



# GEAR PUMPS

## Model GP

### APPLICATIONS

Supplying oil for machinery  
 Fuel transfer  
 Low pressure transmission  
 Oil burner injection

### FEATURES

Compact style and light weight  
 Adopting high speed and direct drive type, relieving traditional image of gear pumps  
 Large capacity with small power output  
 Long life and high reliability  
 Durability increased by adopting needle bearings and maintenance made easy by using internal bearings, requiring no oil supply  
 Quick delivery and low price  
 Adjustable relief valve

### SPECIFICATIONS

| Model  | MODEL GPE   | MODEL GPF  | MODEL GPH  |
|--|---|--|--|
| Suction & Discharge size                               | 12 to 25mm<br>( $\frac{3}{8}$ to 1 inch)                                | 12 to 40mm<br>( $\frac{3}{8}$ to 1 $\frac{1}{2}$ inches)                 | 15 to 50mm<br>( $\frac{1}{2}$ to 2 inches)                               |
| Discharge pressure                                     | 3kgf/cm <sup>2</sup> (43PSI)<br>{290kPa}                                | 3 to 10kgf/cm <sup>2</sup><br>(43 to 142PSI)<br>{290 to 980kPa}          | 10 to 20kgf/cm <sup>2</sup><br>(142 to 284PSI)<br>{980 to 1960kPa}       |
| Allowable suction pressure                             | -0.3 to +1.0kgf/cm <sup>2</sup><br>(-43 to +14.2PSI)<br>{-29 to +98kPa} | -0.5 to +1.0kgf/cm <sup>2</sup><br>(-7.1 to +14.2PSI)<br>{-49 to +98kPa} | -0.5 to +1.0kgf/cm <sup>2</sup><br>(-7.1 to +14.2PSI)<br>{-49 to +98kPa} |
| Temperature limit                                      | 70°C (158°F)  | 80°C (176°F)   | 120°C (248°F)  |
| Viscosity range for motor with standard output & speed | 7 to 500cSt<br>{7 to 500mm <sup>2</sup> /s}                             | 5 to 500cSt<br>{5 to 500mm <sup>2</sup> /s}                              | 5 to 260cSt<br>{5 to 260mm <sup>2</sup> /s}                              |





## PERFORMANCE TABLE

### Model GPE (Discharge pressure 3kgf/cm<sup>2</sup>{290kPa})

| Size | Pipe connecting | Motor kW | 50 Hz   |                |                         | 60 Hz   |                |                         | Bearing size | Gland   |            | Weight [Mass] kg |                     |
|------|-----------------|----------|---|----------------|-------------------------|---|----------------|-------------------------|--------------|---------|------------|------------------|---------------------|
|      |                 |          | Max. Discharge pressure kgf/cm <sup>2</sup> {kPa} | Capacity l/min | Speed min <sup>-1</sup> | Max. Discharge pressure kgf/cm <sup>2</sup> {kPa} | Capacity l/min | Speed min <sup>-1</sup> |              | Kind    | Shaft size | Bore pump        | Pump w/motor & base |
| 12   | PT-3/8          | 0.2      | 3{290}  | 7              | 1500                    | 3{290}  | 6              | 1800                    | 8φ           | Packing | 8φ         | 2                | 18.4                |
| 15   | PT-1/2          | 0.4      | 3{290}  | 10             | 1500                    | 3{290}  | 12             | 1800                    | 12φ          | "       | 11φ        | 2.1              | 19.2                |
| 20   | PT-3/4          | 0.4      | 3{290}  | 20             | 1500                    | 3{290}  | 24             | 1800                    | 12φ          | "       | 11φ        | 2.4              | 21.4                |
| 25   | PT-1            | 0.75     | 3{290}  | 40             | 1500                    | 3{290}  | 48             | 1800                    | 15φ          | "       | 14φ        | 4                | 35.1                |

### Model GPF (Discharge pressure 3~10kgf/cm<sup>2</sup>{290~980kPa})

|    |          |      |         |     |      |         |     |      |                              |                 |     |     |      |
|----|----------|------|---------|-----|------|---------|-----|------|------------------------------|-----------------|-----|-----|------|
| 12 | PT-3/8   | 0.2  | 4{390}  | 8.5 | 1500 | 4{390}  | 10  | 1800 | 12φ<br>With<br>(inside ring) | Mechanical seal | 12φ | 3.1 | 20.1 |
|    |          | 0.4  | 10{980} | 8.5 | 1500 | 10{980} | 10  | 1800 |                              |                 |     |     | 23.1 |
| 15 | PT-1/2   | 0.4  | 4{390}  | 17  | 1500 | 4{390}  | 21  | 1800 | 12φ<br>With<br>(inside ring) | "               | 12φ | 3.4 | 22.4 |
|    |          | 0.75 | 10{980} | 17  | 1500 | 10{980} | 21  | 1800 |                              |                 |     |     | 33.4 |
| 20 | PT-3/4   | 0.75 | 4{390}  | 31  | 1500 | 4{390}  | 37  | 1800 | 20φ<br>With<br>(inside ring) | "               | 20φ | 6.0 | 37.3 |
|    |          | 1.5  | 10{980} | 31  | 1500 | 10{980} | 37  | 1800 |                              |                 |     |     | 43.3 |
| 25 | PT-1     | 1.5  | 6{590}  | 54  | 1500 | 6{590}  | 65  | 1800 | 20φ<br>With<br>(inside ring) | "               | 20φ | 6.3 | 44.3 |
|    |          | 2.2  | 10{980} | 54  | 1500 | 10{980} | 65  | 1800 |                              |                 |     |     | 61.5 |
| 32 | PT-1 1/4 | 2.2  | 4{390}  | 75  | 1500 | 4{390}  | 90  | 1800 | 22φ<br>With<br>(inside ring) | "               | 22φ | 11  | 68   |
|    |          | 3.7  | 10{980} | 75  | 1500 | 10{980} | 90  | 1800 |                              |                 |     |     | 77.2 |
| 40 | PT-1 1/2 | 2.2  | 6{590}  | 105 | 1500 |         |     |      | 22φ<br>With<br>(inside ring) | "               | 22φ | 12  | 69   |
|    |          | 3.7  | 10{980} | 105 | 1500 |         |     |      |                              |                 |     |     | 79   |
|    |          | 3.7  |         |     |      | 4{390}  | 125 | 1800 |                              |                 |     |     | 79   |
|    |          | 5.5  |         |     |      | 10{980} | 125 | 1800 |                              |                 |     |     | 116  |

### Model GPH (Discharge pressure 10~20kgf/cm<sup>2</sup>{980~1960kPa})

|    |   |      |          |     |      |          |     |      |                              |                 |     |    |     |
|----|---|------|----------|-----|------|----------|-----|------|------------------------------|-----------------|-----|----|-----|
| 15 | PS-3/8                                    | 0.75 | 15{1470} | 14  | 1500 | 12{1180} | 18  | 1800 | 15φ<br>With<br>(inside ring) | Mechanical seal | 14φ | 7  | 31  |
|    |   | 1.5  | 20{1960} | 13  | 1500 | 20{1960} | 16  | 1800 |                              |                 |     |    | 38  |
| 20 | PS-1/2                                    | 1.5  | 12{1180} | 36  | 1500 | 12{1180} | 43  | 1800 | 20φ<br>With<br>(inside ring) | "               | 14φ | 8  | 39  |
|    |   | 2.2  | 20{1960} | 34  | 1500 | 20{1960} | 41  | 1800 |                              |                 |     |    | 54  |
| 25 | PS-1                                      | 3.7  | 15{1470} | 70  | 1500 | 15{1470} | 85  | 1800 | 25φ<br>With<br>(inside ring) | "               | 22φ | 12 | 60  |
|    |   | 5.5  | 20{1960} | 69  | 1500 | 20{1960} | 84  | 1800 |                              |                 |     |    | 86  |
| 32 | 32φJIS<br>20kgf/cm <sup>2</sup><br>Flange | 5.5  | 15{1470} | 110 | 1500 | 12{1180} | 136 | 1800 | 25φ<br>With<br>(inside ring) | "               | 22φ | 20 | 97  |
|    |   | 7.5  | 20{1960} | 110 | 1500 | 20{1960} | 134 | 1800 |                              |                 |     |    | 112 |
| 40 | 40φJIS<br>20kgf/cm <sup>2</sup><br>Flange | 5.5  |          |     |      | 12{1180} | 142 | 1200 | 35φ<br>With<br>(inside ring) | "               | 30φ | 29 | 123 |
|    |   | 7.5  | 15{1470} | 174 | 1500 | 20{1960} | 139 | 1200 |                              |                 |     |    | 121 |
| 50 | 50φJIS<br>20kgf/cm <sup>2</sup><br>Flange | 11   | 15{1470} | 184 | 1000 | 15{1470} | 224 | 1200 | 40φ<br>With<br>(inside ring) | "               | 35φ | 37 | 191 |
|    |   | 15   | 20{1960} | 184 | 1000 | 20{1960} | 220 | 1200 |                              |                 |     |    | 241 |

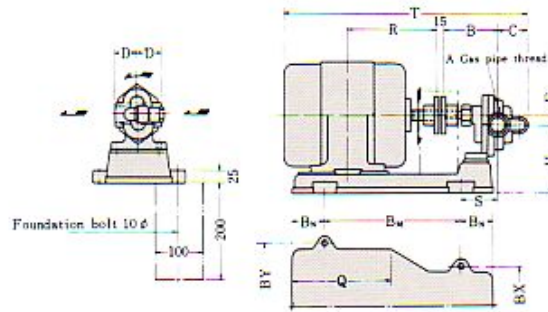
#### REMARKS:

- Pipe connections are Pipe Taper Thread (JIS B0203) for Model GPE and GPF and Pipe Straight Thread (JIS B0203) for Model GPH.
- Flange connection of Model GPH is as per pipe flange dimension of JIS B2214.
- Base dimension is based on dimension of JEM 1180 Class E motor.
- Rotating direction shall be clockwise viewed from motor side. Suction opening shall be located at left side and delivery opening at right side. The opposite structure shall be obtained by simple re-assembly work.
- Model GPE adopts packing seal, while Model GPF and GPH adopts mechanical seal.
- Needle bearings are used. Please be noticed to nominate bearings with inside rings for Model GPF and GPH in case of parts order.
- Special parts for adjusting working pressure of relief valves for Model GPE and GPF are available upon special request. Working pressure of relief valve for Model GPH can be adjusted with adjusting nut built in the valve.



# DIMENSIONS

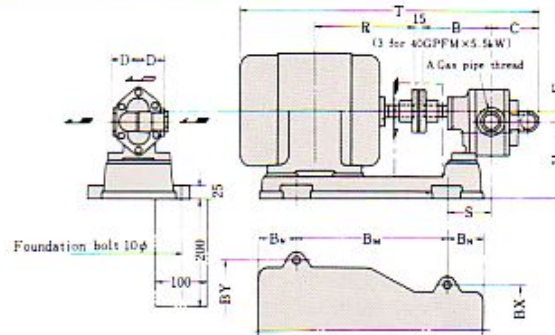
## MODEL GPE



(DIMENSIONS IN mm)

| Size | Model | kW   | A      | B   | C  | D  | F    | BM  | BN | BY  | BX  | R   | S  | T   | U    |
|------|-------|------|--------|-----|----|----|------|-----|----|-----|-----|-----|----|-----|------|
| 12   | GPFM  | 0.2  | PT-3/8 | 90  | 50 | 40 | 12.5 | 160 | 60 | 180 | 138 | 103 | 64 | 370 | 90.5 |
| 15   | GPFM  | 0.4  | PT-3/8 | 100 | 50 | 40 | 12   | 180 | 60 | 194 | 138 | 120 | 65 | 400 | 96   |
| 20   | GPFM  | 0.4  | PT-3/8 | 105 | 55 | 40 | 15   | 180 | 60 | 194 | 138 | 120 | 70 | 410 | 96   |
| 25   | GPFM  | 0.75 | PT-1   | 117 | 66 | 50 | 20   | 220 | 60 | 214 | 168 | 140 | 70 | 434 | 115  |

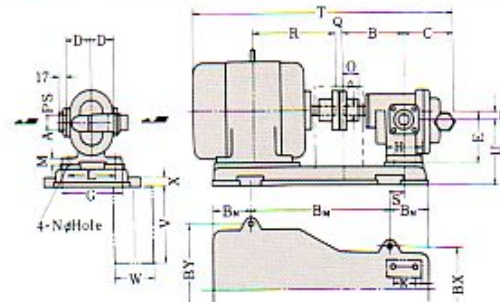
## MODEL GPF



(DIMENSIONS IN mm)

| Size | Model | kW   | A        | B   | C   | D  | F  | BM  | BN | BY  | BX  | R     | S   | T   | U   |
|------|-------|------|----------|-----|-----|----|----|-----|----|-----|-----|-------|-----|-----|-----|
| 12   | GPFM  | 0.2  | PT-3/8   | 98  | 60  | 40 | 15 | 160 | 60 | 180 | 138 | 103   | 63  | 388 | 96  |
|      |       | 0.4  |          |     |     |    |    | 180 | 60 | 194 | 138 | 120   | 63  | 408 | 96  |
| 15   | GPFM  | 0.4  | PT-3/8   | 103 | 65  | 40 | 15 | 180 | 60 | 194 | 138 | 120   | 68  | 418 | 96  |
|      |       | 0.75 |          |     |     |    |    | 210 | 60 | 214 | 138 | 140   | 65  | 445 | 115 |
| 20   | GPFM  | 0.75 | PT-3/8   | 112 | 81  | 50 | 20 | 220 | 60 | 214 | 168 | 140   | 65  | 445 | 115 |
|      |       | 1.5  |          |     |     |    |    | 260 | 60 | 232 | 168 | 168.5 | 65  | 492 | 115 |
| 25   | GPFM  | 1.5  | PT-1     | 120 | 89  | 50 | 20 | 260 | 60 | 232 | 168 | 168.5 | 73  | 508 | 115 |
|      |       | 2.2  |          |     |     |    |    | 270 | 70 | 264 | 168 | 183   | 83  | 537 | 125 |
| 32   | GPFM  | 2.2  | PT-1 1/4 | 156 | 102 | 60 | 25 | 280 | 80 | 264 | 194 | 183   | 95  | 586 | 145 |
|      |       | 3.7  |          |     |     |    |    | 300 | 80 | 290 | 194 | 200   | 95  | 610 | 145 |
| 40   | GPFM  | 2.2  | PT-1 1/2 | 162 | 108 | 60 | 25 | 280 | 80 | 264 | 194 | 183   | 101 | 598 | 145 |
|      |       | 3.7  |          |     |     |    |    | 300 | 80 | 290 | 194 | 200   | 101 | 622 | 145 |
|      |       | 5.5  |          |     |     |    |    | 310 | 90 | 320 | 194 | 239   | 111 | 665 | 162 |

## MODEL GPH



Screw type inlet & outlet for  $\phi$  25mm or less.

Flange type inlet & outlet for  $\phi$  32mm or more.

(DIMENSIONS IN mm)

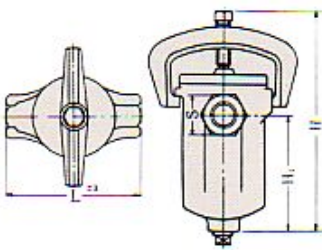
| Size | Model | kW   | Speed min <sup>-1</sup> |      | A      | B   | C   | D   | F  | G   | H   | K  | L   | M  | N  | O    | P  | Q  | BM  | BN  | BY  | BX  | R     | S  | T    | U   |
|------|-------|------|-------------------------|------|--------|-----|-----|-----|----|-----|-----|----|-----|----|----|------|----|----|-----|-----|-----|-----|-------|----|------|-----|
|      |       |      | 50Hz                    | 60Hz |        |     |     |     |    |     |     |    |     |    |    |      |    |    |     |     |     |     |       |    |      |     |
| 15   | GPHM  | 0.75 | 1500                    | 1800 | PS-1/2 | 110 | 90  | 45  | 15 | 120 | 70  | 35 | 90  | 14 | 12 | 35.5 | 14 | 15 | 260 | 70  | 214 | 175 | 140   | 30 | 480  | 125 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 290 | 80  | 232 | 175 | 168.5 | 30 | 498  | 125 |
| 20   | GPHM  | 1.5  | 1500                    | 1800 | PS-3/4 | 130 | 90  | 50  | 15 | 120 | 70  | 35 | 90  | 14 | 12 | 40   | 14 | 15 | 290 | 80  | 232 | 175 | 168.5 | 40 | 518  | 125 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 310 | 80  | 264 | 175 | 183   | 40 | 548  | 135 |
| 25   | GPHM  | 3.7  | 1500                    | 1800 | PS-1   | 160 | 120 | 55  | 20 | 140 | 80  | 50 | 110 | 16 | 12 | 50   | 22 | 15 | 330 | 100 | 290 | 195 | 200   | 45 | 630  | 145 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 370 | 100 | 320 | 195 | 239   | 45 | 674  | 162 |
| 32   | GPHM  | 5.5  | 1500                    | 1800 | 32     | 175 | 128 | 95  | 20 | 170 | 120 | 90 | 130 | 16 | 12 | 50   | 22 | 3  | 400 | 120 | 320 | 225 | 239   | 45 | 697  | 162 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 400 | 120 | 320 | 225 | 258   | 45 | 736  | 162 |
| 40   | GPHM  | 7.5  | 1500                    | 1200 | 40     | 160 | 143 | 110 | 25 | 200 | 120 | 90 | 150 | 16 | 15 | 63   | 28 | 3  | 380 | 150 | 320 | 255 | 258   | 75 | 766  | 195 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 380 | 150 | 320 | 255 | 258   | 75 | 766  | 195 |
| 50   | GPHM  | 11   | 1000                    | 1200 | 50     | 220 | 160 | 120 | 30 | 200 | 120 | 90 | 150 | 16 | 15 | 63   | 35 | 3  | 510 | 150 | 380 | 260 | 323   | 75 | 862  | 205 |
|      |       |      |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 510 | 150 | 380 | 260 | 323   | 75 | 862  | 205 |
|      |       | 15   |                         |      |        |     |     |     |    |     |     |    |     |    |    |      |    |    | 560 | 150 | 430 | 260 | 370.5 | 75 | 1011 | 220 |



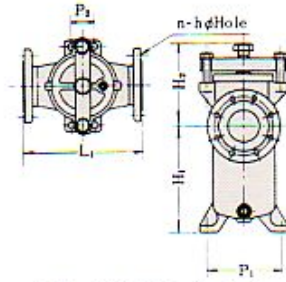
# ACCESSORIES

## ■ SUCTION STRAINER

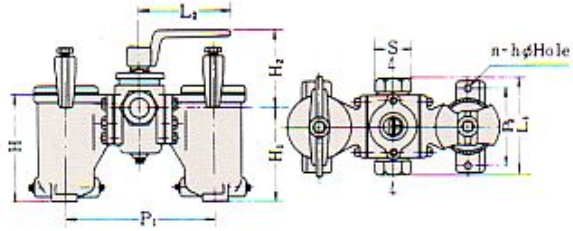
### DIMENSIONS OF SUCTION STRAINER



Model STU Single strainer  
(Size 15~φ40mm)



Model STU Single strainer  
(Size φ50mm or more, Flange JIS 10kgf/cm²FF)



Model STW duplex strainer  
(Size 15~φ40mm)

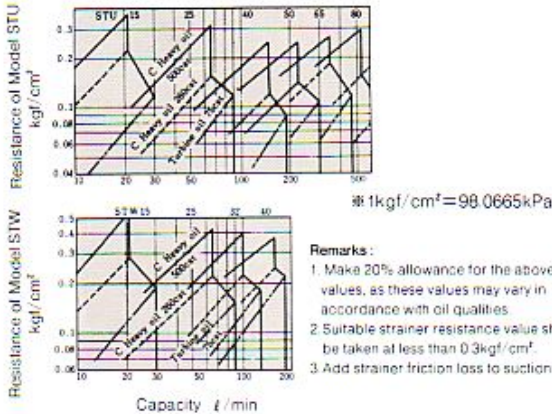
| Model  | Connection size | H   | H <sub>1</sub> | H <sub>2</sub> | L <sub>1</sub> | L <sub>2</sub> | P <sub>1</sub> | P <sub>2</sub> | S  | nh   | Weight Mass/kg |
|--------|-----------------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----|------|----------------|
| STU 15 | 1/2 B           | 167 | 84             |                | 120            |                |                |                | 35 |      | 2.5            |
| STU 20 | 3/4 B           | 239 | 135            |                | 170            |                |                |                | 41 |      | 3.6            |
| STU 25 | 1 B             | 239 | 135            |                | 150            |                |                |                | 50 |      | 3.6            |
| STU 32 | 1 1/4 B         | 330 | 200            |                | 235            |                |                |                | 63 |      | 10             |
| STU 40 | 1 1/2 B         | 330 | 200            |                | 210            |                |                |                | 71 |      | 10             |
| STU 50 | 2 B             |     | 195            | 142            | 250            |                | 150            | 50             |    | 4.19 | 21             |
| STW 15 | 1/2 B           | 107 | 92             | 83             | 120            | 120            | 125            | 90             | 35 | 4.11 | 6.4            |
| STW 20 | 3/4 B           | 165 | 145            | 115            | 150            | 150            | 215            | 120            | 50 | 2.11 | 14.5           |
| STW 25 | 1 B             | 165 | 145            | 115            | 150            | 150            | 215            | 120            | 50 | 2.11 | 14.5           |
| STW 32 | 1 1/4 B         | 226 | 195            | 121            | 175            | 180            | 250            | 120            | 67 | 2.15 | 20.5           |
| STW 40 | 1 1/2 B         | 257 | 220            | 126            | 210            | 200            | 265            | 130            | 71 | 2.15 | 30.5           |

Remarks:  
Mesh: 60

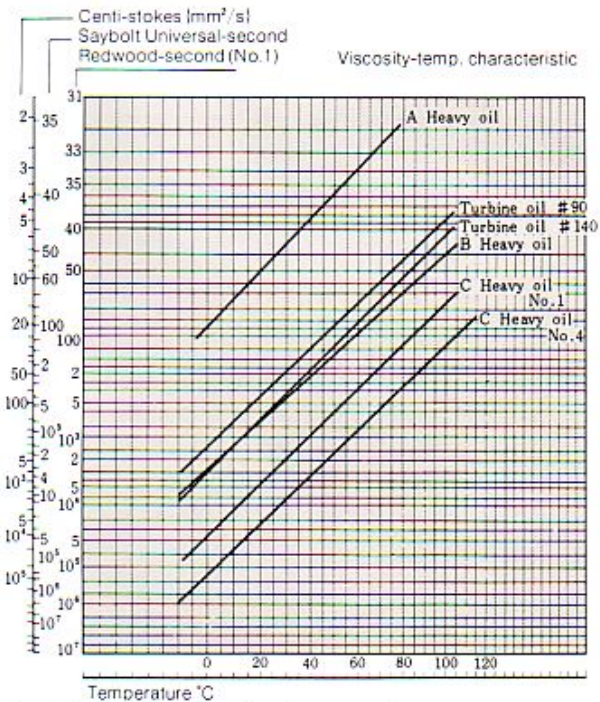
Effective filtration area:  
Size 15~φ40mm  
more than 8 times of strainer size  
Size φ50mm or larger  
more than 5 times of strainer size

Hydro test press of case: 6 kgf/cm² (85PSI) [590kPa]  
Max. allowable normal press: 3 kgf/cm² (43PSI) [290kPa]

### STRAINER-CAPACITY VISCOSITY-RESISTANCE CURVE



### VISCOSITY CHART OF OILS



\*Features and specifications subject to change without notice.

In this catalog, the particulars in { } are in accordance with the international system of units (SI) and given for reference only.



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