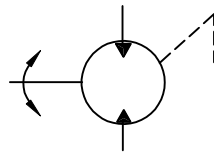


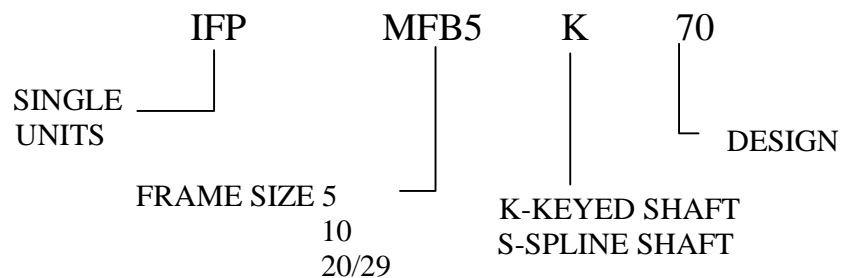
IFP FIXED DISPLACEMENT PISTON MOTORS MFB5/10/20/29



- High Efficiency
- Wide Speed Range
- Extended Life
- Reversible
- Compact
- Quiet Operation
- High Operating Pressure



◆ Piston Motor Ordering Specification



TECHNICAL DATA

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

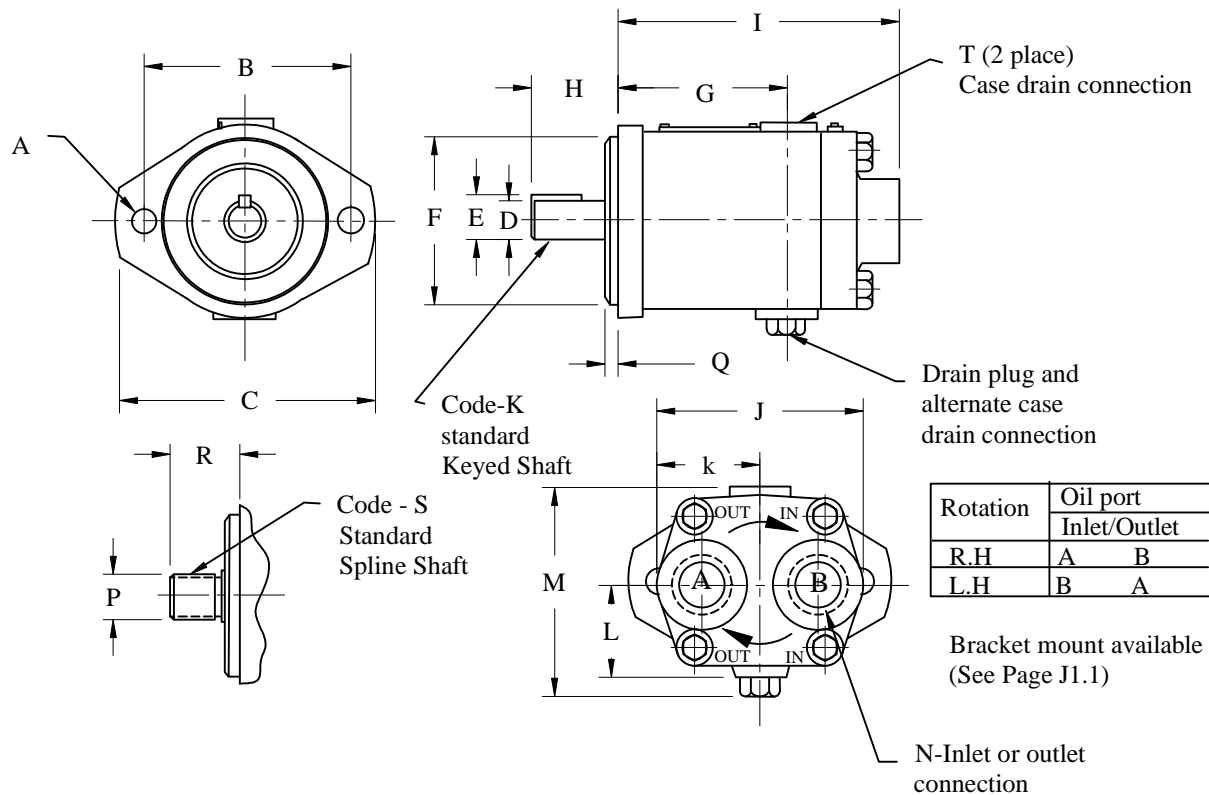
Model series	Theoretical Displ. cu. in/rev. (cu. cc/rev.)	Flow USGPM (LPM) @Rate RPM	Rated Operating Speed (RPM)		Pressure PSI (Bar)		Max Output Torque lb.in (NM)	Weight lb. (kg)
			Rated	Max	Rated	Max		
MFB5	0.643 (10.5)	5.0 (19.0)	1800	3600	1500 (103)	3000 (207)	270 (30.5)	11 (5.0)
MFB10	1.29 (21.12)	10.0 (37.9)	1800	3200	1500 (103)	3000 (207)	568 (64.1)	21 (9.5)
MFB20	2.61 (42.8)	20 (75.7)	1800	2400	1500 (103)	2500 (172.4)	910 (102.8)	49 (18.5)
MFB29	3.76 (61.6)	29 (109.8)	1800	2400	1000 (69)	2000 (138.0)	1090 (123.7)	49 (18.5)

IFP offers a complete line of economical high performance fixed displacement piston motors providing speeds up to 3600 RPM and output torques to 1190 lb. in. in a compact light weight package. Application for MFB motors can be continuous or intermittent duty with MFB motors offer high efficiency inherent to piston units with a wide speed range from 300 to 3600 RPM at the maximum torque rating. Housing must be kept full of fluid at all times to provide internal lubrication.

WARNING

Before starting fill motor case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.

IFP MFB PISTON MOTORS INSTALLATION DIMENSIONS



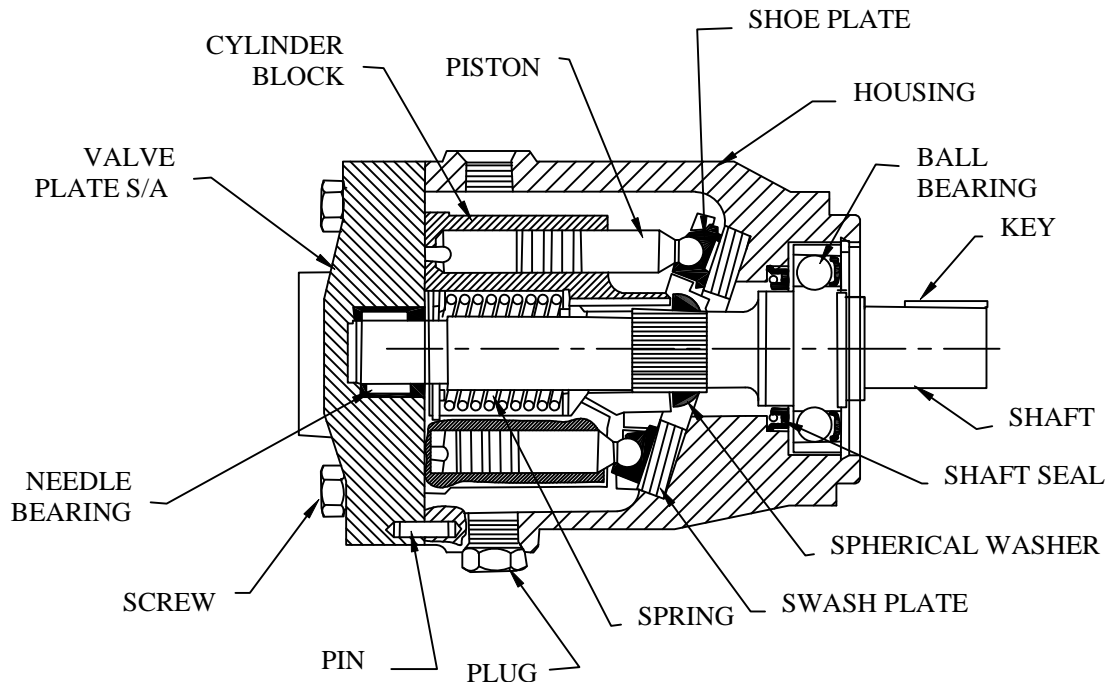
DIMENSION CHART

NO	MFB5 MODEL	MFB10 MODEL	MFB20/29 MODEL
A	□.44 (11.2)	□.56 (14.22)	□.56 (14.22)
B	4.18(106.4)	5.75(146)	5.75(146)
C	□5.12(130)	□6.88(174.6)	□6.88(174.6)
D	□.75(19.05)	□.875(22.22)	□1.25(31.8)
E	.83(21.08)	.989(25.12)	1.391(35.3)
F	□3.25(82.55)	□4.00(101.60)	□4.00(101.60)
G	3.88(85.9)	3.46(87.9)	5.12(130.2)
H	1.75(44.4)	2.31(58.7)	2.31(58.7)
I	5.60(142.2)	6.67(169.4)	8.00(203.2)
J	3.88(98.6)	4.50(114.3)	5.68(144.2)
K	1.94(49.3)	2.25(57.2)	2.84(72.1)
L	1.88(47.8)	2.47(62.7)	3.00(76.2)
M	4.06(103.1)	5.25(133.3)	6.31(159.9)
N	1.062-12 UN-2B	1.625-12 UN-2B	1.625-12 UN-2B
O	.938(23.8)	1.312(33.3)	1.88(47.6)
P	9 Teeth 16/32 pitch	13 Teeth 16/32 pitch	14 Teeth 12/24 pitch
Q	.25(31.8)	.375(9.5)	.385(9.8)
R	1.25(31.8)	1.75(44.4)	2.31(58.7)
T	.563-18 UNF-2B STR THD.	.750-16 UNF-2B THD.	.750-16 UNF-2B STR THD.

IFP MFB5 PISTON MOTOR



Service Parts Information



PART#	DESCRIPTION
875772	ROT GROUP MFB5
165385	△ RETAINING RING
273409	△ LIFT LIM. WASHER
274787	△ SPRING
275474	△ THRUST WASHER
326181	△ CYLINDER BLOCK
248203	△ PIN
275485	△ SPHERICAL WASHER
274249	△ SHOE PLATE

PART#	DESCRIPTION
1253	SCREW(4 REQ'D)
938551	VALVE PLATE
167237	PIN(2 REQ'D)
39465	NEEDLE BEARING
279614*	GASKET
942229	△ PISTON S/A KIT(9)
319245	△ SWASH PLATE
323951	HOUSING
181728	PLUG

PART#	DESCRIPTION
154128*	"O" RING
237014*	SHAFT SEAL
283687	VITON SHAFT SEAL
266160	KEYED SHAFT
295237	SPLINE SHAFT
283233	BEARING
98653	RETAINING RING
140356	RETAINING RING

△ INCLUDE - ROTATION GROUP * INCLUDE - SEAL KIT (919239)
 SCREW (4 REQ.) 25-35 lb.ft.

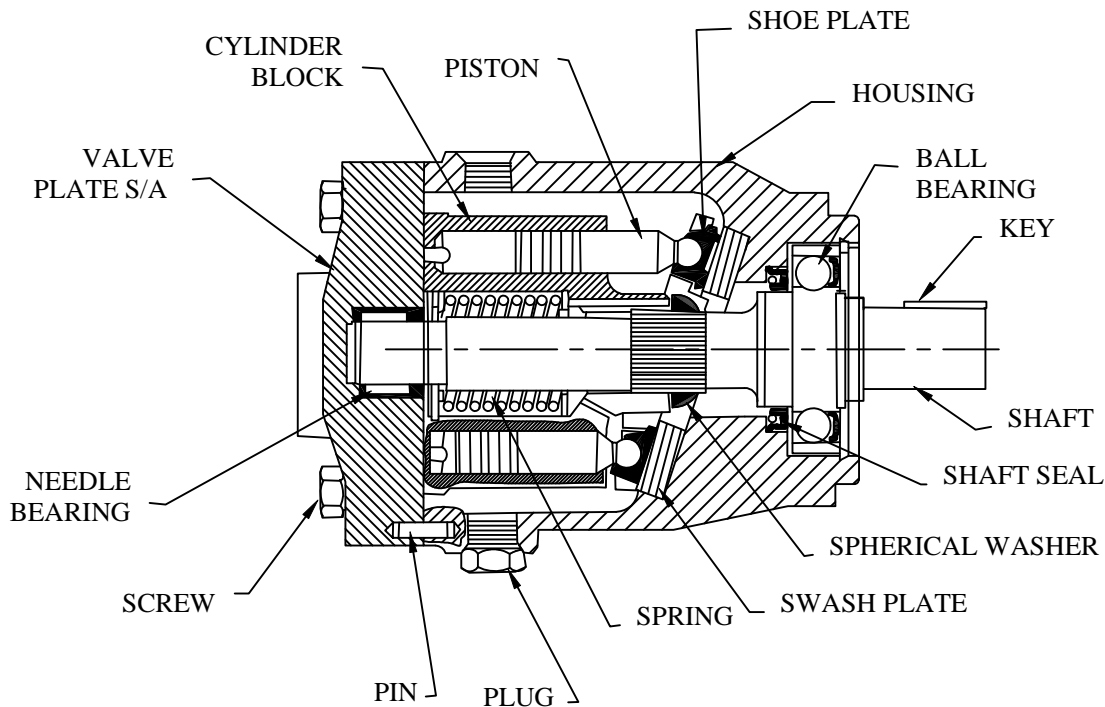
WARNING:

Before starting fill motor case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.

IFP MFB10 PISTON MOTOR



Service Parts Information



PART#	DESCRIPTION	PART#	DESCRIPTION	PART#	DESCRIPTION
938272	ROT GROUP MFB10	1276	SCREW(4 REQ'D)	154128 *	"O" RING
93509 Δ	RETAINING RING	938391	VALVE PLATE	343573 *	SHAFT SEAL
245223 Δ	LIFT LIM. WASHER	167237	PIN(2 REQ'D)	352432	VITON SHAFT SEAL
247294 Δ	SPRING	12016	NEEDLE BEARING	274382	SEAL RETAINER
241954 Δ	THRUST WASHER	425439 *	GASKET	261552	KEYED SHAFT
321703 Δ	CYLINDER BLOCK	942047 Δ	PISTON S/A KIT(9)	295729	SPLINE SHAFT
248811 Δ	PIN	239077 Δ	SWASH PLATE	284397	BEARING
423324 Δ	SPHERICAL WASHER	274831	HOUSING	119982	RETAINING RING
275961 Δ	SHOE PLATE	181728	PLUG	120428	RETAINING RING

Δ INCLUDE - ROTATION GROUP * INCLUDE - SEAL KIT (919240)
 SCREW (4 REQ.) 25-35 lb.ft.

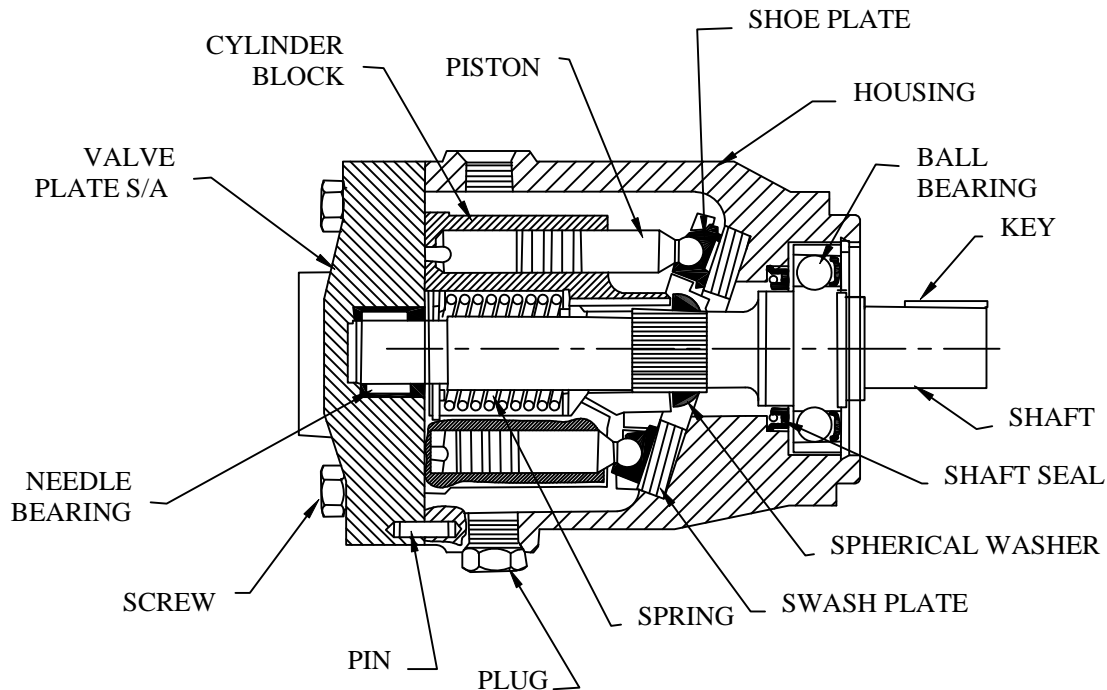
WARNING:

Before starting fill motor case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.

IFP MFB20 PISTON MOTOR



Service Parts Information



PART#	DESCRIPTION	PART#	DESCRIPTION	PART#	DESCRIPTION
938281	ROT GROUP MFB20	1316	SCREW(4 REQ'D)	154129	* "O" RING
194025	△ RETAINING RING	938383	VALVE PLATE	295262	* SHAFT SEAL
244931	△ LIFT LIM. WASHER	3913	PIN(2 REQ'D)	427139	VITON SHAFT SEAL
246387	△ SPRING	251108	NEEDLE BEARING	194878	SEAL RETAINER
238780	△ THRUST WASHER	238487	* GASKET	266189	KEYED SHAFT
284197	△ CYL. BLK. (MFB20)	186580	PLUG	285408	SPLINE SHAFT
248835	△ PIN	941884	△ PISTON S/A KIT(9)	283090	BEARING
938392	△ SPHERICAL WASHER	239335	△ SWASH PLATE	117507	RETAINING RING
248609	△ SHOE PLATE	252114	HOUSING	117506	RETAINING RING

△ INCLUDE - ROTATION GROUP * INCLUDE - SEAL KIT (919242)
 SCREW (4 REQ.) 25-35 lb.ft.

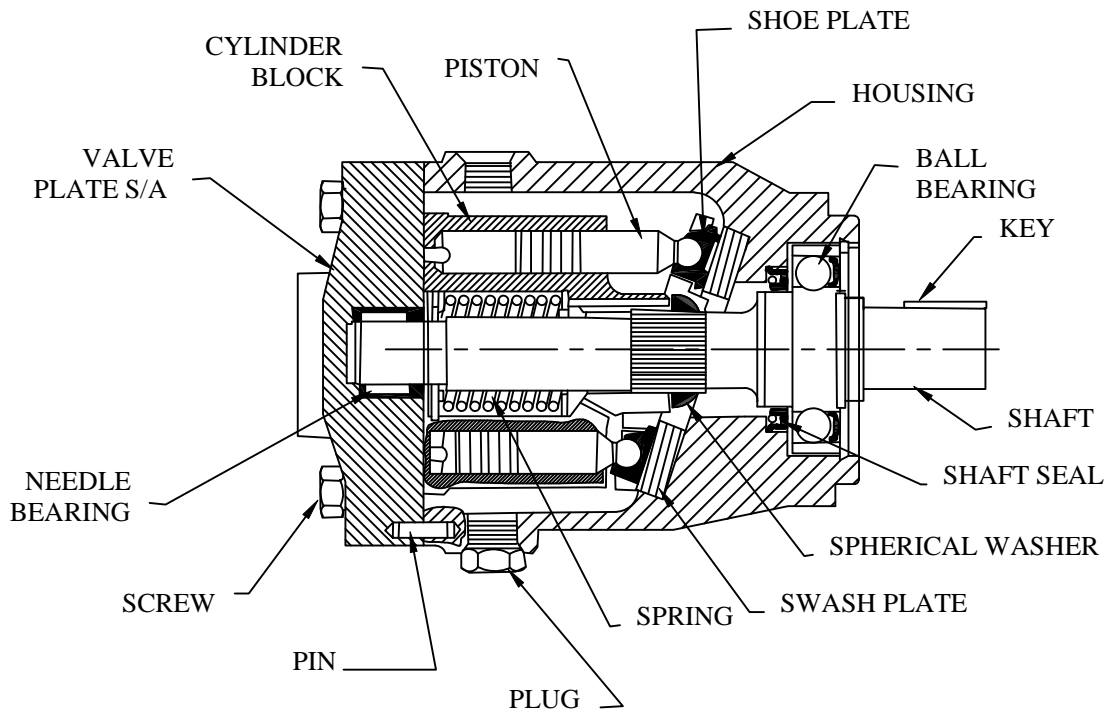
WARNING:

Before starting fill motor case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.

IFP MFB29 PISTON MOTOR



Service Parts Information



PART#	DESCRIPTION	PART#	DESCRIPTION	PART#	DESCRIPTION
938295	ROT GROUP MFB29	1316	SCREW(4 REQ'D)	154129 *	"O" RING
194025 Δ	RETAINING RING	941952	VAL. PLT. MFB29	295262 *	SHAFT SEAL
244931 Δ	LIFT LIM. WASHER	3913	PIN(2 REQ'D)	427139	VITON SHAFT SEAL
246387 Δ	SPRING	251108	NEEDLE BEARING	194878	SEAL RETAINER
238780 Δ	THRUST WASHER	238487 *	GASKET	266189	KEYED SHAFT
287454 Δ	CYLINDER BLOCK	186580	PLUG	285408	SPLINE SHAFT
248835 Δ	PIN	941885 Δ	PISTON S/A MFB29	283090	BEARING
938392 Δ	WASHER S/A	239335 Δ	SWASH PLATE	117507	RETAINING RING
248609 Δ	SHOE PLATE	252114	HOUSING	117506	RETAINING RING

Δ INCLUDE - ROTATION GROUP * INCLUDE - SEAL KIT (919242)
 SCREW (4 REQ.) 25-35 lb.ft.

WARNING:

Before starting fill motor case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.

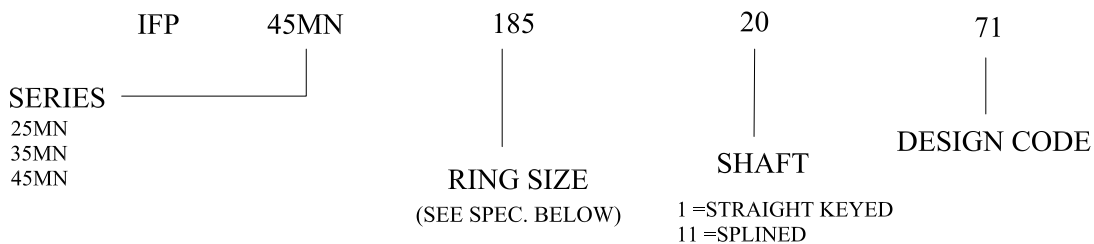
IFP 25MN/35MN/45MN/50MN VANE MOTORS



- Interchangeable Cartridge Assembly
- Pressure Balanced
- High Performance
- Compact Assembly
- Wide Speed Range
- Economical



◆ Vane Motor Ordering Specifications



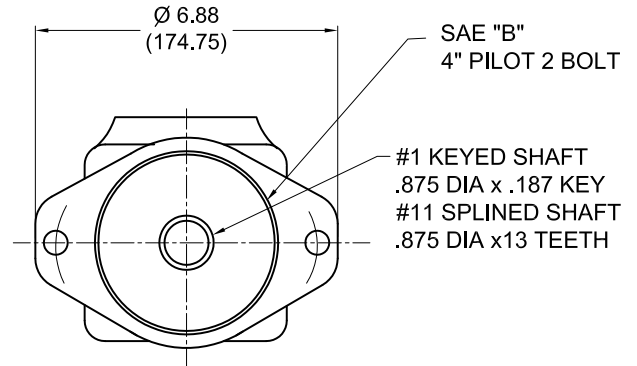
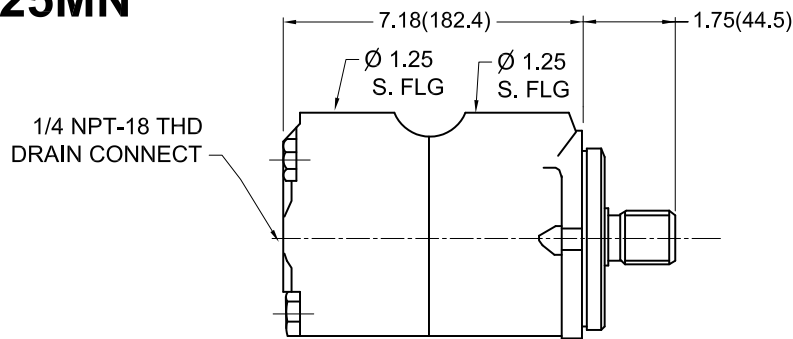
MODEL SERIES	Ring Size <small>Torque lb. in. per 100 PSI</small>	Displ. <small>cu.in/rev</small>	USgpm req'd <small>@1200 rpm</small>	Maximum Torque <small>lb. in @ Max. pressure</small>	Maximum Speed & pressure	Approx. weight <small>lbs.</small>
25MN	42	2.68	13.5	1030	4000 rpm @500 psi	40
	55	3.52	18.0	1340		
	65	4.19	21.5	1610		
35MN	80	5.10	26.0	1975	3000 rpm @2500 psi	64
	95	6.12	31.5	2345		
	115	7.44	38.5	2850		
45MN	130	8.42	43.5	3250	3200 rpm @ 500 psi	85
	155	9.96	51.5	3900		
	185	11.79	61.0	4475		
50MN	220	14.11	80	4850	2400 rpm @2250 psi	160
	255	16.36	94	5000		
	300	19.35	110	5950		

IFP offers a complete line of high performance vane motors for industrial and mobile applications. The wide speed range with maximum speeds to 3000 RPM at full pressure and 4000 RPM at low pressure make them ideal for most motor applications. Inlet and outlet ports can be pressurized simultaneously without affecting service life or the smooth operation of the motor, this feature is beneficial when motors are rapidly reversed or installed in series. Factory tested cartridge kits are readily available, providing efficient field serviceability, avoiding costly down time and increased productivity. These units can operate on a wide variety of fluids.

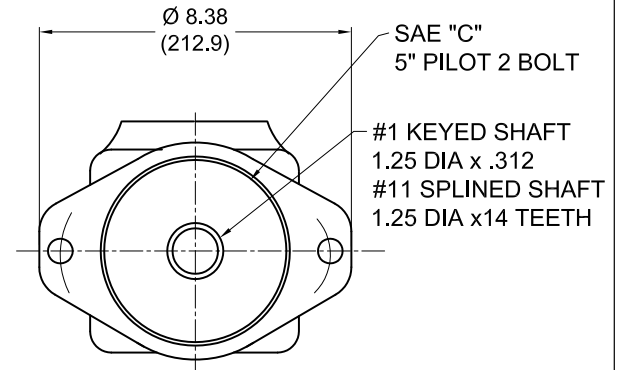
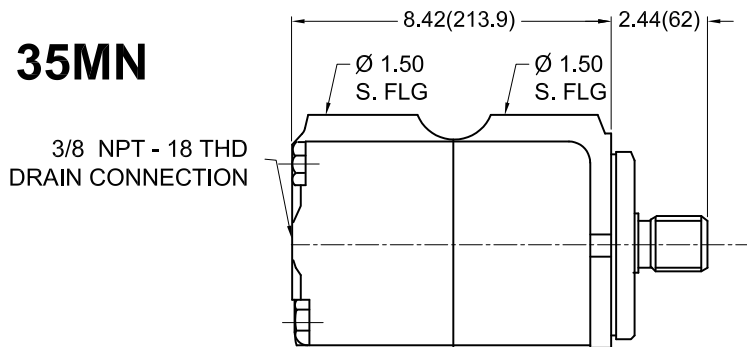
IFP 25MN/35MN/45MN/50MN VANE MOTOR INSTALLATION/DIMENSIONS



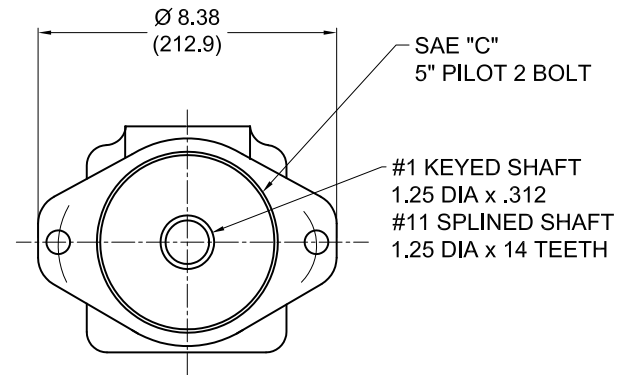
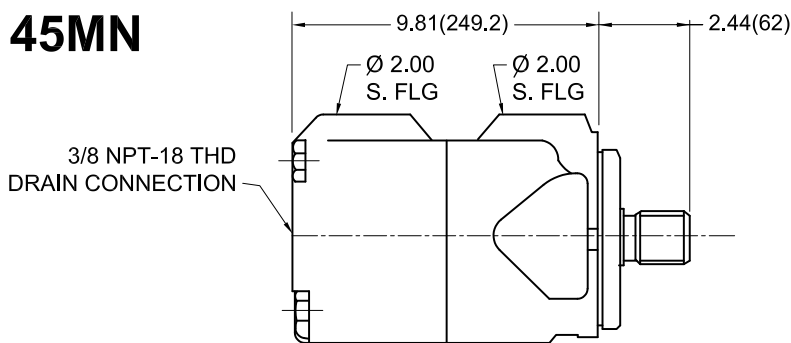
25MN



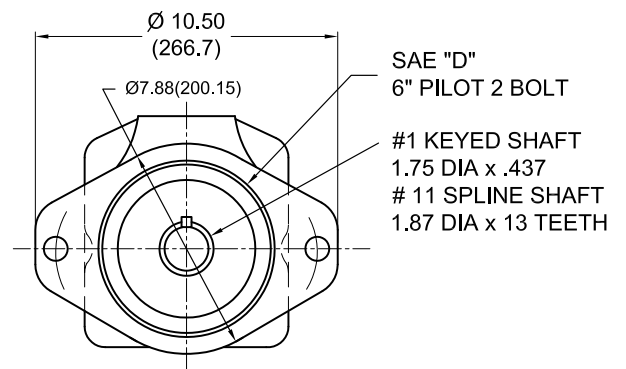
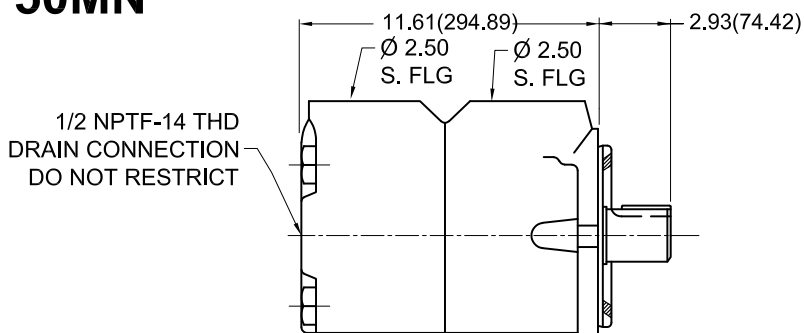
35MN



45MN



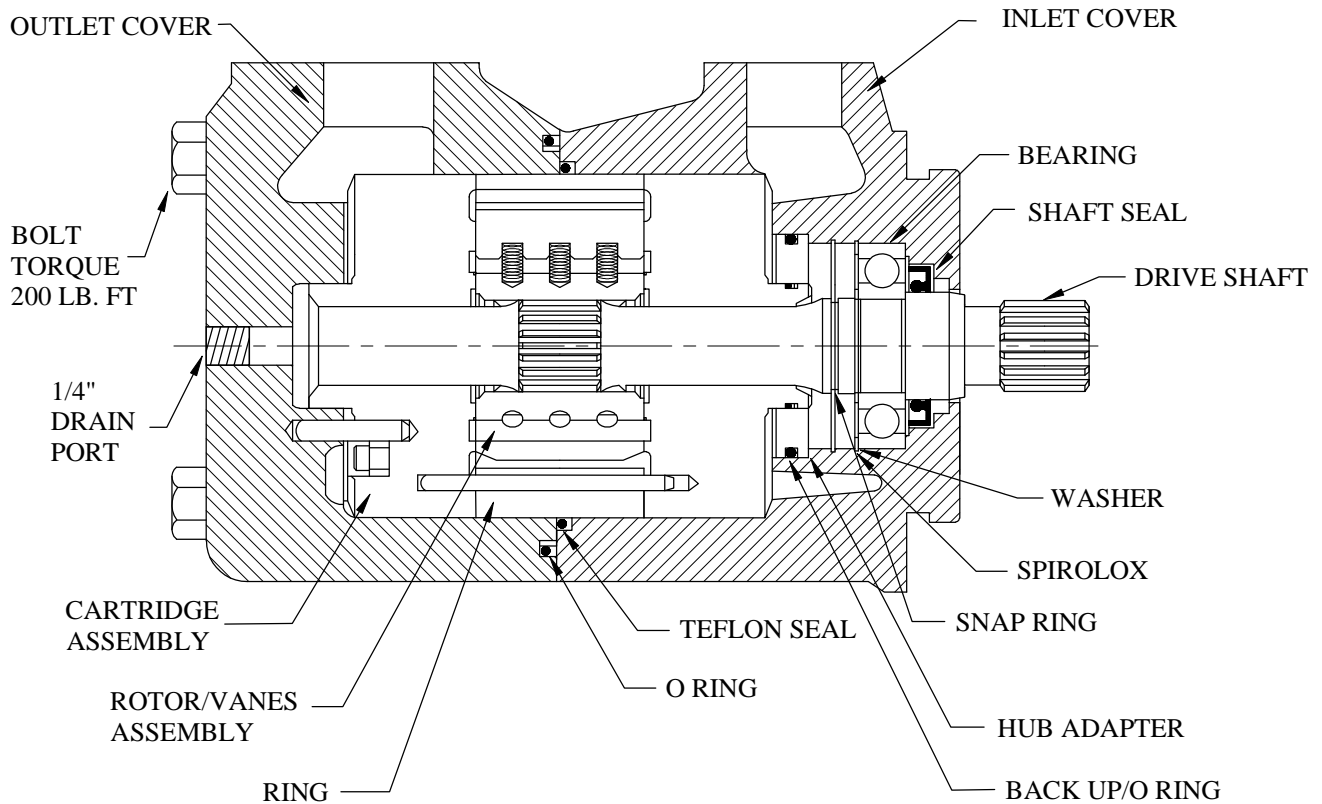
50MN



IFP 25M VALVE MOTOR



Service Parts Information



312139N	INLET COVER
312140N	OUTLET COVER
312153N	SHAFT #I KEYED
312154N	SHAFT #II SPLINE
1705N	BEARING STANDARD
232750N	BEARING HEAVY
312152N	HUBADAPTER

Note - Rotor/Vanes sold only as an assembly.

190362N	WASHER
191400N	SPIROLOX
120128N	SNAP RING
394976N	SHAFT SEAL
429286N	SHAFT SEAL VITON
923157N	SEAL KIT

313426N	RING 25M 42
313427N	RING 25M 55
313428N	RING 25M 65
923160N	CARTRIDGE 25M 42
923161N	CARTRIDGE 25M 55
923162N	CARTRIDGE 25M 65

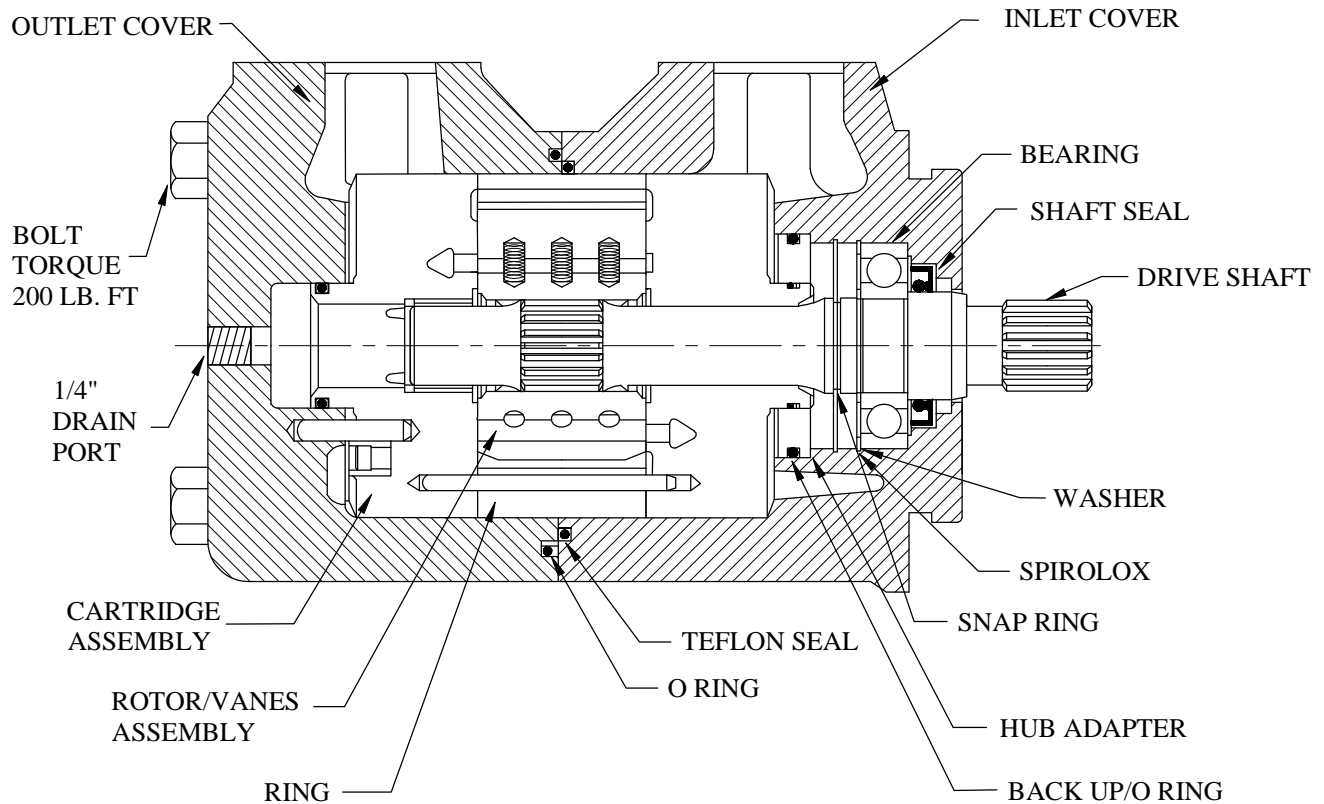
WARNING:

Connect Case Drain Port to reservoir assuring no back Pressure on Return line.

IFP 35M VALVE MOTOR



Service Parts Information



Note - Rotor/Vanes sold only as an assembly.

312053N	INLET COVER
312054N	OUTLET COVER
310872N	SHAFT #I KEYED
310873N	SHAFT #II SPLINE
14654N	BEARING STANDARD
16058N	BEARING HEAVY
312056N	HUBADAPTER

274382N	WASHER
237832N	SPIROLOX
119982N	SNAP RING
394973N	SHAFT SEAL
429284N	SHAFT SEAL VITON
923163N	SEAL KIT

310870N	RING 35M 80
310868N	RING 35M 95
310871N	RING 35M 115
923165N	CARTRIDGE 35M 80
923166N	CARTRIDGE 35M 95
923167N	CARTRIDGE 35M 115

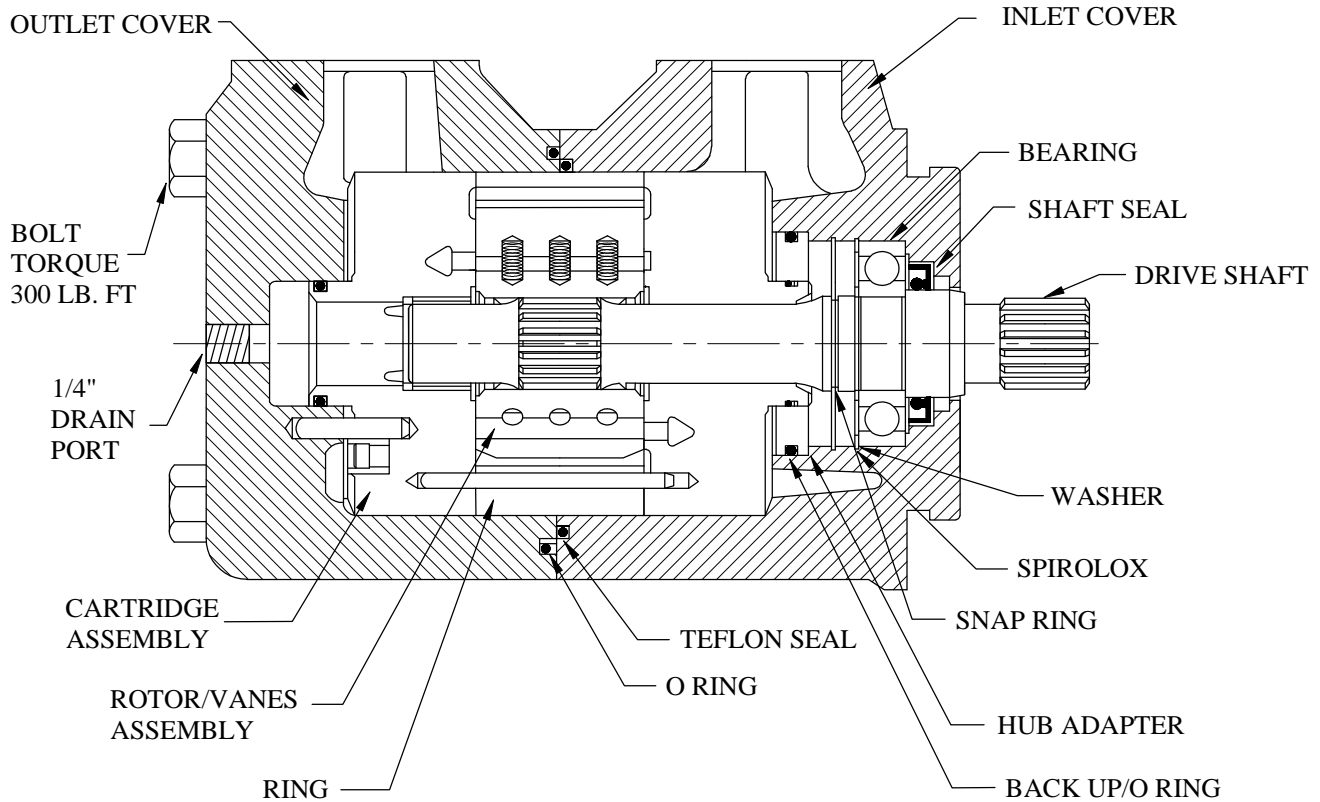
WARNING:

Connect Case Drain Port to reservoir assuring no back Pressure on Return line.

IFP 45M VALVE MOTOR



Service Parts Information



308814N	INLET COVER
308813N	OUTLET COVER
309404N	SHAFT #I KEYED
309405N	SHAFT #II SPLINE
8618N	BEARING STANDARD
309926N	BEARING HEAVY
311145N	HUBADAPTER

Note - Rotor/Vanes sold only as an assembly.

193220N	WASHER
193144N	SPIROLOX
102949N	SNAP RING
394974N	SHAFT SEAL
429285N	SHAFT SEAL VITON
923106N	SEAL KIT

308816N	RING 45M 130
309416N	RING 45M 155
308815N	RING 45M 185
923111N	CARTRIDGE 45M 130
923110N	CARTRIDGE 45M 155
923109N	CARTRIDGE 45M 185

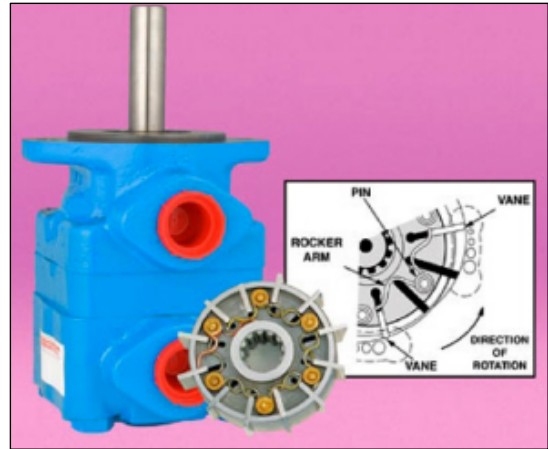
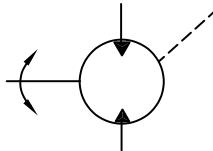
WARNING:

Connect Case Drain Port to reservoir assuring no back Pressure on Return line.

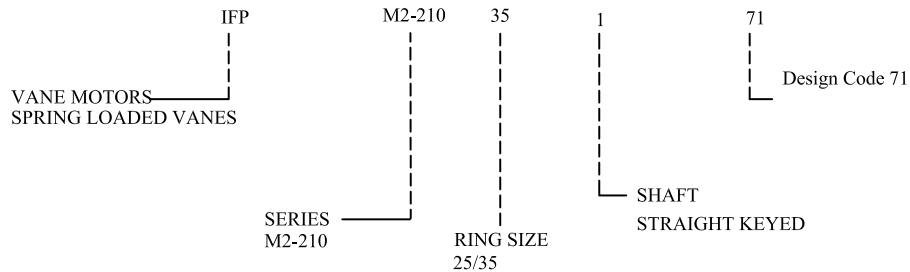
IFP VANE MOTOR M2-210



- * Spring loaded vanes for improved/smooth operation
- * Higher pressure & speed (2500 PSI/2800 RPM)
- * Wide operating speed range (100-2800 RPM)
- * Pressure balanced for long service life
- * Bi rotational
- * Low noise



◆ Motor Ordering Specifications

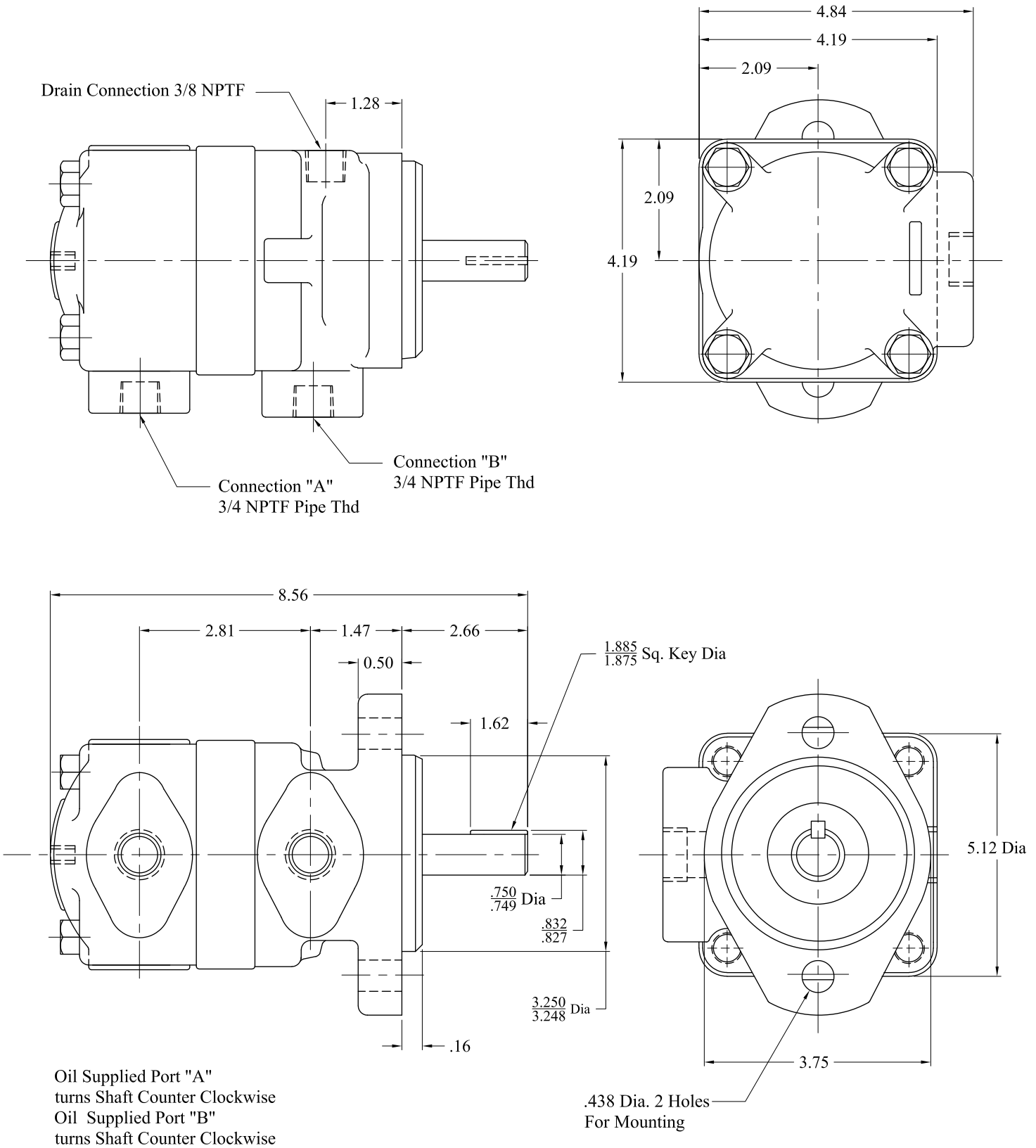


OPERATING SPECIFICATIONS

Model Series	Ring Size in/lb Torque per 100 PSI	Displacement cu. in/rev	US GPM req'd @ 1200 rpm	Maximum Torque lb. in @ max pressure	Maximum Speed & Pressure	Weight lbs
M2-210	25	1.51	8	500	2200 rpm/psi	21
	35	2.16	12	612.5	1800/1750 psi	21

IFP offers M2-210 spring loaded vane motors for industrial and mobile applications. The wide range of speeds and pressure make them ideal for most motor applications. Motors are constructed with spring loaded vanes offering smooth operation over a wide speed rang. Motors can be reversed or stalled under load without damage to the unit when proper relief protection is applied. A full size unrestricted drain line must be connected directly from case drain to reservoir return located below the lowest fluid level in the system. Factory tested cartridge kits are available, providing efficient field serviceability, avoiding costly down time and increased productivity.

IFP M2-210 VANE MOTOR DIMENSIONS DRAWING

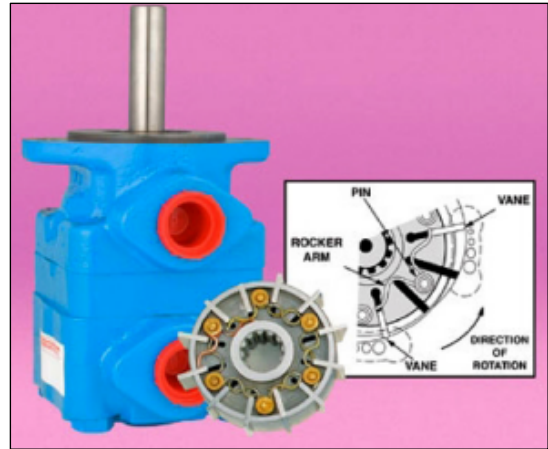
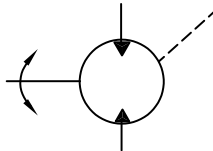


Dimensions inches

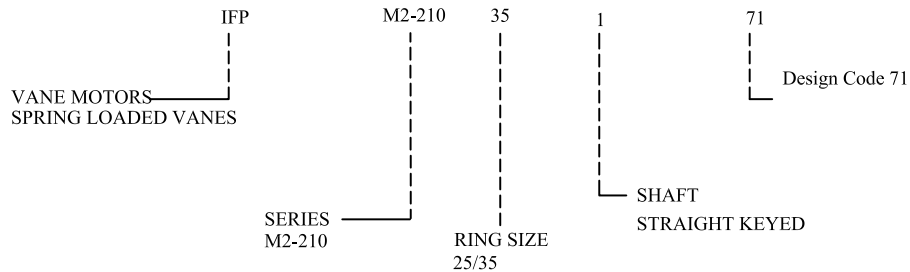
IFP VANE MOTOR M2-210



- * Spring loaded vanes for improved/smooth operation
- * Higher pressure & speed (2500 PSI/2800 RPM)
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- * Pressure balanced for long service life
- * Bi rotational
- * Low noise



◆ Motor Ordering Specifications

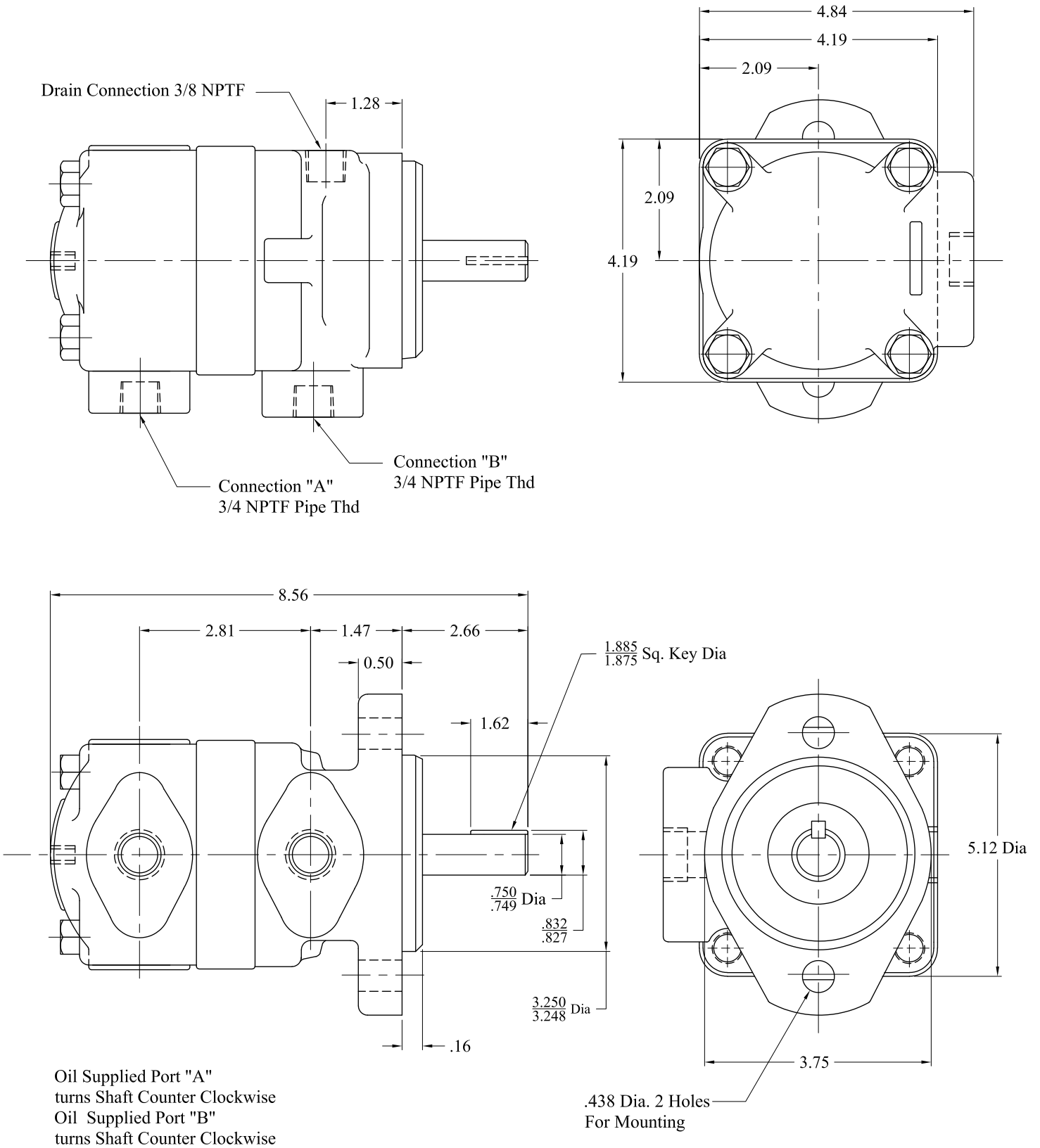


OPERATING SPECIFICATIONS

Model Series	Ring Size in/lb Torque per 100 PSI	Displacement cu. in/rev	US GPM req'd @ 1200 rpm	Maximum Torque lb. in @ max pressure	Maximum Speed & Pressure	Weight lbs
M2-210	25	1.51	8	500	2200 rpm/psi	21
	35	2.16	12	612.5	1800/1750 psi	21

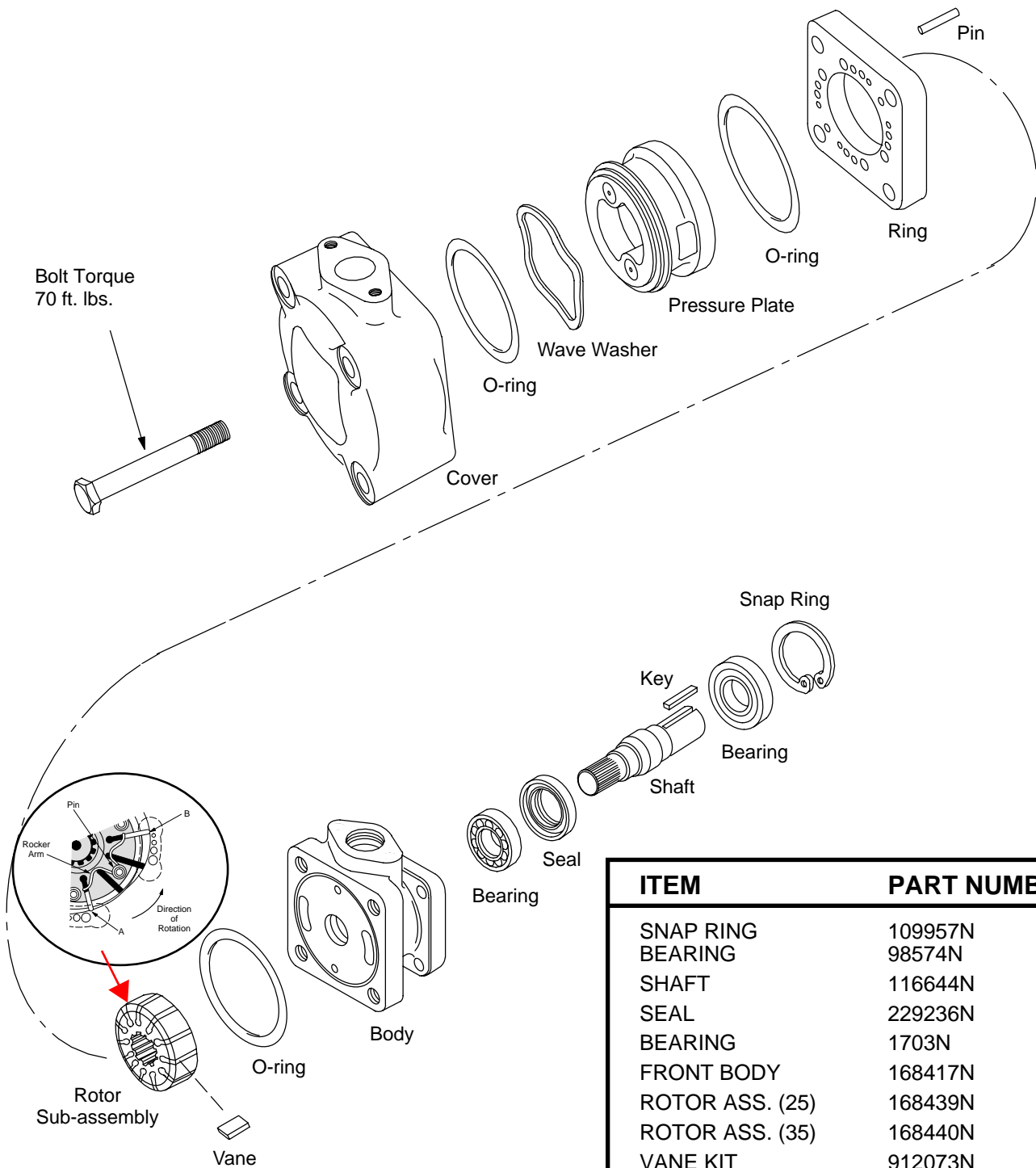
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IFP M2-210 VANE MOTOR DIMENSIONS DRAWING



Dimensions inches

IFP M2-210 VANE MOTOR PARTS DRAWING



ITEM	PART NUMBER
SNAP RING	109957N
BEARING	98574N
SHAFT	116644N
SEAL	229236N
BEARING	1703N
FRONT BODY	168417N
ROTOR ASS. (25)	168439N
ROTOR ASS. (35)	168440N
VANE KIT	912073N
RING (25)	168419N
RING (35)	168418N
CARTRIDGE (25)	922834N
CARTRIDGE (35)	922835N
PRESSURE PLATE	168450N
WAVE WASHER	141792N
REAR COVER	153998N