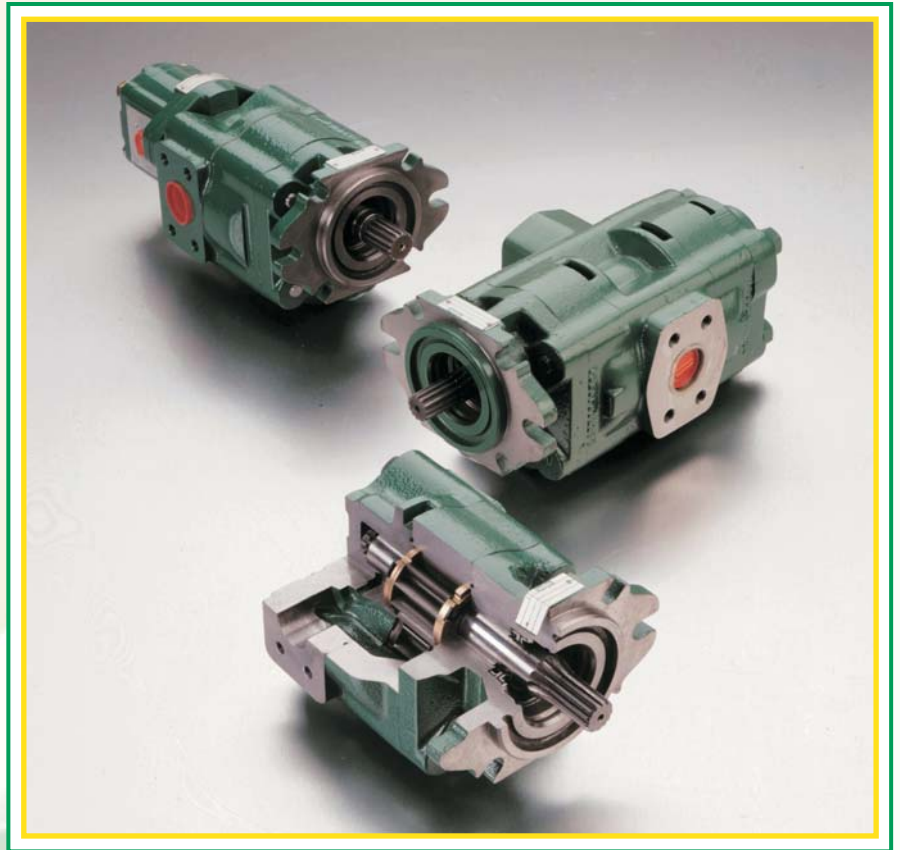




PRODUCT CARD



GEAR PUMPS, MOTORS AND FLOW DIVIDERS "H" SERIES GROUP 3

E0.12.0904.02.00

sajami  TM

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E0.12.0904.02.00

The data in this catalogue refers to the standard product.

The policy of Salami S.p.A. consists of a continuous improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving prior information.

If any doubts, please get in touch with our sales department.

GENERAL

H series gear pumps and motors in spheroidal cast-iron are available in 8 different displacements from 21 cm³/rev. to 90 cm³/rev. (from 1.25 cu.in./rev. to 5.49 cu.in./rev.).

All pumps are available as multiple units of the same series.

With all sizes of pumps and motors there are options of shafts, flanges and ports as per SAE standards.

H series gear pumps and motors offer:

- High volumetric efficiency by innovative design and accurate control of machining tolerances
- Axial compensation is achieved by the use of floating bushes that allow high volumetric efficiency throughout the pressure range.
- DU bearings ensure high pressure capability
- 12 teeth integral one-piece gear and shaft
- Spheroidal cast-iron body
- Double shafts seals
- Nitrile seals as standard and viton seals in high temperature applications.

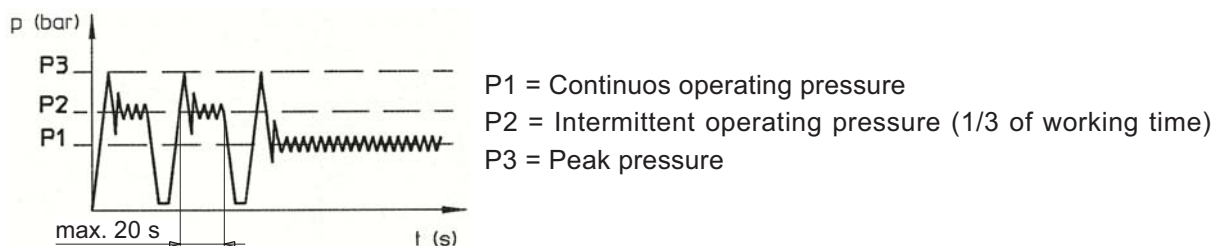
All pumps and motors are tested after assembly and run in to ensure the high standard required by **SALAMI** engineers.

WORKING CONDITIONS

THE VALUES OF PRESSURE ARE ABSOLUTE

| | |
|---|--------------------------------------|
| - Pump inlet pressure | 0,7 to 2,5 bar |
| | 10 to 36 <i>psi</i> |
| - Return pipe line continuous pressure for motors | MAX 2,5 bar - 36 <i>psi</i> |
| - Return pipe line intermit. pressure for motors | MAX 6 bar for 20 sec - 85 <i>psi</i> |
| - Return pipe line peak pressure for motors | MAX 15 bar - 215 <i>psi</i> |
| - Minimum operating fluid viscosity | 12 mm ² / sec |
| - Max starting viscosity | 800 mm ² / sec |
| - Suggested fluid viscosity range | 17 - 65 mm ² / sec |
| - Fluid operating temperature range | -15 to +85 °C |
| - Hydraulic fluid | mineral oil |

Definition of pressures



FIRE RESISTENT FLUID

| TYPE | Description | Max pressure | Max speed (r.p.m) | Temperature |
|------|---------------------------------------|----------------------|-------------------|---------------|
| HFB | Water in oil emulsion with 40% water | 125 bar (1800 psi) | 2500 | +1° C +65° C |
| HFC | Water glycol | 125 bar (1800 psi) | 1500 | -20° C +65° C |
| HFD | Phosphate esters | 150 bar (2175 psi) | 1750 | -10° C +80° C |
| HFA | Oil emulsion in water 5 - 15 % of oil | 70 bar (1000 psi) | 1500 | +2° C +55° C |

DRIVE SHAFT

Radial and axial loads on the shafts must be avoided since they reduce the life of the unit. Pumps driven by power take - off on engines must always be connected by placing an "Oldham" coupling or coupling having convex toothed hub.

This is to ensure that inevitable misalignment during assembly is reduced to minimum.

HYDRAULIC PIPE LINE

To ensure favourable suction conditions it is important to keep pressure drop in inlet line to a minimum (see WORKING CONDITIONS).

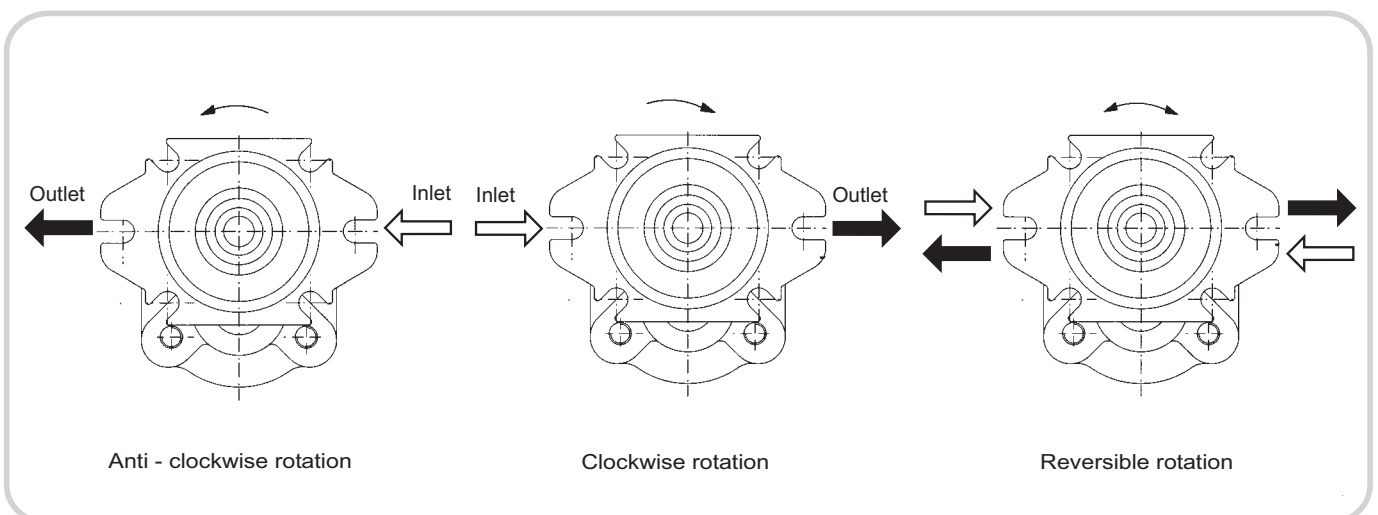
To calculate hydraulic pipe size for a machine, the designer can use as an approximate guide the following figures:

from 1 to 2 m/sec. on suction line
from 6 to 10 m/sec. on pressure line

from 3,28 to 6,36 ft/sec. on suction line
from 19,7 to 32,8 ft/sec. on pressure line

The lowest speed in pipes is recommended when the temperature difference is high and/or for continuous duty. The highest value is recommended when the temperature difference is low and/or for intermittent duty.

PUMP ROTATION DIRECTION VIEWED AT THE DRIVE SHAFT



FILTRATION INDEX RECOMMENDED

| Working pressure | > 200 bar / 2900 psi | < 200 bar / 2900 psi |
|-------------------------------------|----------------------|----------------------|
| Contamination class NAS 1638 | 9 | 10 |
| Contamination class ISO 4406 | 18/15 | 19/16 |
| Achieved with filter $\beta_x = 75$ | 15 μm | 25 μm |

TIGHTENING TORQUE

OUR BOLTS AND TIE-RODS HAVE ALWAYS HEATING TREATMENT OF BLACK BURNISHING

| PUMP TYPE | | BOLT TYPE | | TORQUE Nm | FOR SCREWS ZINC PLATED REDUCE TIGHTENING TORQUE OF 10% |
|-----------|------------|------------|---|--------------------------------|--|
| SIZE | SERIE | DIAMETER | CLASS | | |
| 1 | B SINGLE | M 8 x 1.25 | 8.8 | 20.5 - 25.5 | |
| 1 | B MULTIPLE | M 8 x 1.25 | 8.8 | 20.5 - 25.5 | |
| 2 | B SINGLE | M 10 x 1.5 | 8.8 | 47-51 | |
| 2 | B MULTIPLE | M 10 x 1.5 | 10.9 | 50-55 | |
| 2.5 | B SINGLE | M 12 | 8.8 | 70-75 | |
| 2.5 | B MULTIPLE | M 12 | 10.9 | 75-80 | |
| 3 | B | M 10 | HEX. BOLT 10.9 HEX. SOCKET H.C.B. 12.9 | 47-51 | |
| 3.5 | C | M 12 | 8.8 | 74-85 | |
| 3 | H | M 14 | 10.9 | BOLT 180 150-160 TIE ROD | |

COMMON FORMULAS

$$C = \text{Input torque} = \frac{q \cdot \Delta p}{62.8 \cdot \eta_m} \text{ (Nm)}$$

$$P = \text{Input power} = \frac{q \cdot n \cdot \Delta p \cdot 10^{-3}}{600 \eta_m} \text{ (kW)}$$

$$Q = \text{Outlet flow} = \frac{q \cdot n \cdot \eta_v}{1000} \text{ (l/min)}$$

LEGENDA

Δp = Working pressure (bar)

q = Displacement (cm^3/rev)

n = Speed (min^{-1})

η_m = Mechanical eff. (0.92)

η_v = Volumetric eff. (0.95)



Description of the product identification label

Based on the firm certification ISO 9001 - UNI EN 29001, section 4.8 (identification and traceability of the product), we have adopted a new identification label starting from the 1st march 1995. Pls, see following example:

| | | | |
|----------|-------|----------|----------|
| A | | | |
| B | | | |
| C | | D | |
| E | sa am | F | G |

- A = Product short description (VD8A/FDD/U4G).**
- B = Customer part number.**
- C = Salami part number (6235 0025 0).**
- D = Production batch (for Salami management)**
- E = Rotation sense (only for pumps).**
- F = Manufacturing date (see data sheet here below)**
- G = Progressive number of assembling.**

Only for pumps 2PB and 2PZ (except triple 2PB) the identification product is marked on the top of the pump body as shown here below:



SALAMI 09/02
MADE IN ITALY 4010998
612271211 nr. 13
2PB 19S B25 B5

- Product short description. _____
- Salami part number and progressive number of assembling. _____
- Production code (for Salami management). _____
- Month and year of made: maybe in the future you can find this type of production date in the label beside too. _____
- Rotation sense. _____

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| JANUARY | 0A | 1A | 2A | 3A | 4A | 5A | 6A | 7A | 8M | 9M | 0M | 1M | 2M | 3M | 4M | 5M |
| FEBRUARY | 0B | 1B | 2B | 3B | 4B | 5B | 6B | 7B | 8N | 9N | 0N | 1N | 2N | 3N | 4N | 5N |
| MARCH | 0C | 1C | 2C | 3C | 4C | 5C | 6C | 7C | 8P | 9P | 0P | 1P | 2P | 3P | 4P | 5P |
| APRIL | 0D | 1D | 2D | 3D | 4D | 5D | 6D | 7D | 8Q | 9Q | 0Q | 1Q | 2Q | 3Q | 4Q | 5Q |
| MAY | 0E | 1E | 2E | 3E | 4E | 5E | 6E | 7E | 8R | 9R | 0R | 1R | 2R | 3R | 4R | 5R |
| JUNE | 0F | 1F | 2F | 3F | 4F | 5F | 6F | 7F | 8S | 9S | 0S | 1S | 2S | 3S | 4S | 5S |
| JULY | 0G | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8T | 9T | 0T | 1T | 2T | 3T | 4T | 5T |
| AUGUST | 0H | 1H | 2H | 3H | 4H | 5H | 6H | 7H | 8U | 9U | 0U | 1U | 2U | 3U | 4U | 5U |
| SEPTEMBER | 0I | 1I | 2I | 3I | 4I | 5I | 6I | 7I | 8V | 9V | 0V | 1V | 2V | 3V | 4V | 5V |
| OCTOBER | 0J | 1J | 2J | 3J | 4J | 5J | 6J | 7J | 8Z | 9Z | 0Z | 1Z | 2Z | 3Z | 4Z | 5Z |
| NOVEMBER | 0K | 1K | 2K | 3K | 4K | 5K | 6K | 7K | 8X | 9X | 0X | 1X | 2X | 3X | 4X | 5X |
| DECEMBER | 0L | 1L | 2L | 3L | 4L | 5L | 6L | 7L | 8Y | 9Y | 0Y | 1Y | 2Y | 3Y | 4Y | 5Y |

Rotation changing instructions

Before starting, be sure that the pump is cleaned externally as well as the working area to avoid that particles dangerous for pump working can find their way into the pump.

Pump represented is a clockwise rotation pump.

To obtain an anti_clockwise rotation read carefully the following instructions.

Picture "A"

- 1 - Loosen and fully unscrew the clamp bolts.
- 2 - Lay the pump on the working area in order to have the mounting flange turned upside.
- 3 - Coat the shaft extension with grease to avoid damaging the shaft seal.
- 4 - Remove the flange and lay it on the working area; verify that the seal is correctly located in the body seat.

Picture "B"

- 1 - Mark the position of the thrust plate, relative to the body.
- 2 - Remove the thrust plate and the driving gear taking care to avoid driven gear axial shifts.

Picture "C"

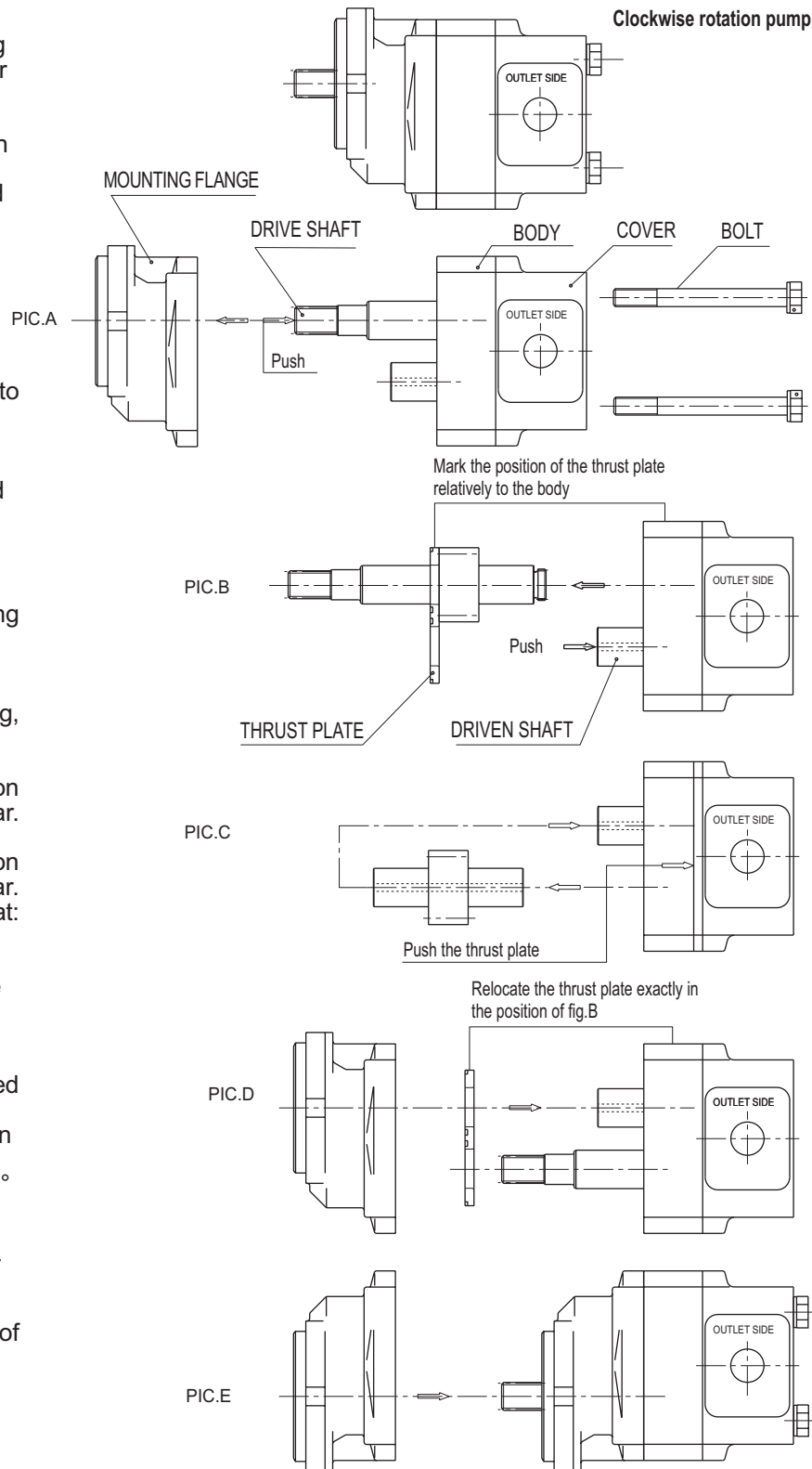
- 1 - Draw out the driven gear from its housing, taking care to avoid rear cover axial shifts.
- 2 - Re-locate the driven gear in the position previously occupied by the driving gear.

Picture "D"

- 1 - Re-locate the driving gear in the position previously occupied by the driven gear.
- 2 - Replace the thrust plate taking care that:
 - respect the marking you have do previously relative to the body
 - surface containing the seal is visible
 - seal and its protection are correctly located

Picture "E"

- 4 - Clean body and mounting flange refaced surfaces.
- 5 - Verify that the two plugs are located in the body.
- 6 - Refit the mounting flange, turned 180° from its original position.
- 7 - Replace the clamp bolts and tighten crosswise evenly to a torque of 150 - 160 Nm.
- 5 - Check that the shaft rotates freely.
- 6 - Mark on the flange the new direction of rotation.



Clockwise rotation pump

Mark the position of the thrust plate relative to the body

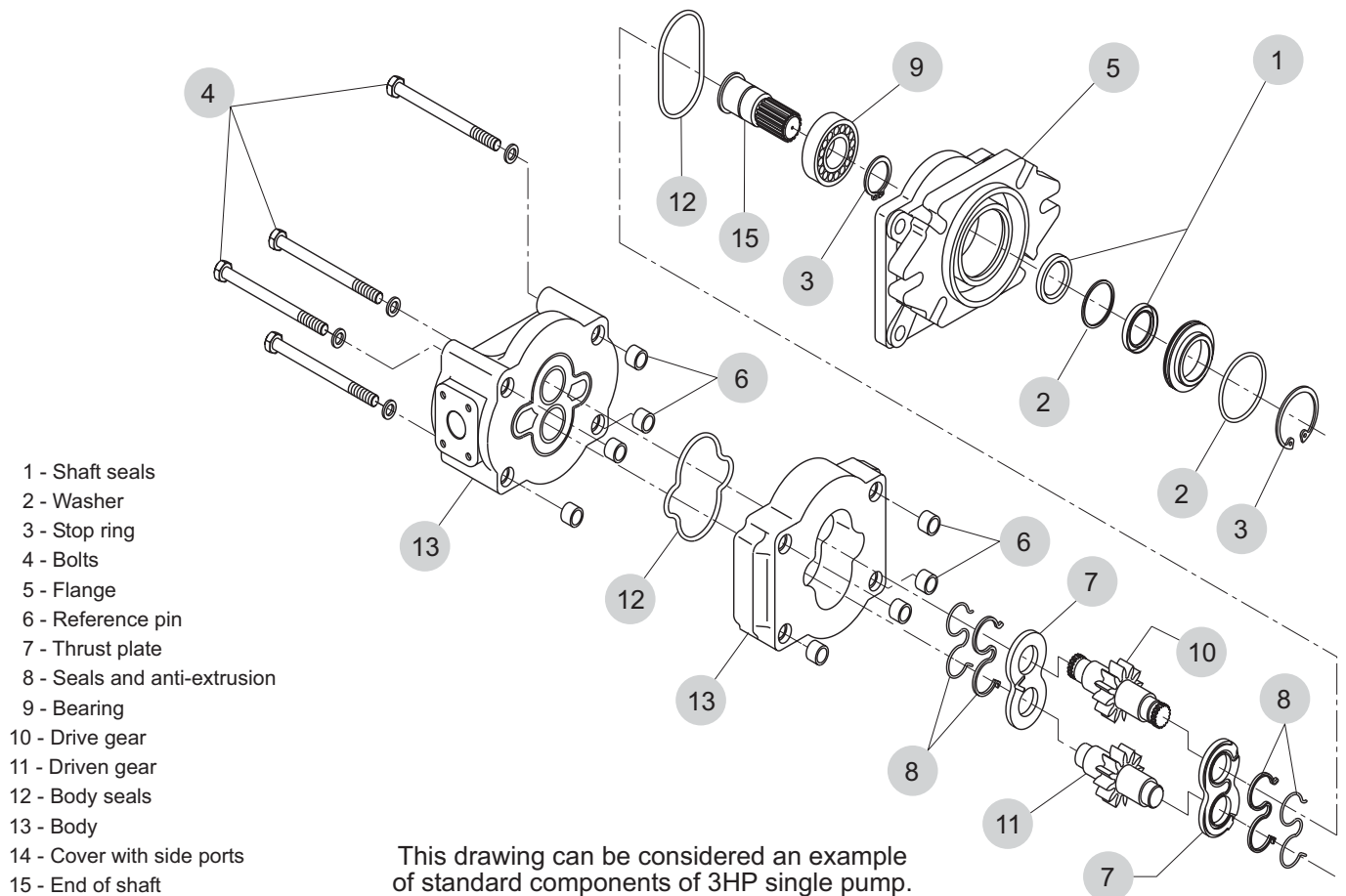
Relocate the thrust plate exactly in the position of fig.B

IMPORTANT: TO AVOID A PERFORMANCE LOSS DO NOT CHANGE MOTOR ROTATION



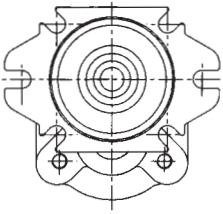
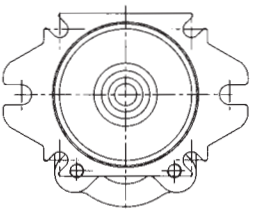
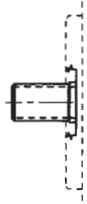
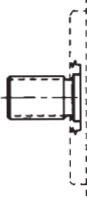
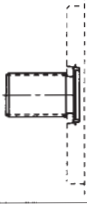
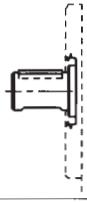
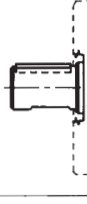
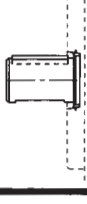


SINGLE GEAR PUMP/MOTOR IN DETAIL



This drawing can be considered an example of standard components of 3HP single pump.

COMBINATION WITH TYPES OF FLANGES AND DRIVES SHAFTS AVAILABLE

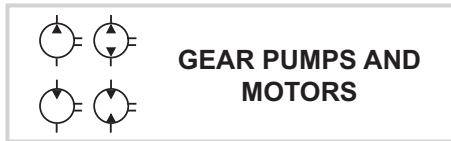
| | S3 | R8 |
|--|---|--|
| 3HP/M |  |  |
| 55  | 55 S3 | |
| 56  | 56 S3 | |
| 57  | | 57 R8 |
| 87  | 87 S3 | |
| 88  | 88 S3 | |
| 89  | | 89 R8 |



GEAR PUMPS AND MOTORS "H" SERIES

3HP/M

Displacements up to 5.49 cu.in./rev
Pressure up to 4700 psi



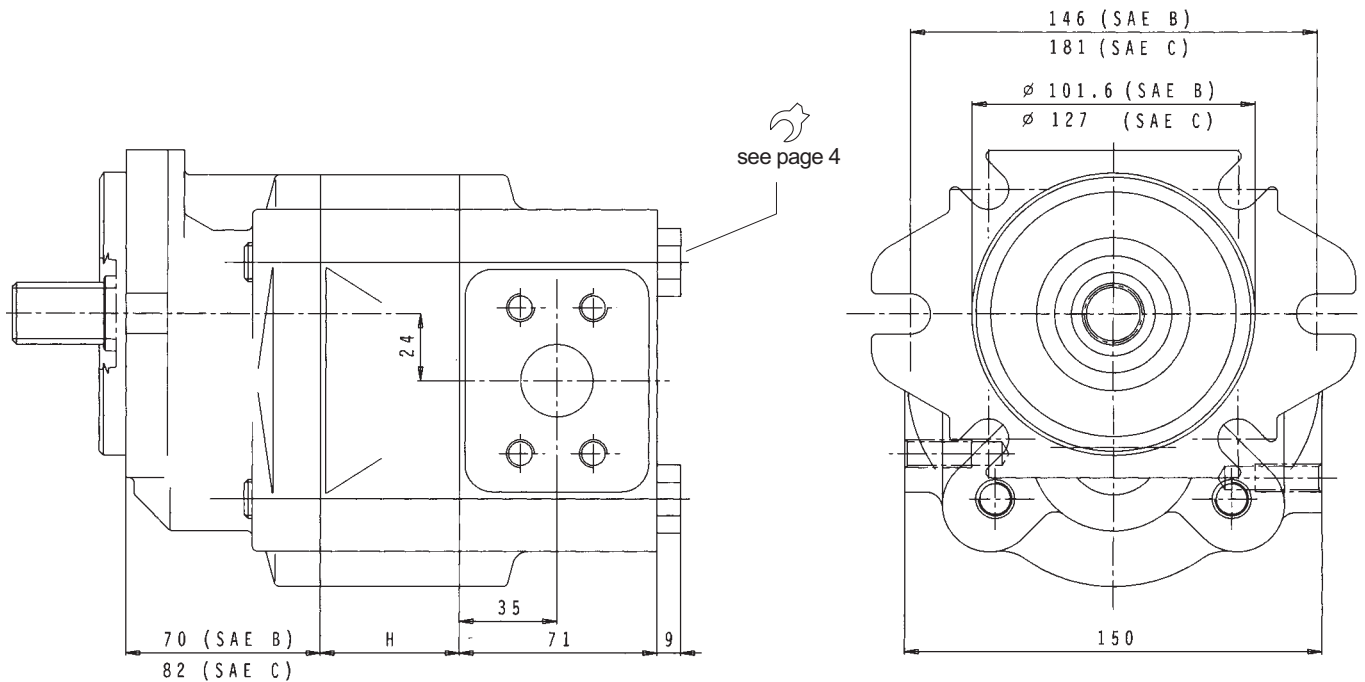
Displacements up to 90 cm³/rev
Pressure up to 325 bar

ASSEMBLING DIMENSIONS AND VALUES OF PRESSURE AND SPEED

| TYPE | | 21* | 32 | 38 | 46 | 55 | 63 | 71 | 80 | 90* |
|-----------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Displacement | cm ³ /rev. | 23.5 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| | cu.in./rev. | 1.43 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Dimension H | mm | 23.5 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| | in. | 1.43 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Working pressure | bar | 280 | | | 250 | | 230 | 210 | 175 | 160 |
| | psi | 4000 | | | 3600 | | 3300 | 3000 | 2530 | 2300 |
| Intermittent pressure | p2 bar | 300 | | | 280 | | 250 | 230 | 200 | 180 |
| | psi | 4300 | | | 4000 | | 3600 | 3300 | 2900 | 2600 |
| Peak pressure | p3 bar | 325 | | | 300 | | 275 | 250 | 220 | 200 |
| | psi | 4700 | | | 4300 | | 3950 | 3600 | 3140 | 2900 |
| Max speed at | p2 rpm | 3000 | | | | 2750 | | 2250 | 2000 | 1800 |
| Min. speed at | p1 rpm | 450 | | | | 350 | | 300 | | 300 |
| Weight | kg | 14 | 16.2 | 16.5 | 17.2 | 18 | 18.6 | 19.3 | 20.1 | 21 |
| | lbs | 30.86 | 35.72 | 36.38 | 37.93 | 39.69 | 41.01 | 42.56 | 44.32 | 46.31 |

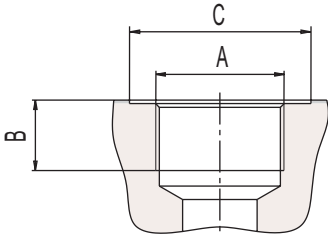
*Displacement 21 available only with drive shafts codes 55 - 56

*Available for quantity, please contact our sales department.

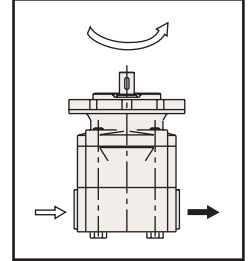


THREADED SIDE PORTS

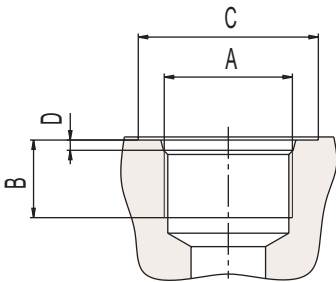
code G



| TYPE | INLET | | | OUTLET | | |
|---------------|---------|---------------|---------------|---------|---------------|---------------|
| | A | B | C | A | B | C |
| From 21 to 55 | G 1"1/4 | 20 (0.79") | 56 (2.20") | G 1" | 18 (0.71") | 56 (2.20") |
| From 63 to 90 | G 1"1/2 | 20 (0.79") | 60 (2.36") | G 1"1/4 | 20 (0.79") | 60 (2.36") |



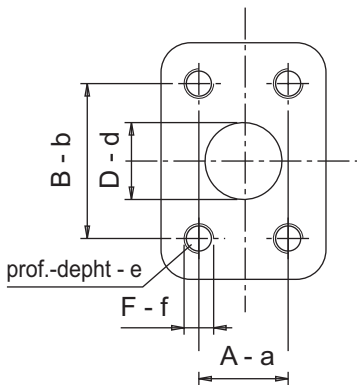
code R



| TYPE | INLET | | | | OUTLET | | | |
|---------------|-----------------------|---------------|---------------|----------------|-----------------------|---------------|---------------|----------------|
| | A | B | C | D | A | B | C | D |
| From 21 to 55 | 1"5/16 UN (SAE 16) | 19 (0.75") | 44 (1.73") | 3.3 (0.13") | 1"3/16 UN (SAE 14) | 19 (0.75") | 41 (1.61") | 3.3 (0.13") |
| From 63 to 90 | 1"5/8 UN (SAE 20) | | 46 (1.81") | | 1"5/16 UN (SAE 16) | | 44 (1.73") | |

FLANGED SIDE PORTS

code W

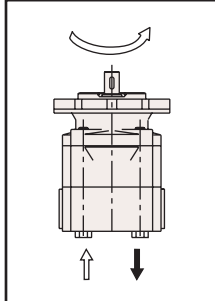


| TYPE | INLET | | | | | OUTLET | | | | |
|---------------|---------------|-----------------|-----------------|-----|-----------------|---------------|-----------------|-----------------|-----|-----------------|
| | Φ D | A | B | F | e | φ d | a | b | f | e |
| From 21 to 55 | 32 (1"1/4) | 30.2 (1.19") | 58.7 (2.31") | M10 | 22.4 (0.88") | 26 (1") | 26.2 (1.03") | 52.4 (2.06") | M10 | 22.4 (0.88") |
| From 63 to 90 | 38 (1"1/2) | 35.7 (1.41") | 69.8 (2.75") | M12 | 24 (0.94") | 32 (1"1/4) | 30.2 (1.19") | 58.7 (2.31") | | |

code S

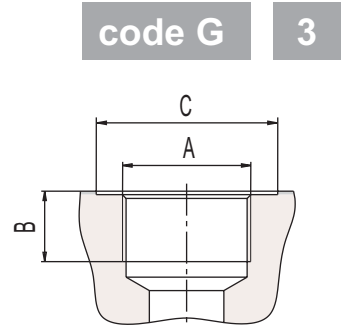
| TYPE | INLET | | | | | OUTLET | | | | |
|---------------|---------------|-----------------|-----------------|----------------|-----------------|---------------|-----------------|-----------------|----------------|-----------------|
| | Φ D | A | B | F | e | φ d | a | b | f | e |
| From 21 to 55 | 32 (1"1/4) | 30.2 (1.19") | 58.7 (2.31") | 7/16-14 UNC | 22.4 (0.88") | 26 (1") | 26.2 (1.03") | 52.4 (2.06") | 3/8-16 UNC | 22.4 (0.88") |
| From 63 to 90 | 38 (1"1/2) | 35.7 (1.41") | 69.8 (2.75") | 1/2-13 UNC | 24 (0.94") | 32 (1"1/4) | 30.2 (1.19") | 58.7 (2.31") | 7/16-14 UNC | |

THREADED REAR PORTS



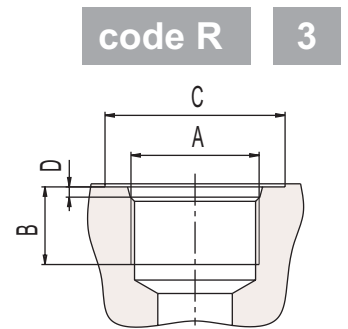
| TYPE | | INLET | | | OUTLET | | |
|----------------------|---------------------|---------|------------|------------|--------|------------|------------|
| Motors From 21 to 90 | Pumps From 21 to 90 | A | B | C | A | B | C |
| | | G 1"1/4 | 20 (0.79") | 56 (2.20") | G 1" | 18 (0.71") | 44 (1.73") |

To obtain a motor with the same rotation of the pump, reverse inlet/outlet ports.

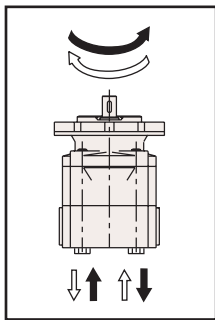


| TYPE | | INLET | | | | OUTLET | | | |
|----------------------|---------------------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------|
| Motors From 21 to 90 | Pumps From 21 to 90 | A | B | C | D | A | B | C | D |
| | | 1"5/16 UN (SAE 16) | 19 (0.75") | 44 (1.73") | 3.3 (0.13") | 1"3/16 UN (SAE 14) | 19 (0.75") | 41 (1.61") | 3.3 (0.13") |

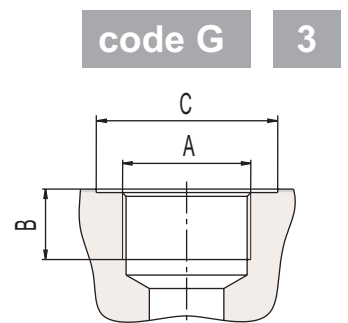
To obtain a motor with the same rotation of the pump, reverse inlet/outlet ports.



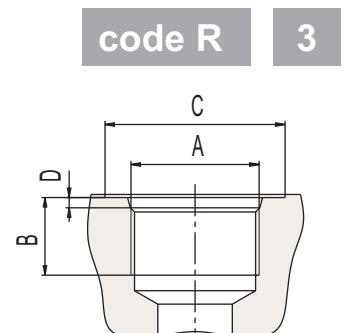
BIDIRECTIONAL GEAR PUMPS AND MOTORS - THREADED REAR PORTS



| TYPE | | INLET/OUTLET | | |
|--------|---------------|--------------|------------|------------|
| | | A | B | C |
| MOTORS | From 21 to 90 | G 1" | 18 (0.71") | 56 (2.20") |
| PUMPS | From 21 to 90 | G 1"1/4 | 20 (0.79") | 60 (2.36") |



| TYPE | | INLET/OUTLET | | | |
|--------|---------------|--------------------|------------|------------|-------------|
| | | A | B | C | D |
| MOTORS | From 21 to 90 | 1"5/16 UN (SAE 16) | 19 (0.75") | 44 (1.73") | 3.3 (0.13") |
| PUMPS | From 21 to 90 | 1"5/8 UN (SAE 20) | 19 (0.75") | 46 (1.81") | 3.3 (0.13") |



DRIVE SHAFTS

As you can see on pages 13 and 14 (MOUNTING FLANGES), some of those shafts are monolithic constructions, while others are composed by two pieces.

In another case the same shaft can be monolithic or composed by two pieces depending on flange type.

Monolithic construction:
max torque 320 Nm

Composed by two pieces:
max torque 220 Nm

code 55 SAE B Splined 13T-16/32 DP

Monolithic construction:
max torque 480 Nm

code 56 SAE BB Splined 15T-16/32 DP

**Available only
composed by two pieces:**
max torque 220 Nm

code 57 SAE C Splined 14T-12/24 DP

Key (6.35 x 6.35 x 17.7)

Monolithic construction:
max torque 220 Nm

Composed by two pieces:
max torque 220 Nm

code 87 SAE B Parallel

Key (6.35 x 6.35 x 25.4)

Monolithic construction:
max torque 320 Nm

code 88 SAE BB Parallel

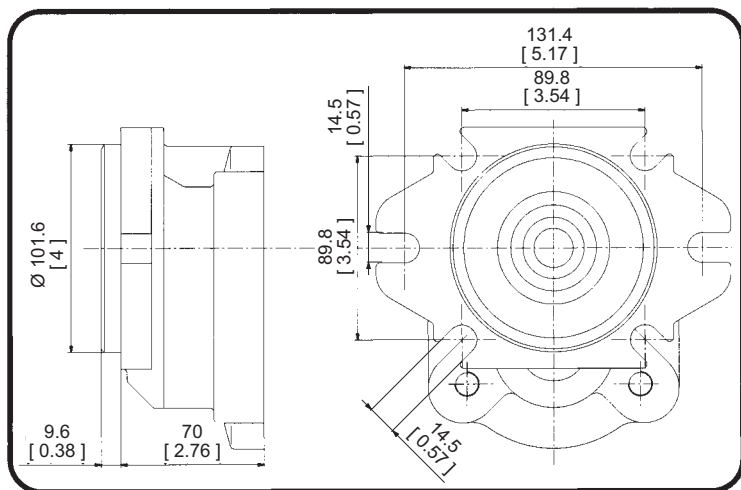
Key (7.94 x 7.94 x 39.7)

**Available only
composed by two pieces:**
max torque 220 Nm

code 89 SAE C Parallel

MOUNTING FLANGES

SAE B

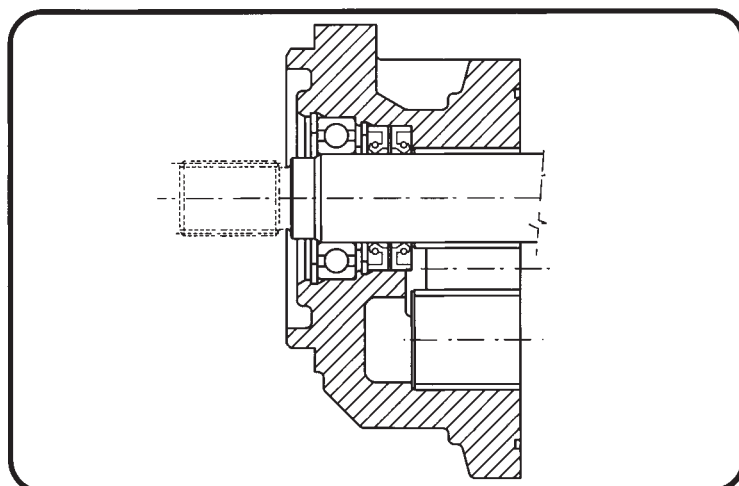


code S3

SAE B Mounting Flange
For shafts code 55 - 56 - 87 - 88

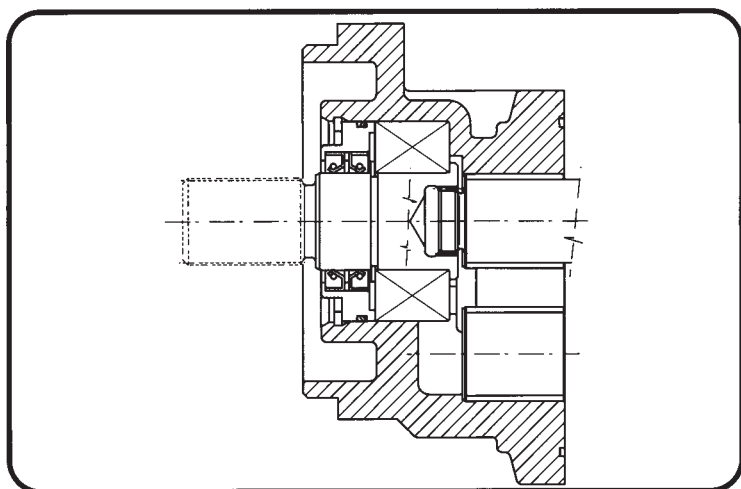
code R3

SAE B Mounting Flange with bearing
for radial loads.
For shafts code 55 - 56 - 87 - 88



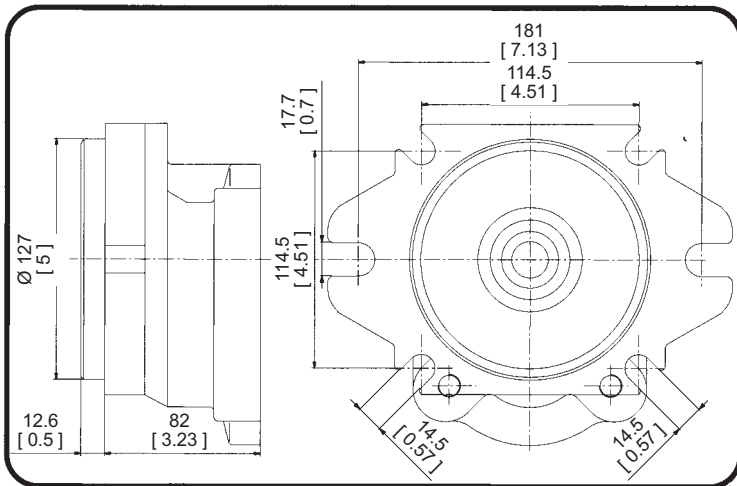
code R7

SAE B Mounting Flange with bearing
for radial and axial loads.
For shafts code 55 - 87



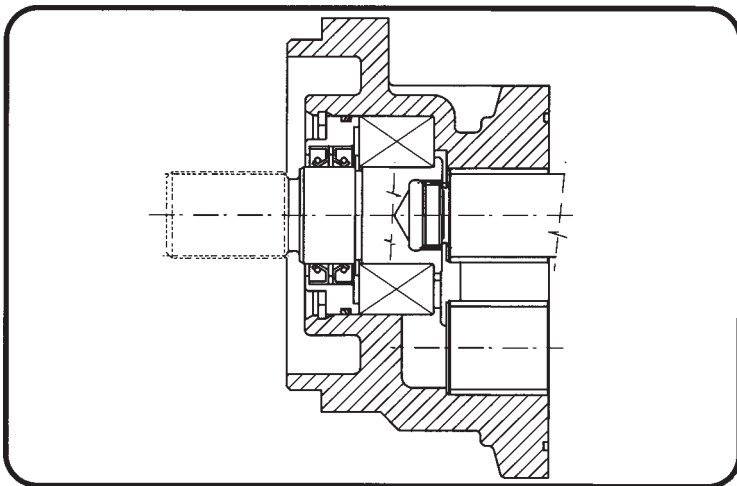
MOUNTING FLANGES

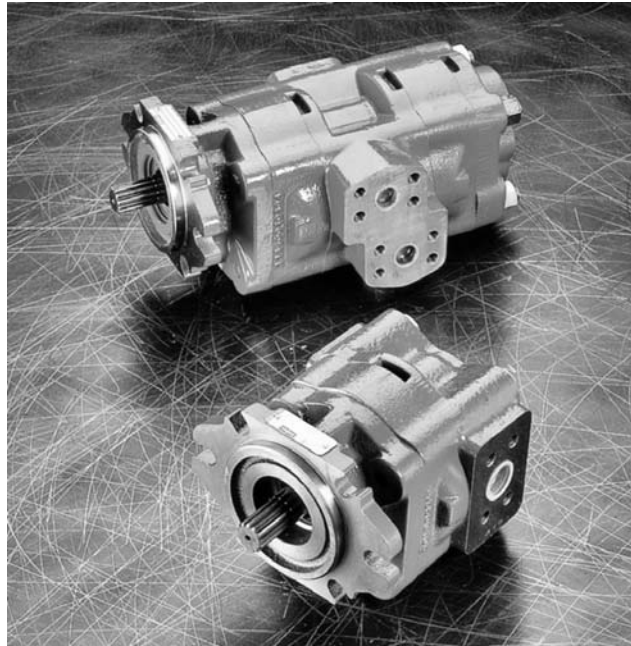
SAE C



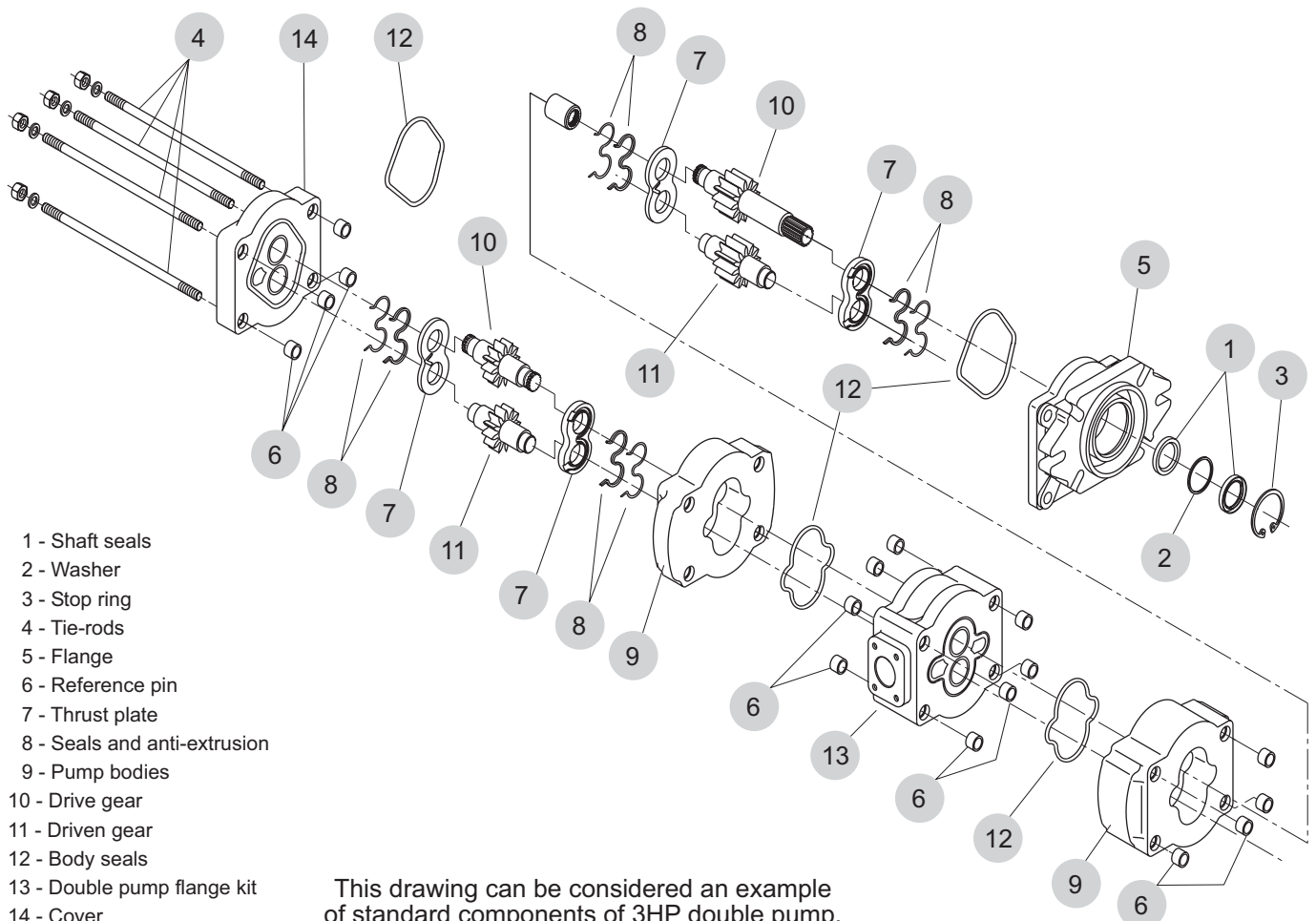
code R8

SAE C Mounting Flange.
Available only with bearing for radial and axial loads.
For shafts code 57 - 89

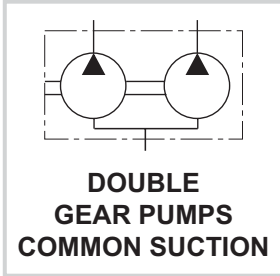




DOUBLE GEAR PUMP WITH COMMON INLET IN DETAIL

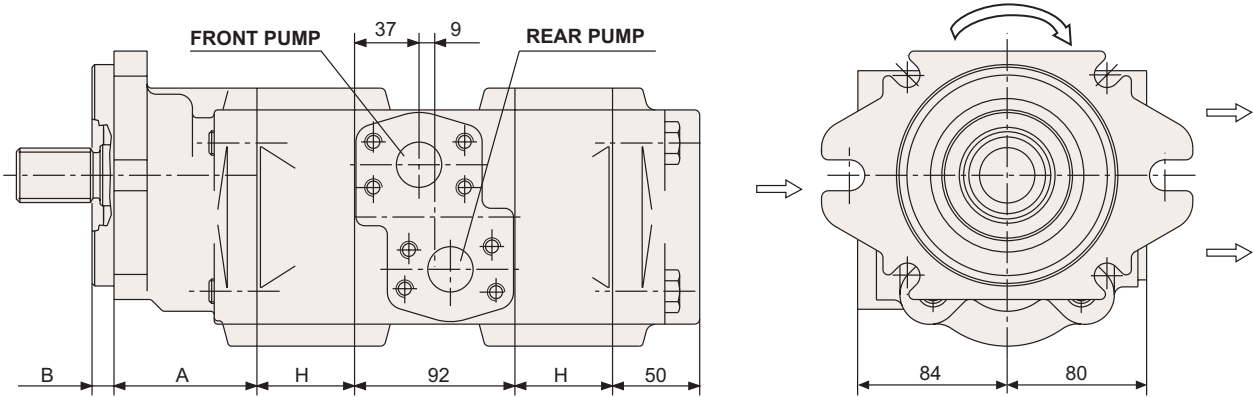


ASSEMBLING DIMENSIONS

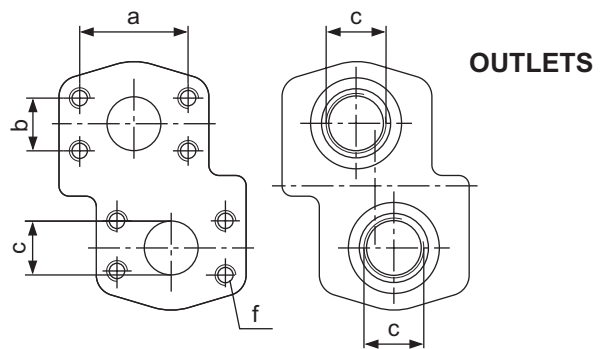
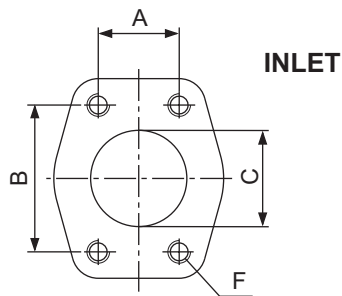
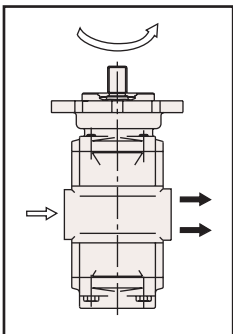


| TYPE | | 21* | 32 | 38 | 46 | 55 | 63 | 71 | 80 | 90** |
|--------------------------------|----------------------|------|------|------|------|------|------|------|------|------|
| Displacement | cm ³ /rev | 22.6 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| Displacement | cu.in/rev | 1.38 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Dimension B (for SAE B flange) | mm | 9.6 | | | | | | | | |
| Dimension B (for SAE B flange) | in | 0.38 | | | | | | | | |
| Dimension B (for SAE C flange) | mm | 12.6 | | | | | | | | |
| Dimension B (for SAE C flange) | in | 0.50 | | | | | | | | |
| Dimension A (for SAE B flange) | mm | 70 | | | | | | | | |
| Dimension A (for SAE B flange) | in | 2.76 | | | | | | | | |
| Dimension A (for SAE C flange) | mm | 82 | | | | | | | | |
| Dimension A (for SAE C flange) | in | 3.23 | | | | | | | | |
| Dimension H | mm | 29 | 36 | 40 | 45 | 51 | 56 | 62 | 68 | 73.5 |
| Dimension H | in | 1.14 | 1.42 | 1.57 | 1.77 | 2.01 | 2.20 | 2.44 | 2.68 | 2.89 |

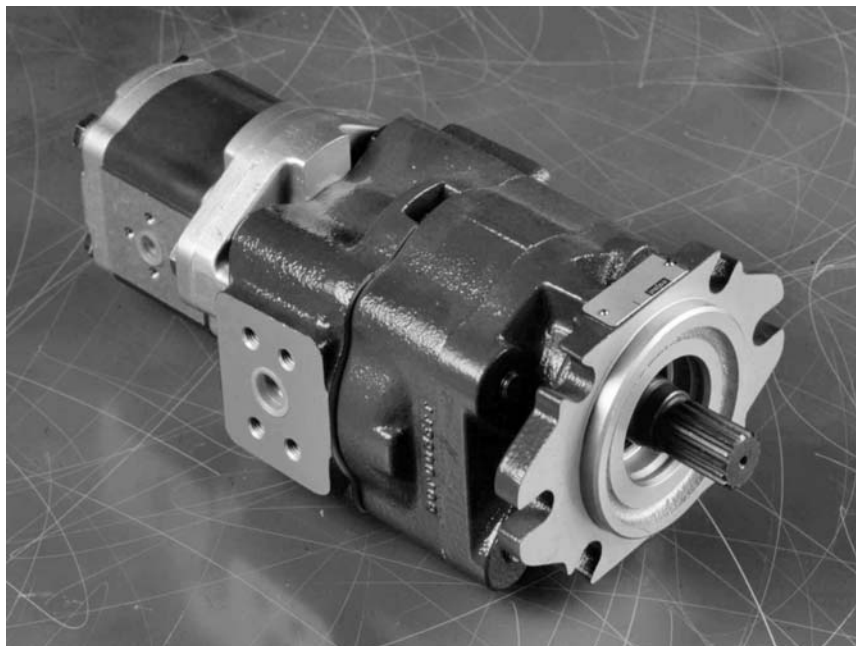
* For second stage only
** Please contact our sales department



AVAILABLE PORTS



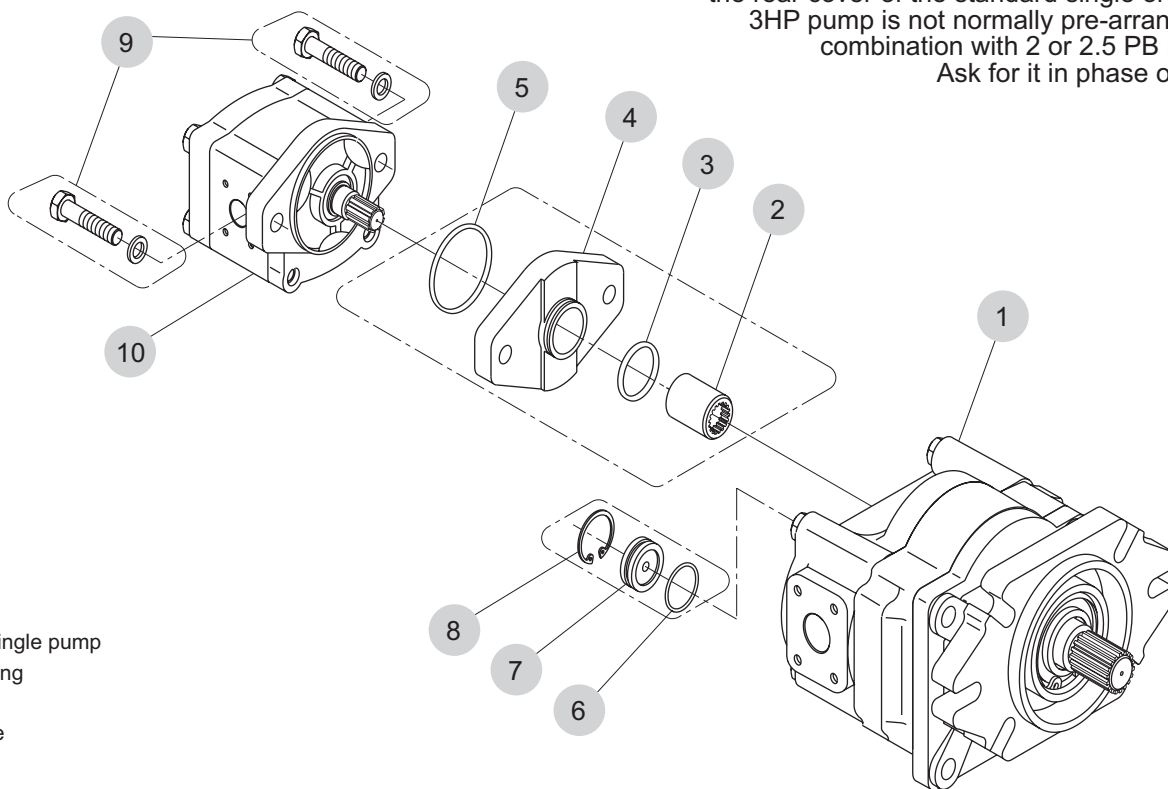
| NOMINAL SIZE | INLET | | | | OUTLET FRONT AND REAR PUMP | | | | | COMMERCIAL CODE |
|--------------|-----------------|--------------|--------------|-------------|----------------------------|-----------------|--------------|--------------|------------|-----------------|
| | F | A | B | C | NOMINAL SIZE | f | a | b | c | |
| 2" | M12 | 42.8 1.69 | 77.7 3.06 | 51 2.01 | FLANGE | M10 | 26.1 1.03 | 52.3 2.06 | 26 1.02 | YG |
| | | | | | G 1" | | | | | |
| 2" | 1/2 - 13 UNC | 42.8 1.69 | 77.7 3.06 | 51 2.01 | FLANGE | 3/8 - 16 UNC | 26.1 1.03 | 52.3 2.06 | 26 1.02 | YC |
| | | | | | SAE 16 1"5/16 UN | | | | | |
| 2"1/2 | 1/2 - 13 UNC | 50.8 2 | 88.9 3.5 | 63.5 2.5 | FLANGE | 3/8 - 16 UNC | 26.1 1.03 | 52.3 2.06 | 26 1.02 | YW |
| | | | | | SAE 16 1"5/16 UN | | | | | |



3HP PUMP COMBINATION WITH 2PB OR 2.5PB PUMP

IMPORTANT:

the rear cover of the standard single or double 3HP pump is not normally pre-arranged for combination with 2 or 2.5 PB pumps. Ask for it in phase of order.



- 1 - 3HP single pump
- 2 - Coupling
- 3 - O-ring
- 4 - Flange
- 5 - O-ring
- 6 - O-ring
- 7 - Plug
- 8 - Stop ring
- 9 - Assembling screws
- 10 - Gear pump "B" series, group 2

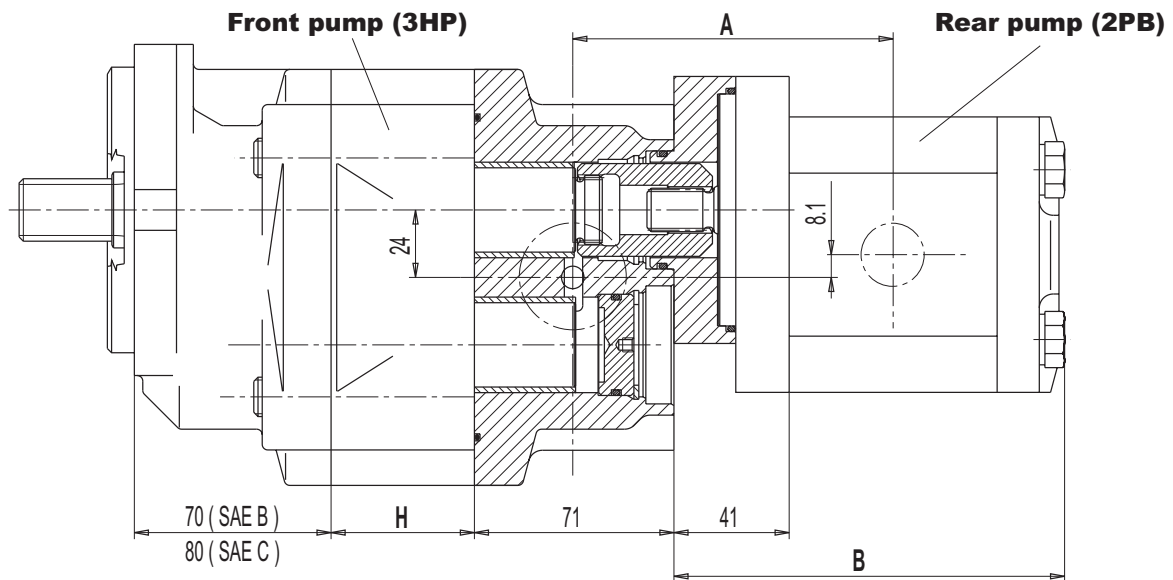
This drawing shows the standard components to get combination with 3HP and 2PB.

3HP PUMP COMBINATION WITH 2PB PUMP

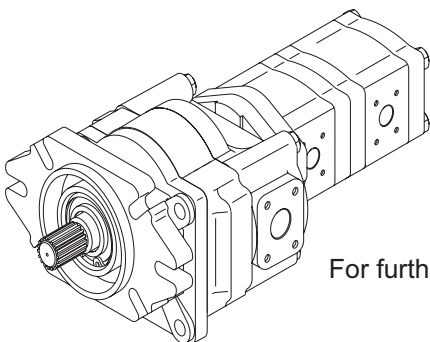


| 3HP TYPE | | 21 | 32 | 38 | 46 | 55 | 63 | 71 | 80 | 90** |
|--------------|-----------------------|------|------|------|------|------|------|------|------|------|
| Displacement | cm ³ /rev. | 23.5 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| | cu.in./rev. | 1.43 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Dimension H | mm | 23.5 | 36 | 40 | 45 | 51 | 56 | 62 | 68 | 73.5 |
| | in | 1.43 | 1.42 | 1.57 | 1.77 | 2.01 | 2.20 | 2.44 | 2.68 | 2.89 |

** Please contact our sales department



| 2PB TYPE | | 4.5 | 6.2 | 8.3 | 11.3 | 13.8 | 16 | 19 | 22.5 | 26 |
|--------------|-----------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Displacement | cm ³ /rev. | 4.6 | 6.5 | 8.2 | 11.5 | 13.8 | 16.6 | 19.4 | 22.9 | 25.8 |
| | cu.in./rev. | 0.27 | 0.37 | 0.50 | 0.68 | 0.84 | 0.97 | 1.15 | 1.37 | 1.58 |
| Dimension A | mm | 100.5 | | | 108.7 | | 114 | 117.2 | 119.9 | 122.8 |
| | in | 3.96 | | | 4.28 | | 4.49 | 4.61 | 4.72 | 4.83 |
| Dimension B | mm | 109.6 | | 115.3 | 126 | 136.5 | 142.9 | 148.3 | 154.1 | |
| | in | 4.31 | | 4.54 | 4.96 | 5.37 | 5.63 | 5.84 | 6.07 | |



As shown in the picture, 2PB pump can have plus than one stage too, and they can have some types of valve in the rear cover.

First 2PB rear pump mounting flange: SAE A (code S2)

First 2PB rear pump shaft: SAE A 9T - 16 / 32 DP (code 52)

For further informations about 2PB gear pumps, please refer to Salami technical catalog

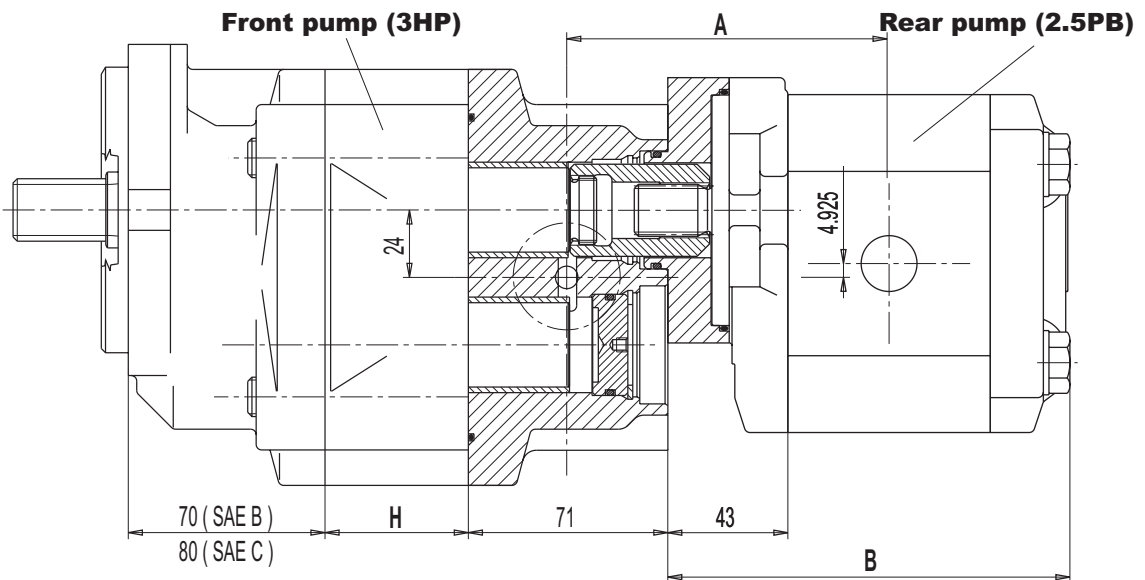
**Gear pumps and motors "B" series
group 2**

3HP PUMP COMBINATION WITH 2.5PB PUMP



| 3HP TYPE | | 21 | 32 | 38 | 46 | 55 | 63 | 71 | 80 | 90** |
|--------------|-----------------------|------|------|------|------|------|------|------|------|------|
| Displacement | cm ³ /rev. | 23.5 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| Displacement | cu.in./rev. | 1.43 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Dimension H | mm | 23.5 | 36 | 40 | 45 | 51 | 56 | 62 | 68 | 73.5 |
| Dimension H | in | 1.43 | 1.42 | 1.57 | 1.77 | 2.01 | 2.20 | 2.44 | 2.68 | 2.89 |

** Please contact our sales department



| 2.5 PB TYPE | | 16 | 19 | 22 | 25 | 28 | 32 | 38 | 44 |
|--------------|-----------------------|-------|-------|------|-------|-------|-------|-------|-------|
| Displacement | cm ³ /rev. | 16 | 19.3 | 22.2 | 25.2 | 27.6 | 32.4 | 38.1 | 44.2 |
| Displacement | cu.in./rev. | 0.97 | 1.17 | 1.35 | 1.53 | 1.68 | 1.97 | 2.32 | 2.69 |
| Dimension A | mm | 110.5 | 112.2 | 114 | 115.2 | 121.5 | 124.2 | 127.2 | 130.5 |
| Dimension A | in | 4.35 | 4.42 | 4.49 | 4.53 | 4.78 | 4.89 | 5.01 | 5.14 |
| Dimension B | mm | 171 | 174.4 | 178 | 180.4 | 193 | 198.4 | 204.4 | 211 |
| Dimension B | in | 6.73 | 6.86 | 7.01 | 7.10 | 7.60 | 7.81 | 8.05 | 8.31 |

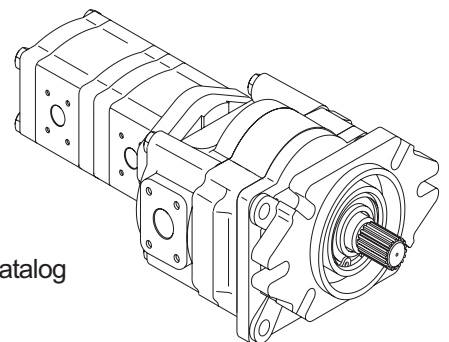
As shown in the picture, 2.5PB pump can have plus than one stage too, and they can have some types of valve in the rear cover.

First 2.5PB rear pump mounting flange: SAE A (code S2)

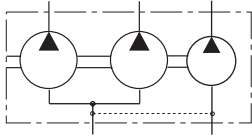
First 2.5PB rear pump shaft: SAE A 11T - 16 / 32 DP (code 54)

For further informations about 2.5PB gear pumps, please refer to Salami technical catalog

**Gear pumps and motors "B" series
group 2.5**

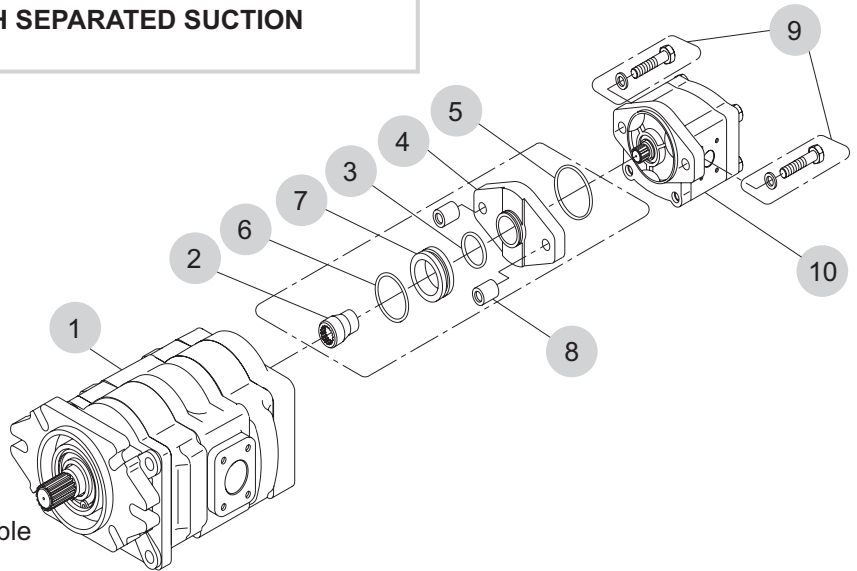


3HP DOUBLE PUMP COMBINATION WITH 2PB PUMP

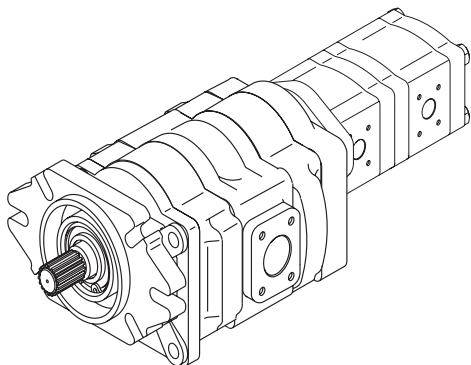
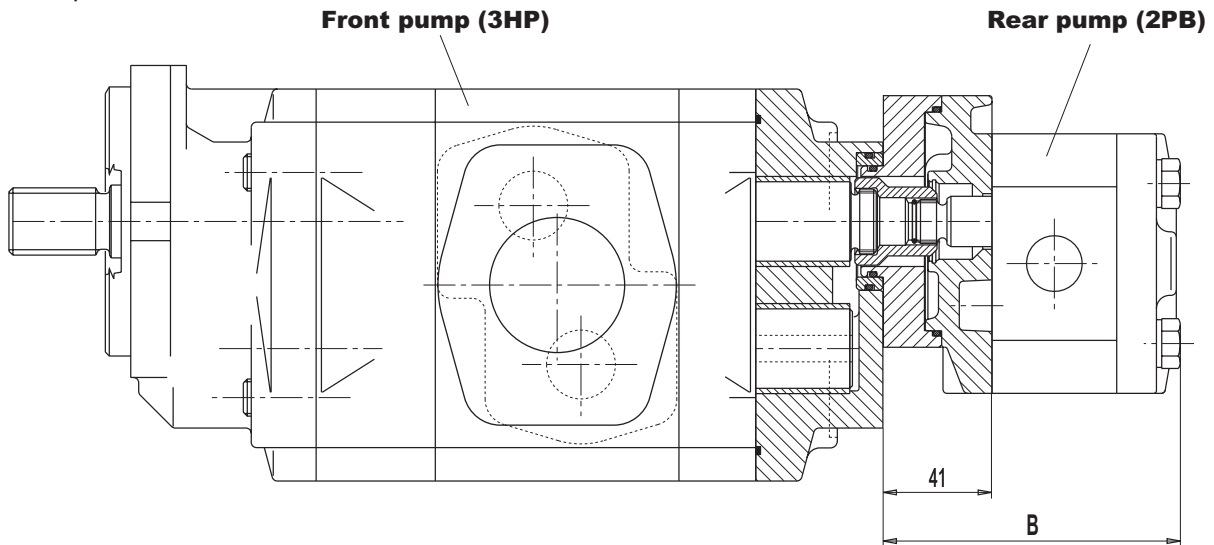


**MULTIPLE GEAR PUMPS
3HP DOUBLE PUMP WITH COMMON SUCTION
2PB WITH SEPARATED SUCTION**

- 1 - 3HP double pump with common suction
- 2 - Coupling
- 3 - O-ring
- 4 - Flange
- 5 - O-ring
- 6 - O-ring
- 7 - Centering collar
- 8 - Spacer
- 9 - Assembling screws
- 10 - Gear pump "B" series, group 2
with inlet and outlet ports



IMPORTANT:
the rear cover of the standard single or double 3HP pump is not normally pre-arranged for combination with 2 or 2.5 PB pumps.
Ask for it in phase of order.



As shown in the picture, 2PB pump can have plus than one stage too, and they can have some types of valve in the rear cover.

First 2PB rear pump mounting flange: SAE A (code S2)

First 2PB rear pump shaft: DIN 5482 splined (code 61AS)

For 3HP double pump displacements and dimensions, please see page 16

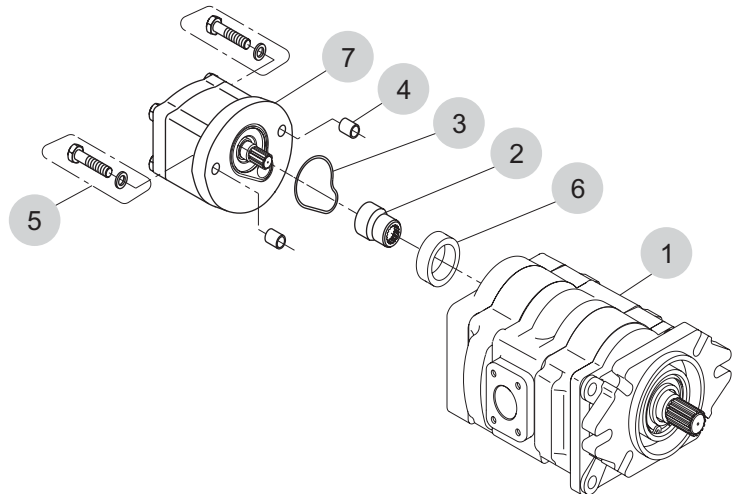
For "B" dimension and further informations about 2PB gear pumps,

please refer to Salami technical catalog: **Gear pumps and motors "B" series - group 2**

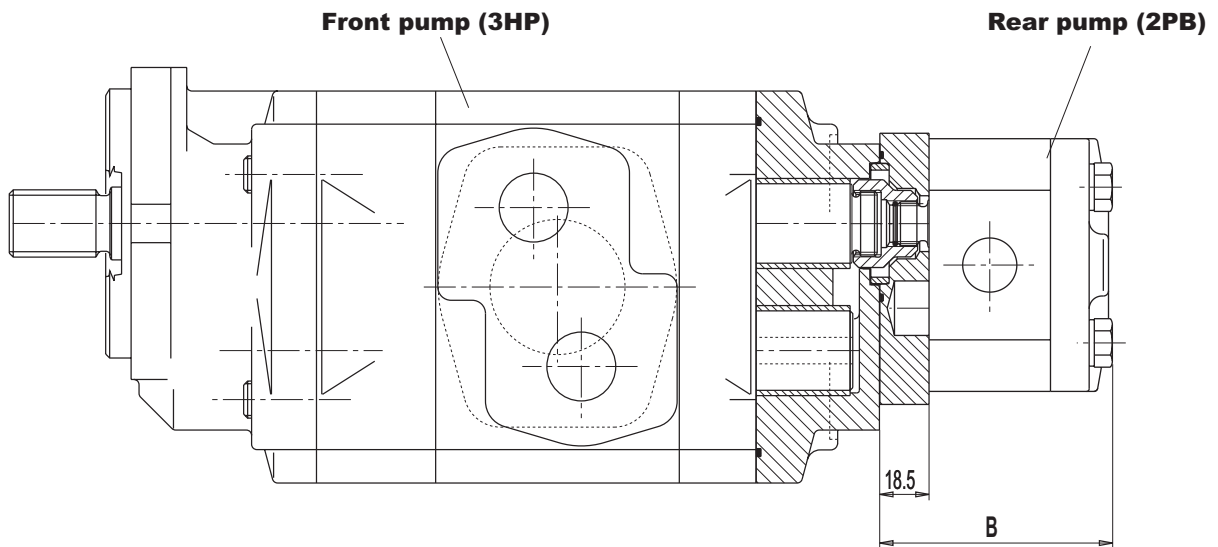
3PH DOUBLE PUMP COMBINATION WITH 2PB PUMP - COMMON SUCTION



- 1 - 3HP double pump with common suction
- 2 - Coupling
- 3 - O-ring
- 4 - Spacer
- 5 - Assembling screws
- 6 - Centering collar
- 7 - Gear pump "B" series, group 2
only with outlet port



IMPORTANT:
the rear cover of the standard single or double
3HP pump is not normally pre-arranged for
combination with 2 or 2.5 PB pumps.
Ask for it in phase of order.



As shown in the picture, 2PB pump can have only one stage ,
and they can have some types of valve in the rear cover.

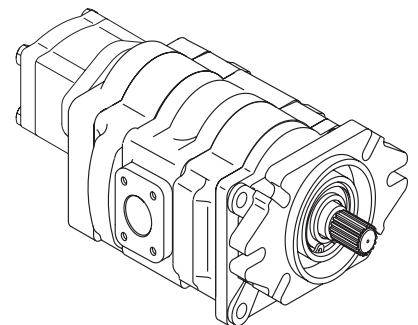
2PB rear pump mounting a special flange for common suction

2PB rear pump shaft: DIN 5482 splined (code 61)

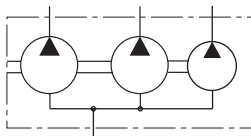
For 3HP double pump displacements and dimensions, please see page 16

For "B" dimension and further informations about 2PB gear pumps,

please refer to Salami technical catalog: **Gear pumps and motors "B" series - group 2**

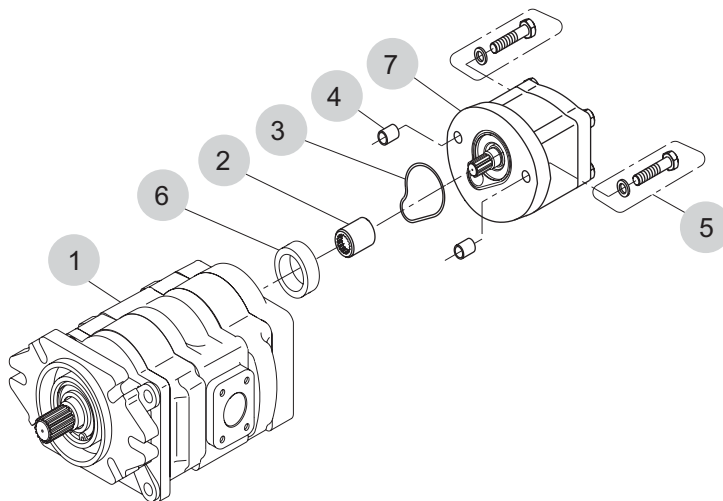


3HP DOUBLE PUMP COMBINATION WITH 2.5PB PUMP - COMMON SUCTION



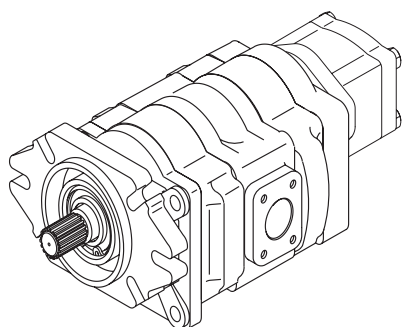
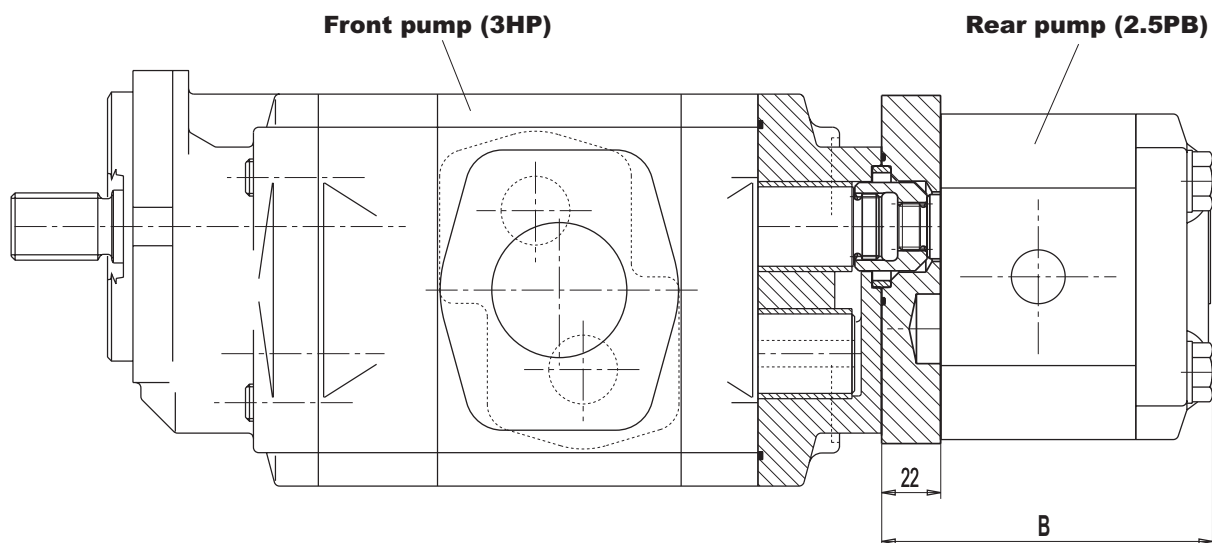
**MULTIPLE GEAR PUMPS
3HP DOUBLE PUMP WITH 2.5PB PUMP
COMMON SUCTION
COMMERCIAL CODE "UA"**

- 1 - 3HP double pump with common suction
- 2 - Coupling
- 3 - O-ring
- 4 - Spacer
- 5 - Assembling screws
- 6 - Centering collar
- 7 - Gear pump "B" series, group 2.5
only with outlet port



IMPORTANT:

the rear cover of the standard single or double 3HP pump is not normally pre-arranged for combination with 2 or 2.5 PB pumps. Ask for it in phase of order.



As shown in the picture, 2.5PB pump can have only one stage ,
and they can have some types of valve in the rear cover.

2.5PB rear pump mounting a special flange for common suction

2.5PB rear pump shaft: DIN 5480 splined (code 64)

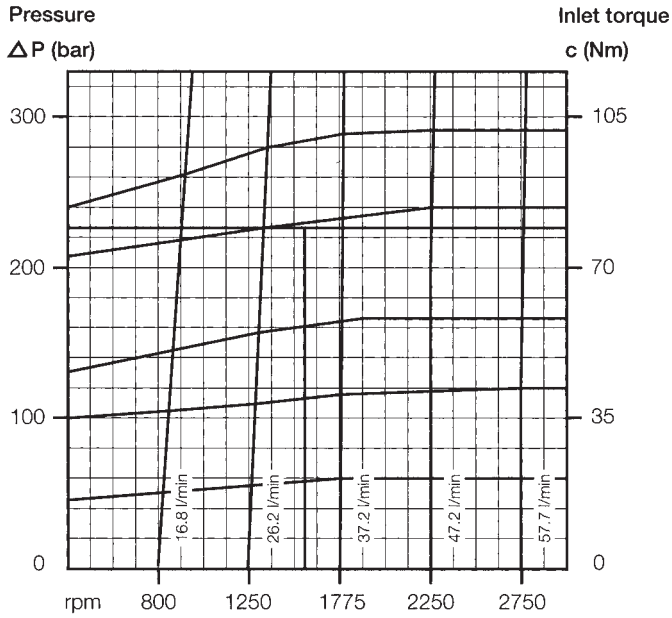
For 3HP double pump displacements and dimensions, please see page 16

For "B" dimension and further informations about 2.5PB gear pumps,

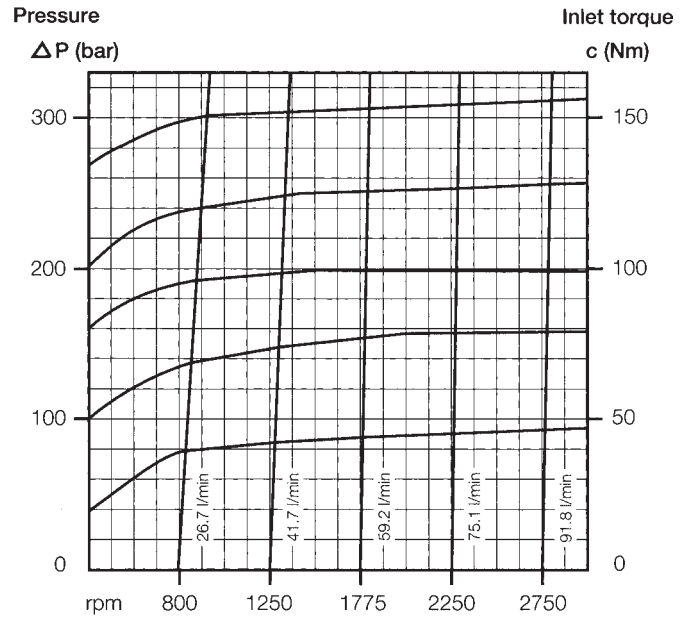
please refer to Salami technical catalog: **Gear pumps and motors "B" series - group 2.5**

Performance curves carried out with oil viscosity at 16 cSt and oil temperature at 60°C

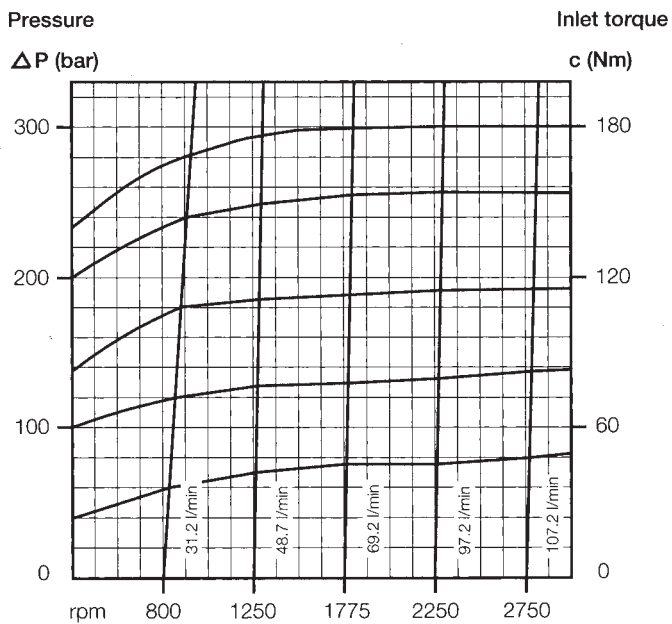
PUMP PERFORMANCE CURVES



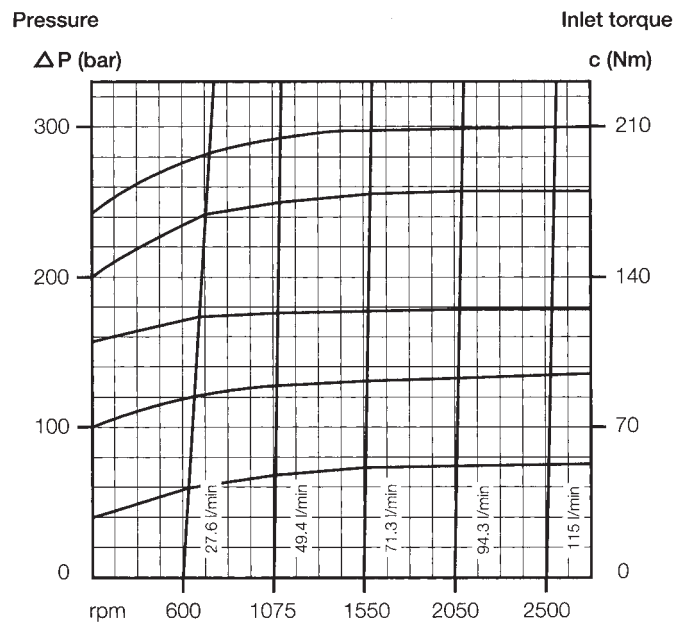
3HP 21



3HP 32



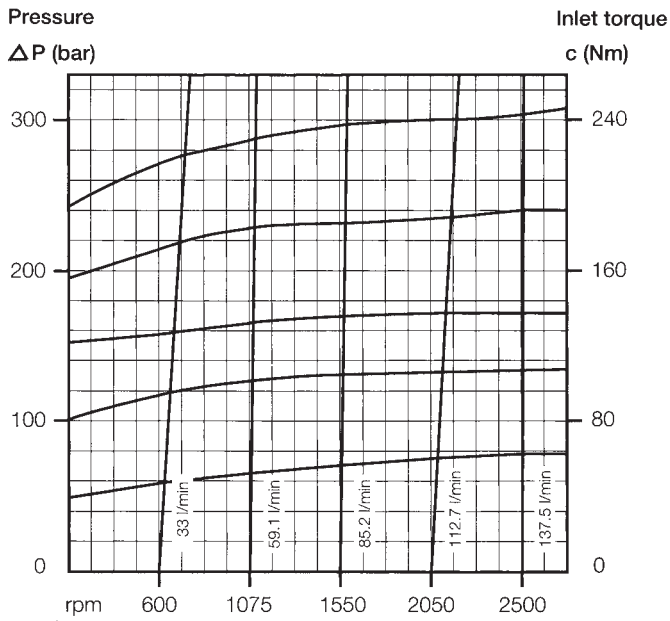
3HP 38



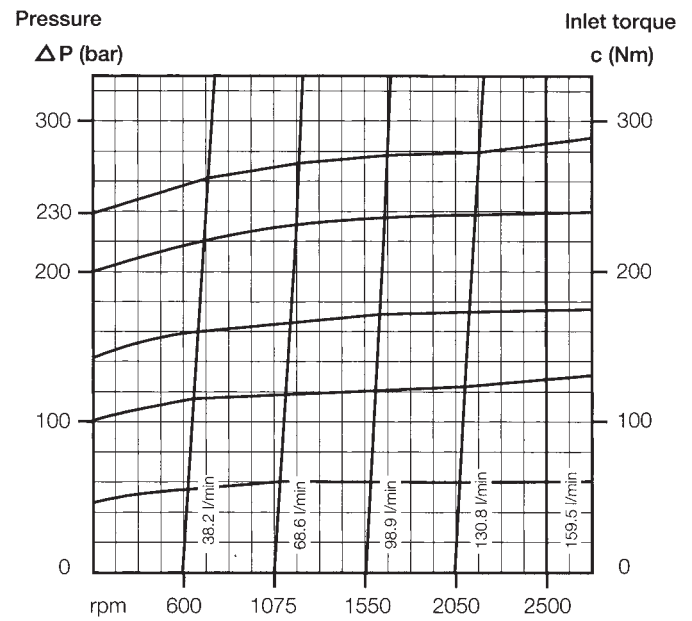
3HP 46

Performance curves carried out with oil viscosity at 16 cSt and oil temperature at 60°C

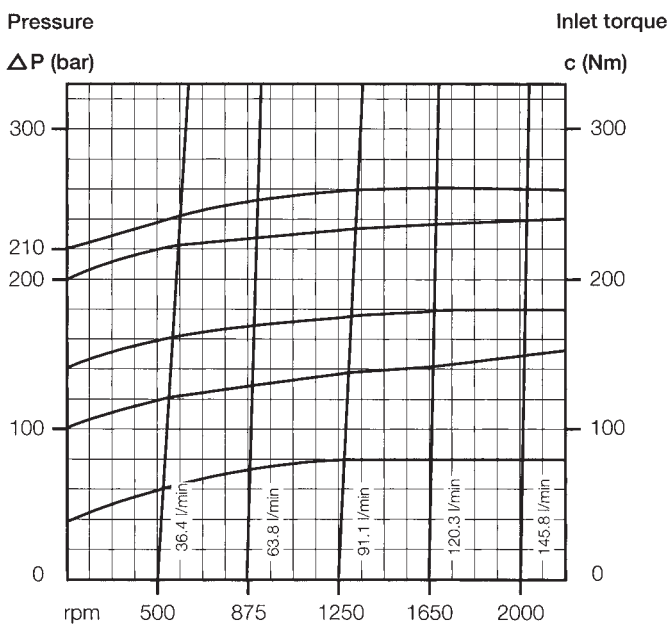
PUMP PERFORMANCE CURVES



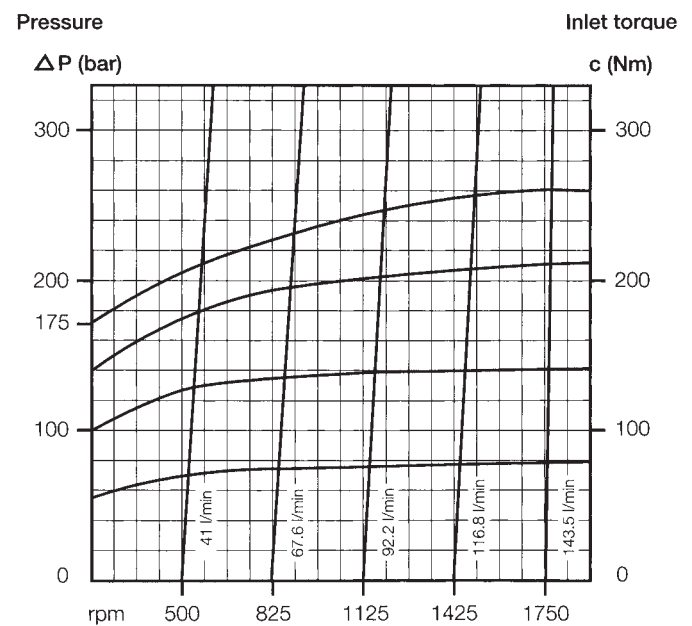
3HP 55



3HP 63



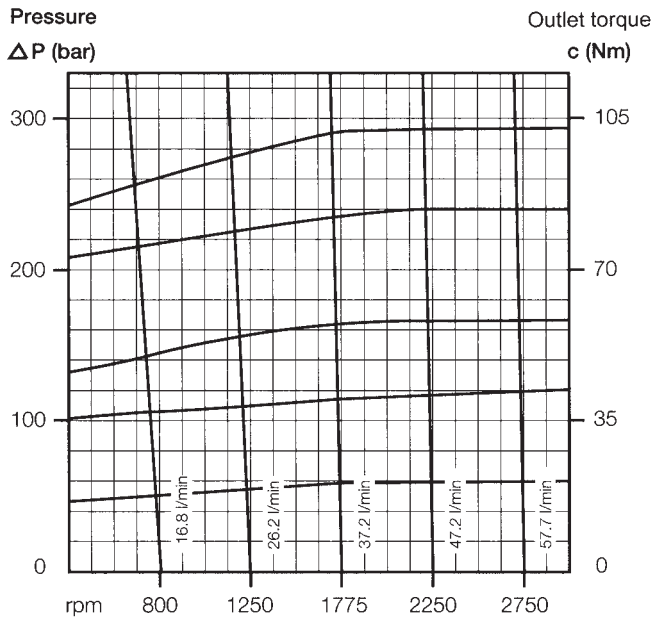
3HP 71



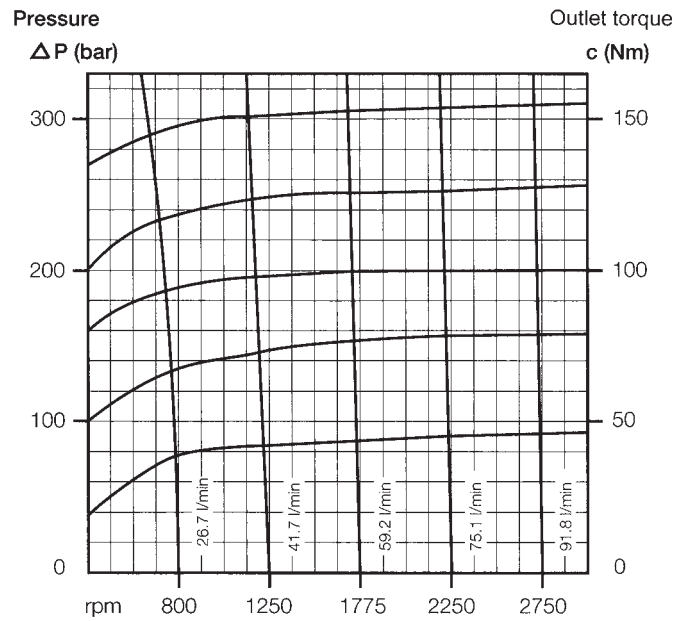
3HP 80

Performance curves carried out with oil viscosity at 16 cSt and oil temperature at 60°C

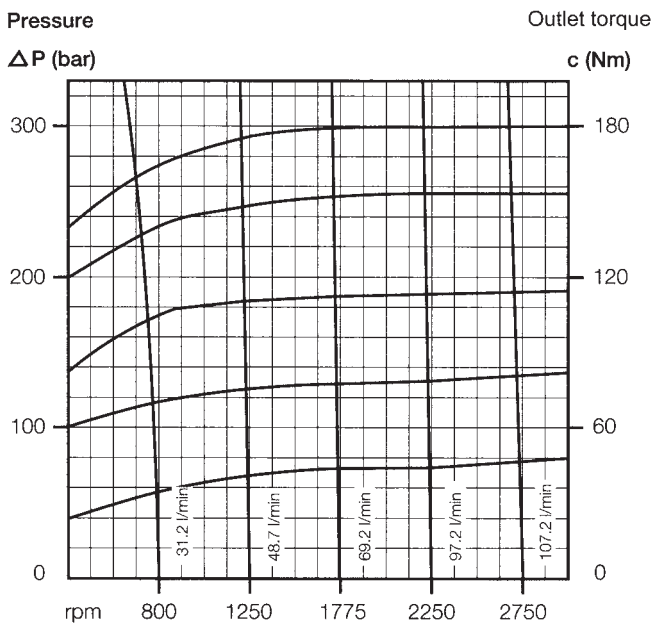
MOTOR PERFORMANCE CURVES



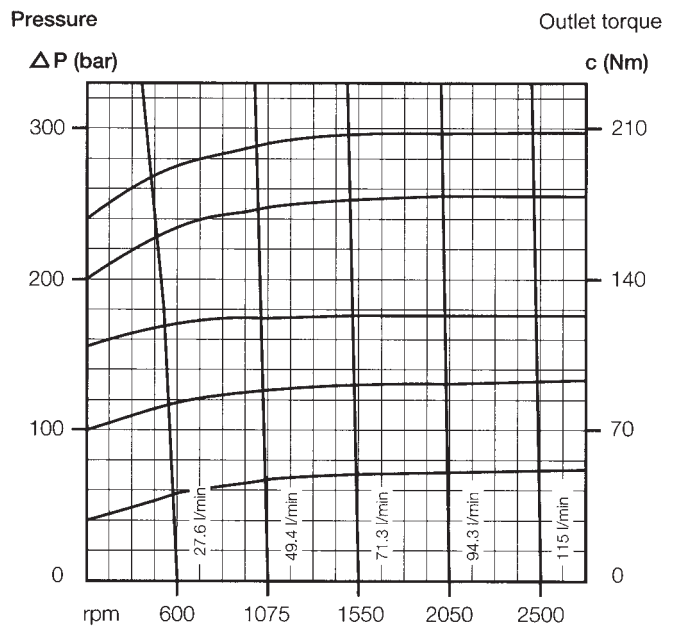
3HM 21



3HM 32



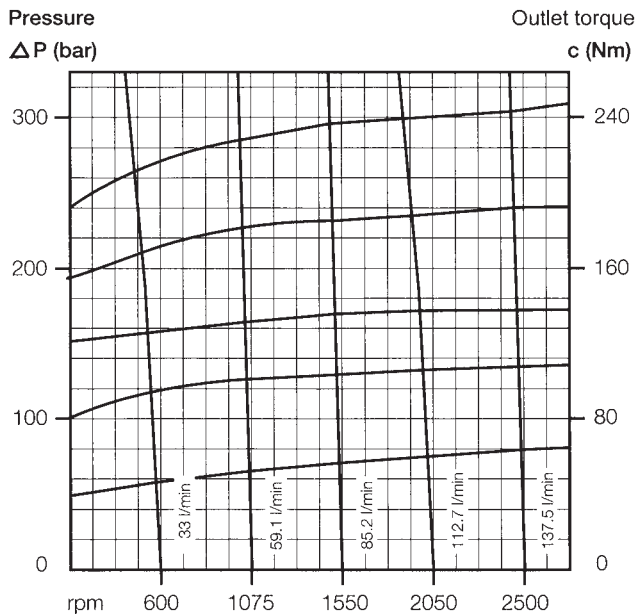
3HM 38



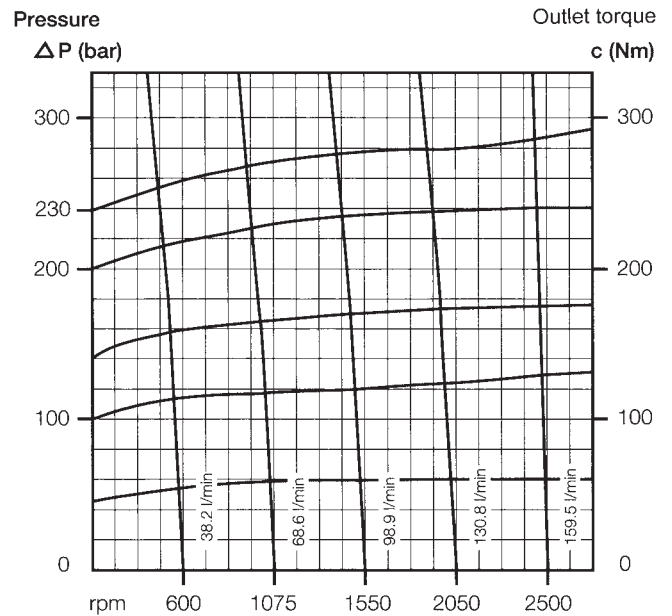
3HM 46

Performance curves carried out with oil viscosity at 16 cSt and oil temperature at 60°C

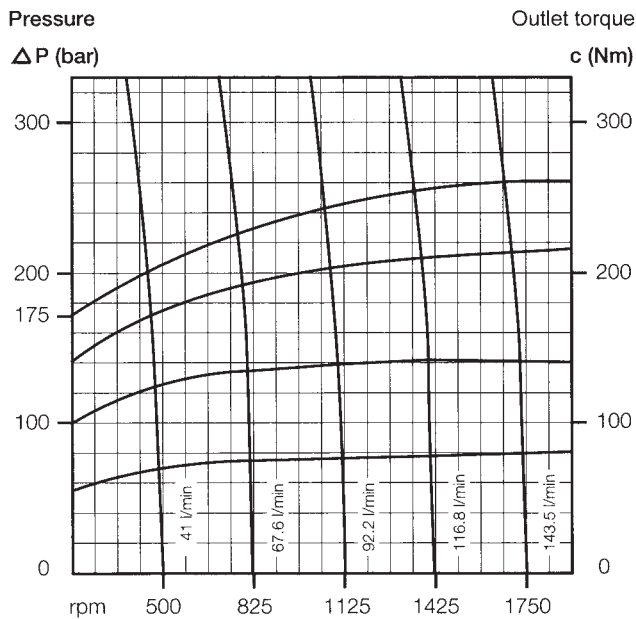
MOTOR PERFORMANCE CURVES



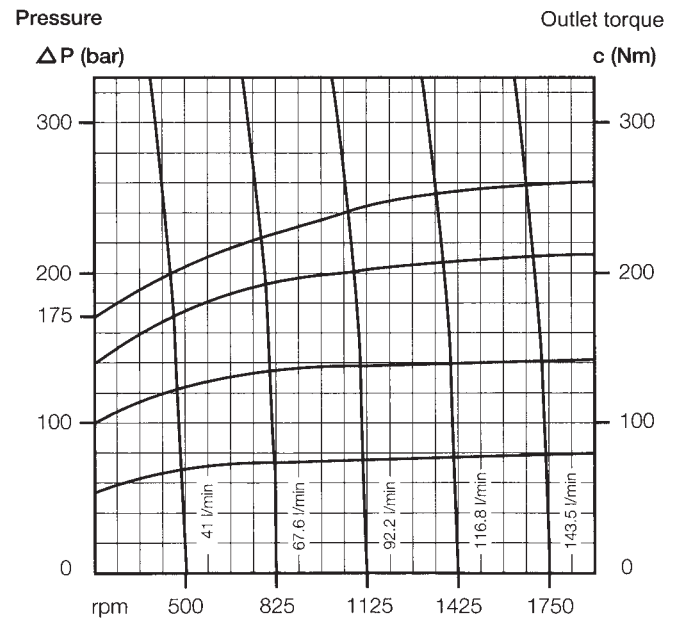
3HM 55



3HM 63



3HM 71



3HM 80

SINGLE PUMPS/MOTORS

3 H P 55 D - S 55 S3 - V -/.....

DIMENSION

SERIE

| FUNCTION | CODE |
|----------|----------|
| Pump | <i>P</i> |
| Motor | <i>M</i> |

| TYPE | DISPLACEMENT (page 9) | |
|------|-----------------------------|-------------------|
| 21 | 23.5 cm ³ / rev. | 1.43 cu.in./ rev. |
| 32 | 33.4 cm ³ / rev. | 2.04 cu.in./ rev. |
| 38 | 39 cm ³ / rev. | 2.38 cu.in./ rev. |
| 46 | 46 cm ³ / rev. | 2.81 cu.in./ rev. |
| 55 | 55 cm ³ / rev. | 3.36 cu.in./ rev. |
| 63 | 63.8 cm ³ / rev. | 3.89 cu.in./ rev. |
| 71 | 72.9 cm ³ / rev. | 4.45 cu.in./ rev. |
| 80 | 82 cm ³ / rev. | 5.00 cu.in./ rev. |
| 90 | 90 cm ³ / rev. | 5.49 cu.in./ rev. |

| ROTATION | CODE |
|----------------|----------|
| Clockwise | <i>D</i> |
| Anti-clockwise | <i>S</i> |
| Reversible | <i>R</i> |

| PORTS (pages 10 - 11) | CODE |
|-------------------------------------|----------|
| SAE flanged ports (UNC thread) | <i>S</i> |
| SAE flanged ports (Metric thread) | <i>W</i> |
| GAS threaded ports (BSPP) | <i>G</i> |
| SAE threaded ports (ODT) | <i>R</i> |

| DRIVE SHAFTS (page 12) | CODE |
|------------------------|-----------|
| SAE B splined 13 T | <i>55</i> |
| SAE BB splined 15 T | <i>56</i> |
| SAE C splined 14 T | <i>57</i> |
| SAE B parallel | <i>87</i> |
| SAE BB parallel | <i>88</i> |
| SAE C parallel | <i>89</i> |

| FURTHER DETAILS | CODE |
|--|------------|
| None <i>standard</i> | |
| Pre-arranged for 2PB rear pump (page 18) | <i>2</i> |
| Pre-arranged for 2.5PB rear pump (page 19) | <i>2.5</i> |

| PORTS POSITION (pages 10 - 11) | CODE |
|--------------------------------|----------|
| Lateral ports <i>standard</i> | |
| Rear ports | <i>3</i> |

| SEAL | CODE |
|----------------------|----------|
| Buna <i>standard</i> | |
| Viton | <i>V</i> |

| MOUNTING FLANGES (pages 13 - 14) | CODE |
|---|-----------|
| SAE B | |
| SAE B 2 - 4 bolts | <i>S3</i> |
| SAE B 2 - 4 bolts with bearing (radial loads) | <i>R3</i> |
| SAE B 2 - 4 bolts with bearing (radial axial loads) | <i>R7</i> |
| SAE C | |
| SAE C 2 - 4 bolts with bearing (radial axial loads) | <i>R8</i> |

 **Available for series quantities**

Example to order a 3HP single pump with viton seal and pre - arranged for 2.5PB rear pump:
3HP 38S - R 87 R7 - V - 2

DOUBLE PUMPS WITH COMMON INLET

3HP **55** / **38** **D** - **YG** **55** **S3** - **V** -/.....

| TYPE | DISPLACEMENT (page 16) | |
|------|-----------------------------|-------------------|
| 21 | 22 cm ³ / rev. | 1.34 cu.in./ rev. |
| 32 | 33.4 cm ³ / rev. | 2.04 cu.in./ rev. |
| 38 | 39 cm ³ / rev. | 2.38 cu.in./ rev. |
| 46 | 46 cm ³ / rev. | 2.81 cu.in./ rev. |
| 55 | 55 cm ³ / rev. | 3.36 cu.in./ rev. |
| 63 | 63.8 cm ³ / rev. | 3.89 cu.in./ rev. |
| 71 | 72.9 cm ³ / rev. | 4.45 cu.in./ rev. |
| 80 | 82 cm ³ / rev. | 5.00 cu.in./ rev. |
| 90 | 90 cm ³ / rev. | 5.49 cu.in./ rev. |

| ROTATION | CODE |
|----------------|------|
| Clockwise | D |
| Anti-clockwise | S |
| Reversible | R |

| INLET / OUTLET PORTS (page 16) | CODE |
|--------------------------------|------|
| Refer to page 14 | YG |
| Refer to page 14 | YH |
| Refer to page 14 | YC |
| Refer to page 14 | YK |
| Refer to page 14 | YW |
| Refer to page 14 | YZ |

| DRIVE SHAFTS (page 12) | CODE |
|------------------------|------|
| SAE B splined 13 T | 55 |
| SAE BB splined 15 T | 56 |
| SAE C splined 14 T | 57 |
| SAE B parallel | 87 |
| SAE BB parallel | 88 |
| SAE C parallel | 89 |

| FURTHER DETAILS | CODE |
|--|-------|
| None <i>standard</i> | |
| Pre-arranged for 2PB rear pump (page 20) with separated suctions | 2 |
| Pre-arranged for 2PB rear pump (page 21) with common suction | 2UA |
| Pre-arranged for 2.5PB rear pump (page 22) with common suction | 2.5UA |

| SEAL | CODE |
|----------------------|------|
| Buna <i>standard</i> | |
| Viton | V |

| MOUNTING FLANGES (pages 13 - 14) | CODE |
|---|------|
| SAE B | |
| SAE B 2 - 4 bolts | S3 |
| SAE B 2 - 4 bolts with bearing (radial loads) | R3 |
| SAE B 2 - 4 bolts with bearing (radial axial loads) | R7 |
| SAE C | |
| SAE C 2 - 4 bolts with bearing (radial axial loads) | R8 |

Available for series quantities

Example to order a 3HP double pump with common inlet with viton seal and pre - arranged for 2PB rear pump:
3HP 71/55D - YW 57 R7 - V - 2

3HP PUMP COMBINATION WITH 2PB OR 2.5PB PUMPS

3HP / **2PB** **16** **D** - **R**

Single pump "H" series type can be assembled in combination with:
 gear pumps "B" series - group 2 (**code 2**)
 gear pumps "B" series - group 2.5 (**code 2.5**)
 the suctions are always separated
 3HP with your own suction
 2-2.5 PB with your own suction
 In this cases 2PB and 2.5PB can have plus than one stage too, and its can have some types of valves in the cover too.

Double pump "H" series type can be assembled in combination with:
 gear pumps "B" series - group 2 (**code 2**)
 3HP double pump with your own common suction
 2PB pump with your own suction
 In this case 2PB can have plus than one stage too, and it can have some types of valves in the cover too.

Double pump "H" series type can be assembled in combination with:
 gear pumps "B" series - group 2 (**code 2UA**)
 gear pumps "B" series - group 2.5 (**code 2.5UA**)
 3HP/2PB with common suction
 3HP/2.5PB with common suction
 In this case 2PB and 2.5PB can have one stage only, and it can have some types of valves in the cover.

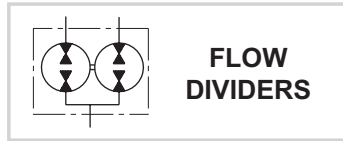
| PORTS | CODE |
|---------------------------------|------|
| Flanged ports european standard | P |
| SAE Threaded ports (ODT) | R |

| ROTATION | CODE |
|----------------|------|
| Clockwise | D |
| Anti-clockwise | S |

| TYPE | DISPLACEMENT | |
|------|-----------------------------|-------------------|
| 4.5 | 4.6 cm ³ / rev. | 0.27 cu.in./ rev. |
| 6.2 | 6.5 cm ³ / rev. | 0.37 cu.in./ rev. |
| 8.3 | 8.2 cm ³ / rev. | 0.50 cu.in./ rev. |
| 11.3 | 11.5 cm ³ / rev. | 0.68 cu.in./ rev. |
| 13.8 | 13.8 cm ³ / rev. | 0.84 cu.in./ rev. |
| 16 | 16.6 cm ³ / rev. | 0.97 cu.in./ rev. |
| 19 | 19.4 cm ³ / rev. | 1.15 cu.in./ rev. |
| 22.5 | 22.9 cm ³ / rev. | 1.37 cu.in./ rev. |
| 26 | 25.8 cm ³ / rev. | 1.58 cu.in./ rev. |

This form is only an example how to create the commercial code of the multiple pumps, for all the informations about 2PB and 2.5PB pumps, please see our technical catalogues:

**GEAR PUMPS AND MOTORS "B" SERIES
GROUP 2
GROUP 2.5**

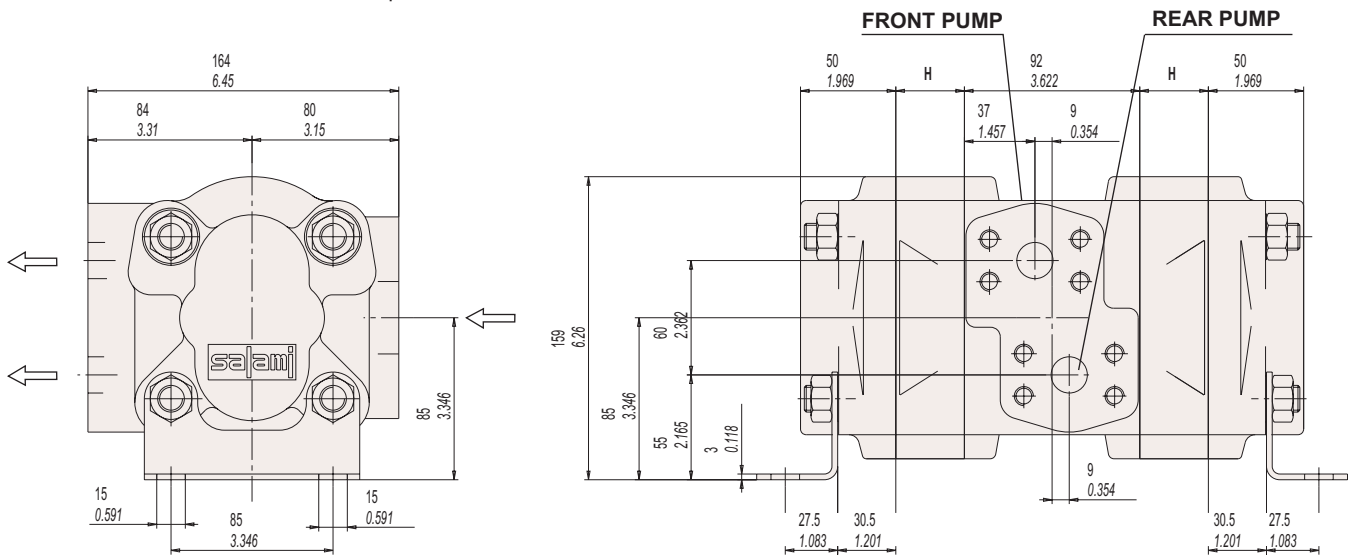


ASSEMBLING DIMENSIONS

| TYPE | | 21* | 32 | 38 | 46 | 55 | 63 | 71 | 80 | 90** |
|--------------|----------------------|------|------|------|------|------|------|------|------|------|
| Displacement | cm ³ /rev | 22.6 | 33.4 | 39 | 46 | 55 | 63.8 | 72.9 | 82 | 90 |
| | cu.in./rev | 1.38 | 2.04 | 2.38 | 2.81 | 3.36 | 3.89 | 4.45 | 5.00 | 5.49 |
| Dimension H | mm | 29 | 36 | 40 | 45 | 51 | 56 | 62 | 68 | 73.5 |
| | in | 1.14 | 1.42 | 1.57 | 1.77 | 2.01 | 2.20 | 2.44 | 2.68 | 2.89 |

* For second stage only

** Please contact our sales department



For ports type and dimensions available please refer you to page 16

HOW TO ORDER "H" SERIES FLOW DIVIDERS

3HD 55 / 55 - YG

| TYPES | DISPLACEMENT | |
|-------|---------------------------|-----------------|
| 21 | 22 cm ³ /rev | 1.34 cu.in./rev |
| 32 | 33.4 cm ³ /rev | 2.04 cu.in./rev |
| 38 | 39 cm ³ /rev | 2.38 cu.in./rev |
| 46 | 46 cm ³ /rev | 2.81 cu.in./rev |
| 55 | 55 cm ³ /rev | 3.36 cu.in./rev |
| 63 | 63.8 cm ³ /rev | 3.89 cu.in./rev |
| 71 | 72.9 cm ³ /rev | 4.45 cu.in./rev |
| 80 | 82 cm ³ /rev | 5.00 cu.in./rev |
| 90 | 90 cm ³ /rev | 5.49 cu.in./rev |

| CODE | INLET / OUTLET PORTS |
|------|----------------------|
| YG | Refer to page 16 |
| YH | Refer to page 16 |
| YC | Refer to page 16 |
| YK | Refer to page 16 |
| YW | Refer to page 16 |
| YZ | Refer to page 16 |

Example of ordering code:

3HD 71 / 71 - YG

Available for series quantity

WARRANTY

- We warrant products sold by us to be free from defects in material and workmanship.
- Our sole obligation to buyer under this warranty is the repair or replacement, at our option, of any products or parts thereof which, under normal use and proper maintenance, have proven defective in material or workmanship, this warranty does not cover ordinary wear and tear, abuse, misuse, overloading, alteration.
- No claims under this warranty will be valid unless buyer notifies SALAMI in writing within a reasonable time of the buyer's discovery of such defects, but in no event later than twelve (12) months from date of shipment to buyer.
- Our obligation under this warranty shall not include any transportation charges or cost of installation, replacement, field repair, or other charges related to returning products to us; or any liability for direct, indirect or consequential damage or delay. If requested by us, products or parts for which a warranty claim is made are to be returned transportation prepaid to our factory. The risk of loss of any products or parts thereof returned to SALAMI will be on buyer.
- No employee or representative is authorized to change any warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of SALAMI.



SALAMI spa
via Emilia Ovest 1006
41100 Modena Italy
telefono 059 387411
telex 059 387500
export@salami.it - www.salami.it



SALAMI ITALIA srl
strada Pelosa 183
S. Pietro in Trigogna VI Italy
telefono 0444 240080
telex 0444 240204
salami.italia@salami.it



SALAMI ESPAÑA
Poligono Industrial Armenteres
C/Primer de Maig, 18, Nave 4
08980 San Feliu de Llobregat
Barcelona
telefono 34-36665451
telex 34-36667826
info@salamispain.com



SALAMI FRANCE
22, rue Louis Saillant
69120 Vaulx en Velin
Lyon
telefono 04 78 80 99 41
telex 04 78 80 36 69
e.pasian@wanadoo.fr



149 S.O. Chenango St. Ext.,
GREEN, NY 13778
Tel.: 001-607-6565702
Fax.: 001-607-6565704
info@salamihydraulics.com