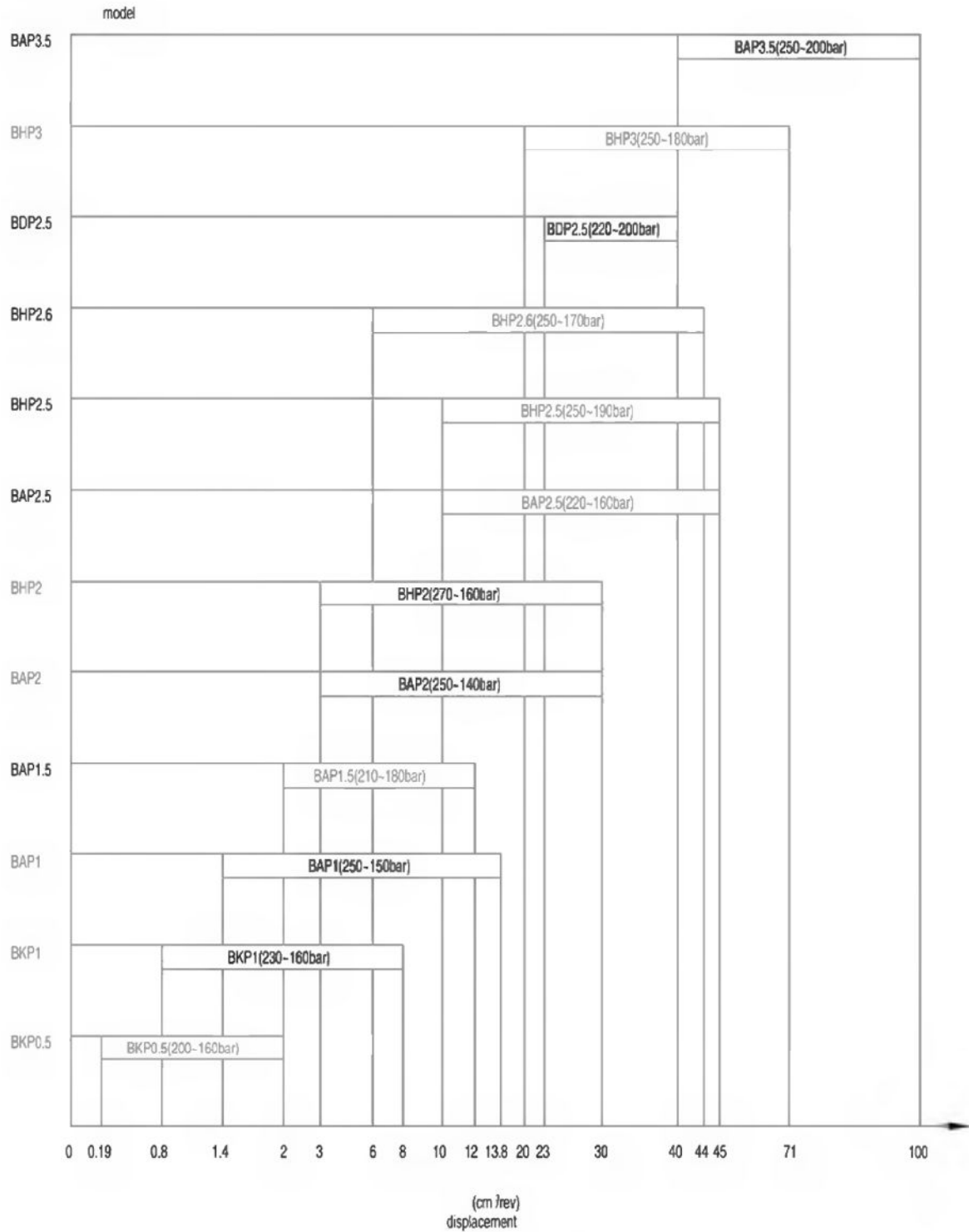


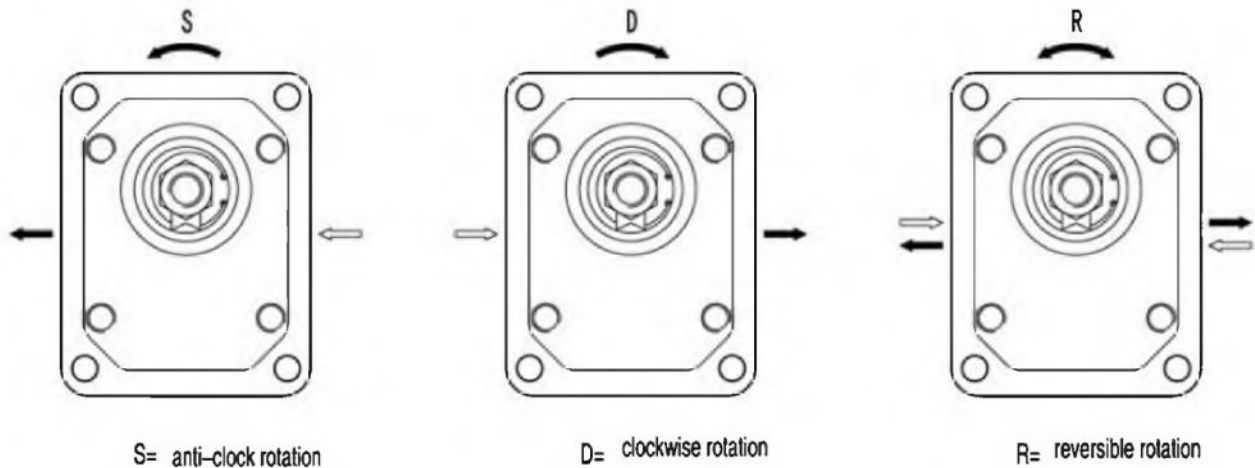
## PRODUCT RANGE



Remark: Show these pressures as maximum continuous pressure in the graph, product series "BH" denote front and end cover material cast iron, etcaeteras series denote front and end cover material aluminum.

## ROTATION DIRECTION

Definition of rotation direction: when standing before the pump with driving shaft up with its projecting end towards the observer, the pump is rotating clockwise in case of right-hand rotation "D". The contrary will happen with left-hand pumps "S", keeping the same point of view.



## DESIGN CALCULATIONS FOR PUMP

|              |            |                      |
|--------------|------------|----------------------|
| Flow         | Q          | L/min                |
| Torque       | M          | Nm                   |
| Power        | P          | kW                   |
| Speed        | n          | r/min                |
| Pressure     | $\Delta P$ | bar                  |
| Displacement | V          | cm <sup>3</sup> /rev |

|                       |                                         |       |
|-----------------------|-----------------------------------------|-------|
| Volumetric efficiency | $\eta_v = \eta_v(V, \Delta P, n)$       | ≈0.93 |
| Mechanical efficiency | $\eta_{hm} = \eta_{hm}(V, \Delta P, n)$ | ≈0.85 |
| Total efficiency      | $\eta_t = \eta_v \cdot \eta_{hm}$       | ≈0.80 |

|                                                    |           |
|----------------------------------------------------|-----------|
| $Q = V \cdot n \cdot \eta_v \cdot 10^{-3}$         | [ L/min ] |
| $M = (\Delta P \cdot V) / (62.83 \cdot \eta_{hm})$ | [ Nm ]    |
| $P = (\Delta P \cdot Q) / (612 \cdot \eta_t)$      | [ kW ]    |

# BAP2[BHP2]

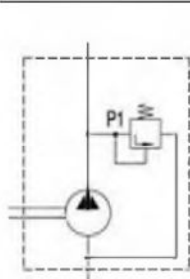
## HOW TO ORDER

| BA                                                                                | P                   | 2     | Front cover                            | Rotation                                           | Size                                                                         | Shaft | Ports | Ports position                                                                                                                                                                      | Seals                                                                                                                                                    | Options |
|-----------------------------------------------------------------------------------|---------------------|-------|----------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Series                                                                            | P- Pump<br>M- Motor | Group | A0<br>B0<br>B1<br>B2<br>Q0<br>Q1<br>Q2 | D Clockwise<br>S Counter clockwise<br>R Reversible | 3<br>4<br>6<br>8<br>10<br>12<br>14<br>16<br>18<br>20<br>22<br>25<br>28<br>30 |       |       | Ports position<br>Omit-Side inlet and side outlet<br>B-Back inlet and front outlet<br>C-Back inlet and side outlet<br>D-Side inlet and front outlet<br>R-Back inlet and back outlet | Drain<br>Q0- internal drain<br>Q1- external drain G1/4<br>Q2- external drain 9/16-18 UNF<br>Q3- external drain 7/16-20 UNF<br>Q4- external drain M12x1.5 |         |
| BA-Front and end cover material aluminum                                          |                     |       |                                        |                                                    |                                                                              |       |       |                                                                                                                                                                                     |                                                                                                                                                          |         |
| BH-Front and end cover material cast iron, pressure than 'BA' series high 30 bar. |                     |       |                                        |                                                    |                                                                              |       |       |                                                                                                                                                                                     |                                                                                                                                                          |         |

### Seals

Omit-Range between -10°C and +80°C, inlet pressure up to max. 3 bar absolute.  
V-Version suitable for fluid at hi-temperatures, range between -10°C and +120°C.  
H-Version suitable for fluid at low-temperatures, range between -40°C and +80°C.  
T-Version suitable for inlet pressure up to max. 3 and 6 bar absolute.  
N-Version suitable for inlet pressure up to max. 3 and 10 bar absolute.

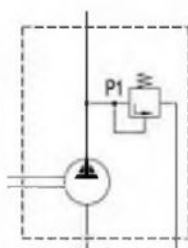
### Options



Pressure relief valve.  
Discharge returned to suction.  
P1= 5...250 bar.

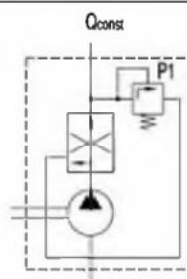
Ordering code

Y 180xx



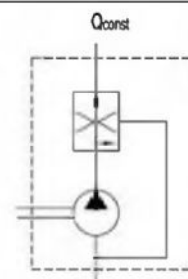
Pressure relief valve.  
Discharge returned to externally.  
P1= 5...250 bar.

P 120xx



3-way flow control valve  
with pressure relief valve.  
Excess flow returned to suction.  
P1= 100...180 bar.  
Qconst= 2...30 L/min.

F 15015



3-way flow control valve.  
Excess flow returned to suction.  
Qconst= 2...30 L/min.

Q xxx15

### Examples:

BHP2-B0-D-3-T0-E0 = clockwise rotation, 3 cc/rev, B0 front cover, 1:8 tapered shaft(T0), setting ports E0 type, standard seals

BAP2-A0-D-3-C0-U0 = clockwise rotation, 3 cc/rev, A0 front cover, C0 parallel shaft, setting ports U0 type, standard seals

BHP2-Q0-D-3-T1-F0-N= clockwise rotation, 3 cc/rev, Q0 front cover, 1:8 tapered shaft(T0), setting ports F0 type, high pressure seals(N)

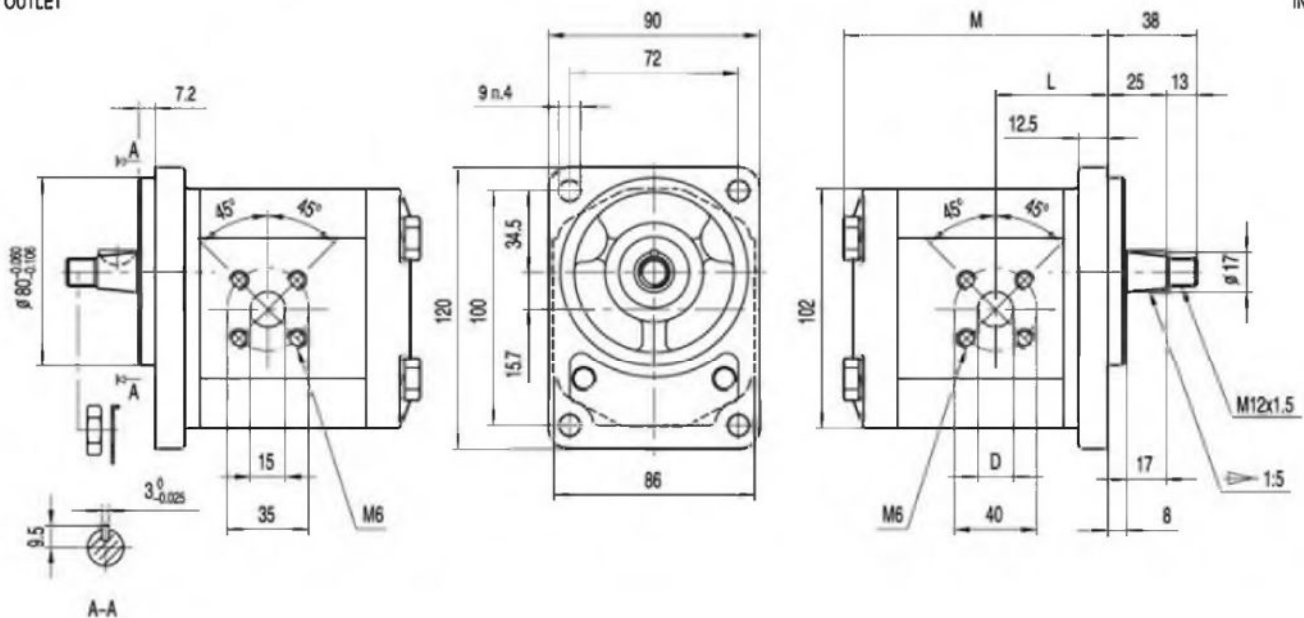
# BHP2B2



M6 thread depth 13.  
To mount the pump, n.4 M10 screws,  
with a torque wrench setting fixed  
at 70...75 Nm.  
Shaft M12x1.5 nut, with a torque  
wrench setting fixed at 50 Nm.

OUTLET

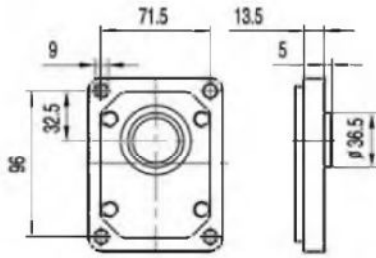
INLET



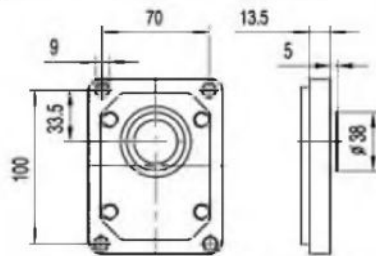
| Type        | Displacement<br>(cm <sup>3</sup> /rev) | Max pressure |           |           | Max. speed<br>(r/min) | Min. speed<br>(r/min) | Dimensions |         |         |
|-------------|----------------------------------------|--------------|-----------|-----------|-----------------------|-----------------------|------------|---------|---------|
|             |                                        | P1<br>bar    | P2<br>bar | P3<br>bar |                       |                       | M<br>mm    | L<br>mm | D<br>mm |
| BHP2B2-D-3  | 3                                      | 270          | 285       | 300       | 4000                  | 800                   | 91.1       | 39.9    | 15      |
| BHP2B2-D-4  | 4                                      | 270          | 285       | 300       | 4000                  | 600                   | 92.7       | 39.9    | 15      |
| BHP2B2-D-6  | 6                                      | 270          | 285       | 300       | 4000                  | 600                   | 96         | 41.1    | 15      |
| BHP2B2-D-8  | 8                                      | 270          | 285       | 300       | 3500                  | 500                   | 99.3       | 43.2    | 15      |
| BHP2B2-D-10 | 10                                     | 270          | 285       | 300       | 3000                  | 500                   | 102.6      | 43.7    | 20      |
| BHP2B2-D-12 | 12                                     | 270          | 285       | 300       | 3000                  | 500                   | 105.9      | 47.5    | 20      |
| BHP2B2-D-14 | 14                                     | 250          | 265       | 280       | 4000                  | 500                   | 109.3      | 47.5    | 20      |
| BHP2B2-D-16 | 16                                     | 250          | 265       | 280       | 4000                  | 500                   | 112.7      | 47.5    | 20      |
| BHP2B2-D-18 | 18                                     | 250          | 265       | 280       | 3600                  | 400                   | 116        | 47.5    | 20      |
| BHP2B2-D-20 | 20                                     | 220          | 235       | 250       | 3200                  | 400                   | 119.3      | 47.5    | 20      |
| BHP2B2-D-22 | 22                                     | 220          | 235       | 250       | 3000                  | 400                   | 122.6      | 55.1    | 20      |
| BHP2B2-D-25 | 25                                     | 200          | 215       | 230       | 3000                  | 400                   | 127.6      | 61.8    | 20      |
| BHP2B2-D-28 | 28                                     | 180          | 190       | 200       | 2500                  | 400                   | 132.6      | 64.3    | 20      |
| BHP2B2-D-30 | 30                                     | 160          | 170       | 180       | 2500                  | 400                   | 135.9      | 66      | 20      |

# BAP2[BHP2]

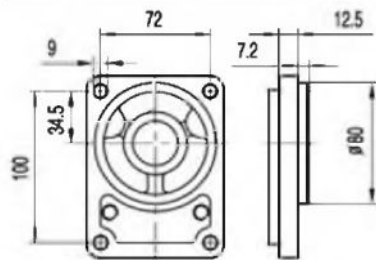
## FRONT COVER



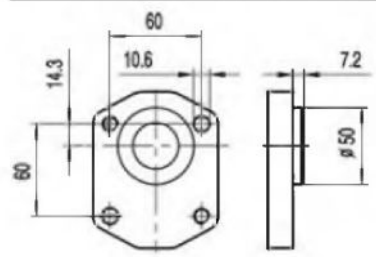
B0



B1

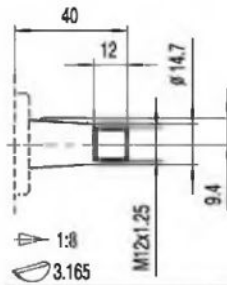


B2



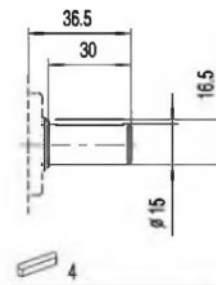
C0

## SHAFTS



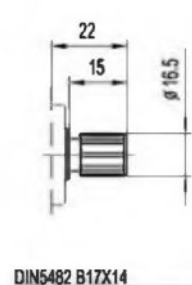
T0

Max.Torque 200 Nm



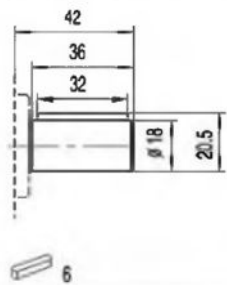
C4

Max.Torque 135 Nm



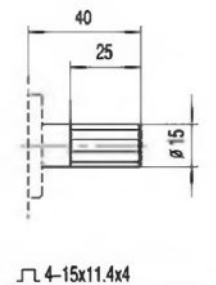
S7

Max.Torque 150 Nm



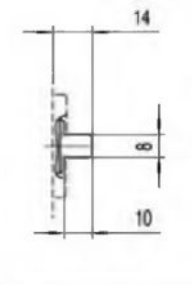
C2

Max.Torque 150 Nm



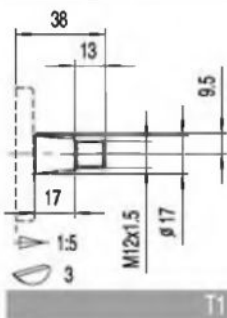
H0

Max.Torque 185 Nm



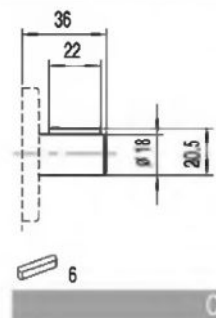
G0

Max.Torque 100 Nm



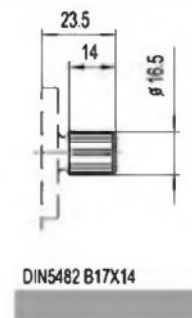
T1

Max.Torque 180 Nm



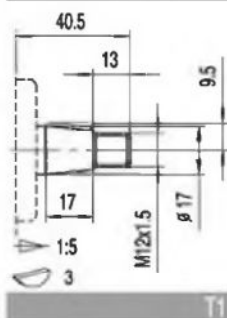
C3

Max.Torque 150 Nm



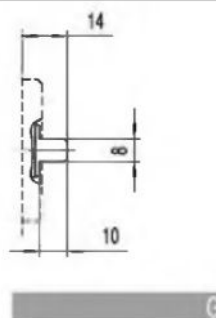
S6

Max.Torque 150 Nm



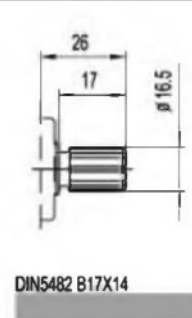
T1

Max.Torque 180 Nm



G0

Max.Torque 100 Nm

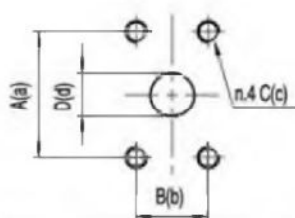


S3

Max.Torque 150 Nm

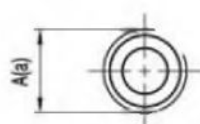
# BAP2[BHP2]

## PORTS



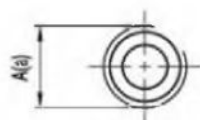
F2/F3/F4

| TYPE                        | PORTS CODE | INLET |       |            |    | OUTLET |       |            |    |
|-----------------------------|------------|-------|-------|------------|----|--------|-------|------------|----|
|                             |            | A     | B     | C          | D  | a      | b     | c          | d  |
| BA(H)P2...3 ÷ BA(H)P2...16  | F2         | 38.1  | 17.48 | 5/16-18UNC | 13 | 38.1   | 17.48 | 5/16-18UNC | 13 |
| BA(H)P2...18 ÷ BA(H)P2...20 | F3         | 47.63 | 22.23 | 3/8-16UNC  | 20 | 38.1   | 17.48 | 5/16-18UNC | 13 |
| BA(H)P2...22 ÷ BA(H)P2...30 | F4         | 47.63 | 22.23 | 3/8-16UNC  | 20 | 47.63  | 22.23 | 3/8-16UNC  | 20 |



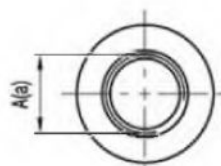
L0/L1/L3/L4

| TYPE                        | PORTS CODE | INLET | OUTLET |
|-----------------------------|------------|-------|--------|
|                             |            | A     | a      |
| BA(H)P2...3 ÷ BA(H)P2...6   | L0         | G1/2  | G1/2   |
| BA(H)P2...8 ÷ BA(H)P2...30  | L1         | G3/4  | G1/2   |
| BA(H)P2...16 ÷ BA(H)P2...30 | L3         | G 1   | G3/4   |
| BA(H)P2...8 ÷ BA(H)P2...30  | L4         | G3/4  | G3/4   |



R0/R1/R2

| TYPE                        | PORTS CODE | INLET | OUTLET |
|-----------------------------|------------|-------|--------|
|                             |            | A     | a      |
| BA(H)P2...3 ÷ BA(H)P2...12  | R0         | PT1/2 | PT1/2  |
| BA(H)P2...14 ÷ BA(H)P2...25 | R1         | PT3/4 | PT1/2  |
| BA(H)P2...28 ÷ BA(H)P2...30 | R2         | PT 1  | PT3/4  |



U0/U1/U2/U3

| TYPE                       | PORTS CODE | INLET         | OUTLET        |
|----------------------------|------------|---------------|---------------|
|                            |            | A             | a             |
| BA(H)P2...3 ÷ BA(H)P2...28 | U0         | 1 1/16-12 UNF | 7/8-14 UNF    |
| BA(H)P2...30               | U1         | 1 5/16-12 UNF | 7/8-14 UNF    |
| BA(H)P2...3 ÷ BA(H)P2...28 | U2         | 7/8-14 UNF    | 3/4-16 UNF    |
| BA(H)P2...8 ÷ BA(H)P2...30 | U3         | 1 5/16-12 UNF | 1 1/16-12 UNF |