

# Fixed Displacement Vane Pump

## HV2020F NF/HV2020P Series

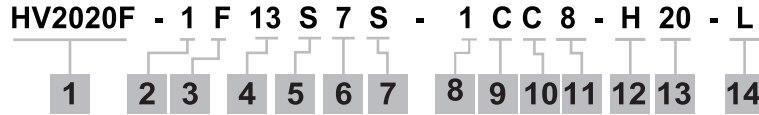
### Specifications

Model	Cartridge Position	Ring Size Delivery at 1200 r/min & 7 bar (100 psi)	Geometric Displacement	Delivery at 1500 r/min & 7 bar (100 psi)	Maximum Intermittent Pressure	Maximum Continuous Pressure	Maximum Speed	Weight
		USgpm	cm <sup>3</sup> /r (in <sup>3</sup> /r)	L/min (USgpm)	bar (psi)	bar (psi)	rpm	kg (lb)
HV2020F NF & HV2020P	Shaft End	5	16.4 (1.00)	23.60 (6.25)	175 (2500)	160 (2250)	3400	17.2 (37.8)
		6	19.5 (1.19)	28.39 (7.50)			3400	
		7	22.8 (1.39)	33.11 (8.75)			3000	
		8	26.5 (1.62)	37.85 (10.00)			2800	
		9	29.7 (1.81)	42.57 (11.25)			2800	
		10	34.1 (2.08)	47.30 (12.51)			2500	
		11	36.4 (2.22)	52.04 (13.75)			2500	
		12	39.0 (2.38)	56.77 (15.00)			2400	
	13	42.4 (2.59)	61.50 (16.25)	150 (2200)	140 (2000)	2400		
	Cover End	5	16.4 (1.00)	23.60 (6.25)	175 (2500)	175 (2500)	3000	
		6	19.5 (1.19)	28.39 (7.50)			3000	
		7	22.8 (1.39)	33.11 (8.75)			3000	
		8	26.5 (1.62)	37.85 (10.00)			2800	
		9	29.7 (1.81)	42.57 (11.25)			2800	
10		34.1 (2.08)	47.30 (12.51)	2500				
		11	36.4 (2.22)	52.04 (13.75)		2500		

\* A transient (peak) pressure 10% over the continuous pressure rating for 0.5 seconds or less duration is allowed.

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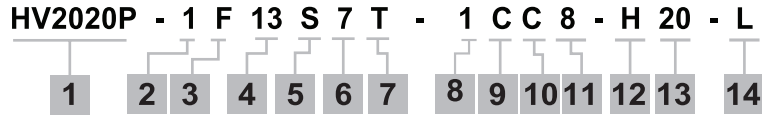
## Ordering Code : Double Pump HV2020F NF



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| <p><b>1. Model :</b><br/>                 HV2020F - Flow Control Cover<br/>                 HV2020NF - Flow Control Cover &amp; Internal Drain<br/>                 SAE B 2 bolts mounting flange J744</p> <p><b>2. Mounting</b><br/>                 1 - Bolt Flange</p> <p><b>3. Inlet Port Connection</b><br/>                 F - 4-bolt Flange Dia. 2.0"</p> <p><b>4. Displacement (at 1200 rpm)</b><br/>                 Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)<br/>                 5 - 16.4 (1.00)<br/>                 6 - 19.5 (1.19)<br/>                 7 - 22.8 (1.39)<br/>                 8 - 26.5 (1.62)<br/>                 9 - 29.7 (1.81)<br/>                 10 - 34.1 (2.08)<br/>                 11 - 36.4 (2.22)<br/>                 12 - 39.0 (2.38)<br/>                 13 - 42.4 (2.59)</p> <p><b>5. Shaft End Outlet Port Connection</b><br/>                 S - 1" 1/16 - 12 UN(SAE#12)<br/>                 P - 3/4" NPT<br/>                 B - 3/4" BSP</p> <p><b>6. Displacement P2 (at 1200 rpm)</b><br/>                 Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)<br/>                 5 - 16.4 (1.00)<br/>                 6 - 19.5 (1.19)<br/>                 7 - 22.8 (1.39)<br/>                 8 - 26.5 (1.62)<br/>                 9 - 29.7 (1.81)<br/>                 10 - 34.1 (2.08)<br/>                 11 - 36.4 (2.22)</p> <p><b>7. Cover End Outlet Port Connection</b><br/>                 HV2020F<br/>                 S - 3/4" - 16 UNF (SAE#8) for outlet and 1" 1/16 - 12 UN (SAE#12) for tank port<br/>                 P - 3/4" - 16 UNF(SAE#8) for outlet and 1/2" NPT for tank port<br/>                 T - 3/4" - 16 UNF(SAE#8) for outlet and tank port<br/>                 HV2020NF<br/>                 S - 3/4" - 16 UNF (SAE#8) for outlet</p> | <p><b>8. Type of shaft</b><br/>                 1 - Straight Keyed Shaft<br/>                 11 - Splined Shaft</p> <p><b>9. Shaft End Outlet Port Position (Viewed from cover end)</b><br/>                 A - Opposite inlet<br/>                 B - 90° CCW from inlet<br/>                 C - Inline with inlet<br/>                 D - 90° CW from inlet</p> <p><b>10. Cover End Outlet Port Position (Viewed from cover end)</b><br/>                 A - Opposite inlet<br/>                 B - 90° CCW from inlet<br/>                 C - Inline with inlet<br/>                 D - 90° CW from inlet</p> <p><b>11. Flow rate Setting L/min (USgpm)</b><br/>                 2 - 7.6 (2)<br/>                 3 - 11.4 (3)<br/>                 4 - 15.2 (4)<br/>                 5 - 19.0 (5)<br/>                 6 - 22.7 (6)<br/>                 7 - 26.5 (7)<br/>                 8 - 30.3 (8)</p> <p><b>12. Pressure Setting bar (psi)</b><br/>                 A - 17 (250)<br/>                 B - 34 (500)<br/>                 C - 52 (750)<br/>                 D - 69 (1000)<br/>                 E - 86 (1250)<br/>                 F - 103 (1500)<br/>                 G - 121 (1750)<br/>                 H - 138 (2000)<br/>                 J - 150 (2250)<br/>                 K - 172 (2500)</p> <p><b>13. Design</b><br/>                 Subject to change. Installation dimension remain the same for designs - 20 through -29</p> <p><b>14. Shaft Rotation (viewed from shaft end)</b><br/>                 R - Turn right<br/>                 L - Turn left</p> |
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# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

## Ordering Code : Double Pump HV2020P

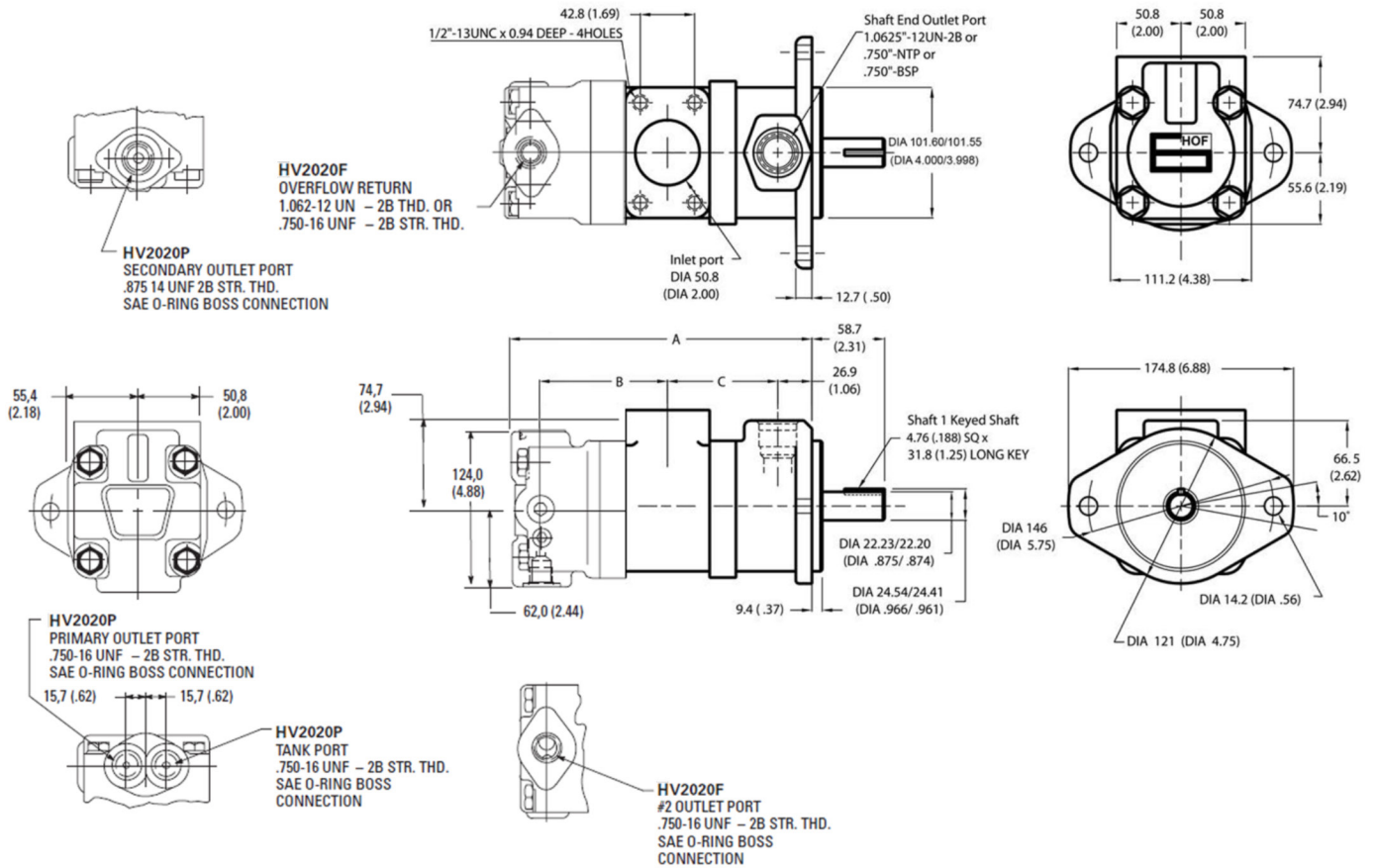


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| <p>1. Model :<br/>HV2020P - Priority Valve Cover<br/>SAE B 2 bolts mounting flange J744</p> <p>2. Mounting<br/>1 - Bolt Flange</p> <p>3. Inlet Port Connection<br/>F - 4-bolt Flange Dia. 2.0"</p> <p>4. Displacement (at 1200 rpm)<br/>Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)</p> <ul style="list-style-type: none"> <li>5 - 16.4 (1.00)</li> <li>6 - 19.5 (1.19)</li> <li>7 - 22.8 (1.39)</li> <li>8 - 26.5 (1.62)</li> <li>9 - 29.7 (1.81)</li> <li>10 - 34.1 (2.08)</li> <li>11 - 36.4 (2.22)</li> <li>12 - 39.0 (2.38)</li> <li>13 - 42.4 (2.59)</li> </ul> <p>5. Shaft End Outlet Port Connection<br/>S - 1" 1/16 - 12 UN(SAE#12)<br/>P - 3/4" NPT<br/>B - 3/4" BSP</p> <p>6. Displacement P2 (at 1200 rpm)<br/>Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)</p> <ul style="list-style-type: none"> <li>5 - 16.4 (1.00)</li> <li>6 - 19.5 (1.19)</li> <li>7 - 22.8 (1.39)</li> <li>8 - 26.5 (1.62)</li> <li>9 - 29.7 (1.81)</li> <li>10 - 34.1 (2.08)</li> <li>11 - 36.4 (2.22)</li> </ul> <p>7. Cover End Outlet Port Connection<br/>T - 3/4" - 16 UNF (SAE#8) for primary outlet and tank port and 7/8" - 14 UN(SAE#10) for secondary outlet</p> | <p>8. Type of shaft<br/>1 - Straight Keyed Shaft<br/>11 - Splined Shaft</p> <p>9. Shaft End Outlet Port Position (Viewed from cover end)<br/>A - Opposite inlet<br/>B - 90° CCW from inlet<br/>C - Inline with inlet<br/>D - 90° CW from inlet</p> <p>10. Cover End Outlet Port Position (Viewed from cover end)<br/>A - Opposite inlet<br/>B - 90° CCW from inlet<br/>C - Inline with inlet<br/>D - 90° CW from inlet</p> <p>11. Flow rate Setting L/min (USgpm)</p> <ul style="list-style-type: none"> <li>2 - 7.6 (2)</li> <li>3 - 11.4 (3)</li> <li>4 - 15.2 (4)</li> <li>5 - 19.0 (5)</li> <li>6 - 22.7 (6)</li> <li>7 - 26.5 (7)</li> <li>8 - 30.3 (8)</li> </ul> <p>12. Pressure Setting bar (psi)</p> <ul style="list-style-type: none"> <li>A - 17 (250)</li> <li>B - 34 (500)</li> <li>C - 52 (750)</li> <li>D - 69 (1000)</li> <li>E - 86 (1250)</li> <li>F - 103 (1500)</li> <li>G - 121 (1750)</li> <li>H - 138 (2000)</li> <li>J - 150 (2250)</li> <li>K - 172 (2500)</li> </ul> <p>13. Design<br/>Subject to change. Installation dimension remain the same for designs - 20 through -29</p> <p>14. Shaft Rotation (viewed from shaft end)<br/>R - Turn right<br/>L - Turn left</p> |
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# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

## Installation Dimension mm (inch)

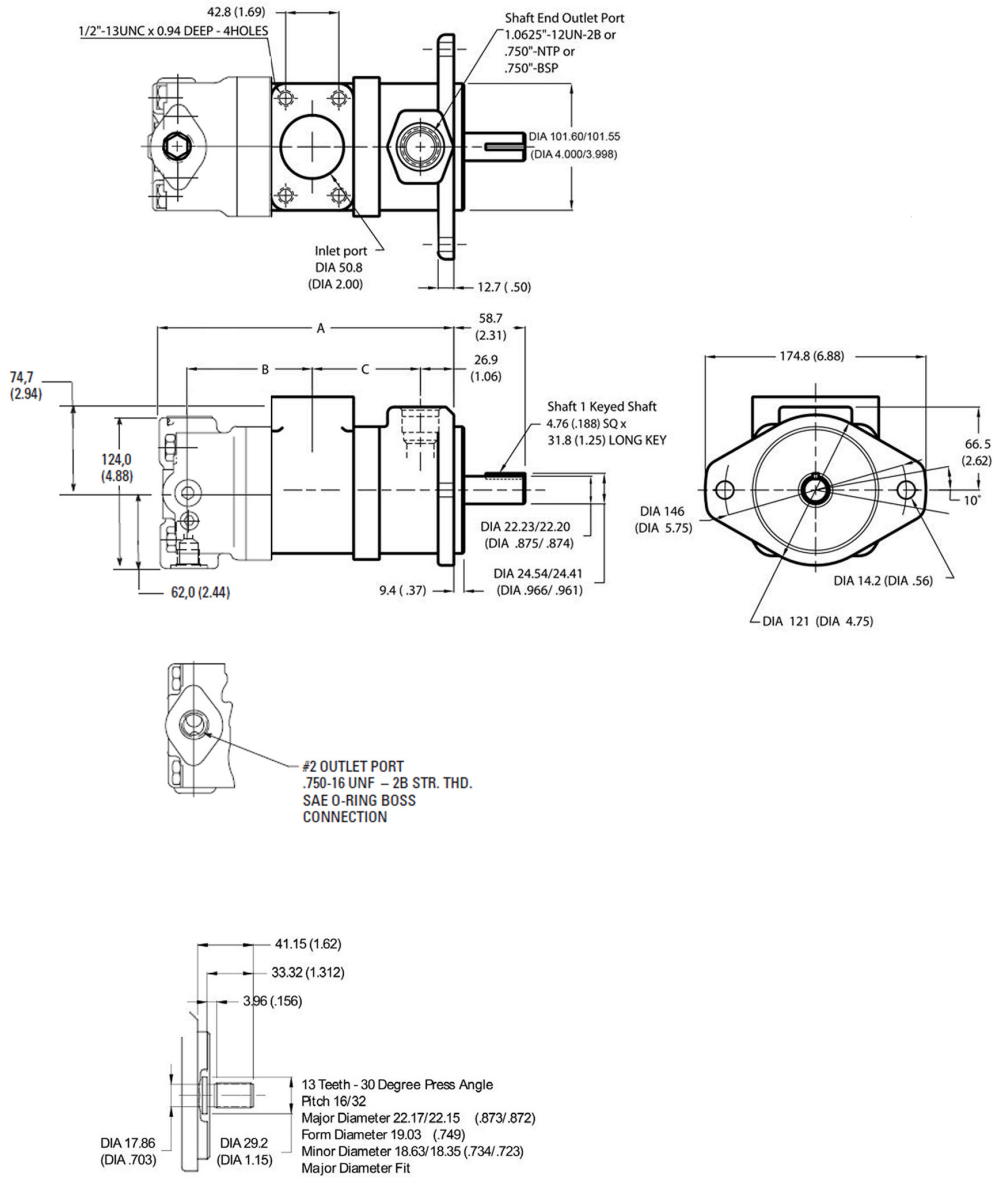
### Double Pump HV2020F and HV2020P



Delivery @ 1200 rpm & 7 bar (100psi)		Dimension		
Shaft End	Cover End	A	B	C
5, 6	5, 6	228.6 (9.00)	97.1 (3.82)	80.7 (3.18)
	7, 8, 9	234.9 (9.25)	103.4 (4.07)	
	10, 11	240.0 (9.45)	108.2 (4.26)	
7, 8, 9	5, 6	235.0 (9.25)	97.1 (3.82)	87.1 (3.43)
	7, 8, 9	241.3 (9.50)	103.4 (4.07)	
	10, 11	246.4 (9.70)	108.2 (4.26)	
10, 11	5, 6	240.0 (9.45)	97.1 (3.82)	92.2 (3.63)
	7, 8, 9	246.4 (9.70)	103.4 (4.07)	
	10, 11	251.2 (9.89)	108.2 (4.26)	
12, 13	5, 6	243.6 (9.59)	97.1 (3.82)	95.5 (3.76)
	7, 8, 9	249.7 (9.83)	103.4 (4.07)	
	10, 11	254.8 (10.03)	108.2 (4.26)	

# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

## Double Pump HV2020NF



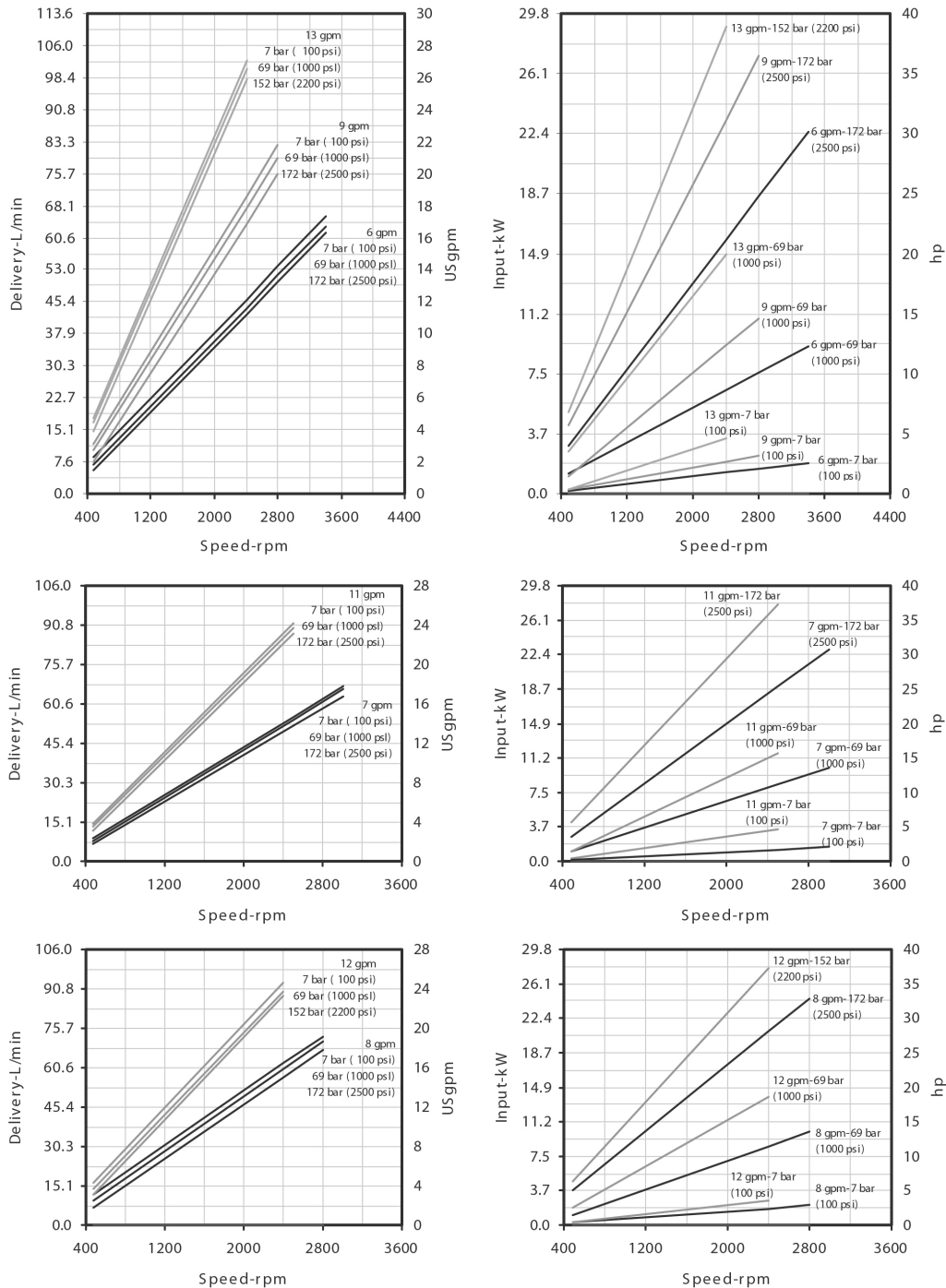
Shaft 11  
Splined Shaft

# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

## Performance Characteristics

HV20, Shaft End of HV20, Cover End of HV2020

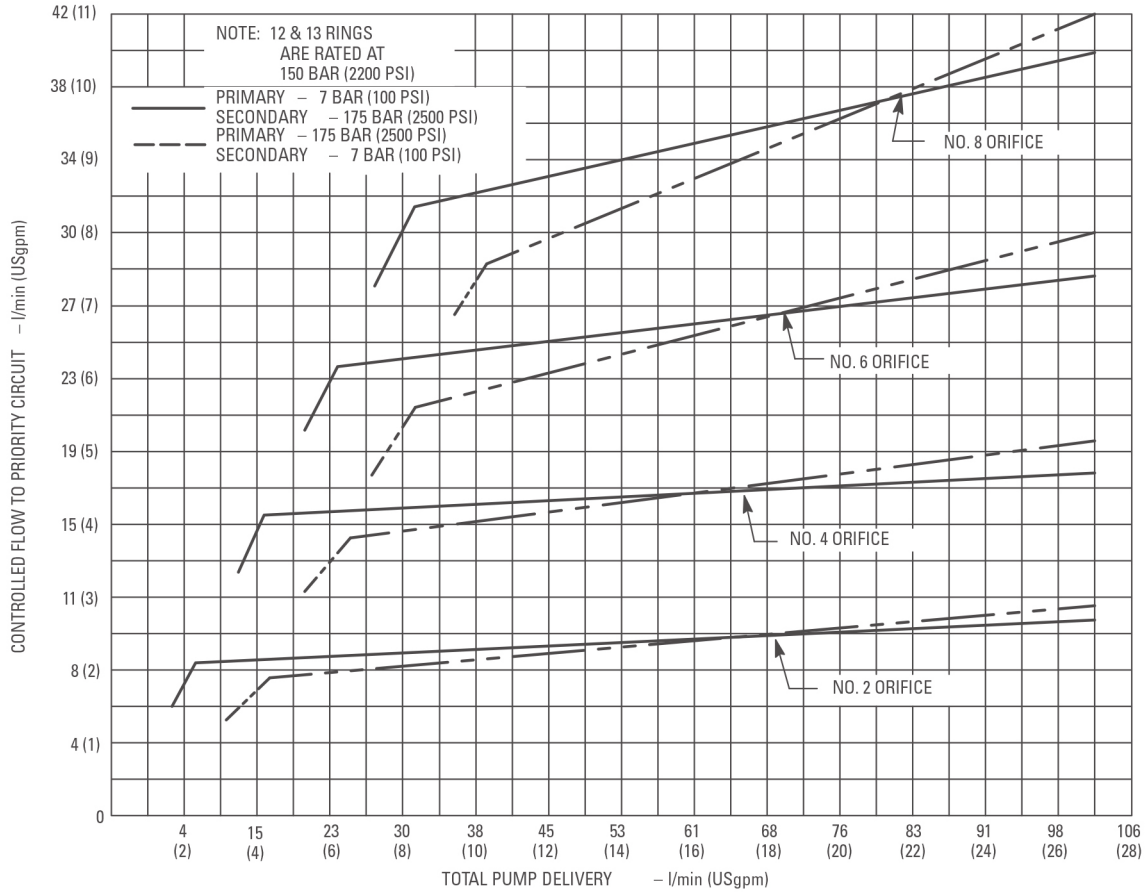
Based on viscosity 32 cSt (150 SSU) oil at 49°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



For the Cover End cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge.

# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Priority Valve : HV2020P



# Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Flow control : HV2020F NF

