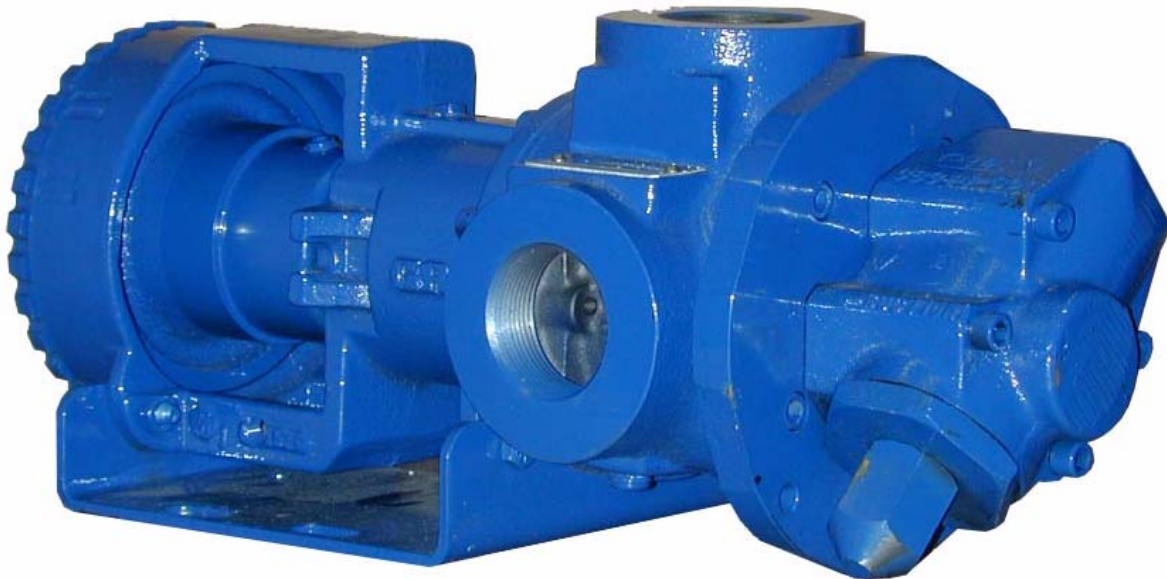


PUMP SPECIFICATION BULLETIN

**GHS SERIES
 HEAVY DUTY STANDARD;
 D, G, J, N & R HYD SIZE
 ROTARY GEAR PUMP**



The GHS iron series is designed for applications in the operating ranges noted below. These units are available with head and backhead jackets for temperature control, carbon graphite bushings for low viscosity liquids, silicon carbide bushings for wear resistance, and numerous shaft seal options 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

- 400 PSI CAPABILITY
- BALL BEARING THRUST CONTROL
- ROTOR END CLEARANCE EXTERNALLY ADJUSTABLE
- OPTIMIZED LOAD SUPPORT AND HIGH STRENGTH SHAFT
- HIGH STRENGTH, COMPUTER PROFILED GEARING FOR QUIET OPERATION
- EXCEPTIONAL SEAL VERSATILITY WITH INTERNAL SEAL VENT
- DEEP END FEED DESIGN

OPERATING RANGE

- CAPACITY (GPM): (3 TO 295)
 [LPM] : [11 TO 1116]
- PRESSURE (PSI) : [0 TO 300]
 [BAR] : [0 TO 20.7]
- VISCOSITY (SSU) : (28 TO 2,000,000)
 [cSt] : [1 TO 440,000]
- TEMPERATURE (F) : (-60° TO 675°)
 [C] : [-51° TO 358°]

APPLICATIONS

- USE WITH ANY CLEAN LIQUID
 COMPATIBLE WITH CAST IRON
- ★ BOOSTER SERVICE
 - ★ CIRCULATING
 - ★ FILTERING
 - ★ LUBRICATING
 - ★ TRANSFERRING
 - ★ LOW PRESSURE FLUID POWER
 - ★ METERING

EXTER- IOR	ROTOR & IDLER	HOUSING PORTS	BUSHINGS	IDLER PIN	SHAFT	SHAFT SEALING		ROTATION	INTERNAL RELIEF VALVE	
						MECH. SEAL ●	PACKING ■		MATERIAL	SETTING
CAST IRON	HIGH STRENGTH IRON	90° TAPPED 125# FLG	BRONZE	HARDENED STEEL	STEEL	VITON	TEFLON/ GRAPHITE	C.W.	DUCTILE IRON	75 PSI [5 BAR]

Standard Models

G H S 1 DC 3 - B
 GEAR DUTY DESIGN PORT SIZE HYDRAULIC SEAL STYLE
 SIZE SIZE

MODEL NUMBER	NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
	MAXIMUM		ALTERNATIVE		DIFFERENTIAL PRESSURE-PSI [BAR]			TEMP.	Weight LBS [KG]	Volume CU. FT.
	GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM ^② 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]		
GHS 1DC 3-B ● ① GHS 1DC 4-B ■ ①	9 [28]		6 [19]						30 [13,6]	2.9
GHS 1DE 3-B ● ① GHS 1DE 4-B ■ ①	11 [35]		7 [22]						30 [13,6]	2.9
GHS 1-1/2 GC 3-B ● GHS 1-1/2 GC 4-B ■	16 [50]		10 [32]				300 [20.7]	● 400 [204]	54 [24,5]	2.9
GHS 2 GC 3-B ● GHS 2 GC 4-B ■									54 [24,5]	2.9
GHS 1-1/2 GF 3-B ● GHS 1-1/2 GF 4-B ■	23 [73]	1750 [1460]	15 [47]	1150 [960]	100 [7]	150 [10]			54 [24,5]	2.9
GHS 2 GF 3-B ● GHS 2 GF 4-B ■									54 [24,5]	2.9
GHS 1-1/2 GH 3-B ● GHS 1-1/2 GH 4-B ■	31 [98]		20 [63]						54 [24,5]	2.9
GHS 2 GH 3-B ● GHS 2 GH 4-B ■									54 [24,5]	2.9
GHS 1-1/2 GJ 3-B ● ③ GHS 1-1/2 GJ 4-B ■ ③	38 [120]		25 [79]				200 [14]	■ 500 [260]	54 [24,5]	2.9
GHS 2 GJ 3-B ● ③ GHS 2 GJ 4-B ■ ③									54 [24,5]	2.9
GHS 2 JG 3-B ● GHS 2 JG 4-B ■	40 [126]	1150 [960]	30 [95]	870 [725]			300 [20.7]		125 [57]	5.3
GHS 2-1/2 JG 3-B ● GHS 2-1/2 JG 4-B ■									125 [57]	5.3
GHS 3 JG 3-B ● GHS 3 JG 4-B ■									125 [57]	5.3

STANDARD MODELS CONT.

NOTE: RECOMMENDED PORT SIZES ARE SHOWN IN **BOLDFACE**. EXAMPLE: **GHS 2JG 3-B**

- MECHANICAL SEAL
- LIPSEAL/PACKING

- ① 3450 [2875] RPM PERMISSIBLE TO 1,000 SSU [220 Cts.] AND 100 PSI [7 BAR]
- ② MAXIMUM SPEED FOR AMMONIA MODELS.
- ③ PUMP LIMITED TO 200 PSI MAXIMUM PRESSURE.

Standard Models (Continued)

MODEL NUMBER	NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
	MAXIMUM		ALTERNATIVE		DIFFERENTIAL PRESSURE-PSI [BAR]			TEMP.	Weight	Volume
	GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM ^① 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]		
GHS 2 JJ 3-B ● GHS 2 JJ 4-B ■	56 [177]	1150 [960]	42 [133]	870 [725]	100 [7]	150 [10]	300 ^③ [20.7]	● 400 [204]	125 [57]	5.3
GHS 2-1/2 JJ 3-B ● GHS 2-1/2 JJ 4-B ■									125 [57]	5.3
GHS 3 JJ 3-B ● GHS 3 JJ 4-B ■									125 [57]	5.3
GHS 2 JL 3-B ● GHS 2 JL 4-B ■	77 [243]	1150 [960]	58 [183]	870 [725]	100 [7]	150 [10]	300 ^③ [20.7]	● 400 [204]	125 [57]	5.3
GHS 2-1/2 JL 3-B ● GHS 2-1/2 JL 4-B ■									125 [57]	5.3
GHS 3 JL 3-B ● GHS 3 JL 4-B ■									125 [57]	5.3
GHS 2 JP 3-B ● GHS 2 JP 4-B ■ ②	107 [338]	1150 [960]	81 [256]	870 [725]	100 [7]	150 [10]	200 [14]	● 400 [204]	125 [57]	5.3
GHS 2-1/2 JP 3-B ● GHS 2-1/2 JP 4-B ■ ②									125 [57]	5.3
GHS 3 JP 3-B ● GHS 3 JP 4-B ■ ②									125 [57]	5.3
GHS 1-1/2 NK 3-B ● GHS 1-1/2 NK 4-B ■	99 [375]	960 [960]	60 [189]	580 [480]	100 [7]	150 [10]	300 ^③ [20.7]	■ 500 [260]	167 [75,7]	5.3
GHS 2 NK 3-B ● GHS 2 NK 4-B ■									167 [75,7]	5.3
GHS 2-1/2 NK 3-B ● GHS 2-1/2 NK 4-B ■									167 [75,7]	5.3
GHS 3 NK 3-B ● GHS 3 NK 4-B ■	132 [500]	960 [960]	80 [252]	580 [480]	100 [7]	150 [10]	300 ^③ [20.7]	■ 500 [260]	167 [75,7]	5.3
GHS 2 NM 3-B ● GHS 2 NM 4-B ■									167 [75,7]	5.3
GHS 2-1/2 NM 3-B ● GHS 2-1/2 NM 4-B ■									167 [75,7]	5.3
GHS 3 NM 3-B ● GHS 3 NM 4-B ■	165 [624]	960 [960]	99 [312]	580 [480]	100 [7]	150 [10]	200 [14]	■ 500 [260]	167 [75,7]	5.3
GHS 2 NP 3-B ● GHS 2 NP 4-B ■ ②									167 [75,7]	5.3
GHS 2-1/2 NP 3-B ● GHS 2-1/2 NP 4-B ■ ②									167 [75,7]	5.3
GHS 3 NP 3-B ● GHS 3 NP 4-B ■ ②	165 [624]	960 [960]	99 [312]	580 [480]	100 [7]	150 [10]	200 [14]	■ 500 [260]	167 [75,7]	5.3
GHS 2 NP 3-B ● GHS 2 NP 4-B ■ ②									167 [75,7]	5.3
GHS 2-1/2 NP 3-B ● GHS 2-1/2 NP 4-B ■ ②									167 [75,7]	5.3

STANDARD MODELS CONT.

NOTE: RECOMMENDED PORT SIZES ARE SHOWN IN **BOLDFACE**. EXAMPLE: GHS 2JG 3-B

- ① MAXIMUM SPEED FOR AMMONIA MODELS.
- ② PUMP LIMITED TO 200 PSI MAXIMUM PRESSURE.
- ③ FOR 200-300 PSI OPERATION, HOUSING BUSHING IS RECOMMENDED. CONSULT BUSHING LIMITATION TABLE AND CHEMICAL COMPATIBILITY CHART FOR PROPER APPLICATION.

- MECHANICAL SEAL
- LIPSEAL/PACKING

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Standard Models (Continued)

MODEL NUMBER	NOM. CAPACITY - SPEED				MAXIMUM				SHIPPING DATA	
	MAXIMUM		ALTERNATIVE		DIFFERENTIAL PRESSURE - PSI [BAR]			TEMP.	Weight	Volume
	GPM [LPM]	RPM 60 Hz [50 HZ]	GPM [LPM]	RPM ^① 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]		
GHS 2 RM 3-B ● GHS 2 RM 4-B ■	172 [542]	720 [600]	115 [362]	480 [400]	100 [7]	150 [10]	300 [20.7]	● 400 [204]	301	10.7
GHS 2-1/2 RM 3-B ● † GHS 2-1/2 RM 4-B ■ †									[136]	10.7
GHS 3 RM 3-B ● † GHS 3 RM 4-B ■ †									[136]	10.7
GHS 4 RM 3-B ● † GHS 4 RM 4-B ■ †									[136]	10.7
GHS 2-1/2 RP 3-B ● † GHS 2-1/2 RP 4-B ■ †	215 [678]	720 [600]	143 [451]	480 [400]	100 [7]	150 [10]	300 [20.7]	● 400 [204]	301	10.7
GHS 3 RP 3-B ● † GHS 3 RP 4-B ■ †									[136]	10.7
GHS 4 RP 3-B ● † GHS 4 RP 4-B ■ †									[136]	10.7
GHS 2-1/2 RR 3-B ● † GHS 2-1/2 RR 4-B ■ †									[136]	10.7
GHS 3 RR 3-B ● † GHS 3 RR 4-B ■ †	255 [804]	720 [600]	170 [536]	480 [400]	100 [7]	150 [10]	300 [20.7]	● 400 [204]	301	10.7
GHS 4 RR 3-B ● † GHS 4 RR 4-B ■ †									[136]	10.7
GHS 3 RS 3-B ● † GHS 3 RS 4-B ■ †									[136]	10.7
GHS 4 RS 3-B ● † GHS 4 RS 4-B ■ †									[136]	10.7
GHS 3 RS 3-B ● † GHS 3 RS 4-B ■ †	295 [930]	720 [600]	196 [618]	480 [400]	100 [7]	150 [10]	300 [20.7]	● 400 [204]	301	10.7
GHS 4 RS 3-B ● † GHS 4 RS 4-B ■ †									[136]	10.7

- ① MAXIMUM SPEED FOR AMMONIA MODELS.
- ② PUMP LIMITED TO 200 PSI MAXIMUM PRESSURE

- MECHANICAL SEAL
- LIPSEAL/PACKING
- † PORTS ARE COMPATIBLE WITH 125# ANSI CAST IRON FLANGES. ALL OTHER PORTS ARE TAPPED NPT FOR ANSI PIPE. OPTIONAL [DIN] FLANGES OR TAPPED [BSP] PORTS AVAILABLE FOR EXPORT MARKET.

BUSHING LIMITATIONS:				
Bushing Option	Optimal Viscosity Range	Temp Limit, °F[C]	Abrasives	Corrosives
STD, 40B, 40G, 40J, 70B,	100 To 100,000 SSU	400 [205]	No	No
40C, 40F, 40K, 40N 70A, 70D, 70E, 70G	0.1 cPs to 2,000,000 SSU	400 [205]	No	Yes**
40M, 40W 70F, 70J, 70K	0.1 cPs to 2,000,000 SSU	675 [360]	No	Yes**
40U, 41U 70M, 71M	0.1 cPs to 2,000,000 SSU	400 [205]	Yes *	Yes**
41W 71K	0.1 cPs to 2,000,000 SSU	675 [360]	Yes *	Yes **

Note: * Optional tungsten carbide pin is available
 ** Consult chemical compatibility charts for new applications.

SEAL LIMITATIONS:				
● MECHANICAL SEAL OPTIONS	MAXIMUM INLET PRESSURE (PSI [BAR])		MAXIMUM VISCOSITY (SSU [cSt])	TEMPERATURE RANGE (° F [° C])
	NON-LUBRICATING LIQUID	LUBRICATING LIQUID		
STD,60S	100 [7]	150 [10.5]	15,000 [3250]	0 to 400 [-17 to 204]
61J	100 [7]	200 [14]	15,000 [3250]	0 to 400 [-17 to 204]
60A	100 [7]	150 [10.5]	15,000 [3250]	-50 to 225 [-45 to 107]
60B	100 [7]	150 [10.5]	15,000 [3250]	-50 to 210 [-46 to 99]
60D, 60N, 61A	200 [14]	350 [24]	25,000 [5417]	-75 to 500 [-60 to 260]
60P, 61B, 61C, 61D, 61L	200 [14]	300 [21]	25,000 [5417]	-20 to 400 [-29 to 204]
60J	100 [7]	100 [7]	50,000 [11,000]	0 to 400 [-17 to 204]
60K	100 [7]	150 [10.5]	50,000 [11,000]	-50 to 210 [-46 to 99]
60M	150 [11]	200 [14]	15,000 [3250]	0 to 400 [-17 to 204]
60Q	400 [30]	600 [40]	15,000 [3250]	0 to 400 [-17 to 204]
61H	200 [14]	300 [21]	25,000 [5417]	-350 to 750 [-212 to 400]
■ LIPSEAL/PACKING OPTIONS	MAXIMUM INLET PRESSURE (PSI [BAR])		MAXIMUM VISCOSITY (SSU [cSt])	TEMPERATURE RANGE (° F [° C])
65E	300 [20]		2,000,000 [440,000]	-90 to 400 [-68 to 204]
STD	400 [28]		2,000,000 [440,000]	-50 to 500 [-45 to 260]
65Q	200 [14]		2,000,000 [440,000]	-50 to 650 [-45 to 344]
65S	400 [28]		2,000,000 [440,000]	-50 to 500 [-45 to 260]

NOTE: PROPER PUMP APPLICATION REQUIRES CONSIDERATION OF ADDITIONAL FACTORS. PLEASE REVIEW CHALLENGING APPLICATIONS IN SECTION 500 AND THE LIQUIDS LIST IN THE ROTARY GEAR REFERENCE GUIDE.

APPLICATION RECOMMENDATIONS:		
APPLICATION	OPTIONS REQUIRED (Select One From Each Row)	OPERATING LIMITATIONS
HIGH TEMPERATURE	25U, 25V, OR 25W 35E – 35M (AS REQ'D) 40R 61A, 61B, 61C, 61D OR 65 70J OR 70K	TEMPERATURE: 500° F MAX. PRESSURE: 200 PSI MAX.
HIGH TEMPERATURE	25U, 25V, OR 25W 35N – 35S (AS REQ'D) 40M 61H, OR 65Q 70J	TEMPERATURE: 675° F MAX. PRESSURE: 200 PSI MAX.
AMMONIA	25G OR 25H 40N 60K 70E 90A	PRESSURE: 200 PSI MAX. 2/3 RATED SPEED 4 FEET NPSHr
LP GAS	25G OR 25H 40F OR 40N 70D OR 70E	PRESSURE: 200 PSI MAX. 3 FEET NPSHr
ASPHALT	25U, 25V OR 25W 35E–35S (AS REQ'D) 41R, 41W 65S 71K	TEMPERATURE: 500° F MAX.
JACKETED	40G, 40J, 40K, 40W, 41U, 41W 60, 61A, 61B, 61C, 61D, 61H 65, 65E, 65Q, 65S 70B, 70G, 70J, 70K, 71K, 71M	LIMIT JACKET PRESSURE TO 150 PSIG

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION		
ROTATION	C.W. (VIEWED FROM SHAFT END)	01A	C.C.W.	
		01B	BI-ROTATION ① ②	
HOUSING PORTS	90°		HYDRAULIC SIZE	PORT
	90°	05U	DC, DE	1" NPT - 180°
			GC, GF, GH, GJ	1-1/2" NPT - 180° 2" NPT - 180°
			JG, JJ, JL, JP	2" NPT - 180° 2-1/2" NPT - 180° 3" NPT - 180°
		05V	RM, RP, RR	2-1/2" NPT - 90°
			RM, RP, RR, RS	3" NPT - 90°
		05W	DC, DE	1" 90° - 125# FLANGED
			GC, GF, GH, GJ	1-1/2" 90° - 125# FLANGED 2" 90° - 125# FLANGED
			JG, JJ, JL, JP NK, NM, NP	3" 90° - 125# FLANGED
		05X	DC, DE	1" 90° - 250# FLANGED
			GC, GF, GH, GJ	1-1/2" 90° - 250# FLANGED
			JG, JJ, JL, JP	3" 90° - 250# FLANGED
			NK, NM, NP	2" 90° - 125# FLANGED
				2-1/2" 90° - 125# FLANGED
				3" 90° - 125# FLANGED
			RM, RP, RR	2-1/2" 90° - 250#
			RM, RP, RR, RS	3" 90° - 250#
		RM, RP, RR, RS	4" 90° - 250#	
		05Y	NK, NM, NP	3" 90° - 125# FLANGED K/KK INTERCHANGE
		06D	DC, DE	1" 180° - 125# FLANGED
			GC, GF, GH, GJ	1-1/2" 180° - 125# FLANGED
			JG, JJ, JL, JP	3" 180° - 125# FLANGED
		06E	DC, DE	1" 180° - 250# FLANGED
			GC, GF, GH, GJ	1-1/2" 180° - 250# FLANGED
			JG, JJ, JL, JP	3" 180° - 250# FLANGED

OPTIONS CONTINUED

CONSULT FACTORY FOR ADDITIONAL OPTIONS

HOUSING PORTS CONTINUED

① MUST HAVE SELECTED 180° OPTION FROM CATEGORY 05 (HOUSING PORTS) TO SELECT FROM THIS COLUMN.

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION		
HOUSING PORTS	90°		HYDRAULIC SIZE	PORT
		07P	JG, JJ, JL, JP NK, NM, NP	3" - 11 BSP 90°
		07R	JG, JJ, JL, JP	3" - 11 BSP 180°
		07S	GC, GF, GH, GJ	50 mm 25 BAR DIN FLG - 90°
			JG, JJ, JL, JP	80mm 25 BAR DIN FLG - 90°
			NK, NM, NP	
			RM, RP, RR, RS	
		07T	GC, GF, GH, GJ	50 mm 25 BAR DIN FLG - 90°
			JG, JJ, JL, JP	80mm 25 BAR DIN FLG - 180°
		07U	RM, RP, RR, RS	100mm 25 BAR DIN FLG - 90°
HOUSING PORT CLOCK POSITION	90° (3 SUCTION -12 DISCHARGE) (VIEWED FROM SHAFT END)	90° (3-12)	15A 12 - 9	① 180° (3-9)
OPTIONS CONTINUED				

CONSULT FACTORY FOR ADDITIONAL OPTIONS

① MUST HAVE SELECTED 180° OPTION FROM CATEGORY 05 (HOUSING PORTS) TO SELECT FROM THIS COLUMN.

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION	
RELIEF VALVE	LOW PRESSURE RELIEF VALVE DUCTILE IRON/VITON 90° HEAD MOUNT 180° HOUSING MOUNT	25A	HIGH PRESSURE
		25C	LESS RELIEF VALVE
		25D	2 VALVES - LOW PRESSURE ①
		25E	2 VALVES - HIGH PRESSURE ①
	FOR CRACKING PRESSURE RANGES REFER TO SECTION 500, PG 18 ②	25G	RETURN TO TANK - LOW PRESSURE, NEOPRENE O-RING
		25H	RETURN TO TANK - HIGH PRESSURE, NEOPRENE O-RING
		25J	LOW PRESSURE, TEFLON ENCAPSULATED O-RING
		25K	HIGH PRESSURE, TEFLON ENCAPSULATED O-RING
		25L	LESS RELIEF VALVE, TEFLON ENCAPSULATED O-RING
		25R	LESS RELIEF VALVE, NEOPRENE O-RING
		25S	LOW PRESSURE, NEOPRENE O-RING
		25T	HIGH PRESSURE, NEOPRENE O-RING
		25U	HIGH TEMPERATURE (401° -675° F) - LO PRESSURE, GASKET ③
		25V	HIGH TEMPERATURE (401° -675° F) - HI PRESSURE, GASKET ③
		25W	HIGH TEMPERATURE (401° -675° F) - LESS RELIEF VALVE ③
GEAR TRIM	NO TRIM	35B	B TRIM (VISCOSITY)
		35C	C TRIM (VISCOSITY)
		35D	D TRIM (VISCOSITY)
		35E	T1A TRIM (TEMP.)
		35F	T1B TRIM (TEMP./VISCOSITY)
		35G	T1C TRIM (TEMP./VISCOSITY)
		35H	T1D TRIM (TEMP./VISCOSITY)
		35J	T2A TRIM (TEMP.)
		35K	T2B TRIM (TEMP./VISCOSITY)
		35L	T2C TRIM (TEMP./VISCOSITY)
		35M	T2D TRIM (TEMP./VISCOSITY)
		35N	T3A TRIM (TEMP.)
		35P	T3B TRIM (TEMP./VISCOSITY)
		35R	T3C TRIM (TEMP./VISCOSITY)
		35S	T3D TRIM (TEMP./VISCOSITY)
		35X	CUSTOM TRIM
		FOR VISCOSITY/TEMPERATURE TRIM CHART REFER TO SECTION 500, PAGE 20. (TRIM ACCORDING TO TEMPERATURE AND VISCOSITY; CONTACT DISTRIBUTOR OR FACTORY)	
OPTIONS CONTINUED			

CONSULT FACTORY FOR ADDITIONAL OPTIONS

- ① 180° PORT HOUSINGS REQUIRED. MUST SELECT BI-ROTATION OPTION 01B.
 ② CONSULT FACTORY FOR 200-400 PSI APPLICATIONS FOR IN-LINE RELIEF VALVES.
 ③ NOT AVAILABLE IN "D" HYDRAULIC SIZE.

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Options (Continued)

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION		
HEAD IDLER IDLER BUSHING	CAST IRON HIGH STRENGTH IRON BRONZE	40B	BRONZE IDLER GEAR	
		40C	CARBON GRAPHITE IDLER BUSHING	
		40F	VITON O-RING HEAD, CARBON GRAPHITE IDLER BUSHING	
	<i>Consult factory for optional idler pins</i>		40G	HEAD JACKET ③ ④
			40J	HEAD JACKET, BRONZE IDLER GEAR ③ ④
			40K	HEAD JACKET, CARBON GRAPHITE IDLER BUSHING ③ ④
			40M	HIGH TEMP CG, HEAT RESISTANT IDLER PIN ②
			40N	NEOPRENE O-RING HEAD, CARBON GRAPHITE IDLER BSHG ②
			40U	SILICON CARBIDE IDLER BUSHING
			40W	HEAD JACKET, HIGH TEMP CARBON GRAPHITE IDLER BUSHING, HEAT RESISTANT IDLER PIN ② ③
			41R	HEAT RESISTANT IDLE PIN, HIGH TEMP SiC IDLER BUSHING ②
			41W	HEAD JACKET, HIGH TEMP SiC IDLER BUSHING, HEAT RESISTANT IDLER PIN ② ③
			41U	HEAD JACKET, SILICON CARBIDE IDLER BUSHING
	ROTOR / SHAFT	HIGH STRENGTH IRON / STEEL	50B	BRONZE/STEEL ①
50R			LS INTERCHANGE	

OPTIONS
CONTINUED

CONSULT FACTORY FOR ADDITIONAL OPTIONS

① MAX. VISCOSITY 15,000 SSU. MAX DIFFERENTIAL 100 PSI.

② NOT AVAILABLE IN "D" HYDRAULIC SIZE.

③ LIMIT JACKET PRESSURE TO 150 PSIG.

④ NOT AVAILABLE WITH D 180° PORT HOUSING AND 2 3/4" CENTERLINE FOOT BRACKET COMBINATION.

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION	
SEAL	MECH. SEAL FRICTION DRIVE - CARBON, CERAMIC, VITON	60A	FRICTION DRIVE - CARBON CERAMIC, BUNA-N
		60B	FRICTION DRIVE - CARBON, CERAMIC, NEOPRENE ①
		60D	POSITIVE DRIVE-CARBON, SiC, TEFLON ①
		60J	DOUBLE FRICTION DRIVE - CARBON, CERAMIC, VITON ③
		60K	AMMONIA DBL FRICTION DRIVE-CARBON, CERAMIC, NEOPRENE ①②
		60M	G-R CARTRIDGE FRICTION DRIVE - CARBON, NI-RESIST, VITON WITH FLUSH
		60N	G-R CARTRIDGE POSITIVE DRIVE - CARBON, SiC, TEFLON WITH FLUSH
		60P	G-R CARTRIDGE METAL BELLOWS - CARBON, SiC, TEFLON ENCAPSULATED WITH FLUSH
		60Q	TYPE 1B BALANCED SEAL - CARBON, NI-RESIST, VITON
		60R	TYPE 1B BALANCED SEAL - CARBON, NI-RESIST, NEOPRENE
		60S	TANDEM FRICTION DRIVE CRTRDGE-CARB., CERAMIC, VITON ③
		61A	MODULAR - POSITIVE DRIVE - CBN, SiC, TEFLON ①
		61B	MODULAR - METAL BELLOWS - CBN, SiC, TEF ENCAPSULATED ①
		61C	MODULAR - METAL BELLOWS - SiC, SiC, TEF ENCAPSULATED ①
		61D	MODULAR - METAL BELLOWS - SiC, SiC, KALREZ ①
		61H	HIGH TEMP - POSITIVE DRIVE (CRANE FOIL) - CARBON, SiC ①
		61J	FRICTION DRIVE - SiC, SiC, VITON
	61L	G-R CART METAL BELLOWS - SiC, SiC, TEF ENCAPSULATED WITH FLUSH	
SEAL	PACKING TEFLON/GRAPHITE	65E	CARTRIDGE TRIPLE LIPSEAL - TEFLON
		65Q	PACKING - HIGH TEMP GRAFOIL
		65S	PACKING - MINIMUM LEAK

OPTIONS
CONTINUED

CONSULT FACTORY FOR ADDITIONAL OPTIONS

- ① NOT AVAILABLE IN "D" HYDRAULIC SERIES.
 ② AMMONIA: OPTION 90A REQUIRED.
 ③ DUAL SEAL: RESERVOIR KIT RECOMMENDED

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CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION	
BACKHEAD/BUSHING	CAST IRON / BRONZE	70A	CARBON GRAPHITE SHAFT BUSHING
		70B	BACKHEAD JACKET ② ④
		70D	VITON O-RING BACKHEAD, CARB GRAPHITE SHAFT BUSHING
		70E	NEOPRENE O-RING BACKHEAD, CARBON GRAPHITE SHAFT BUSHING ②
		70F	HIGH TEMPERATURE CARBON GRAPHITE SHAFT BUSHING ②
		70G	BACKHEAD JACKET, CG SHAFT BUSHING ② ④
		70J	BACKHEAD JACKET, SEAL QUENCH, HIGH TEMP CG SHAFT BUSHING ② ④
		70K	BACKHEAD JACKET, HIGH TEMP CG SHAFT BUSHING. ② ④
		70M	SILICON CARBIDE SHAFT BUSHING
		71K	BACKHEAD JACKET, HIGH TEMP SiC SHAFT BUSHING ②
		71M	BACKHEAD JACKET, SiC SHAFT BUSHING

MOUNTING FOOT	SEE TABLE	PUMP CENTER HEIGHT	HYDRAULIC SIZE				
	MOTOR FRAME REF.		D	G	J	N	R
	① G INTERCHANGE	80A 2.75"	OPT.	---	---	---	---
	56, 143T, 145T	80C 3.50"	STD.	STD.	---	---	---
	① H, HL INTERCHANGE	80D 3.50"	---	OPT.	---	---	---
	182, 182T, 184, 184T	80F 4.50"	OPT.	OPT.	OPT.③	OPT.	---
	① AK, AL INTERCHANGE	80G 5.25"	---	---	OPT.	---	---
	213, 213T, 215, 215T	80J 5.25"	OPT.	OPT.	STD.	STD.	---
	① K, KK INTERCHANGE	80L 5.50"	---	---	---	OPT.	---
	254T, 254U, 256T, 256U	80P 6.25"	---	OPT.	OPT.	OPT.	---
	284T, 284U, 286T, 286U	80S 7.00"	---	---	OPT.	OPT.	STD.
	① LS INTERCHANGE	80T 7.00"	---	---	---	---	OPT.
	① L,LQ,LL,3B INTERCHANGE	80U 7.00"	---	---	---	---	OPT.
	324T, 324U, 326T, 326U	80V 8.00"	---	---	OPT.	OPT.	---

OPTIONS CONTINUED

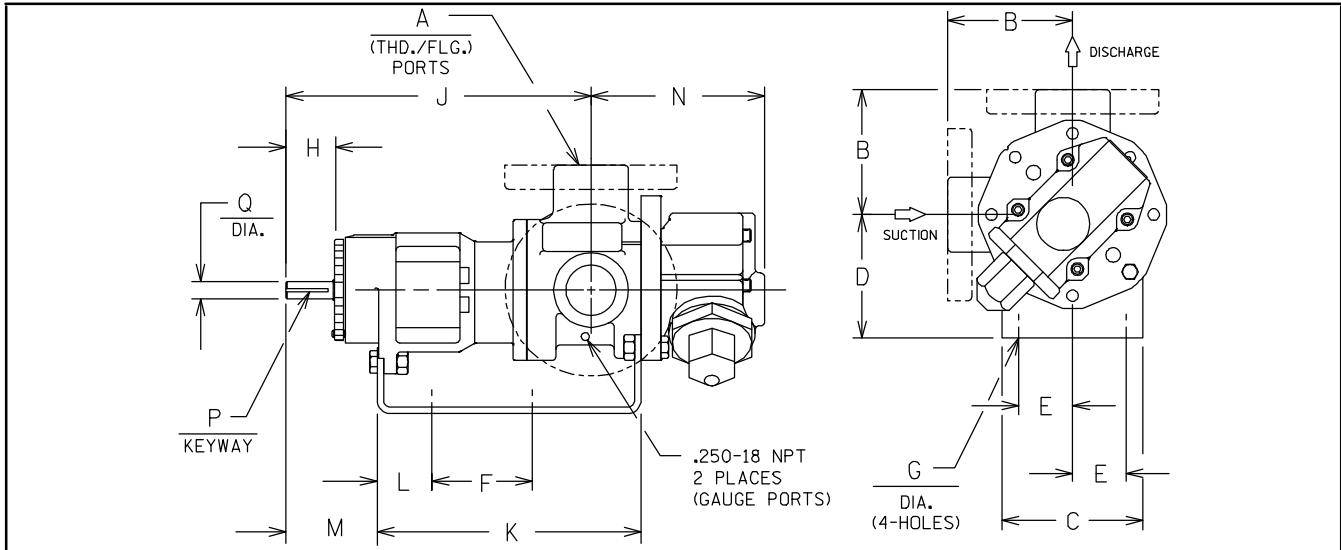
CONSULT FACTORY FOR ADDITIONAL OPTIONS

- ① FOR COMPETITOR PUMP INTERCHANGE DATA SEE SECTION I (MODEL INTERCHANGEABILITY CHART) IN THE ROTARY GEAR REFERENCE GUIDE.
- ② NOT AVAILABLE IN "D" HYDRAULIC SERIES.
- ③ WHEN USED WITH 90° HOUSING, THE RELIEF VALVE EXTENDS BELOW FOOT BRACKET; THEREFORE, SELECT LESS RELIEF VALVE OPTION OR 180° HOUSING.
- ④ LIMIT JACKET PRESSURE TO 150 PSIG.

CATEGORY	STANDARD	OPTIONAL NUMBER & DESCRIPTION						
MOUNTING FOOT	SEE TABLE	PUMP CENTER HEIGHT		HYDRAULIC SIZE				
	MOTOR FRAME REF.			D	G	J	N	R
	D80	82A	80mm	OPT.	OPT.	---	---	---
	D90	82B	90mm	OPT.	OPT.	---	---	---
	D100	82C	100mm	OPT.	OPT.	---	---	---
	D112	82D	112mm	OPT.	OPT.	OPT.	OPT.	---
	D132	82E	132mm	OPT.	OPT.	OPT.	OPT.	---
	D160	82F	160mm	---	OPT.	OPT.	OPT.	---
	D180	82G	180mm	---	---	OPT.	OPT.	---
	D200	82H	200mm	---	---	OPT.	OPT.	---
BACKHEAD ACCESSORIES	---	90A	RESERVOIR KIT - AMMONIA, PMP DISCH. PRESSURE SYSTEM ①					
		90B	RESERVOIR KIT - TANDEM, NON PRESSURIZED SYSTEM					
		90C	RESERVOIR KIT - DOUBLE, EXTERNALLY PRESSURIZED SYSTEM					
		90D	RESERVOIR KIT - TRIPLE TEFLON LIPSEAL ①					

CONSULT FACTORY FOR ADDITIONAL OPTIONS

① NOT AVAILABLE IN "D" HYDRAULIC SERIES.



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 *	4.00	3.50 *	1.62	5.50	.41	1.16	8.43	7.54	1.09	2.29	4.98	.12 x .75	.50
		[64]		[89]											
		2.75 †		[114]											
		3.19 †		[133]											
GHS G GHA G	1-1/2"	3.50 *	4.88	3.50 *	1.62	8.00	.41	1.62	12.06	10.72	1.52	3.35	5.70	.19 X 1.27	.75
		[89]		[89]											
	3.75 †	[114]													
	4.00 †	[133]													
GHS J GHA J	2"	4.50 *	6.88	4.50 *	2.88	10.00	.44	2.50	15.68	14.42	2.77	4.48	8.50	.25 X 2.00	1.00
		[114]		[114]											
	5.00 †	[133]													
	6.00 †	[159]													
GHS N GHA N	1-1/2"	4.50 *	8.00	4.50 *	2.88	10.00	.44	2.58	17.45	15.14	2.69	4.56	8.72*	.25 X 2.00	1.12
		[114]		[114]											
	5.12 *	[133]													
	5.25 †	[159]													
GHS R GHA R	2"	6.50	10.50	7.00	3.75	13.75	.52	2.25	17.87	17.30	1.80	4.70	11.31	.38 X 1.88	1.44
		[165]		[178]											
	7.19 †	[349]													
	7.19 †	[183]													

† 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.

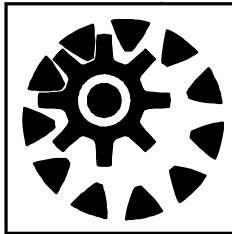
* STANDARD DIMENSION † 180° HOUSING

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ROTARY GEAR PUMPS

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PERFORMANCE CURVES

Speed vs. Capacity/Horsepower

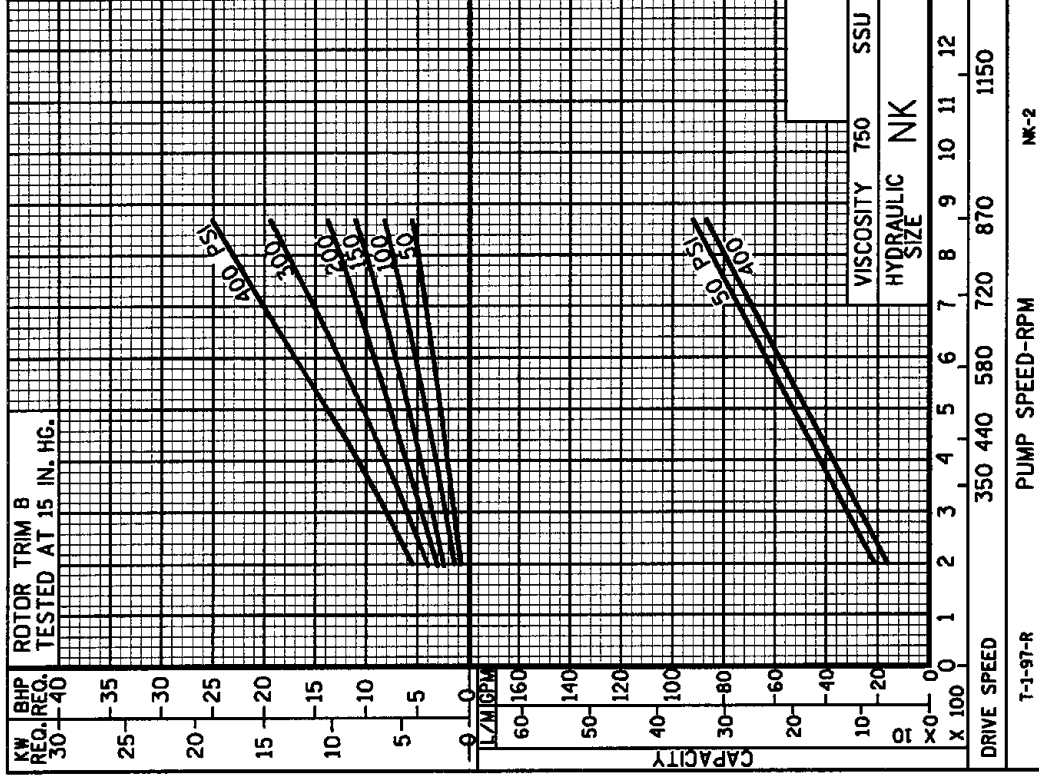
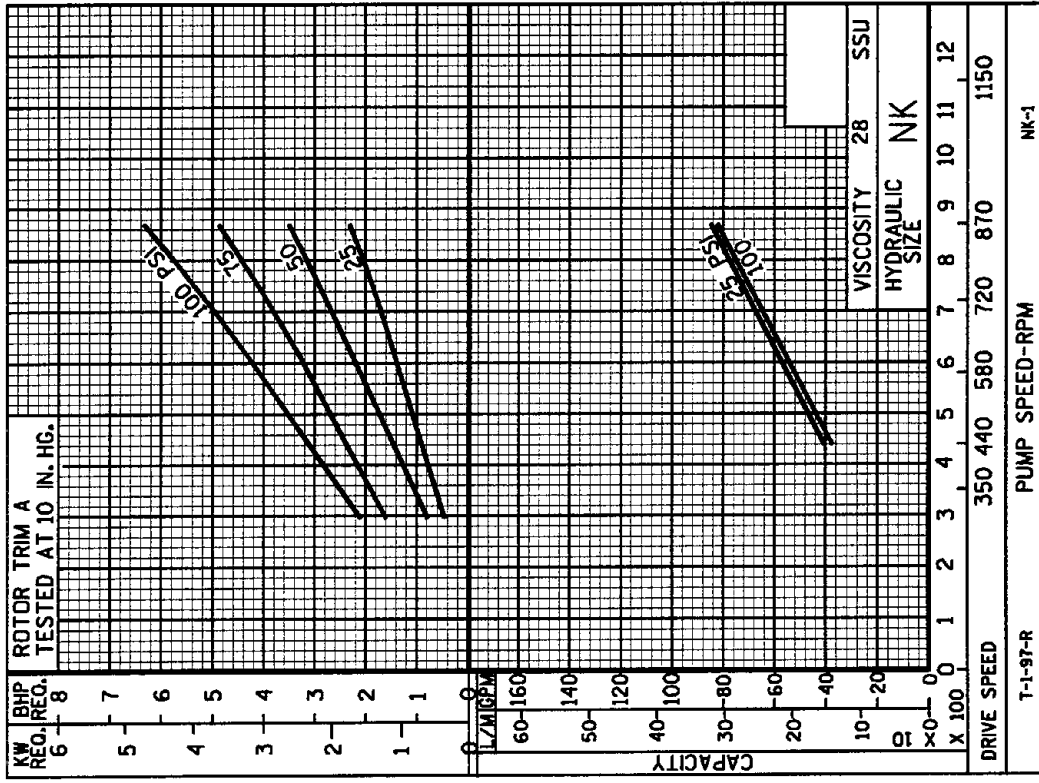
NK

SEC. 500

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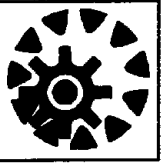
Hydraulic
Size



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PERFORMANCE CURVES

SPEED VS. CAPACITY/HORSEPOWER

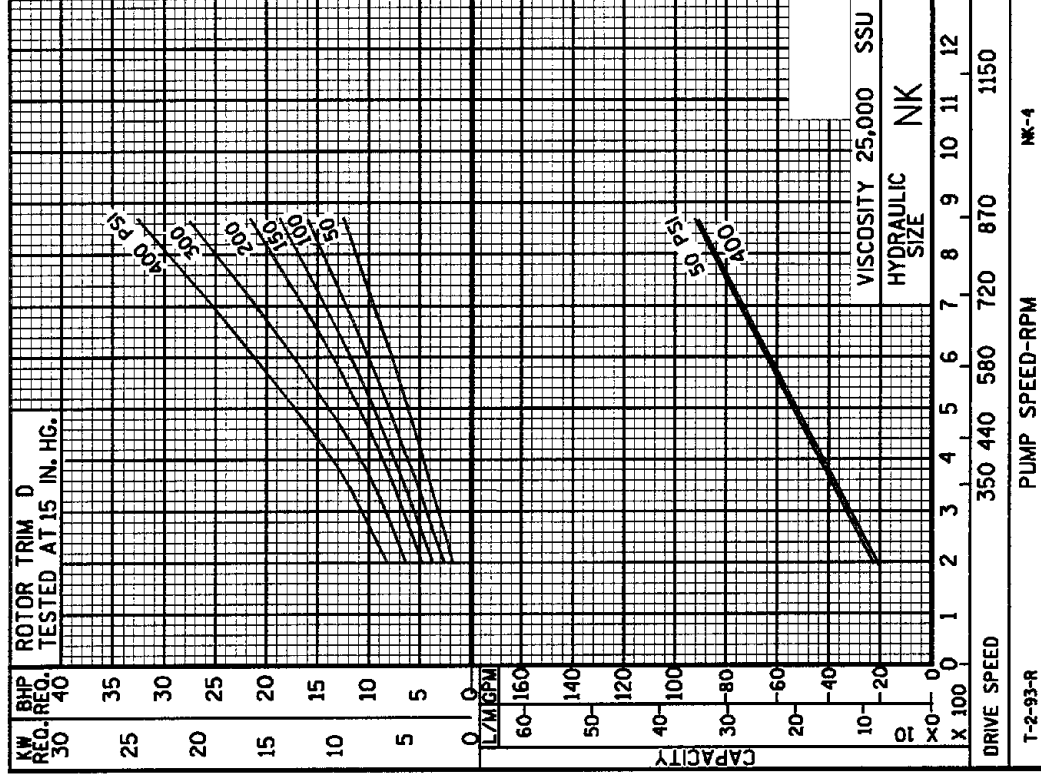
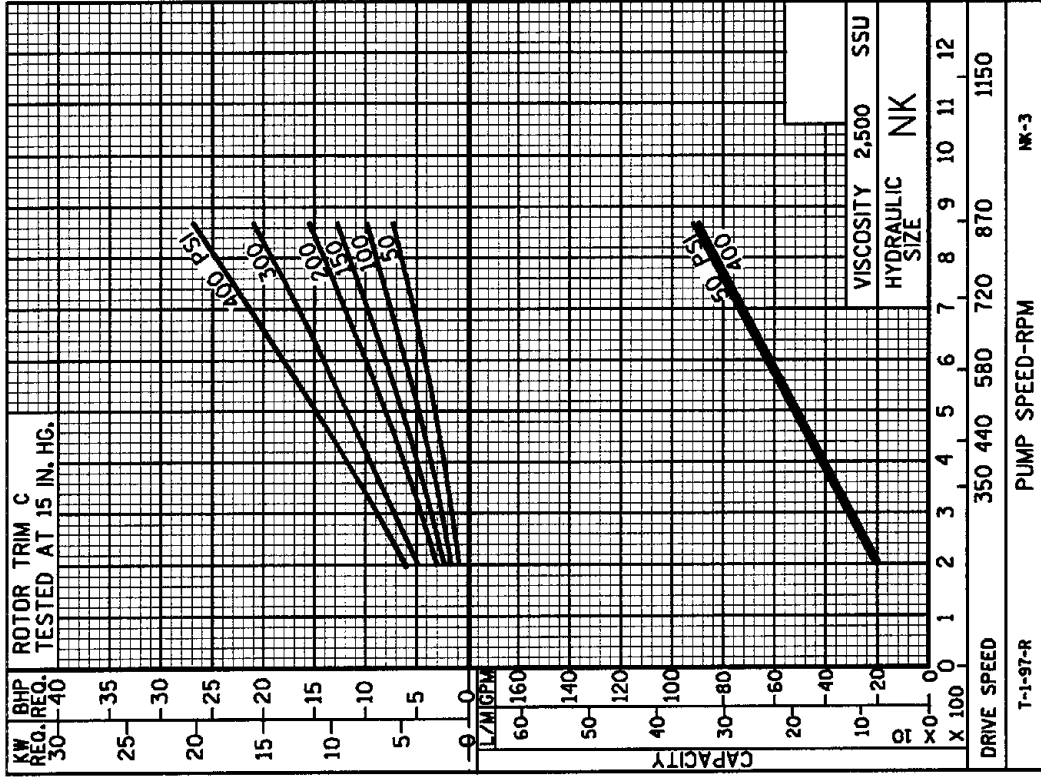
NK

Hydraulic
Size

SEC. 500

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PUMP HYDRAULIC SIZE CHART

SEC. 500

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**36 GPM
350 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)											
					2"	2 1/2"	3"	4"	5"	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							
36	350	STD	28	1.1	.01	.01	.01	.01	.01	54	80	106			32.0	31.0	31.0	30.0								
			32		.01	.01	.01	.01	.01						.73	1.3	1.9	2.5								
			38	1.1	.02	.01	.01	.01	.01	54	80	106	156			34.0	33.0	32.0	31.0	29.0						
			50		.02	.01	.01	.01	.01							.74	1.4	2.0	2.5	3.8						
			70	1.1	.02	.01	.01	.01	.01	55	81	108	157	208			35.0	34.0	33.0	32.0	31.0	28.0				
			100		.02	.01	.01	.01	.01								.77	1.5	2.1	2.6	3.8	4.8				
			150	1.1	.02	.01	.01	.01	.01	55	81	108	157	208			36.0	36.0	35.0	34.0	33.0	32.0	30.0	27.0		
			200		.03	.01	.01	.01	.01								.80	1.6	2.2	2.7	3.9	4.9	7.2	10		
			300	1.1	.04	.02	.01	.01	.01	56	82	110	159	210			37.0	36.0	36.0	35.0	34.0	33.0	32.0	31.0		
			500		.06	.03	.01	.01	.01								.87	1.8	2.3	2.9	4.0	5.1	7.3	9.6		
				"B"	750	1.1	.09	.05	.02	.01	.01	56	82	110	159	210			37.0	37.0	36.0	36.0	35.0	35.0	34.0	33.0
					1,000		.12	.06	.03	.01	.01								1.1	2.0	2.6	3.2	4.5	5.7	8.1	10
				"C"	2,000	1.4	.23	.12	.05	.02	.01	58	84	112	162	212			37.0	37.0	37.0	37.0	36.0	36.0	35.0	35.0
					3,500		.41	.20	.09	.03	.01								1.5	2.3	2.9	3.5	4.6	5.8	8.2	11
				"C"	5,000	1.6	.58	.29	.12	.04	.02	58	84	112	164	214			37.0	37.0	37.0	37.0	36.0	36.0	36.0	35.0
					7,500		.87	.43	.18	.06	.03								1.9	2.8	3.3	3.9	5.1	6.2	8.7	11
				"D"	10,000	1.9	1.16	.57	.24	.08	.04	60	86	114	166	216			37.0	37.0	37.0	37.0	36.0	36.0	36.0	36.0
					15,000		1.74	.86	.36	.12	.05								2.6	3.3	3.9	4.5	5.7	6.8	9.3	11
				"D"	20,000	2.2	2.32	1.14	.49	.16	.07	60	86	114	168	216			37.0	37.0	37.0	37.0	36.0	36.0	36.0	36.0
					25,000		2.90	1.43	.60	.20	.08								3.5	4.0	4.6	5.1	6.4	7.5	9.8	12
		"D"	50,000	3.4	5.80	2.85	1.20	.41	.17	62	88	116	170	218			37.0	37.0	37.0	37.0	36.0	36.0	36.0	36.0		
			75,000		8.70	4.27	1.79	.61	.25								4.9	5.6	6.4	7.1	8.3	9.7	12	14		
		"D"	100,000	5.6	11.6	5.70	2.39	.81	.33	66	92	120	174	222			37.0	37.0	37.0	37.0	36.0	36.0	36.0	36.0		
			150,000		17.4	8.55	3.59	1.21	.49								6.1	7.0	7.9	8.8	10	12	15	16		
		"D"	200,000	8.8	23.2	11.4	4.78	1.61	.65	70	96	125	179	228			37.0	37.0	37.0	37.0	36.0	36.0	36.0	36.0		
			250,000		29.0	14.3	5.97	2.02	.82								7.3	8.3	9.5	11	12	14	16	18		

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