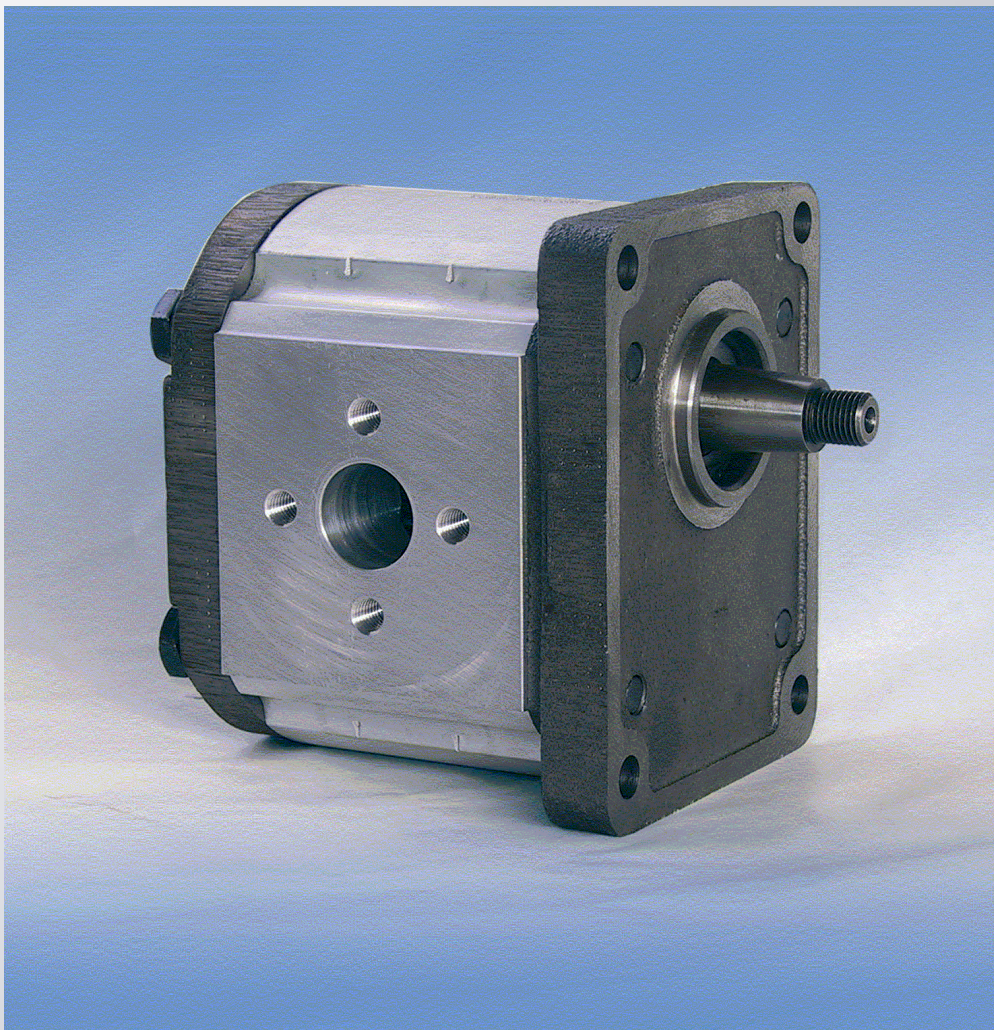


**POMPE E MOTORI IN ALLUMINIO SERIE Z3**  
***ALUMINIUM PUMPS AND MOTORS Z3 SERIES***



## **Caratteristiche principali**

- ◆ Coperchi in ghisa per elevate prestazioni.
- ◆ Possibilità di funzionare ad alte pressioni: fino a 280 bar di pressione massima in funzionamento continuo.
- ◆ Compensazione assiale per il recupero dei giochi
- ◆ Alto rendimento volumetrico: 95-97% medio.
- ◆ Ampia disponibilità di cilindrata: 20-25-30-35-40-45-50-55-60-64-70-80-90cm<sup>3</sup>/giro.
- ◆ Corpo in alluminio estruso
- ◆ Progetto accurato del profilo del dente per avere una bassa rumorosità.
- ◆ Vasta gamma di flange, alberi e connessioni compatibili con i principali standard del mercato.
- ◆ Disponibilità di guarnizioni per alte temperature
- ◆ Pompe e motori unidirezionali
- ◆ Pompe e motori bidirezionali
- ◆ Possibilità di montaggio di pompe multiple sia nelle serie in alluminio che con altre serie in ghisa prodotte dalla Ronzio Oleodinamica
- ◆ Facilità di trasformazione: da pompa singola in pompa multipla e di cambio rotazione.

## **Main Features**

- ◆ *Cast iron covers for high performances*
- ◆ *High pressure option: up to 280 bar max. continuous pressure*
- ◆ *Axial compensation achieved using pressure balanced bushing blocks.*
- ◆ *High volumetric efficiency: average 95-97%*
- ◆ *Wide range of capacities : 20-25-30-35-40-45-50-55-60-64-70-80-90 cm<sup>3</sup>/rev.*
- ◆ *Extruded aluminium body*
- ◆ *Gear tooth profile accurately projected providing low noise operation.*
- ◆ *A wide variety of shafts, flanges and ports are available to meet specific application requirements.*
- ◆ *High-temperature seals available.*
  
- ◆ *Single rotational pumps and motors.*
- ◆ *Bi-rotational pumps and motors.*
- ◆ *Multiple pumps availability: tandem pumps are possible both in aluminium series and with other cast iron series produced by Ronzio Oleodinamica*
- ◆ *Easy-to-make tandem pumps and easy change of rotation.*

## **CONDIZIONI PER L'UTILIZZO DELLE POMPE E MOTORI "Z3"** **CONDITIONS OF USE FOR PUMPS AND MOTORS "Z3"**

Nell'utilizzo della pompa evitare carichi radiali e assiali sull'albero.

Il giunto di trascinamento deve compensare eventuali errori di allineamento, deve essere di tipo elastico oppure di tipo Oldham.

Per un corretto funzionamento e una lunga durata della pompa, osservare i valori riportati nella tabella seguente.

*Avoid radial and axial loads on the pump shaft during the use.*

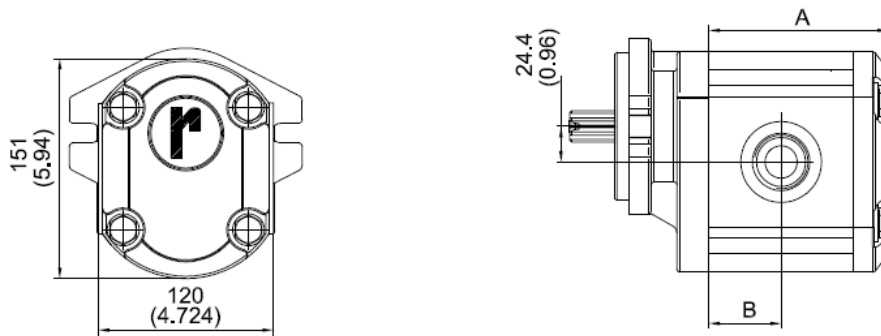
*The pump must be in line with the P.T.O. To compensate misalignment errors, use flexible or "Oldham" coupling.*

*We recommend to read the specifications in this catalogue very carefully. This will help you in getting the best, in terms of working conditions and life, from Ronzio gear pumps.*

**CONDIZIONI DI UTILIZZO**  
**USE CONDITIONS**

|   |   |   |                     |
|---|---|---|---------------------|
| <b>Fluidi idraulici</b><br><br><i>Hydraulic fluids</i>                              | <p>Oli idraulici a base minerale ( DIN 51524 )</p> <p>Per utilizzo di fluidi non infiammabili come acqua e glicole , emulsione di olio in acqua, o esteri fosforici, contattare il nostro ufficio tecnico o commerciale</p> <p><i>Mineral oil ( DIN 51524 )</i></p> <p><i>For use with fire resistant fluids like water glycol, water- oil emulsion and phosphate-esters, contact our technical or commercial office.</i></p> |   |                     |
|   | <b>Pressione in aspirazione</b><br><i>Inlet pressure</i>  | <p>0.7 - 3 bar ( Assoluti / Absolute )<br/>           10 - 44 psi ( Assoluti / Absolute )</p> |                     |
| <b>Velocità olio nella linea di aspirazione</b><br><i>Oil speed on suction line</i> | 0.5 ÷ 1.5 m/s   |   |                     |
| <b>Velocità olio nella linea di mandata</b><br><i>Oil speed on pressure line</i>    | 6 ÷ 10 m/s  |   |                     |
| <b>Temperatura olio</b><br><i>Oil temperature</i>                                   | -10°C ÷ 80°C  |   |                     |
| <b>Viscosità olio</b><br><i>Oil viscosity</i>                                       | 20 ÷ 120 mm <sup>2</sup> / s ( Cst )  |   |                     |
| <b>Massima viscosità olio all'avvio</b><br><i>Max starting viscosity</i>            | 700 mm <sup>2</sup> / s ( Cst )   |   |                     |
| <b>Filtraggio olio</b><br><i>Oil filtration</i>                                     | <b>Pressione</b><br><i>Pressure</i>   | <b>&lt; 200 bar</b>   | <b>&gt; 200 bar</b> |
|   | Classe di contaminazione NAS 1638<br><i>Contamination class NAS 1638</i>  | 10  | 9                   |
|   | Classe di contaminazione ISO 4406<br><i>Contamination class ISO 4406</i>  | 19/16   | 18/15               |
|   | Rapporto β <sub>x</sub> ≥ 75<br>Ratio β <sub>x</sub> ≥ 75   | 25µm  | 10µm                |

## CARATTERISTICHE PRINCIPALI MAIN CHARACTERISTICS



|  | 20    | 25   | 30    | 35   | 40   | 45   | 50   | 55   | 60    | 64   | 70    | 80    | 90    |
|--|-------|------|-------|------|------|------|------|------|-------|------|-------|-------|-------|
| <b>CILINDRATA / CAPACITY</b><br>cm <sup>3</sup> /giro at 1000 (giri/min) | 19.9  | 24.9 | 29.9  | 34.3 | 40.5 | 45.2 | 49.9 | 54.5 | 60    | 63.9 | 70    | 78.7  | 89.6  |
| <b>PORTATA / DELIVERY</b><br>lt/min at 1500 (giri/min)                   | 29.9  | 37.4 | 44.9  | 51.5 | 60.8 | 67.8 | 74.9 | 81.8 | 90    | 95.9 | 105   | 118   | 134.4 |
| <b>A (mm)</b>  | 100.8 | 104  | 107.2 | 110  | 114  | 117  | 120  | 123  | 126.5 | 129  | 132.9 | 138.6 | 145.6 |
| <b>B (mm)</b>  | 38.5  | 40   | 41.6  | 43   | 45   | 46.5 | 48   | 49.5 | 51    | 52.5 | 54.5  | 57.3  | 60.8  |

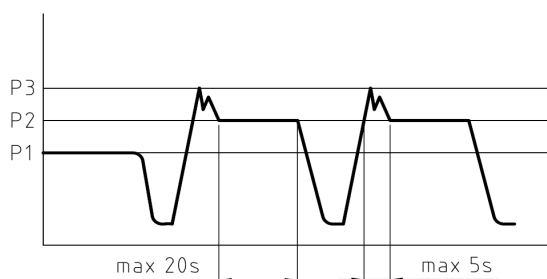
|  |      |      |      |      |      |      |      |      |      |      |      |       |       |
|--|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| <b>P1 Pressione max continua (bar)</b><br>Max working pressure (bar)     | 280  | 280  | 280  | 280  | 250  | 250  | 230  | 230  | 200  | 200  | 170  | 170   | 160   |
| <b>P2 Pressione max di picco (bar)</b><br>Max peak pressure (bar)        | 310  | 310  | 310  | 310  | 280  | 280  | 250  | 250  | 220  | 220  | 190  | 190   | 180   |
| <b>Velocità max per P1 (giri/min)</b><br>Max speed for P1 pressure (Rpm) | 450  | 450  | 350  | 350  | 350  | 350  | 350  | 350  | 350  | 350  | 350  | 350   | 350   |
| <b>Velocità max a vuoto (giri/min)</b> Max<br>speed without load (Rpm)   | 3000 | 3000 | 3000 | 3000 | 2700 | 2700 | 2200 | 2200 | 2000 | 2000 | 1800 | 1800  | 1800  |
| <b>Coppia resa (Nm)</b>  | 26.9 | 33.7 | 40.4 | 46.4 | 54.8 | 61.1 | 67.5 | 73.7 | 81.2 | 86.4 | 94.7 | 106.5 | 121.2 |
| <b>Massa (Kg)</b>  | 10.6 | 10.8 | 11   | 11.2 | 11.4 | 11.5 | 11.7 | 11.9 | 12   | 12.2 | 12.4 | 12.7  | 13.1  |

VERIFICARE, ATTRAVERSO LE FORMULE SOTTO RIPORTATE, LA COMPATIBILITA' TRA LE PRESTAZIONI DI PRESSIONE E PORTATA RICHIESTE E LA CAPACITA' DEL ALBERO DI TRASCINAMENTO DI SOPPORTARE LA COPPIA RICHIESTA

VERIFY THE COMPATIBILITY AMONG PERFORMANCE OF PRESSURE, FLOW REQUIRED AND TORQUE OF THE SHAFT THROUGH THE BELOW FORMULAS

Per pompe o motori bidirezionali, diminuire la pressione del 15%  
With bidirectional pumps or motors, pressure is reduced by 15%

### FORMULE PER DIMENSIONAMENTO



PER POMPE  
FOR PUMP

$$Q = \frac{V * \eta_v * n}{1000}$$

$$M = \frac{p * V}{62.8 * \eta_m}$$

$$P = \frac{p * Q}{600 * \eta_t}$$

PER MOTORI  
FOR MOTOR

$$Q = \frac{V * n}{1000 * \eta_v}$$

$$M = \frac{p * V * \eta_m}{62.8}$$

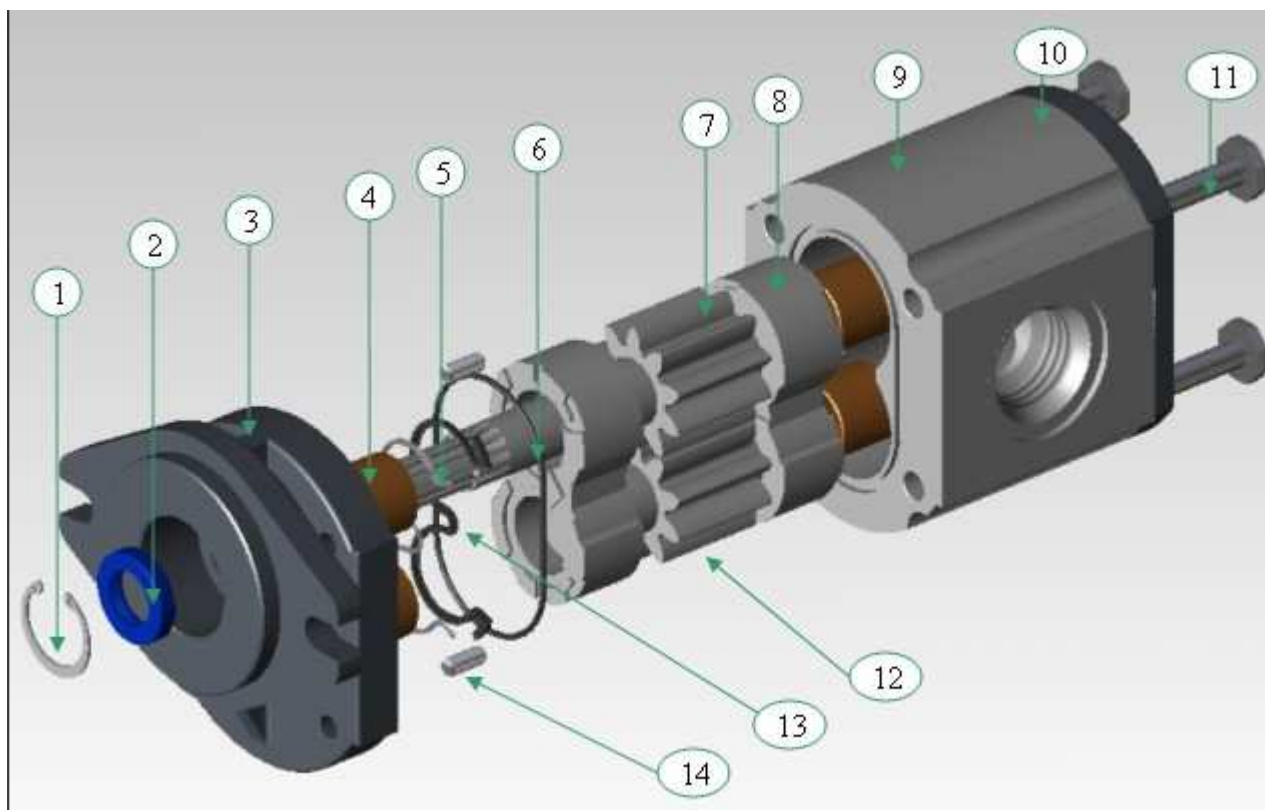
$$P = \frac{p * Q * \eta_t}{600}$$

V [cm<sup>3</sup>]  
Q [l/min]  
p [bar]  
M [Nm]  
n [min<sup>-1</sup>]  
P [Kw]

$\eta_v$  = EFF vol.  $\geq 95$   
 $\eta_m$  = EFF mecc.  $\sim 0.85$

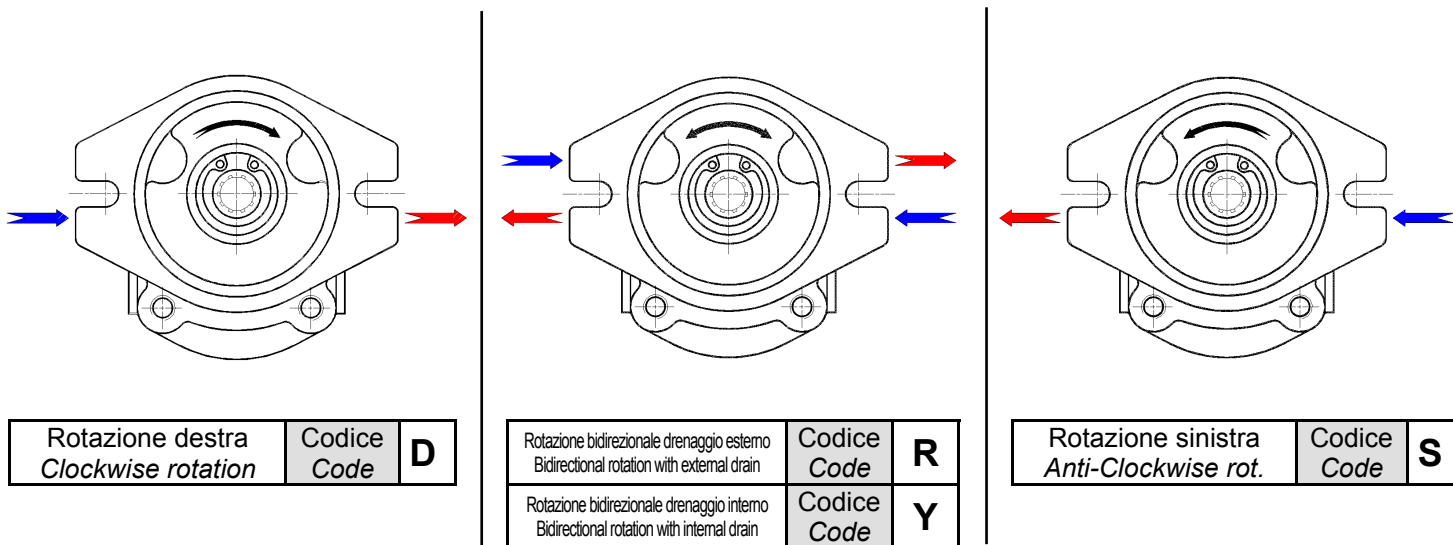
$\eta_t$  =  $\eta_v * \eta_m$ .  $\sim 0.8$

**COMPONENTI**  
**PARTS**

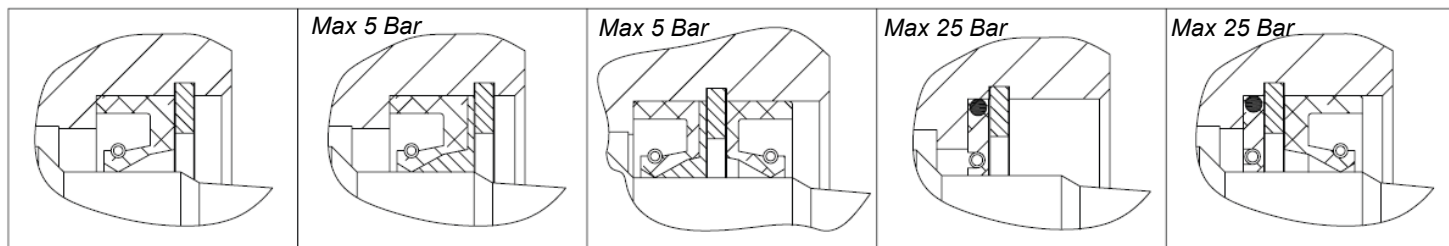


| Rif. | Descrizione                  | Description            | Qt. |
|------|------------------------------|------------------------|-----|
| 1    | Anello seeger                | Snap ring              | 1   |
| 2    | Anello di tenuta             | Rotary shaft seal      | 1   |
| 3    | Flangia                      | Front flange           | 1   |
| 4    | Boccole                      | Bushings               | 4   |
| 5    | Antiestrusore                | Seal against extruding | 2   |
| 6    | Guarnizione sotto-coperchio  | Under cover seal       | 2   |
| 7    | Ingranaggio conduttore       | Drive gear             | 1   |
| 8    | Rasamento                    | Bushing block          | 2   |
| 9    | Corpo                        | Body                   | 1   |
| 10   | Coperchio posteriore         | Rear cover             | 1   |
| 11   | Vite                         | Bolt                   | 4   |
| 12   | Ingranaggio condotto         | Idle gear              | 1   |
| 13   | Guarnizione di compensazione | Compensation seal      | 2   |
| 14   | Spine cilindriche            | Pins                   | 2   |

## SENSO DI ROTAZIONE ROTATION



## GUARNIZIONI PER ALBERI SHAFT SEAL



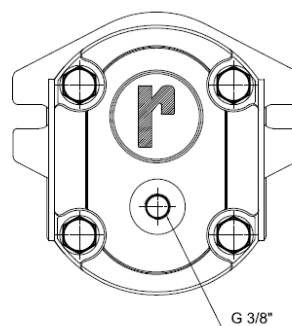
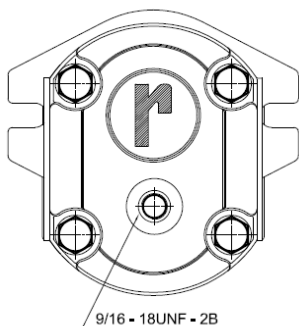
|                       |          |       |
|-----------------------|----------|-------|
| Codice<br><i>Code</i> | <b>N</b> | NBR   |
|                       | <b>V</b> | VITON |

|                       |           |       |
|-----------------------|-----------|-------|
| Codice<br><i>Code</i> | <b>R</b>  | NBR   |
|                       | <b>RV</b> | VITON |

|                       |           |       |
|-----------------------|-----------|-------|
| Codice<br><i>Code</i> | <b>N2</b> | NBR   |
|                       | <b>V2</b> | VITON |

|                       |          |      |
|-----------------------|----------|------|
| Codice<br><i>Code</i> | <b>B</b> | PTFE |
|-----------------------|----------|------|

|                       |           |       |
|-----------------------|-----------|-------|
| Codice<br><i>Code</i> | <b>BN</b> | NBR   |
|                       | <b>BV</b> | VITON |

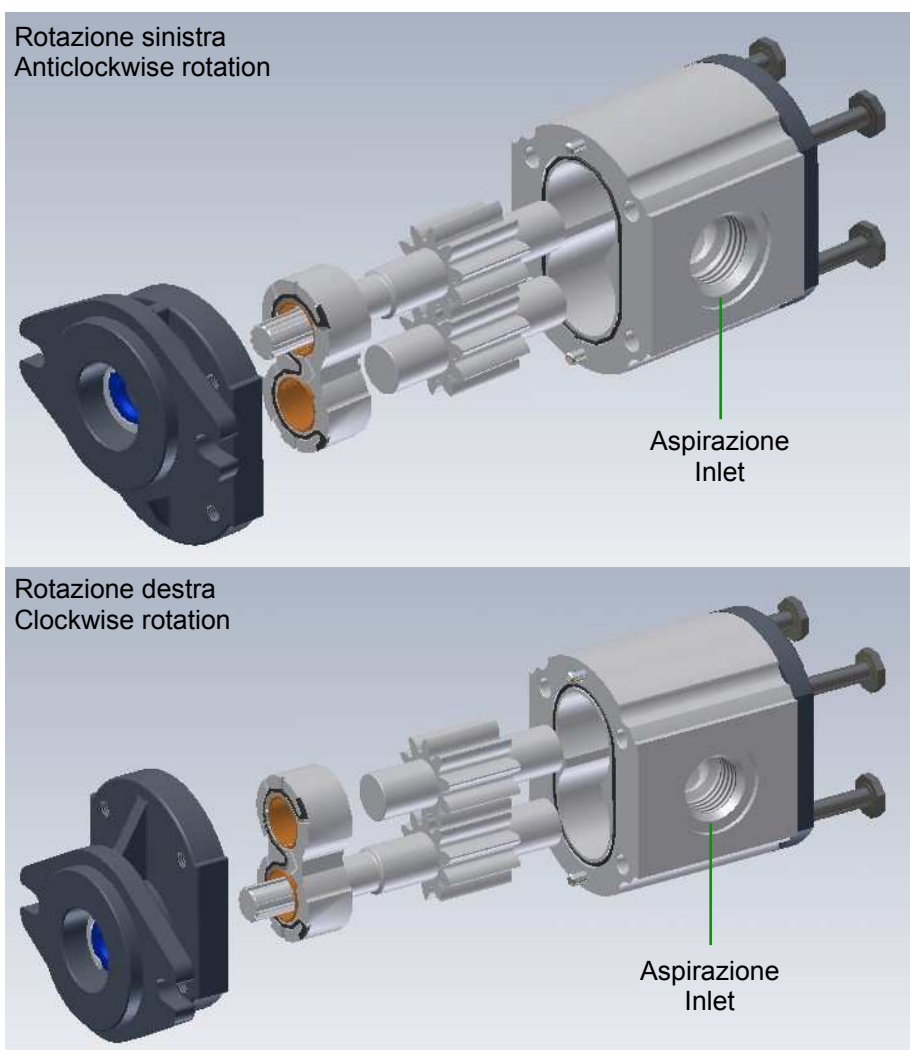


|   |                |
|---|----------------|
| Drenaggio per pompe con flange<br><i>Drain for pumps with flanges</i> | <b>B2 - B3</b> |
|---|----------------|

|  |                     |
|--|---------------------|
| Drenaggio per pompe con flanges<br><i>Drain for pumps with flanges</i> | <b>A0 - C4 - D5</b> |
|--|---------------------|

il codice "R" comprende rotazione bidirezionale, paraolio rinforzato 5 bar e drenaggio posteriore  
Code "R" includes bidirectional rotation, reinforced shaft seal 5 bar and rear drain

## CAMBIO DEL SENSO DI ROTAZIONE DELLE POMPE Z3 CHANGING ROTATION OF THE PUMP Z3

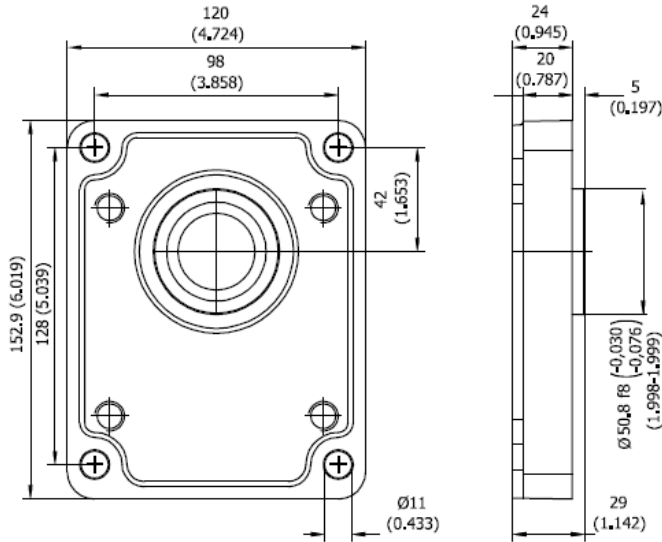


Il senso di rotazione, è indicato con una freccia sul corpo della pompa.  
*An arrow on the housing of the pump indicates the rotation.*

- Svitare le viti di fissaggio.
- Rimuovere la flangia tenendo premuto l'ingranaggio conduttore.
- Rimuovere contemporaneamente l'ingranaggio conduttore e il rasamento superiore mantenendo premuto l'ingranaggio condotto.
- Estrarre l'ingranaggio condotto tenendo fermo il rasamento inferiore, nel caso aiutarsi con una barretta NON metallica.
- Rimontare i due ingranaggi con posizioni invertite (vedi schema sopra).
- Rimontare il rasamento superiore facendo attenzione a NON invertirne la posizione.
- Rimontare la flangia utilizzando per le viti una coppia di serraggio di 60-65 Nm.

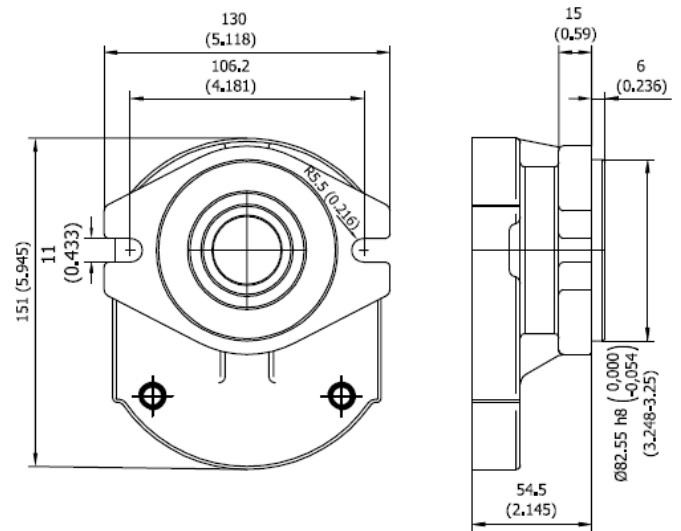
- *Unscrew the clamping bolts.*
- *Remove the flange holding down the drive gear.*
- *Remove the drive gear and the bushing block holding down the idle gear.*
- *Remove the idle gear keeping down the rear bushing block with a no-metallic bar.*
- *Reverse the position of the two gears (see picture above)*
- *Replace the bushing block without rotating or changing position.*
- *Reverse the flange and retighten the bolts to a torque rating between 44-48 ft/lbs*

# FLANGE FLANGES



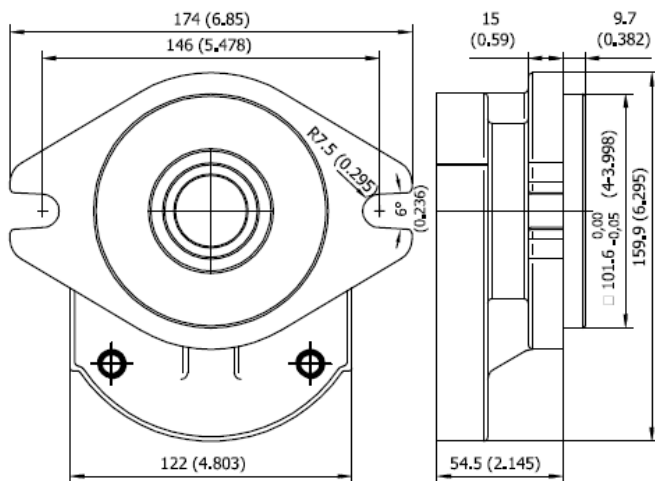
|                       |          |          |
|-----------------------|----------|----------|
| <b>CODICE</b><br>CODE | <b>A</b> | <b>0</b> |
|-----------------------|----------|----------|

NOTA : Materiale Ghisa  
NOTE : Material Cast iron



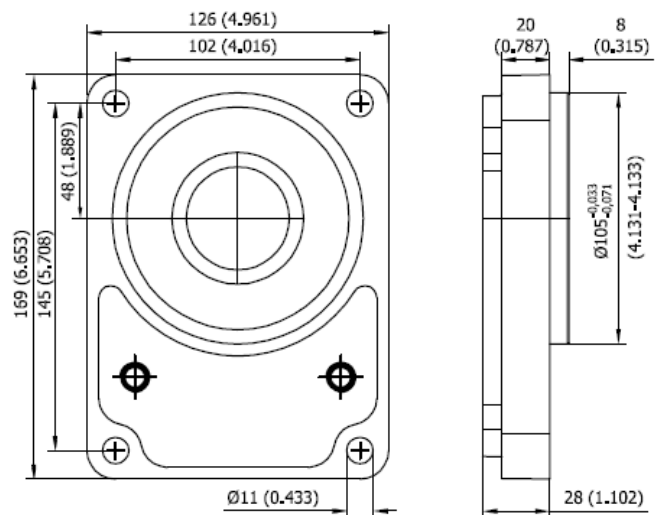
|                       |          |          |
|-----------------------|----------|----------|
| <b>CODICE</b><br>CODE | <b>B</b> | <b>2</b> |
|-----------------------|----------|----------|

NOTA : Materiale Ghisa  
NOTE : Material Cast iron



|                       |          |          |
|-----------------------|----------|----------|
| <b>CODICE</b><br>CODE | <b>B</b> | <b>3</b> |
|-----------------------|----------|----------|

NOTA : Materiale Ghisa  
NOTE : Material Cast iron

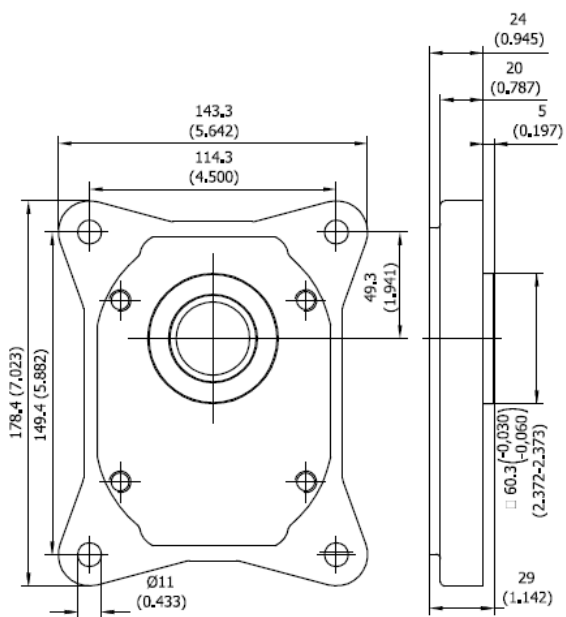


|                       |          |          |
|-----------------------|----------|----------|
| <b>CODICE</b><br>CODE | <b>C</b> | <b>4</b> |
|-----------------------|----------|----------|

NOTA : Materiale Ghisa  
NOTE : Material Cast iron



**FLANGE**  
**FLANGES**

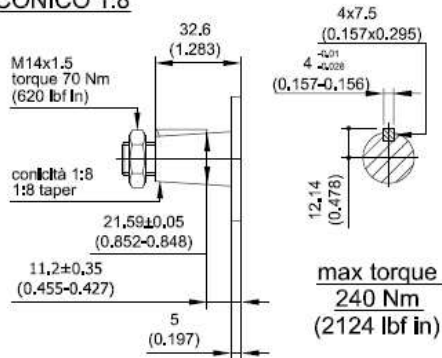


|                              |          |          |
|------------------------------|----------|----------|
| <b>CODICE</b><br><b>CODE</b> | <b>D</b> | <b>5</b> |
|------------------------------|----------|----------|

NOTA : Materiale Ghisa  
NOTE : Material Cast iron

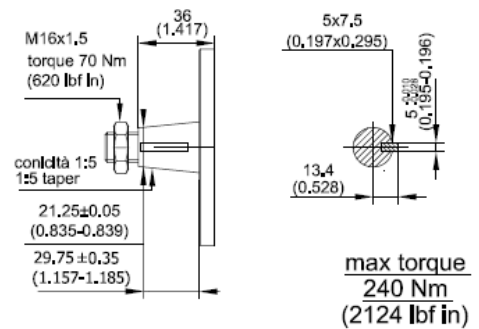
# ALBERI SHAFTS

## CONICO 1:8



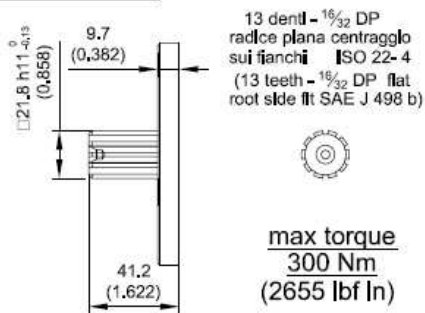
| CODICE / CODE            | C |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | A | 0 |

## CONICO 1:5



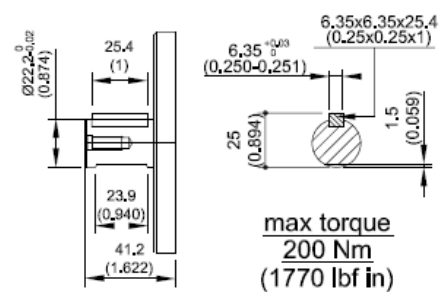
| CODICE / CODE            | A |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | C | 4 |

## SAE "B" SCANALATO



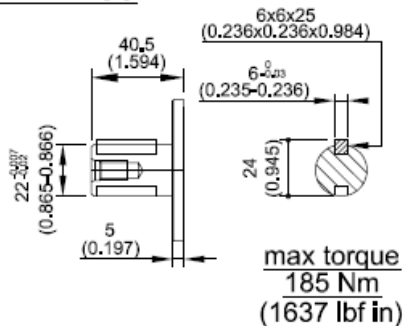
| CODICE / CODE            | B |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | B | 2 |
|                          | B | 3 |

## SAE "B" CILINDRICO 7/8"



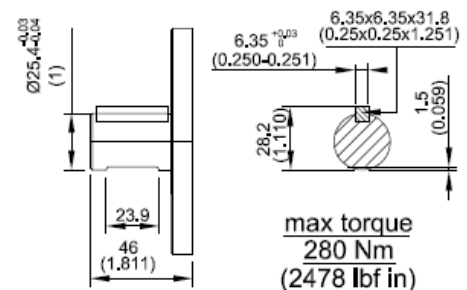
| CODICE / CODE            | L |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | B | 2 |
|                          | B | 3 |

## CILINDRICO



| CODICE / CODE            | Q |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | A | 0 |
|                          | D | 5 |

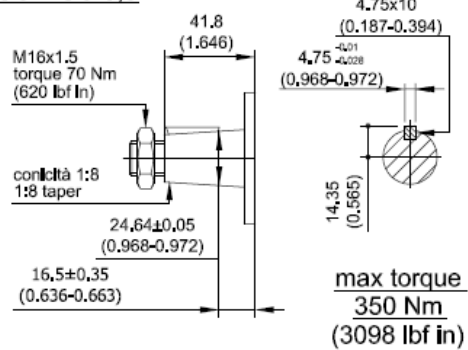
## SAE "B" CILINDRICO 1"



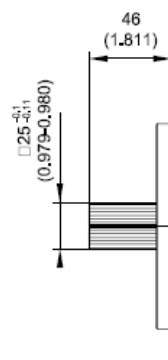
| CODICE / CODE            | M |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | B | 2 |
|                          | B | 3 |

# ALBERI SHAFTS

## CONICO 3,5



| CODICE / CODE            | R |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | D | 5 |



## SAE 15 DENTI

15 denti - 1 $\frac{1}{32}$  DP  
 radice plana centraggio  
 sul fianco  
 (15 teeth - 1 $\frac{1}{32}$  DP flat  
 root side fit)

**max torque**  
**450 Nm**  
**(3983 lbf in)**

| CODICE / CODE            | S |   |
|--------------------------|---|---|
| PER FLANGIA / FOR FLANGE | B | 3 |

# BOCCHIE DI ASPIRAZIONE E MANDATA INLET AND OUTLET PORTS

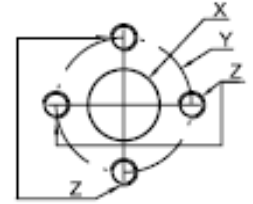
XX STANDARD

XX SU ORDINAZIONE / ON DEMAND

NON DISPONIBILI / NOT AVAILABLE

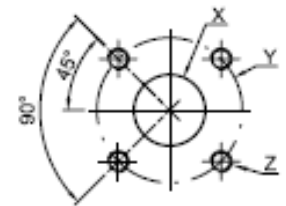
|   | X  | Y  | Z         |
|---|----|----|-----------|
| A | 19 | 40 | M8<br>18  |
| B | 27 | 51 | M10<br>18 |
| C | 33 | 62 | M12<br>18 |

|    |   | OUT |    |    |
|----|---|-----|----|----|
|    |   | A   | B  | C  |
| IN | A | 49  |    |    |
|    | B | 48  | 46 |    |
|    | C |     | 47 | 45 |



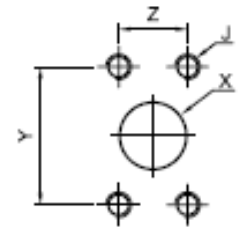
|   | X  | Y  | Z         |
|---|----|----|-----------|
| A | 19 | 40 | M8<br>18  |
| B | 27 | 51 | M10<br>18 |

|    |   | OUT |    |
|----|---|-----|----|
|    |   | A   | B  |
| IN | A | 50  |    |
|    | B | 51  | 52 |



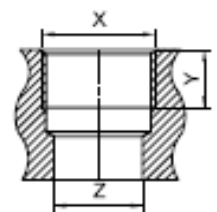
|   | X    | Y    | Z    | J               |
|---|------|------|------|-----------------|
| A | 12.5 | 38.1 | 17.5 | 5/16 -18UNC -2B |
| B | 19   | 47.6 | 22.2 | 3/8 -16UNC -2B  |
| C | 25.4 | 52.4 | 26.2 |                 |
| D | 30.5 | 58.7 | 30.2 | 7/16 -14UNC -2B |
| E | 39.3 | 69.8 | 35.7 | 1/2 -13UNC -2B  |
| F | 51   | 77.8 | 42.9 |                 |

|    |   | OUT |    |    |    |    |    |
|----|---|-----|----|----|----|----|----|
|    |   | A   | B  | C  | D  | E  | F  |
| IN | A | 53  |    |    |    |    |    |
|    | B | 54  | 55 |    |    |    |    |
|    | C |     | 56 | 57 |    |    |    |
|    | D |     |    | 58 | 59 |    |    |
|    | E |     |    |    | 60 | 61 |    |
|    | F |     |    |    |    | 62 | 63 |



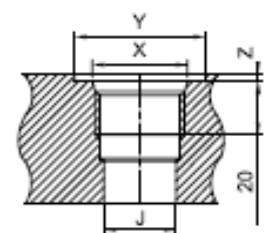
|   | X        | Y  | Z  | DIMENSIONE NOMINALE |
|---|----------|----|----|---------------------|
| A | 1" G     | 22 | 27 | 1                   |
| B | 1" 1/4 G | 22 | 33 | 1 -1/4              |
| C | 1" 1/2 G | 24 | 38 | 1 -1/2              |

|    |   | OUT |    |    |
|----|---|-----|----|----|
|    |   | A   | B  | C  |
| IN | A | 64  |    |    |
|    | B | 65  | 66 |    |
|    | C |     | 67 | 68 |



|   | DIMENSIONE NOMINALE | X                | Y  | Z   | J    |
|---|---------------------|------------------|----|-----|------|
| A | 3/4"                | 1-1/16 -12UN -2B | 42 | 0.5 | 24.5 |
| B | 1"                  | 1-5/16 -12UN -2B | 49 | 0.5 | 30.5 |
| C | 1"-1/4              | 15/8 -12UN -2B   | 58 | 0.5 | 39   |
| D | 1"-1/2              | 1-7/8 -12UN -2B  | 65 | 0.5 | 45   |

|    |   | OUT |    |    |    |
|----|---|-----|----|----|----|
|    |   | A   | B  | C  | D  |
| IN | A | 69  |    |    |    |
|    | B | 70  | 71 |    |    |
|    | C |     | 72 | 73 |    |
|    | D |     |    | 74 | 75 |



**BOCCHIE DI ASPIRAZIONE E MANDATA**  
**INLET AND OUTLET PORTS**

CODICE BOCCHIE STANDARD DISPONIBILI IN RELAZIONE ALLE CILINDRATE  
 STANDARD PORT CODES AVAILABLE IN RELATION OF CAPACITY

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 74 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 73 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 72 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 71 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 70 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 69 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 68 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 67 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 66 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 65 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 64 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 63 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 62 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 61 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 60 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 59 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 58 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 57 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 56 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 55 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 54 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 53 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 52 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 51 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 50 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 49 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 48 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 47 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 46 |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 45 |    |    |    |    |    |    |    |    |    |    |    |    |    |
|    | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 64 | 70 | 80 | 90 |



BOCCHIE STANDARD / STANDARD PORTS

# ISTRUZIONI PER L'ORDINAZIONE DI UNITA' SINGOLE Z3

## HOW TO ORDER Z3 SINGLE UNITS

|   |   |   |   |   |    |   |   |    |   |   |   |
|---|---|---|---|---|----|---|---|----|---|---|---|
|   |   | 1 | 2 |   | 3  | 4 | 5 | 6  | 7 | 8 | 9 |
| 0 | 3 | Z | A | G | 35 | C | 0 | 48 | S | - | B |

|          |                         |               |
|----------|-------------------------|---------------|
| <b>1</b> | TIPO UNITA' / UNIT TYPE | CODICE / CODE |
|          | POMPA / PUMP            | <b>Z</b>      |
|          | MOTORE / MOTOR          | <b>ZM</b>     |

|            |                                   |               |
|------------|-----------------------------------|---------------|
| <b>2-5</b> | FLANGIA / FLANGE (PAG. 9-10)      | CODICE / CODE |
|            | EUROPA / EUROPEAN                 | <b>A - 0</b>  |
|            | SAE "A" / SAE "A"                 | <b>B - 2</b>  |
|            | SAE "B" / SAE "B"                 | <b>B - 3</b>  |
|            | TEDESCA / GERMAN                  | <b>C - 4</b>  |
|            | EUROPEA GR. 3,5 / EUROPEA GR. 3,5 | <b>D - 5</b>  |

|          |                                       |               |
|----------|---------------------------------------|---------------|
| <b>3</b> | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|          | 19.9                                  | <b>20</b>     |
|          | 24.9                                  | <b>25</b>     |
|          | 29.9                                  | <b>30</b>     |
|          | 34.5                                  | <b>35</b>     |
|          | 40.5                                  | <b>40</b>     |
|          | 45.2                                  | <b>45</b>     |
|          | 49.9                                  | <b>50</b>     |
|          | 54.5                                  | <b>55</b>     |
|          | 60                                    | <b>60</b>     |
|          | 63.9                                  | <b>64</b>     |
|          | 70                                    | <b>70</b>     |
|          | 78.7                                  | <b>80</b>     |
|          | 89.6                                  | <b>90</b>     |

|          |   |               |
|----------|---|---------------|
| <b>4</b> | ALBERO / SHAFT (PAG. 11-12)               | CODICE / CODE |
|          | CONICO 1:8 / TAPERED 1:8                  | <b>C</b>      |
|          | CONICO 1:5 / TAPERED 1:5                  | <b>A</b>      |
|          | SAE "B" SCANALATO / SAE "B" SPLINED       | <b>B</b>      |
|          | SAE "B" CIL. 7/8" / SAE "B" STRAIGHT 7/8" | <b>L</b>      |
|          | CILINDRICO Ø 22 / STRAIGHT Ø 22           | <b>Q</b>      |
|          | SAE "B" CIL. 1" / SAE "B" STRAIGHT 1"     | <b>M</b>      |
|          | CONICO GR. 3,5 / TAPERED GR. 3,5          | <b>R</b>      |
|          | SAE 15 TH / SAE 15 TH                     | <b>S</b>      |

|          |                          |   |
|----------|--------------------------|---|
| <b>6</b> | BOCCHIE / PORTS (PAG.13) | CODICE / CODE   |
|          | EUROPEE / EUROPEAN       | <b>49 - 48 - 46 - 47 - 45</b>                               |
|          | TEDESCHE / GERMAN        | <b>50 - 51 - 52</b>   |
|          | BSPP                     | <b>64 - 65 - 66 - 67 - 68</b>                               |
|          | O-RING BOSS              | <b>69 - 70 - 71 - 72 - 73 - 74 - 75</b>                     |
|          | SAE 3000 PSI             | <b>53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63</b> |

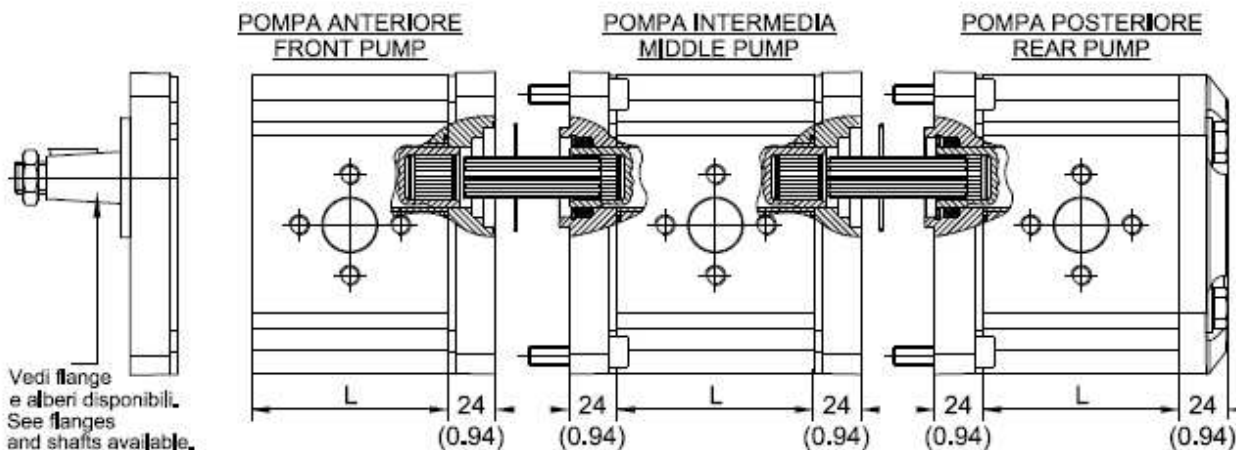
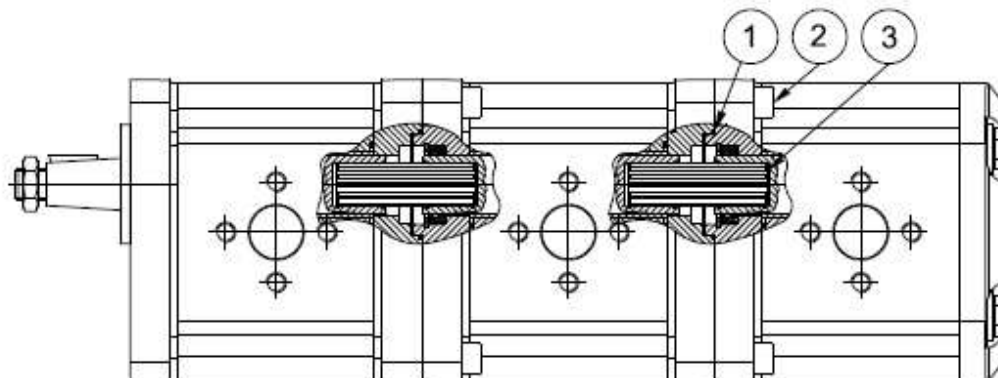
|          |  |               |
|----------|--|---------------|
| <b>7</b> | ROTAZIONE / ROTATION   | CODICE / CODE |
|          | DESTRO / RIGHT   | <b>D</b>      |
|          | SINISTRO / LEFT  | <b>S</b>      |
|          | BIDIREZIONALE DRENAGGIO INTERNO<br>BIDIRECTIONAL WITH INTERNAL DRAIN | <b>Y</b>      |
|          | BIDIREZIONALE DRENAGGIO ESTERNO<br>BIDIRECTIONAL WITH EXTERNAL DRAIN | <b>R</b>      |

|          |                                 |               |
|----------|---------------------------------|---------------|
| <b>8</b> | TIPO UNITA' / UNIT TYPE         | CODICE / CODE |
|          | PREDISPOSTA TANDEM / FOR TANDEM | <b>T</b>      |
|          | NORMALE / NORMAL                | <b>-</b>      |

|          |                                      |               |
|----------|--------------------------------------|---------------|
| <b>9</b> | PARAOLIO / SHAFT SEAL (PAG.7)        | CODICE / CODE |
|          | STANDARD / STANDARD                  | <b>N</b>      |
|          | STANDARD VITON / STANDARD VITON      | <b>V</b>      |
|          | 5 BAR NBR / 5 BAR NBR                | <b>R</b>      |
|          | 5 BAR VITON / 5 BAR VITON            | <b>RV</b>     |
|          | DOPPIO MIM NBR / DOUBLE SEAL NBR     | <b>N2</b>     |
|          | DOPPIO MIM VITON / DOUBLE SEAL VITON | <b>V2</b>     |
|          | 25 BAR PTFE NBR / 25 BAR PTFE NBR    | <b>B</b>      |
|          | 25 BAR NBR / 25 BAR NBR              | <b>BN</b>     |
|          | 25 BAR VITON / 25 BAR VITON          | <b>BV</b>     |

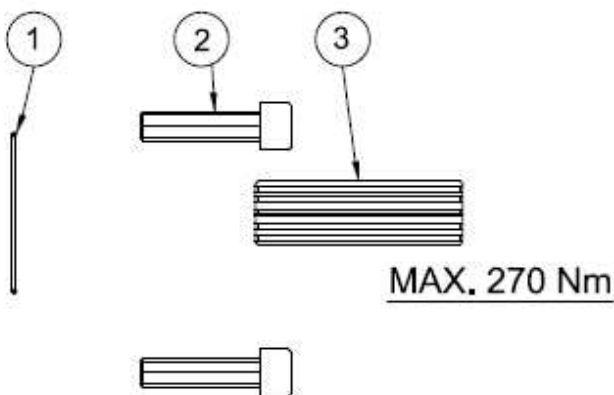
**KIT DI MONTAGGIO POMPE MULTIPLE Z3 CON STADI A FLUSSI SEPARATI**  
**ASSEMBLING KITS FOR MULTIPLE PUMPS Z3 WITH SEPARATED FLOW**

**Z3/Z3/Z3**



**KIT INTERMEDIO Z3-Z3**  
**MIDDLE KIT Z3-Z3**

| C.C. | L     |
|------|-------|
| 20   | 77    |
| 25   | 80    |
| 30   | 83.2  |
| 35   | 86    |
| 40   | 90    |
| 45   | 93    |
| 50   | 96    |
| 55   | 99    |
| 60   | 102   |
| 64   | 105   |
| 70   | 109   |
| 80   | 114.6 |
| 90   | 121.6 |



| Codice Kit: | <b>K 3000024</b>                              |
|-------------|---|
| Code Kit.:  | <b>K 3000024</b>                              |
| Ref.        | PARTI / PARTS                                 |
| 1           | OR178/5052                                    |
| 2           | VITI M10x40                                   |
| 3           | Albero scanalato 22x19<br>Splined shaft 22x19 |

## ISTRUZIONI PER L'ORDINAZIONE DI UNITA' MULTIPLE Z3 HOW TO ORDER Z3 MULTIPLE UNITS

|   |   |   |   |   |    |   |   |    |   |   |   |  |   |  |   |
|---|---|---|---|---|----|---|---|----|---|---|---|--|---|--|---|
|   |   |   | 1 |   | 2  |   | 3 |    | 4 |   | 5 |  | 6 |  | 7 |
| 0 | 3 | Z | A | G | 80 | E | 0 | 48 | A | S | B |  |   |  |   |

POMPA ANTERIORE  
FRONT PUMP

|   |   |   |   |   |    |   |   |    |   |   |   |  |   |
|---|---|---|---|---|----|---|---|----|---|---|---|--|---|
|   |   |   |   |   | 2  |   |   |    | 5 |   | 6 |  | 7 |
| 0 | 3 | Z | A | G | 45 | 0 | 0 | 48 | I | S | B |  |   |

POMPA INTERMEDIA  
MIDDLE PUMP

|   |   |   |   |   |    |   |   |    |   |   |   |  |   |
|---|---|---|---|---|----|---|---|----|---|---|---|--|---|
|   |   |   |   |   | 2  |   |   |    | 5 |   | 6 |  | 7 |
| 0 | 3 | Z | A | G | 45 | 0 | 0 | 48 | P | S | B |  |   |

POMPA POSTERIORE  
REAR PUMP

| 2-5 | FLANGIA / FLANGE (PAG. 9-10)      | CODICE / CODE |
|-----|-----------------------------------|---------------|
|     | EUROPA / EUROPEAN                 | A - 0         |
|     | SAE "A" / SAE "A"                 | B - 2         |
|     | SAE "B" / SAE "B"                 | B - 3         |
|     | TEDESCA / GERMAN                  | C - 4         |
|     | EUROPEA GR. 3,5 / EUROPEA GR. 3,5 | D - 5         |

| 5 | BOCCHIE / PORTS (PAG.13) | CODICE / CODE  |
|---|--------------------------|--|
|   | EUROPEE / EUROPEAN       | 49 - 48 - 46 - 47 - 45                                     |
|   | TEDESCHE / GERMAN        | 50 - 51 - 52   |
|   | BSP                      | 64 - 65 - 66 - 67 - 68                                     |
|   | O-RING BOSS              | 69 - 70 - 71 - 72 - 73<br>- 74 - 75                        |
|   | SAE 3000 PSI             | 53 - 54 - 55 - 56 - 57<br>- 58 - 59 - 60 - 61 -<br>62 - 63 |

| 3 | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|---|---------------------------------------|---------------|
|   | 19.9                                  | 20            |
|   | 24.9                                  | 25            |
|   | 29.9                                  | 30            |
|   | 34.3                                  | 35            |
|   | 40.5                                  | 40            |
|   | 45.2                                  | 45            |
|   | 49.9                                  | 50            |
|   | 54.5                                  | 55            |
|   | 60                                    | 60            |
|   | 63.9                                  | 64            |
|   | 70                                    | 70            |
|   | 78.7                                  | 80            |
|   | 89.6                                  | 90            |

| 6 | ROTAZIONE / ROTATION | CODICE / CODE |
|---|----------------------|---------------|
|   | DESTRO / RIGHT       | D             |
|   | SINISTRO / LEFT      | S             |

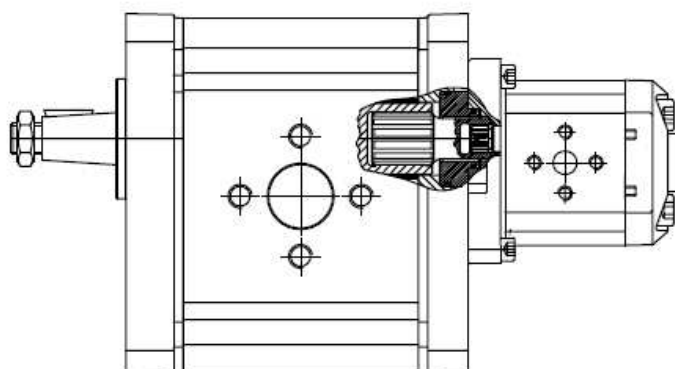
| 4 | ALBERO / SHAFT (PAG. 11-12)               | CODICE / CODE |
|---|---|---------------|
|   | CONICO 1:8 / TAPERED 1:8                  | C             |
|   | CONICO 1:5 / TAPERED 1:5                  | A             |
|   | SAE "B" SCANALATO / SAE "B" SPLINED       | B             |
|   | SAE "B" CIL. 7/8" / SAE "B" STRAIGHT 7/8" | L             |
|   | CILINDRICO Ø 22 / STRAIGHT Ø 22           | Q             |
|   | SAE "B" CIL. 1" / SAE "B" STRAIGHT 1"     | M             |
|   | CONICO GR. 3,5 / TAPERED GR. 3,5          | R             |
|   | SAE 15 TH / SAE 15 TH                     | S             |

| 7 | PARAOLIO / SHAFT SEAL (PAG.7)        | CODICE / CODE |
|---|--------------------------------------|---------------|
|   | STANDARD / STANDARD                  | N             |
|   | STANDARD VITON / STANDARD VITON      | V             |
|   | 5 BAR NBR / 5 BAR NBR                | R             |
|   | 5 BAR VITON / 5 BAR VITON            | RV            |
|   | DOPPIO MIM NBR / DOUBLE SEAL NBR     | N2            |
|   | DOPPIO MIM VITON / DOUBLE SEAL VITON | V2            |
|   | 25 BAR PTFE NBR / 25 BAR PTFE NBR    | B             |
|   | 25 BAR NBR / 25 BAR NBR              | BN            |
|   | 25 BAR VITON / 25 BAR VITON          | BV            |

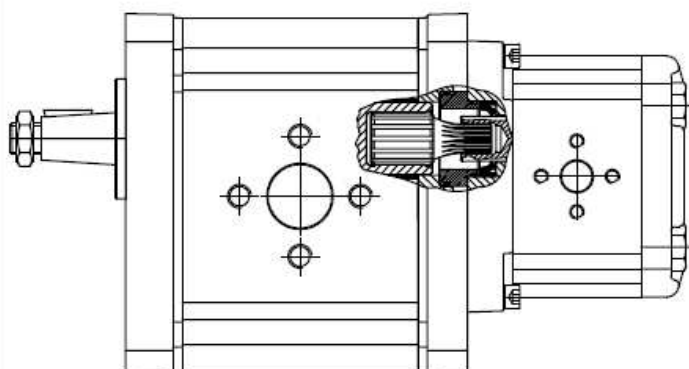


**KIT DI MONTAGGIO POMPE MULTIPLE Z3/Z1 - Z3-Z2 CON STADI A FLUSSI SEPARATI**  
**ASSEMBLING KITS FOR MULTIPLE PUMPS Z3/Z1 - Z3/Z2 WITH SEPARATED FLOW**

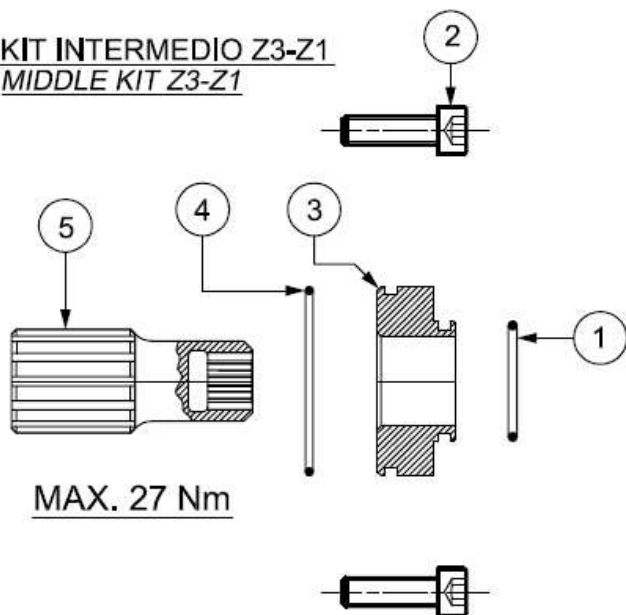
**Z3/Z1**



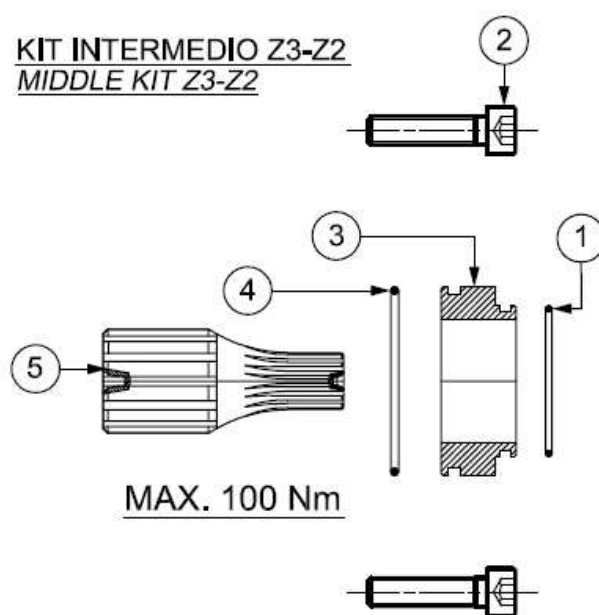
**Z3/Z2**



**KIT INTERMEDIO Z3-Z1**  
**MIDDLE KIT Z3-Z1**



**KIT INTERMEDIO Z3-Z2**  
**MIDDLE KIT Z3-Z2**



|                           |                                    |          |
|---------------------------|------------------------------------|----------|
| Codice Kit:<br>Code Kit.: |                                    | K3000029 |
| Ref.                      | PARTI / PARTS                      |          |
| 1                         | ORM0210-20                         |          |
| 2                         | VITI M6x25                         |          |
| 3                         | Bussola di centraggio / Pilot ring |          |
| 4                         | ORM0360                            |          |
| 5                         | Albero scanalato / Splined shaft   |          |

|                           |                                    |          |
|---------------------------|------------------------------------|----------|
| Codice Kit:<br>Code Kit.: |                                    | K3000030 |
| Ref.                      | PARTI / PARTS                      |          |
| 1                         | OR2112                             |          |
| 2                         | VITI M6x25                         |          |
| 3                         | Bussola di centraggio / Pilot ring |          |
| 4                         | ORM0360                            |          |
| 5                         | Albero scanalato / Splined shaft   |          |

## ISTRUZIONI PER L'ORDINAZIONE DI UNITA' MULTIPLE Z3 HOW TO ORDER Z3 MULTIPLE UNITS

|   |   |   |   |   |    |   |   |    |   |   |   |  |   |  |   |
|---|---|---|---|---|----|---|---|----|---|---|---|--|---|--|---|
|   |   |   | 1 |   | 2  |   | 3 |    | 4 |   | 5 |  | 6 |  | 7 |
| 0 | 3 | Z | A | G | 80 | E | 0 | 48 | A | S | B |  |   |  |   |

POMPA ANTERIORE Z3  
FRONT PUMP Z3

**K3000029**

KIT TANDEM Z3/Z1  
TANDEM KIT Z3/Z1

|   |   |   |   |   |    |   |   |    |    |   |   |  |   |
|---|---|---|---|---|----|---|---|----|----|---|---|--|---|
|   |   |   |   |   | 8* |   |   |    | 9* |   | 6 |  | 7 |
| 0 | 1 | Z | A | G | 21 | 0 | 0 | 48 | I  | S | B |  |   |

POMPA INTERMEDIA Z1  
MIDDLE PUMP Z1

|   |   |   |   |   |    |   |   |    |    |   |   |  |   |
|---|---|---|---|---|----|---|---|----|----|---|---|--|---|
|   |   |   |   |   | 8* |   |   |    | 9* |   | 6 |  | 7 |
| 0 | 1 | Z | A | G | 21 | 0 | 0 | 48 | P  | S | B |  |   |

POMPA POSTERIORE Z1  
REAR PUMP Z1

| 1 - 4 | FLANGIA / FLANGE (PAG. 9-10)      | CODICE / CODE |
|-------|-----------------------------------|---------------|
|       | EUROPA / EUROPEAN                 | A - 0         |
|       | SAE "A" / SAE "A"                 | B - 2         |
|       | SAE "B" / SAE "B"                 | B - 3         |
|       | TEDESCA / GERMAN                  | C - 4         |
|       | EUROPEA GR. 3,5 / EUROPEA GR. 3,5 | D - 5         |

| 5 | BOCCHIE / PORTS (PAG.13) | CODICE / CODE  |
|---|--------------------------|----------------|
|   | EUROPEE / EUROPEAN       | SEE PAGE 13-14 |
|   | TEDESCHE / GERMAN        | SEE PAGE 13-14 |
|   | BSPP                     | SEE PAGE 13-14 |
|   | O-RING BOSS              | SEE PAGE 13-14 |
|   | SAE 3000 PSI             | SEE PAGE 13-14 |

| 2 | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|---|---------------------------------------|---------------|
|   | 19.9                                  | 20            |
|   | 24.9                                  | 25            |
|   | 29.9                                  | 30            |
|   | 34.3                                  | 35            |
|   | 40.5                                  | 40            |
|   | 45.2                                  | 45            |
|   | 49.9                                  | 50            |
|   | 54.5                                  | 55            |
|   | 60                                    | 60            |
|   | 63.9                                  | 64            |
|   | 70                                    | 70            |
|   | 78.7                                  | 80            |
|   | 89.6                                  | 90            |

| 6 | ROTAZIONE / ROTATION | CODICE / CODE |
|---|----------------------|---------------|
|   | DESTRO / RIGHT       | D             |
|   | SINISTRO / LEFT      | S             |

| 7 | PARAOLIO / SHAFT SEAL (PAG.7)             | CODICE / CODE |
|---|---|---------------|
|   | STANDARD / STANDARD                       | N             |
|   | STANDARD VITON / STANDARD VITON           | V             |
|   | 5 BAR NBR / 5 BAR NBR                     | R             |
|   | 5 BAR VITON / 5 BAR VITON                 | RV            |
|   | DOPPIO MIM NBR / DOUBLE SEAL NBR          | N2            |
|   | DOPPIO MIM VITON / DOUBLE SEAL VITON      | V2            |
|   | 25 BAR VARISEAL NBR / 25 BAR VARISEAL NBR | B             |
|   | 25 BAR NBR / 25 BAR NBR                   | BN            |
|   | 25 BAR VITON / 25 BAR VITON               | BV            |

| 3 | ALBERO / SHAFT (PAG. 11-12)               | CODICE / CODE |
|---|---|---------------|
|   | CONICO 1:8 / TAPERED 1:8                  | C             |
|   | CONICO 1:5 / TAPERED 1:5                  | A             |
|   | SAE "B" SCANALATO / SAE "B" SPLINED       | B             |
|   | SAE "B" CIL. 7/8" / SAE "B" STRAIGHT 7/8" | L             |
|   | CILINDRICO Ø 22 / STRAIGHT Ø 22           | Q             |
|   | SAE "B" CIL. 1" / SAE "B" STRAIGHT 1"     | M             |
|   | CONICO GR. 3,5 / TAPERED GR. 3,5          | R             |
|   | SAE 15 TH / SAE 15 TH                     | S             |

| 8 | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|---|---------------------------------------|---------------|
|   | 0.80                                  | 08            |
|   | 1.08                                  | 11            |
|   | 1.59                                  | 16            |
|   | 2.09                                  | 21            |
|   | 2.59                                  | 26            |
|   | 3.15                                  | 32            |
|   | 3.68                                  | 37            |
|   | 4.19                                  | 42            |
|   | 4.79                                  | 48            |
|   | 5.49                                  | 55            |
|   | 6.2                                   | 62            |
|   | 7.81                                  | 78            |
|   | 8.82                                  | 88            |
|   | 10.5                                  | 105           |

\* VEDI ANCHE CATALOGO Z1

\* SEE ALSO Z1 CATALOGUE

## ISTRUZIONI PER L'ORDINAZIONE DI UNITA' MULTIPLE Z3 HOW TO ORDER Z3 MULTIPLE UNITS

|   |   |   |   |   |    |   |   |    |   |   |   |  |   |  |   |
|---|---|---|---|---|----|---|---|----|---|---|---|--|---|--|---|
|   |   |   | 1 |   | 2  |   | 3 |    | 4 |   | 5 |  | 6 |  | 7 |
| 0 | 3 | Z | A | G | 80 | E | 0 | 48 | A | S | B |  |   |  |   |

POMPA ANTERIORE Z3  
FRONT PUMP Z3

**K3000030**

KIT TANDEM Z3/Z2  
TANDEM KIT Z3/Z2

|   |   |   |   |   |    |   |   |    |    |   |   |  |   |
|---|---|---|---|---|----|---|---|----|----|---|---|--|---|
|   |   |   |   |   | 8* |   |   |    | 9* |   | 6 |  | 7 |
| 0 | 2 | Z | A | G | 14 | 0 | 0 | 48 | I  | S | B |  |   |

POMPA INTERMEDIA Z2  
MIDDLE PUMP Z2

|   |   |   |   |   |    |   |   |    |    |   |   |  |   |
|---|---|---|---|---|----|---|---|----|----|---|---|--|---|
|   |   |   |   |   | 8* |   |   |    | 9* |   | 6 |  | 7 |
| 0 | 2 | Z | A | G | 14 | 0 | 0 | 48 | P  | S | B |  |   |

POMPA POSTERIORE Z2  
REAR PUMP Z2

| 1 - 4 | FLANGIA / FLANGE (PAG. 9-10)      | CODICE / CODE |
|-------|-----------------------------------|---------------|
|       | EUROPA / EUROPEAN                 | A - 0         |
|       | SAE "A" / SAE "A"                 | B - 2         |
|       | SAE "B" / SAE "B"                 | B - 3         |
|       | TEDESCA / GERMAN                  | C - 4         |
|       | EUROPEA GR. 3,5 / EUROPEA GR. 3,5 | D - 5         |

| 5 | BOCCHIE / PORTS (PAG.13) | CODICE / CODE  |
|---|--------------------------|----------------|
|   | EUROPEE / EUROPEAN       | SEE PAGE 13-14 |
|   | TEDESCHE / GERMAN        | SEE PAGE 13-14 |
|   | BSPP                     | SEE PAGE 13-14 |
|   | O-RING BOSS              | SEE PAGE 13-14 |
|   | SAE 3000 PSI             | SEE PAGE 13-14 |

| 2 | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|---|---------------------------------------|---------------|
|   | 19.9                                  | 20            |
|   | 24.9                                  | 25            |
|   | 29.9                                  | 30            |
|   | 34.3                                  | 35            |
|   | 40.5                                  | 40            |
|   | 45.2                                  | 45            |
|   | 49.9                                  | 50            |
|   | 54.5                                  | 55            |
|   | 60                                    | 60            |
|   | 63.9                                  | 64            |
|   | 70                                    | 70            |
|   | 78.7                                  | 80            |
|   | 89.6                                  | 90            |

| 6 | ROTAZIONE / ROTATION | CODICE / CODE |
|---|----------------------|---------------|
|   | DESTRO / RIGHT       | D             |
|   | SINISTRO / LEFT      | S             |

| 7 | PARAOLIO / SHAFT SEAL (PAG.7)             | CODICE / CODE |
|---|---|---------------|
|   | STANDARD / STANDARD                       | N             |
|   | STANDARD VITON / STANDARD VITON           | V             |
|   | 5 BAR NBR / 5 BAR NBR                     | R             |
|   | 5 BAR VITON / 5 BAR VITON                 | RV            |
|   | DOPPIO MIM NBR / DOUBLE SEAL NBR          | N2            |
|   | DOPPIO MIM VITON / DOUBLE SEAL VITON      | V2            |
|   | 25 BAR VARISEAL NBR / 25 BAR VARISEAL NBR | B             |
|   | 25 BAR NBR / 25 BAR NBR                   | BN            |
|   | 25 BAR VITON / 25 BAR VITON               | BV            |

| 3 | ALBERO / SHAFT (PAG. 11-12)               | CODICE / CODE |
|---|---|---------------|
|   | CONICO 1:8 / TAPERED 1:8                  | C             |
|   | CONICO 1:5 / TAPERED 1:5                  | A             |
|   | SAE "B" SCANALATO / SAE "B" SPLINED       | B             |
|   | SAE "B" CIL. 7/8" / SAE "B" STRAIGHT 7/8" | L             |
|   | CILINDRICO Ø 22 / STRAIGHT Ø 22           | Q             |
|   | SAE "B" CIL. 1" / SAE "B" STRAIGHT 1"     | M             |
|   | CONICO GR. 3,5 / TAPERED GR. 3,5          | R             |
|   | SAE 15 TH / SAE 15 TH                     | S             |

| 8 | CILINDRATA / CAPACITY cm <sup>3</sup> | CODICE / CODE |
|---|---------------------------------------|---------------|
|   | 4.4                                   | 04            |
|   | 6.3                                   | 06            |
|   | 8.15                                  | 08            |
|   | 11.3                                  | 11            |
|   | 14.5                                  | 14            |
|   | 16.9                                  | 17            |
|   | 20.1                                  | 20            |
|   | 25.7                                  | 25            |
|   | 31.4                                  | 31            |

\* VEDI ANCHE CATALOGO Z2

\* SEE ALSO Z2 CATALOGUE



**RONZIO**  
**OLEODINAMICA**