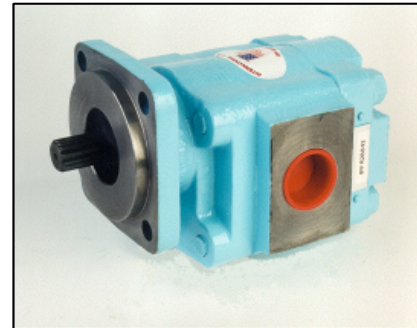


# IFP IP3100/IP5100/IP7600 GEAR PUMPS AND MOTORS



## 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



## ROLLER BEARING GEAR PUMPS PERFORMANCE DATA

| IFP<br>MODEL<br>SERIES | Gear<br>width<br>(inches) | Theoretical<br>displacement |         | Mineral oil<br>maximum pressure |     |              |     | Recommended<br>speed range |     | Approximate<br>weight |      |             |      |
|------------------------|---------------------------|-----------------------------|---------|---------------------------------|-----|--------------|-----|----------------------------|-----|-----------------------|------|-------------|------|
|                        |                           |                             |         | Continuous                      |     | Intermittent |     | MAX                        | MIN | Single unit           |      | Add section |      |
|                        |                           | in3/rev                     | cm3/rev | PSI                             | BAR | PSI          | BAR | rpm                        | rpm | lbs                   | kg   | lbs         | kg   |
| IP3100                 | 1/2                       | 1.00                        | 16.39   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 31                    | 14   | 25          | 11   |
|                        | 3/4                       | 1.48                        | 24.58   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 32                    | 14.5 | 26          | 11.5 |
|                        | 1                         | 1.97                        | 32.77   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 33                    | 15   | 27          | 12   |
|                        | 1 1/4                     | 2.46                        | 40.97   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 34                    | 15.5 | 28          | 12.5 |
|                        | 1 1/2                     | 2.96                        | 49.16   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 35                    | 16   | 29          | 13   |
|                        | 1 3/4                     | 3.45                        | 57.35   | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 36                    | 16.5 | 31          | 14   |
|                        | 2                         | 3.94                        | 65.55   | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 37                    | 17   | 32          | 14.5 |
| IP5100                 | 3/4                       | 1.91                        | 31.66   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 35.5                  | 16.5 | 29.5        | 13   |
|                        | 1                         | 2.55                        | 42.11   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 37                    | 17   | 31          | 14   |
|                        | 1 1/4                     | 3.19                        | 52.77   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 38.5                  | 17.5 | 32.5        | 15   |
|                        | 1 1/2                     | 3.83                        | 63.25   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 40                    | 18   | 34          | 15.5 |
|                        | 1 3/4                     | 4.46                        | 73.74   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 41.5                  | 19   | 35.5        | 16   |
|                        | 2                         | 5.10                        | 84.23   | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 43                    | 19.5 | 37          | 17   |
|                        | 2 1/4                     | 5.74                        | 94.88   | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 48.5                  | 22   | 42.5        | 19   |
|                        | 2 1/2                     | 6.38                        | 105.37  | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 50                    | 22.5 | 44          | 20   |
| IP7600                 | 3/4                       | 3.07                        | 50.40   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 69                    | 32   | 57          | 26   |
|                        | 1                         | 4.10                        | 67.20   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 72                    | 33   | 59          | 27   |
|                        | 1 1/4                     | 5.12                        | 84.00   | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 75                    | 34   | 62          | 28   |
|                        | 1 1/2                     | 6.15                        | 100.80  | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 77                    | 35   | 64          | 29   |
|                        | 1 3/4                     | 7.17                        | 117.60  | 2750                            | 190 | 3000         | 207 | 2400                       | 600 | 80                    | 36   | 67          | 31   |
|                        | 2                         | 8.20                        | 134.40  | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 82                    | 37   | 69          | 32   |
|                        | 2 1/4                     | 9.22                        | 151.20  | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 85                    | 39   | 72          | 33   |
|                        | 2 1/2                     | 10.25                       | 168.00  | 2250                            | 155 | 2500         | 172 | 2400                       | 600 | 87                    | 40   | 74          | 34   |
|                        | 2 3/4                     | 11.27                       | 184.80  | 1750                            | 120 | 2000         | 138 | 2400                       | 600 | 90                    | 41   | 77          | 35   |
|                        | 3                         | 12.30                       | 201.60  | 1750                            | 120 | 2000         | 138 | 2400                       | 600 | 92                    | 42   | 79          | 36   |

International manufactures bearing 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 IM3100/IM5100/IM7600

## MOTOR PERFORMANCE DATA



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

### IM3100

| Speed rpm | 1" Gear    |               |           | 1 1/4" Gear |               |           | 1 1/2" Gear |               |           | 1 3/4" Gear |               |           | 2" Gear    |               |           |
|-----------|------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|------------|---------------|-----------|
|           | 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 | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow | Output Torque | Output Hp |
|           | gpm        | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm        | in/lbs        | Hp        |
|           | l/m        | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m        | Nm            | kw        |
| 800       | 10         | 575           | 7.5       | 12          | 737.5         | 9.5       | 14          | 900           | 11.5      | 16          | 1040          | 13.3      | 18         | 1180          | 15        |
|           | 38         | 64.8          | 5.6       | 45.6        | 83.1          | 7.1       | 53.2        | 101.4         | 8.6       | 60.8        | 117.1         | 9.9       | 68.4       | 132.9         | 11.2      |
| 1200      | 14         | 570           | 11        | 16.5        | 730           | 14        | 19          | 890           | 17        | 21.5        | 1030          | 19.8      | 24         | 1170          | 22.5      |
|           | 53.2       | 64.2          | 8.2       | 62.7        | 82.2          | 10.4      | 72.2        | 100.2         | 12.7      | 81.7        | 116.0         | 14.7      | 91.2       | 131.8         | 16.8      |
| 1600      | 17         | 565           | 14.5      | 20.5        | 722.5         | 18.5      | 24          | 880           | 22.5      | 23.3        | 1020          | 25.8      | 22.5       | 1160          | 29        |
|           | 64.6       | 63.6          | 10.8      | 77.9        | 81.4          | 13.8      | 91.2        | 99.1          | 16.8      | 88.4        | 114.9         | 19.2      | 85.5       | 130.6         | 21.6      |
| 2000      | 20         | 555           | 17.5      | 24.5        | 707.5         | 22.5      | 29          | 860           | 27.5      | 34          | 995           | 31.8      | 39         | 1130          | 36        |
|           | 76         | 62.5          | 13        | 93.1        | 79.7          | 16.8      | 110.2       | 96.8          | 20.5      | 129.2       | 112           | 23.7      | 148.2      | 127.3         | 26.9      |

### IM5100

| Speed rpm | 1" Gear    |               |           | 1 1/4" Gear |               |           | 1 1/2" Gear |               |           | 1 3/4" Gear |               |           | 2" Gear    |               |           | 2 1/4" Gear |               |           | 2 1/2" Gear |               |           |
|-----------|------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|
|           | 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 | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp |
|           | gpm        | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm        | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        |
|           | l/m        | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m        | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        |
| 800       | 11         | 730           | 9         | 13.5        | 935           | 11.5      | 16          | 1140          | 14        | 18.8        | 1335          | 16.3      | 21.5       | 1530          | 18.5      | 24          | 1715          | 21.3      | 26.5        | 1900          | 24        |
|           | 41.8       | 82.2          | 6.7       | 51.3        | 105.3         | 8.6       | 60.8        | 128.4         | 10.4      | 13.9        | 105.3         | 12.1      | 81.7       | 172.3         | 13.8      | 91.2        | 193.1         | 15.9      | 100.7       | 214           | 17.9      |
| 1200      | 16         | 720           | 13.5      | 19.5        | 920           | 17.3      | 23          | 1120          | 21        | 27          | 1307.5        | 24.5      | 31         | 1495          | 28        | 34.3        | 1682.5        | 31.8      | 37.5        | 1870          | 35.5      |
|           | 60.8       | 81.1          | 10.1      | 74.1        | 103.6         | 12.9      | 87.4        | 126.1         | 15.7      | 102.6       | 147.2         | 18.3      | 117.8      | 168.4         | 20.8      | 130.2       | 189.5         | 23.7      | 142.5       | 210.6         | 26.5      |
| 1600      | 20.5       | 710           | 17.5      | 25.5        | 905           | 2.3       | 30.5        | 1100          | 27        | 35.5        | 1285          | 32        | 40.5       | 1470          | 37        | 45.3        | 1645          | 41        | 50          | 1820          | 45        |
|           | 77.9       | 81.0          | 13.1      | 96.9        | 101.9         | 16.6      | 115.9       | 123.9         | 20.1      | 134.9       | 144.7         | 23.9      | 153.9      | 165.5         | 27.6      | 172.0       | 185.2         | 30.6      | 190         | 205.0         | 33.6      |
| 2000      | 25.5       | 670           | 21        | 31.8        | 855           | 26.8      | 38          | 1040          | 32.5      | 44          | 1225          | 38.5      | 50         | 1410          | 44.5      | 56          | 1575          | 49.8      | 62          | 1740          | 55        |
|           | 96.9       | 75.5          | 15.7      | 120.7       | 96.3          | 20.0      | 144.4       | 117.1         | 24.2      | 167.2       | 138.0         | 28.7      | 190.0      | 158.8         | 33.2      | 212.8       | 177.4         | 37.1      | 235.6       | 195.9         | 41        |

### IM7600

| Speed rpm | 1" Gear    |               |           | 1 1/4" Gear |               |           | 1 1/2" Gear |               |           | 1 3/4" Gear |               |           | 2" Gear    |               |           |
|-----------|------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|------------|---------------|-----------|
|           | Displ.     | 4.10          | in3/rev   | Displ.      | 5.12          | in3/rev   | Displ.      | 6.15          | in3/rev   | Displ.      | 7.17          | in3/rev   | Displ.     | 8.20          | in3/rev   |
|           | Input Flow | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow | Output Torque | Output Hp |
|           | gpm        | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm        | in/lbs        | Hp        |
|           | l/m        | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m        | Nm            | kw        |
| 800       | 19.5       | 1100          | 14.5      | 23.8        | 1400          | 18.3      | 28          | 1700          | 22        | 31.3        | 1985          | 25.5      | 34.5       | 2270          | 29        |
|           | 74.1       | 123.9         | 10.8      | 90.3        | 157.7         | 13.6      | 106.4       | 191.4         | 16.4      | 118.8       | 223.5         | 19        | 131.1      | 255.6         | 21.6      |
| 1200      | 26.5       | 1090          | 20        | 32.3        | 1385          | 25.5      | 38          | 1680          | 31        | 43.5        | 1970          | 36.8      | 49         | 2260          | 42.5      |
|           | 100.7      | 122.7         | 14.9      | 122.6       | 156.0         | 19        | 144.4       | 189.2         | 23.1      | 165.3       | 221.9         | 27.4      | 186.2      | 254.5         | 31.7      |
| 1600      | 34         | 1040          | 26        | 41.8        | 1345          | 33.5      | 49.5        | 1650          | 41        | 56.8        | 1935          | 48.3      | 64         | 2220          | 55.5      |
|           | 129.2      | 117.1         | 19.4      | 158.7       | 151.5         | 25.0      | 188.1       | 185.8         | 30.6      | 215.7       | 217.9         | 35.9      | 243.2      | 250           | 41.4      |
| 2000      | 41         | 970           | 30.5      | 50.3        | 1285          | 40.3      | 59.5        | 1600          | 50        | 69          | 1890          | 59        | 78.5       | 2180          | 68        |
|           | 155.8      | 109.2         | 22.8      | 191.0       | 144.7         | 30        | 226.1       | 180.2         | 37.3      | 262.2       | 212.8         | 44        | 298.3      | 245.5         | 50.7      |

| Speed rpm | 2 1/4" Gear |               |           | 2 1/2" Gear |               |           | 2 3/4" Gear |               |           | 3" Gear    |               |           |
|-----------|-------------|---------------|-----------|-------------|---------------|-----------|-------------|---------------|-----------|------------|---------------|-----------|
|           | Displ.      | 9.22          | in3/rev   | Displ.      | 10.25         | in3/rev   | Displ.      | 11.27         | in3/rev   | Displ.     | 12.30         | in3/rev   |
|           | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow  | Output Torque | Output Hp | Input Flow | Output Torque | Output Hp |
|           | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm         | in/lbs        | Hp        | gpm        | in/lbs        | Hp        |
|           | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m         | Nm            | kw        | l/m        | Nm            | kw        |
| 800       | 38.3        | 2600          | 33.3      | 42          | 2930          | 37.5      | 45.8        | 3315          | 42.3      | 49.5       | 3700          | 47        |
|           | 145.4       | 292.8         | 24.8      | 159.6       | 330.0         | 28.0      | 173.9       | 373.3         | 31.5      | 188.1      | 416.7         | 35.1      |
| 1200      | 54.5        | 2580          | 48.5      | 60          | 2900          | 54.5      | 66.25       | 3380          | 60.8      | 72.5       | 3860          | 67        |
|           | 207.1       | 290.5         | 36.2      | 228         | 326.6         | 40.7      | 251.8       | 380.6         | 45.3      | 275.5      | 434.7         | 50.0      |
| 1600      | 71          | 2530          | 63.5      | 78          | 2840          | 71.5      | 86          | 3205          | 80.5      | 94         | 3570          | 89.5      |
|           | 269.8       | 284.9         | 47.4      | 296.4       | 319.8         | 53.3      | 326.8       | 360.9         | 60        | 357.2      | 402           | 66.8      |
| 2000      | 87.5        | 2470          | 77.5      | 96.5        | 2760          | 87        | 105.8       | 3095          | 98        | 115        | 3430          | 109       |
|           | 332.5       | 278.2         | 57.8      | 366.7       | 310.8         | 64.9      | 401.9       | 348.5         | 73.1      | 437        | 386.3         | 81.3      |

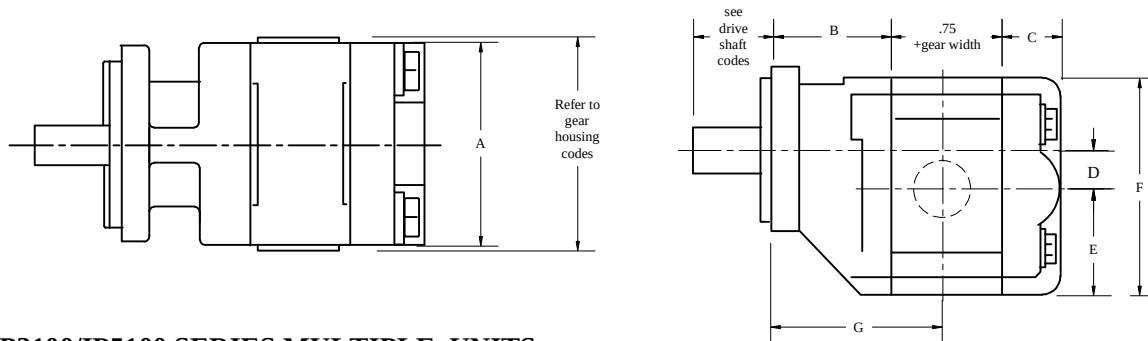
# IFP IP3100/IP5100GEAR UNITS

## INSTALLATION DIMENSION & WEIGHT

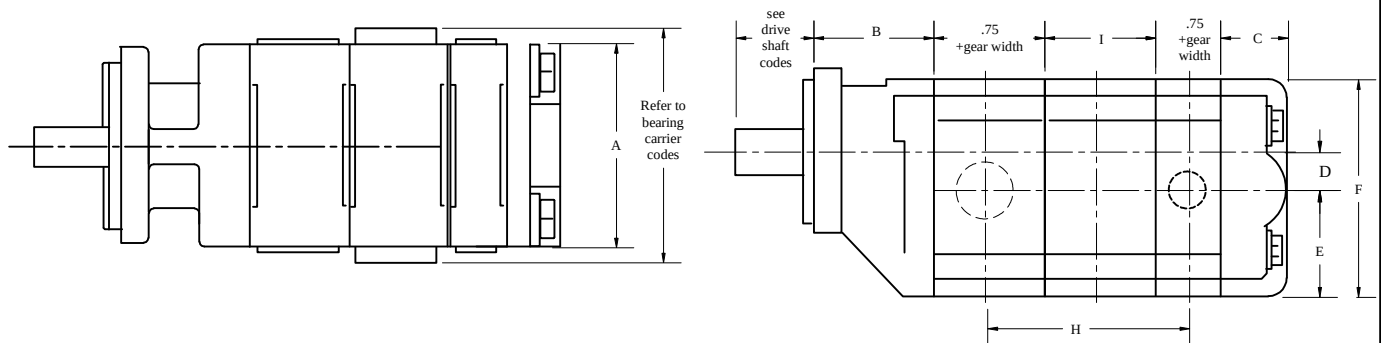


DIMENSION (inches)

### IP3100/IP5100 SERIES SINGLE UNITS



### IP3100/IP5100 SERIES MULTIPLE UNITS



| MODEL         | A    | B    | C    | D    | E    | F    | G                                       | H                                             | I    |
|---------------|------|------|------|------|------|------|-----------------------------------------|-----------------------------------------------|------|
| IP3100 series | 4.81 | 2.94 | 1.75 | .88  | 2.78 | 5.50 | $3.31 + \frac{1}{2} \text{ gear width}$ | $3.25 + \frac{1}{2} \text{ total gear width}$ | 2.50 |
| IP5100 series | 5.06 | 3.38 | 1.75 | 1.00 | 3.12 | 6.25 | $3.75 + \frac{1}{2} \text{ gear width}$ | $3.65 + \frac{1}{2} \text{ total gear width}$ | 2.88 |

### APPROXIMATE WEIGHT

#### SINGLE UNITS

| MODEL         | gear width | 1  | 1 1/4 | 1 1/2 | 1 3/4 | 2    | 2 1/4 | 2 1/2 |
|---------------|------------|----|-------|-------|-------|------|-------|-------|
| IP3100 series | pounds     | 33 | 34    | 35    | 36    | 37   | -     | -     |
|               | KG         | 15 | 15.5  | 16    | 16.5  | 17   | -     | -     |
| IP5100 series | pounds     | 37 | 38.5  | 40    | 41.5  | 43   | 48.5  | 50    |
|               | KG         | 17 | 17.5  | 18    | 18.75 | 19.5 | 22    | 22.5  |

#### MULTIPLE UNITS

| MODEL         | add per gear section | 1  | 1 1/4 | 1 1/2 | 1 3/4 | 2    | 2 1/4 | 2 1/2 |
|---------------|----------------------|----|-------|-------|-------|------|-------|-------|
| IP3100 series | pounds               | 27 | 28    | 29    | 31    | 32   | -     | -     |
|               | KG                   | 12 | 12.5  | 13    | 14    | 14.2 | -     | -     |
| IP5100 series | pounds               | 31 | 32.5  | 34    | 35.5  | 37   | 42.5  | 44    |
|               | KG                   | 14 | 15    | 15.5  | 16    | 17   | 19.25 | 20    |

**NOTE:** MULTIPLE UNITS WEIGHT ADD SINGLE UNIT WEIGHT WITH EACH ADDITIONAL SECTION FROM ABOVE CHART

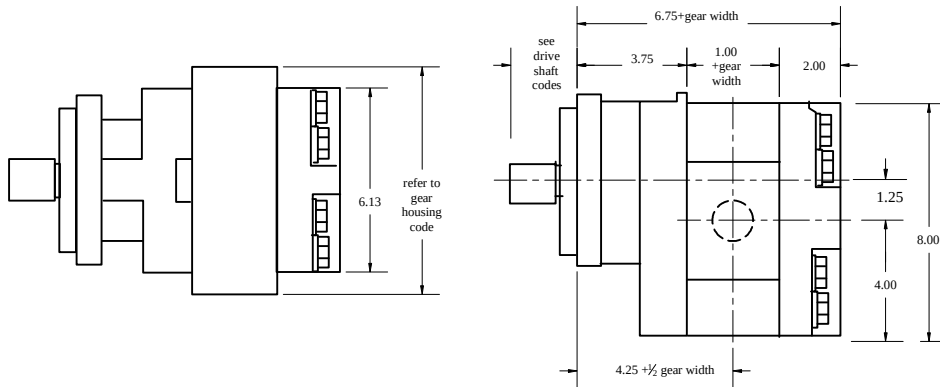
# IFP IP7600 GEAR UNITS

## INSTALLATION DIMENSION & WEIGHT

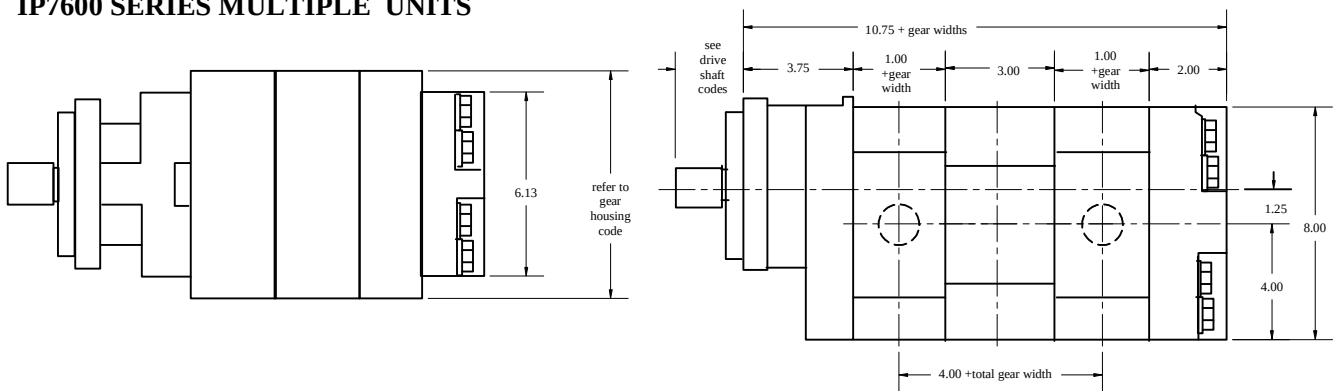


DIMENSION (inches)

### IP7600 SERIES SINGLE UNITS



### IP7600 SERIES MULTIPLE UNITS



## APPROXIMATE WEIGHT

### SINGLE UNITS

| MODEL         | gear width | 1  | 1 1/4 | 1 1/2 | 1 3/4 | 2  | 2 1/4 | 2 1/2 | 2 3/4 | 3  |
|---------------|------------|----|-------|-------|-------|----|-------|-------|-------|----|
| IP7600 series | pounds     | 72 | 75    | 77    | 80    | 82 | 85    | 87    | 90    | 92 |
|               | KG         | 33 | 34    | 35    | 36    | 37 | 39    | 40    | 41    | 42 |

### MULTIPLE UNITS

| 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  |
|---------------|----------------------|----|-------|-------|-------|----|-------|-------|-------|----|
| IP7600 series | pounds               | 59 | 62    | 64    | 67    | 69 | 72    | 74    | 77    | 79 |
|               | KG                   | 27 | 28    | 29    | 31    | 32 | 33    | 34    | 35    | 36 |

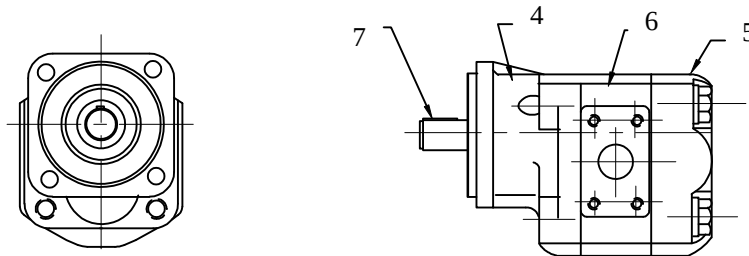
**NOTE:** MULTIPLE UNITS WEIGHT ADD SINGLE UNIT WEIGHT WITH EACH ADDITIONAL SECTION FROM ABOVE CHART

# IFP IP3100/IP5100/IP7600

## MODEL CODING & NOMENCLATURE

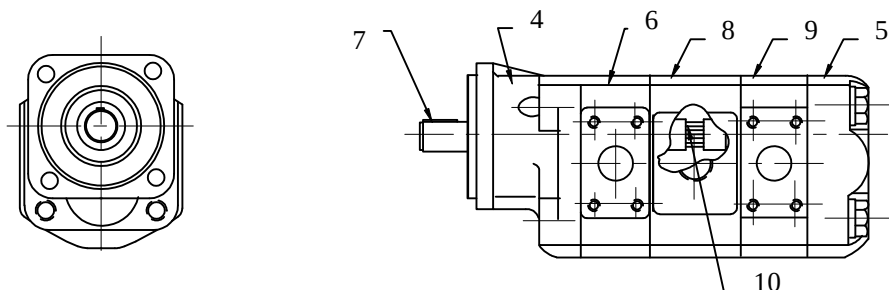


### \* HOW TO SPECIFY MODEL CODE



### SAMPLE SINGLE PUMP MODEL CODE

| 1                         | 2                            | 3           | 4                                     | 5                               | 6                                      | 7                                   |
|---------------------------|------------------------------|-------------|---------------------------------------|---------------------------------|----------------------------------------|-------------------------------------|
| IP                        | 3100                         | A           | 642                                   | BE                              | YL 20                                  | 25                                  |
| (IP) PUMP /<br>(IM) MOTOR | SERIES ...<br>3100/5100/7600 | SINGLE UNIT | SHAFT END COVER<br>SEE Page E1.7-E1.8 | PORT END COVER<br>SEE Page E1.9 | GEAR HOUSING<br>SEE Page E1.10 - E1.11 | DRIVE SHAFT<br>SEE Page E1.11-E1.14 |



### SAMPLE TANDEM PUMP MODEL CODE

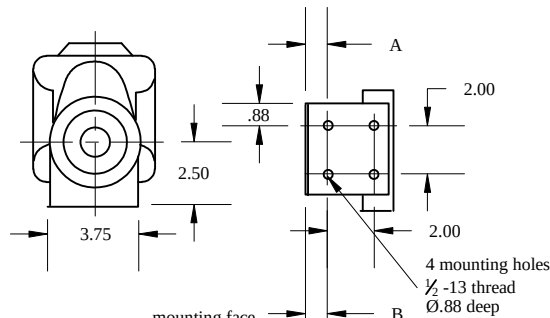
| FIRST SECTION             |                              |                |                                       |                                 |                                            | ADDITIONAL SECTIONS                   |                                      |                                             |                                    |
|---------------------------|------------------------------|----------------|---------------------------------------|---------------------------------|--------------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------------|------------------------------------|
| 1                         | 2                            | 3              | 4                                     | 5                               | 6                                          | 7                                     | 8                                    | 9                                           | 10                                 |
| IP                        | 5100                         | B              | 578                                   | BY                              | OL 20                                      | 11                                    | C                                    | OL17                                        | 1                                  |
| (IP) PUMP /<br>(IM) MOTOR | SERIES ...<br>3100/5100/7600 | TANDEM<br>UNIT | SHAFT END COVER<br>SEE Page E1.7-E1.8 | PORT END COVER<br>SEE Page E1.9 | FRONT GEAR<br>HOUSING<br>SEE E1.10 - E1.11 | DRIVE SHAFT<br>SEE Page E1.10 - E1.11 | BEARING<br>CARRIER<br>SEE Page E1.15 | BACK GEAR HOUSING<br>SEE Page E1.10 - E1.14 | CONNECTING SHAFT<br>SEE Page E1.14 |

# IFP IP3100/IP5100/IP7600 SHAFT END COVER



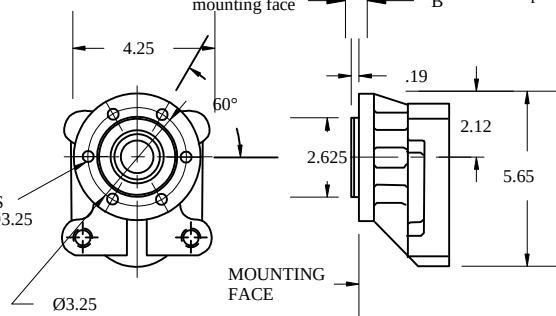
## CODE \*00 IP3100 /IP5100 PAD MOUNTING

|        | A   | B   |
|--------|-----|-----|
| IP3100 | .62 | .25 |
| IP5100 | .88 | .62 |



## CODE \*05 IP3100 Series 6-BOLT ROUND FLANGE

6 HOLES  
Ø.44 on Ø3.25



| Front Flange | Shaft Rotation | OUTBOARD SHAFT BEARING | OPTIONAL 1/4 DRAIN |
|--------------|----------------|------------------------|--------------------|
| 100          | CW             | WITHOUT                | NONE(PUMP)         |
| 200          | CCW            | WITHOUT                | NONE(PUMP)         |
| 300          | DOUBLE         | WITHOUT                | NONE(PUMP)         |
| 400          | CW             | WITH                   | NONE(PUMP)         |
| 500          | CCW            | WITH                   | NONE(PUMP)         |
| 600          | DOUBLE         | WITH                   | NONE(PUMP)         |
| 800          | DOUBLE         | WITH                   | 1/ 4 NPT(MOTOR)    |
| 900          | DOUBLE         | WITHOUT                | 1/ 4 NPT(MOTOR)    |

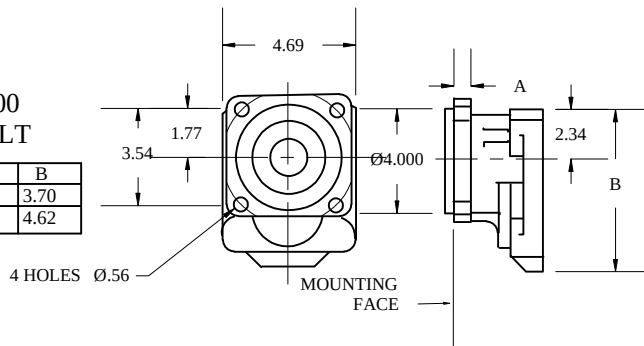
|                                     |               |
|-------------------------------------|---------------|
| IP 3100 SHAFT END COVER PART NUMBER | 312 5017 201N |
| IP 5100 SHAFT END COVER PART NUMBER | 313 5017 201N |

| Front Flange | Shaft Rotation | OUTBOARD SHAFT BEARING | OPTIONAL 1/4 DRAIN |
|--------------|----------------|------------------------|--------------------|
| 105          | CW             | WITHOUT                | NONE(PUMP)         |
| 205          | CCW            | WITHOUT                | NONE(PUMP)         |
| 305          | DOUBLE         | WITHOUT                | NONE(PUMP)         |
| 405          | CW             | WITH                   | NONE(PUMP)         |
| 505          | CCW            | WITH                   | NONE(PUMP)         |
| 605          | DOUBLE         | WITH                   | NONE(PUMP)         |
| 805          | DOUBLE         | WITH                   | 1/ 4 NPT(MOTOR)    |
| 905          | DOUBLE         | WITHOUT                | 1/ 4 NPT(MOTOR)    |

|                                     |               |
|-------------------------------------|---------------|
| IP 3100 SHAFT END COVER PART NUMBER | 312 5047 201N |
|-------------------------------------|---------------|

## CODE \*42 IP3100/IP5100 SAE B 4-BOLT

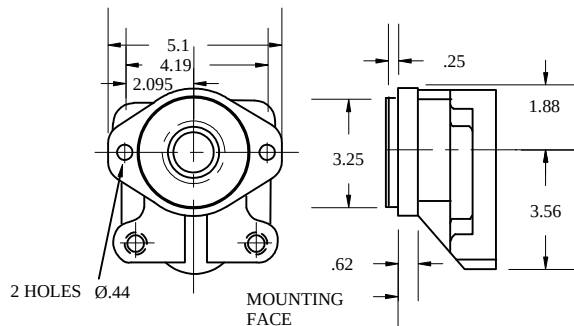
| MODEL  | A   | B    |
|--------|-----|------|
| IP3100 | .38 | 3.70 |
| IP5100 | .25 | 4.62 |



| 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 3100 SHAFT END COVER PART NUMBER | 312 5037 201N |
| IP 5100 SHAFT END COVER PART NUMBER | 313 5037 201N |

## CODE \*94 IP3100 SAE A 2-BOLT

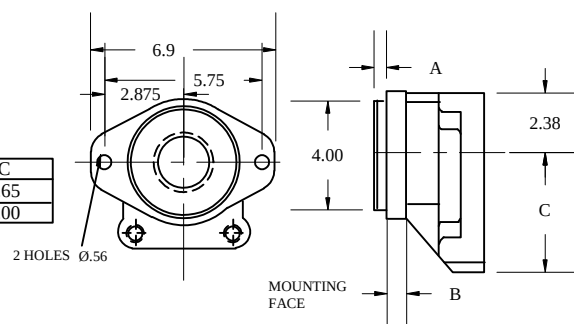


| Front Flange | Shaft Rotation | OUTBOARD SHAFT BEARING | OPTIONAL 1/4 DRAIN |
|--------------|----------------|------------------------|--------------------|
| 194          | CW             | WITHOUT                | NONE(PUMP)         |
| 294          | CCW            | WITHOUT                | NONE(PUMP)         |
| 394          | DOUBLE         | WITHOUT                | NONE(PUMP)         |
| 494          | CW             | WITH                   | NONE(PUMP)         |
| 594          | CCW            | WITH                   | NONE(PUMP)         |
| 694          | DOUBLE         | WITH                   | NONE(PUMP)         |
| 894          | DOUBLE         | WITH                   | 1/ 4 NPT(MOTOR)    |
| 994          | DOUBLE         | WITHOUT                | 1/ 4 NPT(MOTOR)    |

|                                     |               |
|-------------------------------------|---------------|
| IP 3100 SHAFT END COVER PART NUMBER | 312 5027 204N |
|-------------------------------------|---------------|

## CODE \*97 IP3100 / IP5100 SAE B 2-BOLT

| MODEL  | A   | B   | C    |
|--------|-----|-----|------|
| IP3100 | .38 | .75 | 3.65 |
| IP5100 | .25 | .75 | 4.00 |



| Front Flange | Shaft Rotation | OUTBOARD SHAFT BEARING | OPTIONAL 1/4 DRAIN |
|--------------|----------------|------------------------|--------------------|
| 197          | CW             | WITHOUT                | NONE(PUMP)         |
| 297          | CCW            | WITHOUT                | NONE(PUMP)         |
| 397          | DOUBLE         | WITHOUT                | NONE(PUMP)         |
| 497          | CW             | WITH                   | NONE(PUMP)         |
| 597          | CCW            | WITH                   | NONE(PUMP)         |
| 697          | DOUBLE         | WITH                   | NONE(PUMP)         |
| 897          | DOUBLE         | WITH                   | 1/ 4 NPT(MOTOR)    |
| 997          | DOUBLE         | WITHOUT                | 1/ 4 NPT(MOTOR)    |

|                                     |               |
|-------------------------------------|---------------|
| IP 3100 SHAFT END COVER PART NUMBER | 312 5027 201N |
| IP 5100 SHAFT END COVER PART NUMBER | 313 5027 201N |

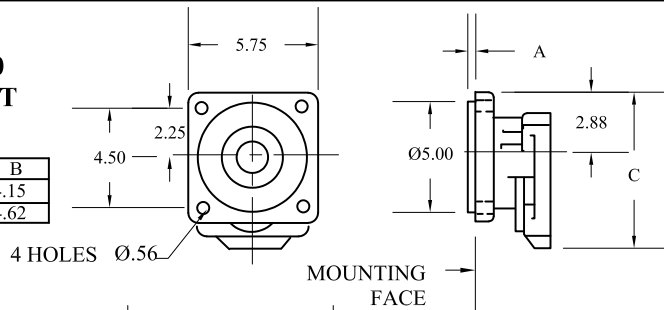


# IFP IP3100/IP5100/IP7600 SHAFT END COVER



## CODE \*78 IP3100/IP5100 SAE C 4-BOLT

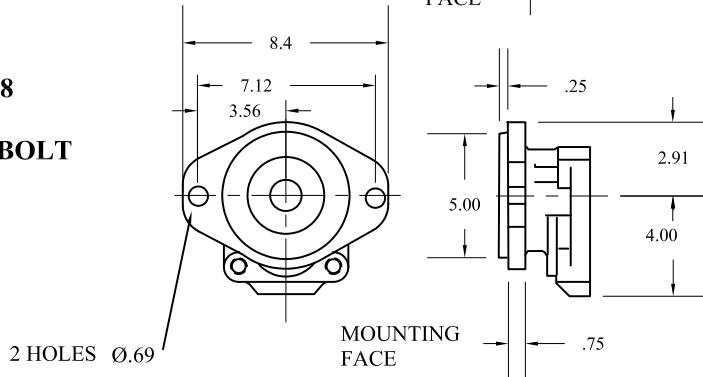
| MODEL  | A   | B    |
|--------|-----|------|
| IP3100 | .50 | 4.15 |
| IP5100 | .25 | 4.62 |



| 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 3100 SHAFT END COVER PART NUMBER | 312 5037 202N |
| IP 5100 SHAFT END COVER PART NUMBER | 313 5037 202N |

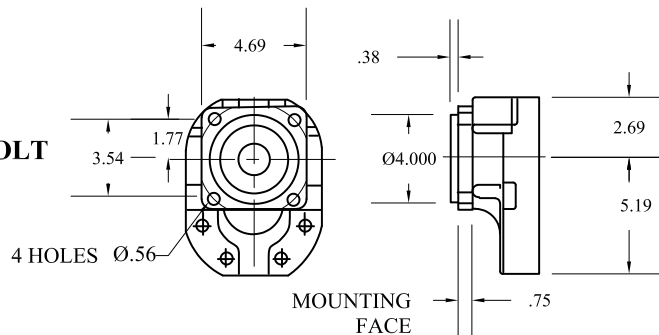
## CODE \*98 IP5100 SAE C 2-BOLT



| 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 5100 SHAFT END COVER PART NUMBER | 313 5027 202N |
|-------------------------------------|---------------|

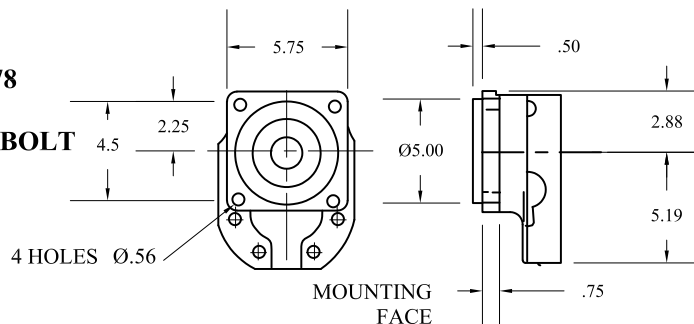
## CODE \*42 IP7600 SAE B 4-BOLT



| 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 7600 SHAFT END COVER PART NUMBER | 316 5037 201N |
|-------------------------------------|---------------|

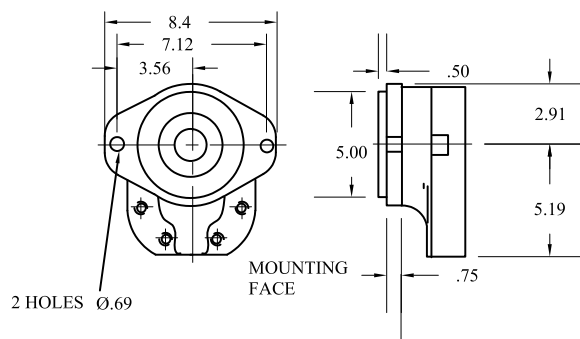
## CODE \*78 IP7600 SAE C 4-BOLT



| 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 7600 SHAFT END COVER PART NUMBER | 316 5037 202 |
|-------------------------------------|--------------|

## CODE \*98 IP7600 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 7600 SHAFT END COVER PART NUMBER | 316 5027 202 |
|-------------------------------------|--------------|



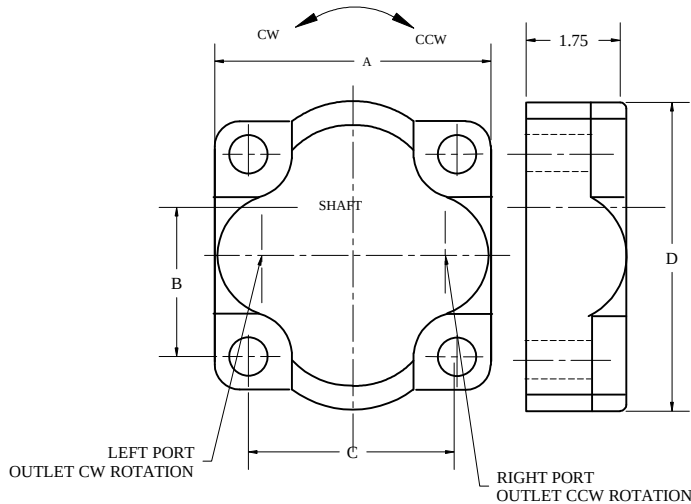
# IFP IP3100/IP5100/IP7600 PORT END COVERS



## PORT END COVER

IP3100 PART NUMBER 312-3120-100N

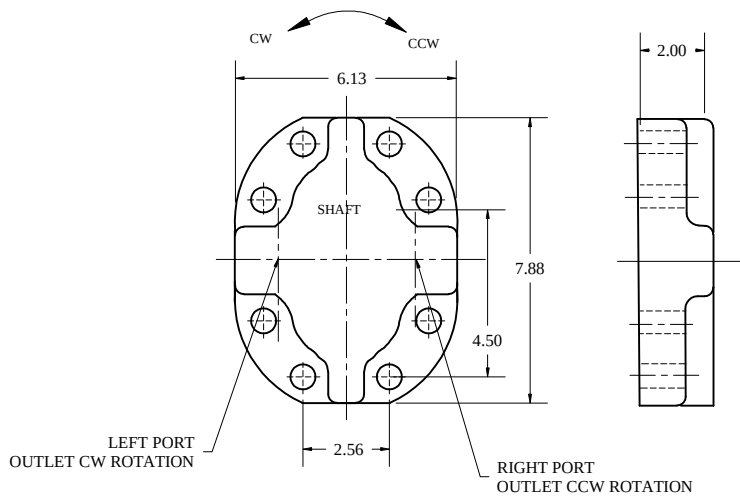
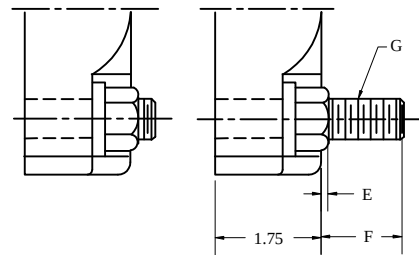
IP5100 PART NUMBER 313-3120-100N



| MODEL  | A    | B    | C    | D    | E   | F    | G              |
|--------|------|------|------|------|-----|------|----------------|
| IP3100 | 4.81 | 2.66 | 3.56 | 5.38 | .12 | 1.38 | 5/8"-11NC-3THD |
| IP5100 | 4.94 | 2.78 | 3.56 | 6.00 | .12 | 1.50 | 5/8"-11NC-3THD |

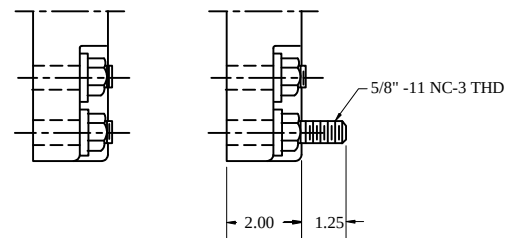
WITHOUT EXTENDED  
STUDS

WITH EXTENDED STUDS



## PORT END COVER

IP7600 PART NUMBER 316-3120-100N



## PORT END COVER PORTING CODES

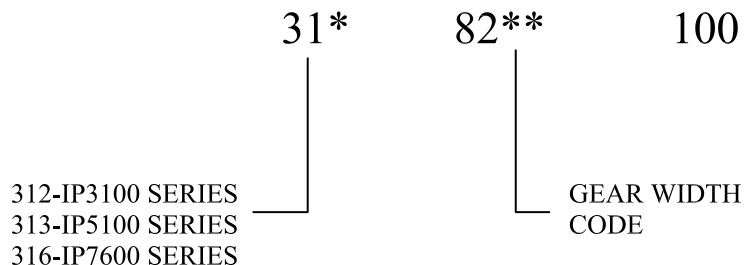
(REAR PORTED UNITS)

| LEFT COVER<br>ROTATION      | RIGHT COVER<br>PORTING | SINGLE UNIT<br>CODE | TANDEM UNIT<br>CODE | TANDEM UNIT CODE<br>C/W EXT. STUDS |
|-----------------------------|------------------------|---------------------|---------------------|------------------------------------|
| BLANK                       | BLANK                  | BE                  | BI                  | BY                                 |
| NPT THREADED PORTING        |                        |                     |                     |                                    |
| 3/4" NPT                    | BLANK                  | KE                  | KI                  | KY                                 |
| BLANK                       | 3/4" NPT               | LE                  | LI                  | LY                                 |
| 3/4" NPT                    | 3/4" NPT               | ME                  | MI                  | MY                                 |
| 1 NPT                       | 1 NPT                  |                     |                     |                                    |
| SAE O.D.T. THREADED PORTING |                        |                     |                     |                                    |
| 3/4" ODT                    | BLANK                  | CE                  | CI                  | CY                                 |
| BLANK                       | 3/4" ODT               | DE                  | DI                  | DY                                 |
| 3/4" ODT                    | 3/4" ODT               | FE                  | FI                  | FT                                 |
| 1" ODT                      | 1" ODT                 | JE                  | JI                  | JY                                 |

# IFP IP3100/IP5100/IP7600 GEAR HOUSINGS

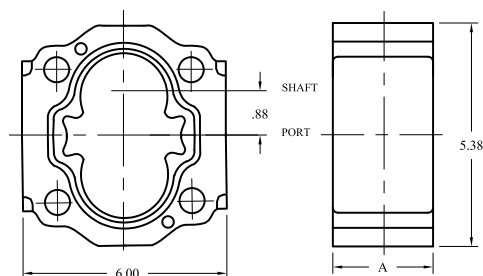


## GEAR HOUSING PART NUMBER NOMENCLATURE



| GEAR WIDTH CODE | GEAR WIDTH INCHES |
|-----------------|-------------------|
| 05              | 1/2"              |
| 07              | 3/4"              |
| 10              | 1"                |
| 12              | 1 1/4"            |
| 15              | 1 1/2"            |
| 17              | 1 3/4"            |
| 20              | 2"                |
| 22              | 2 1/4"            |
| 25              | 2 1/2"            |
| 27              | 2 3/4"            |
| 30              | 3"                |

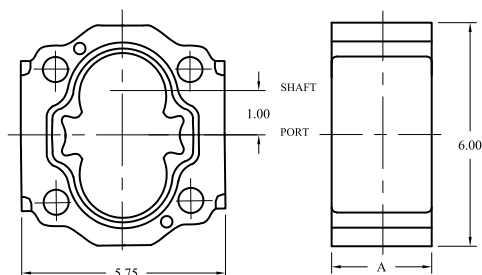
### GEAR HOUSING IP3100



### IP3100 GEAR HOUSING

| HOUSING CODE | IN3/REV DISPLACEMENT | MAXIMUM PRESSURE | HOUSING PART NUMBER | DIMENSION "A" |
|--------------|----------------------|------------------|---------------------|---------------|
| 05           | 0.99                 | 3000 PSI         | 312-8205-100N       | 1.25          |
| 07           | 1.48                 | 3000 PSI         | 312-8207-100N       | 1.50          |
| 10           | 1.97                 | 3000 PSI         | 312-8210-100N       | 1.75          |
| 12           | 2.46                 | 3000PSI          | 312-8212-100N       | 2.00          |
| 15           | 2.96                 | 3000PSI          | 312-8215-100N       | 2.25          |
| 17           | 3.45                 | 2500PSI          | 312-8217-100N       | 2.50          |
| 20           | 3.94                 | 2500 PSI         | 312-8220-100N       | 2.75          |

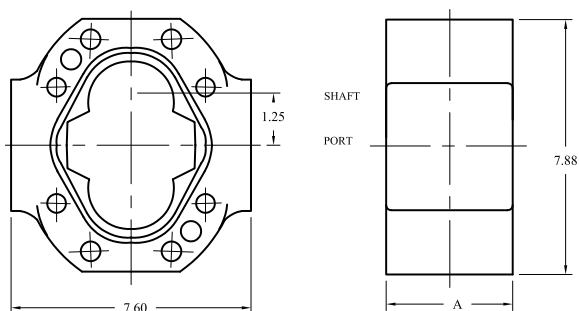
### GEAR HOUSING IP5100



### IP5100 GEAR HOUSING

| HOUSING CODE | IN3/REV DISPLACEMENT | MAXIMUM PRESSURE | HOUSING PART NUMBER | DIMENSION "A" |
|--------------|----------------------|------------------|---------------------|---------------|
| 07           | 1.91                 | 3000 PSI         | 313-8207-100N       | 1.50          |
| 10           | 2.55                 | 3000 PSI         | 313-8210-100N       | 1.75          |
| 12           | 3.19                 | 3000 PSI         | 313-8212-100N       | 2.00          |
| 15           | 3.83                 | 3000 PSI         | 313-8215-100N       | 2.25          |
| 17           | 4.46                 | 3000 PSI         | 313-8217-100N       | 2.50          |
| 20           | 5.10                 | 2500 PSI         | 313-8220-100N       | 2.75          |
| 22           | 5.74                 | 2500 PSI         | 313-8222-100N       | 3.00          |
| 25           | 6.38                 | 2500 PSI         | 313-8225-100N       | 3.25          |

### GEAR HOUSING IP7600

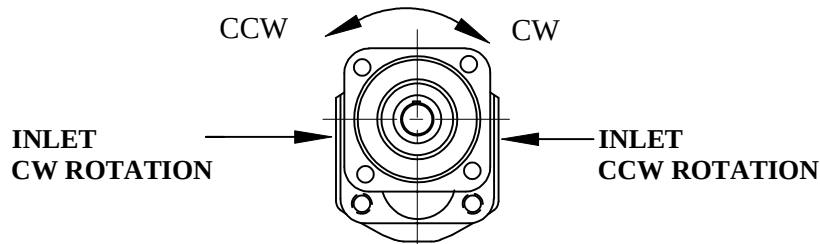


### IP7600 GEAR HOUSING

| HOUSING CODE | IN3/REV DISPLACEMENT | MAXIMUM PRESSURE | HOUSING PART NUMBER | DIMENSION "A" |
|--------------|----------------------|------------------|---------------------|---------------|
| 07           | 3.07                 | 3000 PSI         | 316-8207-100N       | 1.75          |
| 10           | 4.10                 | 3000 PSI         | 316-8210-100N       | 2.00          |
| 12           | 5.12                 | 3000 PSI         | 316-8212-100N       | 2.25          |
| 15           | 6.15                 | 3000PSI          | 316-8215-100N       | 2.50          |
| 17           | 7.17                 | 3000 PSI         | 316-8217-100N       | 2.75          |
| 20           | 8.20                 | 3000 PSI         | 316-8220-100N       | 3.00          |
| 22           | 9.22                 | 2500 PSI         | 316-8222-100N       | 3.25          |
| 25           | 10.25                | 2500 PSI         | 316-8225-100N       | 3.50          |
| 27           | 11.27                | 2500 PSI         | 316-8227-100N       | 3.75          |
| 30           | 12.30                | 2500 PSI         | 316-8230-100N       | 4.00          |

# IFP IP3100/IP5100/IP7600

## GEAR HOUSING PORT CODING



### GEAR HOUSING PORT CODE (SIDE PORTED UNITS NPT THREAD)

| INLET PORT | OUTLET PORT | CODE C.W. ROT. | CODE C.C.W. ROT. |
|------------|-------------|----------------|------------------|
| BLANK      | BLANK       | AB             | AB               |
| 1/2"       | BLANK       | IL             | IM               |
| 1/2"       | 1/2"        | IR             | IR               |
| 3/4"       | BLANK       | IC             | ID               |
| 3/4"       | 3/4"        | IF             | IF               |
| 1"         | 3/4"        | IJ             | IG               |
| 1 1/4"     | 3/4"        | IK             | IH               |
| 1"         | BLANK       | YC             | YD               |
| 1"         | 1"          | YF             | YF               |
| 1 1/4"     | 1"          | YJ             | YG               |
| 1 1/4"     | BLANK       | IA             | IB               |
| 1 1/4"     | 1 1/4"      | YL             | YL               |
| 1 1/2"     | BLANK       | YA             | YB               |
| 1 1/2"     | 1 1/4"      | YP             | YM               |
| 1 1/2"     | 1 1/2"      | YR             | YR               |

### (SIDE PORTED UNITS OD TUBE THREAD)

| INLET PORT | OUTLET PORT | CODE C.W. ROT. | CODE C.C.W. ROT. |
|------------|-------------|----------------|------------------|
| 3/4"       | BLANK       | EC             | ED               |
| 3/4"       | 3/4"        | EF             | EF               |
| 1"         | 3/4"        | EJ             | EG               |
| 1 1/4"     | 3/4"        | EK             | EH               |
| 1 1/2"     | 3/4"        | IP             | IN               |
| 7/8"       | BLANK       | EZ             | EZ               |
| 1"         | 7/8"        | EM             | EL               |
| 1"         | BLANK       | AC             | AD               |
| 1"         | 1"          | AF             | AF               |
| 1 1/4"     | 1"          | AJ             | AG               |
| 1 1/2"     | 1"          | AK             | AH               |
| 1 1/4"     | BLANK       | AA             | AO               |
| 1 1/4"     | 1 1/4"      | AL             | AL               |
| 1 1/2"     | 1 1/4"      | AP             | AM               |
| 1 1/2"     | BLANK       | AE             | AU               |
| 1 1/2"     | 1 1/2"      | AR             | AR               |

### (SIDE PORTED UNITS SPLIT FLANGE)

| INLET PORT | OUTLET PORT | CODE C.W. ROT. | CODE C.C.W. ROT. |
|------------|-------------|----------------|------------------|
| 3/4"       | BLANK       | UC             | UD               |
| 3/4"       | 3/4"        | UF             | UF               |
| 1"         | 3/4"        | UJ             | UG               |
| 1 1/4"     | 3/4"        | UK             | UH               |
| 1"         | BLANK       | OC             | OD               |
| 1"         | 1"          | OF             | OF               |
| 1 1/4"     | 1"          | OJ             | OG               |
| 1 1/2"     | 1"          | OK             | OH               |
| 1 1/4"     | BLANK       | OA             | OB               |
| 1 1/4"     | 1 1/4"      | OL             | OL               |
| 1 1/2"     | 1 1/4"      | OP             | OM               |
| 1 1/2"     | BLANK       | OE             | OU               |
| 1 1/2"     | 1 1/2"      | OR             | OR               |
| 2"         | 1"          | UQ             | BALNK            |
| 2"         | 1 1/4"      | OQ             | ON               |
| 2"         | 1 1/2"      | OV             | OS               |
| 2"         | 2"          | OX             | OX               |
| 2 1/2"     | 1 1/4"      | US             | UN               |
| 2 1/2"     | 1 1/2"      | OW             | OT               |
| 2 1/2"     | 2"          | OZ             | OY               |

### NPTF THREAD

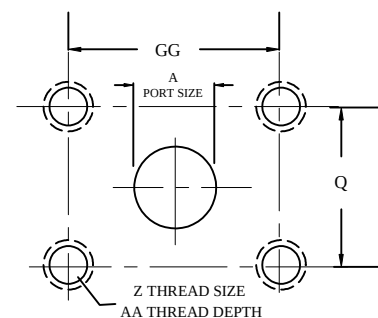
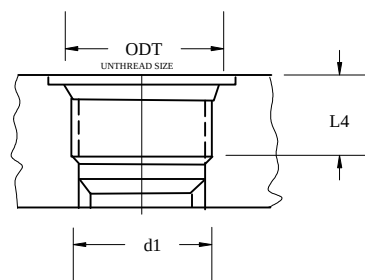
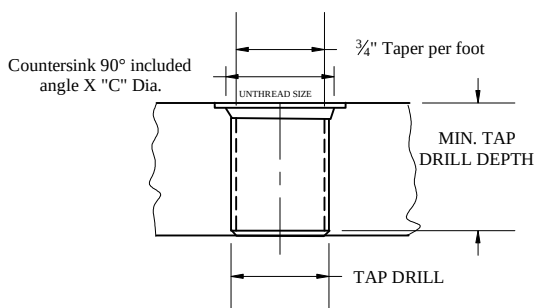
| NPTF PIPE SIZE | Tap drill for taper reaming DIA | Size    | Min. tap drill depth (STD. tap) |
|----------------|---------------------------------|---------|---------------------------------|
| 1/16-27        | .2188                           | 7/32    | .560                            |
| 1/8-27         | .3125                           | 5/16    | .560                            |
| 1/4-18         | .4062                           | 13/32   | .810                            |
| 3/8-18         | .5469                           | 35/64   | .810                            |
| 1/2-14         | .6562                           | 21/32   | 1.060                           |
| 3/4-14         | .8750                           | 7/8     | 1.060                           |
| 1-11 1/2       | 1.1094                          | 1 7/64  | 1.250                           |
| 1 1/4-11 1/2   | 1.4531                          | 1 29/64 | 1.310                           |
| 1 1/2-11 1/2   | 1.6875                          | 1 11/16 | 1.310                           |

### SAE STRAIGHT THREAD

| Dash Size | ODT in. | d1 Thd. Size in | L4 Min Full Thd |
|-----------|---------|-----------------|-----------------|
| -4        | 1/4     | 7/16-20 UNF-2B  | .394            |
| -6        | 3/8     | 9/16-18 UNF-2B  | .500            |
| -8        | 1/2     | 3/4-16 UNF-2B   | .563            |
| -10       | 5/8     | 7/8-14 UNF-2B   | .658            |
| -12       | 3/4     | 1 1/16-12 UN-2B | .748            |
| -16       | 1       | 1 5/16-12 UN-2B | .748            |
| -20       | 1 1/4   | 1 5/8-12 UN-2B  | .748            |
| -24       | 1 1/2   | 1 7/8-12 UN-2B  | .748            |

### FLANGE CONNECTION

| Nominal Flange Size, in | Flange Dash Size | A +0.00 in | Q +0.010 in | GG +0.010 in | AA Min in |
|-------------------------|------------------|------------|-------------|--------------|-----------|
| 1/2                     | -8               | 0.50       | 1.500       | 0.688        | 0.94      |
| 3/4                     | -12              | 0.75       | 1.875       | 0.875        | 0.88      |
| 1                       | -16              | 1.00       | 2.062       | 1.031        | 0.88      |
| 1 1/4                   | -20              | 1.25       | 2.312       | 1.188        | 1.12      |
| 1 1/2                   | -24              | 1.50       | 2.750       | 1.406        | 1.06      |
| 2                       | -32              | 2.00       | 3.062       | 1.688        | 1.06      |
| 2 1/2                   | -40              | 2.50       | 3.500       | 2.000        | 1.19      |

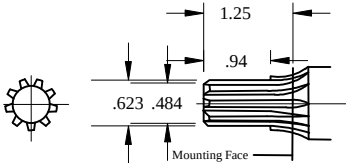


# IFP IP3100/IP5100/IP7600 SPLINE - SHAFT/SHAFT&GEAR ASSEMBLIES



## CODE 95

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

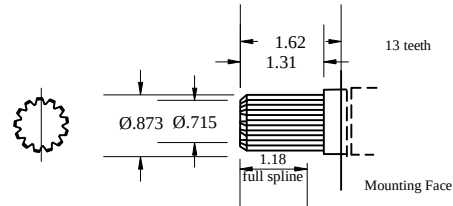


| GEAR CODE | GEAR WIDTH INCHES | IP3100 SHAFT & GEAR PART NUMBER | IP5100 SHAFT & GEAR PART NUMBER | IP7600 SHAFT & GEAR PART NUMBER |
|-----------|-------------------|---------------------------------|---------------------------------|---------------------------------|
| 05        | $\frac{1}{2}$ "   | //                              | NOT AVAILABLE                   | NOT AVAILABLE                   |
| 07        | $\frac{3}{4}$ "   | 312-2907-122N                   |                                 |                                 |
| 10        | 1"                | 312-2907-122N                   |                                 |                                 |
| 12        | $1\frac{1}{4}$ "  | 312-2907-122N                   |                                 |                                 |
| 15        | $1\frac{1}{2}$ "  |                                 |                                 |                                 |
| 17        | $1\frac{3}{4}$ "  |                                 |                                 |                                 |
| 20        | 2"                |                                 |                                 |                                 |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1000-200N |
| IP 5100 ONE PIECE SHAFT | NOT AVAILABLE |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

## CODE 25

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

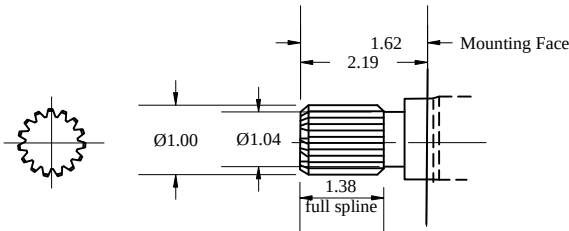


| GEAR CODE | GEAR WIDTH INCHES | IP3100 SHAFT & GEAR PART NUMBER | IP5100 SHAFT & GEAR PART NUMBER | IP7600 SHAFT & GEAR PART NUMBER |
|-----------|-------------------|---------------------------------|---------------------------------|---------------------------------|
| 05        | $\frac{1}{2}$ "   | //                              | NOT AVAILABLE                   | NOT AVAILABLE                   |
| 07        | $\frac{3}{4}$ "   | 312-2907-230N                   |                                 |                                 |
| 10        | 1"                | 312-2910-230N                   |                                 |                                 |
| 12        | $1\frac{1}{4}$ "  | 312-2912-230N                   |                                 |                                 |
| 15        | $1\frac{1}{2}$ "  | 312-2915-230N                   |                                 |                                 |
| 17        | $1\frac{3}{4}$ "  | 312-2917-230N                   |                                 |                                 |
| 20        | 2"                | 312-2920-230N                   | 313-2920-230N                   |                                 |
| 22        | $2\frac{1}{4}$ "  | //                              | 313-2922-230N                   |                                 |
| 25        | $2\frac{1}{2}$ "  | //                              | 313-2925-230N                   |                                 |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1135-138N |
| IP 5100 ONE PIECE SHAFT | 313-1135-138N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

## CODE 98

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

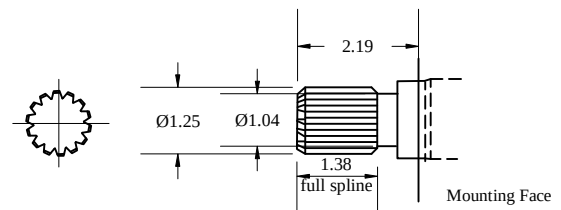


| GEAR CODE | GEAR WIDTH INCHES | IP3100 SHAFT & GEAR PART NUMBER | IP5100 SHAFT & GEAR PART NUMBER | IP7600 SHAFT & GEAR PART NUMBER |
|-----------|-------------------|---------------------------------|---------------------------------|---------------------------------|
| 05        | $\frac{1}{2}$ "   | //                              | NOT AVAILABLE                   | NOT AVAILABLE                   |
| 07        | $\frac{3}{4}$ "   | 312-2907-240N                   |                                 |                                 |
| 10        | 1"                | 312-2910-240N                   |                                 |                                 |
| 12        | $1\frac{1}{4}$ "  | 312-2912-240N                   |                                 |                                 |
| 15        | $1\frac{1}{2}$ "  | 312-2915-240N                   |                                 |                                 |
| 17        | $1\frac{3}{4}$ "  | 312-2917-240N                   |                                 |                                 |
| 20        | 2"                | 312-2920-240N                   | 313-2920-240N                   |                                 |
| 22        | $2\frac{1}{4}$ "  | //                              | 313-2922-240N                   |                                 |
| 25        | $2\frac{1}{2}$ "  | //                              | 313-2925-240N                   |                                 |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1000-240N |
| IP 5100 ONE PIECE SHAFT | 313-1000-138N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

## CODE 07

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

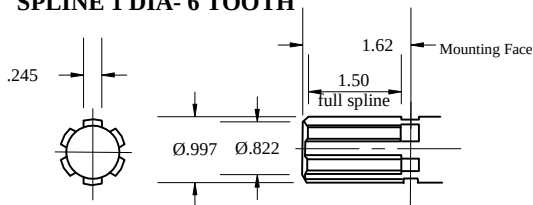


| GEAR CODE | GEAR WIDTH INCHES | IP3100 SHAFT & GEAR PART NUMBER | IP5100 SHAFT & GEAR PART NUMBER | IP7600 SHAFT & GEAR PART NUMBER |
|-----------|-------------------|---------------------------------|---------------------------------|---------------------------------|
| 05        | $\frac{1}{2}$ "   | NOT AVAILABLE                   | //                              | //                              |
| 07        | $\frac{3}{4}$ "   |                                 | //                              | //                              |
| 10        | 1"                |                                 | 313-2910-250N                   | //                              |
| 12        | $1\frac{1}{4}$ "  |                                 | 313-2912-250N                   | 316-2912-250N                   |
| 15        | $1\frac{1}{2}$ "  |                                 | 313-2915-250N                   | 316-2915-250N                   |
| 17        | $1\frac{3}{4}$ "  |                                 | 313-2917-250N                   | 316-2917-250N                   |
| 20        | 2"                |                                 | 313-2920-250N                   | 316-2920-250N                   |
| 22        | $2\frac{1}{4}$ "  |                                 | 313-2922-250N                   | 316-2922-250N                   |
| 25        | $2\frac{1}{2}$ "  |                                 | 313-2925-250N                   | 316-2925-250N                   |
| 27        | $2\frac{3}{4}$ "  |                                 | //                              | 316-2927-250N                   |
| 30        | 3"                |                                 | //                              | 316-2930-250N                   |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1135-133N |
| IP 5100 ONE PIECE SHAFT | 313-1135-300N |
| IP 7600 ONE PIECE SHAFT | 316-1135-148N |

## CODE 68

SPLINE 1 DIA- 6 TOOTH



| GEAR CODE | GEAR WIDTH INCHES | IP3100 SHAFT & GEAR PART NUMBER | IP5100 SHAFT & GEAR PART NUMBER | IP7600 SHAFT & GEAR PART NUMBER |
|-----------|-------------------|---------------------------------|---------------------------------|---------------------------------|
|           |                   | NOT AVAILABLE                   | NOT AVAILABLE                   |                                 |

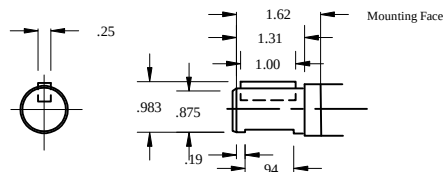
|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1000-003N |
| IP 5100 ONE PIECE SHAFT | 313-1000-002N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

# IFP IP3100/IP5100/IP7600 KEYED- SHAFT&GEAR ASSEMBLIES



## CODE 30

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

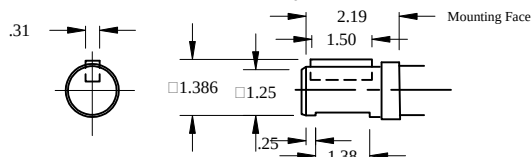


| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 05              | $\frac{1}{2}$ "   |                                       | //                                    | //                                    |
| 07              | $\frac{3}{4}$ "   | 312-2907-730N                         | //                                    | //                                    |
| 10              | 1"                | 312-2910-730N                         | //                                    | //                                    |
| 12              | 1 $\frac{1}{4}$ " | 312-2912-730N                         | //                                    | //                                    |
| 15              | 1 $\frac{1}{2}$ " | 312-2915-730N                         | //                                    | //                                    |
| 17              | 1 $\frac{3}{4}$ " | 312-2917-730N                         | //                                    | //                                    |
| 20              | 2"                | 312-2920-730N                         | //                                    | //                                    |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1500-300N |
| IP 5100 ONE PIECE SHAFT | NO AVAILABLE  |
| IP 7600 ONE PIECE SHAFT | NO AVAILABLE  |

## CODE 11

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

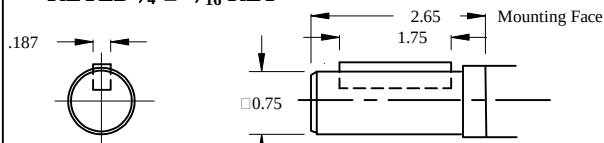


| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 05              | $\frac{1}{2}$ "   |                                       | //                                    | //                                    |
| 07              | $\frac{3}{4}$ "   |                                       | //                                    | //                                    |
| 10              | 1"                |                                       | 313-2910-750N                         | //                                    |
| 12              | 1 $\frac{1}{4}$ " |                                       | 313-2912-750N                         | 316-2912-750N                         |
| 15              | 1 $\frac{1}{2}$ " |                                       | 313-2915-750N                         | 316-2915-750N                         |
| 17              | 1 $\frac{3}{4}$ " |                                       | 313-2917-750N                         | 316-2917-750N                         |
| 20              | 2"                |                                       | 313-2920-750N                         | 316-2920-750N                         |
| 22              | 2 $\frac{1}{4}$ " |                                       | 313-2922-750N                         | 316-2922-750N                         |
| 25              | 2 $\frac{1}{2}$ " |                                       | 313-2925-750N                         | 316-2925-750N                         |
| 27              | 2 $\frac{3}{4}$ " |                                       | //                                    | 316-2927-750N                         |
| 30              | 3"                |                                       | //                                    | 316-2930-750N                         |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | NOT AVAILABLE |
| IP 5100 ONE PIECE SHAFT | 313-1500-004N |
| IP 7600 ONE PIECE SHAFT | 316-1135-147N |

## CODE 12

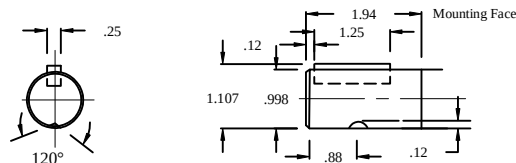
KEYED  $\frac{3}{4}$   $\square$  -  $\frac{3}{16}$  KEY



| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                 |                   |                                       |                                       |                                       |

|                         |                   |
|-------------------------|-------------------|
| IP 3100 ONE PIECE SHAFT | 312 - 1135 - 152N |
| IP 5100 ONE PIECE SHAFT | NOT AVAILABLE     |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE     |

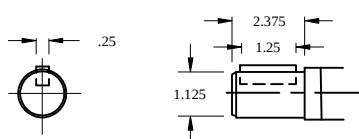
## CODE 43 - KEYED 1 $\square$ - $\frac{1}{4}$ KEY - ANSI 25-1



| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 05              | $\frac{1}{2}$ "   | //                                    | //                                    | //                                    |
| 07              | $\frac{3}{4}$ "   | 312-2907-740N                         | //                                    | //                                    |
| 10              | 1"                | 312-2910-740N                         | 313-2910-740N                         | //                                    |
| 12              | 1 $\frac{1}{4}$ " | 312-2912-740N                         | 313-2912-740N                         | //                                    |
| 15              | 1 $\frac{1}{2}$ " | 312-2915-740N                         | 313-2915-740N                         | //                                    |
| 17              | 1 $\frac{3}{4}$ " | 312-2917-740N                         | 313-2917-740N                         | //                                    |
| 20              | 2"                | 312-2920-740N                         | 313-2920-740N                         | //                                    |
| 22              | 2 $\frac{1}{4}$ " |                                       | 313-2922-740N                         |                                       |
| 25              | 2 $\frac{1}{2}$ " |                                       | 313-2925-740N                         |                                       |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1500-400N |
| IP 5100 ONE PIECE SHAFT | 313-1500-400N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

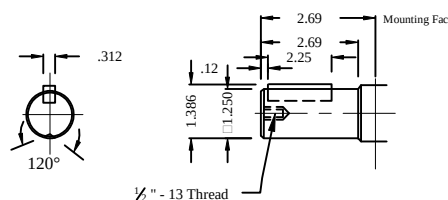
## CODE 02 - KEYED 1 $\frac{1}{8}$ $\square$ - $\frac{1}{4}$ KEY



| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                 |                   |                                       |                                       |                                       |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | NOT AVAILABLE |
| IP 5100 ONE PIECE SHAFT | 391-1500-502N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

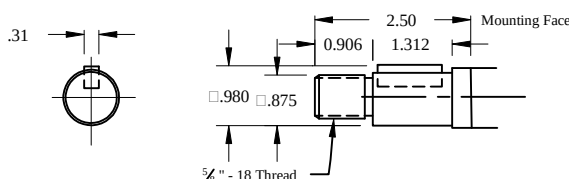
## CODE 73 - KEYED 1 $\frac{1}{4}$ $\square$ - $\frac{5}{16}$ KEY C/W $\frac{1}{2}$ - 13 THREAD



| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                 |                   |                                       |                                       |                                       |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | NOT AVAILABLE |
| IP 5100 ONE PIECE SHAFT | 313-1500-502N |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

## CODE 90 - KEYED $\frac{7}{8}$ $\square$ - $\frac{1}{4}$ KEY C/W $\frac{5}{8}$ " - 13 THREAD



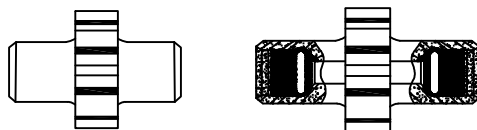
| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>SHAFT & GEAR<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                 |                   |                                       |                                       |                                       |

|                         |               |
|-------------------------|---------------|
| IP 3100 ONE PIECE SHAFT | 312-1135-171N |
| IP 5100 ONE PIECE SHAFT | NOT AVAILABLE |
| IP 7600 ONE PIECE SHAFT | NOT AVAILABLE |

# IFP IP3100/IP5100/IP7600 MATCHED GEAR SETS&SHAFTS

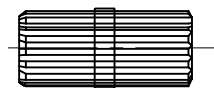
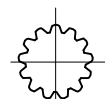


## MATCHED GEAR SET



## CODE 1

### CONNECTING SHAFT



| GEAR WIDTH CODE | GEAR WIDTH INCHES | IP3100<br>SHAFT & GEAR<br>PART NUMBER | IP5100<br>SHAFT & GEAR<br>PART NUMBER | IP7600<br>MATCHED GEAR SET<br>PART NUMBER |
|-----------------|-------------------|---------------------------------------|---------------------------------------|-------------------------------------------|
| 05              | 1/2"              | 312-2805-000N                         | //                                    | //                                        |
| 07              | 3/4"              | 312-2807-000N                         | 313-2807-000N                         | 316-2807-000N                             |
| 10              | 1"                | 312-2810-000N                         | 313-2810-000N                         | 316-2810-000N                             |
| 12              | 1 1/4"            | 312-2812-000N                         | 313-2812-000N                         | 316-2812-000N                             |
| 15              | 1 1/2"            | 312-2815-000N                         | 313-2815-000N                         | 316-2815-000N                             |
| 17              | 1 3/4"            | 312-2817-000N                         | 313-2817-000N                         | 316-2817-000N                             |
| 20              | 2"                | 312-2820-000N                         | 313-2820-000N                         | 316-2820-000N                             |
| 22              | 2 1/4"            |                                       | 313-2822-000N                         | 316-2822-000N                             |
| 25              | 2 1/2"            |                                       | 313-2825-000N                         | 316-2825-000N                             |
| 27              | 2 3/4"            |                                       |                                       | 316-2827-000N                             |
| 30              | 3"                |                                       |                                       | 316-2830-000N                             |

|                          |                   |
|--------------------------|-------------------|
| IP 3100 CONNECTING SHAFT | 312 - 1133 - 001N |
| IP 5100 CONNECTING SHAFT | 313 - 1133 - 001N |
| IP 7600 CONNECTING SHAFT | 316 - 1133 - 001N |

## TWO PIECE SHAFT & GEAR ASSEMBLY

OPTIONAL DRIVE  
KEY/SPLINE SHAFT  
SEE Pages E1.12 - E1.13

CONTINENTAL SHAFT

MATCHED GEAR SET

ONE PIECE SHAFT & GEAR  
ASSEMBLY

OPTIONAL DRIVE  
KEY/SPLINE SHAFT  
SEE Pages E1.12 - E1.13

ADDER FOR MULTIPLE SECTION PUMPS

CONNECTING  
SHAFT

MATCHED GEAR SET

ADDITIONAL  
SECTIONS

## SHAFT & GEAR PART NUMBER NOMENCLATURE

31\* - 29\*\* - xxx N

## MATCHED GEAR PART NUMBER NOMENCLATURE

31\* - 28\*\* - 000 N

312-IP3100 SERIES  
313-IP5100 SERIES  
316-IP7600 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"            | 27              | 2 3/4"            |
| 15              | 1 1/2"            | 30              | 3"                |
| 17              | 1 3/4"            |                 |                   |

| DRIVE SHAFT CODE            |
|-----------------------------|
| 122 - 5/8 Ø - 9TH SPLINE    |
| 230 - 7/8 Ø - 13TH SPLINE   |
| 250 - 1 1/4 Ø - 14TH SPLINE |
| 730 - 7/8 Ø - 1/4 KEYED     |
| 740 - 1 Ø - 1/4 KEYED       |
| 750 - 1 1/4 Ø - 5/16 KEYED  |

312-IP3100 SERIES  
313-IP5100 SERIES  
316-IP7600 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"            | 27              | 2 3/4"            |
| 15              | 1 1/2"            | 30              | 3"                |
| 17              | 1 3/4"            |                 |                   |

## PL CHART

| SHAFT STYLE      | INTEGRAL<br>SHAFT&GEAR | TWO PIECE<br>STYLE |
|------------------|------------------------|--------------------|
| IP30 / 31        |                        |                    |
| SAE "A" SPLINE   | 2,600                  | 2,600              |
| SAE "B" SPLINE   | 7,900                  | 5,850              |
| SAE "B" KEY      | 4,800                  | 4,850              |
| SAE "BB" SPLINE  | 12,150                 |                    |
| SAE "BB" KEY     | 7,250                  | 5,850              |
| SAE "C" SPLINE   | --                     | 8,850              |
| CONNECTING SHAFT | --                     | 5,850              |
| IP50 / 51        |                        |                    |
| 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              |
| IP75 / 76        |                        |                    |
| 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

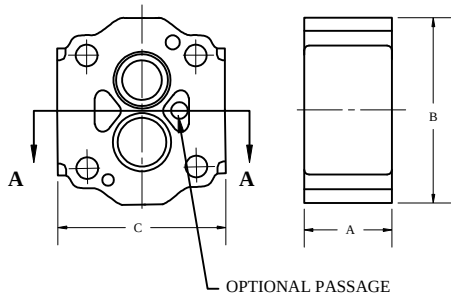
PL must not exceed number shown in Chart for appropriate shaft



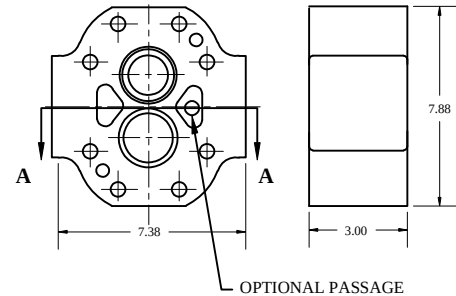
# IFP IP3100/IP5100/IP7600 BEARING CARRIERS



## IP3100/IP5100



## IP7600



| IP3100 BEARING CARRIER |     |      |      | IP5100 BEARING CARRIER |      |      |      | DESCRIPTION                                |
|------------------------|-----|------|------|------------------------|------|------|------|--------------------------------------------|
| PART NUMBER            | "A" | "B"  | "C"  | PART NUMBER            | "A"  | "B"  | "C"  |                                            |
| 312-7700-100N          | 2.5 | 5.38 | 5.00 | 313-7700-100N          | 2.88 | 6.00 | 5.00 | STANDARD WIDTH-"C"<br>WITHOUT PASSAGE HOLE |
| 312-7740-100N          | 2.5 | 5.38 | 5.79 | 313-7740-100N          | 2.88 | 6.00 | 5.79 | WIDER WIDTH-"C"<br>WITHOUT PASSAGE HOLE    |
| 312-7723-100N          | 2.5 | 5.38 | 5.00 | 313-7723-100N          | 2.88 | 6.00 | 5.00 | STANDARD WIDTH-"C"<br>WITHOUT PASSAGE HOLE |
| 312-7743-100N          | 2.5 | 5.38 | 5.79 | 313-7743-100N          | 2.88 | 6.00 | 5.79 | WIDER WIDTH-"C"<br>WITHOUT PASSAGE HOLE    |

| IP7600 BEARING CARRIER |                      |
|------------------------|----------------------|
| PART NUMBER            | DESCRIPTION          |
| 316-7740-100N          | WITHOUT PASSAGE HOLE |
| 316-7740-100N          | WITH PASSAGE HOLE    |

## BEARING CARRIER PART CODE

| SECTION<br>VIEW A-A<br>C.W. ROT. | SECTION<br>VIEW A-A<br>C.W. ROT. | PORT SIZE<br>IN | PORT SIZE<br>OUT | NPT THREAD<br>BEARING<br>CARRIER CODE<br>C.W. ROT. | NPT THREAD<br>BEARING<br>CARRIER CODE<br>C.C.W. ROT. | O.D.T. THREAD<br>BEARING<br>CARRIER CODE<br>C.W. ROT. | O.D.T. THREAD<br>BEARING<br>CARRIER CODE<br>C.C.W. ROT. | SPLIT FLANGE<br>BEARING<br>CARRIER CODE<br>C.W. ROT. | SPLIT FLANGE<br>BEARING<br>CARRIER CODE<br>C.C.W. ROT. |
|----------------------------------|----------------------------------|-----------------|------------------|----------------------------------------------------|------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|
|                                  |                                  | //              | //               | B                                                  | B                                                    | B                                                     | B                                                       | B                                                    | B                                                      |
|                                  |                                  | //              | //               | C                                                  | D                                                    | C                                                     | D                                                       | C                                                    | D                                                      |
|                                  |                                  | 1               | //               | TB                                                 | BT                                                   | CB                                                    | BC                                                      | LB                                                   | BL                                                     |
|                                  |                                  | 1 1/4           | //               | VB                                                 | BV                                                   | DB                                                    | BD                                                      | MB                                                   | BM                                                     |
|                                  |                                  | 1 1/2           | //               | WB                                                 | BW                                                   | FB                                                    | BF                                                      | NB                                                   | BN                                                     |
|                                  |                                  | //              | 3/4              | //                                                 | //                                                   | PJ                                                    | JP                                                      | BR                                                   | RB                                                     |
|                                  |                                  | 1               | 3/4              | TX                                                 | XT                                                   | CJ                                                    | JC                                                      | LR                                                   | RL                                                     |
|                                  |                                  | 1 1/4           | 3/4              | VX                                                 | XV                                                   | DJ                                                    | JD                                                      | MR                                                   | RM                                                     |
|                                  |                                  | 1 1/2           | 3/4              | WX                                                 | XW                                                   | FJ                                                    | JF                                                      | NR                                                   | RN                                                     |
|                                  |                                  | 1 1/4           | 1                | VZ                                                 | ZV                                                   | DK                                                    | KD                                                      | MS                                                   | SM                                                     |
|                                  |                                  | 1 1/2           | 1                | WZ                                                 | ZW                                                   | FK                                                    | KF                                                      | NS                                                   | SN                                                     |
|                                  |                                  | 1               | 3/4              | TJ                                                 | JT                                                   | CR                                                    | RC                                                      | LX                                                   | XL                                                     |
|                                  |                                  | 1 1/4           | 3/4              | VJ                                                 | JV                                                   | DR                                                    | RD                                                      | MX                                                   | XM                                                     |
|                                  |                                  | 1 1/2           | 3/4              | //                                                 | //                                                   | FR                                                    | RF                                                      | //                                                   | //                                                     |
|                                  |                                  | 1 1/4           | 1                | VK                                                 | KV                                                   | DS                                                    | SD                                                      | MZ                                                   | ZM                                                     |
|                                  |                                  | 1 1/2           | 1                | WK                                                 | KW                                                   | FS                                                    | SF                                                      | NZ                                                   | ZN                                                     |
|                                  |                                  | //              | 1                | //                                                 | //                                                   | HZ                                                    | ZH                                                      | //                                                   | //                                                     |
|                                  |                                  | 1               | 3/4              | ZX                                                 | XZ                                                   | KJ                                                    | JK                                                      | SR                                                   | RS                                                     |

SECTION A-A  
ORIENTATION

BACK OF PUMP

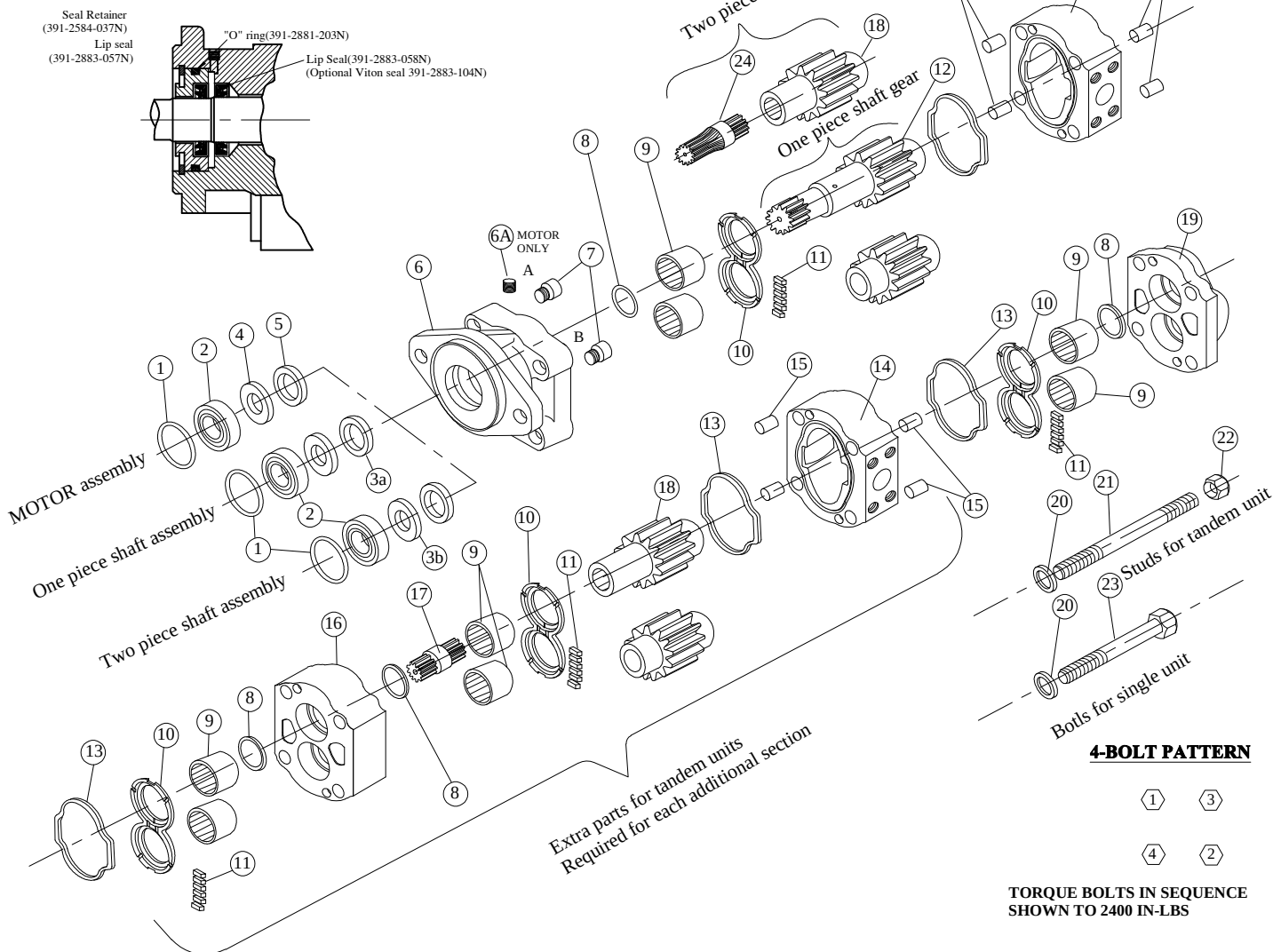
FRONT OF PUMP

OPTIONAL PASSAGES

# IFP IP3100 PUMPS and MOTORS SERVICE PARTS INFORMATION



## DOUBLE SHAFT SEAL ASSEMBLY



PLUG 7 IN POSITION **B** FOR CLOCKWISE ROTATION.  
PLUG 7 IN POSITION **A** FOR COUNTER CLOCKWISE ROTATION.  
CHECK VALVE IN BOTH POSITIONS FOR BI-DIRECTIONAL UNITS.

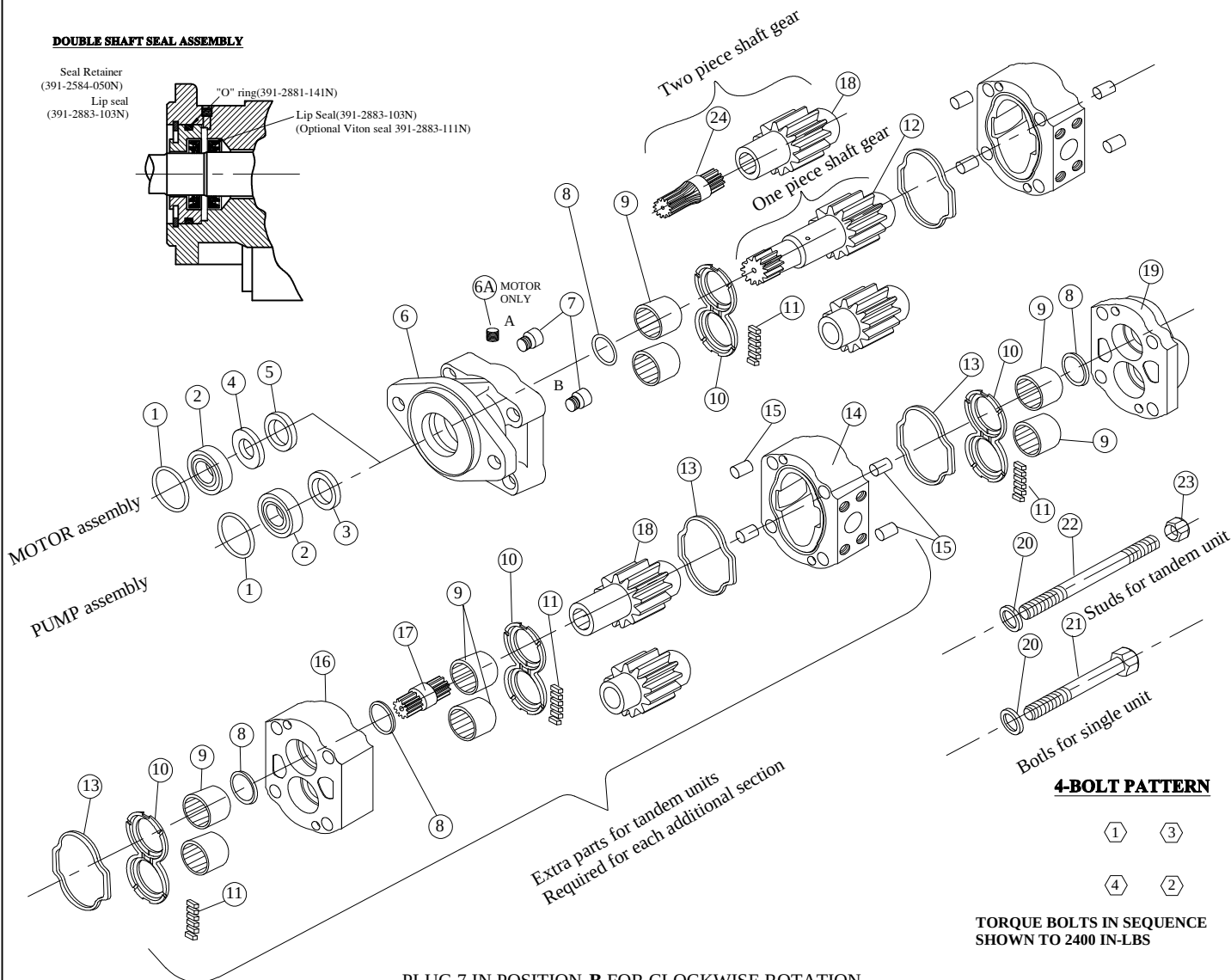
## DESCRIPTION & CODES

| ITEM | DESCRIPTION                                           | REQ'S | PART NO.      | ITEM | DESCRIPTION                    | REQ'S         | PART NO.      |
|------|-------------------------------------------------------|-------|---------------|------|--------------------------------|---------------|---------------|
| 1    | SNAP RING                                             | 1     | 391-2686-063N | 11   | POCKET SEALS(PER GEAR SECTION) | 1 STRIP       | 391-2882-051N |
| 2    | OUTBOARD BEARING                                      | 1     | 391-0381-040N | 12   | DRIVE SHAFT AND GEAR SET       | 1 SET         | 312-29xx-xxxN |
| 3a   | DOUBLE LIP SEAL (PUMPS)(one piece gear)               | 1     | 391-2883-107N | 13   | GASKET SEALS(PER GEAR SET)     | 2             | 319-2884-050N |
| 3b   | DOUBLE LIP SEAL (PUMPS)(two piece gear)               | 1     | 391-2883-058N | 14   | GEAR HOUSING                   | 1 or more     | 312-8xxx-xxxN |
| 4    | SEAL RETAINER                                         | 1     | 391-3381-040N | 15   | DOWEL PINS                     | 4             | 391-2082-032N |
| 5    | HI-PRESSURE SEAL (MOTORS)                             | 1     | 391-2883-119N | 16   | BEARING CARRIER                | 1 or more     | 312-7xxx-xxxN |
| 6    | SHAFT END COVER                                       | 1     | 312-50xx-xxxN | 17   | CONNECTING SHAFT               | 1 or more     | 312-1133-001N |
| 6A   | DRAIN PLUG (MOTORS ONLY)                              | 1     | 391-2282-056N | 18   | MATCHED GEARS                  | 1 set or more | 312-28xx-xxxN |
| 7    | CHECK ASSEMBLIES FOR MOTORS<br>& BI-DIRECTIONAL PUMPS | 2     | 391-3681-001N | 19   | PORT END COVER                 | 1             | 312-3120-100N |
|      | PLUG (PUMPS ONLY)                                     | 1     | 391-2286-004N | 20   | WASHERS                        | 4             | 391-3784-028N |
| 8    | RING SEALS(PER GEAR SECTION)                          | 2     | 391-2585-006N | 21   | BOLTS(SINGLE UNITS)            | 4             | 391-1401-xxxN |
| 9    | ROLLER BEARINGS(PER GEAR SECTYION)                    | 4     | 391-0381-906N | 22   | STUDS(MULTIPLE UNITS)          | 4             | 391-1425-xxxN |
| 10   | THRUST PLATES(PER GEAR SECTION)                       | 2     | 391-2185-913N | 23   | NUT(MULTIPLE UNITS)            | 4             | 391-1451-076N |
|      |                                                       |       |               | 24   | CONTINENTAL DRIVE SHAFT        | 1             | 312-xxxx-xxxN |

# IFP IP5100 PUMPS and MOTORS SERVICE PARTS INFORMATION



## DOUBLE SHAFT SEAL ASSEMBLY



## 4-BOLT PATTERN



TORQUE BOLTS IN SEQUENCE  
SHOWN TO 2400 IN-LBS

PLUG 7 IN POSITION **B** FOR CLOCKWISE ROTATION.  
PLUG 7 IN POSITION **A** FOR COUNTER CLOCKWISE ROTATION.  
CHECK VALVE IN BOTH POSITIONS FOR BI-DIRECTIONAL UNITS.

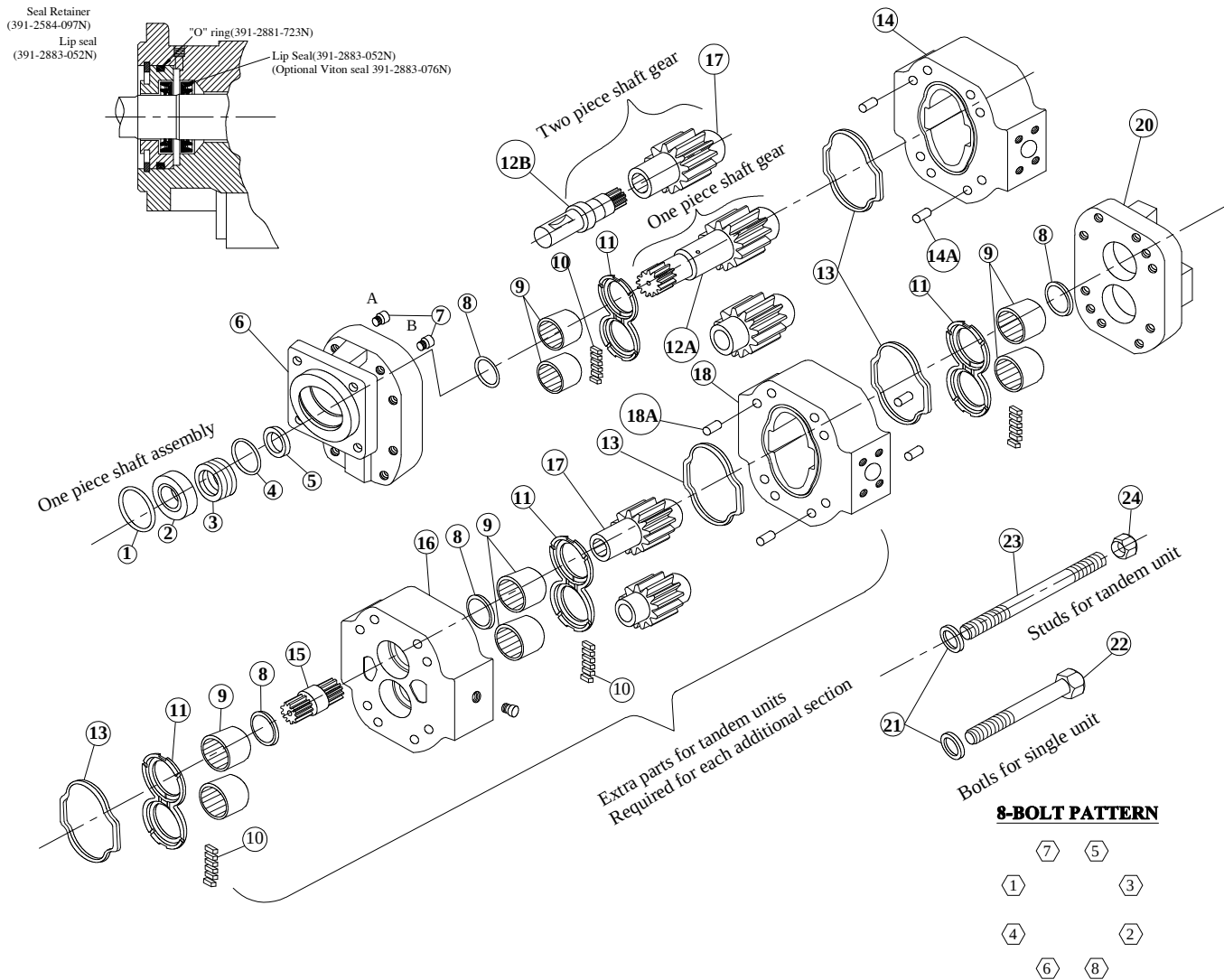
## DESCRIPTION & CODES

| ITEM | DESCRIPTION                                           | REQ'S | PART NO.      | ITEM | DESCRIPTION                    | REQ'S         | PART NO.      |
|------|-------------------------------------------------------|-------|---------------|------|--------------------------------|---------------|---------------|
| 1    | SNAP RING                                             | 1     | 391-2686-065N | 11   | POCKET SEALS(PER GEAR SECTION) | 1 STRIP       | 391-2882-051N |
| 2    | OUTBOARD BEARING                                      | 1     | 391-0381-077N | 12   | DRIVE SHAFT AND GEAR SET       | 1 SET         | 313-2xxx-xxxN |
| 3    | DOUBLE LIP SEAL (PUMPS)                               | 1     | 391-2883-103N | 13   | GASKET SEALS(PER GEAR SET)     | 2             | 391-2884-021N |
| 4    | SEAL RETAINER                                         | 1     | 391-3383-082N | 14   | GEAR HOUSING SERIES 51         | 1 or more     | 313-82xx-xxxN |
| 5    | HI-PRESSURE SEAL (MOTORS)                             | 1     | 391-2883-115N | 15   | DOWEL PINS                     | 4             | 391-2082-032N |
| 6    | SHAFT END COVER                                       | 1     | 313-5xxx-xxxN | 16   | BEARING CARRIER                | 1 or more     | 313-7xxx-xxxN |
| 6A   | DRAIN PLUG (MOTORS ONLY)                              | 1     | 391-2282-056N | 17   | CONNECTING SHAFT               | 1 or more     | 313-1133-001N |
| 7    | CHECK ASSEMBLIES FOR MOTORS<br>& BI-DIRECTIONAL PUMPS | 2     | 391-3681-001N | 18   | MATCHED GEARS                  | 1 set or more | 313-2xxx-xxxN |
|      | PLUG (PUMPS ONLY)                                     | 1     | 391-2286-004N | 19   | PORT END COVER                 | 1             | 313-3xxx-xxxN |
| 8    | RING SEALS(PER GEAR SECTION)                          | 2     | 391-2585-009N | 20   | WASHERS                        | 4             | 391-3784-028N |
| 9    | ROLLER BEARINGS(PER GEAR SECTYION)                    | 4     | 391-0381-905N | 21   | CAP SCREWS(SINGLE UNITS)       | 4             | 391-1401-xxxN |
| 10   | THRUST PLATES(PER GEAR SECTION)                       | 2     | 391-2185-912N | 22   | STUDS(MULTIPLE UNITES)         | 4             | 391-1425-xxxN |
|      |                                                       |       |               | 23   | NUT(MULTIPLE UNITS)            | 4             | 391-1451-076N |
|      |                                                       |       |               | 24   | CONTINENTAL SHAFT              | 1             | 313-xxx-xxxxN |

# IFP IP7600 PUMPS and MOTORS SERVICE PARTS INFORMATION



## DOUBLE SHAFT SEAL ASSEMBLY



PLUG 7 IN POSITION **B** FOR CLOCKWISE ROTATION.  
PLUG 7 IN POSITION **A** FOR COUNTER CLOCKWISE ROTATION.  
CHECK VALVE IN BOTH POSITIONS FOR BI-DIRECTIONAL UNITS.

**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     | 391-2686-025N | 13   | GASKET SEALS(PER HOUSING) | 1 STRIP   | 391-2884-024N |
| 2    | OUTBOARD BEARING                      | 1     | 391-0381-078N | 14   | GEAR HOUSING              | 1         | 316-82xx-100N |
| 3    | SEAL RETAINER                         | 1     | 391-2584-082N | 14A  | DOWEL PINS(SERIES IP7600) | 4         | 319-2884-050N |
| 4    | "O" RING                              | 1     | 391-2881-457N | 15   | CONNECTING SHAFT          | 1 or more | 316-1133-001N |
| 5    | SEAL                                  | 1     | 391-2883-052N | 16   | BEARING CARRIER           | 1         | 316-7xxx-100N |
| 6    | SHAFT END COVER                       | 1     | 316-5xxx-xxxN | 17   | MATCHED GEARS SET         | 1         | 316-28xx-000N |
| 7    | Plug for Motors/ bi-directional pumps | 1     | 391-3681-001N | 18   | GEAR HOUSING              | 1         | 316-82xx-100N |
|      | Plug (pumps only)                     | 1     | 391-2286-004N | 18A  | DOWEL PINS(SERIES IP7600) | 4         | 391-2082-033N |
| 8    | RING SEAL (per gear section)          | 2     | 391-2585-011N | 19   | PLUG                      | 1         | 391-2286-004N |
| 9    | ROLLER BEARINGS(per gear section)     | 2     | 391-0381-904N | 20   | PORT END COVER            | 1         | 316-3120-100N |
| 10   | POCKER SEAL                           | 1     | 391-2282-052N | 21   | WASHERS                   | 4         | 391-3784-028N |
| 11   | THRUST PLATES(PER GEAR SECTION)       | 2     | 391-2185-920N | 22   | CAP SCREWS(SINGLE UNITS)  | 4         | 391-1401-xxxN |
| 12A  | INTEGRAL DRIVE SHAFT                  | 1     | 316-29xx-xxxN | 23   | STUDS(MULTIPLE UNITS)     | 4         | 391-1425-xxxN |
|      | AND GEAR SET                          |       |               | 24   | NUT(MULTIPLE UNITS)       | 4         | 391-1451-076N |
| 12B  | CONTINENTAL SHAFT                     | 1     | 316-xxxx-xxxN |      |                           |           |               |

# IFP REPLACEMENTS FOR KOMATSU MAIN PUMPS



International fpa has retrofitted standard P75 units with a special cast flanges that are a direct equivalent to Komatsu transmission and steering pumps.

All units are completely interchangeable with Komatsu machines and meet or exceed all O.E.M. performance specifications. Serviceable with standard International fpa or Commercial Intertech parts.



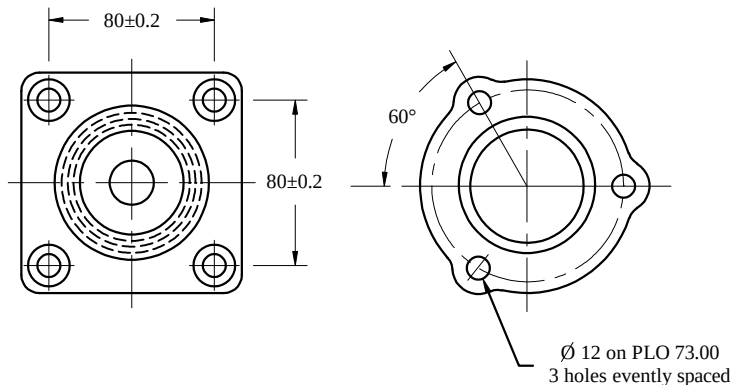
## KOMATSU MAIN PUMPS

| Machine Model          | Transmission Pump            | Steering Pump | Main Clutch  | Main Hydraulic                    |
|------------------------|------------------------------|---------------|--------------|-----------------------------------|
| D60A-6                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 140 (4)                      |
| D60A-7                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 112 (4)                      |
| D60E-6                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 140 (4)                      |
| D60E-7                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 112 (4)                      |
| D60P-6                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 140 (4)                      |
| D60P-7                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 112 (4)                      |
| D60S-6                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 160 (4)                      |
| D60S-7                 |                              | *FAR 036 (3)  | *FAR 032 (3) | *PAR 160 (4)                      |
| D65A-6                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAL 112 (4)                      |
| D65A-7                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAR 112 (4)                      |
| D65E-6                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAL 112 (4)                      |
| D65E-7                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAR 112 (4)                      |
| D65P-6                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAL 112 (4)                      |
| D65P-7                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAR 112 (4)                      |
| D65S-6                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAL 140 (4)                      |
| D65S-7                 | *FAL 040 (3)                 | *FAL 032 (3)  |              | *PAR 140 (4)                      |
| D75S-2                 | *FAL 040 (3)                 | FAR 025       |              | *PAR 140 (4)                      |
| D75S-3                 | *FAL 040 (3)                 | *FAL 032      |              | *PAR 160 (4)<br>SAR 160           |
| D80A-12                |                              | *FAL 040 (3)  | GAL 036      | *PAL 160 (4)                      |
| D80A-18                |                              | FAR 063       | FAL 040      | *PAL 160 (4)                      |
| D80E--18               |                              | FAR 063       | FAL 040      | *PAL 160 (4)                      |
| D80P-18                |                              | FAR 063       | FAL 040      | *PAL 160 (4)                      |
| D85A-12                | *FAL 045 (3)                 | *FAL 040 (3)  |              | *PAL 160 (4)                      |
| D85A-18                | *FAL 040 (3)                 | FAR 063       |              | *PAL 160 (4)                      |
| D85E-18                | *FAL 040 (3)                 | FAR 063       |              | *PAL 160 (4)                      |
| D85P-18                | *FAL 040 (3)                 | FAR 063       |              | *PAL 160 (4)                      |
| D95S-1                 | *FAL 040 (3)                 | FAR 063       |              | PAL 250                           |
| D95S-2                 | *FAL 040 (3)                 | FAR 063       |              | PAL 250                           |
| D150A-1                | *FAL 045 (3)                 | *FAR 100 (5)  |              | *PAL 200 (187)                    |
| D155A-1                | *FAL 045 (3)                 | *FAR 100 (5)  |              | *PAL 200 (187)                    |
| D155S-1                | *FAL 045 (3)                 | *FAR 100 (5)  |              | * 2 x PAL 180 (187)               |
| D355A-3                | *FAR 080 (5)                 | *FAL 125 (5)  |              | *PAL 200 (187)                    |
| D455A-1<br>(1013-1300) | GAL 200 or<br>*PAL 200 (187) | *FAR 080 (5)  |              | * 2 x PAR 140A (4)                |
| D455A-1<br>(1301- )    | *PAL 200 (187)               | *FAR 125 (5)  |              | * 2 x PAR 140A (4)<br>2 x SAL 140 |

\* International fpa Genuine replacement parts manufactured by IFP



## IFP REPLACEMENT PARTS FOR COMMERCIAL INTERTECH



*International fpa Genuine replacement parts manufactured or sold by IFP are recommended, internal parts interchange with Commercial Intertech.*

## EUROPEAN ...PTO ...MOUNTINGS EUROPEAN ...PTO ...MOUNTINGS

**International fpa introduces the P 50/51 Range of interchangeable Commercial Intertech Pumps with 3 and 4 Bolts P.T.O. Flange Mounting.**

**This type of mounting is very common on most European vehicles (DIN 5462) for direct close coupling to the Gear box.**