CAST IRON — JACKETED ROTARY POSITIVE DISPLACEMENT PUMPS

260 Series™

Section	1412
Page	1412.1
Issue	A

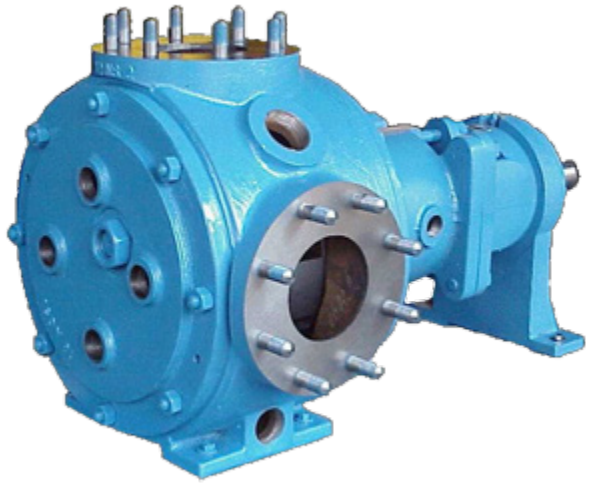
TABLE OF CONTENTS

RELATED PRODUCTS

Cast Iron, Jacketed Pumps: Catalog Section 1402

SERIES DESCRIPTION

- Designed to handle viscous liquid requiring temperature control to maintain a flowing state
- Supplied with standard jacketed casing, and optional jacketed head, jacketed rotor bearing sleeve and jacketed relief valve
- Standard grease lubricated oversized thrust bearing to withstand excessive thrust and radial loads. Bearing is not exposed to pumped liquid.



MODEL NUMBER KEY

Q - 2 6 0

Size:
Q M N

Basic Series Configuration

OPERATING RANGE

SERIES	MAXIMUM CAPACITY		MAXIMUM PRESSURE		MAXIMUM TEMPERATURE		MAXIMUM VISCOSITY	
	USGPM	l/min	PSI	kPa	°F	°C	SSU	cSt
260 Series™	to 490	to 1,855	200	1380	to +650	to +343	to 2,000,000	to 440,000

* Consult factory for viscosities exceeding the stated operating range

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260 Series™

FEATURES & BENEFITS

- **Jacketed Relief Valve:**
  To protect against excessive pressures, a jacketed relief valve can be supplied as an optional feature on all models. Jacketed relief valves can only be supplied with standard non-jacketed heads.
- **Jacketed Casing:**
  Supplied as standard for all models. Casings are furnished in right hand port construction, as standard, left hand position can be supplied as an optional feature. All casings are supplied with tapped connections to accommodate heating or cooling.
- **Drive Arrangements:**
  Pumps can be easily adapted to various v-belt, direct and gear reduction drive arrangements to suit.
- **Self-Priming:**
  The pumps are self-priming in a period of seconds, under normal operating conditions. They possess excellent vacuum developing characteristics.
- **Sealing Method:**
  These pumps are supplied with multi-ring packing to reduce possible leaks to absolute minimum. They can be supplied with special packing for high temperature applications. Mechanical and lip seals are also available as an optional feature.
- **Jacketed Head & Rotor Bearing Sleeve:**
  Available as optional equipment, and are supplied with tapped connections to accommodate heating or cooling lines.

JACKET RATINGS

Jacket Ratings	Max. Temp		Max. Pressure	
	°F	°C	PSI	kPa
Saturated Steam	365	185	150	1034
Hot Oil	650	343	150	1034

STANDARD MATERIALS OF CONSTRUCTION

Component	Standard Material
Casing ①	Iron
Head ②	Iron
Rotor Bearing Sleeve ③	Iron
Rotor	Iron (Q Size) / Ductalloy (M & N Size)
Idler	Iron
Rotor Shaft	Steel
Idler Pin	Steel
Idler & Bracket Bushing ④	Bronze
Shaft Seal ⑤ ⑥	Packed
Integral Relief Valve ⑦	Iron

① Jacketed casing standard on 260 Series™ pumps

② Non-jacketed head with integral relief valve is standard. Jacketed head is available as an option. A combination of jacketed head and non-jacketed or jacketed relief valve is not available.

③ Jacketed rotor bearing sleeve is available as an option.

④ Other bushings available to suit application.

⑤ Standard packing is C-1065 graphite/PTFE.

⑥ Mechanical seals are available. Buna is standard elastomer. FKM and PTFE elastomers are available upon request.

⑦ All iron non-jacketed relief valve is standard on 260 Series™. Jacketed relief valve is available as an option. A combination of jacketed head and non-jacketed or jacketed relief valve is not available.

SPECIFICATIONS

Model Number	Standard Ports	Nominal Pumping Rating at 50 PSI (345 kPa) 100 SSU (21 cSt)			Motor Power Required Based on Rated Speed 100 SSU (21 cSt)				Maximum Hydrostatic Pressure		Maximum Rec. Discharge Pressure		Maximum Recommended Temperature*		Approximate Shipping Weight	
					50 PSI (345 kPa)		100 PSI (690 kPa)									
	Inch	GPM	LPM	RPM	HP	kW	HP	kW	PSI	kPa	PSI	kPa	F	C	LBS	KG
Q-260	4 Flanged	250	946	350	13.30	9.92	23.00	17.16	400	2758	200	1379	450	232	441	200
M-260	5 Flanged	360	1,363	280	17.00	12.68	33.00	24.62	400	2758	200	1379	450	232	675	306
N-260	5 Flanged	490	1,855	280	21.00	15.67	42.00	31.33	400	2758	125	862	450	232	877	398

* For higher temperatures, consult factory for recommendations.

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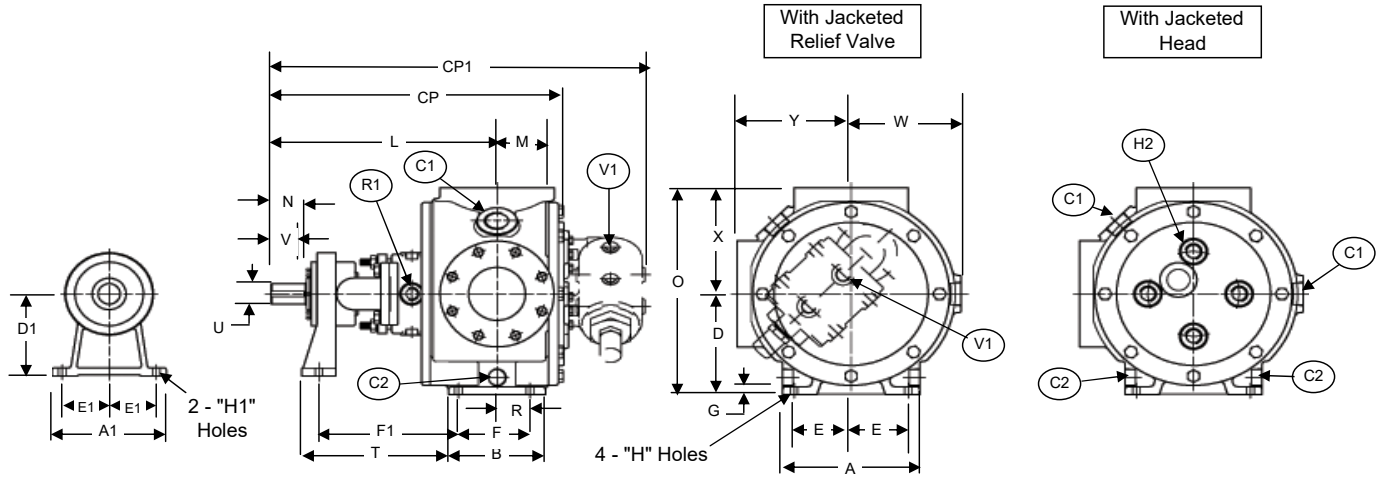
260 Series™

Section	1412
Page	1412.3
Issue	A

DIMENSIONS



These dimensions are average and not for construction purposes. Certified prints on request.

Model Number	Port Size		A	A1	B	CP	CP1	D	D1	E	E1	F	F1	G	H	H1	L	M	N	O
Q-260	4" Flanged	in	10.0	10.0	6.50	26.75	34.44	7.75	7.75	4.12	4.12	4.25	13.75	.62	.66	.66	20.81	3.0	3.0	16.62
		mm	254	254	165	679	874	197	197	105	105	108	349	16	16.6	16.6	528	76	76	422
M-260	5" Flanged	in	12.0	10.0	8.50	26.75	34.69	9.50	9.50	5.0	4.12	6.25	12.25	.75	.66	.66	19.81	4.50	3.0	19.50
		mm	327	254	216	679	881	241	241	127	105	159	311	19	16.6	16.6	503	114	76	495
N-260	5" Flanged	in	12.0	12.0	8.50	37.38	45.38	9.50	9.50	5.0	5.25	6.25	21.50	.75	.66	.69	30.5	4.50	4.0	19.50
		mm	327	327	216	949	1152	241	241	127	133	159	546	19	16.6	17.4	774	114	102	495

Model Number		P	R	T	U	V	W	X	Y	Keyway	No. and Pipe Size of Jacket Connection					Approximate Shipping Weight
											Casing		Head	RV	RBS*	
											C1	C2	H2	V1	R1	
Q-260	in	1.38	1.38	14.31	1.94	2.38	7.75	8.88	8.88	.500 SQ	2 x 1½"	N/A	4 x 1"	6 x 1"	4 x 1"	441 lb
	mm	35	35	363	49	60	197	226	226	13 SQ						200 kg
M-260	in	2.88	2.88	12.88	1.94	2.38	9.62	10.00	10.00	.500 SQ	2 x 2"	2 x 1½"	4 x 1¼"	6 x 1"	4 x 1"	675 lb
	mm	73	73	327	49	60	244	254	254	13 SQ						306 kg
N-260	in	2.88	2.878	22.12	2.44	2.50	9.62	10.00	10.00	.625 SQ	2 x 2"	2 x 1½"	4 x 1¼"	6 x 1"	4 x 1"	877 lb
	mm	73	73	562	62	63	244	254	254	16 SQ						398 kg

Note: A combination of Jacketed Head and Jacketed or Non-Jacketed Relief Valve is not available.

Note: Flanged ports are acceptable for use with 125# ANSI companion flanges and fittings.

* RBS = Rotor Bearing Sleeve.

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260 Series™

PERFORMANCE CURVES

Inlet Conditions

The performance curves show “Based on 10 (or 15) in – Hg.” Which is the standard test condition. This is not the maximum vacuum capability of the pump.

Extra Clearances

Extra clearances are required for higher viscosities as noted on the performance curves to reduce horsepower requirements and provide smooth pump operation. Extra clearances may also be required at elevated temperature.

Mechanical Efficiency

The mechanical efficiency (expressed in percent) can be calculated using the following formula:

Relief Valves

Almost all pumps are equipped with internal relief valves to protect the pumps and systems from over pressure. These valves are not designed to operate as capacity regulating devices. The maximum differential operating pressure should be specified when then pump is ordered to ensure that the spring or springs will be capable of covering the required pressure range. Relief valves should be set at “complete bypass pressure” where the entire capacity of the pump is bypassing through the relief valve. The relationship between “cracking pressure” and “complete bypass pressure” varies depending on the pump and the application. Final setting of the valve should be made when the pump is installed and operating. If the relief valve is used strictly as an overpressure device for unusual circumstances, the motor can be selected based on operating pressures. This assumes proper motor protection has been installed and a delay to reset is acceptable. If frequent full opening of the relief valve is required in the application, the motor should be sized to cover or nearly cover the complete bypass setting.

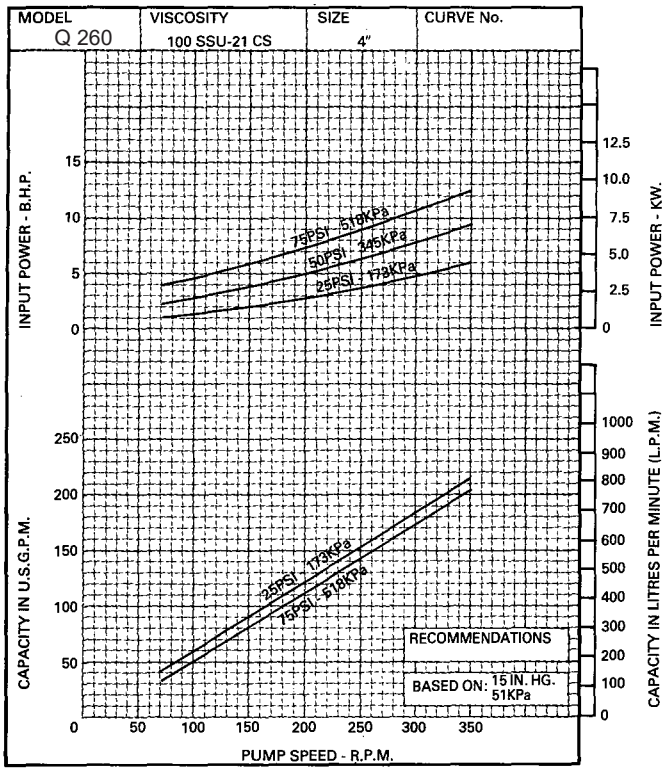
NPSH (Net Positive Suction Head)

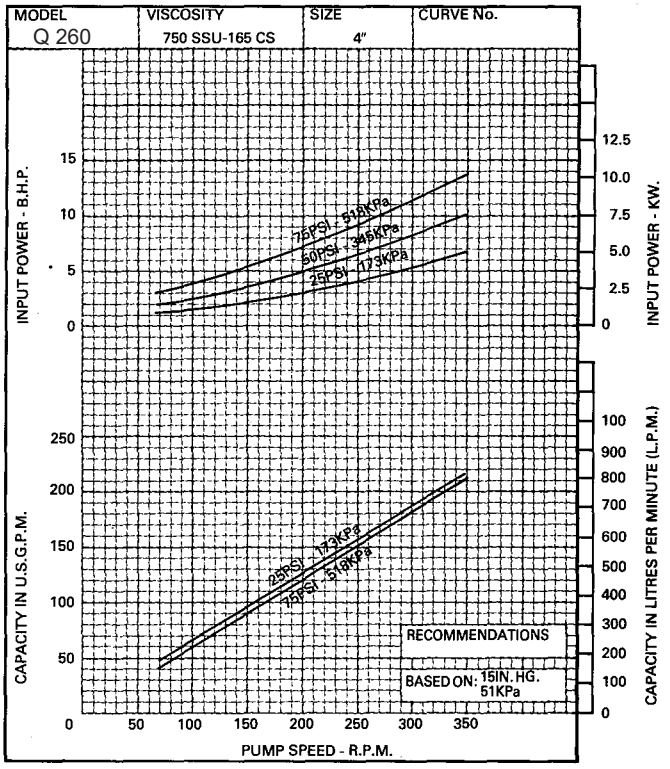
The $NPSH_R$ (Net Positive Suction Head Required by the pump) is given in the table below and applies for viscosities through 750 SSU. $NPSH_A$ (Net Positive Suction Head – Available in the system) must be greater than the $NPSH_R$.

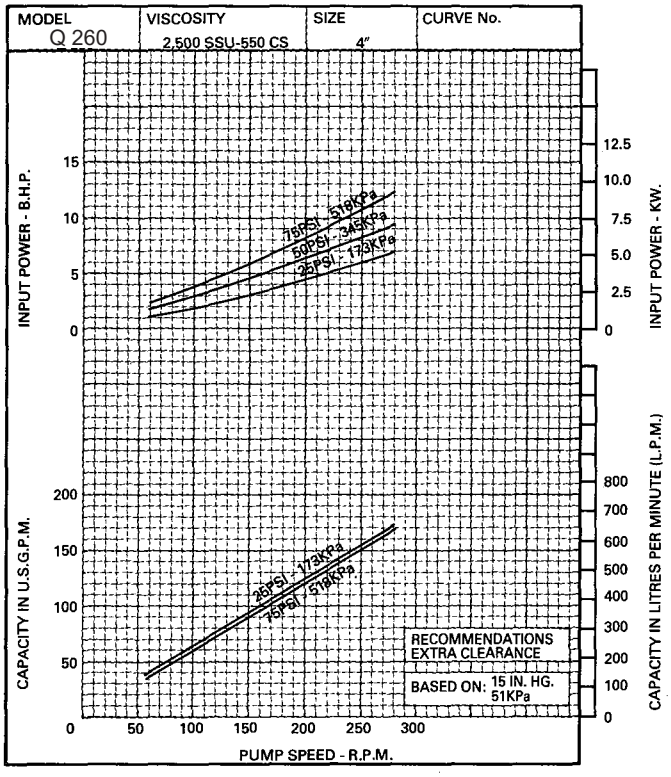
PUMP SIZE	PUMPS SPEED, RPM														
	100	125	155	190	230	280	350	420	520	640	780	950	1150	1450	1750
Q	1.9	2.1	2.3	2.7	3.3	4.2	6.1	8.4	12.7	—	—	—	—	—	—
M	2.1	2.3	2.8	3.4	4.3	6.0	9.0	12.7	—	—	—	—	—	—	—
N	2.1	2.3	2.8	3.4	4.3	6.0	9.0	—	—	—	—	—	—	—	—

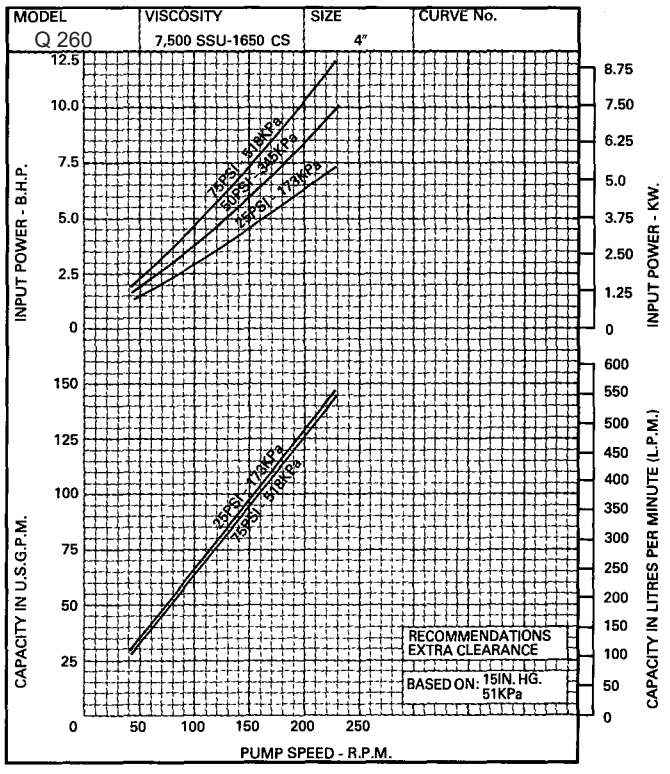
$NPSH_R$ – FEET OF LIQUID (Specific Gravity 1.0), Viscosities up to 750 SSU

Q SIZE


MODEL
Q 260
VISCOSITY
100 SSU-21 CS
SIZE
4"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
BASED ON: 15 IN. HG.
51KPa
PUMP SPEED - R.P.M.


MODEL
Q 260
VISCOSITY
750 SSU-165 CS
SIZE
4"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
BASED ON: 15IN. HG.
51KPa
PUMP SPEED - R.P.M.


MODEL
Q 260
VISCOSITY
2,500 SSU-550 CS
SIZE
4"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
EXTRA CLEARANCE
BASED ON: 15 IN. HG.
51KPa
PUMP SPEED - R.P.M.


MODEL
Q 260
VISCOSITY
7,500 SSU-1650 CS
SIZE
4"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
EXTRA CLEARANCE
BASED ON: 15IN. HG.
51KPa
PUMP SPEED - R.P.M.

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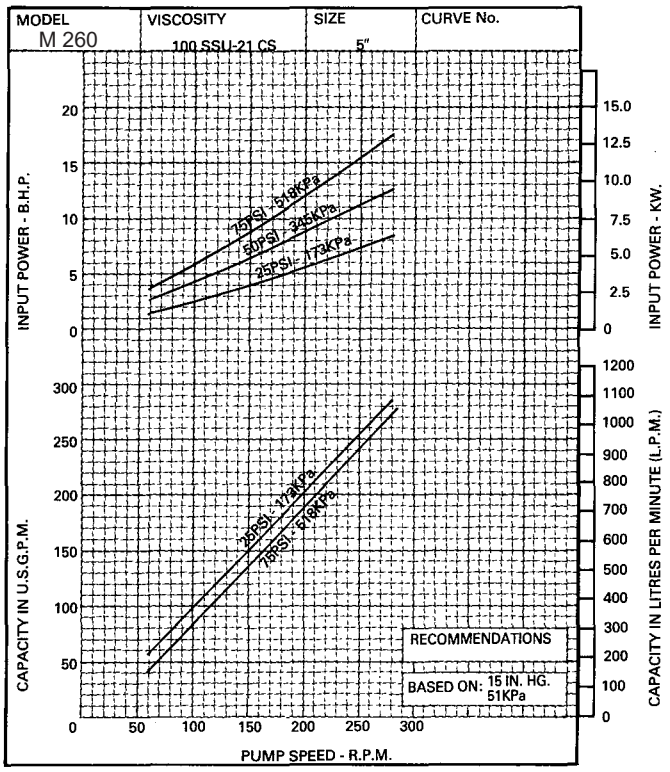
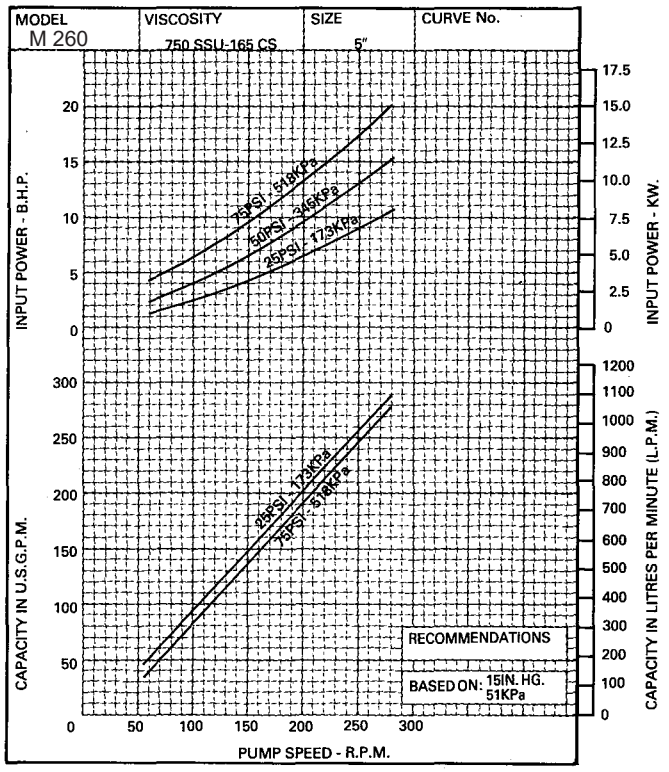
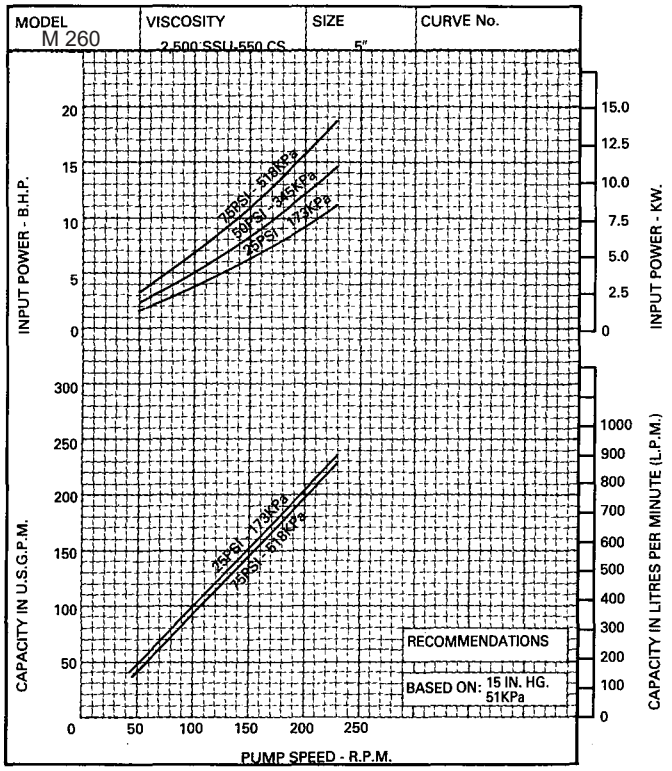
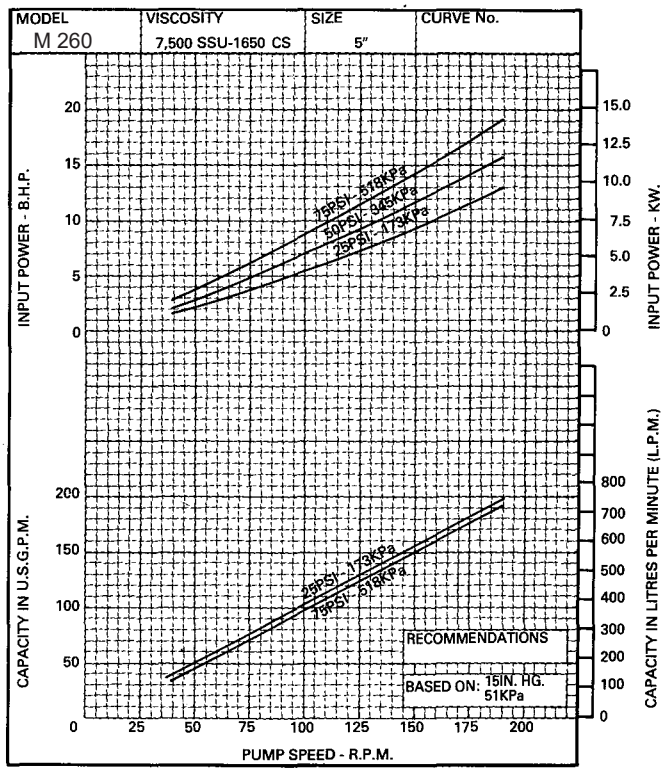
260 Series™

M SIZE

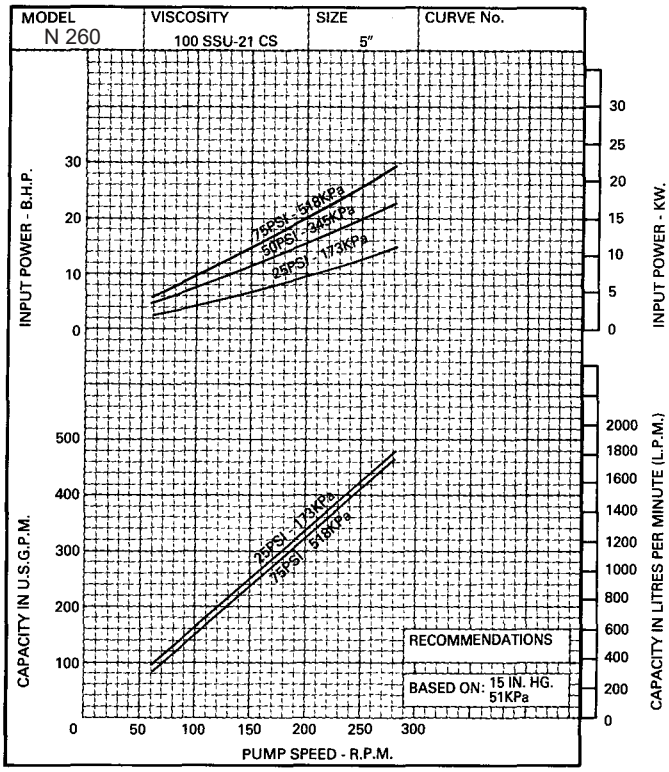


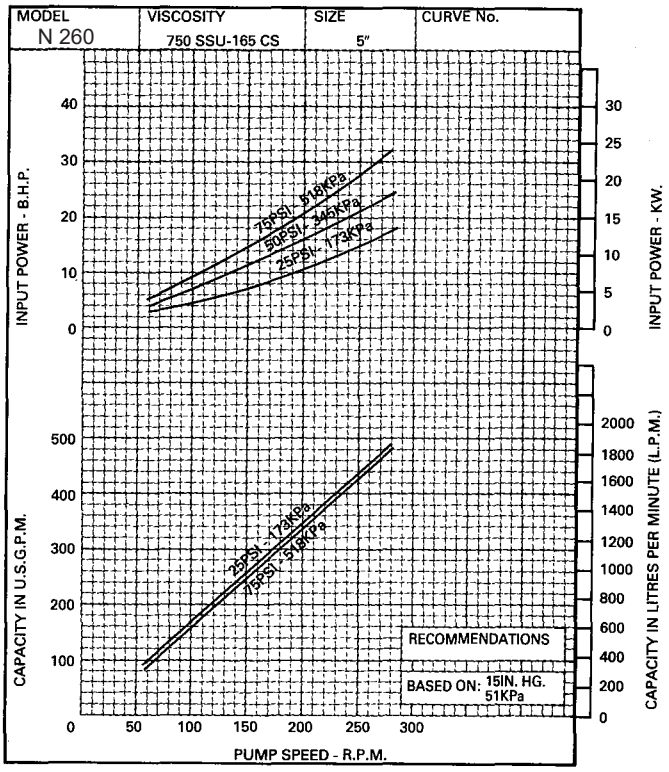






N SIZE


MODEL
N 260
VISCOSITY
100 SSU-21 CS
SIZE
5"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
BASED ON: 15 IN. HG. 51KPa
PUMP SPEED - R.P.M.


MODEL
N 260
VISCOSITY
750 SSU-165 CS
SIZE
5"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
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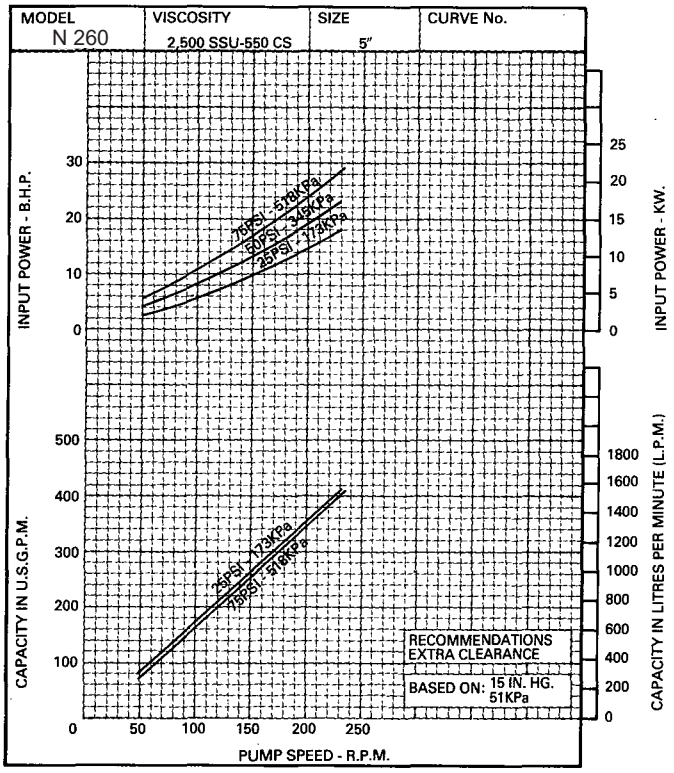
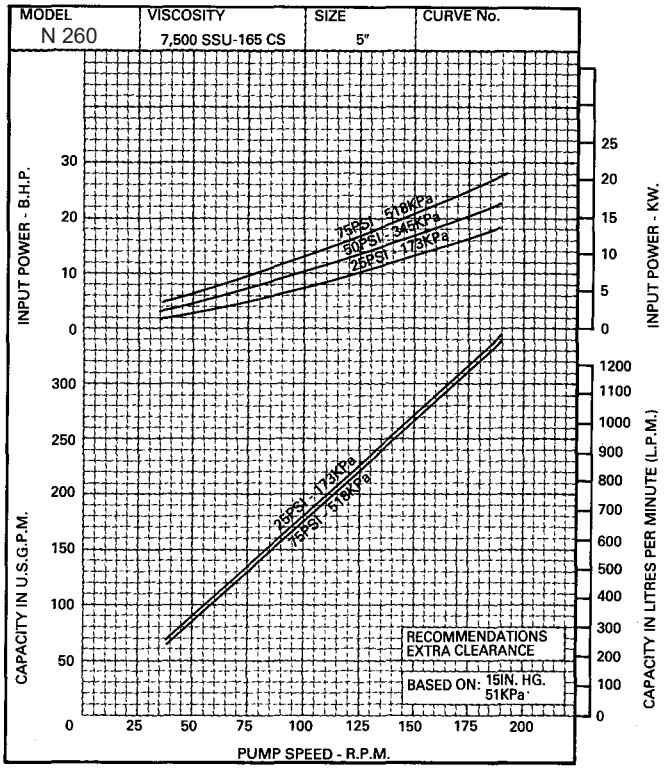
BASED ON: 15IN. HG. 51KPa
PUMP SPEED - R.P.M.


MODEL
N 260
VISCOSITY
2,500 SSU-550 CS
SIZE
5"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
CAPACITY IN LITRES PER MINUTE (L.P.M.)
75PSI - 518KPa
50PSI - 345KPa
25PSI - 173KPa
25PSI - 173KPa
75PSI - 518KPa
RECOMMENDATIONS
EXTRA CLEARANCE
BASED ON: 15 IN. HG. 51KPa
PUMP SPEED - R.P.M.


MODEL
N 260
VISCOSITY
7,500 SSU-165 CS
SIZE
5"
CURVE No.
INPUT POWER - B.H.P.
INPUT POWER - KW.
CAPACITY IN U.S.G.P.M.
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BASED ON: 15IN. HG. 51KPa
PUMP SPEED - R.P.M.