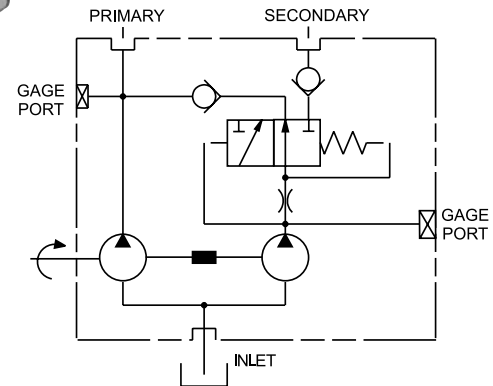
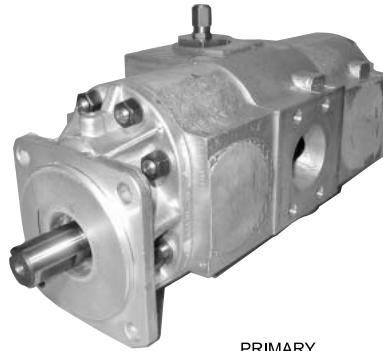


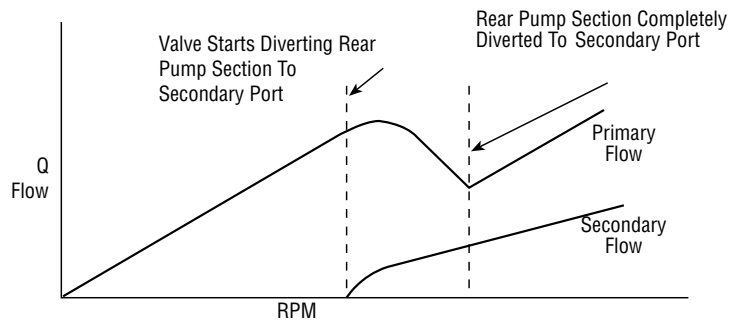
**Specifications  
 for NSD20 Series**

Description ..... Flow-Sensitive Unloading Gear Pumps  
 Combined Flow Range ..... To 98 GPM Per Section (370.9 LTR)  
 Displacements... To 9.10 C.I.R. Each Section (149.12 CC's/REV.)  
 Maximum Pressure to ..... 2500 PSI (172 BAR)  
 Maximum Speed to ..... 2500 RPM  
 Rotation ..... A or C  
 Bearings ..... Journal  
 Construction ..... Aluminum



**Tandem Pump with Flow-Sensitive-Unloading Valve  
 and Power Beyond Port For the Unloaded Pump**

This system consists of a tandem pump and unloading valve with the unloading valve being sensitive to pump speed. The system has primary and secondary discharge ports such that both pumping sections are diverted to the primary port at low pump speeds. At an intermediate pump speed the rear pump section is metered from the primary port and a portion is diverted to the secondary port. At a predetermined higher speed, the rear pumping section is completely diverted to the secondary port while all of the front pumping section flow is maintained at the primary port.



**Performance Data Per Section**

Pump Model	Section Size	Displacement/Revolution (Theoretical)					Maximum Pressure		Maximum Speed
		US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	
NSD20	150	.0131	3.02	.0496	49.849	.0108	2500	172	2500
NSD20	200	.0175	4.04	.0662	66.204	.0146	2500	172	2500
NSD20	250	.0219	5.06	.0829	82.919	.0182	2500	172	2500
NSD20	300	.0262	6.05	.0992	99.142	.0218	2500	172	2500
NSD20	350	.0306	7.07	.1158	115.857	.0255	2500	172	2500
NSD20	400	.0350	8.08	.1325	132.408	.0292	2500	172	2500
NSD20	450	.0394	9.10	.1491	149.123	.0328	2500	172	2500

All data based on SAE 10W oil at 150°F. Available with Viton® Seals.



**CAUTION:** "Inlet vacuum" should not exceed 5" Hg at normal operating speed and temperature. Operation of pumps in excess of 5" Hg requires factory approval.

MOUNTING DIMENSIONS								
FRONT SECTION SIZE	REAR SECTION SIZE	CONN. SIZE	DISCHARGE FRONT SECTION HOLE DIA.	DISCHARGE FRONT SECTION			SHIPPING WEIGHTS	
				A	B	C	lbs.	kgs.
20150	—150	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	322.0 (12.68)	56	20.9
	—200	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	343.9 (13.54)	57	21.3
	—250	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	353.8 (13.93)	58	21.7
	—300	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	361.1 (14.22)	60	22.4
	—350	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	351.2 (13.83)	62	23.1
	—400	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	358.3 (14.11)	64	23.9
	—450	1"	23.6 (.93)	91.4 (3.60)	179.5 (7.07)	365.7 (14.40)	66	24.6
20200	—150	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	344.9 (13.58)	58	21.7
	—200	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	366.7 (14.44)	59	22.0
	—250	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	376.3 (14.83)	60	22.4
	—300	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	383.7 (15.11)	62	23.1
	—350	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	373.8 (14.72)	64	23.9
	—400	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	381.0 (15.00)	66	24.6
	—450	1-1/2"	30.2 (1.19)	95.2 (3.75)	202.4 (7.97)	388.3 (15.29)	68	25.4
20250	—150	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	352.0 (13.86)	59	21.7
	—200	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	373.6 (14.71)	60	22.4
	—250	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	383.7 (15.11)	62	23.1
	—300	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	390.9 (15.39)	64	23.9
	—350	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	381.0 (15.00)	66	24.6
	—400	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	388.1 (15.28)	68	25.4
	—450	1-1/2"	30.2 (1.19)	101.6 (4.00)	209.5 (8.25)	395.4 (15.57)	70	26.1
20300	—150	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	359.4 (14.15)	60	22.4
	—200	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	381.0 (15.00)	64	23.9
	—250	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	391.1 (15.40)	66	24.6
	—300	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	398.2 (15.68)	68	25.4
	—350	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	388.3 (15.29)	70	26.1
	—400	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	395.4 (15.57)	72	26.9
	—450	1-1/2"	30.2 (1.19)	105.1 (4.14)	216.9 (8.54)	402.8 (15.86)	74	27.6
20350	—150	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	366.5 (14.43)	62	23.1
	—200	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	388.1 (15.28)	64	23.9
	—250	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	398.2 (15.68)	66	24.6
	—300	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	405.3 (15.96)	70	26.1
	—350	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	395.4 (15.57)	72	26.9
	—400	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	402.5 (15.85)	74	27.6
	—450	1-1/2"	30.2 (1.19)	110.4 (4.35)	224.0 (8.82)	409.9 (16.14)	76	28.4
20400	—150	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	373.6 (14.71)	64	23.9
	—200	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	395.2 (15.56)	66	24.6
	—250	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	405.3 (15.96)	68	25.4
	—300	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	412.4 (16.24)	70	26.1
	—350	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	402.5 (15.85)	72	26.9
	—400	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	409.7 (16.13)	76	28.4
	—450	1-1/2"	34.7 (1.37)	110.4 (4.35)	231.1 (9.10)	417.0 (16.42)	78	29.1
20450	—150	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	381.0 (15.00)	66	24.6
	—200	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	402.5 (15.85)	68	25.4
	—250	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	412.7 (16.25)	70	26.1
	—300	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	419.8 (16.53)	74	27.6
	—350	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	409.9 (16.14)	76	28.4
	—400	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	417.0 (16.42)	78	29.1
	—450	1-1/2"	34.7 (1.37)	118.3 (4.66)	238.5 (9.39)	424.4 (16.71)	80	29.9

SAE 4-BOLT CONNECTOR PORTS					
Size	F	G	H	J	K
1"	12.9 (.51)	26.1 (1.03)	26.1 (1.03)	52.3 (2.06)	3/8-16NC
1-1/4"	14.7 (.58)	29.4 (1.16)	29.3 (1.15)	58.6 (2.31)	7/16-14NC
1-1/2"	17.7 (.70)	35.5 (1.40)	34.7 (1.37)	69.8 (2.75)	1/2-13NC
2-1/2"	25.4 (1.00)	50.8 (2.00)	44.4 (1.75)	88.9 (3.50)	1/2-13NC

**Dimensional Data**

Inch equivalents for millimeter dimensions are shown in (\*\*).

