	88	114	165	216			9.5	9.5	9.5	9.5	9.5	9.0	9.0	9.0					
		7,500		8.61	3.28	1.09	.59	.22								1.5	1.7	1.8	2.0	2.2	2.5	3.1	3.7					
		10,000	6.0	11.5	4.37	1.46	.79	.29	65	90	116	167	217			9.5	9.5	9.5	9.5	9.5	9.5	9.0	9.0					
		15,000		17.2	6.56	2.19	1.18	.44								2.0	2.1	2.3	2.4	2.7	2.9	3.6	4.2					
		20,000	6.9	23.0	8.74	2.92	1.58	.58	67	92	118	168	218			9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5					
		25,000		28.7	10.9	3.65	1.97	.73								2.4	2.5	2.7	2.8	3.1	3.3	3.9	4.5					
50,000																												
75,000																												
100,000																												
150,000																												
200,000																												
250,000																												

(NOTE) For speeds not shown on the pump hydraulic charts, consult factory.



DC

PUMP HYDRAULIC SIZE CHART

SEC. 500

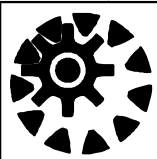
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**6 GPM
1150 RPM**

NOMINAL		ROTOR TRIM	VISCOSITY (SSU)	N.I.P.R. (PSIA)	FRICTION PIPE LOSS (PSI/FT) <small>(Based on Sch 40 Steel Pipe)</small>					FULL BYPASS RELIEF VALVE PRESSURE (PSI)					CAPACITY (GPM) / H.P. REQUIRED													
CAP. GPM	SPEED RPM				PIPE DIAMETER					CRACKING PRESS. (PSI)					DIFFERENTIAL PRESSURE (PSI)													
					3/4"	1"	1 1/4"	1 1/2"	2"	LOW PRES R/V		HI PRES R/V			MEDIUM DUTY AND HEAVY DUTY				HEAVY DUTY ONLY									
6	1150	STD	28	1.7	.02	.01	.01	.01	.01	54	79	105			4.5	4.0	3.5	3.0										
			32		.03	.01	.01	.01	.01						.18	.30	.43	.57										
			38	1.7	.04	.01	.01	.01	.01	54	79	106	157			5.0	4.5	4.0	3.5	3.0								
			50		.05	.02	.01	.01	.01							.27	.39	.52	.65	.92								
			70	1.7	.06	.02	.01	.01	.01	54	79	106	157	208			5.5	5.0	4.5	4.0	4.0	3.5						
			100		.07	.03	.01	.01	.01								.37	.48	.60	.72	.94	1.1						
			150	1.7	.09	.04	.01	.01	.01	55	80	107	158	208			5.5	5.5	5.0	5.0	4.5	4.5	4.0	3.5				
			200		.19	.07	.02	.01	.01								.46	.56	.67	.79	.96	1.1	1.6	2.0				
			300	1.7	.23	.09	.03	.02	.01	55	81	108	159	209			6.0	6.0	5.5	5.5	5.5	5.5	5.0	4.5				
			500		.38	.15	.05	.03	.01								.50	.60	.71	.83	.99	1.2	1.6	2.0				
		750	1.7	.57	.22	.07	.04	.01	55	81	108	159	209			6.0	6.0	6.0	6.0	5.5	5.5	5.5	5.0					
		1,000		.77	.29	.10	.05	.02								.53	.63	.74	.85	1.0	1.2	1.6	2.0					
		2,000	2.7	1.53	.58	.19	.11	.04	57	82	108	159	209			6.0	6.0	6.0	6.0	6.0	6.0	5.5	5.5					
		3,500		2.68	1.02	.34	.18	.07								.58	.68	.79	.90	1.1	1.3	1.7	2.1					
		5,000	3.4	3.83	1.46	.49	.26	.10	58	83	109	160	210			6.5	6.0	6.0	6.0	6.0	6.0	5.5	5.5					
		7,500		5.74	2.19	.73	.39	.15								.81	.92	1.0	1.1	1.4	1.6	1.9	2.3					
		10,000	4.1	7.65	2.91	.97	.53	.19	60	85	111	161	211			6.5	6.5	6.5	6.0	6.0	6.0	6.0	5.5					
		15,000		11.5	4.37	1.46	.79	.29								1.1	1.2	1.3	1.4	1.6	1.8	2.2	2.5					
		20,000	4.7	15.3	5.83	1.95	1.05	.39	61	86	112	162	212			6.5	6.5	6.5	6.0	6.0	6.0	6.0	6.0					
		25,000		19.1	7.28	2.43	1.31	.48								1.3	1.4	1.5	1.6	1.8	2.0	2.4	2.7					
50,000	7.0	38.3	14.6	4.86	2.63	.97	64	89	115	165	215			6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.0							
75,000		-	-	-	-	-								1.9	2.0	2.0	2.1	2.3	2.5	2.9	3.2							
100,000																												
150,000																												
200,000																												
250,000																												

(NOTE) For speeds not shown on the pump hydraulic charts, consult factory.



DC

PUMP HYDRAULIC SIZE CHART

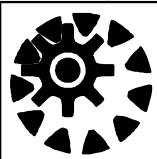
SEC. 500

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4.5 GPM
870 RPM

NOMINAL		ROTOR TRIM	VISCOSITY (SSU)	N.I.P.R. (PSIA)	FRICTION PIPE LOSS (PSI/FT) <small>(Based on Sch 40 Steel Pipe)</small>					FULL BYPASS RELIEF VALVE PRESSURE (PSI)					CAPACITY (GPM) / H.P. REQUIRED										
CAP. GPM	SPEED RPM				PIPE DIAMETER					CRACKING PRESS. (PSI)					DIFFERENTIAL PRESSURE (PSI)										
					3/4"	1"	1 1/4"	1 1/2"	2"	LOW PRES R/V			HI PRES R/V		MEDIUM DUTY AND HEAVY DUTY				HEAVY DUTY ONLY						
4.5	870	STD	28	1.3	.01	.01	.01	.01	.01	53	78	104				3.5	2.5	2.0	1.5						
			32		.03	.01	.01	.01	.01							.15	.22	.31	.42						
			38	1.3	.04	.01	.01	.01	.01	53	78	104	155			3.5	3.0	3.0	2.5	2.0					
			50		.05	.02	.01	.01	.01							.20	.28	.37	.48	.69					
			70	1.3	.05	.02	.01	.01	.01	54	79	105	156	206		4.0	3.5	3.5	3.0	3.0	2.5				
			100		.07	.03	.01	.01	.01							.24	.32	.41	.52	.71	.91				
			150	1.3	.09	.03	.01	.01	.01	54	79	106	157	207		4.0	4.0	4.0	3.5	3.5	3.0	2.5	2.0		
			200		.18	.07	.02	.01	.01							.30	.38	.46	.56	.73	.91	1.1	1.5		
			300	1.3	.21	.08	.03	.01	.01	54	80	107	157	207		4.5	4.0	4.0	4.0	3.5	3.5	3.0	3.0		
			500		.35	.14	.05	.02	.01							.32	.41	.50	.60	.75	.92	1.2	1.5		
		750	1.3	.53	.20	.07	.04	.01	54	81	108	158	208		4.5	4.5	4.5	4.0	4.0	4.0	3.5	3.5			
		1,000		.70	.27	.09	.05	.02							.38	.45	.53	.61	.77	.93	1.2	1.5			
		2,000	2.1	1.41	.54	.18	.10	.04	55	81	108	158	208		4.5	4.5	4.5	4.5	4.5	4.5	4.0	3.5			
		3,500		2.46	.94	.31	.17	.06							.46	.53	.58	.65	.80	.96	1.3	1.6			
		5,000	2.7	3.51	1.34	.45	.24	.09	56	82	108	158	208		4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0			
		7,500		5.26	2.00	.67	.36	.13							.56	.63	.68	.75	.88	1.1	1.4	1.7			
		10,000	3.3	7.02	2.67	.89	.48	.18	57	83	109	159	209		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0			
		15,000		10.5	4.01	1.34	.72	.27							.76	.82	.88	.95	1.1	1.3	1.6	1.8			
		20,000	3.8	14.0	5.34	1.78	.96	.36	58	83	109	159	209		5.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
		25,000		17.5	6.68	2.23	1.20	.44							.90	1.0	1.1	1.2	1.3	1.4	1.8	2.0			
50,000	5.8	35.0	13.4	4.46	2.41	.89	61	86	112	162	212		5.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
75,000		-	-	-	-	-							1.4	1.4	1.5	1.6	1.8	2.0	2.2	2.5					
100,000																									
150,000																									
200,000																									
250,000																									

(NOTE) For speeds not shown on the pump hydraulic charts, consult factory.



DC

PUMP HYDRAULIC SIZE CHART

SEC. 500

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**3 GPM
580 RPM**

NOMINAL		ROTOR TRIM	VISCOSITY (SSU)	N.I.P.R. (PSIA)	FRICTION PIPE LOSS (PSI/FT) <small>(Based on Sch 40 Steel Pipe)</small>					FULL BYPASS RELIEF VALVE PRESSURE (PSI)					CAPACITY (GPM) / H.P. REQUIRED											
CAP. GPM	SPEED RPM				PIPE DIAMETER					CRACKING PRESS. (PSI)					DIFFERENTIAL PRESSURE (PSI)											
					3/4"	1"	1 1/4"	1 1/2"	2"	LOW PRES R/V			HI PRES R/V		MEDIUM DUTY AND HEAVY DUTY				HEAVY DUTY ONLY							
							50	75	100	150	200	25	50	75	100	150	200	300	400							
3	580	STD	28	1.0	.01	.01	.01	.01	.01	53	78	104			2.0	1.5	1.5	1.0								
			32	1.0	.01	.01	.01	.01	.01							.05	.10	.19	.27							
			38	1.0	.01	.01	.01	.01	.01	53	78	104	154			2.5	2.0	1.5	1.5	1.0						
			50	1.0	.02	.01	.01	.01	.01							.06	.11	.20	.29	.43						
			70	1.0	.02	.01	.01	.01	.01	53	78	104	154	204		2.5	2.0	2.0	1.5	1.5	1.5					
			100	1.0	.04	.02	.01	.01	.01							.06	.12	.22	.32	.45	.53					
			150	1.0	.05	.02	.01	.01	.01	53	78	104	155	205		2.5	2.5	2.0	2.0	2.0	2.0	2.0	1.5	1.5		
			200	1.0	.09	.04	.01	.01	.01							.07	.14	.25	.35	.47	.57	.85	1.1			
			300	1.0	.12	.05	.02	.01	.01	53	79	104	155	205		3.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0			
			500	1.0	.19	.07	.03	.01	.01							.09	.18	.28	.38	.49	.59	.87	1.1			
		750	1.0	.29	.11	.04	.02	.01	53	79	104	155	205		3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.0				
		1,000	1.0	.38	.15	.05	.03	.01							.12	.21	.30	.39	.51	.61	.89	1.1				
		2,000	1.8	.77	.29	.10	.05	.02	54	79	105	155	205		3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5				
		3,500	1.8	1.34	.51	.17	.09	.04							.19	.30	.37	.43	.53	.64	.91	1.2				
		5,000	2.3	1.91	.73	.24	.13	.05	54	80	105	156	206		3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5				
		7,500	2.3	2.87	1.09	.37	.20	.07							.29	.39	.45	.52	.62	.73	.93	1.2				
		10,000	2.8	3.83	1.46	.49	.26	.10	55	80	106	156	206		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
		15,000	2.8	5.74	2.19	.73	.40	.15							.41	.50	.56	.62	.72	.82	.99	1.2				
		20,000	3.3	7.65	2.91	.97	.53	.19	56	81	106	156	206		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
		25,000	3.3	9.57	3.64	1.22	.66	.24							.51	.59	.65	.71	.82	.93	1.1	1.3				
50,000	5.6	19.1	7.28	2.43	1.31	.48	56	81	106	156	206		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0						
75,000	5.6	28.7	10.9	3.65	1.97	.73							.79	.87	.92	.97	1.1	1.2	1.4	1.7						
100,000																										
150,000																										
200,000																										
250,000																										

(NOTE) For speeds not shown on the pump hydraulic charts, consult factory.