

# HY1

## External Gear Pumps

1 to 7.5 cc/rev, Up to 260 bar continuous

### ► DESCRIPTION:

HydrecO is pleased to introduce a brand new range of gear pumps and motors. Based on the experience and knowledge acquired over many years of engineering and manufacturing, the HY series is provided with an aluminum alloy housing, two gear wheels supported by sleeve bearings and cast iron flange and cover.

The HY1 series, available as pumps and motors, offers a high efficiency, low noise level and can be applied in standard and heavy duty applications, thanks to the high reliability and the accuracy of design and production. The pumps can be supplied as single, or as multiple units with a variety of options and flanges, shafts and ports, providing the right setup on each application. Feel free to contact your HydrecO representative to find out and to get the proper support in your selection.

- High performance hydraulic pumps
- Super quiet
- 4,350 psi rated

**HY1 Dual**  
Pump/Motor



**HY1**  
Pump/Motor



### ► PERFORMANCE:

|                                  |                                                                                                                                                                             |                            |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>Max outlet port pressures</b> |                                                                                                                                                                             | 260 rated -300 peak        |
| <b>Inlet port pressures</b>      |                                                                                                                                                                             | 0.7 - 3 bar abs            |
| <b>Speed Range</b>               | All models                                                                                                                                                                  | 650 - 4000 rev/min         |
| <b>Temperature</b>               | Minimum at start-up                                                                                                                                                         | -25°C (-40°F)              |
|                                  | Maximum continuous                                                                                                                                                          | +80°C (+176°F)             |
|                                  | Maximum intermittent                                                                                                                                                        | +100°C (+212°F)            |
| <b>Viscosity</b>                 | Maximum at start-up                                                                                                                                                         | 2000 mm²/sec (9,000 SSU)   |
|                                  | Maximum continuous                                                                                                                                                          | 250 mm²/sec (1150 SSU)     |
|                                  | Minimum continuous                                                                                                                                                          | 10 mm²/sec (60 SSU)        |
|                                  | Optimum                                                                                                                                                                     | 15-25 mm²/sec (78-124 SSU) |
| <b>Fluid Cleanliness</b>         | To ISO4406 solid contaminant                                                                                                                                                |                            |
|                                  | Start-up period                                                                                                                                                             | 21/17                      |
|                                  | Maximum in service                                                                                                                                                          | 19/15                      |
|                                  | Optimum                                                                                                                                                                     | 16/11                      |
|                                  | Maximum water                                                                                                                                                               | 0.1%                       |
| <b>Fluid Velocity</b>            | Maximum in INLET line                                                                                                                                                       | 2.5 m/sec (8 ft/sec)       |
|                                  | Recommended in INLET line                                                                                                                                                   | 1.5 m/sec (5 ft/sec)       |
| <b>Shaft Loads</b>               | Maximum axial load                                                                                                                                                          | 250 N (56 lb)              |
|                                  | Maximum radial load                                                                                                                                                         | 500 N (112 lb)             |
| <b>Fluids</b>                    | All data is quoted for mineral oils HM and HV.<br>For fire resistant and environmentally aware fluids<br>please contact your Continental/HydrecO Hydraulics representative. |                            |
| <b>Rotation</b>                  | Clockwise or Anti-clockwise viewed from shaft end (or reversible).                                                                                                          |                            |

## ► FEATURES:

- 3 Piece design
- Helical as standard
- Flange and cover in cast iron
- Multiple units (ready to assemble)

## Displacements

From 1 cm<sup>3</sup>/rev to 7.5 cm<sup>3</sup>/rev  
From 0.06 in<sup>3</sup>/rev to 0.58 in<sup>3</sup>/rev:

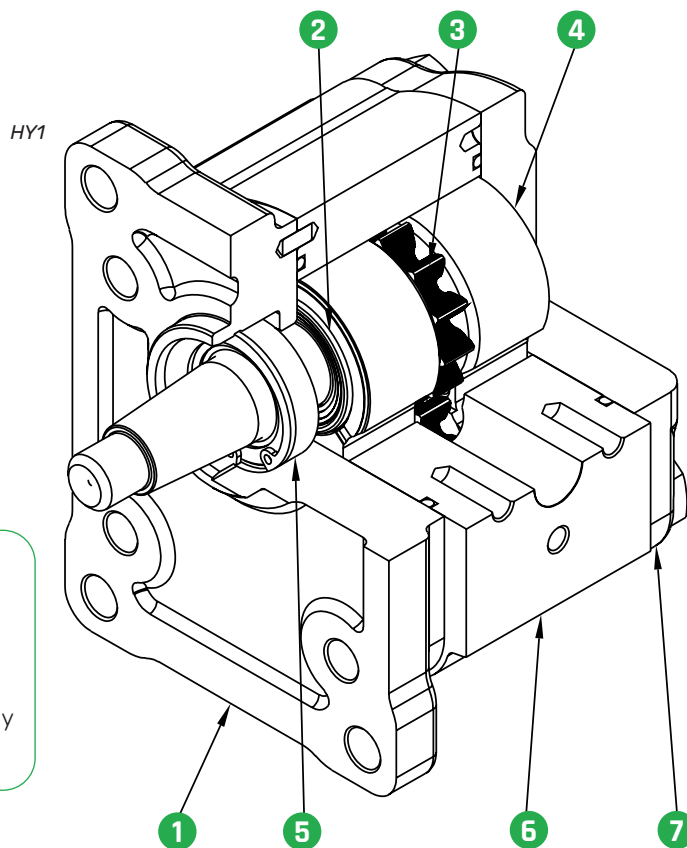
## Pressures

Max continuous 260 bar (3770 psi)  
Max intermittent 280 bar (4060 psi)  
Max peak 300 bar (4350 psi)

## Max Speed

4000 RPM

- 1 - Cast Iron Flange
- 2 - Gaskets
- 3 - Gears
- 4 - Bushings
- 5 - Shaft Seal
- 6 - Aluminium Alloy Body
- 7 - Cast Iron Cover



## ► FEATURES:

### Displacement Range

| GROUP | SIZE | DISPLACEMENT<br>cm³/rev (in³/rev) | MAX PRESSURE bar (psi) |            |            | SPEED rpm |      |
|-------|------|-----------------------------------|------------------------|------------|------------|-----------|------|
|       |      |                                   | P1                     | P2         | P3         | min       | max  |
| HY1   | 010  | 1 (0.061)                         | 250 (3620)             | 270 (3920) | 290 (4200) | 650       | 4000 |
|       | 015  | 1.5 (0.091)                       | 260 (3770)             | 280 (4050) | 300 (4350) |           |      |
|       | 019  | 1.9 (0.116)                       |                        |            |            |           |      |
|       | 025  | 2.5 (0.125)                       |                        |            |            |           |      |
|       | 031  | 3.1 (0.189)                       |                        |            |            |           |      |
|       | 038  | 3.8 (0.232)                       |                        |            |            |           |      |
|       | 047  | 4.7 (0.287)                       | 240 (3480)             | 260 (3770) | 280 (4050) |           |      |
|       | 053  | 5.3 (0.323)                       |                        |            |            |           |      |
|       | 063  | 6.3 (0.385)                       | 230 (3330)             | 250 (3620) | 270 (3910) |           | 3500 |
|       | 075  | 7.5 (0.548)                       | 180 (2610)             | 220 (3190) | 220 (3190) |           |      |

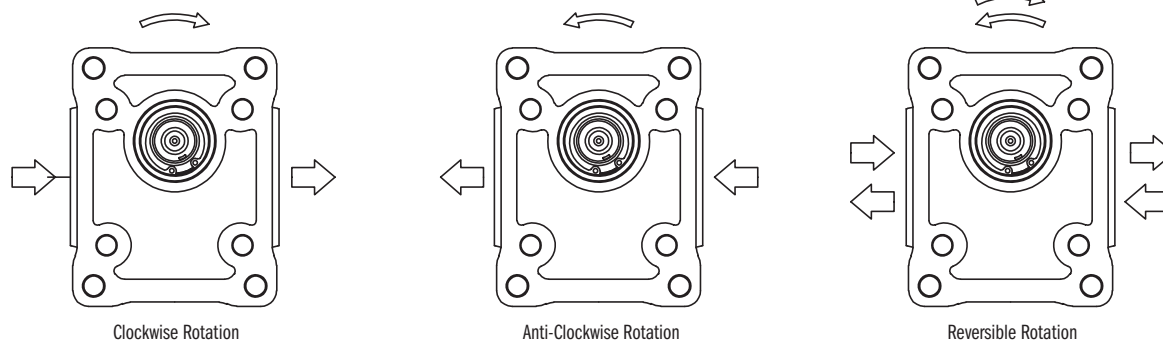
The data in the table refer to unidirectional pumps and motors.

The maximum pressures of reversible pumps and motors are 15% lower than unidirectional ones.

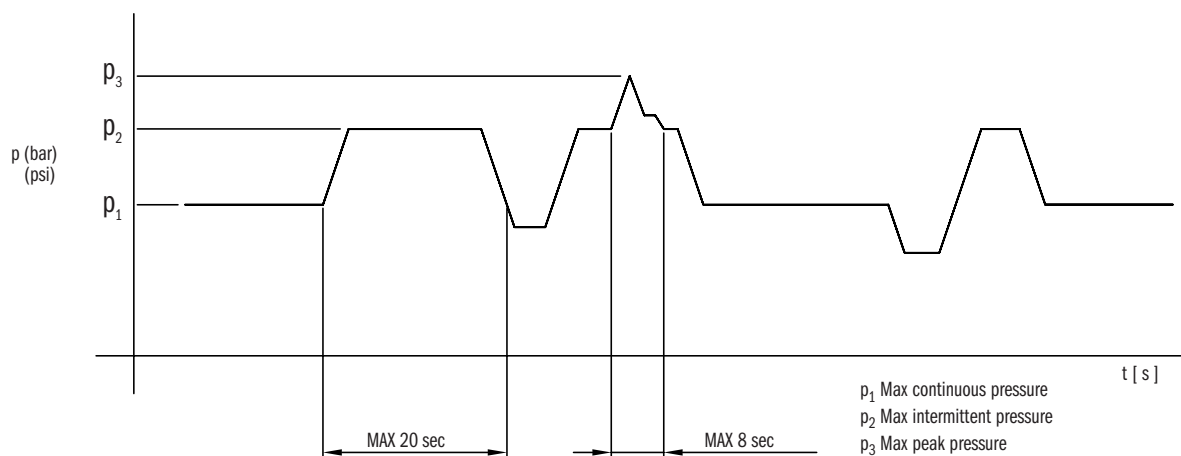
For different working conditions please contact Continental Hydraulics/Hydreco technical support.

### General Characteristics:

#### Rotation Direction

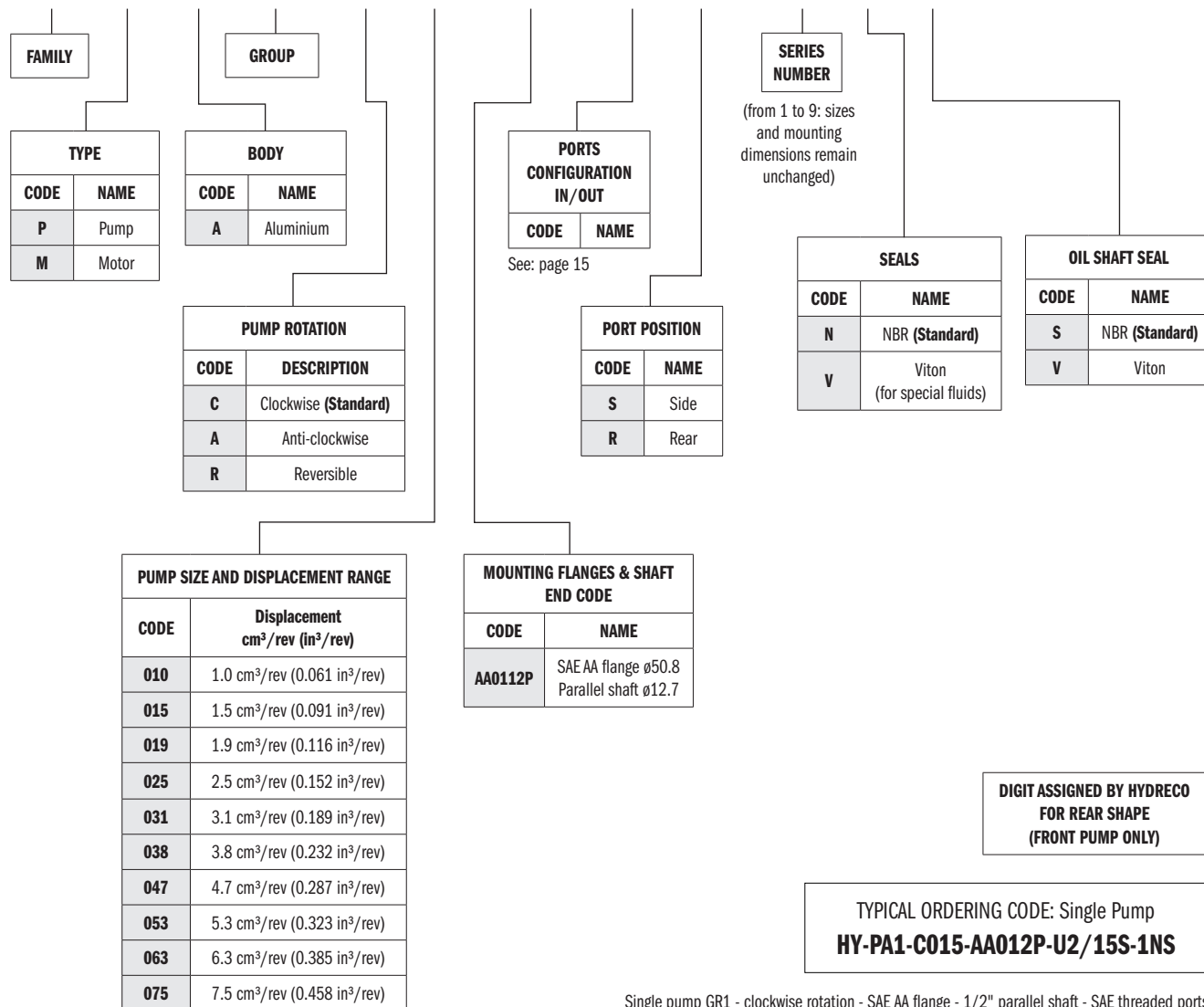


#### Definition of Pressures



► **IDENTIFICATION CODE: Single and Front Pump**

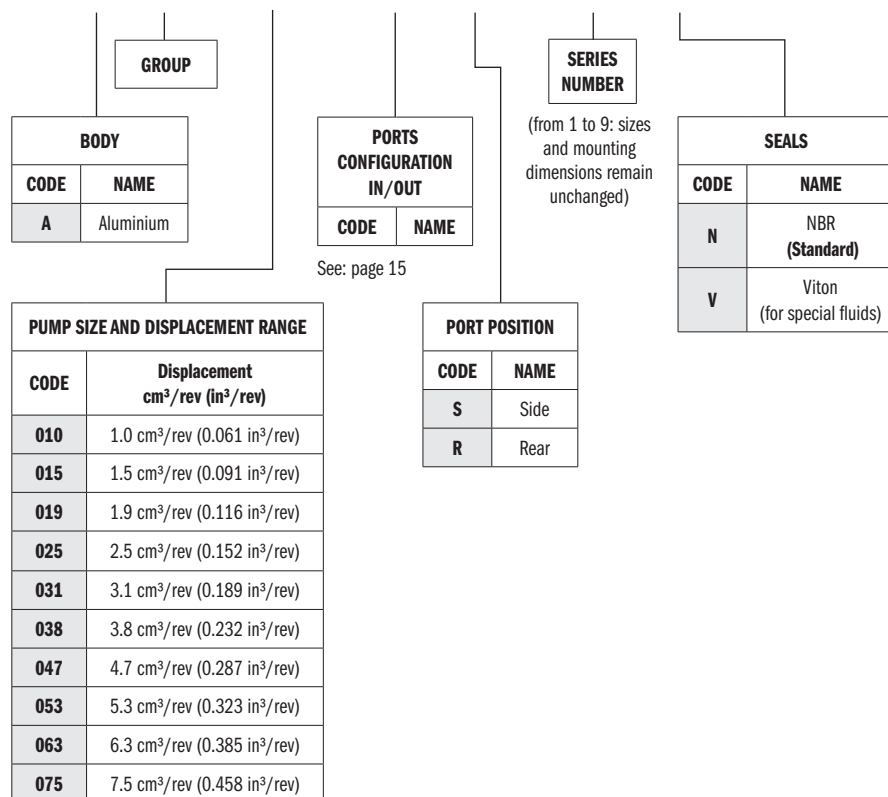
**HY-**     **1** -     -   -     -      



Single pump GR1 - clockwise rotation - SAE AA flange - 1/2" parallel shaft - SAE threaded ports

► **IDENTIFICATION CODE:** Intermediate Pump (for Multiple Pumps)

**A 1** -  -   -



TYPICAL ORDERING CODE:

**HY-PA1-C015-AA012P-U2/15S-INS+A1-015-U2/15S-1N**

GR1 double pump - clockwise rotation

SAE AA Flange - 1/2 Parallel shaft - SAE threaded ports

► **IDENTIFICATION CODE:** For Isolated intermediate Pumps

**LN**   **1** -     -     -      

LOW NOISE

GROUP

SERIES  
NUMBER

(from 1 to 9: sizes  
and mounting  
dimensions remain  
unchanged)

| BODY |           |
|------|-----------|
| CODE | NAME      |
| A    | Aluminium |
| C    | Cast Iron |

| PUMP ROTATION |                      |
|---------------|----------------------|
| CODE          | DESCRIPTION          |
| C             | Clockwise (Standard) |
| A             | Anti-clockwise       |
| R             | Reversible           |

| PORT POSITION |      |
|---------------|------|
| CODE          | NAME |
| S             | Side |
| R             | Rear |

| SEALS |                            |
|-------|----------------------------|
| CODE  | NAME                       |
| N     | NBR (Standard)             |
| V     | Viton (for special fluids) |

| OIL SHAFT SEAL |                               |
|----------------|-------------------------------|
| CODE           | NAME                          |
| OMIT           | (Standard)                    |
| SS             | If separate stages are needed |

See: page 15

| PUMP SIZE AND DISPLACEMENT RANGE |                                                             |
|----------------------------------|-------------------------------------------------------------|
| CODE                             | Displacement<br>cm <sup>3</sup> /rev (in <sup>3</sup> /rev) |
| 010                              | 1.0 cm <sup>3</sup> /rev (0.061 in <sup>3</sup> /rev)       |
| 015                              | 1.5 cm <sup>3</sup> /rev (0.091 in <sup>3</sup> /rev)       |
| 019                              | 1.9 cm <sup>3</sup> /rev (0.116 in <sup>3</sup> /rev)       |
| 025                              | 2.5 cm <sup>3</sup> /rev (0.152 in <sup>3</sup> /rev)       |
| 031                              | 3.1 cm <sup>3</sup> /rev (0.189 in <sup>3</sup> /rev)       |
| 038                              | 3.8 cm <sup>3</sup> /rev (0.232 in <sup>3</sup> /rev)       |
| 047                              | 4.7 cm <sup>3</sup> /rev (0.287 in <sup>3</sup> /rev)       |
| 053                              | 5.3 cm <sup>3</sup> /rev (0.323 in <sup>3</sup> /rev)       |
| 063                              | 6.3 cm <sup>3</sup> /rev (0.385 in <sup>3</sup> /rev)       |
| 075                              | 7.5 cm <sup>3</sup> /rev (0.458 in <sup>3</sup> /rev)       |

| PORTS CONFIGURATION IN/OUT |      |
|----------------------------|------|
| CODE                       | NAME |

See: page 16

TYPICAL ORDERING CODE:  
**LNA2-C06-U25/25S-1NSS**

## ► PERFORMANCE DATA:

### General Characteristics

It is essential that pumps are installed so that they can always fill with fluid. 'HY' Series pumps inlet porting is designed to facilitate full volume fill but the following machine design recommendations should be followed.

|                                                                                             |                                                 |
|---------------------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Direction Rotation<br/>(Viewed from shaft end)</b>                                       | Clockwise (C)                                   |
|                                                                                             | Anti-clockwise (A)                              |
|                                                                                             | Reversible (R)                                  |
| <b>Range inlet pressure - pump</b>                                                          | 0.7 ÷ 3 bar (10 ÷ 43 psi)                       |
| <b>Max back pressure on the unidirectional motors and reversible with internal drainage</b> | P <sub>1</sub> (continue) max 5 bar (72 psi)    |
|                                                                                             | P <sub>2</sub> (for 20 sec) max 8 bar (115 psi) |
|                                                                                             | P <sub>3</sub> (for 5 sec) max 15 bar (215 psi) |
| <b>Reversible Motor Max pressure in drain</b>                                               | 5 bar (72 psi)                                  |
| <b>Temperature fluid (MIN, MAX, PEAK) °C</b>                                                | -25, 80, 100 NBR                                |
|                                                                                             | -25, 110, 125 VITON                             |
| <b>Range of viscosity</b>                                                                   | From 10 to 100 mm <sup>2</sup> /s (cSt) IDEAL   |
|                                                                                             | Up to 750 mm <sup>2</sup> /s (cSt) RECOMMENDED  |
|                                                                                             | Up to 1000 mm <sup>2</sup> /s (cSt) START       |
| <b>Fluid type</b>                                                                           | Mineral oil                                     |

### Recommended Filtration

|                                          |                         |                                        |                         |
|------------------------------------------|-------------------------|----------------------------------------|-------------------------|
| <b>Working pressure bar (psi)</b>        | $\Delta p < 140$ (2030) | $140$ (2030) $< \Delta p < 210$ (3040) | $\Delta p > 210$ (3040) |
| <b>Class contamination NAS 1638</b>      | 10                      | 9                                      | 8                       |
| <b>Class contamination ISO 4406:1999</b> | 21/19/16                | 20/18/15                               | 19/17/14                |

Q = flow rate (L/min)  
 V = displacement (cm<sup>3</sup>/rev)  
 n = speed (min<sup>-1</sup>)  
 M = torque (Nm)  
 P = power (kW)  
 Δp = pressure (bar)

| PERFORMANCE                               | PUMPS  | MOTORS |
|-------------------------------------------|--------|--------|
| $\eta_v$ = Volumetric efficiency          | ≈ 0.96 | ≈ 0.95 |
| $\eta_{hm}$ = hydro-mechanical efficiency | ≈ 0.88 | ≈ 0.85 |
| $\eta_t$ = total efficiency               | ≈ 0.84 | ≈ 0.81 |

## ► PERFORMANCE DATA:

### DETERMINATION OF A PUMP

$$Q_{\text{theor}} = \frac{V \times n}{1000} \quad (\text{l/min}) \quad Q_{\text{real}} = Q_{\text{theor}} \times \eta_v$$

$$M_{\text{real}} = \frac{M_{\text{theor}}}{\eta_{hm}} \quad (\text{Nm}) \quad M_{\text{theor}} = \frac{\Delta p \times V}{62.8} \quad (\text{Nm})$$

$$P_{\text{OUT}} = \frac{\Delta p \times Q}{600} \quad (\text{kW}) \quad P_{\text{IN}} = \frac{P_{\text{OUT}}}{\eta_t}$$

### DETERMINATION OF A MOTOR

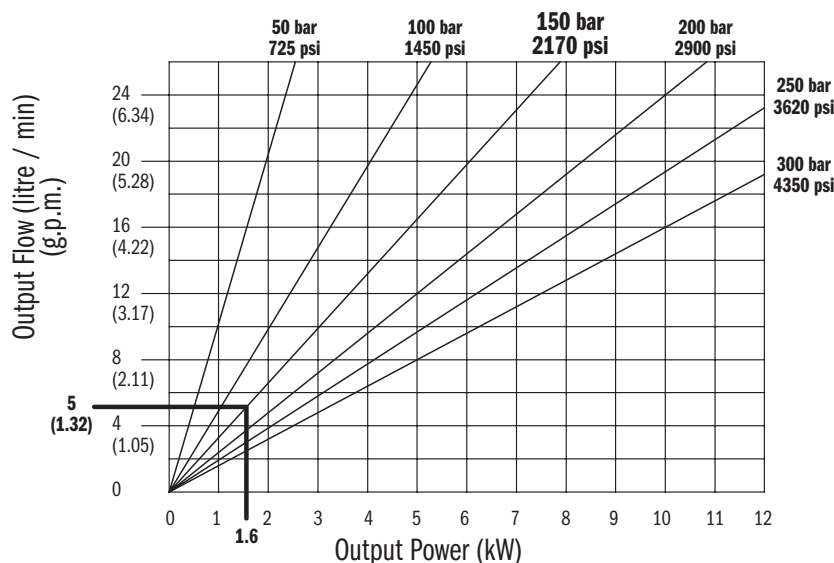
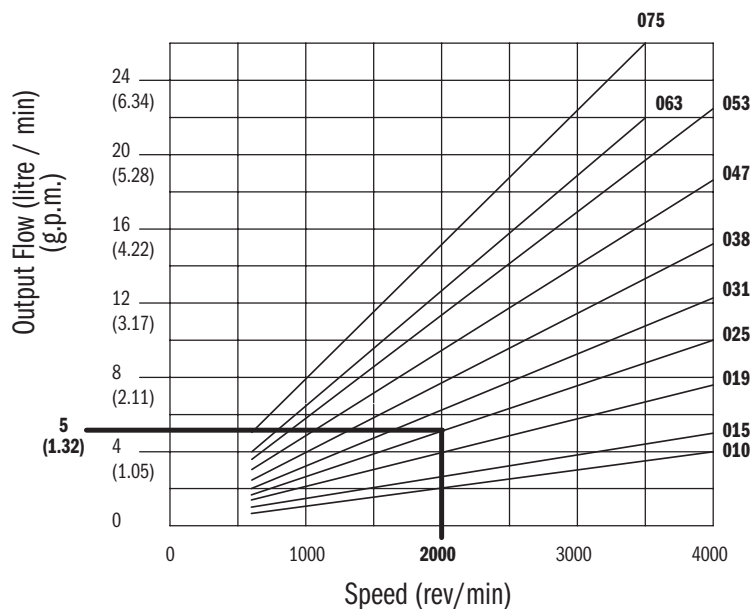
$$Q_{\text{theor}} = \frac{V \times n}{1000} \quad (\text{l/min}) \quad Q_{\text{real}} = \frac{Q_{\text{theor}}}{\eta_v}$$

$$M_{\text{theor}} = \frac{\Delta p \times V}{62.8} \quad (\text{Nm}) \quad M_{\text{real}} = M_{\text{theor}} \times \eta_{hm}$$

$$P_{\text{OUT}} = \frac{\Delta p \times Q}{600} \quad (\text{kW}) \quad P_{\text{IN}} = P_{\text{OUT}} \times \eta_t$$

### PUMP SELECTION

Curves at 40°C (104°F) - Fluid viscosity 46 mm²/sec (cSt)



### Example

Working conditions:  
 Pump 2.5cc  
 Speed 2000 r.p.m.  
 Pressure: 150 bar [2170 psi]  
 Motor: 1.6 kW (2.1 hp)

OUTPUT FLOWS are theoretical. Generally volumetric efficiencies are in excess of 95%. Please contact your Continental Hydraulics/Hydreco representative for specific working conditions.

INPUT POWERS are theoretical taking into account average efficiencies.

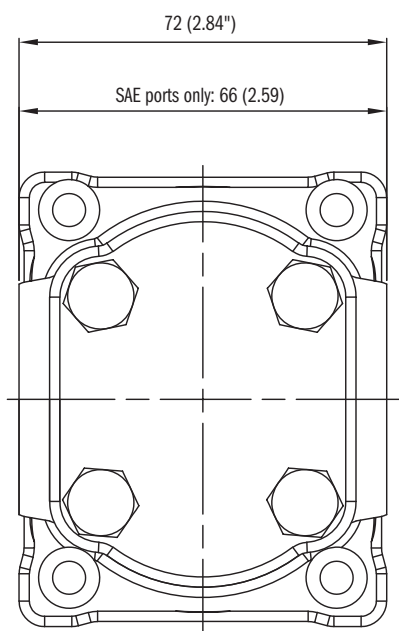
### NOTE:

Diagrams provide approximate selection data

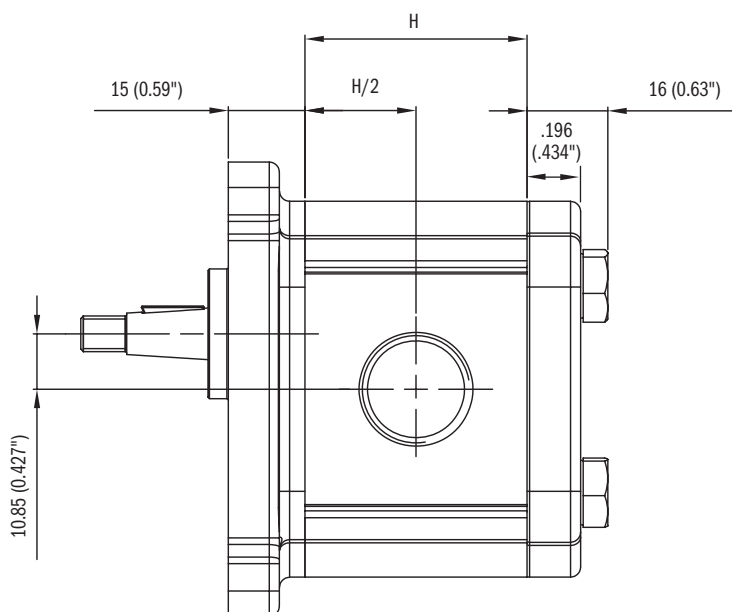
## ► INSTALLATION DATA:

Dimensions mm (inch)

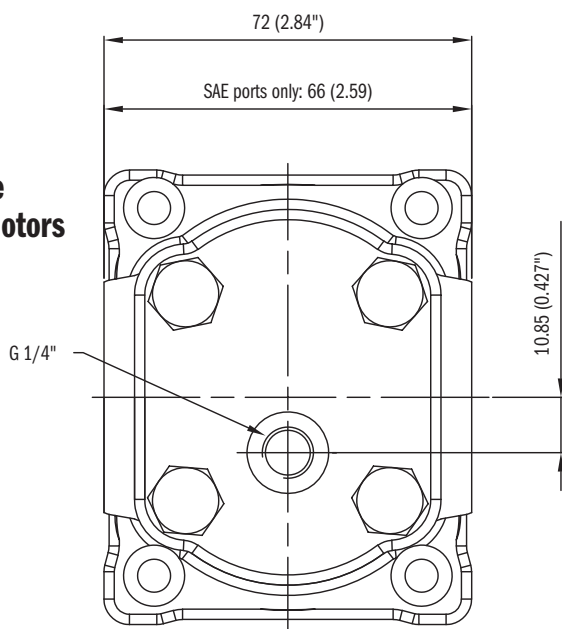
## Single Pumps



## Unidirectional Pump/Motors



## Reversible Pumps/Motors

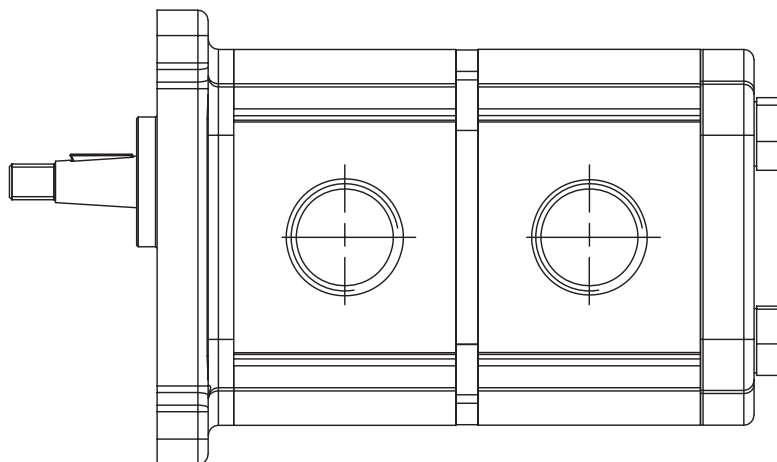


| H1 Group | H mm (inches) |
|----------|---------------|
| 010      | 35.7 (1.405)  |
| 015      | 37.5 (1.476)  |
| 019      | 39 (1.535)    |
| 025      | 41.3 (1.626)  |
| 031      | 43.5 (1.712)  |
| 038      | 46.1 (1.814)  |
| 047      | 49.5 (1.949)  |
| 053      | 51.7 (2.035)  |
| 063      | 55.5 (2.180)  |
| 075      | 59.2 (2.330)  |

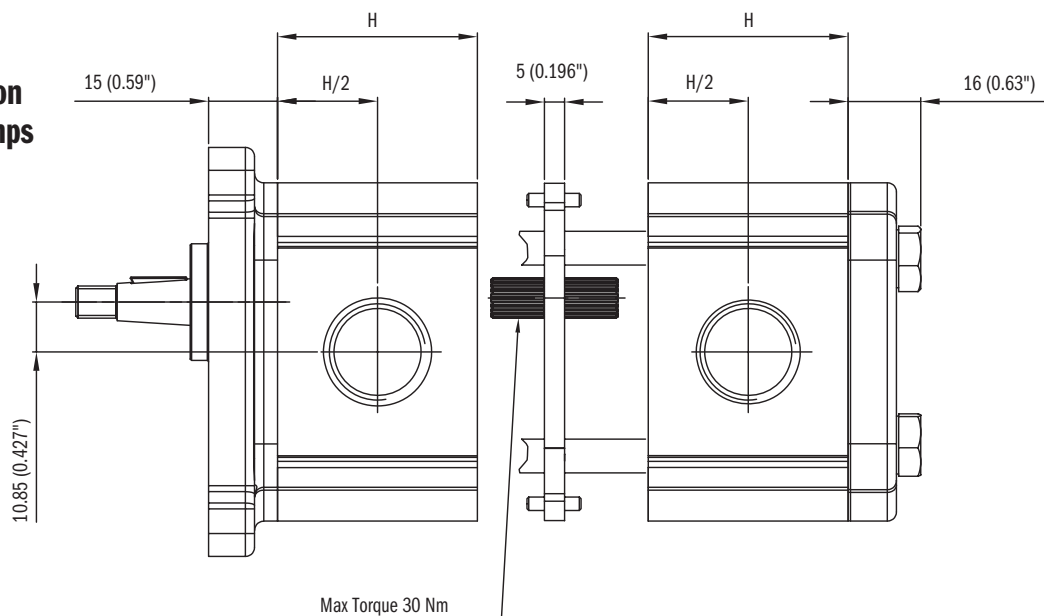
► **INSTALLATION DATA:**

Dimensions mm (inch)

**Side View**



**STANDARD  
Configuration  
tandem pumps**



| H1 Group | H mm (inches) |
|----------|---------------|
| 010      | 35.7 (1.405)  |
| 015      | 37.5 (1.476)  |
| 019      | 39 (1.535)    |
| 025      | 41.3 (1.626)  |
| 031      | 43.5 (1.712)  |
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| 047      | 49.5 (1.949)  |
| 053      | 51.7 (2.035)  |
| 063      | 55.5 (2.180)  |
| 075      | 59.2 (2.330)  |

| HY1 Size | 010 | 015 | 019 | 025 | 031 | 038 | 047 | 053 | 063 | 075 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 010      | 95  | 100 | 100 | 105 | 105 | 110 | 110 | 120 | 120 | 120 |
| 015      |     | 105 | 105 | 110 | 110 | 110 | 120 | 120 | 130 | 130 |
| 019      |     |     | 105 | 105 | 110 | 110 | 120 | 120 | 130 | 130 |
| 025      |     |     |     | 105 | 110 | 110 | 120 | 120 | 130 | 130 |
| 031      |     |     |     |     | 115 | 115 | 120 | 120 | 130 | 130 |
| 038      |     |     |     |     |     | 120 | 130 | 130 | 140 | 140 |
| 047      |     |     |     |     |     |     | 130 | 130 | 140 | 140 |
| 053      |     |     |     |     |     |     |     | 130 | 130 | 140 |
| 063      |     |     |     |     |     |     |     |     | 140 | 150 |
| 075      |     |     |     |     |     |     |     |     |     | 150 |

**TANDEM PUMPS HY1+HY1**

M8 screws size

10.9 screws class

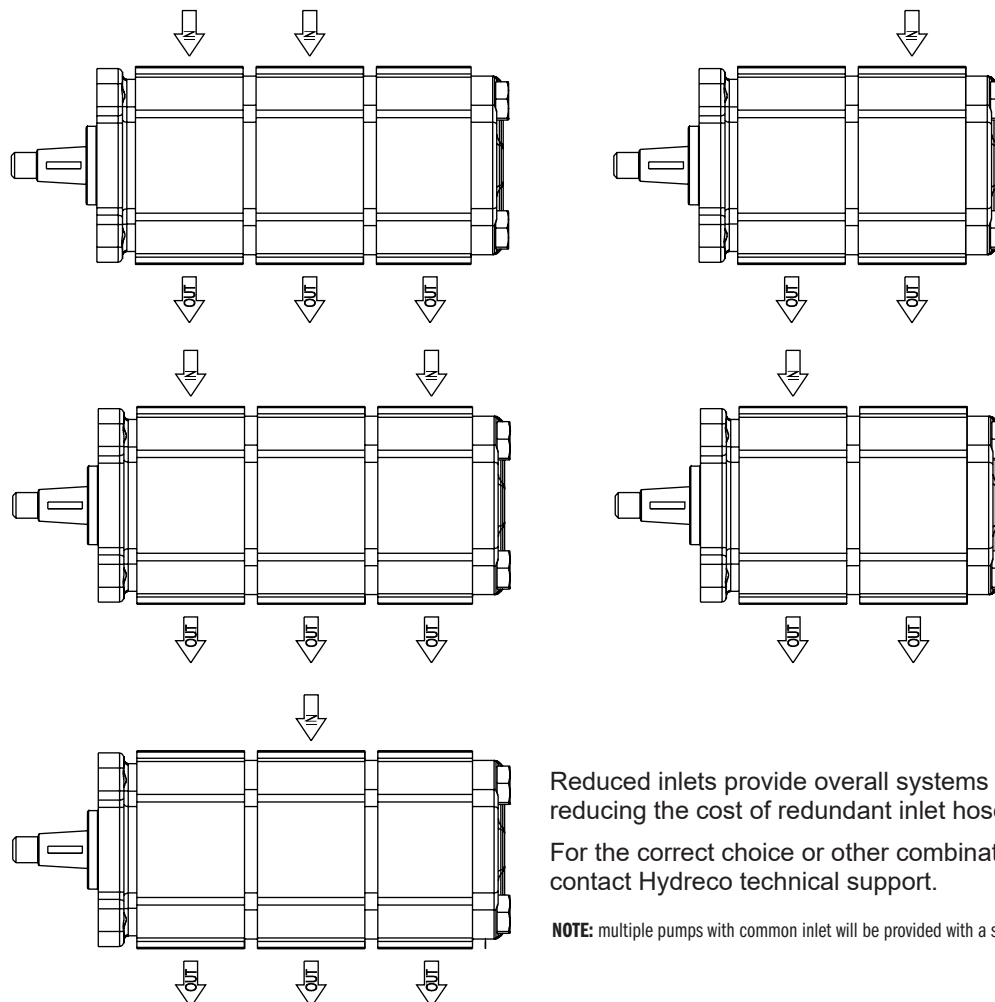
Screws Tightening Torque = 29 Nm (21 FT-LBS)

Length expressed in millimeters

## ► INSTALLATION DATA:

Dimensions mm (inch)

**Examples with  
Common inlet  
(top view)**



Reduced inlets provide overall systems savings by reducing the cost of redundant inlet hose and fittings.

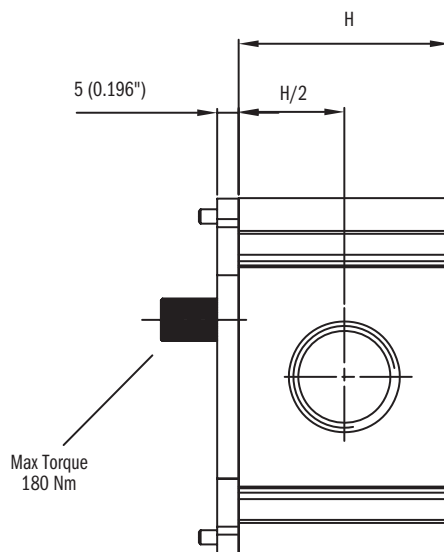
For the correct choice or other combinations please contact Hydreco technical support.

**NOTE:** multiple pumps with common inlet will be provided with a special body.

## Dimensions (side view)

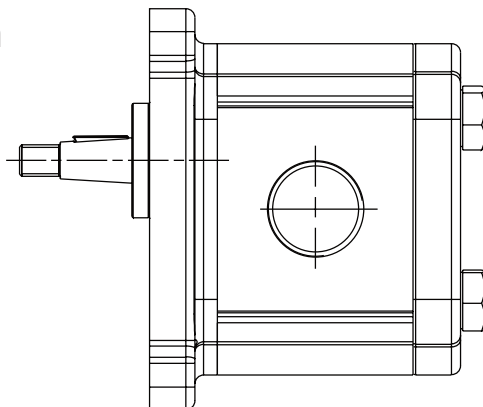
The HY1 intermediate pumps include the intermediate flange and coupling to easily assemble tandem or multiple pumps.

| H1<br>Size | H<br>mm (inches) |
|------------|------------------|
| 010        | 35.7 (1.405)     |
| 015        | 37.5 (1.476)     |
| 019        | 39 (1.535)       |
| 025        | 41.3 (1.626)     |
| 031        | 43.5 (1.712)     |
| 038        | 46.1 (1.814)     |
| 047        | 49.5 (1.949)     |
| 053        | 51.7 (2.035)     |
| 063        | 55.5 (2.180)     |
| 075        | 59.2 (2.330)     |

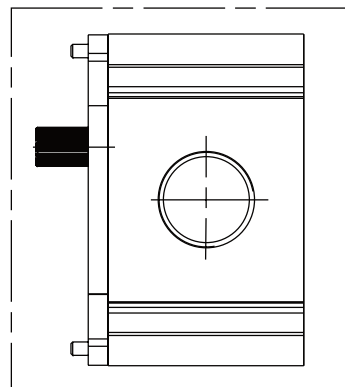


► **INSTALLATION DATA:**

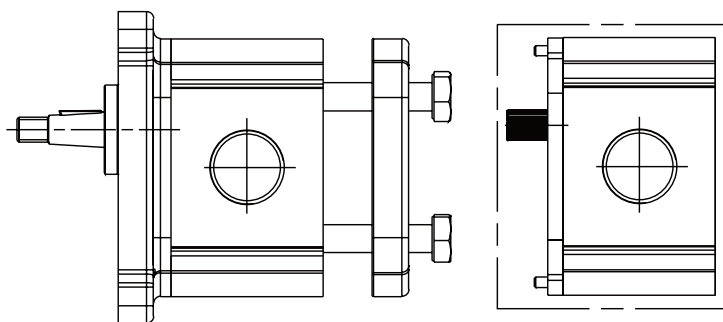
**How to make Tandem pumps using an intermediate pump (side view)**



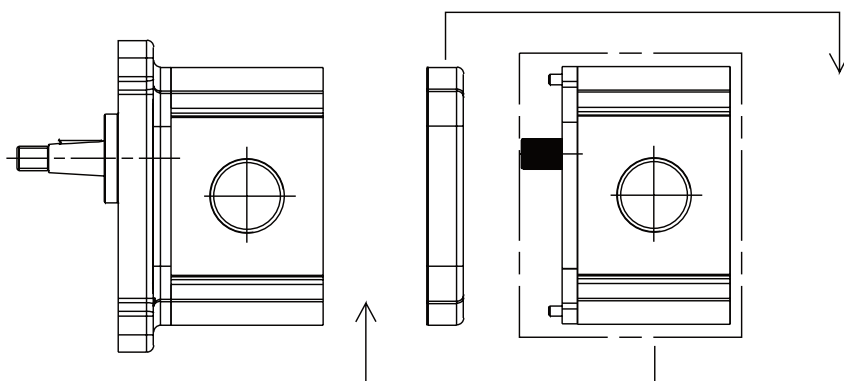
**STANDARD PUMP**



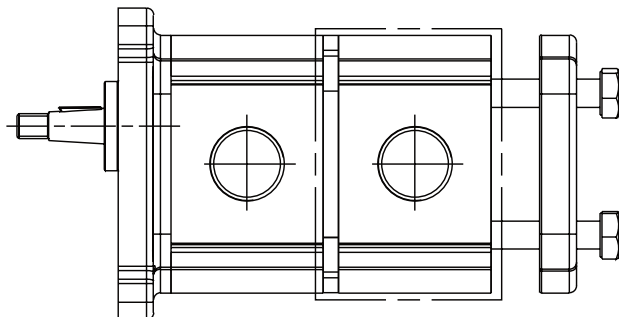
**INTERMEDIATE PUMP**



**A.** Loosen, and remove, the clamp screws and remove the cover.



**B.** Connect the intermediate pump.

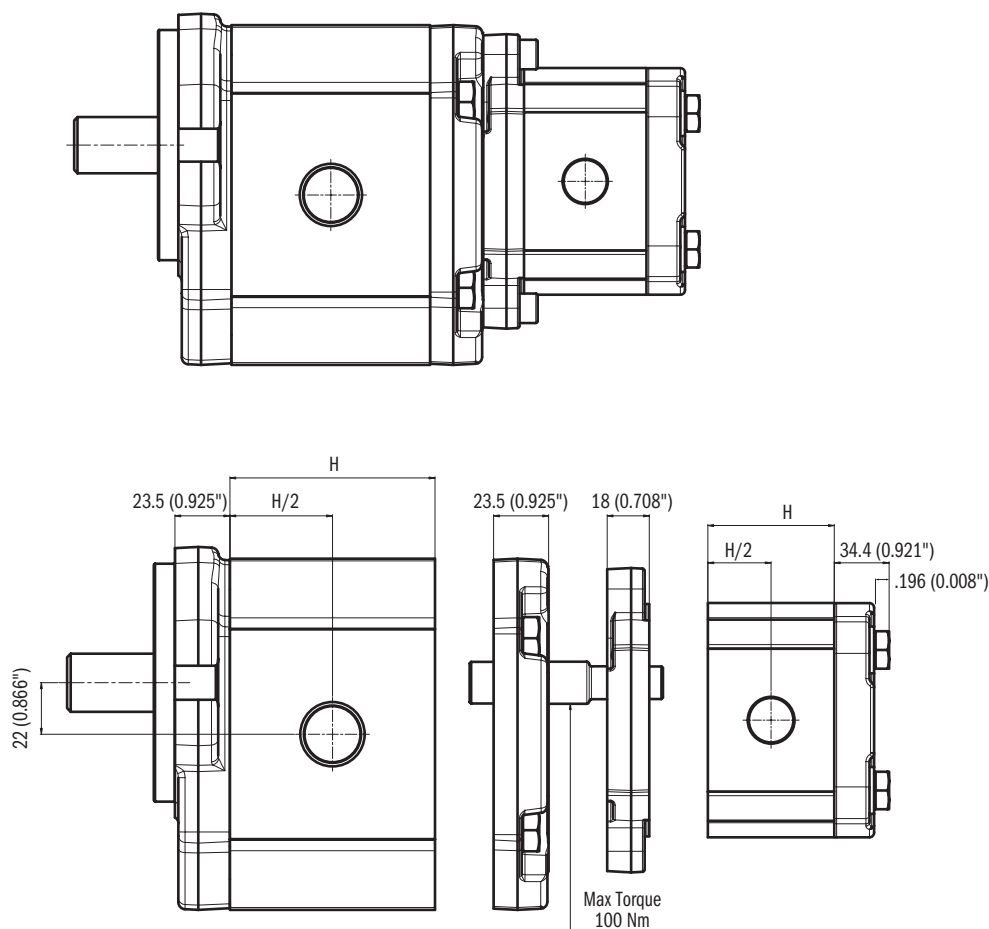


**C.** Assembling the tandem pump.  
Refit the clamp screws.

**SCREWS TIGHTENING**  
TORQUE =  $29 \pm 1$  Nm (21.4 lb-ft)  
For length of closure screws = see page

► **INSTALLATION DATA:**

Dimensions mm (inch)



**STANDARD CONFIGURATION**

**Tandem Pumps**

| PUMP SIZE AND DISPLACEMENT RANGE |                                                             |
|----------------------------------|-------------------------------------------------------------|
| CODE                             | Displacement<br>cm <sup>3</sup> /rev (in <sup>3</sup> /rev) |
| 010                              | 1.0 cm <sup>3</sup> /rev (0.061 in <sup>3</sup> /rev)       |
| 015                              | 1.5 cm <sup>3</sup> /rev (0.091 in <sup>3</sup> /rev)       |
| 019                              | 1.9 cm <sup>3</sup> /rev (0.116 in <sup>3</sup> /rev)       |
| 025                              | 2.5 cm <sup>3</sup> /rev (0.152 in <sup>3</sup> /rev)       |
| 031                              | 3.1 cm <sup>3</sup> /rev (0.189 in <sup>3</sup> /rev)       |
| 038                              | 3.8 cm <sup>3</sup> /rev (0.232 in <sup>3</sup> /rev)       |
| 047                              | 4.7 cm <sup>3</sup> /rev (0.287 in <sup>3</sup> /rev)       |
| 053                              | 5.3 cm <sup>3</sup> /rev (0.323 in <sup>3</sup> /rev)       |
| 063                              | 6.3 cm <sup>3</sup> /rev (0.385 in <sup>3</sup> /rev)       |
| 075                              | 7.5 cm <sup>3</sup> /rev (0.458 in <sup>3</sup> /rev)       |

| H1 Group | H<br>mm (inches) |
|----------|------------------|
| 010      | 35.7 (1.405)     |
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| 053      | 51.7 (2.035)     |
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| HY1 Size | 010 | 015 | 019 | 025 | 031 | 038 | 047 | 053 | 063 | 075 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 010      | 95  | 100 | 100 | 105 | 105 | 110 | 110 | 120 | 120 | 120 |
| 015      |     | 105 | 105 | 110 | 110 | 110 | 120 | 120 | 130 | 130 |
| 019      |     |     | 105 | 105 | 110 | 110 | 120 | 120 | 130 | 130 |
| 025      |     |     |     | 105 | 110 | 110 | 120 | 120 | 130 | 130 |
| 031      |     |     |     |     | 115 | 115 | 120 | 120 | 130 | 130 |
| 038      |     |     |     |     |     | 120 | 130 | 130 | 140 | 140 |
| 047      |     |     |     |     |     |     | 130 | 130 | 140 | 140 |
| 053      |     |     |     |     |     |     |     | 130 | 130 | 140 |
| 063      |     |     |     |     |     |     |     |     | 140 | 150 |
| 075      |     |     |     |     |     |     |     |     |     | 150 |

**TANDEM PUMPS HY1 + HY1**

M8 screws size

10.9 screws class

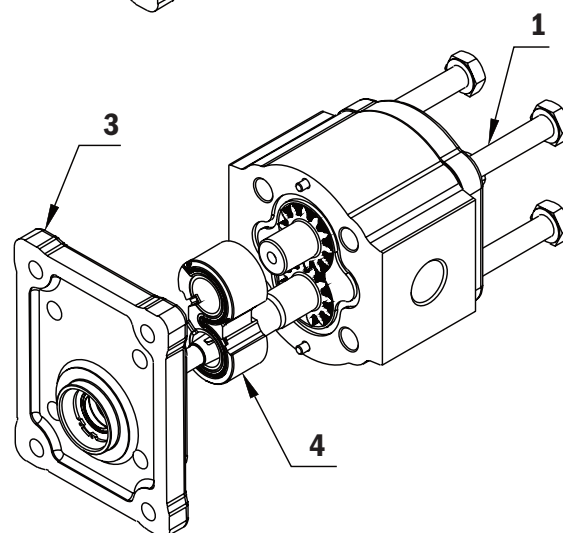
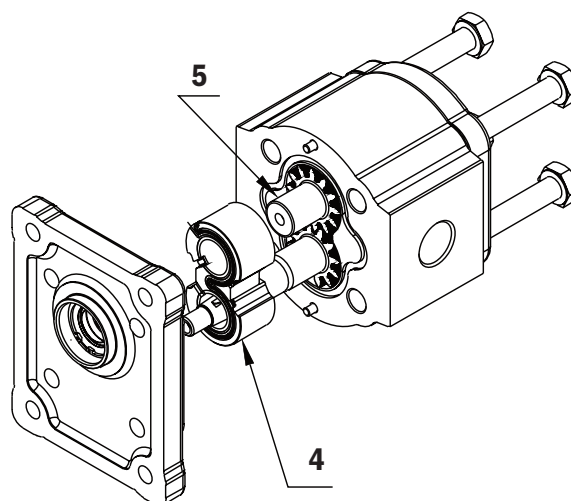
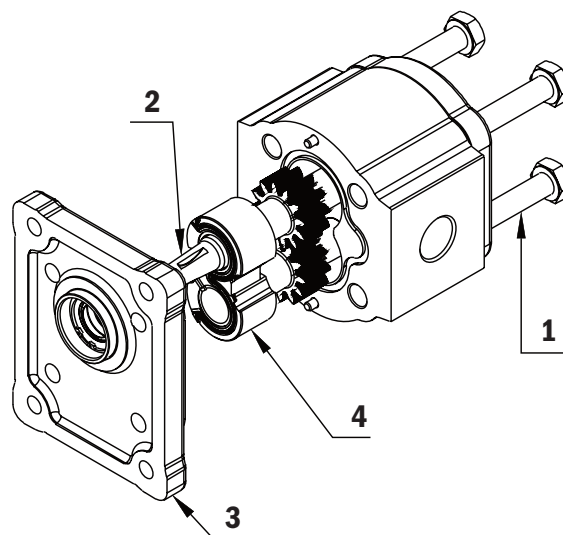
Screws Tightening Torque = 29 Nm (21 FT-LBS)

Length expressed in millimeters

## ► INSTALLATION DATA:

### Units Rotating Changing Instructions

- A. Clean the pump externally with care
- B. Coat the sharp edges of the drive shaft ( 2 ) with adhesive tape and smear a layer of clean grease on the shaft and extension to avoid damaging the lip of the shaft seal when removing the mounting
- C. Lay the pump on the working area in order to have the mounted flange turned upside.
- D. Loosen, and remove, the clamp screws ( 1 ).
- E. Remove the mounting flange ( 3 ), taking care to keep the flange as straight as possible during removal.
- F. Ensure that while removing the front mounting flange, the drive shaft and other components remain in position.
- G. Ease the drive gear ( 2 ) up to facilitate removal of bearings ( 4 ), taking care that the precision ground surfaces do not become damaged, and removed the drive gear
- H. Remove the driven gear ( 2 ) without overturning. The rear flange has not to be removed.
- I. Re-locate the driven gear in the position previously occupied by the drive gear ( 2 ).
- J. Re-locate the drive gear ( 2 ) in the position previously occupied by the driven gear ( 5 ).
- K. Re-locate the bushing ( 4 ) without rotating. Refit the front mounting flange ( 3 ) turned by 180°.
- L. Refit the clamp screws ( 1 ).  
SCREW TIGHTENING TORQUE = 29±1 Nm - M12 (21.4)  
FT/LB
- M. Check that the pump rotates freely when the drive shaft ( 2 ) is turned by hand.
- N. If not a pressure plate seal may be pinched.
- O. The pump is ready for installation with the new direction of rotation.



► **FLANGE & SHAFT:**

Dimensions mm (inch)

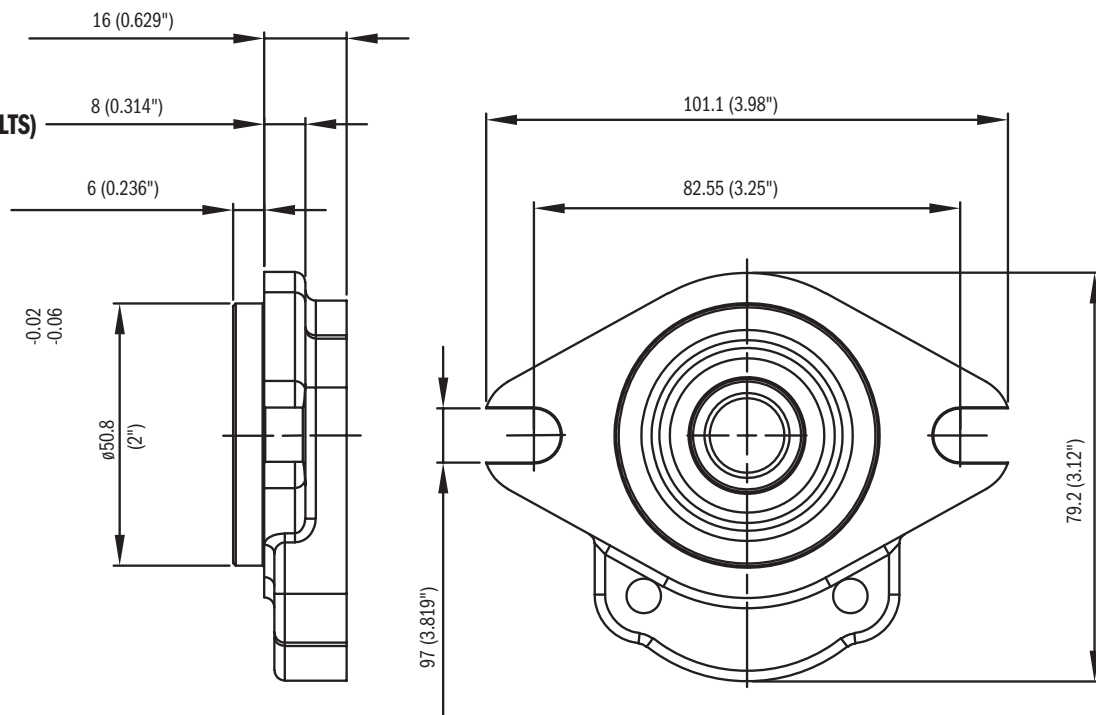
| STANDARD CODES | FLANGE                              | SHAFT                      |
|----------------|-------------------------------------|----------------------------|
| <b>AA012P</b>  | AA = American flange SAE AA 2 bolts | 012P = SAE AA 1/2 Parallel |

\* For other configurations than those indicated, please contact Hydreco technical support. Other displacements can be evaluated on request.

► **FLANGE:**

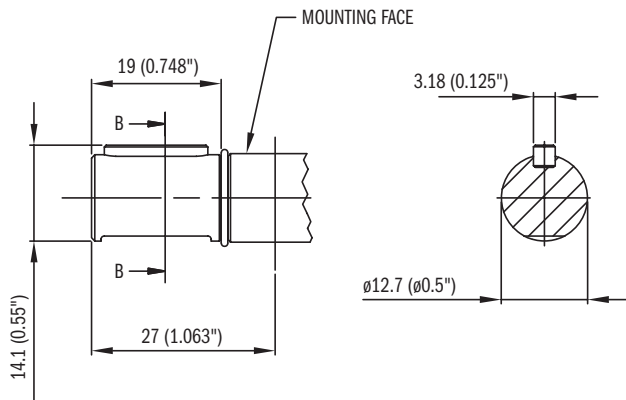
**CODE [ AA ]**

**SAE (AA) - 2 BOLTS**



► **SHAFT:**

**CODE [ 012P ] SAE (AA) 1/2" PARALLEL**



**SHAFT OIL SEAL**

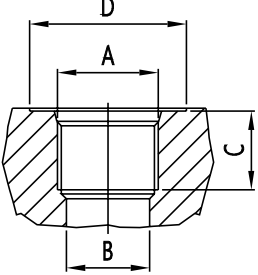
CODE: T1 = 12 x 22 x 7

CODE: T11 = 14 x 22 x 7

CODE: 012P = 13 x 22 x 7

Max Torque = 30 Nm (266 lbf in)

► **PORT DETAILS:**

| <b>SAE THREADED PORTS (U)</b><br>Compliant with SAE J514                          | Ordering Code | Dimensions mm (inches) |               |               |               | Tightening Torque Nm [lbf in] |               |
|-----------------------------------------------------------------------------------|---------------|------------------------|---------------|---------------|---------------|-------------------------------|---------------|
|                                                                                   |               | A                      | B             | C             | D             | Low Pressure                  | High Pressure |
|  | 15            | 9/16" - 18 UNF         | 13<br>(0.511) | 15<br>(0.590) | 26<br>(1.023) | 15<br>[135]                   | 25<br>[220]   |
|                                                                                   | 2             | 3/4" - 16 UNF          | 17<br>(0.669) | 15<br>(0.590) | 32<br>(1.259) | 20<br>[180]                   | 45<br>[400]   |

| STANDARD PORTS CONFIGURATION |               |                |          |            |
|------------------------------|---------------|----------------|----------|------------|
| CODE                         | SUCTION       | PRESSURE       | POSITION | SIZE       |
| <b>U2/15S</b>                | 3/4" = 16 UNF | 9/16" = 18 UNF | S = SIDE | 010 to 075 |

INLET PORTS = For multiple pumps with single inlet please contact Hydreco technical support