

Hydraulic Double Vane Pump HV & HVQ Series

Catalog 2021

High Performance Double Vane Pump

2520 HV/HVQ Series

Specifications :

2520 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
2520HV	Shaft End	12	39 (2.47)	1800	172 (2500)	62.1 (16.4)	22.9 (30.8)	21.0 (46.2)
		14	45 (2.78)			69.6 (18.4)	25.7 (34.5)	
		17	55 (3.39)			86.3 (22.8)	29.8 (40.0)	
		19	60.8 (3.72)			91.6 (25.4)	32.5 (43.5)	
		21	67 (4.13)			106.0 (28.0)	34.0 (45.6)	
	Cover End	2	7.0 (0.42)		206 (3000)	11.3 (3.00)	5.2 (7.0)	
		5	18 (1.10)			28.4 (7.5)	11.2 (15.0)	
		8	27 (1.67)			45.4 (12.0)	17.0 (22.8)	
		9	30.2 (1.84)			51.0 (13.5)	18.7 (25.1)	
		11	36 (2.22)			56.8 (15.0)	22.6 (30.3)	
		12	40 (2.47)		158 (2300)	62.1 (16.4)	25.1 (33.7)	
		14	45 (2.78)		138 (2000)	69.6 (18.4)	28.3 (37.9)	

2520 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
2520HVQ	Shaft End	12	40 (2.45)	2500	206 (3000)	87.1 (23.0)	41.0 (55.0)	21.0 (46.2)
		14	45 (2.77)			102.2 (27.0)	46.6 (62.5)	
		17	55 (3.37)			117.3 (31.0)	51.8 (69.5)	
		19	60.8 (3.72)			130.5 (34.5)	53.0 (71.0)	
		21	67 (4.12)			143.8 (38.0)	61.9 (83.0)	
	Cover End	2	7.0 (0.42)	2700	206 (3000)	15.9 (4.2)	7.3 (9.8)	
		5	18 (1.10)			37.9 (10.0)	16.4 (22.0)	
		8	27 (1.67)			60.6 (16.0)	24.2 (32.5)	
		9	30.2 (1.84)			71.5 (18.9)	32.9 (44.1)	
		11	36 (2.22)			75.0 (19.82)	33.9 (45.42)	
		12	39 (2.41)		158 (2300)	88.9 (23.5)	26.1 (35.0)	
		14	45 (2.80)		138 (2000)	104.1 (27.5)	26.9 (36.0)	

High Performance Double Vane Pump

2520 HV/HVQ Series

Ordering Code : Double Pump

2520HVQ - 17 A 11 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

2520 - Standard Bearing SAE B 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

12 - 39.0 (2.47)
14 - 45.0 (2.78)
17 - 55.3 (3.39)
19 - 60.8 (3.72)
21 - 67.0 (4.13)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

02 - 7.0 (0.43)
05 - 18.0 (1.10)
08 - 27.3 (1.67)
09 - 30.3 (1.85)
11 - 36.3 (2.22)
12 - 40.4 (2.47)
14 - 45.5 (2.78)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

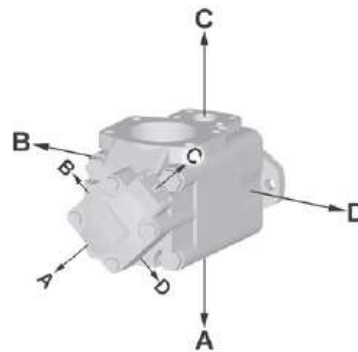
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

11. Shaft Rotation (viewed from shaft end)

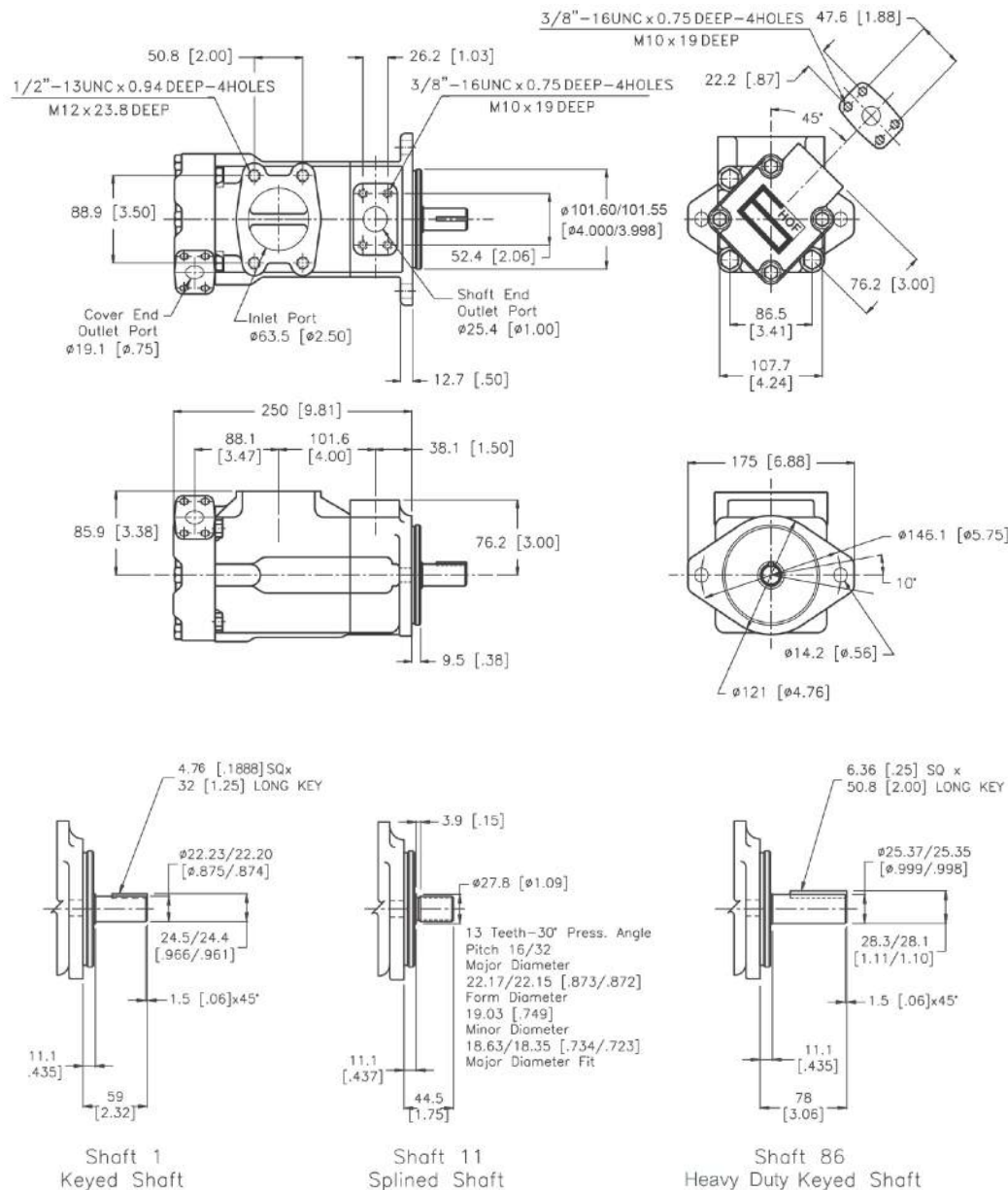
R - Turn right
L - Turn left

High Performance Double Vane Pump

2520 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 2520HV/HVQ



High Performance Double Vane Pump

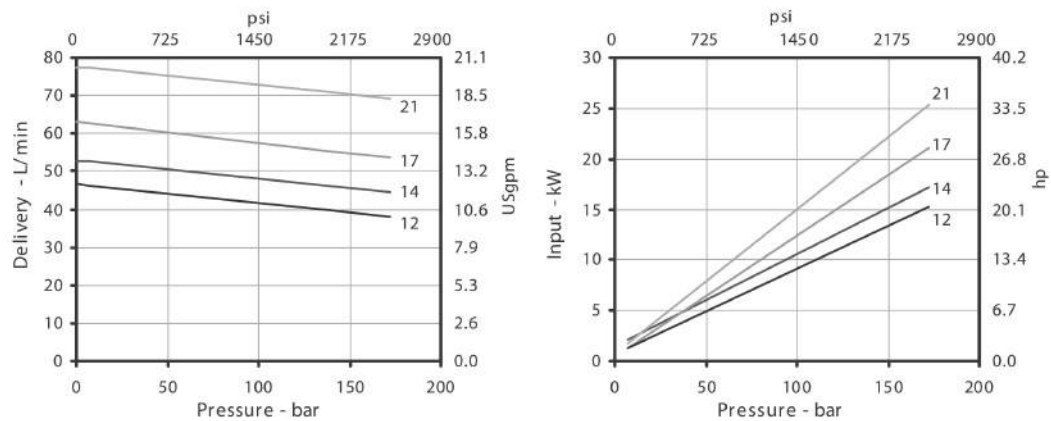
2520 HV/HVQ Series

Performance Characteristics

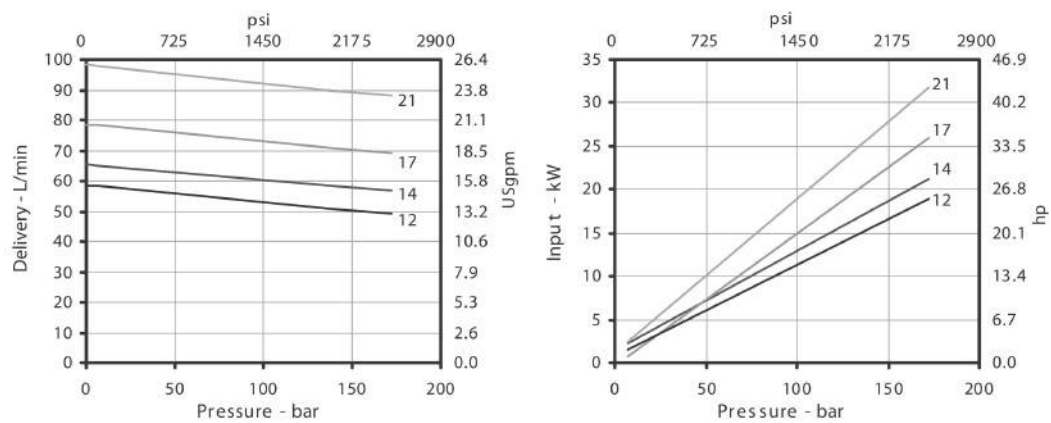
25HV, Shaft End of 25HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

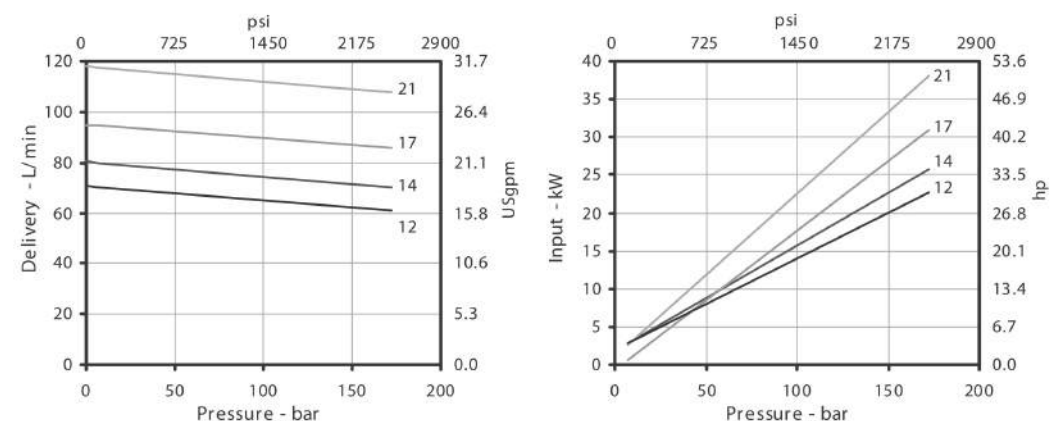
At 1200 rpm



At 1500 rpm



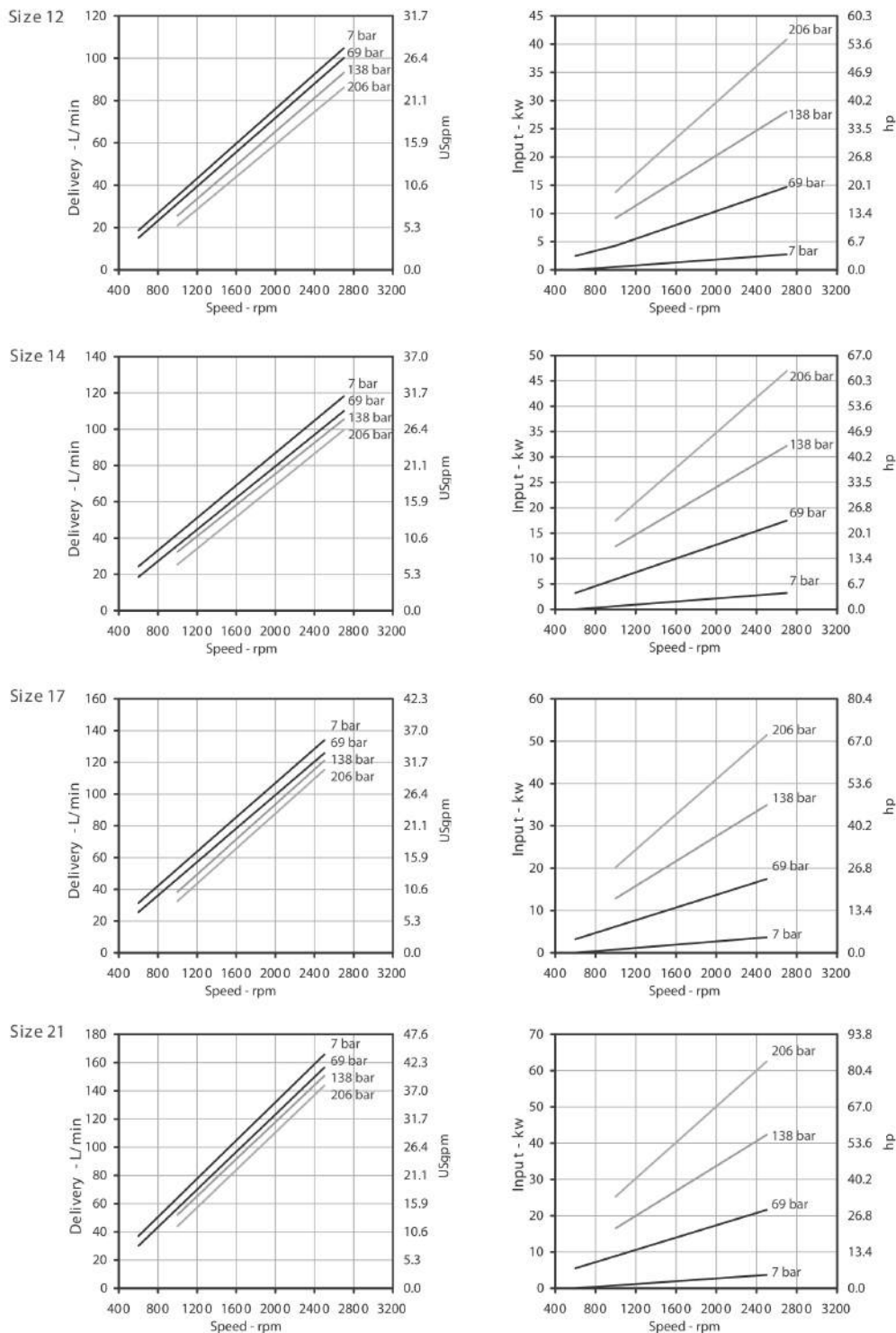
At 1800 rpm



High Performance Double Vane Pump 2520 HV/HVQ Series

25HVQ, Shaft End of 25HVQ

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



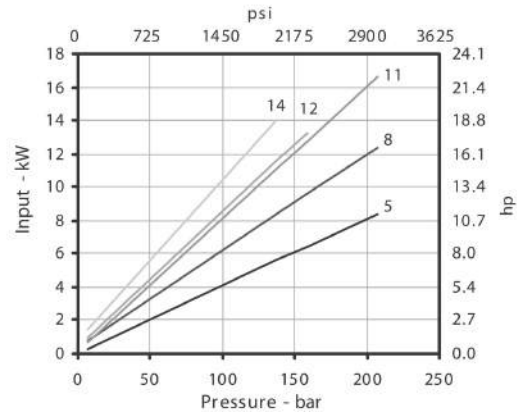
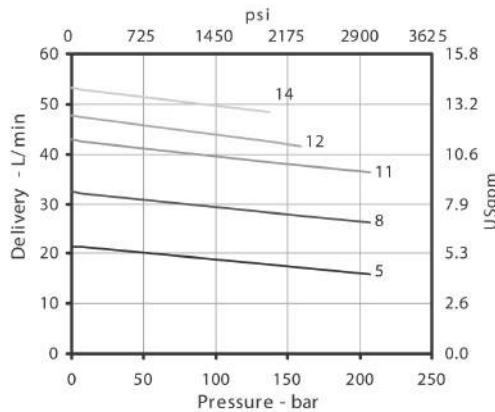
For the Cover End Cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge

High Performance Double Vane Pump 2520 HV/HVQ Series

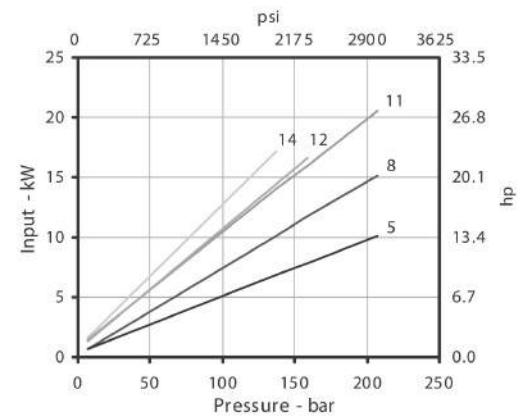
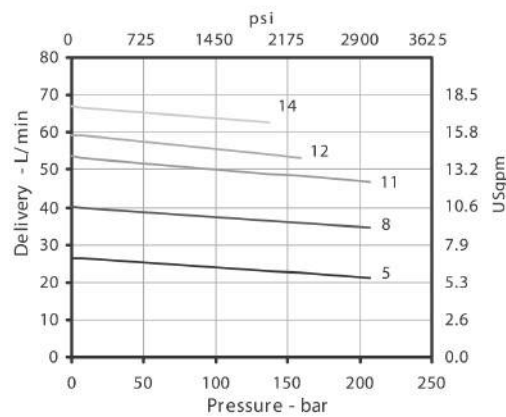
20HV, Cover End of 20HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

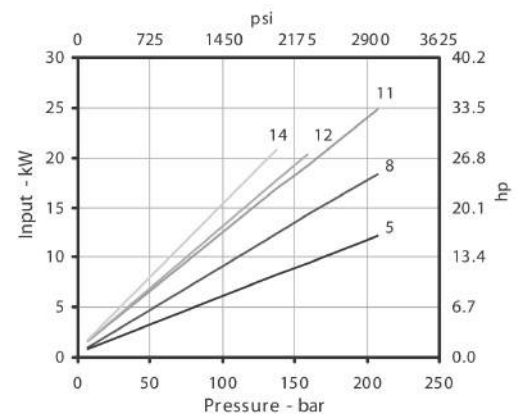
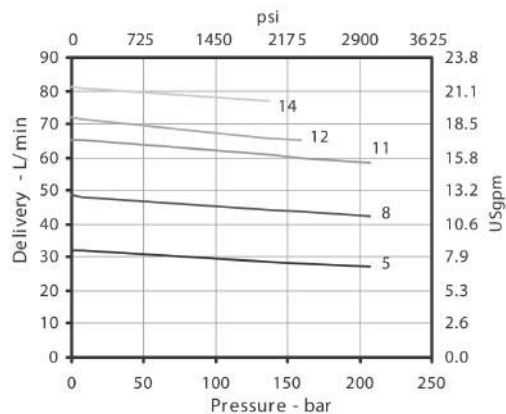
At 1200 rpm



At 1500 rpm



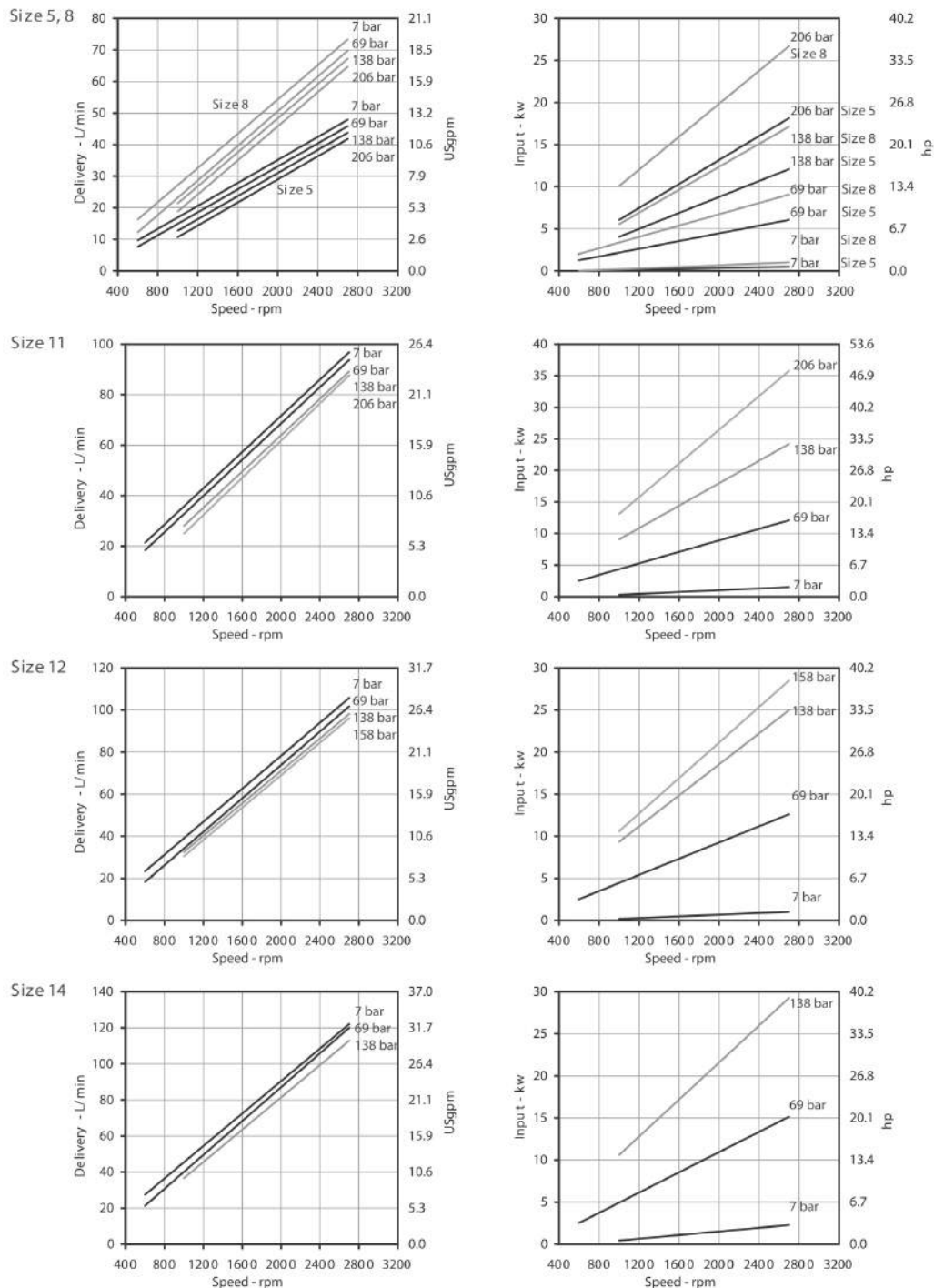
At 1800 rpm



High Performance Double Vane Pump 2520 HV/HVQ Series

20HVQ, Cover End of 20HVQ

Based on SAE 10W Fluid at 82°C (180°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

High Performance Double Vane Pump

3520 HV/HVQ Series

Specifications :

3520 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
3520HV	Shaft End	21	68.3 (4.18)	1800	172 (2500)	106.3 (28.1)	33.9 (45.5)	31.2 (68.6)
		25	81 (4.94)			124.9 (33.0)	45.5 (61.0)	
		30	97 (5.91)			154.4 (40.8)	54.5 (73.0)	
		35	112 (6.83)			181.7 (48.0)	61.5 (82.4)	
		38	121 (7.37)			193.8 (51.2)	65.9 (88.3)	
	Cover End	2	7.0 (0.42)		206 (3000)	11.3 (3.00)	5.2 (7.0)	
		5	18 (1.10)			28.4 (7.5)	11.2 (15.0)	
		8	27 (1.67)			45.4 (12.0)	17.0 (22.8)	
		9	30.2 (1.84)			51.0 (13.5)	18.7 (25.1)	
		11	36 (2.22)			56.8 (15.0)	22.6 (30.3)	
		12	40 (2.47)		158 (2300)	62.1 (16.4)	25.1 (33.7)	
		14	45 (2.78)		138 (2000)	69.6 (18.4)	28.3 (37.9)	

3520 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
3520HVQ	Shaft End	21	68.3 (4.18)	2500	206 (3000)	143.8 (38.0)	55.0 (73.9)	31.2 (68.6)
		25	81 (4.98)			145.7 (38.5)	66.4 (89.0)	
		30	97 (5.96)			177.9 (47.0)	77.6 (104.0)	
		35	112 (6.88)			208.2 (55.0)	89.5 (120.0)	
		38	121 (7.42)			223.3 (59.0)	97.0 (130.0)	
	Cover End	2	7.0 (0.42)		206 (3000)	15.0 (4.0)	6.1 (8.2)	
		5	18 (1.10)			37.9 (10.0)	16.4 (22.0)	
		8	27 (1.67)			60.6 (16.0)	24.2 (32.5)	
		9	30.2 (1.84)			67.8 (17.9)	27.5 (36.8)	
		11	36 (2.22)			69.5 (18.35)	31.4 (42.05)	
		12	39 (2.41)		158 (2300)	88.9 (23.5)	26.1 (35.0)	
		14	45 (2.80)		138 (2000)	104.1 (27.5)	26.9 (36.0)	

High Performance Double Vane Pump

3520 HV/HVQ Series

Ordering Code : Double Pump

3520HVQ - 30 A 11 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

3520 - Standard Bearing SAE C 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

21 - 68.3 (4.18)
25 - 81.0 (4.94)
30 - 97.0 (5.91)
35 - 112.0 (6.83)
38 - 121.0 (7.37)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

02 - 7.0 (0.43)
05 - 18.0 (1.10)
08 - 27.3 (1.67)
09 - 30.3 (1.85)
11 - 36.3 (2.22)
12 - 40.4 (2.47)
14 - 45.5 (2.78)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

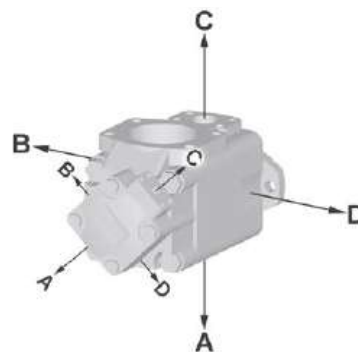
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

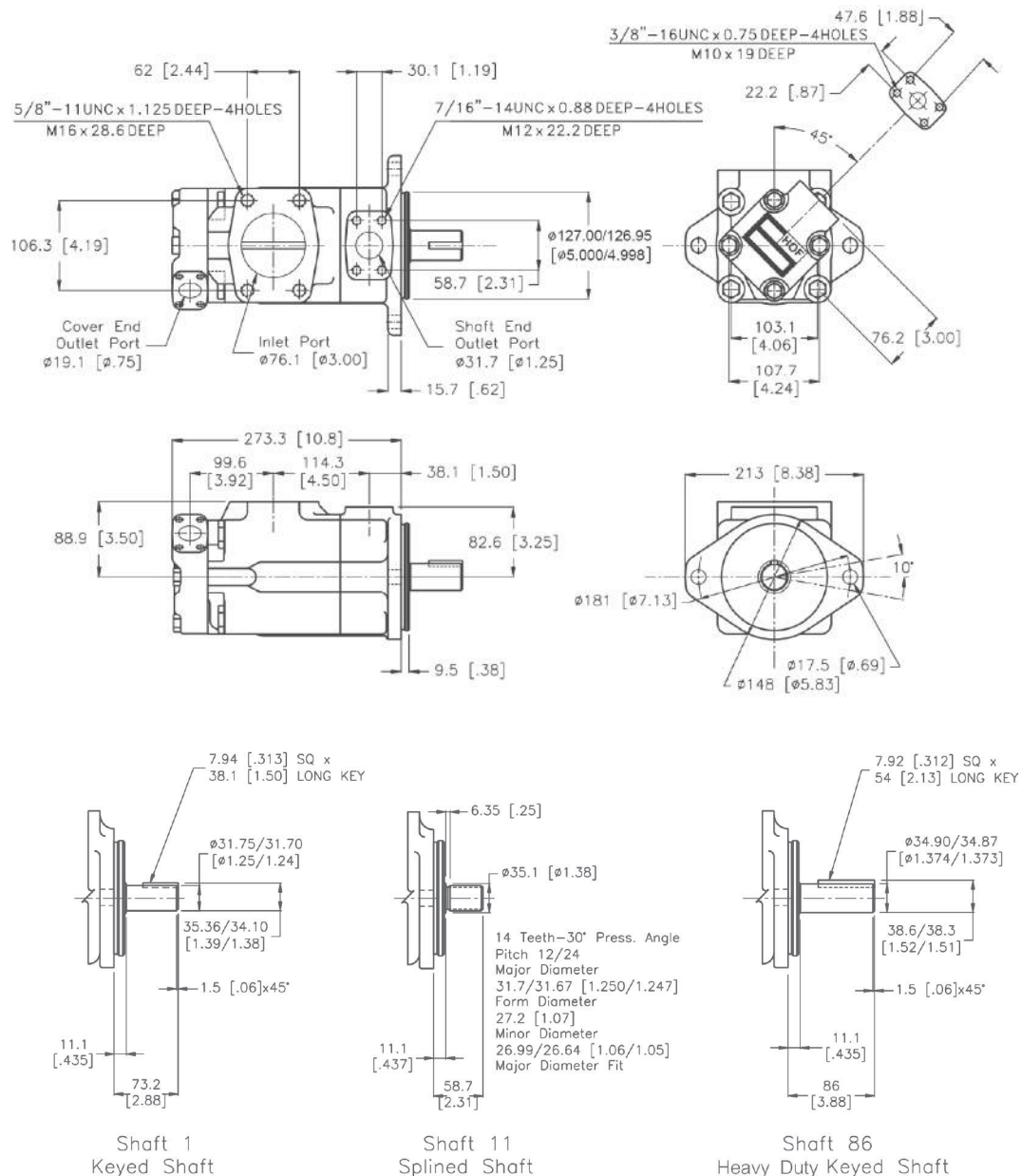
11. Shaft Rotation (viewed from shaft end)

R - Turn right
L - Turn left

High Performance Double Vane Pump 3520 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 3520HV/HVQ



High Performance Double Vane Pump

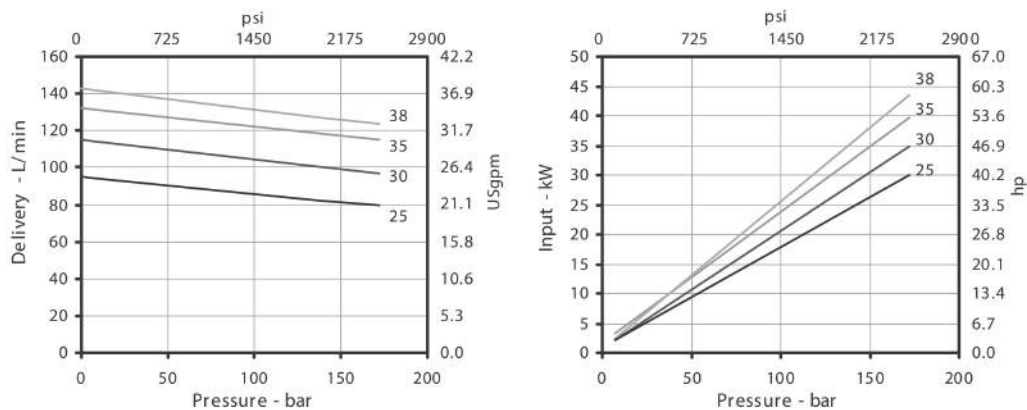
3520 HV/HVQ Series

Performance Characteristics

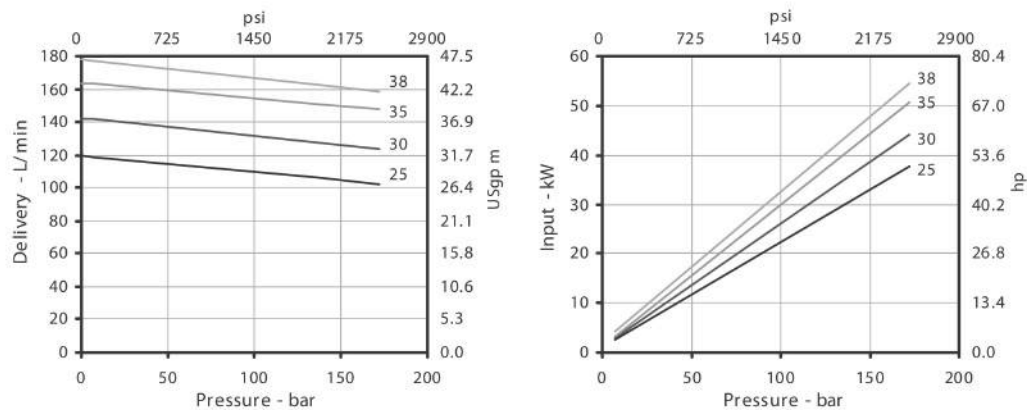
35HV, Shaft End of 35HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

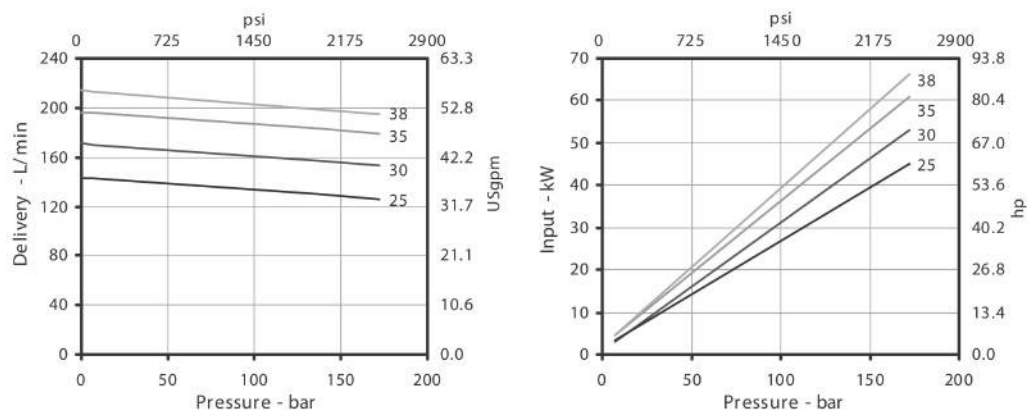
At 1200 rpm



At 1500 rpm



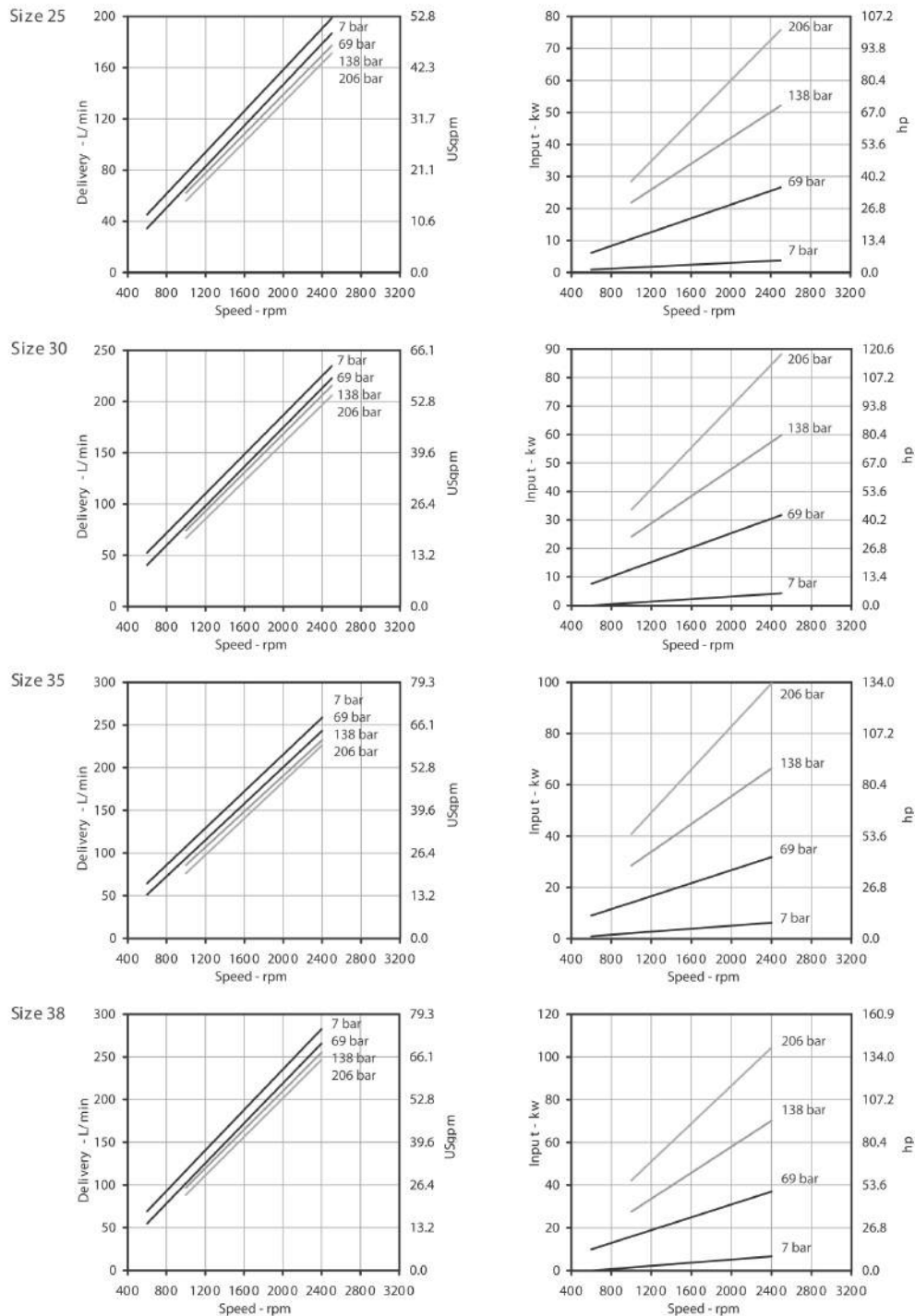
At 1800 rpm



High Performance Double Vane Pump 3520 HV/HVQ Series

35HVQ, Shaft End of 35HVQ

Based on SAE 10W Fluid at 82°C (180°F) and pump inlet at 0 PSIG (14.7 PSIA)



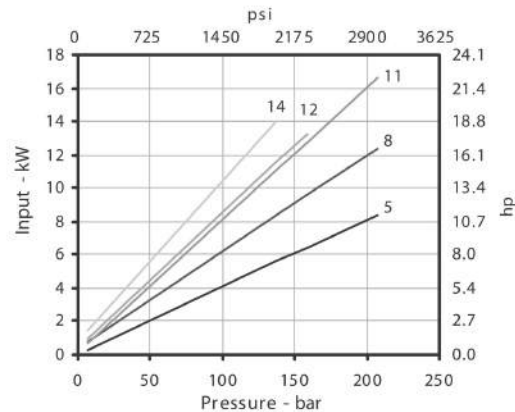
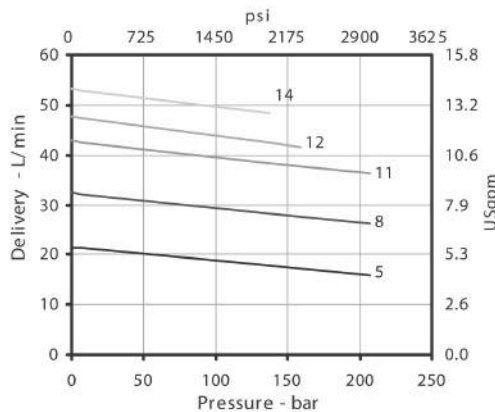
For the Cover End Cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge

High Performance Double Vane Pump 3520 HV/HVQ Series

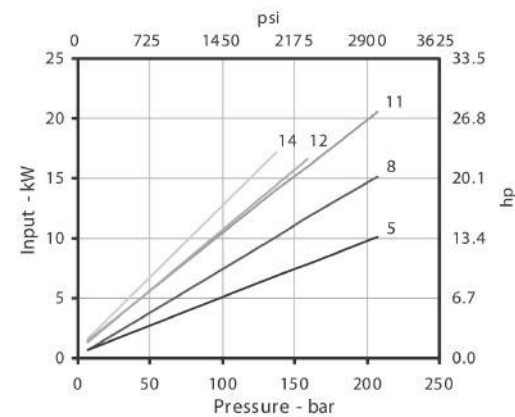
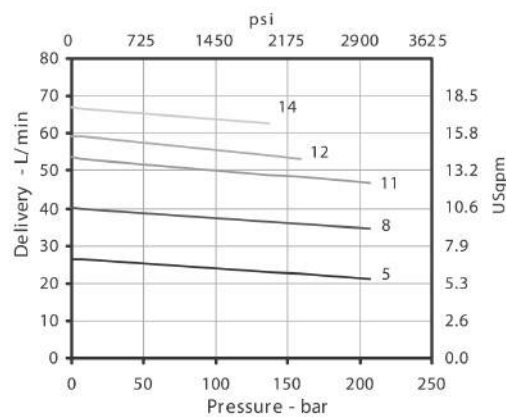
20HV, Cover End of 20HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

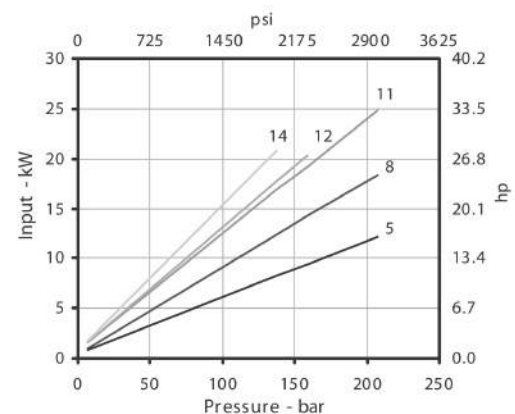
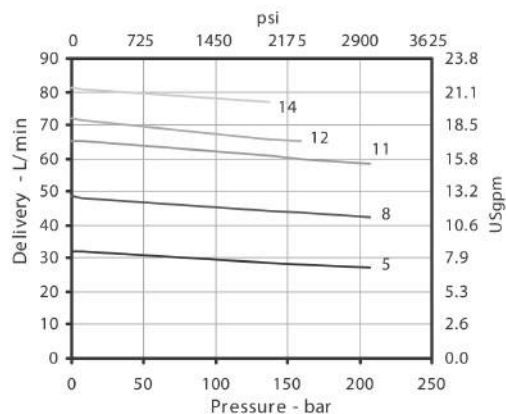
At 1200 rpm



At 1500 rpm



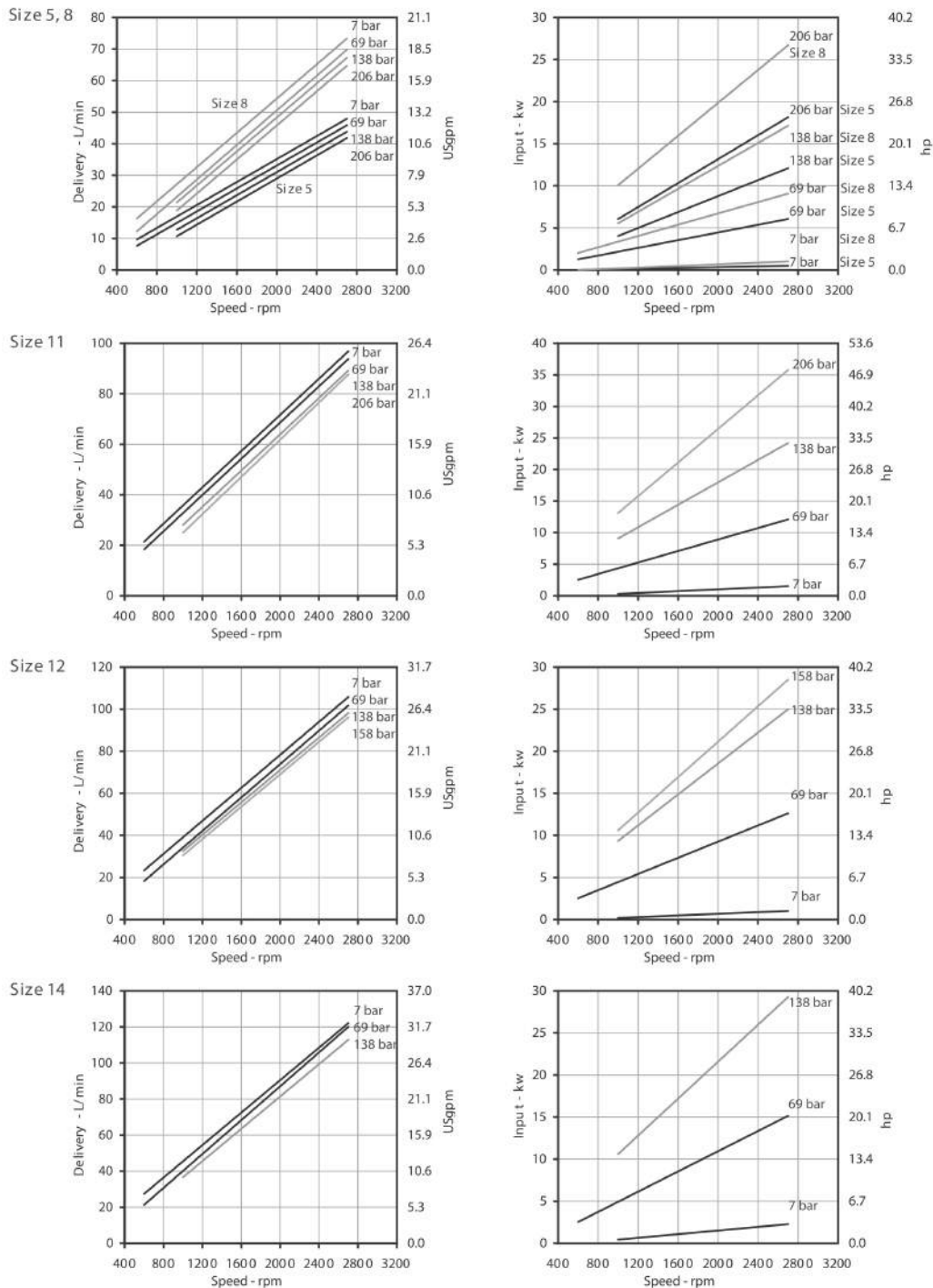
At 1800 rpm



High Performance Double Vane Pump 3520 HV/HVQ Series

20HVQ, Cover End of 20HVQ

Based on SAE 10W Fluid at 82°C (180°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

High Performance Double Vane Pump

3525 HV/HVQ Series

Specifications :

3525 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
3525HV	Shaft End	21	68.3 (4.18)	1800	172 (2500)	106.3 (28.1)	33.9 (45.5)	34.5 (75.9)
		25	81 (4.94)			124.9 (33.0)	45.5 (61.0)	
		30	97 (5.91)			154.4 (40.8)	54.5 (73.0)	
		35	112 (6.83)			181.7 (48.0)	61.5 (82.4)	
		38	121 (7.37)			193.8 (51.2)	65.9 (88.3)	
	Cover End	12	39 (2.47)			62.1 (16.4)	22.9 (30.8)	
		14	45 (2.78)			69.6 (18.4)	25.7 (34.5)	
		17	55 (3.39)			86.3 (22.8)	29.8 (40.0)	
		19	60.8 (3.72)			91.6 (25.4)	32.5 (43.5)	
		21	67 (4.13)			106.0 (28.0)	34.0 (45.6)	

3525 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
3525HVQ	Shaft End	21	68.3 (4.18)	2500	206 (3000)	143.8 (38.0)	55.0 (73.9)	34.5 (75.9)
		25	81 (4.98)			145.7 (38.5)	66.4 (89.0)	
		30	97 (5.96)			177.9 (47.0)	77.6 (104.0)	
		35	112 (6.88)			208.2 (55.0)	89.5 (120.0)	
		38	121 (7.42)			223.3 (59.0)	97.0 (130.0)	
	Cover End	12	40 (2.45)			84.0 (22.18)	34.0 (46.4)	
		14	45 (2.77)			98.7 (26.08)	39.1 (52.47)	
		17	55 (3.37)			117.3 (31.0)	51.5 (69.0)	
		19	60.8 (3.72)			130.5 (34.50)	53.0 (71.0)	
		21	67 (4.12)			143.8 (38.0)	61.9 (83.0)	

High Performance Double Vane Pump

3525 HV/HVQ Series

Ordering Code : Double Pump

3525HVQ - 30 A 17 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

3525 - Standard Bearing SAE C 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

21 - 68.3 (4.18)
25 - 81.0 (4.94)
30 - 97.0 (5.91)
35 - 112.0 (6.83)
38 - 121.0 (7.37)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

12 - 39.0 (2.47)
14 - 45.0 (2.78)
17 - 55.3 (3.39)
19 - 60.8 (3.72)
21 - 67.0 (4.13)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

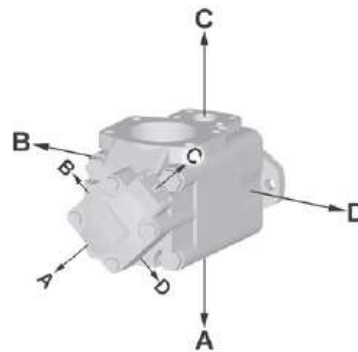
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

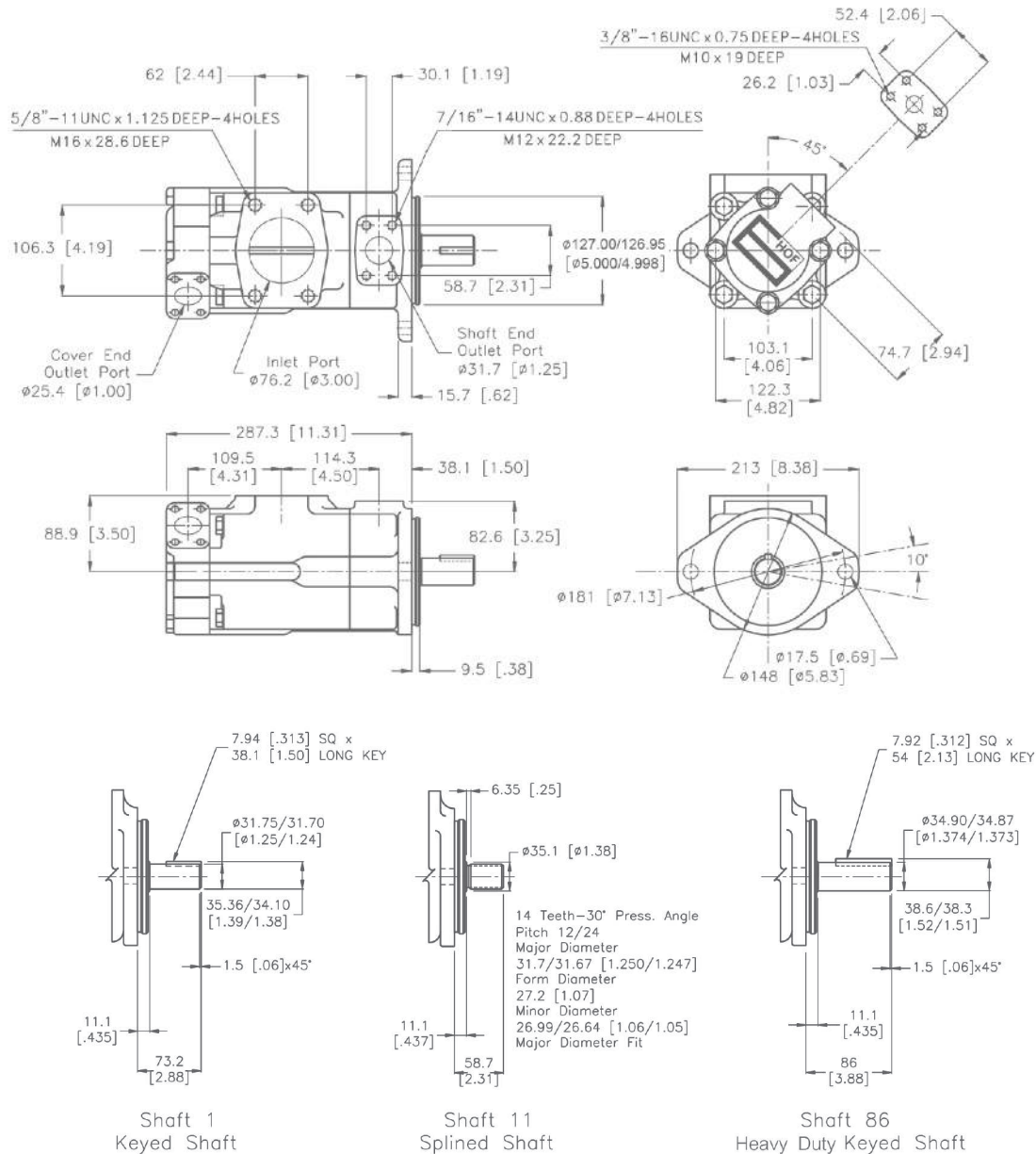
11. Shaft Rotation (viewed from shaft end)

R - Turn right
L - Turn left

High Performance Double Vane Pump 3525 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 3525HV/HVQ



High Performance Double Vane Pump

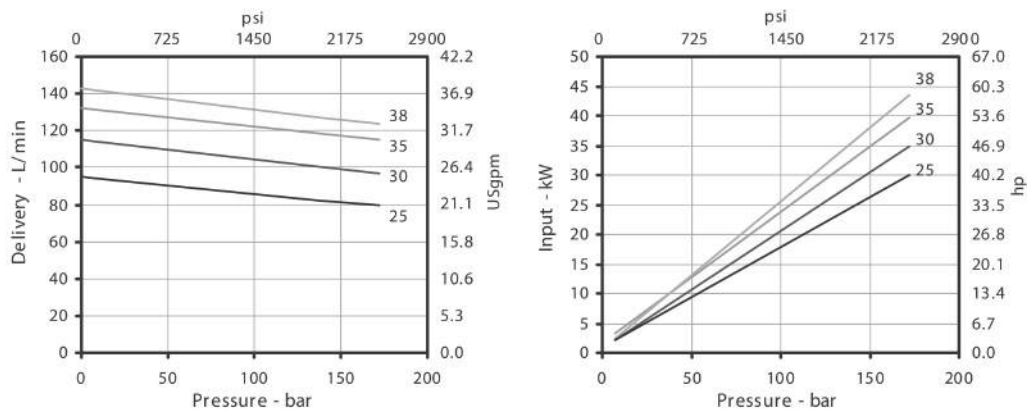
3525 HV/HVQ Series

Performance Characteristics

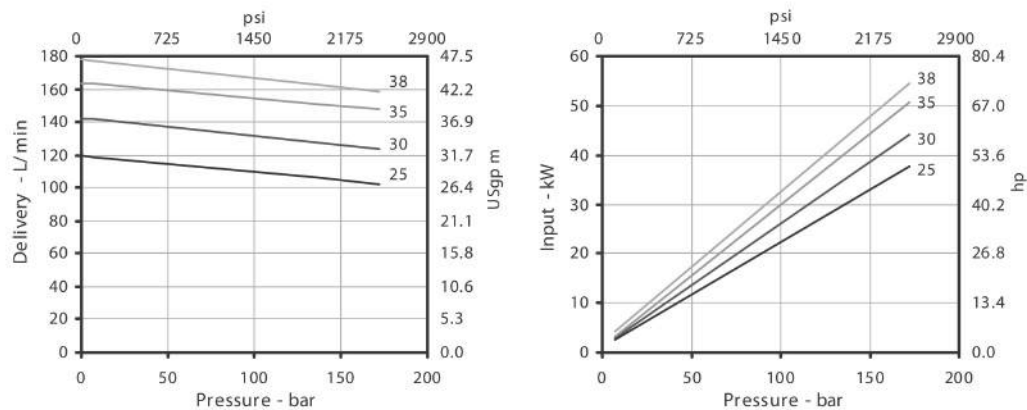
35HV, Shaft End of 35HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

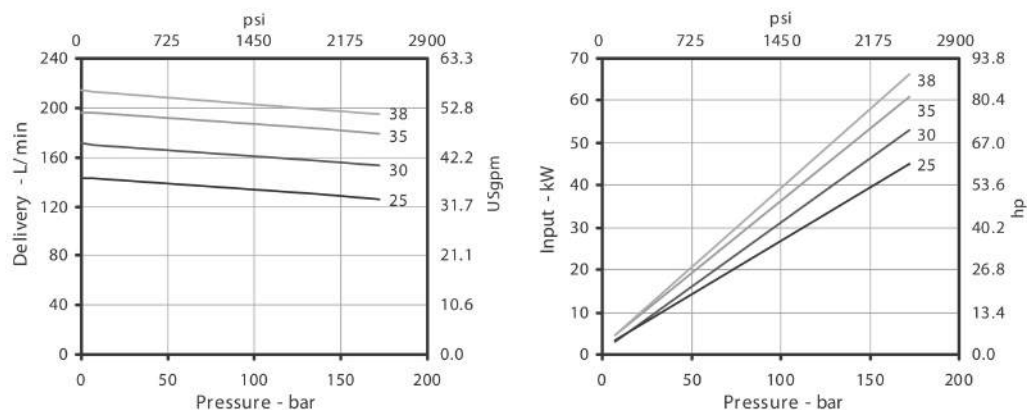
At 1200 rpm



At 1500 rpm



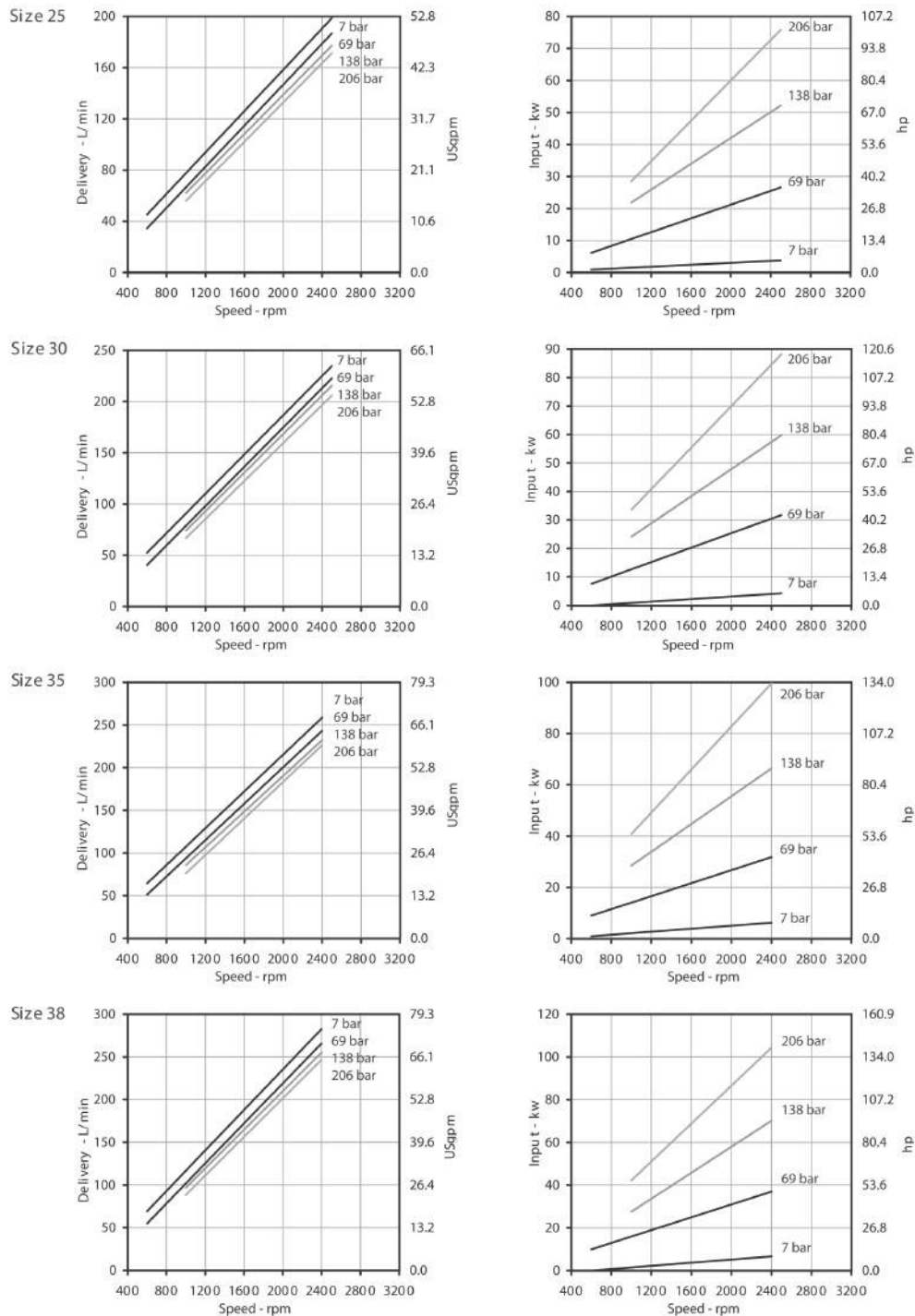
At 1800 rpm



High Performance Double Vane Pump 3525 HV/HVQ Series

35HVQ, Shaft End of 35HVQ

Based on SAE 10W Fluid at 82°C (180°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

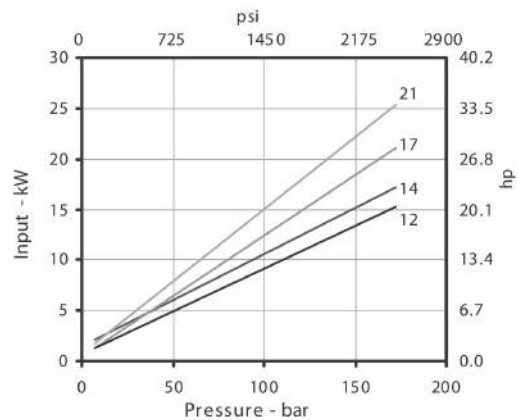
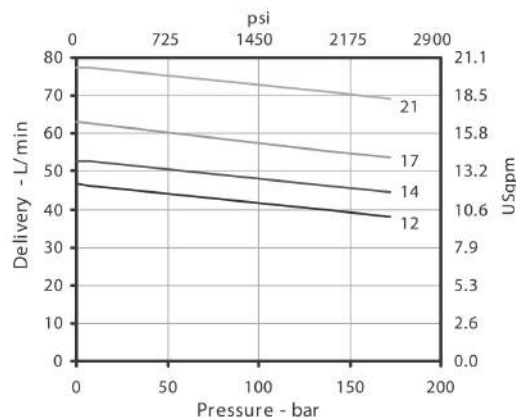
High Performance Double Vane Pump

3525 HV/HVQ Series

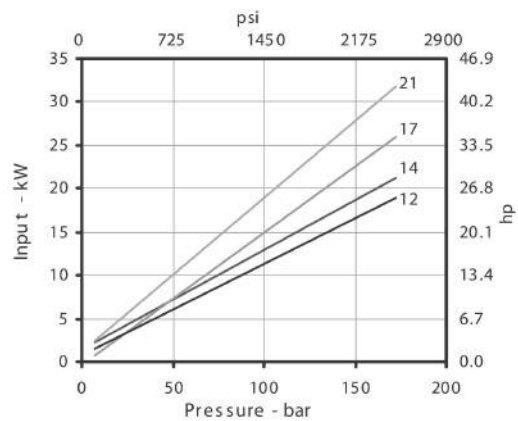
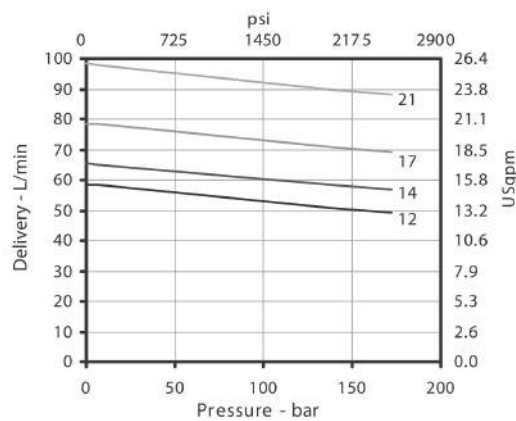
25HV, Cover End of 25HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

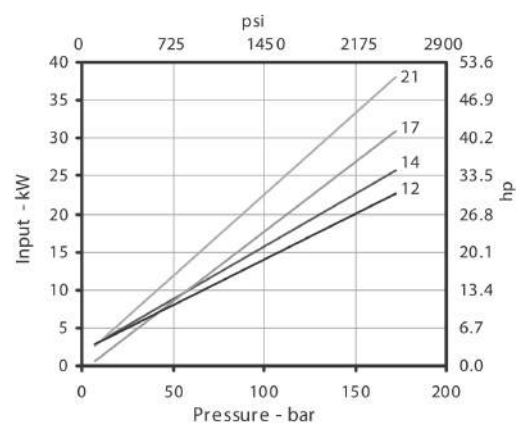
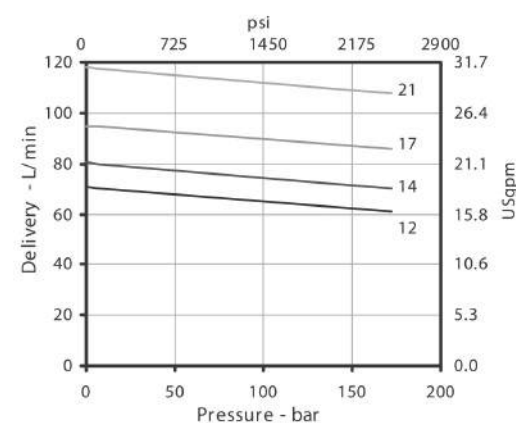
At 1200 rpm



At 1500 rpm



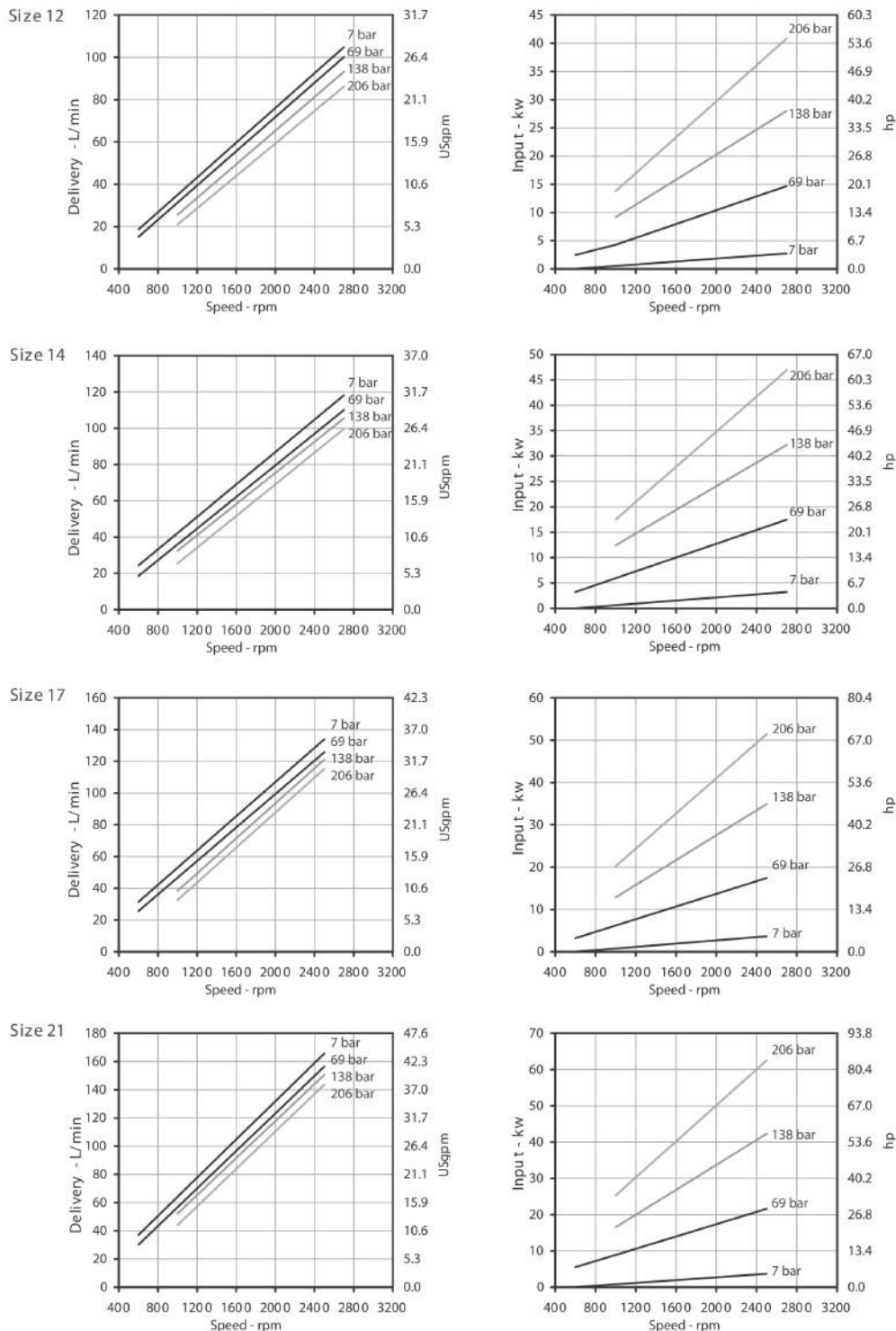
At 1800 rpm



High Performance Double Vane Pump 3525 HV/HVQ Series

25HVQ, Cover End of 25HVQ

Based on SAE 10W Fluid at 50°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

High Performance Double Vane Pump

4520 HV/HVQ Series

Specifications :

4520 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4520HV	Shaft End	42	138 (8.41)	1800	172 (2500)	208.2 (55.0)	75.3 (101.0)	43.0 (94.6)
		47	151.4 (9.26)			244.1 (64.5)	82.5 (110.6)	
		50	162 (9.85)			253.6 (67.0)	87.3 (117.0)	
		57	183.6 (11.23)			295.0 (77.8)	94.0 (126.0)	
		60	193 (11.75)			310.4 (82.0)	103.7 (139.0)	
	Cover End	2	7.0 (0.42)		206 (3000)	11.3 (3.0)	5.2 (7.0)	
		5	18 (1.10)			28.4 (7.5)	11.2 (15.0)	
		8	27 (1.67)			45.4 (12.0)	17.0 (22.8)	
		9	30.2 (1.84)			51.0 (13.5)	18.7 (25.1)	
		11	36 (2.22)			56.8 (15.0)	22.6 (30.3)	
		12	40 (2.47)		158 (2300)	62.1 (16.4)	25.1 (33.7)	
		14	45 (2.78)		138 (2000)	69.6 (18.4)	28.3 (37.9)	

4520 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4520HVQ	Shaft End	42	138 (8.46)	2200	172 (2500)	251.7 (66.5)	91.4 (122.5)	43.0 (94.6)
		47	151.4 (9.26)			280.8 (74.2)	95.0 (127.3)	
		50	162 (9.90)			299.0 (79.0)	105.2 (141.0)	
		57	183.6 (11.23)			342.5 (90.5)	109.3 (146.6)	
		60	193 (11.80)			363.4 (96.0)	126.8 (170.0)	
	Cover End	2	7.0 (0.42)		206 (3000)	13.6 (3.6)	5.6 (7.5)	
		5	18 (1.10)			32.2 (8.5)	14.5 (19.5)	
		8	27 (1.67)			51.1 (13.5)	21.3 (28.5)	
		9	30.2 (1.84)			59.7 (15.7)	24.2 (32.5)	
		11	36 (2.22)			61.1 (16.15)	27.6 (37.01)	
		12	39 (2.41)		158 (2300)	77.6 (20.5)	23.1 (31.0)	
		14	45 (2.80)		138 (2000)	90.8 (24.0)	23.9 (32.0)	

High Performance Double Vane Pump

4520 HV/HVQ Series

Ordering Code : Double Pump

4520HVQ - 50 A 11 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

4520 - Standard Bearing SAE C 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

42 - 138.0 (8.41)
47 - 151.4 (9.26)
50 - 162.0 (9.85)
57 - 183.6 (11.23)
60 - 193.0 (11.75)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

02 - 7.0 (0.43)
05 - 18.0 (1.10)
08 - 27.3 (1.67)
09 - 30.3 (1.85)
11 - 36.3 (2.22)
12 - 40.4 (2.47)
14 - 45.5 (2.78)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

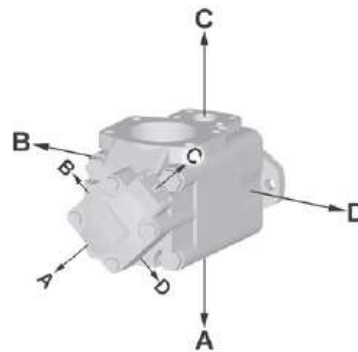
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

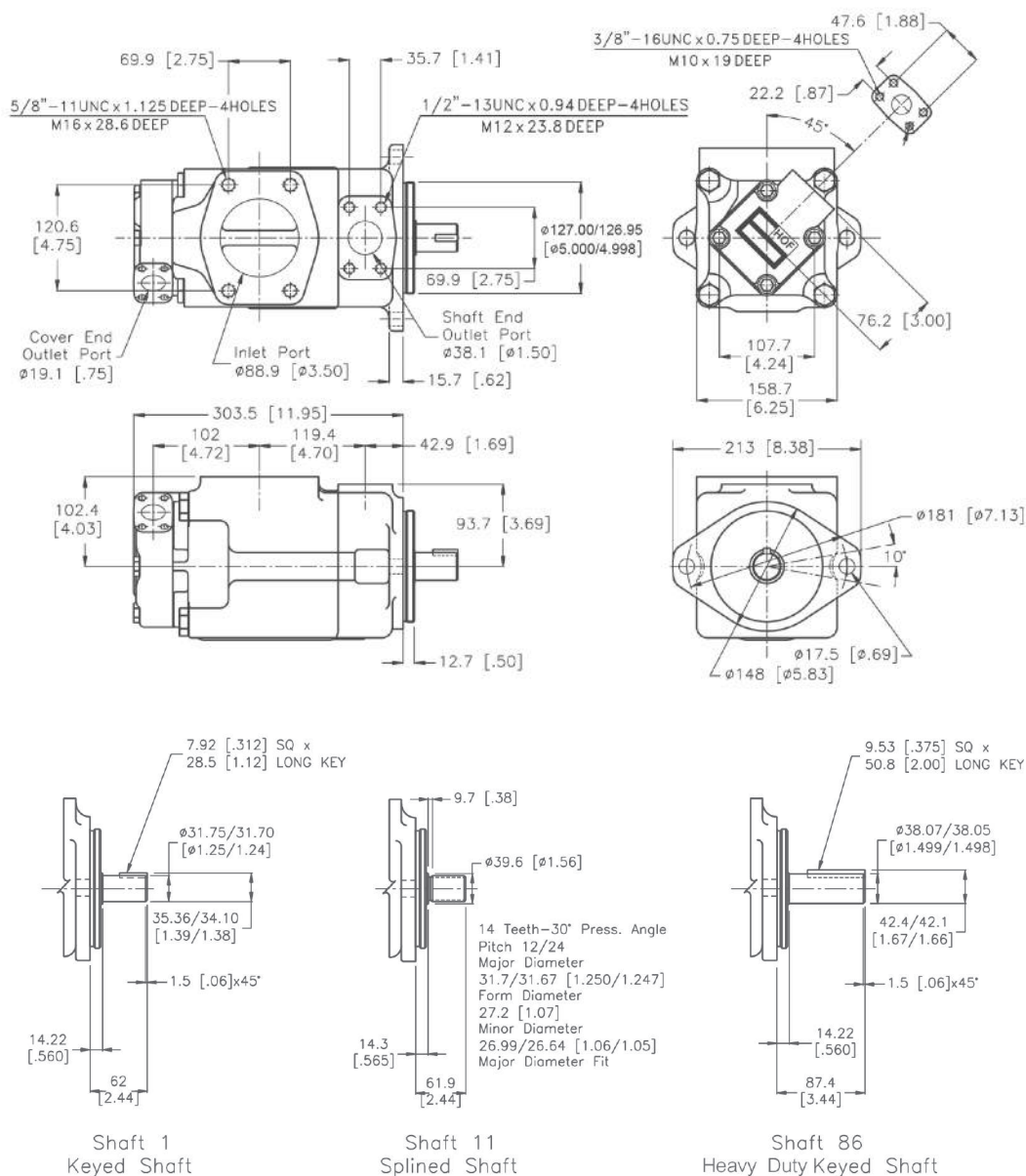
11. Shaft Rotation (viewed from shaft end)

R - Turn right
L - Turn left

High Performance Double Vane Pump 4520 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 4520HV/HVQ



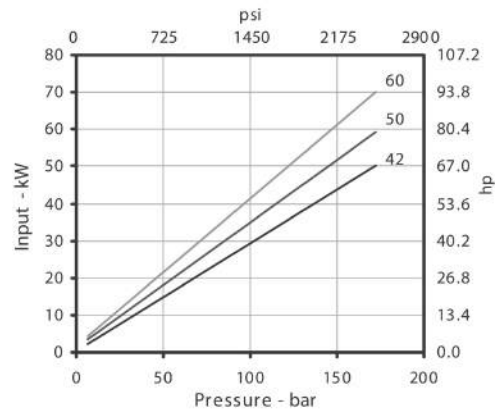
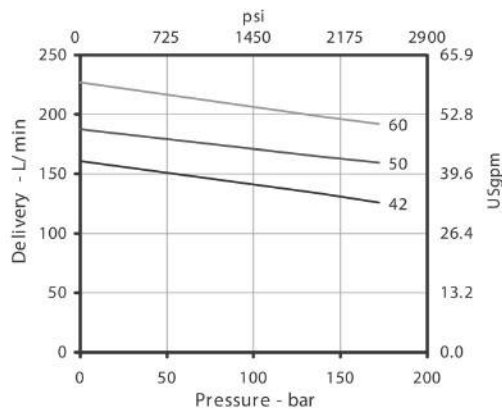
High Performance Double Vane Pump 4520 HV/HVQ Series

Performance Characteristics

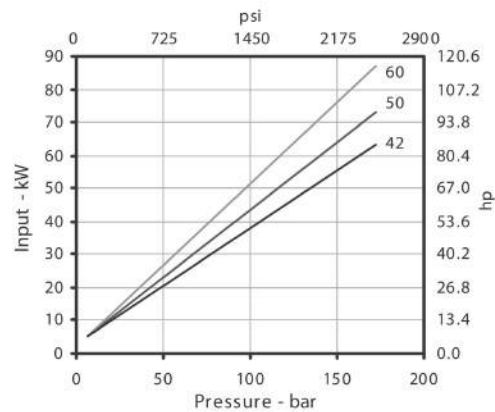
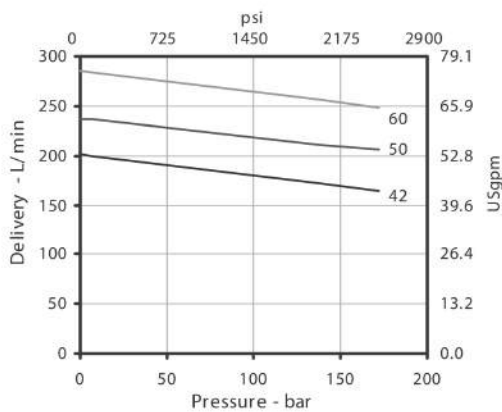
45HV, Shaft End of 45HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

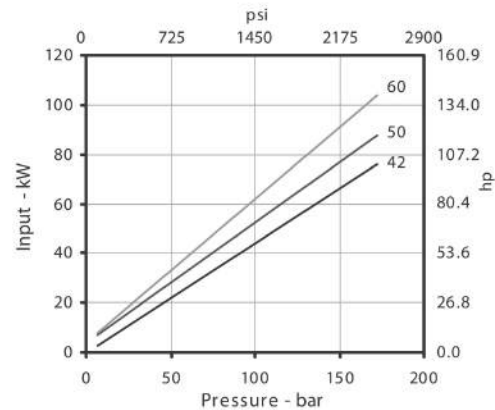
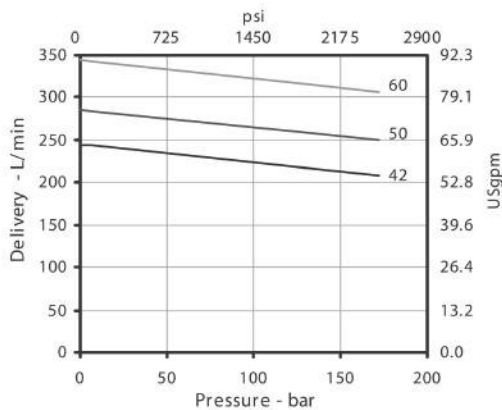
At 1200 rpm



At 1500 rpm



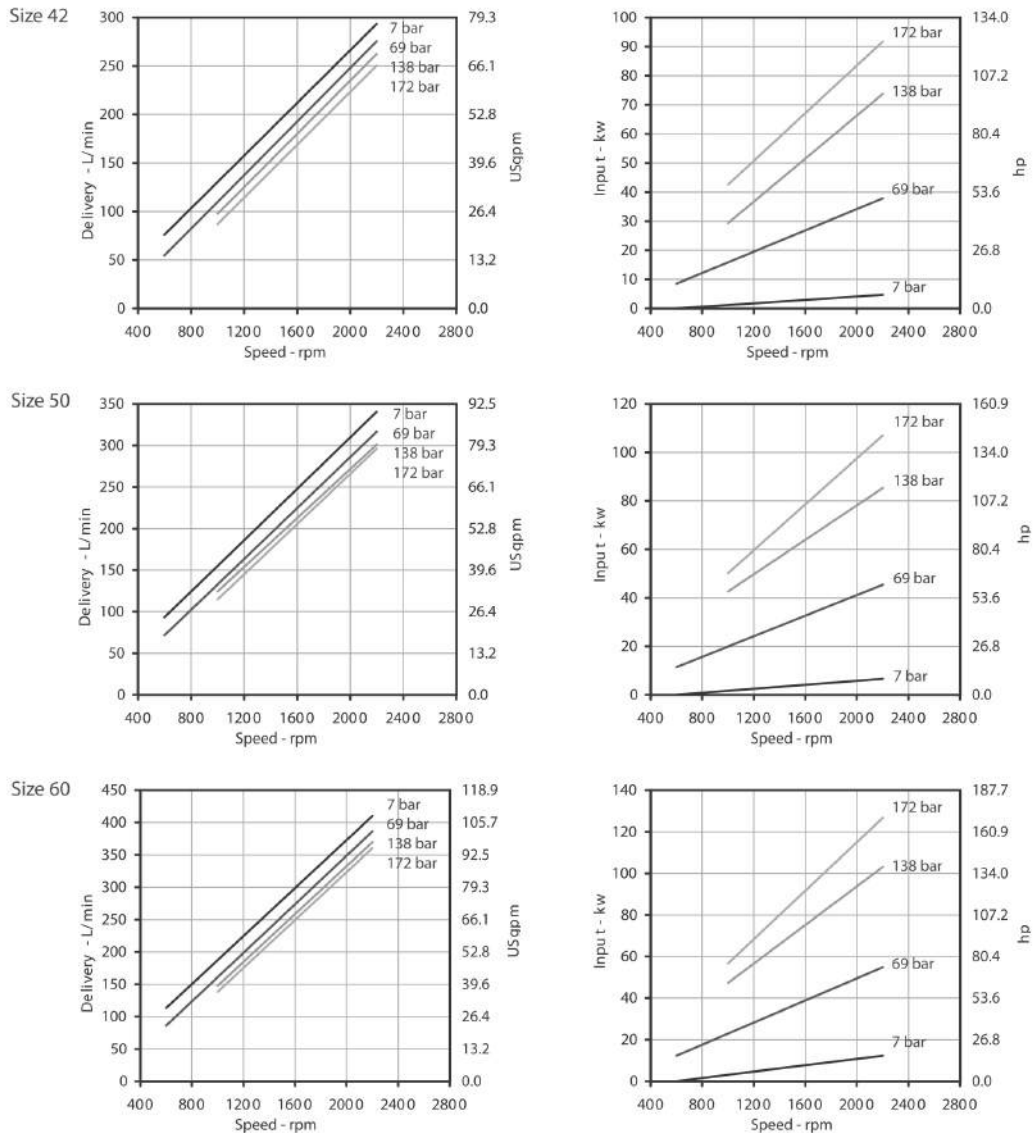
At 1800 rpm



High Performance Double Vane Pump 4520 HV/HVQ Series

45HVQ, Shaft End of 45HVQ

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



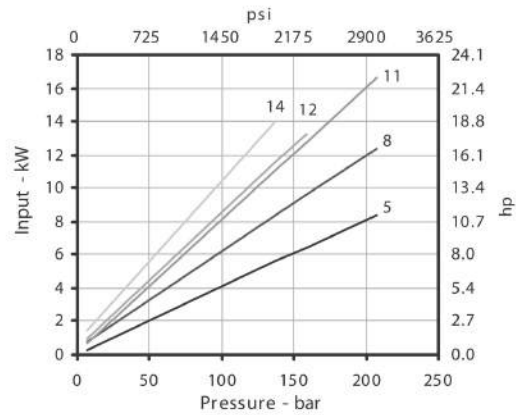
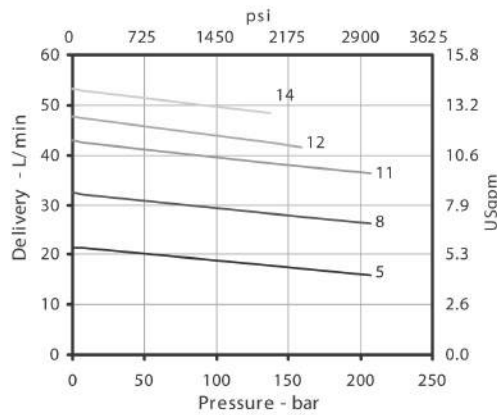
For the Cover End Cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge

High Performance Double Vane Pump 4520 HV/HVQ Series

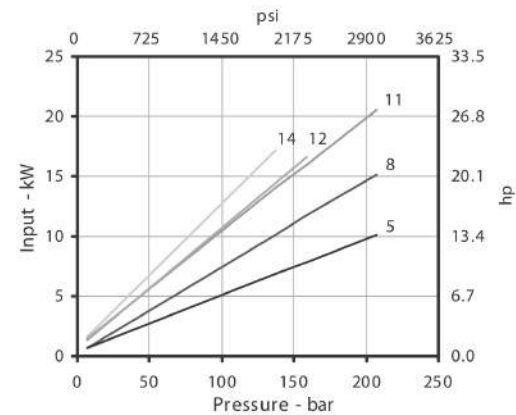
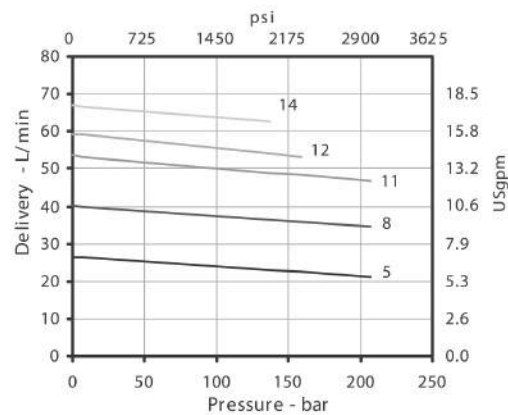
20HV, Cover End of 20HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

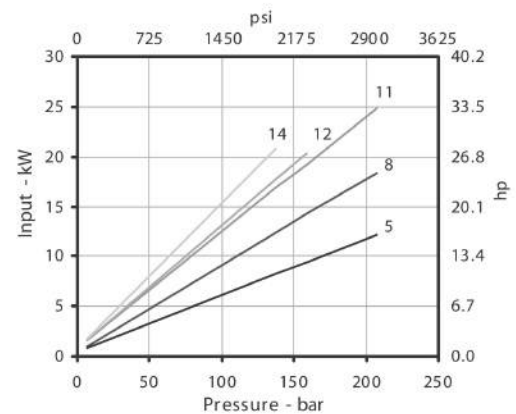
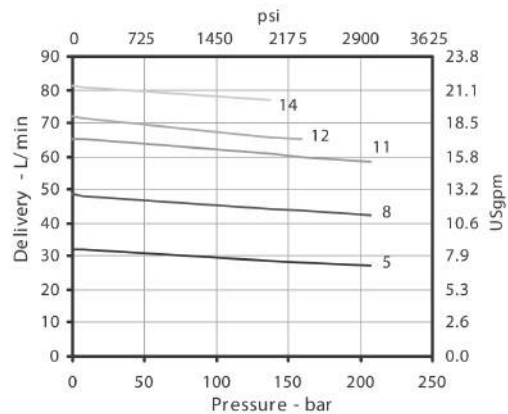
At 1200 rpm



At 1500 rpm



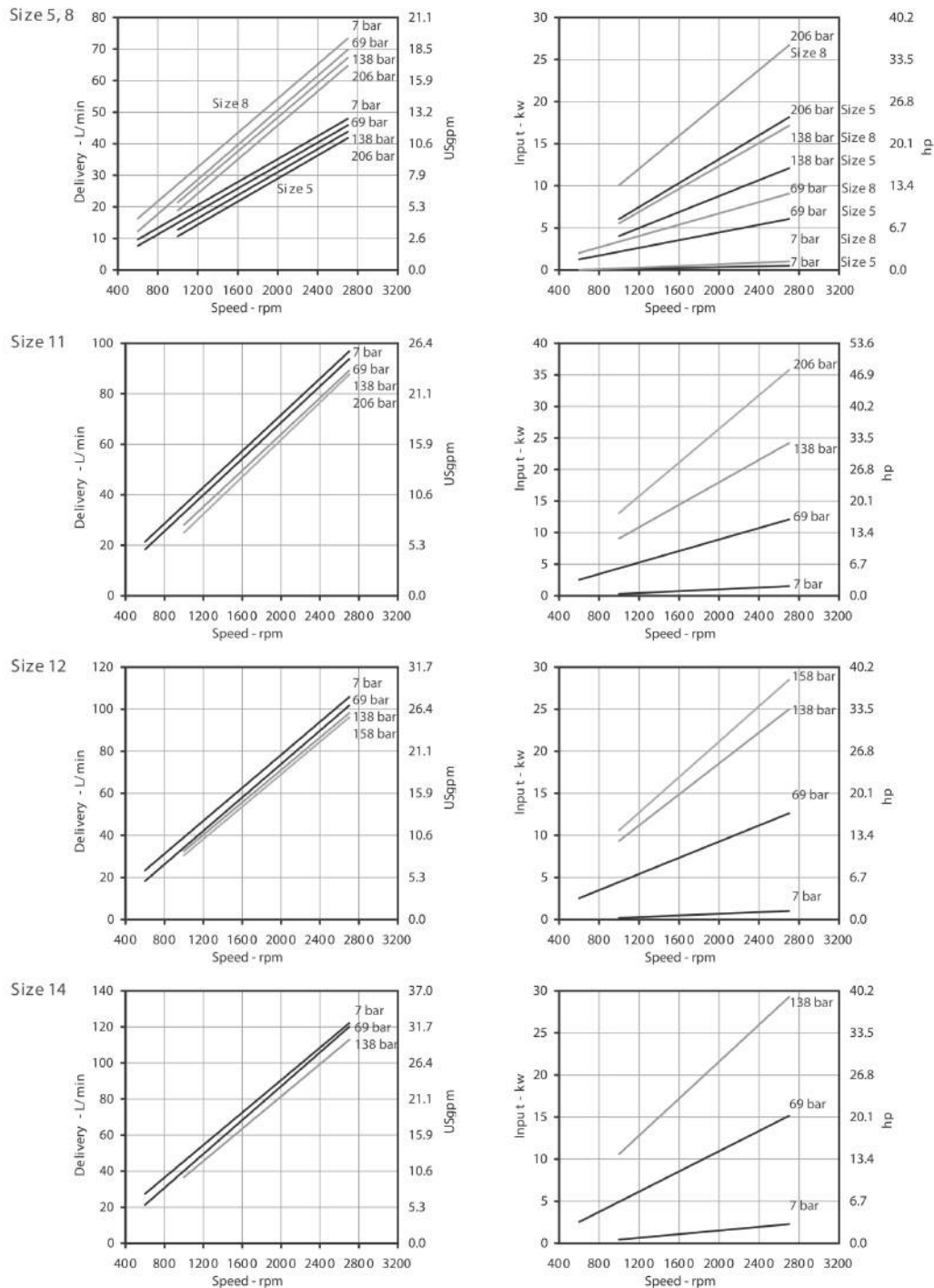
At 1800 rpm



High Performance Double Vane Pump 4520 HV/HVQ Series

20HVQ, Cover End of 20HVQ

Based on SAE 10W Fluid at 82°C (180°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

High Performance Double Vane Pump

4525 HV/HVQ Series

Specifications :

4525 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4525HV	Shaft End	42	138 (8.41)	1800	172 (2500)	208.2 (55.0)	75.3 (101.0)	44.0 (96.8)
		47	151.4 (9.26)			244.1 (64.5)	82.5 (110.6)	
		50	162 (9.85)			253.6 (67.0)	87.3 (117.0)	
		57	183.6 (11.23)			295.0 (77.8)	94.0 (126.0)	
		60	193 (11.75)			310.4 (82.0)	103.7 (139.0)	
	Cover End	12	39 (2.47)			62.1 (16.4)	22.9 (30.8)	
		14	45 (2.78)			69.6 (18.4)	25.7 (34.5)	
		17	55 (3.39)			86.3 (22.8)	29.8 (40.0)	
		19	60.8 (3.72)			91.6 (25.4)	32.5 (43.5)	
		21	67 (4.13)			106.0 (28.0)	34.0 (45.6)	

4525 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4525HVQ	Shaft End	42	138 (8.46)	2200	172 (2500)	251.7 (66.5)	91.4 (122.5)	44.0 (96.8)
		47	151.4 (9.26)			280.8 (74.2)	95.0 (127.3)	
		50	162 (9.90)			299.0 (79.0)	105.2 (141.0)	
		57	183.6 (11.23)			342.5 (90.5)	109.3 (146.6)	
		60	193 (11.80)			363.4 (96.0)	126.8 (170.0)	
	Cover End	12	40 (2.45)		206 (3000)	73.9 (19.52)	30.5 (40.8)	
		14	45 (2.77)			86.9 (22.95)	34.4 (46.17)	
		17	55 (3.37)			100.3 (26.5)	45.5 (61.0)	
		19	60.8 (3.72)			120.6 (31.8)	48.8 (69.5)	
		21	67 (4.12)			124.9 (33.0)	54.5 (73.0)	

High Performance Double Vane Pump

4525 HV/HVQ Series

Ordering Code : Double Pump

4525HVQ - 50 A 17 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

4525 - Standard Bearing SAE C 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

42 - 138.0 (8.41)
47 - 151.4 (9.26)
50 - 162.0 (9.85)
57 - 183.6 (11.23)
60 - 193.0 (11.75)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

12 - 39.0 (2.47)
14 - 45.0 (2.78)
17 - 55.3 (3.39)
19 - 60.8 (3.72)
21 - 67.0 (4.13)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

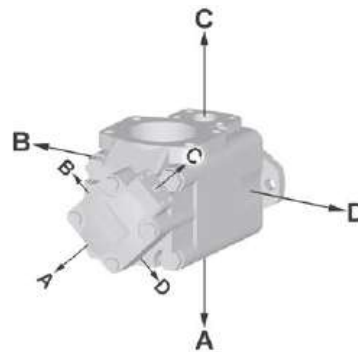
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

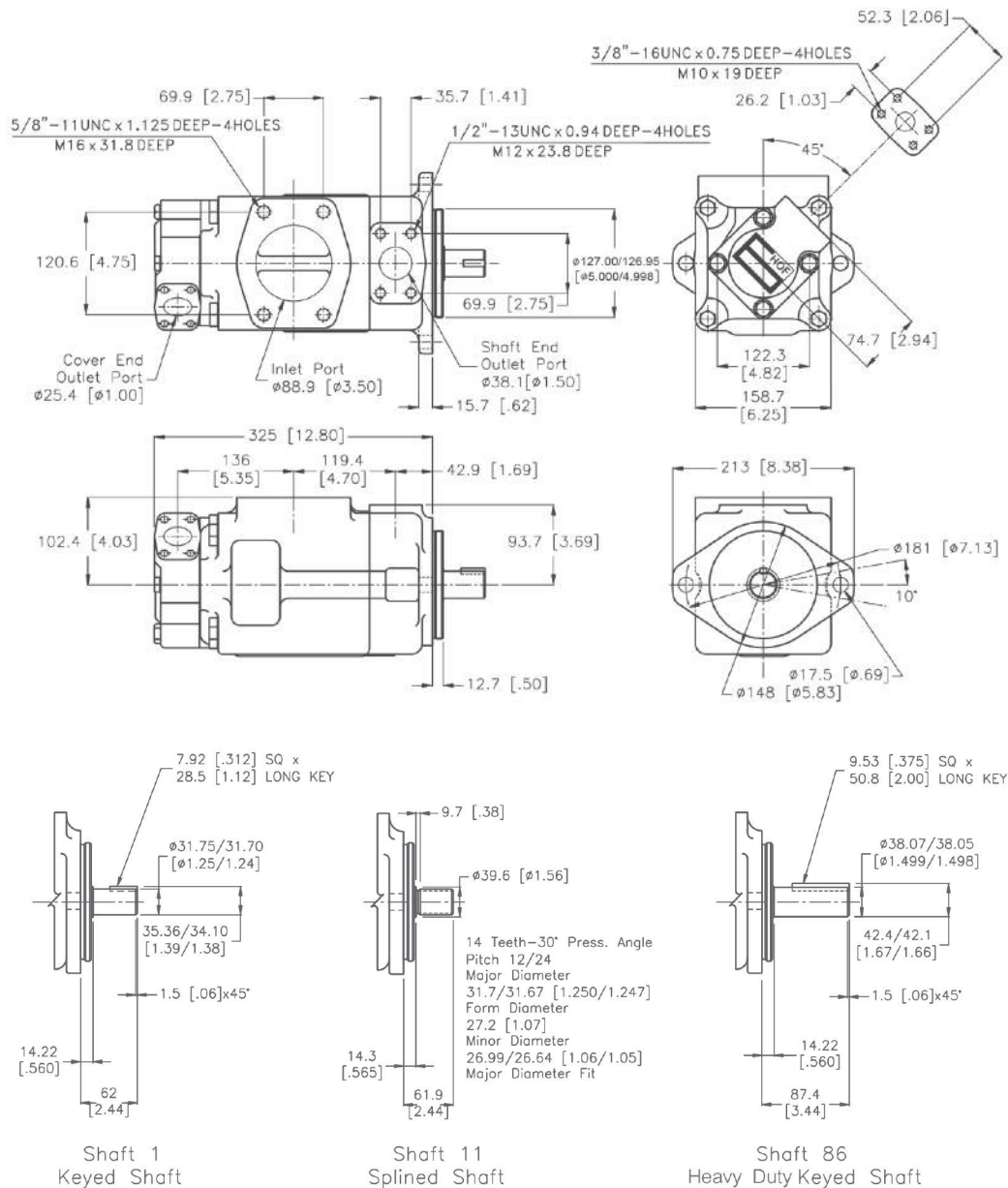
11. Shaft Rotation (viewed from shaft end)

R - Turn right
L - Turn left

High Performance Double Vane Pump 4525 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 4525HV/HVQ



High Performance Double Vane Pump

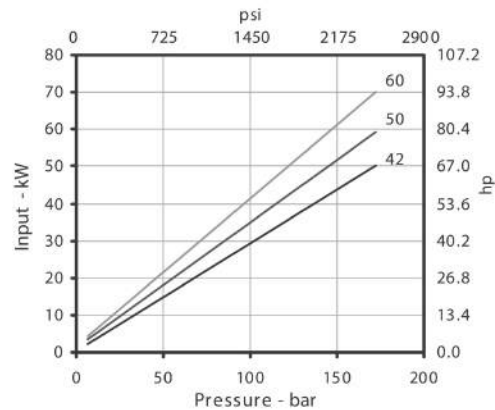
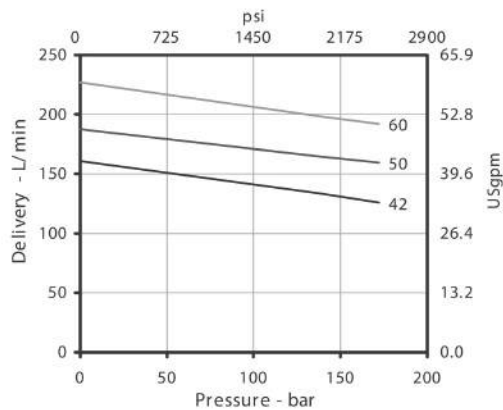
4525 HV/HVQ Series

Performance Characteristics

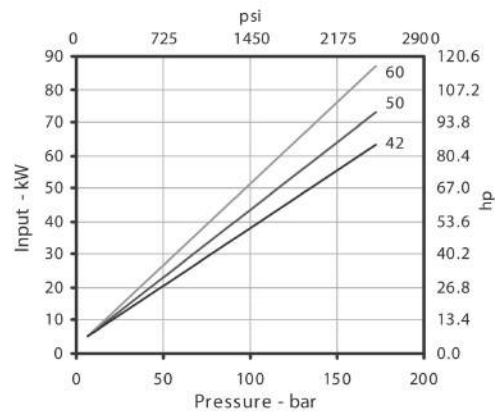
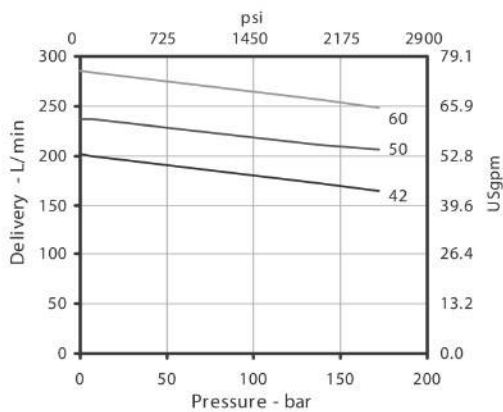
45HV, Shaft End of 45HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

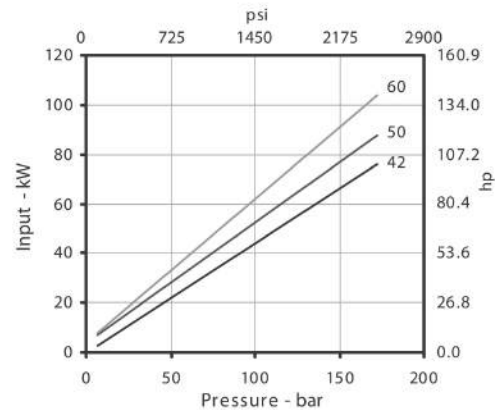
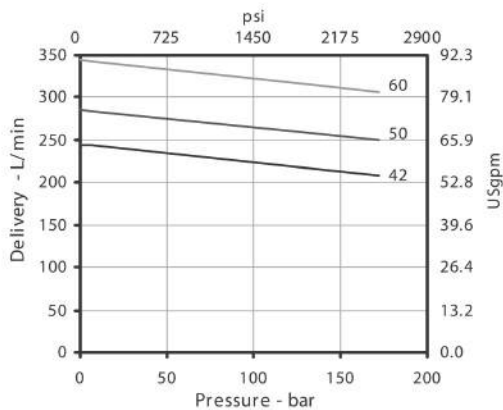
At 1200 rpm



At 1500 rpm



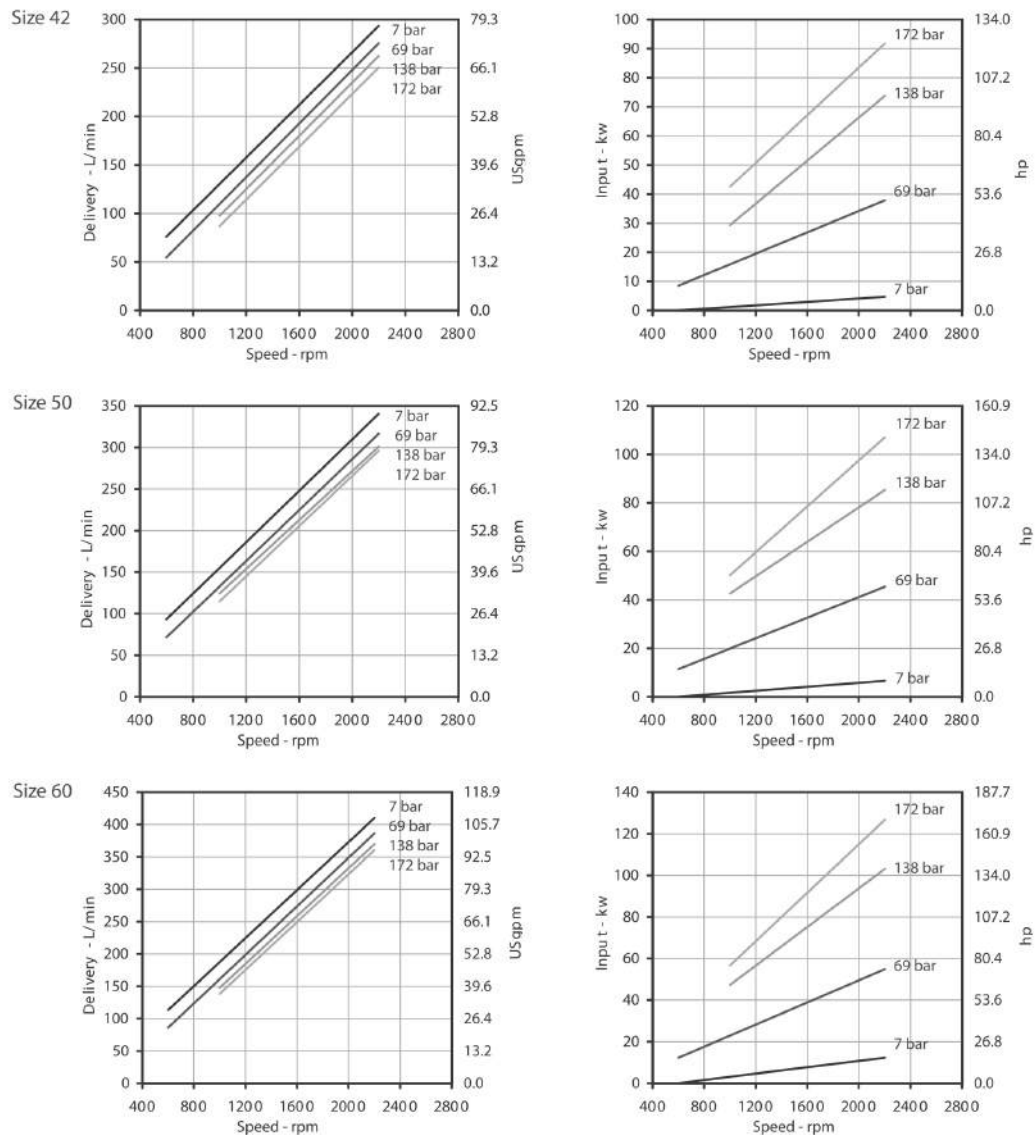
At 1800 rpm



High Performance Double Vane Pump 4525 HV/HVQ Series

45HVQ, Shaft End of 45HVQ

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



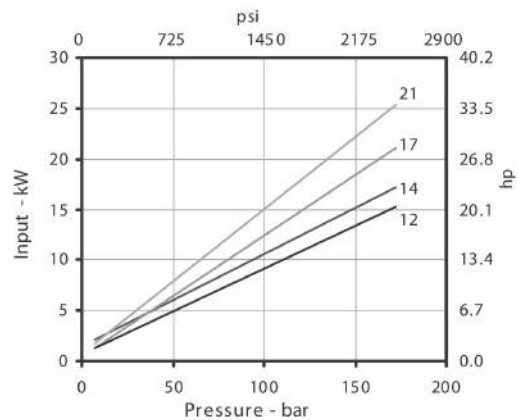
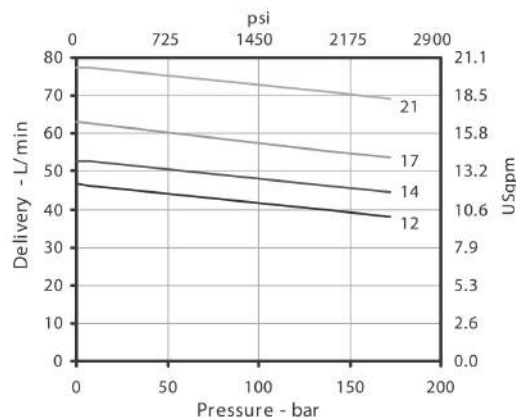
For the Cover End Cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge

High Performance Double Vane Pump 4525 HV/HVQ Series

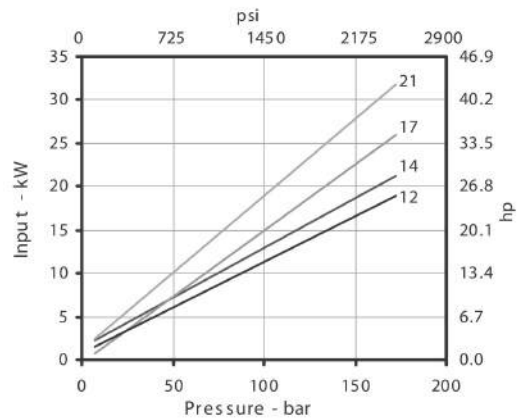
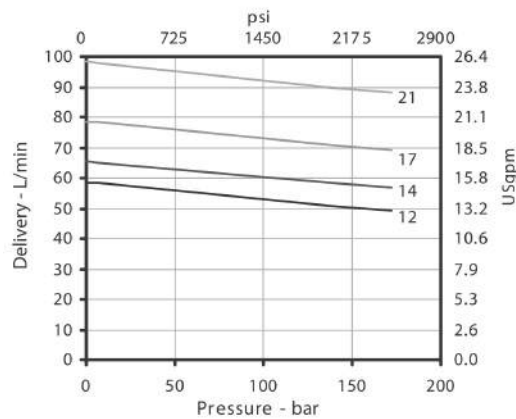
25HV, Cover End of 25HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

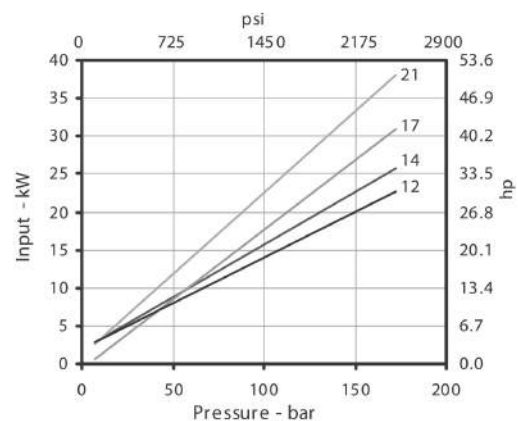
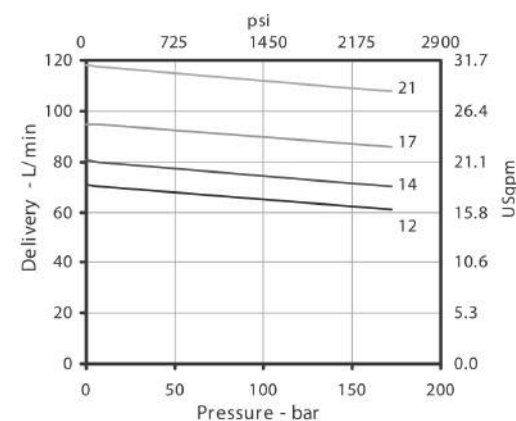
At 1200 rpm



At 1500 rpm



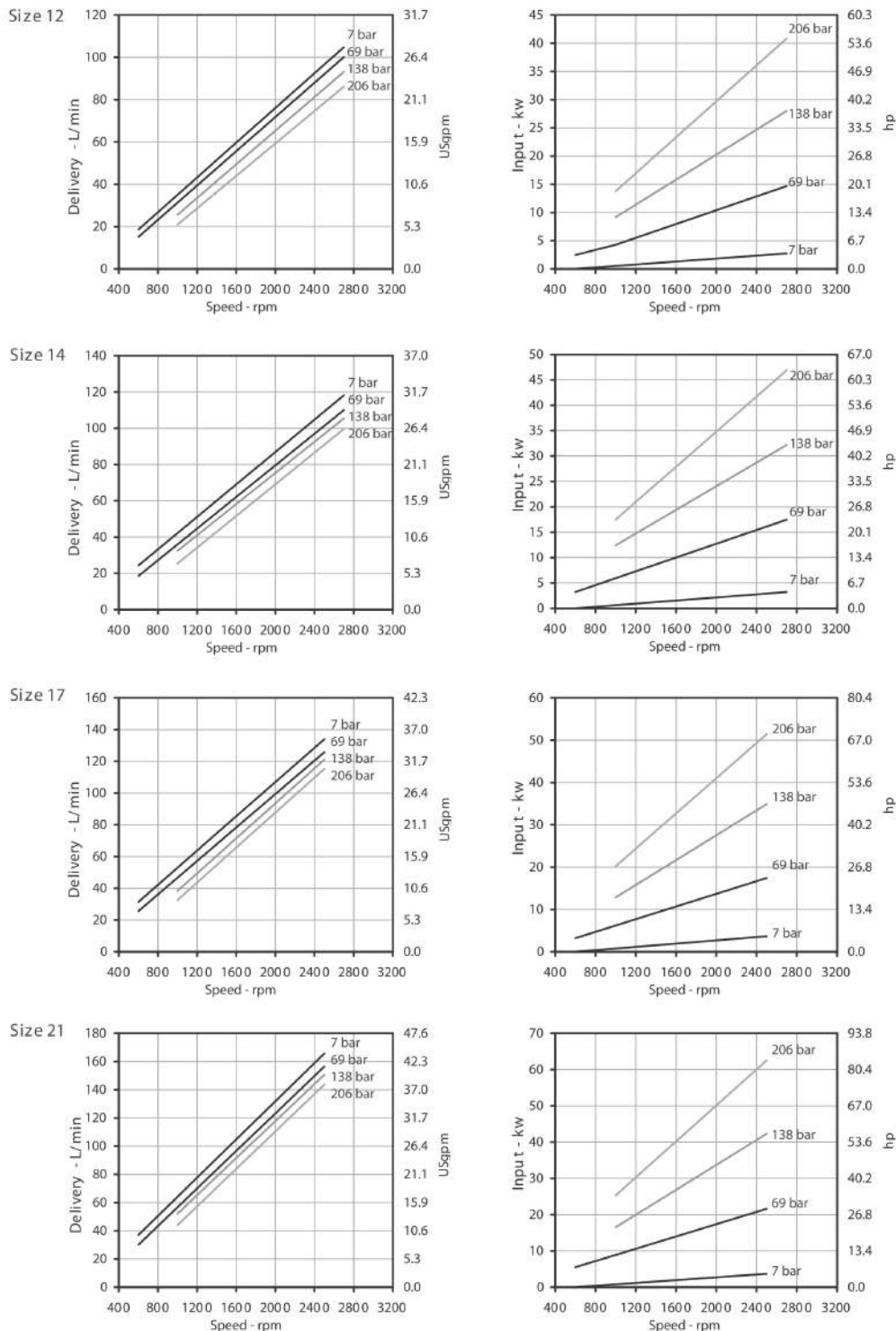
At 1800 rpm



High Performance Double Vane Pump 4525 HV/HVQ Series

25HVQ, Cover End of 25HVQ

Based on SAE 10W Fluid at 50°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

High Performance Double Vane Pump

4535 HV/HVQ Series

Specifications :

4535 HV Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4535HV	Shaft End	42	138 (8.41)	1800	172 (2500)	208.2 (55.0)	75.3 (101.0)	56.4 (124.0)
		47	151.4 (9.26)			244.1 (64.5)	82.5 (110.6)	
		50	162 (9.85)			253.6 (67.0)	87.3 (117.0)	
		57	183.6 (11.23)			295.0 (77.8)	94.0 (126.0)	
		60	193 (11.75)			310.4 (82.0)	103.7 (139.0)	
	Cover End	21	68.3 (4.18)			106.3 (28.1)	33.9 (45.5)	
		25	81 (4.94)			124.9 (33.0)	45.5 (61.0)	
		30	97 (5.91)			154.4 (40.8)	54.5 (73.0)	
		35	112 (6.83)			181.7 (48.0)	61.5 (82.4)	
		38	121 (7.37)			193.8 (51.2)	65.9 (88.3)	

4535 HVQ Series

Model	Cartridge Position	Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pressure	Weight
		USgpm	cm ³ /r (in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
4535HVQ	Shaft End	42	138 (8.46)	2200	172 (2500)	251.7 (66.5)	91.4 (122.5)	56.4 (124.0)
		47	151.4 (9.26)			280.8 (74.2)	95.0 (127.3)	
		50	162 (9.90)			299.0 (79.0)	105.2 (141.0)	
		57	183.6 (11.23)			342.5 (90.5)	109.3 (146.6)	
		60	193 (11.80)			363.4 (96.0)	126.8 (170.0)	
	Cover End	21	68.3 (4.18)		206 (3000)	128 (33.8)	51.9 (69.5)	
		25	81 (4.98)			145.7 (38.5)	66.4 (89.0)	
		30	97 (5.96)			177.9 (47.0)	77.6 (104.0)	
		35	112 (6.88)			208.2 (55.0)	89.5 (120.0)	
		38	121 (7.42)			223.3 (59.0)	97.0 (130.0)	

High Performance Double Vane Pump 4535 HV/HVQ Series

Ordering Code : Double Pump

4535HVQ - 50 A 30 S - 1 C B 20 L

1	2	3	4	5	6	7	8	9	10	11
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1. Model :

4535 - Standard Bearing SAE C 2 bolts mounting flange J744

2. Series

HV - Industrial
HVQ - Mobile

3. Displacement P1

Volumetric displacement cm³/rev (in³/rev)

42 - 138.0 (8.41)
47 - 151.4 (9.26)
50 - 162.0 (9.85)
57 - 183.6 (11.23)
60 - 193.0 (11.75)

4. Port Connection (4 bolts SAE flange J518C)

A - UNC Port Connection
AM - Metric Port Connection

5. Displacement P2

Volumetric displacement cm³/rev (in³/rev)

21 - 68.3 (4.18)
25 - 81.0 (4.94)
30 - 97.0 (5.91)
35 - 112.0 (6.83)
38 - 121.0 (7.37)

6. Mounting & Shaft seal assembly

Omit - Single Shaft Seal
S - Double Shaft Seal

7. Type of shaft

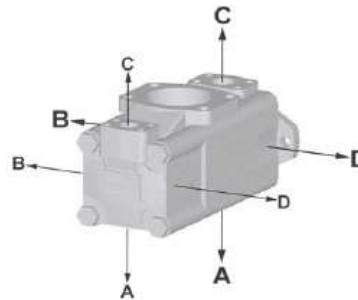
1 - Straight Keyed Shaft
11 - Splined Shaft
86 - Heavy Duty Straight Keyed Shaft

8. 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

9. 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



10. Design

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

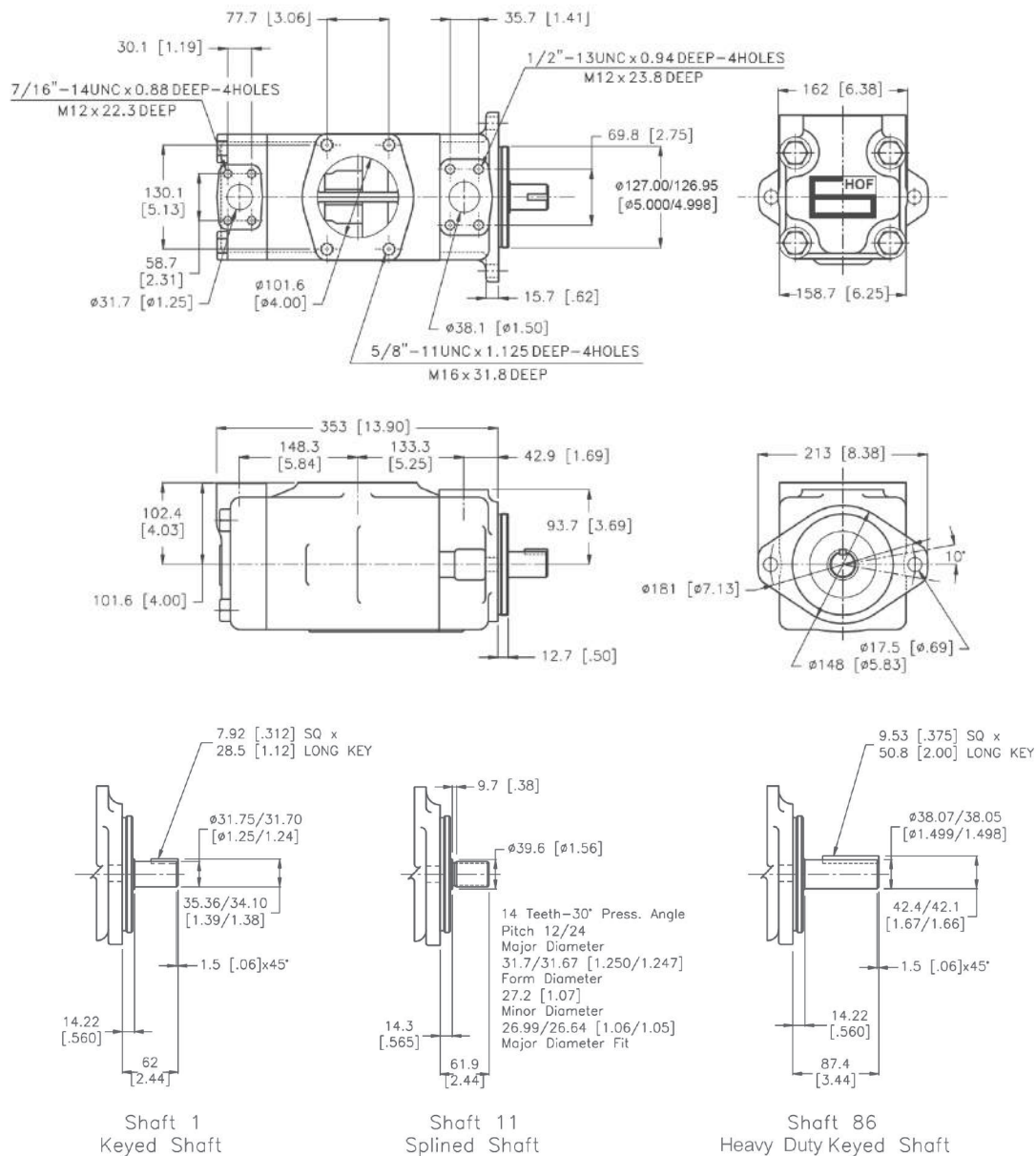
11. Shaft Rotation (viewed from shaft end)

R - Turn right
L - Turn left

High Performance Double Vane Pump 4535 HV/HVQ Series

Installation Dimension mm (inch)

Double Pump 4525HV/HVQ



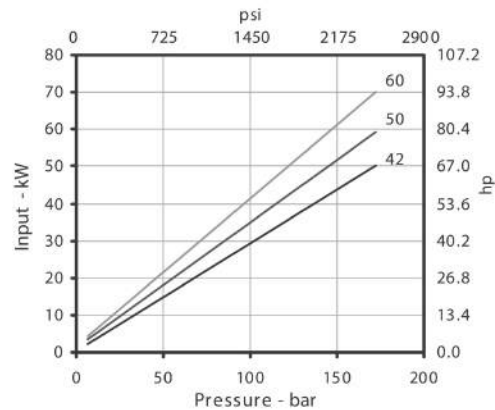
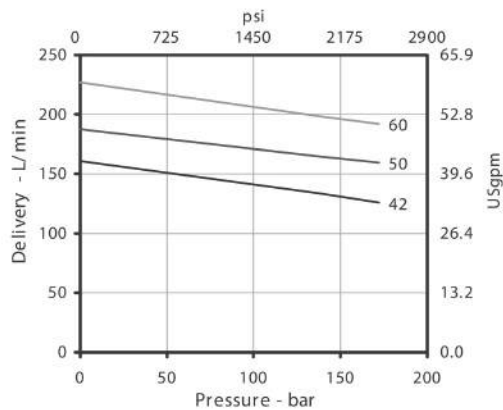
High Performance Double Vane Pump 4535 HV/HVQ Series

Performance Characteristics

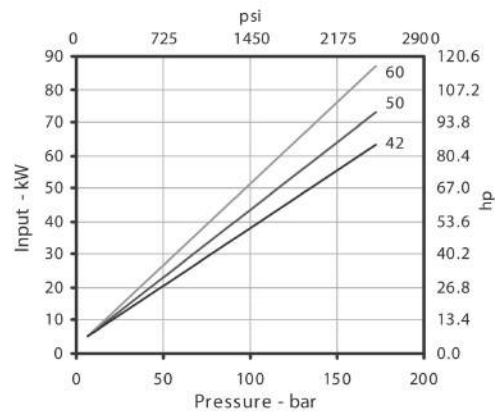
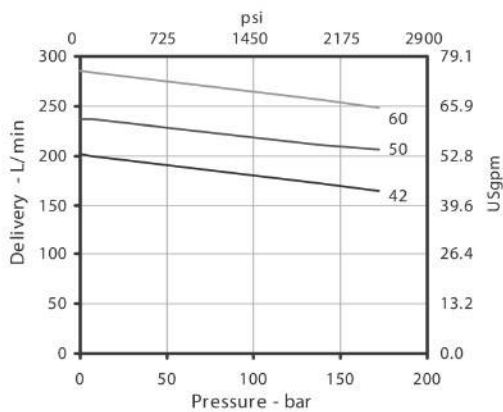
45HV, Shaft End of 45HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

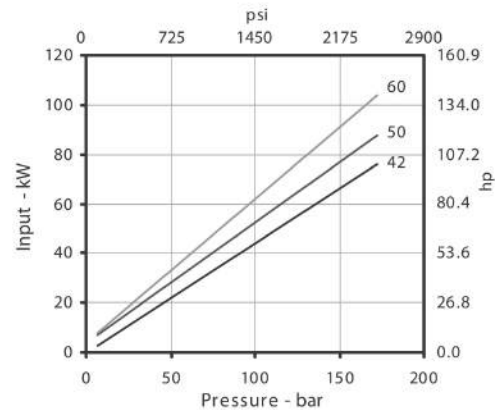
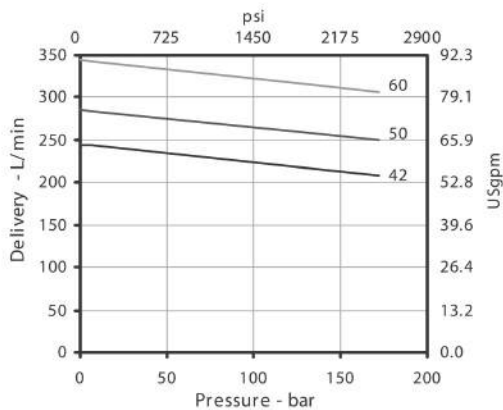
At 1200 rpm



At 1500 rpm



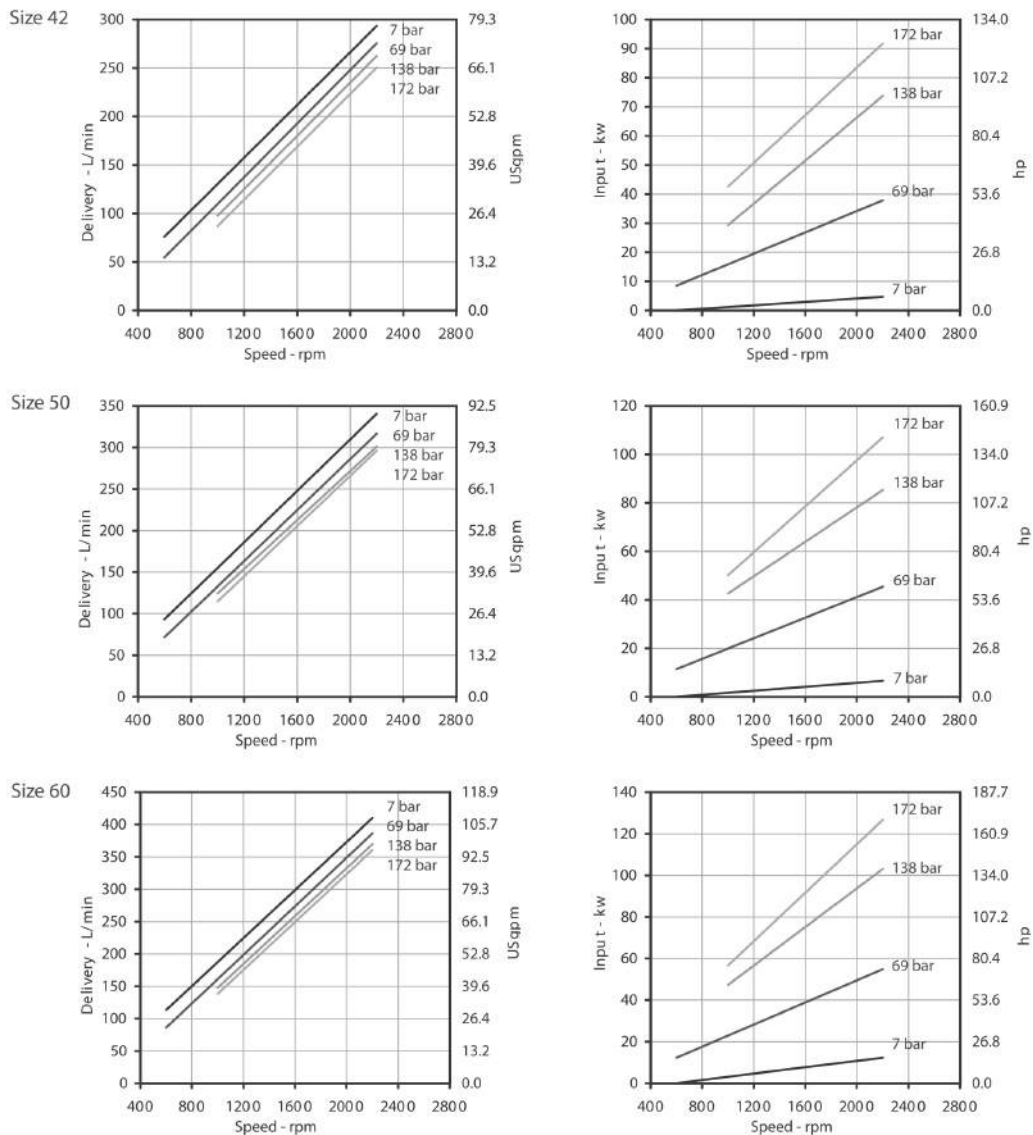
At 1800 rpm



High Performance Double Vane Pump 4535 HV/HVQ Series

45HVQ, Shaft End of 45HVQ

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)



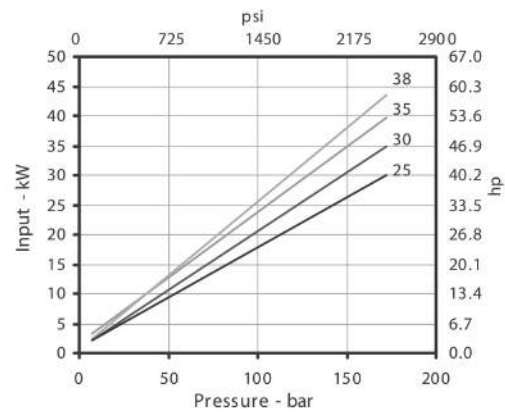
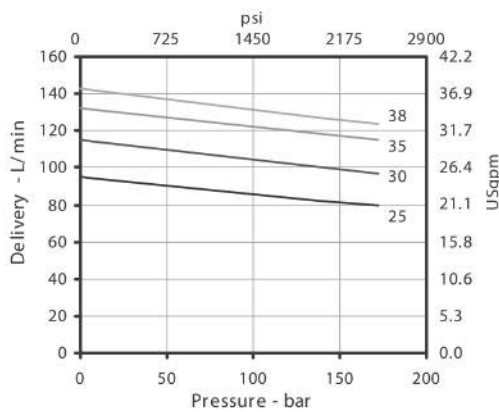
For the Cover End Cartridge, the speed could not exceed the maximum speed of the shaft End Cartridge

High Performance Double Vane Pump 4535 HV/HVQ Series

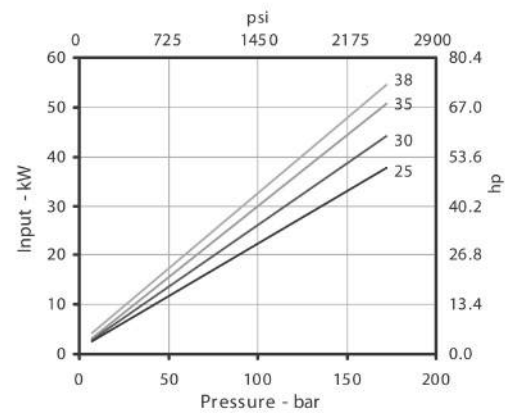
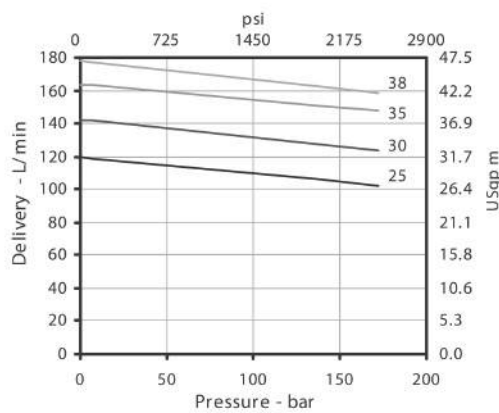
35HV, Cover End of 35HV

Based on SAE 10W Fluid at 50°C (120°F) and pump inlet at 0 PSIG (14.7 PSIA)

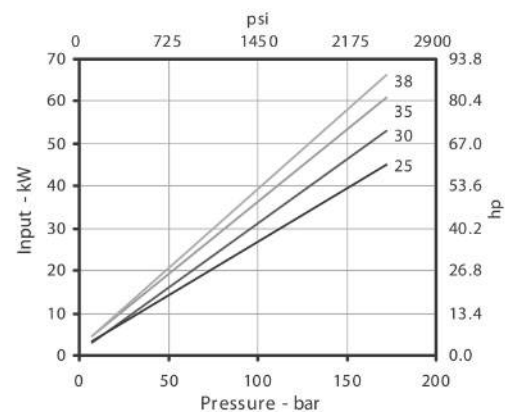
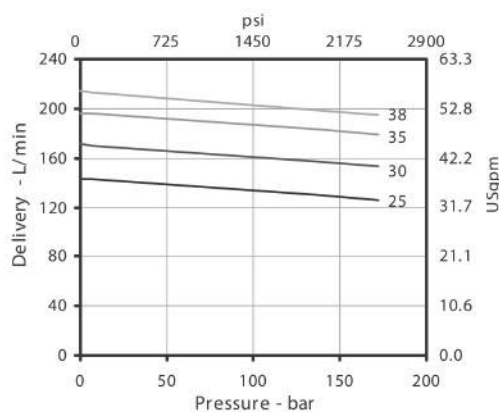
At 1200 rpm



At 1500 rpm



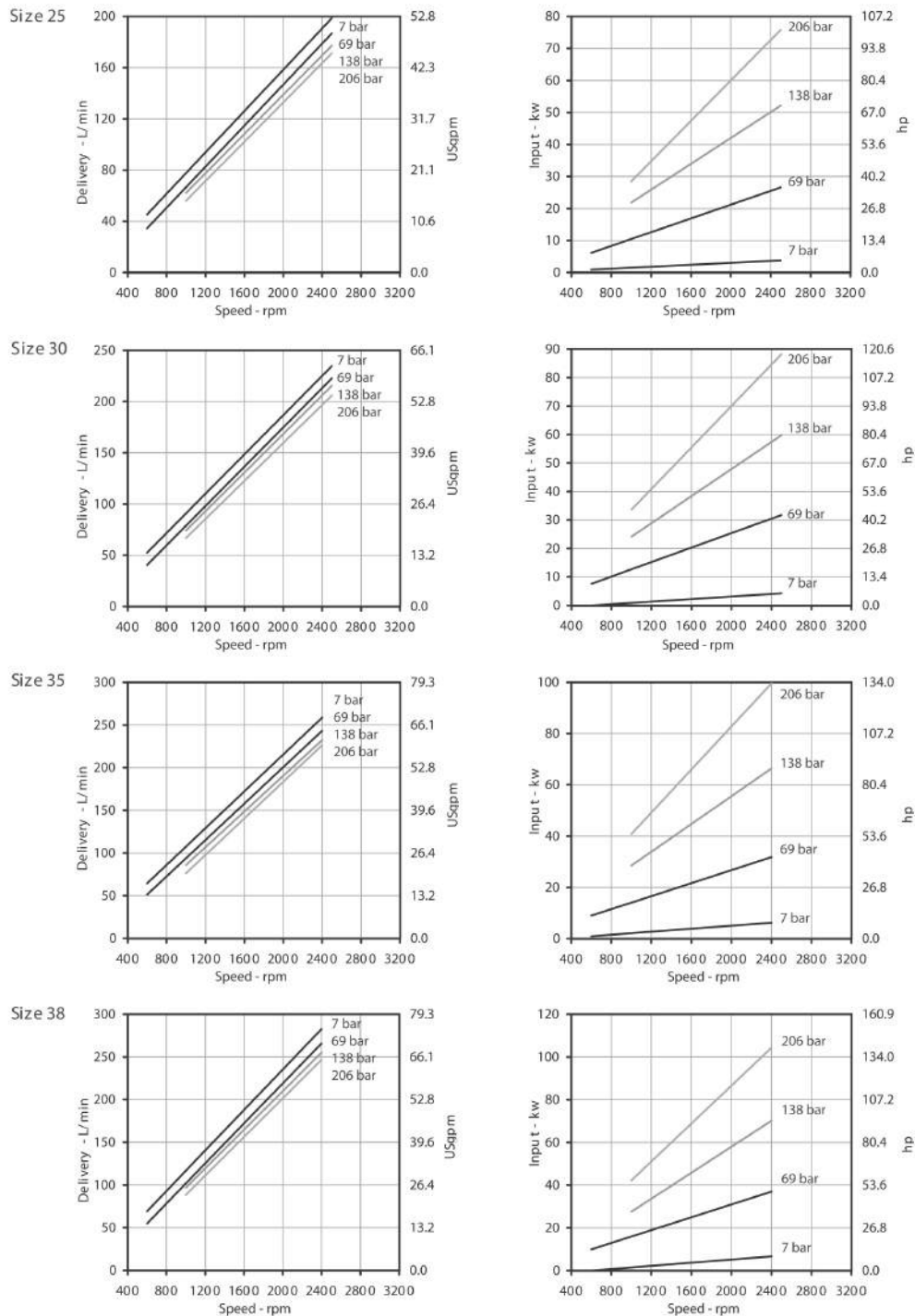
At 1800 rpm



High Performance Double Vane Pump 4535 HV/HVQ Series

35HVQ, Cover End of 35HVQ

Based on SAE 10W Fluid at 82°C (180°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

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