

TOTAL SYSTEMS SOLUTIONS WORLDWIDE™

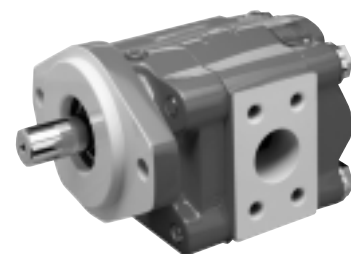


## **P30/31™, P50/ 51™, P75/76™ Series Single and Multiple Pumps and Motors**

*Pressure to 3000 PSI/175  
BAR*

*Output to 120 GPM/  
454 LPM*

*Motors up to 135 HP*





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# Average Output Flow - Pumps

Flow data at 2500 PSI (172 bar) unless noted.

## P30/31

Speed RPM	Gear Width Inches				
	1"	1 1/4"	1 1/2"	1 3/4"	2"
900	<b>6.5</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>13.5</b>
	24.5	30	38	45.5	51
1200	<b>9</b>	<b>11.5</b>	<b>14</b>	<b>16</b>	<b>18.5</b>
	34	43.5	53	60.5	70
1500	<b>11.5</b>	<b>14.5</b>	<b>17.5</b>	<b>20.5</b>	<b>23.5</b>
	43.5	55	66	77.5	89
1800	<b>14</b>	<b>18</b>	<b>21.5</b>	<b>25</b>	<b>29</b>
	53	68	81.5	94.5	110
2100	<b>16.5</b>	<b>21</b>	<b>25</b>	<b>29.5</b>	<b>34</b>
	62.5	79.5	94.5	112	129
2400	<b>19</b>	<b>24</b>	<b>29</b>	<b>34</b>	<b>39</b>
	72	91	110	129	148

*gpm/lpm*

## P50/51

Speed RPM	Gear Width Inches						
	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
900	<b>8.5</b>	<b>10.5</b>	<b>13</b>	<b>15</b>	<b>17.5</b>	<b>20</b>	<b>22</b>
	32	39.5	49	57	66	75.5	83.5
1200	<b>12</b>	<b>15</b>	<b>18</b>	<b>21</b>	<b>24</b>	<b>27</b>	<b>30</b>
	45.5	57	68	79.5	91	102	114
1500	<b>15</b>	<b>19</b>	<b>23</b>	<b>27</b>	<b>31</b>	<b>35</b>	<b>39</b>
	57	72	87	102	117	132	148
1800	<b>18</b>	<b>23</b>	<b>27.5</b>	<b>32.5</b>	<b>37.5</b>	<b>42</b>	<b>47</b>
	68	87	104	123	142	159	178
2100	<b>21.5</b>	<b>27</b>	<b>32.5</b>	<b>38.5</b>	<b>44</b>	<b>49.5</b>	<b>55</b>
	81.5	102	123	146	167	187	208
2400	<b>25</b>	<b>31</b>	<b>37</b>	<b>44</b>	<b>51</b>	<b>57</b>	<b>63.5</b>
	94.5	117	140	167	193	216	240

*gpm/lpm*

## P75/76

Speed RPM	Gear Width Inches								
	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"
900	<b>11.5</b>	<b>15.5</b>	<b>19.5</b>	<b>23</b>	<b>27</b>	<b>30.5</b>	<b>34.5</b>	<b>38</b>	<b>42</b>
	43.5	58.5	74	87	102	115.5	130.5	144	159
1200	<b>17</b>	<b>22</b>	<b>27</b>	<b>32</b>	<b>37.5</b>	<b>42</b>	<b>48</b>	<b>52.5</b>	<b>58</b>
	64.5	83.5	102	121	142	159	182	199	220
1500	<b>22</b>	<b>29</b>	<b>35.5</b>	<b>41.5</b>	<b>48</b>	<b>54.5</b>	<b>61</b>	<b>67</b>	<b>74</b>
	83.5	110	134	157	182	206	231	254	280
1800	<b>27.5</b>	<b>35.5</b>	<b>43.5</b>	<b>51</b>	<b>59</b>	<b>66</b>	<b>74</b>	<b>81.5</b>	<b>90</b>
	104	134	165	193	223	250	280	308	341
2100	<b>33</b>	<b>42</b>	<b>51.5</b>	<b>60</b>	<b>69.5</b>	<b>78</b>	<b>87</b>	<b>96.5</b>	<b>106</b>
	125	159	195	227	263	295	329	365	401
2400	<b>38</b>	<b>49</b>	<b>59.5</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>101</b>	<b>111</b>	<b>122</b>
	144	185	225	265	303	341	382	420	462

*gpm/lpm*

\* Flow data at 2000 PSI (138 bar) rated pressure.

### PERFORMANCE DATA

Performance data shown are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with the oil reservoir temperature at 120°F and viscosity 150 SSU at 100°F. Requests for more specific data should be directed to our Product Support Department through our sales representatives.

# Average Input Power - Pumps

Power data at 2500 PSI (172 bar) unless noted.

## P30/31

Speed RPM	Gear Width Inches				
	1"	1 1/4"	1 1/2"	1 3/4"	2"
900	14	17	20	23	25
	11	13	15	17	19
1200	19	22	26	30	33
	14	17	20	22	25
1500	23	28	33	37	42
	17	21	24	27	31
1800	27	33	39	44	50
	20	25	29	33	37
2100	32	38	45	51	58
	24	29	34	38	43
2400	36	44	51	58	66
	26	33	38	43	49

HP/kW

## P50/51

Speed RPM	Gear Width Inches							
	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	
900	19	22	26	30	34	38	42	
	14	17	20	23	26	29	32	
1200	25	30	34	40	45	51	56	
	18	22	26	30	34	38	42	
1500	31	37	43	50	56	63	69	
	23	27	32	37	42	47	51	
1800	36	44	51	59	67	75	82	
	27	33	38	44	50	56	61	
2100	42	51	60	69	78	87	96	
	31	38	44	51	58	65	72	
2400	47	57	68	79	89	99	110	
	35	43	51	59	66	74	82	

HP/kW

PL Chart		
Shaft Style	Integral Shaft & Gear	Two Piece Style
<b>30/31</b>		
SAE "A" Spline	2,600	2,600
SAE "B" Spline	7,900	5,850
SAE "B" Key	4,850	4,850
SAE "BB" Spline	12,150	--
SAE "BB" Key	7,250	5,850
SAE "C" Spline	--	5,850
Connecting Shaft	--	5,850
<b>50/51</b>		
SAE "B" Spline	6,100	6,100
SAE "B-B" Spline	9,400	--
SAE "B-B" Key	5,600	5,600
SAE "C" Spline	12,900	8,500
SAE "C" Key	10,900	8,500
Connecting Shaft	--	8,500
<b>75/76</b>		
SAE "C" Single	8,000	8,000
SAE "C" Tandem	12,500	--
SAE "C" Key	7,500	7,500
Connecting Shaft	--	10,000

### 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.

## P75/76

Speed RPM	Gear Width Inches									
	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"*	3"*	
900	26	32	39	45	51	58	64	57	62	
	19	24	29	34	38	43	48	42	46	
1200	35	43	52	60	69	78	86	76	83	
	26	32	39	45	51	58	64	57	62	
1500	44	55	65	76	87	98	109	96	105	
	33	41	49	57	65	73	81	72	78	
1800	53	66	79	93	106	119	132	116	127	
	39	49	59	69	79	89	99	87	95	
2100	62	77	93	108	124	139	154	136	148	
	46	58	69	81	92	104	115	101	111	
2400	71	88	106	124	141	159	176	155	169	
	53	66	79	92	105	118	132	116	126	

HP/kW

\* Input data at 2000 PSI (138 bar) rated pressure.

# Average Performance Data - Motors

Motor performance data at 2000 PSI (138 bar).

## M30

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	550	7	9	870	11	13	1150	14.5	17
	62	5	34	98.5	8	49	130	11	64.5
1200	550	10.5	13	870	16.5	18	1150	22	23.5
	62	8	49	98.5	12.5	68	130	16.5	89
1600	550	14	16	860	22	23	1140	29	30.5
	62	10.5	60.5	97	16.5	87	129	21.5	115
2000	550	17.5	19.5	850	27	28	1125	36	37
	62	13	74	96	20	106	127	27	140

U.S./Metric Torque: In.-lbs. / Nm Flow: GPM / LPM Power: HP / kW

## M50

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	670	8.5	10.5	1070	13.5	15.5	1450	18	21
	75.5	6.5	39.5	121	10	58.5	164	13.5	79.5
1200	680	13	15.5	1075	20.5	22.5	1450	27.5	30.5
	77	9.5	58.5	121.5	15	85	164	20.5	115
1600	670	17	20	1045	26.5	30	1440	36.5	40
	75.5	12.5	75.5	118	20	114	162.5	27	151
2000	660	21	25	1030	32.5	37	1415	44.5	49
	74.5	15.5	94.5	116.5	24	140	160	33	185

U.S./Metric Torque: In.-lbs. / Nm Flow: GPM / LPM Power: HP / kW

## M75

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	1050	13.5	20.5	1650	21	28	2200	28	35.5
	118.5	10	77.5	186.5	15.5	106	248.5	21	134
1200	1025	19.5	27.5	1600	30.5	38	2200	42	49.5
	116	14.5	104	181	22.5	144	248.5	31.5	187
1600	1000	25.5	34	1575	40	49	2175	55	64
	113	19	129	178	30	185	245.5	41	242
2000	950	30	41.5	1550	49	59	2175	67.5	78
	107.5	22.5	157	175	36.5	223	245.5	50.5	295

U.S./Metric Torque: In.-lbs. / Nm Flow: GPM / LPM Power: HP / kW

M50 (continued)

Speed RPM	2 1/2" Gear		
	Output		Input
	Torque	Power	Flow
800	<b>1850</b>	<b>23.5</b>	<b>26</b>
	209	17.5	98.5
1200	<b>1840</b>	<b>35</b>	<b>37.5</b>
	208	26	142
1600	<b>1750</b>	<b>44.5</b>	<b>49.5</b>
	197.5	33	187
2000	<b>1720</b>	<b>54.5</b>	<b>61.5</b>
	194.5	40.5	233

M75 (continued)

Speed RPM	2 1/2" Gear			3" Gear		
	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow
800	<b>2875</b>	<b>36.5</b>	<b>43</b>	<b>3625</b>	<b>46</b>	<b>50.5</b>
	325	27	163	409.5	34.5	191
1200	<b>2850</b>	<b>54</b>	<b>60.5</b>	<b>3575</b>	<b>68</b>	<b>72</b>
	322	40.5	229	404	50.5	273
1600	<b>2800</b>	<b>71</b>	<b>78.5</b>	<b>3500</b>	<b>89</b>	<b>93</b>
	316.5	53	297	395.5	66.5	352
2000	<b>2750</b>	<b>87</b>	<b>96.5</b>	<b>3425</b>	<b>109</b>	<b>114</b>
	310.5	65	365	387	81.5	431

# Average Performance Data - Motors

Motor performance data at 2500 PSI (172 bar) unless noted.

## M31

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	<b>675</b>	<b>8.5</b>	<b>9</b>	<b>1035</b>	<b>13</b>	<b>13</b>	<b>1385</b>	<b>17.5</b>	<b>17</b>
	76.5	6.5	34	117	9.5	49	156.5	13	64.5
1200	<b>685</b>	<b>13</b>	<b>13</b>	<b>1055</b>	<b>20</b>	<b>18</b>	<b>1410</b>	<b>27</b>	<b>23.5</b>
	77.5	9.5	49	119	15	68	159.5	20	89
1600	<b>680</b>	<b>17.5</b>	<b>16</b>	<b>1030</b>	<b>26</b>	<b>23</b>	<b>1390</b>	<b>35</b>	<b>30.5</b>
	77	13	60.5	116.5	19.5	87	157	26	115
2000	<b>660</b>	<b>21</b>	<b>19.5</b>	<b>1010</b>	<b>32</b>	<b>28</b>	<b>1370</b>	<b>43.5</b>	<b>37</b>
	74.5	15.5	74	114	24	106	155	32.5	140

U.S./Metric Torque: In.-lbs. Flow: GPM Power: HP  
Nm LPM kW

## M51

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	<b>825</b>	<b>10.5</b>	<b>10.5</b>	<b>1310</b>	<b>16.5</b>	<b>15.5</b>	<b>1810</b>	<b>23</b>	<b>21</b>
	93	8	39.5	148	12.5	58.5	204.5	17	79.5
1200	<b>850</b>	<b>16</b>	<b>15.5</b>	<b>1340</b>	<b>25.5</b>	<b>22.5</b>	<b>1830</b>	<b>35</b>	<b>30.5</b>
	96	12	58.5	151.5	19	85	207	26	115
1600	<b>830</b>	<b>21</b>	<b>20</b>	<b>1330</b>	<b>34</b>	<b>30</b>	<b>1805</b>	<b>46</b>	<b>40</b>
	94	15.5	75.5	150.5	25.5	114	204	34.5	151
2000	<b>800</b>	<b>25.5</b>	<b>25</b>	<b>1290</b>	<b>41</b>	<b>37</b>	<b>1770</b>	<b>56</b>	<b>49</b>
	90.5	19	94.5	146	30.5	140	200	42	185

U.S./Metric Torque: In.-lbs. Flow: GPM Power: HP  
Nm LPM kW

## M76

Speed RPM	1" Gear			1 1/2" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	<b>1410</b>	<b>18</b>	<b>20.5</b>	<b>2140</b>	<b>27</b>	<b>28</b>	<b>2875</b>	<b>36.5</b>	<b>35.5</b>
	159.5	13.5	77.5	242	20	106	325	27	134
1200	<b>1400</b>	<b>26.5</b>	<b>27.5</b>	<b>2140</b>	<b>41</b>	<b>38</b>	<b>2870</b>	<b>54.5</b>	<b>49.5</b>
	158	20	104	242	30.5	144	324.5	40.5	187
1600	<b>1375</b>	<b>35</b>	<b>34</b>	<b>2110</b>	<b>53.5</b>	<b>49</b>	<b>2830</b>	<b>72</b>	<b>64</b>
	155.5	26	129	238.5	40	185	319.5	53.5	242
2000	<b>1350</b>	<b>43</b>	<b>41.5</b>	<b>2090</b>	<b>66.5</b>	<b>59</b>	<b>2800</b>	<b>89</b>	<b>78</b>
	152.5	32	157	236	49.5	223	316.5	66.5	295

U.S./Metric Torque: In.-lbs. Flow: GPM Power: HP  
Nm LPM kW



M51 (continued)

Speed RPM	2 1/2" Gear		
	Output		Input
	Torque	Power	Flow
800	<b>2330</b>	<b>29.5</b>	<b>26</b>
	263.5	22	98.5
1200	<b>2340</b>	<b>44.5</b>	<b>37.5</b>
	264.5	33	142
1600	<b>2300</b>	<b>58.5</b>	<b>49.5</b>
	260	43.5	187
2000	<b>2250</b>	<b>71.5</b>	<b>61.5</b>
	254	53.5	233

M76 (continued)

Speed RPM	2 1/2" Gear			3" Gear*		
	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow
800	<b>3650</b>	<b>46.5</b>	<b>43</b>	<b>3625</b>	<b>46</b>	<b>50.5</b>
	412.5	34.6	163	409.5	34.5	191
1200	<b>3650</b>	<b>69.5</b>	<b>60.5</b>	<b>3575</b>	<b>68</b>	<b>72</b>
	412.5	52	229	404	50.5	273
1600	<b>3600</b>	<b>91.5</b>	<b>78.5</b>	<b>3500</b>	<b>89</b>	<b>93</b>
	406.5	68	297	395.5	66.5	352
2000	<b>3500</b>	<b>111</b>	<b>96.5</b>	<b>3425</b>	<b>109</b>	<b>114</b>
	395.5	83	365	387	81.5	431

\* Motor performance data at 2000 PSI (138 bar) rated pressure.

# Dimensional Data

Model		A <sup>(1)</sup>	Bs <sup>(2)(3)</sup>	Bm <sup>(3)(4)</sup>	C <sup>(5)(6)</sup>	D <sup>(5)(7)</sup>	E <sup>(3)</sup>	F <sup>(2)</sup>	G	H	I	J	K
P30/31	in.	<b>1.62</b>	<b>5.44</b>	<b>8.69</b>	<b>5.44</b>	<b>5.88</b>	<b>2.94</b>	<b>0.75</b>	<b>1.75</b>	<b>2.50</b>	<b>0.88</b>	<b>2.69</b>	<b>5.38</b>
	mm.	41.3	138.1	220.7	138.1	149.2	74.6	19.1	44.5	63.5	22.2	68.3	136.5
P50/51	in.	<b>2.19</b>	<b>5.88</b>	<b>9.50</b>	<b>5.44</b>	<b>5.88</b>	<b>3.38</b>	<b>0.75</b>	<b>1.75</b>	<b>2.88</b>	<b>1.00</b>	<b>3.00</b>	<b>6.00</b>
	mm.	55.6	149.2	241.3	138.1	149.2	85.7	19.1	44.5	73.0	25.4	76.2	152.4
P75/76	in.	<b>2.19</b>	<b>6.75</b>	<b>10.75</b>	<b>7.75</b>	<b>7.94</b>	<b>3.75</b>	<b>1.00</b>	<b>2.00</b>	<b>3.00</b>	<b>1.25</b>	<b>3.94</b>	<b>7.88</b>
	mm.	55.6	171.5	273.1	196.9	201.6	95.3	25.4	50.8	76.2	31.8	100.0	200.0

## U.S./Metric

### NOTES

1. Dimension will vary with shaft type
2. Dimension + gear width
3. Dimension is for Type 1 SEC. For Type 2: subtract 1.12" (28.4 mm) for 30/31; subtract 1.00" (25.4 mm) for 50/51.
4. Dimension + total gear width
5. Dimension will vary with port type. Subtract 0.25" (6.4 mm) for S.F. ports.
6. For 2.25" and 2.50" gear width in 50/51 series, dimension is 6.75" (171.5 mm).
7. Dimension is for wide B-C. Narrow B-C dimensions: 5.00" (127 mm) for 30/31 and 50/51; 7.19" (182.6 mm) for 75/76.
8. Dimension + 1/2 front section gear width

Model		L <sup>(3)(8)</sup>	M <sup>(4)</sup>
P30/31	in.	<b>3.31</b>	<b>3.25</b>
	mm.	84.1	82.6
P50/51	in.	<b>3.75</b>	<b>3.62</b>
	mm.	95.3	92.1
P75/76	in.	<b>4.75</b>	<b>4.00</b>
	mm.	120.7	101.6

# Approximate Weight

## Single Unit

Model	Unit Weight	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"
P30/31	<b>Pounds</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	-	-	-	-
	KG	15	15.5	16	16.5	17	-	-	-	-
P50/51	<b>Pounds</b>	<b>37</b>	<b>38.5</b>	<b>40</b>	<b>41.5</b>	<b>43</b>	<b>48.5</b>	<b>50</b>	-	-
	KG	17	17.5	18	19	19.5	22	22.5	-	-
P75/76	<b>Pounds</b>	<b>72</b>	<b>75</b>	<b>77</b>	<b>80</b>	<b>82</b>	<b>85</b>	<b>87</b>	<b>90</b>	<b>92</b>
	KG	33	34	35	36	37	39	40	41	42

# Approximate Weight

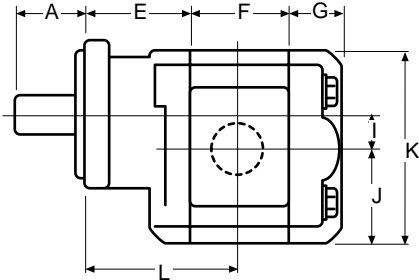
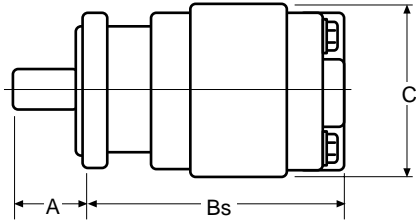
## Multiple Unit\*

Model	Add per gear section	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"
P30/31	<b>Pounds</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>31</b>	<b>32</b>	-	-	-	-
	KG	12	12.5	13	14	14.5	-	-	-	-
P50/51	<b>Pounds</b>	<b>31</b>	<b>32.5</b>	<b>34</b>	<b>35.5</b>	<b>37</b>	<b>42.5</b>	<b>44</b>	-	-
	KG	14	15	15.5	16	17	19	20	-	-
P75/76	<b>Pounds</b>	<b>59</b>	<b>62</b>	<b>64</b>	<b>67</b>	<b>69</b>	<b>72</b>	<b>74</b>	<b>77</b>	<b>79</b>
	KG	27	28	29	31	32	33	34	35	36

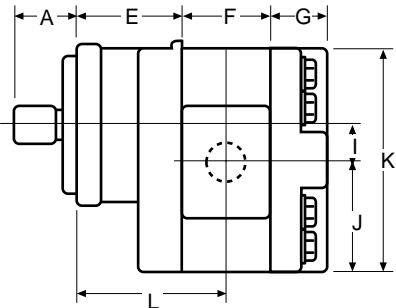
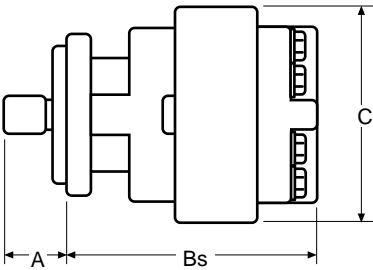
\*Determine the approximate weight from Single Unit chart and add weight of each additional assembly from this chart.

# Dimensional Data

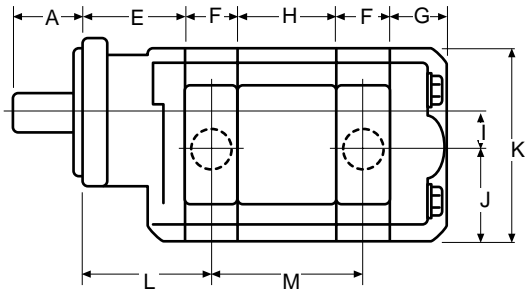
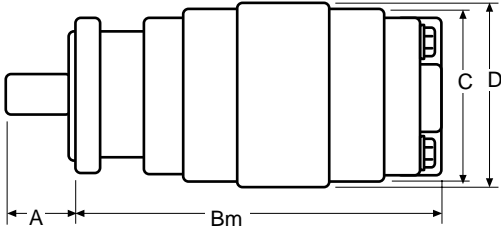
## Single Unit - P30/31/50/51



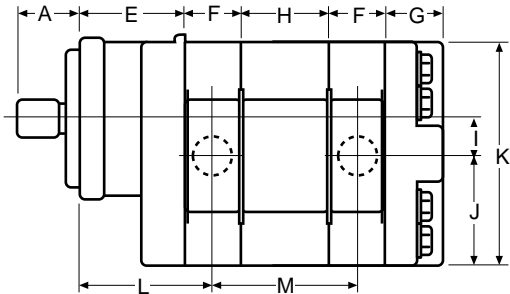
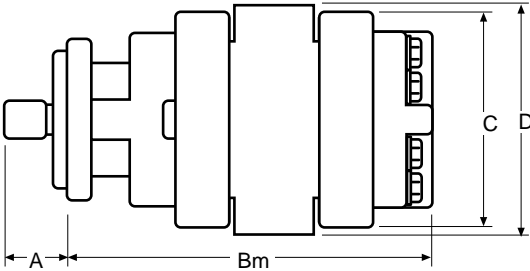
## Single Unit - P75/76



## Multiple Unit - P30/31/50/51

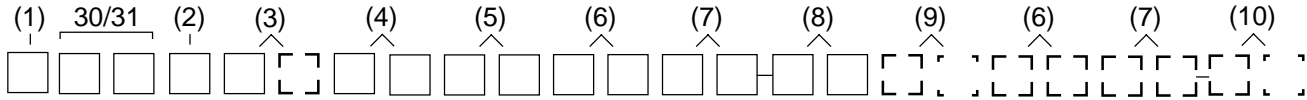


## Multiple Unit - P75/76



# 30/31 Series Coding

Tandem: Repeat if Necessary



## Pump/Motor (1)

P	Pump
M	Motor

## Unit (2)

A	Single Unit
B	Tandem Unit
C	Single or Tandem w. two-piece shaft (O.B. bearing required)

## Shaft End Cover (3)

1	Pump, cw w/o O.B. bearing
2	Pump, ccw w/o O.B. bearing
3	Pump, bi-rotational w/o O.B. bearing (30 series only)
4	Pump, cw with O.B. bearing
5	Pump, ccw with O.B. bearing
6	Pump, bi-rotational with O.B. bearing (30 series only)
8	Motor, bi-rot. with O.B. bearing + 1/4" NPT drain
9	Motor, bi-rot. w/o O.B. bearing + 1/4" NPT drain
18	Motor, bi-rot. with O.B. bearing + 1/4" BSPP drain
19	Motor, bi-rot. w/o O.B. bearing + 1/4" BSPP drain

## Shaft End Cover (4) (type 1 unless noted)

00	Pad mount
05	6 bolt flange - 3.25" dia. bolt circle
42	SAE 4 bolt "B" ANSI 101-4
78	SAE 4 bolt "C" ANSI 127-4
91	30-30, 31-31, & 50-30, 51-31 for piggyback
92	75-30, 76-31 for piggyback
94	SAE 2 bolt "A" ANSI 82-2
96	SAE 2 bolt "B" ANSI 101-2, <b>type 2</b> (not available with O.B. bearing)
97	SAE 2 bolt "B" ANSI 101-2

## Port End Cover (5) (Rear Ported)

Left	Right	Single	Tandem	Extended Studs
I	I	I	I	I
<b>Unported</b>				
-	-	BE	BI	BY

### NPT Porting (30 series only)

3/4"	-	KE	KI	KY
-	3/4"	LE	LI	LY
3/4"	3/4"	ME	MI	MY

### NPT Porting (30 series only) - Modified Casting\*

1"	1"	QU	QU	-
----	----	----	----	---

\* Modified PEC casting is for higher pressure/larger port applications.

## Port End Cover (5) (Rear Ported) continued

Left	Right	Single	Tandem	Extended Studs
I	I	I	I	I
<b>O.D.T. Porting</b>				
3/4"	-	CE	CI	CY
-	3/4"	DE	DI	DY
3/4"	3/4"	FE	FI	FY
1"	3/4"	GE	GI	GY
3/4"	1"	HE	HI	HY

### O.D. Tube Porting (30 series only)

1"	1"	JE	JI	JY
----	----	----	----	----

### O.D. Tube Porting - Modified Casting\*

3/4"	-	CA	CU	CO
-	3/4"	DA	DU	DO
3/4"	3/4"	JA	JU	BO
1"	3/4"	KA	KU	-
3/4"	1"	LA	LU	-
1"	-	MA	MU	YO
-	1"	RA	SU	RO
1"	1"	ZA	ZU	ZO
1 1/4"	1"	GU	GU	-
1"	1 1/4"	HU	HU	-

### BSPP Porting

3/4"	-	WE	WI	WY
-	3/4"	XE	XI	XY
3/4"	3/4"	ZE	ZI	ZY

### Metric Straight Thread

3/4"	-	NE	NI	NY
-	3/4"	PE	PI	PY
3/4"	3/4"	QE	QI	QY
1"	3/4"	RE	RI	RY
3/4"	1"	SE	SI	SY

## Port End Cover (5) (Side Ported)

Left	Right	Single	Tandem	Extended Studs
I	I	I	I	I
<b>O.D. Tube Porting - Modified Casting*</b>				
1 1/4"	1"	TU	TU	-
1"	1 1/4"	XU	XU	-

CW      CCW      Double  
I          I          I

### Piggyback Port End - Pump Only

Type 30-30, 31-31 (double 30-30 only)	KO	LO	MO
---------------------------------------	----	----	----

### For All Units

To determine direction of shaft rotation, view the unit with the shaft pointing toward you, and the idler (driven) gear beneath the shaft. With clockwise rotation, flow will be left to right. The pump inlet port will be on the left, outlet on the right. The flow is in the opposite direction with counter-clockwise rotation. Inverting the pump will reverse the inlet and outlet ports but not the direction of rotation.

### Gear Housing (6)

Series	30	30	30	30	30	30	31	31	31	31	31
Housing Code	07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)	1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)	2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	OUT	CW	CCW								
I	I	I	I	I	I	I	I	I	I	I	I
-	-	AB	AB	X	X	X	X	X	X	X	X
<b>No Porting</b>											
<b>NPT Porting</b>											
1/2"	-	IL	IM	X	X						
-	1/2"	IM	IL	X	X						
1/2"	1/2"	IR	IR	X							
3/4"	-	IC	ID		X	X	X	X	X		
-	3/4"	ID	IC		X	X	X	X	X		
3/4"	3/4"	IF	IF		X	X	X	X	X		
1"	3/4"	IJ	IG		X*	X	X	X			
1 1/4"	3/4"	IK	IH				X*	X			
1"	-	YC	YD		X*	X	X	X			
-	1"	YD	YC			X	X	X			
1"	1"	YF	YF			X	X	X	X		
1 1/4"	1"	YJ	YG				X*	X	X		
1 1/4"	-	IA	IB				X*	X	X		
-	1 1/4"	IB	IA					X	X		
1 1/4"	1 1/4"	YL	YL					X	X		
1 1/2"	-	YA	YB							X*	
1 1/2"	1 1/4"	YP	YM							X*	
<b>OD Tube Porting</b>											
3/4"	-	EC	ED		2000	X	X	X		X*	X
-	3/4"	ED	EC		2000	X	X	X			X
3/4"	3/4"	EF	EF		2000	X	X	X	X		X
1"	3/4"	EJ	EG		2000*	X*	X	X	X	X*	X*
1 1/4"	3/4"	EK	EH				X*	X*		X*	X*
1 1/2"	3/4"	IP	IN					X*	X*		X*
7/8"	-	EZ	-			X					
-	7/8"	-	EZ			X					
1"	7/8"	EM	EL			X*					
1"	-	AC	AD		X*	2000	X	X	X	X*	X*
-	1"	AD	AC			2000	X	X	X		2500
1"	1"	AF	AF				X	X	X		2500
1 1/4"	1"	AJ	AG				X*	X*	X		2500*
1 1/2"	1"	AK	AH					X*	X*		X*
1 1/4"	-	AA	AO				X*	2000			X*
-	1 1/4"	AO	AA					2000			X*
1 1/4"	1 1/4"	AL	AL					2000	X		X
1 1/2"	1 1/4"	AP	AM					2000*	X*		X*
1 1/2"	-	AE	AU					X*	2000		X*
-	1 1/2"	AU	AE						2000		

#### NOTES

Shaded cells are acceptable for motor codes.

\* This porting is acceptable for low pressure inlet port only.

NPT ports are not recommended for use at pressures in excess of 1500 PSI.

"X" Means both codes are available.

"2000" or "2500" indicates maximum pressure rating on port.

**Gear Housing (6) continued**

Series	30	30	30	30	30	30	31	31	31	31	31
Housing Code	07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)	1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)	2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	OUT	CW	CCW								
I	I	I	I	I	I	I	I	I	I	I	I
<b>Split Flange Porting</b>											
3/4"	-	UC	UD	X	X	UD	X	X	X	X	
-	3/4"	UD	UC	X	X	UD	X	X	X	X	
3/4"	3/4"	UF	UF	X	X	X	X	X	X	X	
1"	3/4"	UJ	UG	X	X	UJ	UJ	X	X	X	
1 1/4"	3/4"	UK	UH	X	X	X	X	X	X	X	
1"	-	OC	OD	X	X	X	OD	2500	X	X	
-	1"	OD	OC	X	X	X	OD	2500	X	X	
1"	1"	OF	OF	X	X	X	X	2500	X	X	X
1 1/4"	1"	OJ	OG	X	X	X	X	X	X	X	X
1 1/2"	1"	OK	OH	X	X	X	X	X	X	X	X
1 1/4"	-	OA	OB	2000	X	X	X	X	X	X	
-	1 1/4"	OB	OA	2000	X	X	X	X	X	X	
1 1/4"	1 1/4"	OL	OL	X	X	X	X	X	X	X	X
1 1/2"	1 1/4"	OP	OM	X	X	X	X	X	X	X	X
1 1/2"	-	OE	OU	2000	X	X	X	X	X	X	X
-	1 1/2"	OU	OE	2000	X	X	X	X	X	X	X
<b>BSP Porting</b>											
3/4"	-	YN	YQ	X	X	X	X	2500	X	X	YQ
-	3/4"	YQ	YN	X	X	X	X	2500	X	X	YQ
3/4"	3/4"	YS	YS	X	X	X	X	2500	X	X	X
1"	3/4"	YV	YT	X	X	YV	YV	2500*	X	YV*	X
1 1/4"	3/4"	YW	YU	X	X	X	X	X	X	YU*	X*
1"	-	SL	RQ	2000	X	X	X	SL*	2500	X	X
-	1"	RQ	SL	2000	X	X	X	X	2500	X	X
1"	1"	MP	MP	2000	X	X	X	X	X	X	X
1 1/4"	1"	IX	VY	X	X	X	X	X	2500*	X*	X
1 1/4"	-	NJ	UI	2000	X	X	X	X	X	X	X
-	1 1/4"	UI	NJ	2000	X	X	X	X	X	X	X
1 1/4"	1 1/4"	PF	PF	2000	X	X	X	X	X	X	X
1 1/2"	1"	VI	HW	X	X	X	X	X	X	X	X
<b>Metric Straight Thread Porting</b>											
3/4"	-	EN	TQ	X	X	TQ	TQ	2500	X	X	
-	3/4"	TQ	EN	X	X	TQ	TQ	2500	X	X	
3/4"	3/4"	ES	ES	X	X	X	X	2500	X	X	
1"	3/4"	EV	ET	X	X	EV	EV	X	X	X	
1 1/4"	3/4"	EW	EU	X	X	X	X	X	X	X	
1"	-	NL	ER	X	X	ER	ER	2500	X	X	
-	1"	ER	NL	X	X	ER	ER	2500	X	X	
1"	1"	CM	CM	2000	X	X	X	2500	X	X	
1 1/4"	1"	EX	VE	X	X	X	X	2500*	X	X	
1 1/2"	1"	VA	HA	X	X	X	X	X	X	X	
1 1/4"	1 1/4"	PA	PA	2000	X	X	X	X	X	X	
1 1/2"	1 1/4"	SA	QA	X	X	X	X	X	X	X	

**NOTES**

Shaded cells are acceptable for motor codes.  
 \* This porting is acceptable for low pressure inlet port only.  
 "X" Means both codes are available.  
 "2000" or "2500" indicates maximum pressure rating on port.

**Gear Housing (6) continued**

Series	30	30	30	30	30	30	31	31	31	31	31
Housing Code	07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)	1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)	2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	OUT	CW	CCW								
I	I	I	I	I	I	I	I	I	I	I	I
							<b>Metric Straight Thread Porting</b>				
3/4"	-	VN	VQ	X	X	X	X	X	X	X	X
-	3/4"	VQ	VN	X	X	X	X	X	X	X	X
3/4"	3/4"	VS	VS	X	X						X
1"	3/4"	RV	VT	X	X	X	X			X*	X
1 1/4"	3/4"	RW	RU		X*		X			X*	X*
1"	-	UL	UR	X	X	X	X	X	2500	X	X
-	1"	UR	UL	X	X	X	X	X	2500	X	X
1"	1"	UM	UM		X	X	X			X	X
1 1/4"	1"	UX	VU		X*	X	X	X		X*	X*
1 1/2"	1"	VO	HO				X*	X		X*	X*
1 1/4"	-	NO	UO			X		X	X*	2500	
-	1 1/4"	UO	NO			X		X	X*	2500	
1 1/4"	1 1/4"	PO	PO			X	X	X			X
1 1/2"	1 1/4"	SO	QO				X*	X			X*
1 1/2"	-	UY	TO			X*	2000				X*
-	1 1/2"	TO	UY				2000				X

NOTES:

Shaded cells are acceptable for motor codes.

\* This porting is acceptable for low pressure inlet port only.

"X" Means both codes are available.

"2000" or "2500" indicates maximum pressure rating on port.

**Gear Width (7)**

**30 Series**

	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
05	1/2"	0.99	16.1	2500 psi (172 bar)
07	3/4"	1.48	24.2	2500 psi (172 bar)
10	1"	1.97	32.3	2500 psi (172 bar)
12	1 1/4"	2.46	40.4	2500 psi (172 bar)
15	1 1/2"	2.96	48.4	2500 psi (172 bar)
17	1 3/4"	3.45	56.5	2250 psi (155 bar)
20	2"	3.94	64.6	2250 psi (155 bar)

**31 Series**

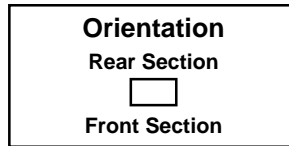
	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
05	1/2"	0.99	16.1	3000 psi (207 bar)
07	3/4"	1.48	24.2	3000 psi (207 bar)
10	1"	1.97	32.3	3000 psi (207 bar)
12	1 1/4"	2.46	40.4	3000 psi (207 bar)
15	1 1/2"	2.96	48.4	3000 psi (207 bar)
17	1 3/4"	3.45	56.5	2500 psi (172 bar)
20	2"	3.94	64.6	2500 psi (172 bar)

### Shaft Type (8) (type 1 unless noted)

For single, tandem, or two piece shaft unless noted.

07	SAE "C" 14 tooth spline .125" dia., ANSI 32-4 (two piece only)
12	Keyed shaft .75 dia., .19"X.19"X1.56" key (two piece only)
14	30-30, 31-31 piggyback shaft
22	50-30, 51-31 piggyback shaft
23	75-30, 76-31 piggyback shaft
25	SAE "B" 13 tooth spline .88" dia., ANSI 22-4
30	SAE "B" keyed .88" dia., 1/4"X3/8" X 1" key, ANSI 22-1
32	Clutch pump shaft, tapered & keyed, 1:4 taper (single & two piece), #6 woodruff key
43	SAE "B-B" keyed 1.00" dia. 1/4"X3/8"X1 1/4" key, ANSI 25-1 modified length
65	SAE "B" 13 tooth spline .875" dia., ANSI 22-4, <b>type 2</b> (single & tandem)
66	SAE "B" keyed .88" dia, 1/4"X3/8"X1" key, <b>type 2</b> (single & tandem)
67	SAE "B-B" keyed 1.00" dia., 1/4"X3/8"X1 1/4" key, ANSI 25-1 modified length, <b>type 2</b> (single & tandem)
68	6 tooth spline 1.00" dia.
90	SAE "B" keyed w/ 5/8"-18 thread, .875" dia, ANSI 22-2 modified length (single & tandem)
95	SAE "A" 9 tooth spline, .62" dia. ANSI 16-4 (single only)
98	SAE "B-B" 15 tooth spline, 1.00" dia., ANSI 25-4 (single & tandem)

### Bearing Carriers (9) Pump Only



#### Common Inlet Passage

IN	OUT	CW	CCW
I	I	I	I
-	-	C	D
*	-	A	U

\* 31 Series only. Used when only one adjacent gear housing has an inlet port.

#### NPT Porting (30 Series only)

1"	-	TB	BT
1 1/4"	-	VB	BV
1"	3/4"	TX	XT
1 1/4"	3/4"	VX	XV
1 1/4"	1"	VZ	ZV
1"	3/4"	TJ	JT
1 1/4"	3/4"	VJ	JV
1 1/4"	1"	VK	KV
1 1/2"	1"	KW	-
1"	3/4"	ZX	XZ
1"	3/4"	ZS	SZ

#### ODT Porting

1"	-	CB	BC
1 1/4"	-	DB	BD
1 1/2"	-	FB	BF
*	3/4"	-	JP
1"	3/4"	CJ	JC
1 1/4"	3/4"	DJ	JD
1 1/2"	3/4"	FJ	JF
1 1/4"	1"	DK	KD
1 1/2"	1"	FK	KF
* 30 Series only.			
1"	3/4"	CR	RC
1 1/4"	3/4"	DR	RD
*1 1/2"	3/4"	FR	RF
1 1/4"	1"	DS	SD
1 1/2"	1"	FS	SF

\* 30 Series only.

1"	3/4"	KJ	JK
1"	3/4"	KX	XK

#### Split Flange Porting

IN	OUT	CW	CCW
I	I	I	I
1"	-	LB	BL
1 1/4"	-	MB	BM
1 1/2"	-	NB	BN
-	3/4"	BR	RB
1"	3/4"	LR	RL
1 1/4"	3/4"	MR	RM
1 1/2"	3/4"	NR	RN
1 1/4"	1"	MS	SM
1 1/2"	1"	NS	SN
1"	3/4"	LX	XL
1 1/4"	3/4"	MX	XM
*1 1/2"	3/4"	NX	XN
1 1/4"	1"	MZ	ZM
1 1/2"	1"	NZ	ZN
* 30 Series only.			
1"	3/4"	SR	RS
1"	3/4"	RZ	ZR

#### BSP Porting

1"	-	CX	XC
1 1/4"	-	DX	XD
1 1/2"	-	FX	XF
*	3/4"	-	TL
1"	3/4"	CT	TC
1 1/4"	3/4"	DT	TD
1 1/2"	3/4"	FT	TF
1 1/4"	1"	DV	VD
1 1/2"	1"	FV	VF
* 31 Series only.			
1"	3/4"	GM	MG
1 1/4"	3/4"	HM	MH
1 1/4"	1"	HN	NH
1 1/2"	1"	WN	NW
1"	3/4"	PN	NP
1"	3/4"	SX	XS



### Bearing Carriers (9) (Pump Only) - continued

#### Metric Split Flange Porting

IN	OUT	CW	CCW
1"	-		
1 1/4"	-	<b>DH</b>	<b>HD</b>
1 1/2"	-	<b>FH</b>	<b>HF</b>
-	3/4"		
1"	3/4"	<b>CW</b>	<b>WC</b>
1 1/4"	3/4"	<b>DW</b>	<b>WD</b>
1 1/2"	3/4"	<b>FW</b>	<b>WF</b>
1 1/4"	1"	<b>DC</b>	<b>CD</b>
1 1/2"	1"	<b>FC</b>	<b>CF</b>
1"	3/4"		
1 1/4"	3/4"	<b>HQ</b>	<b>QH</b>
1 1/4"	1"	<b>HS</b>	<b>SH</b>
1 1/2"	1"	<b>WS</b>	<b>SW</b>
1"	3/4"		
1"	3/4"		

#### Metric Straight Thread Porting

IN	OUT	CW	CCW
1"	-		
1 1/4"	-	<b>DL</b>	<b>LD</b>
1 1/2"	-	<b>FL</b>	<b>LF</b>
1"	3/4"		
1 1/4"	3/4"	<b>DZ</b>	<b>ZD</b>
1 1/2"	3/4"	<b>FZ</b>	<b>ZF</b>
1 1/4"	1"	<b>DN</b>	<b>ND</b>
1 1/2"	1"	<b>FN</b>	<b>NF</b>
1"	3/4"		
1 1/4"	3/4"	<b>HT</b>	<b>TH</b>
1 1/4"	1"	<b>HV</b>	<b>VH</b>
1 1/2"	1"	<b>WV</b>	<b>VW</b>
1"	3/4"		
1"	3/4"		

### Connecting Shaft (10)

For connecting tandem units.

#### 1 Connecting Shaft - Multiple Units

14 Piggyback Pump Connecting Shaft P30 to P30, P31 to P31

22 Piggyback Pump Connecting Shaft P50 to P30, P51 to P31

23 Piggyback Pump Connecting Shaft P75 to P30, P76 to P31

#### NOTE

Split flange thread depths may be more shallow than S.A.E. standard. Contact Product Support Department for actual dimensions.

### Bearing Carriers (9) Motor Only

#### No Ports

IN	OUT	DUAL
-	-	

#### NPT Porting (30 Series only)

1"	1"	
1 1/4"	1 1/4"	<b>VV</b>

#### ODT Porting

1"	1"	
1 1/4"	1 1/4"	<b>BB</b>
1 1/2"	1 1/2"	<b>FF</b>

#### Split Flange Porting

1"	1"	
1 1/4"	1 1/4"	<b>MM</b>
1 1/2"	1 1/2"	<b>NN</b>

#### BSPP Porting

1"	1"	
1 1/4"	1 1/4"	<b>GG</b>

#### Metric Split Flange Porting

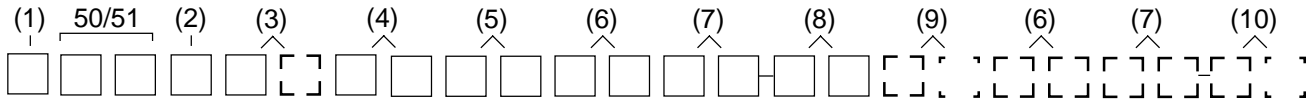
IN	OUT	DUAL
1"	1"	
1 1/4"	1 1/4"	<b>SS</b>

#### Metric Straight Thread Porting

1"	1"	
1 1/4"	1 1/4"	<b>JJ</b>

# 50/51 Series Coding

Tandem: Repeat if Necessary



## Pump/Motor (1)

<b>P</b>	Pump
<b>M</b>	Motor

## Unit (2)

<b>A</b>	Single Unit
<b>B</b>	Tandem Unit
<b>C</b>	Single or Tandem w. two-piece shaft (O.B. bearing required)

## Shaft End Cover (3)

<b>1</b>	Pump, cw w/o O.B. bearing
<b>2</b>	Pump, ccw w/o O.B. bearing
<b>3</b>	Pump, bi-rotational w/o O.B. bearing (50 series only)
<b>4</b>	Pump, cw with O.B. bearing
<b>5</b>	Pump, ccw with O.B. bearing
<b>6</b>	Pump, bi-rotational with O.B. bearing (50 series only)
<b>8</b>	Motor, bi-rot. with O.B. bearing + 1/4" NPT drain
<b>9</b>	Motor, bi-rot. w/o O.B. bearing + 1/4" NPT drain
<b>18</b>	Motor, bi-rot. with O.B. bearing + 1/4" BSPP drain
<b>19</b>	Motor, bi-rot. w/o O.B. bearing + 1/4" BSPP drain

## Shaft End Cover (4) (type 1 unless noted)

<b>00</b>	4 bolt pad mount
<b>42</b>	SAE 4 bolt "B" ANSI 101-4
<b>78</b>	SAE 4 bolt "C" ANSI 127-4
<b>91</b>	50-50, 51-51 for piggyback
<b>92</b>	75-50, 76-51 for piggyback
<b>96</b>	SAE 2 bolt "B" ANSI 101-2, <b>type 2</b>
<b>97</b>	SAE 2 bolt "B" ANSI 101-2
<b>98</b>	SAE 2 bolt "C" ANSI 127-2
<b>99</b>	SAE 2 bolt "C" ANSI 127-2, <b>type 2</b>

## Port End Cover (5) (Rear Ported)

Left	Right	Single	Tandem	Extended Studs
I	I	I	I	I
<b>Unported</b>				
-	-	<b>BE</b>	<b>BI</b>	<b>BY</b>

### NPT Porting (50 series only)

3/4"	-	<b>KE</b>	<b>KI</b>	<b>KY</b>
-	3/4"	<b>LE</b>	<b>LI</b>	<b>LY</b>
3/4"	3/4"	<b>ME</b>	<b>MI</b>	<b>MY</b>

### O.D.T. Porting

3/4"	-	<b>CE</b>	<b>CI</b>	<b>CY</b>
-	3/4"	<b>DE</b>	<b>DI</b>	<b>DY</b>
3/4"	3/4"	<b>FE</b>	<b>FI</b>	<b>FY</b>

## Port End Cover (5) continued

Left	Right	Single	Tandem	Extended Studs
I	I	I	I	I
<b>BSPP Porting</b>				
3/4"	-	<b>WE</b>	<b>WI</b>	<b>WY</b>
-	3/4"	<b>XE</b>	<b>XI</b>	<b>XY</b>
3/4"	3/4"	<b>ZE</b>	<b>ZI</b>	<b>ZY</b>

### Metric Straight Thread

3/4"	-	<b>NE</b>	<b>NI</b>	<b>NY</b>
-	3/4"	<b>PE</b>	<b>PI</b>	<b>PY</b>
3/4"	3/4"	<b>QE</b>	<b>QI</b>	<b>QY</b>

Note: 3/4" PEC ports are rated to 2500 PSI max.

	CW	CCW	Double
	I	I	I
<b>Piggyback Port End - Pump Only</b>			
Type 50-50, 51-51 & 50-30, 51-31	<b>KO</b>	<b>LO</b>	<b>MO</b>

Optional:

- Port end cover with integral R/V
- Larger rear ports  
1 1/4 x 1 S.F. or ODT
- Larger side ports  
1 1/4 S.F. or ODT inlet  
1" ODT outlet
- Larger rear ports, but requires special gear housing and cap screws  
1 1/2 x 1 1/2 NPT up to 1500 PSI

Contact Product Support Development for additional information.

## FOR ALL UNITS

To determine direction of shaft rotation, view the unit with the shaft pointing toward you, and the idler (driven) gear beneath the shaft. With clockwise rotation, flow will be left to right. The inlet pump port will be on the left, outlet on the right. The flow is in the opposite direction with counter-clockwise rotation. Inverting the pump will reverse the inlet and outlet ports but not the direction of rotation.

### Gear Housing (6)

Series	50	50	50	50	50	50	50	50	51	51	51	51	51	51	51	
Housing Code	07	10	12	15	17	20	22	25	10	12	15	17	20	22	25	
Displacement (C.I.R.)	1.91	2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.83	4.46	5.10	5.74	6.38	
Maximum (PSI)	2500	2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500	
<b>IN</b>	<b>OUT</b>	<b>CW</b>	<b>CCW</b>													
-	-	AB	AB	X	X	X	X	X	X	X	X	X	<b>No Porting</b>			X
<b>NPT Porting</b>																
3/4"	-	IC	ID	X	ID	ID	ID									
-	3/4"	ID	IC	X	ID	ID	ID									
3/4"	3/4"	IF	IF	X	X	X	X	X								
1"	3/4"	IJ	IG	X*	X	X	IJ	IJ								
1 1/4"	3/4"	IK	IH				X									
1"	-	YC	YD		X	YD	YD	YD								
-	1"	YD	YC		X	YD	YD	YD								
1"	1"	YF	YF		X	X	X	X								
1 1/4"	1"	YJ	YG			X*	X	X							YJ	
1 1/4"	-	IA	IB			X*	X*	X							IB	
-	1 1/4"	IB	IA					X							IB	
1 1/4"	1 1/4"	YL	YL				X	X							X	
1 1/2"	1"	YK	YH												X	
1 1/2"	1 1/4"	YP	YM				X*	X							X	
1 1/2"	1 1/2"	YR	YR												X	
<b>OD Tube Porting</b>																
3/4"	-	EC	ED	2000	2000	X	ED	X	X*	X*			X			
-	3/4"	ED	EC	2000	2000	X	ED	X					X			
3/4"	3/4"	EF	EF	2000	2000	X	X	X				2500	X			
1"	3/4"	EJ	EG	2000*	2000*	X	EJ*	EJ					X			
1 1/4"	3/4"	EK	EH			X*	X*					2500*	X*			
1"	-	AC	AD	X*	X*	2000	X	AD	X*	X*	X*	X*	X			
-	1"	AD	AC			2000	X	AD					X			
1"	1"	AF	AF			2000	X	X					X	X	X	
1 1/4"	1"	AJ	AG			2000*	X*	X*					X*			
1 1/2"	1"	AK	AH				X*	X*					X*		X	
1 1/4"	-	AA	AO			X*	X*	X*				X*	X*		X	
-	1 1/4"	AO	AA					AO							X	
1 1/4"	1 1/4"	AL	AL				X	X							X	
1 1/2"	1 1/4"	AP	AM				X*	X*							X*	
1 1/2"	-	AE	AU				X*	X*					X*	X*	X	
-	1 1/2"	AU	AE												X	
1 1/2"	1 1/2"	AR	AR					X							X	

#### NOTES

NPT ports are not recommended for use at pressures in excess of 1500 PSI.  
 Shaded cells are acceptable for motor codes.  
 \* This porting is acceptable for low pressure inlet port only.  
 "X" Means both codes are available.  
 "2000" or "2500" indicates maximum pressure rating on port.

**Gear Housing (6) continued**

Series	50	50	50	50	50	50	50	51	51	51	51	51	51	51	
Housing Code	10	12	15	17	20	22	25	10	12	15	17	20	22	25	
Displacement (C.I.R.)	2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.62	4.46	5.10	5.74	6.38	
Maximum (PSI)	2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500	
IN	OUT	CW		CCW											
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
3/4"	-	UC	UD	X	X	UD	UD								
-	3/4"	UD	UC	X	X	UD	UD								
3/4"	3/4"	UF	UF					X		X					
1**	3/4"	UJ	UG	X*	X*	UJ	UJ	UJ							
1 1/4**	3/4"	UK	UH								X*	X*	X*		
1**	-	OC	OD	2000	X*	X	X	X	OD	X					
-	1"	OD	OC	2000	2000	X	X	X	OD	X					
1"	1"	OF	OF		2000	X	X	X	X	X					
1 1/4**	1"	OJ	OG		2000*	X*	X*	X	OJ	OJ					
1 1/2**	1"	OK	OH			X*	X*	X*	X	X					
1 1/4**	-	OA	OB			X*	X*	X*	X	OB	OB				
-	1 1/4"	OA	OB						X	OB	OB				
1 1/4"	1 1/4"	OL	OL			2000	X	X	X	X			X	X	
1 1/2**	1 1/4"	OP	OM			2000*	X*	X*	X	X			X*	X	
1 1/2**	-	OE	OU				X*	X*	X	X			X*	X*	
-	1 1/2"	OU	OE						X	X					
1 1/2"	1 1/2"	OR	OR						X	X	X				
2**	-	XB	ZB											X*	
2**	1"	UQ	UB					X*	X*	X*					
2**	1 1/4"	OQ	ON					X*	X*	ON*			X*	X*	
2**	1 1/2"	OV	OS					X*	X*	X*			X*	X*	
2"	2"	OX	OX											X	
<b>BSPP Porting</b>															
3/4**	-	YN	YQ	X*	X	YQ	YQ						X*	2500	
-	3/4"	YQ	YN		X	YQ	YQ							2500	
3/4"	3/4"	YS	YS	2000	X	X								2500	
1**	3/4"	YV	YT	2000*	X*	YV*	YV*	YV						2500*	
1 1/4**	3/4"	YW	YU			YW*									
1**	-	SL	RQ		SL*	RQ*	RQ*	RQ	RQ	RQ			RQ*	SL*	
-	1"	RQ	SL					RQ	RQ	RQ				2500	
1"	1"	MP	MP		2000	X	X	X						2500	
1 1/4**	1"	IX	VY		2000*	X*	VY*	IX	IX					2500*	
1 1/2"	1"	VI	HW												
1 1/4**	-	NJ	UI				NJ*	UI	UI					UI	
-	1 1/4"	UI	NJ					UI	UI					UI	
1 1/4"	1 1/4"	PF	PF					X	X					X	
1 1/2**	1 1/4"	IS	IQ											X*	
<b>Metric Straight Thread</b>															
3/4**	-	EN	TQ	X*	TQ	TQ	TQ						X*	TQ*	
-	3/4"	TQ	EN		TQ	TQ	TQ							2500	
3/4"	3/4"	ES	ES	2000	X									2500	
1**	3/4"	EV	ET	2000*	X*	EV*	EV	EV						2500*	
1**	-	NL	ER			ER*	ER	ER	ER					ER*	
-	1"	ER	NL				ER	ER	ER					ER*	
1"	1"	CM	CM		2000	X	X							2500	
1 1/4**	-	UA						UA*	UA	UA				UA*	
1 1/4**	1"	EX	VE		2000*	X*	EX*	EX	EX					2500*	
1 1/4"	1 1/4"	PA	PA					X	X	X				X	
1 1/2**	1 1/4"	SA	QA					X*	X*	X				X*	

NOTES: Shaded cells are acceptable for motor codes. \* This porting is acceptable for low pressure inlet port only. "X" Means both codes are available. "2000" or "2500" indicates maximum pressure rating on port.

### Gear Housing (6) *continued*

Series	50	50	50	50	50	50	50	51	51	51	51	51	51	51		
Housing Code	10	12	15	17	20	22	25	10	12	15	17	20	22	25		
Displacement (C.I.R.)	2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.62	4.46	5.10	5.74	6.38		
Maximum (PSI)	2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500		
IN	OUT	Metric Split Flange Porting														
IN	OUT	CW	CCW													
3/4**	-	VN	VQ	VQ	VQ	VQ	VQ									X*
-	3/4"	VQ	VN	VQ	VQ	VQ	VQ									
1**	3/4"	RV	VT	X*	RV*	RV	RV	RV								2500* X*
1 1/4**	3/4"	RW	RU													X* X*
1**	-	UL	UR		UR*	UR	UR	UR	UR							X* X* X X
-	1"	UR	UL			UR	UR	UR	UR							X X
1"	1"	UM	UM		2000	X	X	X	X							2500 X X X
1 1/4**	1"	UX	VU		2000*	UX*	UX*	UX	UX	UX						2500* X* X*
1 1/2**	1"	VO	HO			X*	X*	X*								2500* X* X* X
1 1/4**	-	NO	UO				UO*	UO	UO	UO						X* X*
-	1 1/4"	UO	NO					UO	UO	UO						
1 1/4"	1 1/4"	PO	PO		2000	X	X	X	X							X X X
1 1/2**	1 1/4"	SO	QO		2000*	X*	X*	X	X							X* X X
1 1/2**	-	UY	TO			X*	X*			X						X* X*
-	1 1/2"	TO	UY							X						
1 1/2"	1 1/2"	SV	SV					X	X	X						X X
2**	1 1/4"	JM	JR					X*	X*	X*						X* X* X*
2**	1 1/2"	JQ	JN					X*	X*	X*						X* X*

#### NOTES

Shaded cells are acceptable for motor codes.  
 \* This porting is acceptable for low pressure inlet port only.  
 "X" Means both codes are available.  
 "2000" or "2500" indicates maximum pressure rating on port.

### Gear Width (7)

#### 50 Series

	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
05	1/2"	1.28	20.9	2500 psi (172 bar)
07	3/4"	1.91	31.3	2500 psi (172 bar)
10	1"	2.55	41.8	2500 psi (172 bar)
12	1 1/4"	3.19	52.2	2500 psi (172 bar)
15	1 1/2"	3.83	62.7	2500 psi (172 bar)
17	1 3/4"	4.46	73.1	2000 psi (138 bar)
20	2"	5.10	83.6	2000 psi (138 bar)
22	2 1/4"	5.74	94.0	2000 psi (138 bar)
25	2 1/2"	6.38	104.5	2000 psi (138 bar)

#### 51 Series

	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
05	1/2"	1.28	20.9	3000 psi (207 bar)
07	3/4"	1.91	31.3	3000 psi (207 bar)
10	1"	2.55	41.8	3000 psi (207 bar)
12	1 1/4"	3.19	52.2	3000 psi (207 bar)
15	1 1/2"	3.83	62.7	3000 psi (207 bar)
17	1 3/4"	4.46	73.1	3000 psi (207 bar)
20	2"	5.10	83.6	2500 psi (172 bar)
22	2 1/4"	5.74	94.0	2500 psi (172 bar)
25	2 1/2"	6.38	104.5	2500 psi (172 bar)

### Shaft Type (8) *(type 1 unless noted)*

For single, tandem, or two piece shaft unless noted.

07	SAE "C" 14 tooth spline 1.25" dia., ANSI 32-4
11	SAE "C" keyed 1.25" dia., 5/16"x15/32"x1 1/2" key, ANSI 32-1
22	50-50, 51-51 piggyback shaft
23	75-50, 76-51 piggyback shaft
25	SAE "B" 13 tooth spline .88" dia., ANSI 22-4
43	SAE "B-B" keyed 1.00" dia. 1/4"x3/8"x1 1/4" key, ANSI 25-1
53	SAE "C" 14 tooth spline 1.25" dia., ANSI-32-4, <b>type 2</b> (single & tandem)
65	SAE "B" 13 tooth spline .88" dia., ANSI 22-4, <b>type 2</b> (single & tandem)
67	SAE "B-B" keyed 1.00 dia., 1/4"x3/8"x1 1/4" key, ANSI 25-1, <b>type 2</b> (single & tandem)
73	SAE "C" keyed 1.25" dia., 5/16" x 15/32" x 2 1/4" key, extended length (two-piece only)
98	SAE "B-B" 15 tooth spline, 1.00" dia., ANSI 25-4 (single & tandem)

## Bearing Carriers (9) Pump Only

### Common Inlet Passage

IN	OUT	CW	CCW
I	I	I	I
-	-	C	D
*	-	A	U

\* 51 Series only. Used when only one adjacent gear housing has an inlet port.

### NPT Porting (50 Series only)

1"	-	TB	BT
1 1/4"	-	VB	BV
1 1/2"	-	WB	BW
1"	3/4"	TX	XT
1 1/4"	3/4"	VX	XV
1 1/2"	3/4"	WX	XW
1 1/4"	1"	VZ	ZV
1 1/2"	1"	WZ	ZW
1"	3/4"	TJ	JT
1 1/4"	3/4"	VJ	JV
1 1/4"	1"	VK	KV
1 1/2"	1"	WK	KW
1"	3/4"	ZX	XZ

### ODT Porting

1"	-	CB	BC
1 1/4"	-	DB	BD
1 1/2"	-	FB	BF
-	3/4"	PJ	*JP
1"	3/4"	CJ	JC
1 1/4"	3/4"	DJ	JD
1 1/2"	3/4"	FJ	JF
1 1/4"	1"	DK	KD
1 1/2"	1"	FK	KF
1"	3/4"	CR	RC
1 1/4"	3/4"	DR	RD
* 1 1/2"	3/4"	FR	RF
1 1/4"	1"	DS	SD
1 1/2"	1"	FS	SF
-	1"	HZ	*ZH

\* 51 Series only.

1"	3/4"	KJ	JK
----	------	----	----

## NOTE

Split flange thread depths may be more shallow than S.A.E. standard. Contact Product Support Department for actual dimensions.

## Bearing Carriers (9) Pump Only - continued

### Metric Split Flange Porting

IN	OUT	CW	CCW
I	I	I	I
1"	-	CH	HC
1 1/4"	-	DH	HD
1 1/2"	-	FH	HF
-	3/4"	PW	WP
1"	3/4"	CW	WC
1 1/4"	3/4"	DW	WD
1 1/2"	3/4"	FW	WF
1 1/4"	1"	DC	CD
1 1/2"	1"	FC	CF
1"	3/4"	GQ	QG
1 1/4"	3/4"	HQ	QH
1 1/2"	3/4"	WQ	QW
1 1/4"	1"	HS	SH
1 1/2"	1"	WS	SW
1"	3/4"	ST	TS

### Metric Straight Thread Porting

IN	OUT	CW	CCW
I	I	I	I
1"	-	CL	LC
1 1/4"	-	DL	LD
1 1/2"	-	FL	LF
1"	3/4"	CZ	ZC
1 1/4"	3/4"	DZ	ZD
1 1/2"	3/4"	FZ	ZF
1 1/4"	1"	DN	ND
1 1/2"	1"	FN	NF
1"	3/4"	GT	TG
1 1/4"	3/4"	HT	TH
1 1/2"	3/4"	WT	TW
1 1/4"	1"	HV	VH
1 1/2"	1"	WV	VW
1"	3/4"	KL	LK

## Bearing Carriers (9) (Motor Only)

### No Ports

IN	OUT	DUAL
I	I	I
-	-	B

### NPT Porting (30 Series only)

1"	1"	TT
1 1/4"	1 1/4"	VV
1 1/2"	1 1/2"	WW

### ODT Porting

1"	1"	CC
1 1/4"	1 1/4"	BB
1 1/2"	1 1/2"	FF

### Split Flange Porting

1"	1"	LL
1 1/4"	1 1/4"	MM
1 1/2"	1 1/2"	NN

### BSPB Porting

IN	OUT	DUAL
I	I	I
1"	1"	EE
1 1/4"	1 1/4"	GG

### Metric Split Flange Porting

1"	1"	RR
1 1/4"	1 1/4"	SS

### Metric Straight Thread Porting

1"	1"	KK
1 1/4"	1 1/4"	JJ

## Connecting Shaft (10)

For connecting tandem units.

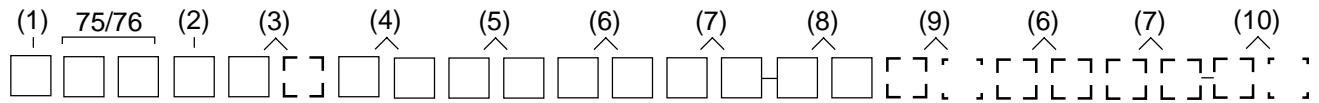
1 Connecting Shaft - Multiple Units

22 Piggyback Pump Connecting Shaft for P50 to P50, P51 to P51

23 Piggyback Pump Connecting Shaft for P75 to P50, P76 to P51

# 75/76 Series Coding

Tandem: Repeat if Necessary



## Pump/Motor (1)

**P** Pump

**M** Motor

## Unit (2)

**A** Single Unit

**B** Tandem Unit

**C** Single or Tandem w/ two-piece shaft (O.B. bearing required)

## Shaft End Cover (3)

**1** Pump, cw w/o O.B. bearing

**2** Pump, ccw w/o O.B. bearing

**3** Pump, bi-rotational w/o O.B. bearing (75 series only)

**4** Pump, cw with O.B. bearing

**5** Pump, ccw with O.B. bearing

**6** Pump, bi-rotational w/ O.B. bearing (75 series only)

**8** Motor, bi-rot. with O.B. bearing + 1/4" NPT drain

**9** Motor, bi-rot. w/o O.B. bearing + 1/4" NPT drain

**18** Motor, bi-rot. with O.B. bearing + 1/4" BSPP drain

**19** Motor, bi-rot. w/o O.B. bearing + 1/4" BSPP drain

## Shaft End Cover (4) (type 1 only)

**42** SAE 4 bolt "B" ANSI 101-4

**78** SAE 4 bolt "C" ANSI 127-4

**80** SAE 4 bolt "D" ANSI 152-4

**98** SAE 2 bolt "C" ANSI 127-2

## Port End Cover (5) (Rear Ported)

Left	Right	Single	Tandem	Extended Studs
Unported				
-	-	BE	BI	BY

Unported

- - BE BI BY

## O.D.T. Porting

1"	1"	JE	JI	JY
----	----	----	----	----

## Metric Straight Thread

1"	1"	TE	TI	TY
----	----	----	----	----

CW CCW Double

I I I

## Piggyback Port End - Pump Only

Type 75-50, 76-51 & 75-30, 76-31	KO	LO	MO
----------------------------------	----	----	----

## For All Units

To determine direction of shaft rotation, view the unit with the shaft pointing toward you, and the idler (driven) gear beneath the shaft. With clockwise rotation, flow will be left to right. The inlet pump port will be on the left, outlet on the right. The flow is in the opposite direction with counter-clockwise rotation. Inverting the pump will reverse the inlet and outlet ports but not the direction of rotation.

### Gear Housing (6)

Series	75	75	75	75	75	75/76	75	75	75/76	75/76	76	76	76	76	76	76	
Housing Code	07	10	12	15	17	20	22	25	27	30	10	12	15	17	22	25	
Displacement (C.I.R.)	3.07	4.1	5.12	6.15	7.17	8.2	9.22	10.25	11.275	12.3	4.1	5.12	6.15	7.17	9.22	10.25	
Maximum (PSI)	2500	2500	2500	2500	2500	2500	2250	2250	2000	2000	3000	3000	3000	3000	2500	2500	
IN	OUT	CW		CCW													
-	-	AB	AB	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>No Porting</b>																	
<b>NPT Porting</b>																	
3/4"	-	IC	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
-	3/4"	ID	IC	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
1"	3/4"	IJ	IG		X	IJ	IJ										
1"	-	YC	YD			YD	YD		X/-								
-	1"	YD	YC			YD	YD		X/-								
1"	1"	YF	YF		X	X											
1 1/4"	1"	YJ	YG			X	X										
1 1/4"	1 1/4"	YL	YL			X	X	X									
<b>OD Tube Porting</b>																	
3/4"	-	EC	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED
1"	3/4"	EJ	EG	X*		EJ	EJ										
1 1/4"	3/4"	EK	EH		X*												
1"	-	AC	AD			AD	AD										
-	1"	AD	AC			AD	AD										
1"	1"	AF	AF		2000	X	X	X	X/-								
1 1/4"	1"	AJ	AG		2000*	X*											
1 1/2"	1"	AK	AH				X*										
1 1/4"	1 1/4"	AL	AL			2000	2000	2000/-	X	X				X/-			
1 1/2"	1 1/4"	AP	AM			2000*	2000*										
1 1/2"	1 1/2"	AR	AR						X	X							
<b>Split Flange Porting</b>																	
3/4"	-	UC	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD
-	3/4"	UD	UC	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD
1"	3/4"	UJ	UG	X	X	UJ	UJ	UJ	UJ								
1"	-	OC	OD			OD	X	OD	OD	OD							
-	1"	OD	OC			OD	X	OD	OD	OD							
1"	1"	OF	OF		X	X	X	X	X/X		X	X/-	X/-				
1 1/4"	1"	OJ	OG		2000*	X	X	OJ	OJ/-	OJ	OJ			-/X			
1 1/2"	1"	OK	OH			X*	X*	X*	X/-	X							
1 1/4"	-	OA	OB			OB	OB	OB	OB/-	OB	OB						
-	1 1/4"	OB	OA			OB	OB	OB	OB/-	OB	OB						
1 1/4"	1 1/4"	OL	OL		2000	X	X	X	X/X	X	X	X/X	X/X			2500	X
1 1/2"	1 1/4"	OP	OM			X*	X*	X*	X/X	X	X	OP/-	OP/-			2500*	X*
1 1/2"	-	OE	OU						X/X	X	OU	OU/-	OU/-				
-	1 1/2"	OU	OE						X/X	X	OU	OU/-	OU/-				
1 1/2"	1 1/2"	OR	OR			2000	2000	X/X	X	X	X	X/X	X/X				X
2"	1"	UQ	-						X*/-								
2"	1 1/4"	OQ	ON				X*	X*/X*	X*	X*	X/X	X/X				X*	X*
2"	1 1/2"	OV	OS				2000*	X*/X*	X*	X*	X/X	X/X					X*
2"	2"	OX	OX							X	X/X	X/X					
2 1/2"	1 1/4"	US	UN							X*							
2 1/2"	1 1/2"	OW	OT							X*	X*/X*	X*/X*					X*
2 1/2"	2"	OZ	OY														X*/-

**NOTES**

NPT ports are not recommended for use at pressures in excess of 1500 PSI.

Shaded cells are acceptable for motor codes.

\* This porting is acceptable for low pressure inlet port only.

"X" Means both codes are available.

"2000" or "2500" indicates maximum pressure rating on port.



**Gear Housing (6) continued**

Series	75	75	75	75	75	75/76	75	75	75/76	75/76	76	76	76	76	76	76			
Housing Code	07	10	12	15	17	20	22	25	27	30	10	12	15	17	22	25			
Displacement (C.I.R.)	3.07	4.1	5.12	6.15	7.17	8.2	9.22	10.25	11.275	12.3	4.1	5.12	6.15	7.17	9.22	10.25			
Maximum (PSI)	2500	2500	2500	2500	2500	2500	2250	2250	2000	2000	3000	3000	3000	3000	2500	2500			
											<b>BSPP Porting</b>								
IN	OUT	CW	CCW																
3/4"	-	YN	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ		
-	3/4"	YQ	YN	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ	YQ		
3/4"	3/4"	YS	YS																
1"	3/4"	YV	YT	X*	YV*	YV	YV	YV	YV	YV	YV	YV	YV	YV	YV	YV	YV		
1"	-	SL	RQ				X	RQ	RQ	RQ/RQ			RQ						
-	1"	RQ	SL				X	RQ	RQ	RQ/RQ			RQ						
1"	1"	MP	MP			2000	X	X											
1 1/4"	1"	IX	VY			2000*	X*	IX*	IX/-	IX			IX/-	2500*	IX*	X*			
1 1/4"	-	NJ	UI				UI*												
-	1 1/4"	UI	NJ																
1 1/4"	1 1/4"	PF	PF				2000	2000	X/-			X			-/X			X	X
1 1/2"	1"	VI	HW				X*	VI*	-/VI*										
1 1/2"	1 1/4"	IS	IQ				2000*	2000*	-/X*										
											<b>Metric Straight Thread</b>								
3/4"	-	EN	TQ	TQ	TQ	TQ	TQ	TQ											
-	3/4"	TQ	EN	TQ	TQ	TQ	TQ	TQ											
1"	3/4"	EV	ET	X*			EV	EV											
1"	-	NL	ER																
-	1"	ER	NL				ER	ER											
1"	1"	CM	CM			2000	X	X											
											<b>Metric Split Flange Porting</b>								
3/4"	-	VN	VQ	VQ	VQ	VQ	VQ												
-	3/4"	VQ	VN	VQ	VQ	VQ	VQ												
1"	3/4"	RV	VT	X	X	RV	RV	RV	RV	RV	RV	RV	RV	RV	RV	RV	RV		
1"	-	UL	UR				UR	UR	UR	UR	UR	UR	UR	UR	UR	UR	UR		
-	1"	UR	UL				UR	UR	UR	UR	UR	UR	UR	UR	UR	UR	UR		
1"	1"	UM	UM			X	X	X	X	X/X									
1 1/4"	1"	UX	VU			X*	X	UX	UX	UX/-	UX	UX							
1 1/2"	1"	VO	HO				X*	X*											
1 1/4"	-	NO	UO				UO	UO	UO	UO/-	UO	UO							
-	1 1/4"	UO	NO				UO	UO	UO	UO/-	UO	UO							
1 1/4"	1 1/4"	PO	PO				X	X	X	X/X	X	X	X/X	X/X	2500	X	X	X	X
1 1/2"	1 1/4"	SO	QO				X*	X*	X/X	X	SO	SO	SO	SO	2500*	X*	X*		
1 1/2"	-	UY	TO						X/X	X	X	TO	TO						
-	1 1/2"	TO	UY						X/X	X	X	TO	TO						
1 1/2"	1 1/2"	SV	SV				2000	X/X	X	X	X/X	X/X							
2"	1 1/4"	JM	JR				X*	X*/X*	X*	X*	-/X*	-/X*			X*	X*	X*		
2"	1 1/2"	JQ	JN				2000*	X*/X*	X*	X*	X/X	X/X							
2"	2"	JS	JS								-/X	X/X							
2 1/2"	1 1/2"	LJ	JX								X*/X*	X*/X*							

**NOTES**

Shaded cells are acceptable for motor codes.  
 \* This porting is acceptable for low pressure inlet port only.  
 "X" Means both codes are available.  
 "2000" or "2500" indicates maximum pressure rating on port.

## Gear Width (7)

### 75 Series

	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
07	3/4"	3.08	50.4	2500 psi (172 bar)
10	1"	4.10	67.2	2500 psi (172 bar)
12	1 1/4"	5.13	84.0	2500 psi (172 bar)
15	1 1/2"	6.15	100.8	2500 psi (172 bar)
17	1 3/4"	7.18	117.6	2500 psi (172 bar)
20	2"	8.20	134.4	2500 psi (172 bar)
22	2 1/4"	9.23	151.2	2250 psi (155 bar)
25	2 1/2"	10.25	168.0	2250 psi (155 bar)
27	2 3/4"	11.28	184.8	2000 psi (138 bar)
30	3"	12.30	201.6	2000 psi (138 bar)

### 76 Series

	Gear Width	in. <sup>3</sup> /rev.	cm <sup>3</sup> /rev.	Max Pressure
07	3/4"	3.08	50.4	3000 psi (207 bar)
10	1"	4.10	67.2	3000 psi (207 bar)
12	1 1/4"	5.13	84.0	3000 psi (207 bar)
15	1 1/2"	6.15	100.8	3000 psi (207 bar)
17	1 3/4"	7.18	117.6	3000 psi (207 bar)
20	2"	8.20	134.4	2500 psi (172 bar)
22	2 1/4"	9.23	151.2	2500 psi (172 bar)
25	2 1/2"	10.25	168.0	2500 psi (172 bar)
27	2 3/4"	11.28	184.8	2000 psi (138 bar)
30	3"	12.30	201.6	2000 psi (138 bar)



## Shaft Type (8)

For single, tandem, or two piece shaft unless noted.

- |    |   |
|----|---|
| 07 | SAE "C" 14 tooth spline 1.25" dia.,<br>ANSI 32-4                |
| 11 | SAE "C" keyed 1.25" dia., 5/16"X15/32"X1 1/2" key,<br>ANSI 32-1 |

## Bearing Carriers (9) (Pump Only)


### Common Inlet Passage

			
-	-	<b>C</b>	<b>D</b>
* -	-	<b>A</b>	<b>U</b>


\* 76 Series only. Used when only one adjacent gear housing has an inlet port.

## Bearing Carriers (9) (Motor Only)


### No Ports

IN	OUT	DUAL
I	I	I
		
-	-	<b>B</b>

### ODT Porting


		
1"	1"	<b>CC</b>
1 1/4"	1 1/4"	<b>BB</b>

### Split Flange Porting


		
* 1"	1"	<b>LL</b>
1 1/4"	1 1/4"	<b>MM</b>
1 1/2"	1 1/2"	<b>NN</b>

\* 76 Series only.


### BSP Porting

		
1"	1"	<b>EE</b>
1 1/4"	1 1/4"	<b>GG</b>
1 1/2"	1 1/2"	<b>HH</b>

### Metric Split Flange Porting

IN	OUT	DUAL
I	I	I
		
1"	1"	<b>RR</b>
1 1/4"	1 1/4"	<b>SS</b>
1 1/2"	1 1/2"	<b>XX</b>

### Metric Straight Thread Porting

		
1"	1"	<b>KK</b>
1 1/4"	1 1/4"	<b>JJ</b>
1 1/2"	1 1/2"	<b>ZZ</b>

## Connecting Shaft (10)

For connecting tandem units.

- |   |                                   |
|---|-----------------------------------|
| 1 | Connecting Shaft - Multiple Units |
|---|-----------------------------------|

- |    |  |
|----|--|
| 23 | Piggyback Pump Connecting Shaft for P75 to P75 |
|----|--|

## NOTE

Split flange thread depths may be more shallow than S.A.E. standard. Contact Product Support Department for actual dimensions.





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