

## P435-5100 and P450-3100

### 1. Performance

#### U.S. Measurements

|           | Max. Flow | Pressure | Max. Speed | Power Req'd. | Plunger Diameter | Stroke |
|-----------|-----------|----------|------------|--------------|------------------|--------|
| Model     | GPM       | PSI      | RPM        | BHP          | In.              | In.    |
| P450-5100 | 5.5       | 5075     | 1450       | 19.2         | 0.71             | 0.79   |
| P435-5100 | 6.6       | 3625     | 1450       | 16.6         | 0.71             | 0.94   |

#### Metric Measurements

|           | Max. Flow | Pressure | Max. Speed | Power Req'd. | Plunger Diameter | Stroke |
|-----------|-----------|----------|------------|--------------|------------------|--------|
| Model     | LPM       | Bar      | RPM        | kW           | mm               | mm     |
| P450-5100 | 20.8      | 350      | 1450       | 14.3         | 18               | 20     |
| P435-5100 | 25.0      | 250      | 1450       | 12.4         | 18               | 24     |

#### Common Specifications

|                                   | U.S. ....          | (Metric)                            |
|-----------------------------------|--------------------|-------------------------------------|
| Inlet Pressure .....              | 90 PSI.....        | (6.2 bar)                           |
| Temperature of Pumped Fluids..... | Up to 160 °F ..... | (70 °C)                             |
| Inlet Ports .....                 |                    | 2 x 3/4" BSP                        |
| Discharge Ports .....             |                    | 2 x 1/2" BSP                        |
| Shaft Rotation .....              |                    | Top of pulley towards manifold      |
| Crankshaft Diameter .....         |                    | (28 mm)                             |
| Key Width.....                    |                    | (8 mm)                              |
| Shaft Mounting.....               |                    | Either side (specify when ordering) |
| Weight.....                       | 45.2 lbs .....     | (20.5 kg)                           |
| Crankcase Capacity.....           | 30.4 fl.oz. ....   | (0.9 liters)                        |

Performance data for intermittent operation, data for continuous operation on request.

For information on intermittent operation and calculating of the performance data, see the Giant Pumps assembly instructions.

#### NPSHR / Inlet pressure

Required NPSH refers to water at 60 °F (20 °C) at max. permissible pump speed.

Maximum inlet pressure: 145 PSI (10 bar)

#### Level of noise emission

Emission sound pressure level: ≤ 88 dB(A)

#### SPECIAL NOTE:

##### P450-5100:

The theoretical gallons per revolution (gal/rev) is 0.00455. To find specific outputs at various RPM, use the formula:  $GPM = 0.00455 \times RPM$

##### P430-5100:

The theoretical gallons per revolution (gal/rev) is 0.00379. To find specific outputs at various RPM, use the formula:  $GPM = 0.00379 \times RPM$

## P435-5100 and P450-5100

### 1.3 Horsepower Information

Horsepower ratings shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

We recommend that a 1.15 service factor be specified when selecting an electric motor as the power source.

To compute specific pump horsepower requirements, use the following formula: **(GPM X PSI) / 1450 = HP**

| P450-5100<br>HORSEPOWER REQUIREMENTS |     |             |             |             |             |
|--------------------------------------|-----|-------------|-------------|-------------|-------------|
| RPM                                  | GPM | 2000<br>PSI | 3000<br>PSI | 4000<br>PSI | 5000<br>PSI |
| 800                                  | 3.0 | 4.1         | 6.2         | 8.3         | 10.3        |
| 933                                  | 3.5 | 4.8         | 7.2         | 9.7         | 12.1        |
| 1066                                 | 4.0 | 5.5         | 8.3         | 11.0        | 13.8        |
| 1200                                 | 4.5 | 6.2         | 9.3         | 12.4        | 15.5        |
| 1450                                 | 5.5 | 7.6         | 11.4        | 15.2        | 19.0        |

| P435-5100<br>HORSEPOWER REQUIREMENTS |     |             |             |             |             |
|--------------------------------------|-----|-------------|-------------|-------------|-------------|
| RPM                                  | GPM | 2000<br>PSI | 2500<br>PSI | 3000<br>PSI | 3625<br>PSI |
| 920                                  | 4.2 | 5.8         | 7.2         | 8.7         | 10.5        |
| 1050                                 | 4.8 | 6.6         | 8.3         | 9.9         | 12.0        |
| 1185                                 | 5.4 | 7.4         | 9.3         | 11.2        | 13.5        |
| 1315                                 | 6.0 | 8.3         | 10.3        | 12.4        | 15.0        |
| 1450                                 | 6.6 | 9.1         | 11.4        | 13.7        | 16.5        |

## 2. Fields of application

The fields of application of these pump types correspond to the specifications in the assembly instructions Giant Pumps.

## 3. Ambient conditions

Ambient temperature:  $41^{\circ}\text{F} < T_{\text{Amb.}} < 86^{\circ}\text{F}$

Ambient temperature:  $5^{\circ}\text{C} < T_{\text{Amb.}} < 30^{\circ}\text{C}$

## 4. Oil filling

- Filling quantity: **30.4 fl. oz. (0.9 l)**
- Quality: Industrial gear oil **ISO VG 220** or automotive gear oil **SAE 90 GL4 (Giant's p/n 01154)**
- Intervals: first oil change after **50 operating hours** then every **500 operating hours**, but at the latest after **12 months**

## 5. Installation/ Putting into Operation

### 5.1 To Turn Drive Shaft to the Other Side

Remove the valve casing.

Turn the seal adaptors (20) by 180° also so that the leakage holes are underneath.

Remount valve casing rotated by 180°.

Interchange plug (5B) and oil dipstick (2) with each other.

Turn crankcase cover (3) by 180°.

### 5.2 Direction of pump rotation

When looking at crankshaft with valve casing mounted on left-hand side, counterclockwise direction of rotation.

When looking at crankshaft with valve casing mounted on right-hand side, clockwise direction of rotation.

### 5.3 Suction line filter

Recommended mesh size 150 µm.

## 6. Operation

For information, see assembly instructions Giant Pumps.