

IFP IP3150/IP3300/IP3500/IP3650 GEAR PUMPS AND MOTORS



Characteristics :

- High efficiency single / multiple units
- Wide range of displacements
- Optional shafts / mountings
- Rugged cast iron construction
- Motor assemblies available
- Complete parts program
- Flow dividers available



BUSHING GEAR PUMPS PERFORMANCE DATA

IFP MODEL SERIES	GEAR WIDTH (inches)	Theoretical displacement		Mineral oil maximum pressure				Recommended speed range		Approximate weight			
		in ³ /rev	cm ³ /rev	Continuous		Intermittent		MAX rpm	MIN rpm	Single unit		Add section	
				PSI	BAR	PSI	BAR			lbs	kg	lbs	kg
IP3150	1/2	.62	10.20	3000	207	3500	241	3000	600	14	6	13.5	5
	3/4	.93	15.20	3000	207	3500	241	3000	600	15	7	14.25	6.65
	1	1.24	20.30	3000	207	3500	241	3000	600	18	8	17	7.6
	1 1/4	1.55	25.40	3000	207	3500	241	3000	600	19	8.5	18	8
	1 1/2	1.86	30.50	2750	190	3300	228	3000	600	20	9	19	8.5
	1 3/4	2.17	35.60	2500	172	2900	200	3000	600	21	9.5	20	9
	2	2.48	40.60	2250	155	2500	172	3000	600	22	10	21	9.5
IP3300	1/2	.99	16.10	3000	207	3500	241	3000	600	33.5	15	30	13.5
	3/4	1.48	24.20	3000	207	3500	241	3000	600	34.75	15.5	31	14
	1	1.97	32.30	3000	207	3500	241	3000	600	36	16	32.5	14.5
	1 1/4	2.46	40.40	3000	207	3500	241	3000	600	37.25	16.5	33.5	14.85
	1 1/2	2.96	48.40	3000	207	3500	241	3000	600	38.5	17	34.5	15.3
	1 3/4	3.45	56.50	2750	190	3250	224	3000	600	39.75	17.5	35.75	15.75
	2	3.94	64.60	2500	172	3000	207	3000	600	40	18	36	16.2
IP3500	3/4	1.91	31.30	3000	207	3500	241	3000	600	49.5	22	47	21
	1	2.55	41.80	3000	207	3500	241	2400	600	51	23	48.5	21.75
	1 1/4	3.19	52.20	3000	207	3500	241	2400	600	52.5	23.5	49.75	22.3
	1 1/2	3.83	62.70	3000	207	3500	241	2400	600	54	24	51	22.8
	1 3/4	4.46	73.10	2750	190	3250	224	2400	600	55.5	25	52.75	23.25
	2	5.10	83.60	2500	172	3000	207	2400	600	57	25.5	54	23.75
	2 1/4	5.74	94.00	2500	172	2750	190	2400	600	58.5	26	55.5	24.7
IP3650	2 1/2	6.38	104.50	2250	155	2500	172	2400	600	60	27	57	25.65
	3/4	2.70	44.30	3000	207	3500	241	2400	600	53.5	24	50.8	22.8
	1	3.60	59.00	3000	207	3500	241	2400	600	56	25	53	23.75
	1 1/4	4.50	73.80	3000	207	3500	241	2400	600	58.5	26	55.5	24.75
	1 1/2	5.40	88.50	3000	207	3500	241	2400	600	61	27.5	58	26
	1 3/4	6.30	103.30	3000	207	3500	241	2400	600	63.5	28.5	60	27
	2	7.20	118.00	3000	207	3500	241	2400	600	66	29.5	62.5	28
	2 1/4	8.10	132.80	2750	190	3250	224	2400	600	68.5	31	65	29.5
	2 1/2	9.00	147.50	2500	172	3000	207	2400	600	71	32	67.5	30

International manufactures bushing gear pumps and motors to the highest quality and durability for the most demanding applications. Our gears are produced to precise tolerances with a true involute profile along the tooth thus maximising volumetric efficiency. The result is more efficient longer lasting pumps & motors with lower noise emissions.

International casts all its shaft end covers, gear housings, bearing carriers, and port covers out of grade 17 cast iron, which is metallurgically controlled to provide only the highest quality castings. In all assemblies, high density bronze alloy thrust plates with superior wear characteristics ensures longer pump or motor life under the harshest conditions.

The high operating pressure and speed combined with the large number of displacements, mounting options and port configurations make these units ideal for single and multiple pump and motor applications.

IFP IP3150/IP3300/IP3500/IP3650 PUMP PERFORMANCE DATA



Average Data at 2000psi / 138 bar
Oil Viscosity - 150 SUS (32 CST)

IP3150

		GEAR WIDTH (Inches)						
		1/2 "	3/4 "	1"	1 1/4 "	1 1/2 "	1 3/4 "	2"
	cu in/rev	.62	.93	1.24	1.55	1.86	2.17	2.48
	cc/rev	10.20	15.20	20.30	25.40	30.50	35.60	40.60
	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
900	1.6	2.8	4.0	5.2	6.2	7.2	8.4	
	6	11.5	15	19.5	23.5	27.7	32	
1200	2.4	3.9	5.4	6.9	8.6	10.1	11.7	
	9	14.8	20.5	26.2	32.5	38.2	44	
1500	3.2	5.2	7.2	9.2	11.1	13	14.8	
	12	19.2	27	34.8	42	48	56	
1800	4.0	6.4	8.7	11	13.4	16.7	18	
	15	24	33	42	51	59.5	68	
2100	4.8	7.6	10.4	13.2	15.9	18.5	21.2	
	18	29	39	50	60	70	80	
2400	5.6	8	12.0	15.2	18.2	21.2	24.2	
	21	33.3	45.5	57.76	69	80.2	91.5	
3000	7.2	11.2	15.2	19.2	23.2	26.9	30.7	
	27	42.3	57.5	72.7	88	102	116	

IP3300

		GEAR WIDTH (Inches)						
		1/2 "	3/4 "	1"	1 1/4 "	1 1/2 "	1 3/4 "	2"
	cu in/rev	.99	1.48	1.97	2.46	2.96	3.45	3.94
	cc/rev	16.10	24.20	32.30	40.40	48.40	56.50	64.60
	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
900	2	4	6	8	10	12	13.5	
	9	16	23	30	38	45	51	
1200	3.5	6	8.5	11.5	14	16	18.5	
	12	22	32	42	53	61	70	
1500	3.5	7.5	11	14.5	17.5	20.5	23.5	
	20	31	42	55	66	78	89	
1800	6	10	14	18	21.5	25	29	
	27	40	53	81	81	95	110	
2100	7.5	12	16.5	25	25	29.5	34	
	28	45	62	79	95	112	129	
2400	9	14	19	24	29	34	39	
	34	53	72	91	110	129	148	
2400	12.2	18.5	24.9	31.2	37.5	43.8	50.1	
	46	70	94	118	142	166	190	

IP3500

		GEAR WIDTH (Inches)							
		3/4 "	1"	1 1/4 "	1 1/2 "	1 3/4 "	2"	2 1/4 "	2 1/2 "
	cu in/rev	1.91	2.55	3.19	3.83	4.46	5.10	5.74	5.74
	cc/rev	31.30	41.80	52.20	62.70	73.10	83.60	94.00	94.00
	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
900	6	8	10.5	13	15	17.5	20	22	
	20	30	40	49	57	66	75	83	
1200	8.5	11.5	15	18	21	24	27	30	
	31	44	57	68	79	91	102	114	
1500	10	14.5	19	23	27	31	35	39	
	38	55	72	87	102	117	132	148	
1800	12	17.5	23	27.5	32.5	37.5	42	47	
	45	66	87	104	123	142	159	178	
2100	15	21	27	32.5	38.5	44	49.5	55	
	56	79	102	123	146	167	187	208	
2400	18	24.5	31	37	44	51	57	63.5	
	69	93	117	140	167	193	216	240	

IP3650

		GEAR WIDTH (Inches)							
		3/4 "	1"	1 1/4 "	1 1/2 "	1 3/4 "	2"	2 1/4 "	2 1/2 "
	cu in/rev	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00
	cc/rev	44.30	59.00	73.80	88.50	103.30	118.00	132.80	147.50
	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
900	7.5	10.5	13.5	17	20.5	24	27.5	31	
	30	40	51	64	78	91	104	117	
1200	11	15.5	20	24.5	29	33.5	38	43	
	43	59	75	93	110	127	144	163	
1500	15	20	25.5	31	37.5	43	49	55	
	55	76	97	117	142	163	185	208	
1800	17.5	24.5	31.5	38	45.5	52	59	66	
	67	93	119	144	172	197	223	250	
2100	20.5	29	37.5	45.5	54	62	70	78	
	78	110	142	172	204	235	265	295	
2400	25	34	43	52.5	62	71	80.5	90	
	95	129	163	199	235	269	305	341	

NOTE - PERFORMANCE DATA SHOWN ARE AN AVERAGE AND ARE NOT REPRESENTATIVE OF ONE PARTICULAR UNIT

IFP IM3150/IM3300/IM3500/IM3650

MOTOR PERFORMANCE DATA



Average Data at 2000psi / 138 bar
Oil Viscosity - 150 SUS (32 CST)

IM3150

Speed rpm	$\frac{1}{2}$ " Gear		$\frac{3}{4}$ " Gear		1" Gear		$1\frac{1}{4}$ " Gear		$1\frac{1}{2}$ " Gear		$1\frac{3}{4}$ " Gear		2" Gear	
	Displ.	.62 in3/rev	Displ.	.93 in3/rev	Displ.	1.24 in3/rev	Displ.	1.55 in3/rev	Displ.	1.86 in3/rev	Displ.	2.17 in3/rev	Displ.	2.48 in3/rev
	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs
900	4.4	265	5.6	450	6.8	635	8.0	820	9.2	880	10.6	915	11.9	910
1200	16	30	21	51	26	72	30	93	35	99	40	103	45	103
1500	5.3	280	6.9	460	8.5	640	10.1	820	11.7	875	13.4	915	15.2	910
1800	4	30	26	51	32	72	38	93	44	99	51	103	58	103
2000	6.2	290	8.2	465	10.2	640	12.2	815	14.2	870	16.4	910	18.6	905
2400	25	32	32	52	39	72	46	92	54	98	62	103	72	102
	7.3	300	9.6	470	11.9	640	14.2	810	16.6	860	18.2	900	21.9	895
	27	32	36	52	45	72	54	92	63	97	69	102	83	101
	7.8	285	10.7	460	13.6	635	16.3	810	19.0	850	22.2	895	25.3	890
	33	32	42	52	51	72	62	92	72	96	84	101	96	100
	9.1	290	12.2	460	15.3	630	18.4	800	21.5	835	25.1	875	28.7	870
	36	33	47	52	58	71	70	90	81	94	95	99	109	98

IM3300

Speed rpm	$\frac{1}{2}$ " Gear		$\frac{3}{4}$ " Gear		1" Gear		$1\frac{1}{4}$ " Gear		$1\frac{1}{2}$ " Gear		$1\frac{3}{4}$ " Gear		2" Gear	
	Displ.	.99 in3/rev	Displ.	1.48 in3/rev	Displ.	1.97 in3/rev	Displ.	2.46 in3/rev	Displ.	2.96 in3/rev	Displ.	3.45 in3/rev	Displ.	3.94 in3/rev
	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs
900	5.5	745	7.5	895	9.5	995	11.5	1245	13.5	1495	15.5	1650	17.5	1720
1200	20	83	29	83	36	112	44	141	51	169	59	186	66	194
1500	7.5	740	10	740	12.5	995	15.0	1250	17.5	1500	20.2	1660	22.5	1725
1800	27	54	37	83	47	112	57	141	66	169	76	188	85	195
2000	9	455	12	720	15	985	18	1250	21.5	1495	24.5	1630	28	1725
2400	35	51	46	81	57	111	68	141	81	169	93	184	106	195
	9.5	450	13.5	700	17.5	950	21.5	1200	25.5	1475	29	1600	33	1700
	34	49	50	78	66	107	81	136	97	167	110	181	125	1921
	11	415	15.5	670	20	925	24.5	1180	29.5	1440	34	15640	38.5	1670
	38	44	57	75	76	105	93	133	112	163	129	174	146	189
	12	315	17.5	600	22.5	885	28	1170	33	1400	38.5	1475	43.5	1640
	45	48	65	74	85	100	106	132	125	158	146	167	165	185

IM3500

Speed rpm	$\frac{3}{4}$ " Gear		1" Gear		$1\frac{1}{4}$ " Gear		$1\frac{1}{2}$ " Gear		$1\frac{3}{4}$ " Gear		2" Gear		$2\frac{1}{4}$ " Gear		$2\frac{1}{2}$ " Gear	
	Displ.	1.91 in3/rev	Displ.	2.55 in3/rev	Displ.	3.19 in3/rev	Displ.	3.83 in3/rev	Displ.	4.46 in3/rev	Displ.	5.10 in3/rev	Displ.	5.74 in3/rev	Displ.	6.38 in3/rev
	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs
900	11	880	13.5	1240	16	1600	18.5	1950	21	2140	23.5	2260	26	2340	28.5	2360
1200	41	99	51	140	61	181	70	220	79	242	89	255	98	264	108	267
1500	14	890	17	1250	20	1610	23.5	1960	27	2150	30	2260	33.5	2340	37	2360
1800	52	100	64	141	76	182	89	221	102	243	114	255	127	264	140	267
2000	16.5	880	20	1240	24.5	1600	28.5	1960	32.5	2130	36.5	2230	41	2310	45	2330
2400	59	99	76	140	93	181	108	221	123	241	138	252	155	261	170	263
	18.5	860	23.5	1210	28.5	1560	33.5	1900	38.5	2060	43.5	2160	48.5	2240	53.5	2260
	70	98	89	137	108	176	127	215	146	2331	165	244	184	253	202	255
	20.5	830	26.5	1175	32.5	1520	38.5	1840	44	2000	50	2100	56	2160	62	2180
	77	94	100	133	123	172	146	208	167	226	189	237	212	244	235	246
	23	810	30	1140	37	1470	43.5	1790	50	1950	57	2050	63.5	2110	70	2130
	88	92	114	129	140	166	165	202	189	220	216	232	240	238	265	241

IM3650

Speed rpm	$\frac{3}{4}$ " Gear		1" Gear		$1\frac{1}{4}$ " Gear		$1\frac{1}{2}$ " Gear		$1\frac{3}{4}$ " Gear		2" Gear		$2\frac{1}{4}$ " Gear		$2\frac{1}{2}$ " Gear	
	Displ.	2.70 in3/rev	Displ.	3.60 in3/rev	Displ.	4.50 in3/rev	Displ.	5.40 in3/rev	Displ.	6.30 in3/rev	Displ.	7.20 in3/rev	Displ.	8.10 in3/rev	Displ.	9.00 in3/rev
	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs	Input Flow gpm	Output Torque in/lbs
900	15.5	1350	19	1790	22.5	2230	26	2730	29.5	3200	33	3610	37	3880	40	3960
1200	59	152	72	202	85	252	98	308	112	361	125	408	140	438	151	447
1500	19	1350	23.5	1800	28	2250	33	2740	37.5	3230	42.5	3620	47.5	3900	52	3975
1800	72	152	89	203	106	254	125	309	142	365	161	409	180	441	197	449
2000	22	1340	28	1790	34	2240	40	2720	46	3200	52	3600	58	3810	63.5	3950
2400	83	151	106	202	129	253	151	307	174	361	197	407	220	430	240	446
	26	1340	33	1770	40	2200	47	2650	54	3150	61	3540	68	3720	75	3875
	99	152	125	200	151	248	178	300	204	356	231	400	257	420	284	438
	29	1270	37.5	1700	46	2130	54	2600	62.5	3075	70.5	3440	79	3600	87	3790
	110	143	142	192	174	241	204	294	237	347	267	389	299	407	329	428
	33	1190	42.5	1620	52	2050	61	2500	70.5	2975	80	3360	90	3500	98.5	3650
	125	134	161	183	197	232	231	2800	267	336	303	380	341	395	373	412

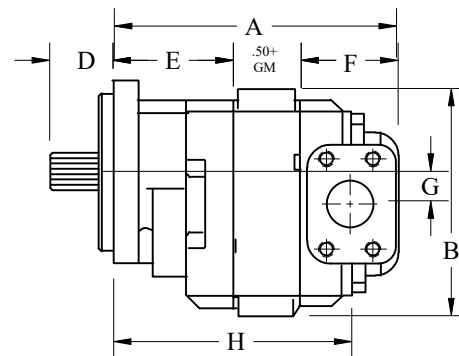
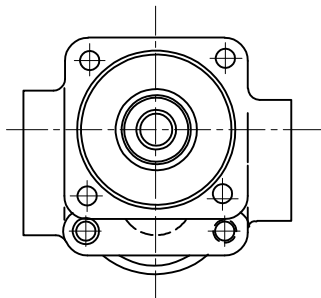
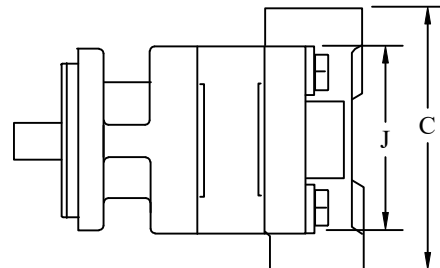
IFP P3150/3300/3650 GEAR PUMP & MOTOR INSTALLATION DIMENSIONS



DIMENSION (inches/mm)

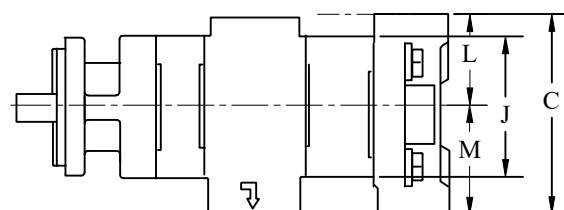
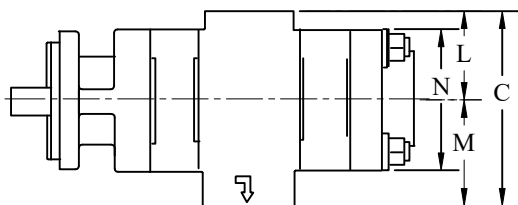
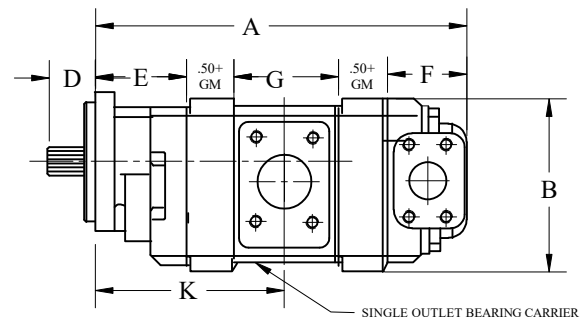
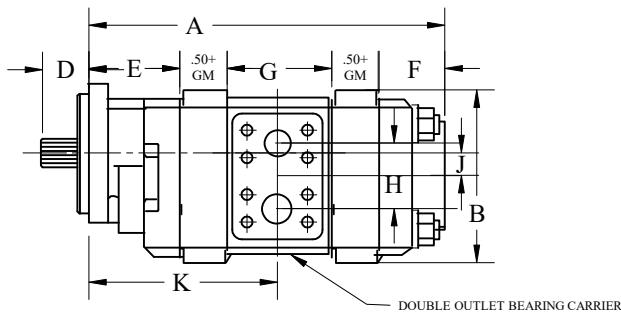
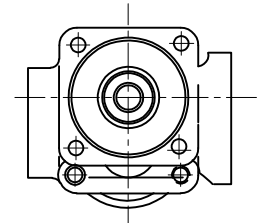
SINGLE PUMPS & MOTORS

Model	A	B	C**	D*	E	F	G	H	J(P)	J(M)
315	4.27+GW	4.75	4.25	1.62	1.88	2.0	0.75	3.27+GW	4.0	4.19
	108.5+GW	120.7	108.0	41.1	47.8	50.8	19.1	83.1+GW	101.6	106.4
330	6.19+GW	5.88	6.88	1.62	3.12	2.5	6.88	4.94+GW	4.81	5.00
	157.2+GW	149.4	174.8	41.1	79.2	65.0	22.2	125.5+GW	122.2	127.0
350	7.06+GW	6.00	7.12	2.19	3.50	3.06	1.00	5.56+GW	5.75	5.75
	179.3+GW	152.4	108.8	55.6	88.9	77.7	25.4	141.2+GW	146.1	146.1
365	7.31+GW	7.25	7.38	2.19	3.75	3.06	1.12	5.81+GW	6.25	6.25
	185.7+GW	184.2	187.5	55.6	95.3	77.7	28.6	147.6+GW	158.8	158.8



TANDEM PUMPS & MOTORS

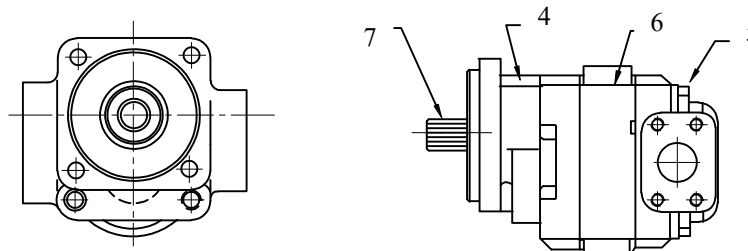
Model	A	B	C**	D*	E	F	G	H	I	J	K	L**	M**	N(P)	N(M)
315	7.05+T.GW	4.75	4.25	1.62	1.88	1.75	2.62	1.84	.34	.75	3.59+GW	2.25	2.75	4.0	4.19
	179.1+T.GW	120.7	108.0	41.1	47.8	44.5	66.5	46.7	8.6	19.1	91.2+GW	57.2	69.9	101.6	106.4
330	9.88+T.GW	5.88	6.88	1.62	3.12	2.25	3.50	2.38	.62	.88	5.38+GW	3.09	3.69	4.81	5.00
	250.9+T.GW	149.4	174.8	41.1	79.2	57.2	88.9	60.5	15.7	22.2	136.7+GW	78.5	93.7	122.2	127.0
350	10.25+T.GW	6.00	7.12	2.19	3.50	2.25	3.50	2.50	.50	1.00	5.75+GW	3.56	4.12	5.75	5.75
	260.4+T.GW	152.4	108.8	55.6	88.9	57.2	88.9	63.5	12.7	25.4	146.1+GW	90.4	104.6	146.1	146.1
365	11.38+T.GW	7.25	7.38	2.19	3.75	2.62	4.00	2.88	.62	1.12	6.25+GW	3.69	4.69	6.25	6.25
	289.1+T.GW	184.2	187.5	55.6	95.3	66.5	101.6	73.3	15.7	28.6	158.8+GW	93.7	119.1	158.8	158.8



IFP IP3150/IP3300/IP3500/IP3650 MODEL CODING & NOMENCLATURE

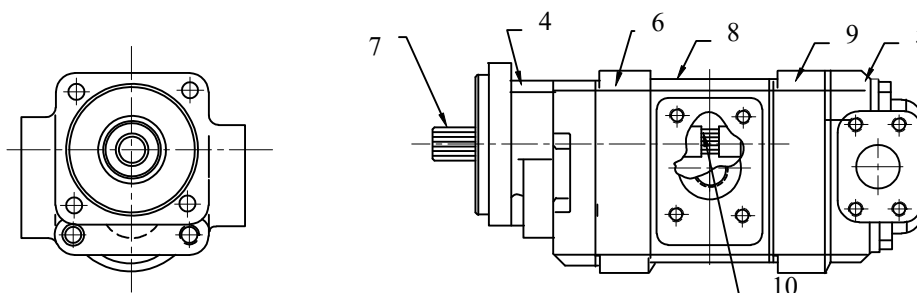


* HOW TO SPECIFY MODEL CODE



SAMPLE SINGLE PUMP MODEL CODE

1	2	3	4	5	6	7
IP	3150	A	293	FW	AB 20	65
(IP) PUMP / (IM) MOTOR	SERIES 3150/3300/3500/3650	SINGLE UNIT	SHAFT END COVER SEE Page E2.6	PORT END COVER SEE Page E2.7	GEAR HOUSING SEE Page E2.8	DRIVE SHAFT SEE Page E2.9-E2.10



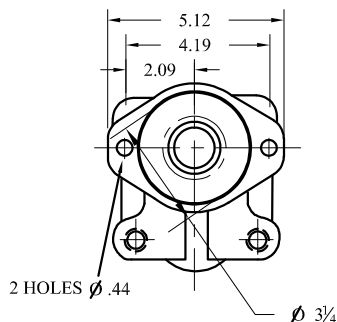
SAMPLE TANDEM PUMP MODEL CODE

FIRST SECTION							ADDITIONAL SECTIONS		
1	2	3	4	5	6	7	8	9	10
IP	3500	B	498	EM	AB20	7	HP	AB17	1
(IP) PUMP / (IM) MOTOR	SERIES 3150/3300/3500/3650	TANDEM UNIT	SHAFT END COVER SEE Page E2.6	PORT END COVER SEE Page E2.7	FRONT GEAR HOUSING SEE Page E2.8	DRIVE SHAFT SEE Page E2.9-E2.10	BEARING CARRIER SEE Page E2.12-E2.13	BACK GEAR HOUSING SEE Page E2.8	CONNECTING SHAFT SEE Page E2.11

IFP IP3150/IP3300/IP3500/IP3650 SHAFT END COVER



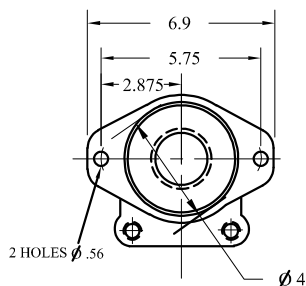
CODE *93/*94
IP3150/ IP3300
SAE A 2-BOLT



Front	Flange	Shaft	OUTBOARD	OPTIONAL
IP3150	IP3300	Rotation	SHAFT BEARING	1/4 DRAIN
193	194	CW	WITHOUT	NONE(PUMP)
293	294	CCW	WITHOUT	NONE(PUMP)
393	394	DOUBLE	WITHOUT	NONE(PUMP)
not available	494	CW	WITH	NONE(PUMP)
	594	CCW	WITH	NONE(PUMP)
	694	DOUBLE	WITH	NONE(PUMP)
	894	DOUBLE	WITH	1/4 NPT(MOTOR)
993	994	DOUBLE	WITHOUT	1/4 NPT(MOTOR)

IP 3150 SHAFT END COVER PART NUMBER	326-5129-201
IP 3300 SHAFT END COVER PART NUMBER	324-5123-204

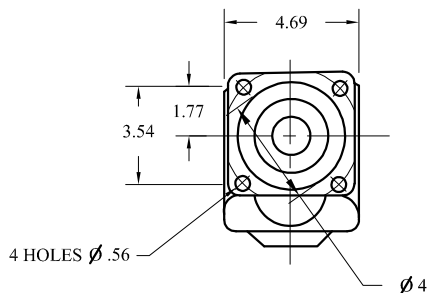
CODE *96/*97
IP3150 / IP3300 /IP3500
SAE B 2-BOLT



Front Flange	Shaft	OUTBOARD	OPTIONAL	
IP3150 IP33(5)00	Rotation	SHAFT BEARING	1/4 DRAIN	
196	197	CW	WITHOUT	NONE(PUMP)
296	297	CCW	WITHOUT	NONE(PUMP)
396	397	DOUBLE	WITHOUT	NONE(PUMP)
not available	497	CW	WITH	NONE(PUMP)
	597	CCW	WITH	NONE(PUMP)
	697	DOUBLE	WITH	NONE(PUMP)
	897	DOUBLE	WITH	1/ 4 NPT(MOTOR)
996	997	DOUBLE	WITHOUT	1/ 4 NPT(MOTOR)

IP 3150 SHAFT END COVER PART NUMBER	326-5129-203
IP 3300 SHAFT END COVER PART NUMBER	324-5123-201
IP 3500 SHAFT END COVER PART NUMBER	323-5123-201

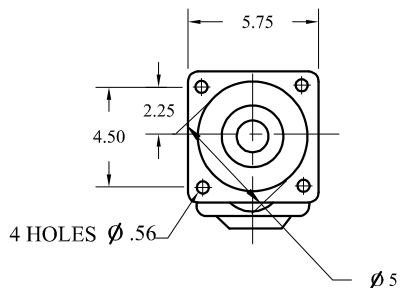
CODE *42
IP3300/IP3500
SAE B 4-BOLT



Front Flange	Shaft Rotation	OUTBOARD SHAFT BEARING	OPTIONAL 1/4 DRAIN
142	CW	WITHOUT	NONE(PUMP)
242	CCW	WITHOUT	NONE(PUMP)
342	DOUBLE	WITHOUT	NONE(PUMP)
442	CW	WITH	NONE(PUMP)
542	CCW	WITH	NONE(PUMP)
642	DOUBLE	WITH	NONE(PUMP)
842	DOUBLE	WITH	1/4 NPT(MOTOR)
942	DOUBLE	WITHOUT	1/4 NPT(MOTOR)

IP 3300 SHAFT END COVER PART NUMBER	324-5133-201
IP 3500 SHAFT END COVER PART NUMBER	323-5133-201

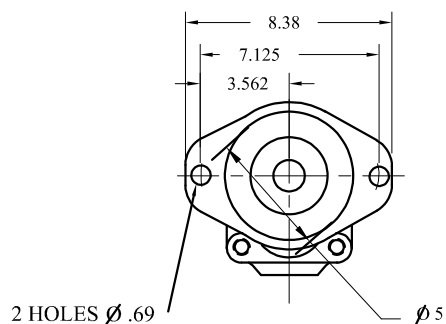
CODE *78
IP3300/IP3500/IP3650
SAE C 4-BOLT



Front Flange	Shaft Rotation	OUTBOARD SHAFT BEARING	OPTIONAL 1/4 DRAIN
178	CW	WITHOUT	NONE(PUMP)
278	CCW	WITHOUT	NONE(PUMP)
378	DOUBLE	WITHOUT	NONE(PUMP)
478	CW	WITH	NONE(PUMP)
578	CCW	WITH	NONE(PUMP)
678	DOUBLE	WITH	NONE(PUMP)
878	DOUBLE	WITH	1/4 NPT(MOTOR)
978	DOUBLE	WITHOUT	1/4 NPT(MOTOR)

IP 3300 SHAFT END COVER PART NUMBER	324 5133 202N
IP 3500 SHAFT END COVER PART NUMBER	323 5133 202N
IP 3650 SHAFT END COVER PART NUMBER	322 5133 202N

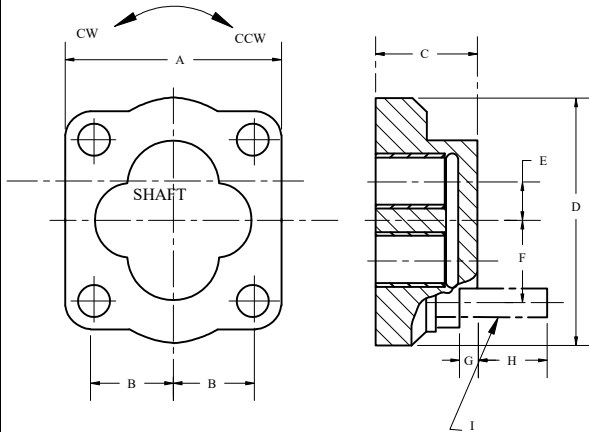
CODE *98
IP3500/IP3650
SAE C 2-BOLT



Front Flange	Shaft Rotation	OUTBOARD SHAFT BEARING	OPTIONAL 1/4 DRAIN
198	CW	WITHOUT	NONE(PUMP)
298	CCW	WITHOUT	NONE(PUMP)
398	DOUBLE	WITHOUT	NONE(PUMP)
498	CW	WITH	NONE(PUMP)
598	CCW	WITH	NONE(PUMP)
698	DOUBLE	WITH	NONE(PUMP)
898	DOUBLE	WITH	1/4 NPT(MOTOR)
998	DOUBLE	WITHOUT	1/4 NPT(MOTOR)

IP 3500 SHAFT END COVER PART NUMBER	323 5123 202N
IP 3650 SHAFT END COVER PART NUMBER	322 5123 202N

IFP IP3150/IP3300/IP3500/IP3650 PORT END COVERS



PORT END COVER

IP3150 PART NUMBER 326-3100-100

IP3300 PART NUMBER 324-3100-100

IP3500 PART NUMBER 323-3100-100

IP3650 PART NUMBER 322-3100-100

MODEL	A	B	C	D	E	F	G	H	I
IP3150	4.00	1.19	1.75	4.31	.75		.38	1.00-1.12	1/2 -13UNC THD
IP3300	4.81	1.78	2.25	5.38	.88	1.78	.39	1.38-1.62	5/8 -11NC-3 THD.
IP3500	5.75	1.78	2.25	6.00	1.00	1.78	.39	1.38-1.62	5/8-11NC-3 THD.
IP3650	6.25	2.12	2.62	7.00	1.12	2.12	.39	1.25-1.50	5/8 -11NC-3 THD.

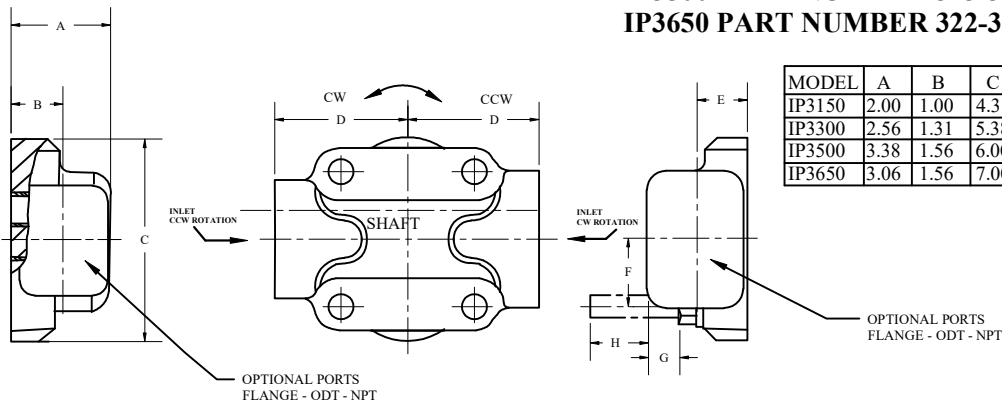
PORT END COVER

IP3150 PART NUMBER 326-3110-100

IP3300 PART NUMBER 324-3110-100

IP3500 PART NUMBER 323-3110-100

IP3650 PART NUMBER 322-3110-100



MODEL	A	B	C	D	E	F	G	H
IP3150	2.00	1.00	4.31	2.12	1.00			
IP3300	2.56	1.31	5.38	3.44	1.31	1.78	.70	1.25-1.56
IP3500	3.38	1.56	6.00	3.56	1.56	1.78	.11	1.25-1.56
IP3650	3.06	1.56	7.00	3.69	1.56	2.12	.83	1.31-1.44

PORT END COVER PORTING CODES

(SIDE PORTED UNITS)

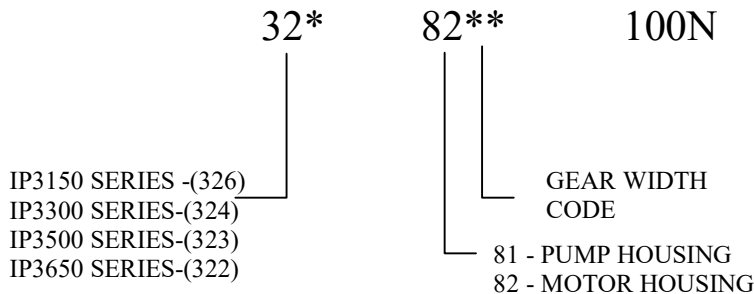
PORT SIZE		SPLIT FLANGE IP3150		OD TUBE PORTING IP3150	
IN	OUT	C W PORT	CCW PORT	C W PORT	CCW PORT
1 1/4	1	-	-	FB	BF
1 1/4	7/8	-	-	FC	CF
1 1/4	3/4	-	-	FG	GF
1 1/4	5/8	-	-	FJ	JF
1	1	-	-	FL	LF
1	7/8	-	-	FV	VF
1	3/4	EJ	JE	FW	WF
1	5/8	-	-	FX	XF
1	1/2	EK	KE	FY	YF
7/8	7/8	-	-	FZ	ZF
7/8	3/4	-	-	BC	CB
7/8	5/8	-	-	BG	GB
7/8	1/2	-	-	BJ	JB
3/4	3/4	EL	LE	BL	LB
3/4	5/8	-	-	BN	NB
3/4	1/2	EM	ME	BV	VB
1 1/4	-	-	-	BW	WB
1	-	OE	EO	BX	XB
7/8	-	-	-	BY	YB
3/4	-	OF	FO	BZ	ZB
-	1	-	-	PD	DP
-	7/8	-	-	PE	EP
-	3/4	OJ	JO	PM	MP
-	5/8	-	-	PN	NP
-	1/2	OL	LO		

PORT SIZE		SPLIT FLANGE				OD TUBE PORTING			
		IP3300		IF3500/3650		IP3300		IF3500/3650	
IN	OUT	C W PORT	CCW PORT	C W PORT	CCW PORT	C W PORT	CC W PORT	C W PORT	CC W PORT
2	1 1/2	-	-	EC	CE	-	-	-	-
2	1 1/4	-	-	EF	FE	-	-	-	-
2	1	-	-	EG	GE	-	-	-	-
1 1/2	1 1/2	-	-	EH	HE	-	-	-	-
1 1/2	1 1/4	EJ	JE	EJ	JE	-	-	FB	BF
1 1/2	1	EK	KE	EK	KE	-	-	FC	CF
1 1/4	1 1/4	EL	LE	EL	LE	-	-	-	-
1 1/4	1	EM	ME	EM	ME	-	-	FG	GF
1	1	EN	NE	EN	NE	FJ	JF	FJ	JF
2	-	-	-	OE	EO	FL	LF	FL	LF
1 1/2	-	OF	FO	OF	FO	-	-	BC	CB
1 1/4	-	OG	GO	OG	GO	BG	GB	BG	GB
1	-	OJ	JO	OJ	JO	BJ	JB	BJ	JB
-	1 1/2	OL	LO	OL	LO	-	-	BL	LB
-	1 1/4	OM	MO	OM	MO	-	-	-	-
-	1	ON	NO	ON	NO	BN	NB	BN	NB

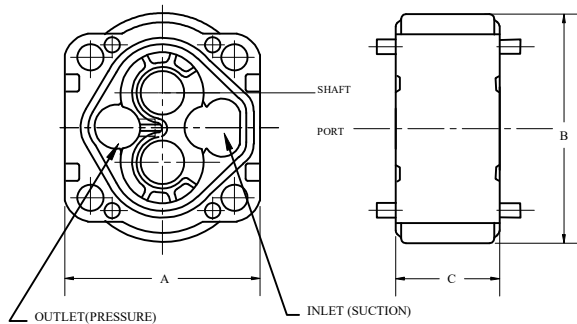
IFP IP3150/IP3300/IP3500/IP3650 GEAR HOUSINGS



GEAR HOUSING PART NUMBER NOMENCLATURE



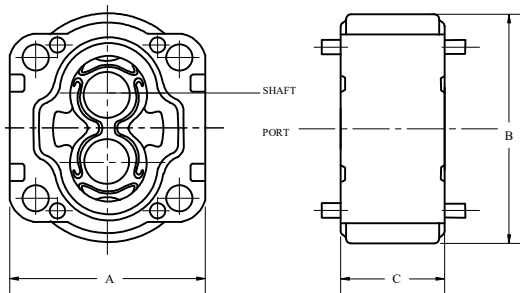
PUMP GEAR HOUSING



PUMP GEAR HOUSING PART NUMBER

Housing	PART NUMBER			
	IP3150	IP3300	IP3500	IP3650
05	326-8105-100N	324-8105-100N	323-8105-100N	322-8105-100N
07	326-8107-100N	324-8107-100N	323-8107-100N	322-8107-100N
10	326-8110-100N	324-8110-100N	323-8110-100N	322-8110-100N
12	326-8112-100N	324-8112-100N	323-8112-100N	322-8112-100N
15	326-8115-100N	324-8115-100N	323-8115-100N	322-8115-100N
17	326-8117-100N	324-8117-100N	323-8117-100N	322-8117-100N
20	326-8120-100N	324-8120-100N	323-8120-100N	322-8120-100N
22			323-8122-100N	322-8122-100N
25			323-8125-100N	322-8125-100N

MOTOR GEAR HOUSING



MOTOR GEAR HOUSING PART NUMBER

Housing	PART NUMBER			
	IM3150	IM3300	IP3500	IP3650
05	326-8205-100N	324-8205-100N	323-8205-100N	322-8205-100N
07	326-8207-100N	324-8207-100N	323-8207-100N	322-8207-100N
10	326-8210-100N	324-8210-100N	323-8210-100N	322-8210-100N
12	326-8212-100N	324-8212-100N	323-8212-100N	322-8212-100N
15	326-8215-100N	324-8215-100N	323-8215-100N	322-8215-100N
17	326-8217-100N	324-8217-100N	323-8217-100N	322-8217-100N
20	326-8220-100N	324-8220-100N	323-8220-100N	322-8220-100N
22			323-8222-100N	322-8222-100N
25			323-8225-100N	322-8225-100N

GEAR HOUSING DIMENSIONS

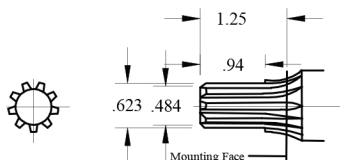
HOUSING	IP3150	IP3300	IP3500	IP3650
A=	4.19	4.81	5.75	6.25
B=	4.75	5.88	6.00	7.25
Thrust Plates	0.40	0.50	0.50	0.50
C=gear width +Thrust Plates				
Dimension "C"				
05	.92	1.00	1.00	//
07	1.14	1.25	1.25	1.25
10	1.40	1.50	1.50	1.50
12	1.64	1.75	1.75	1.75
15	1.90	2.00	2.00	2.00
17	2.14	2.25	2.25	2.25
20	2.40	2.50	2.50	2.50
22	//	//	2.75	2.75
25	//	//	3.00	3.00

IFP IP3150/IP3300/IP3500/IP3650 SPLINE - SHAFT/SHAFT&GEAR ASSEMBLIES



CODE 96

SAE "A" SPLINE $\frac{5}{8}$ - 9 TOOTH -ANSI 16-4

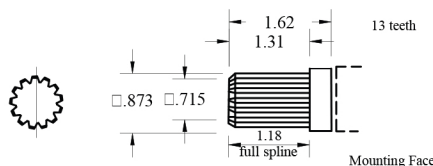


DEAR WIDTH CODE	DEAR WIDTH CODE	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	326-2905-420N	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
07	$\frac{3}{4}$ "	326-2907-420N			
10	1" "	326-2910-420N			
12	1 $\frac{1}{4}$ "	326-2912-420N			
15	1 $\frac{1}{2}$ "	326-2915-420N			
17	1 $\frac{3}{4}$ "	326-2917-420N			
20	2" "	326-2920-420N			

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	NOT AVAILABLE
IP 3500 ONE PIECE SHAFT	NOT AVAILABLE
IP 3650 ONE PIECE SHAFT	NOT AVAILABLE

CODE 65

SAE "B" SPLINE $\frac{7}{8}$ - 13 TOOTH -ANSI 122-4

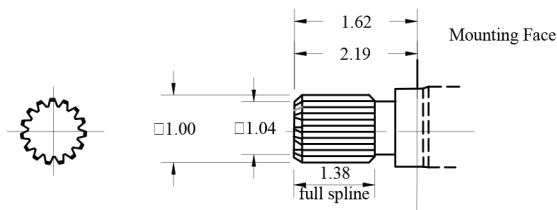


DEAR WIDTH CODE	DEAR WIDTH CODE	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	326-2905-420N	//	//	NOT AVAILABLE
07	$\frac{3}{4}$ "	326-2907-420N			
10	1" "	326-2910-420N	324-2910-230N	//	
12	1 $\frac{1}{4}$ "	326-2912-420N	324-2912-230N	323-2912-230N	
15	1 $\frac{1}{2}$ "	326-2915-420N	324-2915-230N	323-2915-230N	
17	1 $\frac{3}{4}$ "	326-2917-420N	324-2917-230N	323-2917-230N	
20	2" "	326-2920-420N	324-2920-230N	323-2920-230N	
22	2 $\frac{1}{4}$ "	//		323-2922-230N	
25	2 $\frac{1}{2}$ "	//		323-2925-230N	

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	324-1000-300N
IP 3500 ONE PIECE SHAFT	323-1000-300N
IP 3650 ONE PIECE SHAFT	322-1000-300N

CODE 98

SAE "BB" SPLINE 1 - 15 TOOTH -ANSI 25-4

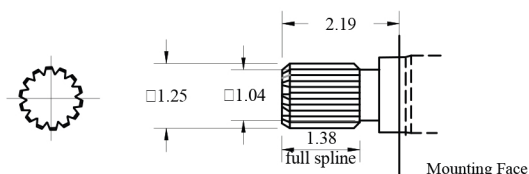


DEAR WIDTH CODE	DEAR WIDTH CODE	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	NOT AVAILABLE	//	NOT AVAILABLE	NOT AVAILABLE
07	$\frac{3}{4}$ "		//		
10	1" "		324-2910-240N		
12	1 $\frac{1}{4}$ "		324-2912-240N	323-2912-240N	
15	1 $\frac{1}{2}$ "		324-2915-240N	323-2915-240N	
17	1 $\frac{3}{4}$ "		324-2917-240N	323-2917-240N	
20	2" "		324-2920-240N	323-2920-240N	
22	2 $\frac{1}{4}$ "		//	323-2922-240N	
25	2 $\frac{1}{2}$ "		//	323-2925-240N	

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	NOT AVAILABLE
IP 3500 ONE PIECE SHAFT	NOT AVAILABLE
IP 3650 ONE PIECE SHAFT	NOT AVAILABLE

CODE 07

SAE "C" SPLINE 1 $\frac{1}{4}$ - 14 TOOTH -ANSI 32-4



DEAR WIDTH CODE	DEAR WIDTH CODE	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	NOT AVAILABLE	NOT AVAILABLE	//	//
07	$\frac{3}{4}$ "			//	//
10	1" "			//	//
12	1 $\frac{1}{4}$ "			323-2912-250N	322-2912-250N
15	1 $\frac{1}{2}$ "			323-2915-250N	322-2915-250N
17	1 $\frac{3}{4}$ "			323-2917-250N	322-2917-250N
20	2" "			323-2920-250N	322-2920-250N
22	2 $\frac{1}{4}$ "			323-2922-250N	322-2922-250N
25	2 $\frac{1}{2}$ "			323-2925-250N	322-2925-250N
27	2 $\frac{3}{4}$ "			//	322-2927-250N
30	3" "			//	322-2930-250N

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	324-1000-500N
IP 3500 ONE PIECE SHAFT	323-1000-500N
IP 3650 ONE PIECE SHAFT	322-1000-500N

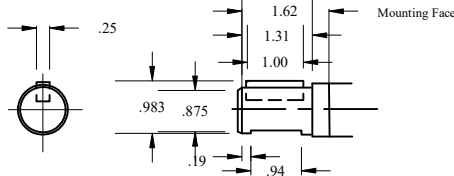
IFP IP3150/IP3300/IP3500/IP3560

KEYED- SHAFT / SHAFT GEAR ASSEMBLIES



CODE 30

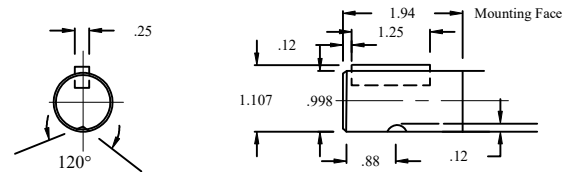
SAE "B" KEYED $\frac{7}{8}$ Ø - $\frac{1}{4}$ KEY -ANSI 22-4



DEAR WIDTH CODE	DEAR WIDTH INCHES	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	326-2905-930N	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
07	$\frac{3}{4}$ "	326-2907-930N			
10	1" "	326-2910-930N			
12	$1\frac{1}{4}$ "	326-2912-930N			
15	$1\frac{1}{2}$ "	326-2915-930N			
17	$1\frac{3}{4}$ "	326-2917-930N			
20	2" "	326-2920-930N			

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	324-1000-300N
IP 3500 ONE PIECE SHAFT	NOT AVAILABLE
IP 3650 ONE PIECE SHAFT	NOT AVAILABLE

CODE 43 - KEYED $1\frac{1}{8}$ Ø - $\frac{1}{4}$ KEY - ANSI 25-1

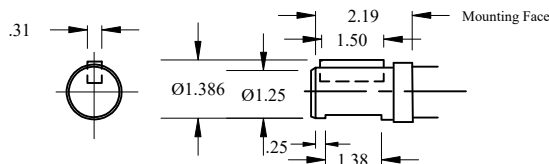


DEAR WIDTH CODE	DEAR WIDTH INCHES	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	NOT AVAILABLE	//	NOT AVAILABLE	NOT AVAILABLE
07	$\frac{3}{4}$ "		//		
10	1" "		324-2910-740N		
12	$1\frac{1}{4}$ "		324-2912-740N		
15	$1\frac{1}{2}$ "		324-2915-740N		
17	$1\frac{3}{4}$ "		324-2917-740N		
20	2" "		324-2920-740N		

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	324-1500-300N
IP 3500 ONE PIECE SHAFT	NOT AVAILABLE
IP 3650 ONE PIECE SHAFT	NOT AVAILABLE

CODE 11

SAE "C" KEYED $1\frac{1}{4}$ Ø - $\frac{5}{16}$ KEY -ANSI 32-1



DEAR WIDTH CODE	DEAR WIDTH INCHES	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	$\frac{1}{2}$ "	NOT AVAILABLE	NOT AVAILABLE	//	NOT AVAILABLE
07	$\frac{3}{4}$ "			//	
10	1" "			//	
12	$1\frac{1}{4}$ "			323-2912-750N	
15	$1\frac{1}{2}$ "			323-2915-750N	
17	$1\frac{3}{4}$ "			323-2917-750N	
20	2" "			323-2920-750N	
22	$2\frac{1}{4}$ "			323-2922-750N	
25	$2\frac{1}{2}$ "			323-2925-750N	

IP 3150 ONE PIECE SHAFT	NOT AVAILABLE
IP 3300 ONE PIECE SHAFT	NOT AVAILABLE
IP 3500 ONE PIECE SHAFT	323-1500-500N
IP 3650 ONE PIECE SHAFT	322-1500-500N

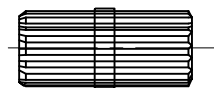
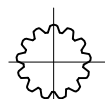
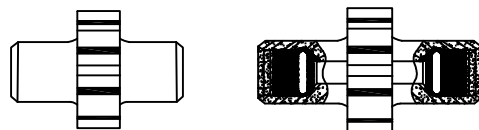
IFP IP3150/IP3300/IP3500/IP3650 MATCHED GEARS / CONNECTING SHAFTS



MATCHED GEAR SET

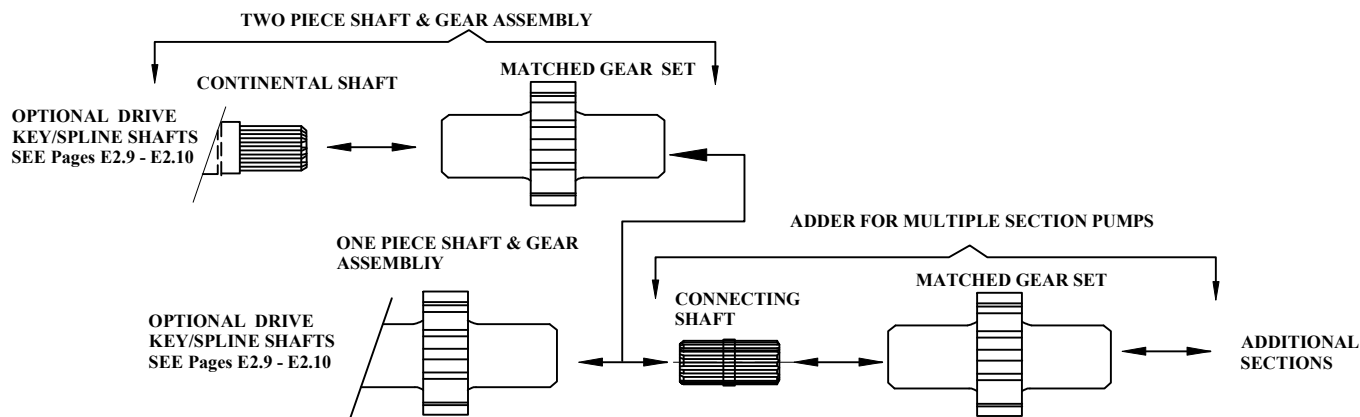
CODE 1

CONNECTING SHAFT



GEAR WIDTH CODE	GEAR WIDTH INCHES	IP3150 SHAFT & GEAR PART NUMBER	IP3300 SHAFT & GEAR PART NUMBER	IP3500 SHAFT & GEAR PART NUMBER	IP3650 SHAFT & GEAR PART NUMBER
05	1/2"	326-2805-000N	324-2805-000N	//	//
07	3/4"	326-2807-000N	324-2807-000N	323-2807-000N	322-2807-000N
10	1"	326-2810-000N	324-2810-000N	323-2810-000N	322-2810-000N
12	1 1/4"	326-2812-000N	324-2812-000N	323-2812-000N	322-2812-000N
15	1 1/2"	326-2815-000N	324-2815-000N	323-2815-000N	322-2815-000N
17	1 3/4"	326-2817-000N	324-2817-000N	323-2817-000N	322-2817-000N
20	2"	326-2820-000N	324-2820-000N	323-2820-000N	322-2820-000N
22	2 1/4"			323-2822-000N	322-2822-000N
25	2 1/2"			323-2825-000N	322-2825-000N

IP 3150 CONNECTING SHAFT	326 - 1133 - 001N
IP 3300 CONNECTING SHAFT	324 - 1133 - 001N
IP 3500 CONNECTING SHAFT	323 - 1133 - 001N
IP 3650 CONNECTING SHAFT	322 - 1133 - 001N



SHAFT & GEAR PART NUMBER NOMENCLATURE

32* - 29** - xxx N

MATCHED GEAR PART NUMBER NOMENCLATURE

32* - 28** - 000 N

326-IP3150 SERIES
324-IP3300 SERIES
323-IP3500 SERIES
322-IP3650 SERIES

GEAR WIDTH CODE	GEAR WIDTH INCHES	GEAR WIDTH CODE	GEAR WIDTH INCHES
05	1/2"	20	2"
07	3/4"	22	2 1/4"
10	1"	25	2 1/2"
12	1 1/4"		
15	1 1/2"		
17	1 3/4"		

DRIVE SHAFT CODE
122 - 3/8" Ø - 9TH SPLINE
230 - 7/8" Ø - 13TH SPLINE
250 - 1 1/4" Ø - 15TH SPLINE
730 - 7/8" Ø - 1/4 KEYED
740 - 1" Ø - 1/4 KEYED
750 - 1 1/4" Ø - 3/16 KEYED

326-IP3150 SERIES
324-IP3300 SERIES
323-IP3500 SERIES
322-IP3650 SERIES

GEAR WIDTH CODE	GEAR WIDTH INCHES	GEAR WIDTH CODE	GEAR WIDTH INCHES
05	1/2"	20	2"
07	3/4"	22	2 1/4"
10	1"	25	2 1/2"
12	1 1/4"		
15	1 1/2"		
17	1 3/4"		

PL CHART		
SHAFT STYLE	INTEGRAL SHAFT & GEAR	TWO PIECE STYLE
IP315		
SAE "A" SPLINE (up to 1.25" GW)	4,450	--
SAE "A" KEY	3,600	--
SAE "B" SPLINE	13,400	--
SAE "B" KEY	9,900	--
CONNECTING SHAFT	--	5,550
IP330		
SAE "B" SPLINE	8,450	6,250
SAE "B" KEY	6,250	6,250
SAE "B-B" SPLINE	13,000	6,250
SAE "B-B" KEY	9,300	6,250
SAE "C" SPLINE	--	6,250
SAE "C" KEY	--	6,250
CONNECTING SHAFT	--	6,250

PL CHART		
SHAFT STYLE	INTEGRAL SHAFT & GEAR	TWO PIECE STYLE
IP350		
SAE "B" SPLINE	6,450	6,450
SAE "B" KEY	4,750	4,750
SAE "B-B" SPLINE	9,900	9,000
SAE "B-B" KEY	7,100	7,100
SAE "C" SPLINE	19,100	9,000
SAE "C" KEY	13,900	9,000
CONNECTING SHAFT	--	9,000
IP365		
SAE "B" SPLINE	5,050	5,050
SAE "B" KEY	3,700	3,700
SAE "B-B" SPLINE	7,750	7,750
SAE "B-B" KEY	5,550	5,550
SAE "C" SPLINE	14,900	11,950
SAE "C" KEY	10,800	11,950
CONNECTING SHAFT	--	11,950

PL FACTOR

Each section of a multiple pump or motor should be regarded as a single unit with corresponding delivery and power input requirements. Since the entire input horsepower is fed through a common drive shaft, the power delivered to or from the unit is limited by the physical strength of the shaft. This limit is defined as a "PL" factor; "P" being the operating pressure and "L" the summation of gear widths.

In multiple units the "PL" must be calculated for the first connecting shaft as well as the drive shaft. Each style or type of shaft has a unique "PL" factor as noted in the table below.

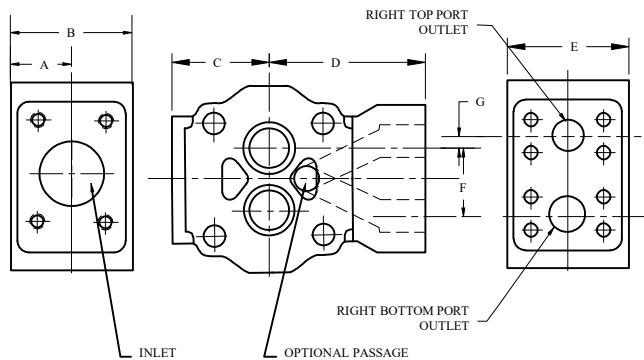
Pressure X total gear width = PL

PL must not exceed number shown in Chart for appropriate shaft

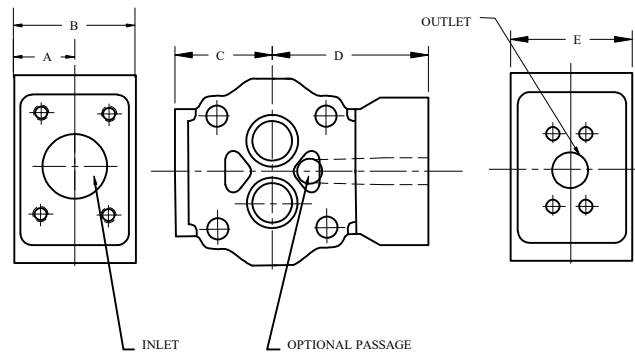
IFP IP3150/IP3300/IP3500/IP3650 BEARING CARRIERS



DOUBLE OUTLET BEARING CARRIER



SINGLE OUTLET BEARING CARRIER



BEARING CARRIER							DOUBLE OUTLET BEARING CARRIER	SINGLE OUTLET BEARING CARRIER
PART NUMBER	"A"	"B"	"C"	"D"	"E"	"F"	"G"	
IP3150	1.31	2.62	2.38	2.88	2.62	1.84	.34	326-7800-100N
IP3300	1.75	3.50	3.09	3.69	3.50	2.00	.25	324-7800-100N
IP3500	1.75	3.50	3.69	3.69	3.50	2.50	.50	323-7800-100N
IP3650	2.00	4.00	3.69	4.69	4.00	2.62	.38	322-7800-100N

(IP3300/IP3500/IP3650 DOUBLE OUTLET) BEARING CARRIER PART CODE

Outlets: for clockwise porting the top port number comes first;
for counter-clockwise porting the bottom port number comes first.

SECTION VIEW A-A C.W. ROT.	PORT SIZE			SPLIT FLANGE BEARING CARRIER CODE C.W. ROT.		PORT SIZE			O.D.T. THREAD BEARING CARRIER CODE C.W. ROT.	
	IN	OUT	OUT			IN	OUT	OUT		
Inlet  Outlet #1 Outlet #2	2 1/2	1 1/2	1 1/2	AC	CA	2	1 1/2	1 1/2	GJ	JG
	2 1/2	1 1/2	1 1/4	AD	DA	2	1 1/2	1 1/4	GK	KG
	2 1/2	1 1/2	1	AE	EA	2	1 1/2	1	GL	LG
	2 1/2	1 1/4	1 1/4	AF	FA	2	1 1/4	1 1/4	GM	MG
	2 1/2	1 1/4	1	AG	GA	2	1 1/4	1	GN	NG
	2 1/2	1	1	AH	HA	2	1	1	GP	PG
	2	1 1/2	1 1/2	AJ	JA	1 1/2	1 1/2	1 1/2	GQ	QG
	2	1 1/2	1 1/4	AK	KA	1 1/2	1 1/2	1 1/4	GR	RG
	2	1 1/2	1	AL	LA	1 1/2	1 1/2	1	GS	SG
	2	1 1/4	1 1/4	AM	MA	1 1/2	1 1/4	1 1/4	GT	TG
	2	1 1/4	1	AN	NA	1 1/2	1 1/4	1	GU	UG
	2	1	1	AP	PA	1 1/2	1	1	GV	VG
	1 1/2	1 1/2	1 1/2	AQ	QA	1 1/4	1 1/4	1 1/4	GW	WG
	1 1/2	1 1/2	1 1/4	AR	RA	1 1/4	1 1/4	1	GX	XG
	1 1/2	1 1/2	1	AS	SA	1 1/4	1	1	GY	YG
	1 1/2	1 1/4	1 1/4	AT	TA	1	1	1	GZ	ZG
	1 1/2	1 1/4	1	AU	UA					
	1 1/2	1	1	AV	VA					
	1 1/4	1 1/4	1 1/4	AW	WA					
	1 1/4	1 1/4	1	AX	XA					
	1 1/4	1	1	AY	YA					
	1	1	1	AZ	ZA					

IFP IP3150/IP3300/IP3500/IP3650 BEARING CARRIERS



BEARING CARRIER PART CODE (IP3300/IP3500/IP3650 SINGLE OUTLET)

Outlet for front section.

SECTION VIEW A-A C.W. ROT.	PORT SIZE		SPLIT FLANGE		PORT SIZE		O.D.T THREAD	
	IN	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.	IN	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.
Inlet  Outlet	2	1 1/2	HB	BH	2	1 1/2	KB	BK
	2	1 1/4	HC	CH	2	1 1/4	KC	CK
	2	1	HF	FH	2	1	KF	FK
	1 1/2	1 1/2	HL	HL	1 1/2	1 1/2	KL	LK
	1 1/2	1 1/4	HM	MH	1 1/2	1 1/4	KM	MK
	1 1/2	1	HN	NH	1 1/2	1	KN	NK
	1 1/4	1 1/4	HO	OH	1 1/4	1 1/4	KO	OK
	1 1/4	1	HP	PH	1 1/4	1	KP	PK
	1	1	HQ	QH	1	1	KQ	QK

BEARING CARRIER PART CODE (IP3150 SINGLE OUTLET)

Outlet for front section.

SECTION VIEW A-A C.W. ROT.	PORT SIZE		SPLIT FLANGE		PORT SIZE		O.D.T THREAD	
	IN	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.	IN	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.
Inlet  Outlet	1 1/4	1 1/4	CJ	JC	1 1/2	1 1/2	KB	BK
	1 1/4	1	CL	LC	1 1/2	1 1/4	KC	CK
	1 1/4	3/4	CM	MC	1 1/2	1	KF	FK
	1 1/4	1/2	HB	BH	1 1/2	3/4	KM	MK
	1	1	HC	CH	1 1/4	1 1/4	KN	NK
	1	3/4	HF	FH	1 1/4	1	KO	OK
	1	1/2	HL	LH	1 1/4	3/4	KQ	QK
	3/4	3/4	HM	MH	1 1/4	1/2	ML	LM
	3/4	1/2	HN	NH	1	1	MN	NM
					1	3/4	MR	RM
					1	1/2	MT	TM
					3/4	3/4	MU	UM
					3/4	1/2	MW	WM

BEARING CARRIER PART CODE (IP3150 DOUBLE OUTLET)

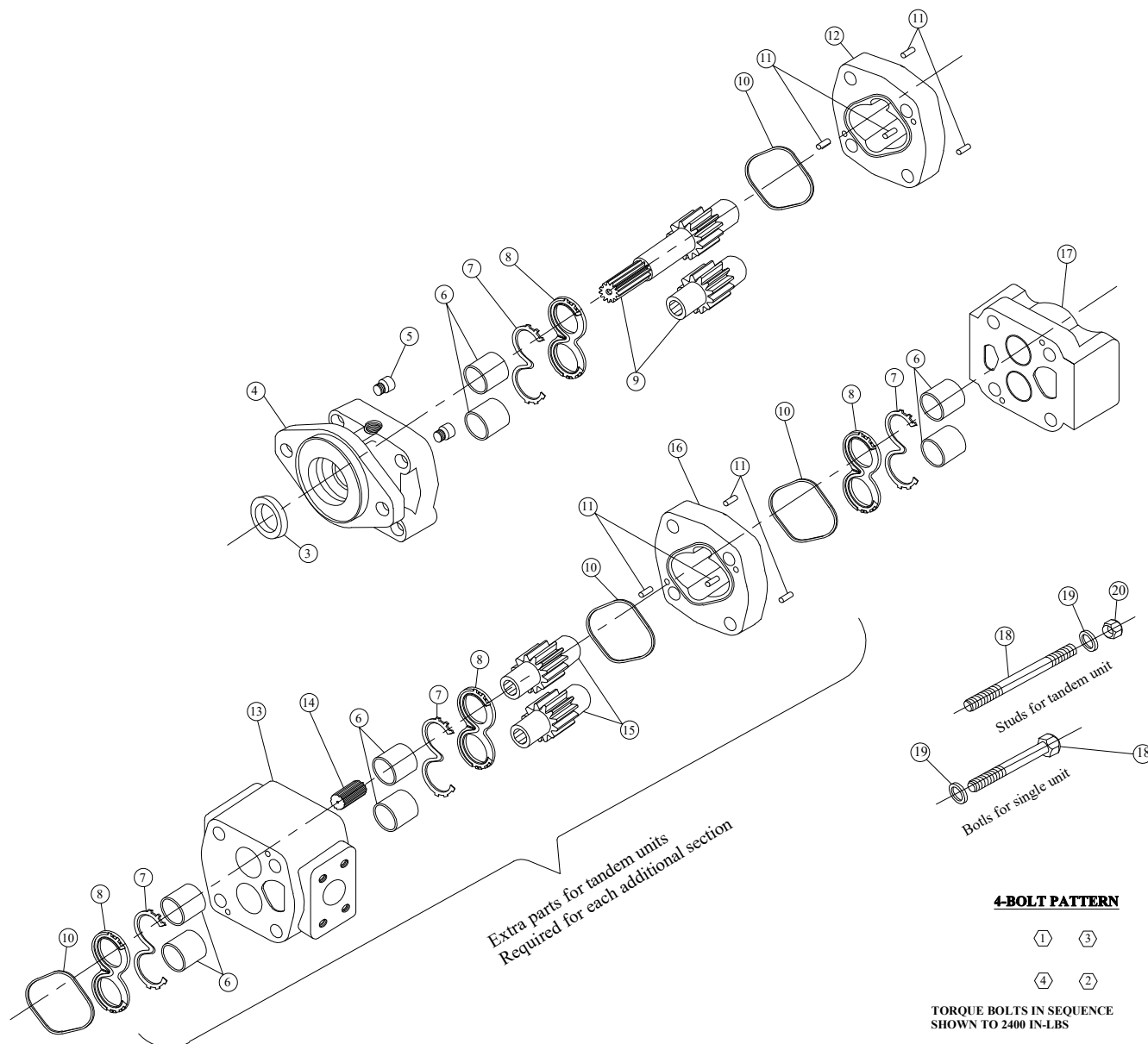
Outlets: for clockwise porting the top port number comes first;

for counter-clockwise porting the bottom port number comes first.

SECTION VIEW A-A C.W. ROT.	PORT SIZE			SPLIT FLANGE		PORT SIZE			O.D.T THREAD	
	IN	OUT	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.	IN	OUT	OUT	BEARING CARRIER CODE C.W. ROT.	BEARING CARRIER CODE C.C.W. ROT.
Inlet  Outlet #1 Outlet #2	1 1/4	3/4	3/4	CA	AC	1 1/2	1	1	JG	GJ
	1 1/4	3/4	1/2	DA	AD	1 1/2	1	3/4	MG	GM
	1 1/4	1/2	1/2	EA	AE	1 1/2	3/4	3/4	NG	GN
	1	3/4	3/4	FA	AF	1 1/4	1	1	PG	GP
	1	3/4	1/2	GA	AG	1 1/4	1	3/4	SG	GS
	1 1/4	1/2	1/2	HA	AH	1 1/4	3/4	3/4	TG	GT
						1 1/4	3/4	1/2	VG	GV
						1 1/4	1/2	1/2	XG	GX
						1	1	1	YG	GY
						1	1	3/4	SC	CS

IFP IP3150 PUMPS

SERVICE PARTS INFORMATION



4-BOLT PATTERN



TORQUE BOLTS IN SEQUENCE
SHOWN TO 2400 IN-LBS

DESCRIPTION & CODES

ITEM	DESCRIPTION	REQ'S	PART NO.	ITEM	DESCRIPTION	REQ'S	PART NO.
1				11	DOWEL PINS	4 or more	391-2682-071N
2				12	GEAR HOUSING	1	326-81xx-100N
3	SEAL	1	391-2883-151N	13	BEARING CARRIER	1	326-7xxx-100N
4	SHAFT END COVER	1	326-5xxx-xxxN	14	CONNECTING SHAFT	1	326-1133-100N
5	PLUG	4	391-2886-004N	15	MATCHED GEAR SET	1	326-28xx-000N
6	BUSHINGS	4 or more	391-0482-195N	16	GEAR HOUSING	1	326-81xx-100N
7	CHANNEL SEAL	4 or more	391-2881-871N	17	PORT END COVER	1	326-3xxx-100N
8	THRUST PLATES	4 or more	391-2185-963N	18	CAP SCREWS & STUDS	4	xx-BOLTS-xx IN
9	INTERGRAL DRIVE SHAFT AND GEAR SET	1	326-29xx-xxxN 326-28xx-xxxN	19	WASHERS	4	
10	GASKET SEAL	1 or more	391-2884-968N	20	NUT	4	

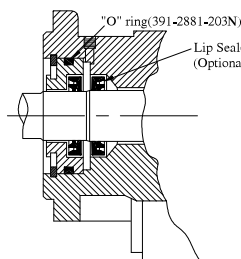
IFP IP3300 PUMPS

SERVICE PARTS INFORMATION

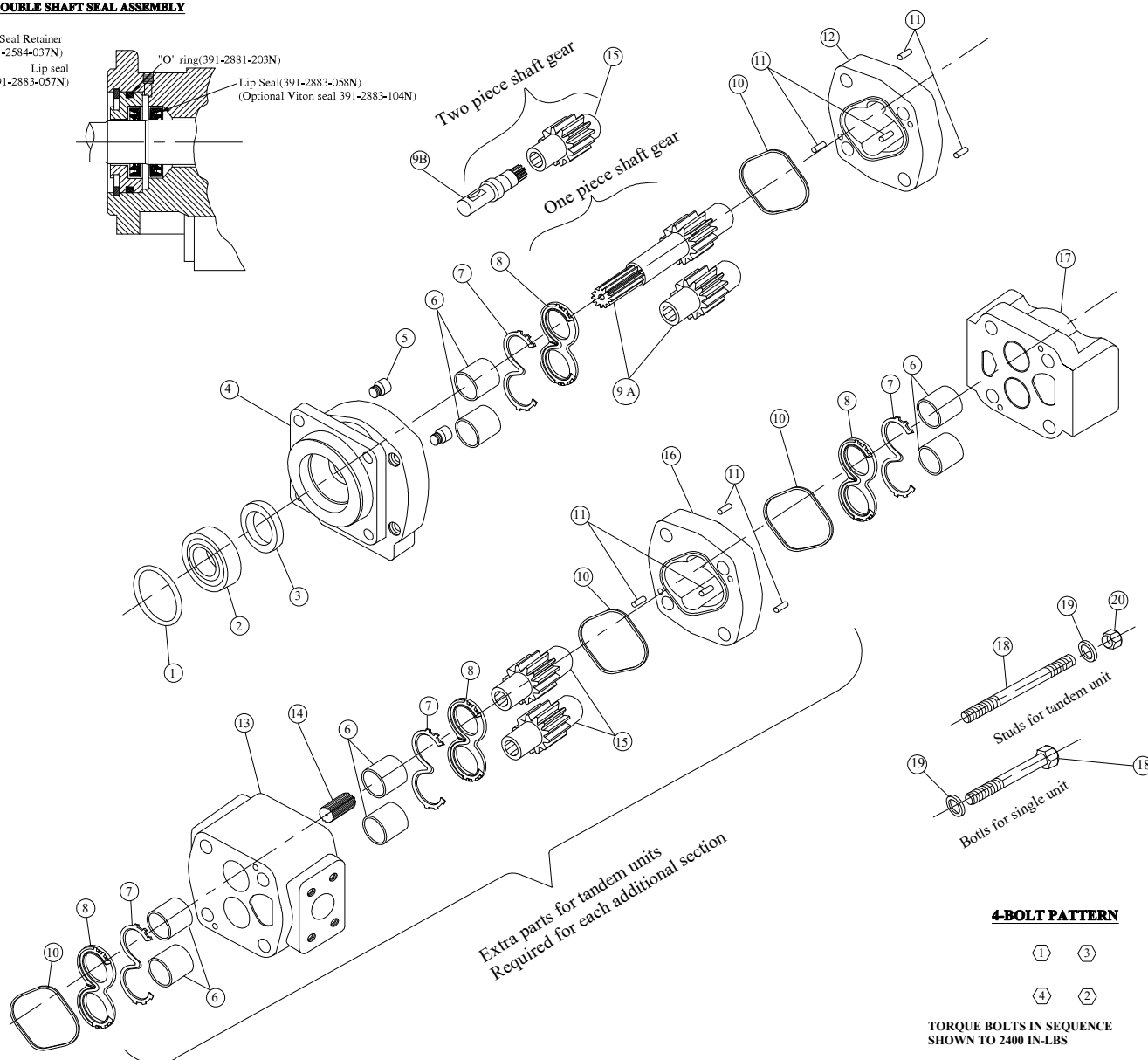


DOUBLE SHAFT SEAL ASSEMBLY

Seal Retainer
(391-2584-037N)
Lip seal
(391-2883-057N)



"O" ring (391-2881-203N)
Lip Seal (391-2883-058N)
(Optional Viton seal 391-2883-104N)



DESCRIPTION & CODES

ITEM	DESCRIPTION	REQ'S	PART NO.	ITEM	DESCRIPTION	REQ'S	PART NO.
1	SNAP RING	1	391-2686-063 N	11	DOWEL PINS	4 or more	391-2082-032N
2	OUTBOARD BEARING	1	391-0381-040N	12	GEAR HOUSING	1	324-81xx-100N
3	SEAL	1	391-2883-058N	13	BEARING CARRIER	1	324-7xxx-100N
4	SHAFT END COVER	1	324-5xxx-xxxN	14	CONNECTING SHAFT	1	324-1133-001N
5	PLUG	2	391-2286-004N	15	MATCHED GEAR SET	1	324-28xx-000N
6	BUSHINGS	4 or more	391-0482-306N	16	GEAR HOUSING	1	324-81xx-100N
7	CHANNEL SEAL	4 or more	391-2885-065N	17	PORT END COVER	1	324-3xxx-100N
8	THRUST PLATES	4 or more	391-2185-956N	18	CAP SCREWS & STUDS	4	xx-BOLTS-xx IN
9A	INTERGRAL DRIVE SHAFT	1	324-29xx-xxxN	19	WASHERS	4	391-3784-028N
9B	Continental Drive Shaft	1	324-xxxx-xxxN	20	NUT	4	391-1451-076N
10	GASKET SEAL	1 or more	391-2884-050N				

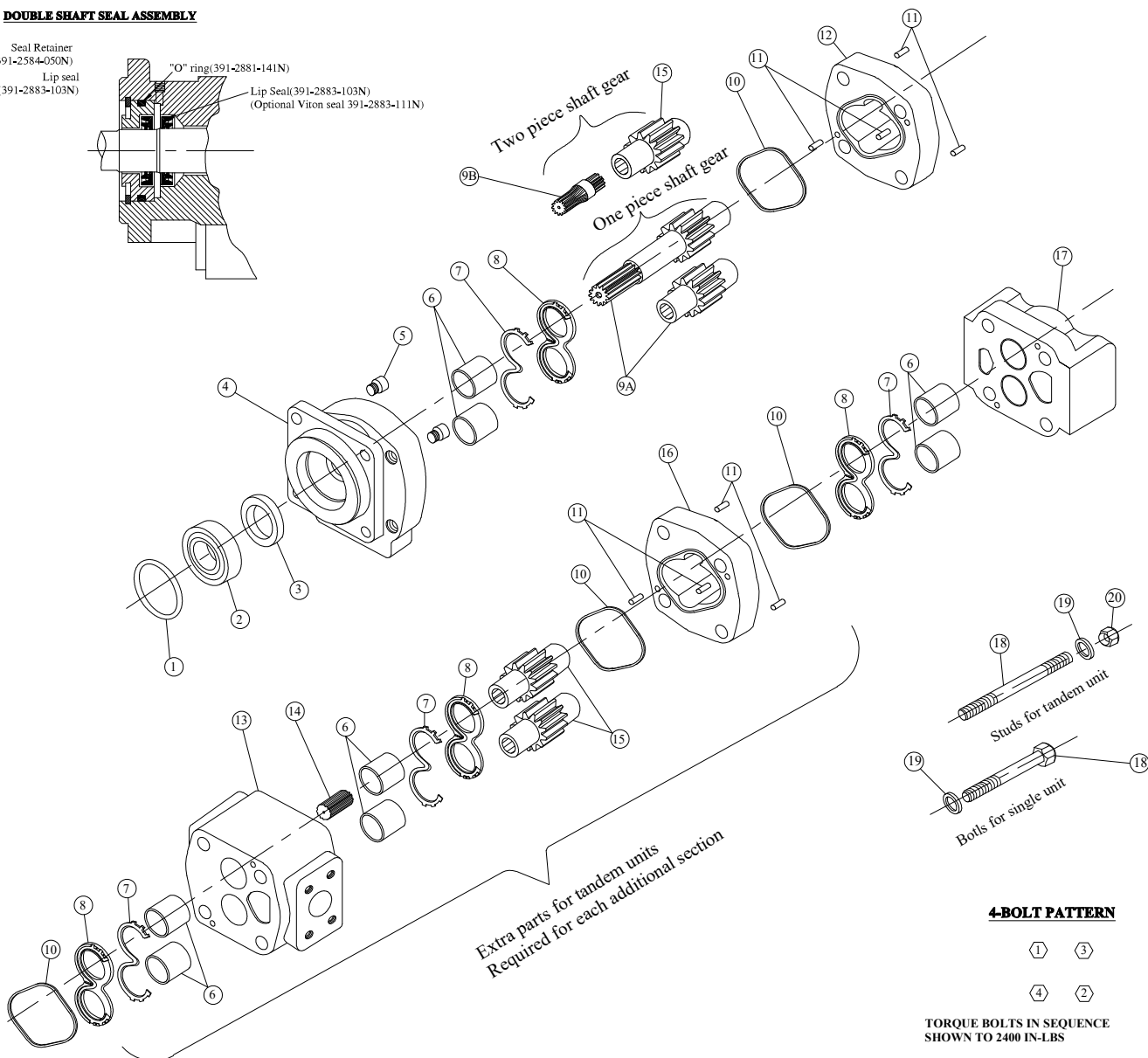
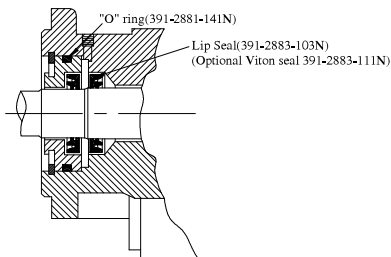
IFP IP3500 PUMPS

SERVICE PARTS INFORMATION



DOUBLE SHAFT SEAL ASSEMBLY

Seal Retainer
(391-2584-050N)
Lip seal
(391-2883-103N)



4-BOLT PATTERN



TORQUE BOLTS IN SEQUENCE
SHOWN TO 2400 IN-LBS

DESCRIPTION & CODES

ITEM	DESCRIPTION	REQ'S	PART NO.	ITEM	DESCRIPTION	REQ'S	PART NO.
1	SNAP RING	1	391-2686-065N	11	DOWEL PINS	4 or more	391-2082-032N
2	OUTBOARD BEARING	1	391-0381-077N	12	GEAR HOUSING	1	323-81xx-100N
3	SEAL	1	391-2883-103N	13	BEARING CARRIER	1	323-7xxx-100N
4	SHAFT END COVER	1	323-5xxx-xxxN	14	CONNECTING SHAFT	1	323-1133-100N
5	PLUG	2	391-2886-004N	15	MATCHED GEAR SET	1	323-28xx-000N
6	BUSHINGS	4 or more	391-0482-308N	16	GEAR HOUSING	1	323-81xx-100N
7	CHANNEL SEAL	4 or more	391-2885-066N	17	PORT END COVER	1	323-3xxx-100N
8	THRUST PLATES	4 or more	391-2185-957N	18	CAP SCREWS & STUDS	4	xx-BOLTS-xx IN
9A	INTERGRAL DRIVE SHAFT	1	323-29xx-xxxN	19	WASHERS	4	391-3784-028N
9B	Continental Drive Shaft	1	323-xxxx-xxxN	20	NUT	4	391-1451-076N
10	GASKET SEAL	2 or more	391-2884-074N				

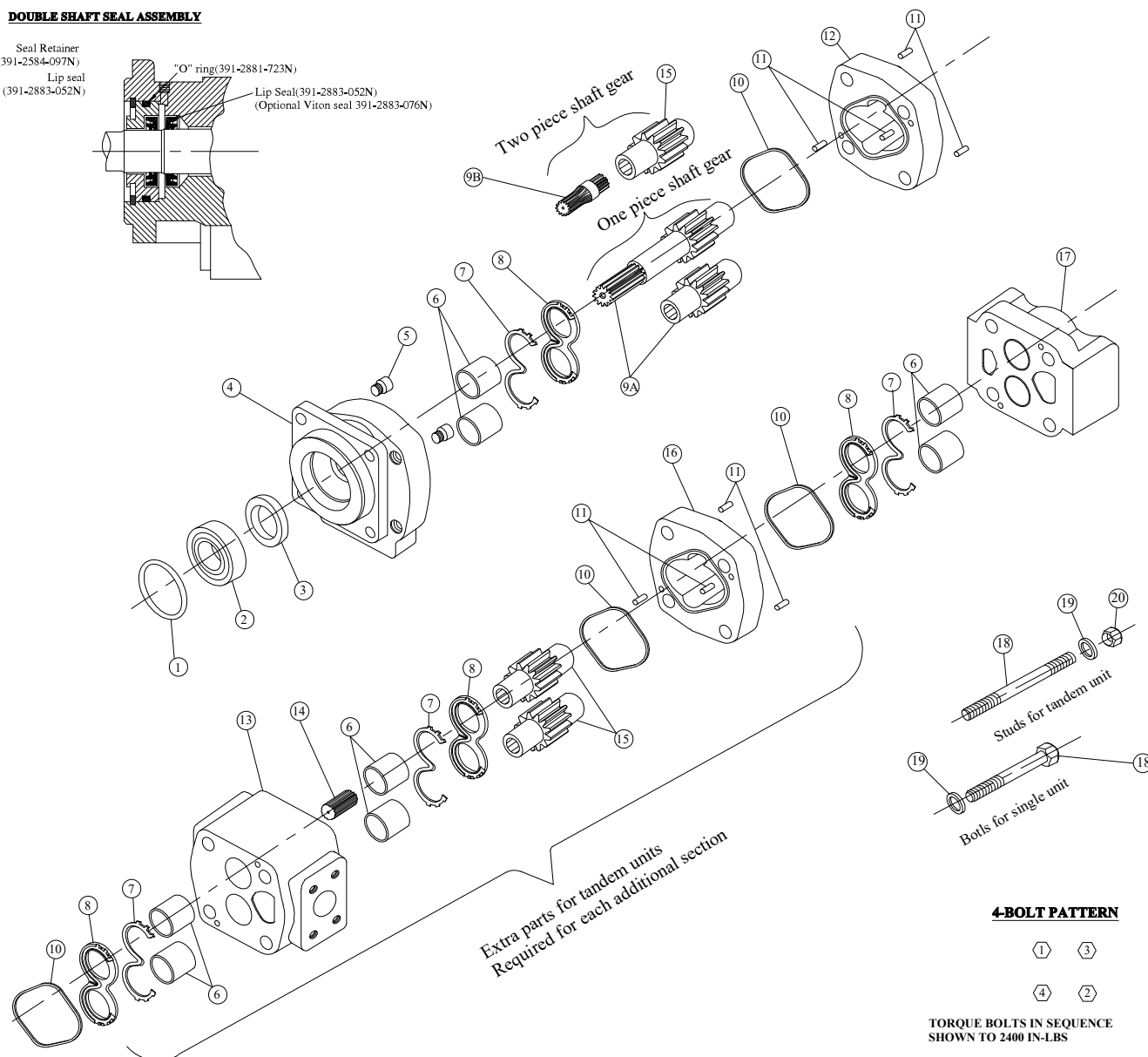
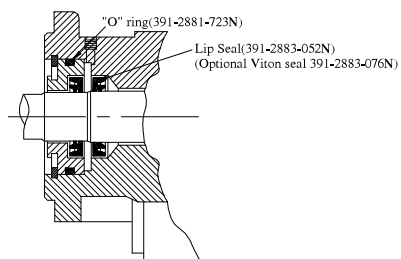
IFP IP3650 PUMPS

SERVICE PARTS INFORMATION



DOUBLE SHAFT SEAL ASSEMBLY

Seal Retainer
(391-2584-097N)
Lip seal
(391-2883-052N)



4-BOLT PATTERN



TORQUE BOLTS IN SEQUENCE
SHOWN TO 2400 IN-LBS

DESCRIPTION & CODES

ITEM	DESCRIPTION	REQ'S	PART NO.	ITEM	DESCRIPTION	REQ'S	PART NO.
1	SNAP RING	1	391-2686-025 N	11	DOWEL PINS	4 or more	391-2082-062N
2	OUTBOARD BEARING	1	391-0381-078N	12	GEAR HOUSING	1	322-81xx-100N
3	SEAL	1	391-2883-052N	13	BEARING CARRIER	1	322-7xxx-100N
4	SHAFT END COVER	1	322-5xxx-xxxN	14	CONNECTING SHAFT	1	322-1133-001N
5	PLUG	2	391-2286-004N	15	MATCHED GEAR SET	1	322-28xx-000N
6	BUSHINGS	4 or more	391-0482-307N	16	GEAR HOUSING	1	322-81xx-100N
7	CHANNEL SEAL	4 or more	391-2885-064N	17	PORT END COVER	1	322-3xxx-100N
8	THRUST PLATES	4 or more	391-2185-955N	18	CAP SCREWS & STUDS	4	xx-BOLTS-xx IN
9A	INTERGRAL DRIVE SHAFT	1	322-29xx-xxxN	19	WASHERS	4	391-3784-028N
9B	Continental Drive Shaft	1	322-xxxx-xxxN	20	NUT	4	391-1451-076N
10	GASKET SEAL	1 or more	391-2884-052N				