



Cartridge Kit for Vane Pump

Catalog 2021

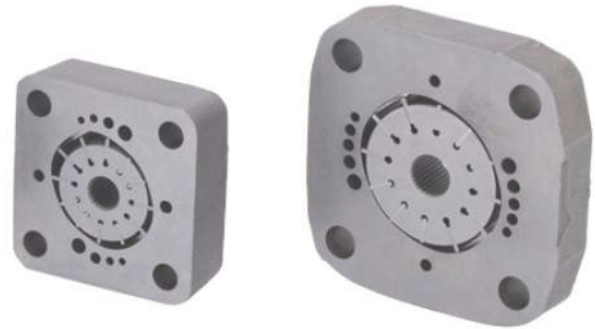
Cartridge Kit for Vane Pump HV10 and HV20 Series

Features and Handling

- Replacement for single and double HV10, HV10F, HV10P, HV20, HV20F, HV20P, HV2010, HV2010F, HV2010P, HV2020, HV2020F, HV2020P, HV210, HV230

It is the cartridge consists of a cam ring, a rotor, and 12 vanes

- To change rotation, flip the cam ring so that the arrow point to the other direction. No need to do anything with the vanes.



Specifications : HV10

Model	Ring Size Delivery at 1200 r/min & 7 bar (100 psi) USgpm	Geometric Displacement cm ³ /r (in ³ /r)	Delivery at 1500 r/min & 7 bar (100 psi) L/min (USgpm)	Maximum Pressure bar (psi)	Maximum Speed rpm	Minimum Speed rpm	Weight kg (lb)
HV 10	1	3.3 (0.20)	4.70 (1.25)	172 (2500)	4800	650	0.6 (1.3)
	2	6.6 (0.40)	9.40 (2.50)		4500		
	3	9.8 (0.60)	14.20 (3.75)		4000		0.8 (1.7)
	4	13.1 (0.80)	18.90 (5.00)		3400		
	5	16.4 (1.00)	23.60 (6.25)	152 (2200)	3200		1.0 (2.2)
	6	19.5 (1.19)	28.40 (7.50)		3000		
	7	22.8 (1.39)	33.10 (8.75)	138 (2000)	2800		

Cartridge Kit for Vane Pump

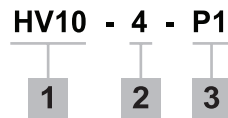
HV10 and HV20 Series

HV20

Model	Ring Size Delivery at 1200 r/min & 7 bar (100 psi)	Geometric Displacement	Delivery at 1500 r/min & 7 bar (100 psi)	Maximum Pressure	Maximum Speed	Minimum Speed	Weight
	USgpm	cm ³ /r (in ³ /r)	L/min (USgpm)	bar (psi)	rpm	rpm	kg (lb)
HV 20	5	16.4 (1.00)	23.60 (6.25)	172 (2500)	3400	650	1.2 (2.6)
	6	19.5 (1.19)	28.39 (7.50)		3400		1.1 (2.4)
	7	22.8 (1.39)	33.11 (8.75)		3000		1.6 (3.5)
	8	26.5 (1.62)	37.85 (10.00)		2800		
	9	29.7 (1.81)	42.57 (11.25)		2800		2.1 (4.6)
	10	34.1 (2.08)	47.30 (12.51)		2500		
	11	36.4 (2.22)	52.04 (13.75)		2500		2.3 (5.0)
	12	39.0 (2.38)	56.77 (15.00)	152 (2200)	2400		
	13	42.4 (2.59)	61.50 (16.25)		2400		

Cartridge Kit for Vane Pump HV10 and HV20 Series

Ordering Code



1. Model :

HV10, HV10F, HV10P
HV20, HV20F, HV20P
HV2010, HV2010F, HV2010P
HV2020, HV2020F, HV2020P
HV210, HV230

2. Ring Size (USgpm at 1200 rpm & 7 bar)

HV10, HV10F, HV10P - 1, 2, 3, 4, 5, 6, 7
HV2010, HV2010F, HV2010P

HV20, HV20F, HV20P - 5, 6, 7, 8, 9, 10, 11, 12,
HV2010, HV2010F, HV2010P 13
HV2010, HV2010F, HV2010P
HV2020, HV2020F, HV2020P
HV210, HV230

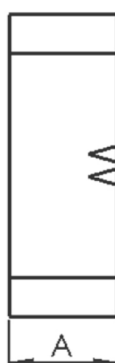
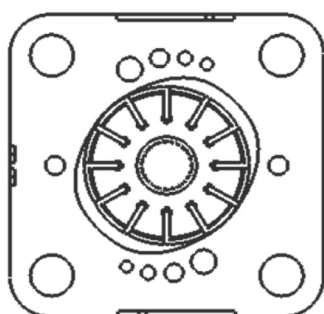
3. Cartridge Position

P1 - For single pump or shaft end in double pump
P2 - For cover end in double pump

Cartridge Kit for Vane Pump HV10 and HV20 Series

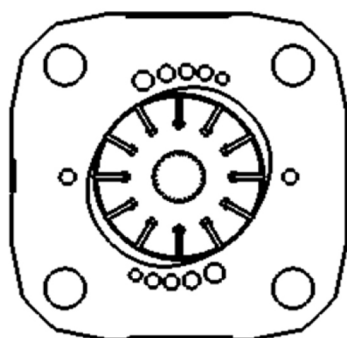
Installation Dimension mm (inch)

Cartridge Kit HV10



Delivery	A
1,2,3	15.6(0.61)
4,5	21.9(0.86)
6,7	26.9(1.06)

Cartridge Kit HV20



Delivery	A
5,6	15.5(0.61)
7,8,9	21.9(0.86)
10,11	26.9(1.06)
12,13	30.4(1.19)

Cartridge Kit for Vane Pump HV and HVQ Series

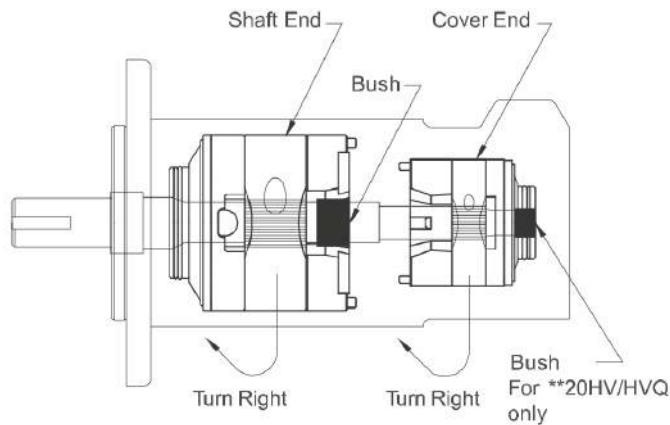
Features and Handling

- Replacement parts for fixed displacement vane pumps (single and double vane pump HV/HVQ series)
- Available in both 12 vanes design for industrial application with quiet operating and 10 vanes design for mobile application with higher pressure and wider range of speed.
- With the cartridge independent of the shaft, allowing for easy change of flow capacity and field servicing without removing the pump from its mounting.
- When ordering, if left hand rotation, special seal, or a specific position of cartridge (shaft end or cover end) is required, it should be specified by ordering code.
- To reverse rotation of cartridge, remove the two screws and reverse the location of the inlet support plate and outlet support plate (for cartridge kit with flex side plates, Bronze faces must be installed toward the rotor. DO NOT allow the flex plate to slide across the ring and rotor. Rough edges on the ring and rotor may cause scratches in the soft brass surface.) Make sure that the sharp edge of Vane leads direction of rotation. Re-install the two screws hand tight. Use pump cover to align all sections of the cartridge. Carefully remove and tighten the screws.
- When install the cartridge into the body, carefully move back and forth until the cartridge pins drop into the cover holes and one of the chamfers on the cam ring aligns with the cover inlet port.

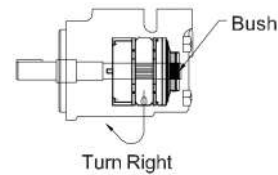


Cartridge Kit for Vane Pump HV and HVQ Series

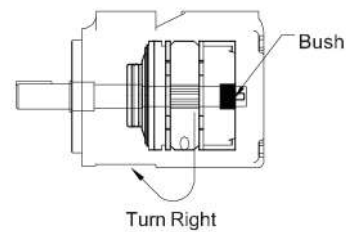
Cartridge Kit Position and Rotation



Double Pump

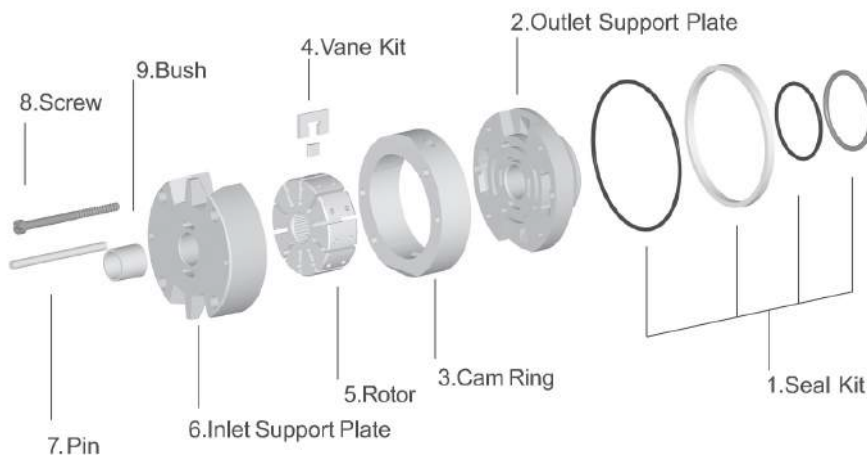


Single Pump, 20HV/HVQ

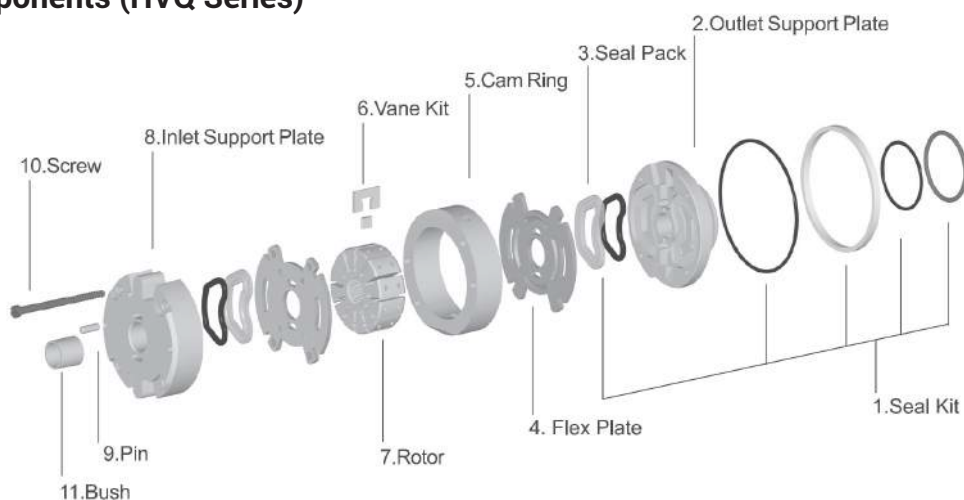


Single Pump, 25HV/HVQ, 35HV/HVQ, 45HV/HVQ

Cartridge Kit Components (HV Series)



Cartridge Kit Components (HVQ Series)



Cartridge Kit for Vane Pump HV and HVQ Series

Instruction for Cartridge Replacement

in Single Pump

1. Remove the four cover screws and lift the outlet cover. Pull out the old Cartridge. Discard the old large square cut seal and large O ring of the cartridge.

2. Check the wear surfaces of old cartridge. If the wear is normal, just change oil in tank circuit and change or clean filters. If there is seizure or heavy wear in rotor, support plates (for HV Series), and flex plates (for HVQ Series), disassemble the pump completely. Check the shaft alignment and make sure that it is not twisted or crooked. The shaft may need to be changed and also check shaft seal and shaft bearing (remove the large lock ring to remove shaft seal and remove snap ring to remove bearing). Change them if necessary. If these parts are defective or the oil is dirty, the new cartridges' service life will be shorter than normal.

3. Install square cut seal into the body. Install small O ring and back-up ring on the cartridge outlet support plate hub. Carefully install the cartridge into the body. Install the cover to the body with large O ring in the groove of the body. Install the cover in position ; move back and forth until the cartridge pins drop into alignment holes located within the cover. Install four screws and torque tighten to the values indicated.

Model	Torque Specification	
	N.m	lb.ft
20HV/HVQ	48-55	65-75
25HV/HVQ	48-55	65-75
35HV/HVQ	102-118	140-160
45HV/HVQ	188-203	255-275

4. Turn the pump shaft to verify freedom of the cartridge.

Cartridge Kit for Vane Pump HV and HVQ Series

in Double Pump

1. Remove the four cover screws and lift the outlet cover. Pull out the old Cover End Cartridge (Pry with screwdriver if necessary). Remove four screws from the inlet housing. Lift inlet housing from the outlet body. Rotate shaft to loosen Shaft End Cartridge and remove the cartridge from outlet body. Discard the old large square cut seals and large O rings of both cartridges.

2. Check the wear surfaces of old cartridge. If the wear is normal, just change oil in tank circuit and change or clean filters. If there is seizure or heavy wear in rotor, support plates (for HV Series), and flex plates (for HVQ Series), disassemble the pump completely. Check the shaft alignment and make sure that it is not twisted or crooked. The shaft may need to be changed and also check shaft seal and shaft bearing (remove the large lock ring to remove shaft seal and remove snap ring to remove bearing). Change them if necessary. If these parts are defective or the oil is dirty, the new cartridges' service life will be shorter than normal.

3. For new Shaft End Cartridge, install square cut seal into the body. Install small O ring and back-up ring on the cartridge outlet support plate hub. Carefully install the cartridge into the body. Install the inlet housing to the body with large O ring in the groove of the body. Install inlet housing in position ; move back and forth until the cartridge pins drop into the alignment holes located within the housing. Install four screws and torque tighten to the values indicated.

Model	Torque Specification	
	N.m	lb.ft
2520HV/HVQ	48-55	65-75
3520HV/HVQ	102-118	140-160
3525HV/HVQ	102-118	140-160
4520HV/HVQ	188-203	255-275
4525HV/HVQ	188-203	255-275

4. For new Cover End Cartridge, Install a square cut seal into the cover. Install O ring and back-up ring on the cartridge outlet support plate hub. Carefully install the cartridge over shaft and into the inlet housing. Turn cartridge slightly to bring into alignment the pin holes and cartridge

alignment pins. Install the cover to inlet housing with O ring seal over the cartridge and up against the inlet housing. Make sure square cut seal is in place within the cover. Orient the cover to agree with the alignment. Install the cover with four screws and torque the screws to the value indicated.

Model	Torque Specification	
	N.m	lb.ft
2520HV/HVQ	54-68	40-50
3520HV/HVQ	54-68	40-50
3525HV/HVQ	88-102	65-75
4520HV/HVQ	54-68	40-50
4525HV/HVQ	88-102	65-75
4535HV/HVQ	188-203	255-275

5. Turn the pump shaft to verify freedom of both cartridges.

Cartridge Kit for Vane Pump

HV and HVQ Series

Specification

Cartridge Kit 20HV

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
2	7.0 (0.42)	1800	206 (3000)	11.3 (3.0)	5.2 (7.0)	2.4 (5.3)
5	18.0 (1.10)			28.4 (7.5)	11.2 (15.0)	
8	27.0 (1.67)			45.4 (12.0)	17.0 (22.8)	
9	30.2 (1.84)			51.0 (13.5)	23.5 (31.5)	2.3 (5.1)
11	36.0 (2.22)			56.8 (15.0)	22.6 (30.3)	
12	40.0 (2.47)		158 (2300)	62.1 (16.4)	25.1 (33.7)	
14	45.0 (2.78)		138 (2000)	69.6 (18.4)	28.3 (37.9)	

Cartridge Kit 25HV

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
12	39.0 (2.47)	1800	172 (2500)	62.1 (16.4)	22.9 (30.8)	3.6 (7.9)
14	45.0 (2.78)			69.6 (18.4)	25.7 (34.5)	
17	55.0 (3.39)			86.3 (22.8)	29.8 (40.0)	
19	60.8 (3.72)			96.1 (25.4)	32.5 (43.5)	
21	67.0 (4.13)			106.0 (28.0)	34.0 (45.6)	

Cartridge Kit 35HV

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
21	68.3 (4.18)	1800	172 (2500)	106.3 (28.1)	34.0 (45.5)	6.5 (14.3)
25	81.0 (4.94)			124.9 (33.0)	45.5 (61.0)	
30	97.0 (5.91)			154.4 (40.8)	54.5 (73.0)	
35	112.0 (6.83)			181.7 (48.0)	61.5 (82.4)	
38	121.0 (7.37)			193.8 (51.2)	65.9 (88.3)	

Cartridge Kit for Vane Pump

HV and HVQ Series

Cartridge Kit 45HV

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
42	138.0 (8.41)	1800	172 (2500)	208.2 (55.0)	75.3 (101.0)	10.1 (22.3)
47	151.4 (9.26)			244.1 (64.5)	82.5 (110.6)	
50	162.0 (9.85)			253.6 (67.0)	87.3 (117.0)	
57	183.6 (11.23)			295.0 (77.8)	94.0 (126.0)	
60	193.0 (11.75)			310.4 (82.0)	103.7 (139.0)	

Cartridge Kit 20HVQ

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
2	7.0 (0.42)	2700	206 (3000)	15.9 (4.2)	7.3 (9.8)	2.4 (5.3)
5	18.0 (1.10)			41.6 (11.0)	17.9 (24.0)	
8	27.0 (1.67)			64.3 (17.0)	26.1 (35.0)	
9	30.2 (1.84)			71.5 (18.9)	32.9 (44.1)	
11	36.0 (2.22)		158 (2300)	87.1 (23.0)	35.4 (47.5)	2.3 (5.1)
12	39.0 (2.41)			96.5 (25.5)	28.3 (38.0)	
14	45.0 (2.80)		138 (2000)	113.6 (30.0)	29.1 (39.0)	2.5 (5.5)

Cartridge Kit 25HVQ

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm³/r 1(in³/r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
12	40.0 (2.45)	2700	206 (3000)	87.1 (23.0)	41.0 (55.0)	3.6 (7.9)
14	45.0 (2.77)			102.2 (27.0)	46.6 (62.5)	
17	55.0 (3.37)	2500		117.3 (31.0)	51.8 (69.5)	
19	60.8 (3.72)			130.5 (34.5)	55.0 (71.0)	
21	67.0 (4.12)			143.8 (38.0)	61.9 (83.0)	

Cartridge Kit for Vane Pump

HV and HVQ Series

Cartridge Kit 35HVQ

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm³/r 1(in³/r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
21	68.3 (4.18)	2500	206 (3000)	143.8 (38.0)	55.0 (73.9)	6.5 (14.3)
25	81.0 (4.98)			170.3 (45.0)	75.3 (101.0)	
30	97.0 (5.96)			208.2 (55.0)	87.7 (117.5)	
35	112.0 (6.88)	2400		227.1 (60.0)	98.5 (132.0)	
38	121.0 (7.42)			246.0 (65.0)	104.4 (140.0)	

Cartridge Kit 45HVQ

Delivery at 1200 rpm & 7 bar (100 psi)	Displacement	Maximum Speed	Maximum Speed	Typical Delivery at max. speed & pressure	Typical Input Power at max. speed & pressure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
42	138.0 (8.41)	2200	172 (2500)	251.7 (66.5)	91.4 (122.5)	10.1 (22.3)
47	151.4 (9.26)			280.8 (74.2)	95.0 (127.3)	
50	162.0 (9.85)			299.0 (79.0)	105.2 (141.0)	
57	183.6 (11.23)			342.5 (90.5)	109.3 (146.6)	
60	193.0 (11.75)			363.4 (96.0)	126.8 (170.0)	

Cartridge Kit for Vane Pump HV and HVQ Series

Ordering Code

20 HVQ - 11 - P1 - L

1	2	3	4	5
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1. Model :

20, 25, 35, 45
2520, 3520, 3525, 4520, 4525, 4535

2. Series :

HV - Industrial
HVQ - Mobile

3. Ring Size (USgpm)

20, 2520, 3520, - 2, 5, 8, 9, 11, 12, 14
4520HV/HVQ

25, 2520, 3525, - 12, 14, 17, 19, 21
4525HV/HVQ

35, 3520, 3525, - 21, 25, 30, 35, 38
4535HV/HVQ

45, 4520, 4525, - 42, 47, 50, 57, 60
4535HV/HVQ

*30 also available upon request

4. Cartridge Position

P1 - For single pump or shaft end in double pump
P2 - For cover end in double pump

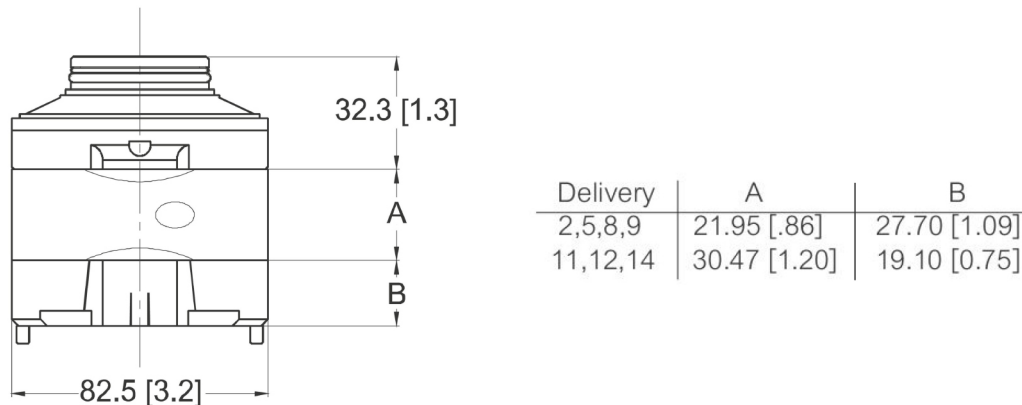
5. Shaft Rotation (Viewed from shaft end)

R - Turn right
L - Turn left

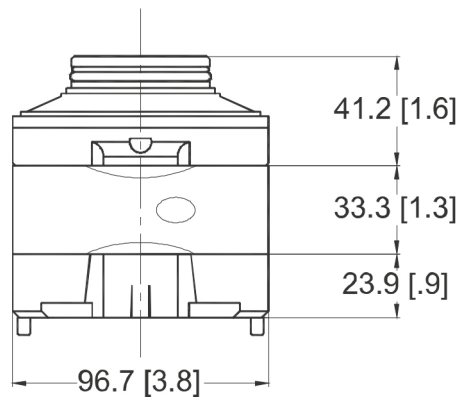
Cartridge Kit for Vane Pump HV and HVQ Series

Installation Dimension mm (inch)

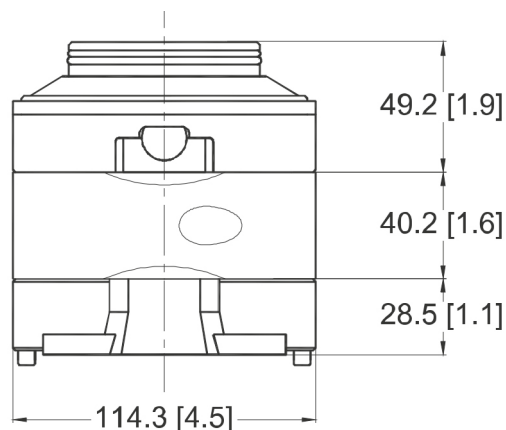
Cartridge Kit 20HV



Cartridge Kit 25HV

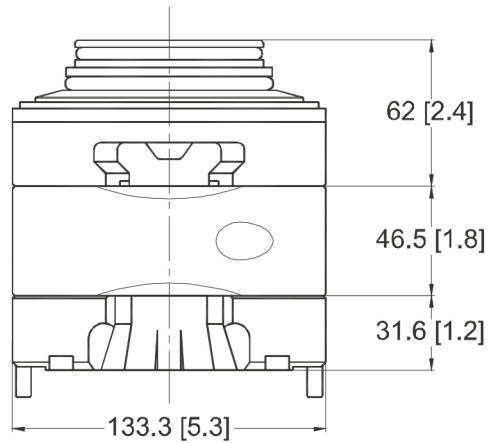


Cartridge Kit 35HV



Cartridge Kit for Vane Pump HV and HVQ Series

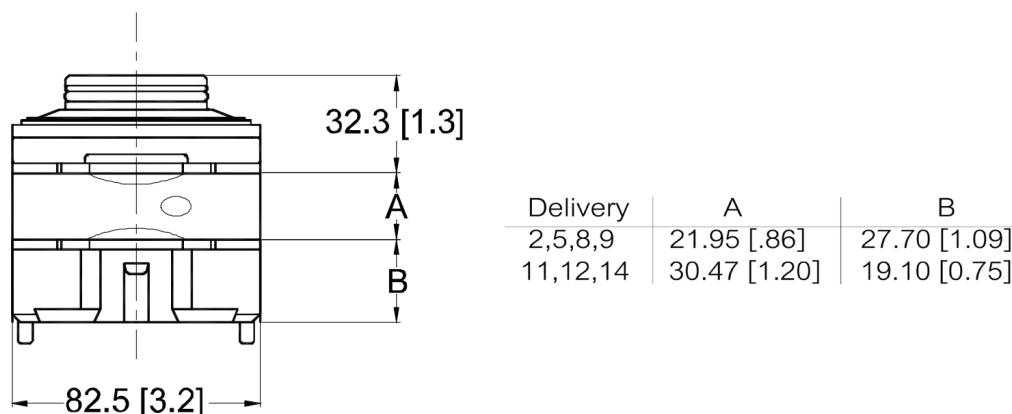
Cartridge Kit 45HV



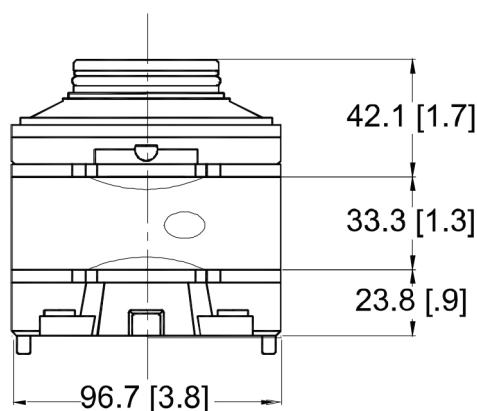
Cartridge Kit for Vane Pump HV and HVQ Series

Installation Dimension mm (inch)

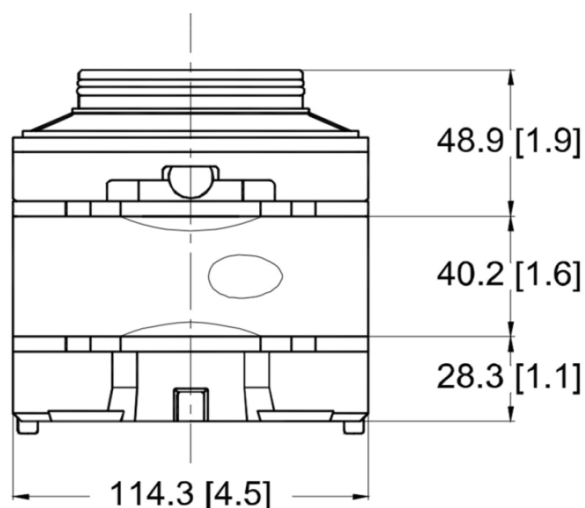
Cartridge Kit 20HVQ



Cartridge Kit 25HVQ

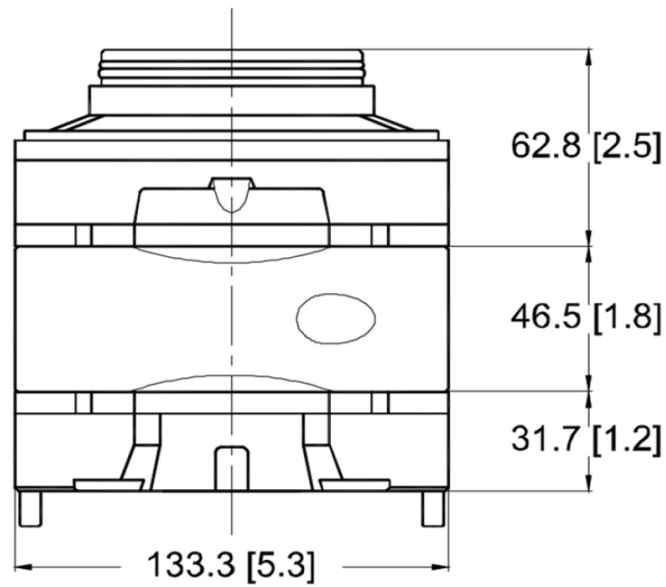


Cartridge Kit 35HVQ



Cartridge Kit for Vane Pump HV and HVQ Series

Cartridge Kit 45HVQ



Cartridge Kit for Vane Pump HT6 and HT7 Series

Features and Handling

• The HT Series cartridge kit is interchangeable with DENISON. The balanced design and double lip vane technology are key features in providing a contamination resistant and reliable cartridge kit. High pressure and variable speed capabilities, extremely low noise make this fluid power source ideal for all kind of applications.

With these exceeding high qualities, our HT Series cartridges have satisfied many OEM clients around the world for more than 40 years.



Specifications :

Cartridge Kit HT7B for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
002	5.8 (0.35)	600	3600	320 (4640)	10.5 (2.77)	11.0 (14.77)	4.1 (9.0)
003	9.8 (0.59)				26.5 (7.00)	18.6 (24.89)	
004	12.8 (0.78)				37.2 (9.83)	24.5 (32.91)	
005	15.9 (0.97)				48.4 (12.78)	30.5 (40.92)	
006	19.8 (1.20)				64.3 (17.00)	37.8 (50.63)	
007	22.5 (1.37)				73.0 (19.28)	43.1 (57.80)	
008	24.9 (1.51)				78.8 (20.83)	47.5 (63.71)	
009	28.0 (1.70)				89.7 (23.71)	53.5 (71.72)	
010	31.8 (1.94)				105.9 (27.99)	61.1 (81.85)	
011	35.0 (2.13)		3000	300 (4350)	98.4 (25.99)	52.4 (70.20)	
012	41.0 (2.50)				125.3 (33.11)	61.5 (82.40)	
014	45.0 (2.74)				129.9 (34.33)	67.4 (90.31)	
015	50.0 (3.05)			280 (4060)	151.3 (39.96)	70.0 (93.83)	

Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT6C for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm³/r 1(in³/r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
003	10.8 (0.66)	600	2800	275 (4000)	21.3 (5.64)	13.9 (18.67)	4.0 (8.8)
005	17.2 (1.05)				29.3 (7.73)	22.2 (29.7)	
006	21.3 (1.30)				43.3 (11.45)	27.4 (36.77)	
008	26.4 (1.61)				55.1(14.57)	34.0 (45.54)	
010	34.1 (2.08)				80.2 (21.18)	43.9 (54.84)	
012	37.1 (2.26)				80.8 (21.35)	47.7 (63.93)	
014	46.0 (2.81)				112.2 (29.63)	59.3 (79.49)	
017	58.3 (3.56)				154.6 (40.84)	75.1 (100.70)	
020	63.8 (3.89)				159.1 (42.04)	82.1 (110.04)	
022	70.3 (4.29)				158.9 (41.98)	80.8 (108.35)	
025	79.3 (4.84)		2500	206 (3000)	180.4 (47.66)	91.2 (122.24)	
028	88.8 (5.42)				207.6 (54.85)	76.6 (102.67)	
031	100.0 (6.10)				239.6 (63.30)	86.2 (115.55)	

Cartridge Kit HT6D for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
014	47.6 (2.90)	600	2500	240 (3500)	94.4 (24.94)	47.8 (64.09)	7.8 (17.1)
017	58.2 (3.55)				137.6 (36.36)	58.5 (78.45)	
020	66.0 (4.03)				140.0 (36.99)	66.4 (89.06)	
024	79.5 (4.85)				175.8 (46.46)	80.0 (107.18)	
028	89.7 (5.47)				198.5 (51.73)	90.2 (120.89)	
031	98.3 (6.00)				215.8 (57.00)	98.9 (132.60)	
035	111.0 (6.77)				247.4 (65.37)	111.6 (149.61)	
038	120.3 (7.34)				270.5 (71.47)	121.0 (162.21)	
042	136.0 (8.30)				278.9 (73.69)	120.4 (161.42)	
045	145.7 (8.89)		2200	206 (3000)	300.7 (79.43)	129.0 (172.89)	
050	158.0 (9.64)				324.3 (85.67)	119.9 (160.69)	

Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT6E for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
042	132.3 (8.07)	600	2200	240 (3500)	259.5 (68.56)	117.1 (156.94)	11.8 (26.0)
045	142.4 (8.70)				283.4 (74.87)	126.2 (169.19)	
050	158.5 (9.67)				319.0 (84.28)	140.3 (188.06)	
052	164.8 (10.00)				331.1 (87.49)	145.1 (194.48)	
062	196.7 (12.00)				403.7 (106.65)	174.1 (233.37)	
066	213.3 (13.00)				448.3 (118.45)	188.6 (252.82)	
072	227.1 (13.86)				468.4 (123.76)	201.1 (269.54)	

Cartridge Kit HT7D for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
014	47.6 (2.90)	600	3000	300 (4350)	104.7 (27.65)	65.9 (88.33)	7.8 (17.1)
017	58.2 (3.55)				155.9 (41.18)	82.4 (110.42)	
020	66.0 (4.03)				168.0 (44.39)	99.1 (132.83)	
022	70.0 (4.27)				189.8 (50.15)	105.0 (140.74)	
024	79.5 (4.85)				215.4 (56.90)	121.7 (163.15)	
028	89.7 (5.47)				235.8 (62.30)	135.0 (180.95)	
031	98.3 (6.00)				261.1 (68.97)	148.8 (199.41)	
035	111.0 (6.77)		2800	280 (4060)	283.3 (74.84)	148.2 (198.69)	
038	120.3 (7.34)				303.8 (80.26)	157.6 (211.32)	
042	136.0 (8.30)		2500	260 (3770)	320.4 (84.65)	149.0 (199.72)	
045	145.7 (8.89)		2200	240 (3500)	300.7 (79.43)	129.0 (172.89)	
050	158.0 (9.64)			206 (3000)	324.3 (85.67)	119.9 (160.69)	

Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT7E for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
042	132.3 (8.07)	600	2200	240 (3500)	259.5 (68.56)	117.1 (156.94)	11.8 (26.0)
045	142.4 (8.70)				283.4 (74.87)	126.2 (169.19)	
050	158.5 (9.67)				319.0 (84.28)	140.3 (188.06)	
052	164.8 (10.00)				331.1 (87.49)	145.1 (194.48)	
054	173.8 (10.60)				352.8 (93.21)	153.8 (206.15)	
057	180.7 (11.02)				370.1 (97.77)	159.9 (214.31)	
062	196.7 (12.00)				403.7 (106.65)	174.1 (233.37)	
066	213.3 (13.00)				448.3 (118.45)	188.6 (252.82)	
072	227.1 (13.86)				468.4 (123.76)	201.1 (269.54)	
085	269.8 (16.40)		2000	90 (1300)	495.6 (130.93)	80.3 (107.69)	

Cartridge Kit for Vane Pump

HT6 and HT7 Series

Cartridge Kit HT6CM, P, R for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm³/r 1(in³/r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
003	10.8 (0.66)	400	2800	275 (4000)	21.3 (5.64)	13.9 (18.67)	4.0 (8.8)
005	17.2 (1.05)				29.3 (7.73)	22.2 (29.7)	
006	21.3 (1.30)				43.3 (11.45)	27.4 (36.77)	
008	26.4 (1.61)				55.1 (14.57)	34.0 (45.54)	
010	34.1 (2.08)				80.2 (21.18)	43.9 (54.84)	
012	37.1 (2.26)				80.8 (21.35)	47.7 (63.93)	
014	46.0 (2.81)				112.2 (29.63)	59.3 (79.49)	
017	58.3 (3.56)				154.6 (40.84)	75.1 (100.70)	
020	63.8 (3.89)				159.1 (42.04)	82.1 (110.04)	
022	70.3 (4.29)				158.9 (41.98)	80.8 (108.35)	
025	79.3 (4.84)		2500	206 (3000)	180.4 (47.66)	91.2 (122.24)	
028	88.8 (5.42)				207.6 (54.85)	76.6 (102.67)	
031	100.0 (6.10)				239.6 (63.30)	86.2 (115.55)	

Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT6DM, P, R for single pump, double pump and triple pump

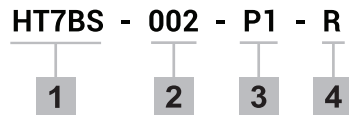
Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
014	47.6 (2.90)	400	2500	240 (3500)	94.4 (24.94)	47.8 (64.09)	7.8 (17.1)
017	58.2 (3.55)				137.6 (36.36)	58.5 (78.45)	
020	66.0 (4.03)				140.0 (36.99)	66.4 (89.06)	
024	79.5 (4.85)				175.8 (46.46)	80.0 (107.18)	
028	89.7 (5.47)				198.5 (51.73)	90.2 (120.89)	
031	98.3 (6.00)				215.8 (57.00)	98.9 (132.60)	
035	111.0 (6.77)				247.4 (65.37)	111.6 (149.61)	
038	120.3 (7.34)				270.5 (71.47)	121.0 (162.21)	
042	136.0 (8.30)				278.9 (73.69)	120.4 (161.42)	
045	145.7 (8.89)				300.7 (79.43)	129.0 (172.89)	
050	158.0 (9.64)	400	2200	206 (3000)	324.3 (85.67)	119.9 (160.69)	7.8 (17.1)

Cartridge Kit HT6EM, P, R for single pump, double pump and triple pump

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Min. Speed	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
042	132.3 (8.07)	600	2200	240 (3500)	259.5 (68.56)	117.1 (156.94)	12.1 (26.6)
045	142.4 (8.70)				283.4 (74.87)	126.2 (169.19)	
050	158.5 (9.67)				319.0 (84.28)	140.3 (188.06)	
052	164.8 (10.00)				331.1 (87.49)	145.1 (194.48)	
062	196.7 (12.00)				403.7 (106.65)	174.1 (233.37)	
066	213.3 (13.00)				448.3 (118.45)	188.6 (252.82)	
072	227.1 (13.86)				468.4 (123.76)	201.1 (269.54)	

Cartridge Kit for Vane Pump HT6 and HT7 Series

Ordering Code



1. Model :

- Industrial** - HT7B, HT7BS, HT6C, HT7D, HT7DS, HT7E, HT7ES, HT6CR, HT6DR, HT6ER, HT7BB, HT7BBS, HT6CC, HT6CCW, HT67CB, HT67CBW, HT7DB, HT7DBS, HT67DC, HT67DCW, HT7DD, HT7DDS, HT7EB, HT7EBS, HT67EC, HT7ED, HT7EDS, HT7EE, HT7EES, HT7DBB, HT7DBBS, HT7DCB, HT7DCBS, HT7DCC, HT7DCCS, HT67DBB, HT67DCB, HT67DCC, HT7DDB, HT7DDBS, HT67DDCS, HT67EDCS, HT7EDB, HT7EDBS, HT67EDC, HT67EDCS, HT7EEC, HT7EECS
- Mobile** - HT6CM, HT6CP, HT6DM, HT6DP, HT6EM, HT6EP, HT6CRM, HT6DRM, HT6ERM, HT6CCM, HT6CCP, HT6CCMW, HT6DCM, HT6DCP, HT6DCMW, HT6ECM, HT6ECP, HT6EDM, HT6EDP, HT6DCCM, HT6EDCM

2. Ring size (USgpm)

- 7B** - 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 014, 015
- E03, E04, E05, E06, E07, E08, E09, E10, E11, E12, E14, E15 (Variable Speed)
- 6C** - 003, 005, 006, 008, 010, 012, 014, 017, 020, 022, 025, 028, 031
(Except HT6CP only use 014-031)
- 6D** - 014, 017, 020, 024, 028, 031, 035, 038, 042, 045, 050
- 7D** - 014, 017, 020, 022, 024, 028, 031, 035, 038, 042, 045, 050
- E14, E17, E20, E22, E24, E28, E31, E35, E38, E42 (Variable Speed)
- 6E** - 042, 045, 050, 052, 062, 066, 072
- 7E** - 042, 045, 050, 052, 054, 057, 062, 066, 072, 085

3. Cartridge Position

- P1** - For single pump or shaft end in double pump and triple pump
- P2** - For cover end in double pump and middle in triple pump
- P3** - For cover end in triple pump

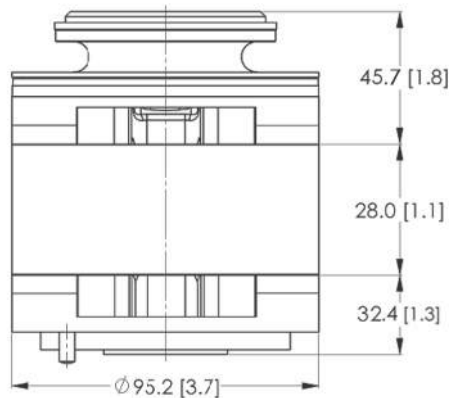
4. Shaft Rotation (Viewed from shaft end)

- R** - Turn right
- L** - Turn left

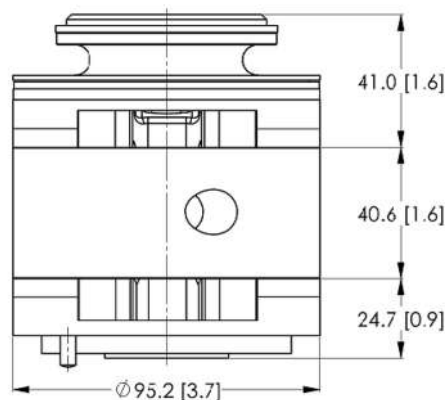
Cartridge Kit for Vane Pump HT6 and HT7 Series

Installation Dimension mm (inch)

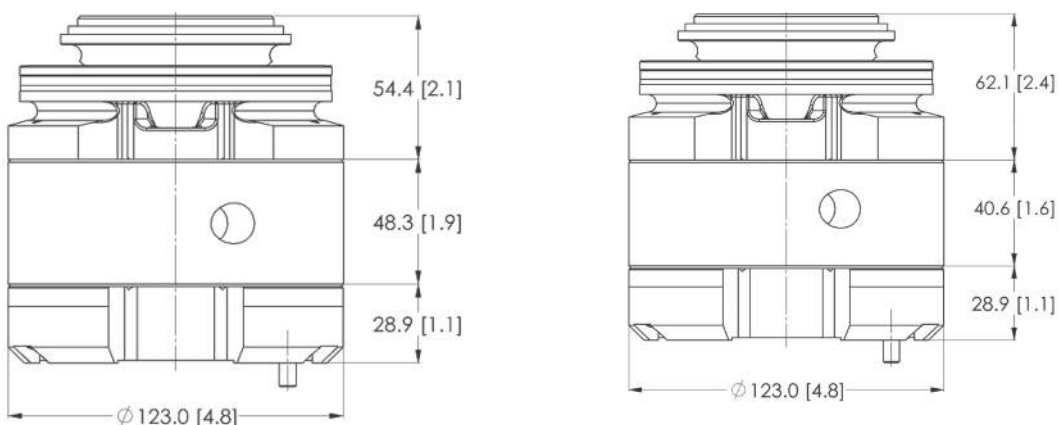
Cartridge Kit HT7B



Cartridge Kit HT6C, M, P, R

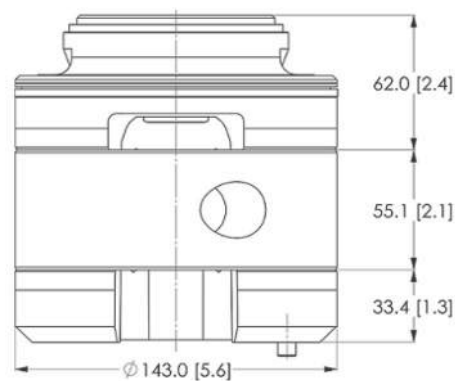


Cartridge Kit HT6D, M, P, R, HT7D

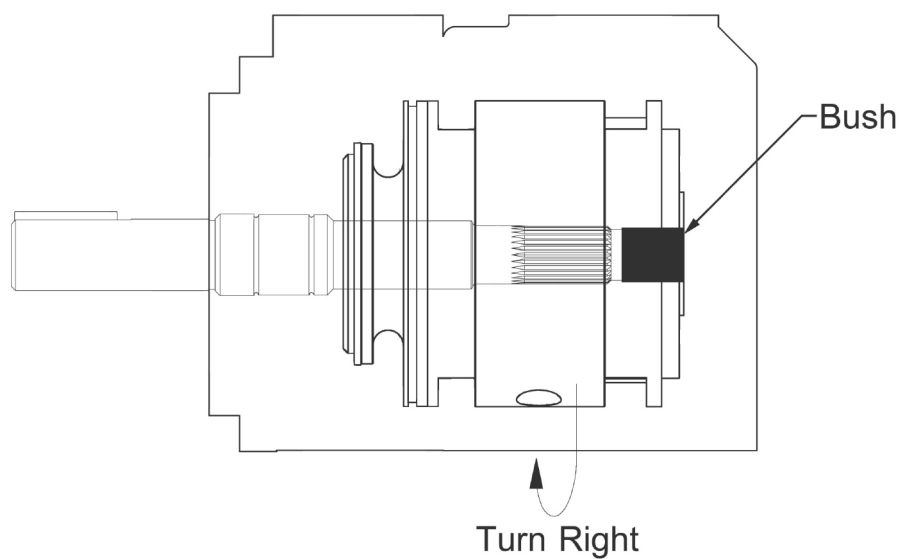


Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT6E, M, P, R, HT7E

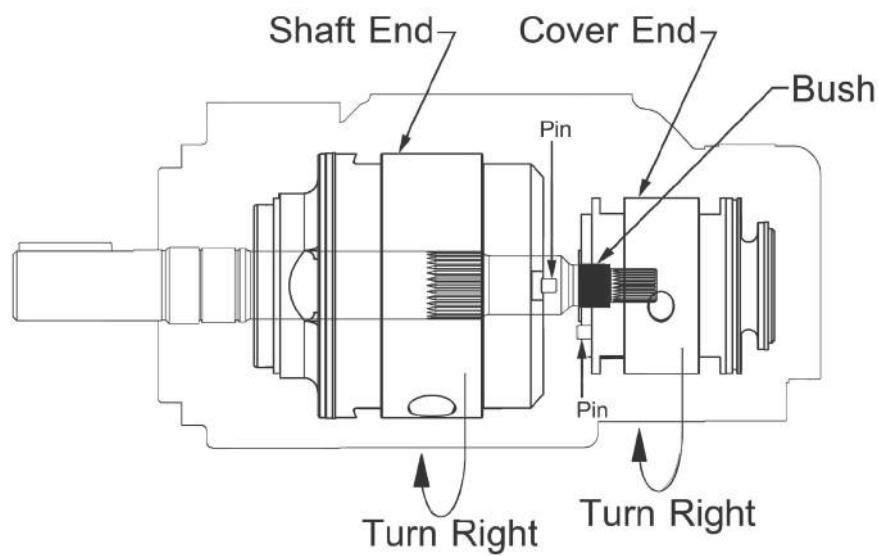


Cartridge Kit HT Series : Single pump

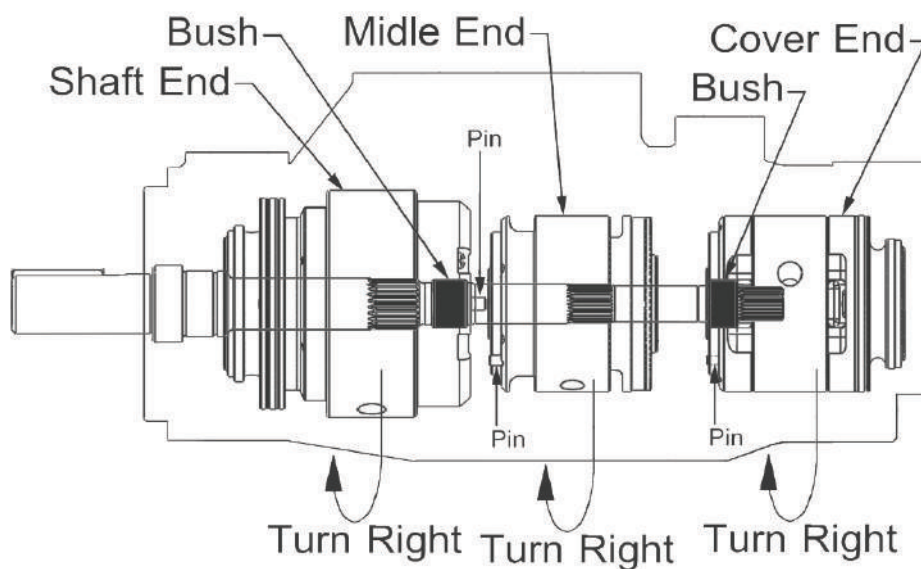


Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit HT Series : Double pump

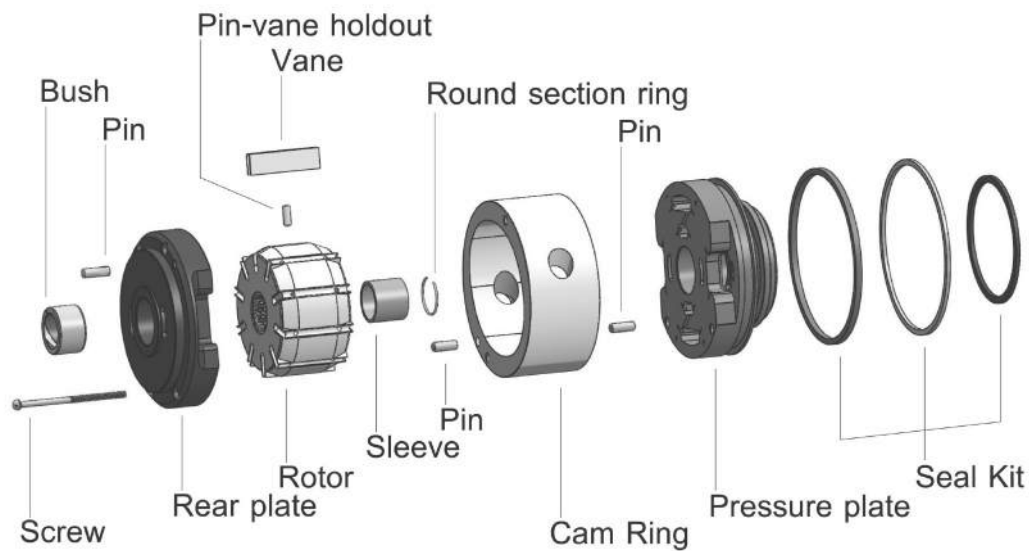


Cartridge Kit HT Series : Triple pump



Cartridge Kit for Vane Pump HT6 and HT7 Series

Cartridge Kit Components (HT Series)



Cartridge Kit for Vane Pump

HSQP Series

Features and Handling

- Replacement for HSQP Cartridge kits of Tokimec pump. This low noise, high performance fixed vane pump series offers superior performance with high volumetric efficiency and very low noise characteristics.
- When ordering, if left hand rotation, special seal, or a specific position of cartridge (shaft end or cover end) is required, it should be specified by ordering code.
- When install the cartridge into the body, carefully move back and forth until the cartridge pins drop into the cover holes and one of the chamfers on the cam ring aligns with the cover inlet port.



Specifications

HSQP(S)1

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
2	7.0 (0.42)	1800	206 (3000)	11.3 (3.0)	5.2 (7.0)	2.4 (5.3)
5	18.0 (1.10)			28.4 (7.5)	11.2 (15.0)	
8	27.0 (1.67)			45.4 (12.0)	17.0 (22.8)	
9	30.2 (1.84)			51.0 (13.5)	23.5 (31.5)	2.3 (5.1)
11	36.0 (2.22)			56.8 (15.0)	22.6 (30.3)	
12	40.0 (2.47)		158 (2300)	62.1 (16.4)	25.1 (33.7)	
14	45.0 (2.78)		138 (2000)	69.6 (18.4)	28.3 (37.9)	

Cartridge Kit for Vane Pump

HSQP Series

HSQP(S)2

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
12	39.0 (2.47)	1800	172 (2500)	62.1 (16.4)	22.9 (30.8)	3.6 (7.9)
14	45.0 (2.78)			69.6 (18.4)	25.7 (34.5)	
17	55.0 (3.39)			86.3 (22.8)	29.8 (40.0)	
19	60.8 (3.72)			96.1 (25.4)	32.5 (43.5)	
21	67.0 (4.13)			106.0 (28.0)	34.0 (45.6)	

HSQP(S)3

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
21	68.3 (4.18)	1800	172 (2500)	106.3 (28.1)	34.0 (45.5)	6.2 (13.6)
25	81.0 (4.94)			124.9 (33.0)	45.5 (61.0)	
30	97.0 (5.91)			154.4 (40.8)	54.5 (73.0)	
35	112.0 (6.83)			181.7 (48.0)	61.5 (82.4)	
38	121.0 (7.37)			193.8 (51.2)	65.9 (88.3)	

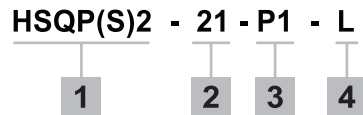
HSQP(S)4

Delivery at 1200 r/min & 7 bar (100 psi)	Displacement	Max. Speed	Max. Pressure	Typical Delivery at max speed & pressure	Typical Input Power at max speed & pres- sure	Weight
USgpm	cm ³ /r 1(in ³ /r)	rpm	bar (psi)	L/min (USgpm)	kW (hp)	kg (lb)
42	138.0 (8.41)	1800	172 (2500)	208.2 (55.0)	75.3 (101.0)	9.8 (21.5)
47	151.4 (9.26)			244.1 (64.5)	82.5 (110.6)	
50	162.0 (9.85)			253.6 (67.0)	87.3 (117.0)	
57	183.6 (11.23)			295.0 (77.8)	94.0 (126.0)	
60	193.0 (11.75)			310.4 (82.0)	103.7 (139.0)	

Cartridge Kit for Vane Pump

HSQP Series

Ordering Code



1. Model :

- | | |
|-------------|--|
| Single Pump | - HSQP1, HSQP(S)1, HSQP(S)2,
HSQP(S)3, HSQP(S)4, |
| Double Pump | - HSQP(S)21, HSQP(S)31,
HSQP(S)32, HSQP(S)41,
HSQP(S)42, HSQP(S)43 |
| Triple Pump | - HSQP(S)211, HSQP(S)311,
HSQP(S)321, HSQP(S)421,
HSQP(S)431, HSQP(S)432 |

2. Ring size (USgpm)

- | | |
|----------|-----------------------|
| HSQP(S)1 | - 2, 5, 8, 11, 12, 14 |
| HSQP(S)2 | - 12, 14, 17, 19, 21 |
| HSQP(S)3 | - 21, 25, 30, 35, 38 |
| HSQP(S)4 | - 42, 47, 50, 57, 60 |

3. Cartridge Position

- | | |
|----|---|
| P1 | - For single pump or shaft end in double pump and triple pump |
| P2 | - For cover end in double pump and middle in triple pump |
| P3 | - For cover end in triple pump |

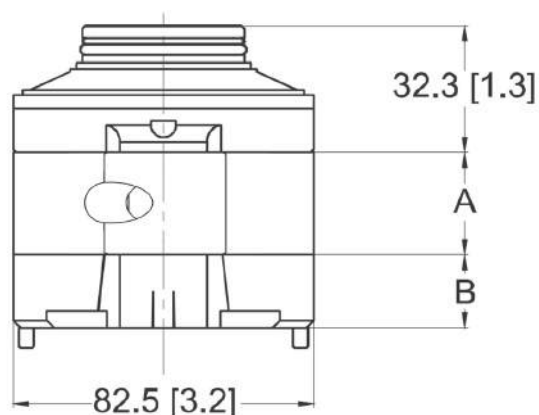
4. Shaft Rotation (Viewed from shaft end)

- | | |
|---|--------------|
| R | - Turn right |
| L | - Turn left |

Cartridge Kit for Vane Pump HSQP Series

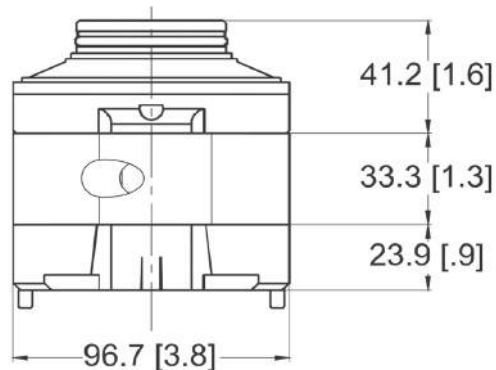
Installation Dimension mm (inch)

HSQP(S)1

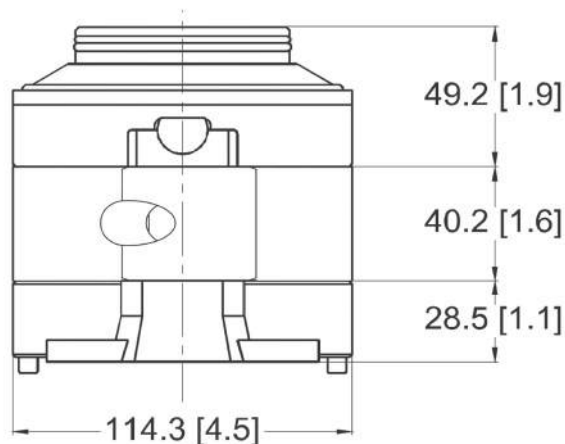


Delivery	A	B
2,5,8,9	21.95 [.86]	27.70 [1.09]
11,12,14	30.47 [1.20]	19.10 [0.75]

HSQP(S)2

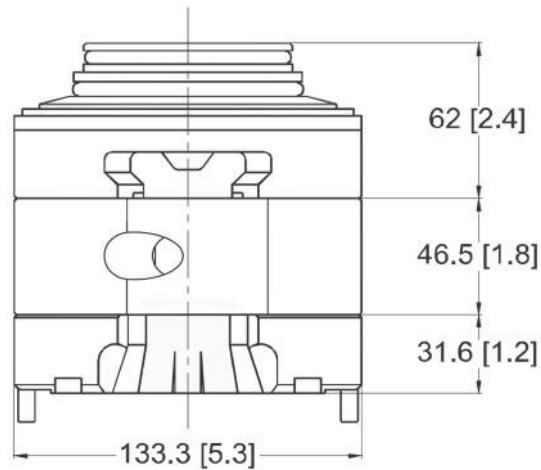


HSQP(S)3



Cartridge Kit for Vane Pump HSQP Series

HSQP(S)4



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