

GHS SERIES HEAVY DUTY STANDARD; S & T HYD SIZE DUCTILE IRON ROTARY GEAR PUMP



The GHS ductile iron, high capacity series is designed for applications in the operating ranges noted below. These units are ideal for bulk handling of thin or viscous liquids. For temperature control, backhead and housing jackets are standard; head jackets are available. Also, carbon graphite bushings for low viscosity liquids, silicon carbide bushings for wear resistance, and numerous shaft seal options are described on the following pages.

This heavy duty series provides superior rotor shaft support and an integral, maintenance-free radial/thrust bearing for reduced deflection and wear.

FEATURES

*BALL BEARING THRUST CONTROL
ROTOR END CLEARANCE EXTERNALLY
ADJUSTABLE
HIGH STRENGTH, COMPUTER
PROFILED GEARING FOR QUIET
OPERATION
RUGGED, DURABLE CONSTRUCTION
JACKETED HOUSING AND BACKHEAD
FLEXIBLE SEAL DESIGN ALLOWS FOR
A VARIETY OF INDUSTRIAL
STANDARD SEALS OR PACKING*

OPERATING RANGE

CAPACITY (GPM) : (40 TO 500)
[LPM] : [151 TO 1892]
PRESSURE (PSI) : [0 TO 200]
[BAR] : [0 TO 14]
VISCOSITY (SSU) : (28 TO 2,000,000)
[cSt] : [1 TO 440,000]
TEMPERATURE (F) : (-60° TO 500°)
[C] : [-51° TO 260°]

APPLICATIONS

USE WITH ANY CLEAN LIQUID
COMPATIBLE WITH CAST
IRON

- ★ BOOSTER SERVICE
- ★ CIRCULATING
- ★ FILTERING
- ★ LUBRICATING
- ★ TRANSFERRING
- ★ METERING

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EXTER- IOR	ROTOR & IDLER	HOUSING PORTS	BUSHINGS	IDLER PIN	SHAFT	SHAFT SEALING		ROTATION	INTERNAL RELIEF VALVE	
						MECH. SEAL ●	PACKING ■		MATERIAL	SETTING
DUCTILE IRON	HIGH STRENGTH IRON	90° 150# FLG	BRONZE	HARDENED STEEL	STEEL	VITON	CARBON FIBER	C.W.	CAST IRON	75 PSI [5 BAR]

Standard Models

G H S 4 SU 31 - B
 | | | | | | | | | |
 GEAR DUTY DESIGN PORT SIZE HYDRAULIC SEAL STYLE
 SIZE SIZE SIZE

MODEL NUMBER	NOM. CAPACITY - SPEED		MAXIMUM			TEMP.	SHIPPING DATA	
	MAXIMUM		DIFFERENTIAL PRESSURE-PSI [BAR]				Weight LBS [KG]	Volume CU. FT.
	GPM [LPM]	RPM	BELOW 38 SSU 14 cSt	38 TO 100 SSU [21 cSt]	100 TO 250,000 SSU [55,000 cSt]	°F [°C]		
GHS 4 SR31-B ● †	300 [1135]	520	75 [5.2]	125 [8.7]	200 [14]	400° [204]	530 [240]	17.3
GHS 6 SR31-B ● † †								
GHS 4 SU31-B ● †	500 [1892]	350	50 [3.5]	100 [7]	150 [10.5]		837 [380]	21.3
GHS 6 SU31-B ● † †								
GHS 6 TU31-B ● † †	600 [2270]							

SEAL LIMITATIONS:				
● MECHANICAL SEAL OPTIONS	MAXIMUM INLET PRESSURE (PSI [BAR])		MAXIMUM VISCOSITY (SSU [cSt])	TEMPERATURE RANGE (°F [°C])
	NON-LUBRICATING LIQUID	LUBRICATING LIQUID		
STD	100 [7]	150 [10.5]	15,000 [3250]	0 to 400 [-17 to 204]
60D	200 [14]	350 [24]	25,000 [5417]	-75 to 500 [-60 to 260]
61J	100 [7]	200 [14]	15,000 [3250]	0 to 400 [-17 to 204]
■ PACKING	MAXIMUM INLET PRESSURE (PSI [BAR])		MAXIMUM VISCOSITY (SSU [cSt])	TEMPERATURE RANGE (°F [°C])
65P	400 [28]		250,000 [55,000]	-50 to 500 [-45 to 260]
STD	400 [28]		2,000,000 [440,000]	-50 to 650 [-45 to 344]

BUSHING LIMITATIONS:				
BUSHING OPTIONS	OPTIMAL VISCOSITY RANGE	TEMP LIMIT °F[°C]	ABRASIVES	CORROSIVES
STD, 40G	500 TO 100,000 SSU	400 [205]	NO	NO
40C, 40K, 70G	0.1 cPs TO 2,000,000 SSU	500 [260]	NO	YES *
40U, 41K, 70N	0.1 cPs TO 2,000,000 SSU	500 [260]	YES	YES *

* Note: Verify chemical compatibility

● MECHANICAL SEAL

† PORTS ARE COMPATIBLE WITH 125# ANSI CAST IRON FLANGES.

† 180° DEGREE HOUSING

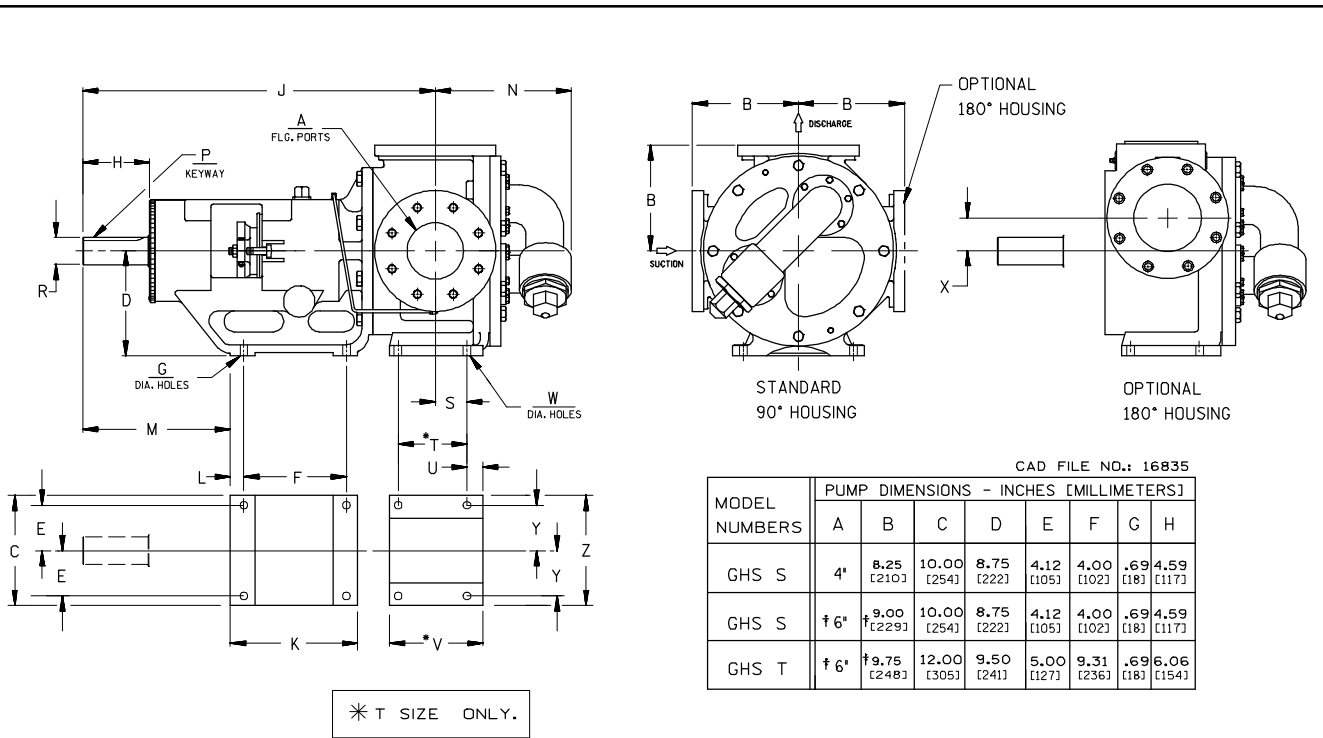
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APPLICATION RECOMMENDATIONS:		
APPLICATION	OPTIONS REQUIRED (Select One From Each Row)	OPERATING LIMITATIONS
ASPHALT	25U, 25V, OR 25W (S SIZE) 25, 25A, 25C (T SIZE) 35J–35M 40G, 40K, 40U, 41K 70, 70G, 70N	TEMPERATURE: 500° MAX.

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

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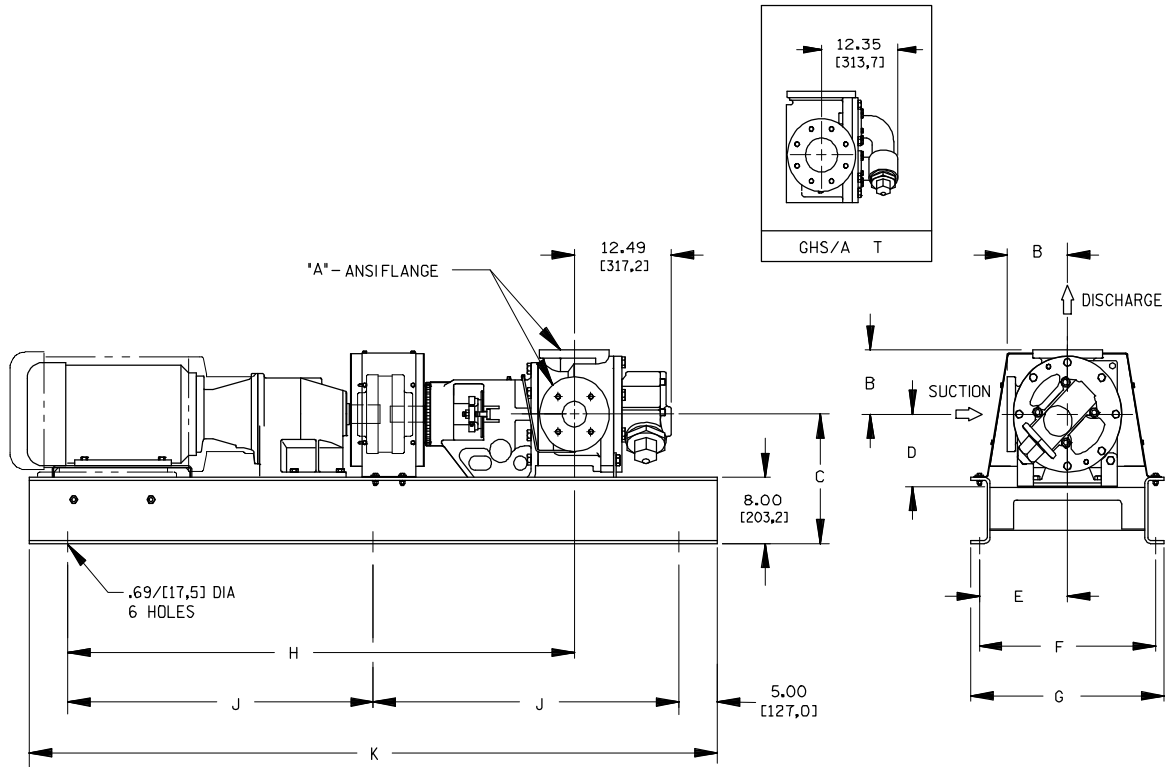
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† 180° HOUSING

MODEL NUMBERS	PUMP DIMENSIONS - INCHES [MILLIMETERS]																
	A	J	K	L	M	N	N1	P	R	S	T	U	V	W	X	Y	Z
GHS S	4"	23.85 [606]	5.50 [140]	.85 [22]	11.37 [289]	12.49 [317]	7.05 [179]	.50 [13] x 3.37 [86]	2.00 [51]	3.61 [92]	—	1.79 [45]	—	.69 [18]	—	5.57 [141]	12.89 [327]
GHS S	†6"	23.85 [606]	5.50 [140]	.85 [22]	11.37 [289]	12.49 [317]	7.05 [179]	.50 [13] x 3.37 [86]	2.00 [51]	3.61 [92]	—	1.79 [45]	—	.69 [18]	3.00 [76]	5.57 [141]	12.89 [327]
GHS T	6"	32.00 [813]	11.54 [293]	1.22 [31]	13.40 [340]	12.35 [314]	—	.62 [16] x 4.62 [117]	2.50 [64]	2.88 [73]	6.25 [159]	1.44 [37]	8.50 [216]	.69 [18]	†3.00 [76]	5.00 [127]	12.00 [305]

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CAD FILE NO.: 18604

PUMP MODEL	PUMP DIMENSIONS - INCHES[MILLIMETERS]											
	A	MOTOR FRAME	REDUCER RATIO	B	C	D	E	F	G	H	J	K
GHS S	4'	184TC, 213TC	16.66:1, 14.55:1 9.80:1	7.75 [196,9]	15.22 [386,6]	8.75 [222,2]	11.38 [288,9]	22.75 [577,9]	25.00 [635,0]	58.01 [1473,5]	35.75 [908,1]	81.50 [2070,1]
		213TC/215TC 254TC/256TC	17.71:1, 8.50:1 6.19:1, 5.10:1 3.89:1, 3.50:1							61.51 [1562,4]	37.50 [952,5]	85.00 [2159,0]
		254TC/256TC 284TC/286TC	17.81:1, 14:1 8.83:1, 6.09:1 5.08:1, 4.08:1 3.40:1	65.51 [1562,4]						39.50 [1003,3]	89.00 [2260,6]	
		324TC/326TC 364TC	8.78:1, 6.35:1 4.93:1, 4.05:1 3.30:1	71.51 [1816,4]						43.00 [1092,2]	95.00 [2413,0]	
		364TC/365TC	4.12:1, 3.43:1	74.45 [1891,0]						41.00 [1041,4]	92.00 [2336,0]	
GHS T	6"	184TC 213TC	16.66:1, 14.55:1 9.60:1	9.62 [244,3]	15.97 [405,6]	9.50 [241,3]	11.38 [288,9]	22.75 [577,9]	25.00 [635,0]	66.12 [1679,4]	36.75 [933,5]	83.50 [2120,9]
		213TC/215TC 254TC/256TC	17.71:1, 8.50:1 6.19:1, 5.10:1							69.62 [1768,3]	38.50 [977,9]	87.00 [2236,8]
		284TC/286TC 324TC/326TC 364TC	18.14:1, 13.92:1 8.78:1, 6.35:1 4.93:1							80.62 [2047,7]	44.00 [1117,6]	98.00 [2489,2]
		324TC/326TC 364TC/365TC	16.86:1, 14.33:1 9.46:1, 6.42:1 4.85:1							82.62 [2098,5]	45.00 [1143,0]	100.0 [2540,0]

90° HOUSING PORTS
HEAD MOUNTED RELIEF VALVE
GRR REDUCER C-FLANGE FLEX DRIVE

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GRR REDUCER C-FLANGE FLEX DRIVE OPTIONS

(Drive Assy Number Includes Base, Coupling, Guard & Gear Reducer, But **NOT** the Motor)

PUMP MODEL	RPM @ 1750	RPM @ 1150	REDUCER ^①			FRAME	MTG.FT. OPTION REQ.	DRIVE ASSY NO.
			RATIO	MAX HP @ 1750	MAX HP @ 1150			
GHS S	500	329	3.50:1	20.00	13.20	254TC/256TC	STD	90453-004
	515	338	3.40:1	30.00	19.80	284TC/286TC	STD	90453-006
	530	348	3.30:1	60.00	39.60	324TC	STD	90453-008
	530	348	3.30:1	60.00	39.60	326TC	STD	90453-009
	530	348	3.30:1	60.00	39.60	364TC	STD	90453-010
	510	335	2.43:1	75.00	49.50	365TC	STD	90453-011
	450	296	3.89:1	20.00	13.20	254TC/256TC	STD	90453-020
	429	282	4.08:1	30.00	19.80	284TC/286TC	STD	90453-022
	432	284	4.05:1	60.00	39.60	324TC/326TC	STD	90453-024
	432	284	4.05:1	60.00	39.60	364TC	STD	90453-025
	425	279	4.12:1	60.00	39.60	365TC	STD	90453-026
	395	260	4.43:1	75.00	49.50	404TC	STD	90453-028
	343	225	5.10:1	100.00	66.00	254TC/256TC	STD	90453-030
	344	226	5.08:1	20.00	13.20	284TC/286TC	STD	90453-032
	355	233	4.93:1	30.00	19.80	324TC/326TC	STD	90453-034
	355	233	4.93:1	60.00	39.60	364TC	STD	90453-036
	283	186	6.19:1	60.00	39.60	254TC/258TC	STD	90453-042
	287	189	6.09:1	20.00	13.20	284TC	STD	90453-044
	287	189	6.09:1	30.00	19.80	286TC	STD	90453-045
	276	181	6.35:1	60.00	39.60	324TC	STD	90453-046
	276	181	6.35:1	60.00	39.60	326TC	STD	90453-047
	179	117	9.80:1	10.00	6.60	213TC	STD	90453-050
	206	135	8.50:1	20.00	13.20	254TC	STD	90453-052
	206	135	8.50:1	20.00	13.20	256TC	STD	90453-053
	198	130	8.83:1	30.00	19.80	284TC	STD	90453-054
	198	130	8.83:1	60.00	39.60	386TC	STD	90453-055
	199	131	8.78:1	60.00	39.60	324TC	STD	90453-056
	120	79	14.55:1	10.00	6.60	213TC	STD	90453-060
	125	82	14.00:1	30.00	19.80	254TC	STD	90453-062
	125	82	14.00:1	30.00	19.80	286TC	STD	90453-063
	125	82	14.00:1	30.00	19.80	284TC	STD	90453-064
	105	69	16.66:1	7.81	5.16	184TC	STD	90453-070
99	65	17.71:1	16.48	10.88	213TC	STD	90453-072	
98	65	17.81:1	26.41	17.43	254TC	STD	90453-074	
98	65	17.81:1	26.41	17.43	256TC	STD	90453-075	

^① Listed reducer horsepower rated for Standard Service (8-10 hrs/day). For Light Service (3-5 hrs/day) multiply maximum rated horsepower by 1.1. For Heavy Service (16-24 hrs/day) multiply maximum rated horsepower by 0.9.

NOTE: CONSULT FACTORY FOR:
HORSEPOWERS AND FRAMES NOT SHOWN.
DRIP PAN BASES.



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GRR REDUCER C-FLANGE FLEX DRIVE OPTIONS

(Drive Assy Number Includes Base, Coupling, Guard & Gear Reducer, But **NOT** the Motor)

PUMP MODEL	RPM @ 1750	RPM @ 1150	REDUCER ^①			FRAME	MTG.FT. OPTION REQ.	DRIVE ASSY NO.
			RATIO	MAX HP @ 1750	MAX HP @ 1150			
GHS T	343	225	5.10:1	20.00	13.20	254TC/256TC	STD	90453-204
	344	226	5.08:1	30.00	19.80	284TC/286TC	STD	90453-206
	355	233	4.93:1	60.00	39.60	324TC/326TC	STD	90453-208
	355	233	4.93:1	60.00	39.60	364TC	STD	90453-210
	361	237	4.85:1	75.00	49.50	365TC	STD	90453-211
	331	213	5.29:1	100.00	66.00	405TSC	STD	90453-212
	308	202	5.68:1	200.00	100.00	444TSC	STD	90453-214
	308	202	5.68:1	200.00	100.00	445TSC	STD	90453-215
	283	186	6.19:1	20.00	13.20	254TC/256TC	STD	90453-220
	287	189	6.09:1	30.00	19.80	284TC/286TC	STD	90453-222
	276	181	6.35:1	60.00	39.60	324/326TC	STD	90453-224
	276	181	6.35:1	60.00	39.60	364TC	STD	90453-226
	273	179	6.42:1	75.00	49.50	365TC	STD	90453-227
	283	186	6.19:1	100.00	66.00	404TSC	STD	90453-228
	261	172	7.70:1	200.00	100.00	444TSC	STD	90453-230
	179	117	9.80:1	10.00	6.60	213TC	STD	90453-236
	206	135	8.50:1	20.00	13.20	254TC/256TC	STD	90453-238
	198	130	8.83:1	30.00	19.80	284TC	STD	90453-240
	198	130	8.83:1	30.00	19.80	286TC	STD	90453-241
	199	131	8.78:1	60.00	39.60	324TC	STD	90453-242
	199	131	8.78:1	60.00	39.60	326TC	STD	90453-243
	199	131	8.78:1	60.00	39.60	364TC	STD	90453-244
	185	122	9.46:1	75.00	49.50	365TC	STD	90453-245
	198	130	8.82:1	100.00	66.00	404TSC	STD	90453-246
	120	79	14.55:1	10.00	6.60	213TC	STD	90453-250
	125	82	14.00:1	30.00	19.80	254TC/256TC	STD	90453-252
	125	82	14.00:1	30.00	19.80	284TC/286TC	STD	90453-241
	126	83	13.92:1	54.47	35.95	324TC/326TC	STD	90453-256
	122	80	14.33:1	69.41	45.81	364TC	STD	90453-258
	105	69	16.66:1	7.81	5.16	184TC	STD	90453-264
	99	65	17.71:1	16.48	10.88	213TC	STD	90453-266
	98	65	17.81:1	26.41	17.43	254TC/256TC	STD	90453-268
	96	63	18.14:1	41.46	27.37	284TC/286TC	STD	90453-270
	96	63	18.14:1	41.46	27.37	324TC	STD	90453-272
	104	68	16.86:1	59.17	39.05	326TC	STD	90453-273

^① Listed reducer horsepower rated for Standard Service (8-10 hrs/day). For Light Service (3-5 hrs/day) multiply maximum rated horsepower by 1.1. For Heavy Service (16-24 hrs/day) multiply maximum rated horsepower by 0.9.

NOTE: CONSULT FACTORY FOR: HORSEPOWERS AND FRAMES NOT SHOWN. DRIP PAN BASES.

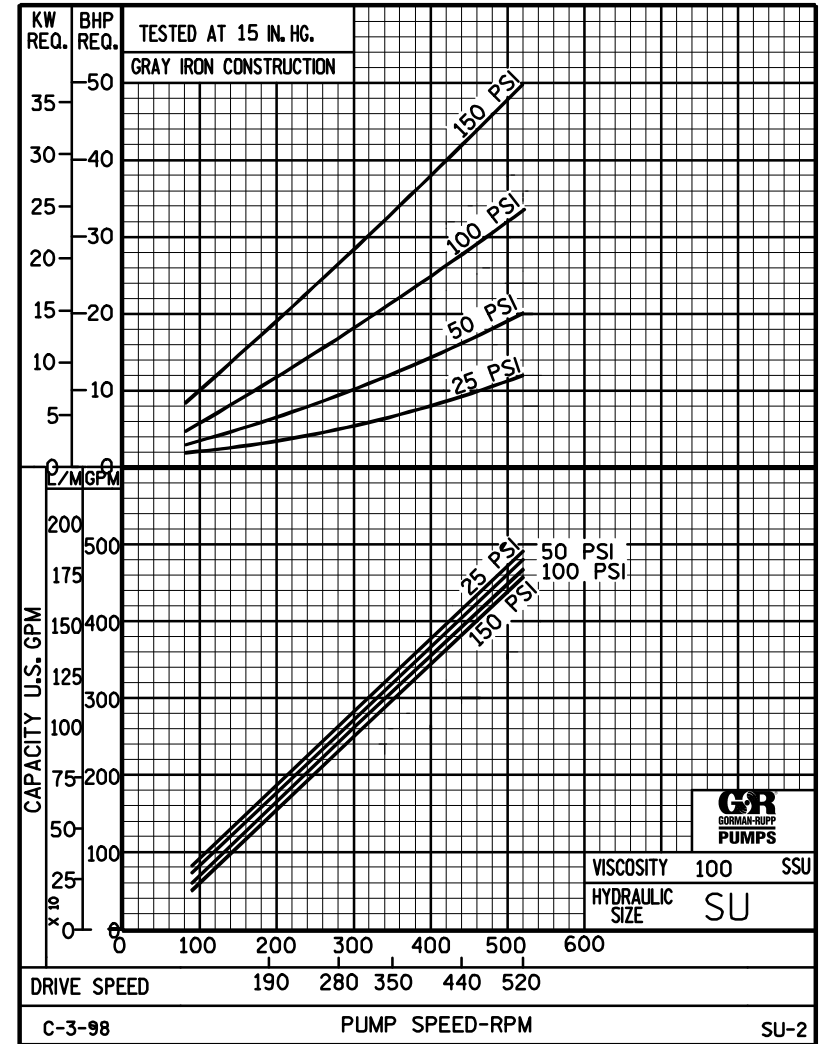
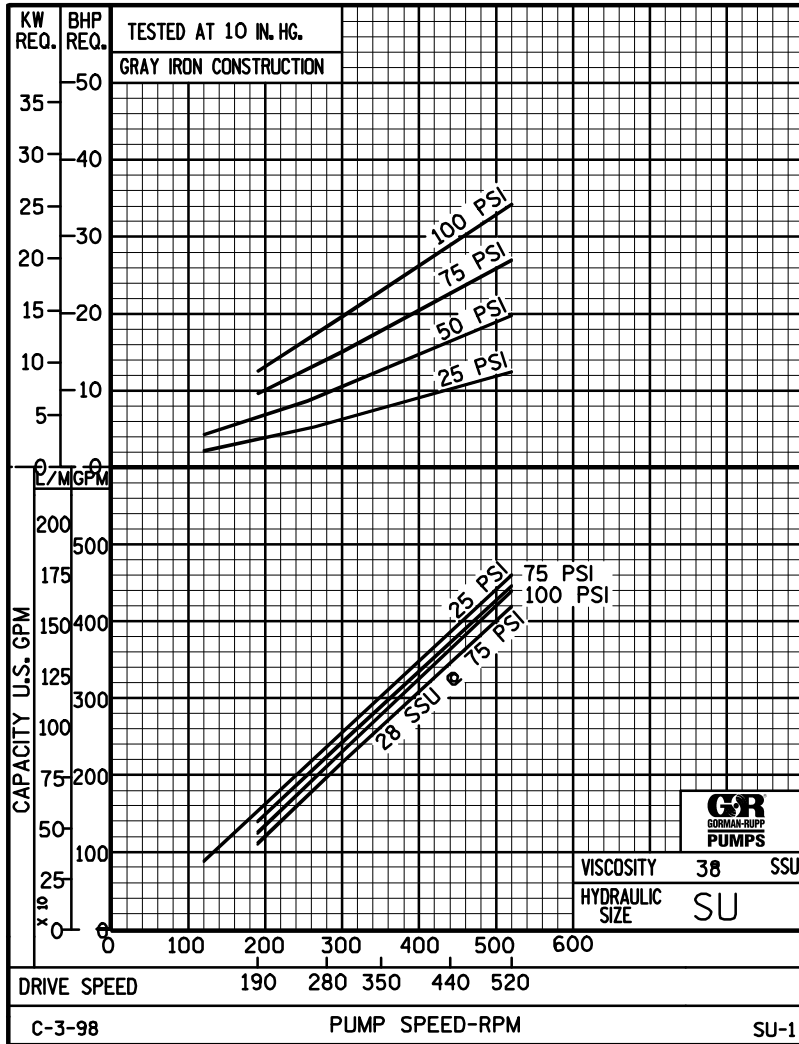


PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

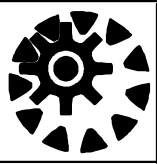
SU

Hydraulic Size



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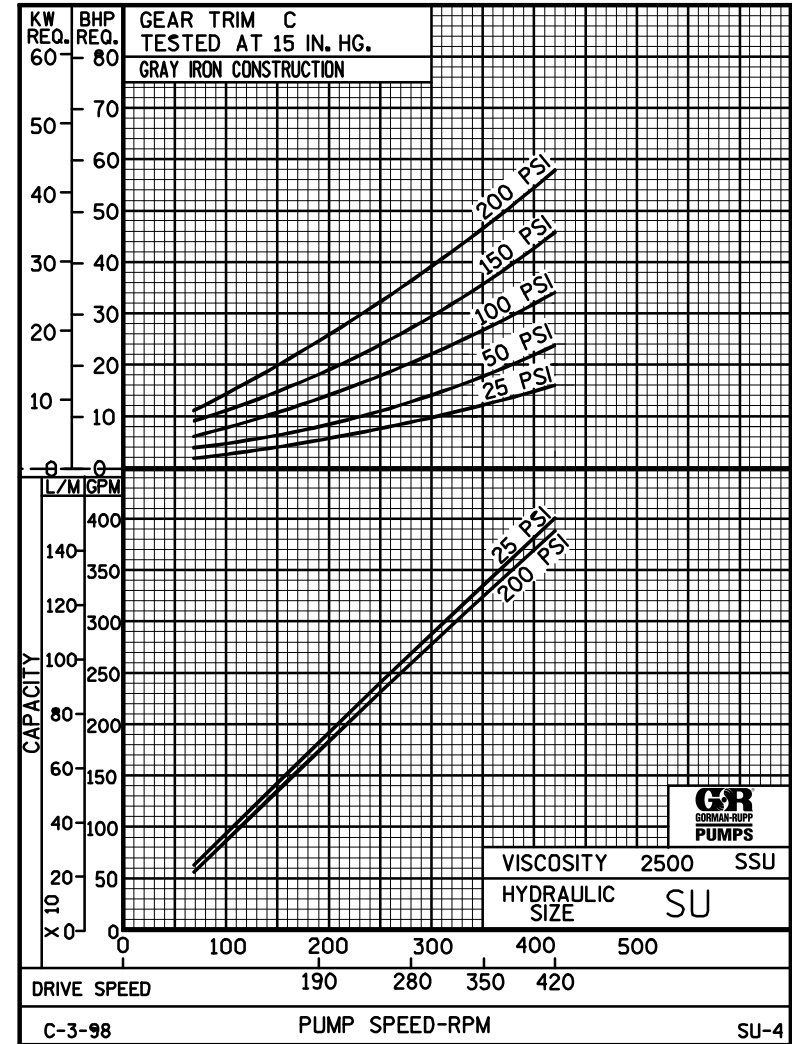
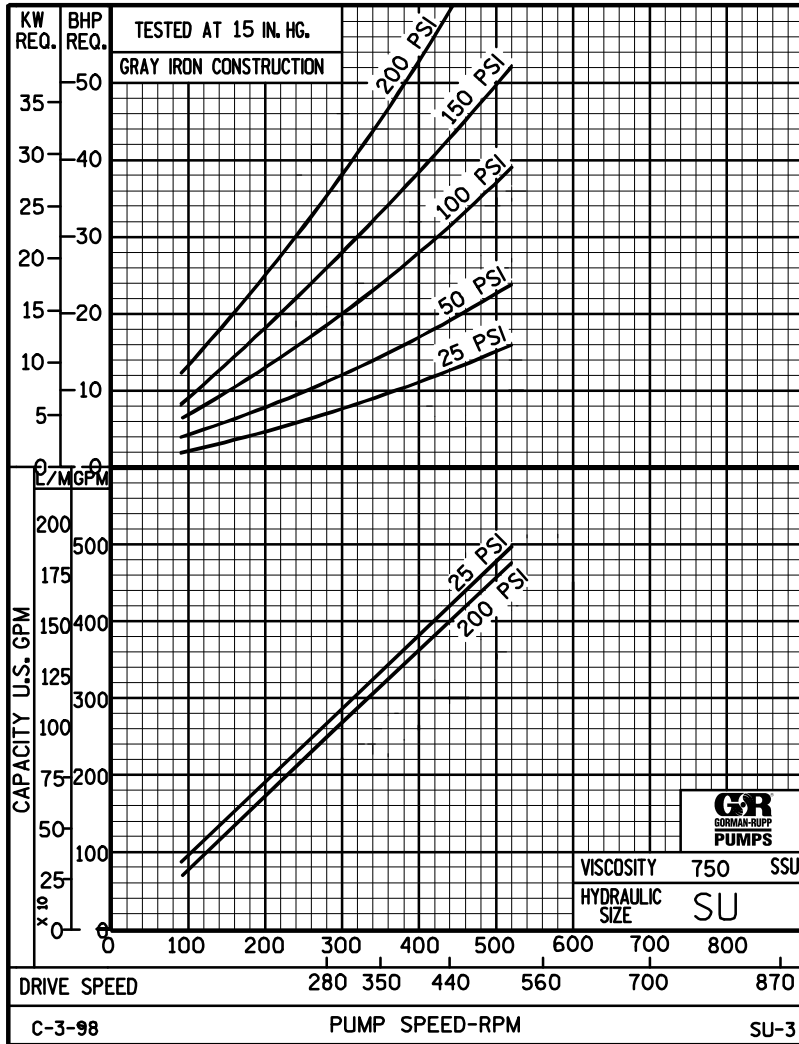


PERFORMANCE CURVES

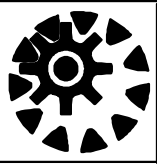
SPEED VS. CAPACITY/HORSEPOWER

SU

Hydraulic Size



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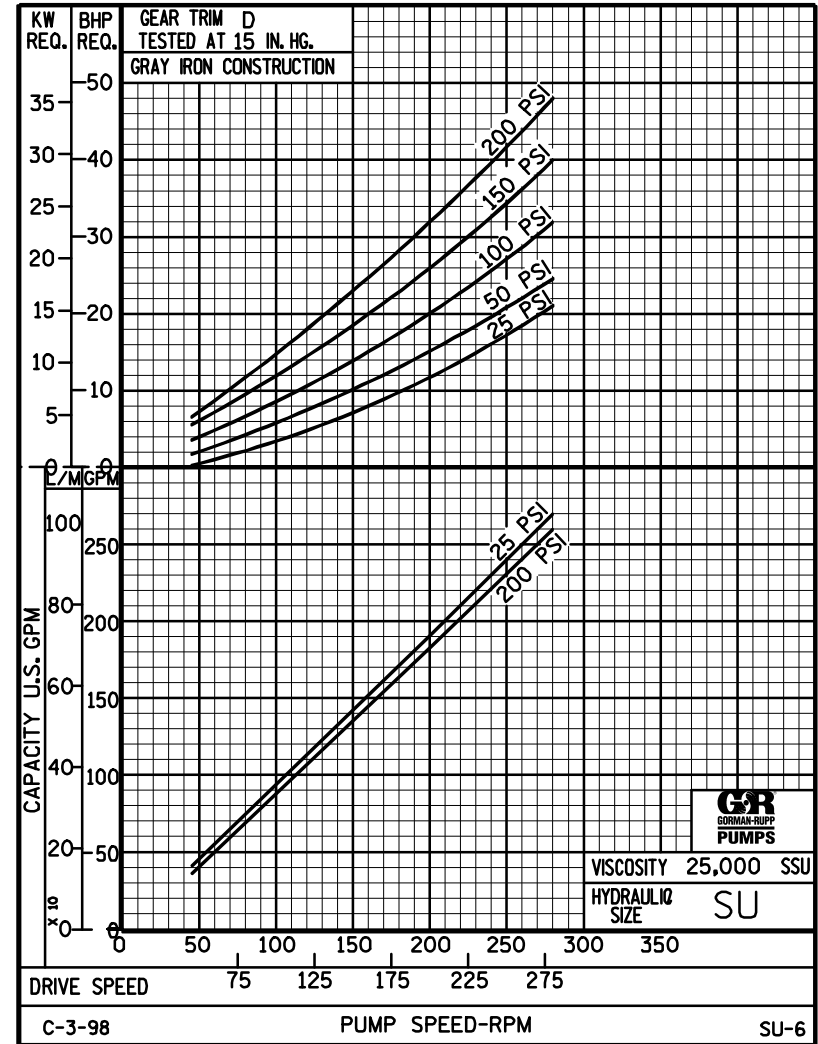
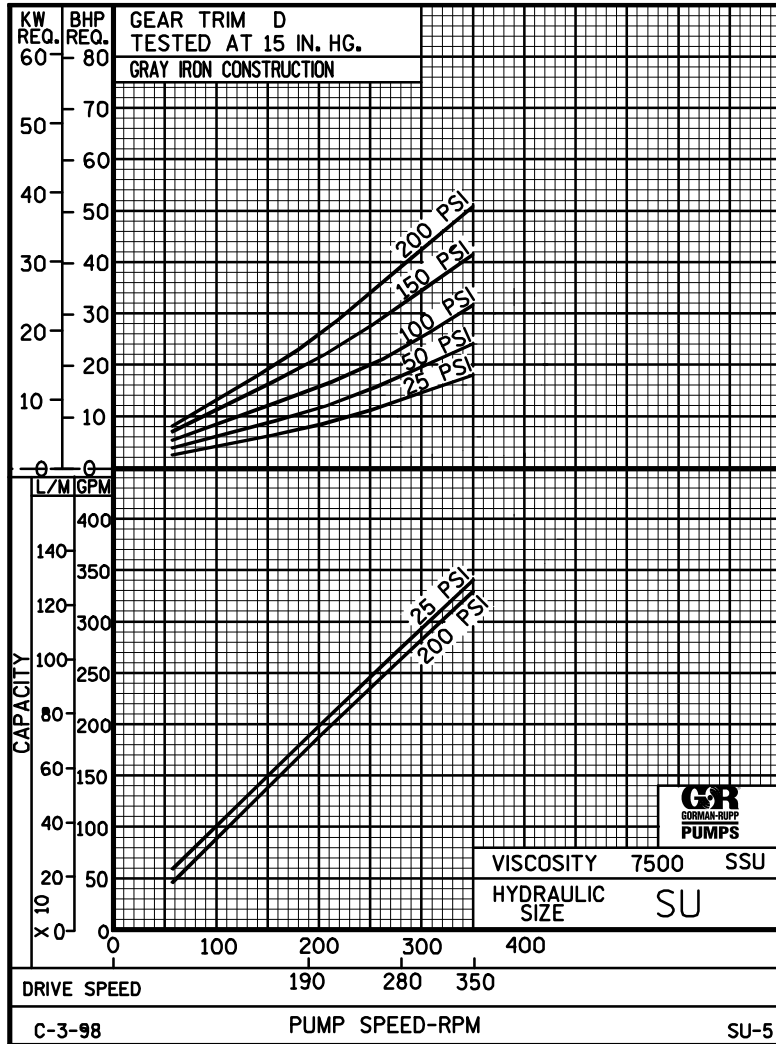


PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

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Hydraulic Size



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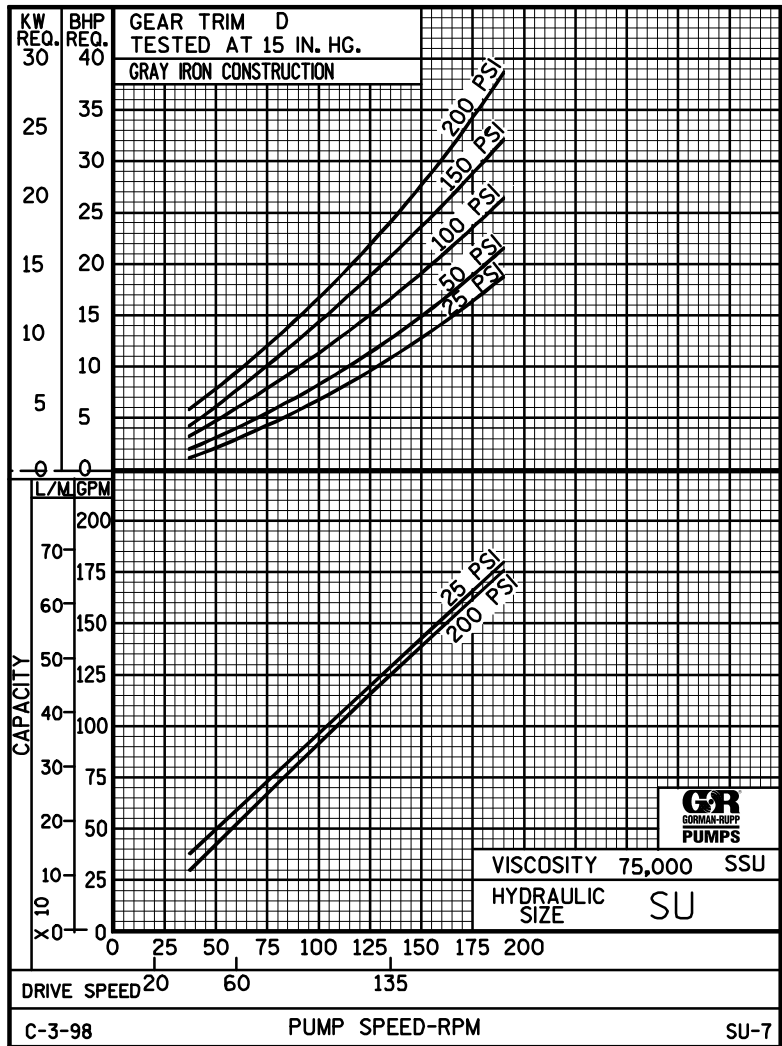
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PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

SU Hydraulic Size



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SU

PUMP HYDRAULIC SIZE CHART

SEC. 500

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February 2025

572 GPM

520 RPM

NOMINAL		VISCOSITY		N.I.P.R	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)				H.P. REQUIRED						
GPM	RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY				HEAVY-DUTY ONLY						
					2½"	3"	4"	5"	6"	DIFFERENTIAL PRESSURE (PSI)										
						25	50	75	100	150	200	300	400							
572	520	STD	28	5.5	0.90	0.29	0.07	0.02	0.01	507	498	488	480							
			32		0.93	0.30	0.08	0.02	0.01	15	24	32	43							
			38	5.5	0.96	0.32	0.08	0.03	0.01	509	500	490	482	473						
			50		1.02	0.34	0.09	0.03	0.01	16	25	32	44	52						
			70	5.5	1.10	0.38	0.10	0.03	0.01	513	504	495	488	475	468					
			100		1.19	0.41	0.11	0.04	0.02	17	25	32	45	53	62					
			150	5.5	1.29	0.45	0.12	0.04	0.02	522	515	507	500	490	480					
			200		1.37	0.48	0.13	0.04	0.02	18	27	33	46	55	67					
			300	5.5	1.50	0.53	0.15	0.05	0.02	546	543	538	534	522	515					
			500		1.71	0.61	0.17	0.06	0.02	23	31	39	48	62	80					
			750	5.5	1.92	0.69	0.19	0.07	0.02	557	555	552	549	540	531					
			1,000		2.09	0.75	0.21	0.05	0.02	25	33	41	49	65	86					
		2,000	7.7	1.81	0.76	0.26	0.10	0.05	577	576	575	573	569	564						
		3,500		3.17	1.33	0.45	0.18	0.09	31	39	47	55	71	88						
				"C"	5,000															
					7,500															
					10,000															
					15,000															
		20,000																		
		25,000																		
		"D"	50,000																	
			75,000																	
			100,000																	
			150,000																	
			200,000																	
			250,000																	

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



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PUMP HYDRAULIC SIZE CHART

SEC. 500

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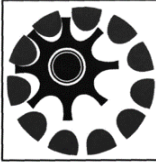
February 2025

489 GPM

440 RPM

NOMINAL		VISCOSITY		N.I.P.R	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)					H.P. REQUIRED					
GPM	RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY					HEAVY-DUTY ONLY					
					2½"	3"	4"	5"	6"	DIFFERENTIAL PRESSURE (PSI)					150	200	300	400		
										25	50	75	100	150					200	300
489	440	STD	28	3.9	0.66	0.21	0.05	0.02	0.01	413	407	402	396							
			32		0.68	0.22	0.06	0.02	0.01	13	19	27	35							
			38	3.9	0.71	0.24	0.06	0.02	0.01	415	409	402	398	392						
			50		0.76	0.26	0.07	0.02	0.01	13	19	27	35	43						
			70	3.9	0.82	0.28	0.08	0.03	0.01	420	417	410	401	397	390					
			100		0.89	0.31	0.08	0.03	0.01	13	20	28	36	45	53					
			150	3.9	0.97	0.34	0.09	0.03	0.01	431	423	420	417	408	400					
			200		1.03	0.36	0.10	0.03	0.01	14	21	29	37	46	56					
			300	3.9	1.14	0.40	0.11	0.04	0.02	462	459	458	450	440	430					
			500		1.30	0.47	0.13	0.05	0.02	16	24	32	38	51	63					
		750	3.9	1.47	0.53	0.15	0.03	0.02	475	472	470	465	455	445						
		1,000		1.60	0.58	0.11	0.04	0.02	17	25	33	39	53	66						
		2,000	5.5	1.55	0.65	0.22	0.09	0.04	492	491	491	489	487	484						
		3,500		2.71	1.14	0.38	0.16	0.07	25	30	37	44	59	75						
		5,000	6.6	3.87	1.62	0.55	0.22	0.11	494	493	491	490	488	485						
		7,500		5.81	2.44	0.82	0.33	0.16	28	34	40	47	61	75						
		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.



SU

PUMP HYDRAULIC SIZE CHART

SEC. 500

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February 2025

389 GPM
350 RPM

NOMINAL		VISCOSITY		N.I.P.R.	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)				H.P. REQUIRED					
GPM	RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY				HEAVY-DUTY ONLY					
					2½"	3"	4"	5"	6"	DIFFERENTIAL PRESSURE (PSI)				150	200	300	400		
						25	50	75	100	150	200	300	400						
389	350	STD	28	2.7	0.42	0.14	0.03	0.01	0.00	329	320	315	309						
			32		0.44	0.14	0.04	0.01	0.00	9.5	16	22	28						
			38	2.7	0.46	0.15	0.04	0.01	0.01	330	320	319	310	305					
			50		0.49	0.17	0.04	0.01	0.01	9.8	16	23	28	40					
			70	2.7	0.54	0.19	0.05	0.02	0.01	333	325	320	316	310	305				
			100		0.59	0.21	0.06	0.02	0.01	10	16	23	29	40	49				
			150	2.7	0.64	0.23	0.06	0.02	0.01	342	335	330	325	320	312				
			200		0.69	0.24	0.07	0.02	0.01	11	17	24	29	41	50				
			300	2.7	0.77	0.27	0.08	0.03	0.01	365	362	360	356	349	340				
			500		0.88	0.32	0.09	0.03	0.01	12	18	24	29	41	51				
		750	2.7	1.00	0.36	0.07	0.03	0.01	376	374	372	370	360	354					
		1,000		1.09	0.26	0.09	0.04	0.02	13	19	24	30	41	52					
		2,000	3.8	1.23	0.52	0.17	0.07	0.03	392	391	390	389	387	385					
		3,500		2.16	0.90	0.30	0.12	0.06	17	23	28	33	45	57					
		5,000	4.6	3.08	1.29	0.44	0.18	0.08	391	390	388	387	385	382					
		7,500		4.62	1.94	0.65	0.27	0.13	20	25	30	35	46	58					
		10,000	5.7	6.16	2.58	0.87	0.35	0.17	391	390	388	387	385	372					
		15,000		9.24	3.87	1.31	0.53	0.25	23	28	34	43	49	61					
		20,000	7.3	12.32	5.17	1.74	0.71	0.34	372	371	371	370	366	363					
		25,000		15.40	6.46	2.18	0.88	0.42	30	34	39	45	54	64					
50,000																			
75,000																			
100,000																			
150,000																			
200,000																			
250,000																			

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



SU

PUMP HYDRAULIC SIZE CHART

SEC. 500

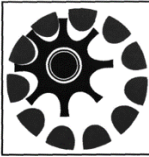
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February 2025

310 GPM
280 RPM

NOMINAL		VISCOSITY		N.I.P.R.	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)				H.P. REQUIRED				
GPM	RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY				HEAVY-DUTY ONLY				
					2½"	3"	4"	5"	6"	DIFFERENTIAL PRESSURE (PSI)				150	200	300	400	
310	280	STD	28	1.8	0.27	0.09	0.02	0.01	0.00	260	251	247	239					
			32		0.28	0.09	0.02	0.01	0.00	6.7	12	18	23					
			38	1.8	0.30	0.10	0.03	0.01	0.00	261	252	259	240	236				
			50		0.32	0.11	0.03	0.01	0.00	7.0	12	18	23	29				
			70	1.8	0.36	0.12	0.03	0.01	0.00	264	256	252	245	240	235			
			100		0.39	0.14	0.04	0.01	0.01	7.3	12	18	23	29	34			
			150	1.8	0.43	0.15	0.04	0.01	0.01	271	265	260	255	250	242			
			200		0.46	0.16	0.05	0.02	0.01	7.5	13	18	23	30	36			
			300	1.8	0.52	0.18	0.05	0.02	0.01	291	287	285	280	272	269			
			500		0.60	0.22	0.06	0.01	0.01	8.2	14	19	23	32	40			
		750	1.8	0.68	0.15	0.05	0.02	0.01	301	299	297	292	285	280				
		1,000		0.49	0.21	0.07	0.03	0.01	9.5	14	19	23	32	41				
		2,000	2.5	0.98	0.41	0.14	0.06	0.03	314	313	312	310	307	301				
		3,500		1.72	0.72	0.24	0.10	0.05	12	16	21	26	35	44				
		5,000	3.1	2.45	1.03	0.35	0.14	0.07	313	312	311	310	307	305				
		7,500		3.68	1.54	0.52	0.21	0.10	14	18	23	27	35	44				
		10,000	3.8	4.91	2.06	0.69	0.28	0.13	310	309	309	309	305	303				
		15,000		7.36	3.09	1.04	0.42	0.20	17	21	24	30	38	44				
		20,000	4.9	9.82	4.12	1.39	0.56	0.27	307	306	305	304	302	300				
		25,000		12.27	5.15	1.74	0.71	0.34	21	25	28	33	41	50				
50,000	5.9	24.54	10.29	3.47	1.41	0.67	307	306	305	304	303	300						
75,000		36.81	15.44	5.21	2.12	1.01	39	44	46	51	60	66						
100,000	7.2	49.08	20.59	6.94	2.82	1.35	307	306	305	304	302	300						
150,000		73.62	30.88	10.41	4.23	2.02	66	70	72	78	85	90						
200,000																		
250,000																		

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



SU

PUMP HYDRAULIC SIZE CHART

SEC. 500

Page 135.5

February 2025

220 GPM

200 RPM

NOMINAL		VISCOSITY		N.I.P.R.	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)				H.P. REQUIRED					
GPM	RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY				HEAVY-DUTY ONLY					
					DIFFERENTIAL PRESSURE (PSI)														
					2½"	3"	4"	5"	6"	25	50	75	100	150	200	300	400		
220	200	STD	28	1.3	0.14	0.05	0.01	0.00	0.00	180	174	169	159						
			32		0.15	0.05	0.01	0.00	0.00	5.0	9.0	13	16						
			38	1.3	0.16	0.05	0.01	0.00	0.00	181	175	170	160	150					
			50		0.17	0.06	0.02	0.01	0.00	5.2	9.0	13	16	22					
			70	1.3	0.19	0.07	0.02	0.01	0.00	184	179	173	164	154	144				
			100		0.21	0.08	0.02	0.01	0.00	5.4	9.1	13	16	22	27				
			150	1.3	0.24	0.08	0.02	0.01	0.00	190	185	180	173	163	153				
			200		0.26	0.09	0.03	0.01	0.00	5.6	9.2	13	16	22	28				
			300	1.3	0.29	0.10	0.03	0.01	0.00	209	205	200	195	190	185				
			500		0.34	0.12	0.02	0.01	0.00	5.9	9.2	13	16	22	29				
		750	1.3	0.26	0.11	0.04	0.02	0.01	215	213	209	205	202	198					
		1,000		0.35	0.15	0.05	0.02	0.01	6.1	9.2	13	16	22	29					
		2,000	1.8	0.70	0.29	0.10	0.04	0.02	225	224	223	221	218	215					
		3,500		1.22	0.51	0.17	0.07	0.03	7.0	11	14	18	24	31					
		5,000	2.2	1.74	0.73	0.25	0.10	0.05	223	222	221	220	218	215					
		7,500		2.61	1.10	0.37	0.15	0.07	8.5	12.0	15.0	18.0	24.0	31.0					
		10,000	2.7	3.48	1.46	0.49	0.20	0.10	220	220	219	219	216	214					
		15,000		5.22	2.19	0.74	0.30	0.14	9.9	14	17	19	26	32					
		20,000	3.5	6.97	2.92	0.99	0.40	0.19	218	217	217	216	214	212					
		25,000		8.71	3.65	1.23	0.50	0.24	13	17	21	22	29	35					
50,000	4.3	17.42	7.30	2.46	1.04	0.48	218	217	215	215	214	212							
75,000		26.12	10.96	3.70	1.55	0.72	24	29	33	36	39	44							
100,000	5.2	34.83	14.61	4.93	2.07	0.96	218	217	216	215	214	212							
150,000		52.25	21.92	7.39	3.11	1.43	36	47	50	55	57	65							
200,000	6.8	69.67	29.22	9.85	4.14	1.91	218	217	216	215	214	212							
250,000		87.08	36.53	12.32	5.18	2.39	55	67	72	80	85	90							
		"C"																	
		"D"																	

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



SU

PUMP HYDRAULIC SIZE CHART

SEC. 500

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February 2025

109 GPM
100 RPM

NOMINAL		VISCOSITY		N.I.P.R.	FRICTION PIPE LOSS (PSI/FT) <small>(Schedule 40 Steel Pipe)</small>					CAPACITY (GPM)				H.P. REQUIRED					
GPM	SPEED RPM	ROTOR TRIM	(SSU)	(PSIa)	PIPE DIAMETER					MEDIUM-DUTY & HEAVY-DUTY				HEAVY-DUTY ONLY					
					2½"	3"	4"	5"	6"	DIFFERENTIAL PRESSURE (PSI)				150	200	300	400		
109	100	STD	28	0.8	0.04	0.01	0.00	0.00	0.00	82	75	64	56						
			32		0.04	0.01	0.00	0.00	0.00	2.5	4.1	5.7	7.2						
			38	0.8	0.04	0.01	0.00	0.00	0.00	83	76	65	58	51					
			50		0.05	0.02	0.00	0.00	0.00	2.5	4.1	5.7	7.2	10.5					
			70	0.8	0.05	0.02	0.01	0.00	0.00	84	78	68	61	55	49				
			100		0.06	0.02	0.01	0.00	0.00	2.5	4.1	5.7	7.2	11	14				
			150	0.8	0.07	0.03	0.01	0.00	0.00	89	84	75	69	64	57				
			200		0.08	0.03	0.01	0.00	0.00	2.5	4.1	5.7	7.2	11.0	14				
			300	0.8	0.09	0.02	0.01	0.00	0.00	102	98	94	93	88	84				
			500		0.09	0.04	0.01	0.00	0.00	2.5	4.1	5.7	7.2	11	14				
		750	0.8	0.13	0.05	0.02	0.01	0.00	107	104	102	100	98	95					
		1,000		0.17	0.07	0.02	0.01	0.00	2.5	4.1	5.7	7.2	11	14					
		2,000	1.1	0.35	0.14	0.05	0.02	0.01	112	111	110	109	107	105					
		3,500		0.60	0.25	0.09	0.03	0.02	3.0	4.8	7.1	9.0	12	16					
		5,000	1.4	0.86	0.36	0.12	0.05	0.02	112	111	110	109	107	105					
		7,500		1.29	0.54	0.18	0.07	0.04	3.5	5.0	6.4	8.0	11	14					
		10,000	1.7	1.73	0.72	0.24	0.10	0.05	109	109	108	107	105	103					
		15,000		2.59	1.09	0.37	0.15	0.07	4.3	5.5	7.0	8.5	12	15					
		20,000	2.2	3.45	1.45	0.49	0.20	0.09	107	106	105	104	103	101					
		25,000		4.31	1.81	0.61	0.25	0.12	5.0	6.4	8.0	9.6	13	16					
50,000	2.6	8.63	3.62	1.22	0.50	0.24	108	106	105	104	103	101							
75,000		12.94	5.43	1.83	0.74	0.36	7.2	8.1	10	11	13	17							
100,000	3.2	17.26	7.24	2.44	0.99	0.47	108	106	105	104	103	101							
150,000		25.89	10.86	3.66	1.49	0.71	9	11	13	15	18	21							
200,000	4.2	34.52	14.48	4.88	1.98	0.95	108	106	105	104	103	101							
250,000		43.15	18.10	6.10	2.48	1.18	13	15	17	19	21	25							

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

