

CATALOGO TECNICO TECHNICAL CATALOGUE

**POMPE AD INGRANAGGI
GEAR PUMPS**



A

**POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS**



B

**MOTORI AD INGRANAGGI
GEAR MOTORS**



C

**ACCESSORI POMPE E MOTORI
PUMPS AND MOTOR ACCESSORIES**



D

**POMPE A MANO
HAND PUMPS**



E

Quality System in accordance UNI EN ISO 9001 cert. ICIM N° 0292

TCP IE P04W00 - FP

POMPE AD INGRANAGGI GEAR PUMPS



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CARATTERISTICHE

La Galtech è specializzata nella produzione di pompe dal gruppo 1 al gruppo 4 suddivise in 34 cilindrate da 0,9 a 120 cc/g, e fino a 320 bar di pressione massima di esercizio.

Sono disponibili versioni con flange e coperchi in ghisa per ridurre il livello di rumorosità.

Il bilanciamento idrostatico è a ripresa del gioco assiale mediante pressione inviata ad un'area definita della boccola.

La lubrificazione dei supporti è automatica e proporzionale alla pressione di impiego della pompa.

Ogni pompa può essere assemblata con totale intercambiabilità sia con flange standard (europea, tedesca, SAE) sia con quelle speciali (ZF, Perkins, Renault) e con alberi conici, cilindrici e scanalati.

E' possibile inoltre montare coperchi con valvole limitatrici di pressione e valvole regolatrici di flusso.

Tutte le pompe sono predisposte per il traino posteriore di una o più pompe interponendo il kit di accoppiamento disponibile anche in versione corta.

FEATURES

Galtech is specialized in pumps production from group 1 to group 4, divided into 34 displacements: from 0,9 to 120 cc/rev, and up to 320 bar of max working pressure.

Pumps are available with cast iron flanges and covers version to reduce the loudness level.

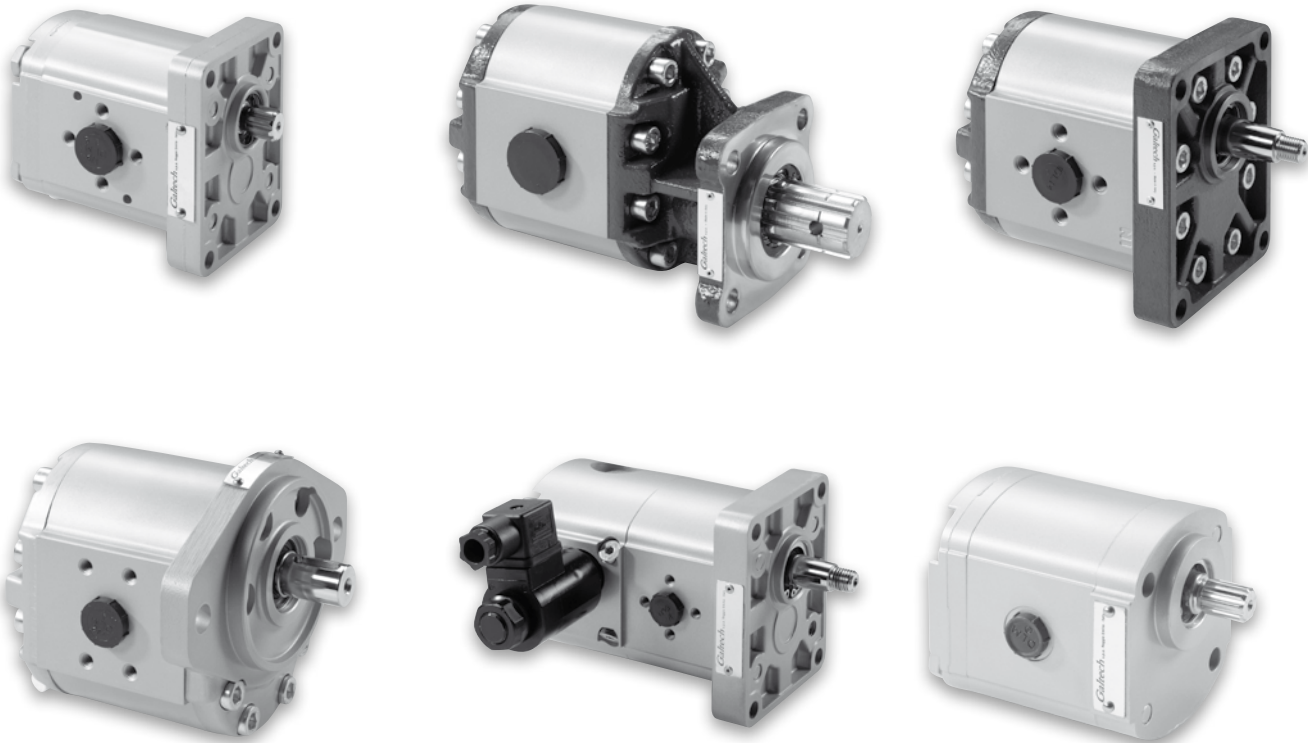
Hydrostatic balance takes up axial slack through the pressure supplied to a defined bushing area.

Bearings lubrication is automatic and proportional to the pump operating pressure.

Each pump can be assembled whether with standard flanges (european, german or SAE) or with special ones (ZF, Perkins and Renault), with tapered, cylindrical or splined shafts.

Furthermore it is possible to assemble covers with pressure relief valves and flow control valves.

All standard pumps are arranged to drive a supplementary pumps, using the coupling kits, available also in the short version.



GAMMA DI PRODOTTO

PRODUCT RANGE

**POMPE GRUPPO
PUMPS GROUP** **1**

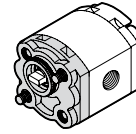
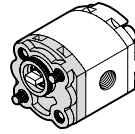
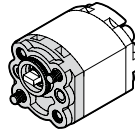
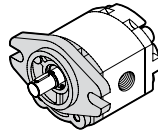
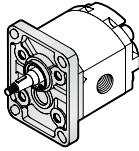
Standard

SAE AA

MC 32

E 32 BX

E 32 CX



A-16

A-18

A-20

A-22

A-24

Grandezza Size	Cilindrata Displacement	Velocità max. Max. speed	Portata max. Max. flow	Velocità min. Min. speed	Portata min. Min. flow	Rendimento volumetrico min. Min. volumetric efficiency %
	[cm ³ /g] - (in ³ /rev)	[g/min] - (rpm)	[l/min] - (Gal/min)	[g/min] - (rpm)	[l/min] - (Gal/min)	
1SPA_0.9	0.89 (0.05)	6000	5.3 (1.40)	600	0.49 (0.13)	92*
1SPA_1.2	1.18 (0.07)	6000	7.1 (1.88)	600	0.65 (0.17)	
1SPA_1.6	1.6 (0.10)	6000	9.6 (2.54)	400	0.61 (0.16)	
1SPA_2.0	2.0 (0.12)	5500	11 (2.91)	400	0.76 (0.20)	95*
1SPA_2.5	2.5 (0.15)	5000	12.5 (3.30)	400	0.95 (0.25)	
1SPA_3.2	3.2 (0.20)	4500	14.4 (3.80)	400	1.21 (0.32)	
1SPA_3.7	3.7 (0.23)	4000	14.8 (3.91)	400	1.40 (0.37)	
1SPA_4.2	4.2 (0.26)	3500	14.7 (3.88)	400	1.60 (0.42)	
1SPA_5.0	5.0 (0.31)	3000	15 (3.96)	400	1.90 (0.50)	
1SPA_6.3	6.3 (0.38)	2700	17 (4.49)	400	2.39 (0.63)	
1SPA_7.8	7.76 (0.47)	2500	19.4 (5.13)	400	2.95 (0.78)	
1SPA_9.8	9.78 (0.60)	2000	19.6 (5.18)	400	3.71 (0.98)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

**POMPE GRUPPO
PUMPS GROUP** **2**

Standard

SAE A

SAE A-OR

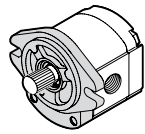
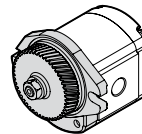
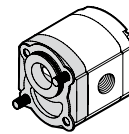
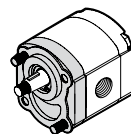
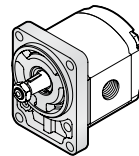
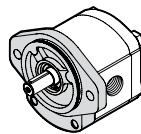
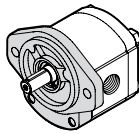
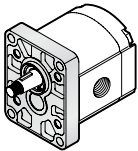
B80 C

B50 C

E52 C

PRKS 400D

SAE A 14*



A-28

A-30

A-32

A-34

A-32

A-34

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A-40

A-42

A-44

Grandezza Size	Cilindrata Displacement	Velocità max. Max. speed	Portata max. Max. flow	Velocità min. Min. speed	Portata min. Min. flow	Rendimento volumetrico min. Min. volumetric efficiency %
	[cm ³ /g] - (in ³ /rev)	[g/min] - (rpm)[rpm]	[l/min] - (Gal/min)	[g/min] - (rpm)	[l/min] - (Gal/min)	
2SP_4	4 (0.24)	4000	16 (4.23)	500	1.9 (0.50)	95*
2SP_6	6 (0.37)	4000	24 (6.34)	500	2.85 (0.75)	
2SP_8	8.5 (0.52)	3500	29.7 (7.85)	500	4.03 (1.06)	
2SP_11	11 (0.67)	3500	38.5 (10.17)	500	5.22 (1.38)	
2SP_14	14 (0.85)	3500	49 (12.95)	500	6.65 (1.76)	
2SP_16	16.5 (1.01)	3500	57.7 (15.24)	500	7.83 (2.07)	
2SP_19	19.5 (1.19)	3300	64.3 (16.99)	500	9.26 (2.45)	
2SP_22	22.5 (1.37)	2800	63 (16.64)	500	10.68 (2.82)	
2SP_26	26 (1.59)	2500	65 (17.17)	500	12.35 (3.26)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value taken during the testing at 1500 rpm)

GAMMA DI PRODOTTO

PRODUCT RANGE

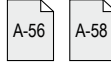
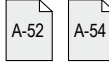
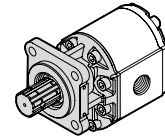
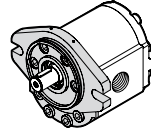
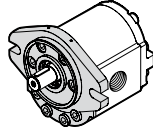
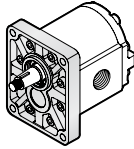
**POMPE GRUPPO
PUMPS GROUP** **3**

Standard

SAE B

SAE B-OR

ZFC

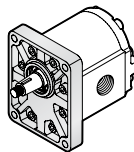


Grandezza Size	Cilindrata Displacement	Velocità max. Max. speed	Portata max. Max. flow	Velocità min. Min. speed	Portata min. Min. flow	Rendimento volumetrico min. Min. volumetric efficiency %
	[cm ³ /g] - (in ³ /rev)	[g/min] - (rpm)	[lt/min] - (Gal/min)	[g/min] - (rpm)	[lt/min] - (Gal/min)	
3SP_19	19 (1.16)	3500	66.5 (17.57)	700	12.64 (3.34)	95*
3SP_22	22.3 (1.36)	3500	78 (20.61)	700	14.83 (3.92)	
3SP_29	29.3 (1.79)	3300	96.7 (25.55)	700	19.48 (5.15)	
3SP_33	32.9 (2.01)	3300	108.6 (28.69)	700	21.88 (5.78)	
3SP_36	36.4 (2.22)	3300	120.1 (31.73)	700	24.21 (6.40)	
3SP_44	43.5 (2.65)	3000	130.5 (34.48)	700	28.93 (7.64)	
3SP_52	51.7 (3.15)	3000	155.1 (40.98)	700	34.38 (9.08)	
3SP_62	61.1 (3.73)	2500	152.7 (40.34)	700	40.63 (10.73)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value taken during the testing at 1500 rpm)

**POMPE GRUPPO
PUMPS GROUP** **4**

Standard



Grandezza Size	Cilindrata Displacement	Velocità max. Max. speed	Portata max. Max. flow	Velocità min. Min. speed	Portata min. Min. flow	Rendimento volumetrico min. Min. volumetric efficiency %
	[cm ³ /g] - (in ³ /rev)	[g/min] - (rpm)	[lt/min] - (Gal/min)	[g/min] - (rpm)	[lt/min] - (Gal/min)	
4SP G60	60.3 (3.68)	2300	138.7 (36.64)	800	45.82 (12.11)	92*
4SP G70	69 (4.21)	2200	151.8 (40.11)	800	52.44 (13.85)	
4SP G86	86 (5.25)	2200	189.2 (49.99)	800	65.36 (17.27)	
4SP G103	103 (6.29)	2000	206 (54.43)	800	78.28 (20.68)	
4SP G120	120 (7.32)	2000	240 (63.41)	800	91.2 (24.10)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Ad esaurimento Phasing-out

INFORMAZIONI TECNICHE

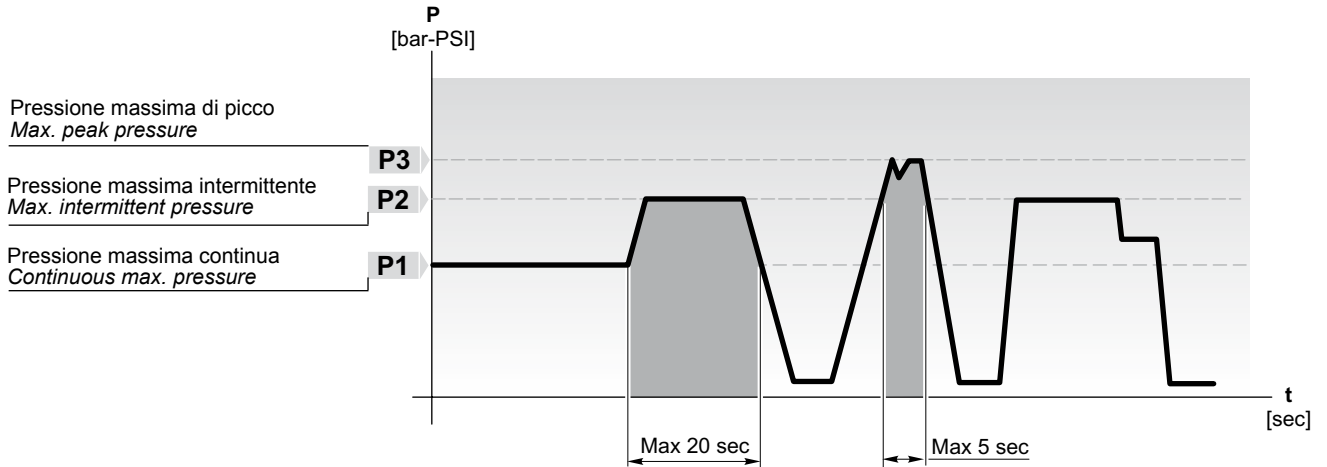
TECHNICAL INFORMATION

Definizione delle pressioni

Le pompe possono essere sottoposte alle pressioni P1, P2, P3 indicate nelle tabelle delle prestazioni. Il grafico seguente ne illustra le definizioni e l'applicabilità rispettando i limiti delle velocità di rotazione riportati.

Definition of pressures

The pumps can be subjected to the pressures P1, P2 or P3 indicated in the performance tables. The following diagram illustrates the definitions and applicability of these, compared to the rotation speed limits included.



Misure idrauliche
Hydraulic measures

Formule utili
Useful formulas

Fattore di conversione
Conversion factors

Q	Portata <i>Flow</i>	[l/min - Gal/min]
M	Coppia <i>Torque</i>	[Nm - lbf.in]
P	Potenza <i>Power</i>	[kW - HP]
V	Cilindrata <i>Displacement</i>	[cm ³ /rev - in ³ /rev]
n	Velocità <i>Speed</i>	[min ⁻¹ - rpm]
Δp	Pressione <i>Pressure</i>	[bar - PSI]
η_v	Rendimento volumetrico <i>Volumetric efficiency</i>	
η_m	Rendimento meccanico <i>Mechanical efficiency</i>	
η_t	Rendimento totale <i>Overall efficiency</i>	

$$Q = V \times \eta_v \times n \times 10^{-3} \quad \text{l/min}$$

$$M = \frac{\Delta p \times V}{62.83 \times \eta_m} \quad \text{Nm}$$

$$P = \frac{\Delta p \times V \times n}{600 \times 1000 \times \eta_t} \quad \text{kW}$$

1 l/min = 0.2641 US Gal/min
1 Nm = 8.851 in·lbs
1 Nm = 0.7375 ft·lbs
1 N = 0.2248 lbs
1kW = 1.34 HP
1cm ³ /giro = 0.061 in ³ /rev
1 bar = 14.5 PSI
1 mm = 0.0394 in
1 kg = 2.205 lbs

INFORMAZIONI TECNICHE

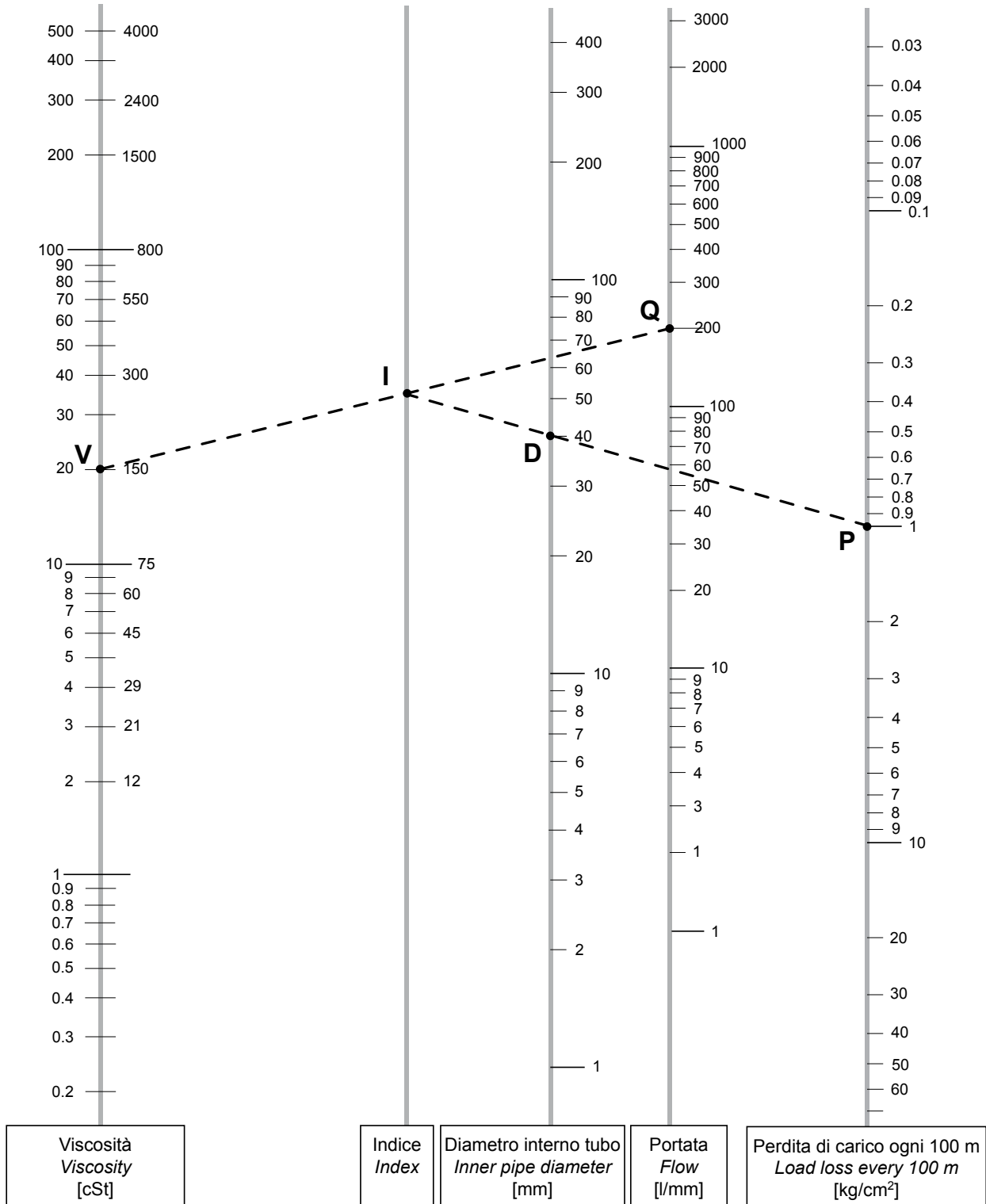
TECHNICAL INFORMATION

Perdita di carico

Il nomogramma seguente permette di valutare la perdita di carico per ogni 100 m di tubazione conoscendo la viscosità dell'olio, la portata della pompa e il diametro della condotta. Sulle rispettive scale, si fissano i valori della viscosità (V), della portata (Q) e del diametro (D); si traccia una retta che congiunge i due punti V e Q; dove questa interseca la linea indice viene definito il punto I. Prolungando la retta che congiunge il punto I al punto D, all'intersezione con l'ultima scala si leggerà il valore della perdita di carico.

Pressure drops

The following nomogram allows you to calculate the pressure drops for each 100 m of piping when the viscosity of the oil, the delivery capacity of the pump and the diameter of the piping are known. The viscosity (V), flow capacity (Q) and diameter (D) values are fixed on the respective scales; a line is drawn joining the points V and Q; the point where this intersects the index line is defined as point I. If the line joining point I to point D is extended, the load pressure drops value can then be read at the intersection with the last scale.



INFORMAZIONI TECNICHE

Fluidi idraulici

È consigliabile utilizzare oli idraulici di origine minerale con caratteristiche antischiuma, antiossidante, anticorrosione e con elevato indice di viscosità;

- Viscosità raccomandata 15 ÷ 92 mm² /s
- Viscosità limite d'avviamento 3000 mm² /s

Durante il normale funzionamento la temperatura dell'olio dovrà essere compresa fra 20°C e 65°C con valori limite compresi fra -15°C e 80°C.

Pressione in aspirazione

La pressione di esercizio in alimentazione ammessa deve essere compresa nell'intervallo 0.7 - 3 bar (assoluti).

Per valori superiori (fino a 30 bar) è necessario ricorrere alle versioni dotate di guarnizione K.

Condotti di aspirazione e mandata

Particolare attenzione dovrà essere posta nel dimensionamento delle tubazioni (rigide o flessibili) evitando lunghezze sproporzionate, improvvise variazioni di sezione, piccoli raggi di curvatura scegliendo comunque sezioni dei condotti che garantiscano una velocità dell'olio compresa fra 0.6 e 12 m/s.

Filtrazione

Per eliminare eventuali impurità presenti nell'olio e garantire una durata superiore alla pompa, è necessario introdurre nell'impianto un'efficace filtrazione verificandone periodicamente la funzionalità.

I livelli di filtrazione raccomandati sono i seguenti:

- 26/23 ISO DIS 4406 fino a 150 bar
- 23/20 ISO DIS 4406 per pressioni superiori.

Note per l'installazione

- Assicurarsi che il giunto utilizzato per il trascinamento compensi eventuali disallineamenti assiali che potrebbero pregiudicare l'integrità della pompa.
- Nel caso in cui siano presenti dei carichi radiali e/o assiali sull'albero della pompa (come ad esempio quando il trascinamento viene effettuato tramite pulegge e cinghie) è necessario optare per le versioni disponibili con supporto rinforzato.
- Il giunto di collegamento fra alberi scanalati dovrà essere opportunamente lubrificato, libero di muoversi assialmente e di lunghezza adatta a coprire tutta l'estensione dei due alberi (motore e pompa).
- Se la pompa è sottoposta a verniciatura, proteggere l'anello di tenuta verificando anche che la zona di contatto fra anello di tenuta e albero sia priva di polvere o di sedimenti abrasivi.

Senso di rotazione

Il senso di rotazione viene definito S (sinistro) e D (destro) osservando l'albero frontalmente.

Le pompe sono monodirezionali per cui in fase di ordine è necessario precisare il senso di rotazione desiderato, oppure intervenire modificando l'assetto interno come illustrato di seguito (inversione del senso di rotazione).

Nelle pagine con le caratteristiche delle pompe sono evidenziate le direzioni dei flussi di mandata e aspirazione per ogni versione e per senso di rotazione.

TECHNICAL INFORMATION

Hydraulic fluids

It is advisable to use hydraulic oils of mineral origin with anti-foaming, anti-oxidant and anti-corrosion characteristics and a high viscosity index;

- Recommended viscosity 15 ÷ 92 mm² /s (cSt)
- Start-up viscosity limit 3000 mm² /s (cSt)

During normal operation, the temperature of the oil must be between 20°C and 65°C and limit values between -15°C and 80°C.

Suction pressure

The allowed working pressure supplied must be in the range 0.7 - 3 bar (absolute).

For higher values (up to 30 bar), versions with a K seal must be used.

Suction and delivery pipes

Particular attention must be given to the sizing of pipes (rigid or flexible), avoiding disproportionate lengths, sudden variations in cross section or small curvature radius, in any case selecting pipe cross-sections that guarantee an oil speed between 0.6 and 12 m/s.

Filtration

In order to eliminate any impurities present in the oil and to guarantee a longer duration of the pump, the system must be equipped with effective filtration which must be periodically checked to ensure that it is operating correctly.

The following are the recommended filtration levels:

- 26/23 ISO DIS 4406 up to 150 bar
- 23/20 ISO DIS 4406 for higher pressures.

Installation notes

- Make sure that the coupling used for pulling compensates for any axial misalignments that could compromise the integrity of the pump.
- If there are radial and/or axial loads on the pump shaft (as is the case, for example, when pulling is carried out using pulleys and belts) the versions available with a support must be chosen.
- The connection coupling between spline shafts must be appropriately lubricated, free to move axially and of an adequate length to cover the entire extension of the two shafts (motor and pump).
- If the pump is painted, protect the shaft seal and also make sure that the contact zone between the shaft seal and the shaft is free of dust or abrasive sediments.

Rotation direction

The rotation direction is defined as S (left/anticlockwise) or D (right/clockwise) by observing the shaft from the front.

The pumps are monodirectional and therefore when ordering the required rotation direction must be specified; alternatively it is possible to modify the internal set-up as illustrated below (inversion of the rotation direction).

The pages regarding the pump characteristics highlight the directions of the delivery and suction flows for each version and rotation direction.

INFORMAZIONI TECNICHE

TECHNICAL INFORMATION

Inversione del senso di rotazione

Wise rotation reversal

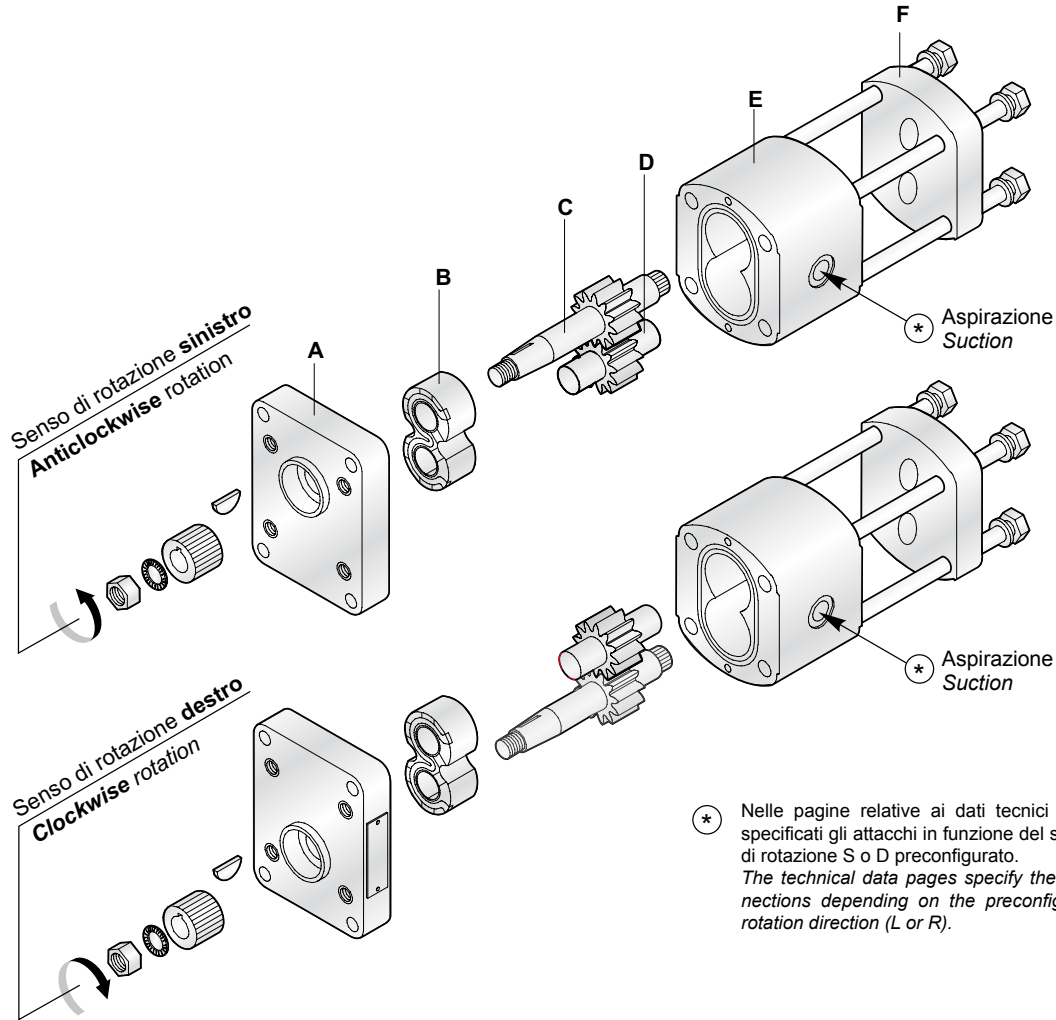


Fig. 1

Fig. 2

* Nelle pagine relative ai dati tecnici sono specificati gli attacchi in funzione del senso di rotazione S o D preconfigurato.
The technical data pages specify the connections depending on the preconfigured rotation direction (L or R).

Il senso di rotazione delle pompe è evidenziato da una freccia sulla targhetta.

Pumps wise rotation is indicated by an arrow on the label.

L'inversione del senso di rotazione di una pompa si esegue nel seguente modo:

How to invert the pump wise rotation:

- Smontare la pompa come da figura 1.
- Sfilare gli ingranaggi C e D e rimontarli secondo la figura 2.
- Rimontare la boccia B nella stessa posizione della figura 1.
- Capovolgere la flangia A e rimontare la pompa serrando le viti con una chiave dinamometrica.
- Per le pompe GR3 - GR4, smontare solo la flangia anteriore.

- Disassemble pump as shown in figure 1.
- Pull off gears C - D and reassemble according to figure 2.
- Reassemble bushing B as before.
- Reverse the flange A and reassemble the pump tightening the screws by dynamometric wrench.
- For the pumps GR3 - GR4, disassemble only front flange..

Tipo di pompa Type of pump	GR1	GR2	GR3	GR4
Numero di viti Numbers of screws	4	4	16	16
Tipo di filetto Type of threads	M8	M10	M10	M14
Coppia di serraggio viti Tightening torque of screws	30 Nm (266 in-lbs)	50 Nm (443 in-lbs)	60 Nm (531 in-lbs)	140 Nm (1239 in-lbs)
Tipo di giunto Type of coupling	1IS 12M	2IS 14M 2IS 15M	3IS 18M	4IS 23M
Coppia di serraggio dado giunto Tightening torque at nut coupling	9 ÷ 10 Nm (80 ÷ 89 in-lbs)	22 ÷ 25 Nm (195 ÷ 221 in-lbs) 32 ÷ 35 Nm (283 ÷ 310 in-lbs)	50 ÷ 55 Nm (443 ÷ 487 in-lbs)	100 ÷ 120 Nm (885 ÷ 1062 in-lbs)

PRESTAZIONI

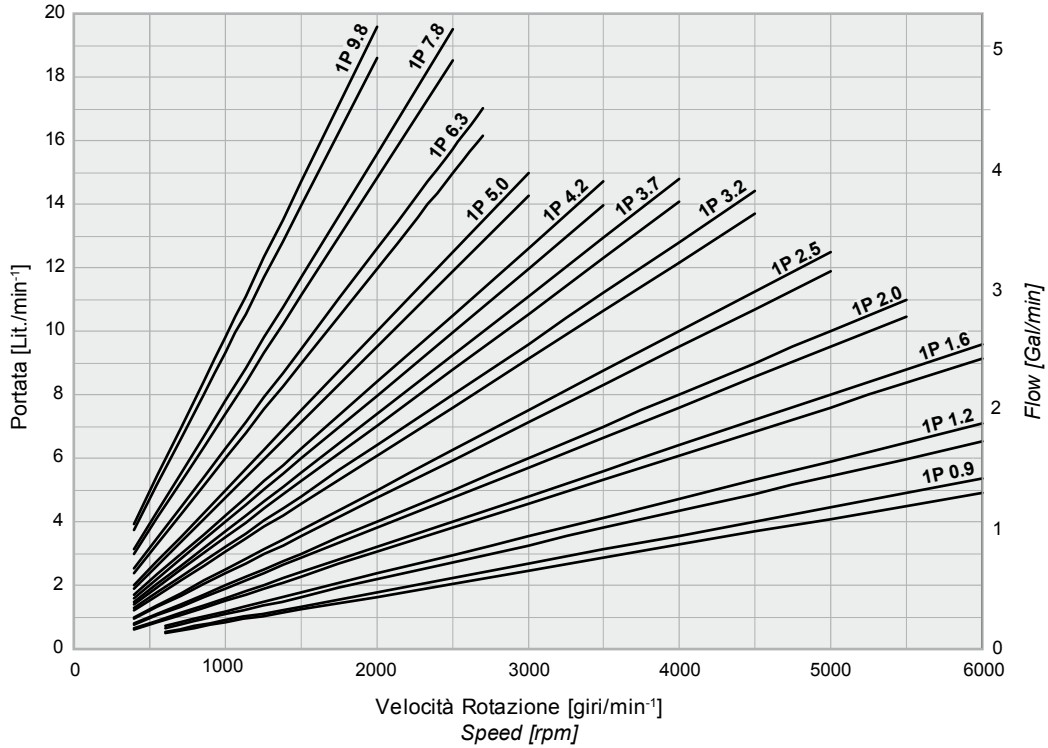
PERFORMANCES

POMPE GRUPPO
PUMPS GROUP

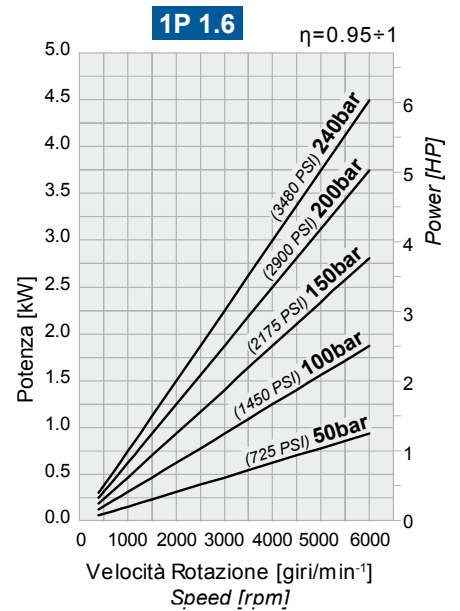
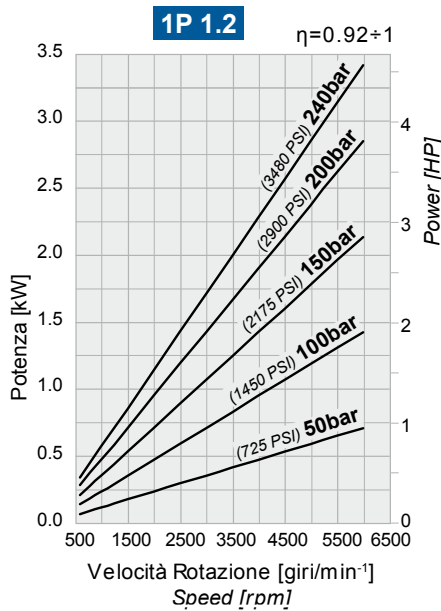
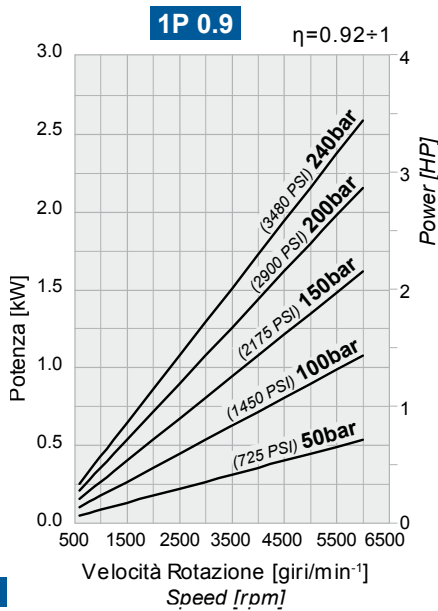
1

PRESTAZIONI

Diagramma Portata - Velocità di rotazione
Flow - Speed chart



Pompe Gruppo 1 Diagrammi Potenze - n°/giri / Pumps group 1 Diagrams Power- n°Rev



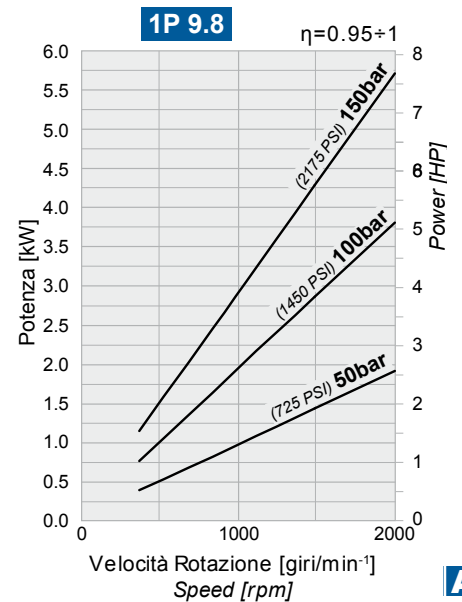
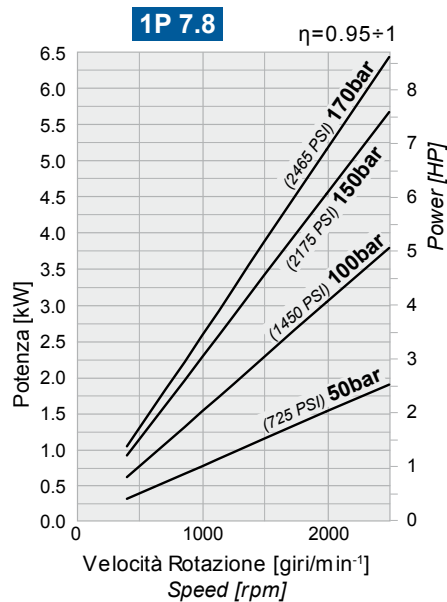
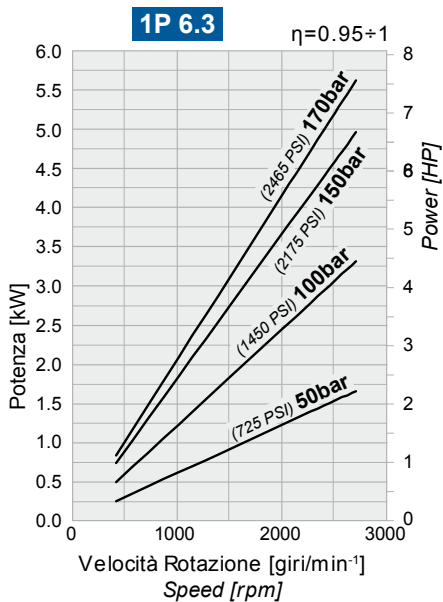
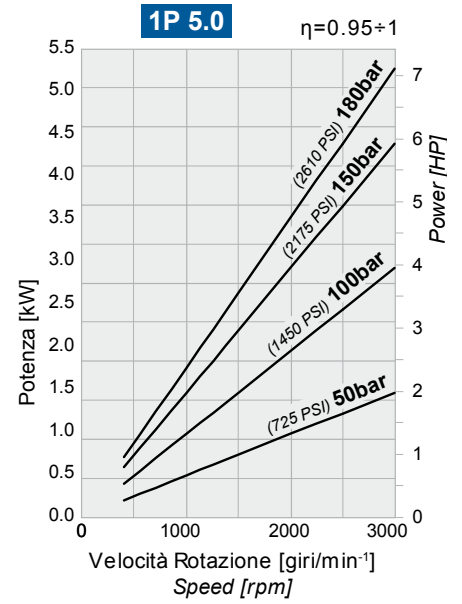
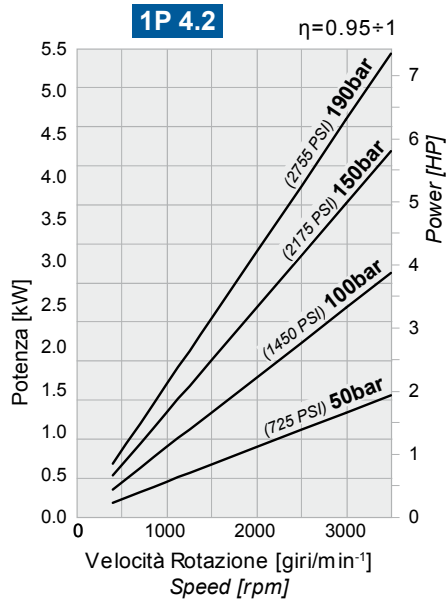
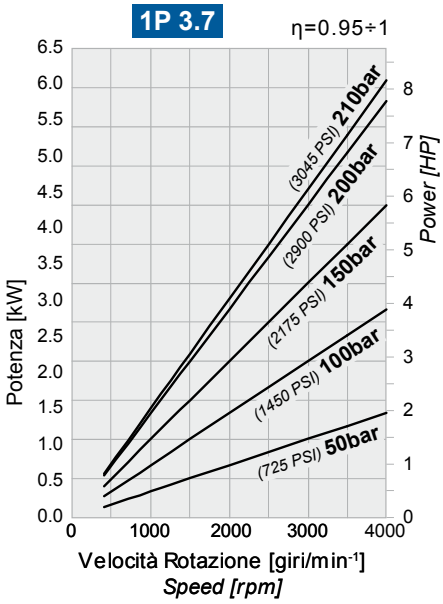
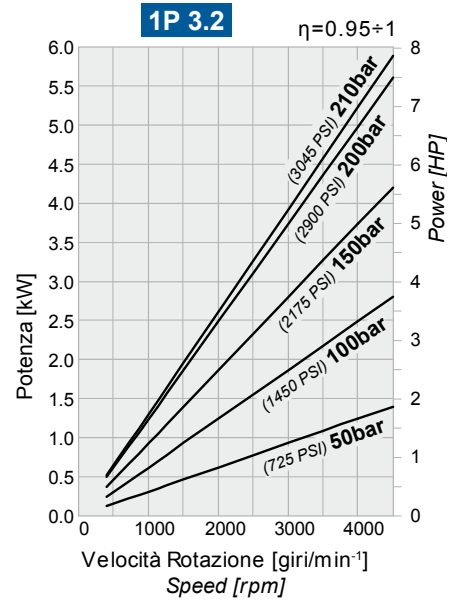
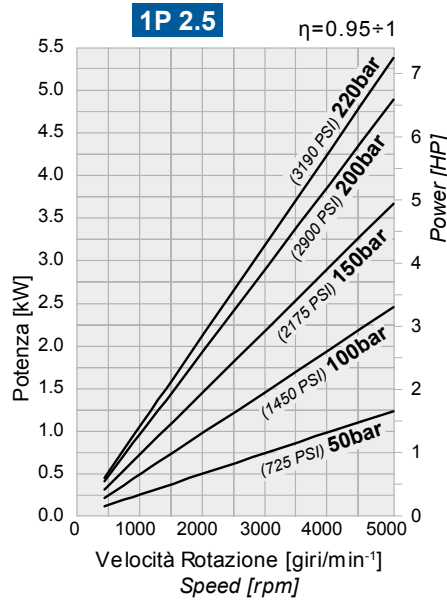
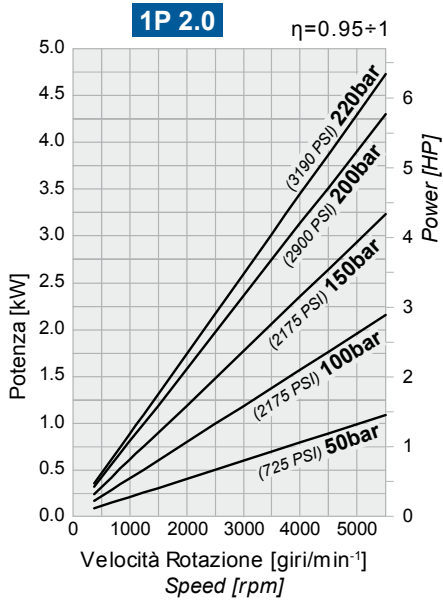
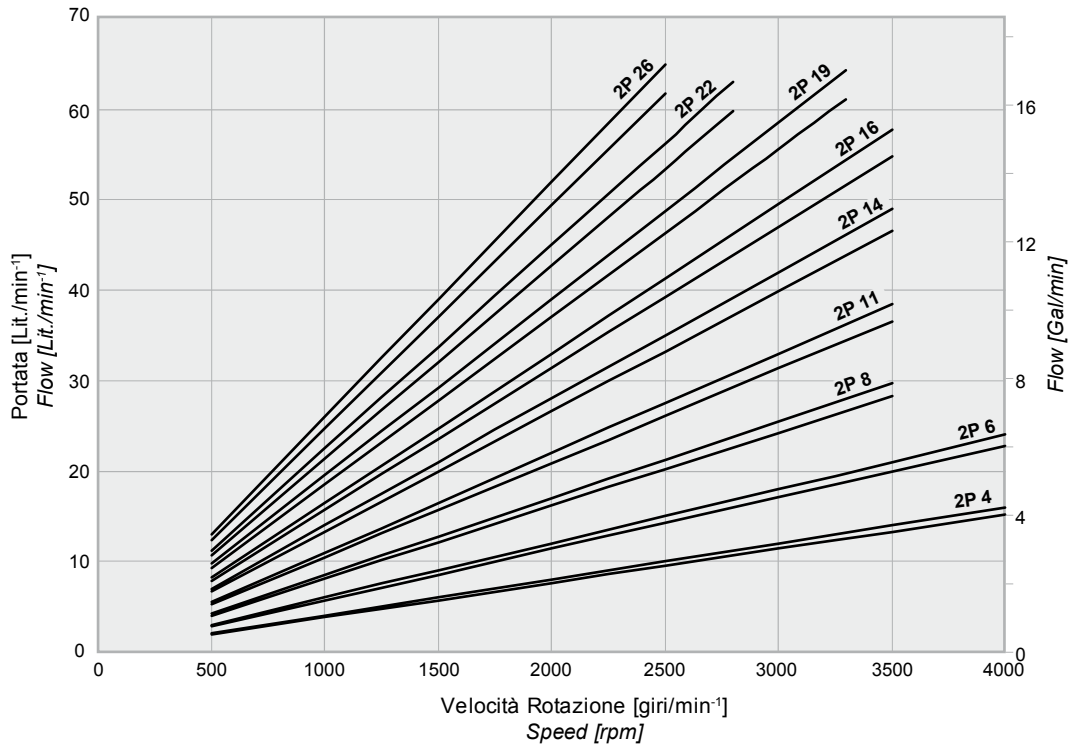
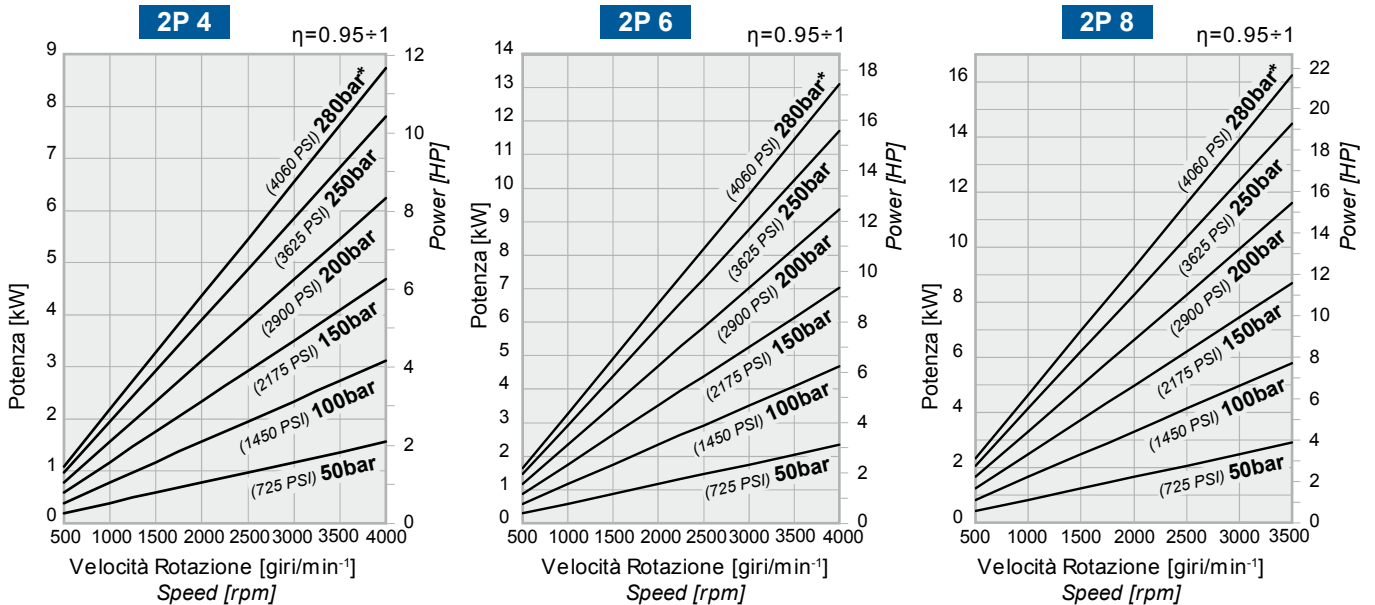
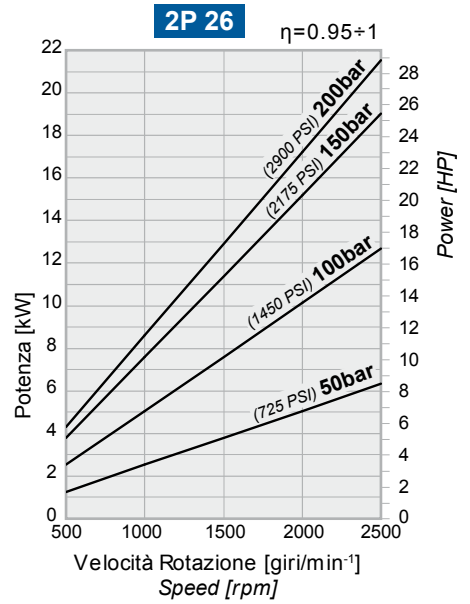
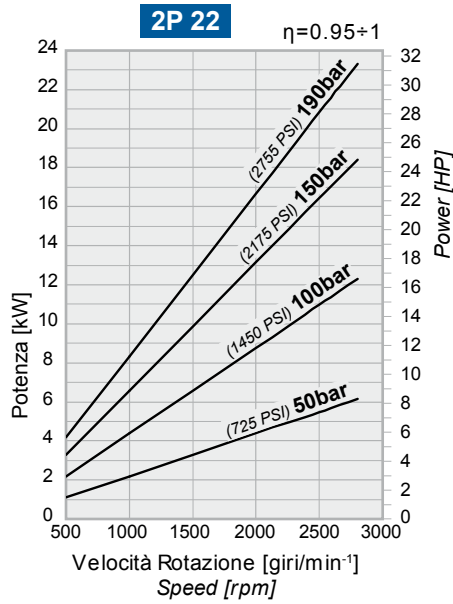
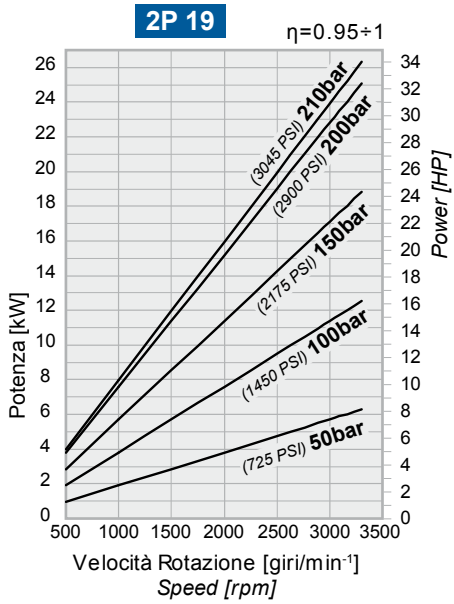
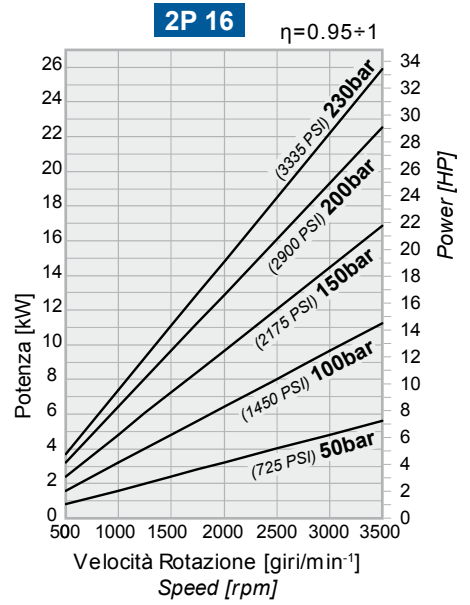
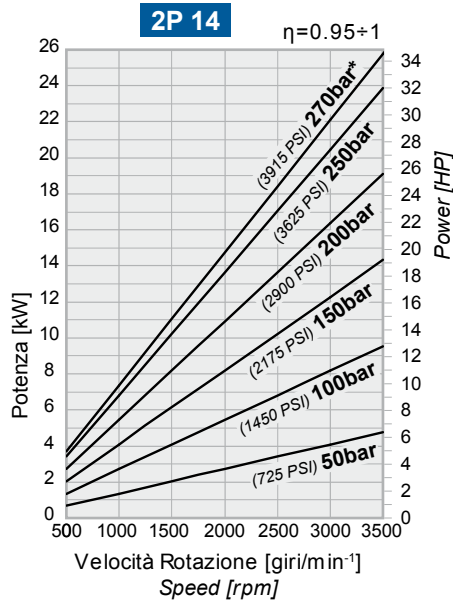
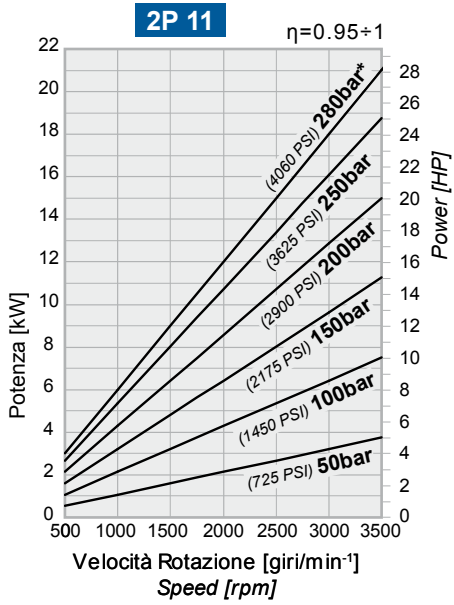


Diagramma Portata - Velocità di rotazione
Flow - Speed chart



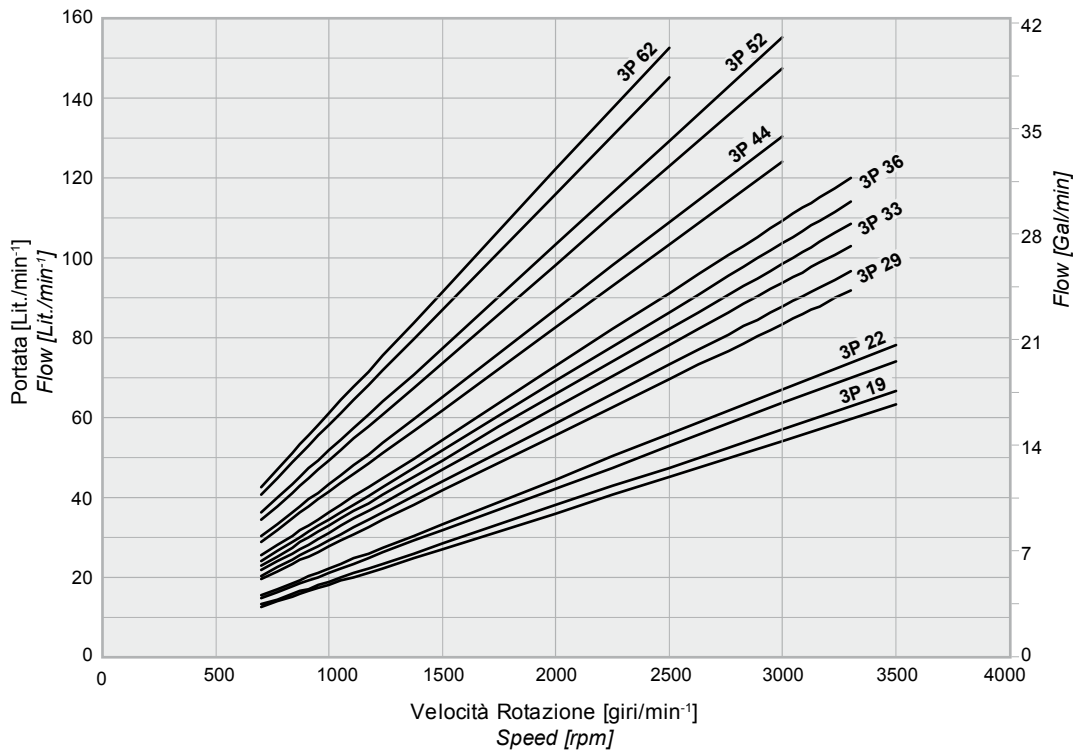
Pompe Gruppo 2 Diagrammi Potenze - n°/giri / Pumps group 1 Diagrams Power- n°Rev



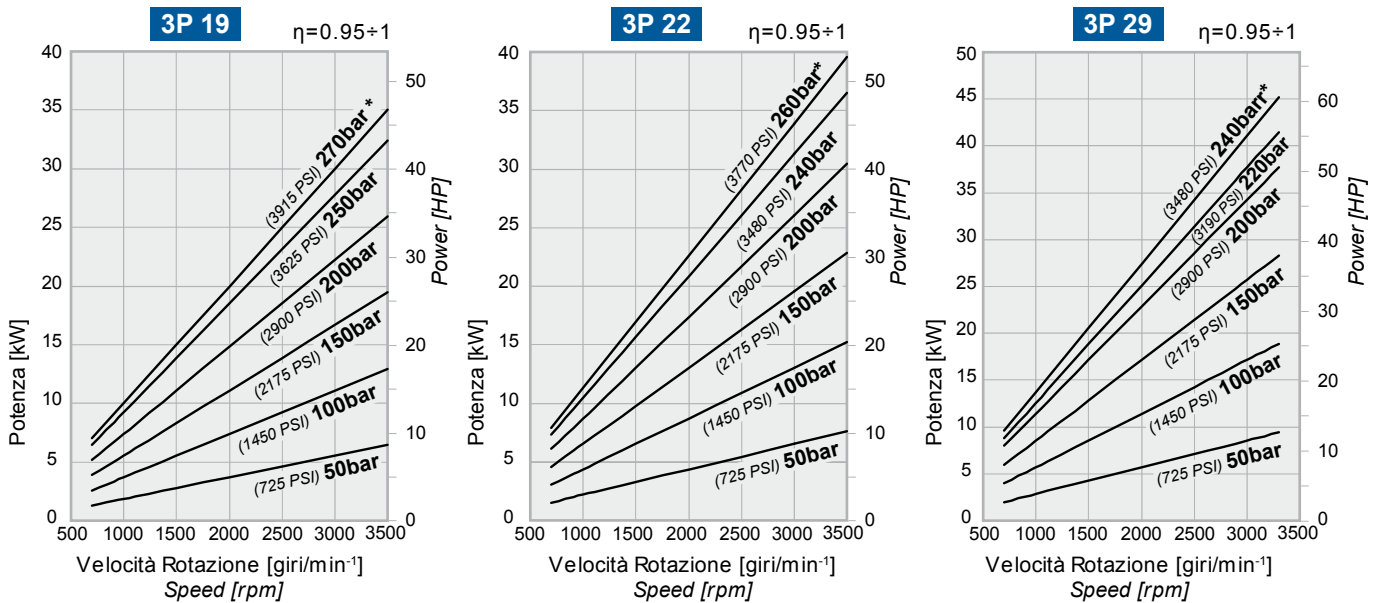


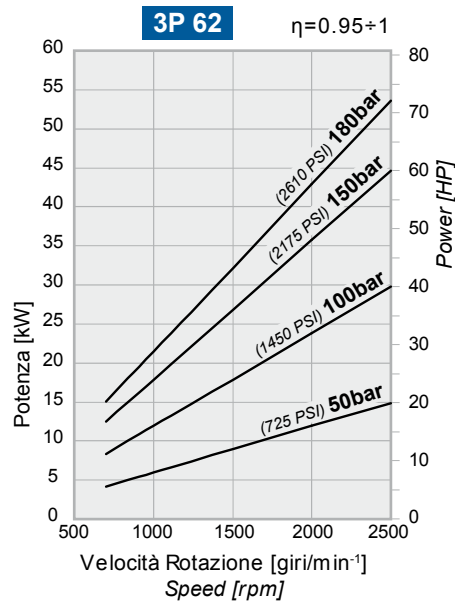
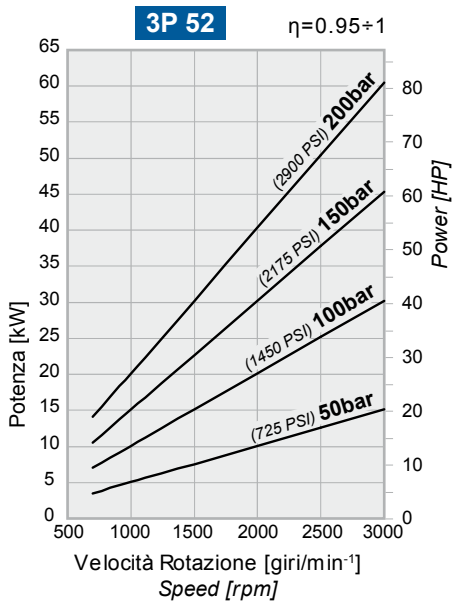
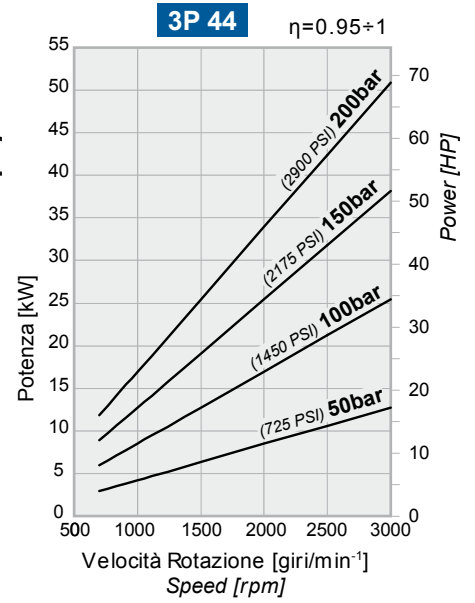
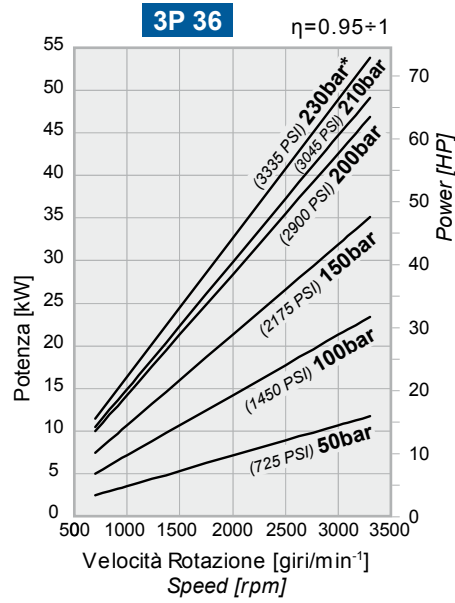
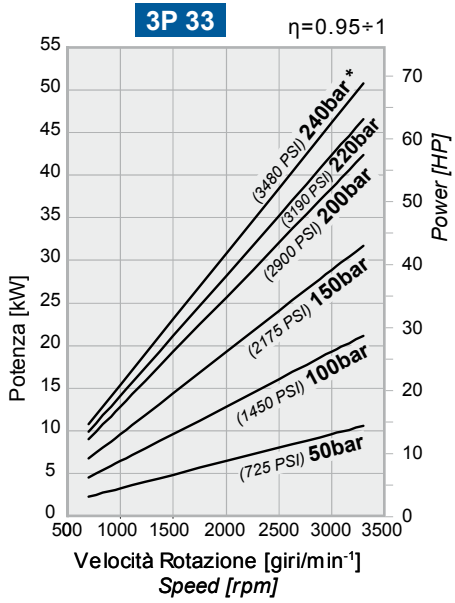
* Solo pompe in ghisa / Only for cast iron pumps

Diagramma Portata - Velocità di rotazione
Flow - Speed chart



Pompe Gruppo 3 Diagrammi Potenze - n°/giri / Pumps group 1 Diagrams Power- n°Rev





* Solo pompe in ghisa / Only for cast iron pumps

**POMPE GRUPPO
PUMPS GROUP**

1

Standard

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1	P2	P3					A	B		
		[bar] (PSI)	[bar] (PSI)	[bar] (PSI)					[mm] (inch)	[mm] (inch)		
1SP A0.9	0.89 (0.05)	240 (3480)	260 (3770)	290 (4205)	6000	5.3 (1.40)	600	0.49 (0.13)	34.80 (1.370)	73.6 (2.898)	0.91 (2.01)	92*
1SP A1.2	1.18 (0.07)	240 (3480)	260 (3770)	290 (4205)	6000	7.1 (1.88)	600	0.65 (0.17)	35.35 (1.392)	74.7 (2.941)	0.93 (2.05)	
1SP A1.6	1.6 (0.10)	240 (3480)	260 (3770)	290 (4205)	6000	9.6 (2.54)	400	0.61 (0.16)	36.20 (1.425)	76.4 (3.008)	0.95 (2.09)	
1SP A2.0	2.0 (0.12)	220 (3190)	250 (3625)	270 (3915)	5500	11 (2.91)	400	0.76 (0.20)	36.95 (1.455)	77.9 (3.067)	0.97 (2.14)	95*
1SP A2.5	2.5 (0.15)	220 (3190)	250 (3625)	270 (3915)	5000	12.5 (3.30)	400	0.95 (0.25)	37.95 (1.494)	79.9 (3.146)	1.00 (2.21)	
1SP A3.2	3.2 (0.20)	210 (3045)	240 (3480)	260 (3770)	4500	14.4 (3.80)	400	1.21 (0.32)	39.30 (1.547)	82.6 (3.252)	1.04 (2.29)	
1SP A3.7	3.7 (0.23)	210 (3045)	240 (3480)	260 (3770)	4000	14.8 (3.91)	400	1.40 (0.37)	40.30 (1.587)	84.6 (3.331)	1.07 (2.36)	
1SP A4.2	4.2 (0.26)	190 (2755)	210 (3045)	230 (3335)	3500	14.7 (3.88)	400	1.60 (0.42)	41.25 (1.624)	86.5 (3.406)	1.10 (2.43)	
1SP A5.0	5.0 (0.31)	180 (2610)	210 (3045)	230 (3335)	3000	15 (3.96)	400	1.90 (0.50)	42.80 (1.685)	89.6 (3.528)	1.14 (2.51)	
1SP A6.3	6.3 (0.38)	170 (2465)	190 (2755)	210 (3045)	2700	17 (4.49)	400	2.39 (0.63)	45.35 (1.785)	94.7 (3.728)	1.22 (2.69)	
1SP A7.8	7.76 (0.47)	170 (2465)	190 (2755)	210 (3045)	2500	19.4 (5.13)	400	2.95 (0.78)	48.20 (1.898)	100.4 (3.953)	1.30 (2.87)	
1SP A9.8	9.78 (0.60)	150 (2175)	170 (2465)	190 (2755)	2000	19.6 (5.18)	400	3.71 (0.98)	52.15 (2.053)	108.3 (4.264)	1.41 (3.11)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

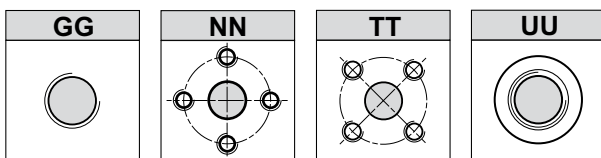
Esempio di ordinazione in codice / Example of ordering code

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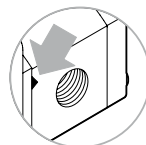
1SP	Tipo pompa / Pump type	vedi tabella / see table
A	Materiale flangia e coperchio / Flange and cover material	A = Alluminio / Aluminium
2.0	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
—⁽¹⁾	Flangia standard / Standard flange	
10	Tipo albero / Shaft type	10 - 11 - 13 - 14 - 15 - 27
GG	Tipo connessioni / Connections type	GG - NN - TT - UU - NG - TG - UG
0	Posizione connessioni / Connections positions	0 - 1 - 3 - 4
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-27) Pressure relief valve (page A-27)

⁽¹⁾ Non è necessario indicare la flangia STANDARD / It is not necessary indicate STANDARD flange

Conn Connessioni / Connections

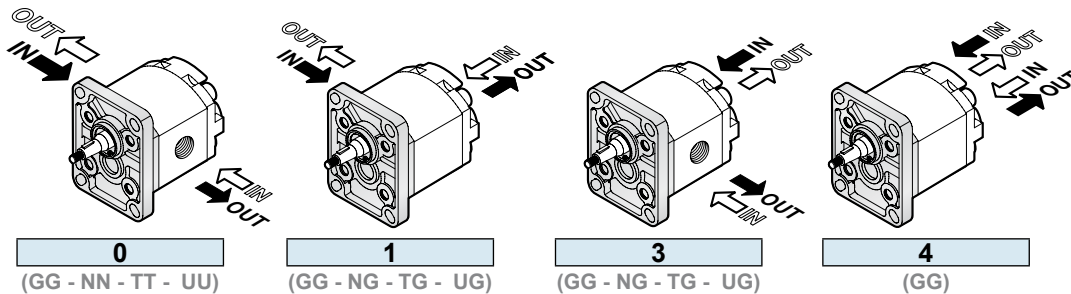


A-26



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Posizione delle connessioni / Connection positions

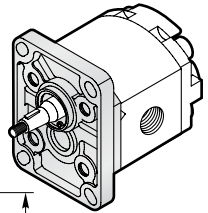
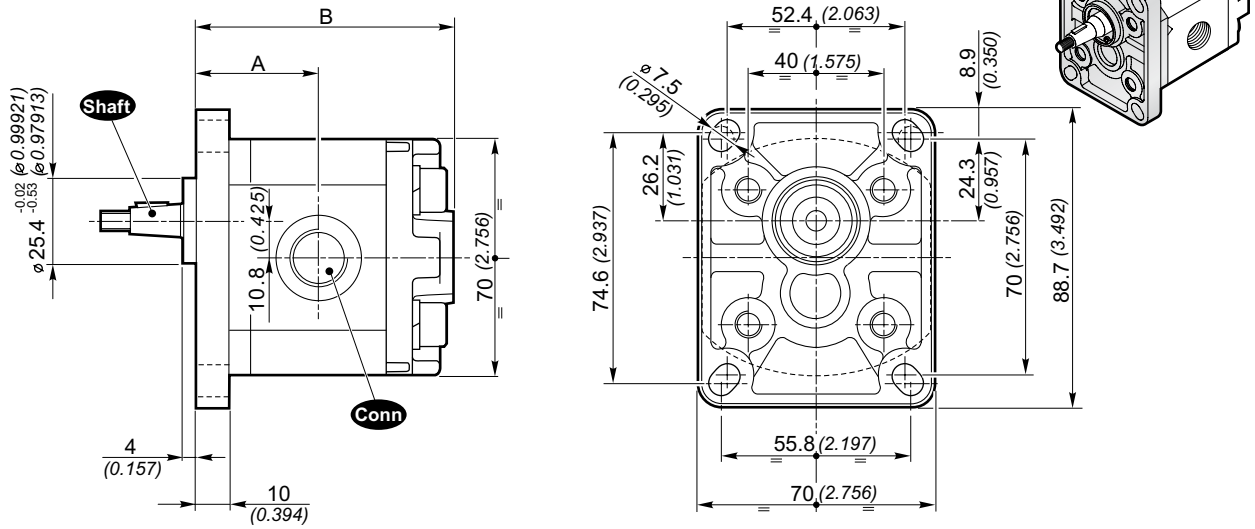


Standard

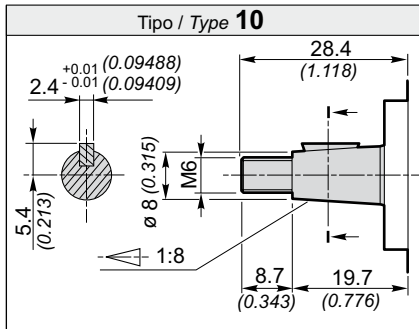
**POMPE GRUPPO
PUMPS GROUP**

1

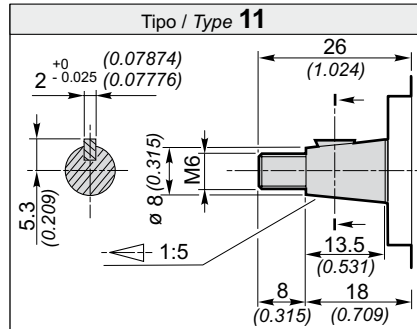
Dimensioni / Dimensions mm (inch)



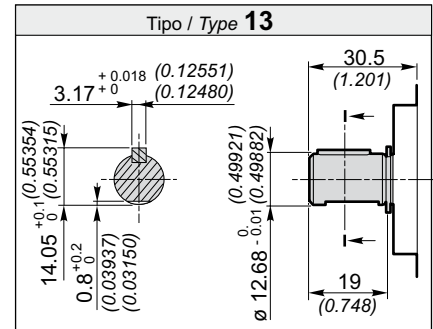
Shaft Alberi disponibili / Available shafts



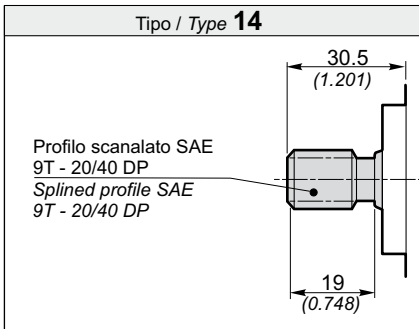
Coppia 18 Nm / Torque 13.3 ft-lbs



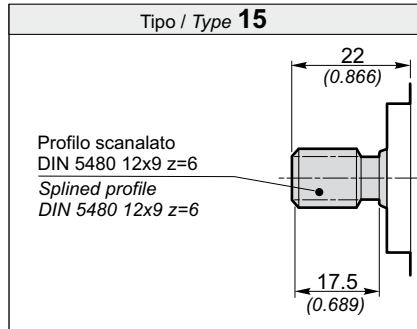
Coppia 18 Nm / Torque 13.3 ft-lbs



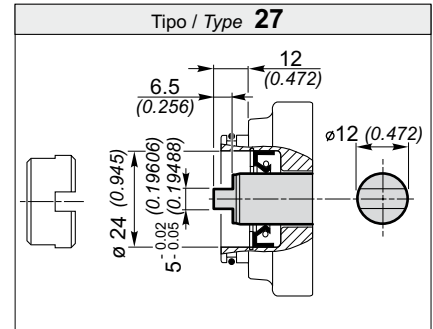
Coppia 30 Nm / Torque 22.1 ft-lbs



Coppia 30 Nm / Torque 22.1 ft-lbs



Coppia 30 Nm / Torque 22.1 ft-lbs



Coppia 12 Nm / Torque 8.9 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

1

SAE AA

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1	P2	P3					A	B		
		[bar] (PSI)	[bar] (PSI)	[bar] (PSI)					[mm] (inch)	[mm] (inch)		
1SP A0.9	0.89 (0.05)	240 (3480)	260 (3770)	290 (4205)	6000	5.3 (1.40)	600	0.49 (0.13)	38.3 (1.508)	77.1 (3.035)	0.91 (2.01)	92*
1SP A1.2	1.18 (0.07)	240 (3480)	260 (3770)	290 (4205)	6000	7.1 (1.88)	600	0.65 (0.17)	38.85 (1.530)	78.2 (3.079)	0.93 (2.05)	
1SP A1.6	1.6 (0.10)	240 (3480)	260 (3770)	290 (4205)	6000	9.6 (2.54)	400	0.61 (0.16)	39.7 (1.563)	79.9 (3.146)	0.95 (2.09)	
1SP A2.0	2.0 (0.12)	220 (3190)	250 (3625)	270 (3915)	5500	11 (2.91)	400	0.76 (0.20)	40.45 (1.593)	81.4 (3.205)	0.97 (2.14)	95*
1SP A2.5	2.5 (0.15)	220 (3190)	250 (3625)	270 (3915)	5000	12.5 (3.30)	400	0.95 (0.25)	41.45 (1.632)	83.4 (3.283)	1.00 (2.21)	
1SP A3.2	3.2 (0.20)	210 (3045)	240 (3480)	260 (3770)	4500	14.4 (3.80)	400	1.21 (0.32)	42.8 (1.685)	86.1 (3.390)	1.04 (2.29)	
1SP A3.7	3.7 (0.23)	210 (3045)	240 (3480)	260 (3770)	4000	14.8 (3.91)	400	1.40 (0.37)	43.8 (1.724)	88.1 (3.469)	1.07 (2.369)	
1SP A4.2	4.2 (0.26)	190 (2755)	210 (3045)	230 (3335)	3500	14.7 (3.88)	400	1.60 (0.42)	44.75 (1.762)	90 (3.543)	1.10 (2.43)	
1SP A5.0	5.0 (0.31)	180 (2610)	210 (3045)	230 (3335)	3000	15 (3.96)	400	1.90 (0.50)	46.3 (1.823)	93.1 (3.665)	1.14 (2.51)	
1SP A6.3	6.3 (0.38)	170 (2465)	190 (2755)	210 (3045)	2700	17 (4.49)	400	2.39 (0.63)	48.85 (1.923)	98.2 (3.866)	1.22 (2.69)	
1SP A7.8	7.76 (0.47)	170 (2465)	190 (2755)	210 (3045)	2500	19.4 (5.13)	400	2.95 (0.78)	51.7 (2.035)	103.9 (4.091)	1.30 (2.87)	
1SP A9.8	9.78 (0.60)	150 (2175)	170 (2465)	190 (2755)	2000	19.6 (5.18)	400	3.71 (0.98)	55.65 (2.191)	111.8 (4.402)	1.41 (3.11)	

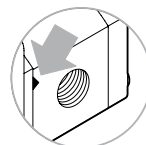
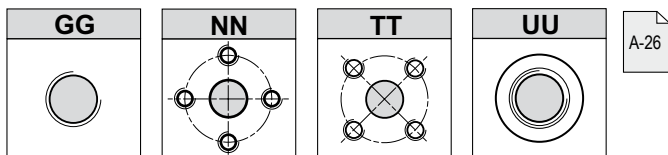
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

1SP	A	2.0	D	SAE AA	(H)	10	GG	0	(VT)
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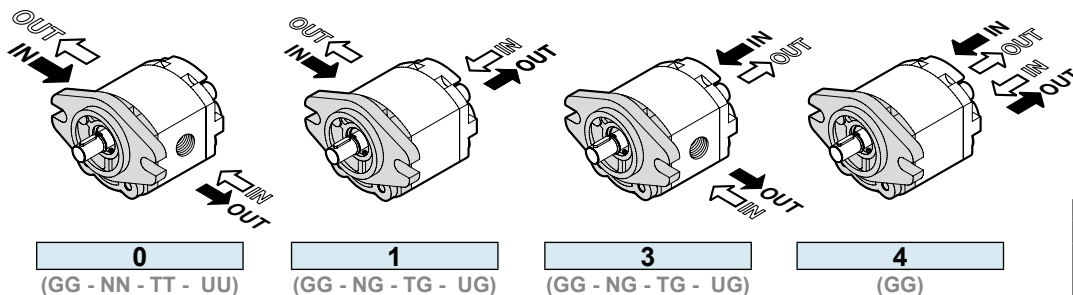
1SP	Tipo pompa / Pump type	vedi tabella / see table
A	Materiale flangia e coperchio / Flange and cover material	A = Alluminio / Aluminium
2.0	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAE AA	Tipo flangia / Flange type	SAE AA
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / (optional))
—		
10	Tipo albero / Shaft type	10 - 11 - 13 - 14 - 15 - 27
GG	Tipo connessioni / Connections type	GG - NN - TT - UU - NG - TG - UG
0	Posizione connessioni / Connections positions	0 - 1 - 3 - 4
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-27) Pressure relief valve (page A-27)

Conn Connessioni / Connections



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

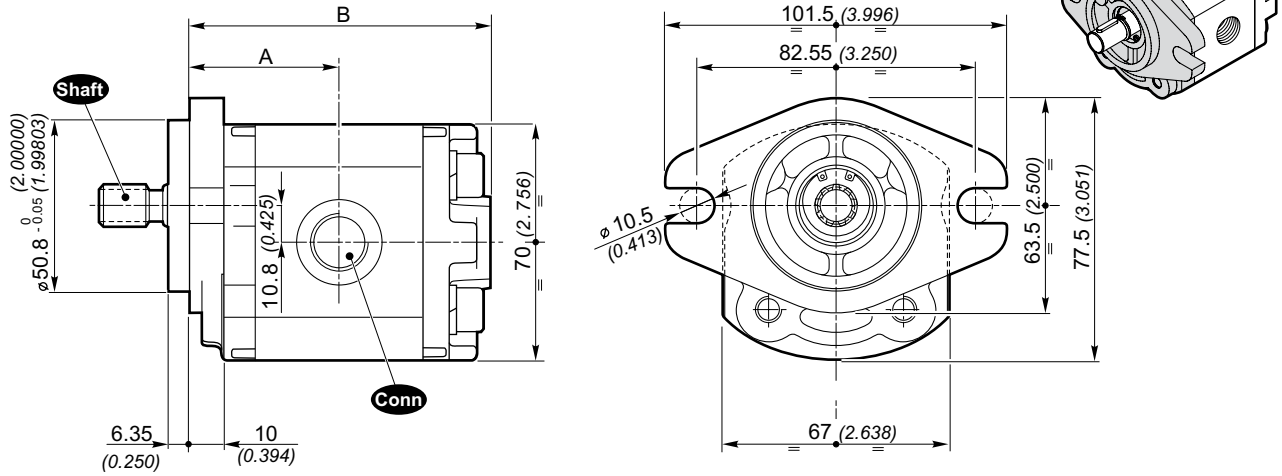
Posizione delle connessioni / Connection positions



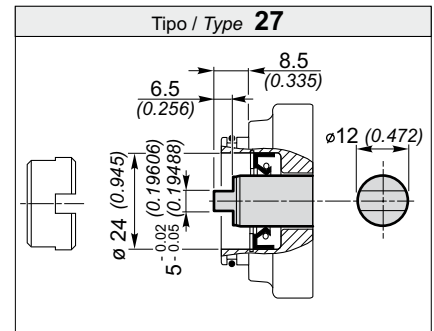
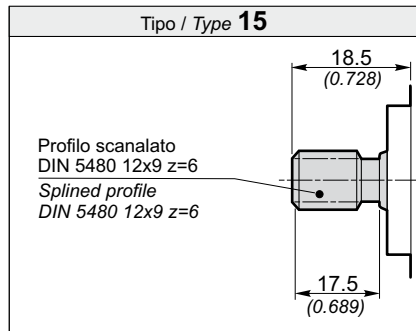
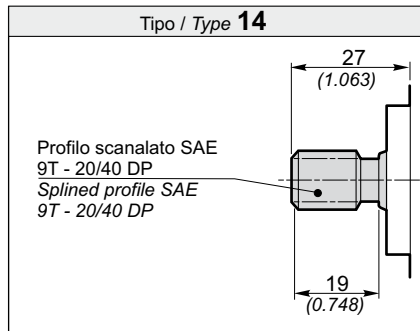
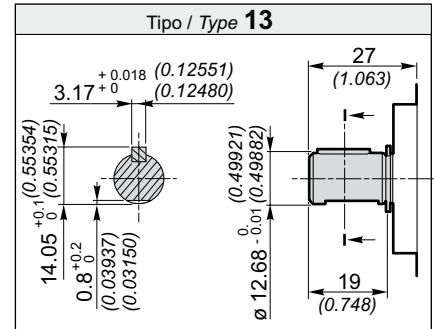
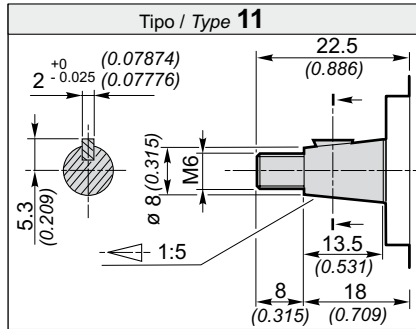
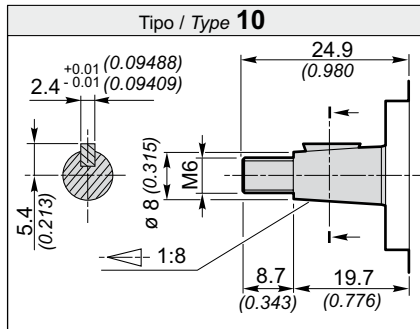
Rotazione / Rotation	
D	S

SAE AA **POMPE GRUPPO**
PUMPS GROUP **1**

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



**POMPE GRUPPO
PUMPS GROUP**

1

MC 32

**Minicentralina
Power-pack**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)	Dimensioni Dimensions			Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)	L ① [mm] (inch)		
1SP A0.9	0.89 (0.05)	210 (3045)	240 (3480)	260 (3770)	6000	5.3 (1.40)	600	0.49 (0.13)	73.1 (2.878)	61.6 (2.425)	80 (3.150)	0.91 (2.01)	92*
1SP A1.2	1.18 (0.07)	210 (3045)	240 (3480)	260 (3770)	6000	7.1 (1.88)	600	0.65 (0.17)	74.2 (2.921)	62.7 (2.469)	80 (3.150)	0.93 (2.05)	
1SP A1.6	1.6 (0.10)	210 (3045)	240 (3480)	260 (3770)	6000	9.6 (2.54)	400	0.61 (0.16)	75.9 (2.988)	64.4 (2.535)	80 (3.150)	0.95 (2.09)	
1SP A2.0	2.0 (0.12)	210 (3045)	240 (3480)	260 (3770)	5500	11 (2.91)	400	0.76 (0.20)	77.4 (3.047)	65.9 (2.594)	80 (3.150)	0.97 (2.14)	
1SP A2.5	2.5 (0.15)	210 (3045)	240 (3480)	260 (3770)	5000	12.5 (3.30)	400	0.95 (0.25)	79.4 (3.126)	67.9 (2.673)	85 (3.346)	1.00 (2.21)	
1SP A3.2	3.2 (0.20)	200 (2900)	230 (3335)	250 (3625)	4500	14.4 (3.80)	400	1.21 (0.32)	82.1 (3.232)	70.6 (2.780)	85 (3.346)	1.04 (2.29)	95*
1SP A3.7	3.7 (0.23)	200 (2900)	230 (3335)	250 (3625)	4000	14.8 (3.91)	400	1.40 (0.37)	84.1 (3.311)	72.6 (2.858)	90 (3.543)	1.07 (2.36)	
1SP A4.2	4.2 (0.26)	180 (2610)	210 (3045)	230 (3335)	3500	14.7 (3.88)	400	1.60 (0.42)	86 (3.386)	74.5 (2.933)	90 (3.543)	1.10 (2.43)	
1SP A5.0	5.0 (0.31)	180 (2610)	210 (3045)	230 (3335)	3000	15 (3.96)	400	1.90 (0.50)	89.1 (3.508)	77.6 (3.055)	95 (3.740)	1.14 (2.51)	
1SP A6.3	6.3 (0.38)	170 (2465)	190 (2755)	210 (3045)	2700	17 (4.49)	400	2.39 (0.63)	94.2 (3.709)	82.7 (3.256)	100 (3.937)	1.22 (2.69)	
1SP A7.8	7.76 (0.47)	170 (2465)	190 (2755)	210 (3045)	2500	19.4 (5.13)	400	2.95 (0.78)	99.9 (3.933)	88.4 (3.480)	105 (4.134)	1.30 (2.87)	
1SP A9.8	9.78 (0.60)	150 (2175)	170 (2465)	190 (2755)	2000	19.6 (5.18)	400	3.71 (0.98)	107.8 (4.244)	96.3 (3.791)	115 (4.528)	1.41 (3.11)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

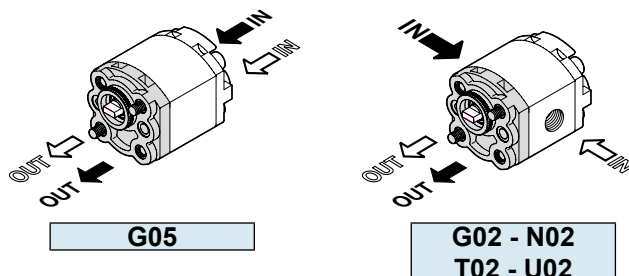
Esempio di ordinazione in codice / Example of ordering code

1SP	A	3.7	D	MC 32	-	27	G05	(VT)
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1SP	Tipo pompa / Pump type	vedi tabella / see table
A	Materiale flangia e coperchio / Flange and cover material	A = Alluminio / Aluminium
3.7	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
MC 32	Tipo flangia / Flange type	MC 32
-		
27	Tipo albero / Shaft type	27 - 10 - 11 - 15
G05	Tipo e posizione connessioni / Connections type and position	G05 - G02 - N02 - T02 - U02
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional)

Conn Tipo e posizione connessioni / Connections type and position

A-26



Rotazione / Rotation	
D	S

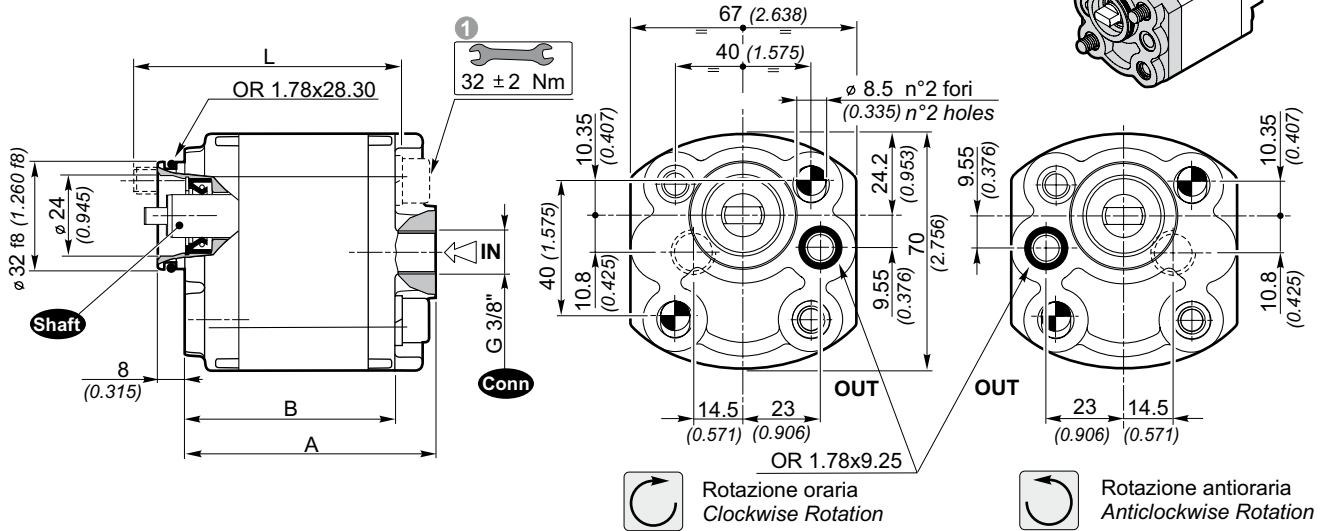
**Minicentralina
Power-pack**

MC 32

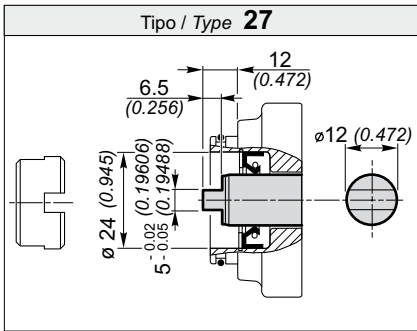
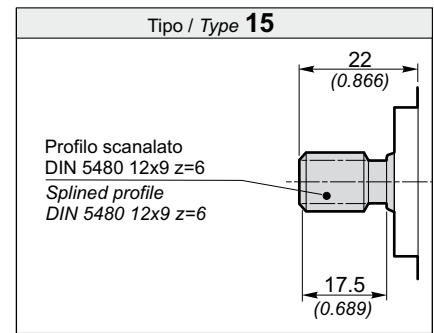
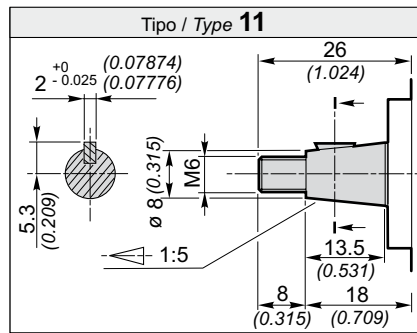
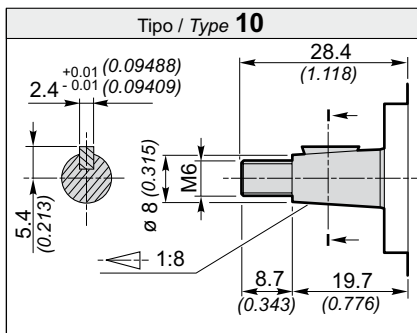
**POMPE GRUPPO
PUMPS GROUP**

1

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



1 Coppia di serraggio viti: 32 ± 2Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.
Il Kit di viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione del Kit di fissaggio:

0019W + Lunghezza L (vedi tabella)
+ Length L (see table)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 25 ± 2Nm.
Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 32 ± 2Nm.

1 Tightening torque of screws: 283 ± 18 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.
The screws kit for the pump assembling should be ordered separately.
Ordering code of assembling Kit:

The assembling of the pump should be effected by 2 screw studs type 10.9 - 12.9 pre-tighten at 221 ± 18 lb-in.
Fix the pump by self-locking nuts with tightening torque 283 ± 18 lb-in.

Il senso di rotazione della pompa deve essere richiesto in fase di ordinazione perchè questo tipo di intervento deve necessariamente essere eseguito in fabbrica.

The rotation direction shall be specified while issuing the order because this kind of operation must necessarily be carried out at our premises.

**POMPE GRUPPO
PUMPS GROUP**

1

E 32 BX

(Fissaggio da minicentralina)
(Power-pack fixing)

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [[g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions				Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	L ① [mm] (inch)		
1SP A0.9	0.89 (0.05)	210 (3045)	240 (3480)	260 (3770)	6000	5.3 (1.40)	600	0.49 (0.13)	73.6 (2.898)	34.8 (1.370)	61.6 (2.425)	80 (3.150)	0.91 (2.01)	92*
1SP A1.2	1.18 (0.07)	210 (3045)	240 (3480)	260 (3770)	6000	7.1 (1.88)	600	0.65 (0.17)	74.7 (2.941)	35.35 (1.392)	62.7 (2.469)	80 (3.150)	0.93 (2.05)	
1SP A1.6	1.6 (0.10)	210 (3045)	240 (3480)	260 (3770)	6000	9.6 (2.54)	400	0.61 (0.16)	76.4 (3.008)	36.2 (1.425)	64.4 (2.535)	80 (3.150)	0.95 (2.09)	95*
1SP A2.0	2.0 (0.12)	210 (3045)	240 (3480)	260 (3770)	5500	11 (2.91)	400	0.76 (0.20)	77.9 (3.067)	36.95 (1.455)	65.9 (2.594)	80 (3.150)	0.97 (2.14)	
1SP A2.5	2.5 (0.15)	210 (3045)	240 (3480)	260 (3770)	5000	12.5 (3.30)	400	0.95 (0.25)	79.9 (3.146)	37.95 (1.494)	67.9 (2.673)	85 (3.346)	1.00 (2.21)	
1SP A3.2	3.2 (0.20)	200 (2900)	230 (3335)	250 (3625)	4500	14.4 (3.80)	400	1.21 (0.32)	82.6 (3.252)	39.3 (1.547)	70.6 (2.780)	85 (3.346)	1.04 (2.29)	
1SP A3.7	3.7 (0.23)	200 (2900)	230 (3335)	250 (3625)	4000	14.8 (3.91)	400	1.40 (0.37)	84.6 (3.331)	40.3 (1.587)	72.6 (2.858)	90 (3.543)	1.07 (2.36)	
1SP A4.2	4.2 (0.26)	180 (2610)	210 (3045)	230 (3335)	3500	14.7 (3.88)	400	1.60 (0.42)	86.5 (3.406)	41.25 (1.624)	74.5 (2.933)	90 (3.543)	1.10 (2.43)	
1SP A5.0	5.0 (0.31)	180 (2610)	210 (3045)	230 (3335)	3000	15 (3.96)	400	1.90 (0.50)	89.6 (3.528)	42.8 (1.685)	77.6 (3.055)	95 (3.740)	1.14 (2.51)	
1SP A6.3	6.3 (0.38)	170 (2465)	190 (2755)	210 (3045)	2700	17 (4.49)	400	2.39 (0.63)	94.7 (3.728)	45.35 (1.785)	82.7 (3.256)	100 (3.937)	1.22 (2.69)	
1SP A7.8	7.76 (0.47)	170 (2465)	190 (2755)	210 (3045)	2500	19.4 (5.13)	400	2.95 (0.78)	100.4 (3.953)	48.2 (1.898)	88.4 (3.480)	105 (4.134)	1.30 (2.87)	
1SP A9.8	9.78 (0.60)	150 (2175)	170 (2465)	190 (2755)	2000	19.6 (5.18)	400	3.71 (0.98)	108.3 (4.264)	52.15 (2.053)	96.3 (3.791)	115 (4.528)	1.41 (3.11)	

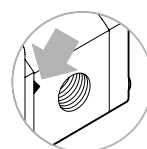
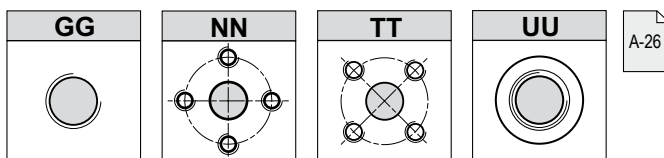
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

1SP	A	3.7	D	E32 BX	-	17	GG	0	(VT)
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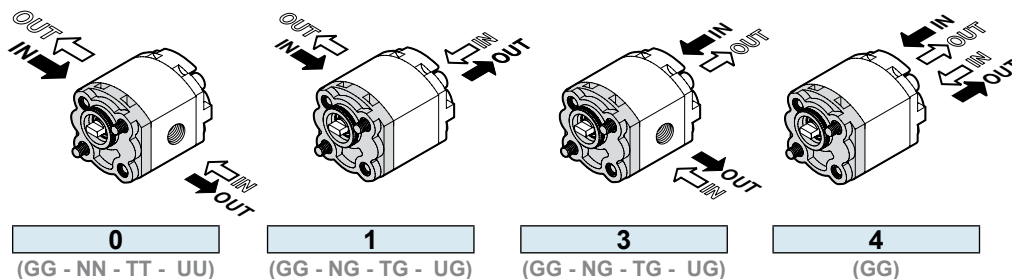
1SP	Tipo pompa / Pump type	vedi tabella / see table
A	Materiale flangia e coperchio / Flange and cover material	A = Alluminio / Aluminium
3.7	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
E 32 BX	Tipo flangia / Flange type	E 32 BX
-		
17	Tipo albero / Shaft type	17 - E32BC
GG	Tipo connessioni / Connections type	GG - NN - TT - UU - NG - TG - UG
0	Posizione connessioni / Connections positions	0 - 1 - 3 - 4
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-27) Pressure relief valve (page A-27)

Conn Connessioni / Connections



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Posizione delle connessioni / Connection positions



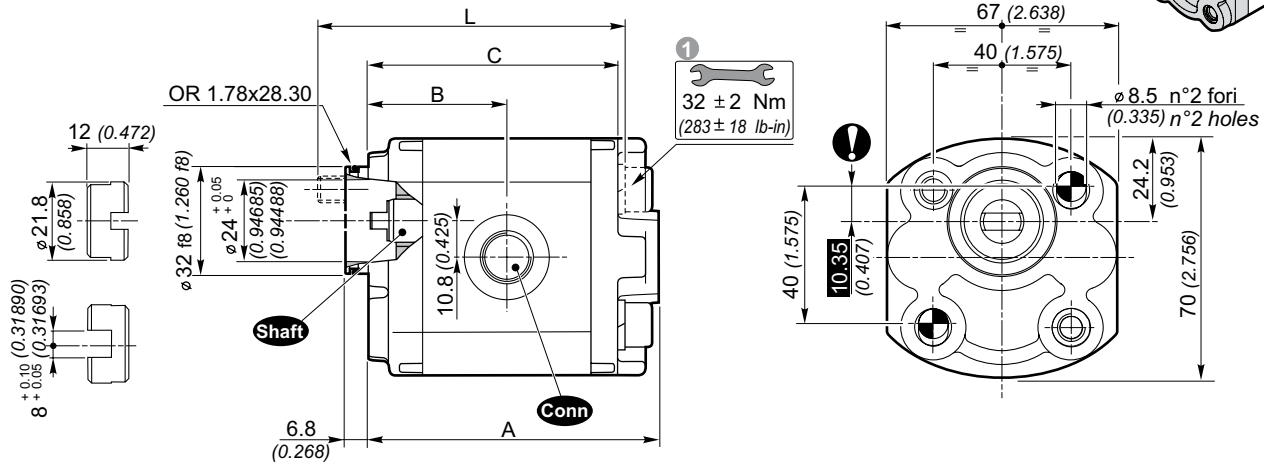
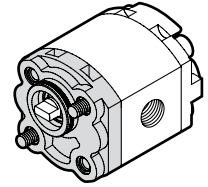
**(Fissaggio da minicentralina)
(Power-pack fixing)**

E 32 BX

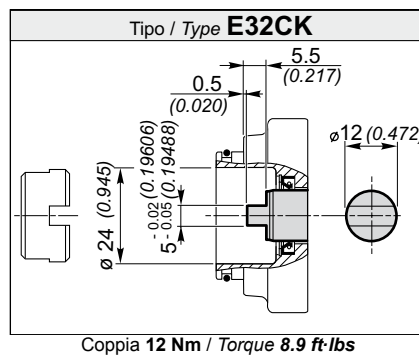
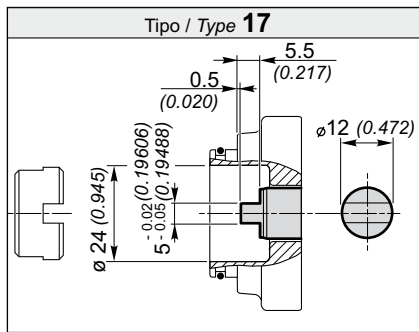
**POMPE GRUPPO
PUMPS GROUP**

1

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



① Coppia di serraggio viti: 32 ± 2Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.
Il Kit di viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione del Kit di fissaggio:

① Tightening torque of screws: 283 ± 18 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.
The screws kit for the pump assembling should be ordered separately.
Ordering code of assembling Kit:

0019W + Lunghezza L (vedi tabella)
+ Lenght L (see table)

Il fissaggio della pompa può essere affettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 25 ± 2Nm.
Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 32 ± 2Nm.

The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 221 ± 18 lb-in.
Fix the pump by self-locking nuts with tightening torque 283 ± 18 lb-in.

**POMPE GRUPPO
PUMPS GROUP**

1

E 32 CX

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions				Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1	P2	P3					A	B	C	L ①		
		[bar] (PSI)	[bar] (PSI)	[bar] (PSI)					[mm] (inch)	[mm] (inch)	[mm] (inch)	[mm] (inch)		
1SP A0.9	0.89 (0.05)	210 (3045)	240 (3480)	260 (3770)	6000	5.3 (1.40)	600	0.49 (0.13)	73.6 (2.898)	34.8 (1.370)	61.6 (2.425)	80 (3.150)	0.91 (2.01)	92*
1SP A1.2	1.18 (0.07)	210 (3045)	240 (3480)	260 (3770)	6000	7.1 (1.88)	600	0.65 (0.17)	74.7 (2.941)	35.35 (1.392)	62.7 (2.469)	80 (3.150)	0.93 (2.05)	
1SP A1.6	1.6 (0.10)	210 (3045)	240 (3480)	260 (3770)	6000	9.6 (2.54)	400	0.61 (0.16)	76.4 (3.008)	36.2 (1.425)	64.4 (2.535)	80 (3.150)	0.95 (2.09)	
1SP A2.0	2.0 (0.12)	210 (3045)	240 (3480)	260 (3770)	5500	11 (2.91)	400	0.76 (0.20)	77.9 (3.067)	36.95 (1.455)	65.9 (2.594)	80 (3.150)	0.97 (2.14)	95*
1SP A2.5	2.5 (0.15)	210 (3045)	240 (3480)	260 (3770)	5000	12.5 (3.30)	400	0.95 (0.25)	79.9 (3.146)	37.95 (1.494)	67.9 (2.673)	85 (3.346)	1.00 (2.21)	
1SP A3.2	3.2 (0.20)	200 (2900)	230 (3335)	250 (3625)	4500	14.4 (3.80)	400	1.21 (0.32)	82.6 (3.252)	39.3 (1.547)	70.6 (2.780)	85 (3.346)	1.04 (2.29)	
1SP A3.7	3.7 (0.23)	200 (2900)	230 (3335)	250 (3625)	4000	14.8 (3.91)	400	1.40 (0.37)	84.6 (3.331)	40.3 (1.587)	72.6 (2.858)	90 (3.543)	1.07 (2.36)	
1SP A4.2	4.2 (0.26)	180 (2610)	210 (3045)	230 (3335)	3500	14.7 (3.88)	400	1.60 (0.42)	86.5 (3.406)	41.25 (1.624)	74.5 (2.933)	90 (3.543)	1.10 (2.43)	
1SP A5.0	5.0 (0.31)	180 (2610)	210 (3045)	230 (3335)	3000	15 (3.96)	400	1.90 (0.50)	89.6 (3.528)	42.8 (1.685)	77.6 (3.055)	95 (3.740)	1.14 (2.51)	
1SP A6.3	6.3 (0.38)	170 (2465)	190 (2755)	210 (3045)	2700	17 (4.49)	400	2.39 (0.63)	94.7 (3.728)	45.35 (1.785)	82.7 (3.256)	100 (3.937)	1.22 (2.69)	
1SP A7.8	7.76 (0.47)	170 (2465)	190 (2755)	210 (3045)	2500	19.4 (5.13)	400	2.95 (0.78)	100.4 (3.953)	48.2 (1.898)	88.4 (3.480)	105 (4.134)	1.30 (2.87)	
1SP A9.8	9.78 (0.60)	150 (2175)	170 (2465)	190 (2755)	2000	19.6 (5.18)	400	3.71 (0.98)	108.3 (4.264)	52.15 (2.053)	96.3 (3.791)	115 (4.528)	1.41 (3.11)	

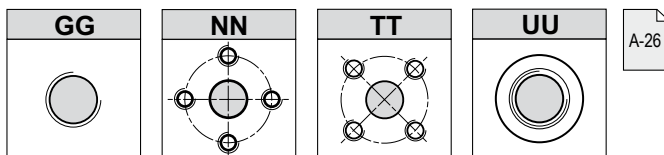
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

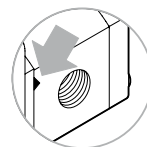
1SP	A	3.7	D	E32 CX	-	17	GG	0	(VT)
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1SP	Tipo pompa / Pump type	vedi tabella / see table
A	Materiale flangia e coperchio / Flange and cover material	A = Alluminio / Aluminium
3.7	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
E 32 CX	Tipo flangia / Flange type	E 32 CX
-		
17	Tipo albero / Shaft type	17 - E32CK
GG	Tipo connessioni / Connections type	GG - NN - TT - UU - NG - TG - UG
0	Posizione connessioni / Connections positions	0 - 1 - 3 - 4
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-27) Pressure relief valve (page A-27)

Conn Connessioni / Connections

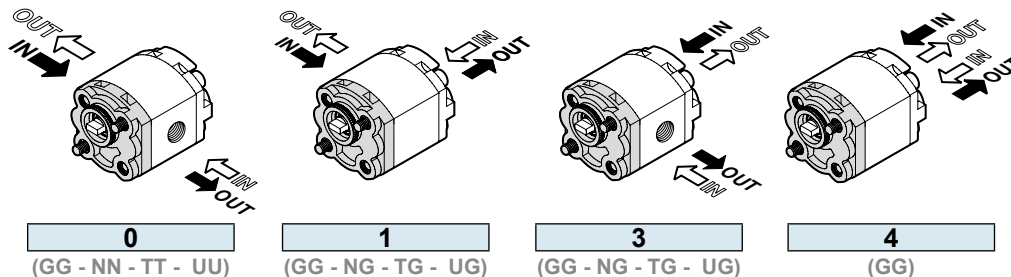


A-26



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Posizione delle connessioni / Connection positions



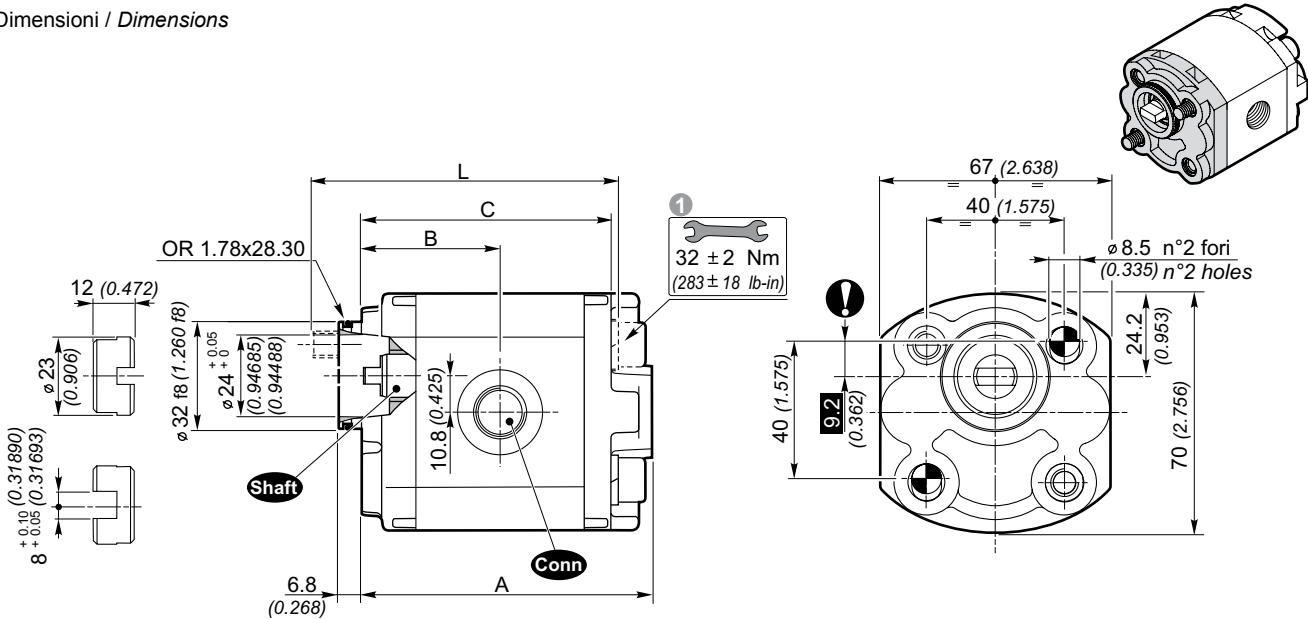
Rotazione / Rotation	
D	S

E 32 CX

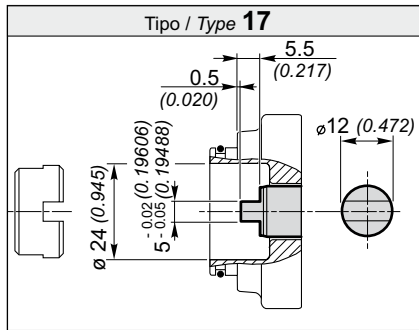
**POMPE GRUPPO
PUMPS GROUP**

1

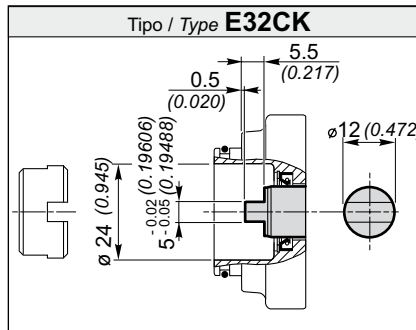
Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



Coppia 12 Nm / Torque 8.9 ft-lbs



Coppia 12 Nm / Torque 8.9 ft-lbs

① Coppia di serraggio viti: 32 ± 2Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.
Il Kit di viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione del Kit di fissaggio:

① Tightening torque of screws: 283 ± 18 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.
The screws kit for the pump assembling should be ordered separately.
Ordering code of assembling Kit:

0019W + Lunghezza L (vedi tabella)
+ Length L (see table)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 25 ± 2Nm.
Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 32 ± 2Nm.

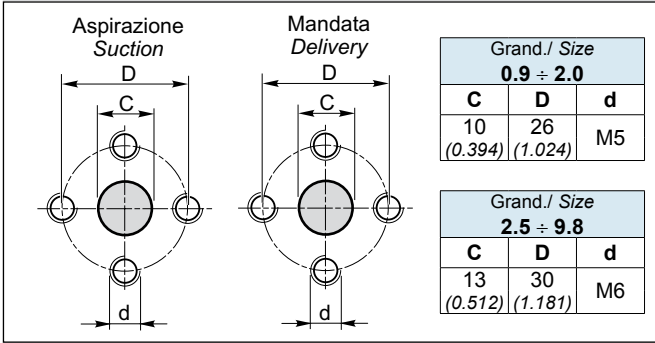
The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 221 ± 18 lb-in.
Fix the pump by self-locking nuts with tightening torque 283 ± 18 lb-in.

POMPE GRUPPO
PUMPS GROUP

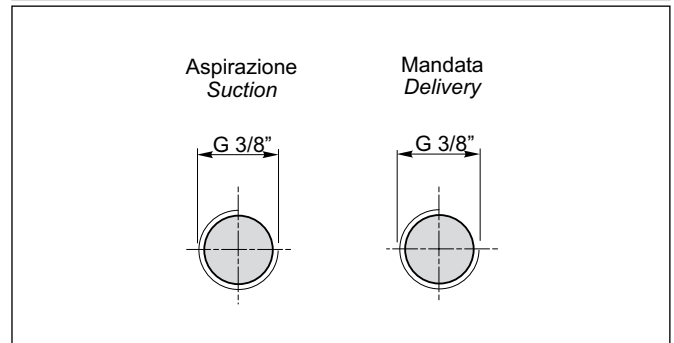
1

CONNESSIONI / CONNECTIONS

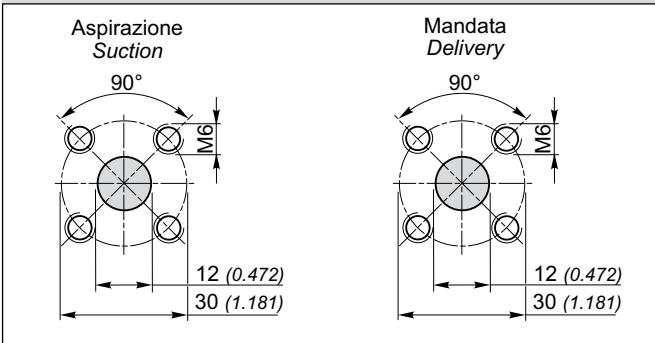
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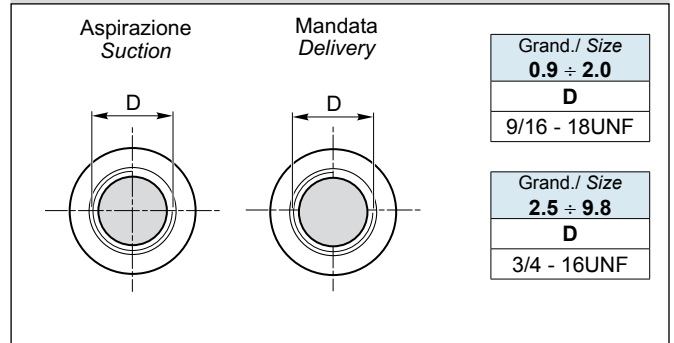
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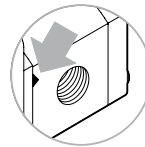
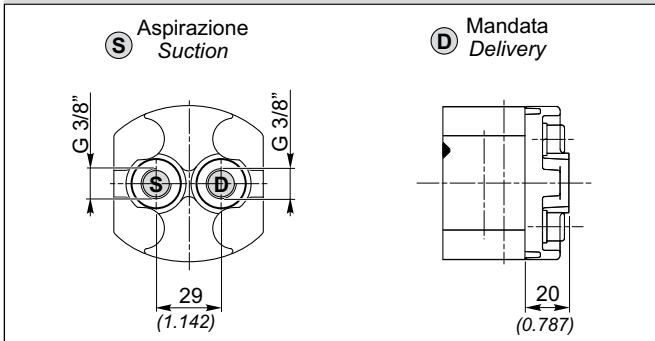
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UU

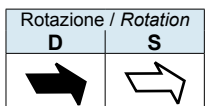
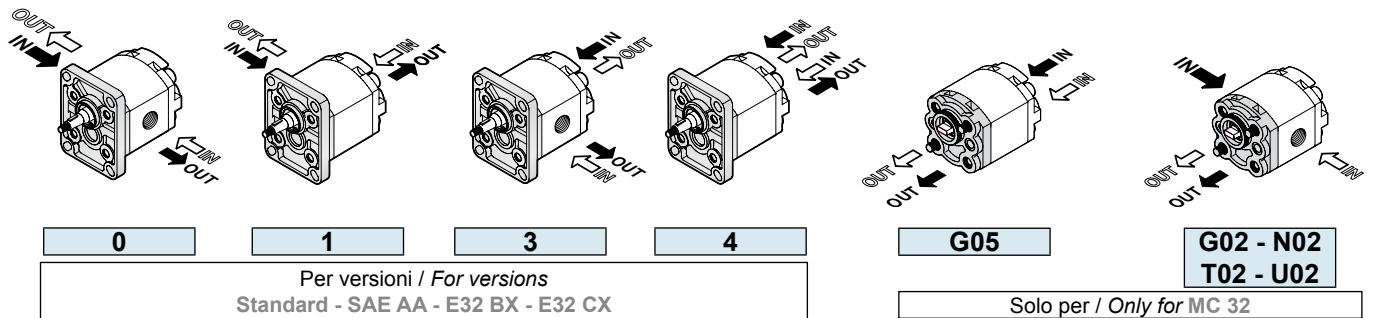


GG4



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

Posizione delle connessioni / Connections positions



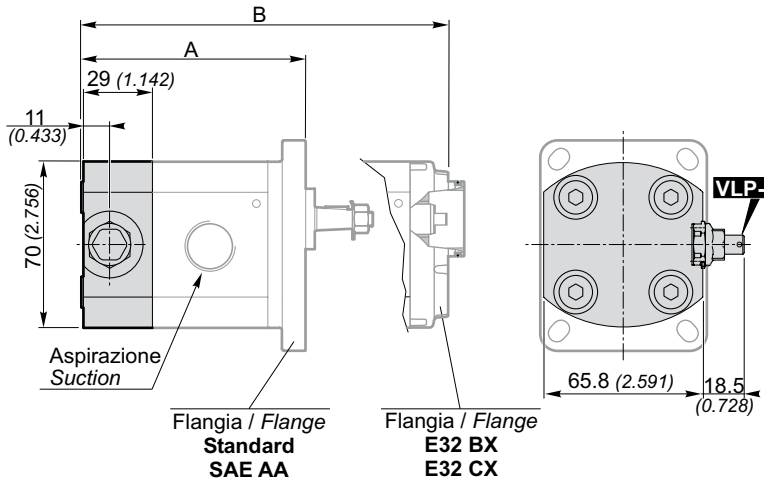
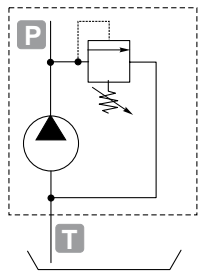
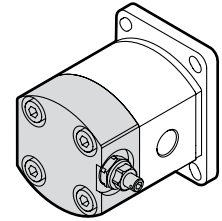
OPZIONI / OPTIONAL

POMPE GRUPPO
PUMPS GROUP

1

VLP- I (N)

Valvola limitatrice di pressione
Pressure relief valve



	A		B
	Standard	SAE AA	E32 BX E32 CX
1SP A0.9	82.6 (3.252)	86.1 (3.390)	82.6 (3.252)
1SP A1.2	83.7 (3.295)	87.2 (3.433)	83.7 (3.295)
1SP A1.6	85.4 (3.362)	88.9 (3.500)	85.4 (3.362)
1SP A2.0	86.9 (3.421)	90.4 (3.559)	86.9 (3.421)
1SP A2.5	88.9 (3.500)	92.4 (3.638)	88.9 (3.500)
1SP A3.2	91.6 (3.606)	95.1 (3.744)	91.6 (3.606)
1SP A3.7	93.6 (3.685)	97.1 (3.823)	93.6 (3.685)
1SP A4.2	95.5 (3.760)	99.0 (3.898)	95.5 (3.760)
1SP A5.0	98.6 (3.882)	102.1 (4.020)	98.6 (3.882)
1SP A6.3	103.7 (4.083)	107.2 (4.220)	103.7 (4.083)
1SP A7.8	109.4 (4.307)	112.9 (4.445)	109.4 (4.307)
1SP A9.8	117.3 (4.618)	120.8 (4.756)	117.3 (4.618)

NB.
La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno).

Warning.
The pressure relief valve can be applied by substituting the rear cover (only internal relief is set).

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 10 secondi ogni minuto per evitare il surriscaldamento della pompa.

The opening of the pressure relief valve should be carry out for times not over 10" each minute to avoid the overheating of the pump.

Esempio di ordinazione in codice / Example of ordering code

1SP	A	2.5	D	SAE AA	-	10	GG0	VLP-I	(N)
-----	---	-----	---	--------	---	----	-----	-------	-----

VLP-I	Coperchio con VPL a scarico interno Cover with VPL at internal exhaust	VLP-I
(N)	Tipo di molla / Spring type	B - N - G - R (vedi tabella / See table)

		Tipo di molla / Spring type			
		B	N	G	R
		molla bianca white spring	molla nera black spring	molla gialla yellow spring	molla rossa red spring
Campi di taratura* Calibration fields*	[bar] (psi)	30 ÷ 80 (435 ÷ 1160)	81 ÷ 200 (1175 ÷ 2900)	201 ÷ 300 (2915 ÷ 4350)	301 ÷ 400 (4365 ÷ 5800)

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 120 bar).

* Without setting request, it will be considered standard (black spring: 1740 psi).

**POMPE GRUPPO
PUMPS GROUP**

2

Standard

**Flangia e coperchio in Alluminio
Flange and cover in Aluminium**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	3.40 (7.50)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

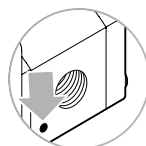
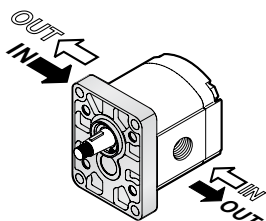
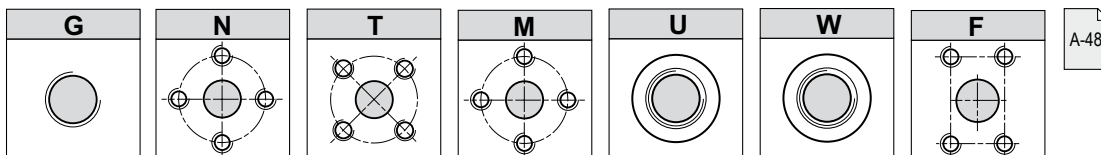
Esempio di ordinazione in codice / Example of ordering code

2SP	A	14	D	(H)	-	10	G	(VT)
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2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
— ⁽¹⁾	Tipo flangia / Flange type	
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
—		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

⁽¹⁾ Non è necessario indicare la flangia STANDARD / It is not necessary indicate STANDARD flange

Conn Connessioni / Connections



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Rotazione / Rotation	
D	S

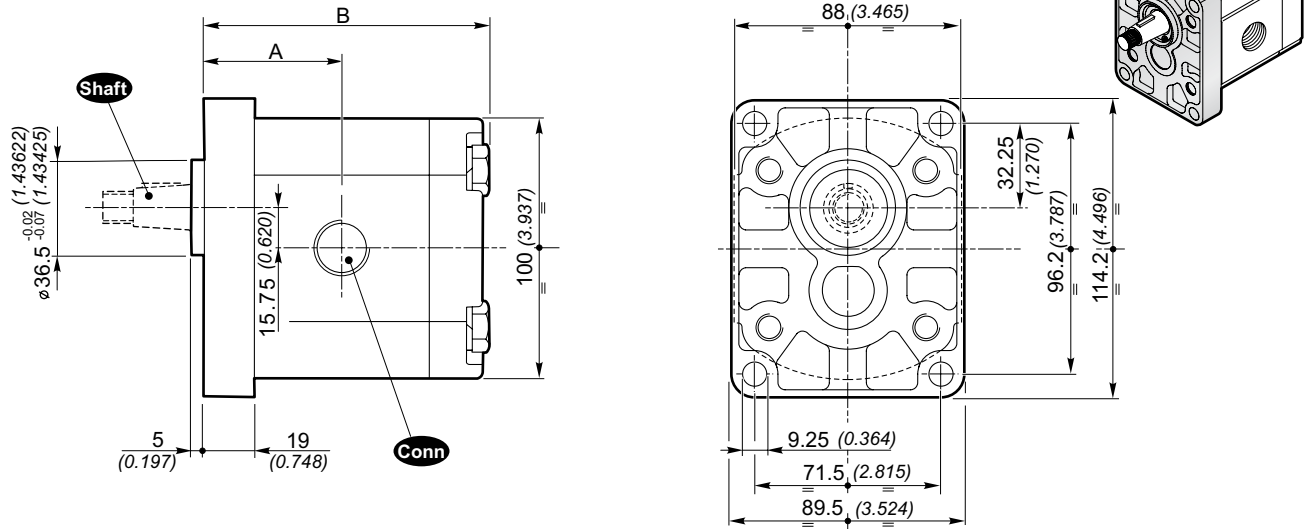
Flangia e coperchio in Alluminio
Flange and cover in Aluminium

Standard

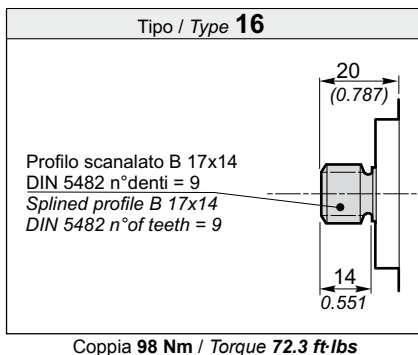
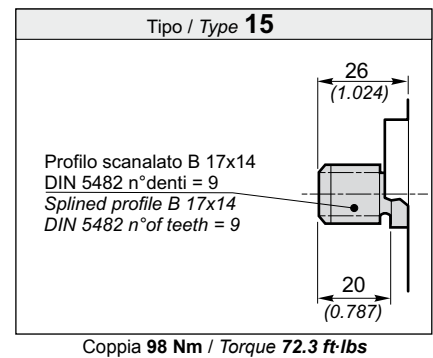
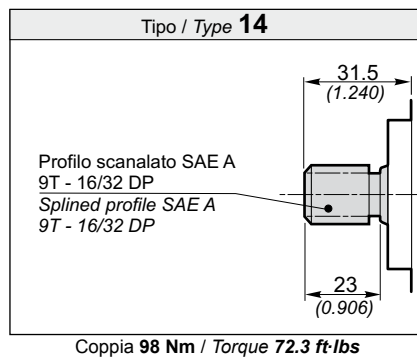
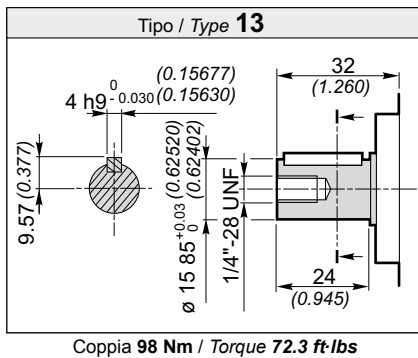
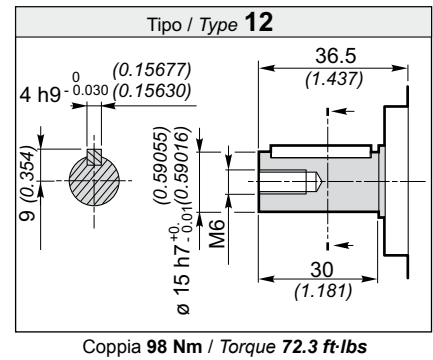
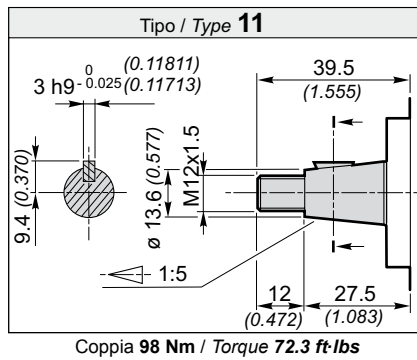
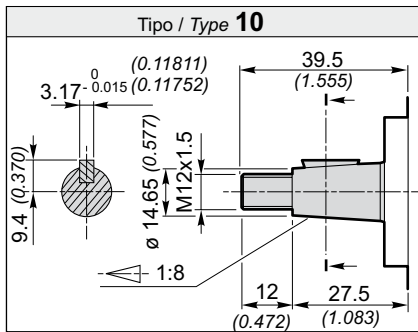
POMPE GRUPPO
PUMPS GROUP

2

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



**POMPE GRUPPO
PUMPS GROUP**

2

Standard

**Flangia e coperchio in Ghisa
Flange and cover in Cast iron**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP G4	4 (0.24)	280 (4060)	300 (4350)	320 (4640)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	3.40 (7.50)	95*
2SP G6	6 (0.37)	280 (4060)	300 (4350)	320 (4640)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	3.55 (7.83)	
2SP G8	8.5 (0.52)	280 (4060)	300 (4350)	320 (4640)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (4.118)	3.70 (8.16)	
2SP G11	11 (0.67)	280 (4060)	300 (4350)	320 (4640)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	3.80 (8.38)	
2SP G14	14 (0.85)	270 (3915)	280 (4060)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	3.90 (8.60)	
2SP G16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	4.05 (8.93)	
2SP G19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	4.20 (9.26)	
2SP G22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	4.35 (9.59)	
2SP G26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	4.50 (9.92)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

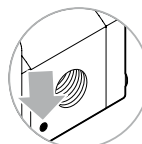
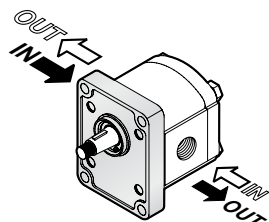
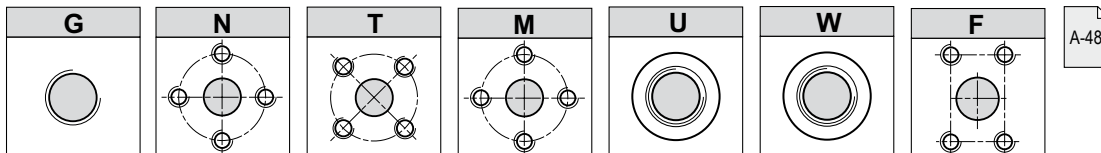
Esempio di ordinazione in codice / Example of ordering code

2SP | G | 14 | D | (H) | - | 10 | G | (VT)

2SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
— ⁽¹⁾	Tipo flangia / Flange type	
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
—		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

⁽¹⁾ Non è necessario indicare la flangia STANDARD / It is not necessary indicate STANDARD flange

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

Rotazione / Rotation	
D	S

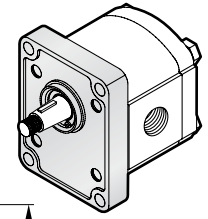
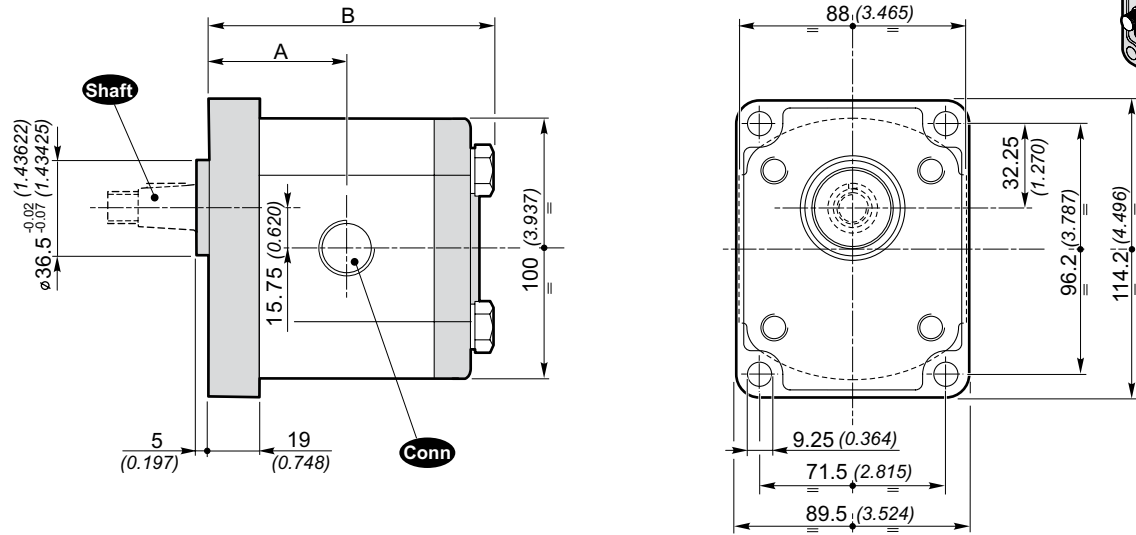
Flangia e coperchio in Ghisa
Flange and cover in Cast iron

Standard

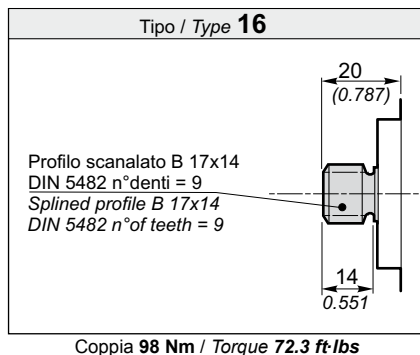
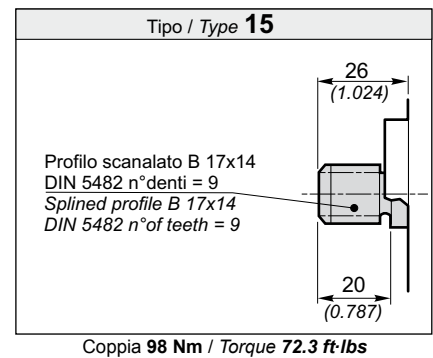
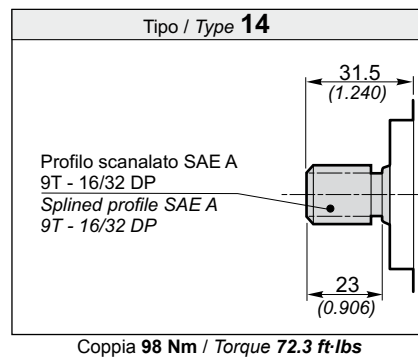
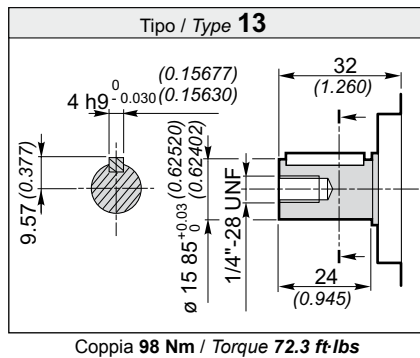
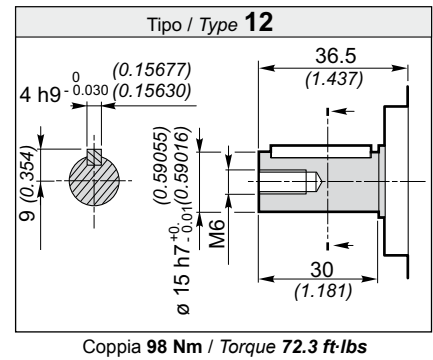
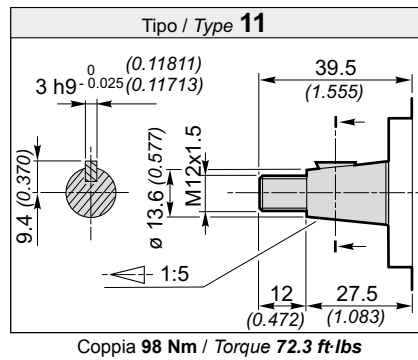
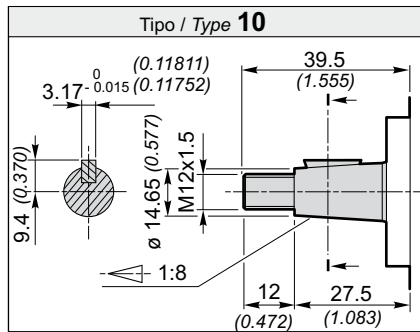
POMPE GRUPPO
PUMPS GROUP

2

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



**POMPE GRUPPO
PUMPS GROUP**

2

SAE A , SAE A-OR

**Flangia e coperchio in Alluminio
Flange and cover in Aluminium**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	3.40 (7.50)	

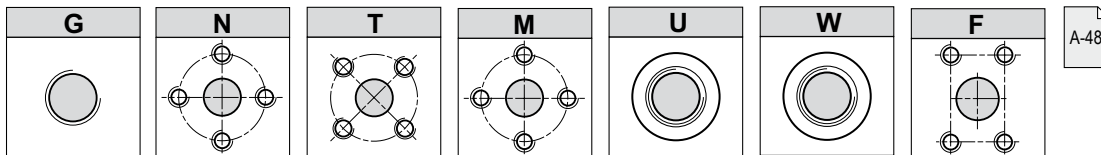
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

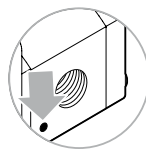
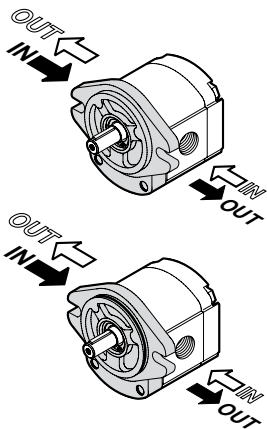
2SP	A	14	D	SAE A	(H)	-	10	G	(VT)
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2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAE A	Tipo flangia / Flange type	SAE A - SAE A-OR
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / (optional))
-		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

Conn Connessioni / Connections



A-48



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Rotazione / Rotation	
D	S

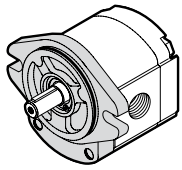
Flangia e coperchio in Alluminio
Flange and cover in Aluminium

SAE A , SAE A-OR

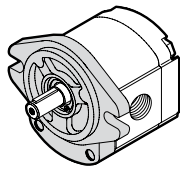
POMPE GRUPPO
PUMPS GROUP

2

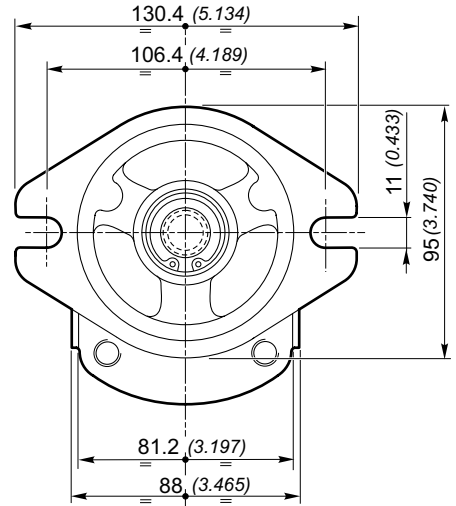
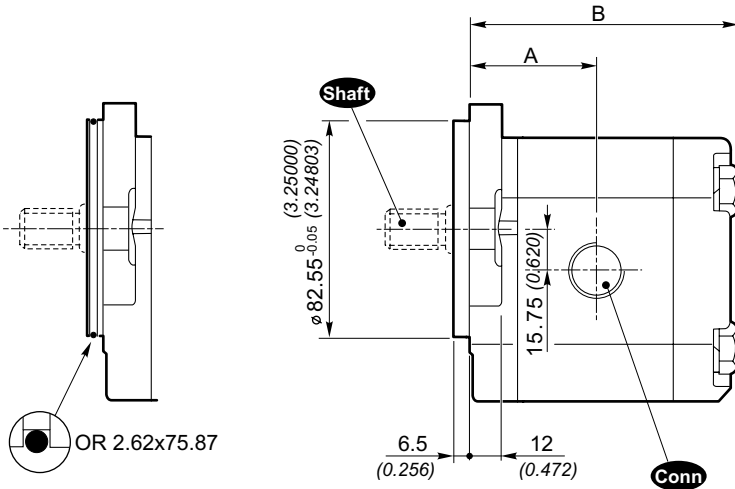
Dimensioni / Dimensions



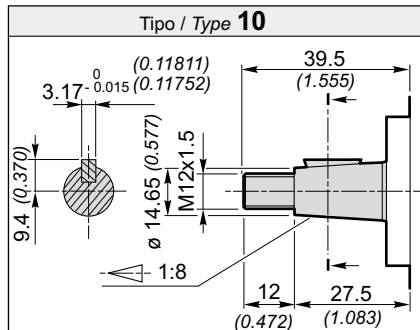
SAE A-OR



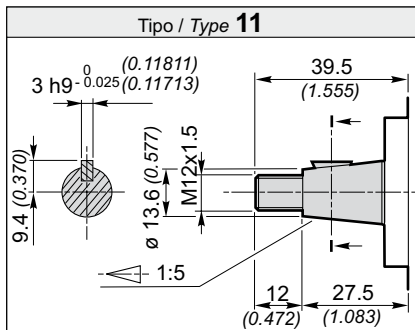
SAE A



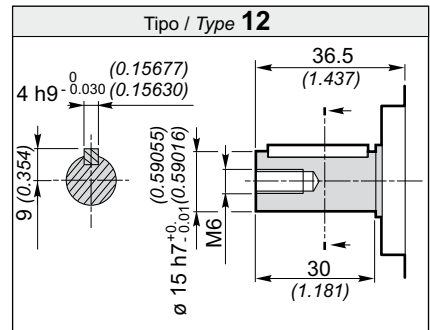
Shaft Alberi disponibili / Available shafts



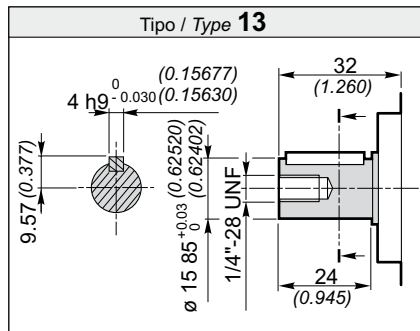
Coppia 98 Nm / Torque 72.3 ft-lbs



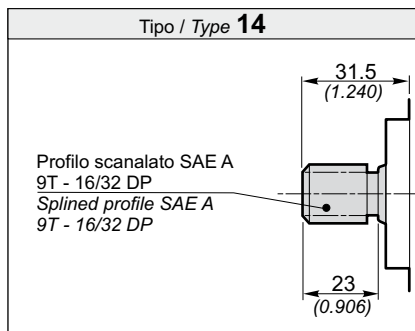
Coppia 98 Nm / Torque 72.3 ft-lbs



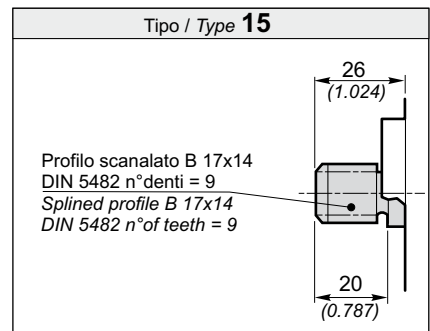
Coppia 98 Nm / Torque 72.3 ft-lbs



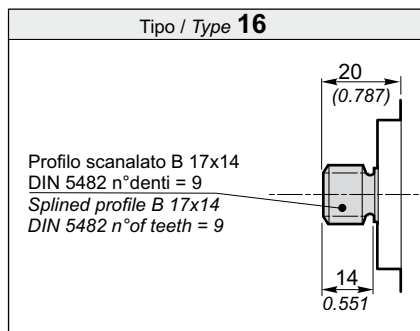
Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

2

SAE A , SAE A-OR

**Flangia e coperchio in Ghisa
Flange and cover in Cast iron**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP G4	4 (0.24)	280 (4060)	300 (4350)	320 (4640)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	3.40 (7.50)	95*
2SP G6	6 (0.37)	280 (4060)	300 (4350)	320 (4640)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	3.55 (7.83)	
2SP G8	8.5 (0.52)	280 (4060)	300 (4350)	320 (4640)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	3.70 (8.16)	
2SP G11	11 (0.67)	280 (4060)	300 (4350)	320 (4640)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	3.80 (8.38)	
2SP G14	14 (0.85)	270 (3915)	280 (4060)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	3.90 (8.60)	
2SP G16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	4.05 (8.93)	
2SP G19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	4.20 (9.26)	
2SP G22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	4.35 (9.59)	
2SP G26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	4.50 (9.92)	

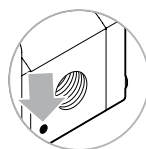
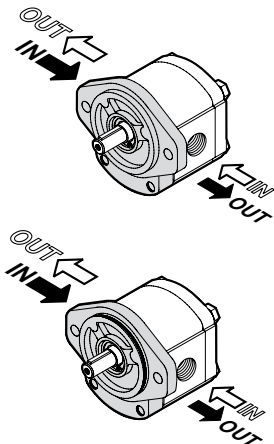
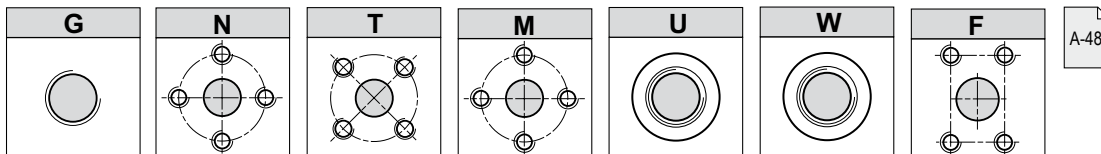
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

2SP G 14 D SAE A (H) - 14 G (VT)

2SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
14	Cilindrata (vedi tabella) / Displacement (see table)	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAE A	Tipo flangia / Flange type	SAE A - SAE A-OR
(H)	Anello di rinforzo per piccola pressione in aspirazione (a richiesta) Stiffening seal for low suction pressure (optional)	(a richiesta / (optional))
-		
14	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

Rotazione / Rotation	
D	S

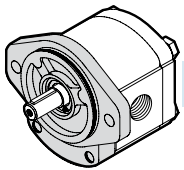
Flangia e coperchio in Ghisa
Flange and cover in Cast iron

SAE A , SAE A-OR

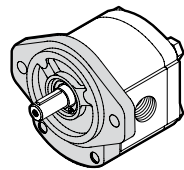
POMPE GRUPPO
PUMPS GROUP

2

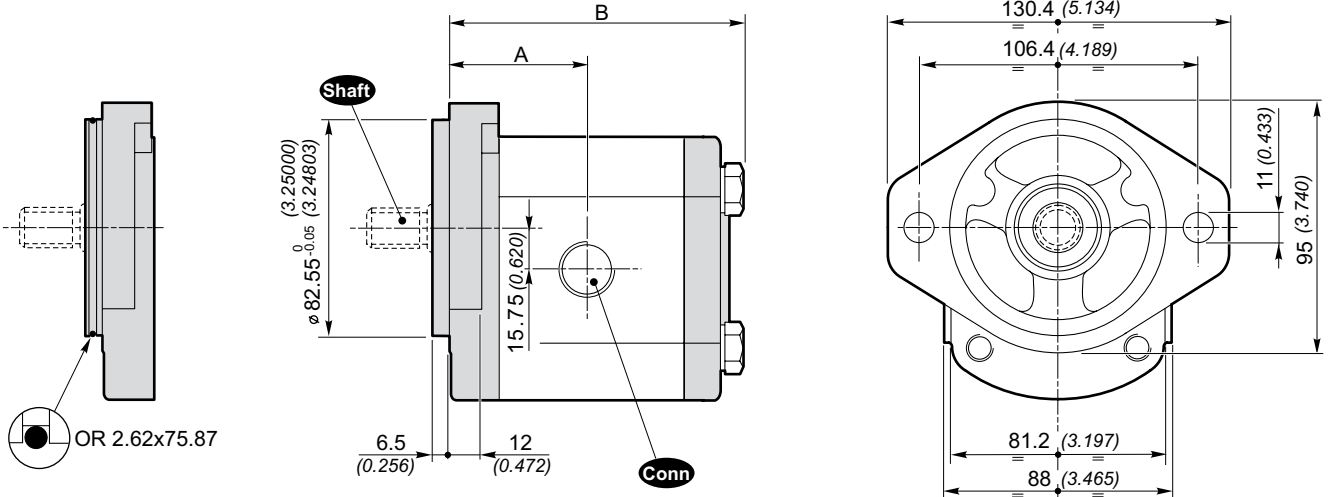
Dimensioni / Dimensions



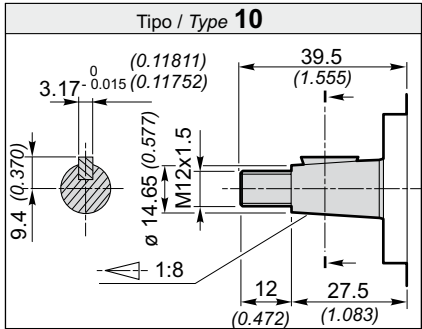
SAE A-OR



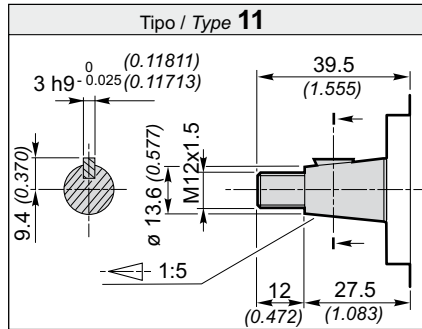
SAE A



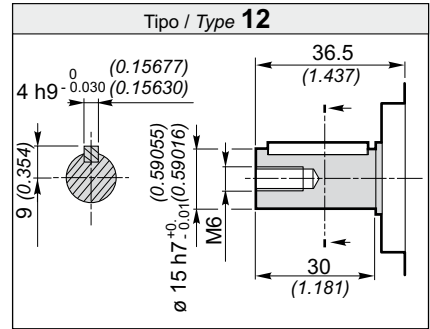
Shaft Alberi disponibili / Available shafts



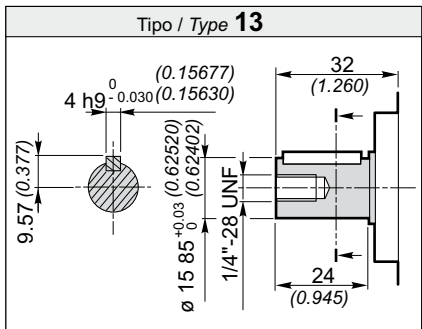
Coppia 98 Nm / Torque 72.3 ft-lbs



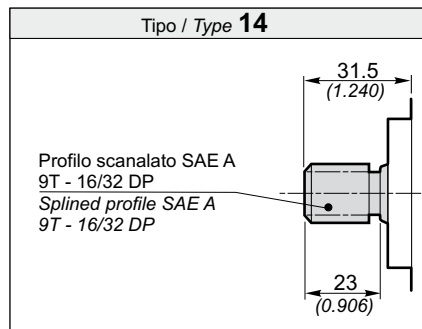
Coppia 98 Nm / Torque 72.3 ft-lbs



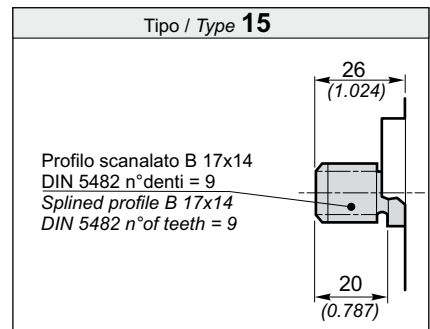
Coppia 98 Nm / Torque 72.3 ft-lbs



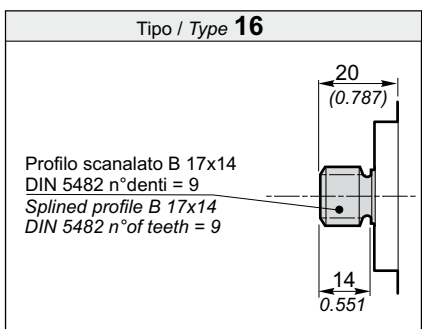
Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

2

B80C

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	46.4 1.827	95 3.740	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	48 1.890	98.3 3.870	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	50.1 1.972	102.5 4.035	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	52.2 2.055	106.6 4.197	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	54.7 2.154	111.6 4.394	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	56.8 2.236	115.8 4.559	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	59.3 2.335	120.8 4.756	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	61.8 2.433	125.8 4.953	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	64.7 2.547	131.6 5.181	3.40 (7.50)	

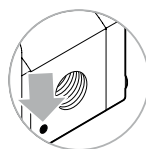
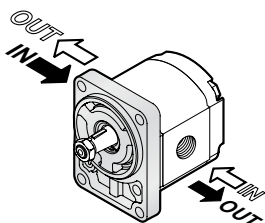
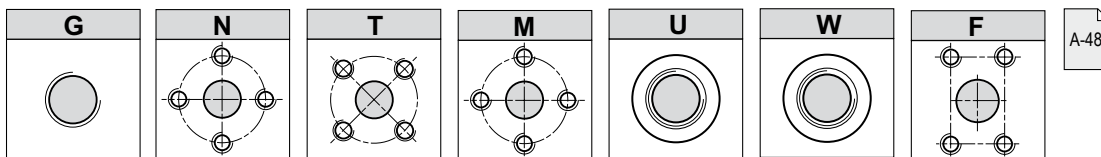
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

2SP | A | 14 | D | B80C | (H) | - | 10 | G | (VT)

2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
B80C	Tipo flangia / Flange type	B80C
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
-		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

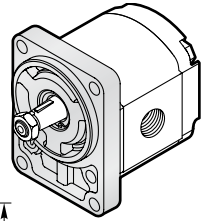
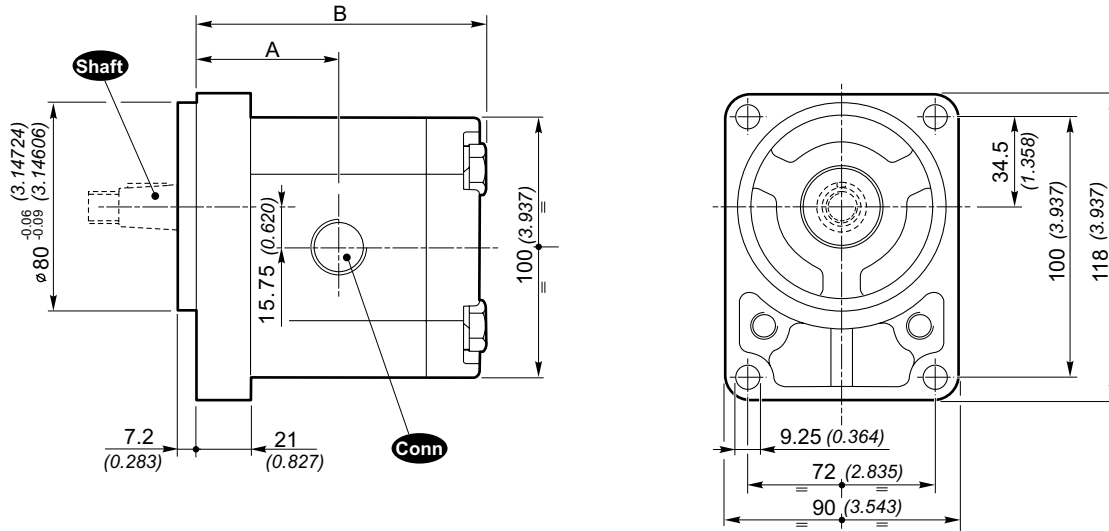
Rotazione / Rotation	
D	S

B80C

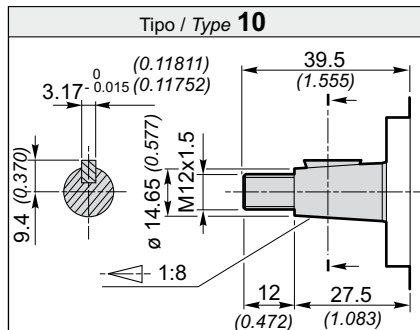
POMPE GRUPPO
PUMPS GROUP

2

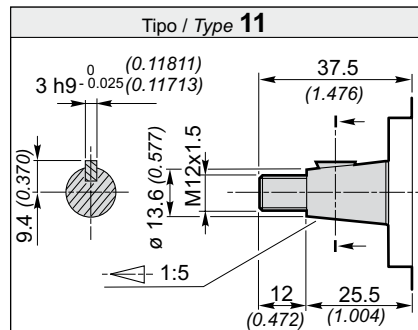
Dimensioni / Dimensions



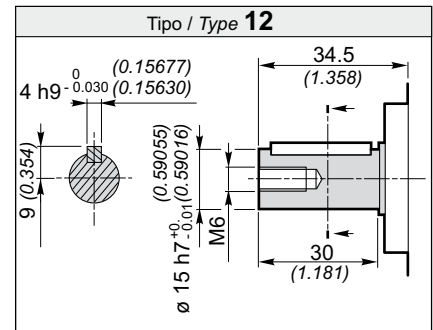
Shaft Alberi disponibili / Available shafts



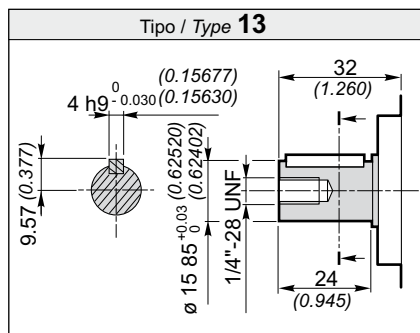
Coppia 98 Nm / Torque 72.3 ft-lbs



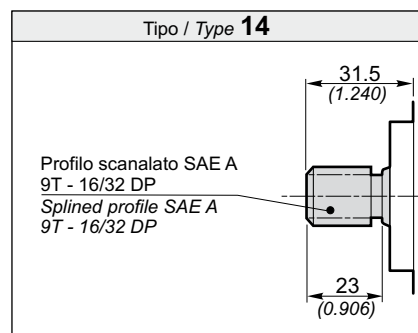
Coppia 98 Nm / Torque 72.3 ft-lbs



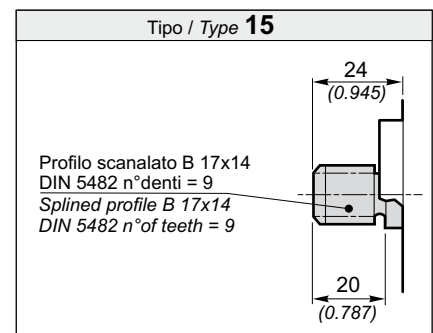
Coppia 98 Nm / Torque 72.3 ft-lbs



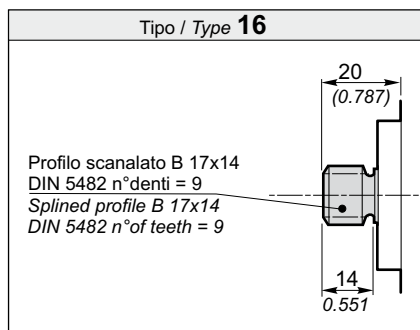
Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

2

B50C

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions				Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	L ① [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	84 (3.307)	105 (4.134)	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	87.3 (3.437)	105 (4.134)	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	91.5 (3.602)	110 (4.331)	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	95.6 (3.764)	115 (4.528)	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	100.6 (3.961)	120 (4.724)	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	104.8 (4.126)	125 (4.921)	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	109.8 (4.323)	130 (5.118)	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	114.8 (4.520)	135 (5.315)	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	120.6 (4.748)	140 (5.512)	3.40 (7.50)	

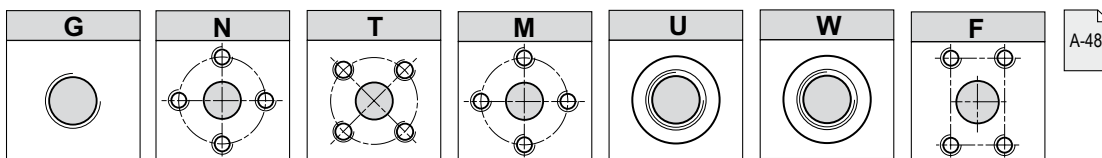
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

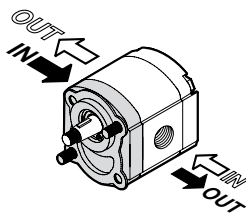
2SP | A | 14 | D | B50CX | (H) | - | 10 | G | (VT)

2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
B50CX	Tipo flangia / Flange type	B50CX - B50CY
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / (optional))
-		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

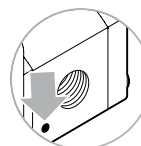
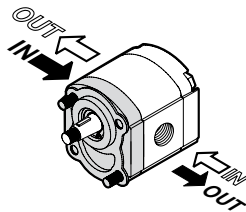
Conn Connessioni / Connections



Versione
Version
B50CX



Versione
Version
B50CY



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Rotazione / Rotation	
D	S

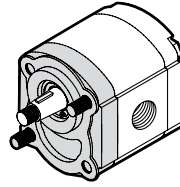
B50C

POMPE GRUPPO
PUMPS GROUP

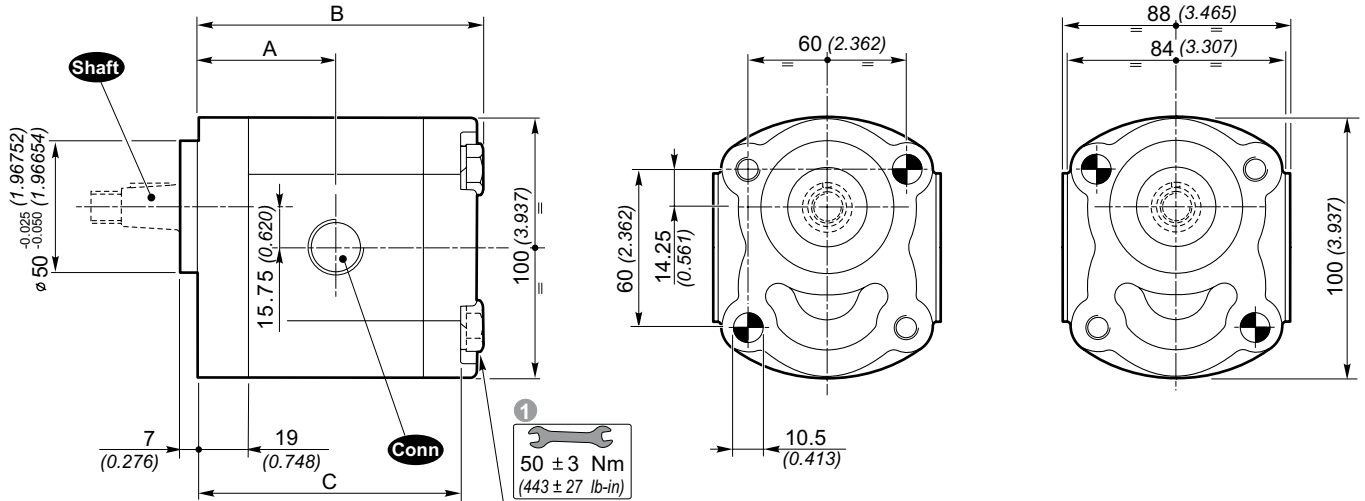
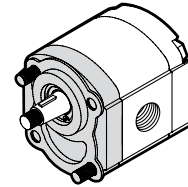
2

Dimensioni / Dimensions

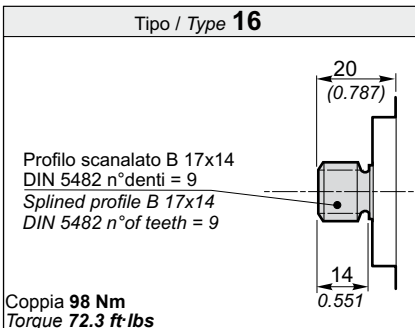
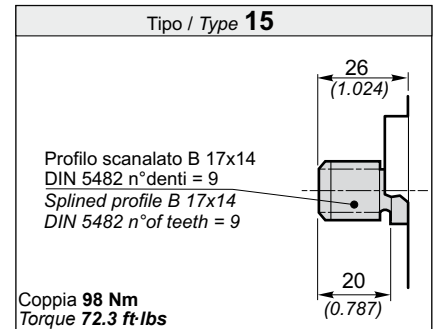
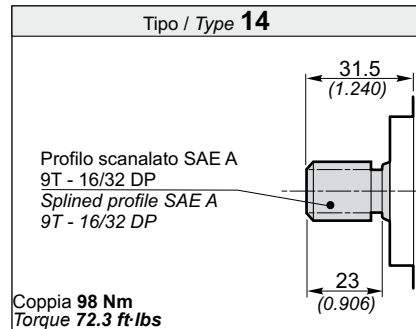
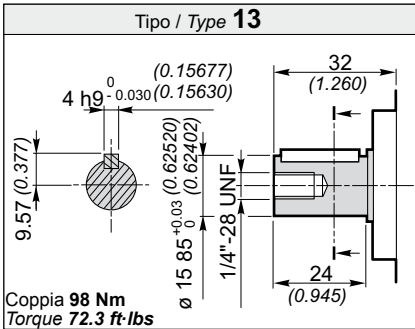
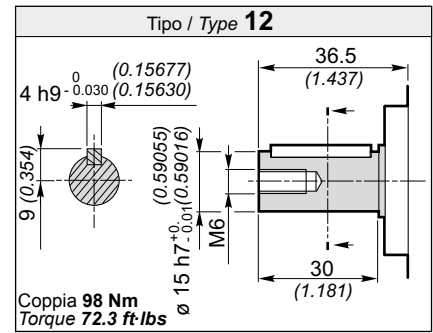
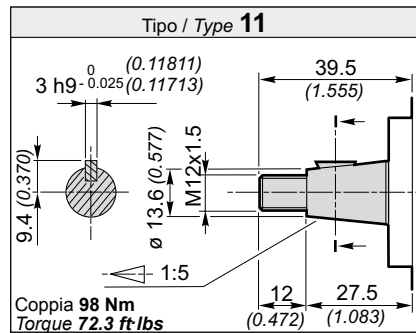
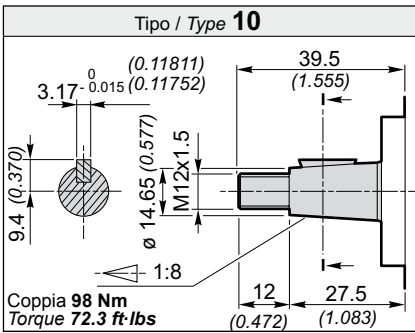
Versione
Version
B50CX



Versione
Version
B50CY



Shaft Alberi disponibili / Available shafts



1 Coppia di serraggio viti: 50 ± 3 Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 40 ± 3 Nm.
Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 50 ± 3 Nm.

1 Tightening torque of screws: 443 ± 27 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.

The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 354 ± 27 lb-in.
Fix the pump by self-locking nuts with tightening torque 443 ± 27 lb-in.

Il Kit di viti per il fissaggio della pompa è da ordinare separatamente. Codice di ordinazione del Kit di fissaggio:

The screws kit for the pump assembling should be ordered separately. Ordering code of fixing Kit:

0029W + Lunghezza L (vedi tabella)
+ Length L (see table)

**POMPE GRUPPO
PUMPS GROUP**

2

E52C

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions				Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	L ① [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	41.7 (1.642)	90.3 (3.555)	81.3 (3.201)	100 (3.937)	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	43.3 (1.705)	93.6 (3.685)	84.6 (3.331)	105 (4.134)	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	45.4 (1.787)	97.8 (3.850)	88.8 (3.496)	110 (4.331)	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	47.5 (1.870)	101.9 (4.012)	92.9 (3.657)	115 (4.528)	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	50 (1.969)	106.9 (4.209)	97.9 (3.854)	120 (4.724)	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	52.1 (2.051)	111.1 (4.374)	102.1 (4.020)	120 (4.724)	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	54.6 (2.150)	116.1 (4.571)	107.1 (4.217)	125 (4.921)	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	57.1 (2.248)	121.1 (4.768)	112.1 (4.413)	130 (5.118)	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	60 (2.362)	126.9 (4.996)	117.9 (4.642)	140 (5.512)	3.40 (7.50)	

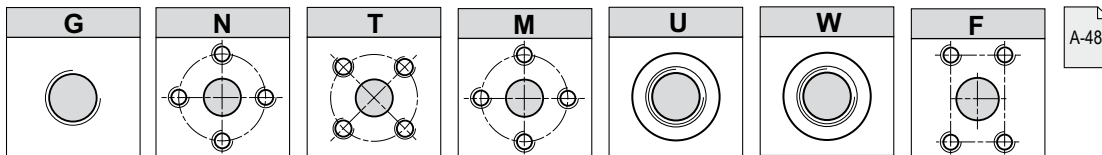
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

2SP | A | 14 | D | E52CX | (H) | - | 10 | G | (VT)

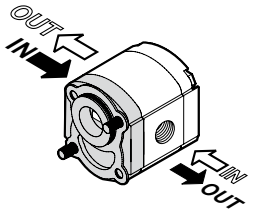
2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
E52CX	Tipo flangia / Flange type	E52CX - E52CY
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / (optional))
-		
10	Tipo albero / Shaft type	17
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

Conn Connessioni / Connections

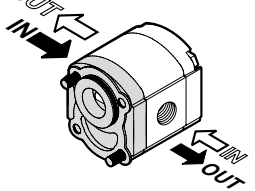


A-48

Versione
Version
E52CX



Versione
Version
E52CY

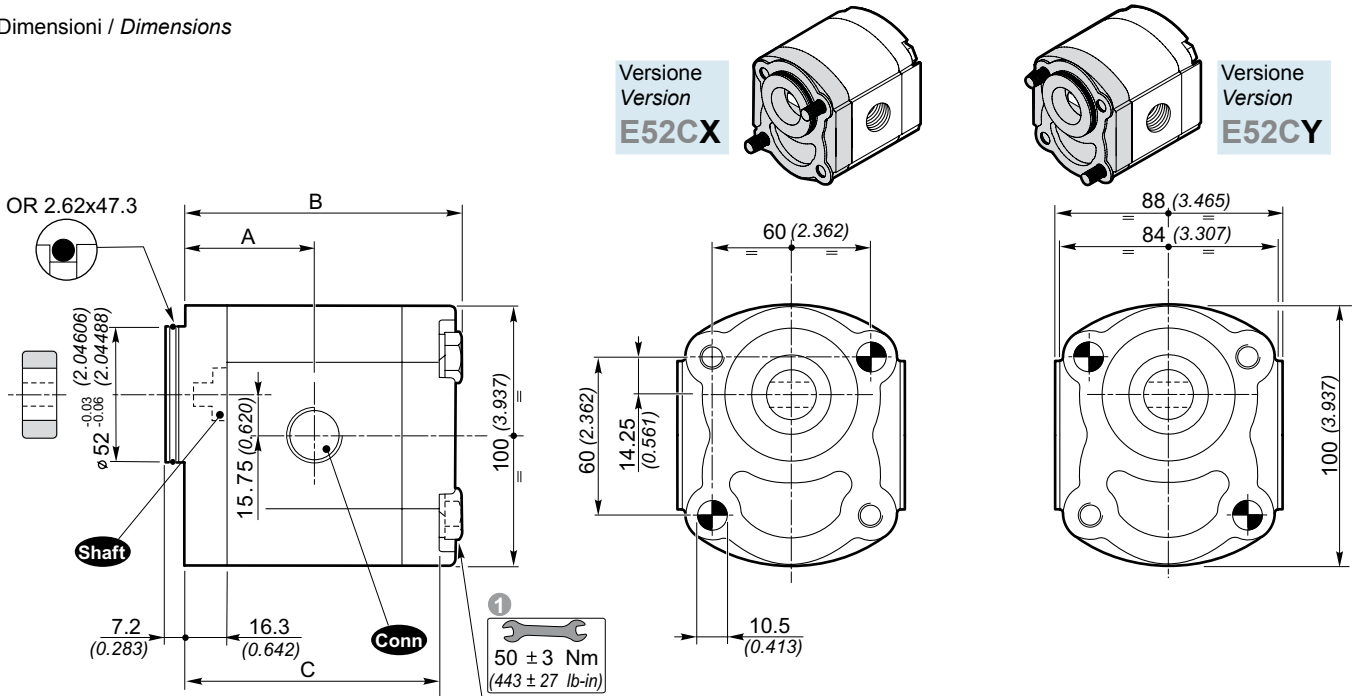


Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

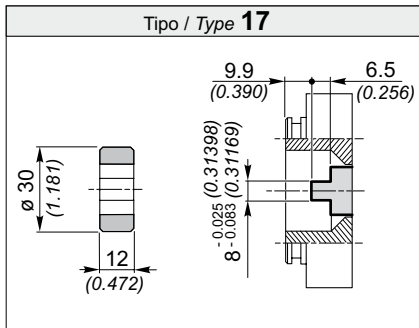
Rotazione / Rotation	
D	S

E52C POMPE GRUPPO PUMPS GROUP **2**

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



Coppia 70 Nm / Torque 51.6 ft-lbs

1 Coppia di serraggio viti: 50 ± 3 Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 40 ± 3 Nm. Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 50 ± 3 Nm.

Il Kit di viti per il fissaggio della pompa è da ordinare separatamente. Codice di ordinazione del Kit di fissaggio:

1 Tightening torque of screws: 443 ± 27 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.

The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque 443 ± 27 lb-in.

The screws kit for the pump assembling should be ordered separately. Ordering code of fixing Kit:

0029W + Lunghezza L (vedi tabella)
 + Length L (see table)

**POMPE GRUPPO
PUMPS GROUP**

2

PRKS 400 D

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	44.4 (1.748)	93 (3.661)	2.30 (5.07)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	2.45 (5.40)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	2.60 (5.73)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	2.70 (5.95)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	2.80 (6.17)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	2.95 (6.51)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	57.3 (2.256)	118.8 (4.677)	3.10 (6.84)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	59.8 (2.354)	123.8 (4.874)	3.25 (7.17)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	3.40 (7.50)	

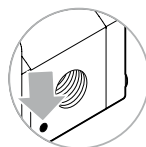
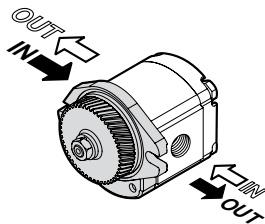
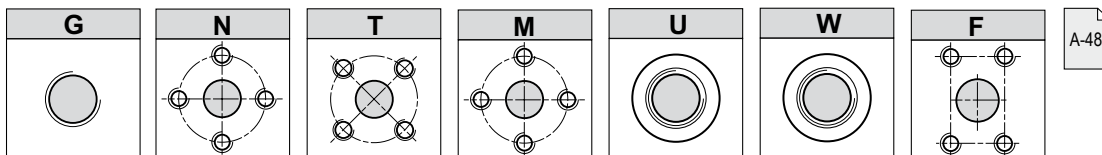
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

2SP | A | 14 | D | PRKS 400 D | - | G

2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra (fornitura normale) Clockwise rotation (usually supplied) S = Rotazione sinistra / Anticlockwise rotation
PRKS0400 D	Flangia Perkins/ Perkins flange	PRKS 400 D
-		
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F

Conn Connessioni / Connections

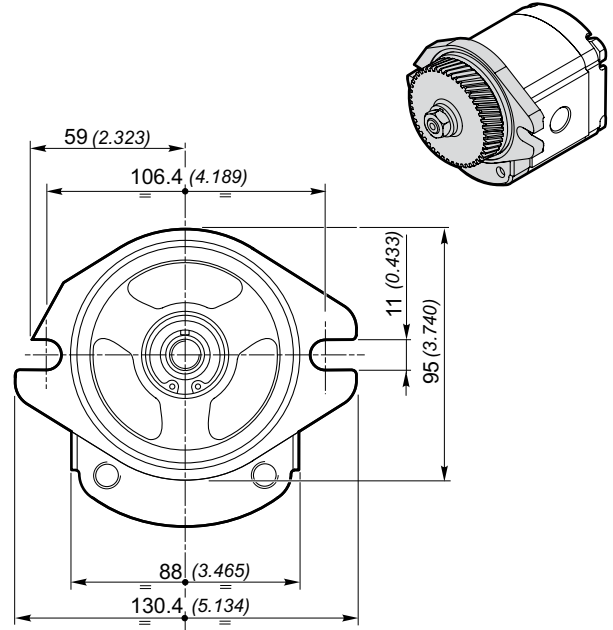
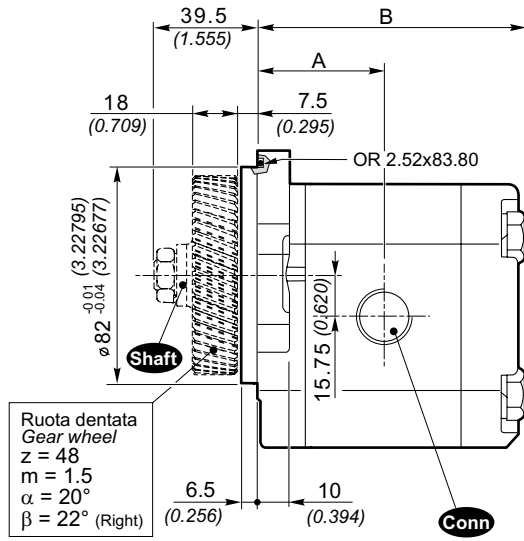


Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

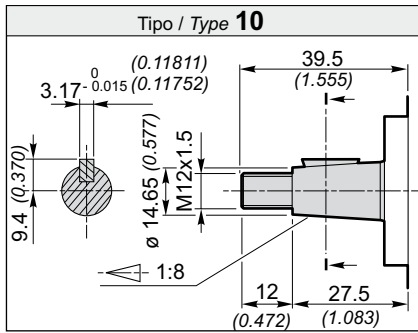
Rotazione / Rotation	
D	S

PRKS 400 D POMPE GRUPPO PUMPS GROUP **2**

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



**POMPE GRUPPO
PUMPS GROUP**

2

SAE A 14* (z = 10), SAE A 14 (z=11)**

Dati tecnici / Technical data

SAE A 14* z = 10

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP ...8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	48.1 (1.894)	100.5 (3.957)	2.65 (5.84)	95*
2SP ...11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	2.75 (6.06)	
2SP ...16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.5 (15.18)	500	7.83 (2.07)	54.8 (2.157)	113.8 (4.480)	3.00 (6.62)	
2SP ...19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.98)	500	9.26 (2.365)	57.3 (2.256)	118.8 (4.677)	3.15 (6.95)	
2SP ...26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	62.7 (2.469)	129.6 (5.102)	3.45 (7.61)	

SAE A 14 z = 11**

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [rpm]	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [rpm]	Portata min. Min. flow [lt/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm]	B [mm]		
2SP ...6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	46 (1.811)	96.3 (3.791)	2.45 (5.40)	95*
2SP ...11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	50.2 (1.976)	104.6 (4.118)	2.70 (5.95)	
2SP ...14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	52.7 (2.075)	109.6 (4.315)	2.80 (6.17)	

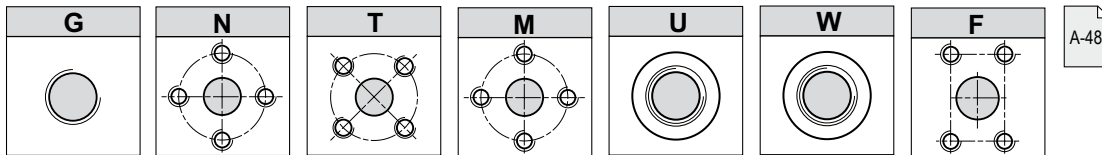
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

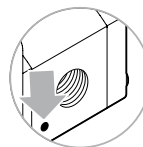
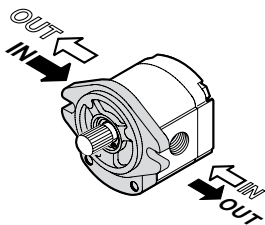
2SP | A | 26 | D | SAEA | - | 14* | G

2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium G = flangia e coperchio in ghisa Cast-iron flange and cover
26	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAEA	Tipo flangia / Flange type	SAE A
-		
14*	Tipo albero / Shaft type	14* - 14**
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F

Conn Connessioni / Connections



A-48



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

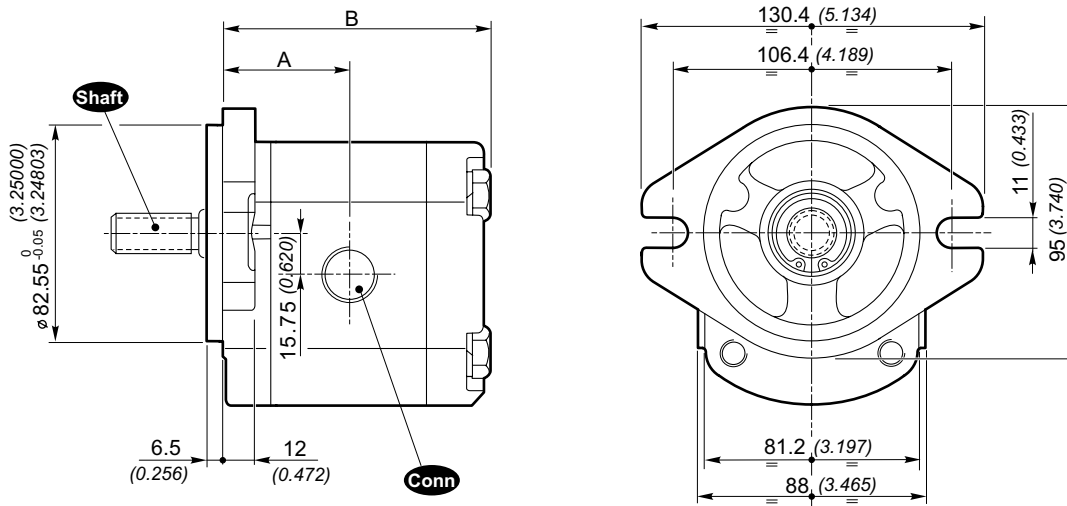
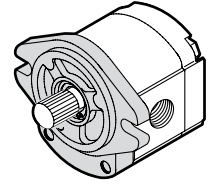
Rotazione / Rotation	
D	S

SAE A 14*(z = 10), SAE A 14 (z=11)**

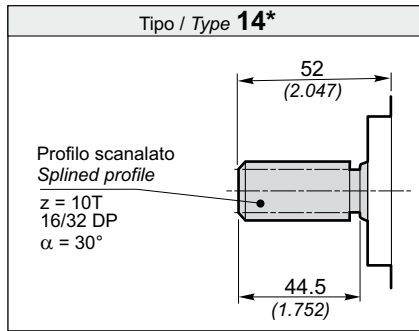
**POMPE GRUPPO
PUMPS GROUP**

2

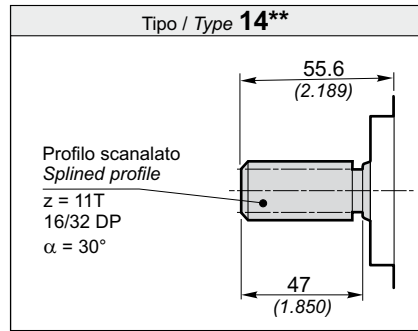
Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
2SP A4	4 (0.24)	250 (3625)	270 (3915)	290 (4205)	4000	16 (4.23)	500	1.9 (0.50)	64.4 (2.535)	113 (4.449)	2.8 (6.17)	95*
2SP A6	6 (0.37)	250 (3625)	270 (3915)	290 (4205)	4000	24 (6.34)	500	2.85 (0.75)	66 (2.598)	116.3 (4.579)	2.95 (6.50)	
2SP A8	8.5 (0.52)	250 (3625)	270 (3915)	290 (4205)	3500	29.7 (7.85)	500	4.03 (1.06)	68.1 (2.681)	120.5 (4.744)	3.1 (6.84)	
2SP A11	11 (0.67)	250 (3625)	270 (3915)	290 (4205)	3500	38.5 (10.17)	500	5.22 (1.38)	70.2 (2.764)	124.6 (4.906)	3.2 (7.06)	
2SP A14	14 (0.85)	250 (3625)	270 (3915)	290 (4205)	3500	49 (12.95)	500	6.65 (1.76)	72.7 (2.862)	129.6 (5.102)	3.3 (7.28)	
2SP A16	16.5 (1.01)	230 (3335)	240 (3480)	250 (3625)	3500	57.7 (15.24)	500	7.83 (2.07)	74.8 (2.945)	133.8 (5.268)	3.45 (7.61)	
2SP A19	19.5 (1.19)	210 (3045)	220 (3190)	230 (3335)	3300	64.3 (16.99)	500	9.26 (2.45)	77.3 (3.043)	138.8 (5.465)	3.6 (7.94)	
2SP A22	22.5 (1.37)	190 (2755)	200 (2900)	210 (3045)	2800	63 (16.64)	500	10.68 (2.82)	79.8 (3.142)	143.8 (5.661)	3.75 (8.27)	
2SP A26	26 (1.59)	170 (2465)	180 (2610)	190 (2755)	2500	65 (17.17)	500	12.35 (3.26)	82.7 (3.256)	149.6 (5.890)	3.9 (8.60)	

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

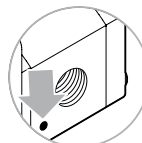
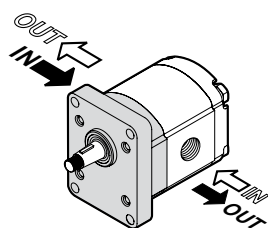
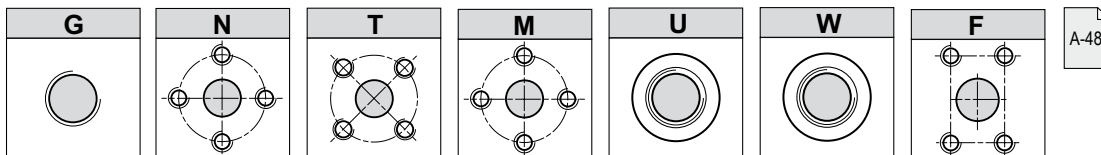
2SP	A	14	D	SUPP.STND	-	10	G	(VT)
-----	---	----	---	-----------	---	----	---	------

2SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SUPP.STND	Tipo supporto / Support type	SUPP.STND
-		
10	Tipo albero / Shaft type	10
G	Tipo connessioni / Connections type	G - N - T - M - U - W - F
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) - VLP-E (N) Valvola limitatrice di pressione (pag. A-49) Pressure relief valve (page A-49)

Non è necessario indicare la flangia STANDARD

It is not necessary indicate STANDARD flange

Conn Connessioni / Connections



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Rotazione / Rotation	
D	S

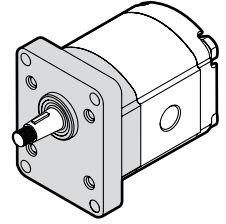
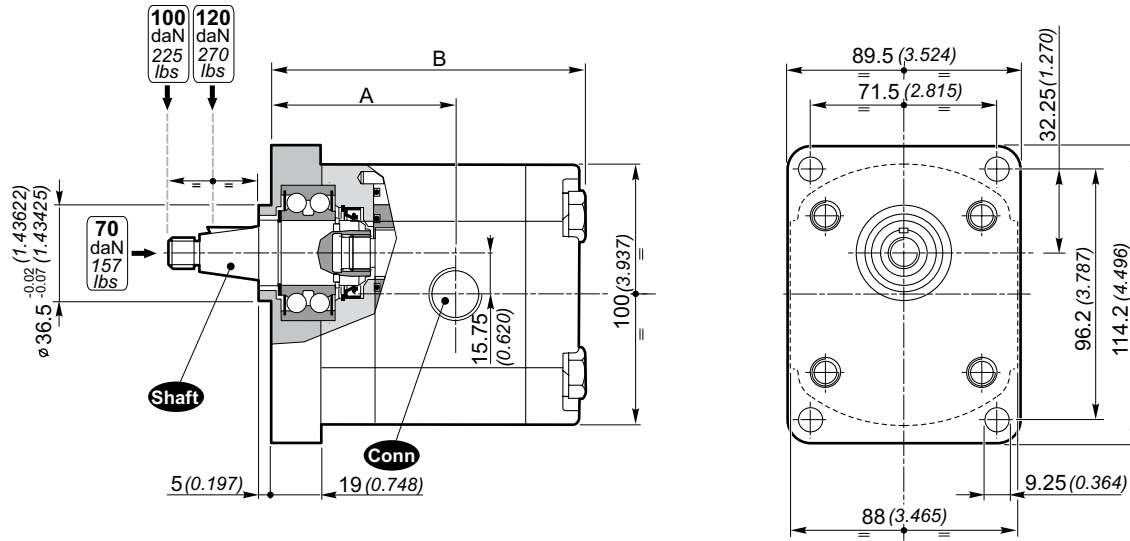
Versione da utilizzare in presenza di carichi assiali e/o radiali
 Version to be chosen with axial and/or radial loads

SUPP.STND

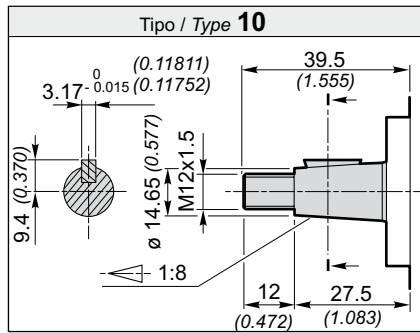
POMPE GRUPPO
 PUMPS GROUP

2

Dimensioni / Dimensions



Shaft Alberi disponibili / Available shafts



POMPE GRUPPO
PUMPS GROUP

2

CONNESSIONI / CONNECTIONS

G

Aspirazione
Suction

Mandata
Delivery

Grand./ Size	4 ÷ 8	
C	G 1/2"	

Grand./ Size	11 ÷ 26	
C	G 3/4"	

N

Aspirazione
Suction

Mandata
Delivery

Grand./ Size	4 ÷ 8		
C	D	d	
13 (0.512)	30 (1.181)	M6	

Grand./ Size	11 ÷ 26		
C	D	d	
19 (0.748)	40 (1.575)	M8	

T

Aspirazione
Suction

Mandata
Delivery

M

Aspirazione
Suction

Mandata
Delivery

Grand./ Size	11 ÷ 26	
C	D	
19 (0.748)	40 (1.575)	

U

Aspirazione
Suction

Mandata
Delivery

Grand./ Size	4 ÷ 8	
C	7/8 14UNF	

Grand./ Size	11 ÷ 26	
C	1" 1/16 12UN	

W

Aspirazione
Suction

Mandata
Delivery

F

Aspirazione
Suction

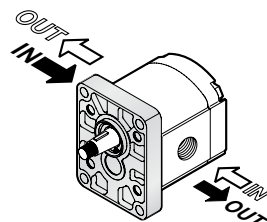
Mandata
Delivery

Grand./ Size	4 ÷ 11		
C	D	E	
20 (0.787)	38 (1.496)	17.4 (0.685)	

Grand./ Size	14 ÷ 26		
C	D	E	
26 (1.024)	22.4 (0.882)	47.6 (1.874)	

Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Posizione delle connessioni / Connections positions



Rotazione / Rotation	
D	S

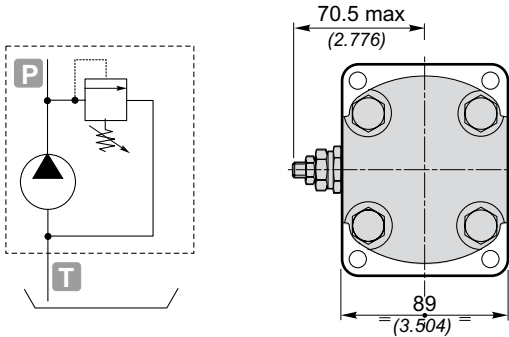
OPZIONI / OPTIONAL

POMPE GRUPPO
PUMPS GROUP

2

VLP- I (N)

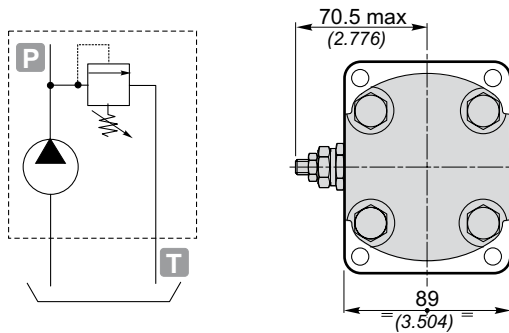
Valvola limitatrice di pressione a scarico interno
Pressure relief valve with internal exhaust



	A		
	Standard SAE A B50C	B80C	E52C
2SP A4	104.8 (4.126)	106.8 (4.205)	102.1 (4.020)
2SP A6	108.1 (4.256)	110.1 (4.335)	105.4 (4.150)
2SP A8	112.3 (4.421)	114.3 (4.500)	109.6 (4.315)
2SP A11	116.4 (4.583)	118.4 (4.661)	113.7 (4.476)
2SP A14	121.4 (4.780)	123.4 (4.858)	118.7 (4.673)
2SP A16	125.6 (4.945)	127.6 (5.024)	122.9 (4.839)
2SP A19	130.6 (5.142)	132.6 (5.220)	127.9 (5.035)
2SP A22	135.6 (5.339)	137.6 (5.417)	132.9 (5.232)
2SP A26	141.4 (5.567)	143.4 (5.646)	138.7 (5.461)

VLP- E (N)

Valvola limitatrice di pressione a scarico esterno
Pressure relief valve with external exhaust



	A		
	Standard SAE A B50C	B80C	E52C
2SP A4	100.8 (3.969)	102.8 (4.047)	98.1 (3.862)
2SP A6	104.1 (4.098)	106.1 (4.177)	101.4 (3.992)
2SP A8	108.3 (4.264)	110.3 (4.343)	105.6 (4.157)
2SP A11	112.4 (4.425)	114.4 (4.504)	109.7 (4.319)
2SP A14	117.4 (4.622)	119.4 (4.701)	114.7 (4.516)
2SP A16	121.6 (4.787)	123.6 (4.866)	118.9 (4.681)
2SP A19	126.6 (4.984)	128.6 (5.063)	123.9 (4.878)
2SP A22	131.6 (5.181)	133.6 (5.260)	128.9 (5.075)
2SP A26	137.4 (5.409)	139.4 (5.488)	134.7 (5.303)

NB.
La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore.
Fornitura solo con flangia e coperchio in Alluminio.
Sono rappresentate pompe con rotazione sinistra.
Nelle pompe con rotazione destra, il foro T è in alto.

Warning.
The pressure relief valve can be applied by substituting the rear cover.
It is supplied only with aluminium flange and cover.
The showed pumps are anticlockwise rotation.
Pumps with clockwise rotation, T port is above.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 10 secondi ogni minuto per evitare il surriscaldamento della pompa.

The opening of the pressure relief valve should carry out for times not over 10" each minute to avoid the overheating of the pump.

Esempio di ordinazione in codice / Example of ordering code

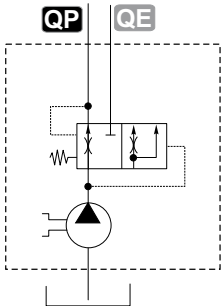
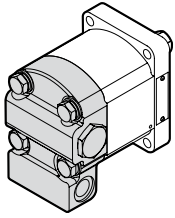
2SP	A	14	D	SAE A	-	10	G	(VT)	VLP-I	(N)
VLP-I	Coperchio con VLP Cover with VLP		VPL-I (a scarico interno /at internal exhaust) VLP-E (a scarico esterno /at external exhaust)							
(N)	Tipo di molla / Spring type		B - N - R (vedi tabella / See table)							
Tipo di molla / Spring type										
			B			N			R	
			molla bianca white spring			molla nera black spring			molla rossa red spring	
Campi di taratura* Calibration fields*	[bar] (psi)		10 ÷ 100 (145 ÷ 1450)			30 ÷ 280 (435 ÷ 4060)			80 ÷ 380 (1160 ÷ 5510)	

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

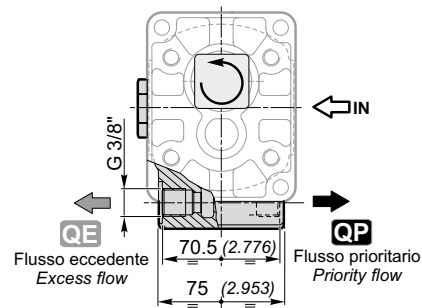
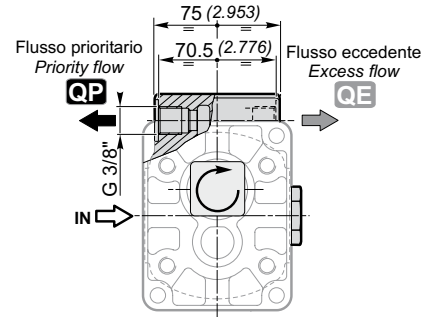
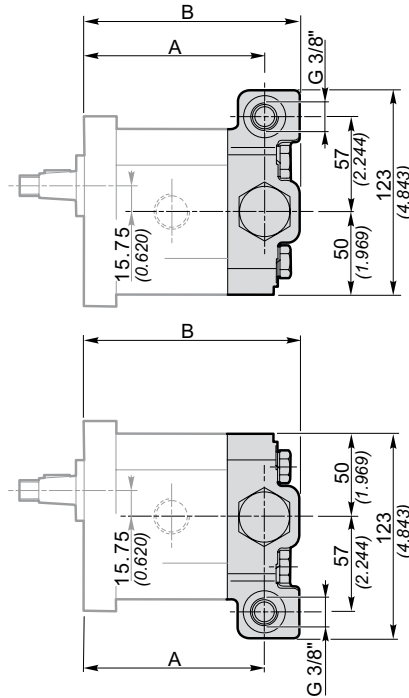
* Without setting request, it will be considered standard (black spring: 2175 psi).

VRF

Valvola regolatrice di flusso
Priority flow divider valve



Flusso eccedente per
utilizzi o serbatoio
Exceeding flow to
actuator or to tank



		2SP...4	2SP...6	2SP...8	2SP...11	2SP...14	2SP...16	2SP...19	2SP...22	2SP...26
A	Standard SAE A B50C	91.8 (3.614)	95.1 (3.744)	99.3 (3.909)	103.4 (4.071)	108.4 (4.268)	112.6 (4.433)	117.6 (4.630)	122.6 (4.827)	128.4 (5.055)
	B80C	93.8 (3.693)	97.1 (3.823)	101.3 (3.988)	105.4 (4.150)	110.4 (4.346)	114.6 (4.512)	119.6 (4.709)	124.6 (4.906)	130.4 (5.134)
	E52C	89.1 (3.508)	92.4 (3.638)	96.6 (3.803)	100.7 (3.965)	105.7 (4.161)	109.9 (4.327)	114.9 (4.524)	119.9 (4.720)	125.7 (4.949)
B	Standard SAE A B50C	112.8 (4.441)	116.1 (4.571)	120.3 (4.736)	124.4 (4.898)	129.4 (5.094)	133.6 (5.260)	138.6 (5.457)	143.6 (5.654)	149.4 (5.882)
	B80C	114.8 (4.520)	118.1 (4.650)	122.3 (4.815)	126.4 (4.976)	131.4 (5.173)	135.6 (5.339)	140.6 (5.535)	145.6 (5.732)	151.4 (5.961)
	E52C	110.1 (4.335)	113.4 (4.465)	117.6 (4.630)	121.7 (4.791)	126.7 (4.988)	130.9 (5.154)	135.9 (5.350)	140.9 (5.547)	146.7 (5.776)

Esempio di ordinazione in codice / Example of ordering code

2SP	A	14	D	SAE A	-	10	G	(VT)	VRF	(d)	
VRF	Coperchio con VRF Cover with VRF						VRF				
(d)	Diametro del foro calibrato Diameter of calibrated orifice						2.5 - 3 - 3.25 - 4 - 4.25 - 5.5 (Vedi tabella / See table)				

d [mm]	Q [l/min] (US.gal/min)
2.5	5 (1.32)
3	7 (1.32)
3.25	8 (1.32)
4	11 (1.32)
4.25	14 (1.32)
5.5	21 (1.32)

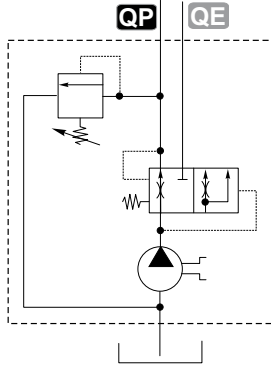
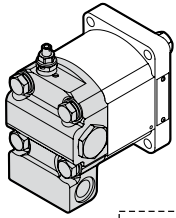
OPZIONI / OPTIONAL

POMPE GRUPPO
PUMPS GROUP

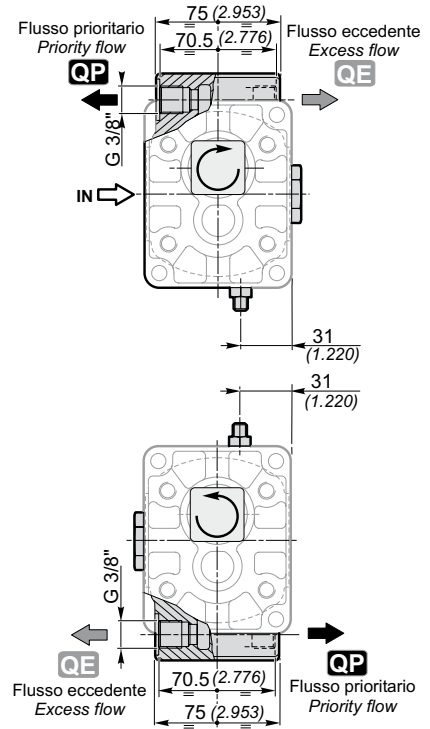
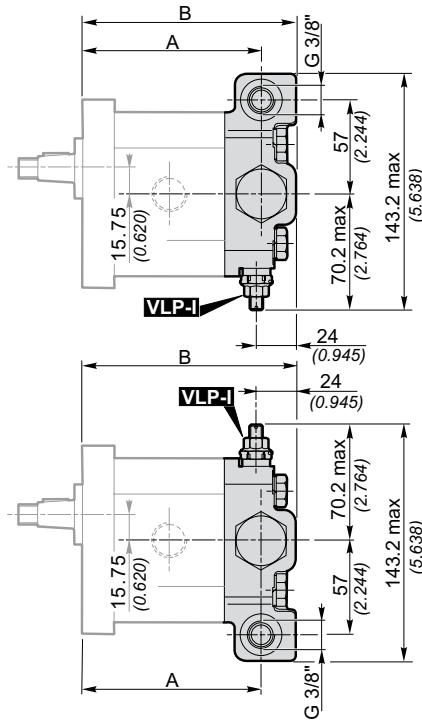
2

VRF - VLP-I

Valvola regolatrice di flusso e valvola li mitatrice di pressione
Priority flow divider valve and pressure relief valve



Flusso eccedente per utilizzi o serbatoio
Exceeding flow to actuator or to tank



		2SP...4	2SP...6	2SP...8	2SP...11	2SP...14	2SP...16	2SP...19	2SP...22	2SP...26
A	Standard SAE A B50C	91.8 (3.614)	95.1 (3.744)	99.3 (3.909)	103.4 (4.071)	108.4 (4.268)	112.6 (4.433)	117.6 (4.630)	122.6 (4.827)	128.4 (5.055)
	B80C	93.8 (3.693)	97.1 (3.823)	101.3 (3.988)	105.4 (4.150)	110.4 (4.346)	114.6 (4.512)	119.6 (4.709)	124.6 (4.906)	130.4 (5.134)
	E52C	89.1 (3.508)	92.4 (3.638)	96.6 (3.803)	100.7 (3.965)	105.7 (4.161)	109.9 (4.327)	114.9 (4.524)	119.9 (4.720)	125.7 (4.949)
B	Standard SAE A B50C	112.8 (4.441)	116.1 (4.571)	120.3 (4.736)	124.4 (4.898)	129.4 (5.094)	133.6 (5.260)	138.6 (5.457)	143.6 (5.654)	149.4 (5.882)
	B80C	114.8 (4.520)	118.1 (4.650)	122.3 (4.815)	126.4 (4.976)	131.4 (5.173)	135.6 (5.339)	140.6 (5.535)	145.6 (5.732)	151.4 (5.961)
	E52C	110.1 (4.335)	113.4 (4.465)	117.6 (4.630)	121.7 (4.791)	126.7 (4.988)	130.9 (5.154)	135.9 (5.350)	140.9 (5.547)	146.7 (5.776)

Esempio di ordinazione in codice / Example of ordering code

2SP	A	14	D	SAE A	-	10	G	(VT)	VRF	(d)	-	VLP-I	(N)	
VRF	Coperchio con VRF Cover with VRF								VRF					
(d)	Diametro del foro calibrato Diameter of calibrated orifice								2.5 - 3 - 3.25 - 4 - 4.25 - 5.5 (Vedi tabella / See table)					
VLP-I	Coperchio con VLP Cover with VLP								VLP-I (a scarico interno / at internal exhaust)					
(N)	Tipo di molla / Spring type								B - N - R (vedi tabella / See table)					

		Tipo di molla / Spring type			d	Q
		B	N	R	[mm]	[l/min] (US.gal/min)
		molla bianca white spring	molla nera black spring	molla rossa red spring	2.5	5 (1.32)
Campi di taratura* Calibration fields*	[bar] (psi)	10 ÷ 100 (145 ÷ 1450)	30 ÷ 280 (435 ÷ 4060)	80 ÷ 380 (1160 ÷ 5510)	3	7 (1.32)
Il range completo si ottiene mediante l'aggiunta di spessori The complete range can be obtained with additional thickness						
					3.25	8 (1.32)
					4	11 (1.32)
					4.25	14 (1.32)
					5.5	21 (1.32)

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

* Without setting request, it will be considered standard (black spring: 2175 psi).

**POMPE GRUPPO
PUMPS GROUP**

3

Standard

**Flangia e coperchio in Alluminio
Flange and cover in Aluminium**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
3SP A19	19 (1.16)	250 (3625)	270 (3915)	300 (4350)	3500	66.5 (17.57)	700	12.64 (3.34)	62.4 (2.457)	128.3 (5.051)	5.23 (11.53)	95*
3SP A22	22.3 (1.36)	240 (3480)	260 (3770)	290 (4205)	3500	78 (20.61)	700	14.83 (3.92)	63.9 (2.516)	131.3 (5.169)	5.36 (11.82)	
3SP A29	29.3 (1.79)	220 (3190)	240 (3480)	260 (3770)	3300	96.7 (25.55)	700	19.48 (5.15)	66.9 (2.634)	137.3 (5.406)	5.64 (12.44)	
3SP A33	32.9 (2.01)	220 (3190)	230 (3335)	260 (3770)	3300	108.6 (28.69)	700	21.88 (5.78)	68.4 (2.693)	140.3 (5.524)	5.78 (12.75)	
3SP A36	36.4 (2.22)	210 (3045)	230 (3335)	250 (3625)	3300	120.1 (31.73)	700	24.21 (6.40)	69.9 (2.752)	143.3 (5.642)	5.91 (13.03)	
3SP A44	43.5 (2.65)	200 (2900)	220 (3190)	240 (3480)	3000	130.5 (34.48)	700	28.93 (7.64)	72.9 (2.870)	149.3 (5.878)	6.19 (13.65)	
3SP A52	51.7 (3.15)	200 (2900)	210 (3045)	240 (3480)	3000	155.1 (40.98)	700	34.38 (9.08)	76.4 (3.008)	156.3 (6.154)	6.50 (14.33)	
3SP A62	61.1 (3.73)	180 (2610)	190 (2755)	200 (2900)	2500	152.7 (40.34)	700	40.63 (10.73)	80.4 (3.165)	164.3 (6.469)	6.87 (15.15)	

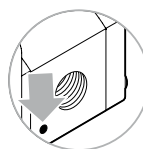
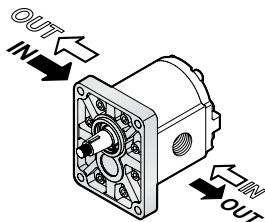
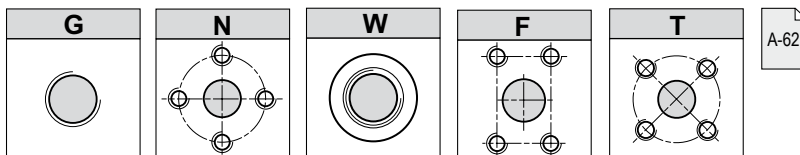
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

3SP | A | 22 | D | (H) | - | 10 | G | (VT)

3SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
22	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
-		
10	Tipo albero / Shaft type	10 - 13 - 14
G	Tipo connessioni / Connections type	G - N - W - F - T
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-63) Pressure relief valve (page A-63)

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

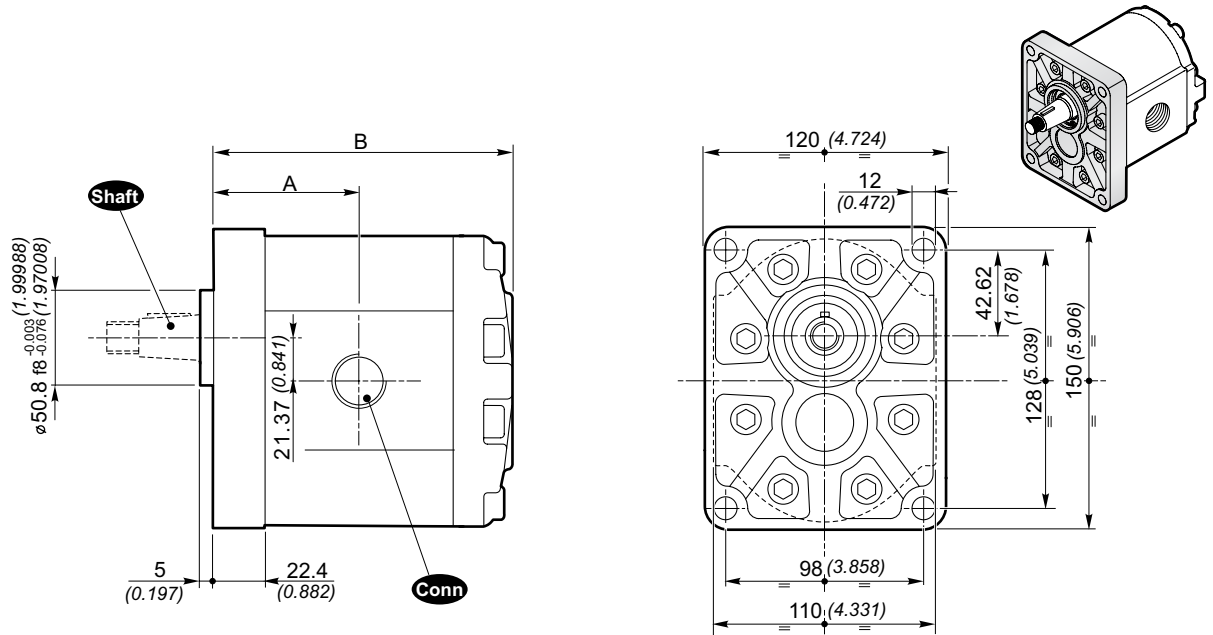
Rotazione / Rotation	
D	S

Flangia e coperchio in Alluminio
Flange and cover in Aluminium

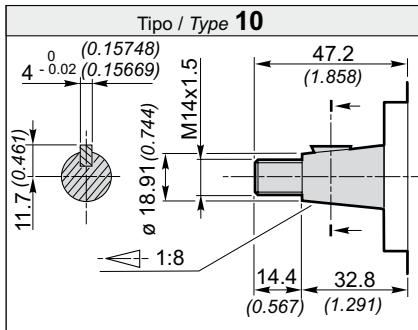
Standard

POMPE GRUPPO
PUMPS GROUP

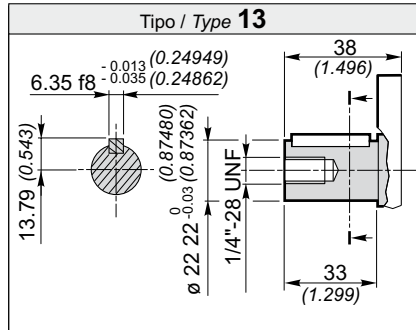
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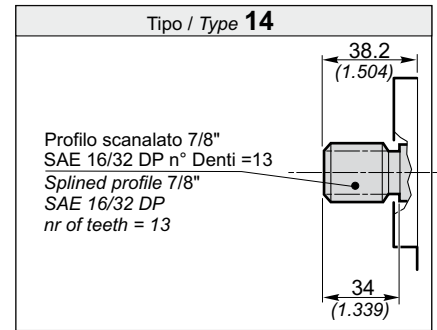
Shaft Alberi disponibili / Available shafts



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

3

Standard

**Flangia e coperchio in Ghisa
Flange and cover in Cast iron**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
3SP G19	19 (1.16)	270 (3915)	290 (4205)	320 (4640)	3500	66.5 (17.57)	700	12.64 (3.34)	62.4 (2.457)	128.3 (5.051)	7.53 (16.60)	95*
3SP G22	22.3 (1.36)	260 (3770)	280 (4060)	300 (4350)	3500	78 (20.61)	700	14.83 (3.92)	63.9 (2.516)	131.3 (5.169)	7.66 (16.89)	
3SP G29	29.3 (1.79)	240 (3480)	260 (3770)	280 (4060)	3300	96.7 (25.55)	700	19.48 (5.15)	66.9 (2.634)	137.3 (5.406)	7.94 (17.51)	
3SP G33	32.9 (2.01)	240 (3480)	260 (3770)	280 (4060)	3300	108.6 (28.69)	700	21.88 (5.78)	68.4 (2.693)	140.3 (5.524)	8.08 (17.82)	
3SP G36	36.4 (2.22)	230 (3335)	250 (3625)	270 (3915)	3300	120.1 (31.73)	700	24.21 (6.40)	69.9 (2.752)	143.3 (5.642)	8.21 (18.10)	
3SP G44	43.5 (2.65)	200 (2900)	220 (3190)	240 (3480)	3000	130.5 (34.48)	700	28.93 (7.64)	72.9 (2.870)	149.3 (5.878)	8.49 (18.72)	
3SP G52	51.7 (3.15)	200 (2900)	220 (3190)	240 (3480)	3000	155.1 (40.98)	700	34.38 (9.08)	76.4 (3.008)	156.3 (6.154)	8.80 (19.40)	
3SP G62	61.1 (3.73)	180 (2610)	190 (2755)	200 (2900)	2500	152.7 (40.34)	700	40.63 (10.73)	80.4 (3.165)	164.3 (6.469)	9.17 (20.22)	

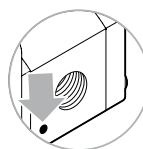
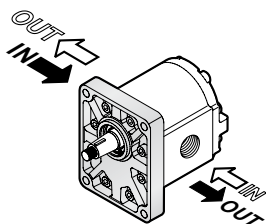
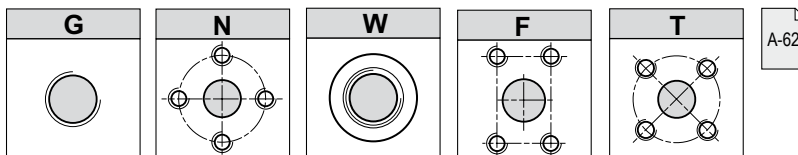
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

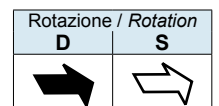
3SP G 22 D (H) - 10 G (VT)

3SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
22	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
-		
10	Tipo albero / Shaft type	10 - 13 - 14
G	Tipo connessioni / Connections type	G - N - W - F - T
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-63) Pressure relief valve (page A-63)

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

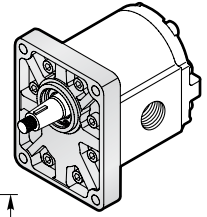
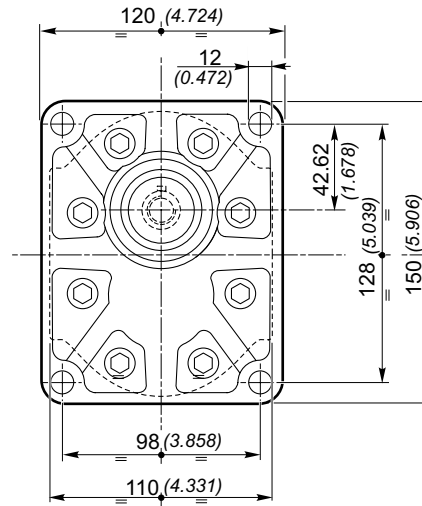
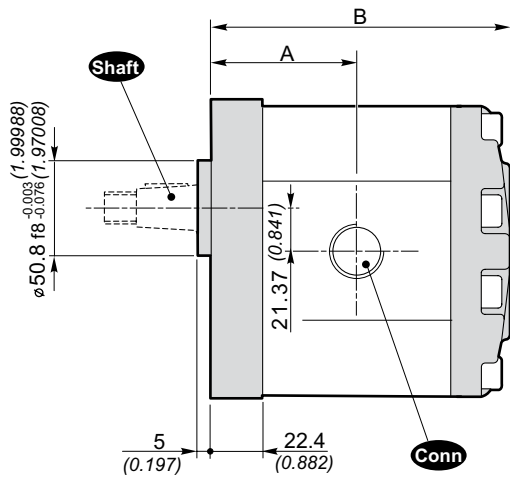


Flangia e coperchio in Ghisa
 Flange and cover in Cast iron

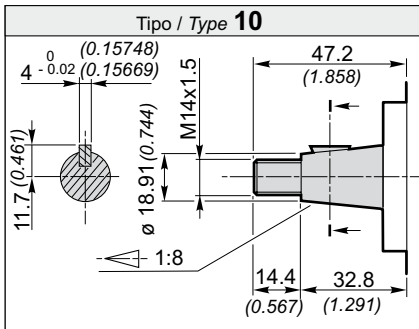
Standard

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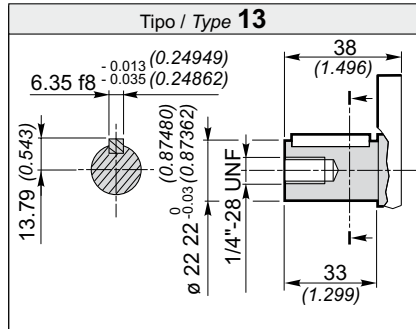
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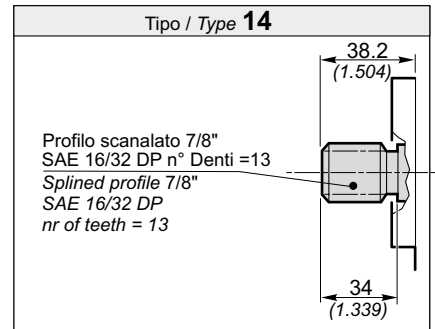
Shaft Alberi disponibili / Available shafts



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

3

SAE B, SAE B-OR

**Flangia e coperchio in Alluminio
Flange and cover in Aluminium**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm³/rev] (in³/rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
3SP A19	19 (1.16)	250 (3625)	270 (3915)	300 (4350)	3500	66.5 (17.57)	700	12.64 (3.34)	59.4 (2.339)	125.3 (4.933)	5.23 (11.53)	95*
3SP A22	22.3 (1.36)	240 (3480)	260 (3770)	290 (4205)	3500	78 (20.61)	700	14.83 (3.92)	60.9 (2.398)	128.3 (5.051)	5.36 (11.82)	
3SP A29	29.3 (1.79)	220 (3190)	240 (3480)	260 (3770)	3300	96.7 (25.55)	700	19.48 (5.15)	63.9 (2.516)	134.3 (5.287)	5.64 (12.44)	
3SP A33	32.9 (2.01)	220 (3190)	230 (3335)	260 (3770)	3300	108.6 (28.69)	700	21.88 (5.78)	65.4 (2.575)	137.3 (5.406)	5.78 (12.75)	
3SP A36	36.4 (2.22)	210 (3045)	230 (3335)	250 (3625)	3300	120.1 (31.73)	700	24.21 (6.40)	66.9 (2.634)	140.3 (5.124)	5.91 (13.03)	
3SP A44	43.5 (2.65)	200 (2900)	220 (3190)	240 (3480)	3000	130.5 (34.48)	700	28.93 (7.64)	69.9 (2.752)	146.3 (5.760)	6.19 (13.65)	
3SP A52	51.7 (3.15)	200 (2900)	210 (3045)	240 (3480)	3000	155.1 (40.98)	700	34.38 (9.08)	73.4 (2.890)	153.3 (6.035)	6.50 (14.33)	
3SP A62	61.1 (3.73)	180 (2610)	190 (2755)	200 (2900)	2500	152.7 (40.34)	700	40.63 (10.73)	77.4 (3.047)	161.3 (6.350)	6.87 (15.15)	

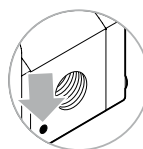
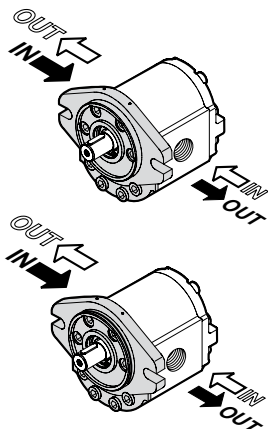
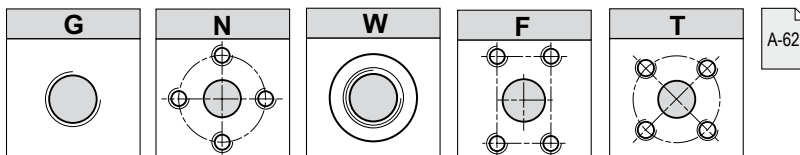
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

3SP | A | 22 | D | (H) | SAEB | - | 14 | G | (VT)

3SP	Tipo pompa / Pump type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium
22	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	(a richiesta / optional)
SAEB	Tipo flangia / Flange type	SAE B - SAE B - OR
-		
14	Tipo albero / Shaft type	10 - 13 - 14
G	Tipo connessioni / Connections type	G - N - W - F - T
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-63) Pressure relief valve (page A-63)

Conn Connessioni / Connections



Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

Rotazione / Rotation	
D	S

Flangia e coperchio in Alluminio
Flange and cover in Aluminium

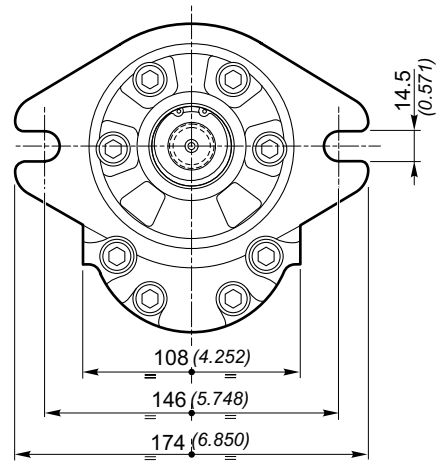
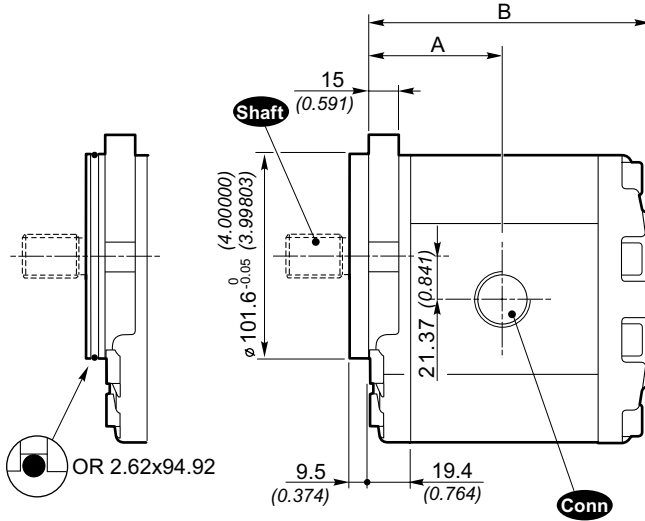
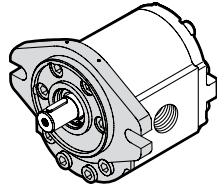
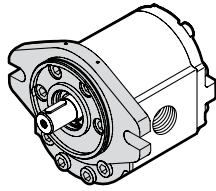
SAE B, SAE B-OR

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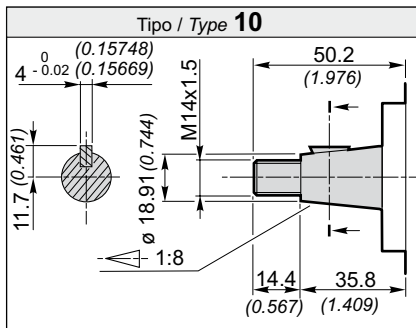
3

SAE B-OR

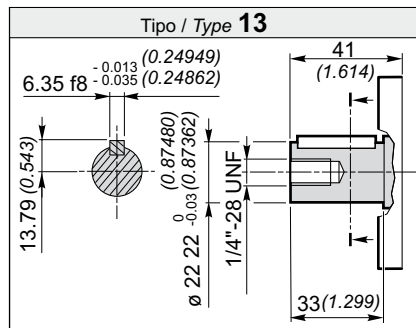
SAE B



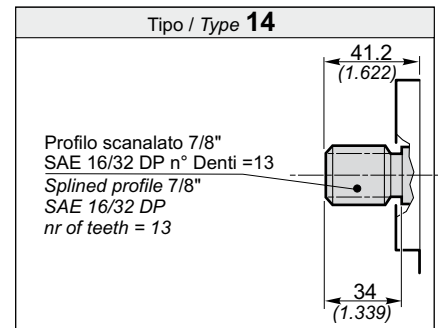
Shaft Alberi disponibili / Available shafts



Coppia 240 Nm / Torque 177 ft·lbs



Coppia 240 Nm / Torque 177 ft·lbs



Coppia 240 Nm / Torque 177 ft·lbs

**POMPE GRUPPO
PUMPS GROUP**

3

SAE B, SAE B-OR

**Flangia e coperchio in Ghisa
Flange and cover in Cast iron**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
3SP G19	19 (1.16)	270 (3915)	290 (4205)	320 (4640)	3500	66.5 (17.57)	700	12.64 (3.34)	59.4 (2.339)	125.3 (4.933)	7.59 (16.74)	95*
3SP G22	22.3 (1.36)	260 (3770)	280 (4060)	300 (4350)	3500	78 (20.61)	700	14.83 (3.92)	60.9 (2.398)	128.3 (5.051)	7.72 (17.02)	
3SP G29	29.3 (1.79)	240 (3480)	260 (3770)	280 (4060)	3300	96.7 (25.55)	700	19.48 (5.15)	63.9 (2.516)	134.3 (5.287)	8.00 (17.64)	
3SP G33	32.9 (2.01)	240 (3480)	260 (3770)	280 (4060)	3300	108.6 (28.69)	700	21.88 (5.78)	65.4 (2.575)	137.3 (5.406)	8.14 (17.95)	
3SP G36	36.4 (2.22)	230 (3335)	250 (3625)	270 (3915)	3300	120.1 (31.73)	700	24.21 (6.40)	66.9 (2.634)	140.3 (5.524)	8.27 (18.24)	
3SP G44	43.5 (2.65)	200 (2900)	220 (3190)	240 (3480)	3000	130.5 (34.48)	700	28.93 (7.64)	69.9 (2.752)	146.3 (5.760)	8.55 (18.85)	
3SP G52	51.7 (3.15)	200 (2900)	220 (3190)	240 (3480)	3000	155.1 (40.98)	700	34.38 (9.08)	73.4 (2.890)	153.3 (6.035)	8.86 (19.54)	
3SP G62	61.1 (3.73)	180 (2610)	190 (2755)	200 (2900)	2500	152.7 (40.34)	700	40.63 (10.73)	77.4 (3.047)	161.3 (6.350)	9.23 (20.35)	

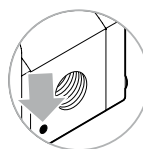
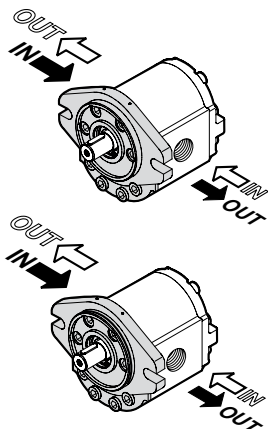
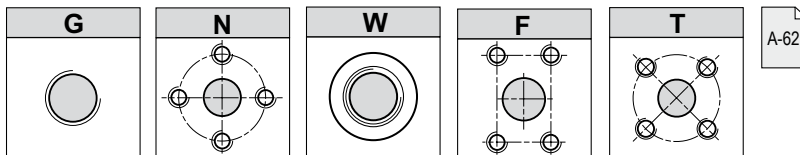
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

3SP | G | 22 | D | (H) | SAE B | - | 14 | G | (VT)

3SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
22	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation
(H)	Anello di rinforzo per piccola pressione in aspirazione Stiffening seal for low suction pressure	S = Rotazione sinistra / Anticlockwise rotation (a richiesta / optional)
SAEB	Tipo flangia / Flange type	SAE B - SAE B - OR
-		
14	Tipo albero / Shaft type	10 - 13 - 14
G	Tipo connessioni / Connections type	G - N - W - F - T
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) Valvola limitatrice di pressione (pag. A-63) Pressure relief valve (page A-63)

Conn Connessioni / Connections



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

Rotazione / Rotation	
D	S

Flangia e coperchio in Ghisa
Flange and cover in Cast iron

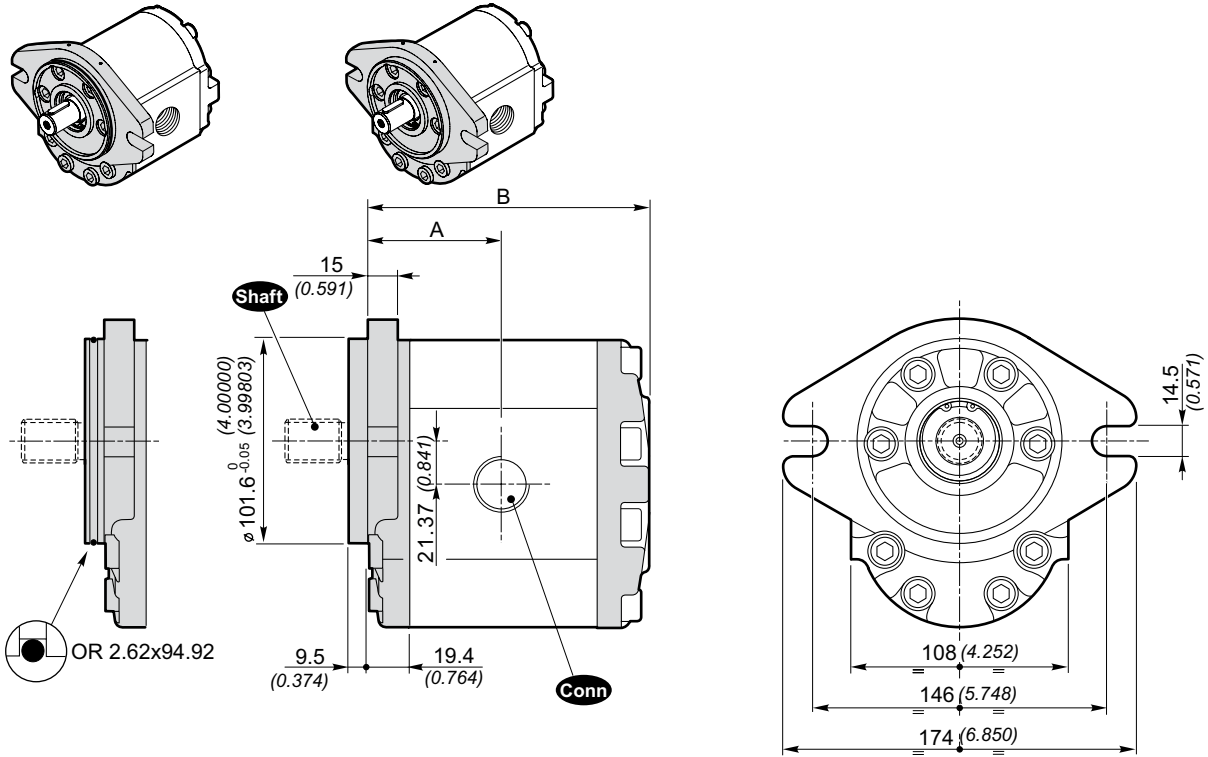
SAE B, SAE B-OR

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PUMPS GROUP

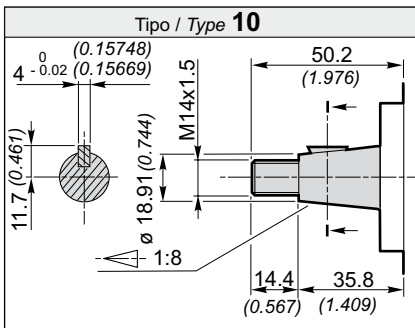
3

SAE B-OR

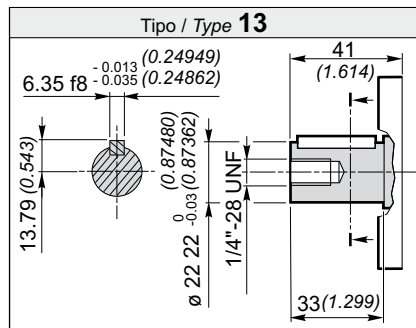
SAE B



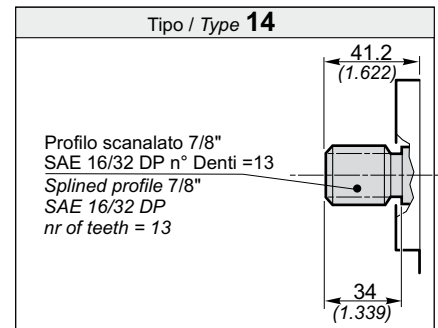
Shaft Alberi disponibili / Available shafts



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs



Coppia 240 Nm / Torque 177 ft-lbs

**POMPE GRUPPO
PUMPS GROUP**

3

ZFC

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetrico min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
3SP G19	19 (1.16)	270 (3915)	290 (4205)	320 (4640)	3500	66.5 (17.57)	700	12.64 (3.34)	110.5 (4.350)	176.4 (6.945)	7.58 (16.71)	95*
3SP G22	22.3 (1.36)	260 (3770)	280 (4060)	300 (4350)	3500	78 (20.61)	700	14.83 (3.92)	112.0 (4.409)	179.4 (7.063)	7.72 (17.02)	
3SP G29	29.3 (1.79)	240 (3480)	260 (3770)	280 (4060)	3300	96.7 (25.55)	700	19.48 (5.15)	115.0 (4.528)	185.4 (7.299)	8.0 (17.64)	
3SP G33	32.9 (2.01)	240 (3480)	260 (3770)	280 (4060)	3300	108.6 (28.69)	700	21.88 (5.78)	116.5 (4.587)	188.4 (7.417)	8.14 (17.95)	
3SP G36	36.4 (2.22)	230 (3335)	250 (3625)	270 (3915)	3300	120.1 (31.73)	700	24.21 (6.40)	118.0 (4.646)	191.4 (7.535)	8.28 (18.26)	
3SP G44	43.5 (2.65)	200 (2900)	220 (3190)	240 (3480)	3000	130.5 (34.48)	700	28.93 (7.64)	121.0 (4.764)	197.4 (7.772)	8.55 (18.85)	
3SP G52	51.7 (3.15)	200 (2900)	220 (3190)	240 (3480)	3000	155.1 (40.98)	700	34.38 (9.08)	124.5 (4.902)	204.4 (8.047)	8.88 (19.58)	
3SP G62	61.1 (3.73)	180 (2610)	190 (2755)	200 (2900)	2500	152.7 (40.34)	700	40.63 (10.73)	128.5 (5.059)	212.4 (8.362)	9.25 (20.40)	

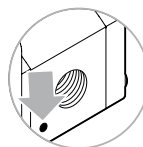
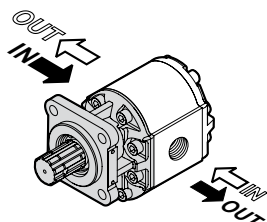
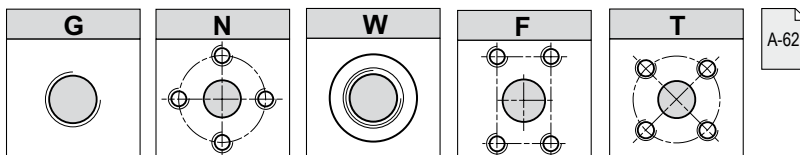
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

3SP | G | 22 | D | ZFC | - | 24 | G | (VT)

3SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
22	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
ZFC	Tipo flangia / Flange type	SAE B - SAE B - OR
-		
14	Tipo albero / Shaft type	10 - 13 - 14
G	Tipo connessioni / Connections type	G - N - W - F - T
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional)

Conn Connessioni / Connections

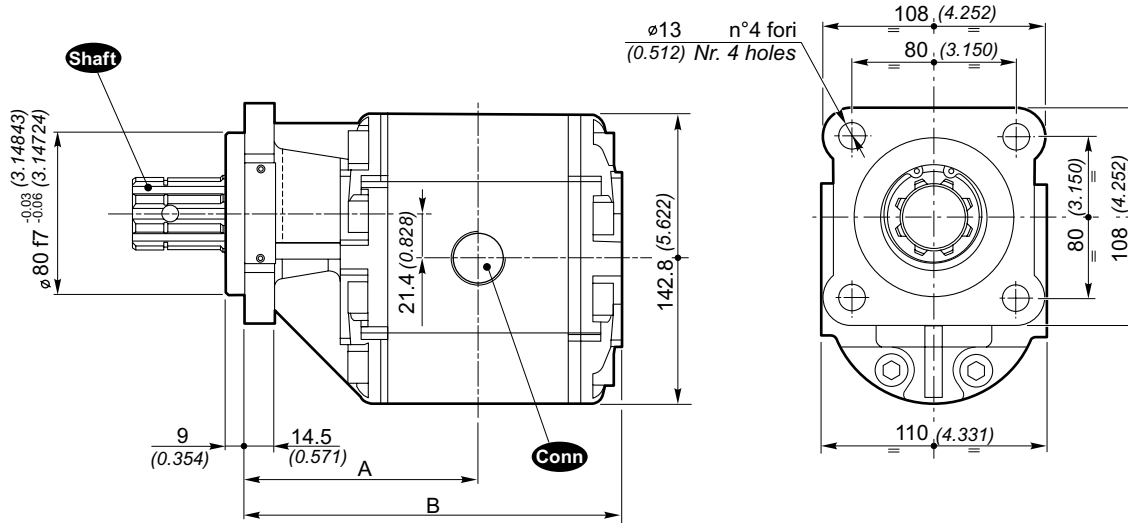
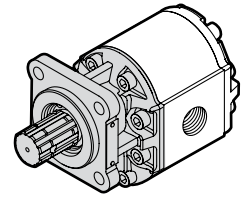


Il segno sul corpo indica il lato aspirazione per le pompe.
The sign on the body identify the suction side for the pumps.

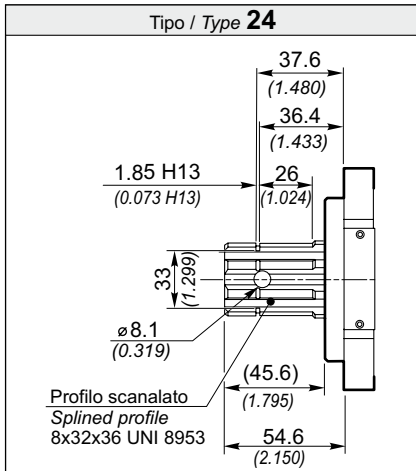
Rotazione / Rotation	
D	S

ZFC

POMPE GRUPPO
PUMPS GROUP **3**



Shaft Alberi disponibili / Available shafts

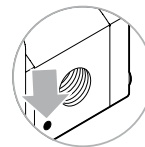
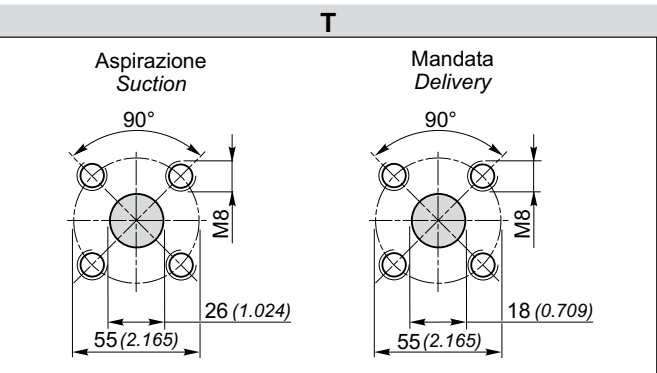
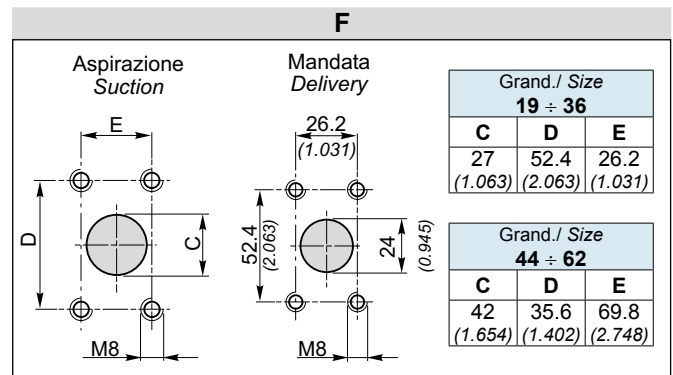
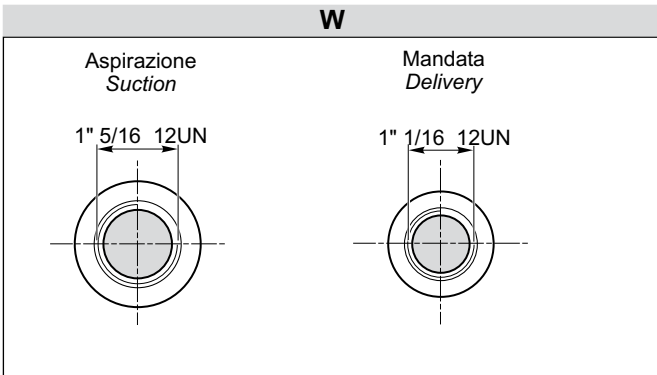
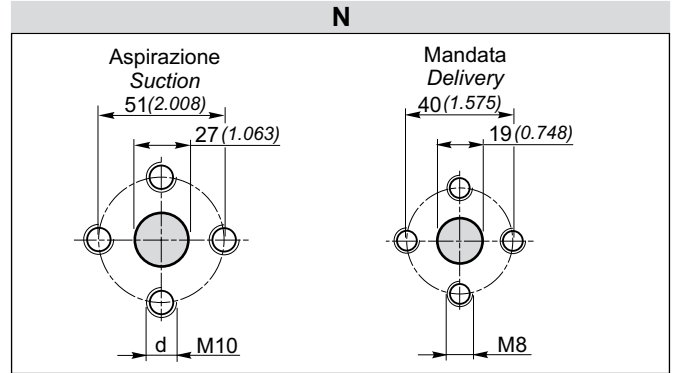
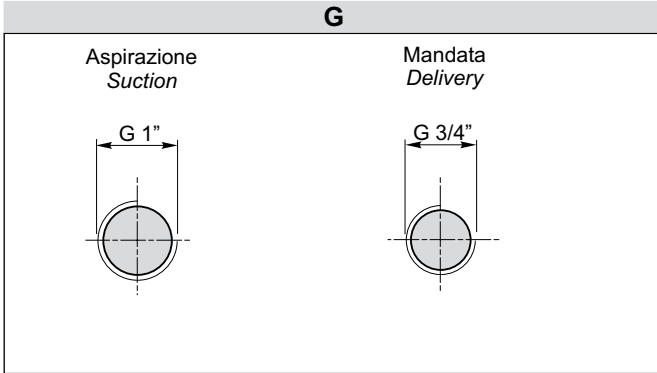


Coppia 240 Nm / Torque 177 ft-lbs

POMPE GRUPPO
PUMPS GROUP

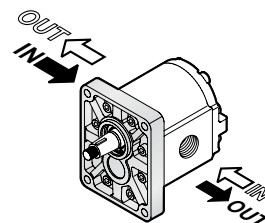
3

CONNESSIONI / CONNECTIONS



Il segno sul corpo indica il **lato aspirazione** per le pompe.
The sign on the body identify the **suction side** for the pumps.

Posizione delle connessioni / Connections positions



Rotazione / Rotation	
D	S

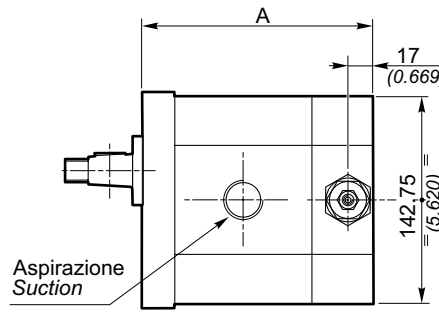
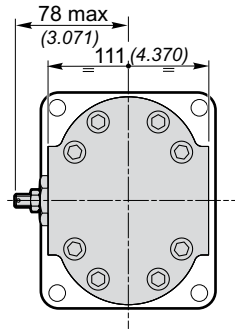
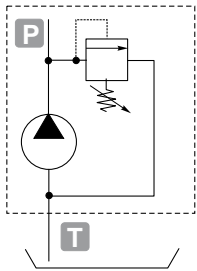
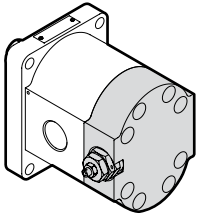
OPZIONI / OPTIONAL

POMPE GRUPPO
PUMPS GROUP

3

VLP- I (N)

Valvola limitatrice di pressione a scarico interno
Pressure relief valve with internal exhaust



	A	
	Standard	SAE B
3SP A19	144.3 (5.681)	141.3 (5.563)
3SP A22	147.3 (5.799)	144.3 (5.681)
3SP A29	153.3 (6.035)	150.3 (5.917)
3SP A33	156.3 (6.154)	153.3 (6.035)
3SP A36	159.3 (6.272)	156.3 (6.154)
3SP A44	165.3 (6.508)	162.3 (6.390)
3SP A52	172.3 (6.783)	169.3 (6.665)
3SP A62	180.3 (7.098)	177.3 (6.980)

NB.
La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore.
Fornitura solo con flangia e coperchio in Alluminio.
E' rappresentata una pompa con rotazione sinistra.

Warning.
The pressure relief valve can be applied by substituting the rear cover.
It is supplied only with aluminium flange and cover.
The showed pump is anticlockwise rotation.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 7 secondi ogni minuto per evitare il surriscaldamento della pompa.

The opening of the pressure relief valve should be carry out for times not over 7" each minute to avoid the overheating of the pump.

Esempio di ordinazione in codice / Example of ordering code

3SP	A	22	D	SAE B	-	10	G	(VT)	VLP-I	(N)	
VLP-I	Coperchio con VLP Cover with VLP						VPL-I (a scarico interno /at internal exhaust)				
(N)	Tipo di molla / Spring type						B - N - R (vedi tabella / See table)				

		Tipo di molla / Spring type		
		B	N	R
		molla bianca white spring	molla nera black spring	molla rossa red spring
Campi di taratura* Calibration fields*	[bar] (psi)	10 ÷ 100 (145 ÷ 1450)	30 ÷ 280 (435 ÷ 4060)	80 ÷ 380 (1160 ÷ 5510)

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

* Without setting request, it will be considered standard (black spring: 2175 psi).

**POMPE GRUPPO
PUMPS GROUP**

4

Standard

**Flangia e coperchio in Ghisa
Flange and cover in Cast iron**

Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure			Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [l/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [l/min] (Gal/min)	Dimensioni Dimensions		Massa Mass [Kg] (lbs)	Rendimento volumetric min. Min. volumetric efficiency %
		P1 [bar] (PSI)	P2 [bar] (PSI)	P3 [bar] (PSI)					A [mm] (inch)	B [mm] (inch)		
4SP G60	60.3 (3.68)	190 (2755)	210 (3045)	220 (3190)	2300	138.7 (36.64)	800	45.82 (12.11)	88.6 (3.488)	176.2 (6.937)	22.2 (49.0)	92*
4SP G70	69 (4.21)	180 (2610)	200 (2900)	210 (3045)	2200	151.8 (40.11)	800	52.44 (13.85)	90.6 (3.567)	180.2 (7.094)	22.7 (49.9)	
4SP G86	86 (5.25)	180 (2610)	200 (2900)	210 (3045)	2200	189.2 (49.99)	800	65.36 (17.27)	94.6 (3.724)	188.2 (7.409)	23.5 (51.8)	
4SP G103	103 (6.29)	170 (2465)	190 (2755)	200 (2900)	2000	206 (54.43)	800	78.28 (20.68)	98.6 (3.882)	196.2 (7.724)	24.3 (53.6)	
4SP G120	120 (7.32)	150 (2175)	160 (2320)	180 (2610)	2000	240 (63.41)	800	91.2 (24.10)	102.6 (4.039)	204.2 (8.039)	25.0 (55.1)	

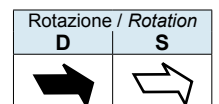
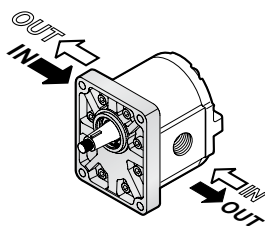
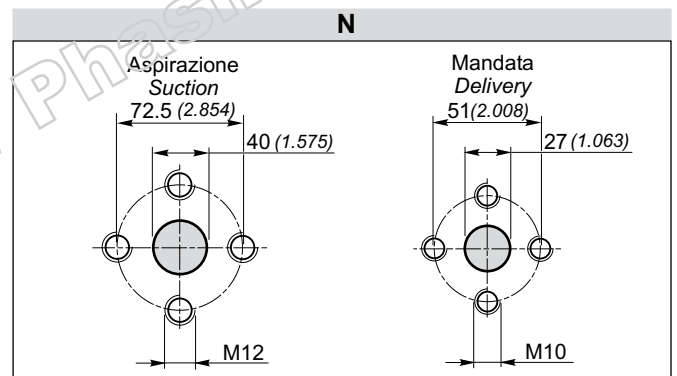
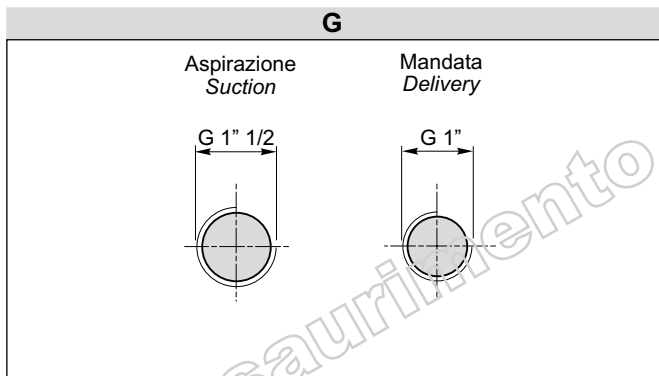
* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

4SP | G | 60 | D | - | 10 | N | (VT)

4SP	Tipo pompa / Pump type	vedi tabella / see table
G	Flangia e coperchio / Flange and cover	G = Ghisa / Cast iron
60	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
10	Tipo albero / Shaft type	10
G	Tipo connessioni / Connections type	G - N
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional)

Conn Connessioni / Connections

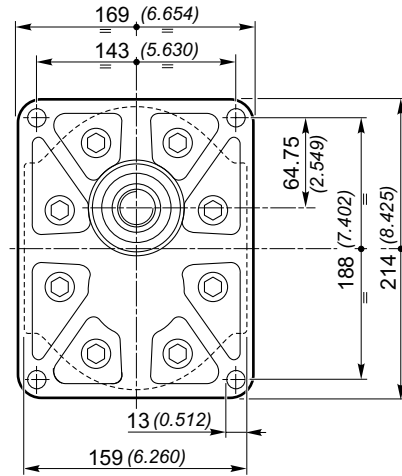
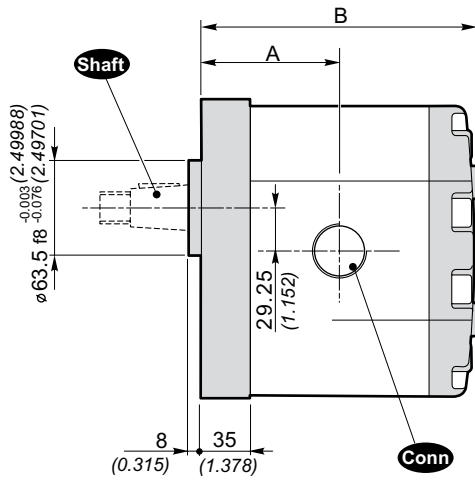
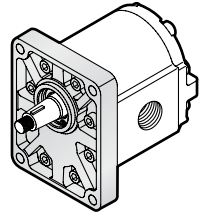


Flangia e coperchio in Ghisa
 Flange and cover in Cast iron

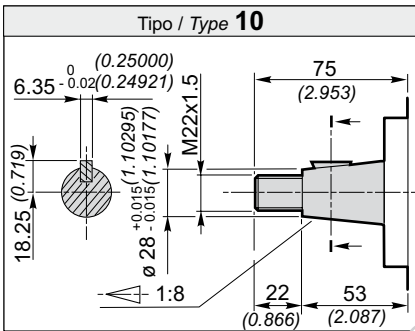
Standard

POMPE GRUPPO
 PUMPS GROUP

4



Shaft Alberi disponibili / Available shafts

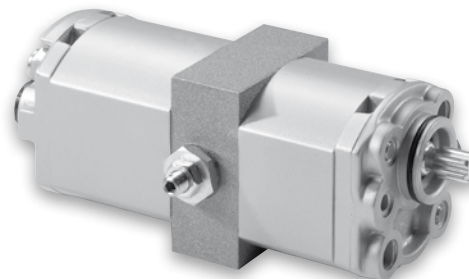


Ad esaurimento / Phasing-out

POMPE MULTIPLE AD INGRANAGGI MULTIPLE GEAR PUMPS




PRESENTAZIONE <i>DESCRIPTION</i>	B-2
CARATTERISTICHE TECNICHE <i>TECHNICAL FEATURES</i>	B-2
GAMMA DI PRODOTTO <i>PRODUCT RANGE</i>	B-3
DESIGNAZIONE <i>DESIGNATION</i>	B-4
GR1 + GR1	B-6
GR1 + GR1 TC	B-8
GR1 + GR1 (VD)	B-10
GR1 + GR1 + GR1 TC	B-12
GR2 + GR1	B-13
GR2 + GR1 TC	B-16
GR2 + GR2	B-18
GR2 + GR2 TC	B-20
GR3 + GR1	B-22
GR3 + GR1 TC	B-24
GR3 + GR2	B-26
GR3 + GR2 TC	B-28
GR3 + GR3	B-30
GR3 + GR3 TC	B-31
GR4 + GR1	B-32
GR4 + GR2	B-32
GR4 + GR3	B-32
GR4 + GR4	B-32



PRESENTAZIONE

Le pompe in Tandem (o pompe multiple) sono disponibili in esecuzione STANDARD e T.C. (Tandem corto) e possono essere a due o più stadi.

La versatilità delle nostre pompe consente il montaggio di una pompa multipla utilizzando pompe singole ed effettuando solo operazioni di disassemblaggio/assemblaggio di estrema semplicità.

- Tutte le pompe Galtech sono già predisposte per il traino di una successiva pompa.
- Una quantità molto limitata di kit "flangia di collegamento e accessori" permette di mantenere un basso valore nel magazzino e soprattutto di dare un servizio rapido agli utilizzatori finali.

DESCRIPTION

The multiple pumps are available in STANDARD and T.C. (short-tandem) versions.

The versatility of our pumps permits the assembling of a multiple pump using a single pump and making only a simply operation of disassembly/assembly.

- All our standard pumps are already present to engage another pump.
- A very limited quantity of kit "flange connections and accessories" gives a small stock value and mainly a rapid assistance to final users.

CARATTERISTICHE TECNICHE

- Le prestazioni delle unità che compongono la pompa multipla sono identiche a quelle delle singole pompe corrispondenti.
- La coppia massima di rotazione della pompa multipla è determinata dalla pompa con velocità minore.
- La coppia massima assorbita da ogni singola unità, tale da consentire il limite di funzionamento alla pressione massima di impiego, si calcola come segue:

$$M = \frac{c \times p}{64}$$

dove:

- M = Coppia massima assorbita (Nm)
- c = Cilindrata pompa (cm³/giro)
- p = Pressione massima di impiego (bar)

- La somma delle coppie assorbite dalle singole pompe non deve essere superiore alla coppia massima ammissibile sull'albero principale (vedi tabella).
La coppia massima assorbita dalle pompe seguenti non deve essere superiore alla coppia trasmissibile dal tramo della pompa precedente.
- La potenza assorbita dalla pompa multipla è data dalla somma delle potenze assorbite dalle singole pompe, si calcola come segue:

$$P = \frac{c \times n \times p}{603000}$$

dove:

- P = Potenza massima assorbita (Kw)
- c = cilindrata pompa (cm³/giro)
- n = Numero di giri massimo (giri/min)
- p = Pressione massima di impiego (bar)

TECHNICAL FEATURES

- Performance of units composing multiple pumps are the same as these of the corresponding single pumps.
- Max. rotation speed of multiple pumps is given by slower pump.
- Max. torque absorbed by each simple unit to grant a working limit at max. working pressure is calculated in the following way:

$$M = \frac{c \times p}{64}$$

in which:

- M = Max absorbed input torque (ft-lbs)
- c = Pump displacement (cm³/rev)
- p = Max. working pressure (bar)

- The total of the torque absorbed by each pump shall be not in excess of the max. allowed torque on main shaft (see below scheme)
The max. torque absorbed by the follow pumps shall be not in excess of the torque transmitted by the rear draft gear.
- The power absorbed by the multiple pump is determined from total powers that each pump absorbed and it is calculated as follow:

$$P = \frac{c \times n \times p}{603000}$$

in which:

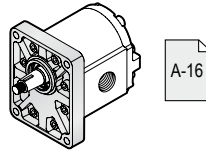
- P = Max. absorbed power (Kw)
- c = Pump displacement (cm³/rev)
- n = Max. rev working (rpm)
- p = Max. working pressure (bar)

	Coppia trasmessa dall'albero principale Torque transmitted by the draft pump [Nm] (ft-lbs)								Coppia trasmessa dal traino pompa Torque transmitted by rear draft [Nm] (ft-lbs)
	Tipo 10 Type 10	Tipo 11 Type 11	Tipo 12 Type 12	Tipo 13 Type 13	Tipo 14 Type 14	Tipo 15 Type 15	Tipo 16 Type 16	Tipo 17/27 Type 17/27	
GR 1	18 (13.3)	18 (13.3)		30 (22.1)	30 (22.1)	30 (22.1)		12 (8.9)	18 (13.3)
GR 2	98 (72.3)	98 (72.3)	98 (72.3)	98 (72.3)	98 (72.3)	98 (72.3)	98 (72.3)	70 (51.6)	75 (55.3)
GR 3	240 (177)			240 (177)	240 (177)				240 (177)
GR 4	750 (553)								750 (553)

GAMMA DI PRODOTTO

PRODUCT RANGE

Standard
Con albero tipo 10
With shaft type 10



1^a pompa
1st pump

2^a (..3^a,..) pompa / 2nd (..3rd,..) pump

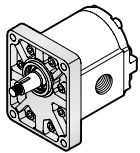
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3		010933000000000 010933100000000	010932000000000 010932100000000	010931100000000 010931010000000
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<i>Ad esaurimento / Phasing-out</i>				

Kit codice / Kit code

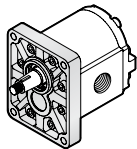
Tandem STANDARD
Tandem STANDARD

Tandem CORTO
SHORT Tandem

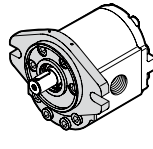
Standard



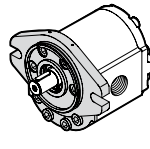
Standard



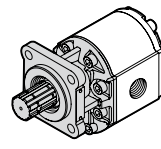
SAE B



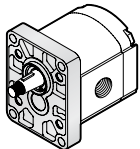
SAE B-OR



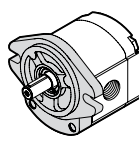
ZFC



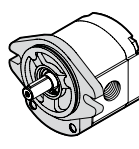
Standard



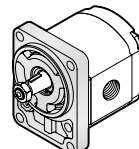
SAE A



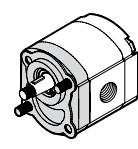
SAE A-OR



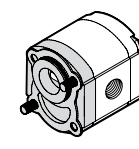
B80 C



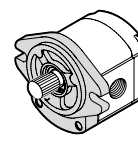
B50 C



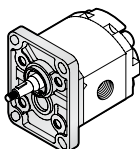
E52 C



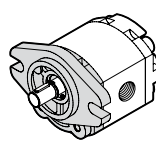
SAE A 14*



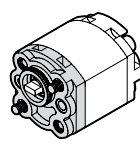
Standard



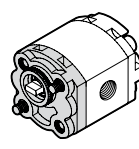
SAE AA



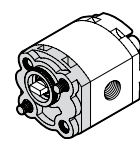
MC 32



E 32 BX



E 32 CX



DESIGNAZIONE

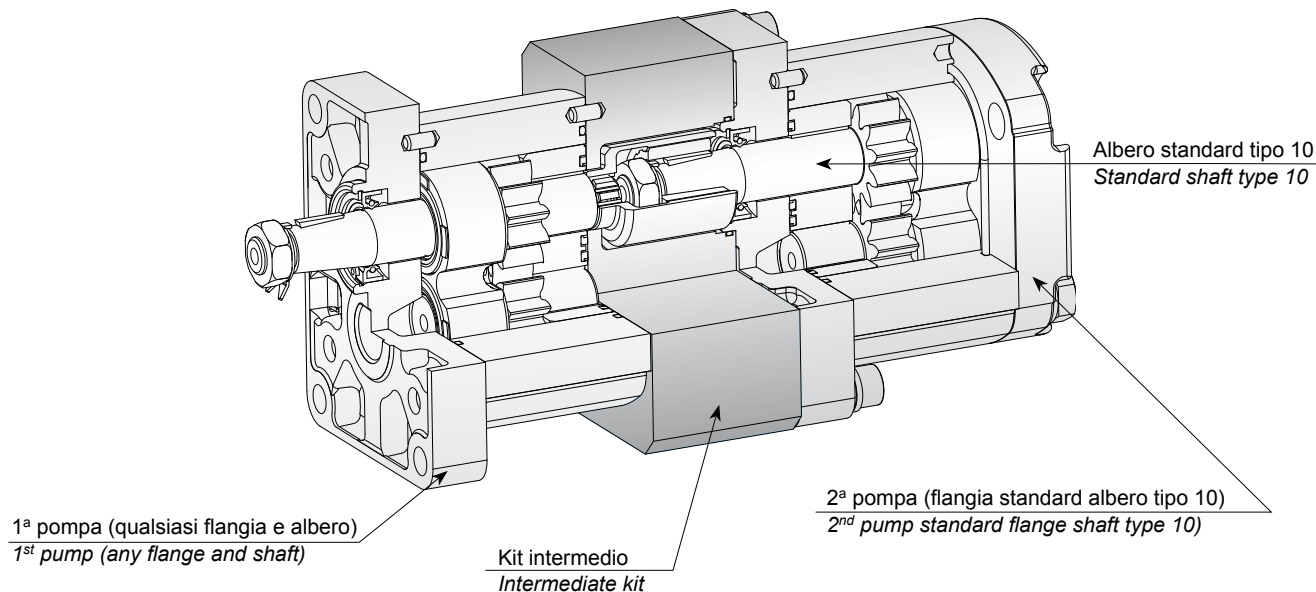
DESIGNATION

Tandem STANDARD

Tandem STANDARD

Sono possibili combinazioni di tutti i gruppi pompa (Gr.1 - Gr.2 - Gr.3 e Gr.4)
L'aspirazione di ogni singola unità è indipendente.

Are possible different combinations of all the group pumps (Gr.1 - Gr.2 - Gr.3 and Gr.4).
The suction of each pump is independent.



Esempio di ordinazione in codice / Example of ordering code

2SP A14 + 1SP A4.2 D SAE A - 10 G (VT)

2SP A14	Tipo prima pompa / First pump type	
1SP A4.2	Tipo seconda pompa / Second pump type	
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAE A	Tipo e versione flangia 1ª pompa / Flange and version first pump flange	
10	Tipo albero prima pompa / Shaft type first pump	Vedi pompa singola corrispondente (sez. A)
G	Tipo connessioni / Connections type	See corresponding single pump
(VT)	Opzioni / Optional	

Esempio di ordinazione in codice / Example of ordering code

3SP A36 + 2SP A14 + 1SP A3.2 D SAE B - 10 G (VT)

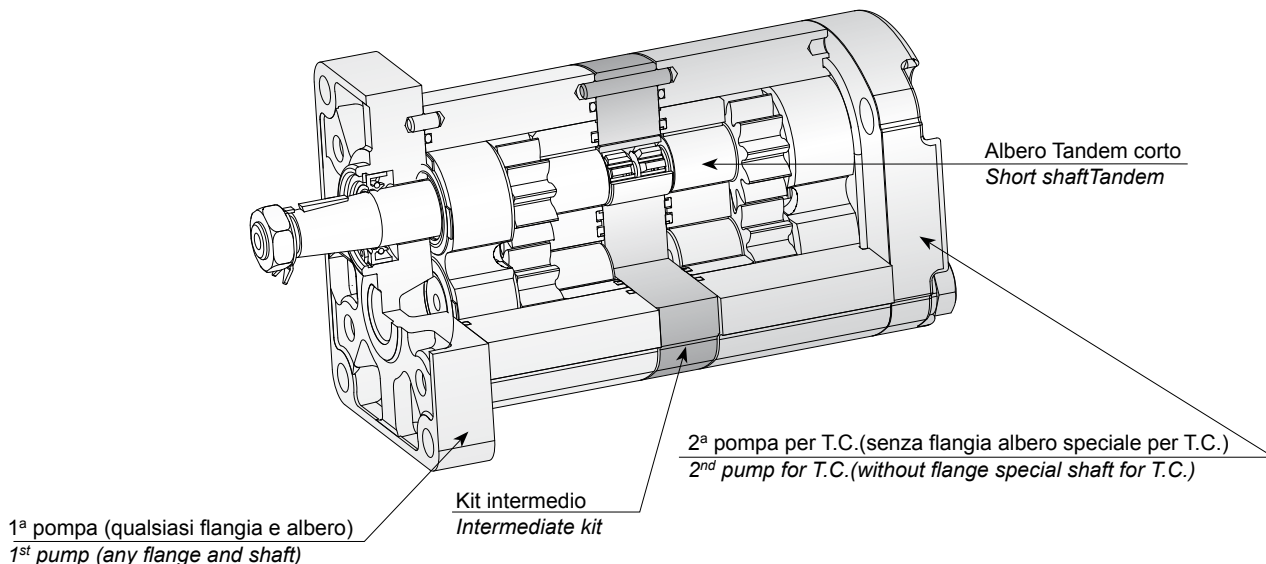
3SP A36	Tipo prima pompa / First pump type	
2SP A14	Tipo seconda pompa / Second pump type	
1SP A3.2	Tipo terza pompa / Third pump type	
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
SAE B	Tipo e versione flangia 1ª pompa / Flange and version first pump flange	
10	Tipo albero prima pompa / Shaft type first pump	Vedi pompa singola corrispondente (sez. A)
G	Tipo connessioni / Connections type	See corresponding single pump
(VT)	Opzioni / Optional	

Tandem CORTO

SHORT Tandem

- Non possibile con pompe Gr.4.
- Dimensioni più contenute rispetto al tandem standard.
- Le aspirazioni dei vari stadi sono in comunione fra loro.
- Possibilità di aspirazione unica fra i vari stadi (consultare nostra società)

- Not possibile with Gr.4 pumps.
- Low dimensions respect to the standard tandem.
- The suctions of the different pumps are connected.
- Possibility to have only one suction among the different pumps (contact our factory)



Esempio di ordinazione in codice / Example of ordering code

2SP A14 + 1SP A4.2 D TC SAE A - 10 G (VT)

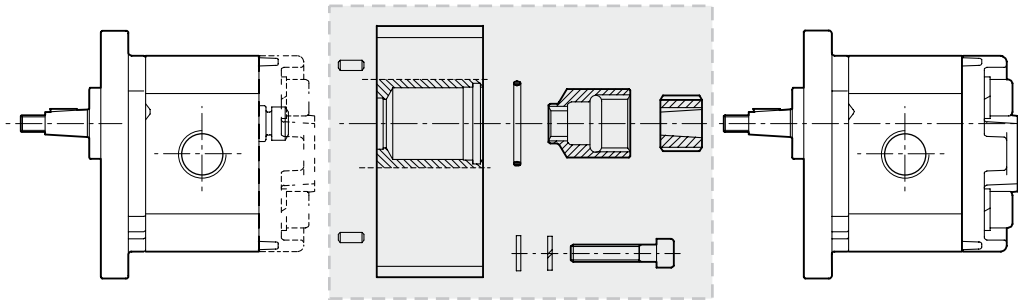
2SP A14	Tipo prima pompa / First pump type	
1SP A4.2	Tipo seconda pompa / Second pump type	
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
TC	Tipo Tandem / Type Tandem	
SAE A	Tipo e versione flangia 1ª pompa / Flange and version first pump flange	
10	Tipo albero prima pompa / Shaft type first pump	Vedi pompa singola corrispondente (sez. A)
G	Tipo connessioni / Connections type	See corresponding single pump
(VT)	Opzioni / Optional	

Esempio di ordinazione in codice / Example of ordering code

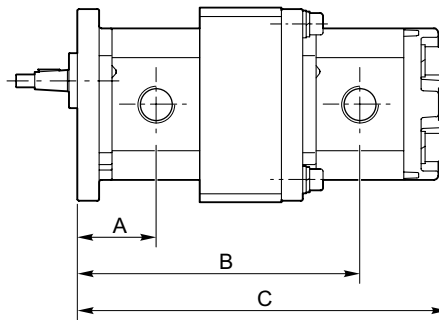
3SP A36 + 2SP A14 + 1SP A3.2 D TC SAE B - 10 G (VT)

3SP A36	Tipo prima pompa / First pump type	
2SP A14	Tipo seconda pompa / Second pump type	
1SP A3.2	Tipo terza pompa / Third pump type	
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
TC	Tipo Tandem / Type Tandem	
SAE B	Tipo e versione flangia 1ª pompa / Flange and version first pump flange	
10	Tipo albero prima pompa / Shaft type first pump	Vedi pompa singola corrispondente (sez. A)
G	Tipo connessioni / Connections type	See corresponding single pump
(VT)	Opzioni / Optional	

GR 1 + GR 1



Codice ordinazione kit / kit order code **01091100000000**



Codice ordinazione kit / kit order code **01091100000000**

Codice ordinazione kit / kit order code **01091100000000**

		mm (inch)		
		A	B	C
1SP A9.8 +	A9.8	52.2 (2.053)	177.9 (7.006)	234.1 (9.217)
	A7.8	52.2 (2.053)	174.0 (6.850)	226.2 (8.906)
	A6.3	52.2 (2.053)	171.2 (6.738)	220.5 (8.681)
	A5.0	52.2 (2.053)	168.6 (6.638)	215.4 (8.480)
	A4.2	52.2 (2.053)	167.1 (6.577)	212.3 (8.358)
	A3.7	52.2 (2.053)	166.1 (6.539)	210.4 (8.283)
	A3.2	52.2 (2.053)	165.1 (6.500)	208.4 (8.205)
	A2.5	52.2 (2.053)	163.8 (6.447)	205.7 (8.098)
	A2.0	52.2 (2.053)	162.8 (6.407)	203.7 (8.020)
	A1.6	52.2 (2.053)	162.0 (6.378)	202.2 (7.961)
	A1.2	52.2 (2.053)	161.2 (6.344)	200.5 (7.894)
	A0.9	52.2 (2.053)	160.6 (6.323)	199.4 (7.850)

		mm (inch)		
		A	B	C
1SP A7.8 +	A7.8	48.2 (1.898)	166.1 (6.539)	218.3 (8.594)
	A6.3	48.2 (1.898)	163.3 (6.427)	212.6 (8.370)
	A5.0	48.2 (1.898)	160.7 (6.327)	207.5 (8.169)
	A4.2	48.2 (1.898)	159.2 (6.266)	204.4 (8.047)
	A3.7	48.2 (1.898)	158.2 (6.228)	202.5 (7.972)
	A3.2	48.2 (1.898)	157.2 (6.189)	200.5 (7.894)
	A2.5	48.2 (1.898)	155.9 (6.136)	197.8 (7.787)
	A2.0	48.2 (1.898)	154.9 (6.096)	195.8 (7.709)
	A1.6	48.2 (1.898)	154.1 (6.067)	194.3 (7.650)
	A1.2	48.2 (1.898)	153.3 (6.033)	192.6 (7.583)
	A0.9	48.2 (1.898)	152.7 (6.012)	191.5 (7.539)

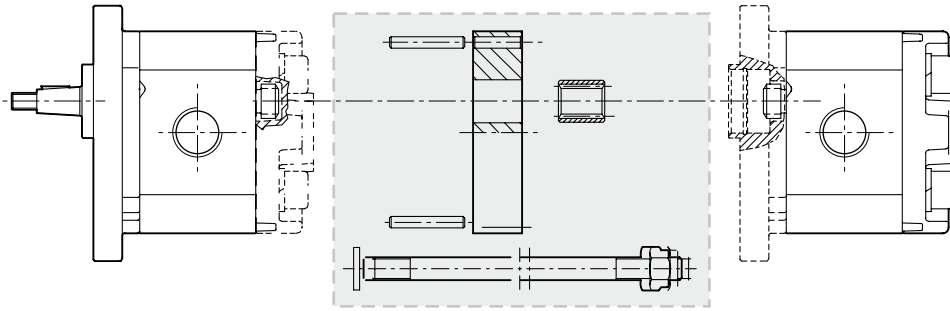
Codice ordinazione kit / kit order code **01091100000000**

Codice ordinazione kit / kit order code **01091100000000**

		mm (inch)		
		A	B	C
1SP A6.3	A6.3	45.4 (1.785)	157.6 (6.203)	206.9 (8.146)
	A5.0	45.4 (1.785)	155.0 (6.102)	201.8 (7.945)
	A4.2	45.4 (1.785)	153.5 (6.041)	198.7 (7.823)
	A3.7	45.4 (1.785)	152.5 (6.004)	196.8 (7.748)
	A3.2	45.4 (1.785)	151.5 (5.965)	194.8 (7.669)
	A2.5	45.4 (1.785)	150.2 (5.911)	192.1 (7.563)
	A2.0	45.4 (1.785)	149.2 (5.872)	190.1 (7.484)
	A1.6	45.4 (1.785)	148.4 (5.843)	188.6 (7.425)
	A1.2	45.4 (1.785)	147.6 (5.809)	186.9 (7.358)
	A0.9	45.4 (1.785)	147.0 (5.787)	185.8 (7.315)
1SP A5.0	A5.0	42.8 (1.685)	149.9 (5.902)	196.7 (7.744)
	A4.2	42.8 (1.685)	148.4 (5.841)	193.6 (7.622)
	A3.7	42.8 (1.685)	147.4 (5.803)	191.7 (7.547)
	A3.2	42.8 (1.685)	146.4 (5.764)	189.7 (7.469)
	A2.5	42.8 (1.685)	145.1 (5.711)	187.0 (7.362)
	A2.0	42.8 (1.685)	144.1 (5.671)	185.0 (7.283)
	A1.6TC	42.8 (1.685)	143.3 (5.642)	183.5 (7.224)
	A1.2TC	42.8 (1.685)	142.5 (5.608)	181.8 (7.157)
	A0.9TC	42.8 (1.685)	141.9 (5.587)	180.7 (7.114)
	1SP A4.2	A4.2TC	41.3 (1.624)	145.3 (5.719)
A3.7TC		41.3 (1.624)	144.3 (5.681)	188.6 (7.425)
A3.2TC		41.3 (1.624)	143.3 (5.642)	186.6 (7.346)
A2.5TC		41.3 (1.624)	141.9 (5.589)	183.9 (7.240)
A2.0TC		41.3 (1.624)	140.9 (5.549)	181.9 (7.161)
A1.6TC		41.3 (1.624)	140.2 (5.520)	180.4 (7.102)
A1.2TC		41.3 (1.624)	139.4 (5.486)	178.7 (7.035)
A0.9TC		41.3 (1.624)	138.8 (5.465)	177.6 (6.992)

		mm (inch)		
		A	B	C
1SP A3.7	A3.7TC	40.3 (1.587)	142.4 (5.606)	186.7 (7.350)
	A3.2TC	40.3 (1.587)	141.4 (5.567)	184.7 (7.272)
	A2.5TC	40.3 (1.587)	140.1 (5.514)	182.0 (7.165)
	A2.0TC	40.3 (1.587)	139.1 (5.474)	180.0 (7.087)
	A1.6TC	40.3 (1.587)	138.3 (5.445)	178.5 (7.028)
	A1.2TC	40.3 (1.587)	137.5 (5.411)	176.8 (6.961)
	A0.9TC	40.3 (1.587)	136.9 (5.390)	175.7 (6.917)
	A3.2TC	39.3 (1.547)	139.4 (5.488)	182.7 (7.193)
	A2.5TC	39.3 (1.547)	138.1 (5.435)	180.0 (7.087)
	A2.0TC	39.3 (1.547)	137.1 (5.396)	178.0 (7.008)
1SP A3.2	A1.6TC	39.3 (1.547)	136.3 (5.366)	176.5 (6.949)
	A1.2TC	39.3 (1.547)	135.5 (5.333)	174.8 (6.882)
	A0.9TC	39.3 (1.547)	134.9 (5.311)	173.7 (6.839)
	A2.5TC	37.9 (1.494)	135.4 (5.329)	177.3 (6.980)
	A2.0TC	37.9 (1.494)	134.4 (5.289)	175.3 (6.902)
	A1.6TC	37.9 (1.494)	133.6 (5.260)	173.8 (6.843)
	A1.2TC	37.9 (1.494)	132.8 (5.226)	172.1 (6.776)
	A0.9TC	37.9 (1.494)	132.2 (5.205)	171.0 (6.732)
	A2.0TC	36.9 (1.455)	132.4 (5.211)	173.3 (6.823)
	A1.6TC	36.9 (1.455)	131.6 (5.181)	171.8 (6.764)
1SP A2.0	A1.2TC	36.9 (1.455)	130.8 (5.148)	170.1 (6.697)
	A0.9TC	36.9 (1.455)	130.2 (5.126)	169.0 (6.654)
	A1.6TC	36.2 (1.425)	130.1 (5.122)	170.3 (6.705)
	A1.2TC	36.2 (1.425)	129.3 (5.089)	168.6 (6.638)
	A0.9TC	36.2 (1.425)	128.7 (5.067)	167.5 (6.594)
	A1.2TC	35.4 (1.392)	127.6 (5.022)	166.9 (6.571)
	A0.9TC	35.35 (1.392)	127.0 (5.000)	165.8 (6.528)
	A0.9TC	34.8 (1.370)	125.9 (4.957)	164.7 (6.484)

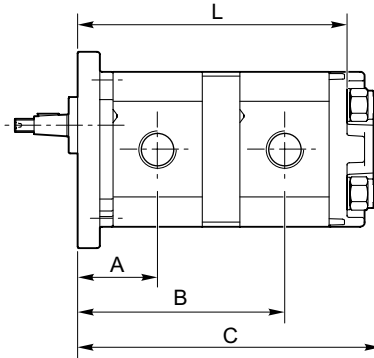
GR 1 + GR 1 TC



Codice ordinazione kit / kit order code

Il Kit standard viene fornito con tiranti e dadi autobloccanti (max. ingombro C); se le pompe tandem sono fornite già assemblate, l'ingombro C è leggermente inferiore in quanto vengono utilizzate viti TCEI (consultare il ns. servizio tecnico per avere gli ingombri esatti).

The standard Kit is supplied with tension rods and self-locking nuts (max. dimension C); if the tandem pumps are supplied already assembled, the external dimensions of C are slightly less because socket-head screws are used (contact our technical service for the exact dimensions).



		mm (inch)			
		A	B	C	L*
Codice ordinazione kit / kit order code		010911308680600			
A9.8 TC		52.2 <small>(2.053)</small>	141.5 <small>(5.569)</small>	200.5 <small>(7.894)</small>	185.6 <small>(7.307)</small>
A7.8 TC		52.2 <small>(2.053)</small>	137.5 <small>(5.413)</small>	200.5 <small>(7.894)</small>	177.7 <small>(6.996)</small>
Codice ordinazione kit / kit order code		010911308680500			
A6.3 TC		52.2 <small>(2.053)</small>	134.7 <small>(5.301)</small>	188.5 <small>(7.421)</small>	172.0 <small>(6.772)</small>
A5.0 TC		52.2 <small>(2.053)</small>	132.1 <small>(5.201)</small>	188.5 <small>(7.421)</small>	166.9 <small>(6.571)</small>
Codice ordinazione kit / kit order code		010911308680400			
A4.2 TC		52.2 <small>(2.053)</small>	130.6 <small>(5.140)</small>	176.5 <small>(6.949)</small>	163.8 <small>(6.449)</small>
1SP A9.8 + A3.7 TC		52.2 <small>(2.053)</small>	129.6 <small>(5.102)</small>	176.5 <small>(6.949)</small>	161.9 <small>(6.374)</small>
A3.2 TC		52.2 <small>(2.053)</small>	128.6 <small>(5.063)</small>	176.5 <small>(6.949)</small>	159.9 <small>(6.295)</small>
A2.5 TC		52.2 <small>(2.053)</small>	127.3 <small>(5.010)</small>	176.5 <small>(6.949)</small>	157.2 <small>(6.189)</small>
A2.0 TC		52.2 <small>(2.053)</small>	126.3 <small>(4.970)</small>	176.5 <small>(6.949)</small>	155.2 <small>(6.110)</small>
Codice ordinazione kit / kit order code		010911308680300			
A1.6 TC		52.2 <small>(2.053)</small>	125.5 <small>(4.941)</small>	165.7 <small>(6.524)</small>	153.7 <small>(6.051)</small>
A1.2 TC		52.2 <small>(2.053)</small>	124.7 <small>(4.907)</small>	164.5 <small>(6.476)</small>	152.0 <small>(5.984)</small>
A0.9 TC		52.2 <small>(2.053)</small>	124.1 <small>(4.886)</small>	164.5 <small>(6.476)</small>	150.9 <small>(5.941)</small>

		mm (inch)			
		A	B	C	L*
Codice ordinazione kit / kit order code		010911308680500			
A7.8 TC		48.2 <small>(1.898)</small>	129.6 <small>(5.102)</small>	188.5 <small>(7.421)</small>	169.8 <small>(6.685)</small>
Codice ordinazione kit / kit order code		010911308680400			
A6.3 TC		48.2 <small>(1.898)</small>	126.8 <small>(4.990)</small>	176.5 <small>(6.949)</small>	164.1 <small>(6.461)</small>
A5.0 TC		48.2 <small>(1.898)</small>	124.2 <small>(4.890)</small>	176.5 <small>(6.949)</small>	159.0 <small>(6.260)</small>
A4.2 TC		48.2 <small>(1.898)</small>	122.7 <small>(4.829)</small>	176.5 <small>(6.949)</small>	155.9 <small>(6.138)</small>
A3.7 TC		48.2 <small>(1.898)</small>	121.7 <small>(4.791)</small>	176.5 <small>(6.949)</small>	154.0 <small>(6.063)</small>
1SP A7.8 +		Codice ordinazione kit / kit order code			
		010911308680300			
A3.2 TC		48.2 <small>(1.898)</small>	120.7 <small>(4.752)</small>	164.5 <small>(6.476)</small>	152.0 <small>(5.984)</small>
A2.5 TC		48.2 <small>(1.898)</small>	119.4 <small>(4.699)</small>	164.5 <small>(6.476)</small>	149.3 <small>(5.878)</small>
A2.0 TC		48.2 <small>(1.898)</small>	118.4 <small>(4.659)</small>	164.5 <small>(6.476)</small>	147.3 <small>(5.799)</small>
A1.6 TC		48.2 <small>(1.898)</small>	117.6 <small>(4.630)</small>	164.5 <small>(6.476)</small>	145.8 <small>(5.740)</small>
A1.2 TC		48.2 <small>(1.898)</small>	116.8 <small>(4.596)</small>	164.5 <small>(6.476)</small>	144.1 <small>(5.673)</small>
A0.9 TC		48.2 <small>(1.898)</small>	116.2 <small>(4.575)</small>	164.5 <small>(6.476)</small>	143.0 <small>(5.630)</small>

Con la flangia SAE AA incrementare le quote A, B e C di 3.5 mm
 * La quota L serve per il fissaggio di pompe con flangia E32 ed MC32

With SAE AA flange increase A, B, and C dimensions of 0.138 inch
 * The L dimension is necessary for the facing of pumps with E32 ed MC32 flange only

		mm (inch)			
		A	B	C	L*
		Codice ordinazione kit / kit order code 010911308680400			
1SP A6.3 +	A6.3 TC	45.4 (1.785)	121.1 (4.766)	176.5 (6.949)	158.4 (6.236)
	Codice ordinazione kit / kit order code 010911308680300				
	A5.0 TC	45.4 (1.785)	118.5 (4.665)	165.3 (6.508)	153.3 (6.035)
	A4.2 TC	45.4 (1.785)	116.9 (4.604)	164.5 (6.476)	150.2 (5.913)
	A3.7 TC	45.4 (1.785)	116.0 (4.567)	164.5 (6.476)	148.3 (5.839)
	A3.2 TC	45.4 (1.785)	115.0 (4.528)	164.5 (6.476)	146.3 (5.760)
	A2.5 TC	45.4 (1.785)	113.7 (4.474)	164.5 (6.476)	143.6 (5.654)
	Codice ordinazione kit / kit order code 010911308680200				
	A2.0 TC	45.4 (1.785)	112.7 (4.435)	153.6 (6.047)	141.6 (5.575)
	A1.6 TC	45.4 (1.785)	111.9 (4.406)	152.5 (6.004)	140.1 (5.516)
A1.2 TC	45.4 (1.785)	111.1 (4.372)	152.5 (6.004)	138.4 (5.449)	
A0.9 TC	45.4 (1.785)	110.5 (4.350)	152.5 (6.004)	137.3 (5.406)	
Codice ordinazione kit / kit order code 010911308680300					
1SP A5.0 +	A5.0 TC	42.8 (1.685)	113.4 (4.465)	164.5 (6.476)	148.5 (5.846)
	A4.2 TC	42.8 (1.685)	111.9 (4.404)	164.5 (6.476)	145.1 (5.713)
	A3.7 TC	42.8 (1.685)	110.9 (4.366)	164.5 (6.476)	143.2 (5.638)
	Codice ordinazione kit / kit order code 010911308680200				
	A3.2 TC	42.8 (1.685)	109.9 (4.327)	153.2 (6.032)	141.2 (5.559)
	A2.5 TC	42.8 (1.685)	108.6 (4.274)	152.5 (6.004)	138.5 (5.453)
	A2.0 TC	42.8 (1.685)	107.6 (4.234)	152.5 (6.004)	136.5 (5.374)
	Codice ordinazione kit / kit order code 010911308680200				
	A1.6 TC	42.8 (1.685)	106.8 (4.205)	152.5 (6.004)	135.0 (5.315)
	A1.2 TC	42.8 (1.685)	105.9 (4.171)	152.5 (6.004)	133.3 (5.248)
A0.9 TC	42.8 (1.685)	105.4 (4.150)	152.5 (6.004)	132.2 (5.205)	
Codice ordinazione kit / kit order code 010911308680300					
1SP A4.2 +	A4.2 TC	41.3 (1.624)	108.8 (4.282)	164.5 (6.476)	142.0 (5.591)
	Codice ordinazione kit / kit order code 010911308680200				
	A3.7 TC	41.3 (1.624)	107.8 (4.244)	152.5 (6.004)	140.1 (5.516)
	A3.2 TC	41.3 (1.624)	106.8 (4.205)	152.5 (6.004)	138.1 (5.437)
	A2.5 TC	41.3 (1.624)	105.5 (4.152)	152.5 (6.004)	135.4 (5.331)
	A2.0 TC	41.3 (1.624)	104.5 (4.112)	152.5 (6.004)	133.4 (5.252)
	A1.6 TC	41.3 (1.624)	103.7 (4.083)	152.5 (6.004)	131.9 (5.193)
	A1.2 TC	41.3 (1.624)	102.9 (4.049)	152.5 (6.004)	130.2 (5.126)
	Codice ordinazione kit / kit order code 010911308680100				
	A0.9 TC	41.3 (1.624)	102.3 (4.028)	141.1 (5.555)	129.1 (5.083)

		mm (inch)					
		A	B	C	L*		
		Codice ordinazione kit / kit order code 010911308680200					
1SP A3.7 +	A3.7 TC	40.3 (1.587)	105.9 (4.169)	152.5 (6.004)	138.2 (5.441)		
	A3.2 TC	40.3 (1.587)	104.9 (4.130)	152.5 (6.004)	136.2 (5.362)		
	A2.5 TC	40.3 (1.587)	103.6 (4.077)	152.5 (6.004)	133.5 (5.256)		
	A2.0 TC	40.3 (1.587)	102.6 (4.037)	152.5 (6.004)	131.5 (5.177)		
	A1.6 TC	40.3 (1.587)	101.8 (4.008)	152.5 (6.004)	130.0 (5.118)		
	Codice ordinazione kit / kit order code 010911308680100						
	A1.2 TC	40.3 (1.587)	100.9 (3.974)	140.5 (5.532)	128.3 (5.051)		
	A0.9 TC	40.3 (1.587)	100.4 (3.953)	140.5 (5.532)	127.2 (5.008)		
	Codice ordinazione kit / kit order code 010911308680200						
	1SP A3.2 +	A3.2 TC	39.3 (1.547)	102.9 (4.051)	152.5 (6.004)	134.2 (5.283)	
A2.5 TC		39.3 (1.547)	101.6 (3.998)	152.5 (6.004)	131.5 (5.177)		
Codice ordinazione kit / kit order code 010911308680100							
A2.0 TC		39.3 (1.547)	100.6 (3.959)	141.50 (5.571)	129.5 (5.098)		
A1.6 TC		39.3 (1.547)	99.8 (3.929)	140.5 (5.532)	128.0 (5.039)		
A1.2 TC		39.3 (1.547)	98.9 (3.896)	140.5 (5.532)	126.3 (4.972)		
A0.9 TC		39.3 (1.547)	98.4 (3.874)	140.5 (5.532)	125.2 (4.929)		
Codice ordinazione kit / kit order code 010911308680100							
1SP A2.5 +		A2.5 TC	37.9 (1.494)	98.9 (3.892)	140.8 (5.543)	128.8 (5.071)	
		A2.0 TC	37.9 (1.494)	97.9 (3.852)	140.5 (5.532)	126.8 (4.992)	
	A1.6 TC	37.9 (1.494)	97.1 (3.823)	140.5 (5.532)	125.3 (4.933)		
	A1.2 TC	37.9 (1.494)	96.3 (3.789)	140.5 (5.532)	123.6 (4.866)		
	A0.9 TC	37.9 (1.494)	95.7 (3.768)	140.5 (5.532)	122.5 (4.823)		
	Codice ordinazione kit / kit order code 010911308680100						
	1SP A2.0 +	A2.0 TC	36.9 (1.455)	95.9 (3.774)	140.5 (5.532)	124.8 (4.913)	
		A1.6 TC	36.9 (1.455)	95.1 (3.744)	140.5 (5.532)	123.3 (4.854)	
		A1.2 TC	36.9 (1.455)	94.3 (3.711)	140.5 (5.532)	121.6 (4.787)	
		A0.9 TC	36.9 (1.455)	93.7 (3.689)	140.5 (5.532)	120.5 (4.744)	
Codice ordinazione kit / kit order code 010911308680100							
1SP A1.6 +		A1.6 TC	36.2 (1.425)	93.6 (3.685)	140.5 (5.532)	121.8 (4.795)	
		A1.2 TC	36.2 (1.425)	92.8 (3.652)	140.5 (5.532)	120.1 (4.728)	
		A0.9 TC	36.2 (1.425)	92.2 (3.630)	140.5 (5.532)	119.0 (4.685)	
		Codice ordinazione kit / kit order code 010911308680100					
		1SP A1.2 +	A1.2 TC	35.4 (1.392)	91.1 (3.585)	140.5 (5.532)	118.4 (4.661)
	A0.9 TC		35.4 (1.392)	90.5 (3.563)	140.5 (5.532)	117.3 (4.618)	
	Codice ordinazione kit / kit order code 010911308680100						
	1SP A0.9 +		A0.9 TC	34.8 (1.370)	89.4 (3.520)	140.5 (5.532)	116.2 (4.575)

GR 1 + GR 1

Pompa con valvola disgiuntrice High low pump

VD

PRESENTAZIONE

La pompa con valvola disgiuntrice è una pompa in tandem a due stadi con una valvola di sequenza posta nella flangia intermedia.
 Quando la pompa lavora a bassa pressione la portata delle due pompe si somma per un avvicinamento o allontanamento rapido.
 Quando la pressione supera il valore di taratura della valvola di sequenza, questa mette a scarico la seconda pompa.
 La versatilità delle nostre pompe consente il montaggio di una pompa con valvola disgiuntrice utilizzando pompe singole ed effettuando solo operazioni di disassemblaggio/assemblaggio di estrema semplicità.

PRESENTATION

*The high low pump is a two-stages tandem pump having a sequence valve on the intermediate flange.
 When the pumps works at low pressure, the flows of the two pumps add up, allowing a rapid approaching or moving away of the actuator.
 When the pressure exceeds the setting value of the sequence valve, the second pump's exhaust goes to the tank.
 The versatility of our pumps allows the assembling a high low pump by using single pumps and only by carrying out very simple assembling/disassembling processes.*

CARATTERISTICHE TECNICHE

- Le prestazioni delle unità che compongono la pompa multipla sono identiche a quelle delle singole pompe precedenti.
- Questa pompa ha l'aspirazione unica e la mandata unica, l'aspirazione deve sempre essere nel secondo stadio e la mandata nel primo. Può essere dotata di tutte le tipologie di flange presenti nella nostra gamma, di alberi e le relative connessioni tranne la configurazione (GG4).
- La valvola disgiuntrice è registrabile da 20 a 100 bar.

TECHNICAL FEATURES

- *The performances of the units which make the multiple pump are identical to the ones of the previous single pumps.*
- *This pump has common suction and delivery: the suction always has to be at the second stage, while delivery always has to be at the first stage. It can be supplied with every kind of flanges, shafts and corresponding connections (except for GG4) available in our range.*
- *The high low pump can be set at 20 bar up to 100 bar.*

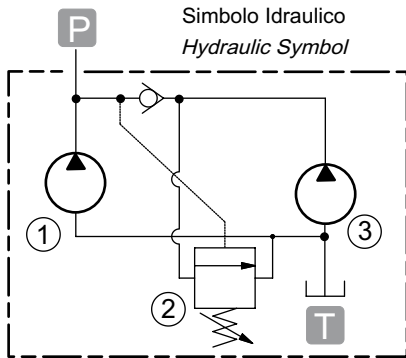
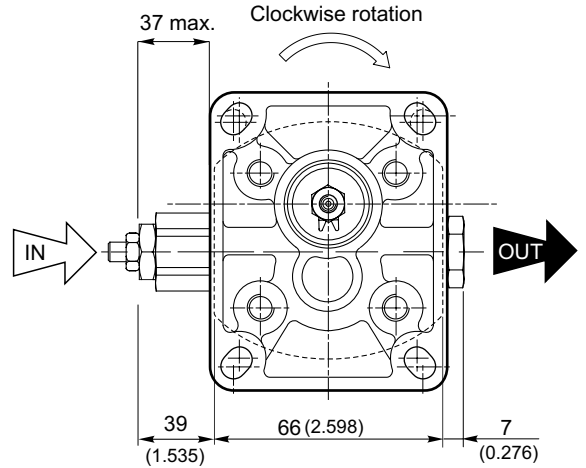
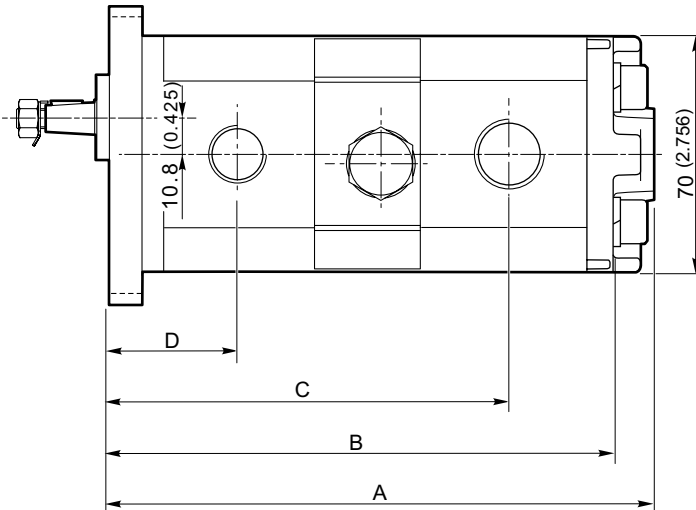
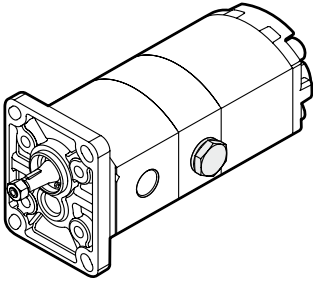
Dati tecnici / Technical data

Cilindrata 1° stadio Displacement 1st stage [cm³/rev] (in³/rev)	Cilindrata 2° stadio Displacement 2nd stage [cm³/rev] (in³/rev)	Pressione max. d'esercizio Alta pressione Maximum operatin pressure Operation at high pressure P1 [bar] (PSI)	Campo taratura pressione Bassa pressione Range of pressure calibration Operation at low pressure P1 [bar] (PSI)	Dimensioni Dimensions				Massa Mass [Kg] (lbs)
				A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	D [mm] (inch)	
0.9 (0.05)	3.7 (0.23)	240 (3480)	20÷100 (218÷725)	154.2 (6.071)	142.2 (5.598)	109.9 (4.327)	34.8 (1.370)	1.89 (4.17)
	4.2 (0.26)			156.1 (6.146)	144.1 (5.673)	110.9 (4.364)	34.8 (1.370)	1.91 (4.21)
	5.0 (0.31)			159.2 (6.268)	147.2 (5.795)	112.4 (4.425)	34.8 (1.370)	1.96 (4.32)
	6.3 (0.38)			164.3 (6.469)	152.3 (5.996)	115.0 (4.526)	34.8 (1.370)	2.04 (4.50)
	7.8 (0.47)			160.0 (6.299)	148.0 (5.827)	112.8 (4.441)	34.8 (1.370)	2.13 (4.70)
	9.8 (0.60)			177.9 (7.004)	165.9 (6.531)	121.8 (4.793)	34.8 (1.370)	2.23 (4.92)
1.2 (0.07)	3.7 (0.23)	240 (3480)	20÷100 (218÷725)	155.3 (6.114)	143.3 (5.642)	111.0 (4.370)	35.1 (1.382)	1.91 (4.21)
	4.2 (0.26)			157.2 (6.189)	145.2 (5.717)	112.0 (4.407)	35.1 (1.382)	1.92 (4.23)
	5.0 (0.31)			160.3 (6.311)	148.3 (5.839)	113.5 (4.469)	35.1 (1.382)	1.98 (4.37)
	6.3 (0.38)			165.4 (6.512)	153.4 (6.039)	116.1 (4.569)	35.1 (1.382)	2.05 (4.52)
	7.8 (0.47)			161.1 (6.343)	149.1 (5.870)	113.9 (4.484)	35.1 (1.382)	2.14 (4.72)
	9.8 (0.60)			179.0 (7.047)	167.0 (6.575)	122.9 (4.837)	35.1 (1.382)	2.25 (4.96)
1.6 (0.10)	3.7 (0.23)	240 (3480)	20÷100 (218÷725)	157.0 (6.181)	145.0 (5.709)	112.7 (4.437)	36.2 (1.425)	1.93 (4.26)
	4.2 (0.26)			158.9 (6.256)	146.9 (5.783)	113.7 (4.474)	36.2 (1.425)	1.95 (4.30)
	5.0 (0.31)			162.0 (6.378)	150.0 (5.906)	115.2 (4.535)	36.2 (1.425)	2.00 (4.41)
	6.3 (0.38)			167.1 (6.579)	155.1 (6.106)	117.8 (4.636)	36.2 (1.425)	2.07 (4.56)
	7.8 (0.47)			162.8 (6.409)	150.8 (5.937)	115.6 (4.551)	36.2 (1.425)	2.17 (4.78)
	9.8 (0.60)			180.7 (7.114)	168.7 (6.642)	124.6 (4.904)	36.2 (1.425)	2.27 (5.01)
2.0 (0.12)	3.7 (0.23)	220 (3480)	20÷100 (218÷725)	158.5 (6.240)	146.5 (5.768)	114.2 (4.496)	37.0 (1.457)	1.95 (4.30)
	4.2 (0.26)			160.4 (6.315)	148.4 (5.843)	115.2 (4.533)	37.0 (1.457)	1.97 (4.34)
	5.0 (0.31)			163.5 (6.437)	151.5 (5.965)	116.7 (4.594)	37.0 (1.457)	2.02 (4.45)
	6.3 (0.38)			168.6 (6.638)	156.6 (6.165)	119.3 (4.695)	37.0 (1.457)	2.09 (4.61)
	7.8 (0.47)			164.3 (6.469)	152.3 (5.996)	117.1 (4.610)	37.0 (1.457)	2.19 (4.83)
	9.8 (0.60)			182.2 (7.173)	170.2 (6.701)	126.1 (4.963)	37.0 (1.457)	2.29 (5.05)
2.5 (0.15)	3.7 (0.23)	220 (3480)	20÷100 (218÷725)	160.5 (6.319)	148.5 (5.846)	116.2 (4.575)	38.0 (1.496)	1.98 (4.37)
	4.2 (0.26)			162.4 (6.394)	150.4 (5.921)	117.2 (4.612)	38.0 (1.496)	1.99 (4.39)
	5.0 (0.31)			165.5 (6.516)	153.5 (6.043)	118.7 (4.673)	38.0 (1.496)	2.04 (4.50)
	6.3 (0.38)			170.6 (6.717)	158.6 (6.244)	121.3 (4.774)	38.0 (1.496)	2.12 (4.67)
	7.8 (0.47)			166.3 (6.547)	154.3 (6.075)	119.1 (4.689)	38.0 (1.496)	2.21 (4.87)
	9.8 (0.60)			184.2 (7.252)	172.2 (6.780)	128.1 (5.041)	38.0 (1.496)	2.32 (5.12)
3.2 (0.20)	3.7 (0.23)	210 (3480)	20÷100 (218÷725)	163.2 (6.425)	151.2 (5.953)	118.9 (4.681)	39.3 (1.547)	2.01 (4.43)
	4.2 (0.26)			165.1 (6.500)	153.1 (6.028)	119.9 (4.719)	39.3 (1.547)	2.03 (4.48)
	5.0 (0.31)			168.2 (6.622)	156.2 (6.150)	121.4 (4.780)	39.3 (1.547)	2.08 (4.59)
	6.3 (0.38)			173.3 (6.823)	161.3 (6.350)	124.0 (4.880)	39.3 (1.547)	2.15 (4.74)
	7.8 (0.47)			169.0 (6.654)	157.0 (6.181)	121.8 (4.795)	39.3 (1.547)	2.25 (4.96)
	9.8 (0.60)			186.9 (7.358)	174.9 (6.886)	130.8 (5.148)	39.3 (1.547)	2.35 (5.18)

GR 1 + GR 1

Pompa con valvola disgiuntrice High low pump

VD



Simbolo Idraulico
Hydraulic Symbol

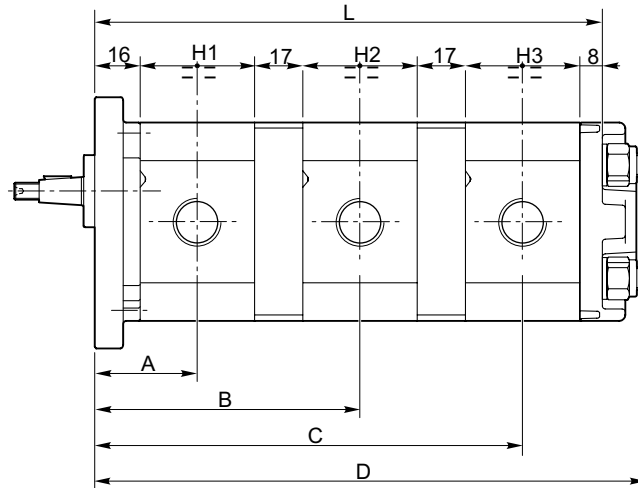
- 1 - Stadio alta pressione
Stage high pressure
- 2 - Flangia intermedia con valvola disgiuntrice
Intermediate flange with high low pump
- 3 - Stadio bassa pressione
Stage low pressure

Esempio di ordinazione in codice / Example of ordering code

1SP A1.6 + 1SP A6.3 D VD (... bar) SAE A - 10 GG0 (VT)

1SP A1.6	Tipo prima pompa / First pump type	
1SP A6.3	Tipo seconda pompa / Second pump type	
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
VD	Valvola disgiuntrice / High low pump	Indicare la pressione di taratura della valvola disgiuntrice Indicate the adjusting pressure of the high low pump
SAE A	Tipo e versione flangia 1ª pompa / Flange and version first pump flange	
10	Tipo albero prima pompa / Shaft type first pump	Vedi pompa singola corrispondente (sez. A)
G	Tipo connessioni / Connections type	See corresponding single pump
(VT)	Opzioni / Optional	

GR 1 + GR 1 + GR 1 TC



	mm (inch)			
	H1	H2	H3	L
1SP A9.8		72.3 (2.846)		...
1SP A7.8		64.4 (2.535)		...
1SP A6.3		58.7 (2.311)		...
1SP A5.0		53.6 (2.110)		...
1SP A4.2		50.5 (1.988)		...
1SP A3.7		48.6 (1.913)		...
1SP A3.2		46.6 (1.835)		...
1SP A2.5		43.9 (1.728)		...
1SP A2.0		41.9 (1.650)		...
1SP A1.6		40.4 (1.591)		...
1SP A1.2		38.7 (1.524)		...
1SP A0.9		37.6 (1.480)		...

Con la flangia SAE AA incrementare le quote A, B, e C di 3.5 mm

	mm (inch)	
	L	D
	L < 179.5 L < (7.067)	188.5 ^{+1.5} ₀ (7.421) ^{+0.059} ₀
	179.6 < L < 191.4 (7.071) < L < (7.535)	200.5 ^{+1.5} ₀ (7.894) ^{+0.059} ₀
	191.5 < L < 206.4 (7.539) < L < (8.126)	215.5 ^{+1.5} ₀ (8.484) ^{+0.059} ₀
	206.5 < L < 220 (8.130) < L < (8.661)	229.5 ^{+1.5} ₀ (9.035) ^{+0.059} ₀
	220.1 < L < 235.5 (8.665) < L < (9.272)	243.5 ^{+1.5} ₀ (9.587) ^{+0.059} ₀
	235.6 < L < 249.5 (9.276) < L < (9.823)	258.5 ^{+1.5} ₀ (10.177) ^{+0.059} ₀
	249.6 < L < 262 (9.827) < L < (10.315)	271.5 ^{+1.5} ₀ (10.689) ^{+0.059} ₀
	262.1 < L (10.280) < L	287.5 ^{+1.5} ₀ (11.319) ^{+0.059} ₀

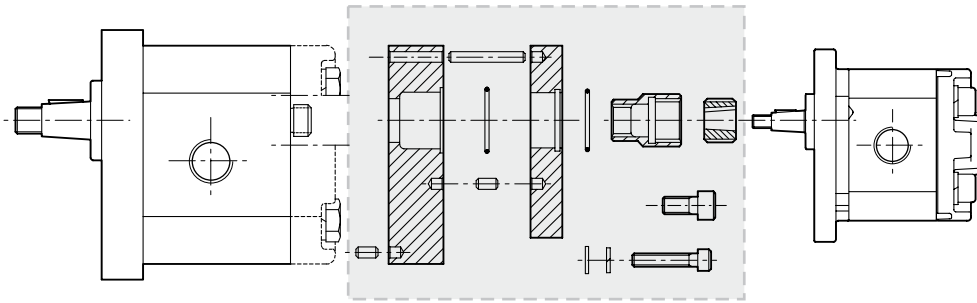
With SAE AA flange increase A, B, and C dimensions of 0.138 inch

Esempio di ordinazione in codice / Example of ordering code

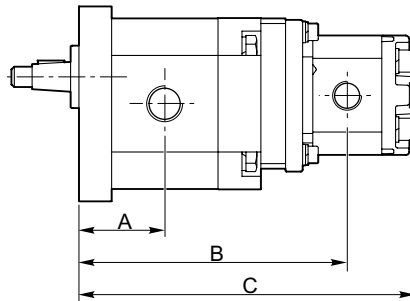
1SP A6.3	+	A2.5	+	A1.2	D	TC	...(1)	-	...(2)	...(3)
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1SP A6.3	Tipo prima pompa / First pump type	vedi tabelle / see tables
A2.5	Tipo seconda pompa / Second pump type	vedi tabelle / see tables
A1.2	Tipo terza pompa / Third pump type	vedi tabelle / see tables
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation
TC	Tipo tandem / Type tandem	
...(1)	Tipo ed eventuale versione flangia standard 1 ^a pompa Type and version first pump flange	
...(2)	Tipo albero / Shaft type	Vedi pompa singola corrispondente See corresponding single pump
...(3)	Tipo connessioni / Connections type	Vedi pompa singola corrispondente See corresponding single pump

GR 2 + GR 1



Codice ordinazione kit / kit order code **01092110000000**



Codice ordinazione kit / kit order code **01092110000000**

Codice ordinazione kit / kit order code **01092110000000**

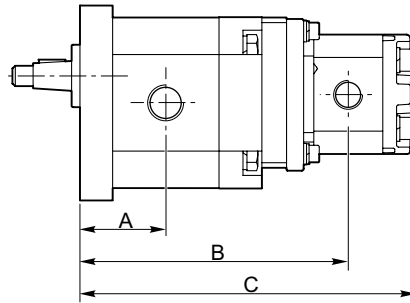
		mm (inch)			
		A	B	C	
2SP...26	+ 1SPA	9.8	62.7 <i>(2.469)</i>	198.1 <i>(7.797)</i>	254.2 <i>(10.008)</i>
		7.8	62.7 <i>(2.469)</i>	194.1 <i>(7.642)</i>	246.3 <i>(9.697)</i>
		6.3	62.7 <i>(2.469)</i>	191.3 <i>(7.530)</i>	240.6 <i>(9.472)</i>
		5	62.7 <i>(2.469)</i>	188.7 <i>(7.429)</i>	235.5 <i>(9.272)</i>
		4.2	62.7 <i>(2.469)</i>	187.2 <i>(7.368)</i>	232.4 <i>(9.150)</i>
		3.7	62.7 <i>(2.469)</i>	186.2 <i>(7.331)</i>	230.5 <i>(9.075)</i>
		3.2	62.7 <i>(2.469)</i>	185.2 <i>(7.291)</i>	228.5 <i>(8.996)</i>
		2.5	62.7 <i>(2.469)</i>	183.9 <i>(7.238)</i>	225.8 <i>(8.890)</i>
		2	62.7 <i>(2.469)</i>	182.9 <i>(7.199)</i>	223.8 <i>(8.811)</i>
		1.6	62.7 <i>(2.469)</i>	182.1 <i>(7.169)</i>	222.3 <i>(8.752)</i>
		1.2	62.7 <i>(2.469)</i>	181.3 <i>(7.136)</i>	220.6 <i>(8.685)</i>
0.9	62.7 <i>(2.469)</i>	180.7 <i>(7.114)</i>	219.5 <i>(8.642)</i>		

		mm (inch)			
		A	B	C	
2SP...22	+ 1SPA	9.8	59.8 <i>(2.354)</i>	192.3 <i>(7.569)</i>	248.4 <i>(9.780)</i>
		7.8	59.8 <i>(2.354)</i>	188.3 <i>(7.413)</i>	240.5 <i>(9.469)</i>
		6.3	59.8 <i>(2.354)</i>	185.5 <i>(7.301)</i>	234.8 <i>(9.244)</i>
		5	59.8 <i>(2.354)</i>	182.9 <i>(7.201)</i>	229.7 <i>(9.043)</i>
		4.2	59.8 <i>(2.354)</i>	181.4 <i>(7.140)</i>	226.6 <i>(8.921)</i>
		3.7	59.8 <i>(2.354)</i>	180.4 <i>(7.102)</i>	224.7 <i>(8.846)</i>
		3.2	59.8 <i>(2.354)</i>	179.4 <i>(7.063)</i>	222.7 <i>(8.768)</i>
		2.5	59.8 <i>(2.354)</i>	178.05 <i>(7.010)</i>	220.0 <i>(8.661)</i>
		2	59.8 <i>(2.354)</i>	177.1 <i>(6.970)</i>	218.0 <i>(8.583)</i>
		1.6	59.8 <i>(2.354)</i>	176.3 <i>(6.941)</i>	216.5 <i>(8.524)</i>
		1.2	59.8 <i>(2.354)</i>	175.5 <i>(6.907)</i>	214.8 <i>(8.457)</i>
0.9	59.8 <i>(2.354)</i>	174.9 <i>(6.886)</i>	213.7 <i>(8.413)</i>		

Con la flangia B80C incrementare le quote A, B e C di 2 mm
 Con la flangia E52C diminuire le quote A, B e C di 2.7 mm

With B80C flange increase A, B, and C dimensions of 0.079 inch
 With E52C flange decrease A, B, and C dimensions of 0.106 inch

GR 2 + GR 1



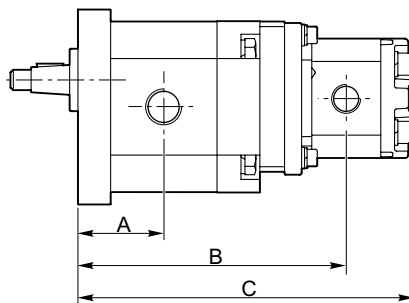
Codice ordinazione kit / kit order code **01092110000000**

Codice ordinazione kit / kit order code **01092110000000**

		mm (inch)			
		A	B	C	
2SP...19	+ 1SPA	9.8	57.3 (2.256)	187.3 (7.372)	243.4 (9.583)
		7.8	57.3 (2.256)	183.3 (7.217)	235.5 (9.272)
		6.3	57.3 (2.256)	180.5 (7.104)	229.8 (9.047)
		5	57.3 (2.256)	177.9 (7.004)	224.7 (8.846)
		4.2	57.3 (2.256)	176.4 (6.943)	221.6 (8.724)
		3.7	57.3 (2.256)	175.4 (6.906)	219.7 (8.650)
		3.2	57.3 (2.256)	174.4 (6.866)	217.7 (8.571)
		2.5	57.3 (2.256)	173.1 (6.813)	215.0 (8.465)
		2	57.3 (2.256)	172.1 (6.774)	213.0 (8.386)
		1.6	57.3 (2.256)	171.3 (6.744)	211.5 (8.327)
		1.2	57.3 (2.256)	170.5 (6.711)	209.8 (8.260)
		0.9	57.3 (2.256)	169.9 (6.689)	208.7 (8.217)
2SP...16	+ 1SPA	9.8	54.8 (2.157)	182.3 (7.175)	238.4 (9.386)
		7.8	54.8 (2.157)	178.3 (7.020)	230.5 (9.075)
		6.3	54.8 (2.157)	175.5 (6.907)	224.8 (8.850)
		5	54.8 (2.157)	172.9 (6.807)	219.7 (8.650)
		4.2	54.8 (2.157)	171.4 (6.746)	216.6 (8.528)
		3.7	54.8 (2.157)	170.4 (6.709)	214.7 (8.453)
		3.2	54.8 (2.157)	169.4 (6.669)	212.7 (8.374)
		2.5	54.8 (2.157)	168.1 (6.616)	210.0 (8.268)
		2	54.8 (2.157)	167.1 (6.577)	208.0 (8.189)
		1.6	54.8 (2.157)	166.3 (6.547)	206.5 (8.130)
		1.2	54.8 (2.157)	165.5 (6.514)	204.8 (8.063)
		0.9	54.8 (2.157)	164.9 (6.492)	203.7 (8.020)

		mm (inch)			
		A	B	C	
2SP...14	+ 1SPA	9.8	52.7 (2.075)	178.1 (7.010)	234.2 (9.220)
		7.8	52.7 (2.075)	174.1 (6.854)	226.3 (8.909)
		6.3	52.7 (2.075)	171.3 (6.742)	220.6 (8.685)
		5	52.7 (2.075)	168.7 (6.642)	215.5 (8.484)
		4.2	52.7 (2.075)	167.2 (6.581)	212.4 (8.362)
		3.7	52.7 (2.075)	166.2 (6.543)	210.5 (8.287)
		3.2	52.7 (2.075)	165.2 (6.504)	208.5 (8.209)
		2.5	52.7 (2.075)	163.9 (6.451)	205.8 (8.102)
		2	52.7 (2.075)	162.9 (6.411)	203.8 (8.024)
		1.6	52.7 (2.075)	162.1 (6.382)	202.3 (7.965)
		1.2	52.7 (2.075)	161.3 (6.348)	200.6 (7.898)
		0.9	52.7 (2.075)	160.7 (6.327)	199.5 (7.854)
2SP...11	+ 1SPA	9.8	50.2 (1.976)	173.1 (6.813)	229.2 (9.024)
		7.8	50.2 (1.976)	169.1 (6.657)	221.3 (8.713)
		6.3	50.2 (1.976)	166.3 (6.545)	215.6 (8.488)
		5	50.2 (1.976)	163.7 (6.445)	210.5 (8.287)
		4.2	50.2 (1.976)	162.2 (6.384)	207.4 (8.165)
		3.7	50.2 (1.976)	161.2 (6.346)	205.5 (8.091)
		3.2	50.2 (1.976)	160.2 (6.307)	203.5 (8.012)
		2.5	50.2 (1.976)	158.9 (6.254)	200.8 (7.906)
		2	50.2 (1.976)	157.9 (6.215)	198.8 (7.827)
		1.6	50.2 (1.976)	157.1 (6.185)	197.3 (7.768)
		1.2	50.2 (1.976)	156.3 (6.152)	195.6 (7.701)
		0.9	50.2 (1.976)	155.7 (6.130)	194.5 (7.657)

GR 2 + GR 1



Codice ordinazione kit / kit order code **01092110000000**

Codice ordinazione kit / kit order code **01092110000000**

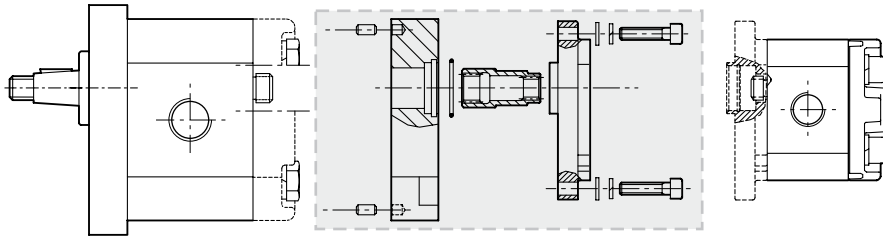
		mm (inch)			
		A	B	C	
2SP...8	+ 1SPA	9.8	48.2 <i>(1.896)</i>	168.9 <i>(6.652)</i>	225.1 <i>(8.862)</i>
		7.8	48.2 <i>(1.896)</i>	165.0 <i>(6.496)</i>	217.2 <i>(8.551)</i>
		6.3	48.2 <i>(1.896)</i>	162.2 <i>(6.384)</i>	211.5 <i>(8.327)</i>
		5	48.2 <i>(1.896)</i>	159.6 <i>(6.283)</i>	206.4 <i>(8.126)</i>
		4.2	48.2 <i>(1.896)</i>	158.1 <i>(6.222)</i>	203.3 <i>(8.004)</i>
		3.7	48.2 <i>(1.896)</i>	157.1 <i>(6.185)</i>	201.4 <i>(7.929)</i>
		3.2	48.2 <i>(1.896)</i>	156.1 <i>(6.146)</i>	199.4 <i>(7.850)</i>
		2.5	48.2 <i>(1.896)</i>	154.8 <i>(6.093)</i>	196.7 <i>(7.744)</i>
		2	48.2 <i>(1.896)</i>	153.8 <i>(6.053)</i>	194.7 <i>(7.665)</i>
		1.6	48.2 <i>(1.896)</i>	153.0 <i>(6.024)</i>	193.2 <i>(7.606)</i>
		1.2	48.2 <i>(1.896)</i>	152.2 <i>(5.990)</i>	191.5 <i>(7.539)</i>
		0.9	48.2 <i>(1.896)</i>	151.6 <i>(5.969)</i>	190.4 <i>(7.496)</i>
2SP...6	+ 1SPA	9.8	46.1 <i>(1.813)</i>	164.8 <i>(6.486)</i>	220.9 <i>(8.697)</i>
		7.8	46.1 <i>(1.813)</i>	160.8 <i>(6.331)</i>	213.0 <i>(8.386)</i>
		6.3	46.1 <i>(1.813)</i>	157.9 <i>(6.219)</i>	207.3 <i>(8.161)</i>
		5	46.1 <i>(1.813)</i>	155.4 <i>(6.118)</i>	202.2 <i>(7.961)</i>
		4.2	46.1 <i>(1.813)</i>	153.9 <i>(6.057)</i>	199.1 <i>(7.839)</i>
		3.7	46.1 <i>(1.813)</i>	152.9 <i>(6.020)</i>	197.2 <i>(7.764)</i>
		3.2	46.1 <i>(1.813)</i>	151.9 <i>(5.980)</i>	195.2 <i>(7.685)</i>
		2.5	46.1 <i>(1.813)</i>	150.6 <i>(5.927)</i>	192.5 <i>(7.579)</i>
		2	46.1 <i>(1.813)</i>	149.6 <i>(5.888)</i>	190.5 <i>(7.500)</i>
		1.6	46.1 <i>(1.813)</i>	148.8 <i>(5.858)</i>	189.0 <i>(7.441)</i>
		1.2	46.1 <i>(1.813)</i>	147.9 <i>(5.825)</i>	187.3 <i>(7.374)</i>
		0.9	46.1 <i>(1.813)</i>	147.4 <i>(5.803)</i>	186.2 <i>(7.331)</i>

		mm (inch)			
		A	B	C	
2SP...4	+ 1SPA	9.8	44.4 <i>(1.748)</i>	168.9 <i>(6.652)</i>	217.6 <i>(8.567)</i>
		7.8	44.4 <i>(1.748)</i>	194.1 <i>(7.642)</i>	209.7 <i>(8.256)</i>
		6.3	44.4 <i>(1.748)</i>	191.3 <i>(7.530)</i>	204.0 <i>(8.032)</i>
		5	44.4 <i>(1.748)</i>	188.7 <i>(7.429)</i>	198.9 <i>(7.831)</i>
		4.2	44.4 <i>(1.748)</i>	187.2 <i>(7.368)</i>	195.8 <i>(7.709)</i>
		3.7	44.4 <i>(1.748)</i>	186.2 <i>(7.331)</i>	193.9 <i>(7.634)</i>
		3.2	44.4 <i>(1.748v)</i>	185.2 <i>(7.291)</i>	191.9 <i>(7.555)</i>
		2.5	44.4 <i>(1.748)</i>	183.9 <i>(7.238)</i>	189.2 <i>(7.449)</i>
		2	44.4 <i>(1.748)</i>	182.9 <i>(7.199)</i>	187.2 <i>(7.370)</i>
		1.6	44.4 <i>(1.748)</i>	182.1 <i>(7.169)</i>	185.7 <i>(7.311)</i>
		1.2	44.4 <i>(1.748)</i>	181.3 <i>(7.136)</i>	184.0 <i>(7.244)</i>
		0.9	44.4 <i>(1.748)</i>	180.7 <i>(7.114)</i>	182.9 <i>(7.201)</i>

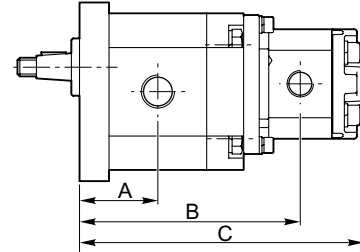
Con la flangia B80C incrementare le quote A, B e C di 2 mm
 Con la flangia E52C diminuire le quote A, B e C di 2.7 mm

With B80C flange increase A, B, and C dimensions of 0.079 inch
 With E52C flange decrease A, B, and C dimensions of 0.106 inch

GR 2 + GR 1 TC



Codice ordinazione kit / kit order code **01092101000000**



Codice ordinazione kit / kit order code **01092101000000**

Codice ordinazione kit / kit order code **01092101000000**

		mm (inch)			
		A	B	C	
2SP...26	+				
	1SPA				
		9.8TC	62.7 (2.469)	182.1 (7.167)	238.2 (9.378)
		7.8TC	62.7 (2.469)	178.1 (7.012)	230.3 (9.067)
		6.3TC	62.7 (2.469)	175.3 (6.900)	224.6 (8.843)
		5.0TC	62.7 (2.469)	172.7 (6.799)	219.5 (8.642)
		4.2TC	62.7 (2.469)	171.2 (6.738)	216.4 (8.520)
		3.7TC	62.7 (2.469)	170.2 (6.701)	214.5 (8.445)
		3.2TC	62.7 (2.469)	169.2 (6.661)	212.5 (8.366)
		2.5TC	62.7 (2.469)	167.9 (6.608)	209.8 (8.260)
		2.0TC	62.7 (2.469)	166.9 (6.569)	207.8 (8.181)
		1.6TC	62.7 (2.469)	166.1 (6.539)	206.3 (8.122)
	1.2TC	62.7 (2.469)	165.3 (6.506)	204.6 (8.055)	
	0.9TC	62.7 (2.469)	164.7 (6.484)	203.5 (8.012)	
2SP...22	+				
	1SPA				
		9.8TC	59.8 (2.354)	176.3 (6.939)	232.4 (9.150)
		7.8TC	59.8 (2.354)	172.3 (6.783)	224.5 (8.839)
		6.3TC	59.8 (2.354)	169.5 (6.671)	218.8 (8.614)
		5.0TC	59.8 (2.354)	166.9 (6.571)	213.7 (8.413)
		4.2TC	59.8 (2.354)	165.4 (6.510)	210.6 (8.291)
		3.7TC	59.8 (2.354)	164.4 (6.472)	208.7 (8.217)
		3.2TC	59.8 (2.354)	163.4 (6.433)	206.7 (8.138)
		2.5TC	59.8 (2.354)	162.1 (6.380)	204.0 (8.032)
		2.0TC	59.8 (2.354)	161.1 (6.341)	202.0 (7.953)
		1.6TC	59.8 (2.354)	160.3 (6.311)	200.5 (7.894)
	1.2TC	59.8 (2.354)	159.5 (6.278)	198.8 (7.827)	
	0.9TC	59.8 (2.354)	158.9 (6.256)	197.7 (7.783)	

		mm (inch)			
		A	B	C	
2SP...19	+				
	1SPA				
		9.8TC	57.3 (2.256)	171.3 (6.742)	227.4 (8.953)
		7.8TC	57.3 (2.256)	167.3 (6.587)	219.5 (8.642)
		6.3TC	57.3 (2.256)	164.5 (6.474)	213.8 (8.417)
		5.0TC	57.3 (2.256)	161.9 (6.374)	208.7 (8.217)
		4.2TC	57.3 (2.256)	160.4 (6.313)	205.6 (8.094)
		3.7TC	57.3 (2.256)	159.4 (6.276)	203.7 (8.020)
		3.2TC	57.3 (2.256)	158.4 (6.236)	201.7 (7.941)
		2.5TC	57.3 (2.256)	157.1 (6.183)	199.0 (7.835)
		2.0TC	57.3 (2.256)	156.1 (6.144)	197.0 (7.756)
		1.6TC	57.3 (2.256)	155.3 (6.114)	195.5 (7.697)
	1.2TC	57.3 (2.256)	154.5 (6.081)	193.8 (7.630)	
	0.9TC	57.3 (2.256)	153.9 (6.059)	192.7 (7.587)	
2SP...16	+				
	1SPA				
		9.8TC	54.8 (2.157)	166.3 (6.545)	222.4 (8.756)
		7.8TC	54.8 (2.157)	162.3 (6.390)	214.5 (8.445)
		6.3TC	54.8 (2.157)	159.5 (6.278)	208.8 (8.220)
		5.0TC	54.8 (2.157)	156.9 (6.177)	203.7 (8.020)
		4.2TC	54.8 (2.157)	155.4 (6.116)	200.6 (7.898)
		3.7TC	54.8 (2.157)	154.4 (6.079)	198.7 (7.823)
		3.2TC	54.8 (2.157)	153.4 (6.039)	196.7 (7.744)
		2.5TC	54.8 (2.157)	152.1 (5.986)	194.0 (7.638)
		2.0TC	54.8 (2.157)	151.1 (5.947)	192.0 (7.559)
		1.6TC	54.8 (2.157)	150.3 (5.917)	190.5 (7.500)
	1.2TC	54.8 (2.157)	149.5 (5.884)	188.8 (7.433)	
	0.9TC	54.8 (2.157)	148.9 (5.862)	187.7 (7.390)	

Codice ordinazione kit / kit order code **01092101000000**

Codice ordinazione kit / kit order code **01092101000000**

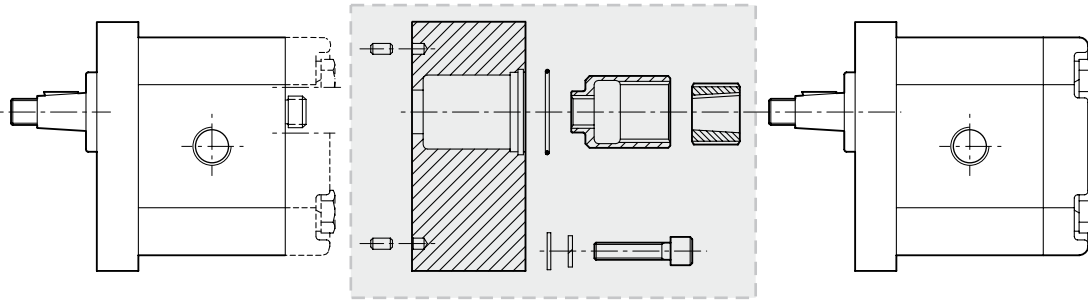
		mm (inch)			
		A	B	C	
2SP...14	+ 1SPA	9.8TC	52.7 (2.075)	162.1 (6.380)	218.2 (8.591)
		7.8TC	52.7 (2.075)	158.1 (6.224)	210.3 (8.280)
		6.3TC	52.7 (2.075)	155.3 (6.112)	204.6 (8.055)
		5.0TC	52.7 (2.075)	152.7 (6.012v)	199.5 (7.854)
		4.2TC	52.7 (2.075)	151.2 (5.951)	196.4 (7.732)
		3.7TC	52.7 (2.075)	150.2 (5.913)	194.5 (7.657)
		3.2TC	52.7 (2.075)	149.2 (5.874)	192.5 (7.579)
		2.5TC	52.7 (2.075)	147.9 (5.821)	189.8 (7.472)
		2.0TC	52.7 (2.075)	146.9 (5.782)	187.8 (7.394)
		1.6TC	52.7 (2.075)	146.1 (5.752)	186.3 (7.335)
2SP...11	+ 1SPA	9.8TC	50.2 (1.976)	157.1 (6.183)	213.2 (8.394)
		7.8TC	50.2 (1.976)	153.1 (6.028)	205.3 (8.083)
		6.3TC	50.2 (1.976)	150.3 (5.915)	199.6 (7.858)
		5.0TC	50.2 (1.976)	147.7 (5.815)	194.5 (7.657)
		4.2TC	50.2 (1.976)	146.2 (5.754)	191.4 (7.535)
		3.7TC	50.2 (1.976)	145.2 (5.717)	189.5 (7.461)
		3.2TC	50.2 (1.976)	144.2 (5.677)	187.5 (7.382)
		2.5TC	50.2 (1.976)	142.9 (5.624)	184.8 (7.276)
		2.0TC	50.2 (1.976)	141.9 (5.585)	182.8 (7.197)
		1.6TC	50.2 (1.976)	141.1 (5.555)	181.3 (7.138)
2SP...8	+ 1SPA	9.8TC	48.2 (1.896)	152.9 (6.022)	209.1 (8.232)
		7.8TC	48.2 (1.896)	149.0 (5.866)	201.2 (7.921)
		6.3TC	48.2 (1.896)	146.2 (5.754)	195.5 (7.697)
		5.0TC	48.2 (1.896)	143.6 (5.654)	190.4 (7.496)
		4.2TC	48.2 (1.896)	142.1 (5.593)	187.3 (7.374)
		3.7TC	48.2 (1.896)	141.1 (5.555)	185.4 (7.299)

		mm (inch)			
		A	B	C	
2SP...8	+ 1SPA	3.2TC	48.2 (1.896)	140.1 (5.516)	183.4 (7.220)
		2.5TC	48.2 (1.896)	138.8 (5.463)	180.7 (7.114)
		2.0TC	48.2 (1.896)	137.8 (5.423)	178.7 (7.035)
		1.6TC	48.2 (1.896)	137.0 (5.394)	177.2 (6.976)
		1.2TC	48.2 (1.896)	136.2 (5.360)	175.5 (6.909)
		0.9TC	48.2 (1.896)	135.6 (5.339)	174.4 (6.866)
		9.8TC	46.1 (1.813)	148.8 (5.856)	204.9 (8.067)
		7.8TC	46.1 (1.813)	144.8 (5.701)	197.0 (7.756)
		6.3TC	46.1 (1.813)	141.9 (5.589)	191.3 (7.532)
		5.0TC	46.1 (1.813)	139.4 (5.488)	186.2 (7.331)
2SP...6	+ 1SPA	4.2TC	46.1 (1.813)	137.9 (5.427)	183.1 (7.209)
		3.7TC	46.1 (1.813)	136.9 (5.390)	181.2 (7.134)
		3.2TC	46.1 (1.813)	135.9 (5.350)	179.2 (7.055)
		2.5TC	46.1 (1.813)	134.6 (5.297)	176.5 (6.949)
		2.0TC	46.1 (1.813)	133.6 (5.258)	174.5 (6.870)
		1.6TC	46.1 (1.813)	132.8 (5.228)	173.0 (6.811)
		1.2TC	46.1 (1.813)	131.9 (5.195)	171.3 (6.744)
		0.9TC	46.1 (1.813)	131.4 (5.173)	170.2 (6.701)
		9.8TC	44.4 (1.748)	145.5 (5.726)	201.6 (7.937)
		7.8TC	44.4 (1.748)	141.5 (5.571)	193.7 (7.626)
2SP...4	+ 1SPA	6.3TC	44.4 (1.748)	138.7 (5.459)	188.0 (7.402)
		5.0TC	44.4 (1.748)	136.1 (5.358)	182.9 (7.201)
		4.2TC	44.4 (1.748)	134.6 (5.297)	179.8 (7.079)
		3.7TC	44.4 (1.748)	133.6 (5.260)	177.9 (7.004)
		3.2TC	44.4 (1.748)	132.6 (5.220)	175.9 (6.925)
		2.5TC	44.4 (1.748)	131.3 (5.167)	173.2 (6.819)
		2.0TC	44.4 (1.748)	130.3 (5.128)	171.2 (6.740)
		1.6TC	44.4 (1.748)	129.5 (5.098)	169.7 (6.681)
		1.2TC	44.4 (1.748)	128.7 (5.065)	168.0 (6.614)
		0.9TC	44.4 (1.748)	128.1 (5.043)	166.9 (6.571)

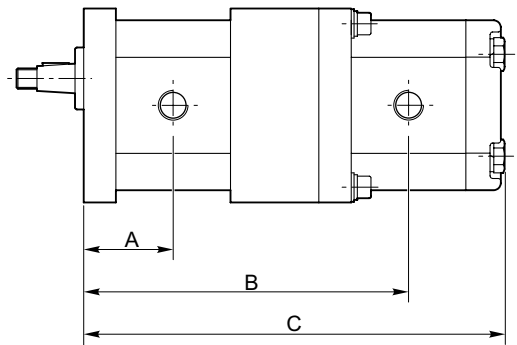
Con la flangia B80C incrementare le quote A, B e C di 2 mm
 Con la flangia E52C diminuire le quote A, B e C di 2.7 mm

With B80C flange increase A, B, and C dimensions of 0.079 inch
 With E52C flange decrease A, B, and C dimensions of 0.106 inch

GR 2 + GR 2



Codice ordinazione kit / kit order code **01092200000000**



Codice ordinazione kit / kit order code **01092200000000**

				mm (inch)		
				A	B	C
2SP ...4	+	2SP ...	4	44.4 <i>(1.748)</i>	166.2 <i>(6.543)</i>	214.8 <i>(8.457)</i>
			6	46.0 <i>(1.811)</i>	171.2 <i>(6.740)</i>	221.4 <i>(8.717)</i>
2SP ...6	+	2SP ...	4	46.0 <i>(1.811)</i>	169.5 <i>(6.673)</i>	218.1 <i>(8.587)</i>
			8	48.1 <i>(1.894)</i>	177.5 <i>(6.988)</i>	229.8 <i>(9.047)</i>
2SP ...8	+	2SP ...	6	48.1 <i>(1.894)</i>	175.4 <i>(6.906)</i>	225.6 <i>(8.882)</i>
			4	48.1 <i>(1.894)</i>	173.7 <i>(6.839)</i>	222.3 <i>(8.752)</i>

Codice ordinazione kit / kit order code **01092200000000**

				mm (inch)		
				A	B	C
2SP ...11	+	2SP ...	11	50.2 <i>(1.976)</i>	183.6 <i>(7.228)</i>	238.0 <i>(9.370)</i>
			8	50.2 <i>(1.976)</i>	181.6 <i>(7.150)</i>	233.9 <i>(9.209)</i>
			6	50.2 <i>(1.976)</i>	179.5 <i>(7.067)</i>	229.7 <i>(9.043)</i>
2SP ...14	+	2SP ...	4	50.2 <i>(1.976)</i>	177.8 <i>(7.000)</i>	226.4 <i>(8.913)</i>
			14	52.7 <i>(2.075)</i>	191.1 <i>(7.524)</i>	248.0 <i>(9.764)</i>
			11	52.7 <i>(2.075)</i>	188.6 <i>(7.425)</i>	243.0 <i>(9.567)</i>
2SP ...14	+	2SP ...	8	52.7 <i>(2.075)</i>	186.6 <i>(7.346)</i>	238.9 <i>(9.406)</i>
			6	52.7 <i>(2.075)</i>	184.5 <i>(7.264)</i>	234.7 <i>(9.240)</i>
			4	52.7 <i>(2.075)</i>	182.8 <i>(7.197)</i>	231.4 <i>(9.110)</i>

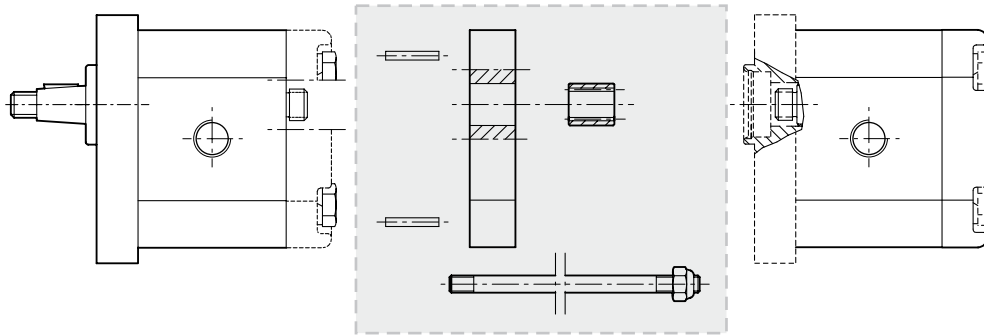
Codice ordinazione kit / kit order code **010922000000000**

Codice ordinazione kit / kit order code **010922000000000**

		mm (inch)		
		A	B	C
2SP ...16 + 2SP ...	16	54.8 (2.157)	197.4 (7.772)	256.4 (10.094)
	14	54.8 (2.157)	195.3 (7.689)	252.2 (9.929)
	11	54.8 (2.157)	192.8 (7.591)	247.2 (9.732)
	8	54.8 (2.157)	190.8 (7.512)	243.1 (9.571)
	6	54.8 (2.157)	188.7 (7.429)	238.9 (9.406)
	4	54.8 (2.157)	187.0 (7.362)	235.6 (9.276)
2SP ...19 + 2SP ...	19	57.3 (2.256)	204.9 (8.067)	266.4 (10.488)
	16	57.3 (2.256)	202.4 (7.969)	261.4 (10.291)
	14	57.3 (2.256)	200.3 (7.886)	257.2 (10.126)
	11	57.3 (2.256)	197.8 (7.787)	252.2 (9.929)
	8	57.3 (2.256)	195.8 (7.709)	248.1 (9.768)
	6	57.3 (2.256)	193.7 (7.626)	243.9 (9.602)
2SP ...22 + 2SP ...	22	59.8 (2.354)	212.4 (8.362)	276.4 (10.882)
	19	59.8 (2.354)	209.9 (8.264)	271.4 (10.685)
	16	59.8 (2.354)	207.4 (8.165)	266.4 (10.488)
	14	59.8 (2.354)	205.3 (8.083)	262.2 (10.323)
	11	59.8 (2.354)	202.8 (7.984)	257.2 (10.126)
	8	59.8 (2.354)	200.8 (7.906)	253.1 (9.965)
	6	59.8 (2.354)	198.7 (7.823)	248.9 (9.799)
	4	59.8 (2.354)	197.0 (7.756)	245.6 (9.669)

		mm (inch)		
		A	B	C
2SP ...26 + 2SP ...	26	62.7 (2.469)	221.1 (8.705)	288.0 (11.339)
	22	62.7 (2.469)	218.2 (8.591)	282.2 (11.110)
	19	62.7 (2.469)	215.7 (8.492)	277.2 (10.913)
	16	62.7 (2.469)	213.2 (8.394)	272.2 (10.717)
	14	62.7 (2.469)	211.1 (8.311)	268.0 (10.551)
	11	62.7 (2.469)	208.6 (8.213)	263.0 (10.354)
	8	62.7 (2.469)	206.6 (8.134)	258.9 (10.193)
	6	62.7 (2.469)	204.5 (8.051)	254.7 (10.028)
	4	62.7 (2.469)	202.8 (7.984)	251.4 (9.898)

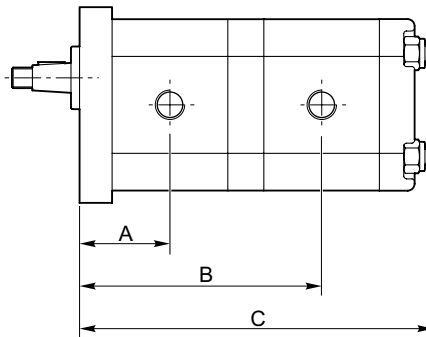
GR 2 + GR 2 TC



Codice ordinazione kit / kit order code

Il Kit standard viene fornito con tiranti e dadi autobloccanti (max. ingombro C); se le pompe tandem sono fornite già assemblate, l'ingombro C è leggermente inferiore in quanto vengono utilizzate viti TCEI (consultare il ns. servizio tecnico per avere gli ingombri esatti).

The standard Kit is supplied with tension rods and self-locking nuts (max. dimension C); if the tandem pumps are supplied already assembled, the external dimensions of C are slightly less because socket-head screws are used (contact our technical service for the exact dimensions).



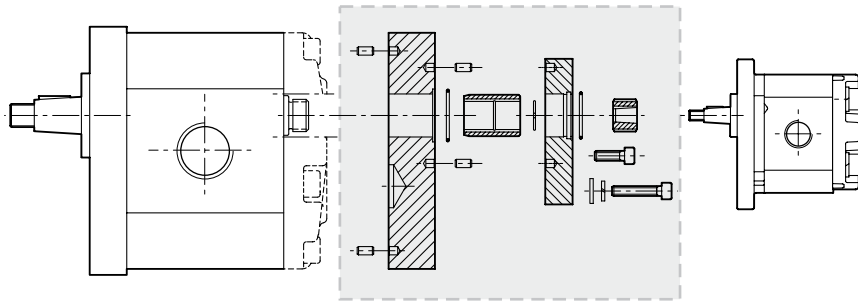
				mm (inch)		
				A	B	C
2SP ...4	+	2SP ...	4	Codice ordinazione kit / kit order code	010922291890100	
					44.4 (1.748)	116.2 (4.575)
2SP ...6	+	2SP ...	6	46.0 (1.811)	121.2 (4.772)	180 (7.087)
			4	46.0 (1.811)	119.5 (4.705)	180 (7.087)
			Codice ordinazione kit / kit order code	010922291890200		
2SP ...8	+	2SP ...	8	48.1 (1.894)	127.5 (5.020)	195 (7.677)
			Codice ordinazione kit / kit order code	010922291890100		
2SP ...11	+	2SP ...	6	48.1 (1.894)	125.5 (4.941)	180 (7.087)
			4	48.1 (1.894)	123.7 (4.870)	180 (7.087)
			Codice ordinazione kit / kit order code	010922291890200		
2SP ...11	+	2SP ...	11	50.2 (1.976)	133.6 (5.260)	195 (7.677)
			8	50.2 (1.976)	131.6 (5.181)	195 (7.677)
			6	50.2 (1.976)	129.5 (5.098)	195 (7.677)
2SP ...	+	2SP ...	4	Codice ordinazione kit / kit order code	010922291890100	
				50.2 (1.976)	127.8 (5.032)	180 (7.087)

				mm (inch)		
				A	B	C
2SP ...	+	2SP ...	14	52.7 (2.075)	141.1 (5.555)	208 (8.189)
			11	52.7 (2.075)	138.6 (5.457)	208 (8.189)
2SP ...14	+	2SP ...	Codice ordinazione kit / kit order code	010922291890200		
			8	52.7 (2.075)	136.6 (5.378)	195 (7.677)
			6	52.7 (2.075)	134.5 (5.295)	195 (7.677)
2SP ...	+	2SP ...	4	52.7 (2.075)	132.8 (5.228)	195 (7.677)
			Codice ordinazione kit / kit order code	010922291890400		
			16	54.8 (2.157)	147.4 (5.803)	219 (8.622)
2SP ...16	+	2SP ...	Codice ordinazione kit / kit order code	010922291890300		
			14	54.8 (2.157)	145.3 (5.720)	208 (8.189)
			11	54.8 (2.157)	142.8 (5.622)	208 (8.189)
2SP ...	+	2SP ...	8	54.8 (2.157)	140.8 (5.543)	208 (8.189)
			Codice ordinazione kit / kit order code	010922291890200		
			6	54.8 (2.157)	138.7 (5.461)	195 (7.677)
2SP ...	+	2SP ...	4	54.8 (2.157)	137 (5.394)	195 (7.677)

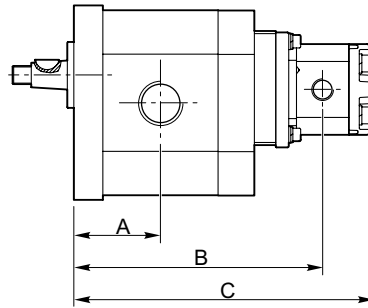
		mm (inch)		
		A	B	C
		Codice ordinazione kit / kit order code 010922291890500		
2SP ...	19	57.3 (2.256)	153.9 (6.059)	232 (9.134)
		Codice ordinazione kit / kit order code 010922291890400		
2SP ...	16	57.3 (2.256)	152.4 (6.000)	219 (8.622)
2SP ...	14	57.3 (2.256)	150.3 (5.917)	219 (8.622)
2SP ...19 +	Codice ordinazione kit / kit order code 010922291890300			
2SP ...	11	57.3 (2.256)	147.8 (5.819)	208 (8.189)
2SP ...	8	57.3 (2.256)	145.8 (5.740)	208 (8.189)
2SP ...	6	57.3 (2.256)	143.7 (5.657)	208 (8.189)
		Codice ordinazione kit / kit order code 010922291890200		
2SP ...	4	57.3 (2.256)	142 (5.591)	192 (7.559)
		Codice ordinazione kit / kit order code 010922291890500		
2SP ...	22	59.8 (2.354)	162.4 (6.394)	232 (9.134)
2SP ...	19	59.8 (2.354)	159.9 (6.295)	232 (9.134)
2SP ...	16	59.8 (2.354)	157.4 (6.197)	232 (9.134)
		Codice ordinazione kit / kit order code 010922291890400		
2SP ...22 +	2SP ...	14	59.8 (2.354)	155.3 (6.114)
		11	59.8 (2.354)	152.8 (6.016)
		Codice ordinazione kit / kit order code 010922291890300		
2SP ...	8	59.8 (2.354)	150.8 (5.937)	208 (8.189)
2SP ...	6	59.8 (2.354)	148.7 (5.854)	208 (8.189)
2SP ...	4	59.8 (2.354)	147 (5.787)	208 (8.189)

		mm (inch)		
		A	B	C
		Codice ordinazione kit / kit order code 010922291890600		
2SP ...	26	62.7 (2.469)	171.1 (6.736)	244 (9.606)
2SP ...	22	62.7 (2.469)	168.2 (6.622)	244 (9.606)
		Codice ordinazione kit / kit order code 010922291890500		
2SP ...	19	62.7 (2.469)	165.7 (6.524)	232 (9.134)
2SP ...	16	62.7 (2.469)	163.2 (6.425)	232 (9.134)
2SP ...26 +	14	62.7 (2.469)	161.1 (6.343)	232 (9.134)
		Codice ordinazione kit / kit order code 010922291890400		
2SP ...	11	62.7 (2.469)	158.6 (6.244)	219 (8.622)
2SP ...	8	62.7 (2.469)	156.6 (6.165)	219 (8.622)
2SP ...	6	62.7 (2.469)	154.5 (6.083)	219 (8.622)
		Codice ordinazione kit / kit order code 010922291890300		
2SP ...	4	62.7 (2.469)	152.8 (6.016)	208 (8.189)

GR 3 + GR 1



Codice ordinazione kit / kit order code **01093110000000**



Codice ordinazione kit / kit order code **01093110000000**

Codice ordinazione kit / kit order code **01093110000000**

		mm (inch)		
		A	B	C
3SP...62 + 1SPA	9.8	80.4 <small>(3.163)</small>	234.9 <small>(9.250)</small>	291.1 <small>(11.461)</small>
	7.8	80.4 <small>(3.163)</small>	231.0 <small>(9.094)</small>	283.2 <small>(11.150)</small>
	6.3	80.4 <small>(3.163)</small>	228.2 <small>(8.982)</small>	277.5 <small>(10.925)</small>
	5	80.4 <small>(3.163)</small>	225.6 <small>(8.882)</small>	272.4 <small>(10.724)</small>
	4.2	80.4 <small>(3.163)</small>	224.1 <small>(8.821)</small>	269.3 <small>(10.602)</small>
	3.7	80.4 <small>(3.163)</small>	223.1 <small>(8.783)</small>	267.4 <small>(10.528)</small>
	3.2	80.4 <small>(3.163)</small>	222.1 <small>(8.744)</small>	265.4 <small>(10.449)</small>
	2.5	80.4 <small>(3.163)</small>	220.8 <small>(8.691)</small>	262.7 <small>(10.343)</small>
	2	80.4 <small>(3.163)</small>	219.8 <small>(8.652)</small>	260.7 <small>(10.264)</small>
	1.6	80.4 <small>(3.163)</small>	219.0 <small>(8.622)</small>	259.2 <small>(10.205)</small>
	1.2	80.4 <small>(3.163)</small>	218.2 <small>(8.589)</small>	257.5 <small>(10.138)</small>
	0.9	80.4 <small>(3.163)</small>	217.6 <small>(8.567)</small>	256.4 <small>(10.094)</small>

		mm (inch)		
		A	B	C
3SP...52 + 1SPA	9.8	76.4 <small>(3.006)</small>	226.9 <small>(8.935)</small>	283.1 <small>(11.146)</small>
	7.8	76.4 <small>(3.006)</small>	223.0 <small>(8.780)</small>	275.2 <small>(10.835)</small>
	6.3	76.4 <small>(3.006)</small>	220.2 <small>(8.667)</small>	269.5 <small>(10.610)</small>
	5	76.4 <small>(3.006)</small>	217.6 <small>(8.567)</small>	264.4 <small>(10.409)</small>
	4.2	76.4 <small>(3.006)</small>	216.1 <small>(8.506)</small>	261.3 <small>(10.287)</small>
	3.7	76.4 <small>(3.006)</small>	215.1 <small>(8.469)</small>	259.4 <small>(10.213)</small>
	3.2	76.4 <small>(3.006)</small>	214.1 <small>(8.429)</small>	257.4 <small>(10.134)</small>
	2.5	76.4 <small>(3.006)</small>	212.8 <small>(8.376)</small>	254.7 <small>(10.028)</small>
	2	76.4 <small>(3.006)</small>	211.8 <small>(8.337)</small>	252.7 <small>(9.949)</small>
	1.6	76.4 <small>(3.006)</small>	211.0 <small>(8.307)</small>	251.2 <small>(9.890)</small>
	1.2	76.4 <small>(3.006)</small>	210.2 <small>(8.274)</small>	249.5 <small>(9.823)</small>
	0.9	76.4 <small>(3.006)</small>	209.6 <small>(8.252)</small>	248.4 <small>(9.780)</small>

Con la flangia SAE B incrementare le quote A, B e C di 3 mm

With SAE B flange increase A, B, and C dimensions of 0.118 inch

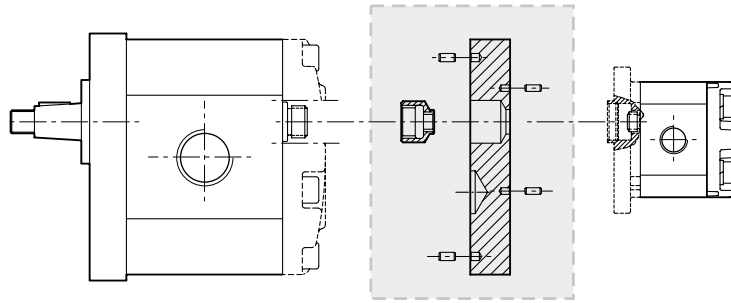
Codice ordinazione kit / kit order code **010931100000000**

Codice ordinazione kit / kit order code **010931100000000**

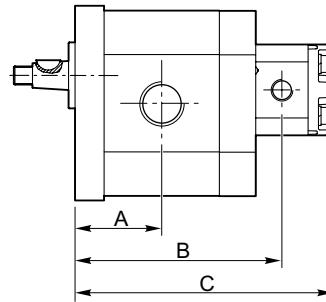
		mm (inch)			
		A	B	C	
3SP...44	+ 1SPA	9.8	72.9 (2.868)	219.9 (8.659)	276.1 (10.870)
		7.8	72.9 (2.868)	216.0 (8.504)	268.2 (10.559)
		6.3	72.9 (2.868)	213.2 (8.392)	262.5 (10.335)
		5	72.9 (2.868)	210.6 (8.291)	257.4 (10.134)
		4.2	72.9 (2.868)	209.1 (8.230)	254.3 (10.012)
		3.7	72.9 (2.868)	208.1 (8.193)	252.4 (9.937)
		3.2	72.9 (2.868)	207.1 (8.154)	250.4 (9.858)
		2.5	72.9 (2.868)	205.8 (8.100)	247.7 (9.752)
		2	72.9 (2.868)	204.8 (8.061)	245.7 (9.673)
		1.6	72.9 (2.868)	204.0 (8.032)	244.2 (9.614)
		1.2	72.9 (2.868)	203.2 (7.998)	242.5 (9.547)
		0.9	72.9 (2.868)	202.6 (7.976)	241.4 (9.504)
3SP...36	+ 1SPA	9.8	69.9 (2.750)	213.9 (8.423)	270.1 (10.634)
		7.8	68.4 (2.691)	210.0 (8.268)	262.2 (10.323)
		6.3	69.9 (2.750)	207.2 (8.156)	256.5 (10.098)
		5	69.9 (2.750)	204.6 (8.055)	251.4 (9.898)
		4.2	69.9 (2.750)	203.1 (7.994)	248.3 (9.776)
		3.7	69.9 (2.750)	202.1 (7.957)	246.4 (9.701)
		3.2	69.9 (2.750)	201.1 (7.917)	244.4 (9.622)
		2.5	69.9 (2.750)	199.8 (7.864)	241.7 (9.516)
		2	69.9 (2.750)	198.8 (7.825)	239.7 (9.437)
		1.6	69.9 (2.750)	198.0 (7.795)	238.2 (9.378)
		1.2	69.9 (2.750)	197.2 (7.762)	236.5 (9.311)
		0.9	69.9 (2.750)	196.6 (7.740)	235.4 (9.268)
3SP...33	+ 1SPA	9.8	68.4 (2.691)	210.9 (8.305)	267.1 (10.516)
		7.8	68.4 (2.691)	207.0 (8.150)	259.2 (10.205)
		6.3	68.4 (2.691)	204.2 (8.037)	253.5 (9.980)
		5	68.4 (2.691)	201.6 (7.937)	248.4 (9.780)
		4.2	68.4 (2.691)	200.4 (7.876)	245.3 (9.657)
		3.7	68.4 (2.691)	199.1 (7.839)	243.4 (9.583)
		3.2	68.4 (2.691)	198.1 (7.799)	241.4 (9.504)
		2.5	68.4 (2.691)	196.8 (7.746)	238.7 (9.398)
		2	68.4 (2.691)	195.8 (7.707)	236.7 (9.319)
		1.6	68.4 (2.691)	195.0 (7.677)	235.2 (9.260)
		1.2	68.4 (2.691)	194.2 (7.644)	233.5 (9.193)
		0.9	68.4 (2.691)	193.6 (7.622)	232.4 (9.150)

		mm (inch)			
		A	B	C	
3SP...29	+ 1SPA	9.8	66.9 (2.632)	207.9 (8.187)	264.1 (10.398)
		7.8	66.9 (2.632)	204.0 (8.032)	256.2 (10.087)
		6.3	66.9 (2.632)	201.2 (7.919)	250.5 (9.862)
		5	66.9 (2.632)	198.6 (7.819)	245.4 (9.661)
		4.2	66.9 (2.632)	197.1 (7.758)	242.3 (9.539)
		3.7	66.9 (2.632)	196.1 (7.720)	240.4 (9.465)
		3.2	66.9 (2.632)	195.1 (7.681)	238.4 (9.386)
		2.5	66.9 (2.632)	193.8 (7.628)	235.7 (9.280)
		2	66.9 (2.632)	192.8 (7.589)	233.7 (9.201)
		1.6	66.9 (2.632)	192.0 (7.559)	232.2 (9.142)
		1.2	66.9 (2.632)	191.2 (7.526)	230.5 (9.075)
		0.9	66.9 (2.632)	190.6 (7.504)	229.4 (9.032)
3SP...22	+ 1SPA	9.8	63.9 (2.514)	201.9 (7.951)	258.1 (10.161)
		7.8	63.9 (2.514)	198.0 (7.795)	250.2 (9.850)
		6.3	63.9 (2.514)	195.2 (7.683)	244.5 (9.626)
		5	63.9 (2.514)	192.6 (7.583)	239.4 (9.425)
		4.2	63.9 (2.514)	191.1 (7.522)	236.3 (9.303)
		3.7	63.9 (2.514)	190.1 (7.484)	234.4 (9.228)
		3.2	63.9 (2.514)	189.1 (7.445)	232.4 (9.150)
		2.5	63.9 (2.514)	187.8 (7.392)	229.7 (9.043)
		2	63.9 (2.514)	186.8 (7.352)	227.7 (8.965)
		1.6	63.9 (2.514)	186.0 (7.323)	226.2 (8.906)
		1.2	63.9 (2.514)	185.2 (7.289)	224.5 (8.839)
		0.9	63.9 (2.514)	184.6 (7.268)	223.4 (8.795)
3SP...19	+ 1SPA	9.8	62.4 (2.455)	198.9 (7.833)	255.1 (10.043)
		7.8	62.4 (2.455)	195.0 (7.677)	247.2 (9.732)
		6.3	62.4 (2.455)	192.2 (7.565)	241.5 (9.508)
		5	62.4 (2.455)	189.6 (7.465)	236.4 (9.307)
		4.2	62.4 (2.455)	188.1 (7.404)	233.3 (9.185)
		3.7	62.4 (2.455)	187.1 (7.366)	231.4 (9.110)
		3.2	62.4 (2.455)	186.1 (7.327)	229.4 (9.032)
		2.5	62.4 (2.455)	184.8 (7.274)	226.7 (8.925)
		2	62.4 (2.455)	183.8 (7.234)	224.7 (8.846)
		1.6	62.4 (2.455)	183.0 (7.205)	223.2 (8.787)
		1.2	62.4 (2.455)	182.2 (7.171)	221.5 (8.720)
		0.9	62.4 (2.455)	181.6 (7.150)	220.4 (8.677)

GR 3 + GR 1 TC



Codice ordinazione kit / kit order code **0109310100000**



Codice ordinazione kit / kit order code **0109310100000**

Codice ordinazione kit / kit order code **0109310100000**

		mm (inch)		
		A	B	C
3SP...62 + 1SPA	9.8TC	80.4 (3.163)	198.7 (7.821)	254.8 (10.032)
	7.8TC	80.4 (3.163)	194.7 (7.665)	246.9 (9.720)
	6.3TC	80.4 (3.163)	191.9 (7.553)	241.2 (9.496)
	5.0TC	80.4 (3.163)	189.3 (7.453)	236.1 (9.295)
	4.2TC	80.4 (3.163)	187.8 (7.392)	233.0 (9.173)
	3.7TC	80.4 (3.163)	186.8 (7.354)	231.1 (9.098)
	3.2TC	80.4 (3.163)	185.8 (7.315)	229.1 (9.020)
	2.5TC	80.4 (3.163)	184.5 (7.262)	226.4 (8.913)
	2.0TC	80.4 (3.163)	183.5 (7.222)	224.4 (8.835)
	1.6TC	80.4 (3.163)	182.7 (7.193)	222.9 (8.776)
	1.2TC	80.4 (3.163)	181.9 (7.159)	221.2 (8.709)
	0.9TC	80.4 (3.163)	181.3 (7.138)	220.1 (8.665)

		mm (inch)		
		A	B	C
3SP...52 + 1SPA	9.8TC	76.4 (3.006)	190.7 (7.506)	246.8 (9.717)
	7.8TC	76.4 (3.006)	186.7 (7.350)	238.9 (9.406)
	6.3TC	76.4 (3.006)	183.9 (7.238)	233.2 (9.181)
	5.0TC	76.4 (3.006)	181.3 (7.138)	228.1 (8.980)
	4.2TC	76.4 (3.006)	179.8 (7.077)	225.0 (8.858)
	3.7TC	76.4 (3.006)	178.8 (7.039)	223.1 (8.783)
	3.2TC	76.4 (3.006)	177.8 (7.000)	221.1 (8.705)
	2.5TC	76.4 (3.006)	176.5 (6.947)	218.4 (8.598)
	2.0TC	76.4 (3.006)	175.5 (6.907)	216.4 (8.520)
	1.6TC	76.4 (3.006)	174.7 (6.878)	214.9 (8.461)
	1.2TC	76.4 (3.006)	173.9 (6.844)	213.2 (8.394)
	0.9TC	76.4 (3.006)	173.3 (6.823)	212.1 (8.350)

Con la flangia SAE B incrementare le quote A, B e C di 3 mm

With SAE B flange increase A, B, and C dimensions of 0.118 inch

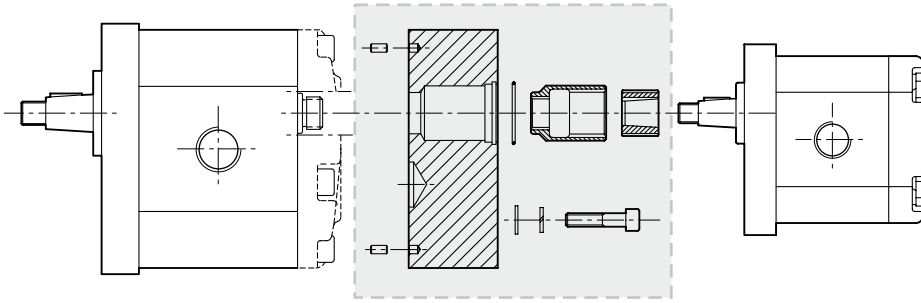
Codice ordinazione kit / kit order code **01093101000000**

Codice ordinazione kit / kit order code **01093101000000**

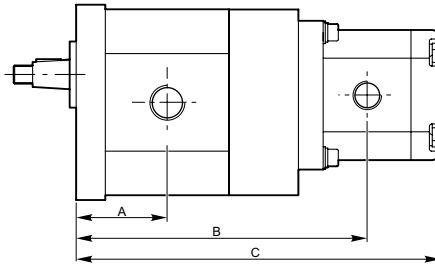
		mm (inch)			
		A	B	C	
3SP...44	+ 1SPA	9.8TC	72.9 (2.868)	183.7 (7.230)	239.8 (9.441)
		7.8TC	72.9 (2.868)	179.7 (7.075)	231.9 (9.130)
		6.3TC	72.9 (2.868)	176.9 (6.963)	226.2 (8.906)
		5.0TC	72.9 (2.868)	174.3 (6.862)	221.1 (8.705)
		4.2TC	72.9 (2.868)	172.8 (6.801)	218.0 (8.583)
		3.7TC	72.9 (2.868)	171.8 (6.764)	216.1 (8.508)
		3.2TC	72.9 (2.868)	170.8 (6.724)	214.1 (8.429)
		2.5TC	72.9 (2.868)	169.5 (6.671)	211.4 (8.323)
		2.0TC	72.9 (2.868)	168.5 (6.632)	209.4 (8.244)
		1.6TC	72.9 (2.868)	167.7 (6.602)	207.9 (8.185)
		1.2TC	72.9 (2.868)	166.9 (6.569)	206.2 (8.118)
		0.9TC	72.9 (2.868)	166.3 (6.547)	205.1 (8.075)
3SP...36	+ 1SPA	9.8TC	69.9 (2.750)	177.7 (6.994)	233.8 (9.205)
		7.8TC	69.9 (2.750)	173.7 (6.839)	225.9 (8.894)
		6.3TC	69.9 (2.750)	170.9 (6.726)	220.2 (8.669)
		5.0TC	69.9 (2.750)	168.3 (6.626)	215.1 (8.469)
		4.2TC	69.9 (2.750)	166.8 (6.565)	212.0 (8.346)
		3.7TC	69.9 (2.750)	165.8 (6.528)	210.1 (8.272)
		3.2TC	69.9 (2.750)	164.8 (6.488)	208.1 (8.193)
		2.5TC	69.9 (2.750)	163.5 (6.435)	205.4 (8.087)
		2.0TC	69.9 (2.750)	162.5 (6.396)	203.4 (8.008)
		1.6TC	69.9 (2.750)	161.7 (6.366)	201.9 (7.949)
		1.2TC	69.9 (2.750)	160.9 (6.333)	200.2 (7.882)
		0.9TC	69.9 (2.750)	160.3 (6.311)	199.1 (7.839)
3SP...33	+ 1SPA	9.8TC	68.4 (2.691)	174.7 (6.876)	230.8 (9.087)
		7.8TC	68.4 (2.691)	170.7 (6.720)	222.9 (8.776)
		6.3TC	68.4 (2.691)	167.9 (6.608)	217.2 (8.551)
		5.0TC	68.4 (2.691)	165.3 (6.508)	212.1 (8.350)
		4.2TC	68.4 (2.691)	163.8 (6.447)	209.0 (8.228)
		3.7TC	68.4 (2.691)	162.8 (6.409)	207.1 (8.154)
		3.2TC	68.4 (2.691)	161.8 (6.370)	205.1 (8.075)
		2.5TC	68.4 (2.691)	160.5 (6.317)	202.4 (7.969)
		2.0TC	68.4 (2.691)	159.5 (6.278)	200.4 (7.890)
		1.6TC	68.4 (2.691)	158.7 (6.248)	198.9 (7.831)
		1.2TC	68.4 (2.691)	157.9 (6.215)	197.2 (7.764)
		0.9TC	68.4 (2.691)	157.3 (6.193)	196.1 (7.720)

		mm (inch)			
		A	B	C	
3SP...29	+ 1SPA	9.8TC	66.9 (2.632)	171.7 (6.758)	227.8 (8.969)
		7.8TC	66.9 (2.632)	167.7 (6.602)	219.9 (8.657)
		6.3TC	66.9 (2.632)	164.9 (6.490)	214.2 (8.433)
		5.0TC	66.9 (2.632)	162.3 (6.390)	209.1 (8.232)
		4.2TC	66.9 (2.632)	160.8 (6.329)	206.0 (8.110)
		3.7TC	66.9 (2.632)	159.8 (6.291)	204.1 (8.035)
		3.2TC	66.9 (2.632)	158.8 (6.252)	202.1 (7.957)
		2.5TC	66.9 (2.632)	157.5 (6.199)	199.4 (7.850)
		2.0TC	66.9 (2.632)	156.5 (6.159)	197.4 (7.772)
		1.6TC	66.9 (2.632)	155.7 (6.130)	195.9 (7.713)
		1.2TC	66.9 (2.632)	154.9 (6.096)	194.2 (7.646)
		0.9TC	66.9 (2.632)	154.3 (6.075)	193.1 (7.602)
3SP...22	+ 1SPA	9.8TC	63.9 (2.514)	165.7 (6.522)	221.8 (8.732)
		7.8TC	63.9 (2.514)	161.7 (6.366)	213.9 (8.421)
		6.3TC	63.9 (2.514)	158.9 (6.254)	208.2 (8.197)
		5.0TC	63.9 (2.514)	156.3 (6.154)	203.1 (7.996)
		4.2TC	63.9 (2.514)	154.8 (6.093)	200.0 (7.874)
		3.7TC	63.9 (2.514)	153.8 (6.055)	198.1 (7.799)
		3.2TC	63.9 (2.514)	152.8 (6.016)	196.1 (7.720)
		2.5TC	63.9 (2.514)	151.5 (5.963)	193.4 (7.614)
		2.0TC	63.9 (2.514)	150.5 (5.923)	191.4 (7.535)
		1.6TC	63.9 (2.514)	149.7 (5.894)	189.9 (7.476)
		1.2TC	63.9 (2.514)	148.9 (5.860)	188.2 (7.409)
		0.9TC	63.9 (2.514)	148.3 (5.839)	187.1 (7.366)
3SP...19	+ 1SPA	9.8TC	62.4 (2.455)	162.7 (6.404)	218.8 (8.614)
		7.8TC	62.4 (2.455)	158.7 (6.248)	210.9 (8.303)
		6.3TC	62.4 (2.455)	155.9 (6.136)	205.2 (8.079)
		5.0TC	62.4 (2.455)	153.3 (6.035)	200.1 (7.878)
		4.2TC	62.4 (2.455)	151.8 (5.974)	197.0 (7.756)
		3.7TC	62.4 (2.455)	150.8 (5.937)	195.1 (7.681)
		3.2TC	62.4 (2.455)	149.8 (5.898)	193.1 (7.602)
		2.5TC	62.4 (2.455)	148.5 (5.844)	190.4 (7.496)
		2.0TC	62.4 (2.455)	147.5 (5.805)	188.4 (7.417)
		1.6TC	62.4 (2.455)	146.7 (5.776)	186.9 (7.358)
		1.2TC	62.4 (2.455)	145.9 (5.742)	185.2 (7.291)
		0.9TC	62.4 (2.455)	145.3 (5.720)	184.1 (7.248)

GR 3 + GR 2



Codice ordinazione kit / kit order code **01093200000000**



Codice ordinazione kit / kit order code **01093200000000**

Codice ordinazione kit / kit order code **01093200000000**

		mm (inch)		
		A	B	C
3SP ...62 + 2SP	26	80.4 (3.165)	257.0 (10.118)	323.9 (12.752)
	22	80.4 (3.165)	254.1 (10.004)	318.1 (12.524)
	19	80.4 (3.165)	251.6 (9.906)	313.1 (12.327)
	16	80.4 (3.165)	249.1 (9.807)	308.1 (12.130)
	14	80.4 (3.165)	247.0 (9.724)	303.9 (11.965)
	11	80.4 (3.165)	244.5 (9.626)	298.9 (11.768)
	8	80.4 (3.165)	242.4 (9.543)	294.8 (11.606)
	6	80.4 (3.165)	240.3 (9.461)	290.6 (11.441)
	4	80.4 (3.165)	238.7 (9.398)	287.3 (11.311)

		mm (inch)		
		A	B	C
3SP ...52 + 2SP	26	76.4 (3.008)	249.0 (9.803)	315.9 (12.437)
	22	76.4 (3.008)	246.1 (9.689)	310.1 (12.209)
	19	76.4 (3.008)	243.6 (9.591)	305.1 (12.012)
	16	76.4 (3.008)	241.1 (9.492)	300.1 (11.815)
	14	76.4 (3.008)	239.0 (9.409)	295.9 (11.650)
	11	76.4 (3.008)	236.5 (9.311)	290.9 (11.453)
	8	76.4 (3.008)	234.4 (9.228)	286.8 (11.291)
	6	76.4 (3.008)	232.3 (9.146)	282.6 (11.126)
	4	76.4 (3.008)	230.7 (9.083)	279.3 (10.996)

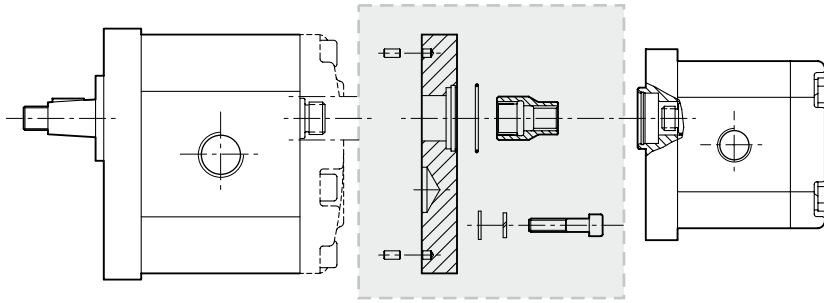
Codice ordinazione kit / kit order code **01093200000000**

Codice ordinazione kit / kit order code **01093200000000**

		mm (inch)		
		A	B	C
3SP ...44 + 2SP	26	72.9 (2.870)	242.0 (9.528)	308.9 (12.161)
	22	72.9 (2.870)	239.1 (9.413)	303.1 (11.933)
	19	72.9 (2.870)	236.6 (9.315)	298.1 (11.736)
	16	72.9 (2.870)	234.1 (9.217)	293.1 (11.539)
	14	72.9 (2.870)	232.0 (9.134)	288.9 (11.374)
	11	72.9 (2.870)	229.5 (9.035)	283.9 (11.177)
	8	72.9 (2.870)	227.4 (8.953)	279.8 (11.016)
	6	72.9 (2.870)	225.3 (8.870)	275.6 (10.850)
	4	72.9 (2.870)	223.7 (8.807)	272.3 (10.720)
3SP ...36 + 2SP	26	69.9 (2.752)	236.0 (9.291)	302.9 (11.925)
	22	69.9 (2.752)	233.1 (9.177)	297.1 (11.697)
	19	69.9 (2.752)	230.6 (9.079)	292.1 (11.500)
	16	69.9 (2.752)	228.1 (8.980)	287.1 (11.303)
	14	69.9 (2.752)	226.0 (8.898)	282.9 (11.138)
	11	69.9 (2.752)	223.5 (8.799)	277.9 (10.941)
	8	69.9 (2.752)	221.4 (8.717)	273.8 (10.780)
	6	69.9 (2.752)	219.3 (8.634)	269.6 (10.614)
	4	69.9 (2.752)	217.7 (8.571)	266.3 (10.484)
3SP ...33 + 2SP	26	68.4 (2.693)	232.0 (9.134)	299.9 (11.807)
	22	68.4 (2.693)	230.1 (9.059)	294.1 (11.579)
	19	68.4 (2.693)	227.6 (8.961)	289.1 (11.382)
	16	68.4 (2.693)	225.1 (8.862)	284.1 (11.185)
	14	68.4 (2.693)	223.0 (8.780)	279.9 (11.020)
	11	68.4 (2.693)	220.5 (8.681)	274.9 (10.823)
	8	68.4 (2.693)	218.4 (8.598)	270.8 (10.661)
	6	68.4 (2.693)	216.3 (8.516)	266.6 (10.496)
	4	68.4 (2.693)	214.7 (8.453)	263.3 (10.366)

		mm (inch)		
		A	B	C
3SP ...29 + 2SP	26	66.9 (2.634)	230.0 (9.055)	296.9 (11.689)
	22	66.9 (2.634)	227.1 (8.941)	291.1 (11.461)
	19	66.9 (2.634)	224.6 (8.843)	286.1 (11.264)
	16	66.9 (2.634)	222.1 (8.744)	281.1 (11.067)
	14	66.9 (2.634)	220.0 (8.661)	276.9 (10.902)
	11	66.9 (2.634)	217.5 (8.563)	271.9 (10.705)
	8	66.9 (2.634)	215.4 (8.480)	267.8 (10.543)
	6	66.9 (2.634)	213.3 (8.398)	263.6 (10.378)
	4	66.9 (2.634)	201.7 (7.941)	260.3 (10.248)
3SP ...22 + 2SP	26	63.9 (2.516)	224.0 (8.819)	290.9 (11.453)
	22	63.9 (2.516)	221.1 (8.705)	285.1 (11.224)
	19	63.9 (2.516)	218.6 (8.606)	280.1 (11.028)
	16	63.9 (2.516)	116.1 (4.571)	275.1 (10.831)
	14	63.9 (2.516)	214.0 (8.425)	270.9 (10.665)
	11	63.9 (2.516)	211.5 (8.327)	265.9 (10.469)
	8	63.9 (2.516)	209.4 (8.244)	261.8 (10.307)
	6	63.9 (2.516)	207.3 (8.161)	257.6 (10.142)
	4	63.9 (2.516)	305.7 (12.035)	254.3 (10.012)
3SP ...19 + 2SP	26	62.4 (2.457)	221.0 (8.701)	287.9 (11.335)
	22	62.4 (2.457)	218.1 (8.587)	282.1 (11.106)
	19	62.4 (2.457)	215.6 (8.488)	277.1 (10.909)
	16	62.4 (2.457)	213.1 (8.390)	272.1 (10.713)
	14	62.4 (2.457)	211.0 (8.307)	267.9 (10.547)
	11	62.4 (2.457)	208.5 (8.209)	262.9 (10.350)
	8	62.4 (2.457)	306.4 (12.063)	258.8 (10.189)
	6	62.4 (2.457)	204.3 (8.043)	254.6 (10.024)
	4	62.4 (2.457)	202.7 (7.980)	251.3 (9.894)

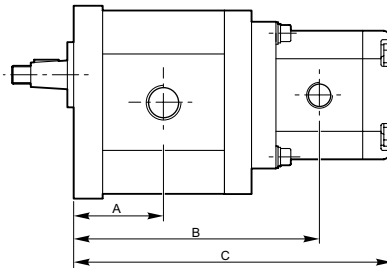
GR 3 + GR 2 TC



Codice ordinazione kit / kit order code **01093210000000**

E' disponibile la versione GR 3 + GR 2 con aspirazione unica.
 Codice di ordinazione kit:
 versione destra 010932101000000
 versione sinistra 010932102000000

It is available the suction single version for tandem GR 3 + GR 2 TC.
 Kit order code:
 Clockwise rotation 010932101000000
 Anticlockwise rotation 010932102000000



Codice ordinazione kit / kit order code **01093210000000**

Codice ordinazione kit / kit order code **01093210000000**

		mm (inch)		
		A	B	C
3SP ...62 + 2SP	26	80.4 <i>(3.165)</i>	222.0 <i>(8.740)</i>	288.9 <i>(11.374)</i>
	22	80.4 <i>(3.165)</i>	219.1 <i>(8.626)</i>	283.1 <i>(11.146)</i>
	19	80.4 <i>(3.165)</i>	216.6 <i>(8.528)</i>	278.1 <i>(10.949)</i>
	16	80.4 <i>(3.165)</i>	214.1 <i>(8.429)</i>	273.1 <i>(10.752)</i>
	14	80.4 <i>(3.165)</i>	212.0 <i>(8.346)</i>	268.9 <i>(10.587)</i>
	11	80.4 <i>(3.165)</i>	209.5 <i>(8.248)</i>	263.9 <i>(10.390)</i>
	8	80.4 <i>(3.165)</i>	207.4 <i>(8.165)</i>	259.8 <i>(10.228)</i>
	6	80.4 <i>(3.165)</i>	205.3 <i>(8.083)</i>	255.6 <i>(10.063)</i>
	4	80.4 <i>(3.165)</i>	203.7 <i>(8.020)</i>	252.3 <i>(9.933)</i>

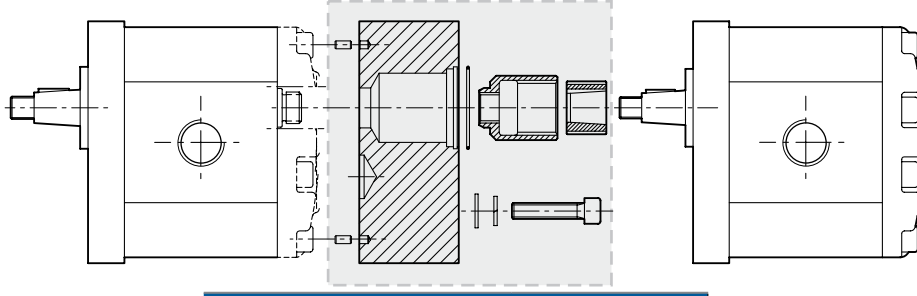
		mm (inch)		
		A	B	C
3SP ...52 + 2SP	26	76.4 <i>(3.008)</i>	214.0 <i>(8.425)</i>	280.9 <i>(11.059)</i>
	22	76.4 <i>(3.008)</i>	211.1 <i>(8.311)</i>	275.1 <i>(10.831)</i>
	19	76.4 <i>(3.008)</i>	208.6 <i>(8.213)</i>	270.1 <i>(10.634)</i>
	16	76.4 <i>(3.008)</i>	206.1 <i>(8.114)</i>	265.1 <i>(10.437)</i>
	14	76.4 <i>(3.008)</i>	204.0 <i>(8.032)</i>	260.9 <i>(10.272)</i>
	11	76.4 <i>(3.008)</i>	201.5 <i>(7.933)</i>	255.9 <i>(10.075)</i>
	8	76.4 <i>(3.008)</i>	199.4 <i>(7.850)</i>	251.8 <i>(9.913)</i>
	6	76.4 <i>(3.008)</i>	197.3 <i>(7.768)</i>	247.6 <i>(9.748)</i>
	4	76.4 <i>(3.008)</i>	195.7 <i>(7.705)</i>	244.3 <i>(9.618)</i>

Codice ordinazione kit / kit order code **01093210000000**Codice ordinazione kit / kit order code **01093210000000**

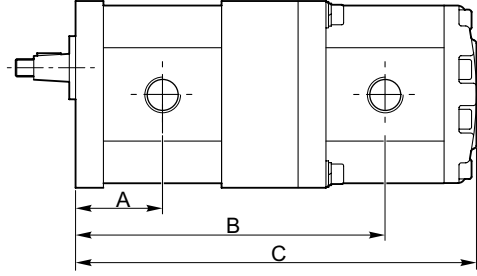
		mm (inch)		
		A	B	C
3SP ...44 + 2SP	26	72.9 (2.870)	207.0 (8.150)	273.9 (10.783)
	22	72.9 (2.870)	204.1 (8.035)	268.1 (10.555)
	19	72.9 (2.870)	201.6 (7.937)	263.1 (10.358)
	16	72.9 (2.870)	199.1 (7.839)	258.1 (10.161)
	14	72.9 (2.870)	197.0 (7.756)	253.9 (9.996)
	11	72.9 (2.870)	194.5 (7.657)	248.9 (9.799)
	8	72.9 (2.870)	192.4 (7.575)	244.8 (9.638)
	6	72.9 (2.870)	190.3 (7.492)	240.6 (9.472)
	4	72.9 (2.870)	188.7 (7.429)	237.3 (9.343)
	3SP ...36 + 2SP	26	69.9 (2.752)	201.0 (7.913)
22		69.9 (2.752)	198.1 (7.799)	262.1 (10.319)
19		69.9 (2.752)	195.6 (7.701)	257.1 (10.122)
16		69.9 (2.752)	193.1 (7.602)	252.1 (9.925)
14		69.9 (2.752)	191.0 (7.520)	247.9 (9.760)
11		69.9 (2.752)	188.5 (7.421)	242.9 (9.563)
8		69.9 (2.752)	186.4 (7.339)	238.8 (9.402)
6		69.9 (2.752)	184.3 (7.256)	234.6 (9.236)
4		69.9 (2.752)	182.7 (7.193)	231.3 (9.106)
3SP ...33 + 2SP		26	68.4 (2.693)	198.0 (7.795)
	22	68.4 (2.693)	195.1 (7.681)	259.1 (10.201)
	19	68.4 (2.693)	192.6 (7.583)	254.1 (10.004)
	16	68.4 (2.693)	190.1 (7.484)	249.1 (9.807)
	14	68.4 (2.693)	188.0 (7.402)	244.9 (9.642)
	11	68.4 (2.693)	185.5 (7.303)	239.9 (9.445)
	8	68.4 (2.693)	183.4 (7.220)	235.8 (9.283)
	6	68.4 (2.693)	181.3 (7.138)	231.6 (9.118)
	4	68.4 (2.693)	179.7 (7.075)	228.3 (8.988)

		mm (inch)		
		A	B	C
3SP ...29 + 2SP	26	66.9 (2.634)	195.0 (7.677)	261.9 (10.311)
	22	66.9 (2.634)	192.1 (7.563)	256.1 (10.083)
	19	66.9 (2.634)	189.6 (7.465)	251.1 (9.886)
	16	66.9 (2.634)	187.1 (7.366)	246.1 (9.689)
	14	66.9 (2.634)	185.0 (7.283)	241.9 (9.524)
	11	66.9 (2.634)	182.5 (7.185)	236.9 (9.327)
	8	66.9 (2.634)	180.4 (7.102)	232.8 (9.165)
	6	66.9 (2.634)	178.3 (7.020)	228.6 (9.000)
	4	66.9 (2.634)	176.7 (6.957)	225.3 (8.870)
	3SP ...22 + 2SP	26	63.9 (2.516)	189.0 (7.441)
22		63.9 (2.516)	186.1 (7.327)	250.1 (9.846)
19		63.9 (2.516)	183.6 (7.228)	245.1 (9.650)
16		63.9 (2.516)	181.1 (7.130)	240.1 (9.453)
14		63.9 (2.516)	179.0 (7.047)	235.9 (9.287)
11		63.9 (2.516)	176.5 (6.949)	230.9 (9.091)
8		63.9 (2.516)	174.4 (6.866)	226.8 (8.929)
6		63.9 (2.516)	172.3 (6.783)	222.6 (8.764)
4		63.9 (2.516)	170.7 (6.720)	219.3 (8.634)
3SP ...19 + 2SP		26	62.4 (2.457)	186.0 (7.323)
	22	62.4 (2.457)	183.1 (7.209)	247.1 (9.728)
	19	62.4 (2.457)	180.6 (7.110)	242.1 (9.532)
	16	62.4 (2.457)	178.1 (7.012)	237.1 (9.335)
	14	62.4 (2.457)	176.0 (6.929)	232.9 (9.169)
	11	62.4 (2.457)	173.5 (6.831)	227.9 (8.972)
	8	62.4 (2.457)	171.4 (6.748)	223.8 (8.811)
	6	62.4 (2.457)	169.3 (6.665)	219.6 (8.646)
	4	62.4 (2.457)	167.7 (6.602)	216.3 (8.516)

GR 3 + GR 3



Codice ordinazione kit / kit order code **01093300000000**



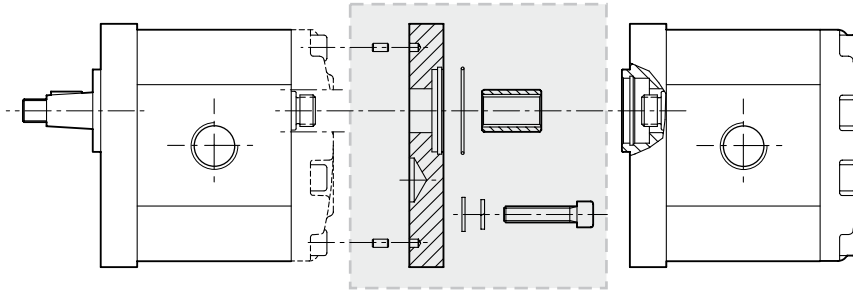
Codice ordinazione kit / kit order code **01093300000000**

Codice ordinazione kit / kit order code **01093300000000**

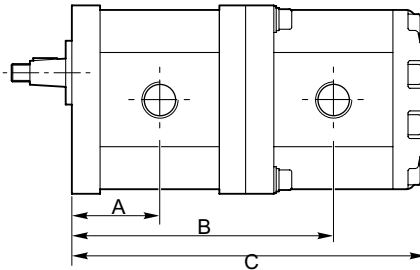
		mm (inch)			
		A	B	C	
3SP 62	+ 3 SP ..	62	80.4 (3.165)	283.7 (11.169)	367.6 (14.472)
		52	80.4 (3.165)	279.7 (11.012)	359.6 (14.157)
		44	80.4 (3.165)	276.2 (10.874)	352.6 (13.882)
		36	80.4 (3.165)	273.2 (10.756)	346.6 (13.646)
		33	80.4 (3.165)	272.7 (10.736)	343.6 (13.528)
		29	80.4 (3.165)	270.2 (10.638)	340.6 (13.409)
		22	80.4 (3.165)	267.2 (10.520)	334.6 (13.173)
		19	80.4 (3.165)	265.7 (10.461)	331.6 (13.055)
3SP 52	+ 3 SP ..	52	76.4 (3.008)	271.7 (10.697)	351.6 (13.843)
		44	76.4 (3.008)	268.2 (10.559)	344.6 (13.567)
		36	76.4 (3.008)	265.2 (10.441)	338.6 (13.331)
		33	76.4 (3.008)	263.7 (10.382)	335.6 (13.213)
		29	76.4 (3.008)	262.2 (10.323)	332.6 (13.094)
		22	76.4 (3.008)	259.2 (10.205)	326.6 (12.858)
		19	76.4 (3.008)	257.7 (10.146)	323.6 (12.740)
		3SP 44	+ 3 SP ..	44	72.9 (2.870)
36	72.9 (2.870)			258.2 (10.165)	331.6 (13.055)
33	72.9 (2.870)			256.7 (10.106)	328.6 (12.937)
29	72.9 (2.870)			255.2 (10.047)	325.6 (12.819)
22	72.9 (2.870)			252.2 (9.929)	319.6 (12.583)
19	72.9 (2.870)			250.7 (9.870)	316.6 (12.465)

		mm (inch)					
		A	B	C			
3SP 36	+ 3 SP ..	36	69.9 (2.752)	252.2 (9.929)	325.6 (12.819)		
		33	69.9 (2.752)	250.7 (9.870)	322.6 (12.701)		
		29	69.9 (2.752)	249.2 (9.811)	319.6 (12.583)		
		22	69.9 (2.752)	246.2 (9.693)	313.6 (12.346)		
		19	69.9 (2.752)	244.7 (9.634)	310.6 (12.228)		
		3SP 33	+ 3 SP ..	33	68.4 (2.693)	247.7 (9.752)	319.6 (12.583)
29	68.4 (2.693)			246.2 (9.693)	316.6 (12.465)		
22	68.4 (2.693)			243.2 (9.575)	310.6 (12.228)		
19	68.4 (2.693)			241.7 (9.516)	307.6 (12.110)		
3SP 29	+ 3 SP ..			29	66.9 (2.634)	243.2 (9.575)	313.6 (12.346)
				22	66.9 (2.634)	240.2 (9.457)	307.6 (12.110)
		19	66.9 (2.634)	238.7 (9.398)	304.6 (11.992)		
		3SP 22	+ 3 SP ..	22	63.9 (2.516)	234.2 (9.220)	301.6 (11.874)
19	63.9 (2.516)			232.7 (9.161)	298.6 (11.756)		
3SP 19	+ 3 SP ..			19	62.4 (2.457)	229.7 (9.043)	295.6 (11.643)

GR 3 + GR 3 TC



Codice ordinazione kit / kit order code **01093310000000**



Codice ordinazione kit / kit order code **01093310000000**

Codice ordinazione kit / kit order code **01093310000000**

		mm (inch)		
		A	B	C
3SP 62	62	80.4 <i>(3.165)</i>	239.7 <i>(9.437)</i>	323.6 <i>(12.740)</i>
	52	80.4 <i>(3.165)</i>	235.7 <i>(9.280)</i>	315.6 <i>(12.425)</i>
	44	80.4 <i>(3.165)</i>	232.2 <i>(9.142)</i>	308.6 <i>(12.150)</i>
	36	80.4 <i>(3.165)</i>	229.2 <i>(9.024)</i>	302.6 <i>(11.913)</i>
	33	80.4 <i>(3.165)</i>	227.7 <i>(8.965)</i>	299.6 <i>(11.795)</i>
	29	80.4 <i>(3.165)</i>	226.2 <i>(8.906)</i>	296.6 <i>(11.677)</i>
	22	80.4 <i>(3.165)</i>	223.2 <i>(8.787)</i>	290.6 <i>(11.441)</i>
	19	80.4 <i>(3.165)</i>	221.7 <i>(8.728)</i>	287.6 <i>(11.323)</i>
3SP 52	52	76.4 <i>(3.008)</i>	227.7 <i>(8.965)</i>	307.6 <i>(12.110)</i>
	44	76.4 <i>(3.008)</i>	224.2 <i>(8.827)</i>	300.6 <i>(11.835)</i>
	36	76.4 <i>(3.008)</i>	221.2 <i>(8.709)</i>	294.6 <i>(11.598)</i>
	33	76.4 <i>(3.008)</i>	219.7 <i>(8.650)</i>	291.6 <i>(11.480)</i>
	29	76.4 <i>(3.008)</i>	218.2 <i>(8.591)</i>	288.6 <i>(11.362)</i>
	22	76.4 <i>(3.008)</i>	215.2 <i>(8.472)</i>	282.6 <i>(11.126)</i>
	19	76.4 <i>(3.008)</i>	213.7 <i>(8.413)</i>	279.6 <i>(11.008)</i>
	3SP 44	44	72.9 <i>(2.870)</i>	217.2 <i>(8.551)</i>
36		72.9 <i>(2.870)</i>	214.2 <i>(8.433)</i>	287.6 <i>(11.323)</i>
33		72.9 <i>(2.870)</i>	212.7 <i>(8.374)</i>	284.6 <i>(11.205)</i>
29		72.9 <i>(2.870)</i>	211.2 <i>(8.315)</i>	281.6 <i>(11.087)</i>
22		72.9 <i>(2.870)</i>	208.2 <i>(8.197)</i>	275.6 <i>(10.850)</i>
19		72.9 <i>(2.870)</i>	206.7 <i>(8.138)</i>	272.6 <i>(10.732)</i>

		mm (inch)		
		A	B	C
3SP 36	36	69.9 <i>(2.752)</i>	208.2 <i>(8.197)</i>	281.6 <i>(11.087)</i>
	33	69.9 <i>(2.752)</i>	206.7 <i>(8.138)</i>	278.6 <i>(10.969)</i>
	29	69.9 <i>(2.752)</i>	205.2 <i>(8.079)</i>	275.6 <i>(10.850)</i>
	22	69.9 <i>(2.752)</i>	202.2 <i>(7.961)</i>	269.6 <i>(10.614)</i>
	19	69.9 <i>(2.752)</i>	200.7 <i>(7.902)</i>	266.6 <i>(10.496)</i>
	3SP 33	33	68.4 <i>(2.693)</i>	203.7 <i>(8.020)</i>
29		68.4 <i>(2.693)</i>	202.2 <i>(7.961)</i>	272.6 <i>(10.732)</i>
22		68.4 <i>(2.693)</i>	199.2 <i>(7.843)</i>	266.6 <i>(10.496)</i>
19		68.4 <i>(2.693)</i>	197.7 <i>(7.783)</i>	263.6 <i>(10.378)</i>
29		66.9 <i>(2.634)</i>	199.2 <i>(7.843)</i>	269.6 <i>(10.614)</i>
22		66.9 <i>(2.634)</i>	196.2 <i>(7.724)</i>	263.6 <i>(10.378)</i>
3SP 29	19	66.9 <i>(2.634)</i>	194.7 <i>(7.665)</i>	260.6 <i>(10.260)</i>
	22	63.9 <i>(2.516)</i>	190.2 <i>(7.488)</i>	257.6 <i>(10.142)</i>
	19	63.9 <i>(2.516)</i>	188.7 <i>(7.429)</i>	254.6 <i>(10.024)</i>
3SP 19	19	62.4 <i>(2.457)</i>	185.7 <i>(7.311)</i>	251.6 <i>(9.906)</i>

E' disponibile la versione GR 3 + GR 3 con aspirazione unica.

Codice di ordinazione kit:

versione destra 010933101000000

versione sinistra 010933102000000

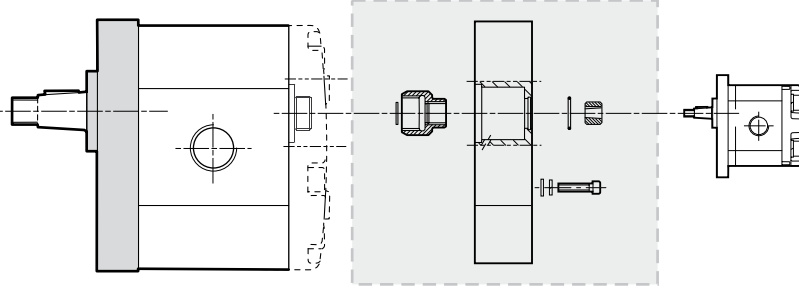
It is available the suction single version for tandem GR 3 + GR 3 TC.

Kit order code:

Clockwise rotation 010933101000000

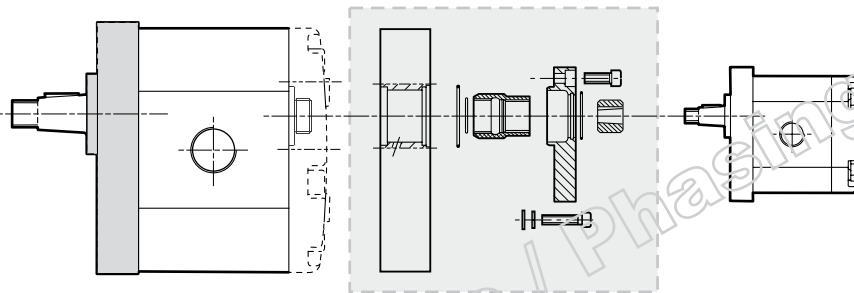
Anticlockwise rotation 010933102000000

GR 4 + GR 1



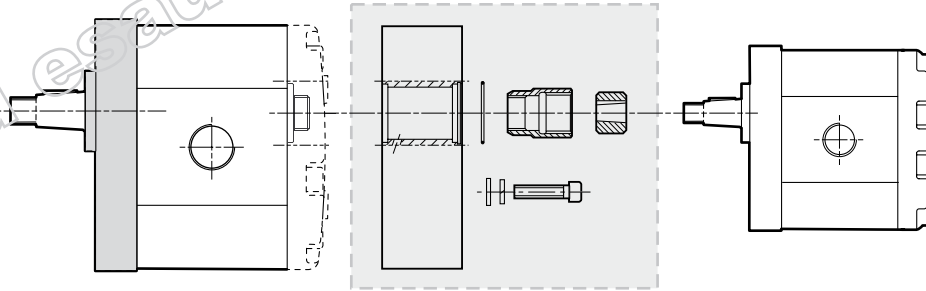
Codice ordinazione kit / kit order code **010410000000000**

GR 4 + GR 2



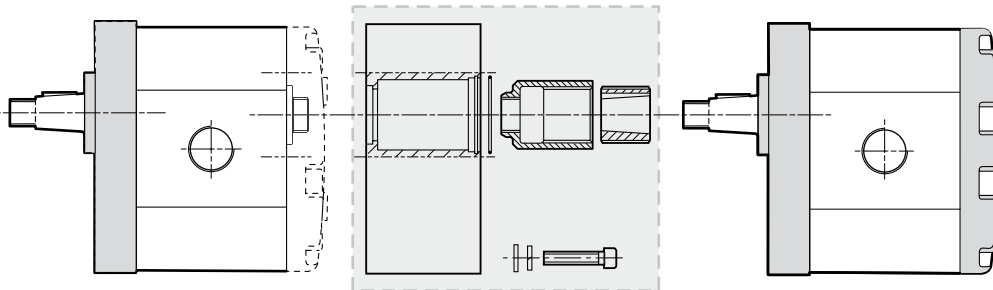
Codice ordinazione kit / kit order code **010420000000000**

GR 4 + GR 3



Codice ordinazione kit / kit order code **010430000000000**

GR 4 + GR 4

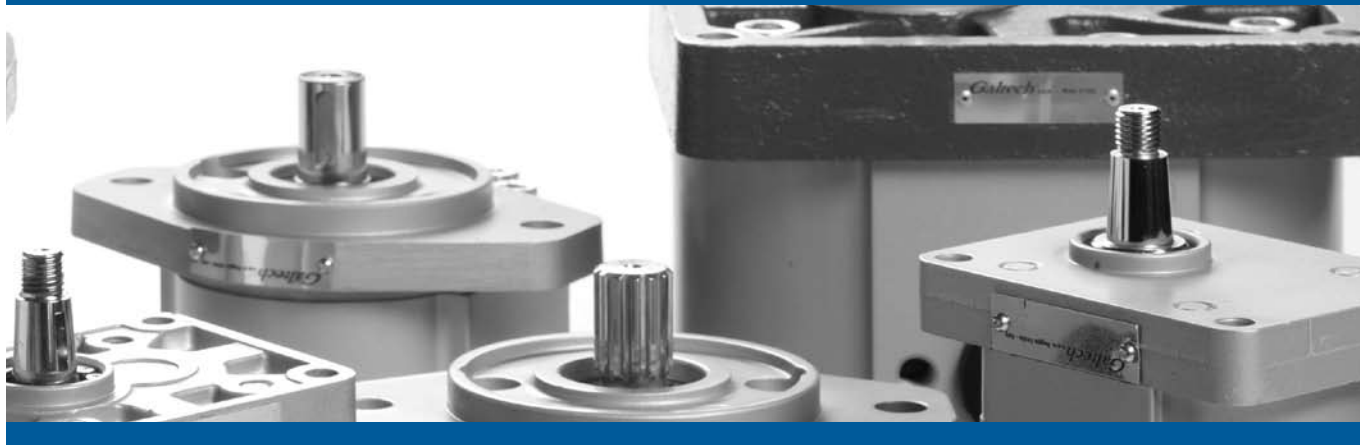


Codice ordinazione kit / kit order code **010440000000000**

Ad esaurimento / Phasing-out

MOTORI AD INGRANAGGI

GEAR MOTORS



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CARATTERISTICHE

Motori ad ingranaggi esterni dal gruppo 2 al gruppo 3 suddivisi in 17 cilindrate da 4 a 61,1cc, fino a 270 bar di pressione massima di esercizio e velocità massima fino a 4000 giri/min., con bilanciamento idrostatico a ripresa del gioco assiale.

Disponibili in versione unidirezionale o reversibile (utilizzabili anche in serie).

Ogni motore può essere assemblato con totale intercambiabilità sia con flange standard (europea tedesca, SAE) sia con quelle speciali e con alberi conici, cilindrici e scanalati. E' possibile inoltre montare coperchi per due velocità e con valvola limitatrice di pressione.

I motori sono disponibili nelle esecuzioni unidirezionale e reversibile

FEATURES

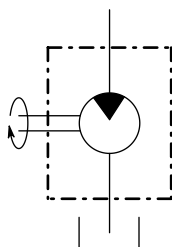
Motors with external gears from group 2 to group 3, divided into 17 displacements from 4 to 61,1cc, up to 270 bar of max working pressure and maximum speed up to 4000 rpm, with hydrostatic balance to reduce the axial slack.

Gear motors are available in unidirectional and reversible versions (reversible motors can be used same in serie circuit).

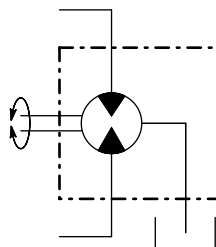
Each motor can be assembled with standard flanges (European, German or SAE) or with special ones (ZF, Perkins and Renault), with conic, cylindrical or splined shaft. Furthermore it is possible to assemble covers with two speed function and with pressure relief valve.

The motors are available in unidirectional D - S and reversible R version.

Motore unidirezionale (D-S)
Unidirectional motor (D-S)



Motore reversibile (R)
Reversible motor (R)



CONDIZIONI D'IMPIEGO

- Temperatura d'impiego 20°C ÷ 65°C
- Temperatura limite -15 °C ÷ 80°C
- Pressione ammessa in aspirazione min. 0.7 max. 3 bar (assoluti)
- Viscosità raccomandata 15 ÷ 92 mm² /s
- Viscosità limite d'avviamento 3000 mm² /s
- Filtraggio 26/23 ISO DIS 4406 fino a 150 bar
23/20 ISO DIS 4406 per pressioni superiori

USE CONDITIONS

- Temperature 20°C ÷ 65°C
- Max. temperature - 15 °C ÷ 80°C
- Suction allowed pressure min. 0.7 max. 3 bar (absolute)
- Recommended viscosity 15 ÷ 92 mm² /s
- Start max. viscosity 3000 mm² /s
- Filtering 26/23 150 ISO DIS 4406 until 2175 psi
23/20 ISO DIS 4406 for higher pressure



INFORMAZIONI TECNICHE

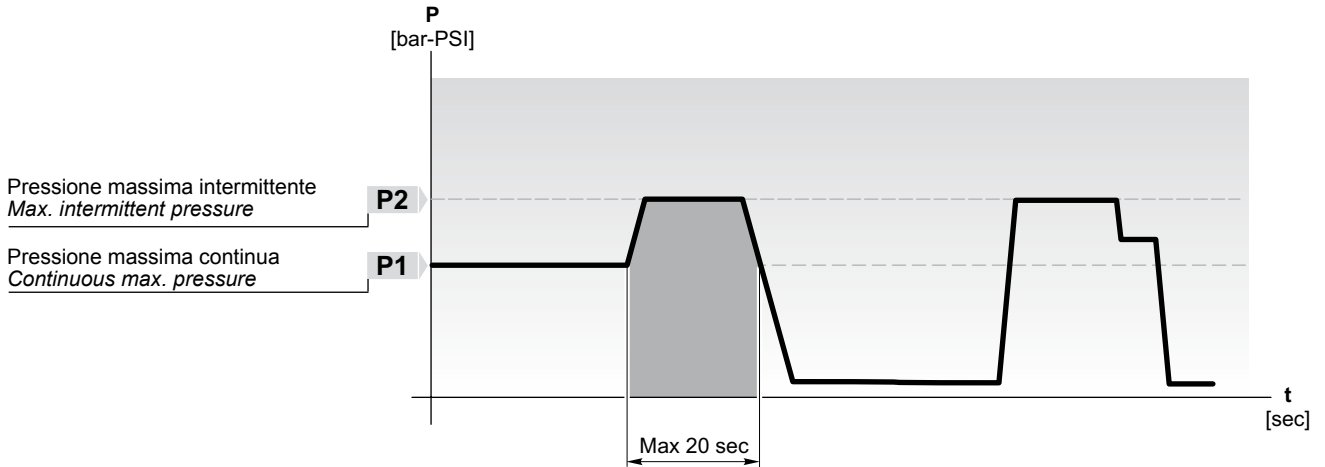
TECHNICAL INFORMATION

Definizione delle pressioni

I motori possono essere sottoposti alle pressioni P1, P2 indicate nelle tabelle delle prestazioni. Il grafico seguente ne illustra le definizioni e l'applicabilità rispettando i limiti delle velocità di rotazione riportati.

Definition of pressures

The motors can be subjected to the pressures P1, P2 indicated in the performance tables. The following diagram illustrates the definitions and applicability of these, compared to the rotation speed limits included.



**Misure idrauliche
Hydraulic measures**

Q	Portata Flow	[l/min - Gal/min]
M	Coppia Torque	[Nm - lbf.in]
P	Potenza Power	[kW - HP]
V	Cilindrata Displacement	[cm ³ /rev - in ³ /rev]
n	Velocità Speed	[min ⁻¹ - rpm]
Δp	Pressione Pressure	[bar - PSI]
η_v	Rendimento volumetrico Volumetric efficiency	
η_m	Rendimento meccanico Mechanical efficiency	
η_t	Rendimento totale Overall efficiency	

**Formule utili
Useful formulas**

$$Q = \frac{V \times n \times 10^{-3}}{\eta_v} \text{ l/min}$$

$$M = \frac{\Delta p \times V \times \eta_m}{62.83} \text{ Nm}$$

$$P = \frac{\Delta p \times V \times n \times \eta_t}{600 \times 1000} \text{ kW}$$

**Fattore di conversione
Conversion factors**

- 1 l/min = 0.2641 US Gal/min
- 1 Nm = 8.851 in·lbs
- 1 Nm = 0.7375 ft·lbs
- 1 N = 0.2248 lbs
- 1kW = 1.34 HP
- 1cm³/giro = 0.061 in³/rev
- 1 bar = 14.5 PSI
- 1 mm = 0.0394 in
- 1 kg = 2.205 lbs

GAMMA DI PRODOTTO

PRODUCT RANGE

MOTORI GRUPPO
MOTORS GROUP

2

D = Rotazione destra / Clockwise rotation
S = Rotazione sinistra / Anticlockwise rotation
R = Reversibile / Reversible

Standard

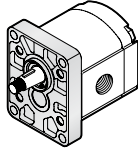
SAE A

SAE A-OR

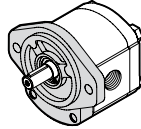
B80 C

B50 C

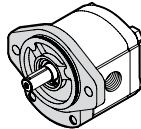
E52 C



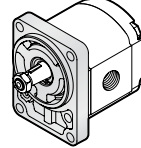
C-6



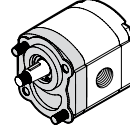
C-7



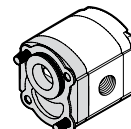
C-7



C-8



C-8



C-9

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure				Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)
		P1 [bar] / (PSI)		P2 [bar] / (PSI)					
		S - D	R	S - D	R				
2SM_4	4 (0.24)	230 (3335)	230 (3335)	270 (3915)	230 (3335)	4000	16 (4.23)	500	1.9 (0.50)
	6	230 (3335)	230 (3335)	270 (3915)	230 (3335)				
2SM_6	8.5 (0.52)	230 (3335)	230 (3335)	270 (3915)	230 (3335)	4000	29.7 (7.85)	500	4.03 (1.06)
2SM_8	11 (0.67)	230 (3335)	230 (3335)	270 (3915)	230 (3335)	3500	38.5 (10.17)	500	5.22 (1.38)
2SM_11	14 (0.85)	230 (3335)	230 (3335)	270 (3915)	230 (3335)	3500	49 (12.95)	500	6.65 (1.76)
2SM_14	16.5 (1.01)	230 (3335)	200 (2900)	240 (3480)	200 (2900)	3500	57.7 (15.24)	500	7.83 (2.07)
2SM_16	19.5 (1.19)	210 (3045)	185 (2683)	220 (3190)	185 (2683)	3300	64.3 (16.99)	500	9.26 (2.45)
2SM_19	22.5 (1.37)	190 (2755)	170 (2465)	200 (2900)	170 (2465)	2800	63 (16.64)	500	10.68 (2.82)
2SM_22	26 (1.59)	170 (2465)	150 (2175)	180 (2610)	155 (2248)	2500	65 (17.17)	500	12.35 (3.26)

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

2SM	A	14	D	(K)	-	10	G	(VT)
-----	---	----	---	-----	---	----	---	------

2SM	Tipo motore / Motor type	vedi tabella / see table
A	Flangia e coperchio / Flange and cover	A = Alluminio / Aluminium G = Ghisa / Cast iron
14	Cilindrata / Displacement	vedi tabella / see table
D	Rotazione destra / Clockwise rotation	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation R = Reversibile / Reversible
— ⁽¹⁾	Tipo flangia / Flange type	
(K)	Anello di rinforzo per alta pressione sullo scarico - max. 30 bar Seal for high pressure on the tank return line - max. 30 bar	(a richiesta / optional)
—		
10	Tipo albero / Shaft type	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17
G	Tipo connessioni / Connections type	G - N - T - U - F - M - W
(VT)	Opzioni / Optional	(VT) Guarnizione in Viton (a richiesta) Viton seals (optional) VLP-I (N) ⁽²⁾ - VLP-E (N) ⁽²⁾ Valvola limitatrice di pressione (pag. C-11) Pressure relief valve (page C-11)

⁽¹⁾ Non è necessario indicare la flangia STANDARD / It is not necessary indicate STANDARD flange

⁽²⁾ Solo per motori unidirezionali / Only for unidirectional motors

GAMMA DI PRODOTTO

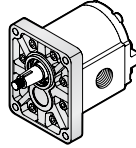
PRODUCT RANGE

**MOTORI GRUPPO
MOTORS GROUP**

3

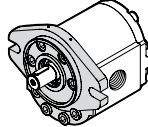
D = Rotazione destra / *Clockwise rotation*
S = Rotazione sinistra / *Anticlockwise rotation*
R = Reversibile / *Reversible*

Standard



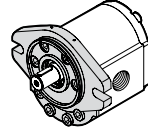
C-16

SAE B



C-17

SAE B-OR



C-17

Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Pressione max. d'esercizio Max. working pressure				Velocità max. Max. speed [g/min] (rpm)	Portata max. Max. flow [lt/min] (Gal/min)	Velocità min. Min. speed [g/min] (rpm)	Portata min. Min. flow [lt/min] (Gal/min)
		P1 [bar] / (PSI)		P2 [bar] / (PSI)					
		S - D	R	S - D	R				
3SM_19	19	250	215	270	220	3500	66.5	700	12.64
	(1.16)	(3625)	(3118)	(3915)	(3190)				
3SM_22	22.3	240	205	260	220	3500	78	700	14.83
	(1.36)	(3480)	(2973)	(3770)	(3190)				
3SM_29	29.3	220	190	240	205	3300	96.7	700	19.48
	(1.79)	(3190)	(2755)	(3480)	(2973)		(25.55)		(5.15)
3SM_33	32.9	220	190	240	205	3300	108.6	700	21.88
	(2.01)	(3190)	(2755)	(3480)	(2973)				
3SM_36	36.4	210	180	230	205	3300	120.1	700	24.21
	(2.22)	(3045)	(2610)	(3335)	(2973)				
3SM_44	43.5	200	170	220	185	3000	130.5	700	28.93
	(2.65)	(2900)	(2465)	(3190)	(2683)				
3SM_52	51.7	200	170	220	180	3000	155.1	700	34.38
	(3.15)	(2900)	(2465)	(3190)	(2610)				
3SM_62	61.1	180	160	190	160	2500	152.7	700	40.63
	(3.73)	(2610)	(2320)	(2755)	(2320)				

* (Valori rilevati in fase di collaudo a 1500 giri/min / Value collected during the testing at 1500 rpm)

Esempio di ordinazione in codice / Example of ordering code

3SM	A	22	D	(K)	-	10	G	(VT)
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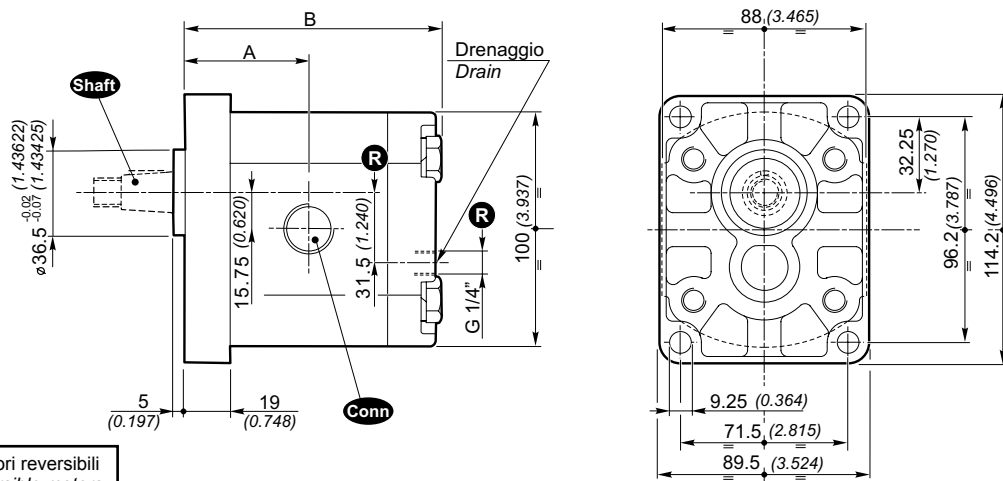
3SM	Tipo motore / <i>Motor type</i>	vedi tabella / <i>see table</i>
A	Flangia e coperchio / <i>Flange and cover</i>	A = Alluminio / <i>Aluminium</i> G = Ghisa / <i>Cast iron</i>
14	Cilindrata / <i>Displacement</i>	vedi tabella / <i>see table</i>
D	Rotazione destra / <i>Clockwise rotation</i>	D = Rotazione destra / <i>Clockwise rotation</i> S = Rotazione sinistra / <i>Anticlockwise rotation</i> R = Reversibile / <i>Reversible</i>
— ⁽¹⁾	Tipo flangia / <i>Flange type</i>	
(K)	Anello di rinforzo per alta pressione sullo scarico - max. 30 bar <i>Seal for high pressure on the tank return line - max. 30 bar</i>	(a richiesta / <i>optional</i>)
—		
10	Tipo albero / <i>Shaft type</i>	10 - 13 - 14
G	Tipo connessioni / <i>Connections type</i>	G - N - W - F - T
(VT)	Opzioni / <i>Optional</i>	(VT) Guarnizione in Viton (a richiesta) <i>Viton seals (optional)</i> VLP-I (N)⁽²⁾ Valvola limitatrice di pressione (pag. C-18) <i>Pressure relief valve (page C-18)</i>

⁽¹⁾ Non è necessario indicare la flangia STANDARD / *It is not necessary indicate STANDARD flange*

⁽²⁾ Solo per motori unidirezionali / *Only for unidirectional motors*

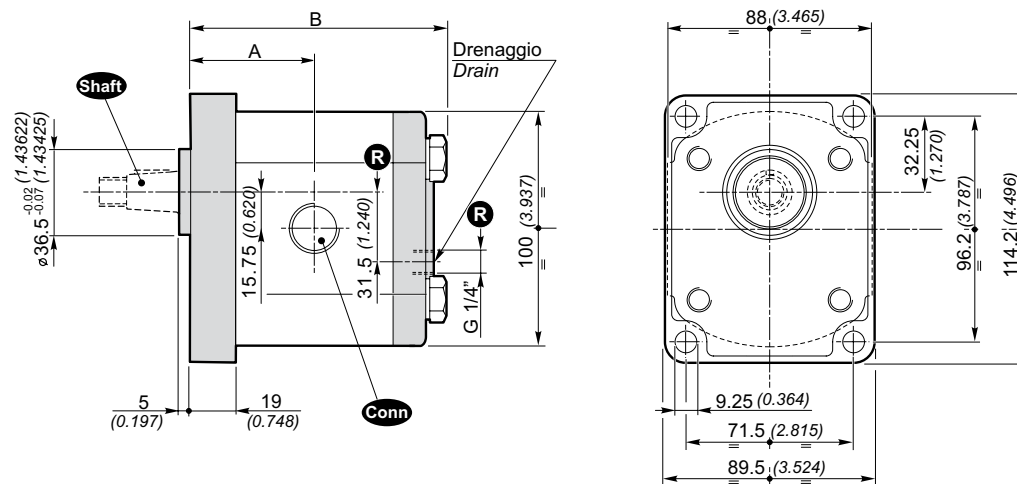
Dimensioni / Dimensions

Flangia e coperchio in Alluminio / Flange and cover in Aluminium



R Solo per motori reversibili
Only for reversible motors

Flangia e coperchio in Ghisa / Flange and cover in Cast iron



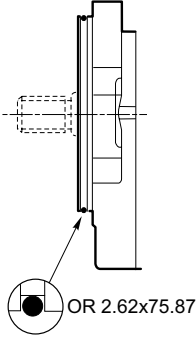
STND (Alluminio / Aluminium)

STND (Ghisa / Cast iron)

Grandezza Size	Cilindrata Displacement	Dimensioni Dimensions		Massa Mass	Shaft	Conn	Dimensioni Dimensions		Massa Mass	Shaft	Conn
		A	B				A	B			
	[cm ³ /rev] [in ³ /rev]	[mm] [inch]	[mm] [inch]	[Kg] [lbs]			[mm] [inch]	[mm] [inch]	[Kg] [lbs]		
2SM_4	4 (0.24)	44.4 (1.748)	93 (3.661)	2.30 (5.1)	10 11 12 13 14 15 16	G N T M U W F	44.4 (1.748)	93 (3.661)	3.40 (7.5)	10 11 12 13 14 15 16	G N T M U W F
2SM_6	6 (0.37)	46 (1.811)	96.3 (3.791)	2.45 (5.4)			46 (1.811)	96.3 (3.791)	3.60 (7.8)		
2SM_8	8.5 (0.52)	48.1 (1.894)	100.5 (3.957)	2.60 (5.7)			48.1 (1.894)	100.5 (3.957)	3.70 (8.2)		
2SM_11	11 (0.67)	50.2 (1.976)	104.6 (4.118)	2.70 (6.0)			50.2 (1.976)	104.6 (4.118)	3.80 (8.4)		
2SM_14	14 (0.85)	52.7 (2.075)	109.6 (4.315)	2.80 (6.2)			52.7 (2.075)	109.6 (4.315)	3.90 (8.6)		
2SM_16	16.5 (1.01)	54.8 (2.157)	113.8 (4.480)	2.95 (6.5)			54.8 (2.157)	113.8 (4.480)	4.05 (8.9)		
2SM_19	19.5 (1.19)	57.3 (2.256)	118.8 (4.677)	3.10 (6.8)			57.3 (2.256)	118.8 (4.677)	4.20 (9.3)		
2SM_22	22.5 (1.37)	59.8 (2.354)	123.8 (4.874)	3.25 (7.2)			59.8 (2.354)	123.8 (4.874)	4.35 (9.6)		
2SM_26	26 (1.59)	62.7 (2.469)	129.6 (5.102)	3.40 (7.5)			62.7 (2.469)	129.6 (5.102)	4.50 (9.9)		

Dimensioni / Dimensions

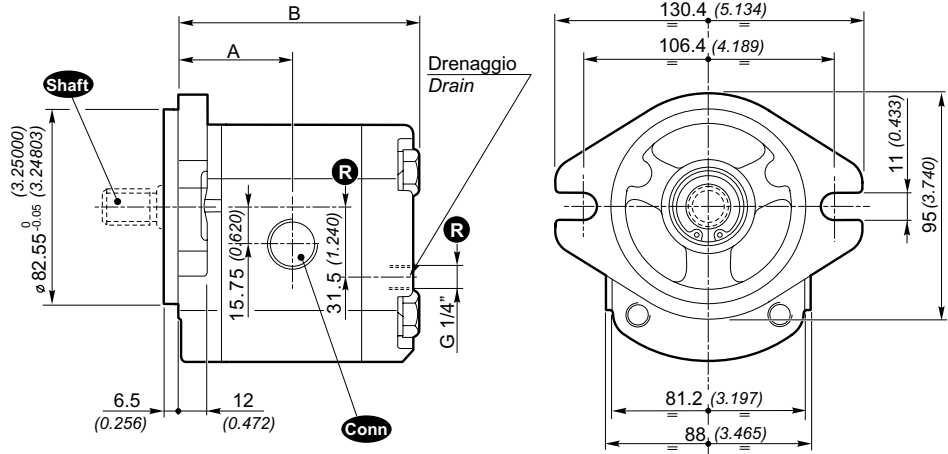
SAE A-OR



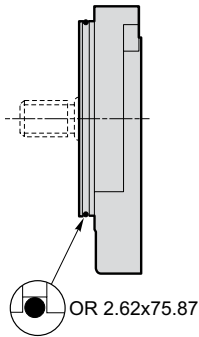
R Solo per motori reversibili
Only for reversible motors

SAE A

Flangia e coperchio in Alluminio / Flange and cover in Aluminium

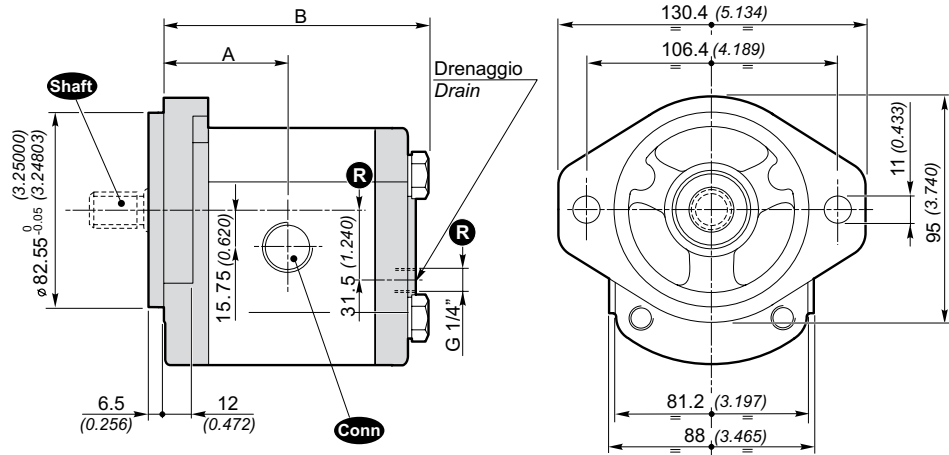


SAE A-OR



SAE A

Flangia e coperchio in Ghisa / Flange and cover in Caston iron



SAE A, SAE A-OR (All. / Aluminium)

SAE A, SAE A-OR (Ghisa / Cast iron)

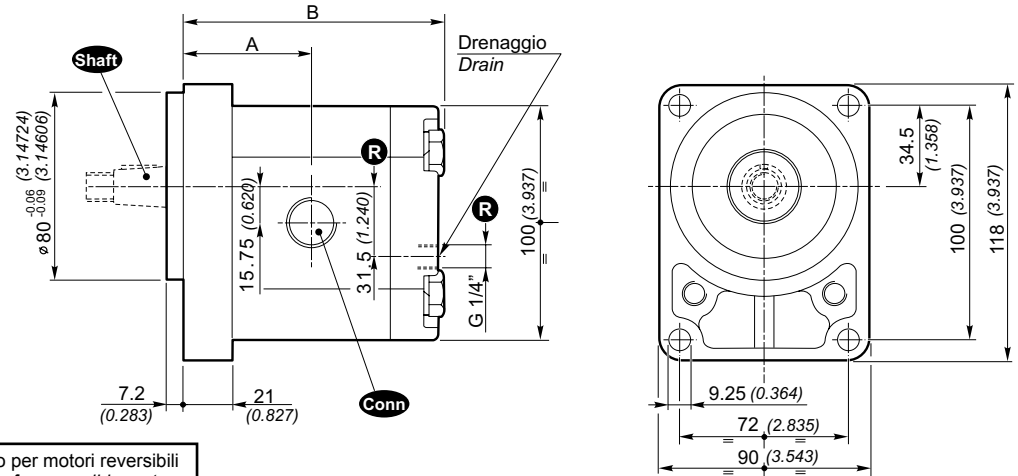
Grandezza Size	Cilindrata Displacement	Dimensioni Dimensions		Massa Mass	Shaft	Conn	Dimensioni Dimensions		Massa Mass	Shaft	Conn
		A	B				A	B			
	[cm ³ /rev] [in ³ /rev]	[mm] [inch]	[mm] [inch]	[Kg] [lbs]			[mm] [inch]	[mm] [inch]	[Kg] [lbs]		
2SM_4	4 (0.24)	44.4 (1.748)	93 (3.661)	2.30 (5.1)			44.4 (1.748)	93 (3.661)	3.40 (7.5)		
2SM_6	6 (0.37)	46 (1.811)	96.3 (3.791)	2.45 (5.4)			46 (1.811)	96.3 (3.791)	3.55 (7.8)		
2SM_8	8.5 (0.52)	48.1 (1.894)	100.5 (3.957)	2.60 (5.7)	10	G	48.1 (1.894)	100.5 (3.957)	3.70 (8.2)	10	G
2SM_11	11 (0.67)	50.2 (1.976)	104.6 (4.118)	2.70 (6.0)	11	N	50.2 (1.976)	104.6 (4.118)	3.80 (8.4)	11	N
2SM_14	14 (0.85)	52.7 (2.075)	109.6 (4.315)	2.80 (6.2)	12	T	52.7 (2.075)	109.6 (4.315)	3.90 (8.6)	12	T
2SM_16	16.5 (1.01)	54.8 (2.157)	113.8 (4.480)	2.95 (6.5)	13	M	54.8 (2.157)	113.8 (4.480)	4.05 (8.9)	13	M
2SM_19	19.5 (1.19)	57.3 (2.256)	118.8 (4.677)	3.10 (6.8)	14	U	57.3 (2.256)	118.8 (4.677)	4.20 (9.3)	14	U
2SM_22	22.5 (1.37)	59.8 (2.354)	123.8 (4.874)	3.25 (7.2)	15	W	59.8 (2.354)	123.8 (4.874)	4.35 (9.6)	15	W
2SM_26	26 (1.59)	62.7 (2.469)	129.6 (5.102)	3.40 (7.5)	16	F	62.7 (2.469)	129.6 (5.102)	4.50 (9.9)	16	F

**MOTORI GRUPPO
MOTORS GROUP**

2

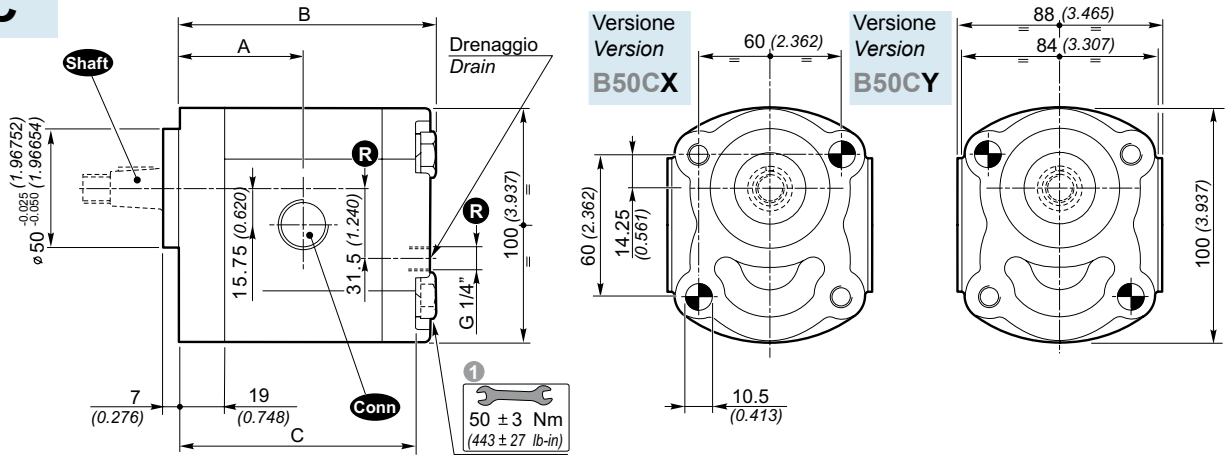
Dimensioni / Dimensions

B80C



R Solo per motori reversibili
Only for reversible motors

B50C



1
50 ± 3 Nm
(443 ± 27 lb-in)

1 Coppia di serraggio viti: 50 ± 3 Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.
Il fissaggio della pompa può essere affettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 40 ± 3 Nm.
Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 50 ± 3 Nm.
Il Kit di viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione del Kit di fissaggio:

1 Tightening torque of screws: 443 ± 27 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.
The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 354 ± 27 lb-in.
Fix the pump by self-locking nuts with tightening torque 443 ± 27 lb-in.
The screws kit for the pump assembling should be ordered separately.
Ordering code of fixing Kit:

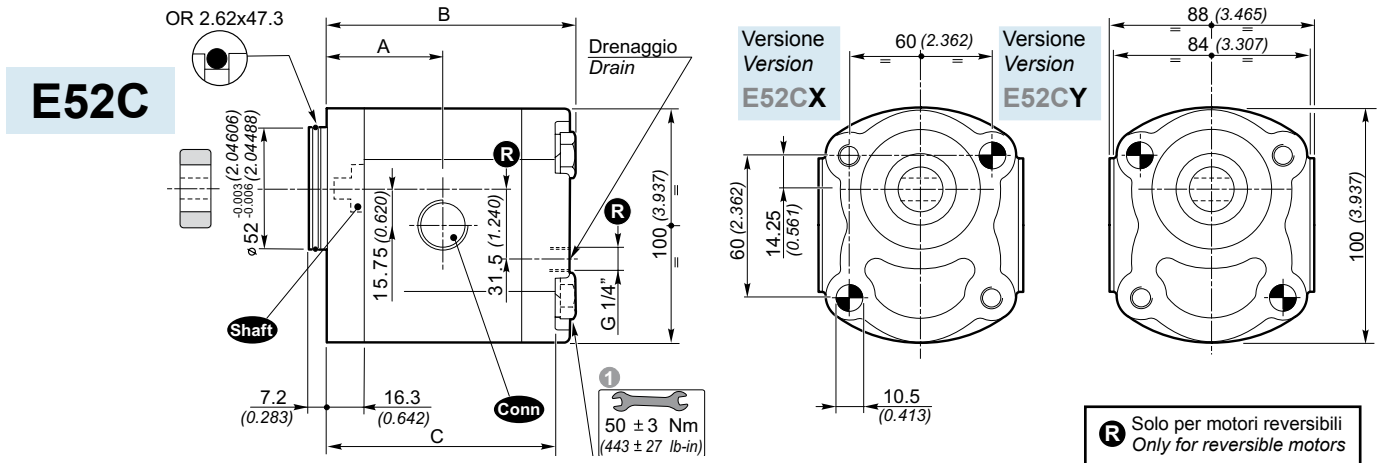
0029W + Lunghezza L (vedi tabella)
+ Length L (see table)

Grandezza Size	Cilindrata Displacement [cm ³ /rev] [in ³ /rev]	B80C				Shaft	Conn	B50C				Shaft	Conn
		Dimensioni / Dimensions		Massa Mass [Kg] [lbs]	Dimensioni / Dimensions			Massa Mass [Kg] [lbs]					
		A [mm] [inch]	B [mm] [inch]		A [mm] [inch]				B [mm] [inch]	C [mm] [inch]	L ¹ [mm] [inch]		
2SM A4	4 (0.24)	46.4 (1.827)	95 (3.740)	2.30 (5.1)	44.4 (1.748)	93 (3.661)	84 (3.307)	105 (4.134)	2.30 (5.1)	10 11 12 13 14 15 16	G N T M U W F	C-11	C-12
2SM A6	6 (0.37)	48 (1.890)	98.3 (3.870)	2.45 (5.4)	46 (1.811)	96.3 (3.791)	87.3 (3.437)	105 (4.134)	2.45 (5.4)				
2SM A8	8.5 (0.52)	50.1 (1.972)	102.5 (4.035)	2.60 (5.7)	48.1 (1.894)	100.5 (3.957)	91.5 (3.602)	110 (4.331)	2.60 (5.7)				
2SM A11	11 (0.67)	52.2 (2.055)	106.6 (4.197)	2.70 (6.0)	50.2 (1.976)	104.6 (4.118)	95.6 (3.764)	115 (4.528)	2.70 (6.0)				
2SM A14	14 (0.85)	54.7 (2.154)	111.6 (4.394)	2.80 (6.2)	52.7 (2.075)	109.6 (4.315)	100.6 (3.961)	120 (4.724)	2.80 (6.2)				
2SM A16	16.5 (1.01)	56.8 (2.236)	115.8 (4.559)	2.95 (6.5)	54.8 (2.157)	113.8 (4.480)	104.8 (4.126)	125 (4.921)	2.95 (6.5)				
2SM A19	19.5 (1.19)	59.3 (2.335)	120.8 (4.756)	3.10 (6.8)	57.3 (2.256)	118.8 (4.677)	109.8 (4.323)	130 (5.118)	3.10 (6.8)				
2SM A22	22.5 (1.37)	61.8 (2.433)	125.8 (4.953)	3.25 (7.2)	59.8 (2.354)	123.8 (4.874)	114.8 (4.520)	135 (5.315)	3.25 (7.2)				
2SM A26	26 (1.59)	64.7 (2.547)	131.6 (5.181)	3.40 (7.5)	62.7 (2.469)	129.6 (5.102)	120.6 (4.748)	140 (5.512)	3.40 (7.5)				

MOTORI GRUPPO
MOTORS GROUP

2

Dimensioni / Dimensions



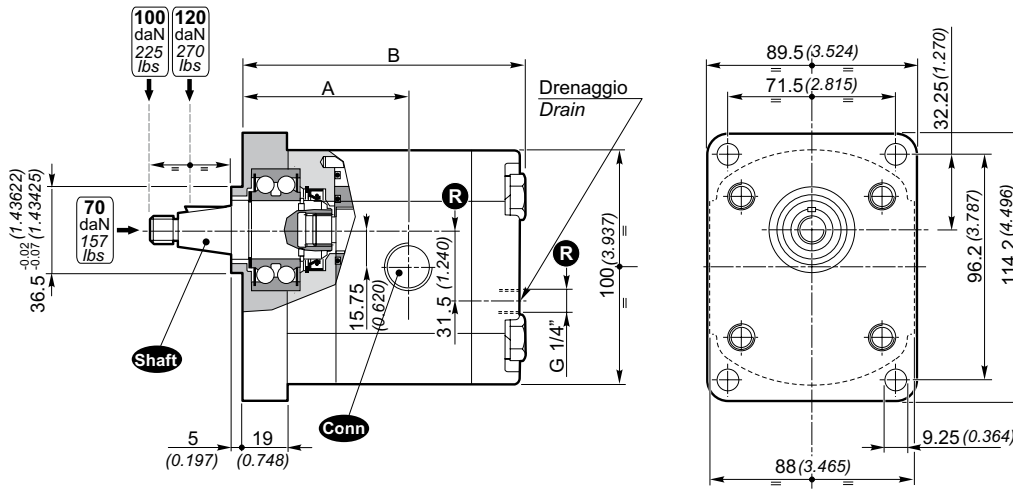
1 Coppia di serraggio viti: 50 ± 3 Nm. Utilizzare viti classe 10.9 - 12.9 UNI EN 20898/1.
 Il fissaggio della pompa può essere affettuato con 2 viti prigioniere in materiale classe 10.9 - 12.9 preserrate a 40 ± 3 Nm.
 Fissare la pompa mediante dadi autobloccanti con coppia di serraggio 50 ± 3 Nm.
 Il Kit di viti per il fissaggio della pompa è da ordinare separatamente.
 Codice di ordinazione del Kit di fissaggio:

1 Tightening torque of screws: 443 ± 27 lb-in. Use screws type 10.9 - 12.9 UNI EN 20898/1.
 The assembling of the pump should be effected with 2 screw studs type 10.9 - 12.9 pre-tighten at 354 ± 27 lb-in.
 Fix the pump by self-locking nuts with tightening torque 443 ± 27 lb-in.
 The screws kit for the fixing of the pump should be ordered separately.
 Ordering code of fixing Kit:

0029W + Lunghezza L (vedi tabella)
 + Length L (see table)

E52C										
Grandezza Size	Cilindrata Displacement [cm ³ /rev] (in ³ /rev)	Dimensioni / Dimensions				Massa Mass [Kg] (lbs)	Shaft	Conn		
		A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	L 1 [mm] (inch)					
2SM A4	4 (0.24)	41.7 (1.642)	90.3 (3.555)	81.3 (3.201)	100 (3.937)	2.30 (5.1)	17	G N T M U W F		
2SM A6	6 (0.37)	43.3 (1.705)	93.6 (3.685)	84.6 (3.331)	105 (4.134)	2.45 (5.4)				
2SM A8	8.5 (0.52)	45.4 (1.787)	97.8 (3.850)	88.8 (3.496)	110 (4.331)	2.60 (5.7)				
2SM A11	11 (0.67)	47.5 (1.870)	101.9 (4.012)	92.9 (3.657)	115 (4.528)	2.70 (6.0)				
2SM A14	14 (0.85)	50 (1.969)	106.9 (4.209)	97.9 (3.854)	120 (4.724)	2.80 (6.2)				
2SM A16	16.5 (1.01)	52.1 (2.051)	111.1 (4.374)	102.1 (4.020)	120 (4.724)	2.95 (6.5)				
2SM A19	19.5 (1.19)	54.6 (2.150)	116.1 (4.571)	107.1 (4.217)	125 (4.921)	3.10 (6.8)				
2SM A22	22.5 (1.37)	57.1 (2.248)	121.1 (4.768)	112.1 (4.413)	130 (5.118)	3.25 (7.2)			C-11	C-12
2SM A26	26 (1.59)	60 (2.362)	126.9 (4.996)	117.9 (4.642)	140 (5.512)	3.40 (7.5)				

Dimensioni / Dimensions



R Solo per motori reversibili
Only for reversible motors

Versione da utilizzare in presenza di carichi assiali e/o radiali
Version to use with axial and/or radial loads

SUPP.STND

Grandezza Size	Cilindrata Displacement [cm ³ /rev] [in ³ /rev]	Dimensioni / Dimensions		Massa Mass [Kg] [lbs]	Shaft	Conn
		A [mm] [inch]	B [mm] [inch]			
2SM A4	4 (0.24)	64.4 (2.535)	113 (4.449)	2.80 (6.2)	10	G N T M U W F
2SM A6	6 (0.37)	66 (2.598)	116.3 (4.579)	2.88 (6.4)		
2SM A8	8.5 (0.52)	68.1 (2.681)	120.5 (4.744)	3.00 (6.6)		
2SM A11	11 (0.67)	70.2 (2.764)	124.6 (4.906)	3.12 (6.9)		
2SM A14	14 (0.85)	72.7 (2.862)	129.6 (5.102)	3.27 (7.2)		
2SM A16	16.5 (1.01)	74.8 (2.945)	133.8 (5.268)	3.39 (7.5)		
2SM A19	19.5 (1.19)	77.3 (3.043)	138.8 (5.465)	3.53 (7.8)		
2SM A22	22.5 (1.37)	79.8 (3.142)	143.8 (5.661)	3.67 (8.1)		
2SM A26	26 (1.59)	82.7 (3.256)	149.6 (5.890)	3.84 (8.5)		

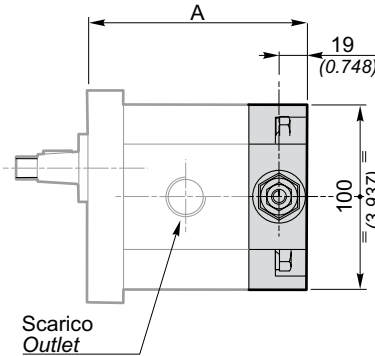
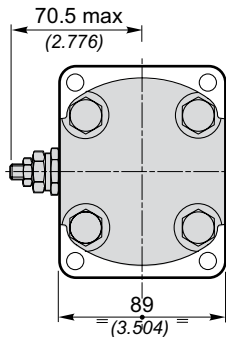
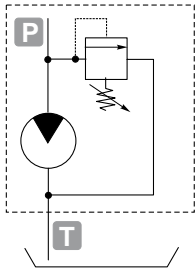
OPZIONI / OPTIONAL

MOTORI GRUPPO
MOTORS GROUP

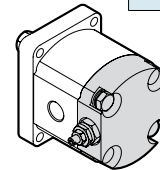
2

VLP- I (N)

Valvola limitatrice di pressione a scarico interno
Pressure relief valve with internal exhaust

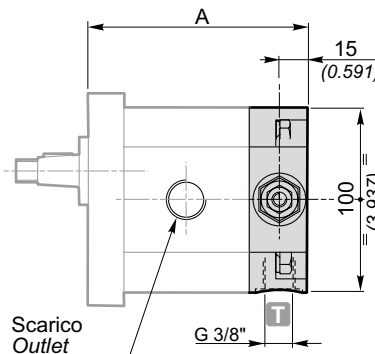
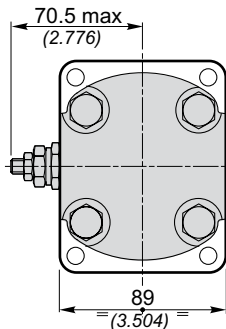
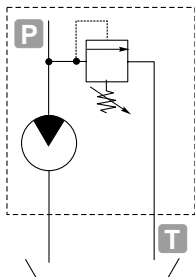


	A		
	Standard SAE A B50C	B80C	E52C
2SM A4	104.8 (4.126)	106.8 (4.205)	102.1 (4.020)
2SM A6	108.1 (4.256)	110.1 (4.335)	105.4 (4.150)
2SM A8	112.3 (4.421)	114.3 (4.500)	109.6 (4.315)
2SM A11	116.4 (4.583)	118.4 (4.661)	113.7 (4.476)
2SM A14	121.4 (4.780)	123.4 (4.858)	118.7 (4.673)
2SM A16	125.6 (4.945)	127.6 (5.024)	122.9 (4.839)
2SM A19	130.6 (5.142)	132.6 (5.220)	127.9 (5.035)
2SM A22	135.6 (5.339)	137.6 (5.417)	132.9 (5.232)
2SM A26	141.4 (5.567)	143.4 (5.646)	138.7 (5.461)



VLP- E (N)

Valvola limitatrice di pressione a scarico esterno
Pressure relief valve with external exhaust



	A		
	Standard SAE A B50C	B80C	E52C
2SM A4	100.8 (3.969)	102.8 (4.047)	98.1 (3.862)
2SM A6	104.1 (4.098)	106.1 (4.177)	101.4 (3.992)
2SM A8	108.3 (4.264)	110.3 (4.343)	105.6 (4.157)
2SM A11	112.4 (4.425)	114.4 (4.504)	109.7 (4.319)
2SM A14	117.4 (4.622)	119.4 (4.701)	114.7 (4.516)
2SM A16	121.6 (4.787)	123.6 (4.866)	118.9 (4.681)
2SM A19	126.6 (4.984)	128.6 (5.063)	123.9 (4.878)
2SM A22	131.6 (5.181)	133.6 (5.260)	128.9 (5.075)
2SM A26	137.4 (5.409)	139.4 (5.488)	134.7 (5.303)

NB.

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore.
Fornitura solo con flangia e coperchio in Alluminio.
Sono rappresentati motori con rotazione destra.
Nei motori con rotazione destra, il foro T è in alto.

Warning.

The pressure relief valve can be applied by substituting the rear cover.
It is supplied only with aluminium flange and cover.
The showed motors are clockwise rotation.
Motors with clockwise rotation, T port is above.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 10 secondi ogni minuto per evitare il surriscaldamento della pompa.

The opening of the pressure relief valve should carry out for times not over 10" each minute to avoid the overheating of the pump.

Esempio di ordinazione in codice / Example of ordering code

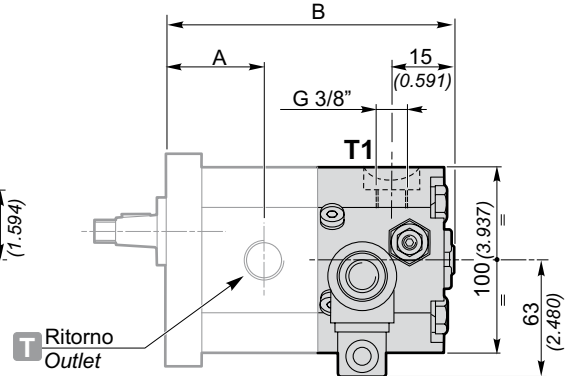
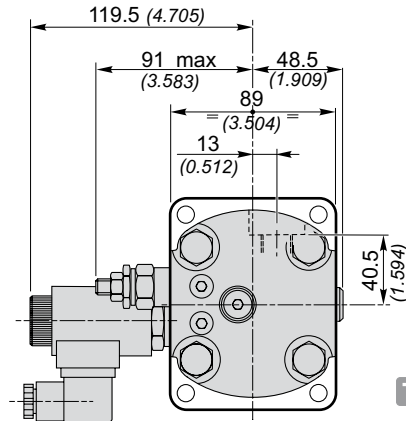
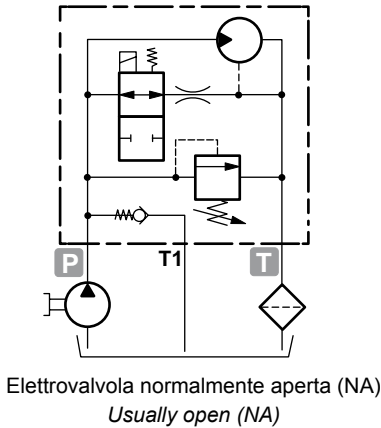
2SM	A	14	D	SAE A	-	10	G	(VT)	VLP-I	(N)
VLP-I	Coperchio con VLP Cover with VLP		VPL-I (a scarico interno /at internal exhaust) VLP-E (a scarico esterno /at external exhaust)							
(N)	Tipo di molla / Spring type		B - N - R (vedi tabella / See table)							
Tipo di molla / Spring type										
		B	N	R						
		molla bianca white spring	molla nera black spring	molla rossa red spring						
Campi di taratura* Calibration fields*	[bar] (psi)	10 ÷ 100 (145 ÷ 1450)	30 ÷ 280 (435 ÷ 4060)	80 ÷ 380 (1160 ÷ 5510)						

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

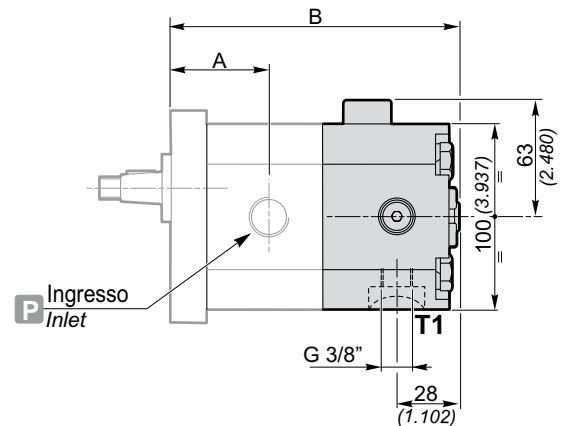
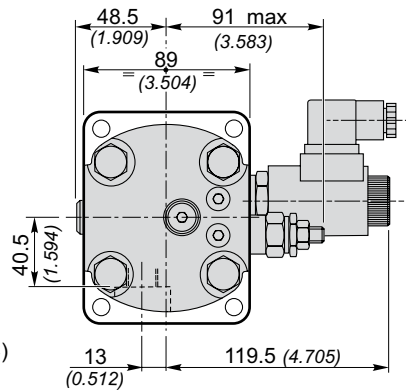
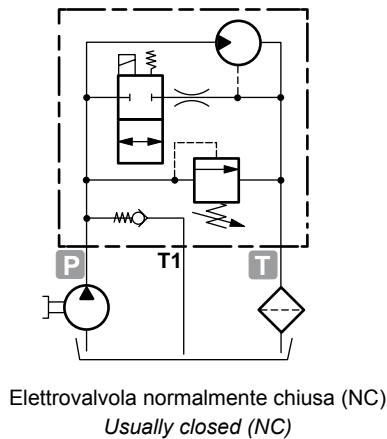
* Without setting request, it will be considered standard (black spring: 2175 psi).

Motore unidirezionale a due velocità con valvola limitatrice di pressione VLP
Two speed unidirectional motors with VLP pressure relief valve

Configurazione per rotazione destra
Configuration for clockwise rotation



Configurazione per rotazione sinistra
Configuration for anticlockwise rotation



	2SM A4	2SM A6	2SM A8	2SM A11	2SM A14	2SM A16	2SM A19	2SM A22	2SM A26
A	44.4 (1.748)	46 (1.811)	48.1 (1.894)	50.2 (1.976)	52.7 (2.075)	54.8 (2.157)	57.3 (2.256)	59.8 (2.354)	62.7 (2.469)
B	142.3 (5.602)	145.6 (5.732)	149.8 (5.898)	153.9 (6.059)	158.9 (6.256)	163.1 (6.421)	168.1 (6.618)	173.1 (6.815)	182 (7.165)

Esempio di ordinazione in codice / Example of ordering code

2SM	A14	D	NA	(24VDC)	VLP	(N)	SAE A	-	10	G
-----	-----	---	----	---------	-----	-----	-------	---	----	---

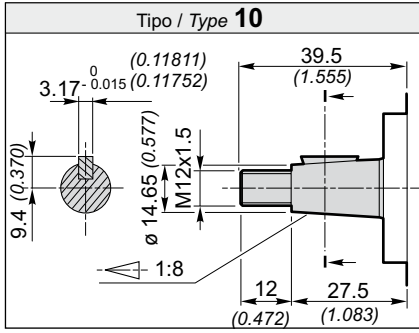
NA	NA = Normalmente aperta / Usually open NC = Normalmente chiusa / Usually closed	NA = Normalmente aperta / Usually open NC = Normalmente chiusa / Usually closed
24VDC	Tensione magnete / Electromagnete voltage	12 - 24 - 48 V. DC 24 - 48 - 110 - 220 V. AC (50 Hz)
VLP	Coperchio con VLP Cover with VLP	
(N)	Tipo di molla / Spring type	B - N - R (vedi tabella / See table)

N.B.
Solo per motori con flangia e coperchio in Alluminio
Only motors with flange and cover in Aluminium

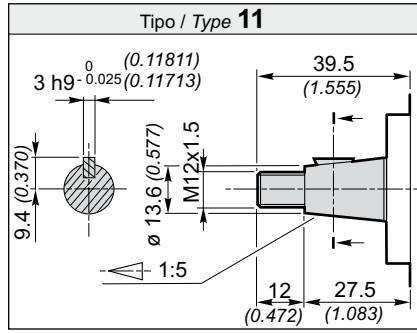
		Tipo di molla / Spring type		
		B	N	R
		molla bianca white spring	molla nera black spring	molla rossa red spring
Campi di taratura* Calibration fields*	[bar] (psi)	10 ÷ 100 (145 ÷ 1450)	30 ÷ 280 (435 ÷ 4060)	80 ÷ 380 (1160 ÷ 5510)

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

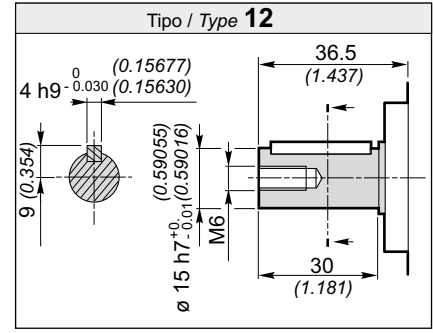
* Without setting request, it will be considered standard (black spring: 2175 psi).



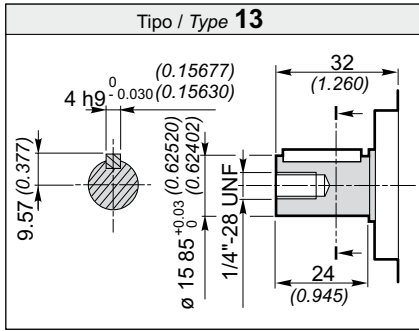
Coppia 98 Nm / Torque 72.3 ft-lbs



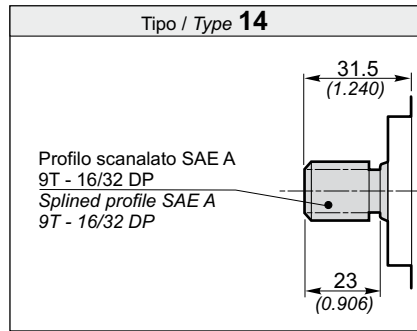
Coppia 98 Nm / Torque 72.3 ft-lbs



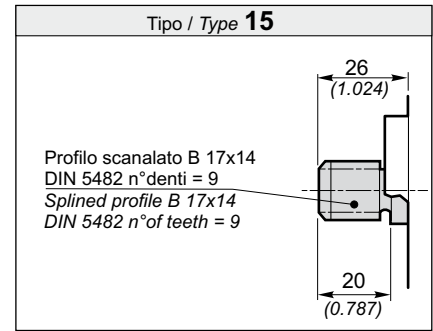
Coppia 98 Nm / Torque 72.3 ft-lbs



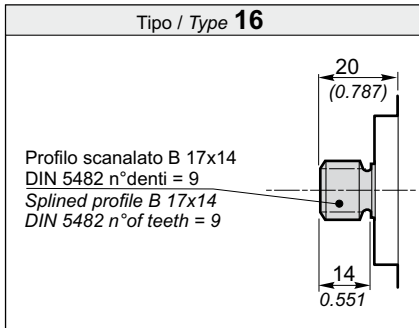
Coppia 98 Nm / Torque 72.3 ft-lbs



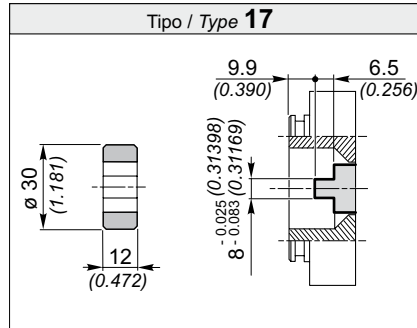
Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 98 Nm / Torque 72.3 ft-lbs



Coppia 70 Nm / Torque 51.6 ft-lbs

G

Scarico
Outlet

Mandata
Delivery

Grand./ Size	4 ÷ 8	
C	G 1/2"	

Grand./ Size	11 ÷ 26	
C	G 3/4"	

N

Scarico
Outlet

Mandata
Delivery

Grand./ Size	4 ÷ 8		
C	D	d	
13 (0.512)	30 (1.181)	M6	

Grand./ Size	11 ÷ 26		
C	D	d	
19 (0.748)	40 (1.575)	M8	

T

Scarico
Outlet

Mandata
Delivery

M

Scarico
Outlet

Mandata
Delivery

Grand./ Size	11 ÷ 26	
C	D	
19 (0.748)	40 (1.575)	

U

Scarico
Outlet

Mandata
Delivery

Grand./ Size	4 ÷ 8	
C	7/8 14UNF	

Grand./ Size	11 ÷ 26	
C	1" 1/16 12UN	

W

Scarico
Outlet

Mandata
Delivery

F

Scarico
Outlet

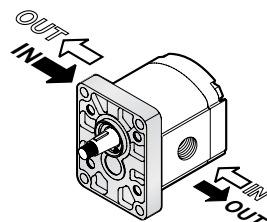
Mandata
Delivery

Grand./ Size	4 ÷ 11		
C	D	E	
20 (0.787)	38 (1.496)	17.4 (0.685)	

Grand./ Size	14 ÷ 26		
C	D	E	
26 (1.024)	22.4 (0.882)	47.6 (1.874)	

Il segno sul corpo indica il lato scarico per i motori.
The sign on the body identify the outlet side for the motors.

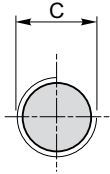
Posizione delle connessioni / Connections positions



Rotazione / Rotation	
D	S

G

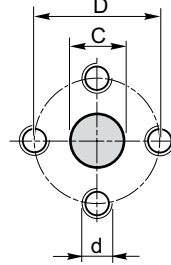
Mandata / Scarico
Delivery / Outlet



Grand./ Size	
4 ÷ 8	
C	
G 1/2"	
Grand./ Size	
11 ÷ 26	
C	
G 3/4"	

N

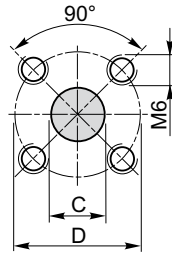
Mandata / Scarico
Delivery / Outlet



Grand./ Size		
4 ÷ 8		
C	D	d
13 (0.512)	30 (1.181)	M6
Grand./ Size		
11 ÷ 26		
C	D	d
19 (0.748)	40 (1.575)	M8

T

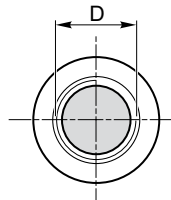
Mandata / Scarico
Delivery / Outlet



Grand./ Size	
4 ÷ 8	
C	D
15 (0.591)	35 (1.378)
Grand./ Size	
11 ÷ 26	
C	D
20 (0.787)	40 (1.575)

U

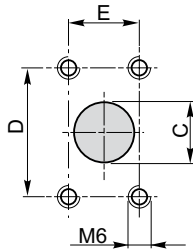
Mandata / Scarico
Delivery / Outlet



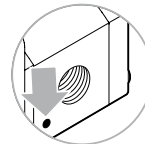
Grand./ Size	
4 ÷ 8	
D	
7/8 14UNF	
Grand./ Size	
11 ÷ 26	
D	
1" 1/16 12UN	

F

Mandata / Scarico
Delivery / Outlet

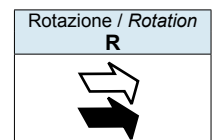
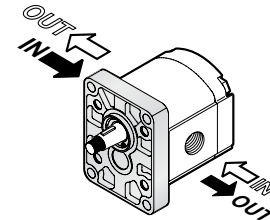


Grand./ Size		
4 ÷ 11		
C	D	E
20 (0.787)	38 (1.496)	17.4 (0.685)
Grand./ Size		
14 ÷ 26		
C	D	E
26 (1.024)	22.4 (0.882)	47.6 (1.874)



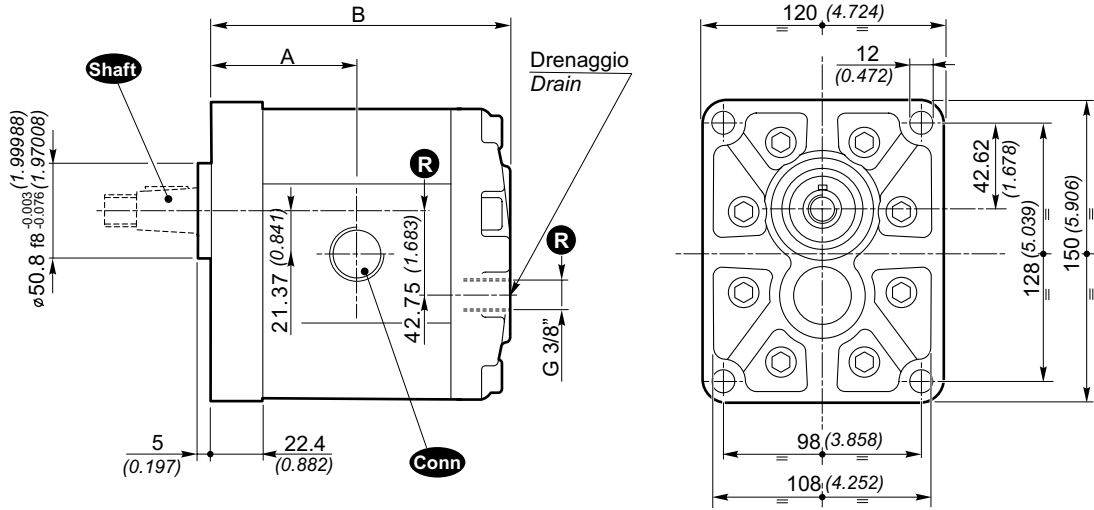
L'eventuale segno sul corpo dei motori reversibili non è da considerare.
Any sign on the body in reversible motors is not considered.

Posizione delle connessioni / Connections positions

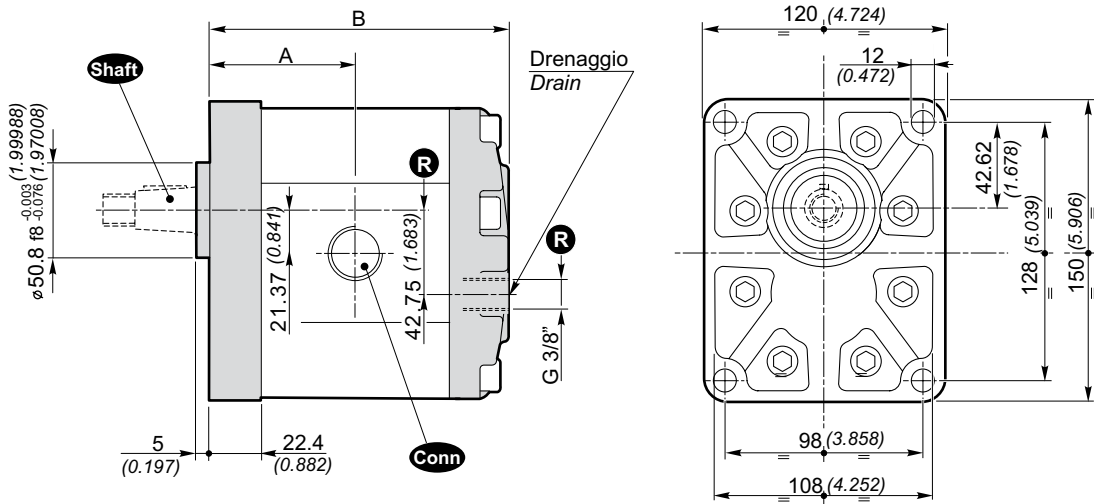


Dimensioni / Dimensions

Flangia e coperchio in Alluminio / Flange and cover in Aluminium



Flangia e coperchio in Ghisa / Flange and cover in Caston iron



R Solo per motori reversibili
Only for reversible motors

STND (Alluminio / Aluminium)

STND (Ghisa / Cast iron)

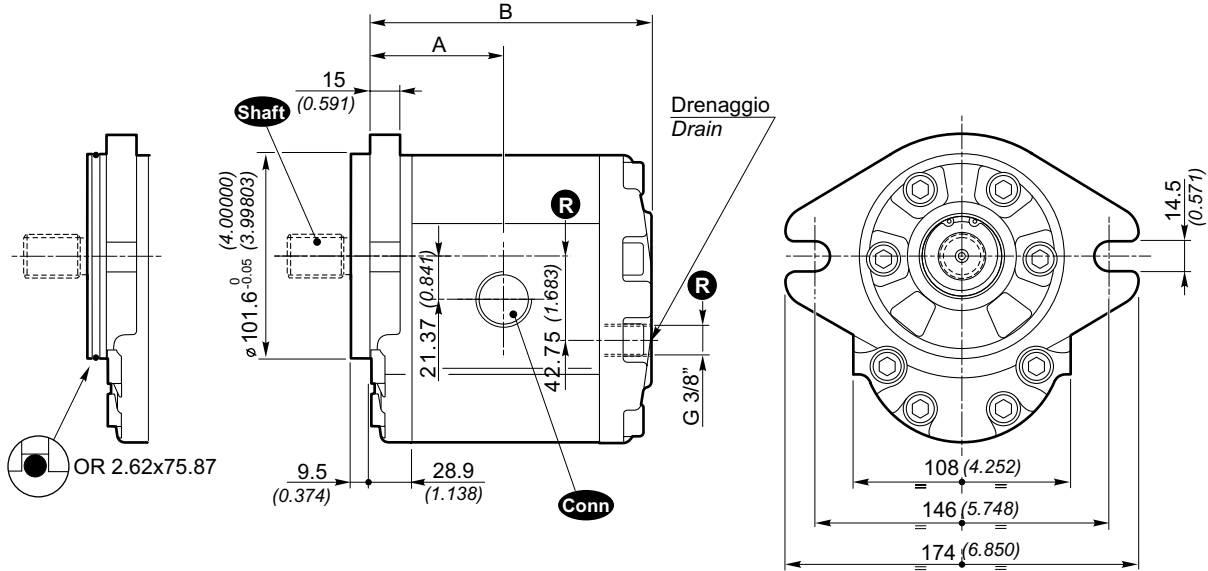
Grandezza Size	Cilindrata Displacement	Dimensioni / Dimensions			Massa Mass	Shaft	Conn	Dimensioni / Dimensions			Massa Mass	Shaft	Conn
		A	B					A	B				
	[cm ³ /rev] [in ³ /rev]	[mm] [inch]	[mm] [inch]	[Kg] [lbs]			[mm] [inch]	[mm] [inch]	[Kg] [lbs]				
3SM 19	19 (1.16)	62.4 (2.457)	128.3 (5.051)	5.23 (11.5)	10 13 14	G N T W F	62.4 (2.457)	128.3 (5.051)	7.53 (16.6)	10 13 14	G N T W F		
3SM 22	22.3 (1.36)	63.9 (2.516)	131.3 (5.169)	5.36 (11.8)			63.9 (2.516)	131.3 (5.169)	7.66 (16.9)				
3SM 29	29.3 (1.79)	66.9 (2.634)	137.3 (5.406)	5.64 (12.4)			66.9 (2.634)	137.3 (5.406)	7.94 (17.5)				
3SM 33	32.9 (2.01)	68.4 (2.693)	140.3 (5.524)	5.78 (12.7)			68.4 (2.693)	140.3 (5.524)	8.08 (17.8)				
3SM 36	36.4 (2.22)	69.9 (2.752)	143.3 (5.642)	5.91 (13.0)			69.9 (2.752)	143.3 (5.642)	8.21 (18.1)				
3SM 44	43.5 (2.65)	72.9 (2.870)	149.3 (5.878)	6.19 (13.7)			72.9 (2.870)	149.3 (5.878)	8.49 (18.7)				
3SM 52	51.7 (3.15)	76.4 (3.008)	156.3 (6.154)	6.50 (14.3)	C-16	C-16	76.4 (3.008)	156.3 (6.154)	8.80 (19.4)	C-16	C-16		
3SM 62	61.1 (3.73)	80.4 (3.165)	164.3 (6.469)	6.87 (15.1)			80.4 (3.165)	164.3 (6.469)	9.17 (20.2)				

Dimensioni / Dimensions

SAE B-OR

SAE B

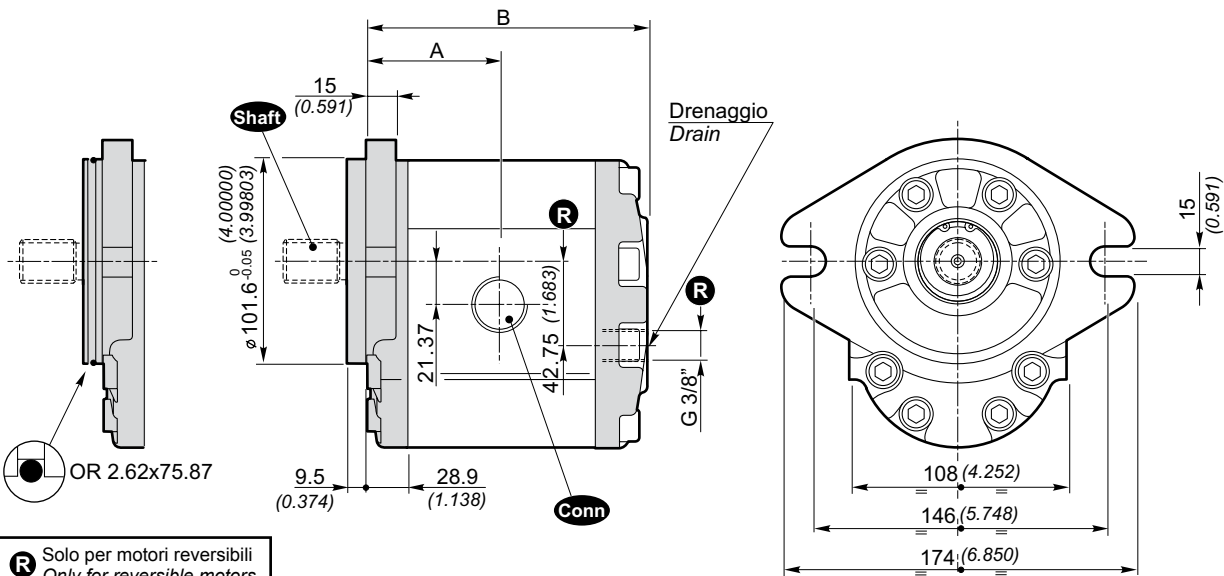
Flangia e coperchio in Alluminio / Flange and cover in Aluminium



SAE B-OR

SAE B

Flangia e coperchio in Ghisa / Flange and cover in Cast iron



R Solo per motori reversibili
Only for reversible motors

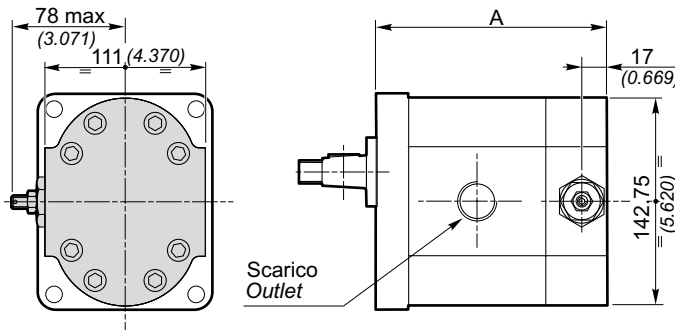
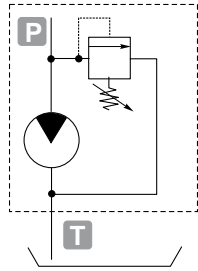
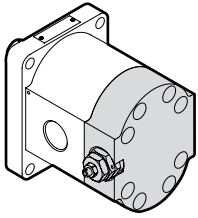
SAE B, SAE B-OR (All. / Aluminium)

SAE B, SAE B-OR (Ghisa / Cast iron)

Grandezza Size	Cilindrata Displacement	Dimensioni / Dimensions			Massa Mass	Shaft	Conn	Dimensioni / Dimensions			Massa Mass	Shaft	Conn
		A	B					A	B				
	[cm ³ /rev] [in ³ /rev]	[mm] [inch]	[mm] [inch]	[Kg] [lbs]			[mm] [inch]	[mm] [inch]	[Kg] [lbs]				
3SM 19	19 (1.16)	59.4 (2.339)	125.3 (4.933)	5.23 (11.5)	10 13 14	G N T W F	59.4 (2.339)	125.3 (4.933)	7.59 (16.7)	10 13 14	G N T W F		
3SM 22	22.3 (1.36)	60.9 (2.398)	128.3 (5.051)	5.36 (11.8)			60.9 (2.398)	128.3 (5.051)	7.72 (17.0)				
3SM 29	29.3 (1.79)	63.9 (2.516)	134.3 (5.287)	5.64 (12.4)			63.9 (2.516)	134.3 (5.287)	8.00 (17.6)				
3SM 33	32.9 (2.01)	65.4 (2.575)	137.3 (5.406)	5.78 (12.7)			65.4 (2.575)	137.3 (5.406)	8.14 (18.0)				
3SM 36	36.4 (2.22)	66.9 (2.634)	140.3 (5.524)	5.91 (13.0)			66.9 (2.634)	140.3 (5.524)	8.27 (18.2)				
3SM 44	43.5 (2.65)	69.9 (2.752)	146.3 (5.760)	6.19 (13.7)			69.9 (2.752)	146.3 (5.760)	8.55 (18.9)				
3SM 52	51.7 (3.15)	73.4 (2.890)	153.3 (6.035)	6.50 (14.3)			73.4 (2.890)	153.3 (6.035)	8.86 (19.5)				
3SM 62	61.1 (3.73)	77.4 (3.047)	161.3 (6.350)	6.87 (15.1)			77.4 (3.047)	161.3 (6.350)	9.23 (20.4)				

VLP- I (N)

Valvola limitatrice di pressione a scarico interno
Pressure relief valve with internal exhaust



	A		
	Standard	SAE AA	E32 BX E32 CX
3SM 19	127.3 (5.012)	129.3 (5.091)	124.6 (4.906)
3SM 22	130.3 (5.130)	132.3 (5.209)	127.6 (5.024)
3SM 29	136.3 (5.366)	138.3 (5.445)	133.6 (5.260)
3SM 33	139.3 (5.484)	141.3 (5.563)	136.6 (5.378)
3SM 36	142.3 (5.602)	144.3 (5.681)	139.6 (5.496)
3SM 44	148.3 (5.839)	150.3 (5.917)	145.6 (5.732)
3SM 52	155.3 (6.114)	157.3 (6.193)	152.6 (6.008)
3SM 62	163.3 (6.429)	165.3 (6.508)	160.6 (6.323)

NB.
La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore.
Fornitura solo con flangia e coperchio in Alluminio.
E' rappresentata un motore con rotazione destra.

Warning.
The pressure relief valve can be applied by substituting the rear cover.
It is supplied only with aluminium flange and cover.
The showed motor is clockwise rotation.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 7 secondi ogni minuto per evitare il surriscaldamento della pompa.

The opening of the pressure relief valve should be carry out for times not over 7" each minute to avoid the overheating of the pump.

Esempio di ordinazione in codice / Example of ordering code

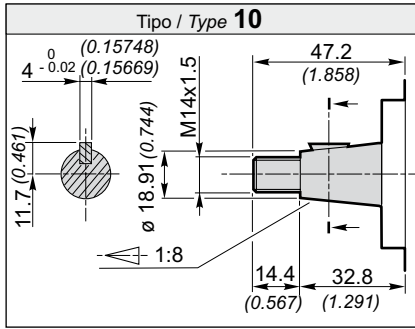
3SM	22	D	SAE B	-	10	G	(VT)	VLP-I	(N)
-----	----	---	-------	---	----	---	------	-------	-----

VLP-I	Coperchio con VLP Cover with VLP	VPL-I (a scarico interno /at internal exhaust)
(N)	Tipo di molla / Spring type	B - N - R (vedi tabella / See table)

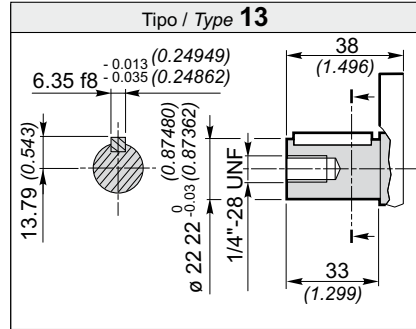
		Tipo di molla / Spring type		
		B	N	R
		molla bianca white spring	molla nera black spring	molla rossa red spring
Campi di taratura* Calibration fields*	[bar] (psi)	10 ÷ 100 (145 ÷ 1450)	30 ÷ 280 (435 ÷ 4060)	80 ÷ 380 (1160 ÷ 5510)

* In caso di omissione del valore di taratura, esso sarà inteso standard (molla nera con taratura 150 bar).

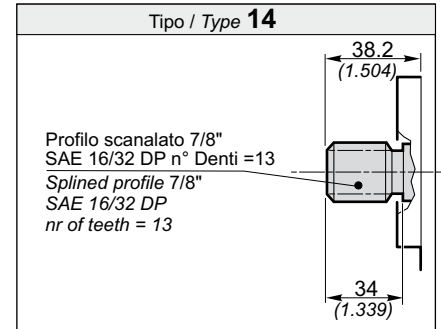
* Without setting request, it will be considered standard (black spring: 2175 psi).



Coppia 240 Nm / Torque 177 ft-lbs

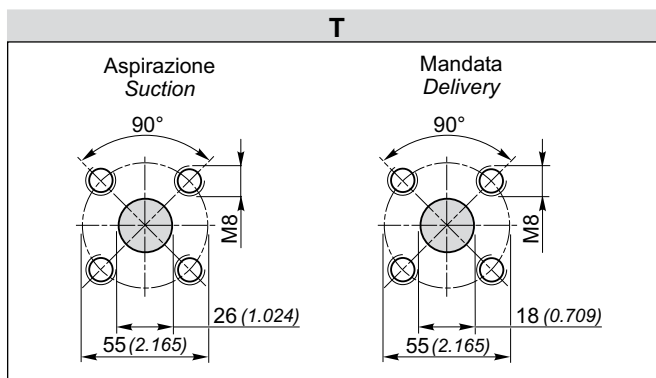
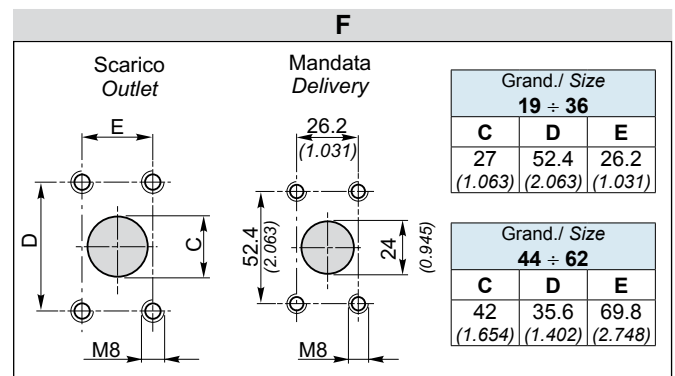
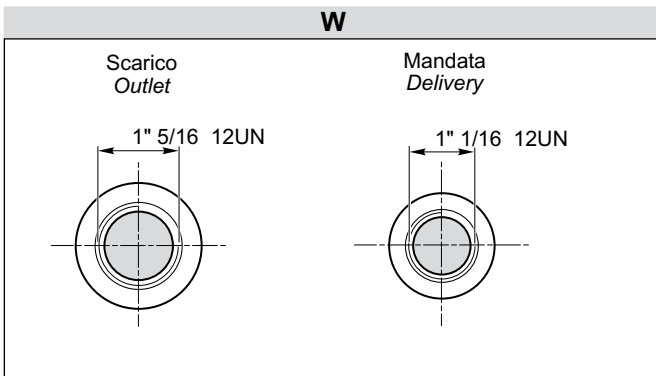
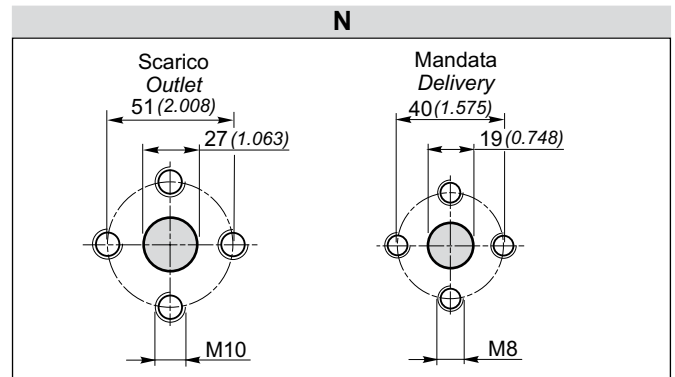
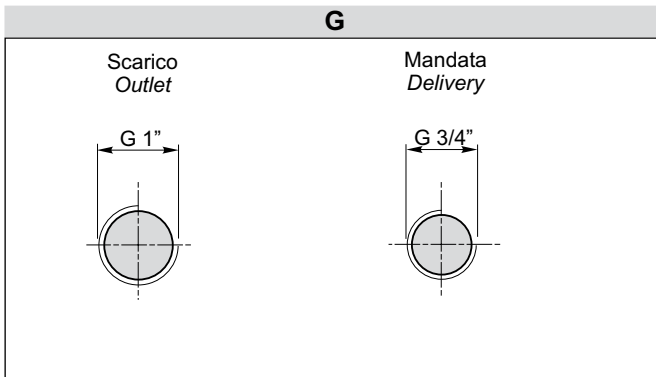


Coppia 240 Nm / Torque 177 ft-lbs

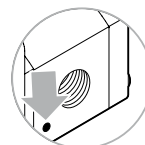


Coppia 240 Nm / Torque 177 ft-lbs

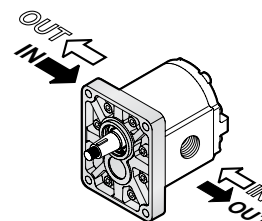
CONNESSIONI per motori D-S
CONNECTIONS for D-S motors



Il segno sul corpo indica il lato scarico per i motori.
The sign on the body identify the **outlet side** for the motors.



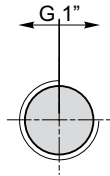
Posizione delle connessioni / Connections positions



Rotazione / Rotation	
D	S

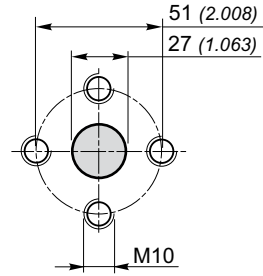
G

Scarico - Mandata
Outlet - Delivery



N

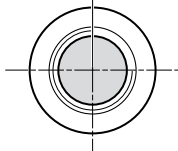
Scarico - Mandata
Outlet - Delivery



W

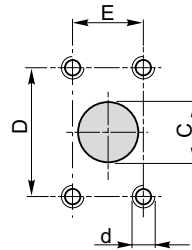
Scarico
Outlet

1" 5/16 12UN



F

Scarico
Outlet

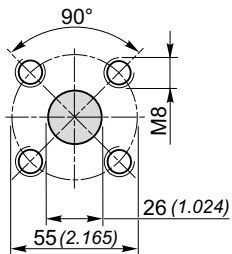


Grand./ Size 19 ÷ 36			
C	D	E	d
27 (1.063)	52.4 (2.063)	26.2 (1.031)	M8

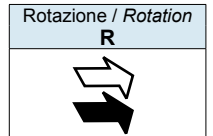
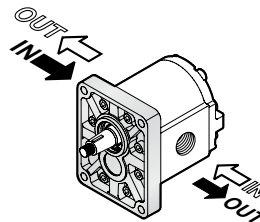
Grand./ Size 44 ÷ 62			
C	D	E	d
32 (1.260)	58.7 (2.311)	30.2 (1.189)	M10

T

Scarico - Mandata
Outlet - Delivery



Posizione delle connessioni / Connections positions



ACCESSORI POMPE E MOTORI PUMPS AND MOTORS ACCESSORIES



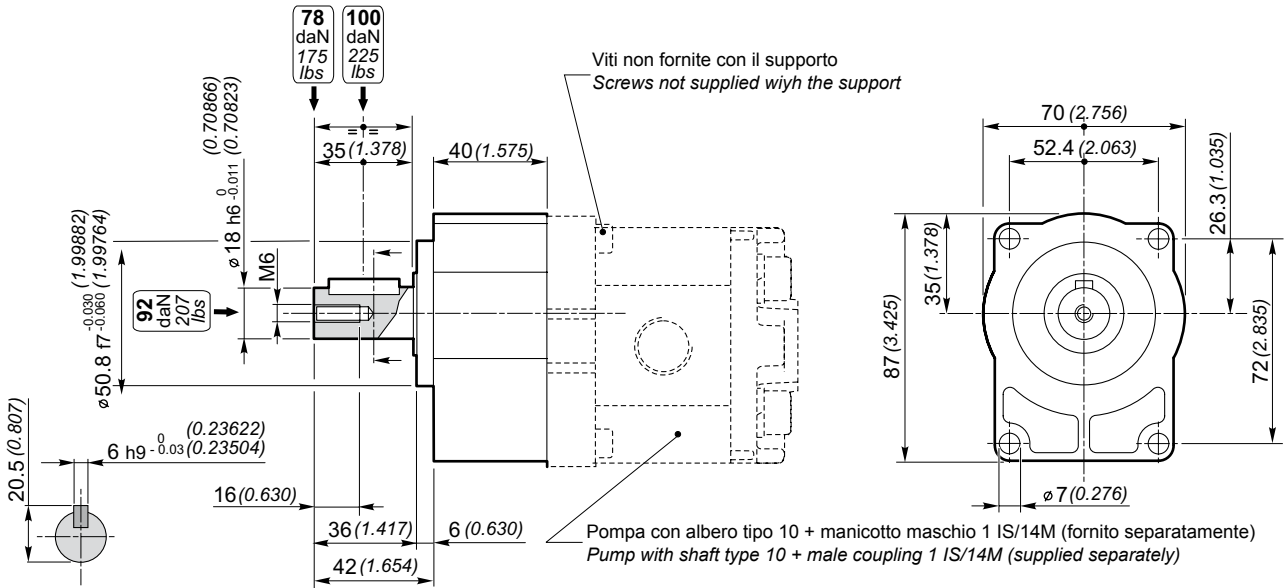
Pag.
Page

SUPPORTI GRUPPO SUPPORTS GROUP	1	D-2
SUPPORTI GRUPPO SUPPORTS GROUP	2	D-3
SUPPORTI GRUPPO SUPPORTS GROUP	3	D-5
RACCORDI CONNECTORS		D-6
MANICOTTI DI TRASCINAMENTO MALES COUPLING		D-8

SUPPORTI GRUPPO
SUPPORTS GROUP

1

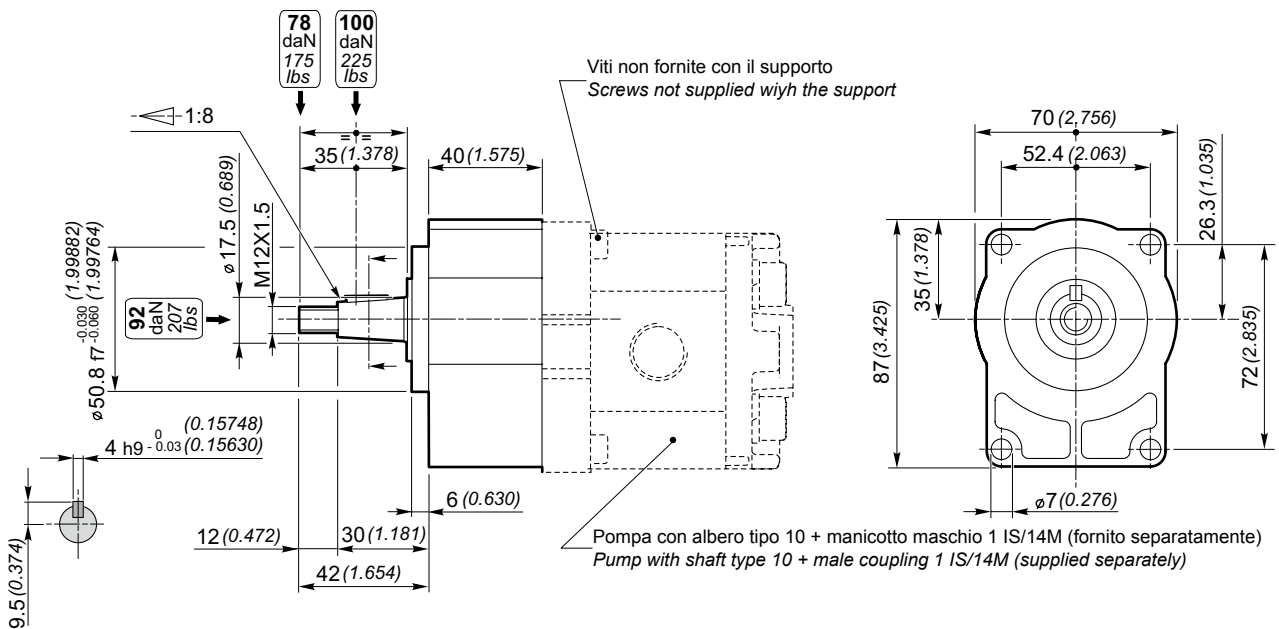
SUPPORTO CON ALBERO TIPO 12 / SUPPORT WITH SHAFT TYPE 12



Codice di ordinazione / Order code

01510400000000

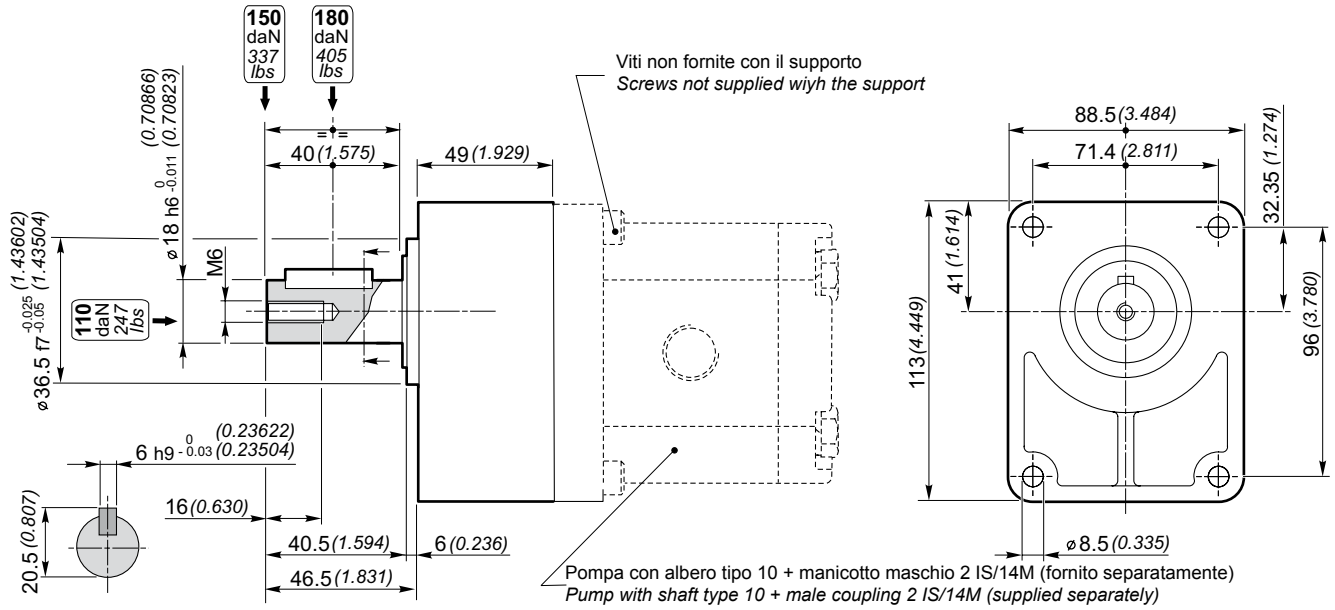
SUPPORTO CON ALBERO TIPO 10 / SUPPORT WITH SHAFT TYPE 10



Codice di ordinazione / Order code

01510500000000

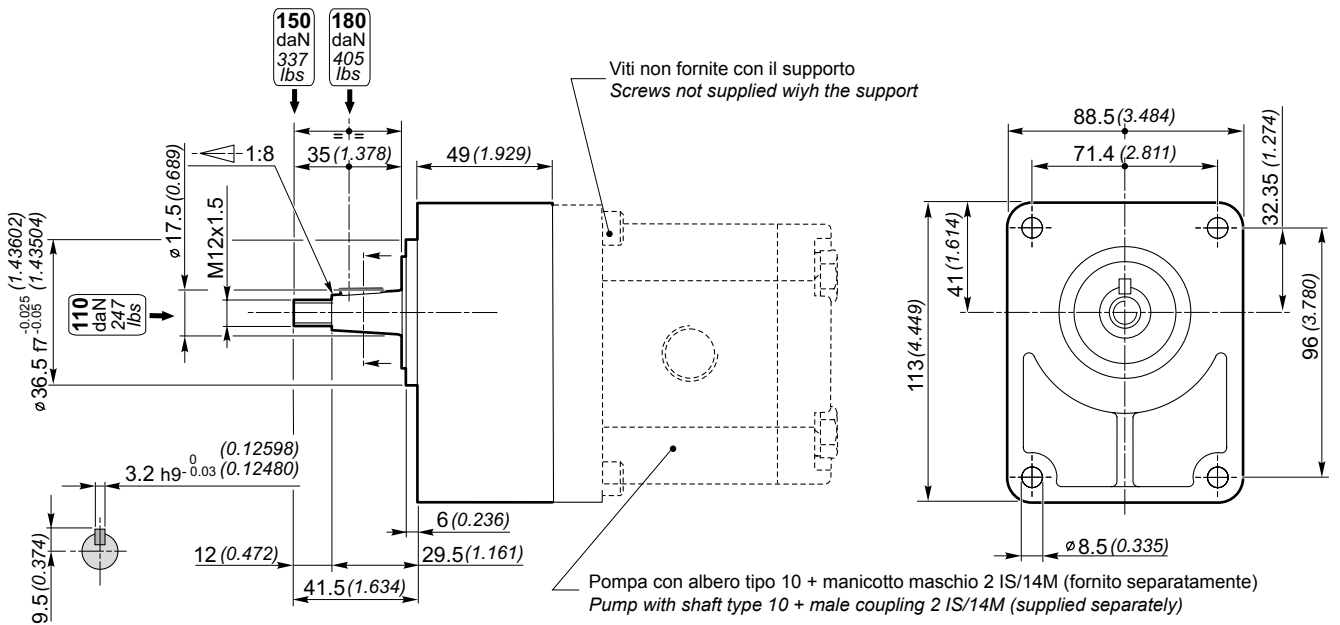
SUPPORTO CON ALBERO TIPO 12 / SUPPORT WITH SHAFT TYPE 12



Codice di ordinazione / Order code

01521200000000

SUPPORTO CON ALBERO TIPO 10 / SUPPORT WITH SHAFT TYPE 10

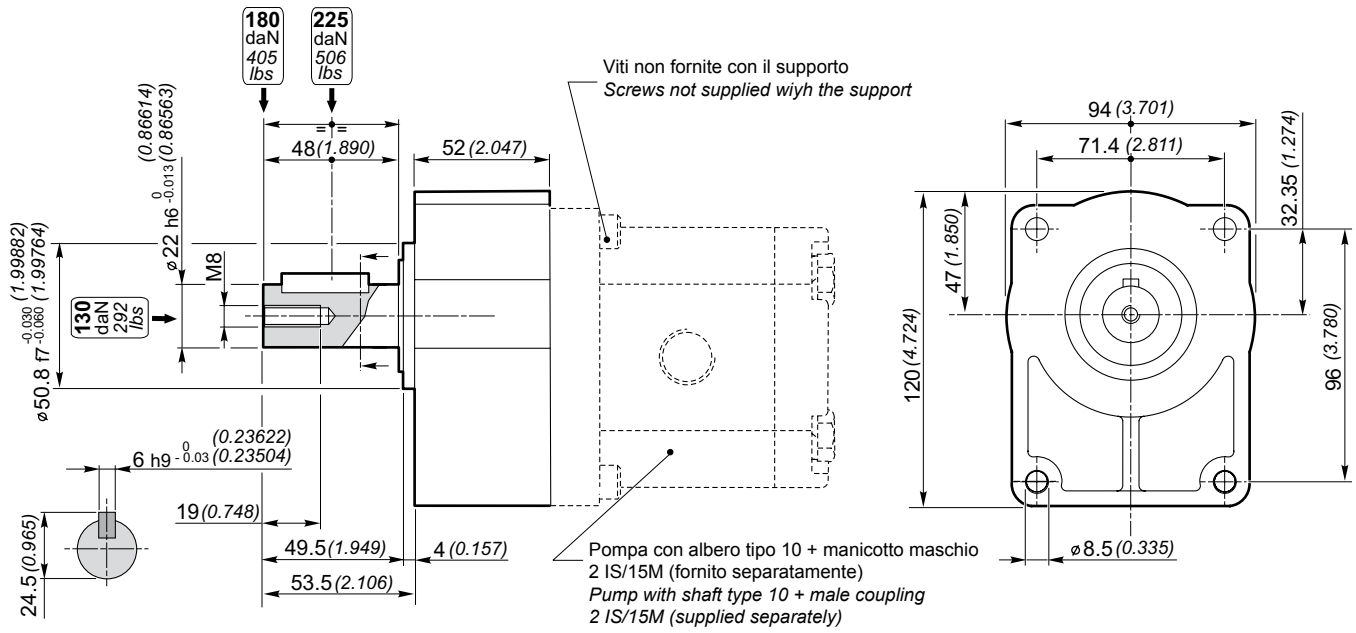


Codice di ordinazione / Order code

01521201000000

SUPPORTI GRUPPO
SUPPORTS GROUP **2**

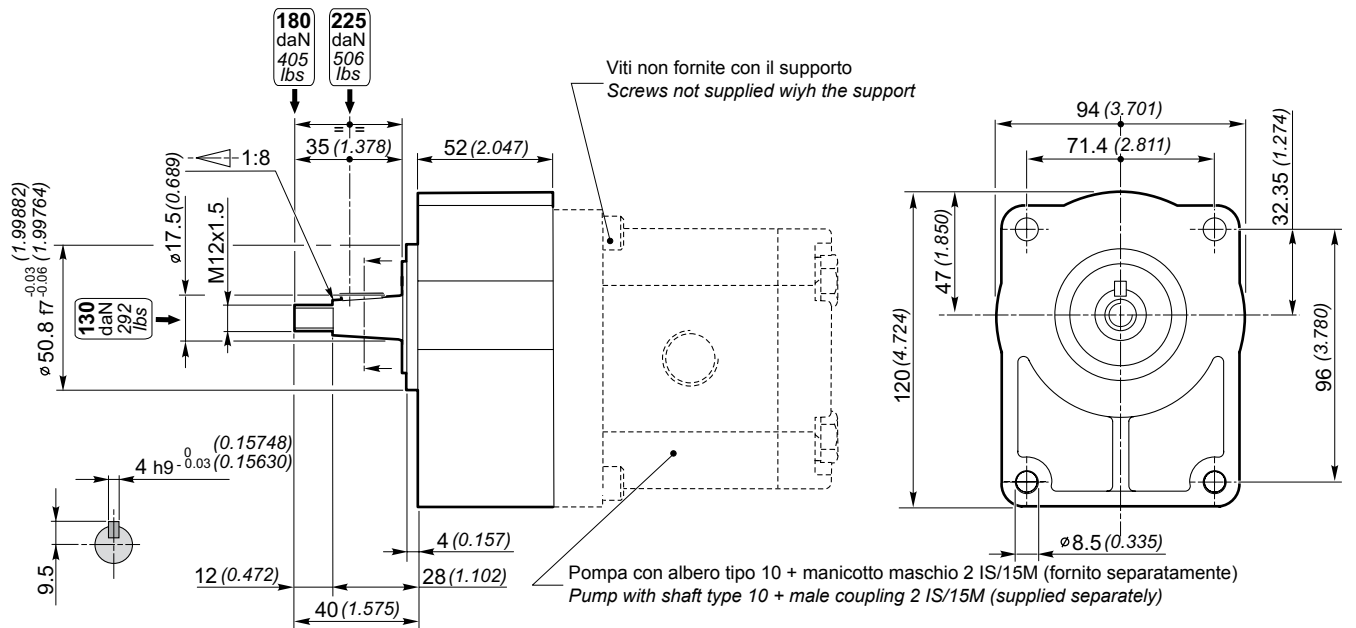
SUPPORTO RINFORZATO CON ALBERO TIPO 12 / RENFORCED SUPPORT WITH SHAFT TYPE 12



Codice di ordinazione / Order code

01521300000000

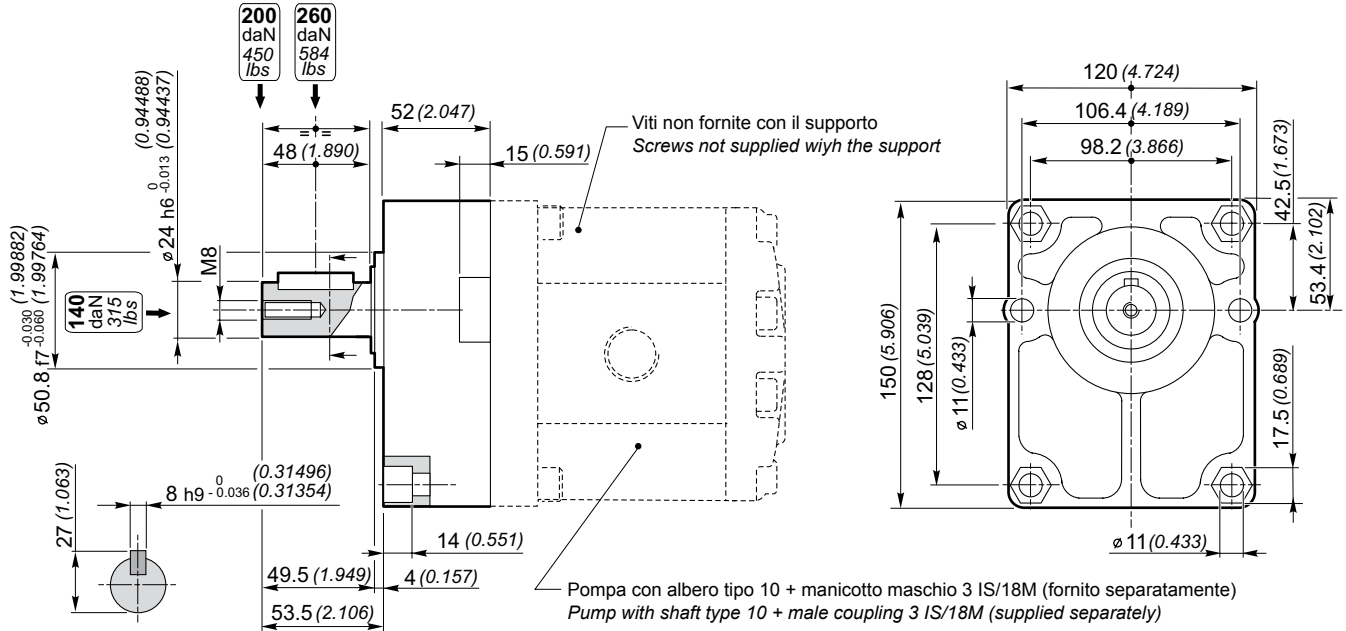
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Codice di ordinazione / Order code

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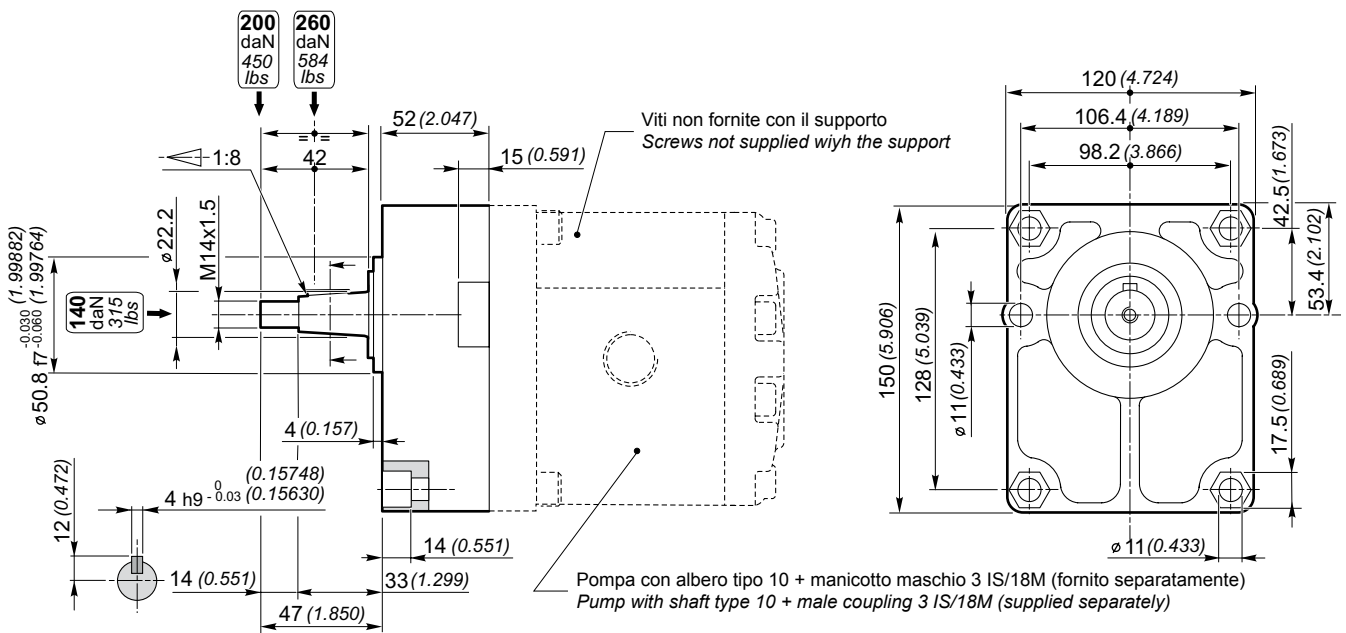
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Codice di ordinazione / Order code

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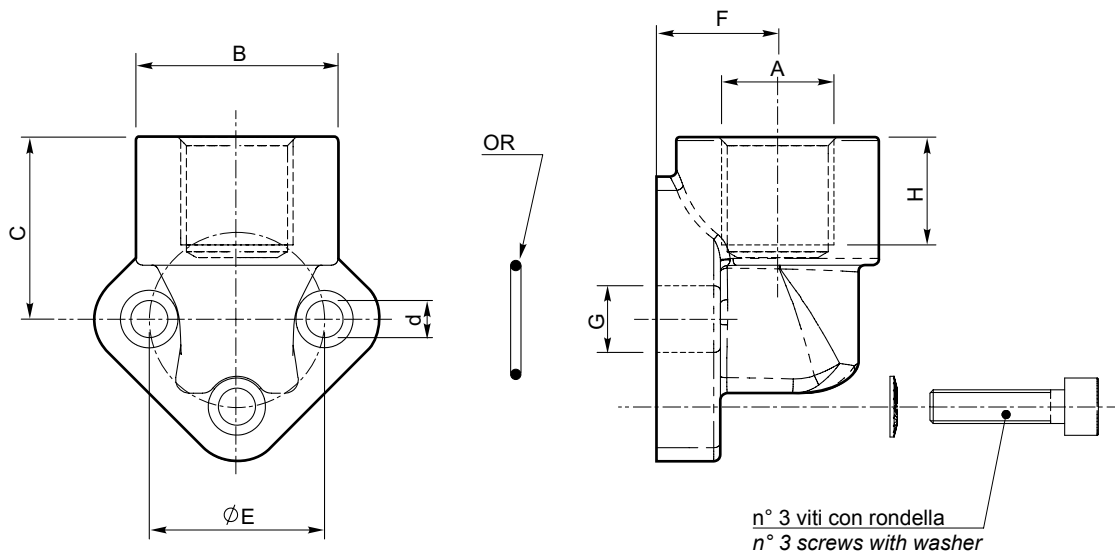
SUPPORTO CON ALBERO TIPO 10 / SUPPORT WITH SHAFT TYPE 10



Codice di ordinazione / Order code

01530220000000

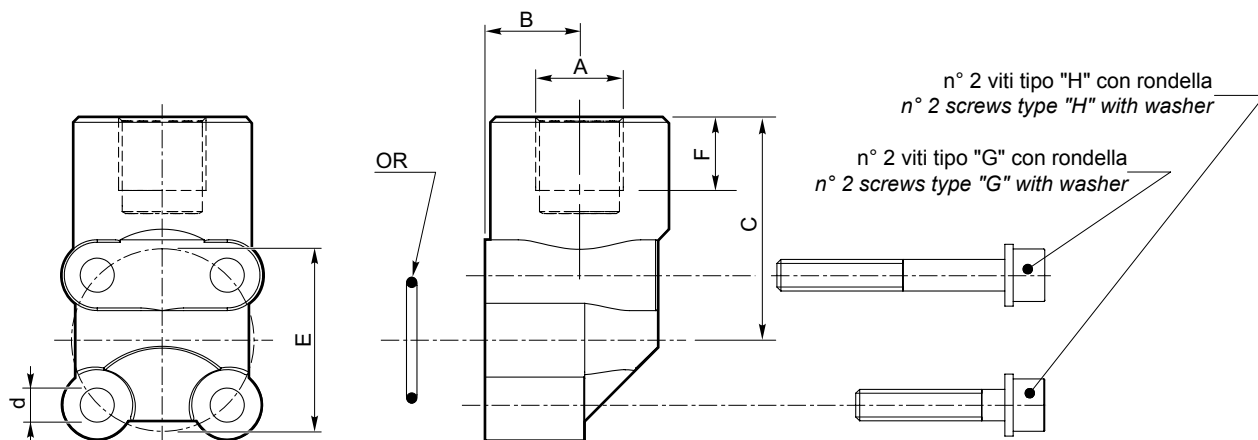
RACCORDI A GOMITO / ELBOW CONNECTORS (per connessioni tipo "N" / for connections type "N")



ACCIAIO / STEEL

Tipo Type	A	B	C	d	E	F	G	H	OR
FG 3/8" - 26	3/8" BSP	30 (1.181)	27.5 (1.083)	5.5 (0.217)	26 (1.024)	17 (0.669)	11 (0.433)	12 (0.472)	14.00 x 1.78
FG 3/8" - 30	3/8" BSP	30 (1.181)	27.5 (1.083)	6.5 (0.256)	30 (1.181)	17 (0.669)	12 (0.472)	12 (0.472)	15.88 x 2.62
FG 1/2" - 30	1/2" BSP	30 (1.181)	27.5 (1.083)	6.5 (0.256)	30 (1.181)	17 (0.669)	12 (0.472)	12 (0.472)	15.88 x 2.62
FG 3/4" - 40	3/4" BSP	38 (1.496)	36 (1.417)	8.5 (0.335)	40 (1.575)	21 (0.817)	19 (0.748)	16 (0.630)	23.81 x 2.62
FG 1" - 51	1" BSP	45 (1.772)	47 (1.850)	10.5 (0.413)	51 (2.008)	26 (1.024)	25 (0.984)	18 (0.709)	31.42 x 2.62
FG 1"1/2-72.5	1"1/2 BSP	63 (2.480)	56 (2.205)	13 (0.512)	72.5 (2.854)	34.5 (1.358)	40 (1.575)	24 (0.945)	47.22 x 3.53

RACCORDI A GOMITO / ELBOW CONNECTORS (per connessioni tipo "T" / for connections type "T")



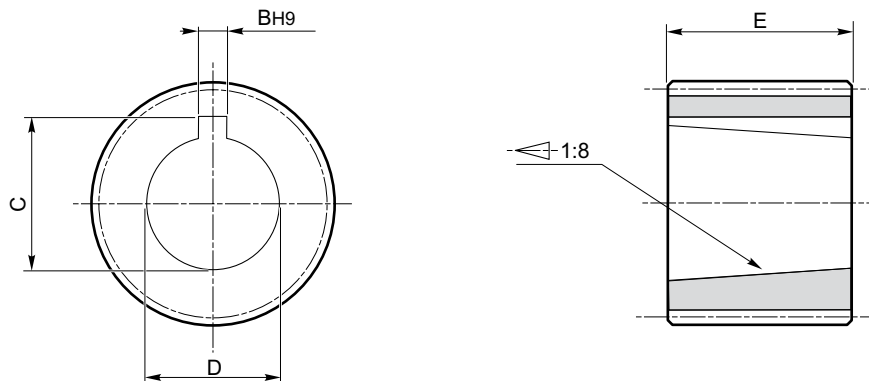
ACCIAIO / STEEL

Tipo Type	A	B	C	d	E	F	OR	Viti tipo "H" Screws type "H"	Viti tipo "G" Screws type "G"
FG 3/8" 0.5 BKA	3/8" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	30 (1.181)	16 (0.630)	15.88 x 2.62	M6x35 UNI 5931	M6x45 UNI 5931
FG 1/2" 0.5 BKA	1/2" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	30 (1.181)	16 (0.630)	15.88 x 2.62	M6x35 UNI 5931	M6x45 UNI 5931
FG 3/8" 1 BKA	3/8" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	35 (1.378)	16 (0.630)	18.72 x 2.62	M6x20 UNI 5931	M6x35 UNI 5931
FG 1/2" 1 BKA	1/2" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	35 (1.378)	16 (0.630)	18.72 x 2.62	M6x20 UNI 5931	M6x35 UNI 5931
FG 1/2" 2 BKA	1/2" BSP	24 (0.945)	41.5 (1.634)	6.5 (0.256)	40 (1.575)	16 (0.630)	23.81 x 2.62	M6x20 UNI 5931	M6x45 UNI 5931
FG 3/4" 2 BKA	3/4" BSP	24 (0.945)	41.5 (1.634)	6.5 (0.256)	40 (1.575)	16 (0.630)	23.81 x 2.62	M6x20 UNI 5931	M6x45 UNI 5931

ALLUMINIO / ALUMINIUM

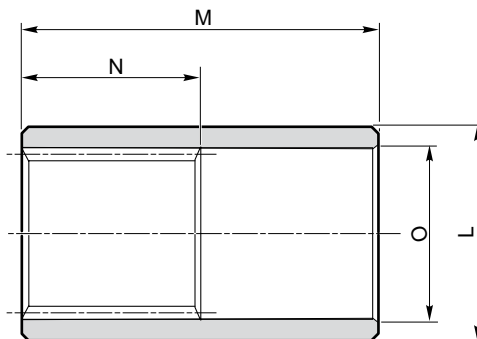
Tipo Type	A	B	C	d	E	F	OR	Viti tipo "H" Screws type "H"	Viti tipo "G" Screws type "G"
FG 3/8" 0.5 BKAL	3/8" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	30 (1.181)	14 (0.551)	15.88 x 2.62	M6x30 UNI 5931	M6x45 UNI 5931
FG 1/2" 0.5 BKAL	1/2" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	30 (1.181)	14 (0.551)	15.88 x 2.62	M6x30 UNI 5931	M6x45 UNI 5931
FG 3/8" 1 BKAL	3/8" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	35 (1.378)	16 (0.630)	18.72 x 2.62	M6x30 UNI 5931	M6x45 UNI 5931
FG 1/2" 1 BKAL	1/2" BSP	18 (0.709)	40 (1.575)	6.5 (0.256)	35 (1.378)	16 (0.630)	18.72 x 2.62	M6x30 UNI 5931	M6x45 UNI 5931
FG 1/2" 2 BKAL	1/2" BSP	24 (0.945)	41.5 (1.634)	6.5 (0.256)	40 (1.575)	16 (0.630)	23.81 x 2.62	M6x35 UNI 5931	M6x55 UNI 5931
FG 3/4" 2 BKAL	3/4" BSP	24 (0.945)	41.5 (1.634)	6.5 (0.256)	40 (1.575)	16 (0.630)	23.81 x 2.62	M6x35 UNI 5931	M6x55 UNI 5931

MANICOTTO DI TRASCINAMENTO POMPE (MASCHIO) / MALE COUPLING FOR GEAR PUMPS



Tipo Type	Profilo Profile DIN 5482	N° di denti N° of teeth	B	C	D	E	Coppia di serraggio dado giunto Nut/joint screw tightening torque [Nm]
1 IS/12M	B20 x 17	12	2.4 ^{+0.025} ₀ (0.094) ^{+0.00098} ₀	9.6 (0.378)	7.82 (0.308)	14.5 (0.571)	9 ÷ 10 (80 ÷ 89)
1 IS/14M	B25 x 22	14	2.4 ^{+0.025} ₀ (0.094) ^{+0.00098} ₀	9.6 (0.378)	7.82 (0.308)	14.5 (0.571)	9 ÷ 10 (80 ÷ 89)
2 IS/14M	B25 x 22	14	3.17 ^{+0.030} ₀ (0.125) ^{+0.00118} ₀	16.5 (0.650)	14.31 (0.563)	22 (0.866)	22 ÷ 25 (195 ÷ 221)
2 IS/15M	B28 x 25	15	3.17 ^{+0.030} ₀ (0.125) ^{+0.00118} ₀	15.8 (0.622)	14.31 (0.563)	22 (0.866)	32 ÷ 35 (283 ÷ 310)
3 IS/18M	B35 x 31	18	4 ^{+0.030} ₀ (0.157) ^{+0.00118} ₀	21 (0.827)	18.39 (0.724)	26 (1.024)	50 ÷ 55 (443 ÷ 487)
4 IS/23M	B48 x 44	23	6.35 ^{+0.036} ₀ (0.250) ^{+0.00142} ₀	30.2 (1.189)	27.50 (1.083)	42 (1.654)	100 ÷ 120 (885 ÷ 1062)

MANICOTTO DI TRASCINAMENTO POMPE (FEMMINA) / FEMALE COUPLING FOR GEAR PUMPS



Tipo Type	Profilo Profile DIN 5482	N° di denti N° of teeth	L	M	N	O
1 IS/12F	A20 x 17	12	25 (0.984)	50 (1.969)	25 (0.984)	20.5 (0.807)
2 IS/14F	A25 x 22	14	32 (1.260)	60 (2.362)	30 (1.181)	25.5 (1.004)
2 IS/15F	A28 x 25	15	34 (1.339)	60 (2.362)	30 (1.181)	28.5 (1.122)
3 IS/18F	A35 x 31	18	42 (1.654)	60 (2.362)	30 (1.181)	35.5 (1.398)
4 IS/23F	A48 x 44	23	62 (2.441)	90 (3.543)	45 (1.772)	48.5 (1.909)

**POMPE A MANO
HAND PUMPS**Pag.
Page

CARATTERISTICHE FEATURES	E-2
CARATTERISTICHE TECNICHE TECHNICAL CHARACTERISTICS	E-3
FLN 20	E-4
FPN 50	E-5
CSN12 - CSN25 - CSN45	E-6
CSIN12 - CSIN25 - CSIN45	E-8
IS6 - IS7	E-10

CARATTERISTICHE

10 Cilindrate suddivise in 4 famiglie costruttive, compongono la gamma delle pompe a mano prodotte dalla nostra società; esse trovano vastissime applicazioni nei più svariati campi della tecnologia, grazie alle loro elevate caratteristiche tecniche.

AGRICOLTURA

Sollevamento del cassone sui rimorchi ribaltabili, sollevamento a bordo di carrelli elevatori, comandi a distanza, ecc.

INDUSTRIA

Presse per montaggio, regolazione del sollevamento di piani di lavoro, estrattori oleodinamici, apertura e chiusura di auto-clavi, funzionamento di martinetti a semplice e doppio effetto, ecc.

TRASPORTI

Azionamento di piccole gru oleodinamiche a bordo di autocarri, azionamento del canale di scarico su autobetoniere, ribaltamento della cabina di autocarri, azionamenti di emergenza per autogrù in vari tipi e piattaforme aeree.

Questo genere di pompa è da considerarsi indispensabile come emergenza su qualsiasi impianto oleodinamico, specie su quelli sofisticati dove, per vari motivi venga meno il funzionamento principale, provocando di sovente intralci al traffico, con possibili conseguenze per l'incolumità delle persone.

Le nostre pompe a mano sono dotate di cursori nichelati, che permettono l'utilizzo alle massime pressioni indicate nelle corrispondenti tabelle tecniche.

Il montaggio delle pompe è possibile sia in posizione orizzontale che verticale.

FEATURES

Our factory range of hand pumps includes 4 different series featuring 10 different displacement ranges and highly advanced technical features to meet with most various applications.

FARMING & AGRICULTURE

Suitable for trailer s dump body, far lifting forks, remote controls, etc...

INDUSTRY:

Suitable for press driving, high adjustment of working tables, hydraulic strippers, surge tanks, single and double acting jacks, etc...

TRANSPORTATION

Mostly recommended for controlling small hydraulic job cranes on trucks and operation of truck mixer tailrace. Also suitable for tilting of the truck cabin and emergency drives on crane trucks and aircraft platforms.

This kind of pump is essential for all emergency operations of any hydraulic equipment (specially if high technology) when a fault of the main System occurs likely to cause traffic disturbance or danger to the operators.

Our manual pumps are equipped with nickel-plated sliders allowing for operation at the maximum pressure mentioned on relevant technical tables and can be mounted both vertically and horizontally.

CARATTERISTICHE TECNICHE

TECHNICAL CHARACTERISTICS

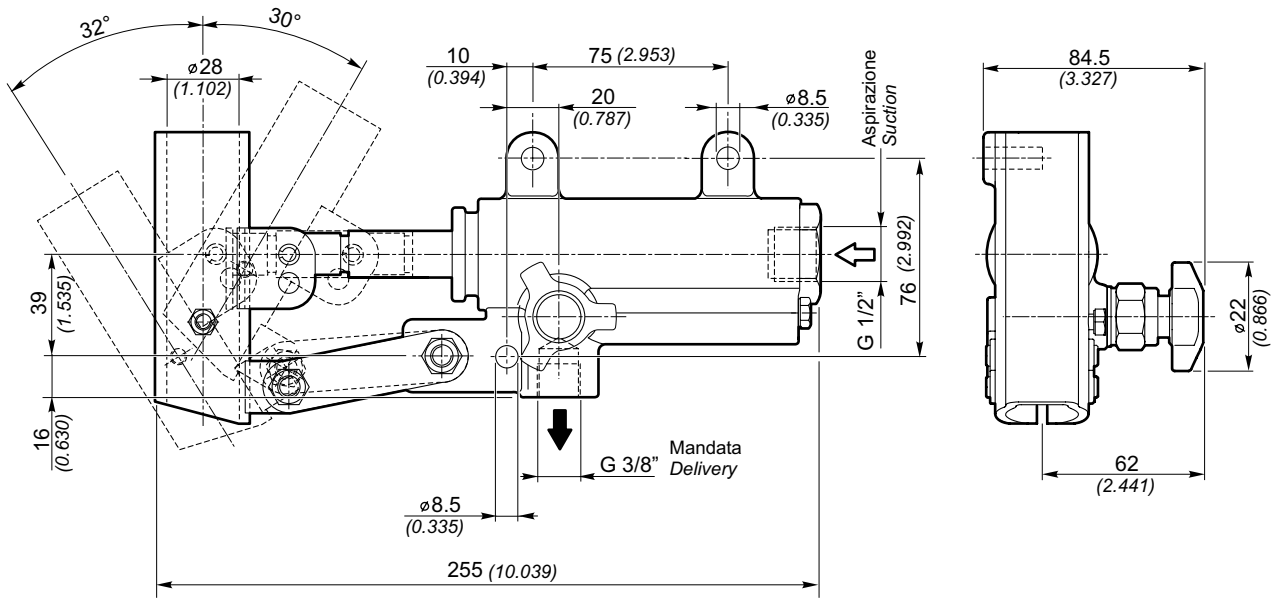
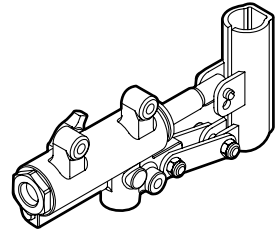
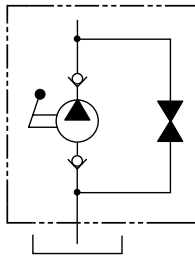
	FLN 20	FPN 50	CSN12 CSN25 CSN45	CSIN12 CSIN25 CSIN45	IS6 IS7
Temperatura d'esercizio <i>Working temperature</i>	-15 °C H + 80 °C				
Fluido <i>Hydraulic fluid</i>	olio minerale <i>mineral oli</i>				
Viscosità <i>Viscosity</i>	12 H + 100 mm ² /s				
Grado di filtraggio <i>Filtration rating</i>	26/23 ISO DIS 4406				
Altezza max. d' aspirazione <i>Max. suction height</i>	700 mm				



FLN 20

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dimensioni / Dimensions



Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /ciclo] [in ³ /cycle]	Pressione max. Max. pressure [bar] [PSI]	Forza* Force* [daN] [lbs]	Massa Mass [Kg] [lbs]
FLN 20	20 (1.22)	350 (4060)	60 (135)	2.6 (5.73)

* Forza con 1000 mm di leva alla pressione max. di lavoro
* Stress with 39.37 inch long lever at max. working pressure

Esempio di ordinazione in codice / Example of ordering code

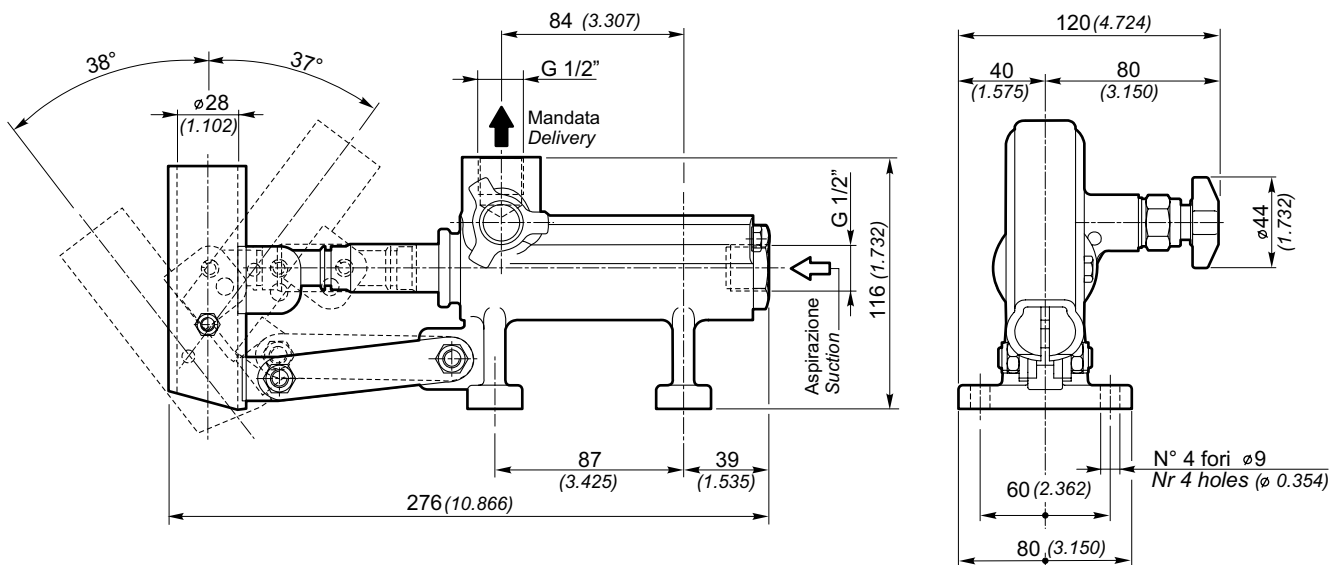
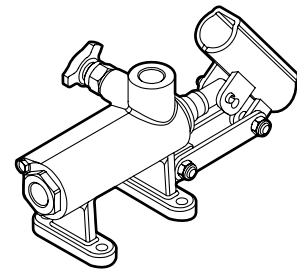
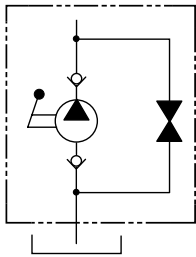
FLN 20 | **0**

FLN 20	Tipo / Type	vedi tabella / see table
0	Pompa / Pump	0 = Pompa senza leva / Pump without lever 1 = Pompa con leva (l=610mm) / Pump with lever (l=610 mm)

FPN 50

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dimensioni / Dimensions



Dati tecnici / Technical data

Grandezza Size	Cilindrata Displacement [cm ³ /ciclo] [in ³ /cycle]	Pressione max. Max. pressure [bar] [PSI]	Forza* Force* [daN] [lbs]	Massa Mass [Kg] [lbs]
FPN 50	44 (2.68)	280 (4060)	91.8 (206)	3.4 (7.50)

* Sforzo con leva di 600 mm alla pressione max. di lavoro
* Working effort with 23.622 inch lever to the max. pressure of work

Esempio di ordinazione in codice / Example of ordering code

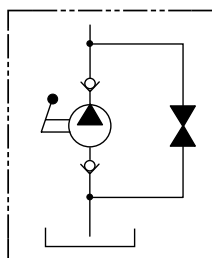
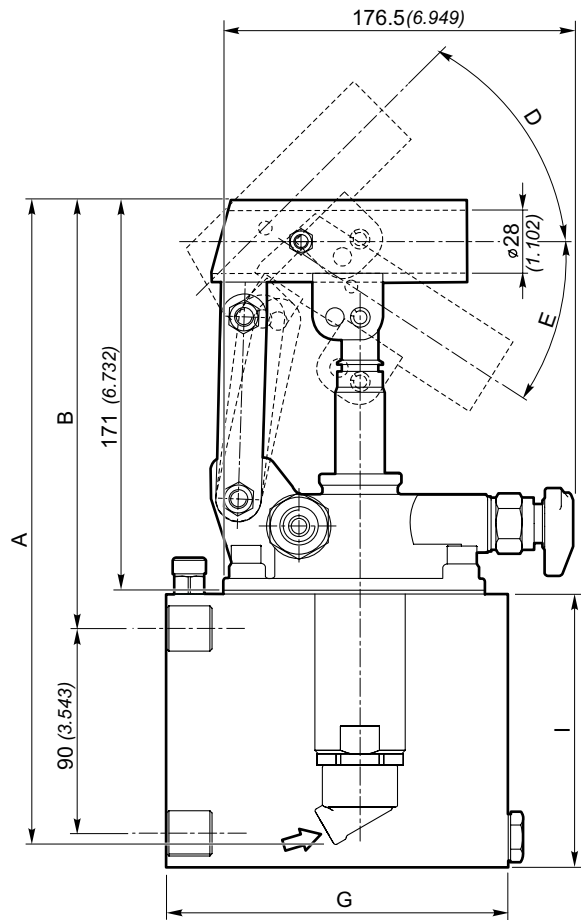
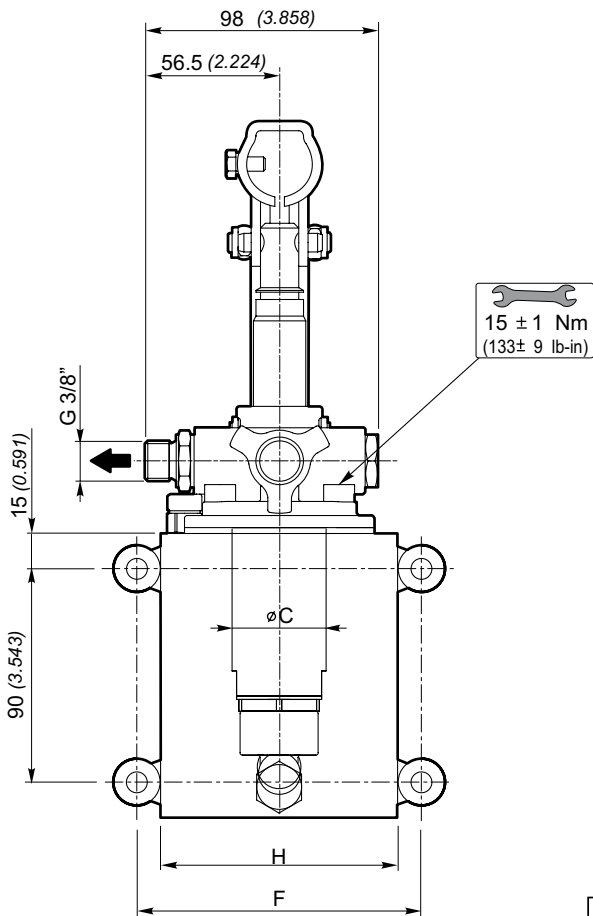
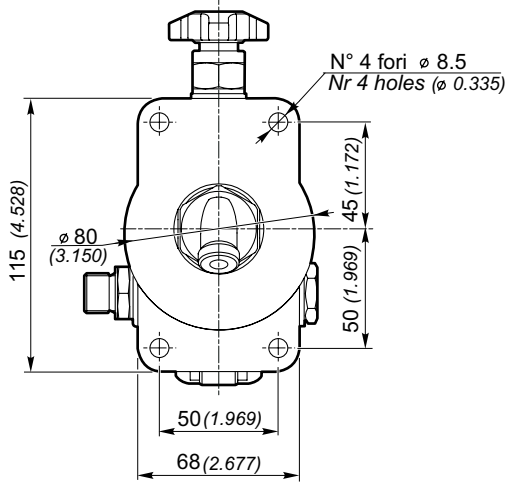
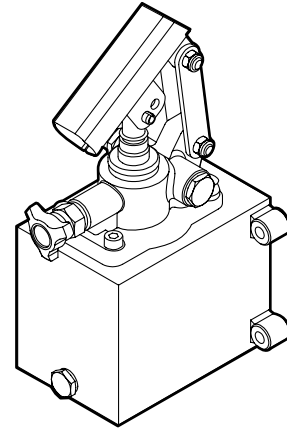
FPN 50 | **0**

FPN 50	Tipo / Type	vedi tabella / see table
0	Pompa / Pump	0 = Pompa senza leva / Pump without lever 1 = Pompa con leva (l=610mm) / Pump with lever (l=610 mm)

CSN12 - CSN25 - CSN45

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dimensioni / Dimensions



CSN12 - CSN25 - CSN45

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dati tecnici / Technical data

Pompa / Pump

Grandezza Size	Cilindrata Displacement	Pressione max. Max. pressure	Forza* Force*	Dimensioni Dimensions					Massa pompa senza serbatoio Mass of pump without
	[cm ³ /ciclo] (in ³ /cycle)	[bar] (PSI)	[daN] (lbs)	A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	D [mm] (inch)	E [mm] (inch)	[Kg] (lbs)
CSN 12	12 (0.73)	380 (5510)	46 103	253 (9.961)	166 (6.535)	34 (1.339)	26 (1.024)	31 (1.220)	3.0 (6.62)
CSN 25	25 (1.53)	350 (5075)	77 (173)	273 (10.748)	172 (6.772)	34 (1.339)	30 (1.181)	30 (1.181)	
CSN 45	45 (2.75)	280 (4060)	93 (209)	283 (11.142)	172 (6.772)	40 (1.575)	45 (1.772)	33 (1.299)	

* Sforzo con leva di 600 mm alla pressione max. di lavoro

* Working effort with 23.622 inch lever to the max. pressure of work

Serbatoio / Tank

Capacità Serbatoio Tank capacity [l] (US Gal)	Dimensioni Dimensions				Massa serbatoio Mass of tank
	F [mm] (inch)	G [mm] (inch)	H [mm] (inch)	I [mm] (inch)	[Kg] (lbs)
1 (0.26)	120 (4.724)	150 (5.906)	100 (3.937)	120 (4.724)	2.2 (4.85)
2 (0.53)				185 (7.283)	3.0 (6.62)
3 (0.79)				255 (10.039)	3.7 (8.16)
5 (1.32)	195 (7.677)	175 (6.890)	175 (6.890)	200 (7.874)	5.3 (11.69)
7 (1.85)				275 (10.827)	6.6 (14.55)
10 (2.64)				380 (14.961)	8.3 (18.30)

Esempio di ordinazione in codice / Example of ordering code

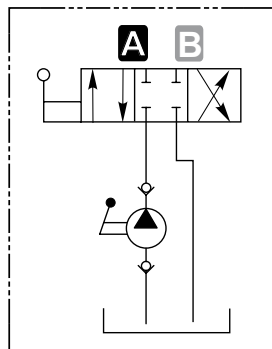
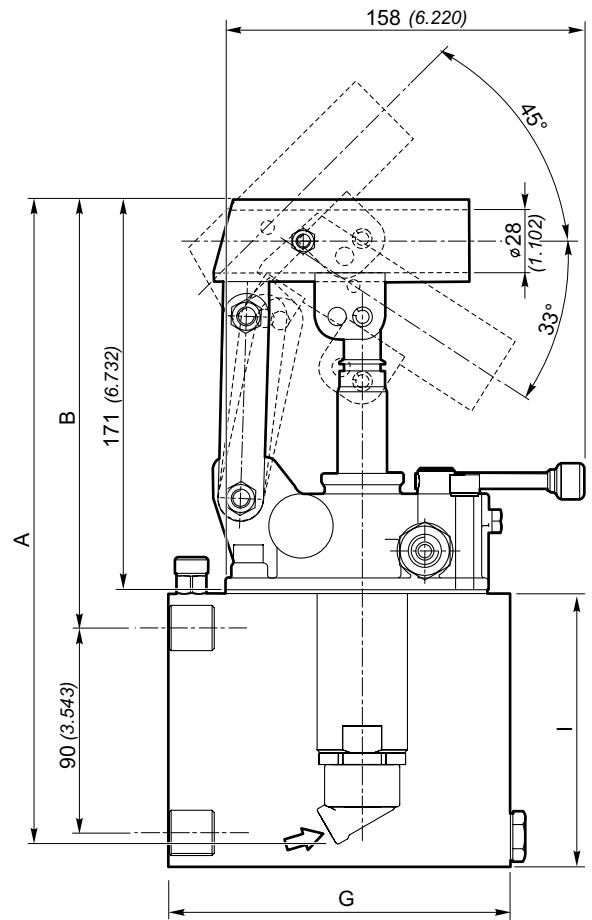
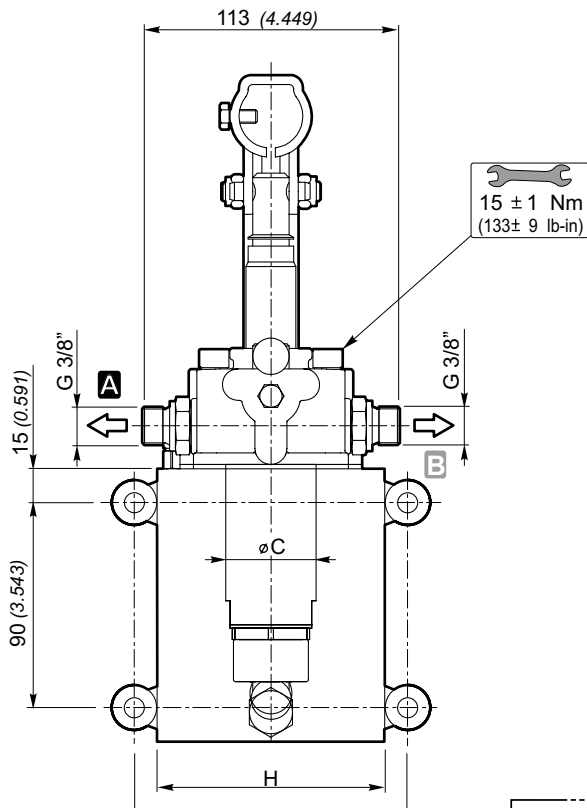
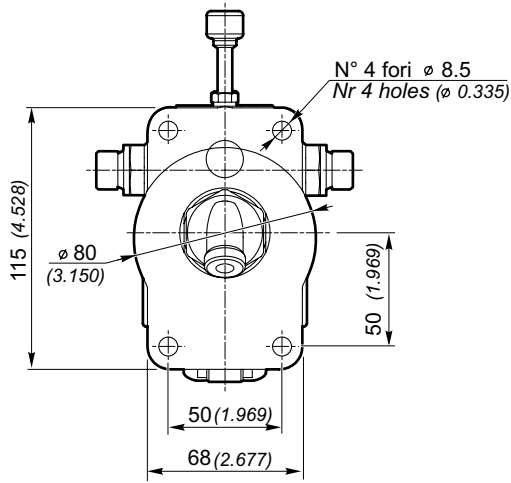
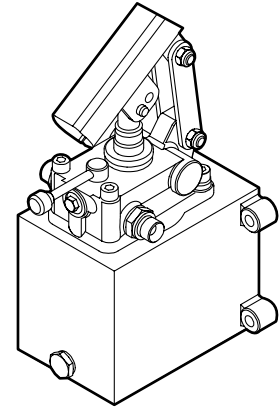
CSN 12 | **4** | **(150)** | **1** | **0**

CSN 12	Tipo / Type	vedi tabella / see table
4	Opzioni / Options	0 = Senza optional / Without optionals 4 = Valvola limitatrice di pressione / Pressure relief valve
(150)	Taratura VLP in bar (da omettere se non è richiesta la VLP) Relief valve setting bar (to leave out in case is not required relief valve)	
1	Serbatoio Tank	0 = Pompa fornita senza serbatoio / Pump without tank 1 = Pompa fornita con serbatoio capacità 1 lt / Pump with tank capacity 1 lt 2 = Pompa fornita con serbatoio capacità 2 lt / Pump with tank capacity 2 lt 3 = Pompa fornita con serbatoio capacità 3 lt / Pump with tank capacity 3 lt 5 = Pompa fornita con serbatoio capacità 5 lt / Pump with tank capacity 5 lt 7 = Pompa fornita con serbatoio capacità 7 lt / Pump with tank capacity 7 lt 10 = Pompa fornita con serbatoio capacità 10 lt / Pump with tank capacity 10 lt
0	Leva Lever	0 = Pompa senza leva / Pump without lever 1 = Pompa con leva (l=610mm) / Pump with lever (l=610 mm)

CSIN12 - CSIN25 - CSIN45

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dimensioni / Dimensions



CSIN12 - CSIN25 - CSIN45

POMPA A MANO A DOPPIO EFFETTO DOUBLE ACTING MANUAL PUMP

Dati tecnici / Technical data

Pompa / Pump

Grandezza Size	Cilindrata Displacement [cm ³ /ciclo] (in ³ /cycle)	Pressione max. Max. pressure [bar] (PSI)	Forza* Force* [daN] (lbs)	Dimensioni Dimensions					Massa pompa senza serbatoio Mass of pump without [Kg] (lbs)
				A [mm] (inch)	B [mm] (inch)	C [mm] (inch)	D [mm] (inch)	E [mm] (inch)	
CSIN 12	12 (0.73)	380 (5510)	46 103	253 (9.961)	166 (6.535)	34 (1.339)	26 (1.024)	31 (1.220)	3.5 (7.72)
CSIN 25	25 (1.53)	350 (5075)	77 (173)	273 (10.748)	172 (6.772)	34 (1.339)	30 (1.181)	30 (1.181)	
CSIN 45	45 (2.75)	280 (4060)	93 (209)	283 (11.142)	172 (6.772)	40 (1.575)	45 (1.772)	33 (1.299)	

* Sforzo con leva di 600 mm alla pressione max. di lavoro

* Working effort with 23.622 inch lever to the max. pressure of work

Serbatoio / Tank

Capacità Serbatoio Tank capacity [l] (US Gal)	Dimensioni Dimensions				Massa serbatoio Mass of tank [Kg] (lbs)
	F [mm] (inch)	G [mm] (inch)	H [mm] (inch)	I [mm] (inch)	
1 (0.26)	120 (4.724)	150 (5.906)	100 (3.937)	120 (4.724)	2.2 (4.85)
2 (0.53)				185 (7.283)	3.0 (6.62)
3 (0.79)				255 (10.039)	3.7 (8.16)
5 (1.32)	195 (7.677)	175 (6.890)	175 (6.890)	200 (7.874)	5.3 (11.69)
7 (1.85)				275 (10.827)	6.6 (14.55)
10 (2.64)				380 (14.961)	8.3 (18.30)

Esempio di ordinazione in codice / Example of ordering code

CSIN 12 | **4** | **(150)** | **1** | **0**

CSIN 12	Tipo / Type	vedi tabella / see table
4	Opzioni / Options	0 = Senza optional / Without optional 4 = Valvola limitatrice di pressione / Pressure relief valve
(150)	Taratura VLP in bar (da omettere se non è richiesta la VLP) Relief valve setting bar (to leave out in case is not required relief valve)	
1	Serbatoio Tank	0 = Pompa fornita senza serbatoio / Pump without tank 1 = Pompa fornita con serbatoio capacità 1 lt / Pump with tank capacity 1 lt 2 = Pompa fornita con serbatoio capacità 2 lt / Pump with tank capacity 2 lt 3 = Pompa fornita con serbatoio capacità 3 lt / Pump with tank capacity 3 lt 5 = Pompa fornita con serbatoio capacità 5 lt / Pump with tank capacity 5 lt 7 = Pompa fornita con serbatoio capacità 7 lt / Pump with tank capacity 7 lt 10 = Pompa fornita con serbatoio capacità 10 lt / Pump with tank capacity 10 lt
0	Leva Lever	0 = Pompa senza leva / Pump without lever 1 = Pompa con leva (l=610mm) / Pump with lever (l=610 mm)

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