HOF
HYDRAULIC SOLUTIONS

Hydraulic Double Vane Pump
HV2010 & HV2020 Series

Catalogue 2025

www.hofhydraulic.com

Bureau Veritas Certification

FLO-TECH ENGINEERING CO., LTD.

47 SOI SUKSAWAD 14/18 JOMTONG, JOMTONG, BANGKOK 10150 THAILAND

Bureau Veritas Certification Holding SAS - UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015

Scope of certification

DESIGN & DEVELOP, PRODUCTION AND TRADING OF HYDRAULIC PUMP, HYDRAULIC MOTOR, HYDRAULIC VALVE, PNEUMATIC VALVE, POWER UNIT AND HYDRAULIC ACCESSORIES

Original cycle start date:	**17 March 2009**
Expiry date of previous cycle:	**NA**
Certification / Recertification Audit date:	**NA**
Certification / Recertification cycle start date:	**16 March 2024**
Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on:	**16 March 2027**

Certificate No.: **TH022197** Version: **1** Issue date: **16 March 2024**

UKAS MANAGEMENT SYSTEMS 0008

Signed on behalf of BVCH SAS UK Branch

Certification Body Address: 5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom

Local Office: Bureau Veritas Certification (Thailand) Ltd. 16th Floor, Bangkok Tower, 2170 New Petchburi Road,Bangkapi, Huaykwang, Bangkok 10310, Thailand

Further clarifications regarding the scope and validity of this certificate, and the applicability of the management system requirements, please call: 66 2 670 4800

HOF Hydraulic Solutions Warranty Policy

Warranty

Flowlution Co,.Ltd, sole distributor of “HOF Hydraulic Solutions", Warrants all of its products to be free from defects in material and workmanship under normal operating conditions and proper application in accordance with the specifications for operation as described by the manufacturer for the period of twelve (12) months in service.

Limitations on Warranty

This Warranty is expressly in lieu of any other warranties expressed or implied. Buyer's sole and exclusive remedy under this Warranty shall be limited to the repair, replacement or exchange of warranted products at our option, F.O.B. our factory, or designated service center.

No special, incidental, consequential or other damage shall be recoverable. Flowlution Co,.Ltd shall not be liable for consequential damages or contingent liabilities including, but not limited to, loss of life, personal injury, loss of crops, loss due to fire or water damage, loss of business or business income, down time costs and trade or other commercial loss arising of out of the failure of the product. Flowlution Co,.Ltd will in no event be liable for any sum in excess of the price received by it for the product for which liability is claimed or asserted.

No product shall be returned without prior authorization from Flowlution Co,.Ltd. Buyers and their agents shall prepay all transportation charges for the return of such products to Flowlution Co,.Ltd's factory or designated service center. There will be no acceptance of any charges for labor and/or parts incidental to the removal or remounting of product repaired or replaced under this Warranty.

The above Warranty does not cover conditions over which Flowlution Co,.Ltd has no control, including, without limitation, contamination, pressures in excess of recommended maximum, products damaged or subject to accident abuse or misuse after shipment from our factory, products altered or repaired by anyone other than Flowlution Co,.Ltd personnel, authorized Flowlution Co,.Ltd factory personnel or persons so designated in writing by Flowlution Co,.Ltd prior to commencement of said work.

A return goods authorization number must be obtained from Flowlution Co,.Ltd or Flowlution Co,.Ltd's authorized Service center, or Flowlution Co,.Ltd's authorized agent prior to any products being returned for Warranty.

For more details please contact info@flowlution.com or contact@hofhydraulic.com

HOF
HYDRAULIC SOLUTIONS

Fixed Displacement Vane Pump HV2010 Series

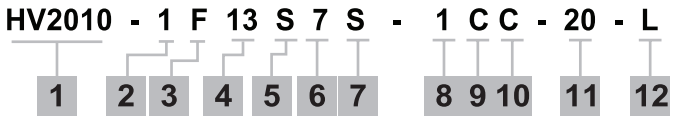
Specifications

Model	Cartridge Position	Ring Size Delivery at 1200 r/min & 7 bar (100 psi) USgpm	Geometric Displacement cm³/r (in³/r)	Delivery at 1500 r/min & 7 bar (100 psi) L/min (USgpm)	Maximum Intermittent Pressure bar (psi)	Maximum Continuous Pressure bar (psi)	Maximum Speed rpm	Weight kg (lb)
HV2010	Shaft End	5	16.4 (1.00)	23.60 (6.25)	175 (2500)	160 (2250)	3400	15.4 (33.9)
		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)	150 (2200)	140 (2000)	2400	
		13	42.4 (2.59)	61.50 (16.25)			2400	
	Cover End	1	3.3 (0.20)	4.70 (1.25)	175 (2500)	160 (2250)	3000	
		2	6.6 (0.40)	9.40 (2.50)				
		3	9.8 (0.60)	14.20 (3.75)				
		4	13.1 (0.80)	18.90 (5.00)				
		5	16.4 (1.00)	23.60 (6.25)				
		6	19.5 (1.19)	28.40 (7.50)	150 (2200)	140 (2000)		
		7	22.8 (1.39)	33.10 (8.75)	140 (2000)	140 (2000)	2800	

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

Fixed Displacement Vane Pump
HV2010 Series

Ordering Code : Double Pump



1. Model :
   HV2010 - Standard Cover
   SAE B 2 bolts mounting flange J744
2. Mounting
   1 - Bolt Flange

3. Inlet Port Connection
   F - 4-bolt Flange Dia. 1.5"

4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
   12 - 39.0 (2.38)
   13 - 42.4 (2.59)

5. Shaft End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP

6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   1 - 3.3 (0.20)
   2 - 6.6 (0.40)
   3 - 9.8 (0.60)
   4 - 13.1 (0.80)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)

7. Cover End Outlet Port Connection
   S - 3/4" - 16 UNF(SAE#8)
   P - 1/2" NPT
   B - 1/2" BSP

8. Type of shaft
   1 - Straight Keyed Shaft
   3 - Threaded with woodruff Keyed Shaft
   11 - Splined Shaft

9. Shaft End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet

10. Cover End Outlet Port Position (Viewed from cover end)
   A - 135° CCW from inlet
   B - 45° CCW from inlet
   C - 45° CW from inlet
   D - 135° CW from inlet

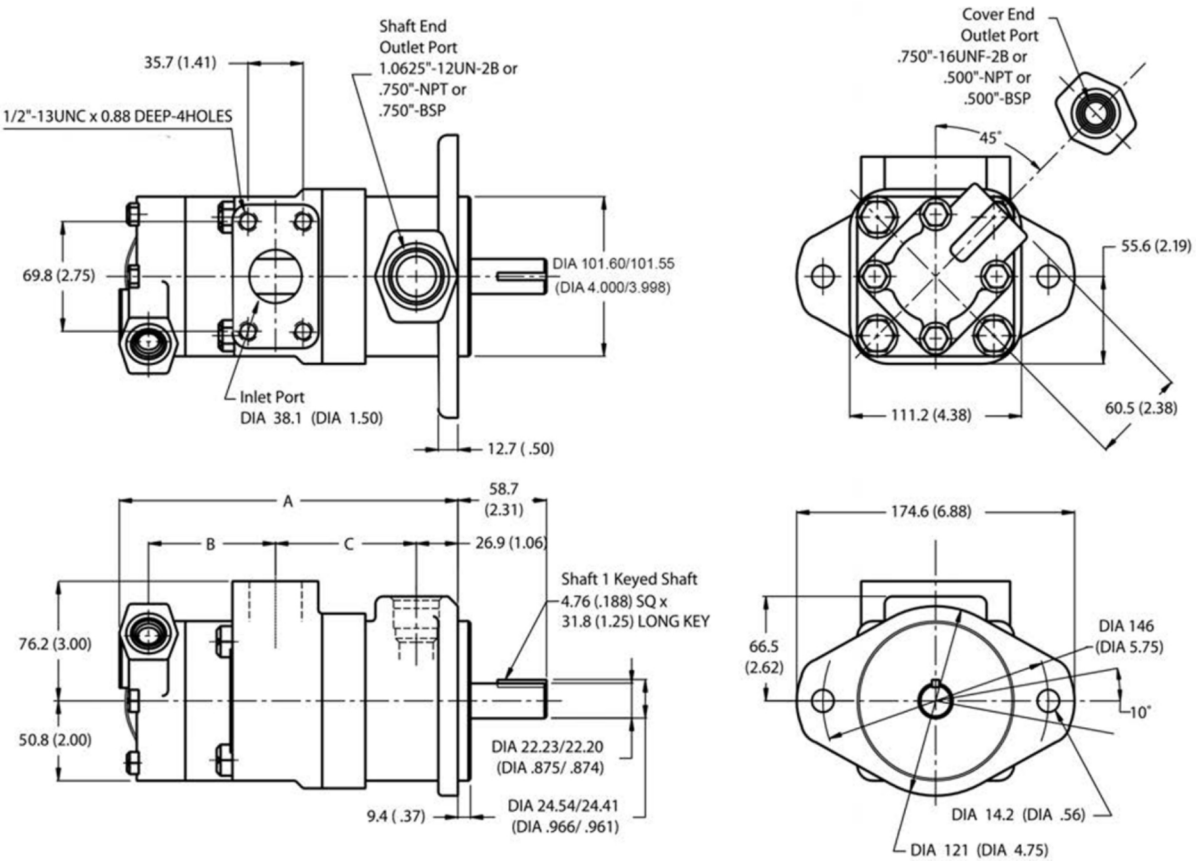
11. Design
   Subject to change. Installation dimension remain the same for designs - 20 through -29

12. Shaft Rotation (viewed from shaft end)
   R - Turn right
   L - Turn left

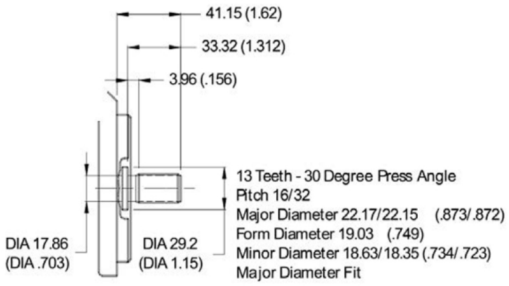
Fixed Displacement Vane Pump HV2010 Series

Installation Dimension mm (inch)

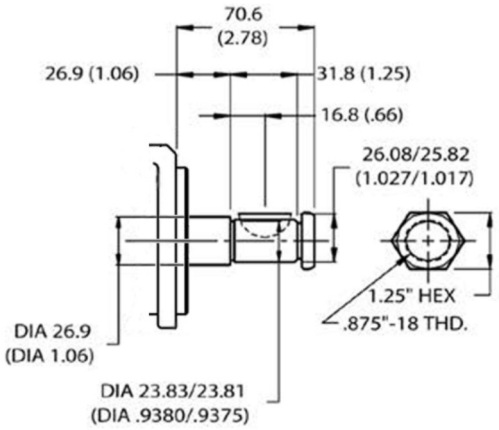
Double Pump HV2010



Fixed Displacement Vane Pump
HV2010 Series



Shaft 11
Splined Shaft



Shaft 3 Threaded with #6 Woodruff Key

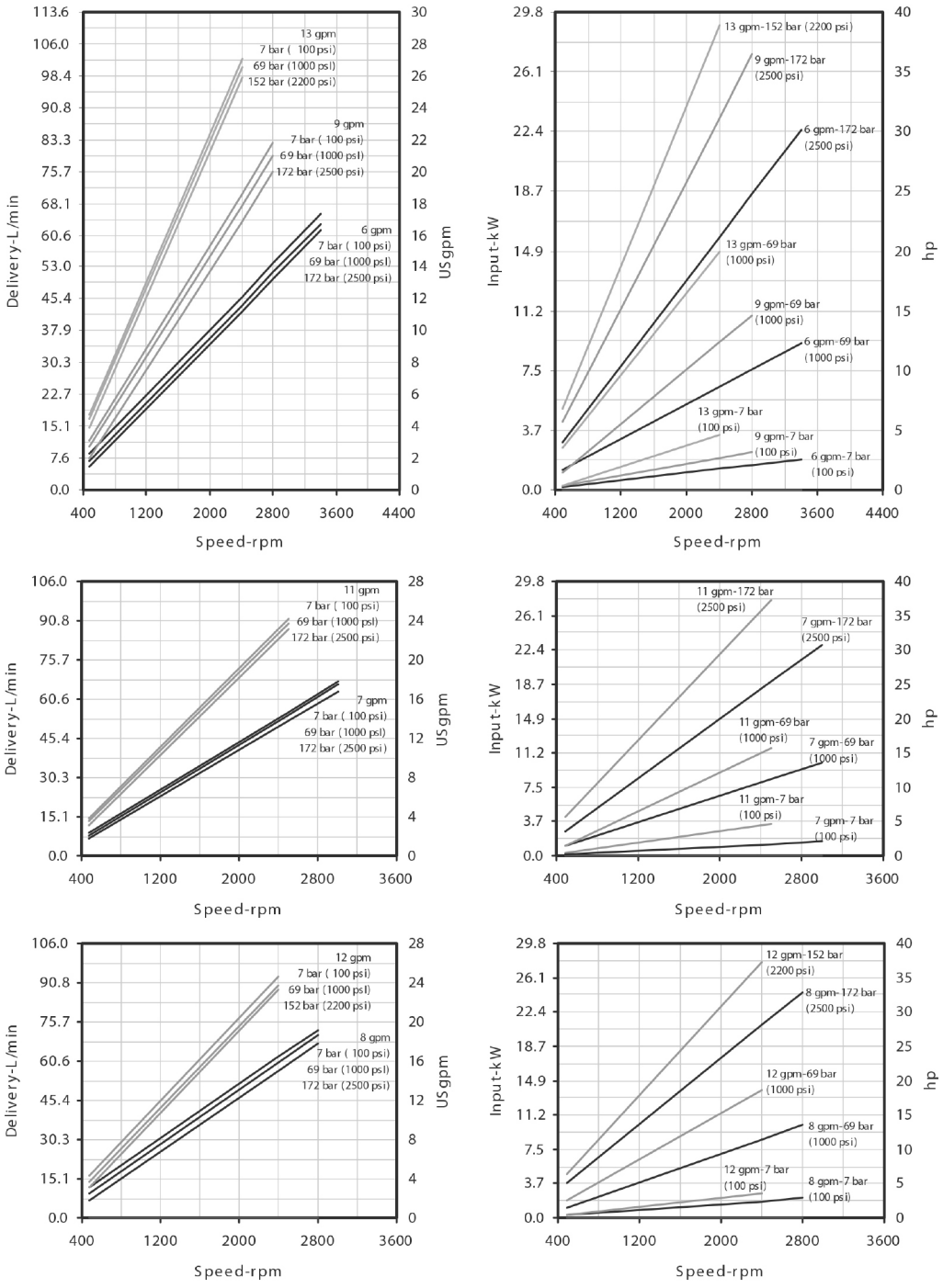
Delivery @ 1200 rpm & 7 bar (100psi)		Dimension		
Shaft End	Cover End	A	B	C
5, 6	1, 2, 3	206.7 (8.14)	75.9 (2.99)	80.0 (3.15)
	4, 5	213.1 (8.39)	82.3 (3.24)	
	6, 7	218.1(8.59)	87.4 (3.44)	
7, 8, 9	1, 2, 3	213.1 (8.39)	75.9 (2.99)	86.4 (3.40)
	4, 5	219.5 (8.64)	82.3 (3.24)	
	6, 7	224.5 (8.84)	87.4 (3.44)	
10, 11	1, 2, 3	218.2 (8.59)	75.9 (2.99)	91.2 (3.59)
	4, 5	224.5 (8.84)	82.3 (3.24)	
	6, 7	229.6 (9.04)	87.4 (3.44)	
12, 13	1, 2, 3	221.7 (8.73)	75.9 (2.99)	94.7 (3.73)
	4, 5	227.8 (8.97)	82.3 (3.24)	
	6, 7	232.9 (9.17)	87.4 (3.44)	

Fixed Displacement Vane Pump HV2010 Series

Performance Characteristics

HV20, Shaft End of HV20

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

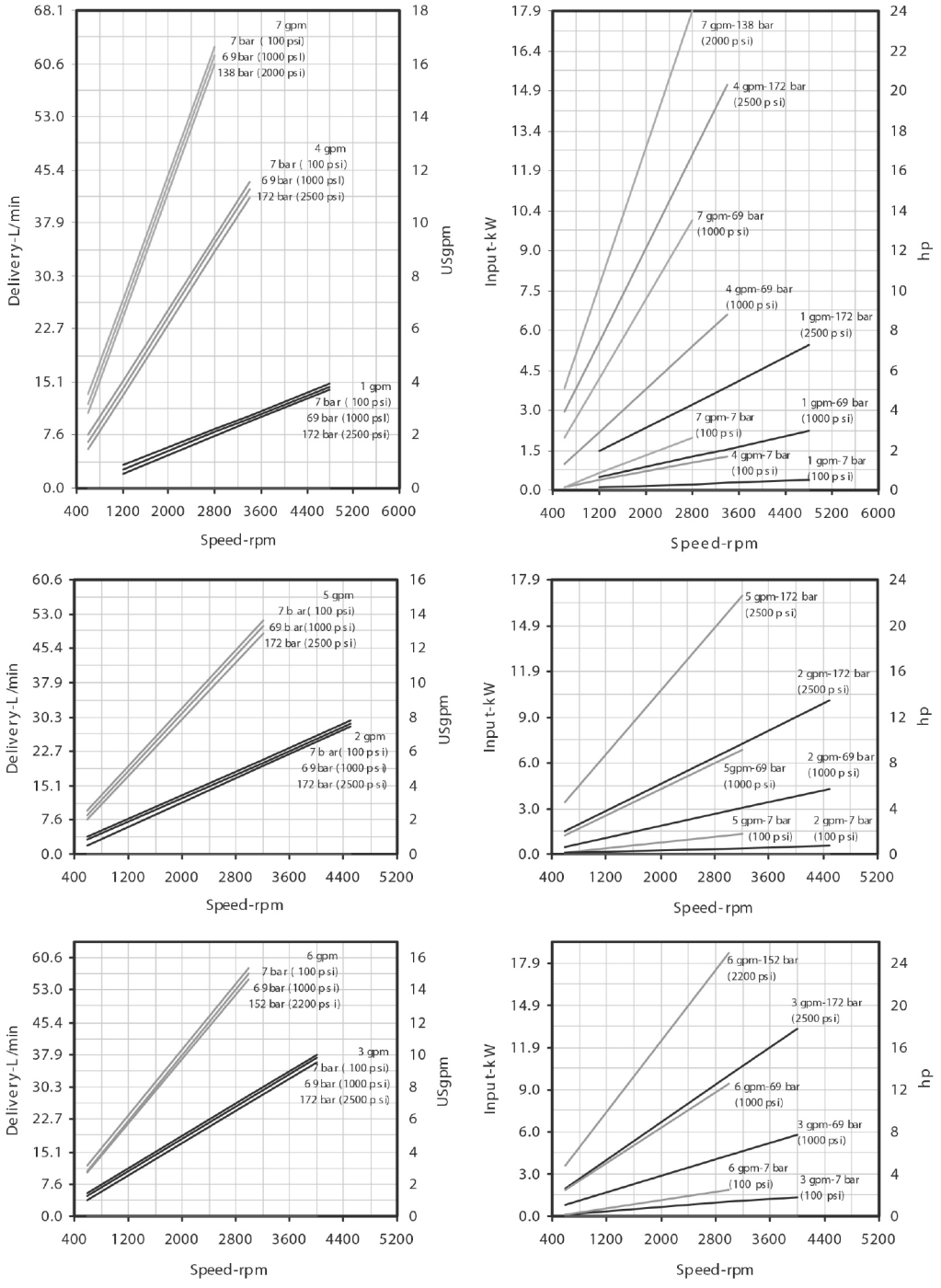


For the Cover End cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge.

Fixed Displacement Vane Pump HV2010 Series

HV10, Cover End of HV10

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 HV2010F/ HV2010P Series

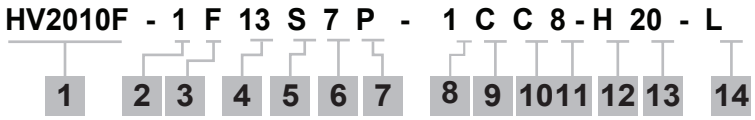
Specifications

Model	Cartridge Position	Ring Size Delivery at 1200 r/min & 7 bar (100 psi) USgpm	Geometric Displacement cm³/r (in³/r)	Delivery at 1500 r/min & 7 bar (100 psi) L/min (USgpm)	Maximum Intermittent Pressure bar (psi)	Maximum Continuous Pressure bar (psi)	Maximum Speed rpm	Weight kg (lb)
HV2010	Shaft End	5	16.4 (1.00)	23.60 (6.25)	175 (2500)	160 (2250)	3400	15.4 (33.9)
		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)	150 (2200)	140 (2000)	2400	
		13	42.4 (2.59)	61.50 (16.25)			2400	
	Cover End	1	3.3 (0.20)	4.70 (1.25)	175 (2500)	160 (2250)	3000	
		2	6.6 (0.40)	9.40 (2.50)				
		3	9.8 (0.60)	14.20 (3.75)				
		4	13.1 (0.80)	18.90 (5.00)				
		5	16.4 (1.00)	23.60 (6.25)				
		6	19.5 (1.19)	28.40 (7.50)	150 (2200)	140 (2000)		
		7	22.8 (1.39)	33.10 (8.75)	140 (2000)	140 (2000)	2800	

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

Fixed Displacement Vane Pump
HV2010F/ HV2010P Series

Ordering Code : Double Pump



1. Model :
   HV2010F - Flow Control Cover
   SAE B 2 bolts mounting flange J744

2. Mounting
   1 - Bolt Flange

3. Inlet Port Connection
   F - 4-bolt Flange Dia. 1.5"

4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
   12 - 39.0 (2.38)
   13 - 42.4 (2.59)

5. Shaft End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP

6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   1 - 3.3 (0.20)
   2 - 6.6 (0.40)
   3 - 9.8 (0.60)
   4 - 13.1 (0.80)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)

7. Cover End Outlet Port Connection
   P - 3/4" - 16 UNF(SAE#8) for outlet and 1/2" NPT for tank port
   T - 3/4" - 16 UNF(SAE#8) for outlet and tank port

8. Type of shaft
   1 - Straight Keyed Shaft
   3 - Threaded with woodruff Keyed Shaft
   11 - Splined Shaft

9. Shaft End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet

10. Cover End Outlet Port Position (Viewed from cover end)
   A - 135° CCW from inlet
   B - 45° CCW from inlet
   C - 45° CW from inlet
   D - 135° CW from inlet

11. Flow rate Setting L/min (USgpm)
   2 - 7.6 (2)
   3 - 11.4 (3)
   4 - 15.2 (4)
   5 - 19.0 (5)
   6 - 22.7 (6)
   7 - 26.5 (7)
   8 - 30.3 (8)

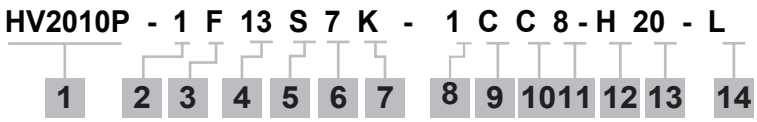
12. Pressure Setting bar (psi)
   A - 17 (250)
   B - 34 (500)
   C - 52 (750)
   D - 69 (1000)
   E - 86 (1250)
   F - 103 (1500)
   G - 121 (1750)
   H - 138 (2000)
   J - 150 (2250)
   K - 172 (2500)

13. Design
   Subject to change. Installation dimension remain the same for designs - 20 through -29

14. Shaft Rotation (viewed from shaft end)
   R - Turn right
   L - Turn left

Fixed Displacement Vane Pump
HV2010F/ HV2010P Series

Ordering Code : Double Pump



1. Model :
   HV2010P - Priority Valve Cover
   SAE B 2 bolts mounting flange J744

2. Mounting
   1 - Bolt Flange

3. Inlet Port Connection
   F - 4-bolt Flange Dia. 1.5"

4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
   12 - 39.0 (2.38)
   13 - 42.4 (2.59)

5. Shaft End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP

6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   1 - 3.3 (0.20)
   2 - 6.6 (0.40)
   3 - 9.8 (0.60)
   4 - 13.1 (0.80)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)

7. Cover End Outlet Port Connection
   K - 9/16" - 18 UNF for primary outlet and tank port
   and 3/4" - 16 UNF(SAE#8) for secondary outlet

8. Type of shaft
   1 - Straight Keyed Shaft
   3 - Threaded with woodruff Keyed Shaft
   11 - Splined Shaft

9. Shaft End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet

10. Cover End Outlet Port Position (Viewed from cover end)
   A - 135° CCW from inlet
   B - 45° CCW from inlet
   C - 45° CW from inlet
   D - 135° CW from inlet

11. Flow rate Setting L/min (USgpm)
   2 - 7.6 (2)
   3 - 11.4 (3)
   4 - 15.2 (4)
   5 - 19.0 (5)
   6 - 22.7 (6)
   7 - 26.5 (7)
   8 - 30.3 (8)

12. Pressure Setting bar (psi)
   A - 17 (250)
   B - 34 (500)
   C - 52 (750)
   D - 69 (1000)
   E - 86 (1250)
   F - 103 (1500)
   G - 121 (1750)
   H - 138 (2000)
   J - 150 (2250)
   K - 172 (2500)

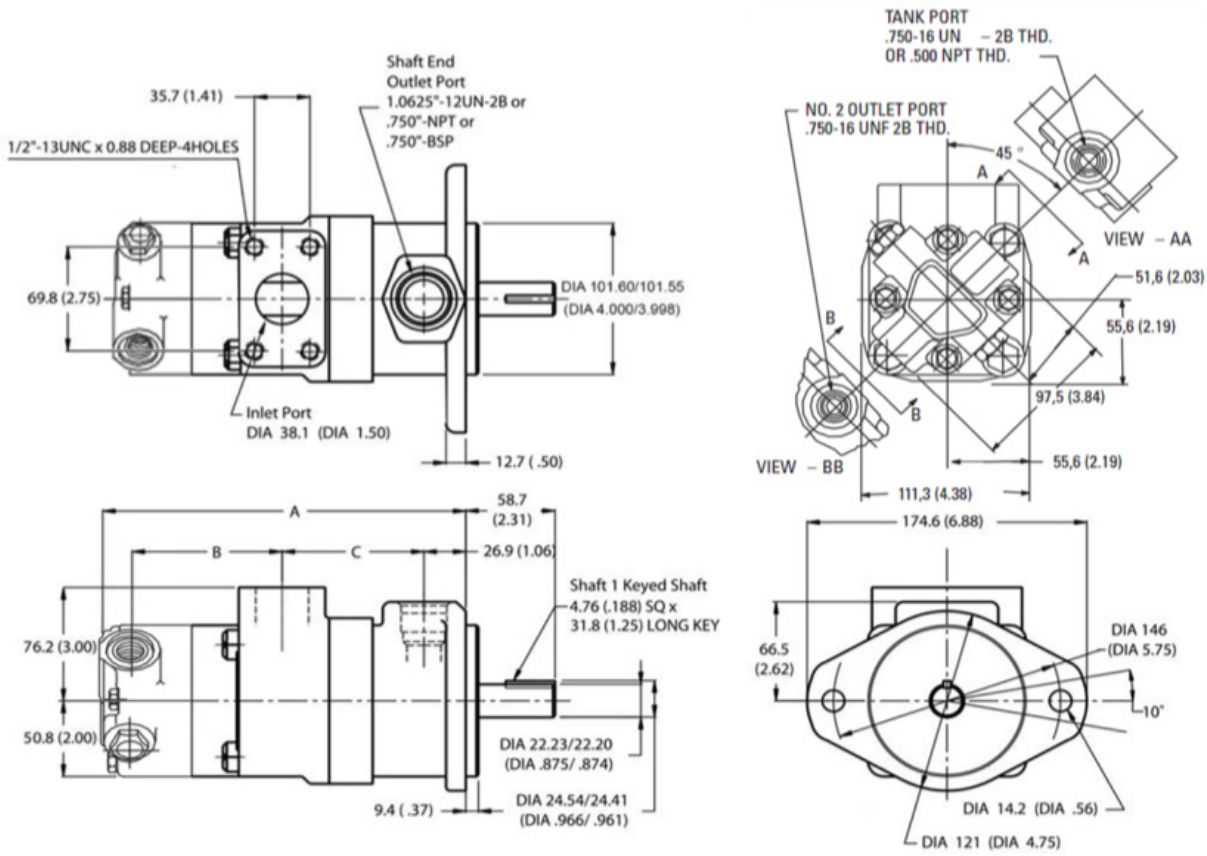
13. Design
   Subject to change. Installation dimension remain the same for designs - 20 through -29

14. Shaft Rotation (viewed from shaft end)
   R - Turn right
   L - Turn left

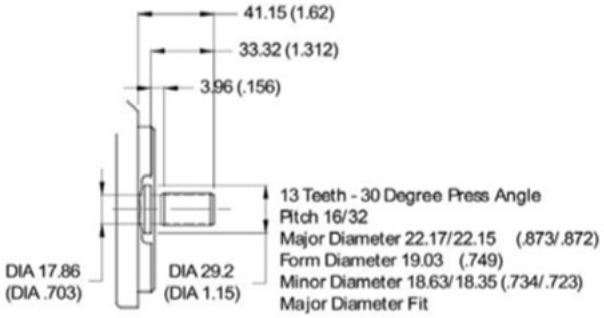
Fixed Displacement Vane Pump HV2010F/ HV2010P Series

Installation Dimension mm (inch)

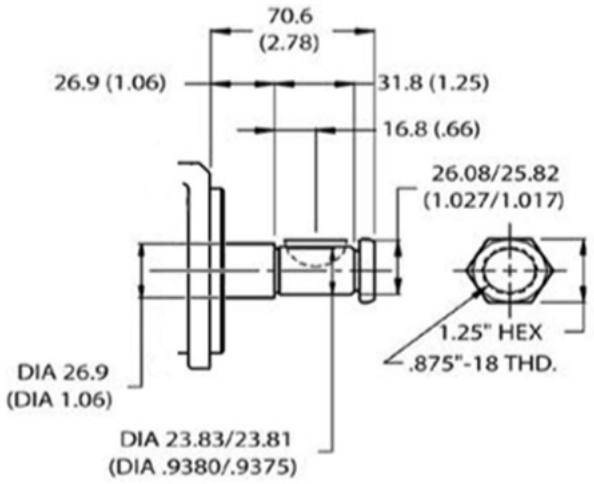
Double Pump HV2010F



Fixed Displacement Vane Pump
HV2010F/ HV2010P Series



Shaft 11
Splined Shaft



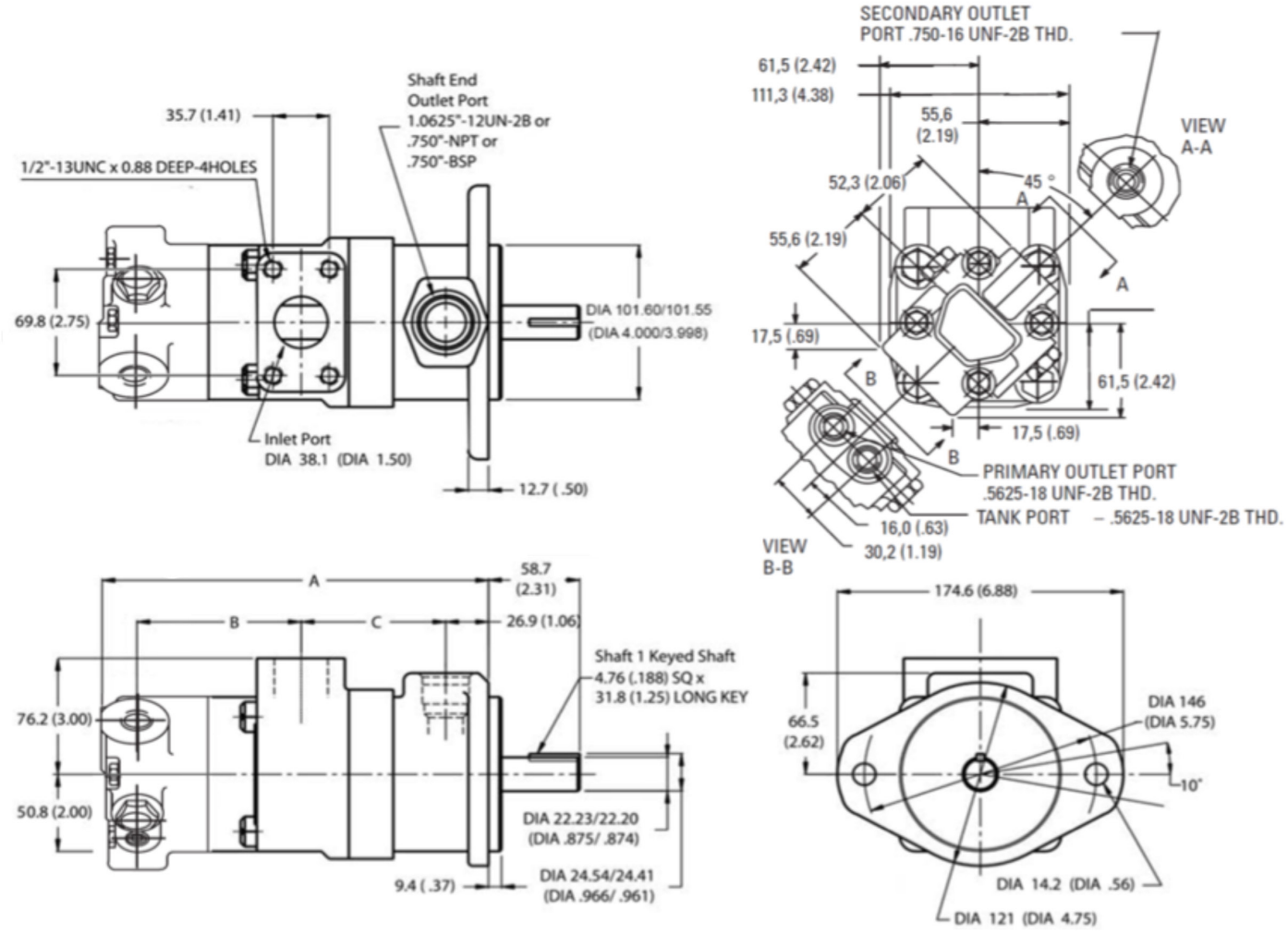
Shaft 3 Threaded with #6 Woodruff Key

Delivery @ 1200 rpm & 7 bar (100psi)		Dimension		
Shaft End	Cover End	A	B	C
5, 6	1, 2, 3	219.7 (8.65)	93.5 (3.68)	80.0 (3.15)
	4, 5	226.0 (8.90)	99.8 (3.93)	
	6, 7	231.1(9.10)	104.9 (4.13)	
7, 8, 9	1, 2, 3	226.1 (8.90)	93.5 (3.68)	86.4 (3.40)
	4, 5	232.4 (9.15)	99.8 (3.93)	
	6, 7	237.5 (9.35)	104.9 (4.13)	
10, 11	1, 2, 3	230.9 (9.09)	93.5 (3.68)	91.2 (3.59)
	4, 5	237.2 (9.34)	99.8 (3.93)	
	6, 7	242.3 (9.54)	104.9 (4.13)	
12, 13	1, 2, 3	234.4 (9.23)	93.5 (3.68)	94.7 (3.73)
	4, 5	240.8 (9.48)	99.8 (3.93)	
	6, 7	245.9 (9.68)	104.9 (4.13)	

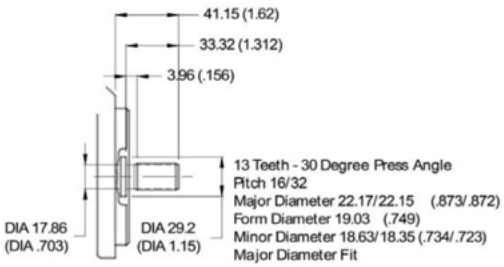
Fixed Displacement Vane Pump HV2010F/ HV2010P Series

Installation Dimension mm (inch)

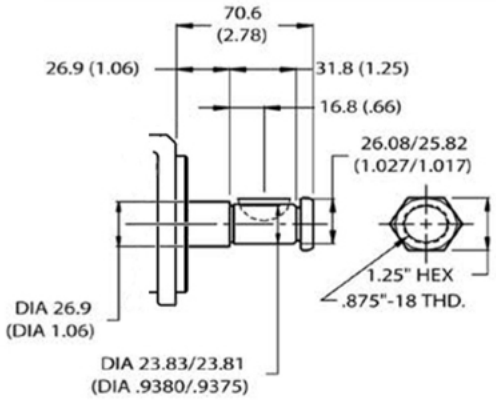
Double Pump HV2010P



Fixed Displacement Vane Pump HV2010F/ HV2010P Series



Shaft 11
Splined Shaft



Shaft 3 Threaded with #6 Woodruff Key

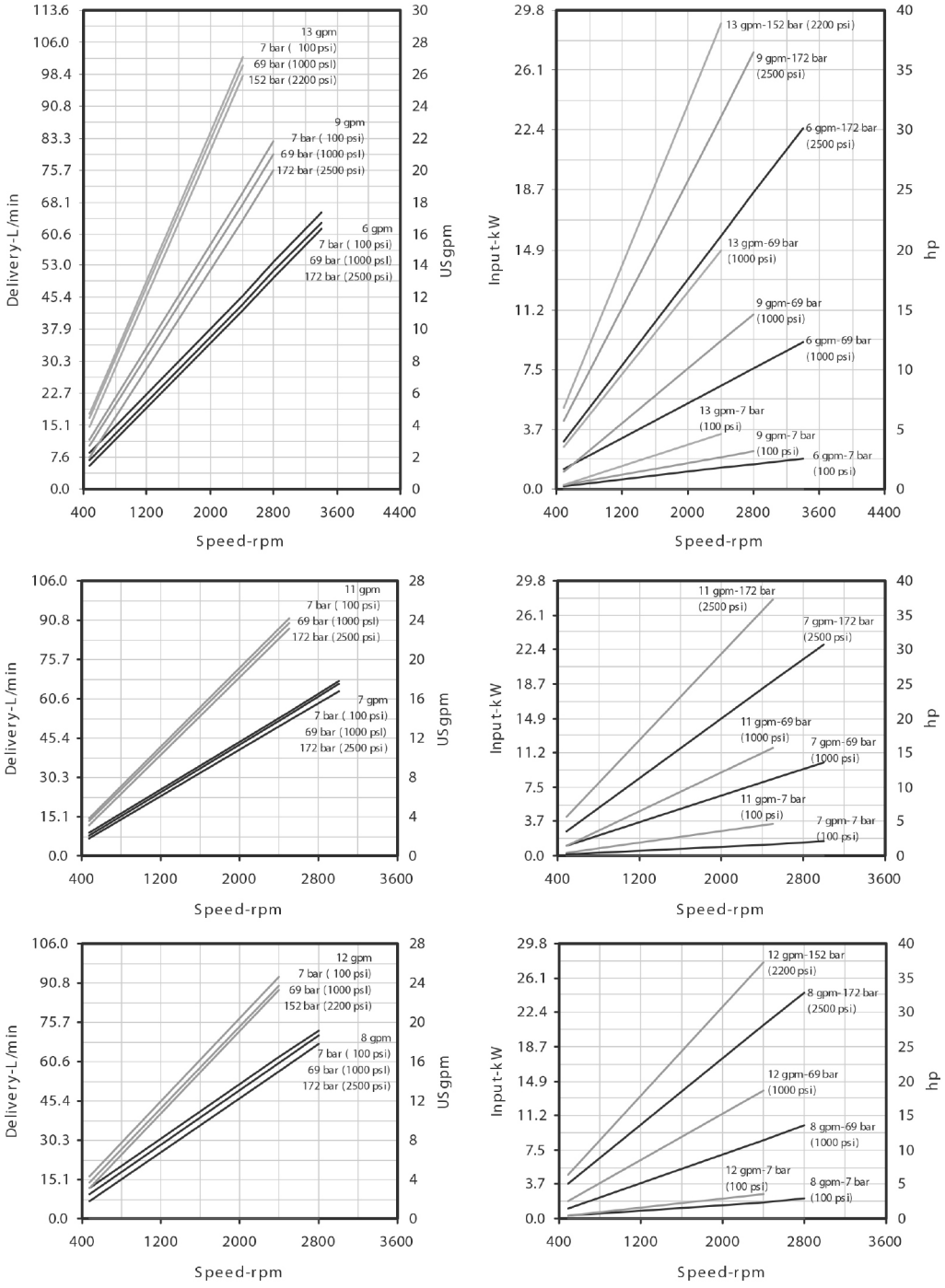
Delivery @ 1200 rpm & 7 bar (100psi)		Dimension		
Shaft End	Cover End	A	B	C
5, 6	1, 2, 3	221.2 (8.71)	93.5 (3.68)	80.0 (3.15)
	4, 5	227.5 (8.96)	99.8 (3.93)	
	6, 7	232.6 (9.16)	104.9 (4.13)	
7, 8, 9	1, 2, 3	227.6 (8.96)	93.5 (3.68)	86.4 (3.40)
	4, 5	233.9 (9.21)	99.8 (3.93)	
	6, 7	239.0 (9.41)	104.9 (4.13)	
10, 11	1, 2, 3	232.4 (9.15)	93.5 (3.68)	91.2 (3.59)
	4, 5	238.8 (9.40)	99.8 (3.93)	
	6, 7	243.8 (9.60)	104.9 (4.13)	
12, 13	1, 2, 3	236.0 (9.29)	93.5 (3.68)	94.7 (3.73)
	4, 5	242.3 (9.54)	99.8 (3.93)	
	6, 7	247.4 (9.74)	104.9 (4.13)	

Fixed Displacement Vane Pump HV2010F/ HV2010P Series

Performance Characteristics

HV20, Shaft End of HV20

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

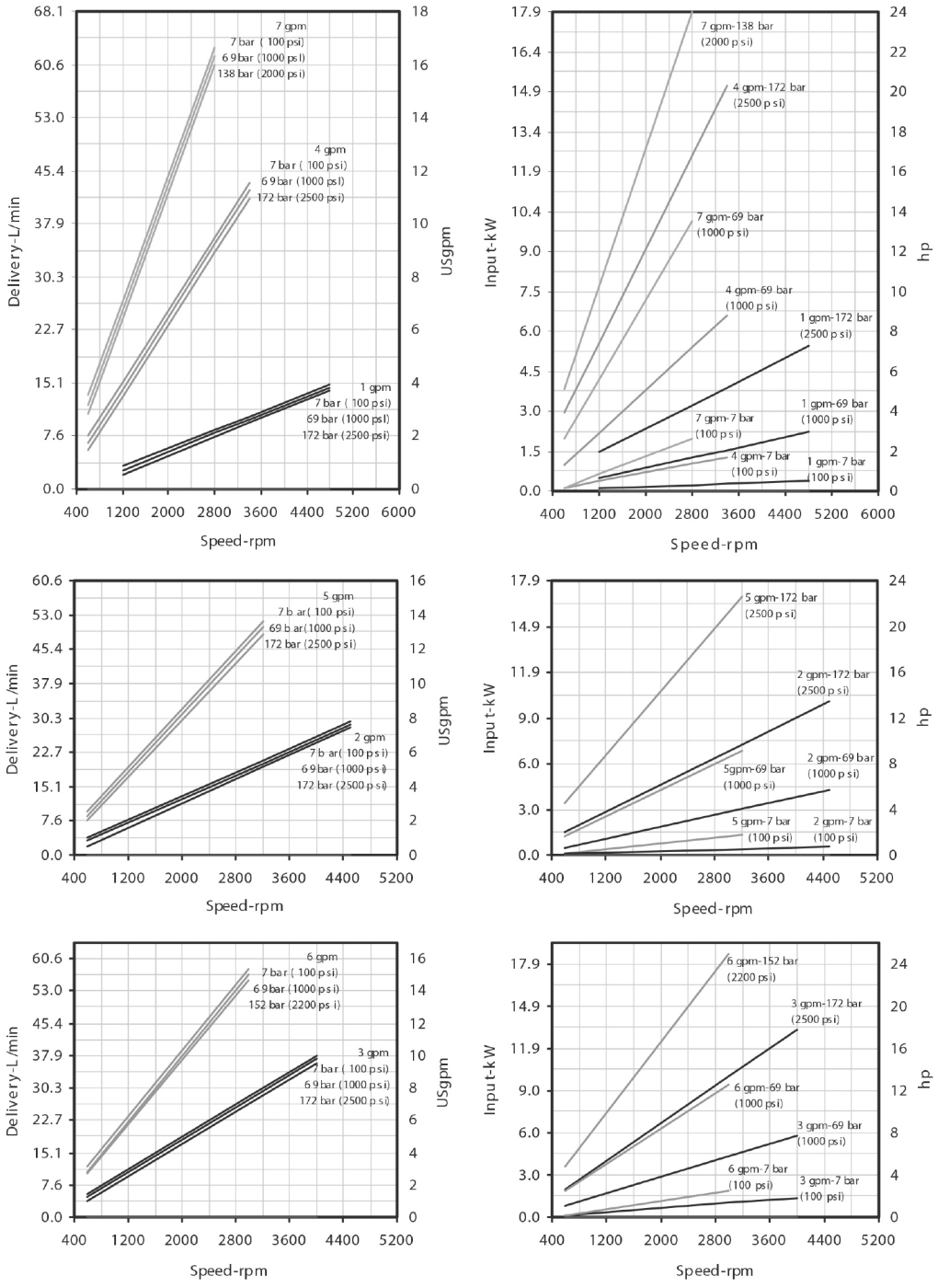


For the Cover End cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge.

Fixed Displacement Vane Pump HV2020F/ HV2020P Series

HV10, Cover End of HV2010

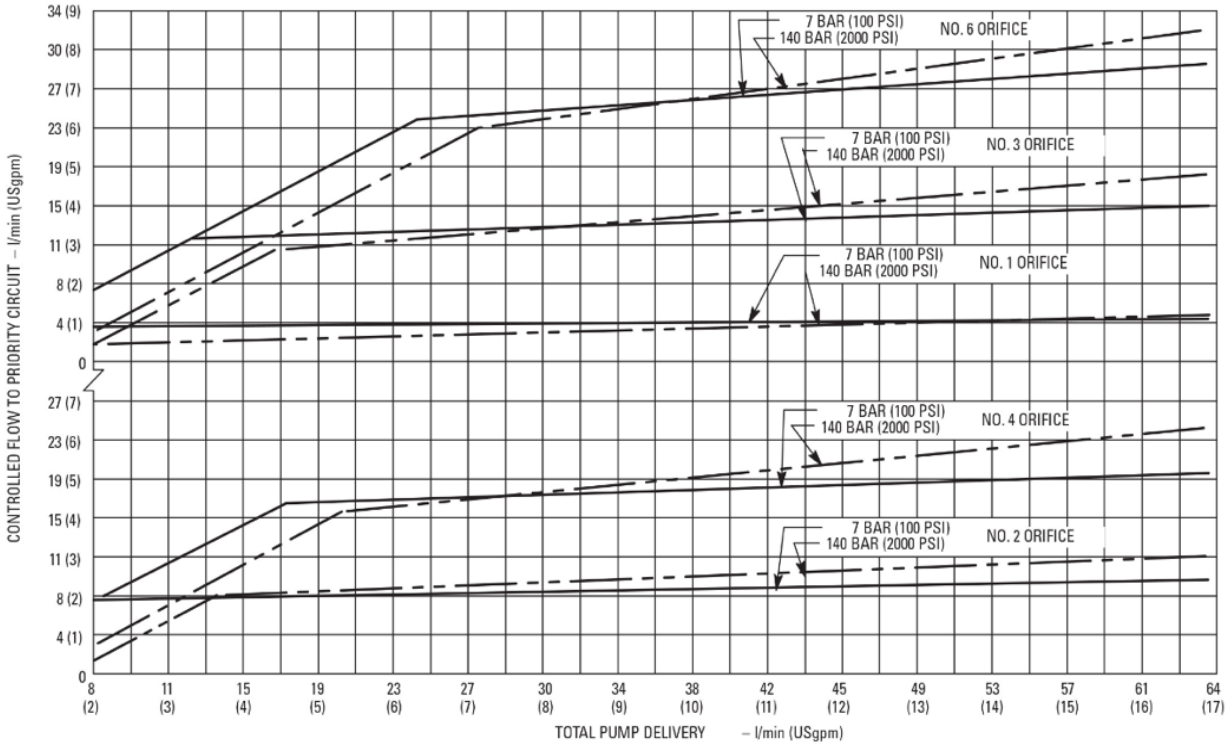
Based on viscosity 32 cSt (150 SSU) oil at 49°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



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

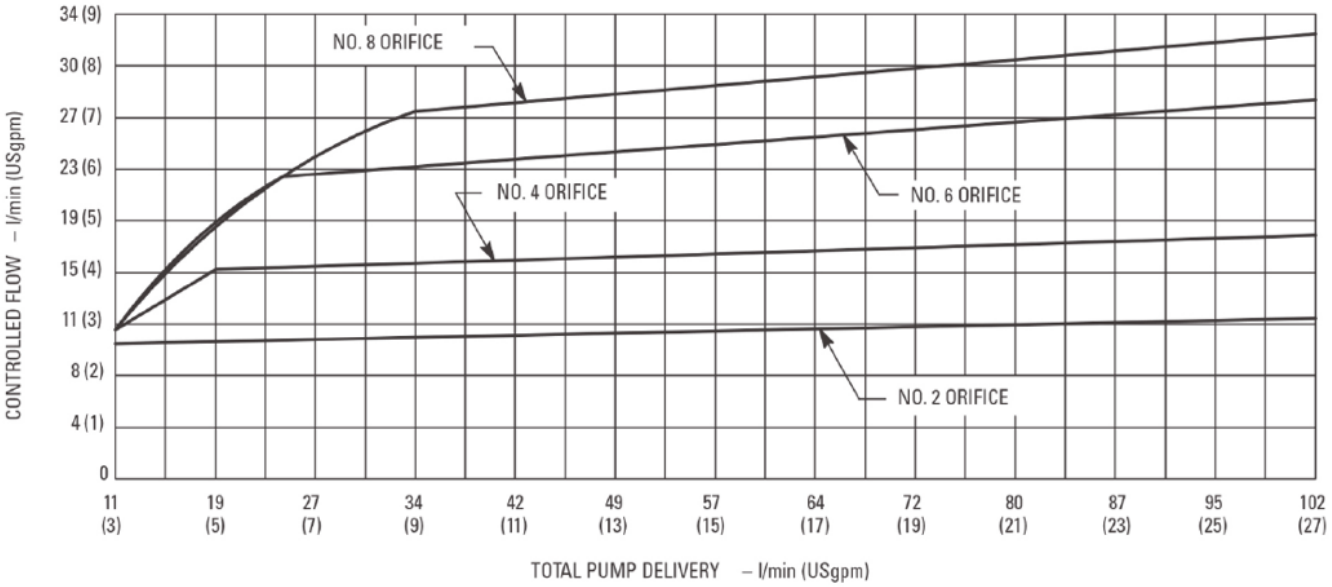
Fixed Displacement Vane Pump HV2020F/ HV2020P Series

Priority Valve : HV2010P



Fixed Displacement Vane Pump HV2020F/ HV2020P Series

Flow Control : HV2010F



Fixed Displacement Vane Pump HV2020 Series

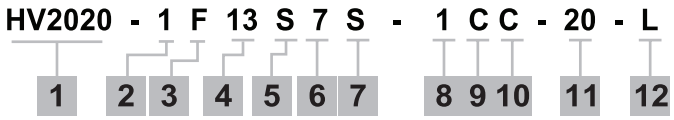
Specifications

Model	Cartridge Position	Ring Size Delivery at 1200 r/min & 7 bar (100 psi) USgpm	Geometric Displacement cm³/r (in³/r)	Delivery at 1500 r/min & 7 bar (100 psi) L/min (USgpm)	Maximum Intermittent Pressure bar (psi)	Maximum Continuous Pressure bar (psi)	Maximum Speed rpm	Weight kg (lb)
HV2020	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)	150 (2200)	140 (2000)	2400	
		13	42.4 (2.59)	61.50 (16.25)			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.*

Fixed Displacement Vane Pump
HV2020 Series

Ordering Code : Double Pump



1. Model :
   HV2020 - Standard Cover
   SAE B 2 bolts mounting flange J744
2. Mounting
   1 - Bolt Flange

3. Inlet Port Connection
   F - 4-bolt Flange Dia. 2.0"

4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
   12 - 39.0 (2.38)
   13 - 42.4 (2.59)

5. Shaft End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP

6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)

7. Cover End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP

8. Type of shaft
   1 - Straight Keyed Shaft
   11 - Splined Shaft

9. Shaft End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet

10. Cover End Outlet Port Position (Viewed from cover end)
    A - Opposite inlet
    B - 90° CCW from inlet
    C - Inline with inlet
    D - 90° CW from inlet

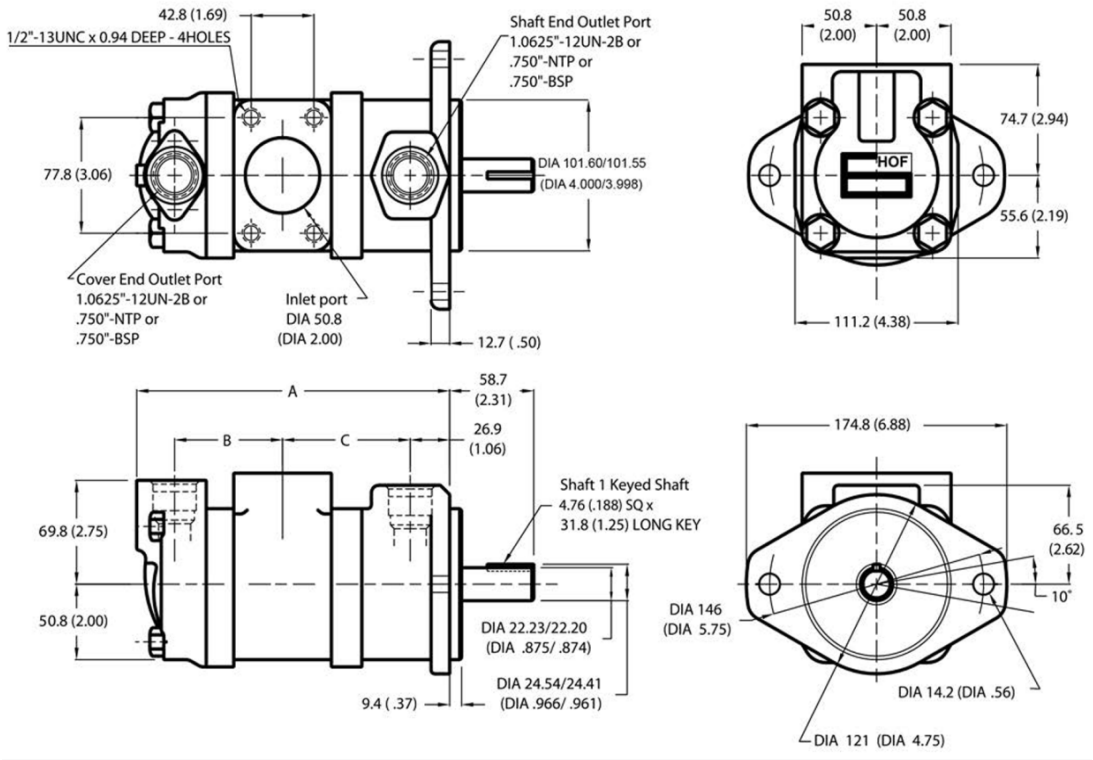
11. Design
    Subject to change. Installation dimension remain the same for designs - 20 through -29

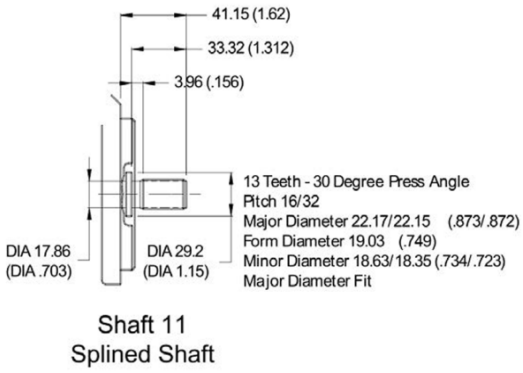
12. Shaft Rotation (viewed from shaft end)
    R - Turn right
    L - Turn left

Fixed Displacement Vane Pump HV2020 Series

Installation Dimension mm (inch)

Double Pump HV2020





Shaft 11
Splined Shaft

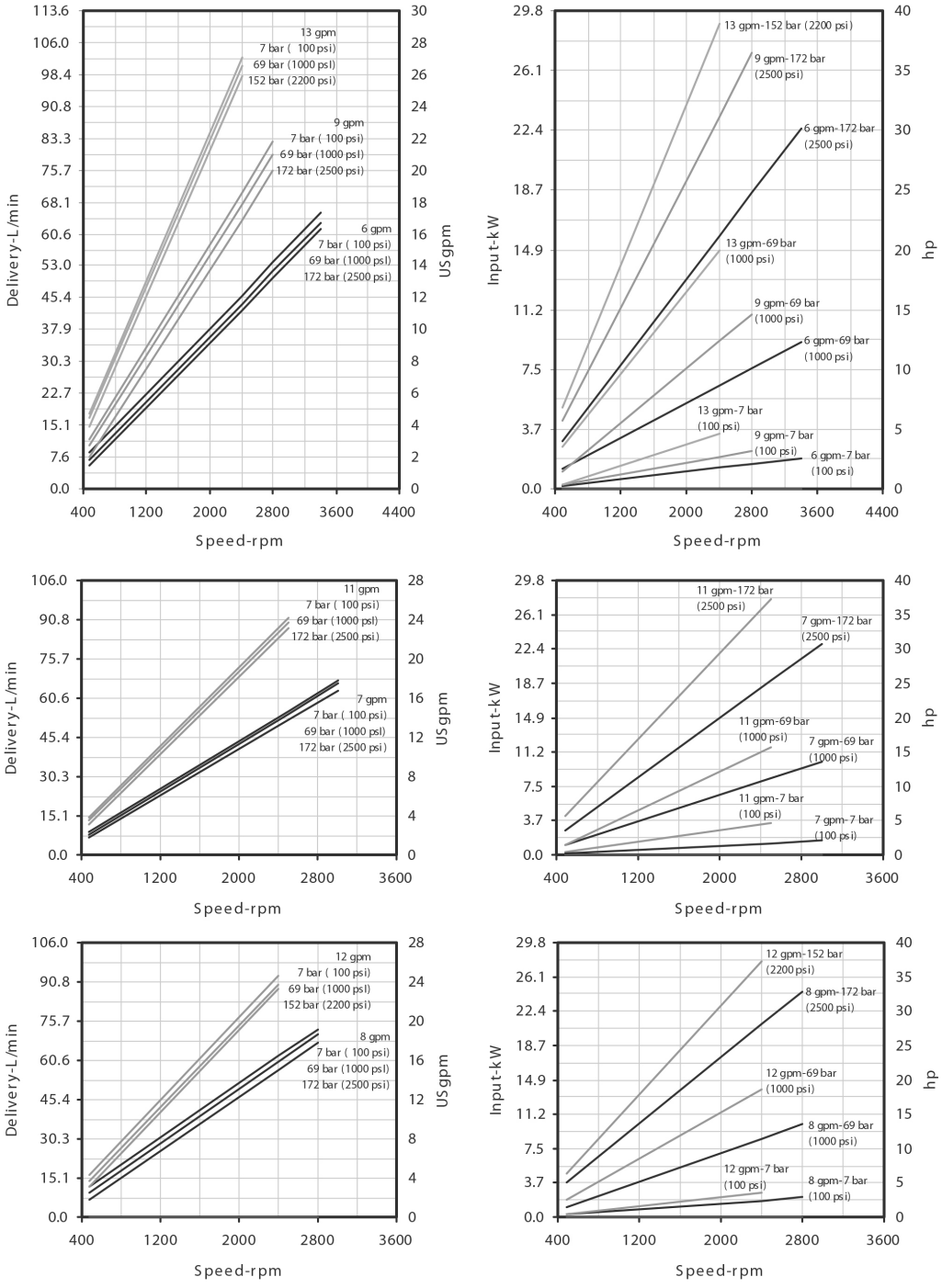
Delivery @ 1200 rpm & 7 bar (100psi)		Dimension		
Shaft End	Cover End	A	B	C
5, 6	5, 6	207.2 (8.16)	73.7 (2.90)	80.7 (3.18)
	7, 8, 9	213.6 (8.41)	80.0 (3.15)	
	10, 11	218.6 (8.61)	85.1 (3.35)	
7, 8, 9	5, 6	213.6 (8.41)	73.7 (2.90)	87.1 (3.43)
	7, 8, 9	220.0 (8.66)	80.0 (3.15)	
	10, 11	225.0 (8.86)	85.1 (3.35)	
10, 11	5, 6	218.7 (8.61)	73.7 (2.90)	92.2 (3.63)
	7, 8, 9	225.0 (8.86)	80.0 (3.15)	
	10, 11	229.9 (9.05)	85.1 (3.35)	
12, 13	5, 6	222.3 (8.75)	73.7 (2.90)	95.5 (3.76)
	7, 8, 9	228.3 (8.99)	80.0 (3.15)	
	10, 11	233.4 (9.19)	85.1 (3.35)	

Fixed Displacement Vane Pump HV2020 Series

Performance Characteristics

HV20, Shaft End of HV20, Cover End of HV20

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

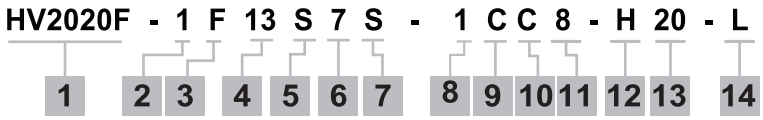
Specifications

Model	Cartridge Position	Ring Size Delivery at 1200 r/min & 7 bar (100 psi) USgpm	Geometric Displacement cm³/r (in³/r)	Delivery at 1500 r/min & 7 bar (100 psi) L/min (USgpm)	Maximum Intermittent Pressure bar (psi)	Maximum Continuous Pressure bar (psi)	Maximum Speed rpm	Weight 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)	150 (2200)	140 (2000)	2400	
		13	42.4 (2.59)	61.50 (16.25)			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.*

Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Ordering Code : Double Pump HV2020F NF



1. Model :
   - HV2020F - Flow Control Cover
   - HV2020NF - Flow Control Cover & Internal Drain SAE B 2 bolts mounting flange J744

2. Mounting
   - 1 - Bolt Flange

3. Inlet Port Connection
   - F - 4-bolt Flange Dia. 2.0"

4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   - 5 - 16.4 (1.00)
   - 6 - 19.5 (1.19)
   - 7 - 22.8 (1.39)
   - 8 - 26.5 (1.62)
   - 9 - 29.7 (1.81)
   - 10 - 34.1 (2.08)
   - 11 - 36.4 (2.22)
   - 12 - 39.0 (2.38)
   - 13 - 42.4 (2.59)

5. Shaft End Outlet Port Connection
   - S - 1" 1/16 - 12 UN(SAE#12)
   - P - 3/4" NPT
   - B - 3/4" BSP

6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   - 5 - 16.4 (1.00)
   - 6 - 19.5 (1.19)
   - 7 - 22.8 (1.39)
   - 8 - 26.5 (1.62)
   - 9 - 29.7 (1.81)
   - 10 - 34.1 (2.08)
   - 11 - 36.4 (2.22)

7. Cover End Outlet Port Connection

   HV2020F
   - S - 3/4" - 16 UNF (SAE#8) for outlet and 1" 1/16 - 12 UN (SAE#12) for tank port
   - P - 3/4" - 16 UNF(SAE#8) for outlet and 1/2" NPT for tank port
   - T - 3/4" - 16 UNF(SAE#8) for outlet and tank port

   HV2020NF
   - S - 3/4" - 16 UNF (SAE#8) for outlet

8. Type of shaft
   - 1 - Straight Keyed Shaft
   - 11 - Splined Shaft

9. Shaft End Outlet Port Position (Viewed from cover end)
   - A - Opposite inlet
   - B - 90° CCW from inlet
   - C - Inline with inlet
   - D - 90° CW from inlet

10. Cover End Outlet Port Position (Viewed from cover end)
   - A - Opposite inlet
   - B - 90° CCW from inlet
   - C - Inline with inlet
   - D - 90° CW from inlet

11. Flow rate Setting L/min (USgpm)
   - 2 - 7.6 (2)
   - 3 - 11.4 (3)
   - 4 - 15.2 (4)
   - 5 - 19.0 (5)
   - 6 - 22.7 (6)
   - 7 - 26.5 (7)
   - 8 - 30.3 (8)

12. Pressure Setting bar (psi)
   - A - 17 (250)
   - B - 34 (500)
   - C - 52 (750)
   - D - 69 (1000)
   - E - 86 (1250)
   - F - 103 (1500)
   - G - 121 (1750)
   - H - 138 (2000)
   - J - 150 (2250)
   - K - 172 (2500)

13. Design
   Subject to change. Installation dimension remain the same for designs - 20 through -29

14. Shaft Rotation (viewed from shaft end)
   - R - Turn right
   - L - Turn left

Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Ordering Code : Double Pump HV2020P

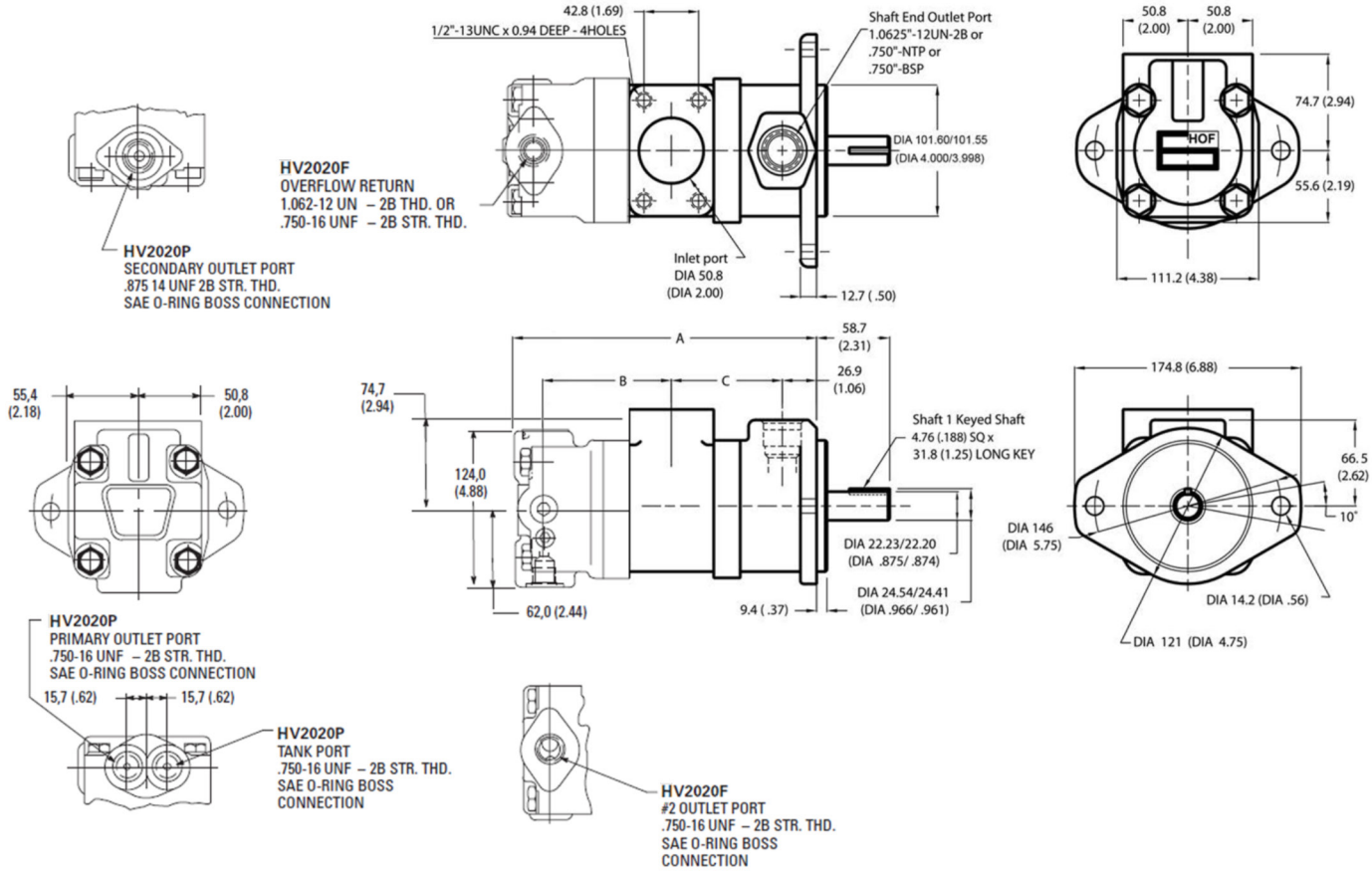
HV2020P	-	1	F	13	S	7	T	-	1	C	C	8	-	H	20	-	L
1		2	3	4	5	6	7		8	9	10	11		12	13		14

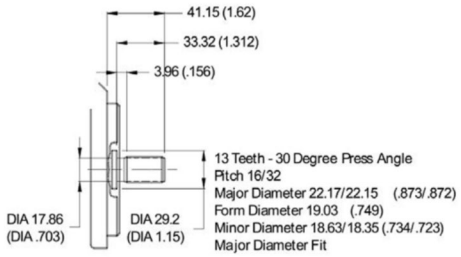
1. Model :
   HV2020P - Priority Valve Cover
   SAE B 2 bolts mounting flange J744
2. Mounting
   1 - Bolt Flange
3. Inlet Port Connection
   F - 4-bolt Flange Dia. 2.0"
4. Displacement (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
   12 - 39.0 (2.38)
   13 - 42.4 (2.59)
5. Shaft End Outlet Port Connection
   S - 1" 1/16 - 12 UN(SAE#12)
   P - 3/4" NPT
   B - 3/4" BSP
6. Displacement P2 (at 1200 rpm)
   Volumetric displacement cm³/rev (in³/rev)
   5 - 16.4 (1.00)
   6 - 19.5 (1.19)
   7 - 22.8 (1.39)
   8 - 26.5 (1.62)
   9 - 29.7 (1.81)
   10 - 34.1 (2.08)
   11 - 36.4 (2.22)
7. Cover End Outlet Port Connection
   T - 3/4" - 16 UNF (SAE#8) for primary outlet and tank port and 7/8" - 14 UN(SAE#10) for secondary outlet
8. Type of shaft
   1 - Straight Keyed Shaft
   11 - Splined Shaft
9. Shaft End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet
10. Cover End Outlet Port Position (Viewed from cover end)
   A - Opposite inlet
   B - 90° CCW from inlet
   C - Inline with inlet
   D - 90° CW from inlet
11. Flow rate Setting L/min (USgpm)
   2 - 7.6 (2)
   3 - 11.4 (3)
   4 - 15.2 (4)
   5 - 19.0 (5)
   6 - 22.7 (6)
   7 - 26.5 (7)
   8 - 30.3 (8)
12. Pressure Setting bar (psi)
   A - 17 (250)
   B - 34 (500)
   C - 52 (750)
   D - 69 (1000)
   E - 86 (1250)
   F - 103 (1500)
   G - 121 (1750)
   H - 138 (2000)
   J - 150 (2250)
   K - 172 (2500)
13. Design
   Subject to change. Installation dimension remain the same for designs - 20 through -29
14. Shaft Rotation (viewed from shaft end)
   R - Turn right
   L - Turn left

Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Installation Dimension mm (inch)

Double Pump HV2020F and HV2020P



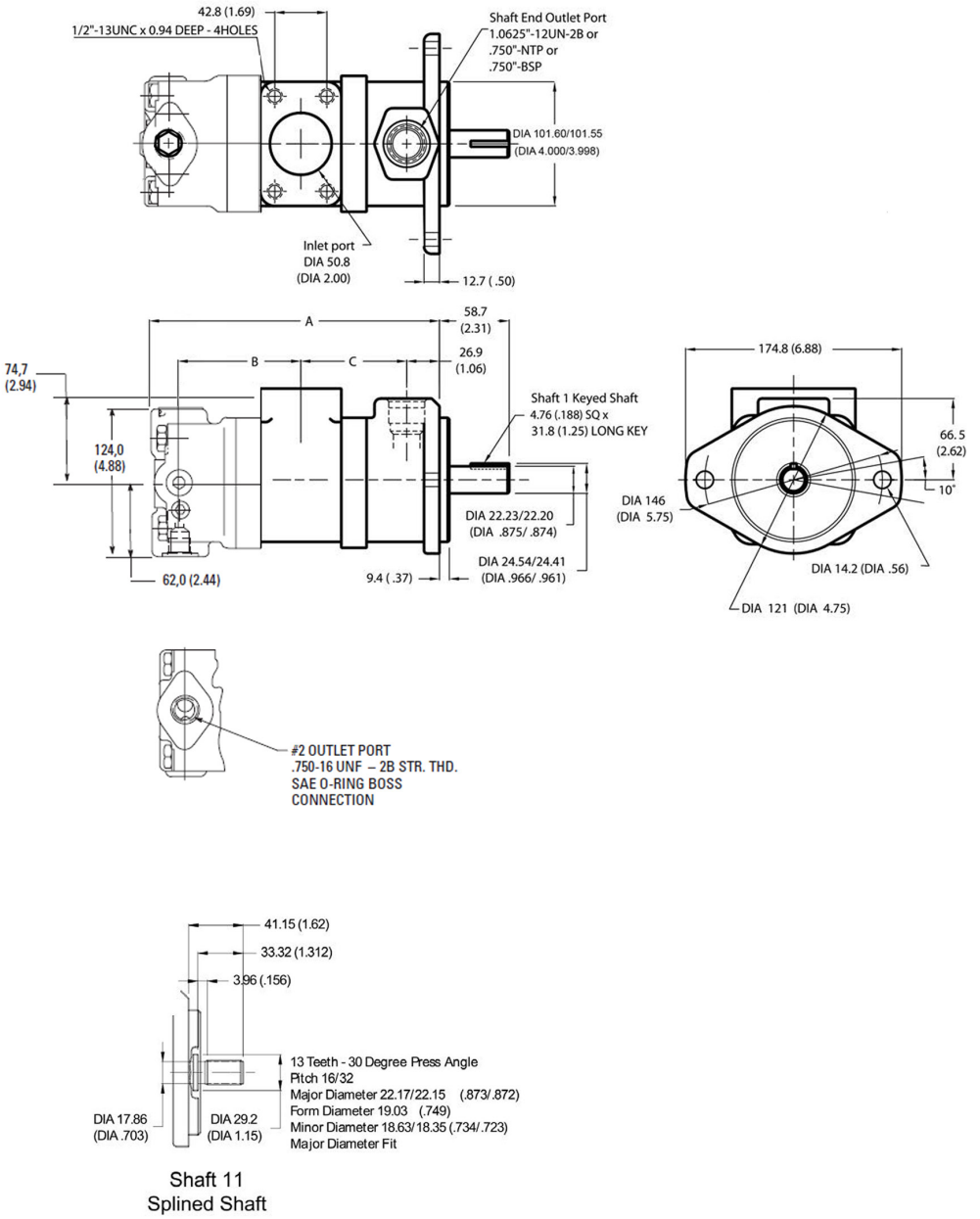


Shaft 11
Splined Shaft

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



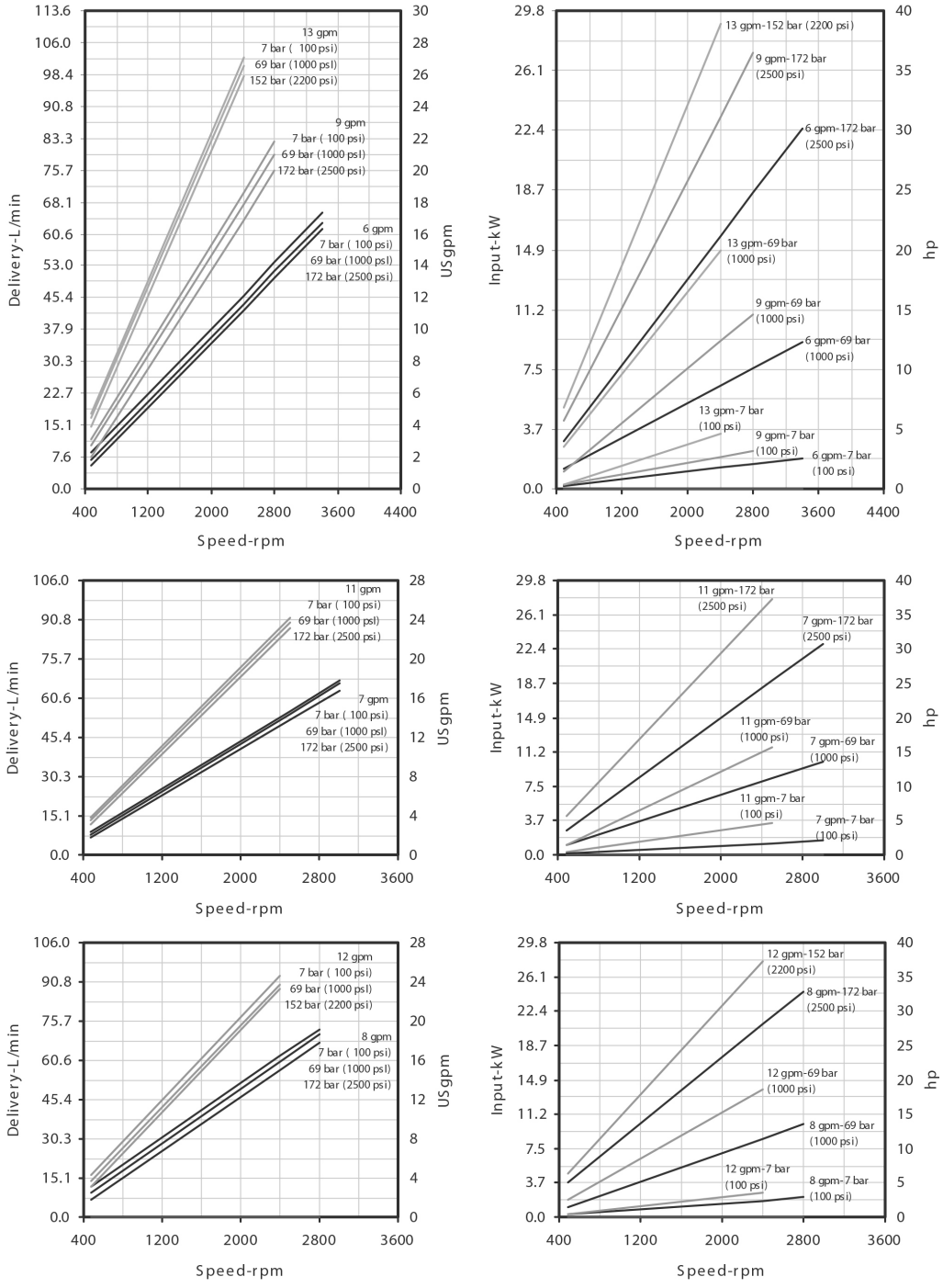
Shaft 11
Splined Shaft

Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Performance Characteristics

HV20, Shaft End of HV20, Cover End of HV2020

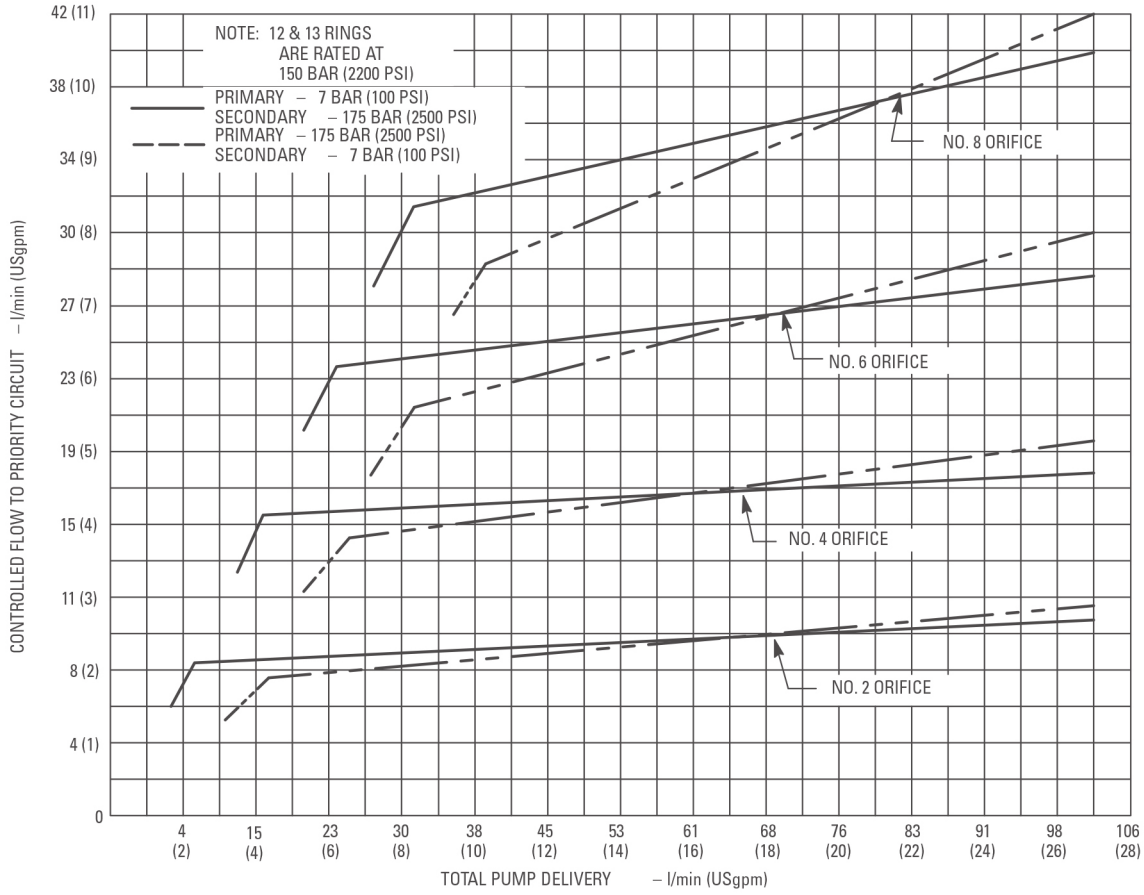
Based on viscosity 32 cSt (150 SSU) oil at 49°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



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

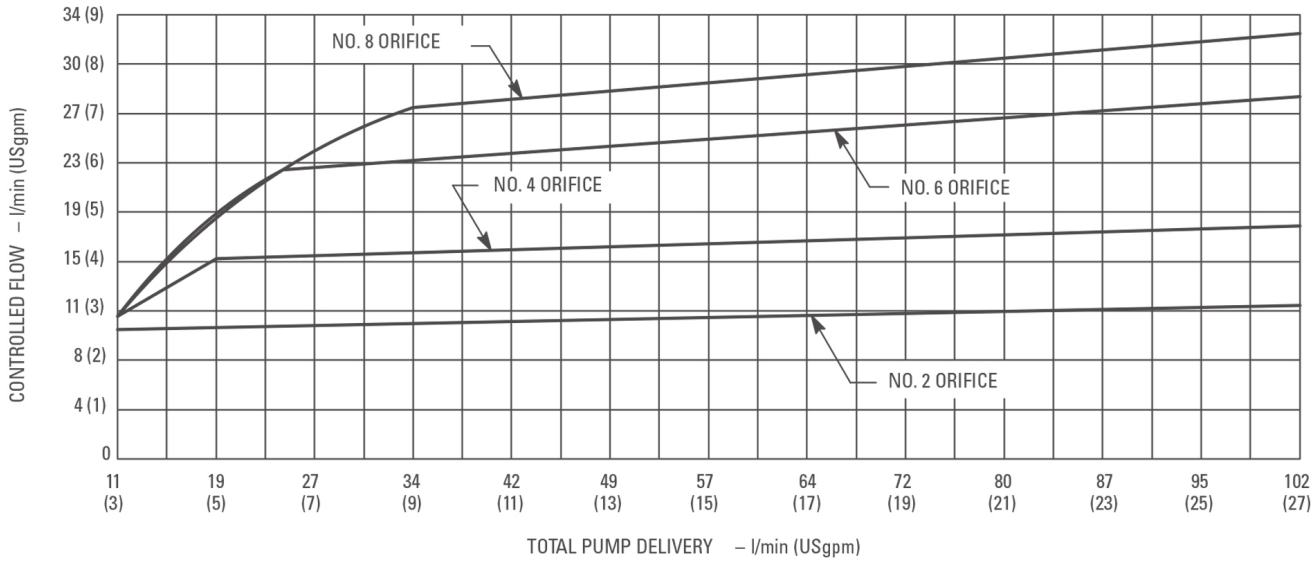
Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Priority Valve : HV2020P



Fixed Displacement Vane Pump HV2020F NF/HV2020P Series

Flow control : HV2020F NF



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