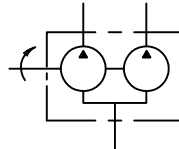


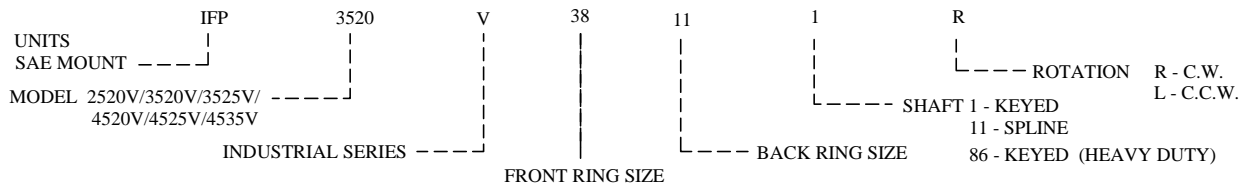
# IFP HIGH PERFORMANCE INDUSTRIAL TANDEM INTRA-VANE PUMPS



- \* Maximum 3000 PSI Operating Pressure
- \* Twelve Vane Design for Quiet Operation
- \* Hydraulically Balanced for Extended Life
- \* Versatile
- \* Compact



### ◆ Double Pump Ordering Specifications



Values based on using anti-wear type petroleum oil 150 SUS at 100°F and 0 PSI inlet pressure.

Series	GPM Shaft End Pump	Displacement Cubic Inches/Rev.	Max. RPM	Min. PSI	Typical Delivery GPM at Max. Speed & Pressure	Typical Input HP at Max. Speed & Pressure	GPM Shaft End Pump	Displacement Cubic Inches/Rev.	Max. RPM	Min. PSI	Typical Delivery GPM at Max. Speed & Pressure	Typical Input HP at Max. Speed & Pressure	Weight in Pounds
2520V	12	2.47	1800	2500	16.4	30.75	5	1.10	1800	3000	7.2	17.00	45
	14	2.78	1800	2500	18.4	34.50	8	1.67	1800	3000	11.1	25.00	
	17	3.39	1800	2500	22.8	35.80	11	2.22	1800	3000	13.1	34.00	
	21	4.13	1800	2500	28.8	31.00	12	2.41	1800	2500	17.4	29.75	
3520V	21	4.13	1800	2500	28.8	31.00	5	1.10	1800	3000	7.2	17.00	75
	25	4.94	1800	2500	33.9	61.00	8	1.67	1800	3000	11.1	25.00	
	30	5.91	1800	2500	40.8	73.00	11	2.22	1800	3000	13.1	34.00	
	35	6.83	1800	2500	48	82.4	12	2.41	1800	2500	17.4	29.75	
3525V	21	4.13	1800	2500	28.8	31.00	12	2.41	1800	2500	16	30.75	76
	25	4.94	1800	2500	33.9	61.00	14	2.81	1800	2500	18.6	34.5	
	30	5.91	1800	2500	40.8	73.00	17	3.39	1800	2500	22.5	35.8	
	35	6.83	1800	2500	48	82.40	21	4.13	1800	2500	27.5	45.60	
4520V	42	8.41	1800	2500	55	101.00	5	1.10	1800	3000	7.2	17.00	94
	50	9.85	1800	2500	57	110.00	8	1.67	1800	3000	11.1	25.00	
	60	11.75	1800	2500	67	117.00	11	2.22	1800	3000	13.1	34.00	
							12	2.41	1800	2500	17.4	29.75	
4525V	42	8.41	1800	2500	55	101.00	12	2.47	1800	2500	16.4	30.75	101
	50	9.85	1800	2500	57	110.00	14	2.78	1800	2500	18.4	34.50	
	60	11.75	1800	2500	67	117.00	17	3.39	1800	2500	22.8	35.80	
							21	4.13	1800	2500	27.5	45.60	
4535V	42	8.41	1800	2500	55	101.00	21	4.13	1800	2500	28.8	31.00	118
	50	9.85	1800	2500	57	110.00	25	4.94	1800	2500	33.9	61.00	
	60	11.75	1800	2500	67	117.00	30	5.19	1800	2500	40.8	73.00	
							35	6.83	1800	2500	48.0	82.40	
						38	7.37	1800	2500	51.2	88.30		

IFP offers a complete line of high performance (12 vane) Tandem intra-vane pumps for industrial applications. Units are available with a large selection of SAE mounts and shafts. The high pressure capability and multiple displacements, combined with the low flow pulsation and quiet operating characteristics of this 12-vane design, make them ideal for industrial applications. Factory tested cartridge kits are readily available providing efficient field serviceability, avoiding costly down time and increasing productivity. Units can operate on a large variety of fluids.

Contact the local representative with your requirements.

# IFP HIGH PERFORMANCE INDUSTRIAL TANDEM INTRA-VANE PUMPS



Performance Data - Typical Flows at 120° F, 10 W oil (128SUS), 0 PSI inlet

Flow in Gallons Per Minute (GPM).

Pump Model	Displacement (in <sup>3</sup> /rev.)	R.P.M.	100 P.S.I. (INPUT H.P.)	1500 P.S.I. (INPUT H.P.)	2500 P.S.I. (INPUT H.P.)
** 20 V	5 (1.10)	1200	5.0 (0.4)	4.5 (5.0)	4.2 (6.0)
		1500	6.9 (1.0)	6.4 (7.0)	6.0 (8.0)
		1800	8.5 (1.5)	7.7 (8.5)	7.5 (12.0)
	8 (1.67)	1200	8.0 (1.0)	7.4 (8.0)	7.1 (14.0)
		1500	10.5 (1.2)	9.5 (10.5)	9.1 (17.0)
		1800	13.7 (1.7)	11.9 (12.0)	11.2 (20.5)
	11 (2.22)	1200	11.0 (1.2)	10.2 (11.0)	9.9 (16.0)
		1500	14.2 (1.5)	13.5 (14.5)	12.5 (23.0)
		1800	17.1 (2.8)	16.5 (18.0)	14.6 (28.5)
	12 (2.47)	1200	12.0 (1.3)	11.6 (12.5)	11.2 (19.0)
		1500	15.0 (1.5)	14.8 (15.5)	14.0 (25.0)
		1800	18.6 (3.0)	17.8 (19.0)	16.9 (30.0)
14 (2.78)	1200	14.0 (1.5)	12.2 (13.5)	11.2 (23.0)	
	1500	17.5 (3.0)	16.1 (17.0)	14.5 (29.0)	
	1800	21.0 (3.5)	18.4 (20.0)	18.0 (34.0)	

25 V ** 25 V	12 (2.47)	1200	12.0 (1.0)	10.8 (12.0)	10.2(21.0)
		1500	15.5 (1.5)	13.8 (14.5)	13.5 (25.0)
		1800	18.0 (2.5)	16.4 (17.0)	16.4(30.0)
	14 (2.78)	1200	14.0 (2.0)	12.4 (13.5)	11.5 (23.0)
		1500	17.5 (2.0)	16.8 (17.0)	14.8 (29.0)
		1800	21.0 (3.0)	18.6 (20.0)	18.4 (34.5)
	17 (3.39)	1200	17.0 (2.0)	15.5 (16.5)	15.0 (28.0)
		1500	21.0 (2.0)	20.0 (20.0)	18.3 (34.0)
		1800	25.5 (3.0)	23.2(24.0)	22.8 (40.0)
	21 (4.13)	1200	21.0 (2.0)	19.5 (20.0)	18.5 (33.0)
		1500	26.0 (3.6)	24.0 (24.5)	23.5 (42.0)
		1800	31.5 (3.8)	29.2 (29.0)	28.0 (46.0)

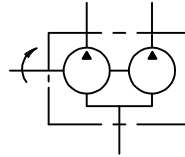
35 V ** 35 V	21 (4.13)	1200	21.0 (2.0)	19.5 (20.0)	18.5 (33.0)
		1500	26.0 (3.6)	24.0 (24.5)	23.5 (42.0)
		1800	31.5 (3.8)	29.2 (29.0)	28.0 (46.0)
	25 (4.94)	1200	25.0 (2.5)	22.5 (23.0)	21.0(41.0)
		1500	31.0 (3.0)	29.0 (30.0)	27.0(50.0)
		1800	37.8 (4.0)	35.5 (36.0)	33.0(61.0)
	30 (5.91)	1200	30.0 (4.0)	29.0 (28.5)	25.5 (49.0)
		1500	37.0 (5.0)	35.0 (35.5)	33.0 (61.0)
		1800	44.8 (6.0)	42.0 (43.0)	40.5 (73.0)
	35 (6.83)	1200	35.0 (4.0)	32.0 (33.0)	30.5 (54.0)
		1500	43.0 (5.0)	41.0 (42.5)	39.0 (68.0)
		1800	52.0 (6.5)	50.0(51.5)	47.5 (82.0)
	38 (7.37)	1200	38.0 (4.5)	34.0(35.5)	32.0 (58.0)
		1500	46.5(6.0)	43.0 (44.0)	41.5 (73.0)
		1800	56.5 (7.0)	53.5(55.0)	51.0 (88.0)

45 V ** 45 V	42 (8.41)	1200	42.0 (4.0)	36.0 (38.0)	33.0 (68.0)
		1500	53.0 (6.0)	48.0 (49.0)	44.0 (79.0)
		1800	64.0 (7.0)	59.0 (60.0)	55.0 (101.0)
	50 (9.85)	1200	50.0 (4.0)	45.0 (46.0)	42.5 (75.0)
		1500	62.0 (8.0)	57.5 (59.0)	55.0 (97.0)
		1800	74.0 (8.0)	69.0(71.0)	67.0 (117.0)
	60 (11.75)	1200	60.0(6.0)	55.0(57.0)	52.0 (93.0)
		1500	75.0(7.0)	69.0 (72.0)	66.0 (116.0)
		1800	91.0 (9.0)	86.0(88.0)	82.0 (139.0)

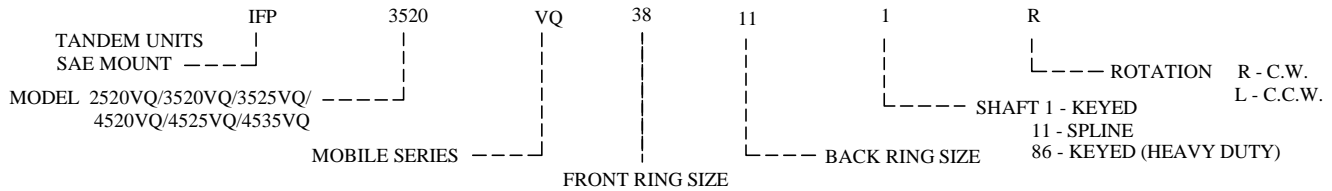
# IFP HIGH PERFORMANCE MOBILE TANDEM INTRA-VANE PUMPS



- \* Maximum 3000 PSI Operating Pressure
- \* High Operating Speeds
- \* Pressure Balanced
- \* Brass flex plates
- \* Versatile
- \* Compact
- \* Contaminant Tolerant



### ◆ Double Pump Ordering Specifications



Values based on using anti-wear type petroleum oil 150 SUS at 100°F and 0 PSI inlet pressure.

Series	GPM Shaft End Pump	Displacement Cubic Inches/Rev.	Max. RPM.	Min. PSI.	Typical Delivery GPM at Max. Speed & Pressure	Typical Input HP at Max. Speed & Pressure	GPM Shaft End Pump	Displacement Cubic Inches/Rev.	Max. RPM.	Min. PSI.	Typical Delivery GPM at Max. Speed & Pressure	Typical Input HP at Max. Speed & Pressure	Weight in Pounds
2520VQ	12	2.45	2700	3000	23.0	55.0	5	1.10	2700	3000	11.0	24.0	45
	14	2.76	2700	3000	27.0	62.5	8	1.67	2700	3000	17.0	35.0	
	17	3.37	2500	3000	31.0	69.5	11	2.22	2700	3000	23.0	47.5	
	19	3.72	2500	3000	34.0	76.0	12	2.41	2700	2300	25.5	38.0	
	21	4.12	2500	3000	38.0	83.0	14	2.80	2700	2000	30.0	39.0	
3520VQ	21	4.12	2500	3000	38.0	83.0	5	1.10	2500	3000	10.0	22.0	75
	25	4.98	2500	3000	45.0	101.0	8	1.67	2500	3000	16.0	32.5	
	30	5.96	2500	3000	55.0	117.5	11	2.22	2500	3000	21.0	44.0	
	35	6.88	2400	3000	60.0	132.0	12	2.41	2500	2300	23.5	35.0	
	38	7.42	2400	3000	65.0	140.0	14	2.80	2500	2000	27.5	36.0	
3525VQ	21	4.12	2500	3000	38.0	83.0	12	2.45	2500	3000	21.0	51.0	76
	25	4.98	2500	3000	45.0	101.0	14	2.76	2500	3000	24.0	58.0	
	30	5.96	2500	3000	55.0	117.5	17	3.37	2500	3000	31.0	69.0	
	35	6.88	2400	3000	60.0	132.0	21	4.12	2500	3000	38.0	83.0	
	38	7.42	2400	3000	65.0	140.0	21	4.12	2500	3000	38.0	83.0	
4520VQ	42	8.46	2200	2500	66.5	122.5	5	1.10	2200	3000	8.50	19.5	94
	47	9.54	2200	2500	71.0	131.0	8	1.67	2200	3000	13.5	28.5	
	50	9.90	2200	2500	79.0	141.0	11	2.22	2200	3000	18.0	38.5	
	57	11.20	2200	2500	92.0	160.0	12	2.41	2200	2300	20.5	31.0	
	60	11.80	2200	2500	96.0	170.0	14	2.80	2200	2000	24.0	32.0	
4525VQ	42	8.46	2200	2500	66.5	122.5	12	2.45	2200	3000	18.0	44.0	101
	47	9.54	2200	2500	71.0	131.0	14	2.76	2200	3000	21.0	51.0	
	50	9.90	2200	2500	79.0	141.0	17	3.37	2200	3000	26.5	61.0	
	57	11.20	2200	2500	92.0	160.0	21	4.12	2200	3000	33.0	73.0	
	60	11.80	2200	2500	96.0	170.0	21	4.12	2200	3000	33.0	73.0	
4535VQ	42	8.41	2200	2500	66.5	122.5	21	4.12	2200	3000	33.0	73.0	118
	47	9.54	2200	2500	71.0	131.0	25	4.98	2200	3000	38.5	89.0	
	50	9.85	2200	2500	79.0	141.0	30	5.96	2200	3000	47.0	104	
	57	11.20	2200	2500	92.0	160.0	35	6.88	2200	3000	55.0	120	
	60	11.75	2200	2500	96.0	170.0	38	7.42	2200	3000	59.0	130	

IFP offers a complete line of high performance double intra-vane pumps for mobile equipment. A large number of SAE mounts, shafts, and displacements, along with their high pressure and speed capabilities, provide the combination best suited for mobile applications. The cartridge assemblies are designed with two flex plates in hydrostatic balance which seal against the rotor to provide optimum running clearances for minimum internal leakage and friction. The bronze face of the flex plates provides excellent wear and cold-start characteristics. The availability of our factory tested cartridge offers fast and efficient field serviceability, and the replacement pump cartridge reduces down time to increase productivity. Units can operate on a large variety of fluids.

Contact the local representative with your requirements.

# IFP HIGH PERFORMANCE MOBILE TANDEM INTRA-VANE PUMPS



Performance Data - Typical Flows at 120° F, 10 W oil (128SUS), 0 PSI inlet  
Flow in Gallons Per Minute (GPM).

Pump Model	Displacement (in <sup>3</sup> /rev.)	R.P.M.	100 P.S.I. (INPUT H.P.)	1500 P.S.I. (INPUT H.P.)	3000 P.S.I. (INPUT H.P.)
** 20 VQ	5 (1.10)	1200	5.0 (0.4)	4.3 (5.0)	4.0 (10.0)
		1800	7.5 (1.5)	7.0 (8.5)	7.0 (16.5)
		2400	10.0 (2.0)	10.2 (12.0)	9.5 (22.0)
	8 (1.67)	1200	8.0 (1.0)	7.0 (8.0)	6.5 (16.5)
		1800	12.0 (1.7)	11.5 (12.0)	10.5 (23.0)
		2400	16.0 (2.8)	16.0 (17.0)	14.9 (32.0)
	11 (2.22)	1200	11.0 (1.2)	9.8 (11.0)	8.5 (21.5)
		1800	16.5 (2.8)	15.4 (18.0)	14.2 (31.0)
		2400	22.0 (3.0)	21.0 (22.0)	20.0 (42.0)
	12 (2.41)	1200	12.0 (1.5)	11.0 (12.5)	9.8 (22.0)
		1800	18.0 (3.0)	17.2 (19.0)	16.0 (34.0)
		2400	24.0 (3.0)	23.4 (23.5)	22.2 (45.0)
14 (2.80)	1200	14.0 (2.0)	12.9 (13.5)	12.0 (27.5)	
	1800	21.0 (3.0)	18.5 (20.0)	19.0 (39.5)	
	2400	28.0 (3.5)	27.0 (27.0)	26.4 (52.5)	
25 VQ ** 25 VQ	12 (2.47)	1200	12.0 (1.0)	9.5 (12.0)	7.5 (24.0)
		1800	18.0 (2.5)	16.0 (17.0)	13.5 (35.0)
		2400	24.0 (3.0)	22.5 (24.0)	20.0 (46.0)
	14 (2.77)	1200	14.0 (2.0)	11.5 (13.5)	9.5 (26.5)
		1800	21.0 (3.0)	18.0 (20.0)	16.0 (39.0)
		2400	28.0 (3.5)	25.0 (25.0)	23.0 (52.0)
	17 (3.37)	1200	17.0 (2.0)	14.0 (16.5)	12.0 (32.0)
		1800	25.5 (3.0)	22.0 (24.0)	20.0 (47.0)
		2400	34.0 (3.5)	31.0 (32.0)	29.0 (62.0)
	19 (3.72)	1200	19.0 (3.0)	17.0 (20.0)	15.0 (39.0)
		1800	28.5 (3.5)	25.5 (28.0)	24.0 (58.0)
		2400	38.0 (4.5)	35.0 (36.0)	32.0 (70.0)
21 (4.12)	1200	21.0 (2.0)	17.5 (20.0)	15.5 (39.0)	
	1800	31.5 (3.8)	28.0 (29.0)	25.5 (59.0)	
	2400	42.0 (4.5)	39.0 (39.0)	36.5 (76.0)	
30 VQ ** 30 VQ	24 (4.70)	1200	24.0 (2.2)	21.0 (22.0)	19.0 (46.0)
		1800	36.0 (3.3)	33.0 (33.0)	31.5 (71.0)
		2400	48.0 (4.4)	45.0 (47.0)	42.5 (95.0)
	28 (5.50)	1200	28.0 (2.6)	26.0 (22.0)	23.5 (58.0)
		1800	42.0 (5.0)	39.0 (33.0)	37.5 (77.0)
		2400	56.0 (6.5)	52.5 (47.0)	49.5 (98.0)
35 VQ ** 35 VQ	21 (4.12)	1200	21.0 (2.0)	17.5 (20.0)	15.5 (39.0)
		1800	31.5 (3.8)	28.0 (29.0)	25.5 (59.0)
		2400	42.0 (4.5)	39.0 (39.0)	36.5 (76.0)
	25 (4.94)	1200	25.0 (2.5)	20.5 (23.0)	17.5 (46.0)
		1800	37.0 (4.0)	33.5 (36.0)	30.0 (69.0)
		2400	50.0 (4.5)	42.0 (46.5)	42.5 (92.0)
	30 (5.96)	1200	30.0 (4.0)	25.0 (28.5)	25.5 (56.0)
		1800	45.0 (5.0)	40.0 (43.0)	37.0 (82.0)
		2400	60.0 (6.0)	55.0 (56.0)	52.5 (110.0)
	35 (6.88)	1200	35.0 (4.0)	29.0 (33.0)	25.0 (67.0)
		1800	52.5 (5.0)	46.0 (51.0)	42.0 (95.0)
		2400	70.0 (5.5)	62.5 (64.0)	60.0 (125.0)
38 (7.42)	1200	38.0 (4.5)	32.0 (35.5)	29.0 (69.0)	
	1800	57.0 (5.5)	50.5 (52.0)	47.0 (102.0)	
	2400	76.5 (6.0)	68.0 (69.0)	65.0 (136.0)	
45 VQ ** 45 VQ	42 (8.46)	1200	42.0 (4.0)	34.5 (39.5)	30.0 (68.0)
		1800	63.0 (60.0)	56.5 (58.0)	52.0 (104.0)
		2400	77.0 (7.0)	70.5 (72.0)	66.5 (123.0)
	47 (9.45)	1200	47.0 (4.0)	39.0 (22.0)	34.0 (46.0)
		1800	70.0 (5.0)	64.0 (33.0)	60.5 (71.0)
		2400	94.0 (9.0)	86.0 (47.0)	80.5 (95.0)
	50 (9.90)	1200	50.0 (4.0)	42.0 (48.0)	38.5 (78.0)
		1800	75.0 (6.0)	65.5 (70.0)	62.0 (116.0)
		2400	91.5 (8.0)	81.5 (86.0)	79.0 (141.0)
	57 (11.20)	1200	57.0 (5.0)	49.0 (22.0)	45.5 (92.0)
		1800	85.5 (7.5)	76.5 (33.0)	71.5 (125.0)
		2400	104.5 (8.0)	94.5 (47.0)	89.5 (160.0)
60 (11.80)	1200	60.0 (5.5)	51.0 (55.0)	47.0 (94.0)	
	1800	90.0 (7.0)	80.0 (82.0)	75.5 (138.0)	
	2400	110.0 (8.5)	99.0 (101.0)	96.0 (170.0)	

MAX. PSI  
2300

MAX. PSI  
2200

MAX. PSI  
2500

# PROCEDURE FOR VQ MOBILE CARTRIDGE KIT ASSEMBLY AND ROTATION CHANGE



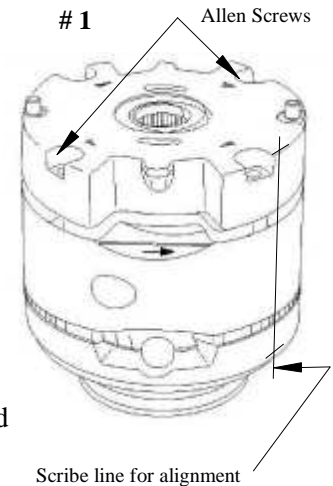
The direction of rotation is determined from the shaft end of the pump  
 Right hand rotation is clockwise  
 Left hand rotation is counter clockwise

## Use the following steps for assembly and rotation changes

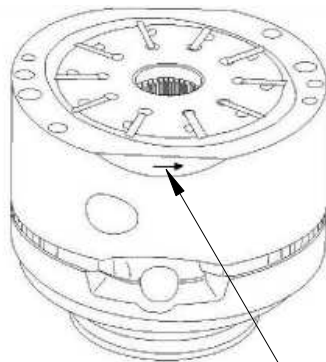
Scribe the cartridge kit to facilitate reassembly see drawing # 1  
 Remove socket screws  
 Open cartridge kit and rotate Ring / Rotor / Vanes as an assembly

## Note the following during assembly

- Rotor has an arrow engraved to ensure proper positioning for right and left hand rotation see drawing # 3
- All vanes should have an intravane that slides freely in the intravane slot
- Vanes should when installed in the rotor slide freely
- Install vanes with sharp edge leading in the direction of rotation see drawing # 3
- Ring has an arrow engraved to ensure proper positioning for right and left hand rotation see drawing # 2
- Assure kidney seals are properly installed in support plates
- Bronze face of the flex plates provide wear surface and should be installed as shown on drawing # 4

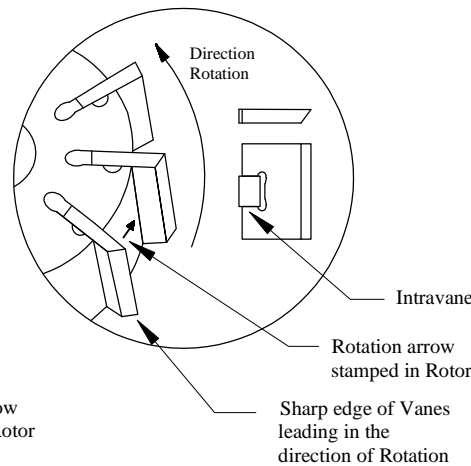


# 2



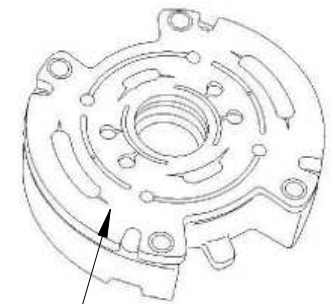
Rotation arrow stamped in Rotor

# 3



Intravane  
 Rotation arrow stamped in Rotor  
 Sharp edge of Vanes leading in the direction of Rotation

# 4



Bronze face of flex Plate Positioned towards the Rotor

Use scribe mark to align support plates - flex plates - ring

Install socket screws with minimum torque and align cartridge kit by sliding pump casting onto the cartridge until each part is centered.  
 Gently remove pump casting and tighten screws to the table # 1 torque.  
 Install cartridge in casting to assure proper alignment if the assembly binds in the casting repeat above procedure.

After cartridge kit is assembled use your finger to move the rotor which should move freely back and forth within the cartridge

**Bolt Torques** **table #1**

Pump SE	Cartridge Kit (in lb.)
20 VQ	30
25 VQ	45
30 VQ	45
35 VQ	100
45 VQ	105

# PROCEDURE FOR INDUSTRIAL CARTRIDGE KIT ASSEMBLY AND ROTATION CHANGE



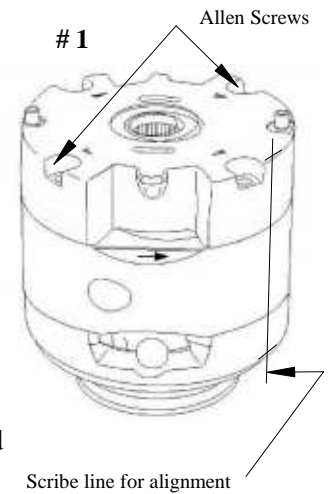
The direction of rotation is determined from the shaft end of the pump  
 Right hand rotation is clockwise  
 Left hand rotation is counter clockwise

## Use the following steps for assembly and rotation changes

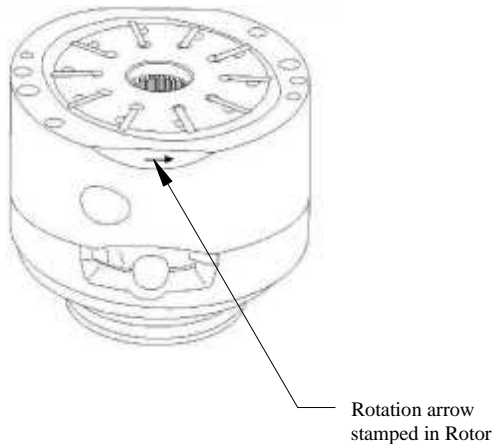
Scribe the cartridge kit to facilitate reassembly see drawing # 1  
 Remove screws  
 Open cartridge kit and rotate Ring / Rotor / Vanes as an assembly

## Note the following during assembly

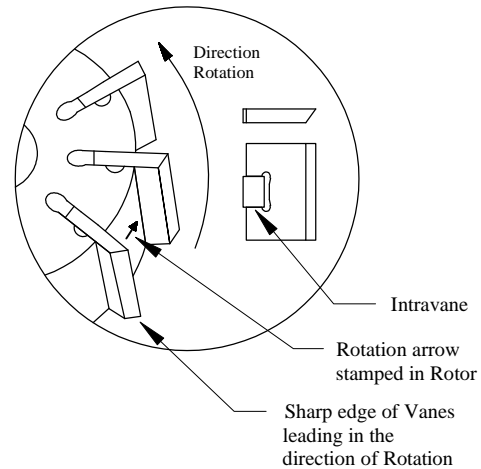
- Rotor has an arrow engraved to ensure proper positioning for right and left hand rotation see drawing # 3
- All vanes should have an intravane that slides freely in the intravane slot
- Vanes should when installed in the rotor slide freely
- Install vanes with sharp edge leading in the direction of rotation see drawing # 3
- Ring has an arrow engraved to ensure proper positioning for right and left hand rotation see drawing # 2



# 2



# 3



Use scribe mark to align support plates - ring

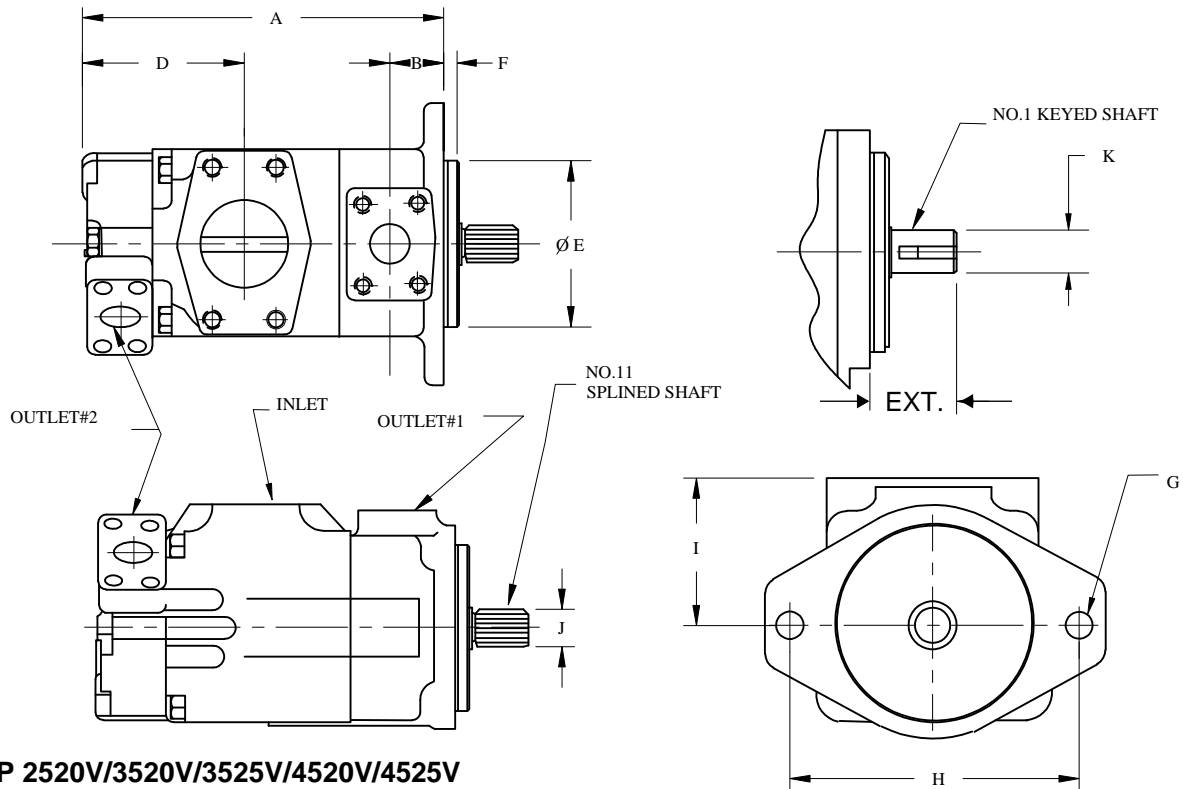
Install socket screws with minimum torque and align cartridge kit by sliding pump casting onto the cartridge until each part is centered. Gently remove pump casting and tighten screws to the table # 1 torque. Install cartridge in casting to assure proper alignment if the assembly binds in the casting repeat above procedure.

After cartridge kit is assembled use your finger to move the rotor which should move freely back and forth within the cartridge

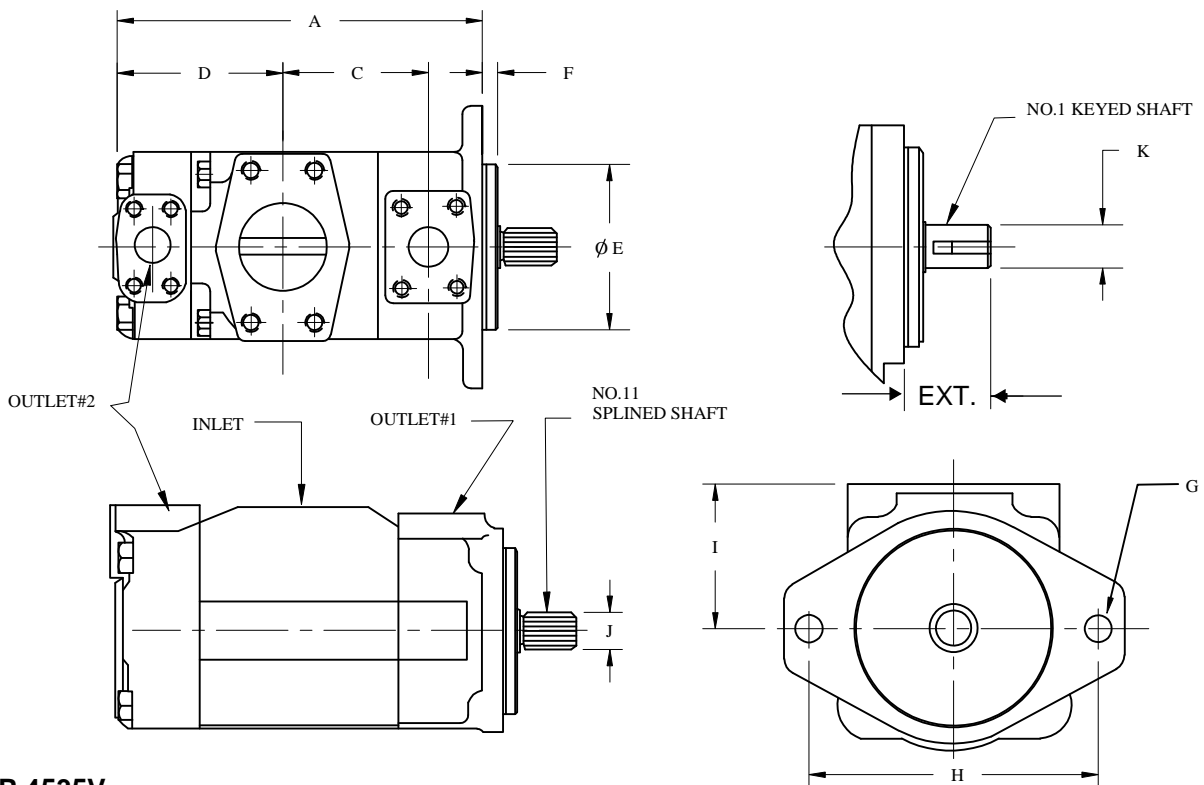
**Bolt Torques** **table #1**

Pump SE	Cartridge Kit (in lb.)
20 V	30
25 V	40
35 V	90
45 V	100

# IFP MOBILE & INDUSTRIAL TANDEM PUMP INSTALLATION DIMENSIONS



**IFP 2520V/3520V/3525V/4520V/4525V**



**IFP 4535V**

# IFP MOBILE & INDUSTRIAL TANDEM PUMPS INSTALLATION DIMENSIONS



## DIMENSION CHART

	2520	3520	3525	4520	4525	4535
A	9.84	10.79	11.30	11.97	13.8	13.9
B	1.50	1.50	1.50	1.69	1.69	1.69
C	4.00	4.50	4.50	4.70	4.70	5.25
D	3.47	3.92	4.312	4.70	5.35	5.84
E	4"Ø SAE'B'	5"Ø SAE'C'	5"Ø SAE'C'	5"Ø SAE'C'	5"Ø SAE'C'	5"Ø SAE'C'
F	.375	.375	.375	.500	.500	.500
G	.56	.688	.688	.688	.688	.688
H	5.75	7.125	7.125	7.125	7.125	7.125
I	3.38	3.50	3.50	4.03	4.03	4.03
J	.873 Ø 13 TH. 1.75 EXT.	1.248 Ø 14 TH. 2.13 EXT.	1.248 Ø 14 TH. 2.13 EXT.	1.248 Ø 14 TH. 2.44 EXT.	1.248 Ø 14 TH. 2.44 EXT.	1.248 Ø 14 TH. 2.44 EXT.
K	7/8" KEYED 2.13 EXT.	1-1/4" KEYED 2.88 EXT.	1-1/4" KEYED 2.88 EXT.	1-1/4" KEYED 2.88 EXT.	1-1/4" KEYED 2.44 EXT.	1-1/4" KEYED 2.44 EXT.
Key	.187	.3125	.3125	.3125	.3125	.3125
Weight	45 lbs.	75 lbs.	76 lbs.	94 lbs.	101 lbs.	118 lbs.
Inlet	2-1/2" FL.	3" FL.	3" FL.	3-1/2" FL.	3-1/2" FL.	4" FL.
Outlet1	1" FL.	1-1/4" FL.	1-1/4" FL.	1-1/2" FL.	1-1/2" FL.	1-1/2" FL.
Outlet2	3/4" FL.	3/4" FL.	1" FL.	3/4" FL.	1" FL.	1-1/4" FL.

## SHAFT DESCRIPTION & CODES

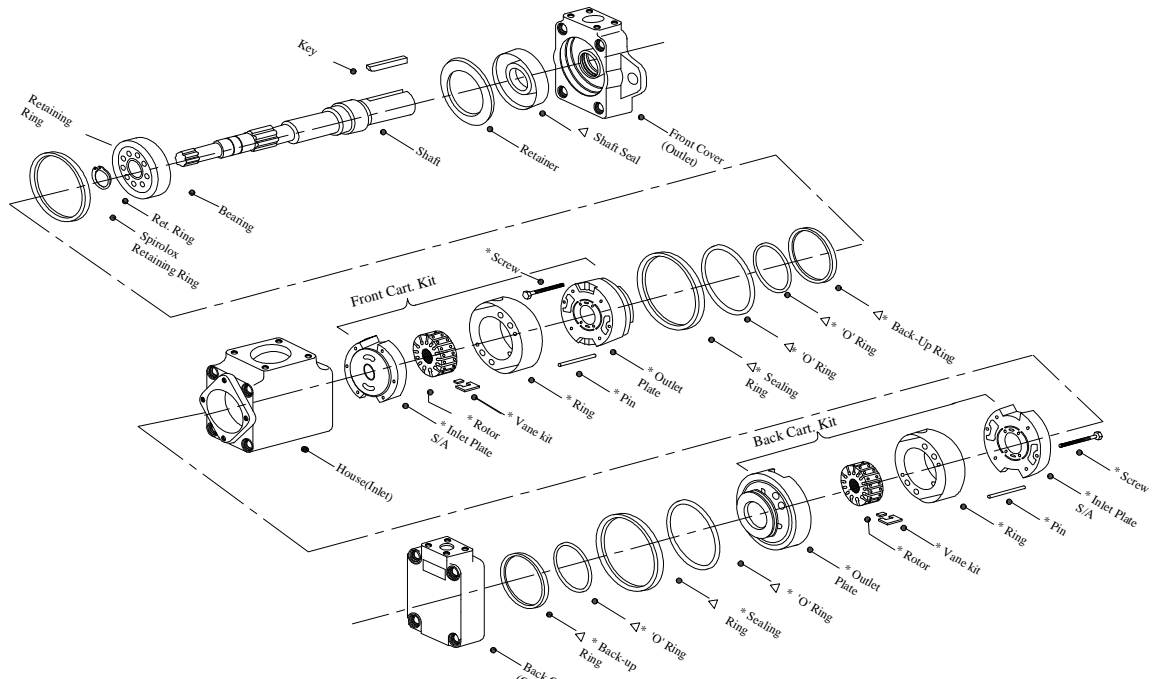
Pump Style	Code	Description	Major Dia.	Ext.
2520	1	3/16 Keyed	0.875	2.310
	11	13T 16/32 Splined	0.873	1.750
	25	14T 12/24 X-Long Splined	1.250	3.060
	123	13T 16/32 Splined	0.873	1.750
3520	1	5/16 Square Keyed	1.250	2.880
	11	14T 12/24 Splined	1.248	2.310
	19	14T 12/24 X-Long Splined	1.248	3.040
	86	5/16 Heavy Duty Sq. Keyed	1.374	3.370
3525	114	14T 12/24 Splined	1.229	2.270
	1	5/16 Square Keyed	1.250	2.880
	11	14T 12/24 Splined	1.248	2.310
	19	14T 12/24 X-Long Splined	1.248	3.040
4520	86	5/16 Heavy Duty Sq. Keyed	1.374	3.370
	111	14T 12/24 Splined	1.229	2.880

Pump Style	Code	Description	Major Dia.	Ext.
4520	1	5/16 Square Keyed	1.250	2.440
	11	14T 12/24 Splined	1.248	2.440
	86	3/8 Heavy Duty Sq. Keyed	1.500	3.440
	114	14T 12/24 Splined	1.229	3.060
4525	1	5/16 Square Keyed	1.250	2.440
	11	14T 12/24 Splined	1.250	2.440
	19	14T 12/24 X-Long Splined	1.250	3.060
	86	3/8 Heavy Duty Sq. Keyed	1.500	3.440
4535	114	14T 12/24 Splined	1.230	3.060
	1	5/16 Square Keyed	1.250	2.440
	11	14T 12/24 Splined	1.248	2.440
	19	14T 12/24 X-Long Splined	1.248	3.060
4535	86	3/8 Heavy-Duty Sq. Keyed	1.500	3.440
	114	14T 12/24 Splined	1.229	3.060

- Other shafts available on request -

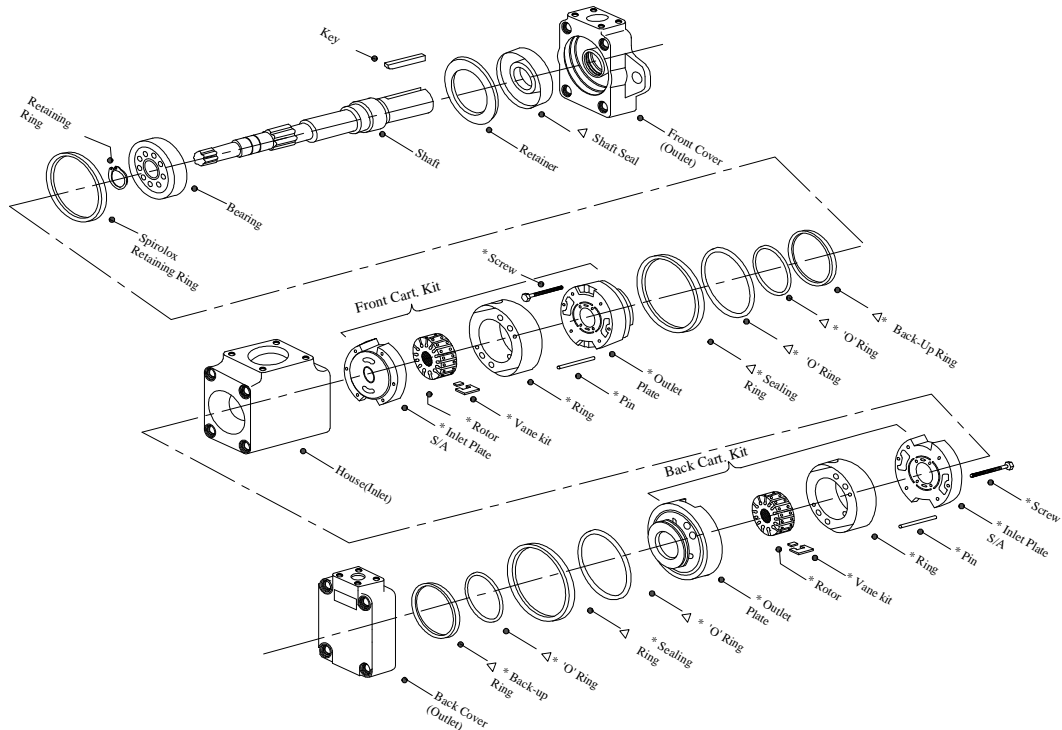


# IFP INDUSTRIAL DOUBLE VANE PUMP SERVICE PARTS INFORMATION



△ INCLUDE IN SEAL KIT  
\* INCLUDED IN CARTRIDGE KIT

**2520V/3520V/4520V/3525V/4525V**



△ INCLUDE IN SEAL KIT  
\* INCLUDED IN CARTRIDGE KIT

**4535V**

# IFP INDUSTRIAL DOUBLE VANE PUMP SERVICE PARTS INFORMATION



## CARTRIDGE CHART

PUMP SE	FRONT C. KIT	ROTOR	VANE	RING	BACK C. KIT	ROTOR	VANE	RING	SHAFTS
2520V	12 02-102532N	584618N	941214N	326984N	2 02-102506N	402690N	922741N	388683N	1 254964N
	14 02-102533N			326985N	5 02-102507N			333624N	
	17 02-102534N			326986N	8 02-102508N			333625N	
	21 02-102535N			326988N	11 02-102509N			333626N	
					12 02-102510N			353901N	
		14 02-102511N	353902N						
3520V	21 02-102551N	575478N	941019N	394961N	2 02-102506N	402690N	922741N	388683N	1 258249N
	25 02-102552N			319396N	5 02-102507N			333624N	
	30 02-102553N			319397N	8 02-102508N			333625N	86 394517N
	35 02-102554N			319398N	11 02-102509N			333626N	
	38 02-102555N			319399N	12 02-102510N			353901N	
		14 02-102511N	353902N						
3525V	21 02-102551N	575478N	941019N	394961N	12 02-102536N	584618N	941214N	326984N	1 243448N
	25 02-102552N			319396N	14 02-102537N			326985N	
	30 02-102553N			319397N	17 02-102538N			326986N	86 394036N
	35 02-102554N			319398N	21 02-102539N			326988N	
	38 02-102555N			319399N					
4520V	42 02-102572N	578900N	941049N	297510N	2 02-102506N	402690N	922741N	388683N	1 255533N
	50 02-102574N			297502N	5 02-102507N			333624N	
	60 02-102575N			297503N	8 02-102508N			333625N	86 361761N
					11 02-102509N			333626N	
					12 02-102510N			353901N	
		14 02-102511N	353902N						
4525V	42 02-102572N	578900N	941049N	297510N	12 02-102536N	584618N	941214N	326984N	1 233524N
	50 02-102574N			297502N	14 02-102537N			326985N	
	60 02-102575N			297503N	17 02-102538N			326986N	86 361762N
					21 02-102539N			326988N	
4535V	42 02-102572N	578900N	941049N	297510N	25 02-102556N	575478N	941019N	319396N	1 289083N
	50 02-102574N			297502N	30 02-102557N			319397N	
	60 02-102575N			297503N	35 02-102558N			319398N	86 361763N
					38 02-102559N			319399N	

- All Cartridge assemblies are factory tested before shipping -

PUMP SE	BUNA SEAL KIT	VITON SEAL KIT	BUNA SHAFT SEAL	VITON SHAFT SEAL	SECONDARY SHAFT SEAL	BEARING	FRONT COVER	MIDDLE COVER	BACK COVER
2520V	922856N	919303N	394976N	429286N	429283N	001705N	942353N	251263N	250824N
3520V	922859N	919304N	394973N	429284N	429281N	038441N	942355N	250818N	250824N
3525V	922862N	919305N	394973N	429284N	429281N	038441N	942355N	230189N	231532N
4520V	922863N	919616N	394974N	429285N	429282N	131812N	942356N	252283N	250824N
4525V	922865N	919345N	394974N	429285N	429282N	131812N	942356N	370071N	231532N
4535V	922866N	919346N	394974N	429285N	429282N	131812N	942356N	379585N	270679N

## BOLT TORQUES

	2520V	3520V	3525V	4520V	4525V	4535V
FRONT HOUSING FT. LB.	75	150	150	275	275	275
REAR COVER FT. LB.	50	50	75	50	75	275
FRONT C. KIT IN. LB.	40	90	90	100	100	100
BACK C. KIT IN. LB.	25	25	40	25	40	90

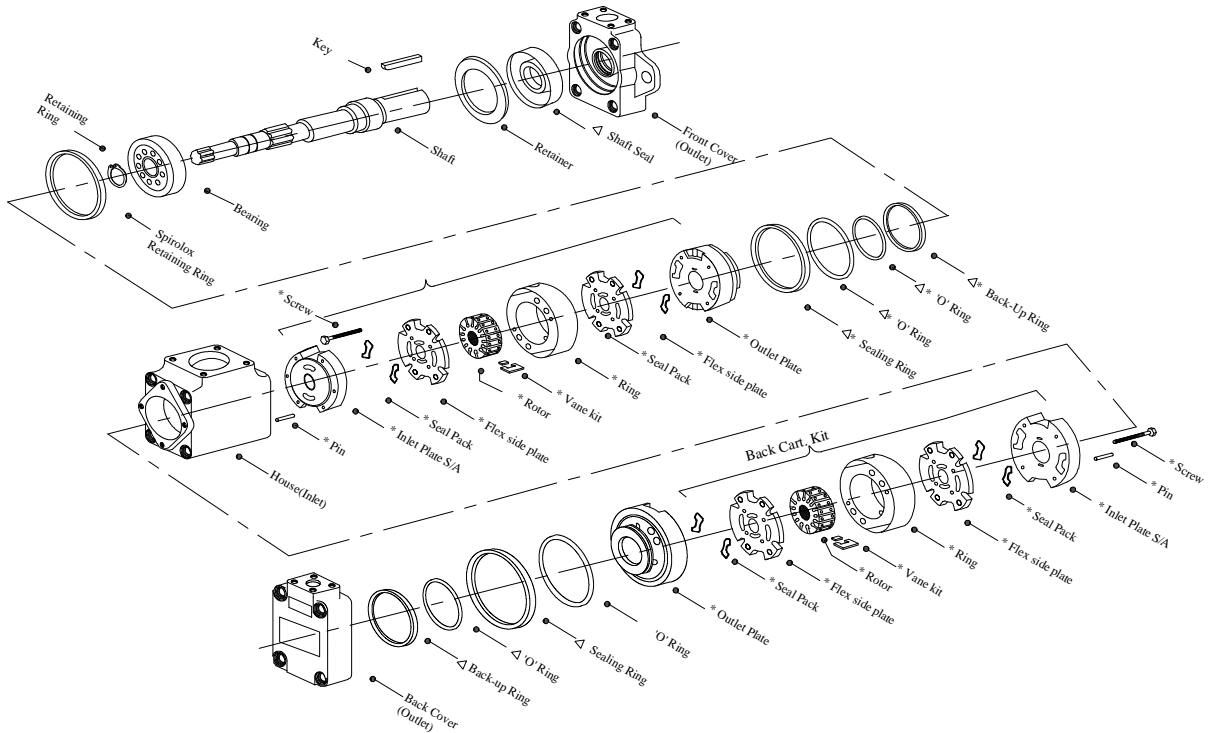
## Cartridge Kit Rotation

To change Cartridge Kit rotation, reverse the location of the inlet and the outlet support plates. Hand tighten the cartridge screws and use pump cover to align all the parts. Remove the cover and tighten the cartridge screws to the designated value. Sharp edge of vanes must lead in direction of rotation.

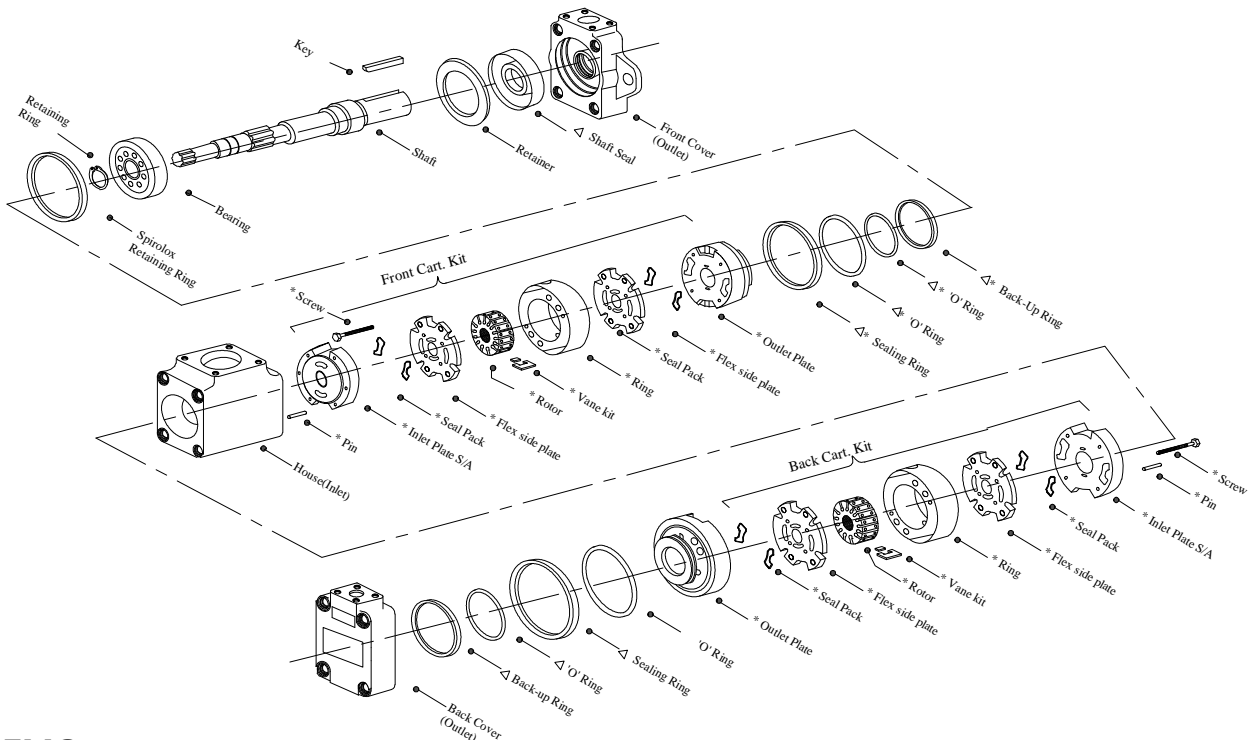
## Filtration

For satisfactory service life, use full flow filtration to provide fluid which meets ISO cleanliness code 16/13 or better.

# IFP MOBILE DOUBLE VANE PUMP SERVICE PARTS INFORMATION



**2520VQ/3520VQ/4520VQ/3525VQ/4525VQ**



**4535VQ**

△ INCLUDE IN SEAL KIT  
 \* INCLUDED IN CARTRIDGE KIT

# IFP MOBILE DOUBLE VANE PUMP SERVICE PARTS INFORMATION



## CARTRIDGE CHART

PUMP SE	FRONT C. KIT	ROTOR	VANE	RING	FLEX PLATE	BACK C. KIT	ROTOR	VANE	RING	FLEX PLATE	SHAFTS
2520VQ	12 416439N	270597N	922710N	326984N	923956N	2 417052N	402690N	922741N	388683N	923955N	1 254964N
	14 416440N			326985N		5 417053N			333624N		11 254848N
	17 416441N			326986N		8 417054N			333625N		25 293360N
	19 421232N			326987N		9 423096N			374799N		
	21 416442N			326988N		11 416427N			333626N		
						12 416428N			353901N		
						14 416429N			353902N		
3520VQ	21 413420N	262154N	922700N	394961N	923953N	2 417052N	402690N	922741N	388683N	923955N	1 258249N
	25 413421N			319396N		5 417053N			333624N		11 258250N
	30 413422N			319397N		8 417054N			333625N		86 394517N
	35 413418N			319398N		9 423096N			374799N		113 413022N
	38 413419N			319399N		11 416427N			333626N		14 413434N
						12 416428N			353901N		
						14 416429N			353902N		
3525VQ	21 413420N	262154N	922700N	394961N	923953N	12 421244N	270597N	922710N	326984N	923956N	1 243448N
	25 413421N			319396N		14 421235N			326985N		11 243449N
	30 413422N			319397N		17 421236N			326986N		19 247019N
	35 413418N			319398N		21 421238N			326988N		86 394036N
	38 413419N			319399N							11 413023N
4520VQ	42 416435N	283871N	922701N	297510N	923954N	2 417052N	402690N	922741N	388683N	923955N	1 255533N
	47 421234N			297718N		5 417053N			333624N		11 255536N
	50 416436N			297502N		8 417054N			333625N		86 361761N
	57 421233N			306772N		9 423096N			374799N		14 413436N
	60 416437N			297503N		11 416427N			333626N		
						12 416428N			353901N		
		14 416429N	353902N								
4525VQ	42 416435N	283871N	922701N	297510N	923954N	12 421244N	270597N	922710N	326984N	923956N	1 233524N
	47 421234N			297718N		14 421235N			326985N		11 233527N
	50 416436N			297502N		17 421236N			326986N		86 361762N
	57 421233N			306772N		21 421238N			326988N		14 413024N
	60 416437N			297503N							
4535VQ	42 416435N	238871N	922701N	297510N	923954N	21 421239N	262154N	922700N	394961N	923953N	1 289083N
	47 421234N			297718N		25 421240N			319396N		11 289084N
	50 416436N			297502N		30 421241N			319397N		86 361763N
	57 421233N			306772N		35 421242N			319398N		14 413027N
	60 416437N			297503N		38 421243N			319399N		

- All Cartridge assemblies are factory tested before shipping -

PUMP SE	BUNA SEAL KIT	VITON SEAL KIT	BUNA SHAFT SEAL	VITON SHAFT SEAL	SECONDARY SHAFT SEAL	BEARING	FRONT COVER	MIDDLE COVER	BACK COVER
2520VQ	920040N	920042N	394976N	429286N	429283N	001705N	942353N	251263N	250824N
3520VQ	920048N	920050N	394973N	429284N	429281N	038441N	942355N	250818N	250824N
3525VQ	920056N	920058N	394973N	429284N	429281N	038441N	942355N	230189N	231532N
4520VQ	920060N	920062N	394974N	429285N	429282N	131812N	942356N	252283N	250824N
4525VQ	920068N	920070N	394974N	429285N	429282N	131812N	942356N	370071N	231532N
4535VQ	920072N	920074N	394974N	429285N	429282N	131812N	942356N	379585N	270679N

## BOLT TORQUES

	2520VQ	3520VQ	3525VQ	4520VQ	4525VQ	4535VQ
FRONT HOUSING FT. LB.	75	150	150	275	275	275
REAR COVER FT. LB.	50	50	75	50	75	75
FRONT C. KIT IN. LB.	45	100	100	105	105	105
BACK C. KIT IN. LB.	30	30	45	30	45	100

## Cartridge Kit Rotation

To change Cartridge Kit rotation, reverse the location of the inlet and the outlet support plates. Hand tighten the cartridge screws and use pump cover to align all the parts. Remove the cover and tighten the cartridge screws to the designated value. Sharp edge of vanes must lead in direction of rotation.

## Filtration

For satisfactory service life, use full flow filtration to provide fluid which meets ISO cleanliness code 16/13 or better.