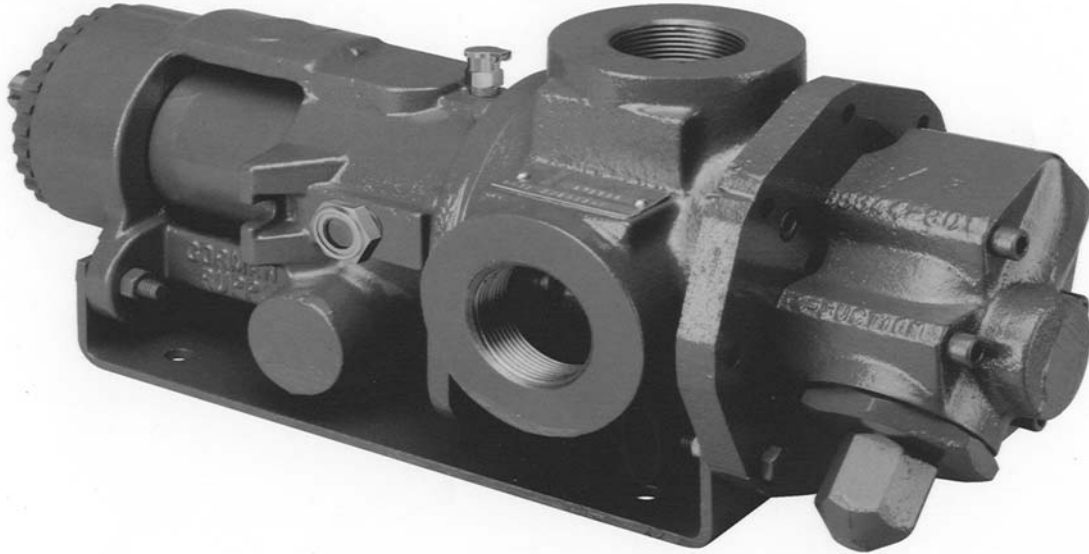


**GHA SERIES
 EXTREME DUTY ABRASIVE
 G, J, N, R & S HYD SIZE
 ROTARY GEAR PUMP**



The GHA series is designed for applications in the operating ranges noted below. These units are available with head and backhead jackets for temperature control, and packing or carbide mechanical seal options described on the following pages.

This abrasive handling, extreme duty series, provides superior wear resistance. The design also provides superior rotor shaft support and an integral, maintenance-free radial/thrust bearing for reduced deflection and wear. Reduced speeds enable service over extended periods. Information such as percentage, size and hardness of solids present in the liquid are useful to estimate pump life.

FEATURES

*HARDENED, WEAR RESISTANT GEARS,
 HOUSING, HEAD, PIN, AND BUSHING
 HARD FACE, WEAR RESISTANT
 MECHANICAL SEAL
 OVERSIZED TAPERED SEAL CAVITY
 HEAVY DUTY NEEDLE ROLLER
 BEARING
 ROTOR END CLEARANCE EXTERNALLY
 ADJUSTABLE
 FLEXIBLE SEAL DESIGN ALLOWS FOR
 A VARIETY OF INDUSTRY
 STANDARD SEALS OR PACKING
 BALL BEARING THRUST CONTROL*

OPERATING RANGE

CAPACITY (GPM): (8 TO 325)
 [LPM] : [25 TO 1020]
 PRESSURE (PSI) : [0 TO 200]
 [BAR] : [0 TO 14]
 VISCOSITY (SSU) : (28 TO 250,000)
 [cSt] : [1 TO 55,000]
 TEMPERATURE (F) : (-60° TO 500°)
 [C] : [-51° TO 260°]

APPLICATIONS

USE WITH ANY LIQUID
 COMPATIBLE WITH
 CAST IRON
 ★ PAINTS
 ★ INKS
 ★ ADHESIVES
 ★ WASTE LIQUIDS
 ★ EMULSIONS
 ★ FILTERING

EXTER- IOR	ROTOR & IDLER	HSG PORTS	IDLER BUSHING	BACKHD BEARING	IDLER PIN	SHAFT	SHAFT SEALING		ROTA- TION	INTERNAL RELIEF VALVE	
							MECHANICAL SEAL ●	PACKING ■		MATERIAL	SETTING
CAST IRON	HARD IRON	90° TAPPED/ FLNG'D	SILICON CARBIDE	① NEEDLE BEARING	TUNGSTEN CARBIDE	HARD. STEEL	SILICON CARB. SILICON CARB. VITON	ARAMID FIBER W/GRAPHITE	C.W.	DUCTILE IRON	75 PSI [5 BAR]

Standard Models

G H A 2 NK 3 - B
 | | | | | | |
 GEAR DUTY DESIGN PORT SIZE HYDRAULIC SEAL STYLE
 SIZE SIZE

MODEL NUMBER	NOM. CAPACITY-SPEED		MAXIMUM				SHIPPING DATA		
	MAXIMUM		DIFFERENTIAL PRESSURE - PSI [BAR]			TEMP.	② Weight	Volume	
	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]
GHA 1-1/2 GC 3-B ● GHA 1-1/2 GC 4-B ■	8 [25]	870 [720]						57 [25,9]	2.9
GHA 1-1/2 GF 3-B ● GHA 1-1/2 GF 4-B ■	11 [36]							57 [25,9]	
GHA 1-1/2 GH 3-B ● GHA 1-1/2 GH 4-B ■	15 [49]							57 [25,9]	
GHA 1-1/2 GJ 3-B ● GHA 1-1/2 GJ 4-B ■	19 [60]							57 [25,9]	
GHA 2 JJ 3-B ● GHA 2 JJ 4-B ■	28 [88]		100 [7]	150 [10]	200 [14]	● 250 [119]		144 [65,5]	5.3
GHA 2 JL 3-B ● GHA 2 JL 4-B ■	38 [121]							144 [65,5]	
GHA 2 JP 3-B ● GHA 2 JP 4-B ■	54 [169]							144 [65,5]	
GHA 2 NK 3-B ● GHA 2 NK 4-B ■	60 [188]	580 [480]				■ 500 [260]		180 [81,6]	5.3
GHA 3 NK 3-B ● GHA 3 NK 4-B ■								180 [81,6]	
GHA 2 NM 3-B ● GHA 2 NM 4-B ■	80 [251]							180 [81,6]	
GHA 3 NM 3-B ● GHA 3 NM 4-B ■								180 [81,6]	
GHA 2 NP 3-B ● GHA 2 NP 4-B ■	99 [313]							180 [81,6]	
GHA 3 NP 3-B ● GHA 3 NP 4-B ■								180 [81,6]	10.7

STANDARD MODELS CONT.

① EXCEPT "S" SIZE AND 4-B MODELS (SILICON CARBIDE BUSHING).

② FOR 4-B UNIT WEIGHT, REFER TO GHS SECTION

● MECHANICAL SEAL
■ PACKING

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GORMAN-RUPP OF CANADA LIMITED • ST. THOMAS, ONTARIO, CANADA

Standard Models Cont'd

MODEL NUMBER	NOM. CAPACITY-SPEED		MAXIMUM				SHIPPING DATA		
	MAXIMUM		DIFFERENTIAL PRESSURE - PSI [BAR]			TEMP.	Weight	Volume	
	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.	
GHA 2 RM 3-B ● GHA 2 RM 4-B ■	85 [271]	350 [290]	100 [7]	150 [10]	200 [14]	● 250 [119] ■ 500 [260]	357 [162]	10.7	
GHA 2-1/2 RM 3-B ● GHA 2-1/2 RM 4-B ■							357 [162]		
GHA 3 RM 3-B ● GHA 3 RM 4-B ■							357 [162]		
GHA 3 RP 3-B ● GHA 3 RP 4-B ■							105 [339]		357 [162]
GHA 3 RR 3-B ● GHA 3 RR 4-B ■							125 [402]		357 [162]
GHA 3 RS 3-B ● GHA 3 RS 4-B ■							146 [465]		357 [162]
GHA 4 RS 3-B ● GHA 4 RS 4-B ■							146 [465]		357 [162]
GHA 3 SR 3-B ● GHA 3 SR 4-B ■	210 [660]	350 [290]	100 [7]	150 [10]	200 [14]	● 400 [204] ■ 500 [260]	530 [240]	17.3	
GHA 4 SR 3-B ● GHA 4 SR 4-B ■							530 [240]		
GHA 3 SU 3-B ● GHA 3 SU 4-B ■							325 [1020]		530 [240]
GHA 4 SU 3-B ● GHA 4 SU 4-B ■									530 [240]

PORTS ARE COMPATIBLE WITH 125# ANSI CAST IRON FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE.

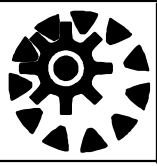
NOTE: PROPER PUMP APPLICATION REQUIRES CONSIDERATION OF ADDITIONAL FACTORS. PLEASE REVIEW APPLICATION GUIDE IN SECTION 500 OR CONSULT THE FACTORY.

GHA

**FOR GHA DRIVE OPTIONS
AND DIMENSIONS**

SEE

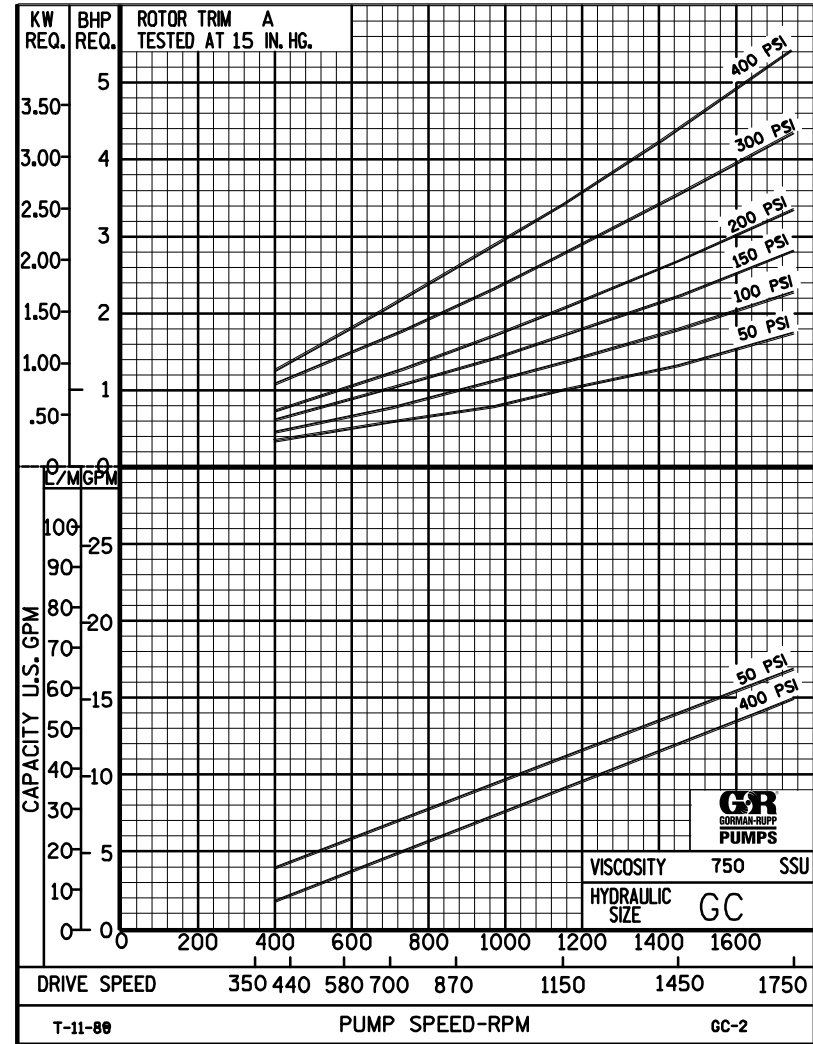
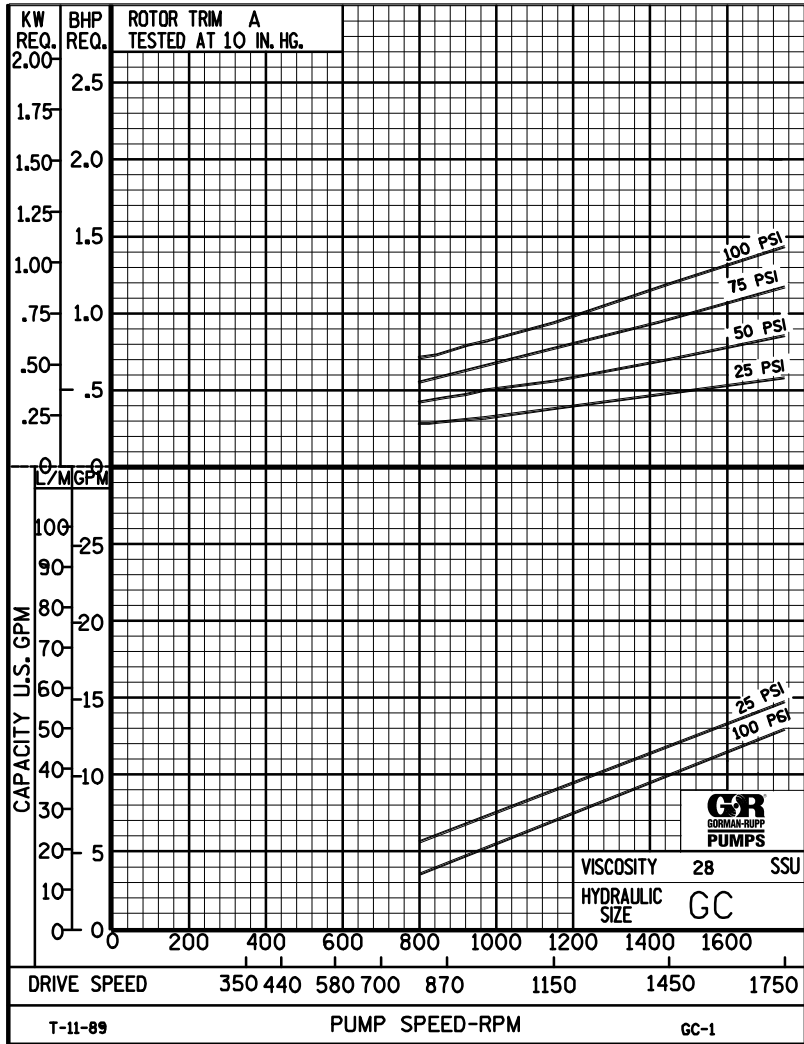
SECTION 545



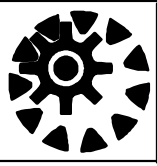
PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

GC Hydraulic Size



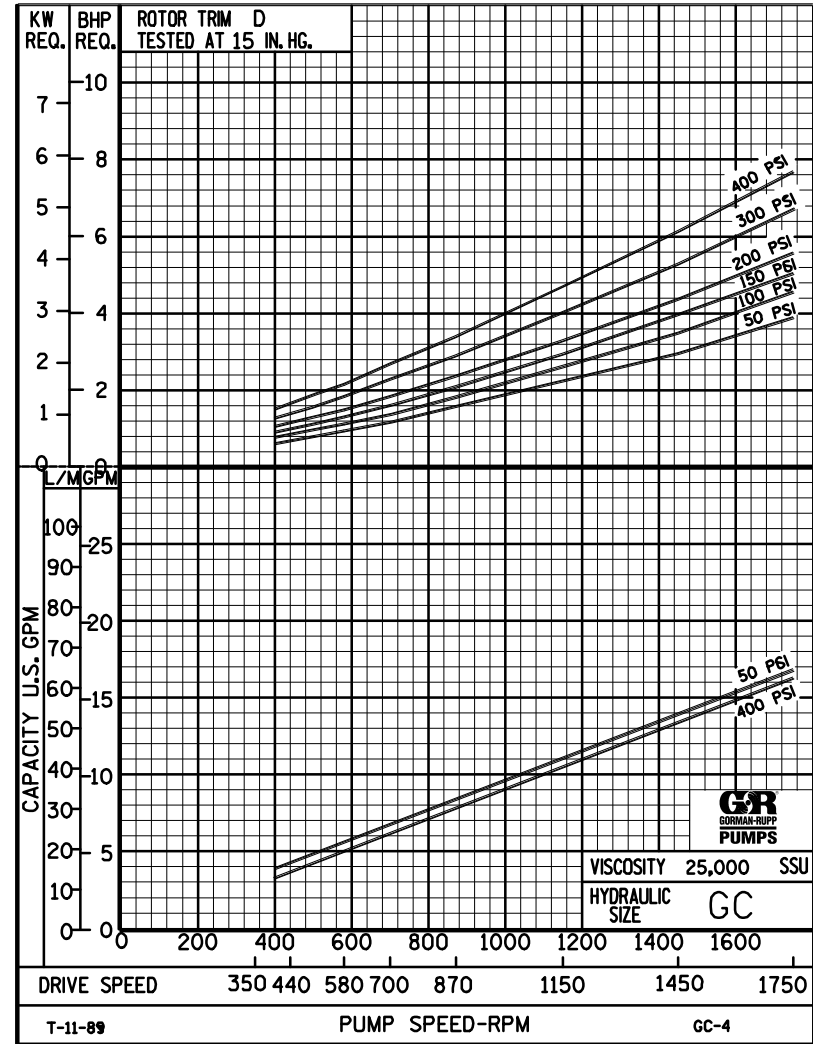
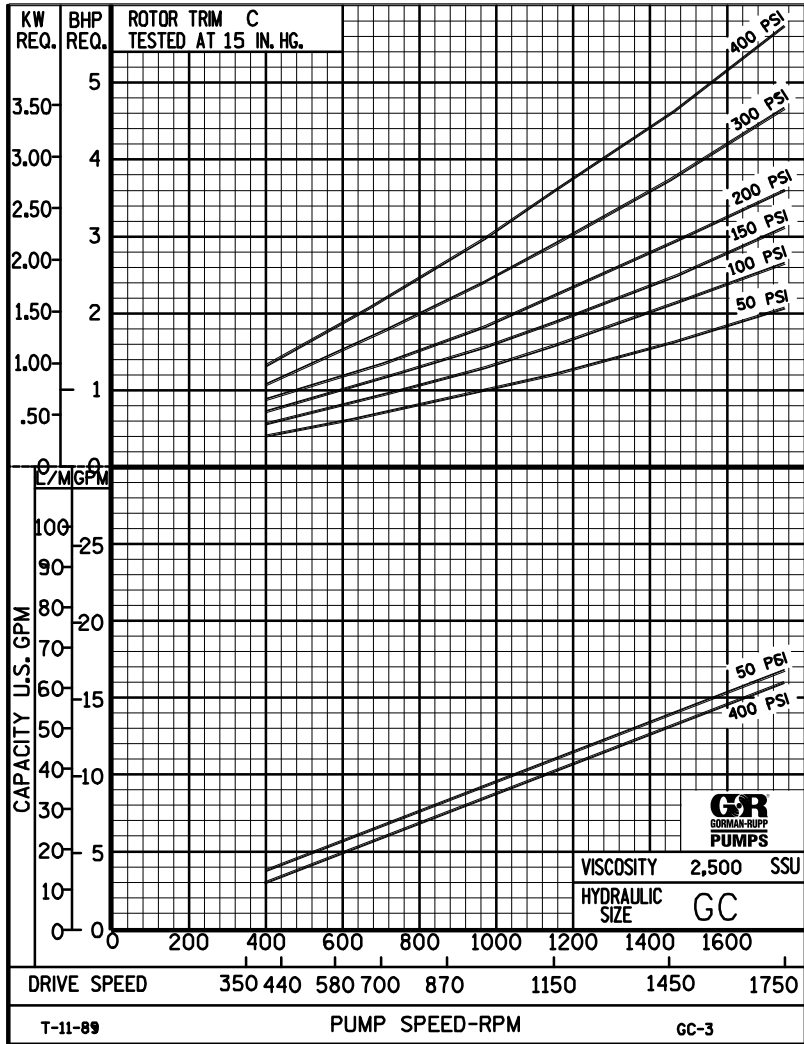
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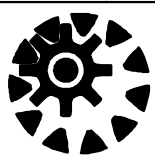
PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

GC Hydraulic Size



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GC

PUMP HYDRAULIC SIZE CHART

SEC. 500

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January 2010

**10 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								
10	1150	STD	28	2.0	.01	.01	.01	.01	.01	56	81	106				9.0	8.0	7.0	6.0								
			32		.08	.03	.01	.01	.01							.38	.56	.77	.94								
			38	2.0	.11	.04	.01	.01	.01	56	81	106	157				9.5	8.5	8.5	7.5	6.0						
			50		.13	.04	.01	.01	.01								.43	.62	.82	.99	1.6						
			70	2.0	.14	.05	.02	.01	.01	56	81	107	158	209				10.0	9.5	9.5	9.0	8.0	7.5				
			100		.14	.05	.02	.01	.01									.54	.78	1.0	1.2	1.7	1.9				
			150	2.0	.17	.07	.03	.02	.01	57	82	108	158	211				10.0	10.0	10.0	10.0	9.5	8.5	7.5	6.0		
			200		.30	.12	.04	.02	.01									.58	.82	1.0	1.2	1.7	2.0	2.7	3.4		
			300	2.0	.39	.15	.05	.02	.01	57	82	109	159	212				11.0	10.0	10.0	10.0	10.0	10.0	9.0	7.5		
			500		.64	.24	.08	.05	.02									.66	.95	1.2	1.4	1.8	2.0	2.8	3.5		
		750	2.0	.96	.36	.12	.07	.03	57	82	111	161	214				11.0	11.0	11.0	11.0	10.0	10.0	9.5	9.0			
		1,000		1.28	.49	.16	.09	.03									.73	1.0	1.2	1.4	1.8	2.1	2.9	3.5			
		2,000	2.5	2.55	.97	.33	.18	.07	58	85	112	162	214				11.0	11.0	11.0	11.0	10.0	10.0	10.0	10.0			
		3,500		4.46	1.70	.57	.31	.12									.91	1.3	1.5	1.7	2.0	2.3	3.0	3.7			
		5,000	2.9	6.38	2.43	.81	.44	.16	60	85	112	162	214				11.0	11.0	11.0	11.0	11.0	10.0	10.0	10.0			
		7,500		9.57	3.64	1.22	.66	.24									1.1	1.5	1.8	1.9	2.4	2.6	3.3	3.9			
		10,000	3.2	12.8	4.86	1.62	.88	.32	63	88	114	166	216				11.0	11.0	11.0	11.0	11.0	11.0	10.0	10.0			
		15,000		19.2	7.29	2.43	1.31	.49									1.3	1.9	2.1	2.2	2.7	2.9	3.6	4.3			
		20,000	3.5	25.5	9.71	3.24	1.75	.65	66	91	116	168	218				11.0	11.0	11.0	11.0	11.0	11.0	10.0	10.0			
		25,000		31.9	12.2	4.05	2.19	.81									1.7	2.3	2.4	2.6	2.9	3.3	4.0	4.7			
50,000	5.4	63.8	24.3	8.11	4.38	1.61	69	94	122	172	224				11.0	11.0	11.0	11.0	11.0	11.0	10.0	10.0					
75,000		95.7	36.4	12.2	6.56	2.42									2.6	3.6	3.8	4.0	4.5	5.2	6.0	6.8					
100,000																											
150,000																											
200,000																											
250,000																											

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

