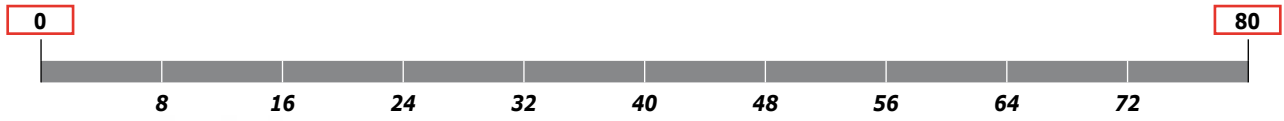


**POMPE AD INGRANAGGI GAMMA PRODOTTO**  
**GEAR PUMPS PRODUCT RANGE**

Le cilindrate disponibili sono evidenziate nel seguente diagramma (cm<sup>3</sup>/giro):  
*Available displacements are indicated below (cm<sup>3</sup>/rev):*



0.89  
**1SP**  
9.78



4.0  
**2SP**  
31.5



19.3  
**3GP**  
77.2

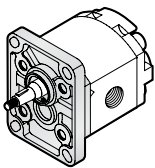


**POMPE AD INGRANAGGI GAMMA PRODOTTO**  
**GEAR PUMPS PRODUCT RANGE**

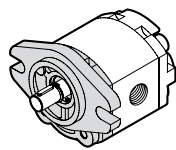
GRUPPO GROUP <b>1SP</b>	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>1SP 009</b>	0.89	0.05	6000	5.3	1.40	600	0.49	0.13	92*
<b>1SP 012</b>	1.18	0.07	6000	7.1	1.88	600	0.65	0.17	92*
<b>1SP 016</b>	1.6	0.10	6000	9.6	2.54	400	0.61	0.16	95*
<b>1SP 020</b>	2.0	0.12	5500	11	2.91	400	0.76	0.20	95*
<b>1SP 025</b>	2.5	0.15	5000	12.5	3.30	400	0.95	0.25	95*
<b>1SP 032</b>	3.2	0.20	4500	14.4	3.80	400	1.21	0.32	95*
<b>1SP 037</b>	3.7	0.23	4000	14.8	3.91	400	1.40	0.37	95*
<b>1SP 042</b>	4.2	0.26	3500	14.7	3.88	400	1.60	0.42	95*
<b>1SP 050</b>	5.0	0.31	3000	15	3.96	400	1.90	0.50	95*
<b>1SP 063</b>	6.3	0.38	2700	17	4.49	400	2.39	0.63	95*
<b>1SP 078</b>	7.76	0.47	2500	19.4	5.13	400	2.95	0.78	95*
<b>1SP 098</b>	9.78	0.60	2000	19.6	5.18	400	3.71	0.98	95*

\* = Valori medi rilevati in fase di collaudo a 1500 giri/min. *Average values collected during the testing at 1500 rpm.*

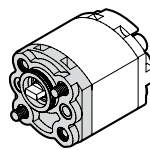
## FLANGE - FLANGES

**EUR**


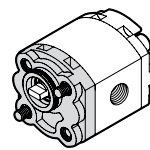
pagina/page 18

**SAEAA**


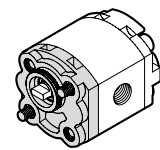
pagina/page 19

**MC32**


pagina/page 20

**E32BX - E32BC**


pagina/page 21

**E32CX - E32CC**


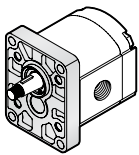
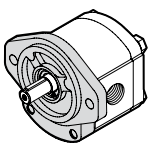
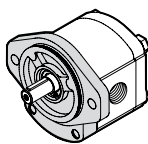
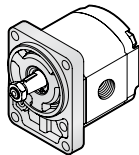
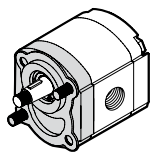
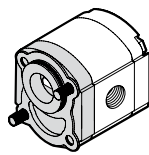
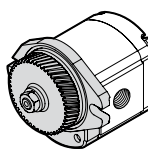
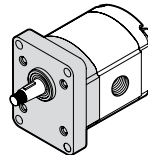
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**POMPE AD INGRANAGGI GAMMA PRODOTTO**  
**GEAR PUMPS PRODUCT RANGE**

GRUPPO GROUP 2SP	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 <sup>3</sup> /giro	in <sup>3</sup> /rev	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>2SP 040</b>	4	0.24	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	2200	69	18.22	500	15.75	4.16	95*

\* = Valori medi rilevati in fase di collaudo a 1500 giri/min. *Average values collected during the testing at 1500 rpm.*

FLANGE - FLANGES

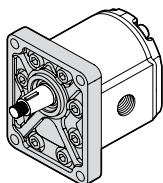
EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR
							
pagina/page 34	pagina/page 36		pagina/page 38	pagina/page 39	pagina/page 40	pagina/page 41	pagina/page 42

**POMPE AD INGRANAGGI GAMMA PRODOTTO**  
**GEAR PUMPS PRODUCT RANGE**

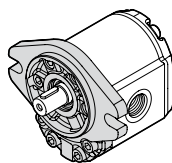
GRUPPO GROUP <b>3GP</b>	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>3GP 190</b>	19.3	1.2	3500	67.6	17.84	700	12.8	3.39	95*
<b>3GP 230</b>	23.0	1.4	3500	80.3	21.22	700	15.5	4.03	95*
<b>3GP 300</b>	30.2	1.8	3300	99.7	26.33	700	20.1	5.31	95*
<b>3GP 340</b>	33.8	2.1	3300	111.6	29.49	700	22.5	5.94	95*
<b>3GP 370</b>	37.5	2.3	3300	123.6	32.66	700	24.9	6.58	95*
<b>3GP 440</b>	44.6	2.7	3000	133.8	35.35	700	29.7	7.84	95*
<b>3GP 530</b>	53.0	3.2	3000	159.1	42.04	700	35.3	9.32	95*
<b>3GP 620</b>	62.7	3.8	2500	156.8	41.41	700	41.7	11.01	95*
<b>3GP 700</b>	70.5	4.3	25 00	176.3	46.58	700	46.9	12.39	95*
<b>3GP 770</b>	77.2	4.7	2200	169.8	44.84	700	51.3	13.56	95*

\* = Valori medi rilevati in fase di collaudo a 1500 giri/min. *Average values collected during the testing at 1500 rpm.*

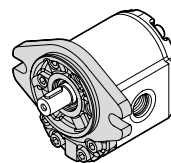
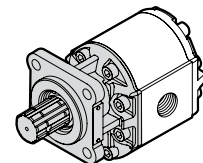
## FLANGE - FLANGES

**EUR**


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**SAEB**


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**SAEBOR**

**ZFC**


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## POMPE AD INGRANAGGI INFORMAZIONI TECNICHE GEAR PUMPS TECHNICAL INFORMATION

### FLUIDI IDRAULICI • HYDRAULIC FLUIDS

È consigliabile utilizzare oli idraulici di origine minerale con buone caratteristiche antischiuma, antiusura, antiossidanti, anticorrosione e con proprietà di rapida disareaazione ed elevato indice di viscosità;

- viscosità raccomandata 15÷92 mm<sup>2</sup>/s
- viscosità limite d'avviamento 2000 mm<sup>2</sup>/s

Durante il normale funzionamento la temperatura dell'olio dovrà essere compresa tra 20° C e 65° C con valori limite compresi tra -20° C e 80° C con le guarnizioni in NBR e -15 °C e 100 °C con le stesse in Viton.

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

- Recommended viscosity 15÷92 mm<sup>2</sup>/s (cSt)
- Start-up viscosity limit 2000 mm<sup>2</sup>/s (cSt)

*During normal operation, the temperature of the oil must be between 20°C and 65°C and limit values between -20°C and 80°C with NBR gasket and limit values between -15°C and 100°C with Viton gasket.*

### PRESSIONE DI ASPIRAZIONE • SUCTION PRESSURE

La pressione di esercizio in aspirazione deve essere compresa nell'intervallo 0.7 - 3 bar (assoluti).  
Per valori superiori (fino a 30 bar) è necessario ricorrere ad anelli di tenuta per alte pressioni.

*The allowed working pressure supplied must be in the range 0.7 - 3 bar (absolute).  
For higher values (up to 30 bar), must be used sealing ring for high pressure.*

### CONDOTTI DI ASPIRAZIONE • SUCTION PIPES

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 di aspirazione che garantiscano una velocità dell'olio compresa fra 0.6 e 2 m/s.

*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 2 m/s.*

### FILTRAZIONE • FILTRATION

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:

Utilizzo fino a 150 bar:

**21/19/16 (ISO 4406) classe 10 (NAS 1638)**

Utilizzo oltre 150 bar:

**20/18/15 (ISO 4406) classe 9 (NAS 1638)**

*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:*

*Up to 150 bar:*

**21/19/16 (ISO 4406) classe 10 (NAS 1638)**

*Over to 150 bar:*

**20/18/15 (ISO 4406) classe 9 (NAS 1638)**

### NOTE INSTALLAZIONE • INSTALLATION NOTES

Prima di avviare l'impianto a regime, sono consigliati alcuni accorgimenti:

- Verificare che il senso di rotazione sia coerente con quello dell'albero da cui proviene il moto.
- Verificare che nelle flange di connessione alle porte di aspirazione e mandata non siano presenti trucioli, sporco o altro.
- Se la pompa è sottoposta a verniciatura, proteggere l'anello di tenuta verificando che la zona di contatto fra anello di tenuta e albero sia priva di polvere o di sedimenti abrasivi che possono accelerare le usure e causare delle perdite.
- Assicurarsi che il giunto utilizzato per la trasmissione compensi disallineamenti assiali che potrebbero pregiudicare l'integrità del motore.

*Before you start setting system, some precautions are recommended:*

- Check that the direction of rotation is consistent with the drive shaft one.
- Remove all dirt, chips and all foreign bodies from flanges connecting inlet and delivery ports.
- Protect the drive shaft sealing ring during pump painting; check that the contact area between ring and shaft is clean: dust or abrasive sediments could accelerate the wear and cause leakage.
- Make sure that the transmission joint balances any axial misalignment that might compromise the engine working.

## POMPE AD INGRANAGGI INFORMAZIONI TECNICHE GEAR PUMPS TECHNICAL INFORMATION

• In caso di 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).

### Durante il primo avviamento:

• scollegare lo scarico della pompa per permettere di spurgare l'aria nel circuito e, in caso di valvole di massima, tarare le valvole limitatrici di pressione al minimo valore.

• Evitare partenze sotto carico in condizioni di bassa temperatura o di lunghi periodi di inattività.

• Per verificare l'effettivo riempimento sfiatare il circuito dopo un primo avviamento di qualche istante dove è stata attivata tutta la componentistica.

• Tenendo controllata la temperatura del fluido e delle parti in movimento e la velocità di rotazione è infine possibile aumentare la pressione fino al raggiungimento delle condizioni di esercizio previste che devono mantenersi entro i limiti indicati del presente catalogo.

• Evitare, in presenza di livelli di pressione di alimentazione superiori alla pressione massima continuativa, di sottoporre il motore ad un regime di rotazione inferiore a quello minimo consentito.

• With radial and/or axial loads on the pump shaft (such as when driving is carried out through pulleys or chains) use the available versions with strengthen shaft.

• The coupling joint between the spline shafts has to be properly lubricated, free to move axially and of a suitable length to cover both motor and pump shafts.

### Installation notes:

• disconnect the drain pump to bleed off the air in the circuit and set the pressure relief valve at the minimum value (if it's installed).

• Do not start the system under load at low temperatures or after long stops.

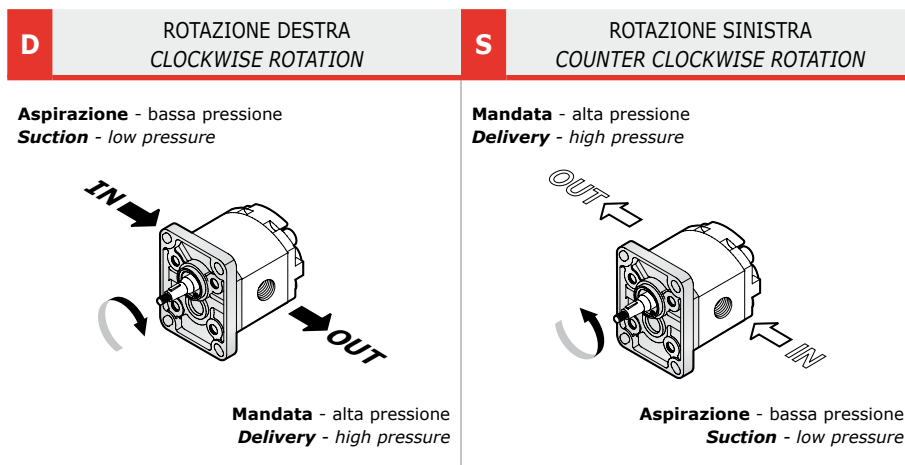
• Check the whole system filling by bleeding off the whole air amount after few minutes of system working.

• Increase the pressure until you reach the operating values by keeping checked the fluid and the moving parts temperature and the rotation speed. Maintain the set values within the limits depicted in this catalogue.

• Avoid lower rotation speed than min. allowed with a pressure higher than the continuous max pressure.

## DEFINIZIONE DEL VERSO DI ROTAZIONE GUARDANDO L'ALBERO DI TRASCINAMENTO DEFINITION OF ROTATION LOOKING AT THE DRIVE SHAFT

USCITA FLUIDO AD ALTA PRESSIONE  
 HIGH PRESSURE FLUID EXIT



### SENSO DI ROTAZIONE • WISE ROTATION

Il senso di rotazione viene definito S (sinistro) e D (destra) osservando l'albero frontalmente. In caso di rotazione sinistra "S" l'aspirazione sarà a destra dell'albero di trascinamento mentre la mandata sarà alla sua sinistra; il contrario sarà per pompa monodirezionale destra "D". In fase di ordine è necessario precisare il senso di rotazione desiderato, oppure intervenire modificando l'assetto interno come illustrato di seguito (inversione).

The rotation direction is defined as S (left/anticlockwise) or D (right/clockwise) by observing the shaft from the front. In cases of anticlockwise rotation "S" the suction will be to the right of the drive shaft while the delivery will be to your left; otherwise it will be for monodirectional pump right "D". When ordering, it is necessary to specify the required direction of rotation; alternatively it is possible to modify the internal structure as illustrated below (inversal).

**POMPE AD INGRANAGGI INFORMAZIONI TECNICHE**  
**GEAR PUMPS TECHNICAL INFORMATION**

**INVERSIONE • REVERSAL**

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

**La targhetta è posizionata sul corpo. (vedi pag.10)**

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

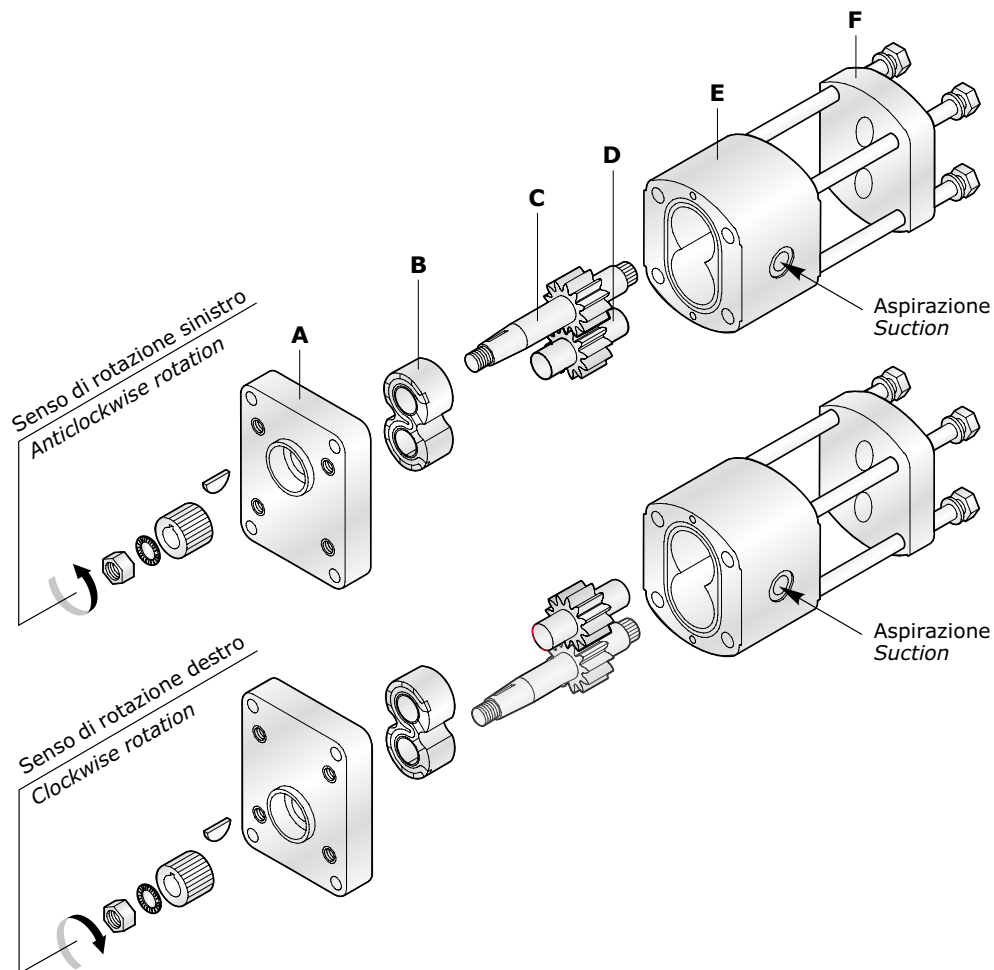
**The plate is placed on the body (see page 10).**

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

- Smontare la pompa come da fig. 1.
- Sfilare gli ingranaggi C e D e rimontarli secondo la fig. 2
- Rimontare la boccola B nella stessa posizione della fig. 1
- Capovolgere la flangia A e rimontare la pompa serrando le viti con una chiave dinamometrica.
- Per le pompe 3PG, smontare solo la flangia anteriore.

How to invert the pump wise rotation:

- Disassemble pump as shown in fig. 1.
- Pull off gears C - D and reassemble according to fig. 2.
- Reassemble bushing B as before.
- Reverse the flange A and reassemble the pump tightening the screws by dynamometric wrench.
- For the pumps 3GP, disassemble only front flange.

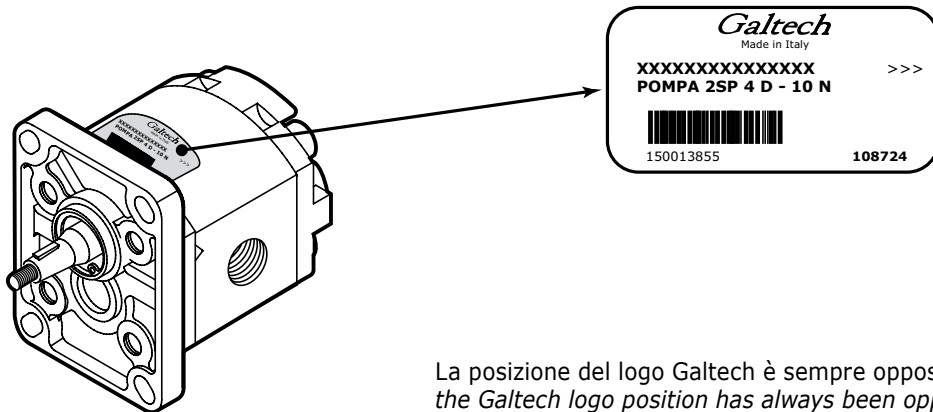


**Fig. 1**

**Fig. 2**

**POMPE AD INGRANAGGI INFORMAZIONI TECNICHE**  
**GEAR PUMPS TECHNICAL INFORMATION**

**TARGHETTA • PLATE**



La posizione del logo Galtech è sempre opposta alla flangia.  
the Galtech logo position has always been opposed to the flange.

Codice prodotto - Product code	XXXXXXXXXXXXXXXX	>>>	Senso di rotazione - Direction of rotation:
Descrizione - Description	POMPA 2SP 4 D - 10 N		>>> = <b>D</b> <<< = <b>S</b>
Codice a barre - Bar code			
Anno produzione - Production year	150013855	108724	Numero ordine - Order number

TIPO DI POMPA - TYPE OF PUMP	GRUPPO - GROUP 1SP	GRUPPO - GROUP 2SP	GRUPPO - GROUP 3GP
<b>Numero di viti</b> <i>numbers of screws</i>	4	4	16
<b>Tipo di filetto</b> <i>Type of thread</i>	M8	M10	M10
<b>Coppia di serraggio viti</b> <i>Tightening torque of screws</i>	30 Nm / 266 in-lbs	50 Nm / 443 in-lbs	60 Nm / 531 in-lbs
<b>Tipo di giunto</b> <i>Type of coupling</i>	1IS 12M	2IS 14M / 2IS 15M	3IS 18M
<b>Coppia di serraggio dado giunto</b> <i>Tightening torque at nut coupling</i>	9 ÷ 10 Nm / 80 ÷ 90 in-lbs	22 ÷ 25 Nm / 195 ÷ 221 in-lbs 32 ÷ 35 Nm / 283 ÷ 310 in-lbs	50 ÷ 55 Nm / 443 ÷ 487 in-lbs



## POMPE AD INGRANAGGI INFORMAZIONI TECNICHE GEAR PUMPS TECHNICAL INFORMATION

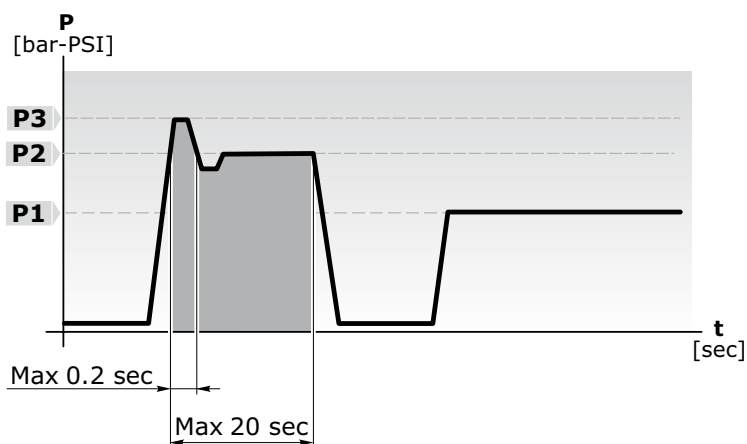
### DEFINIZIONE DELLE PRESSIONI • DEFINITION OF PRESSURES

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.

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.



- P3** Pressione massima di picco  
Max peak pressure
- P2** Pressione massima intermittente  
Max intermittent pressure
- P1** Pressione massima continua  
Continuos max pressure

MISURE IDRAULICHE - HYDRAULIC MEASURES		
<b>Q</b>	Portata Flow	[l/min] [Gal/min]
<b>M</b>	Coppia Torque	[Nm] [lbf.in]
<b>P</b>	Potenza Power	[kW] [HP]
<b>V</b>	Cilindrata Displacement	[cm <sup>3</sup> /giro] [in <sup>3</sup> /rev]
<b>n</b>	Velocità Speed	[min <sup>-1</sup> ]
<b>Δp</b>	Pressione Pressure	[bar] [PSI]
<b>η<sub>v</sub></b>	Rendimento volumetrico Volumetric efficiency	
<b>η<sub>m</sub></b>	Rendimento meccanico Mechanical efficiency	
<b>η<sub>t</sub></b>	Rendimento totale Overall efficiency	

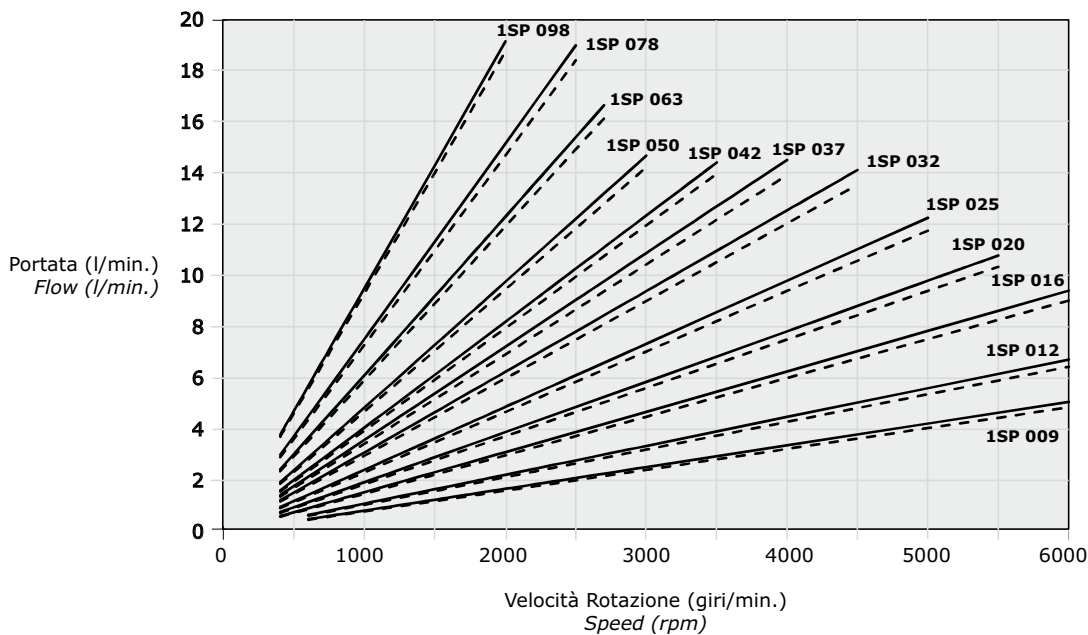
FORMULE UTILI - USEFUL FORMULAS	
<b>Q =</b>	$V \cdot \eta_v \cdot n / 1000$ [l/min]
<b>Q =</b>	$V \cdot \eta_v \cdot n / 231$ [Gal/min]
<b>M =</b>	$\frac{\Delta p \cdot V}{63.83 \cdot \eta_m}$ [Nm]
<b>M =</b>	$\frac{\Delta p \cdot V}{2 \cdot 3.14 \cdot \eta_m}$ [lbf.in]
<b>P =</b>	$\frac{\Delta p \cdot V \cdot n}{600 \cdot 1000 \cdot \eta_t}$ [kW]
<b>P =</b>	$\frac{\Delta p \cdot V \cdot n}{395934 \cdot \eta_t}$ [HP]

FATTORE CONVERSIONE - CONVERSION FACTOR	
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
1 kW	1.34 HP
1 cm <sup>3</sup> /giro	0.061 in <sup>3</sup> /rev
1 bar	14.5 PSI
1 mm	0.0394 in
1 kg	2.205 lbs

**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

**GRUPPO GROUP 1SP**

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE  
FLOW - SPEED CHART



**GRUPPO GROUP 1SP**

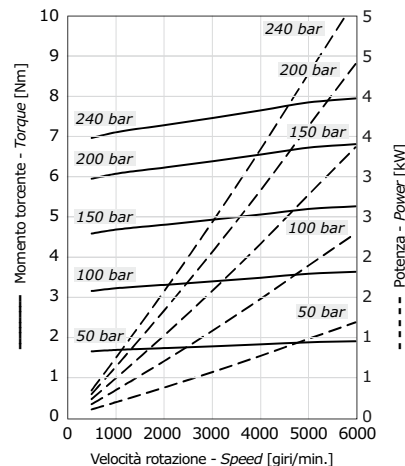
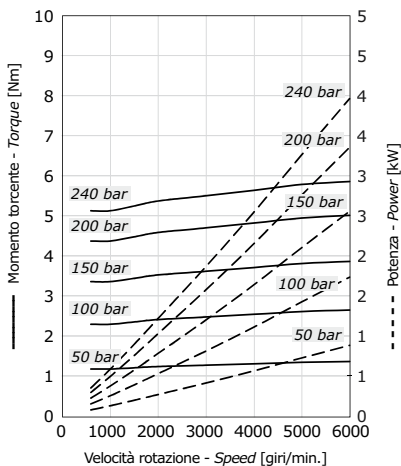
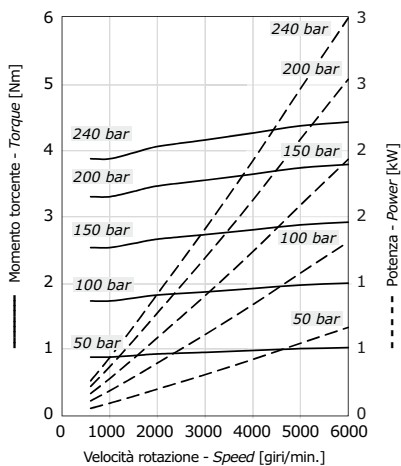
DIAGRAMMI POTENZE  
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46  
Diagrams collected on test bench at 40°C with VG46 mineral oil

**1SP 009**

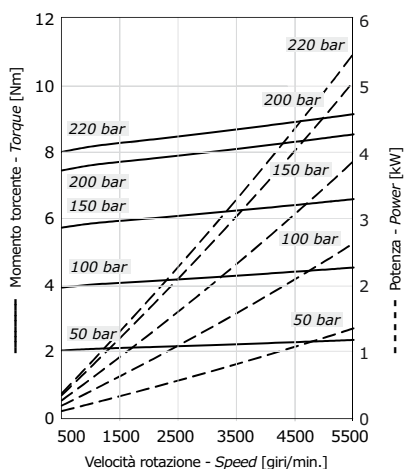
**1SP 012**

**1SP 016**

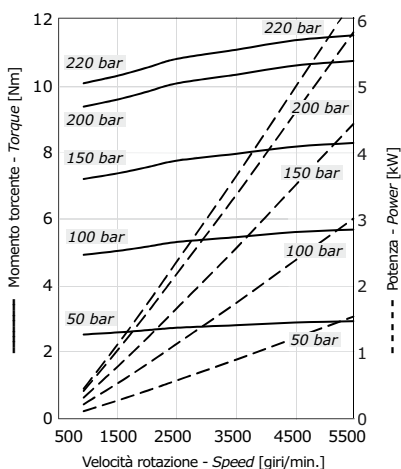


**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

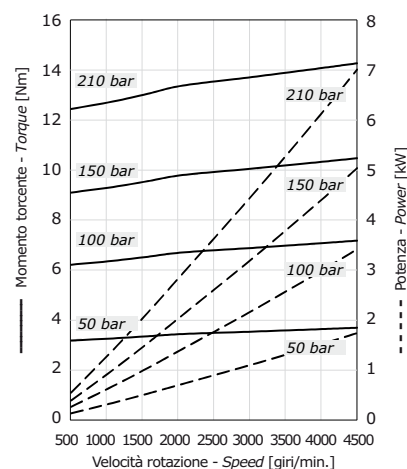
**1SP 020**



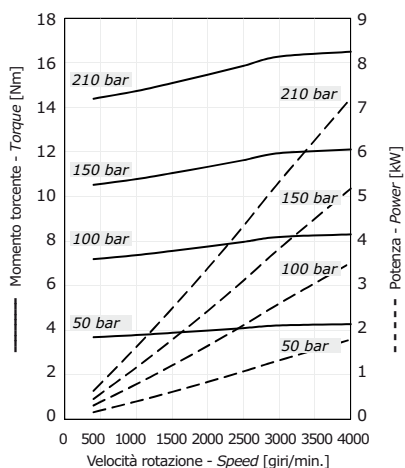
**1SP 025**



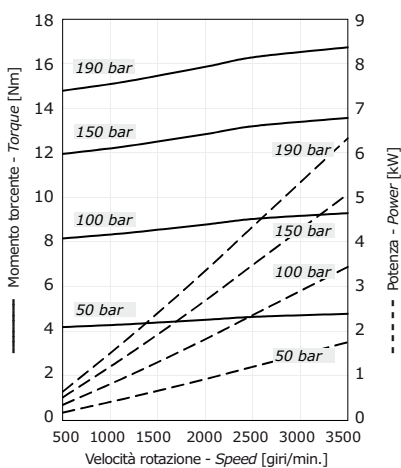
**1SP 032**



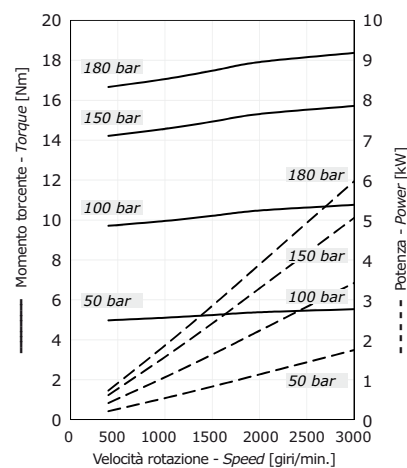
**1SP 037**



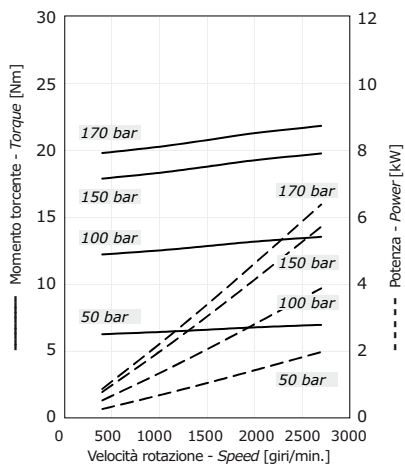
**1SP 042**



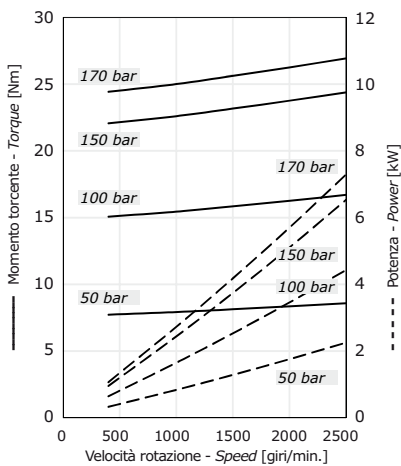
**1SP 050**



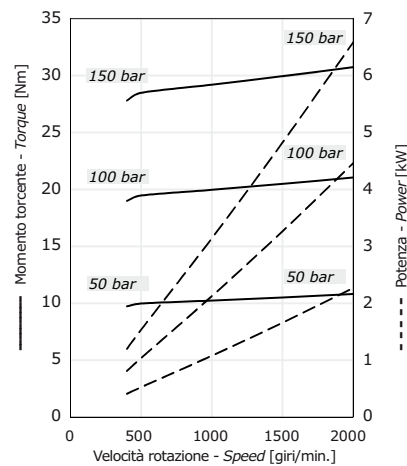
**1SP 063**



**1SP 078**



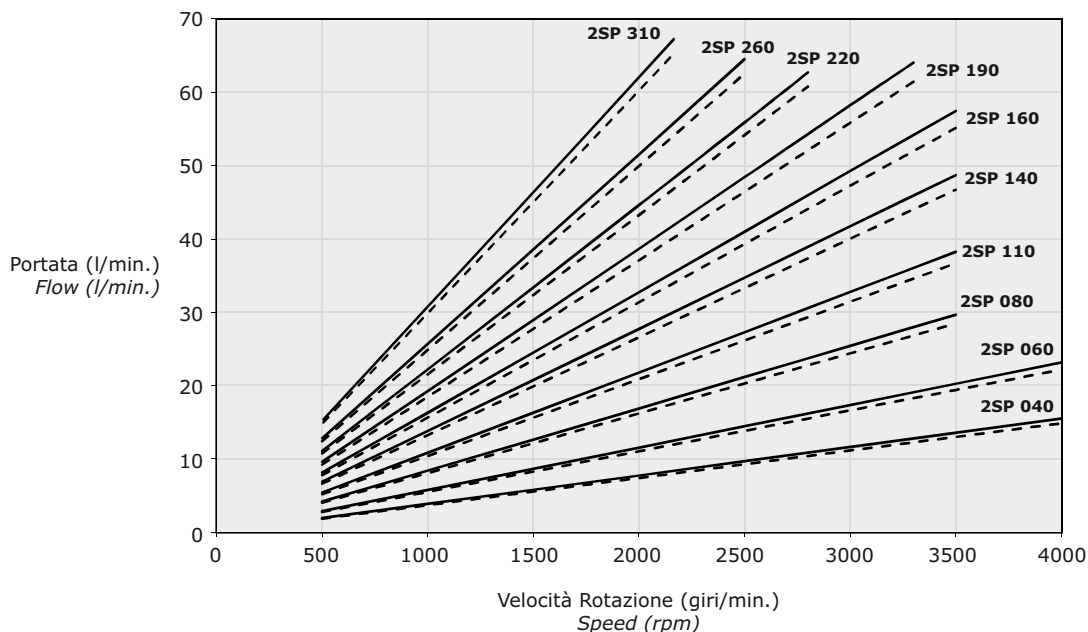
**1SP 098**



**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

**GRUPPO GROUP 2SP**

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE  
FLOW - SPEED CHART



**GRUPPO GROUP 2SP**

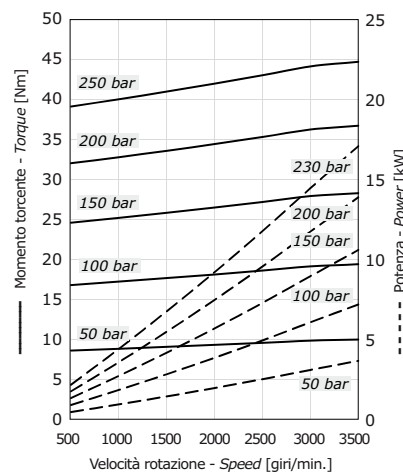
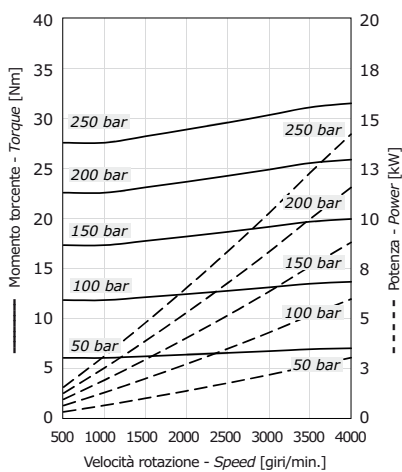
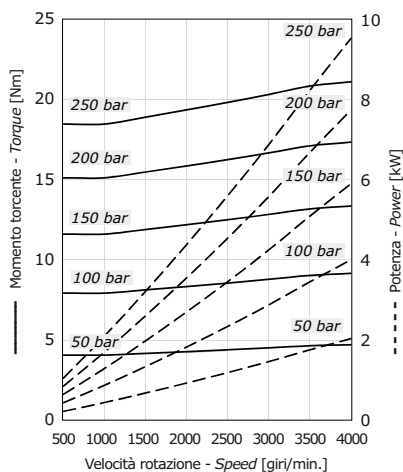
DIAGRAMMI POTENZE  
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46  
Diagrams collected on test bench at 40°C with VG46 mineral oil

**2SP 040**

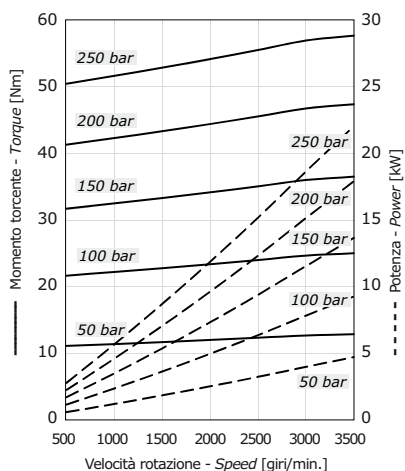
**2SP 060**

**2SP 080**

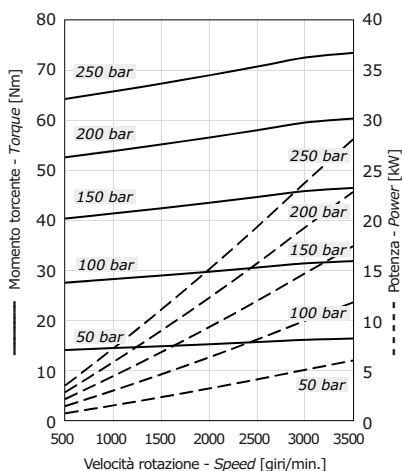


**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

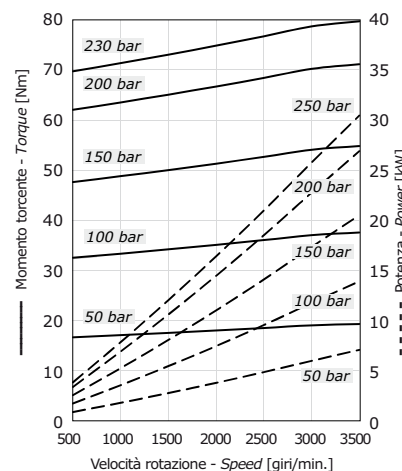
**2SP 110**



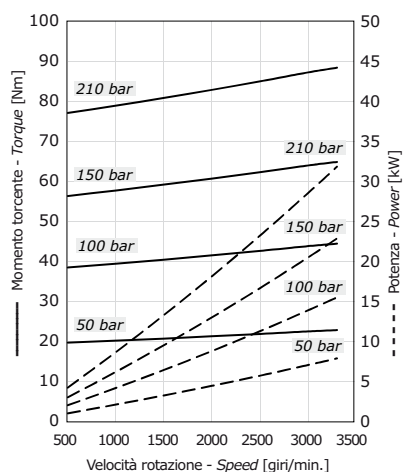
**2SP 140**



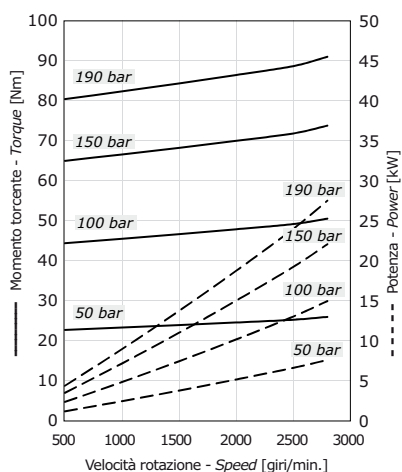
**2SP 160**



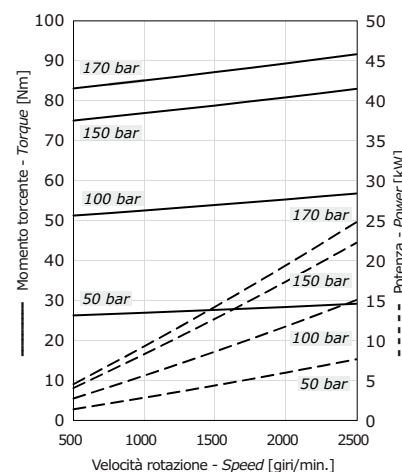
**2SP 190**



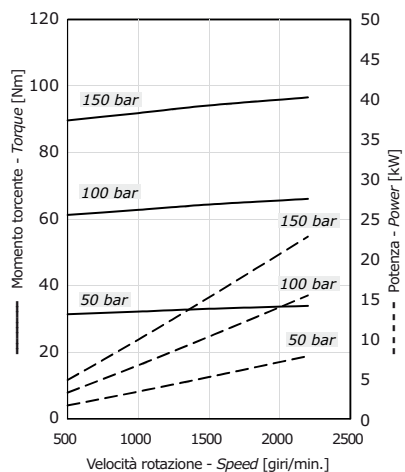
**2SP 220**



**2SP 260**



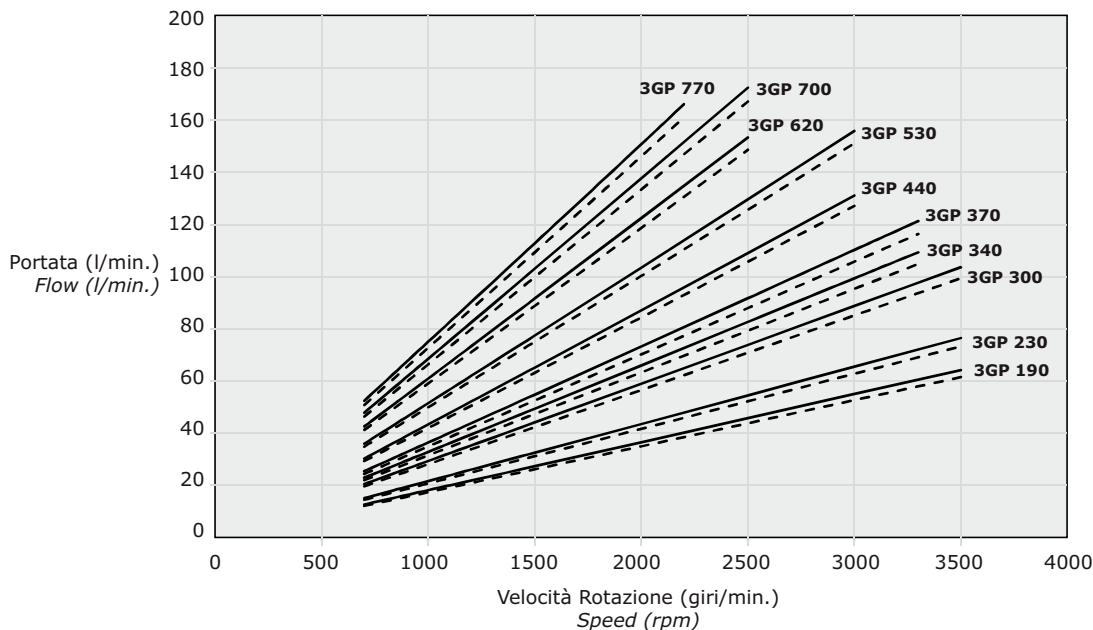
**2SP 310**



**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

**GRUPPO GROUP 3GP**

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE  
FLOW - SPEED CHART



**GRUPPO GROUP 3GP**

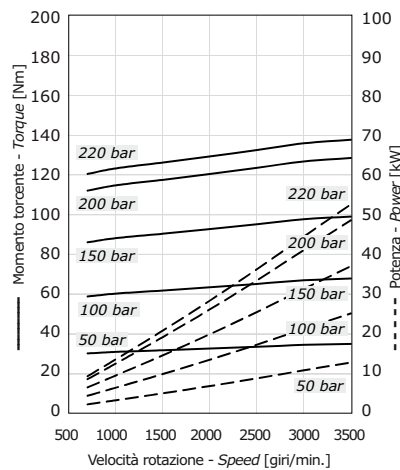
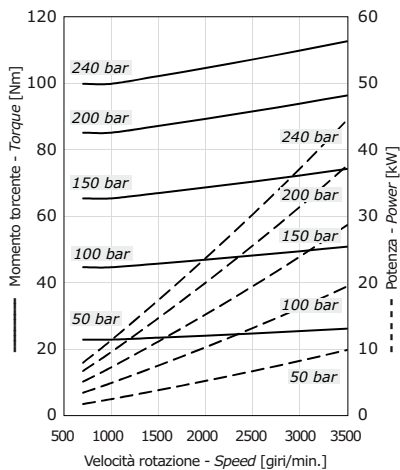
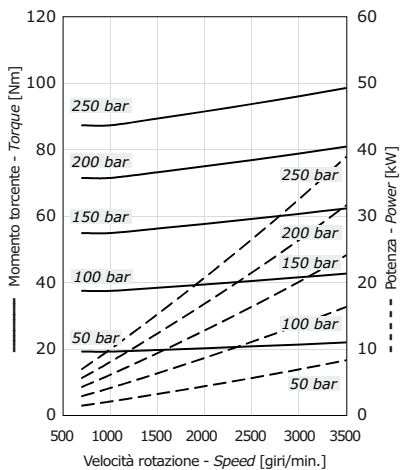
DIAGRAMMI POTENZE  
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46  
Diagrams collected on test bench at 40°C with VG46 mineral oil

**3GP 190**

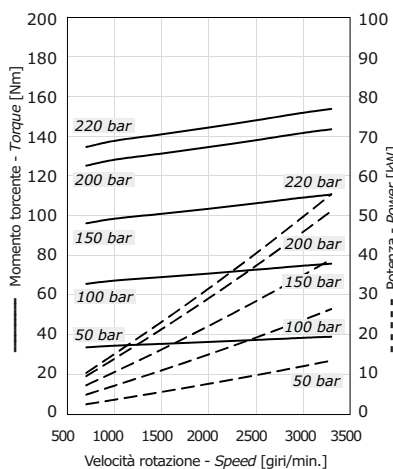
**3GP 230**

**3GP 300**

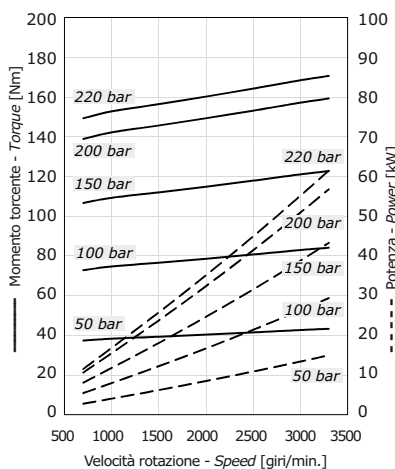


**POMPE AD INGRANAGGI PRESTAZIONI**  
**GEAR PUMPS PERFORMANCES**

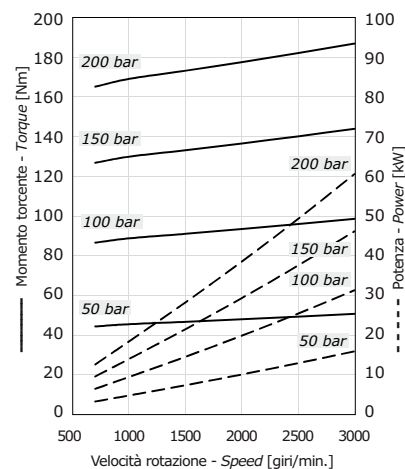
**3GP 340**



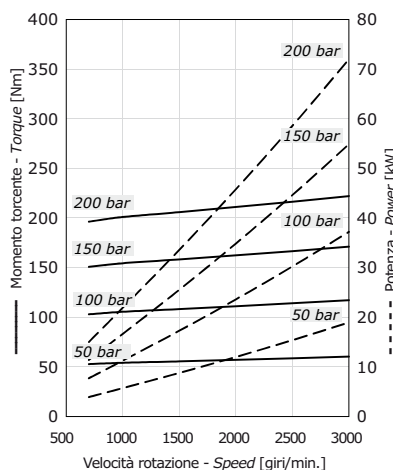
**3GP 370**



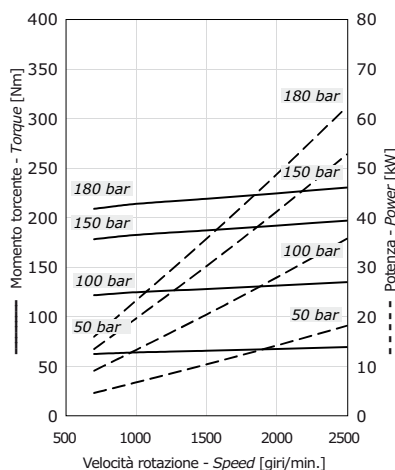
**3GP 440**



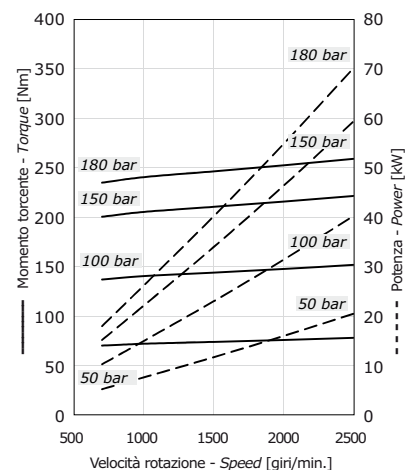
**3GP 530**



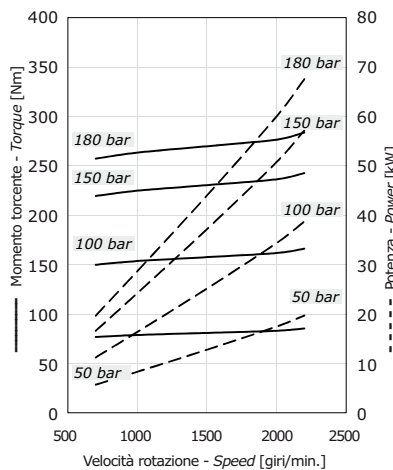
**3GP 620**



**3GP 700**

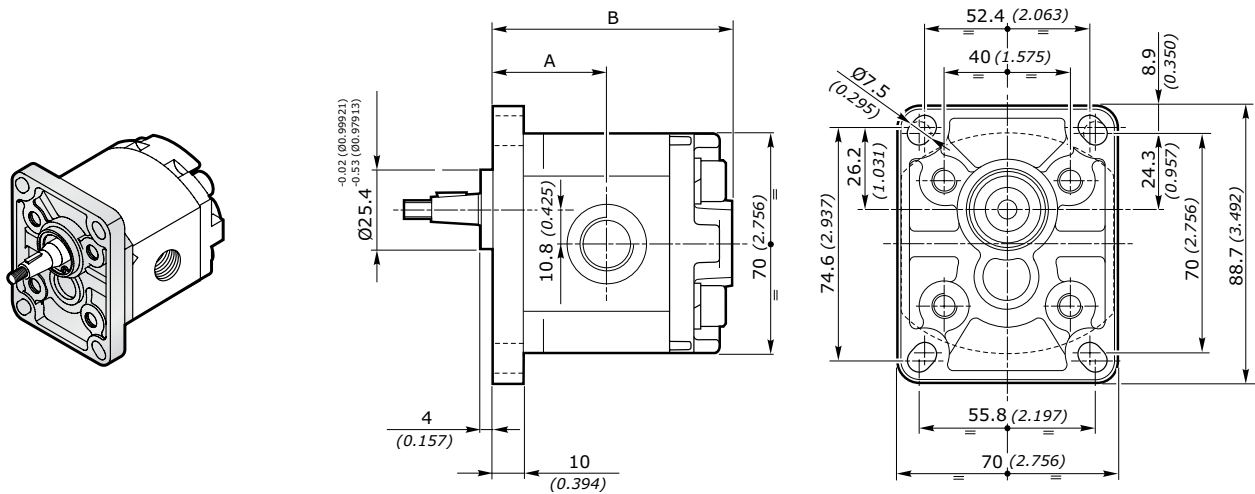


**3GP 770**



**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**FLANGIA EUROPEA EUR STANDARD FLANGE**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>1SP 009</b>	0.89	0.05	240	3480	260	3770	290	4205	6000	5.3	1.40	600	0.49	0.13	92*
<b>1SP 012</b>	1.18	0.07	240	3480	260	3770	290	4205	6000	7.1	1.88	600	0.65	0.17	92*
<b>1SP 016</b>	1.6	0.10	240	3480	260	3770	290	4205	6000	9.6	2.54	400	0.61	0.16	95*
<b>1SP 020</b>	2.0	0.12	220	3190	250	3625	270	3915	5500	11	2.91	400	0.76	0.20	95*
<b>1SP 025</b>	2.5	0.15	220	3190	250	3625	270	3915	5000	12.5	3.30	400	0.95	0.25	95*
<b>1SP 032</b>	3.2	0.20	210	3045	240	3480	260	3770	4500	14.4	3.80	400	1.21	0.32	95*
<b>1SP 037</b>	3.7	0.23	210	3045	240	3480	260	3770	4000	14.8	3.91	400	1.40	0.37	95*
<b>1SP 042</b>	4.2	0.26	190	2755	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*
<b>1SP 050</b>	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*
<b>1SP 063</b>	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*
<b>1SP 078</b>	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*
<b>1SP 098</b>	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*

**DIMENSIONI • DIMENSIONS**


GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>1SP 009</b>	34.80	1.370	73.6	2.898	0.91	2.01
<b>1SP 012</b>	35.35	1.392	74.7	2.941	0.93	2.05
<b>1SP 016</b>	36.20	1.425	76.4	3.008	0.95	2.09
<b>1SP 020</b>	36.95	1.455	77.9	3.067	0.97	2.14
<b>1SP 025</b>	37.95	1.494	79.9	3.146	1.00	2.21
<b>1SP 032</b>	39.30	1.547	82.6	3.252	1.04	2.29
<b>1SP 037</b>	40.30	1.587	84.6	3.331	1.07	2.36
<b>1SP 042</b>	41.25	1.624	86.5	3.406	1.10	2.43
<b>1SP 050</b>	42.80	1.685	89.6	3.528	1.14	2.51
<b>1SP 063</b>	45.35	1.785	94.7	3.728	1.22	2.69
<b>1SP 078</b>	48.20	1.898	100.4	3.953	1.30	2.87
<b>1SP 098</b>	52.15	2.053	108.3	4.264	1.41	3.11

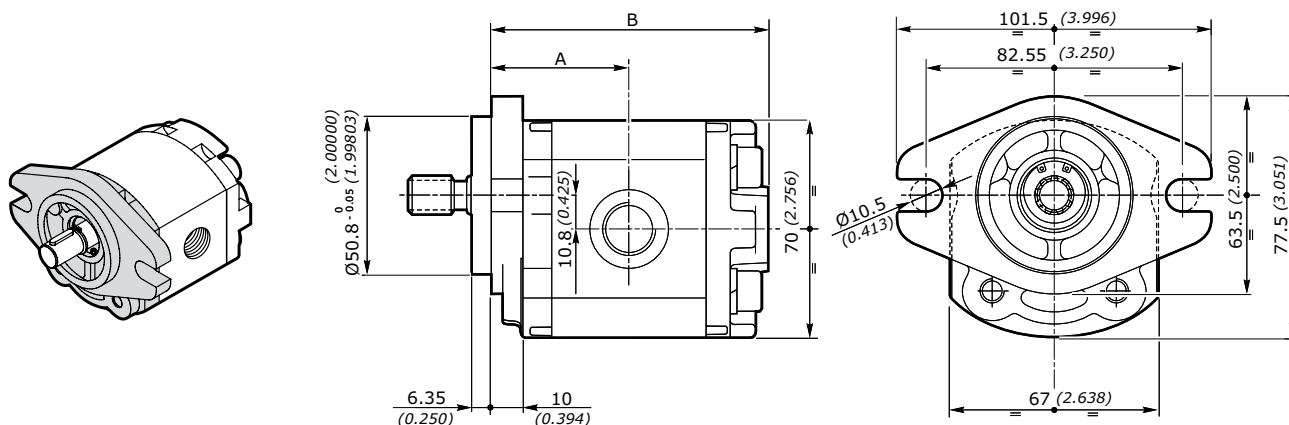


**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**FLANGIA SAE** **SAEAA** **SAE FLANGE**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3			l/min	Gal/min		l/min	Gal/min	
			bar	psi	bar	psi	bar	psi	giri/min - rpm			giri/min - rpm			
<b>1SP 009</b>	0.89	0.05	240	3480	260	3770	290	4205	6000	5.3	1.40	600	0.49	0.13	92*
<b>1SP 012</b>	1.18	0.07	240	3480	260	3770	290	4205	6000	7.1	1.88	600	0.65	0.17	92*
<b>1SP 016</b>	1.6	0.10	240	3480	260	3770	290	4205	6000	9.6	2.54	400	0.61	0.16	95*
<b>1SP 020</b>	2.0	0.12	220	3190	250	3625	270	3915	5500	11	2.91	400	0.76	0.20	95*
<b>1SP 025</b>	2.5	0.15	220	3190	250	3625	270	3915	5000	12.5	3.30	400	0.95	0.25	95*
<b>1SP 032</b>	3.2	0.20	210	3045	240	3480	260	3770	4500	14.4	3.80	400	1.21	0.32	95*
<b>1SP 037</b>	3.7	0.23	210	3045	240	3480	260	3770	4000	14.8	3.91	400	1.40	0.37	95*
<b>1SP 042</b>	4.2	0.26	190	2755	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*
<b>1SP 050</b>	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*
<b>1SP 063</b>	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*
<b>1SP 078</b>	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*
<b>1SP 098</b>	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*

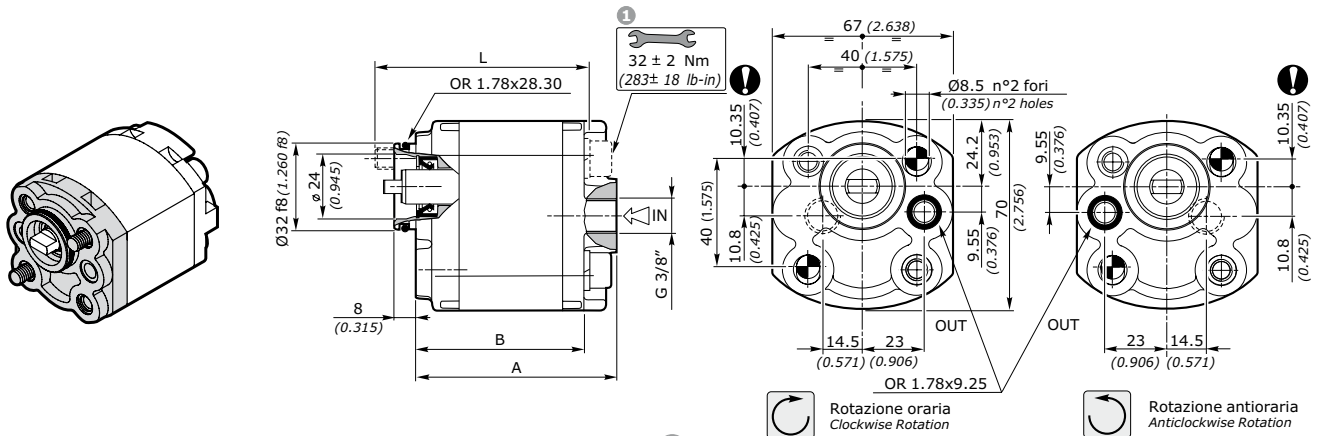
**DIMENSIONI • DIMENSIONS**



GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>1SP 009</b>	38.30	1.508	77.10	3.035	0.91	2.01
<b>1SP 012</b>	38.85	1.530	78.20	3.079	0.93	2.05
<b>1SP 016</b>	39.70	1.563	79.90	3.146	0.95	2.09
<b>1SP 020</b>	40.45	1.593	81.40	3.205	0.97	2.14
<b>1SP 025</b>	41.45	1.632	83.40	3.283	1.00	2.21
<b>1SP 032</b>	42.80	1.685	86.10	3.390	1.04	2.29
<b>1SP 037</b>	43.80	1.724	88.10	3.469	1.07	2.36
<b>1SP 042</b>	44.75	1.762	90.00	3.543	1.10	2.43
<b>1SP 050</b>	46.30	1.823	93.10	3.665	1.14	2.51
<b>1SP 063</b>	48.85	1.923	98.20	3.866	1.22	2.69
<b>1SP 078</b>	51.70	2.035	103.90	4.091	1.30	2.87
<b>1SP 098</b>	55.65	2.191	111.80	4.402	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**FLANGIA PER MINICENTRALINA MC32 POWER-PACK FLANGE**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3			l/min	Gal/min		l/min	Gal/min	
			bar	psi	bar	psi	bar	psi	giri/min - rpm			%			
1SP 009	0.89	0.05	210	3045	240	3480	260	3770	6000	5.3	1.40	600	0.49	0.13	92*
1SP 012	1.18	0.07	210	3045	240	3480	260	3770	6000	7.1	1.88	600	0.65	0.17	92*
1SP 016	1.6	0.10	210	3045	240	3480	260	3770	6000	9.6	2.54	400	0.61	0.16	95*
1SP 020	2.0	0.12	210	3045	240	3480	260	3770	5500	11	2.91	400	0.76	0.20	95*
1SP 025	2.5	0.15	210	3045	240	3480	260	3770	5000	12.5	3.30	400	0.95	0.25	95*
1SP 032	3.2	0.20	200	2900	230	3335	250	3625	4500	14.4	3.80	400	1.21	0.32	95*
1SP 037	3.7	0.23	200	2900	230	3335	250	3625	4000	14.8	3.91	400	1.40	0.37	95*
1SP 042	4.2	0.26	180	2610	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*
1SP 050	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*

**DIMENSIONI • DIMENSIONS**


1 Coppia di serraggio viti:  $32 \pm 2\text{Nm}$  (viti classe 10.9-12.9 UNI EN 20898/1)  
 Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
 Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere ( $25 \pm 2\text{Nm}$ ).  
 Fissare la pompa mediante dadi autobloccanti ( $32 \pm 2\text{Nm}$ ).

1 Tightening torque of screws:  $283 \pm 18\text{lb-in}$  (screws 10.9-12.9 UNI EN 20898/1).  
 The screws kit for the pump assembly should be ordered separately.  
 Ordering code: **0019W** (+ length **L** - see table)

The assembling of the pump should be effected by 2 screw ( $221 \pm 18\text{lb-in}$ ).  
 Fix the pump by self-locking nuts ( $283 \pm 18\text{lb-in}$ ).

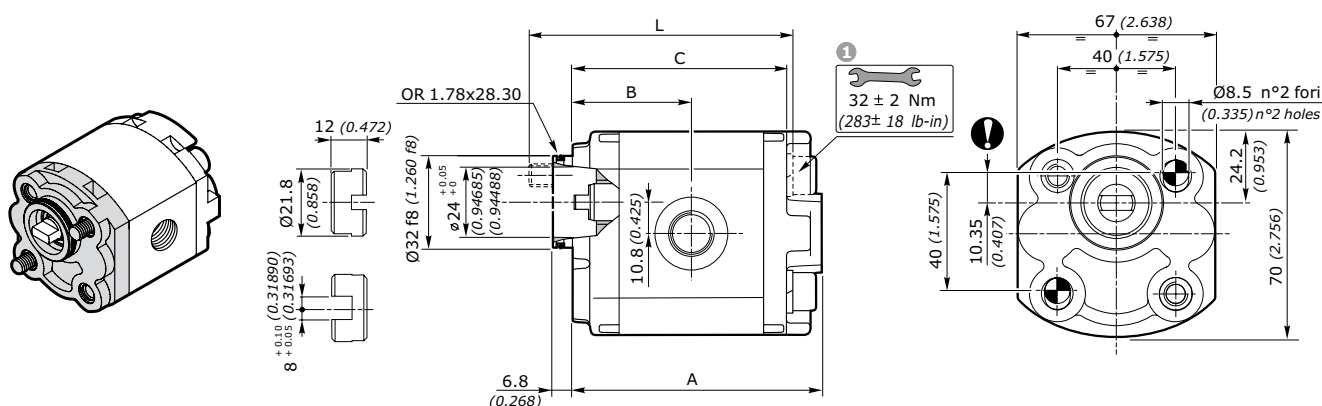
GRUPPO - GROUP 1	A		B		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.1	2.878	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.2	2.921	62.7	2.469	80	3.150	0.93	2.05
1SP 016	75.9	2.988	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.4	3.047	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.4	3.126	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.1	3.232	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.1	3.311	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.0	3.386	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.1	3.508	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.2	3.709	82.7	3.256	100	3.937	1.22	2.69
1SP 078	99.9	3.933	88.4	3.480	105	4.134	1.30	2.87
1SP 098	107.8	4.244	96.3	3.791	115	4.528	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**FLANGIA TEDESCA FISSAGGIO MINICENTRALINA E32BX POWER-PACK FIXING GERMAN FLANGE**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3			l/min	Gal/min		l/min	Gal/min	
			bar	psi	bar	psi	bar	psi	giri/min - rpm			%			
<b>1SP 009</b>	0.89	0.05	210	3045	240	3480	260	3770	6000	5.3	1.40	600	0.49	0.13	92*
<b>1SP 012</b>	1.18	0.07	210	3045	240	3480	260	3770	6000	7.1	1.88	600	0.65	0.17	92*
<b>1SP 016</b>	1.6	0.10	210	3045	240	3480	260	3770	6000	9.6	2.54	400	0.61	0.16	95*
<b>1SP 020</b>	2.0	0.12	210	3045	240	3480	260	3770	5500	11	2.91	400	0.76	0.20	95*
<b>1SP 025</b>	2.5	0.15	210	3045	240	3480	260	3770	5000	12.5	3.30	400	0.95	0.25	95*
<b>1SP 032</b>	3.2	0.20	200	2900	230	3335	250	3625	4500	14.4	3.80	400	1.21	0.32	95*
<b>1SP 037</b>	3.7	0.23	200	2900	230	3335	250	3625	4000	14.8	3.91	400	1.40	0.37	95*
<b>1SP 042</b>	4.2	0.26	180	2610	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*
<b>1SP 050</b>	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*
<b>1SP 063</b>	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*
<b>1SP 078</b>	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*
<b>1SP 098</b>	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*

**DIMENSIONI • DIMENSIONS**



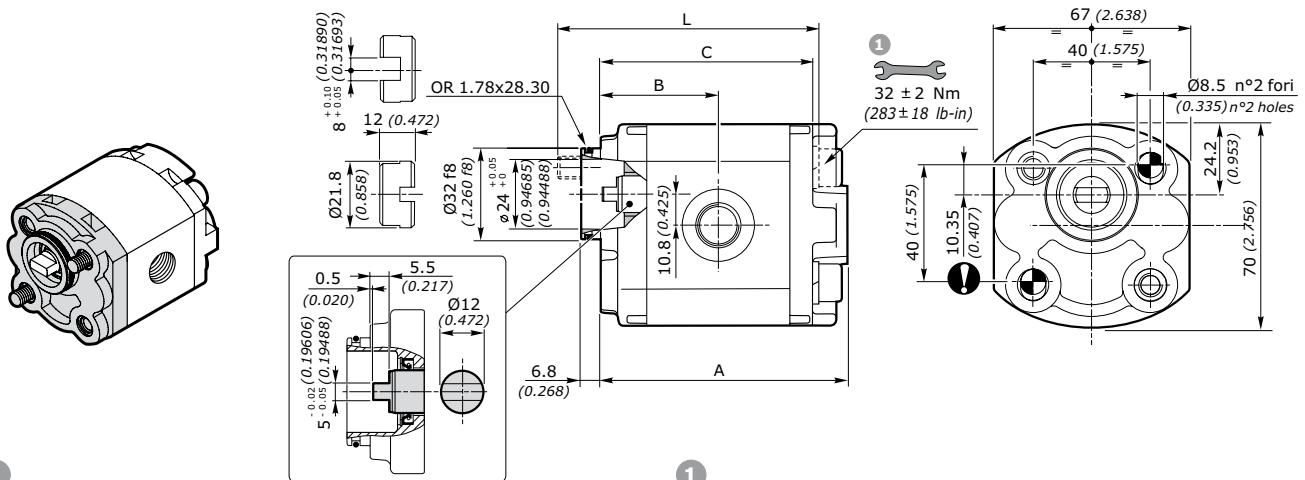
**1** Coppia di serraggio viti:  $32 \pm 2$  Nm (viti classe 10.9-12.9 UNI EN 20898/1)  
Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)  
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere ( $25 \pm 2$  Nm).  
Fissare la pompa mediante dadi autobloccanti ( $32 \pm 2$  Nm).

**1** Tightening torque of screws:  $283 \pm 18$  lb-in (screws 10.9-12.9 UNI EN 20898/1).  
The screws kit for the pump assembly should be ordered separately.  
Ordering code: **0019W** (+ length **L** - see table)  
The assembling of the pump should be effected by 2 screw ( $221 \pm 18$  lb-in).  
Fix the pump by self-locking nuts ( $283 \pm 18$  lb-in).

GRUPPO - GROUP 1	A		B		C		L <sup>1</sup>		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
<b>1SP 009</b>	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
<b>1SP 012</b>	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
<b>1SP 016</b>	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
<b>1SP 020</b>	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
<b>1SP 025</b>	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
<b>1SP 032</b>	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
<b>1SP 037</b>	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
<b>1SP 042</b>	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
<b>1SP 050</b>	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
<b>1SP 063</b>	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
<b>1SP 078</b>	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
<b>1SP 098</b>	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**FLANGIA TEDESCA FISSAGGIO MINICENTRALINA  
 CON ANELLO DI TENUTA**
**E32BC**
**POWER-PACK FIXING GERMAN FLANGE  
 WITH SEAL SHAFT**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED		PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED		PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3		giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min			
			bar	psi	bar	psi	bar	psi									
1SP 009	0.89	0.05	210	3045	240	3480	260	3770	6000	5.3	1.40	600	0.49	0.13	92*		
1SP 012	1.18	0.07	210	3045	240	3480	260	3770	6000	7.1	1.88	600	0.65	0.17	92*		
1SP 016	1.6	0.10	210	3045	240	3480	260	3770	6000	9.6	2.54	400	0.61	0.16	95*		
1SP 020	2.0	0.12	210	3045	240	3480	260	3770	5500	11	2.91	400	0.76	0.20	95*		
1SP 025	2.5	0.15	210	3045	240	3480	260	3770	5000	12.5	3.30	400	0.95	0.25	95*		
1SP 032	3.2	0.20	200	2900	230	3335	250	3625	4500	14.4	3.80	400	1.21	0.32	95*		
1SP 037	3.7	0.23	200	2900	230	3335	250	3625	4000	14.8	3.91	400	1.40	0.37	95*		
1SP 042	4.2	0.26	180	2610	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*		
1SP 050	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*		
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*		
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*		
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*		

**DIMENSIONI • DIMENSIONS**


1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)  
 Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
 Codice di ordinazione: **0019W** (+ lunghezza L - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).  
 Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 Tightening torque of screws: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).  
 The screws kit for the pump assembly should be ordered separately.  
 Ordering code: **0019W** (+ length L - see table)

The assembling of the pump should be effected by 2 screw (221 ± 18 lb-in).  
 Fix the pump by self-locking nuts (283 ± 18 lb-in).

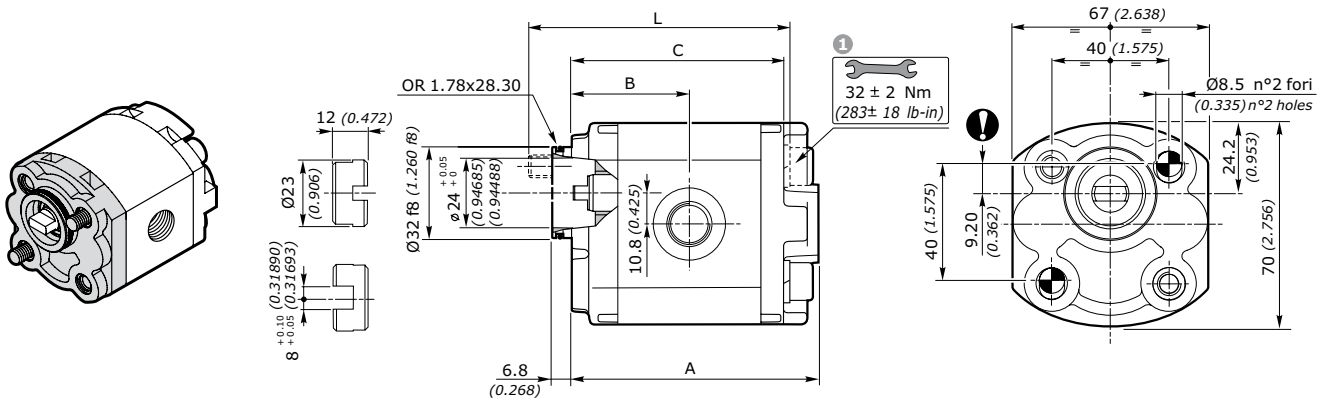
GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
1SP 016	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
1SP 078	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
1SP 098	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**FLANGIA PER ELETTROPOMPA E32CX ELECTRO-PUMP FLANGE**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED		PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED		PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3										
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%		
1SP 009	0.89	0.05	210	3045	240	3480	260	3770	6000	5.3	1.40	600	0.49	0.13	92*		
1SP 012	1.18	0.07	210	3045	240	3480	260	3770	6000	7.1	1.88	600	0.65	0.17	92*		
1SP 016	1.6	0.10	210	3045	240	3480	260	3770	6000	9.6	2.54	400	0.61	0.16	95*		
1SP 020	2.0	0.12	210	3045	240	3480	260	3770	5500	11	2.91	400	0.76	0.20	95*		
1SP 025	2.5	0.15	210	3045	240	3480	260	3770	5000	12.5	3.30	400	0.95	0.25	95*		
1SP 032	3.2	0.20	200	2900	230	3335	250	3625	4500	14.4	3.80	400	1.21	0.32	95*		
1SP 037	3.7	0.23	200	2900	230	3335	250	3625	4000	14.8	3.91	400	1.40	0.37	95*		
1SP 042	4.2	0.26	180	2610	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*		
1SP 050	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*		
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*		
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*		
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*		

**DIMENSIONI • DIMENSIONS**



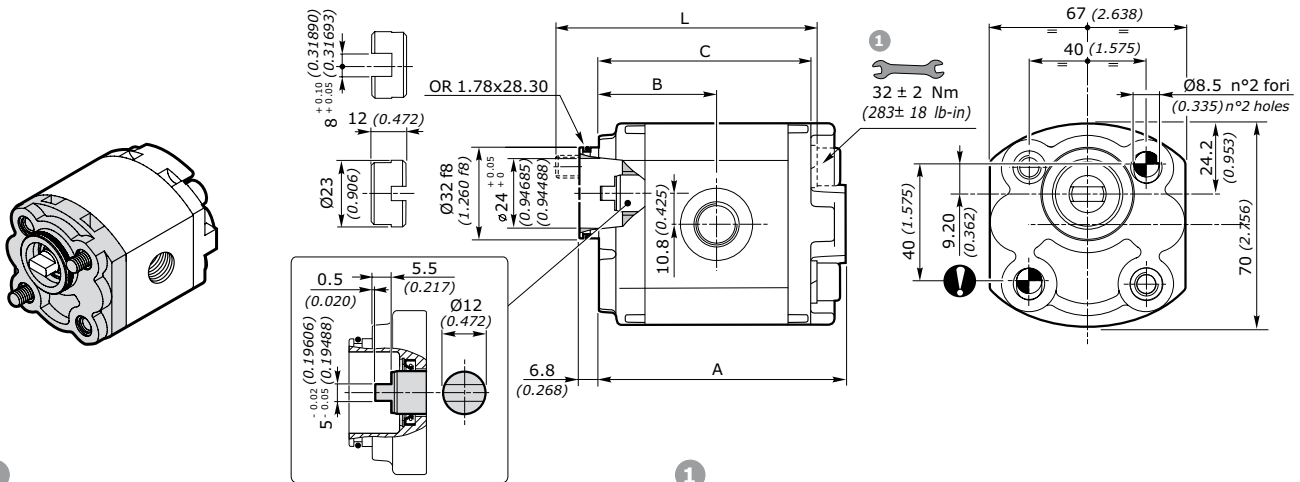
1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)  
Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)  
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).  
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 Tightening torque of screws: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).  
The screws kit for the pump assembly should be ordered separately.  
Ordering code: **0019W** (+ length **L** - see table)  
The assembling of the pump should be effected by 2 screw (221 ± 18 lb-in).  
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
1SP 016	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
1SP 078	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
1SP 098	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**FLANGIA PER ELETTROPOMPA  
 CON ANELLO DI TENUTA**
**E32CC**
**ELECTRO-PUMP FLANGE  
 WITH SEAL SHAFT**

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3			l/min	Gal/min		l/min	Gal/min	
			bar	psi	bar	psi	bar	psi	giri/min - rpm			%			
1SP 009	0.89	0.05	210	3045	240	3480	260	3770	6000	5.3	1.40	600	0.49	0.13	92*
1SP 012	1.18	0.07	210	3045	240	3480	260	3770	6000	7.1	1.88	600	0.65	0.17	92*
1SP 016	1.6	0.10	210	3045	240	3480	260	3770	6000	9.6	2.54	400	0.61	0.16	95*
1SP 020	2.0	0.12	210	3045	240	3480	260	3770	5500	11	2.91	400	0.76	0.20	95*
1SP 025	2.5	0.15	210	3045	240	3480	260	3770	5000	12.5	3.30	400	0.95	0.25	95*
1SP 032	3.2	0.20	200	2900	230	3335	250	3625	4500	14.4	3.80	400	1.21	0.32	95*
1SP 037	3.7	0.23	200	2900	230	3335	250	3625	4000	14.8	3.91	400	1.40	0.37	95*
1SP 042	4.2	0.26	180	2610	210	3045	230	3335	3500	14.7	3.88	400	1.60	0.42	95*
1SP 050	5.0	0.31	180	2610	210	3045	230	3335	3000	15	3.96	400	1.90	0.50	95*
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400	2.39	0.63	95*
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400	2.95	0.78	95*
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400	3.71	0.98	95*

**DIMENSIONI • DIMENSIONS**


1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)  
 Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
 Codice di ordinazione: **0019W** (+ lunghezza L - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).  
 Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 Tightening torque of screws: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).  
 The screws kit for the pump assembly should be ordered separately.  
 Ordering code: **0019W** (+ length L - see table)

The assembling of the pump should be effected by 2 screw (221 ± 18 lb-in).  
 Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
1SP 016	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
1SP 078	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
1SP 098	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**CODICE ORDINAZIONE • ORDER CODE**

**1SP - A - 020 - D - EUR - B - N - 10 - 0 - G**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
<b>1SP</b>	Tipo pompa <i>Pump type</i>	Pompa singola - gruppo 1 <i>Single pump - group 1</i>	4
<b>A</b>	Materiale flangia e coperchio <i>Flange and cover material</i>	<b>A</b> = alluminio / <i>aluminium</i>	
<b>020</b>	Cilindrata <i>Displacement</i>	Cilindrata = 2 cm <sup>3</sup> /giro <i>Displacement = 0.12 in<sup>3</sup>/rev</i>	4
<b>D</b>	Senso di rotazione <i>Rotation type</i>	<b>D</b> = Rotazione destra / <i>Clockwise rotation</i> <b>S</b> = Rotazione sinistra / <i>Anticlockwise rotation</i>	8
<b>EUR</b>	Tipo Flangia <i>Flange type</i>	Flangia europea standard <i>Standard european flange</i>	
<b>B</b>	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	26
<b>N</b>	Tipo guarnizione <i>Gasket type</i>	<b>N</b> = NBR <b>V</b> = Viton	
<b>10</b>	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	27
<b>0</b>	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	30
<b>G</b>	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	



**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**TIPOLOGIA FLANGIA • FLANGE TYPE**

	EUR	SAEAA	MC32	E32BX - E32BC	E32CX - E32CC
<b>1SP</b>					
<b>A</b> alluminio aluminium	◇	◇	◇	◇	◇
<b>G</b> ghisa cast iron	non disponibile not available	non disponibile not available	non disponibile not available	non disponibile not available	non disponibile not available

 ◇ = Combinazione standard - *Standard combination*
**ANELLO DI TENUTA • SEAL RING**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION
<b>A</b>	Flangia senza anello di tenuta <i>Flange without seal ring</i>	
<b>B</b>	Anello di tenuta fino a <b>3</b> bar <i>Sealing ring up to 3 bar</i>	Per bassissime pressioni <i>For very low pressure</i>
<b>H</b>	Anello di tenuta fino a <b>8</b> bar <i>Sealing ring up to 8 bar</i>	Per basse pressioni ( con distanziale di rinforzo ) <i>For low pressure (with stiffening seal)</i>
<b>K</b>	Anello di tenuta fino a <b>30</b> bar <i>Sealing ring up to 30 bar</i>	Per alte pressioni <i>For high pressure</i>

**COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • FLANGE - SEAL RING - GASKET COMBINATION**

<b>1SP</b>	EUR	SAEAA	MC32	E32BX	E32BC	E32CX	E32CC						
	Anello - seal ring	Anello - seal ring	Anello - seal ring	Anello - seal ring	Anello - seal ring	Anello - seal ring	Anello - seal ring						
	B	H	K	B	H	K	A	B	K	A	B	K	
NBR <b>N</b>	◇	◇	◇	◇	◇	◇	◇	◇	◇	●	◇	◇	●
Viton <b>V</b>	●	●	●	●	●	●	●	●	●	●	●	●	●

 ◇ = Combinazione standard - *Standard combination*

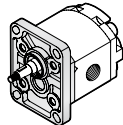
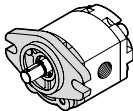
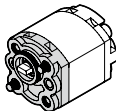
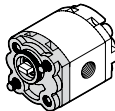
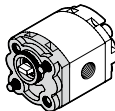
 ● = Combinazione disponibile - *Available combination*

 esempio • *example*: **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G**
**EUR** = Flangia europea / *European flange*
**B** = Anello tenuta fino a 3 bar / *Seal ring up to 3 bar*
**N** = Guarnizione in NBR / *NBR o-ring*



**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION**

<b>1SP</b>	EUR	SAEAA	MC32	E32BX-E32BC	E32CX-E32CC
					
<b>10</b> Conico 1:8 <i>Tapered 1:8</i>	◆	●	●		
<b>11</b> Conico 1:5 <i>Tapered 1:5</i>	●	●	●		
<b>13</b> Cilindrico SAEAA <i>Parallel shaft SAEAA</i>	●	◆			
<b>14</b> Scanalato SAEAA 9 denti <i>SAEAA 9T splined</i>	●	◆			
<b>15</b> Scanalato DIN 5480 6 denti 12x9 <i>DIN 5480 Splined</i>	●	●	●		
<b>17</b> Fresato a dente frontale <i>Dihedral claw</i>				◆	◆
<b>27</b> Fresato a dente frontale (con anello) <i>Dihedral claw (with sealing ring)</i>	●	●	◆		

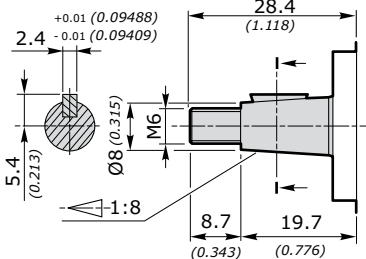
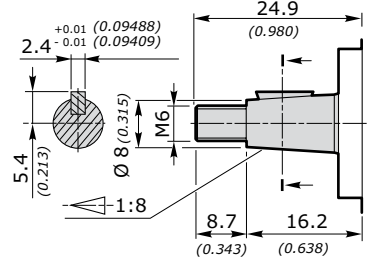
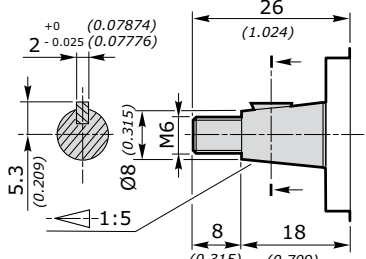
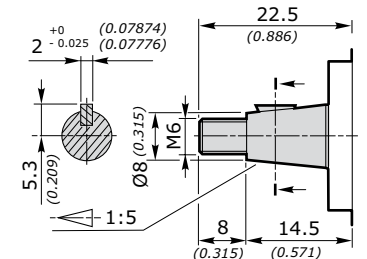
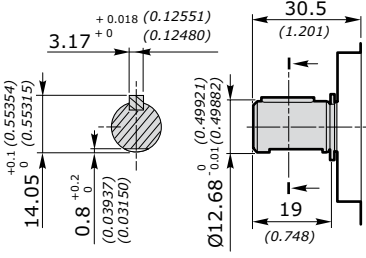
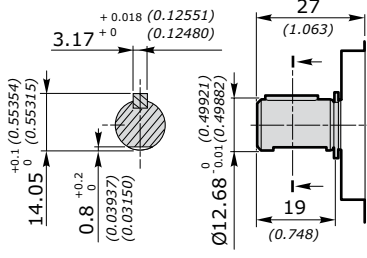
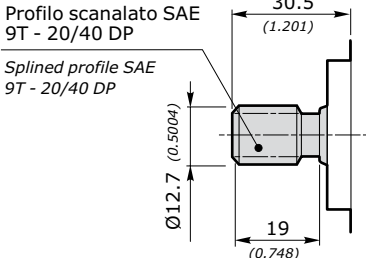
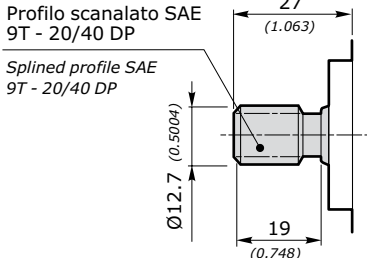
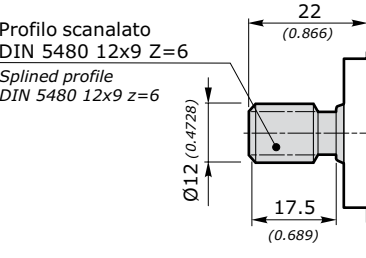
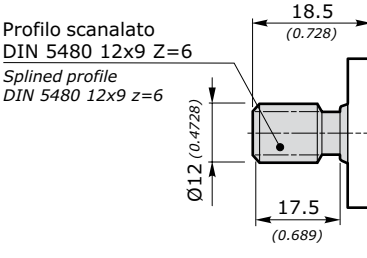
◆ = Combinazione standard - *Standard combination*

● = Combinazione disponibile - *Available combination*

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

**1SP**

DIMENSIONI ALBERO - SHAFT DIMENSIONS

<p><b>10</b> Conico 1:8 Tapered 1:8</p> <p>Coppia 30 Nm Torque 22 ft-lbs</p>	 <p>Disponibile per - available for: <b>EUR - MC32</b></p>	 <p>Disponibile per - available for: <b>SAEAA</b></p>
<p><b>11</b> Conico 1:5 Tapered 1:5</p> <p>Coppia 30 Nm Torque 22 ft-lbs</p>	 <p>Disponibile per - available for: <b>EUR - MC32</b></p>	 <p>Disponibile per - available for: <b>SAEAA</b></p>
<p><b>13</b> Cilindrico SAEAA Parallel shaft SAEAA</p> <p>Coppia 35 Nm Torque 26 ft-lbs</p>	 <p>Disponibile per - available for: <b>EUR</b></p>	 <p>Disponibile per - available for: <b>SAEAA</b></p>
<p><b>14</b> Scanalato SAEAA 9 denti SAEAA 9T splined</p> <p>Coppia 40 Nm Torque 30 ft-lbs</p>	<p>Profilo scanalato SAE 9T - 20/40 DP</p> <p>Splined profile SAE 9T - 20/40 DP</p>  <p>Disponibile per - available for: <b>EUR</b></p>	<p>Profilo scanalato SAE 9T - 20/40 DP</p> <p>Splined profile SAE 9T - 20/40 DP</p>  <p>Disponibile per - available for: <b>SAEAA</b></p>
<p><b>15</b> Scanalato DIN 5480 6 denti 12x9 DIN 5480 splined</p> <p>Coppia 30 Nm Torque 22 ft-lbs</p>	<p>Profilo scanalato DIN 5480 12x9 Z=6</p> <p>Splined profile DIN 5480 12x9 z=6</p>  <p>Disponibile per - available for: <b>EUR - MC32</b></p>	<p>Profilo scanalato DIN 5480 12x9 Z=6</p> <p>Splined profile DIN 5480 12x9 z=6</p>  <p>Disponibile per - available for: <b>SAEAA</b></p>

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

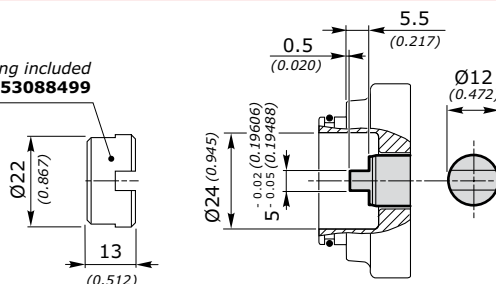
**1SP**

DIMENSIONI ALBERO - SHAFT DIMENSIONS

**17**  
Fresato  
a dente frontale  
*Dihedral claw*

Coppia 25 Nm  
Torque 19 ft-lbs

Giunto incluso - Coupling included  
Codice - Code: **010453088499**

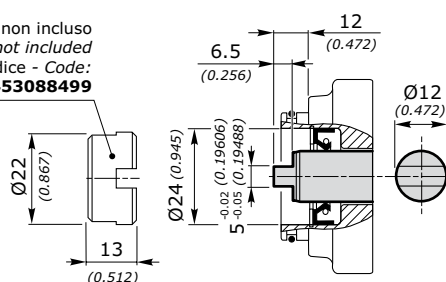


Disponibile per - available for: **E32BX - E32BC - E32CX - E32CC**

**27**  
Fresato  
a dente frontale  
(con anello)  
*Dihedral claw*  
(with sealing ring)

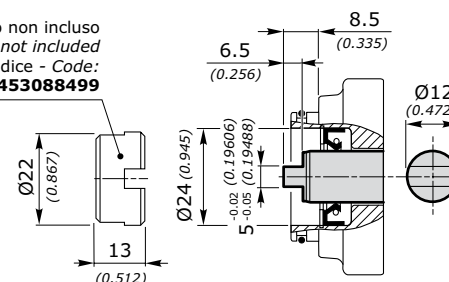
Coppia 25 Nm  
Torque 19 ft-lbs

Giunto non incluso  
Coupling not included  
Codice - Code:  
**010453088499**



Disponibile per - available for: **EUR - MC32**

Giunto non incluso  
Coupling not included  
Codice - Code:  
**010453088499**



Disponibile per - available for: **SAEAA**

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

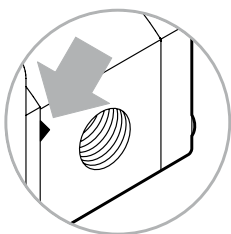
**POSIZIONE CONNESSIONE • CONNECTION POSITION**



Rotazione destra - **D**  
Right rotation - **D**

Rotazione sinistra - **S**  
Left rotation - **S**

0	1	3	4	2 (per - for MC32)	5 (per - for MC32)



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

**IN = ASPIRAZIONE - SUCTION**  
**OUT = MANDATA - DELIVERY**

**TIPO CONNESSIONE • CONNECTION TYPE**

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale. *The connections type shown correspond to standard configuration; for different applications contact our Commercial Dept.*

<b>1SP</b>		POSIZIONE CONNESSIONE - CONNECTION POSITION					
		0	1	3	4	2	5
GAS	<b>G</b>	◇	◇	◇	◇	◇	◇
UNF	<b>U</b>	◇	◇	◇	◇	◇	◇
FLANGIATE	<b>T</b>	◇				◇	
FLANGED	<b>N</b>	◇				◇	

<b>GAS</b>	UNI ISO 228/1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN			MANDATA - DELIVERY OUT		
				A	B		A	B	
		<b>G</b>	009	G 3/8"	14 [mm] 0.552 [inch]	40 [Nm] 354 [in.lbs]	G 3/8"	14 [mm] 0.552 [inch]	40 [Nm] 354 [in.lbs]
			012						
			016						
			020						
			025						
			032						
			037						
			042						
			050						
			063						
			078						
098									

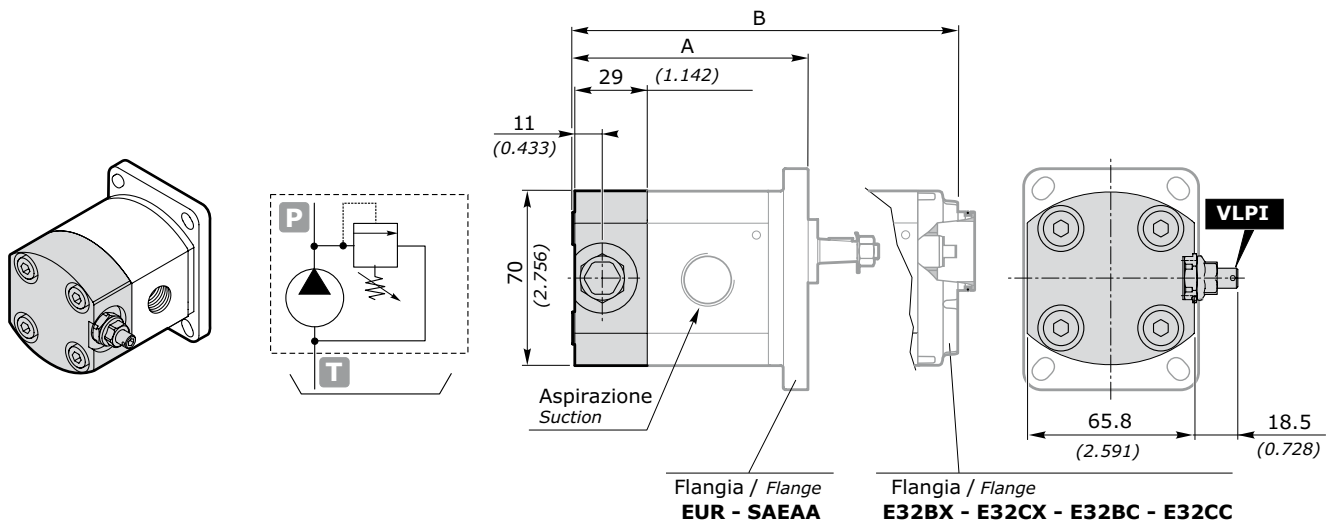
**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

UNF	ANSI/ASME B1.1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN			MANDATA - DELIVERY OUT		
				A	B		A	B	
		<b>U</b>	009	SAE 6 9/16"-18 UNF	13 [mm] 0.512 [inch]	40 [Nm] 354 [in.lbs]	SAE 6 9/16"-18 UNF	13 [mm] 0.512 [inch]	40 [Nm] 354 [in.lbs]
			012						
			016						
			020						
			025	SAE 8 3/4"-14 UNF	15 [mm] 0.591 [inch]	50 [Nm] 443 [in.lbs]	SAE 8 3/4"-14 UNF	15 [mm] 0.591 [inch]	50 [Nm] 443 [in.lbs]
			032						
			037						
			042						
			050						
			063						
			078						
			098						

FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN					MANDATA - DELIVERY OUT				
				A	B	C	D		A	B	C	D	
		<b>T</b>	009	12 [mm] 0.472 [inch]	30 [mm] 1.181 [inch]	M6	13 [mm] 0.512 [inch]	8 [Nm] 71 [in.lbs]	12 [mm] 0.472 [inch]	30 [mm] 1.181 [inch]	M6	13 [mm] 0.512 [inch]	8 [Nm] 71 [in.lbs]
			012										
			016										
			020										
			025										
			032										
			037										
			042										
			050										
			063										
078													
098													

		<b>N</b>	009	10 [mm] 0.394 [inch]	26 [mm] 1.024 [inch]	M5	11 [mm] 0.433 [inch]	7 [Nm] 62 [in.lbs]	10 [mm] 0.394 [inch]	26 [mm] 1.024 [inch]	M5	11 [mm] 0.433 [inch]	7 [Nm] 62 [in.lbs]
			012										
			016										
			020										
			025	13 [mm] 0.512 [inch]	30 [mm] 1.181 [inch]	M6	11 [mm] 0.433 [inch]	8 [Nm] 71 [in.lbs]	13 [mm] 0.512 [inch]	30 [mm] 1.181 [inch]	M6	11 [mm] 0.433 [inch]	8 [Nm] 71 [in.lbs]
			032										
			037										
			042										
			050										
			063										
078													
098													

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**
**OPZIONI • OPTIONALS**
**VLPI**

 VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO  
 PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST


GRUPPO GROUP 1	A		A		B	
	EUR		SAEAA		E32BX - E32CX E32BC - E32CC	
	mm	inch	mm	inch	mm	inch
1SP 009	82.6	3.252	86.1	3.390	82.6	3.252
1SP 012	83.7	3.295	87.2	3.433	83.7	3.295
1SP 016	85.4	3.362	88.9	3.500	85.4	3.362
1SP 020	86.9	3.421	90.4	3.559	86.9	3.421
1SP 025	88.9	3.500	92.4	3.638	88.9	3.500
1SP 032	91.6	3.606	95.1	3.744	91.6	3.606
1SP 037	93.6	3.685	97.1	3.823	93.6	3.685
1SP 042	95.5	3.760	99.0	3.898	95.5	3.760
1SP 050	98.6	3.882	102.1	4.020	98.6	3.882
1SP 063	103.7	4.083	107.2	4.220	103.7	4.083
1SP 078	109.4	4.307	112.9	4.445	109.4	4.307
1SP 098	117.3	4.618	120.8	4.756	117.3	4.618

**ATTENZIONE:**

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno). Il corpo VLP è disponibile in alluminio.

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

**WARNING:**

The pressure relief valve can be applied by substituting the rear cover (only internal relief is set). VLP cover is available in aluminum.

**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.**

**POMPE AD INGRANAGGI GRUPPO 1SP**  
**GEAR PUMPS GROUP 1SP**

esempio • example: **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G - VLPI N 120**

**VLPI** = Coperchio con VPL a scarico interno / Cover with VPL at internal exhaust

**N** = Tipo molla - vedi tabella / Spring type - see table

**120** = Taratura - vedi tabella / Setting - see table

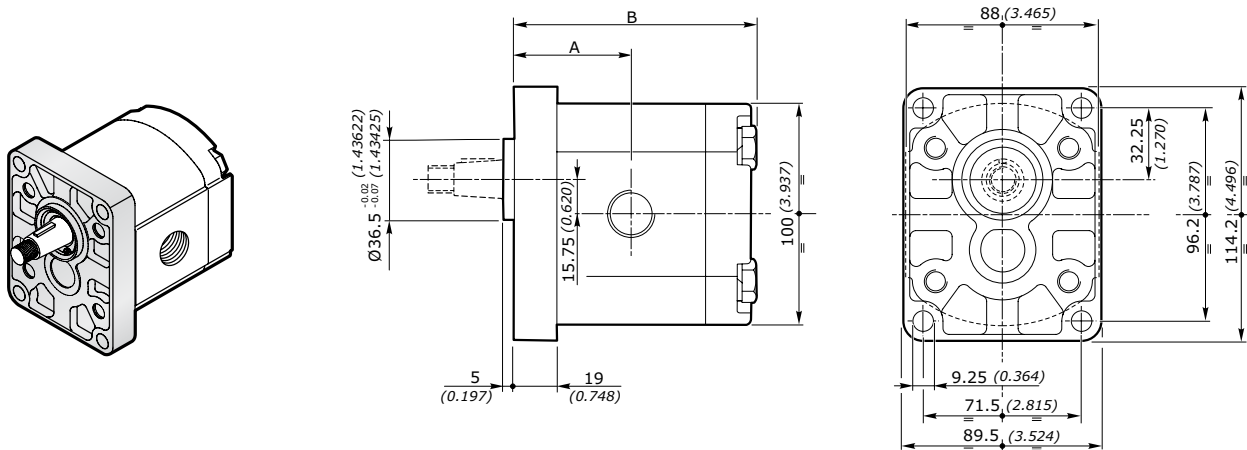
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	<b>B</b>	molla nera - black spring	<b>N</b>	molla rossa - red spring	<b>R</b>
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

NOTE: Without setting request, it will be considered standard (see table).

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**FLANGIA EUROPEA EUR EUROPEAN FLANGE**
**FLANGIA E COPERCHIO IN ALLUMINIO - FLANGE AND COVER IN ALUMINIUM**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**


GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	2.30	5.07
<b>2SP 060</b>	46.0	1.811	96.3	3.791	2.45	5.40
<b>2SP 080</b>	48.1	1.894	100.5	3.957	2.60	5.73
<b>2SP 110</b>	50.2	1.976	104.6	4.118	2.70	5.95
<b>2SP 140</b>	52.7	2.075	109.6	4.315	2.80	6.17
<b>2SP 160</b>	54.8	2.157	113.8	4.480	2.95	6.51
<b>2SP 190</b>	57.3	2.256	118.8	4.677	3.10	6.84
<b>2SP 220</b>	59.8	2.354	123.8	4.874	3.25	7.17
<b>2SP 260</b>	62.7	2.469	129.6	5.102	3.40	7.50
<b>2SP 310</b>	66.9	2.636	138.0	5.437	3.61	7.96



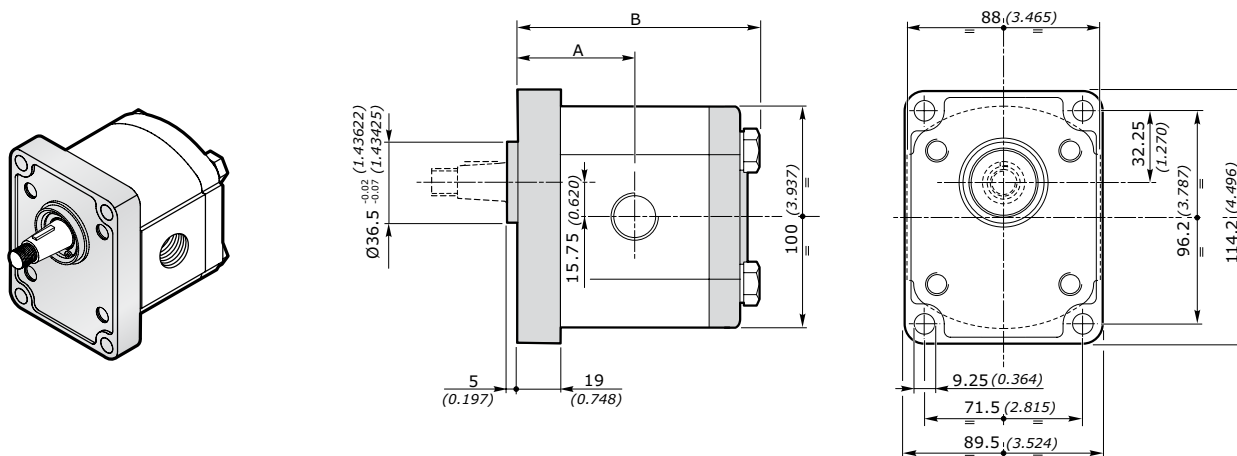
**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**FLANGIA EUROPEA EUR EUROPEAN FLANGE**

**FLANGIA E COPERCHIO IN GHISA - FLANGE AND COVER IN CAST IRON**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>2SP 040</b>	4	0.24	280	4060	300	4350	320	4640	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	280	4060	300	4350	320	4640	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	280	4060	300	4350	320	4640	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	280	4060	300	4350	320	4640	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	270	3915	280	4060	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

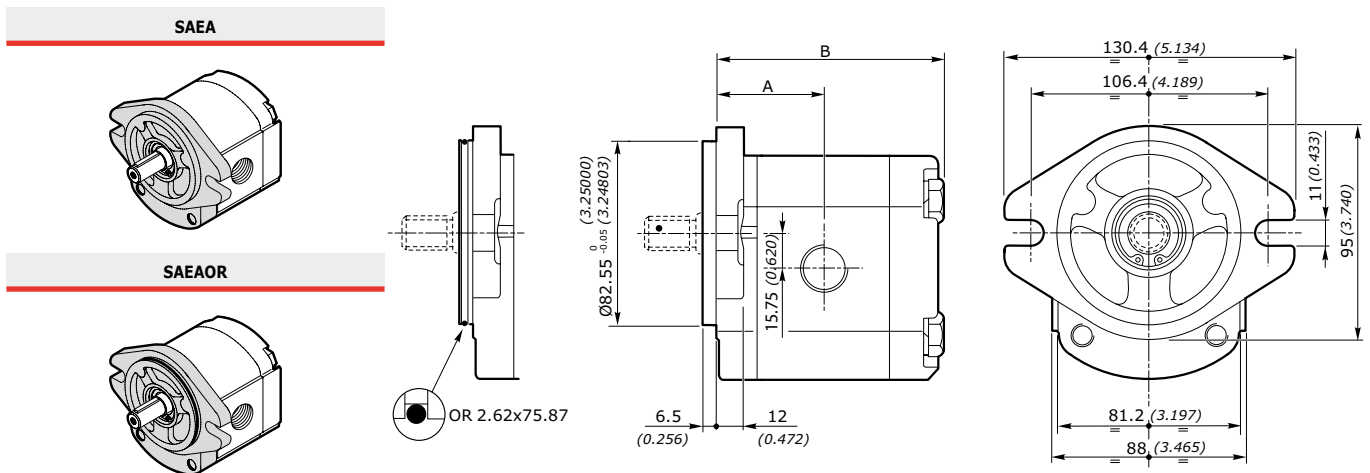
**DIMENSIONI • DIMENSIONS**



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	3.40	7.50
<b>2SP 060</b>	46.0	1.811	96.3	3.791	3.55	7.83
<b>2SP 080</b>	48.1	1.894	100.5	3.957	3.70	8.16
<b>2SP 110</b>	50.2	1.976	104.6	4.118	3.80	8.38
<b>2SP 140</b>	52.7	2.075	109.6	4.315	3.90	8.60
<b>2SP 160</b>	54.8	2.157	113.8	4.480	4.05	8.93
<b>2SP 190</b>	57.3	2.256	118.8	4.677	4.20	9.26
<b>2SP 220</b>	59.8	2.354	123.8	4.874	4.35	9.59
<b>2SP 260</b>	62.7	2.469	129.6	5.102	4.50	9.92
<b>2SP 310</b>	66.9	2.636	138.0	5.437	4.71	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**FLANGIA SAE** **SAEA-SAEAOR** **SAE FLANGE**
**FLANGIA E COPERCHIO IN ALLUMINIO - FLANGE AND COVER IN ALUMINIUM**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3		giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
			bar	psi	bar	psi	bar	psi							
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**


GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	2.30	5.07
<b>2SP 060</b>	46.0	1.811	96.3	3.791	2.45	5.40
<b>2SP 080</b>	48.1	1.894	100.5	3.957	2.60	5.73
<b>2SP 110</b>	50.2	1.976	104.6	4.118	2.70	5.95
<b>2SP 140</b>	52.7	2.075	109.6	4.315	2.80	6.17
<b>2SP 160</b>	54.8	2.157	113.8	4.480	2.95	6.51
<b>2SP 190</b>	57.3	2.256	118.8	4.677	3.10	6.84
<b>2SP 220</b>	59.8	2.354	123.8	4.874	3.25	7.17
<b>2SP 260</b>	62.7	2.469	129.6	5.102	3.40	7.50
<b>2SP 310</b>	66.9	2.636	138.0	5.437	3.61	7.96

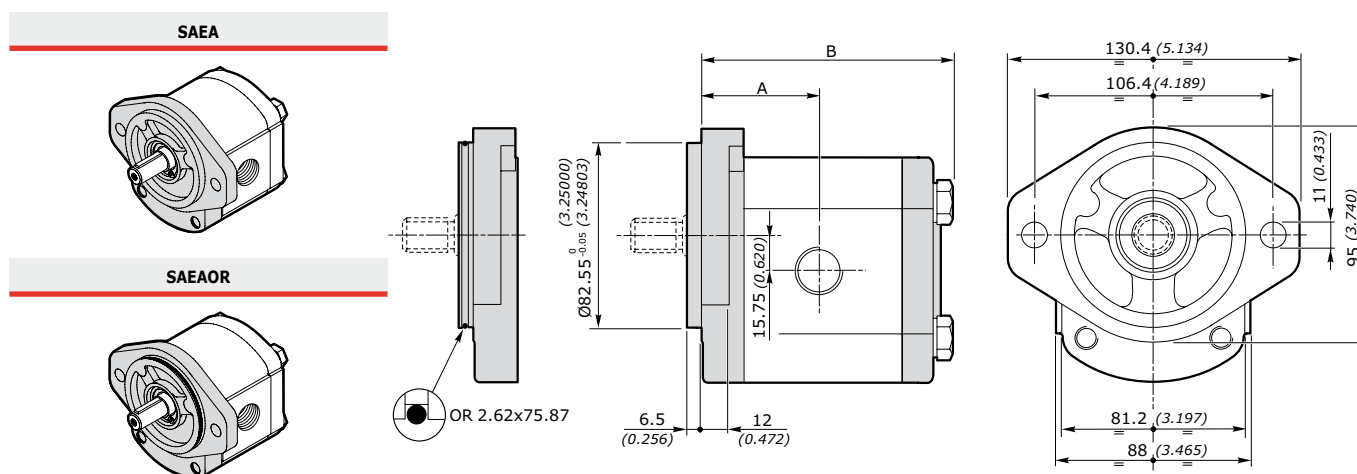
**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**FLANGIA SAE** **SAEA-SAEAOR** **SAE FLANGE**

**FLANGIA E COPERCHIO IN GHISA - FLANGE AND COVER IN CAST IRON**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>2SP 040</b>	4	0.24	280	4060	300	4350	320	4640	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	280	4060	300	4350	320	4640	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	280	4060	300	4350	320	4640	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	280	4060	300	4350	320	4640	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	270	3915	280	4060	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

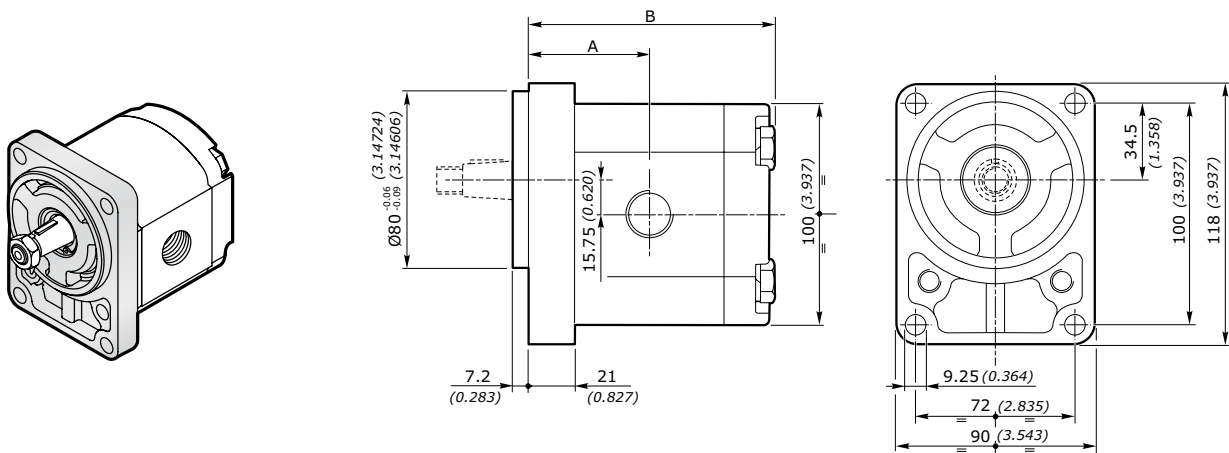
**DIMENSIONI • DIMENSIONS**



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	3.40	7.50
<b>2SP 060</b>	46.0	1.811	96.3	3.791	3.55	7.83
<b>2SP 080</b>	48.1	1.894	100.5	3.957	3.70	8.16
<b>2SP 110</b>	50.2	1.976	104.6	4.118	3.80	8.38
<b>2SP 140</b>	52.7	2.075	109.6	4.315	3.90	8.60
<b>2SP 160</b>	54.8	2.157	113.8	4.480	4.05	8.93
<b>2SP 190</b>	57.3	2.256	118.8	4.677	4.20	9.26
<b>2SP 220</b>	59.8	2.354	123.8	4.874	4.35	9.59
<b>2SP 260</b>	62.7	2.469	129.6	5.102	4.50	9.92
<b>2SP 310</b>	66.9	2.636	138.0	5.437	4.71	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**FLANGIA TEDESCA B80C GERMAN FLANGE**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3		giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
			bar	psi	bar	psi	bar	psi							
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**


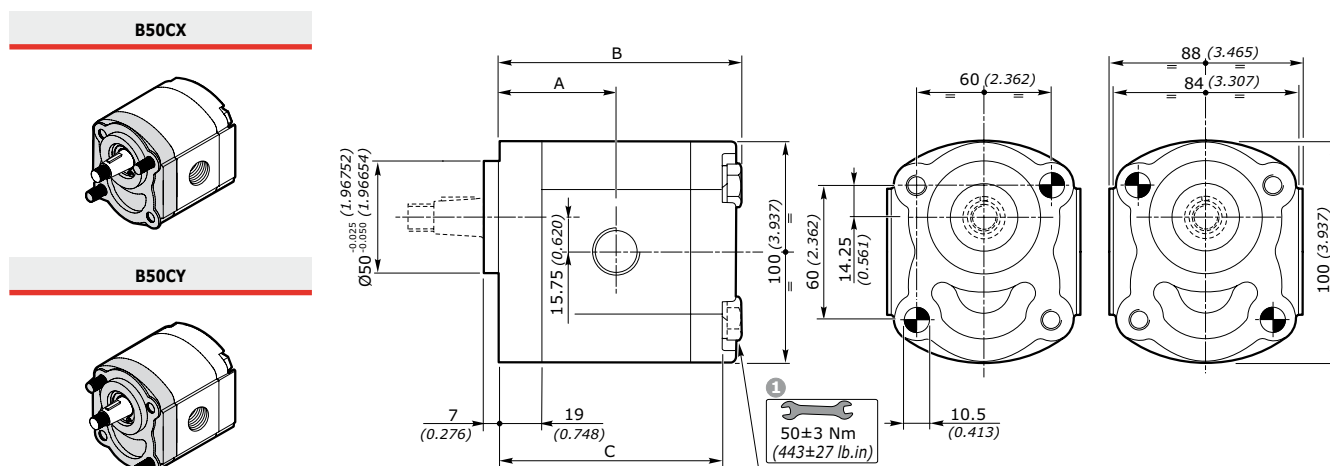
GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	46.4	1.827	95.0	3.740	2.30	5.07
<b>2SP 060</b>	48.0	1.890	98.3	3.870	2.45	5.40
<b>2SP 080</b>	50.1	1.972	102.5	4.035	2.60	5.73
<b>2SP 110</b>	52.2	2.055	106.6	4.197	2.70	5.95
<b>2SP 140</b>	54.7	2.154	111.6	4.394	2.80	6.17
<b>2SP 160</b>	56.8	2.236	115.8	4.559	2.95	6.51
<b>2SP 190</b>	59.3	2.335	120.8	4.756	3.10	6.84
<b>2SP 220</b>	61.8	2.433	125.8	4.953	3.25	7.17
<b>2SP 260</b>	64.7	2.547	131.6	5.181	3.40	7.50
<b>2SP 310</b>	68.9	2.715	140.0	5.516	3.61	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**FLANGIA B50C FLANGE**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm³/giro	in³/rev	P1		P2		P3		giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
			bar	psi	bar	psi	bar	psi							
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**



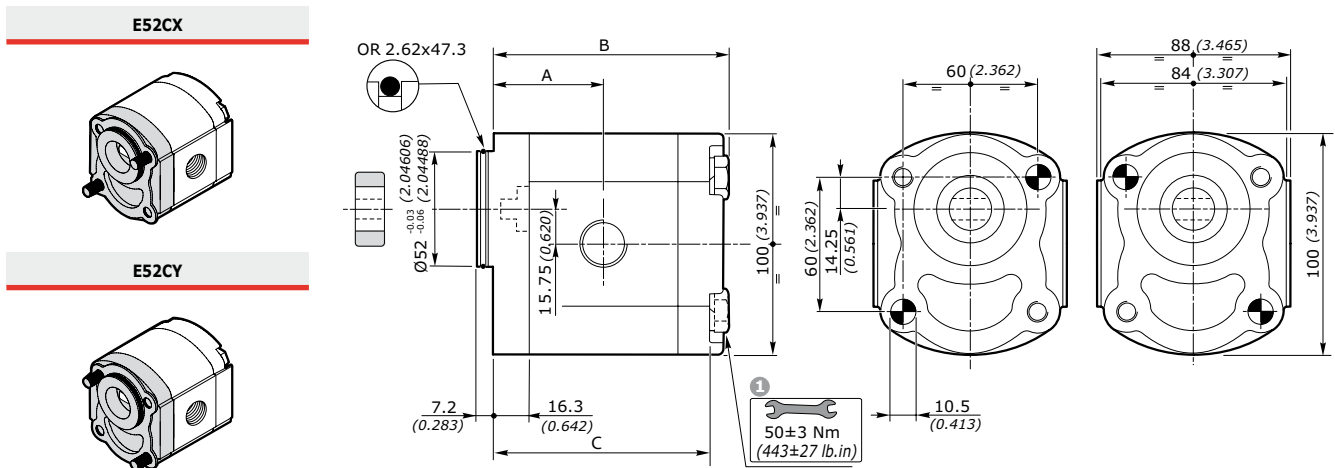
**1**  
Coppia di serraggio viti:  $50 \pm 3 \text{ Nm}$  (viti classe 10.9-12.9 UNI EN 20898/1)  
Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
Codice di ordinazione: **0029W** (+ lunghezza **L** - vedi tabella)  
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate:  $40 \pm 3 \text{ Nm}$ . Fissare la pompa mediante dadi autobloccanti con coppia di serraggio:  $50 \pm 3 \text{ Nm}$

**1**  
Tightening torque of screws:  $443 \pm 27 \text{ lb.in}$  (screws 10.9-12.9 UNI EN 20898/1).  
The screws kit for the pump assembly should be ordered separately.  
Ordering code: **0029W** (+ length **L** - see table)  
The assembling of the pump should be effected with 2 screw studs type 10.9-12.9 UNI EN 20898/1 pre-tighten  $354 \pm 27 \text{ lb.in}$ . Fix the pump by self-locking nuts with tightening torque:  $443 \pm 27 \text{ lb.in}$

GRUPPO - GROUP 2	A		B		C		L <b>1</b>		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	84.0	3.307	105	4.134	2.30	5.07
<b>2SP 060</b>	46.0	1.811	96.3	3.791	87.3	3.437	105	4.134	2.45	5.40
<b>2SP 080</b>	48.1	1.894	100.5	3.957	91.5	3.602	110	4.331	2.60	5.73
<b>2SP 110</b>	50.2	1.976	104.6	4.118	95.6	3.764	115	4.528	2.70	5.95
<b>2SP 140</b>	52.7	2.075	109.6	4.315	100.6	3.961	120	4.724	2.80	6.17
<b>2SP 160</b>	54.8	2.157	113.8	4.480	104.8	4.126	125	4.921	2.95	6.51
<b>2SP 190</b>	57.3	2.256	118.8	4.677	109.8	4.323	130	5.118	3.10	6.84
<b>2SP 220</b>	59.8	2.354	123.8	4.874	114.8	4.520	135	5.315	3.25	7.17
<b>2SP 260</b>	62.7	2.469	129.6	5.102	120.6	4.748	140	5.512	3.40	7.50
<b>2SP 310</b>	66.9	2.636	138.0	5.437	129.0	5.083	150	5.910	3.61	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**FLANGIA E52C FLANGE**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3		giri/min - rpm	l/min Gal/min		giri/min - rpm	l/min Gal/min		%
			bar	psi	bar	psi	bar	psi		l/min	Gal/min		l/min	Gal/min	
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**


1 Coppia di serraggio viti:  $50 \pm 3 \text{ Nm}$  (viti classe 10.9-12.9 UNI EN 20898/1)  
 Il kit viti per il fissaggio della pompa è da ordinare separatamente.  
**Codice di ordinazione: 0029W (+ lunghezza L - vedi tabella)**  
 Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate:  $40 \pm 3 \text{ Nm}$ . Fissare la pompa mediante dadi autobloccanti con coppia di serraggio:  $50 \pm 3 \text{ Nm}$

1 Tightening torque of screws:  $443 \pm 27 \text{ lb.in}$  (screws 10.9-12.9 UNI EN 20898/1).  
 The screws kit for the pump assembly should be ordered separately.  
**Ordering code: 0029W (+ length L - see table)**  
 The assembling of the pump should be effected with 2 screw studs type 10.9-12.9 UNI EN 20898/1 pre-tighten  $354 \pm 27 \text{ lb.in}$ . Fix the pump by self-locking nuts with tightening torque:  $443 \pm 27 \text{ lb.in}$

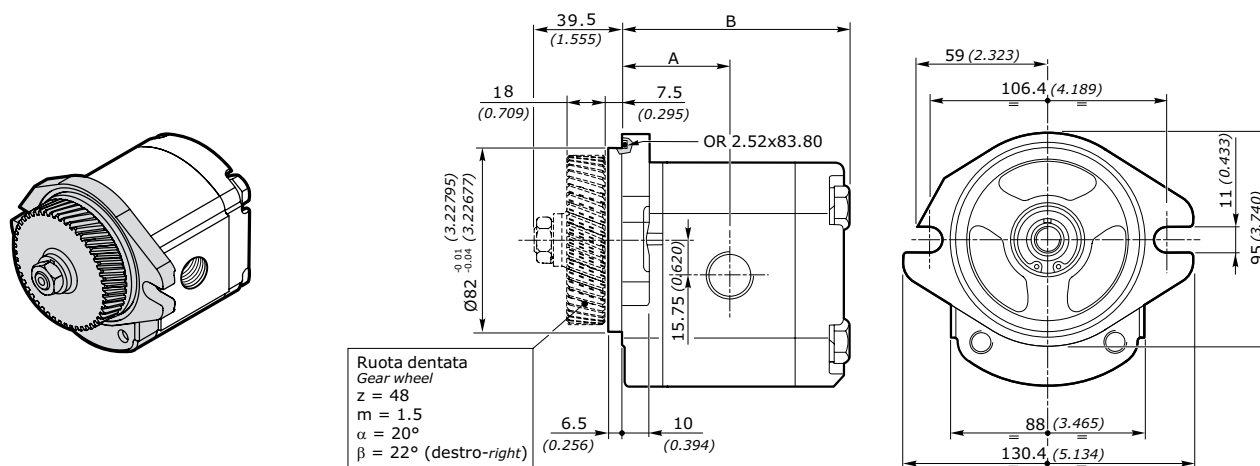
GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	41.7	1.642	90.3	3.555	81.3	3.201	100	3.937	2.30	5.07
<b>2SP 060</b>	43.3	1.705	93.6	3.685	84.6	3.331	105	4.134	2.45	5.40
<b>2SP 080</b>	45.4	1.787	97.8	3.850	88.8	3.496	110	4.331	2.60	5.73
<b>2SP 110</b>	47.5	1.870	101.9	4.012	92.9	3.657	115	4.528	2.70	5.95
<b>2SP 140</b>	50.0	1.969	106.9	4.209	97.9	3.854	120	4.724	2.80	6.17
<b>2SP 160</b>	52.1	2.051	111.1	4.374	102.1	4.020	120	4.724	2.95	6.51
<b>2SP 190</b>	54.6	2.150	116.1	4.571	107.1	4.217	125	4.921	3.10	6.84
<b>2SP 220</b>	57.1	2.248	121.1	4.768	112.1	4.413	130	5.118	3.25	7.17
<b>2SP 260</b>	60.0	2.362	126.9	4.996	117.9	4.642	140	5.512	3.40	7.50
<b>2SP 310</b>	64.2	2.529	135.3	5.331	126.3	4.988	145	5.713	3.61	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**FLANGIA PERKINS P400D PERKINS FLANGE**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3		giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
			bar	psi	bar	psi	bar	psi							
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

**DIMENSIONI • DIMENSIONS**



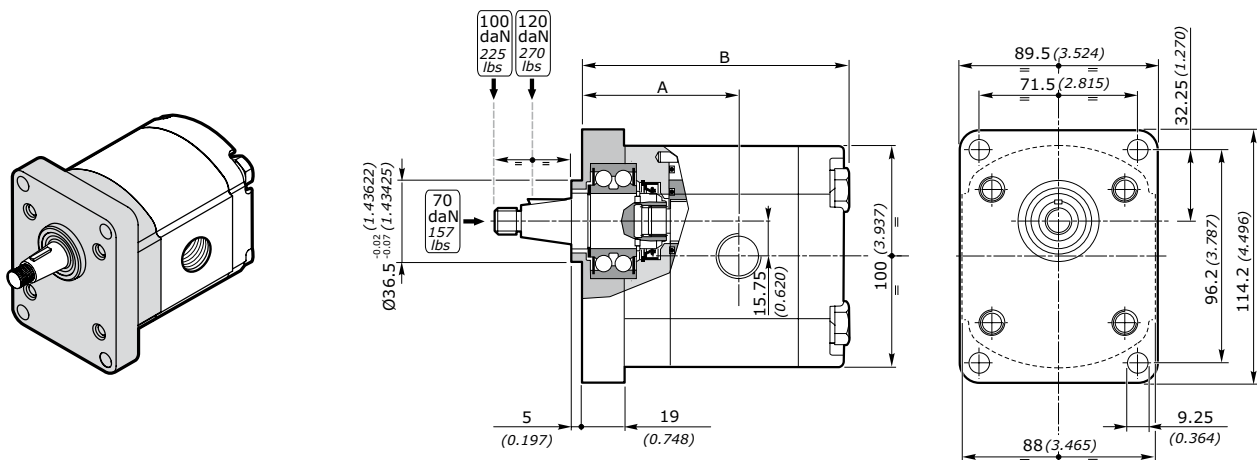
GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	44.4	1.748	93.0	3.661	2.30	5.07
<b>2SP 060</b>	46.0	1.811	96.3	3.791	2.45	5.40
<b>2SP 080</b>	48.1	1.894	100.5	3.957	2.60	5.73
<b>2SP 110</b>	50.2	1.976	104.6	4.118	2.70	5.95
<b>2SP 140</b>	52.7	2.075	109.6	4.315	2.80	6.17
<b>2SP 160</b>	54.8	2.157	113.8	4.480	2.95	6.51
<b>2SP 190</b>	57.3	2.256	118.8	4.677	3.10	6.84
<b>2SP 220</b>	59.8	2.354	123.8	4.874	3.25	7.17
<b>2SP 260</b>	62.7	2.469	129.6	5.102	3.40	7.50
<b>2SP 310</b>	66.9	2.636	138.0	5.437	3.61	7.96

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

 VERSIONE DA UTILIZZARE IN PRESENZA DI CARICHI ASSIALI E/O RADIALI  
 VERSION TO USE WITH AXIAL AND/OR RADIAL LOADS

**FLANGIA SUPEUR FLANGE**

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro in <sup>3</sup> /rev	bar	P1		P2		P3			l/min	Gal/min		l/min	Gal/min	
			psi	bar	psi	bar	psi	bar	%						
<b>2SP 040</b>	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	1.9	0.50	95*
<b>2SP 060</b>	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	2.85	0.75	95*
<b>2SP 080</b>	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	4.03	1.06	95*
<b>2SP 110</b>	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	5.22	1.38	95*
<b>2SP 140</b>	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	6.65	1.76	95*
<b>2SP 160</b>	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	7.83	2.07	95*
<b>2SP 190</b>	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	9.26	2.45	95*
<b>2SP 220</b>	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	10.68	2.82	95*
<b>2SP 260</b>	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	12.35	3.26	95*
<b>2SP 310</b>	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	15.75	4.16	95*

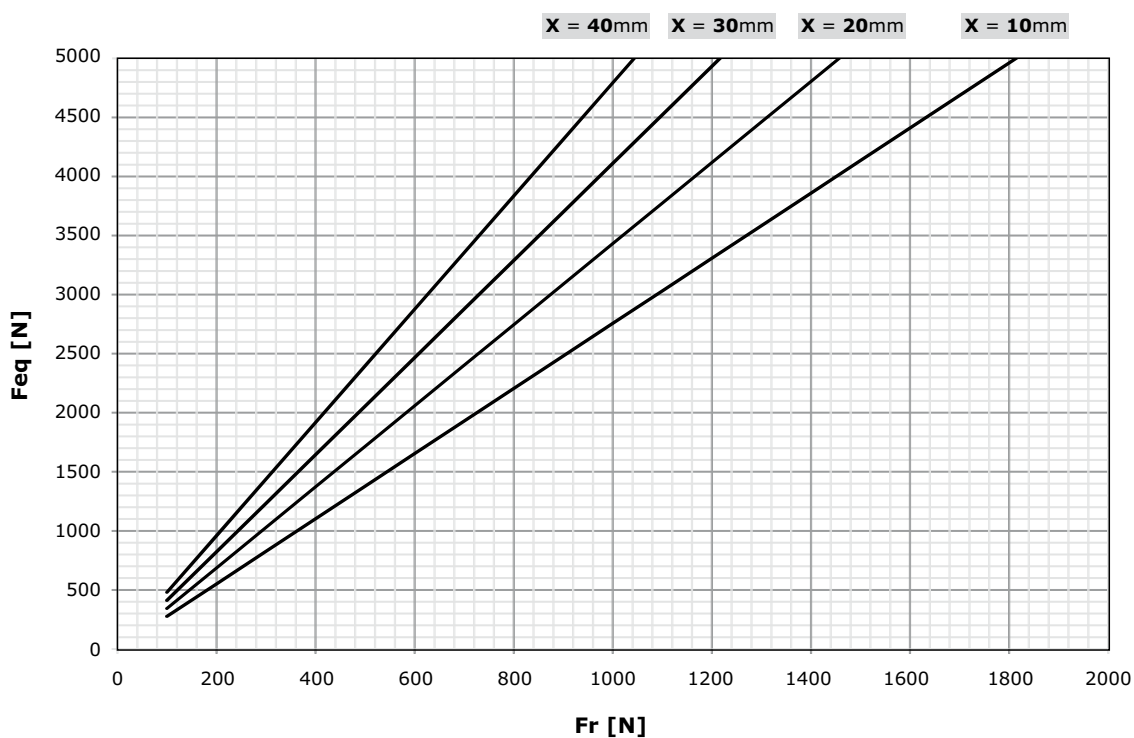
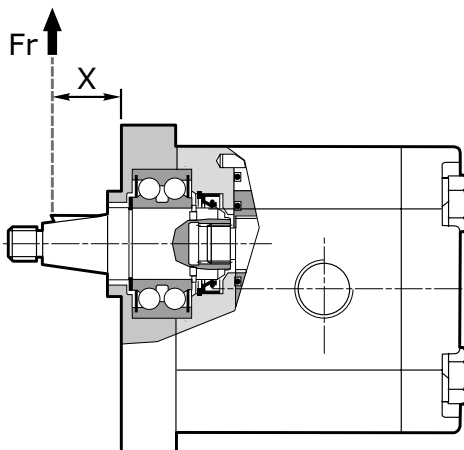
**DIMENSIONI • DIMENSIONS**

 La flangia SUPEUR è sempre allestita con anello di rinforzo.  
 SUPEUR flange is always equipped with sealing ring

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>2SP 040</b>	64.4	2.535	113.0	4.449	2.80	6.17
<b>2SP 060</b>	66.0	2.598	116.3	4.579	2.95	6.50
<b>2SP 080</b>	68.1	2.681	120.5	4.744	3.10	6.84
<b>2SP 110</b>	70.2	2.764	124.6	4.906	3.20	7.06
<b>2SP 140</b>	72.7	2.863	129.6	5.102	3.30	7.28
<b>2SP 160</b>	74.8	2.945	133.8	5.268	3.45	7.61
<b>2SP 190</b>	77.3	3.043	138.8	5.465	3.60	7.94
<b>2SP 220</b>	79.8	3.142	143.8	5.661	3.75	8.27
<b>2SP 260</b>	82.7	3.256	149.6	5.890	3.90	8.60
<b>2SP 310</b>	86.9	3.424	158.0	6.225	4.11	9.06



**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

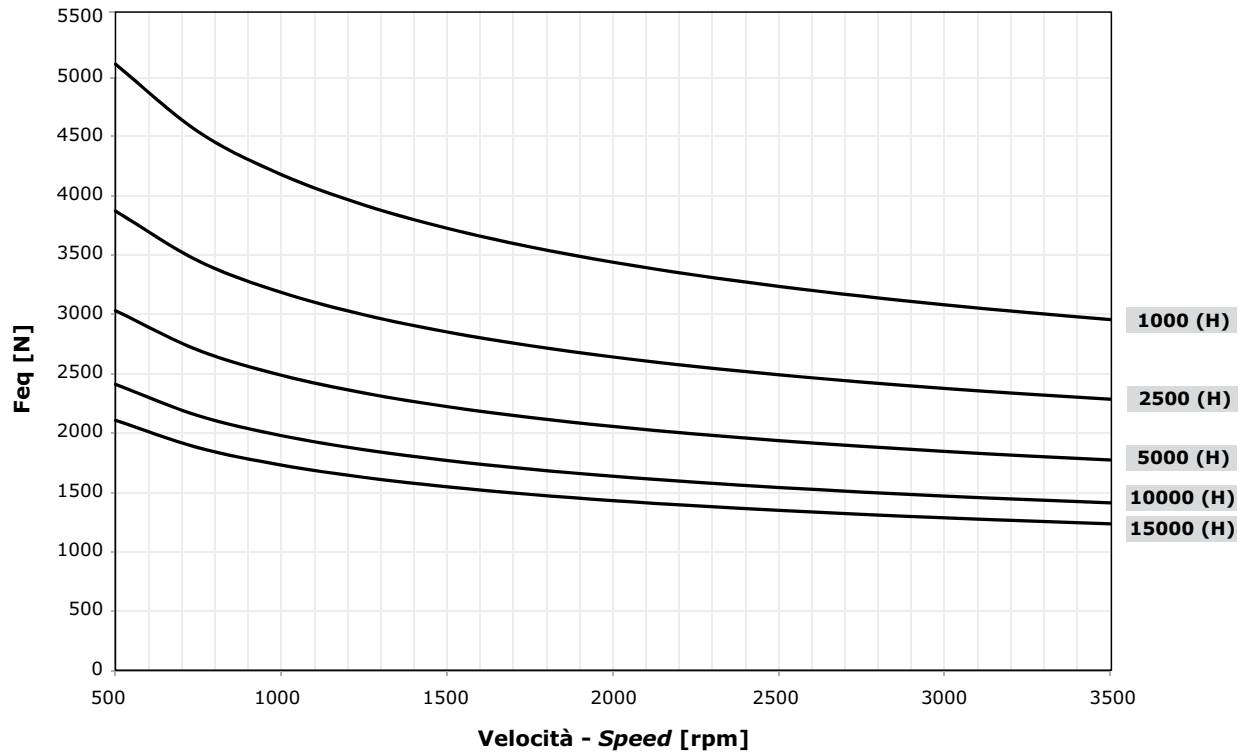
**CARICO DINAMICO EQUIVALENTE • CARICO DINAMICO EQUIVALENTE**



In caso di carichi combinati applicati all'albero (radiale + assiale) contattare il nostro Ufficio Tecnico.  
*In case of both radial and axial loads applied to the shaft please contact our technical department.*

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**DIAGRAMMA CUSCINETTI • DIAGRAM BEARING EXPECTED LIFE**



**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**CODICE ORDINAZIONE • ORDER CODE**

**2SP - G - 140 - D - EUR - B - N - 10 - 0 - G**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
<b>2SP</b>	Tipo pompa <i>Pump type</i>	Pompa singola gruppo 2 <i>Single pump group 2</i>	5
<b>G</b>	Materiale flangia e coperchio <i>Flange and cover material</i>	<b>A</b> = alluminio / <i>aluminium</i> <b>G</b> = Ghisa / <i>Cast iron</i>	
<b>140</b>	Cilindrata <i>Displacement</i>	Cilindrata = 14 cm <sup>3</sup> /giro <i>Displacement = 0.85 in<sup>3</sup>/rev</i>	5
<b>D</b>	Senso di rotazione <i>Rotation type</i>	<b>D</b> = Rotazione destra / <i>Clockwise rotation</i> <b>S</b> = Rotazione sinistra / <i>Anticlockwise rotation</i>	8
<b>EUR</b>	Tipo Flangia <i>Flange type</i>	Flangia standard <i>Standard flange</i>	
<b>B</b>	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	46
<b>N</b>	Tipo guarnizione <i>Gasket type</i>	<b>N</b> = NBR <b>V</b> = Viton	
<b>10</b>	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	47
<b>0</b>	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	50
<b>G</b>	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	51



**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**TIPOLOGIA FLANGIA • FLANGE TYPE**

	EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR
<b>2SP</b>								
<b>A</b> alluminio aluminium	◇	◇	◇	◇	◇	◇	◇	◇
<b>G</b> ghisa cast iron	◇	◇	◇	non disponibile not available	non disponibile not available	non disponibile not available	non disponibile not available	non disponibile not available

 ◇ = Combinazione standard - *Standard combination*
**ANELLO DI TENUTA • SEAL RING**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION
<b>A</b>	Flangia senza anello di tenuta <i>Flange without seal ring</i>	
<b>B</b>	Anello di tenuta fino a <b>3</b> bar <i>Sealing ring up to 3 bar</i>	Per bassissime pressioni <i>For very low pressure</i>
<b>H</b>	Anello di tenuta fino a <b>8</b> bar <i>Sealing ring up to 8 bar</i>	Per basse pressioni ( con distanziali di rinforzo ) <i>For low pressure (with stiffening seal)</i>
<b>K</b>	Anello di tenuta fino a <b>30</b> bar <i>Sealing ring up to 30 bar</i>	Per alte pressioni <i>For high pressure</i>

**COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • FLANGE - SEAL RING - GASKET COMBINATION**

	EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR
<b>2SP</b>								
	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring	Anello - Seal ring
	<b>B H K</b>	<b>B H K</b>	<b>B H K</b>	<b>B H K</b>	<b>B H K</b>	<b>A</b>	<b>B H K</b>	<b>B K</b>
NBR <b>N</b>	◇ ◇ ◇	◇ ◇ ◇	◇ ◇ ◇	◇ ◇ ◇	◇ ◇ ◇	◇	◇ ◇ ◇	◇ ◇
Viton <b>V</b>	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	●	● ● ●	● ●

 ◇ = Combinazione standard - *Standard combination*

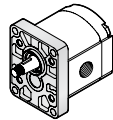
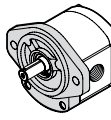
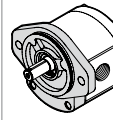
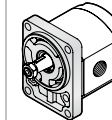
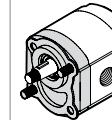
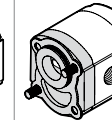
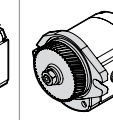
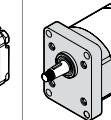
 ● = Combinazione disponibile - *Available combination*

esempio • example:

**2SP - A - 140 - D - EUR - B - N - 10 - 0 - G**
**EUR** = Flangia europea / *European flange*
**B** = Anello tenuta fino a 3 bar / *Seal ring up to 3 bar*
**N** = Guarnizione in NBR / *NBR o-ring*

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION**

<b>2SP</b>	EUR	SAEA	SAEAOR	B80C	B50C	FE32C	P400D	SUPEUR
								
<b>10</b> Conico 1:8 <i>Tapered 1:8</i>	◆	●	●	●	◆		◆	◆
<b>11</b> Conico 1:5 <i>Tapered 1:5</i>	●	●	●	◆	●			
<b>12</b> Cilindrico EUR <i>EUR Parallel shaft</i>	◆	●	●	◆	◆			
<b>13</b> Cilindrico SAEA <i>SAEA parallel shaft</i>	●	◆	◆	●	●			
<b>14</b> Scanalato SAEA 9 denti <i>SAEA 9T splined</i>	●	◆	◆	●	●			
<b>15</b> Scanalato DIN5482 9 denti (26/24) <i>DIN5482 9T splined (26/24)</i>	●	●	●	◆	●			
<b>16</b> Scanalato DIN5482 9 denti (20) <i>DIN5482 9T splined (20)</i>	●	●	●	◆	●			
<b>17</b> Fresato a dente frontale <i>Dihedral claw</i>						◆		
<b>40</b> Scanalato SAE 10 denti (52) <i>SAE 10T splined (52)</i>		●	●					
<b>41</b> Scanalato SAE 10 denti (37.5) <i>SAE 10T splined (37.5)</i>		●	●					
<b>42</b> Scanalato SAEA 11 denti (55.6) <i>SAEA 11T splined (55.6)</i>		●	●					
<b>43</b> Scanalato SAEA 11 denti (31.5) <i>SAEA 11T splined (31.5)</i>		●	●					
<b>44</b> Scanalato SAEA 11 denti (13.5) <i>SAEA 11T splined (13.5)</i>		●	●					

◆ = Combinazione standard - *Standard combination*

● = Combinazione disponibile - *Available combination*

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**2SP**

DIMENSIONI ALBERO - SHAFT DIMENSIONS

<p><b>10</b> Conico 1:8 Tapered 1:8</p> <p>Coppia 140 Nm Torque 104 ft-lbs</p>	<p>Disponibile per - available for: <b>EUR- SAEA- SAEAOR- B50C- P400D- SUPEUR</b></p>	<p>Disponibile per - available for: <b>B80C</b></p>
<p><b>11</b> Conico 1:5 Tapered 1:5</p> <p>Coppia 140 Nm Torque 104 ft-lbs</p>	<p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Disponibile per - available for: <b>B80C</b></p>
<p><b>12</b> Cilindrico EUR EUR Parall shaft</p> <p>Coppia 80 Nm Torque 59 ft-lbs</p>	<p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Disponibile per - available for: <b>B80C</b></p>
<p><b>13</b> Cilindrico SAEA SAEA parall shaft</p> <p>Coppia 90 Nm Torque 67 ft-lbs</p>	<p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Disponibile per - available for: <b>B80C</b></p>
<p><b>14</b> Scanalato SAEA 9 denti SAEA 9T splined</p> <p>Coppia 100 Nm Torque 74 ft-lbs</p>	<p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Disponibile per - available for: <b>B80C</b></p>

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**2SP**

DIMENSIONI ALBERO - SHAFT DIMENSIONS

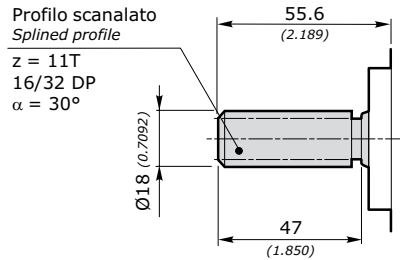
<p><b>15</b> Scanalato DIN5482 9 denti (26/24) DIN5482 9T splined (26/24)</p> <p>Coppia 100 Nm Torque 74 ft-lbs</p>	<p>Profilo scanalato B 17x14 DIN 5482 n°denti = 9 Splined profile B 17x14 DIN 5482 n°of teeth = 9</p> <p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Profilo scanalato B 17x14 DIN 5482 n°denti = 9 Splined profile B 17x14 DIN 5482 n°of teeth = 9</p> <p>Disponibile per - available for: <b>B80C</b></p>
<p><b>16</b> Scanalato DIN5482 9 denti (20) DIN5482 9T splined (20)</p> <p>Coppia 100 Nm Torque 74 ft-lbs</p>	<p>Profilo scanalato B 17x14 DIN 5482 n°denti = 9 Splined profile B 17x14 DIN 5482 n°of teeth = 9</p> <p>Disponibile per - available for: <b>EUR - SAEA - SAEAOR - B50C</b></p>	<p>Profilo scanalato B 17x14 DIN 5482 n°denti = 9 Splined profile B 17x14 DIN 5482 n°of teeth = 9</p> <p>Disponibile per - available for: <b>B80C</b></p>
<p><b>17</b> Fresato a dent frontale Dihedral claw</p> <p>Coppia 80 Nm Torque 59 ft-lbs</p>	<p>Giunto incluso - Coupling included Codice - Code: <b>010453100099</b></p> <p>Disponibile per - available for: <b>E52C</b></p>	
<p><b>40</b> Scanalato SAE 10 denti (52) SAE 10T splined (52)</p> <p>Coppia 130 Nm Torque 96 ft-lbs</p>	<p>Profilo scanalato Splined profile z = 10T 16/32 DP <math>\alpha = 30^\circ</math></p> <p>Disponibile per - available for: <b>SAEA - SAEAOR</b></p>	
<p><b>41</b> Scanalato SAE 10 denti (37.5) SAE 10T splined (37.5)</p> <p>Coppia 130 Nm Torque 96 ft-lbs</p>	<p>Profilo scanalato Splined profile z = 10T 16/32 DP <math>\alpha = 30^\circ</math></p> <p>Disponibile per - available for: <b>SAEA - SAEAOR</b></p>	

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**2SP**

## DIMENSIONI ALBERO - SHAFT DIMENSIONS

**42**  
 Scanalato SAEA  
 11 denti (55.6)  
 SAEA 11T  
 splined (55.6)

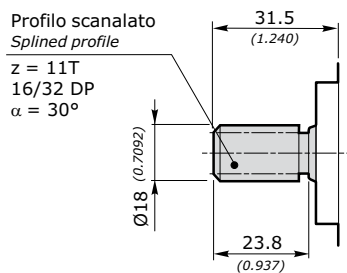
Coppia 150 Nm  
 Torque 111 ft-lbs



Disponibile per - available for: **SAEA - SAEAOR**

**43**  
 Scanalato SAEA  
 11 denti (31.5)  
 SAEA 11T  
 splined (31.5)

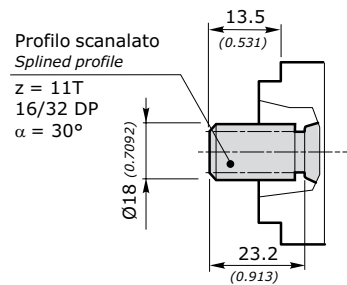
Coppia 150 Nm  
 Torque 111 ft-lbs



Disponibile per - available for: **SAEA - SAEAOR**

**44**  
 Scanalato SAEA  
 11 denti (13.5)  
 SAEA 11T  
 splined (13.5)

Coppia 150 Nm  
 Torque 111 ft-lbs

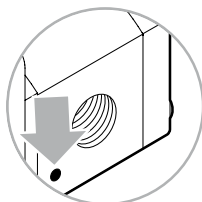
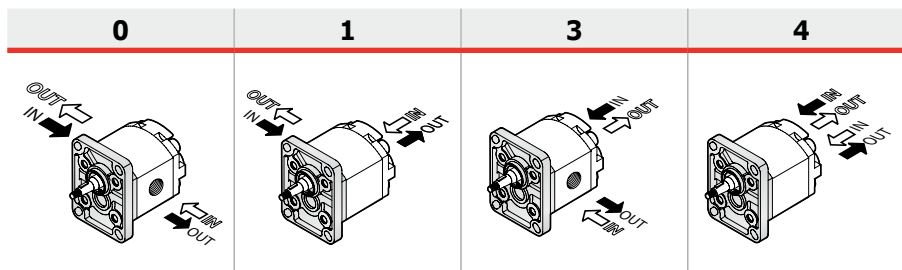


Disponibile per - available for: **SAEA - SAEAOR**

**POSIZIONE CONNESSIONE • CONNECTION POSITION**

Rotazione destra - **D**  
 Right rotation - **D**

Rotazione sinistra - **S**  
 Left rotation - **S**



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

**IN = ASPIRAZIONE - SUCTION**  
**OUT = MANDATA - DELIVERY**



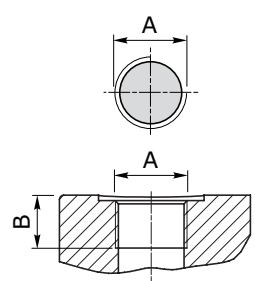




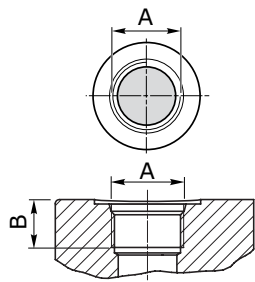
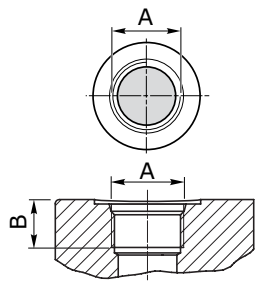
**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**TIPO CONNESSIONE • CONNECTION TYPE**

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale. *The connections type shown correspond to standard configuration; for different applications contact our Commercial Dept.*

<b>2SP</b>		POSIZIONE CONNESSIONE - CONNECTION POSITION			
		<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>
GAS	<b>G</b>	◇	◇	◇	◇
UNF	<b>U</b>	◇	◇	◇	◇
FLANGIATE FLANGED	<b>T</b>	◇			
	<b>N</b>	◇			
	<b>M</b>	◇			
	<b>F</b>	◇			

<b>GAS</b>	UNI ISO 228/1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN			MANDATA - DELIVERY OUT				
				<b>A</b>	<b>B</b>		<b>A</b>	<b>B</b>			
		<b>G</b>	40	G 1/2"	16 [mm] 0.630 [inch]	50 [Nm] 443 [in.lbs]	G 1/2"	16 [mm] 0.630 [inch]	50 [Nm] 443 [in.lbs]		
			60								
			80								
			110	G 3/4"	17 [mm] 0.670 [inch]	60 [Nm] 531 [in.lbs]					
			140								
			160								
			190								
			220								
			260								
			310								

<b>UNF</b>	ANSI/ASME B1.1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN			MANDATA DELIVERY OUT				
				<b>A</b>	<b>B</b>		<b>A</b>	<b>B</b>			
		<b>U</b>	40	SAE 10 7/8"-14 UNF	17 [mm] 0.670 [inch]	55 [Nm] 487 [in.lbs]	SAE 10 7/8"-14 UNF	17 [mm] 0.670 [inch]	55 [Nm] 487 [in.lbs]		
			60								
			80								
			110	SAE 12 1 1/16-12 UN	20 [mm] 0.788 [inch]	60 [Nm] 531 [in.lbs]					
			140								
			160								
			190								
			220								
			260								
			310								
		<b>W</b>	40	SAE 16 1 5/16-12 UN	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]	SAE 12 1 1/16-12 UN	20 [mm] 0.788 [inch]	60 [Nm] 531 [in.lbs]		
			60								
			80								
			110								
			140								
			160								
			190								
			220								
			260								
			310								

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN					MANDATA DELIVERY OUT							
				A	B	C	D		A	B	C	D				
		<b>T</b>	40													
			60													
			80													
			110													
			140	20	40	M6	15	8	15	35	M6	15	8			
			160	[mm]	[mm]		[mm]	[Nm]	[mm]	[mm]		[mm]	[Nm]			
			190	0.787	1.575		0.591	71	0.591	1.378		0.591	71			
			220	[inch]	[inch]		[inch]	[in.lbs]	[inch]	[inch]		[inch]	[in.lbs]			
			260													
			310													
		<b>N</b>	40	13	30	M6	15	8								
			60	[mm]	[mm]		[mm]	[Nm]								
			80	0.512	1.181		0.591	71								
			110													
			140						13	30	M6	15	8			
			160	19	40	M8	14	15	0.512	1.181		0.591	71			
			190	[mm]	[mm]		[mm]	[Nm]	[inch]	[inch]		[inch]	[in.lbs]			
			220	0.748	1.575		0.552	133				0.552	133			
			260	[inch]	[inch]		[inch]	[in.lbs]				[inch]	[in.lbs]			
			310													
		<b>M</b>	40	non disponibile not available					non disponibile not available							
			60	non disponibile not available					non disponibile not available							
			80	non disponibile not available					non disponibile not available							
			110													
			140													
			160	19	40	M8	14	15	19	40	M8	14	15			
			190	[mm]	[mm]		[mm]	[Nm]	[mm]	[mm]		[mm]	[Nm]			
			220	0.748	1.575		0.552	133	0.748	1.575		0.552	133			
			260	[inch]	[inch]		[inch]	[in.lbs]	[inch]	[inch]		[inch]	[in.lbs]			
			310													

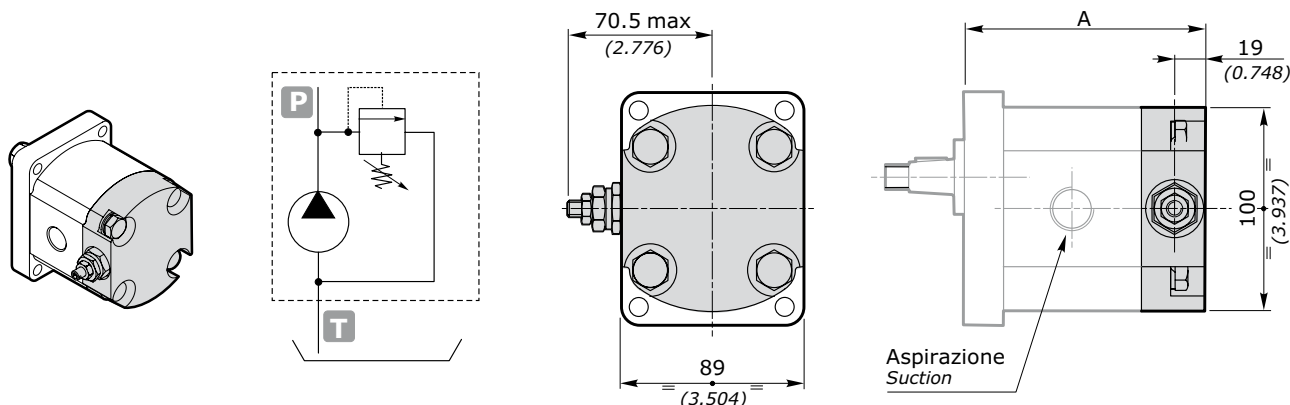
FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN					MANDATA DELIVERY OUT						
				A	B	C	D	E		A	B	C	D	E	
		<b>F</b>	40	20	17,4	38	M6	15	8						
			60	[mm]	[mm]	[mm]		[mm]	[Nm]						
			80	0.787	0.685	1.496		0.591	71						
			110												
			140						15	17,4	M6	15	8		
			160						[mm]	[mm]		[mm]	[Nm]		
			190	26	47.6	22.4	M6	15	8	0.591	0.685	1.496	0.591	71	
			220	[mm]	[mm]	[mm]		[mm]	[Nm]	[inch]	[inch]	[inch]	[inch]	[in.lbs]	
			260	1.024	1.874	0.882		0.591	71				0.591	71	
			310	[inch]	[inch]	[inch]		[inch]	[in.lbs]				[inch]	[in.lbs]	

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**OPZIONI • OPTIONALS**

**VLPI**

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO  
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST



GRUPPO GROUP 2	EUR-SAEA-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
<b>2SP 040</b>	104.8	4.126	106.8	4.205	102.1	4.020
<b>2SP 060</b>	108.1	4.256	110.1	4.335	105.4	4.150
<b>2SP 080</b>	112.3	4.421	114.3	4.500	109.6	4.315
<b>2SP 110</b>	116.4	4.583	118.4	4.661	113.7	4.476
<b>2SP 140</b>	121.4	4.780	123.4	4.858	118.7	4.673
<b>2SP 160</b>	125.6	4.945	127.6	5.024	122.9	4.839
<b>2SP 190</b>	130.6	5.142	132.6	5.220	127.9	5.035
<b>2SP 220</b>	135.6	5.339	137.6	5.417	132.9	5.232
<b>2SP 260</b>	141.4	5.567	143.4	5.646	138.7	5.461
<b>2SP 310</b>	149.8	5.902	151.8	5.981	147.1	5.796

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il corpo VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione sinistra.

**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 pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is anticlockwise rotation. Pump with clockwise rotation.*

**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 • example: **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VLPI N 120**

**VLPI** = Coperchio con VPL a scarico interno / Cover with VPL at internal exhaust

**N** = Tipo molla - vedi tabella / Spring type - see table

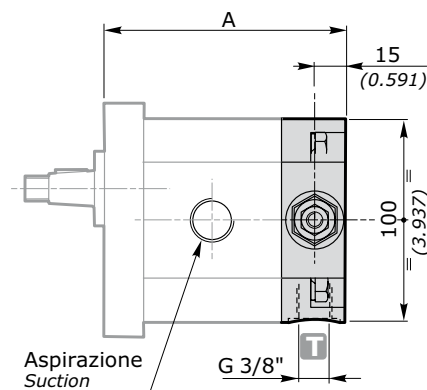
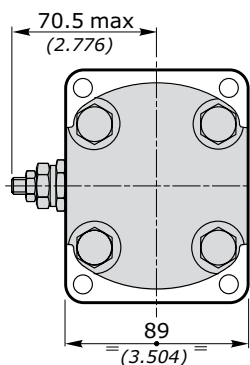
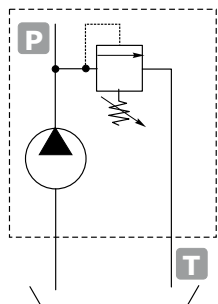
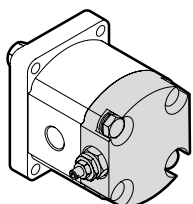
**120** = Taratura - vedi tabella / Setting - see table

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

NOTE: Without setting request, it will be considered standard (see table).

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**VLPE**

 VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO  
 PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST


GRUPPO GROUP 2	EUR-SAEA-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
<b>2SP 040</b>	100.8	3.969	102.8	4.047	98.1	3.862
<b>2SP 060</b>	104.1	4.098	106.1	4.177	101.4	3.992
<b>2SP 080</b>	108.3	4.264	110.3	4.343	105.6	4.157
<b>2SP 110</b>	112.4	4.425	114.4	4.504	109.7	4.319
<b>2SP 140</b>	117.4	4.622	119.4	4.701	114.7	4.516
<b>2SP 160</b>	121.6	4.787	123.6	4.866	118.9	4.681
<b>2SP 190</b>	126.6	4.984	128.6	5.063	123.9	4.878
<b>2SP 220</b>	131.6	5.181	133.6	5.260	128.9	5.075
<b>2SP 260</b>	137.4	5.409	139.4	5.488	134.7	5.303
<b>2SP 310</b>	145.8	5.745	147.8	5.823	143.1	5.638

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione sinistra. Nelle pompe con rotazione destra, la valvola è dal lato opposto

*The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is anticlockwise rotation. Pump with clockwise rotation, the valve is in the opposite side.*

esempio • example: **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VLPE N 120**

**VLPE** = Coperchio con VPL a scarico esterno / Cover with VPL at external exhaust

**N** = Tipo molla - vedi tabella / Spring type - see table

**120** = Taratura - vedi tabella / Setting - see table

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	<b>B</b>	molla nera - black spring	<b>N</b>	molla rossa - red spring	<b>R</b>
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

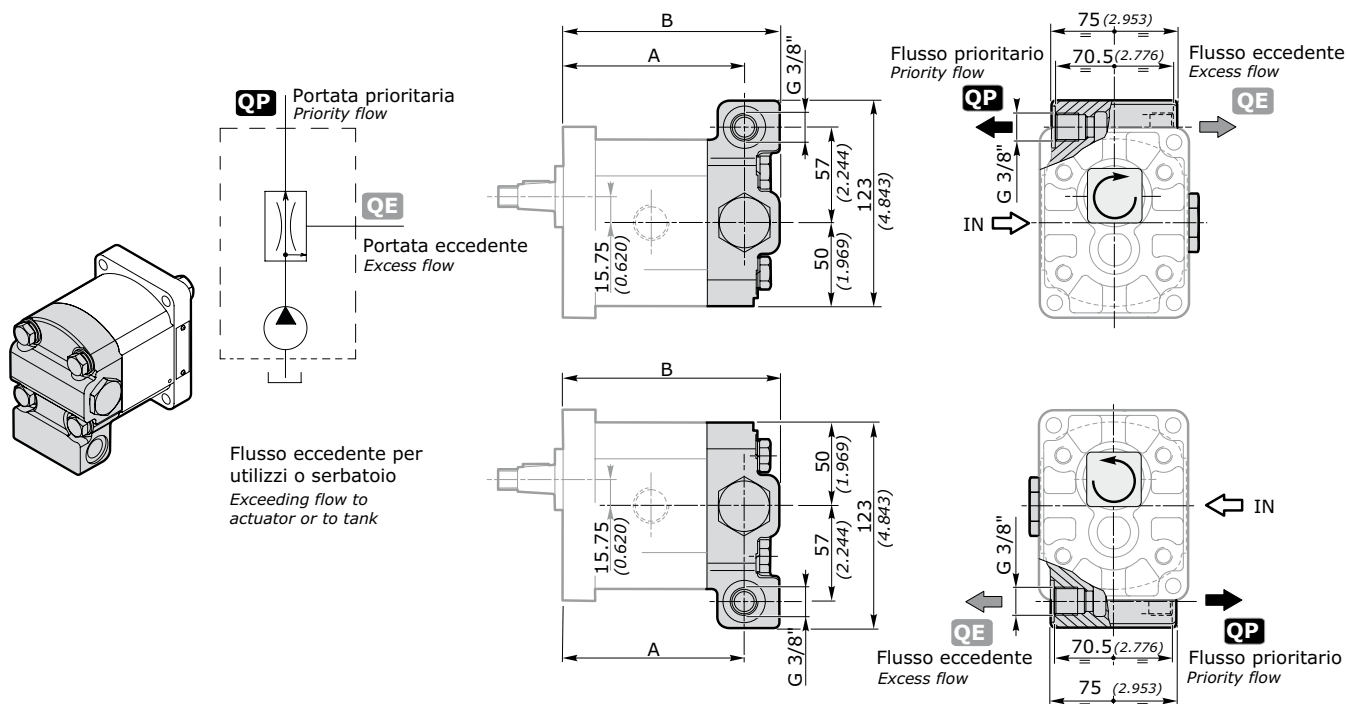
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

NOTE: Without setting request, it will be considered standard (see table).

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

**VRF**

VALVOLA REGOLATRICE DI FLUSSO  
PRIORITY FLOW DIVIDER VALVE



GRUPPO GROUP 2	EUR - SAE - B50C		A			B			E52C			
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
<b>2SP 040</b>	91.8	3.614	93.8	3.693	89.1	3.508	112.8	4.441	114.8	4.520	110.1	4.335
<b>2SP 060</b>	95.1	3.744	97.1	3.823	92.4	3.638	116.1	4.571	118.1	4.650	113.4	4.465
<b>2SP 080</b>	99.3	3.909	101.3	3.988	96.6	3.803	120.3	4.736	122.3	4.815	117.6	4.630
<b>2SP 110</b>	103.4	4.071	105.4	4.150	100.7	3.965	124.4	4.898	126.4	4.976	121.7	4.791
<b>2SP 140</b>	108.4	4.268	110.4	4.346	105.7	4.161	129.4	5.094	131.4	5.173	126.7	4.988
<b>2SP 160</b>	112.6	4.433	114.6	4.512	109.9	4.327	133.6	5.260	135.6	5.339	130.9	5.154
<b>2SP 190</b>	117.6	4.630	119.6	4.709	114.9	4.524	138.6	5.457	140.6	5.535	135.9	5.350
<b>2SP 220</b>	122.6	4.827	124.6	4.906	119.9	4.720	143.6	5.654	145.6	5.732	140.9	5.547
<b>2SP 260</b>	128.4	5.055	130.4	5.134	125.7	4.949	149.4	5.882	151.4	5.961	146.7	5.776
<b>2SP 310</b>	136.8	5.390	138.8	5.469	134.1	5.284	157.8	6.217	159.8	6.296	155.1	6.111

esempio • example:

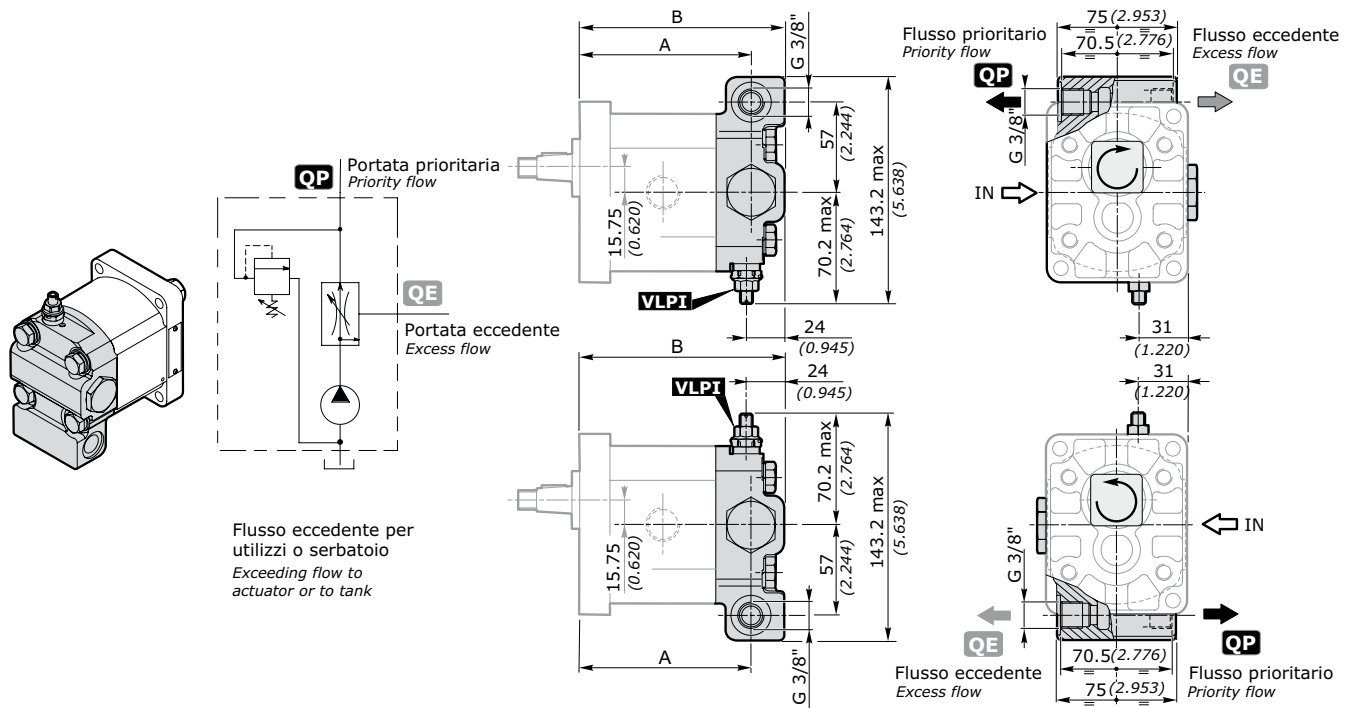
**2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VRF 5**

VRF = Coperchio con VRF / Cover with VRF

5 = portata prioritaria - vedi tabella / Priority flow - see table

VALORE VALUE	PORTATE - FLOWS	
	l/min	US gal/min
<b>5</b>	5	1.32
<b>7</b>	7	1.85
<b>8</b>	8	2.12
<b>11</b>	11	2.91
<b>14</b>	14	3.70
<b>21</b>	21	6.54

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**
**VRFVLP1**

 VALVOLA REGOLATRICE DI FLUSSO E VALVOLA LIMITTRICE DI PRESSIONE (SCARICO INTERNO)  
 PRIORITY FLOW DIVIDER VALVE AND PRESSURE RELIEF VALVE (INTERNAL EXHAUST)


GRUPPO GROUP 2	STD - SAEA - B50C		A				STD - SAEA - B50C		B			
			B80C		E52C				B80C		E52C	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
<b>2SP 040</b>	91.8	3.614	93.8	3.693	89.1	3.508	112.8	4.441	114.8	4.520	110.1	4.335
<b>2SP 060</b>	95.1	3.744	97.1	3.823	92.4	3.638	116.1	4.571	118.1	4.650	113.4	4.465
<b>2SP 080</b>	99.3	3.909	101.3	3.988	96.6	3.803	120.3	4.736	122.3	4.815	117.6	4.630
<b>2SP 110</b>	103.4	4.071	105.4	4.150	100.7	3.965	124.4	4.898	126.4	4.976	121.7	4.791
<b>2SP 140</b>	108.4	4.268	110.4	4.346	105.7	4.161	129.4	5.094	131.4	5.173	126.7	4.988
<b>2SP 160</b>	112.6	4.433	114.6	4.512	109.9	4.327	133.6	5.260	135.6	5.339	130.9	5.154
<b>2SP 190</b>	117.6	4.630	119.6	4.709	114.9	4.524	138.6	5.457	140.6	5.535	135.9	5.350
<b>2SP 220</b>	122.6	4.827	124.6	4.906	119.9	4.720	143.6	5.654	145.6	5.732	140.9	5.547
<b>2SP 260</b>	128.4	5.055	130.4	5.134	125.7	4.949	149.4	5.882	151.4	5.961	146.7	5.776
<b>2SP 310</b>	136.8	5.390	138.8	5.469	134.1	5.284	157.8	6.217	159.8	6.296	155.1	6.111

**POMPE AD INGRANAGGI GRUPPO 2SP**  
**GEAR PUMPS GROUP 2SP**

esempio • example: **2SP - A - 140 - D - EUR - B - N - 10 - G - VRF 5 VLPI N 120**

**VRF** = Coperchio con VRF / Cover with VRF

**5** = portata prioritaria - vedi tabella / Priority flow - see table

**VLPI** = Coperchio con VPL a scarico interno / Cover with VPL at internal exhaust

**N** = Tipo molla - vedi tabella / Spring type - see table

**120** = Taratura - vedi tabella / Setting - see table

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	<b>B</b>	molla nera - black spring	<b>N</b>	molla rossa - red spring	<b>R</b>
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

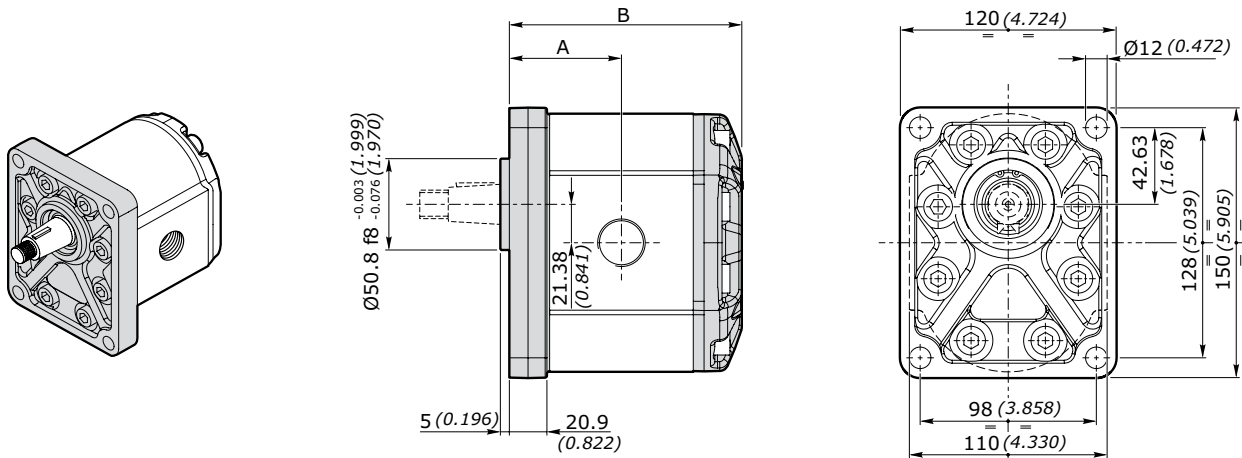
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

NOTE: Without setting request, it will be considered standard (see table).

VALORE VALUE	PORTATE - FLOWS	
	l/min	US gal/min
<b>5</b>	5	1.32
<b>7</b>	7	1.85
<b>8</b>	8	2.12
<b>11</b>	11	2.91
<b>14</b>	14	3.70
<b>21</b>	21	6.54

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**
**FLANGIA EUROPEA EUR EUROPEAN FLANGE**
**FLANGIA E COPERCHIO IN GHISA - CAST IRON FLANGE AND COVER**

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/ min	giri/min - rpm	l/min	Gal/ min	%
<b>3GP 190</b>	19.3	1.2	250	3625	270	3915	300	4350	3500	67.6	17.84	700	12.8	3.39	95*
<b>3GP 230</b>	23.0	1.4	240	3480	260	3770	290	4205	3500	80.3	21.22	700	15.5	4.03	95*
<b>3GP 300</b>	30.2	1.8	220	3190	240	3480	260	3770	3300	99.7	26.33	700	20.1	5.31	95*
<b>3GP 340</b>	33.8	2.1	220	3190	230	3335	260	3770	3300	111.6	29.49	700	22.5	5.94	95*
<b>3GP 370</b>	37.5	2.3	210	3045	230	3335	250	3625	3300	123.6	32.66	700	24.9	6.58	95*
<b>3GP 440</b>	44.6	2.7	200	2900	220	3190	240	3480	3000	133.8	35.35	700	29.7	7.84	95*
<b>3GP 530</b>	53.0	3.2	200	2900	210	3045	240	3480	3000	159.1	42.04	700	35.3	9.32	95*
<b>3GP 620</b>	62.7	3.8	180	2610	190	2755	200	2900	2500	156.8	41.41	700	41.7	11.01	95*
<b>3GP 700</b>	70.5	4.3	180	2610	200	2900	208	3016	2500	176.3	46.58	700	46.9	12.39	95*
<b>3GP 770</b>	77.2	4.7	170	2465	190	2755	196	2842	2200	169.8	44.84	700	51.3	13.56	95*

**DIMENSIONI • DIMENSIONS**


GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>3GP 190</b>	62.4	2.456	128.3	5.051	7.67	16.91
<b>3GP 230</b>	63.9	2.515	131.3	5.169	7.81	17.21
<b>3GP 300</b>	66.9	2.633	137.3	5.405	8.09	17.82
<b>3GP 340</b>	68.4	2.692	140.3	5.523	8.22	18.12
<b>3GP 370</b>	69.9	2.751	143.3	5.641	8.36	18.43
<b>3GP 440</b>	72.9	2.870	149.3	5.877	8.64	19.04
<b>3GP 530</b>	76.4	3.007	156.3	6.153	8.96	19.75
<b>3GP 620</b>	80.4	3.165	164.3	6.468	9.33	20.56
<b>3GP 700</b>	86.9	3.421	170.8	6.724	9.63	21.22
<b>3GP 770</b>	92.4	3.637	176.3	6.940	9.88	21.77



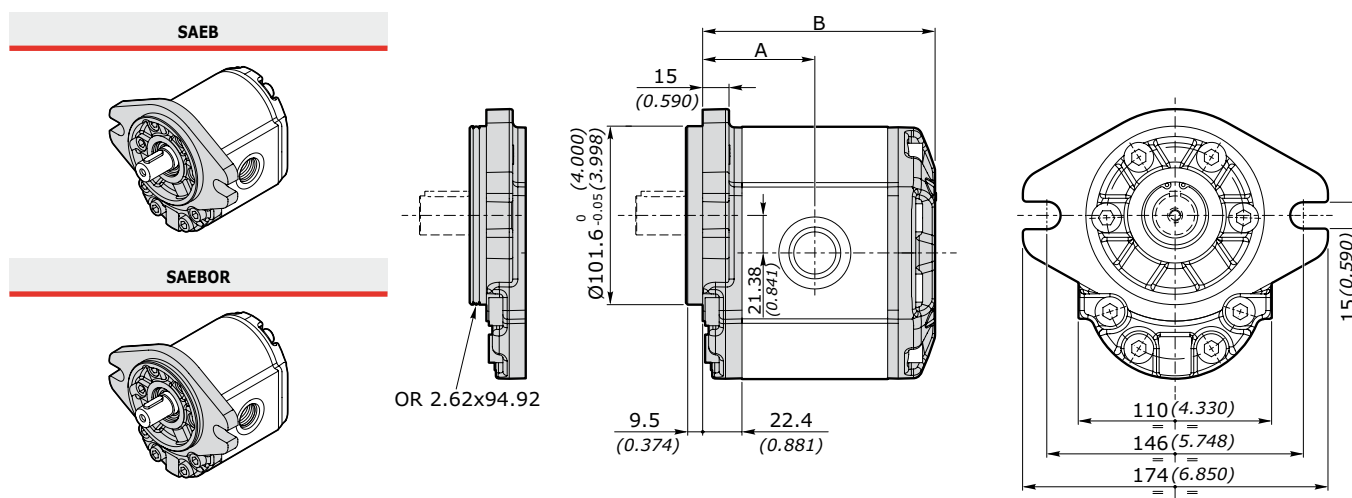
**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

**FLANGIA SAE SAEB-SAEBOR SAE FLANGE**

**FLANGIA E COPERCHIO IN GHISA - CAST IRON FLANGE AND COVER**

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
			P1		P2		P3								
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	l/min	Gal/min	%
<b>3GP 190</b>	19.3	1.2	250	3625	270	3915	300	4350	3500	67.6	17.84	700	12.8	3.39	95*
<b>3GP 230</b>	23.0	1.4	240	3480	260	3770	290	4205	3500	80.3	21.22	700	15.5	4.03	95*
<b>3GP 300</b>	30.2	1.8	220	3190	240	3480	260	3770	3300	99.7	26.33	700	20.1	5.31	95*
<b>3GP 340</b>	33.8	2.1	220	3190	230	3335	260	3770	3300	111.6	29.49	700	22.5	5.94	95*
<b>3GP 370</b>	37.5	2.3	210	3045	230	3335	250	3625	3300	123.6	32.66	700	24.9	6.58	95*
<b>3GP 440</b>	44.6	2.7	200	2900	220	3190	240	3480	3000	133.8	35.35	700	29.7	7.84	95*
<b>3GP 530</b>	53.0	3.2	200	2900	210	3045	240	3480	3000	159.1	42.04	700	35.3	9.32	95*
<b>3GP 620</b>	62.7	3.8	180	2610	190	2755	200	2900	2500	156.8	41.41	700	41.7	11.01	95*
<b>3GP 700</b>	70.5	4.3	180	2610	200	2900	208	3016	2500	176.3	46.58	700	46.9	12.39	95*
<b>3GP 770</b>	77.2	4.7	170	2465	190	2755	196	2842	2200	169.8	44.84	700	51.3	13.56	95*

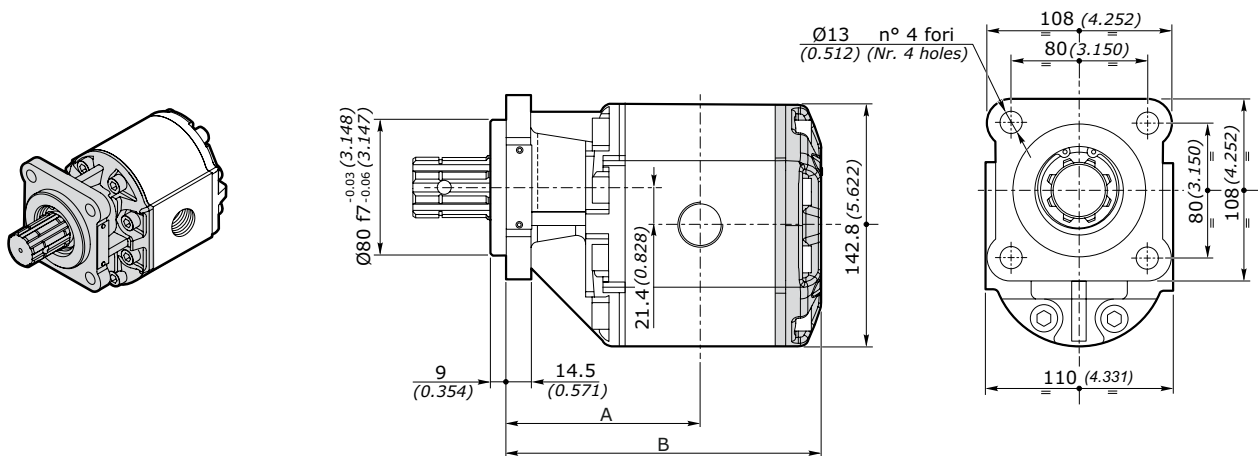
**DIMENSIONI • DIMENSIONS**



GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>3GP 190</b>	62.4	2.456	128.3	5.051	7.67	16.91
<b>3GP 230</b>	63.9	2.515	131.3	5.169	7.81	17.21
<b>3GP 300</b>	66.9	2.633	137.3	5.405	8.09	17.82
<b>3GP 340</b>	68.4	2.692	140.3	5.523	8.22	18.12
<b>3GP 370</b>	69.9	2.751	143.3	5.641	8.36	18.43
<b>3GP 440</b>	72.9	2.870	149.3	5.877	8.64	19.04
<b>3GP 530</b>	76.4	3.007	156.3	6.153	8.96	19.75
<b>3GP 620</b>	80.4	3.165	164.3	6.468	9.33	20.56
<b>3GP 700</b>	86.9	3.421	170.8	6.724	9.63	21.22
<b>3GP 770</b>	92.4	3.637	176.3	6.940	9.88	21.77

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**
**FLANGIA ZFC FLANGE**
**FLANGIA E COPERCHIO IN GHISA - CAST IRON FLANGE AND COVER**

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW		RENDIMENTO VOLUMETRICO MIN. MIN. VOLUMETRIC EFFICIENCY
	cm <sup>3</sup> /giro	in <sup>3</sup> /rev	P1		P2		P3			l/min	Gal/ min		l/min	Gal/ min	
			bar	psi	bar	psi	bar	psi	giri/min - rpm						
<b>3GP 190</b>	19.3	1.2	250	3625	270	3915	300	4350	3500	67.6	17.84	700	12.8	3.39	95*
<b>3GP 230</b>	23.0	1.4	240	3480	260	3770	290	4205	3500	80.3	21.22	700	15.5	4.03	95*
<b>3GP 300</b>	30.2	1.8	220	3190	240	3480	260	3770	3300	99.7	26.33	700	20.1	5.31	95*
<b>3GP 340</b>	33.8	2.1	220	3190	230	3335	260	3770	3300	111.6	29.49	700	22.5	5.94	95*
<b>3GP 370</b>	37.5	2.3	210	3045	230	3335	250	3625	3300	123.6	32.66	700	24.9	6.58	95*
<b>3GP 440</b>	44.6	2.7	200	2900	220	3190	240	3480	3000	133.8	35.35	700	29.7	7.84	95*
<b>3GP 530</b>	53.0	3.2	200	2900	210	3045	240	3480	3000	159.1	42.04	700	35.3	9.32	95*
<b>3GP 620</b>	62.7	3.8	180	2610	190	2755	200	2900	2500	156.8	41.41	700	41.7	11.01	95*
<b>3GP 700</b>	70.5	4.3	180	2610	200	2900	208	3016	2500	176.3	46.58	700	46.9	12.39	95*
<b>3GP 770</b>	77.2	4.7	170	2465	190	2755	196	2842	2200	169.8	44.84	700	51.3	13.56	95*

**DIMENSIONI • DIMENSIONS**


GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
<b>3GP 190</b>	110.5	4.350	177.4	6.984	7.67	16.91
<b>3GP 230</b>	112.0	4.409	180.4	7.102	7.81	17.21
<b>3GP 300</b>	115.0	4.527	186.4	7.338	8.09	17.82
<b>3GP 340</b>	116.5	4.586	189.4	7.456	8.22	18.12
<b>3GP 370</b>	118.0	4.645	192.4	7.574	8.36	18.43
<b>3GP 440</b>	121.0	4.763	198.4	7.811	8.64	19.04
<b>3GP 530</b>	124.5	4.901	205.4	8.086	8.96	19.75
<b>3GP 620</b>	128.5	5.059	213.4	8.401	9.33	20.56
<b>3GP 700</b>	131.7	5.185	219.9	8.657	9.63	21.22
<b>3GP 770</b>	134.5	5.295	225.4	8.874	9.88	21.77

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

**CODICE ORDINAZIONE • ORDER CODE**

**3GP - G - 340 - D - EUR - B - N - 10 - 0 - G**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
<b>3GP</b>	Tipo pompa <i>Pump type</i>	Pompa singola gruppo 3 <i>Single pump group 3</i>	6
<b>G</b>	Materiale flangia e coperchio <i>Flange and cover material</i>	<b>G</b> = Ghisa / <i>Cast iron</i>	
<b>340</b>	Cilindrata <i>Displacement</i>	Cilindrata = 33.8 cm <sup>3</sup> /giro <i>Displacement = 2.1 in<sup>3</sup>/rev</i>	6
<b>D</b>	Senso di rotazione <i>Rotation type</i>	<b>D</b> = Rotazione destra / <i>Clockwise rotation</i> <b>S</b> = Rotazione sinistra / <i>Anticlockwise rotation</i>	8
<b>EUR</b>	Tipo Flangia <i>Flange type</i>	Flangia standard europea <i>European standard flange</i>	
<b>B</b>	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	62
<b>N</b>	Tipo guarnizione <i>Gasket type</i>	<b>N</b> = NBR <b>V</b> = Viton	
<b>10</b>	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	63
<b>0</b>	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	65
<b>G</b>	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	



**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**
**TIPOLOGIA FLANGIA • FLANGE TYPE**

	EUR	SAEB	SAEBOR	ZFC
<b>3GP</b>				
<b>A</b> alluminio aluminium	non disponibile not available	non disponibile not available	non disponibile not available	non disponibile not available
<b>G</b> ghisa cast iron	◆	◆	◆	◆

 ◆ = Combinazione standard - *Standard combination*
**ANELLO DI TENUTA • SEAL RING**

SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION
<b>B</b>	Anello di tenuta fino a <b>3</b> bar <i>Sealing ring up to 3 bar</i>	Per bassissime pressioni <i>For very low pressure</i>
<b>H</b>	Anello di tenuta fino a <b>8</b> bar <i>Sealing ring up to 8 bar</i>	Per basse pressioni ( con distanziali di rinforzo) <i>For low pressure (with stiffening seal)</i>
<b>K</b>	Anello di tenuta fino a <b>30</b> bar <i>Sealing ring up to 30 bar</i>	Per alte pressioni <i>For high pressure</i>

**COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • FLANGE - SEAL RING - GASKET COMBINATION**

		EUR			SAEB			SAEBOR			ZFC
		Anello - seal ring			Anello - seal ring			Anello - seal ring			Anello - seal ring
		B	H	K	B	H	K	B	H	K	B
NBR	<b>N</b>	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Viton	<b>V</b>	●	●	●	●	●	●	●	●	●	●

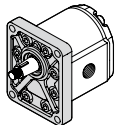
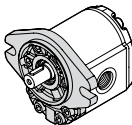
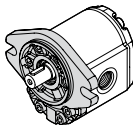
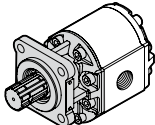
 ◆ = Combinazione standard - *Standard combination*

 ● = Combinazione disponibile - *Available combination*

 esempio • *example:*
**3GP - G - 340 - D - EUR - B - N - 10 - 0 - G**
**EUR** = Flangia europea / *European flange*
**B** = Anello tenuta fino a 3 bar / *Seal ring up to 3 bar*
**N** = Guarnizione in NBR / *NBR o-ring*

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

**COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION**

<b>3GP</b>	<b>EUR</b>	<b>SAEB</b>	<b>SAEBOR</b>	<b>ZFC</b>
				
<b>10</b> Conico 1:8 <i>Tapered 1:8</i>	◆	●	●	
<b>13</b> Cilindrico SAEB <i>SAEB Parallel shaft</i>	●	◆	◆	
<b>14</b> Scanalato SAEB 13 denti (38.2) <i>SAEB 13T splined (38.2)</i>	●	◆	◆	
<b>14R</b> Scanalato SAEB 13 denti (44.7) <i>SAEB 13T splined (44.7)</i>	●	●	●	
<b>24</b> Scanalato UNI8953 <i>UNI8953 Splined</i>				◆

◆ = Combinazione standard - *Standard combination*

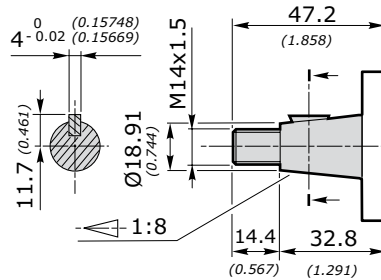
● = Combinazione disponibile - *Available combination*

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**
**3GP**

## DIMENSIONI ALBERO - SHAFT DIMENSIONS

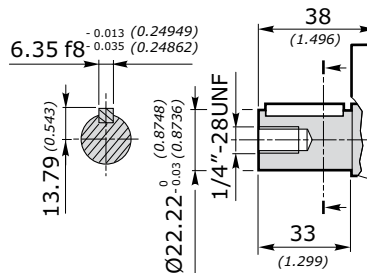
**10**  
 Conico 1:8  
 Tapered 1:8

Coppia 240 Nm  
 Torque 178 ft-lbs


 Disponibile per - available for: **EUR - SAEB - SAEBOR**

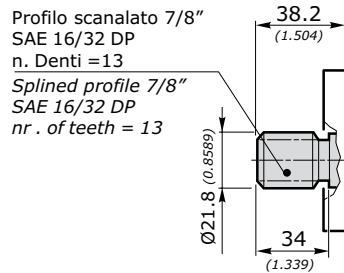
**13**  
 Cilindrico SAEB  
 SAEB Parallel  
 shaft

Coppia 200 Nm  
 Torque 148 ft-lbs


 Disponibile per - available for: **EUR - SAEB - SAEBOR**

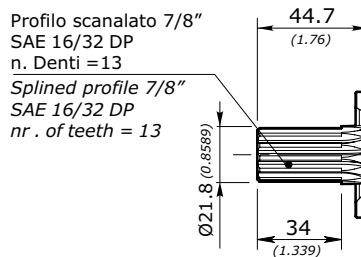
**14**  
 Scanalato SAEB  
 13 denti (38.2)  
 SAEB 13T  
 splined (38.2)

Coppia 270 Nm  
 Torque 200 ft-lbs


 Disponibile per - available for: **EUR - SAEB - SAEBOR**

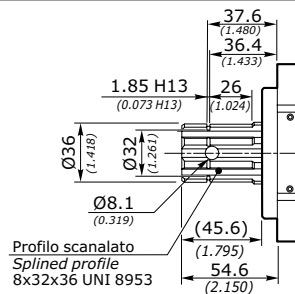
**14R**  
 Scanalato SAEB  
 13 denti (44.7)  
 SAEB 13T  
 splined (44.7)

Coppia 270 Nm  
 Torque 200 ft-lbs


 Disponibile per - available for: **EUR - SAEB - SAEBOR**

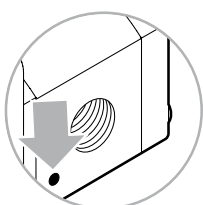
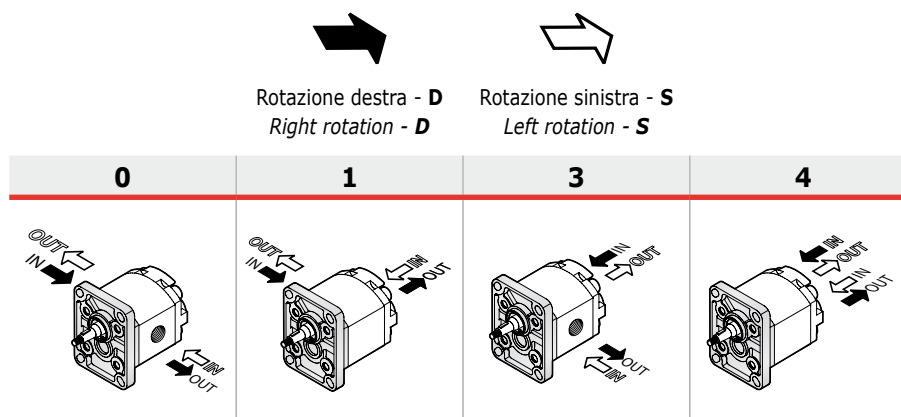
**24**  
 Scanalato  
 UNI8953  
 UNI8953  
 Splined

Coppia 330 Nm  
 Torque 245 ft-lbs


 Disponibile per - available for: **ZFC**

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

**POSIZIONE CONNESSIONE • CONNECTION POSITION**



Rotazione destra - **D**  
Right rotation - **D**

Rotazione sinistra - **S**  
Left rotation - **S**

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

**IN = ASPIRAZIONE - SUCTION**  
**OUT = MANDATA - DELIVERY**

**TIPO CONNESSIONE • CONNECTION TYPE**

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale. *The connections type shown correspond to standard configuration; for different applications contact our Commercial Dept.*

<b>3GP</b>		POSIZIONE CONNESSIONE - CONNECTION POSITION			
		<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>
GAS	<b>G</b>	◇	◇	◇	◇
UNF	<b>W</b>	◇	◇	◇	◇
FLANGIATE FLANGED	<b>T</b>	◇			
	<b>N</b>	◇			
	<b>F</b>	◇			

<b>GAS</b>	UNI ISO 228/1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN			MANDATA - DELIVERY OUT		
				<b>A</b>	<b>B</b>		<b>A</b>	<b>B</b>	
	G	G	190	G 1"	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]	G 3/4"	17 [mm] 0.670 [in.lbs]	60 [mm] 531 [in.lbs]
			230						
			300						
			340						
			370						
			440						
			530						
			630						
			700						
			770						

**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

UNF	ANSI/ASME B1.1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN			MANDATA DELIVERY OUT		
				A	B		A	B	
		<b>W</b>	190	SAE 16 1"5/16-12 UN	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]	SAE 12 1"1/16-12 UN	20 [mm] 0.788 [inch]	60 [Nm] 531 [in.lbs]
			230						
			300						
			340						
			370						
			440						
			530						
			630						
			700						
			770						

FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN					MANDATA DELIVERY OUT				
				A	B	C	D		A	B	C	D	
		<b>T</b>	190	26 [mm] 1.024 [inch]	55 [mm] 2.167 [inch]	M8	16 [mm] 0.630 [inch]	15 [Nm] 133 [in.lbs]	18 [mm] 0.709 [inch]	55 [mm] 2.167 [inch]	M8	16 [mm] 0.630 [inch]	15 [Nm] 133 [in.lbs]
			230										
			300										
			340										
			370										
			440										
			530										
			630										
			700										
			770										

FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN					MANDATA DELIVERY OUT						
				A	B	C	D	E		A	B	C	D	E	
		<b>F</b>	190	27 [mm] 1.063 [inch]	26.2 [mm] 1.031 [inch]	52.4 [mm] 2.063 [inch]	M8	15 [mm] 0.591 [inch]	15 [Nm] 71 [in.lbs]	24 [mm] 0.945 [inch]	26.2 [mm] 1.031 [inch]	52.4 [mm] 2.063 [inch]	M8	15 [mm] 0.591 [inch]	15 [Nm] 71 [in.lbs]
			230												
			300												
			340												
			370												
			440												
			530												
			630												
			700												
			770												

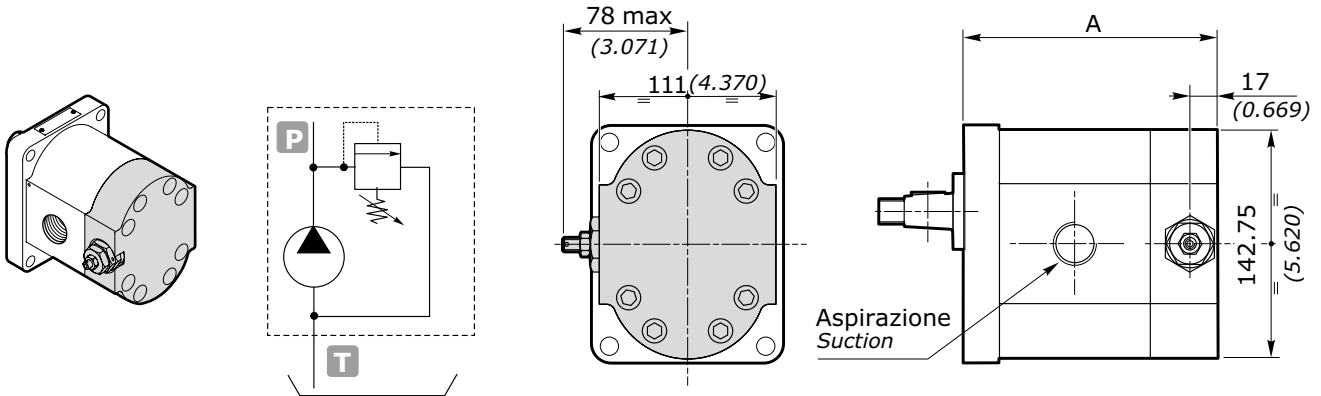


**POMPE AD INGRANAGGI GRUPPO 3GP**  
**GEAR PUMPS GROUP 3GP**

**OPZIONI • OPTIONALS**

**VLPI**

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO  
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST



GRUPPO GROUP 3	A	
	EUR - SAEB - SAEBOR	
	mm	inch
<b>3GP 190</b>	146.30	5.759
<b>3GP 230</b>	149.30	5.877
<b>3GP 300</b>	155.30	6.114
<b>3GP 340</b>	158.30	6.232
<b>3GP 370</b>	161.30	6.350
<b>3GP 440</b>	167.30	6.586
<b>3GP 530</b>	174.30	6.862
<b>3GP 620</b>	182.30	7.177
<b>3GP 700</b>	188.30	7.413
<b>3GP 770</b>	194.30	7.649

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno). Coperchio VLP disponibile in alluminio. È rappresentata una pompa con rotazione sinistra.

**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 pressure relief valve can be applied by substituting the rear cover (only internal relief is set). VLP cover available in aluminum. The showed pump is anticlockwise rotation.*

**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 • example: **3GP - A - 340 - D - EUR - B - N - 10 - 0 - G - VLPI N 120**

**VLPI** = Coperchio con VPL a scarico interno / Cover with VPL at internal exhaust

**N** = Tipo molla - vedi tabella / Spring type - see table

**120** = Taratura - vedi tabella / Setting - see table

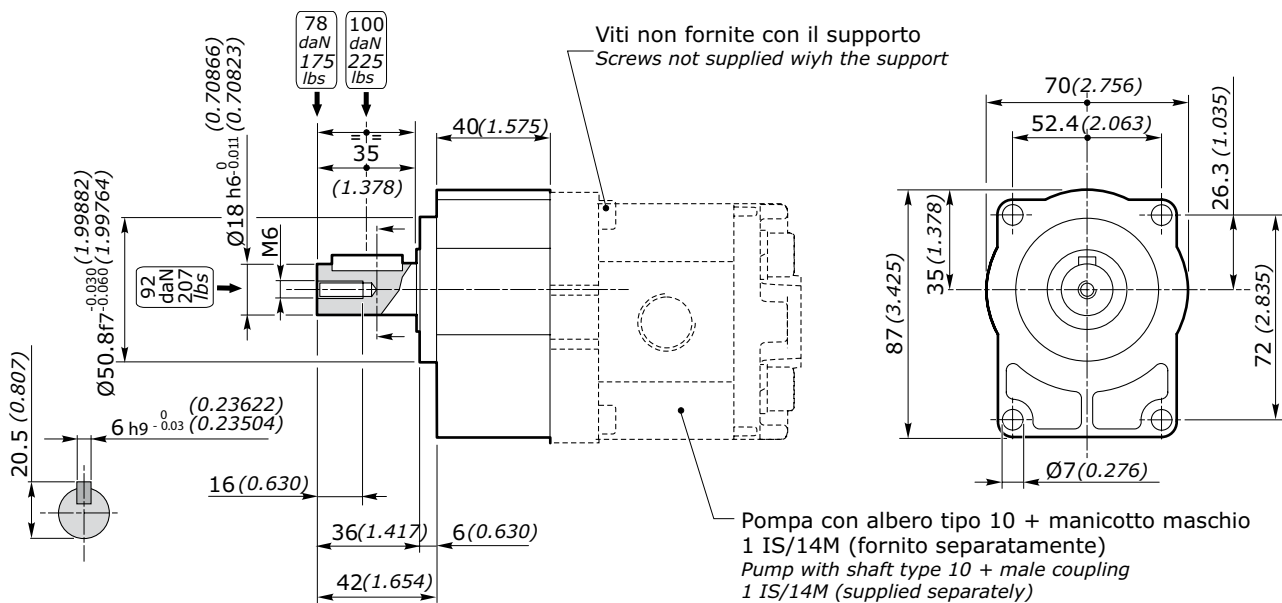
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

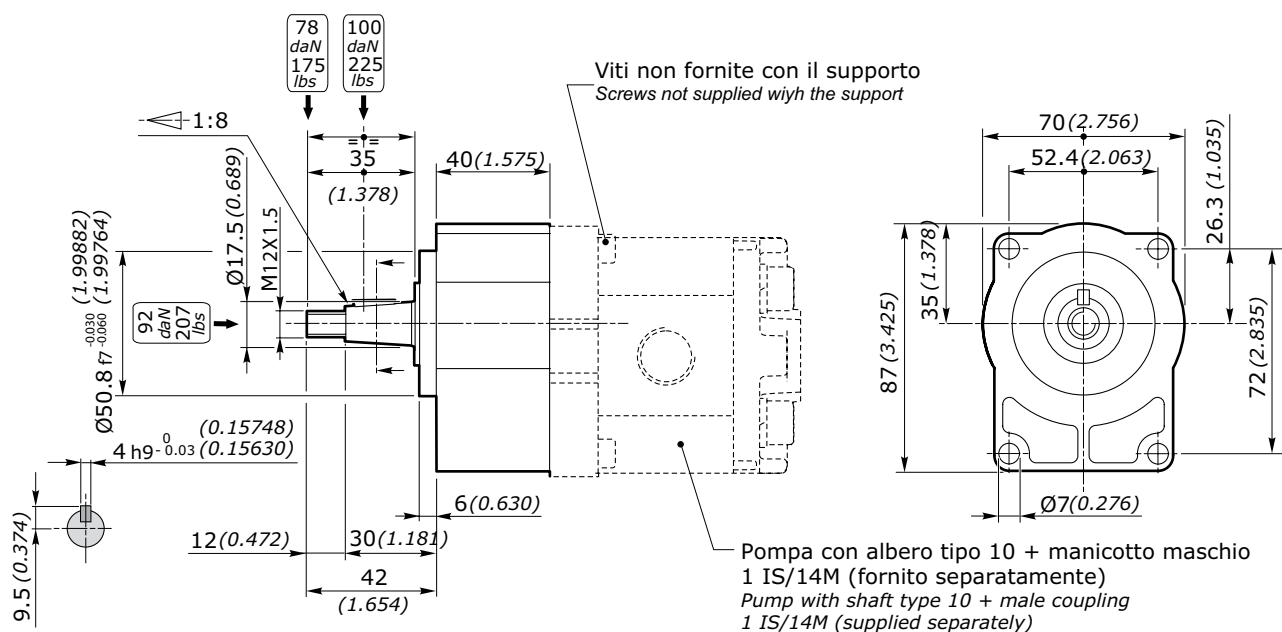
NOTE: Without setting request, it will be considered standard (see table).

**SUPPORTI • SUPPORTS**
**GRUPPO - GROUP**
**1**

SUPPORTO CON ALBERO TIPO 12 • SUPPORT WITH SHAFT TYPE 12

 Codice ordinazione - Order code: **01510400000000**

**GRUPPO - GROUP**
**1**

SUPPORTO CON ALBERO TIPO 10 • SUPPORT WITH SHAFT TYPE 10

 Codice ordinazione - Order code: **01510500000000**


**ACCESSORI**  
**ACCESSORIES**

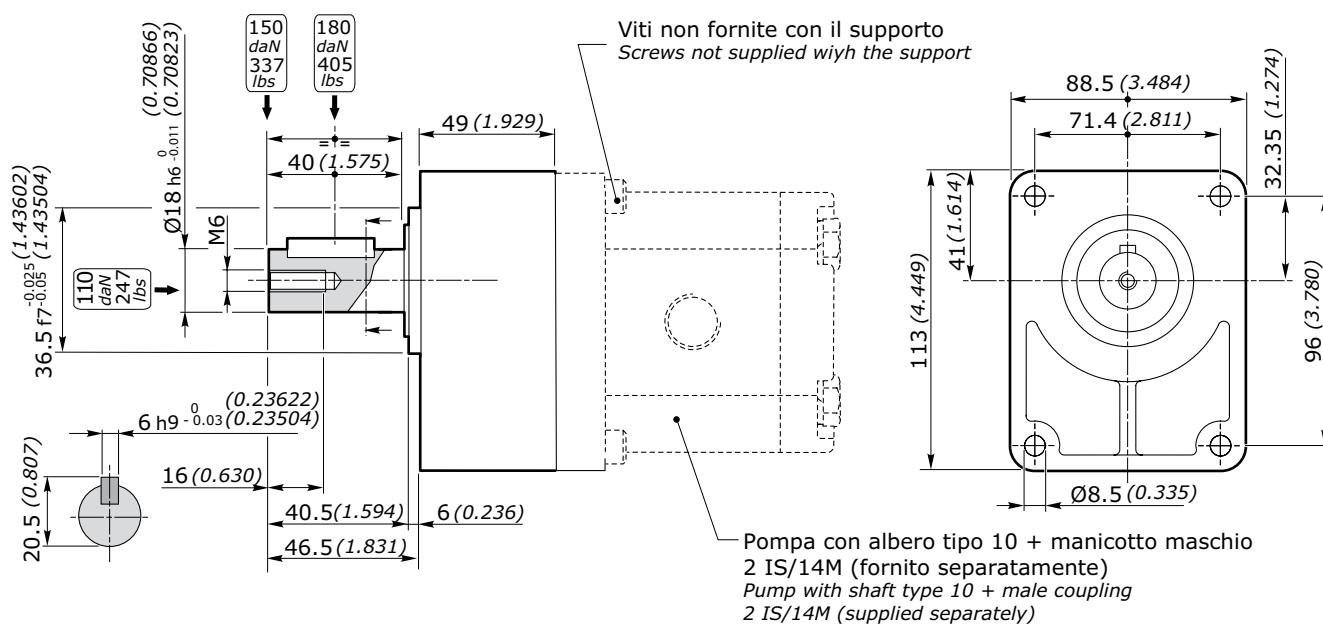
**SUPPORTI • SUPPORTS**

**GRUPPO - GROUP**

**2**

SUPPORTO CON ALBERO TIPO 12 • SUPPORT WITH SHAFT TYPE 12

Codice ordinazione - Order code: **01521200000000**

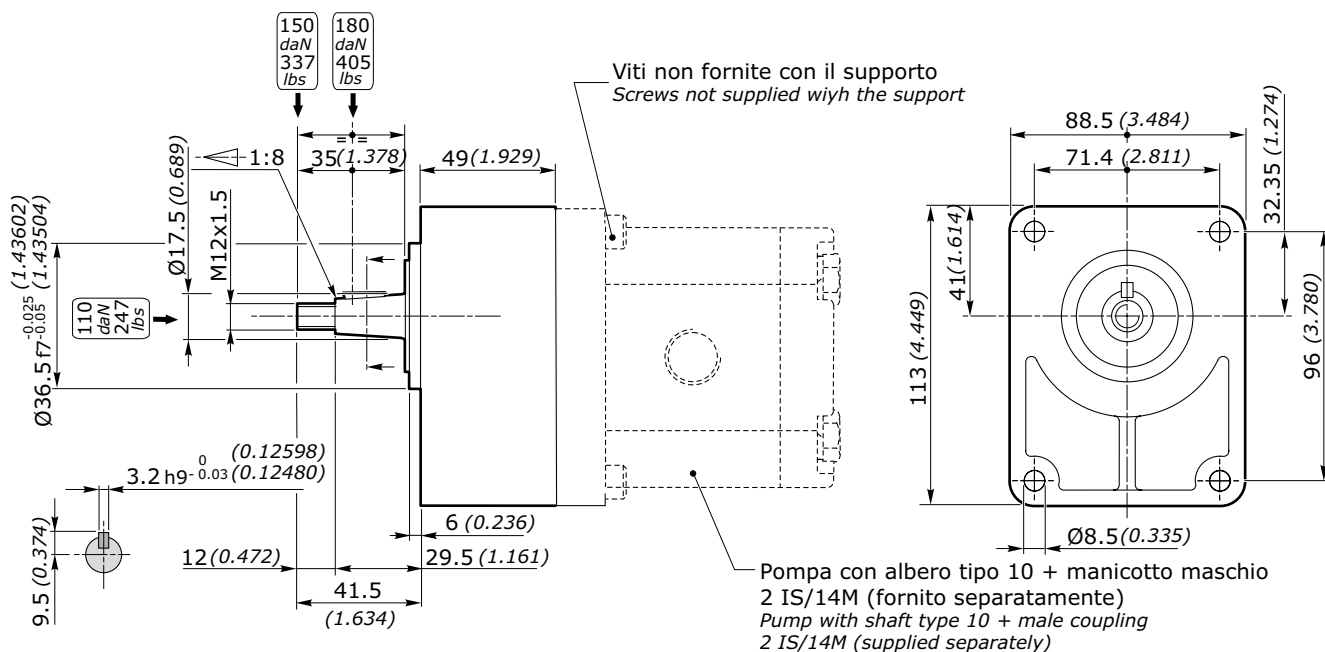


**GRUPPO - GROUP**

**2**

SUPPORTO CON ALBERO TIPO 10 • SUPPORT WITH SHAFT TYPE 10

Codice ordinazione - Order code: **01521201000000**



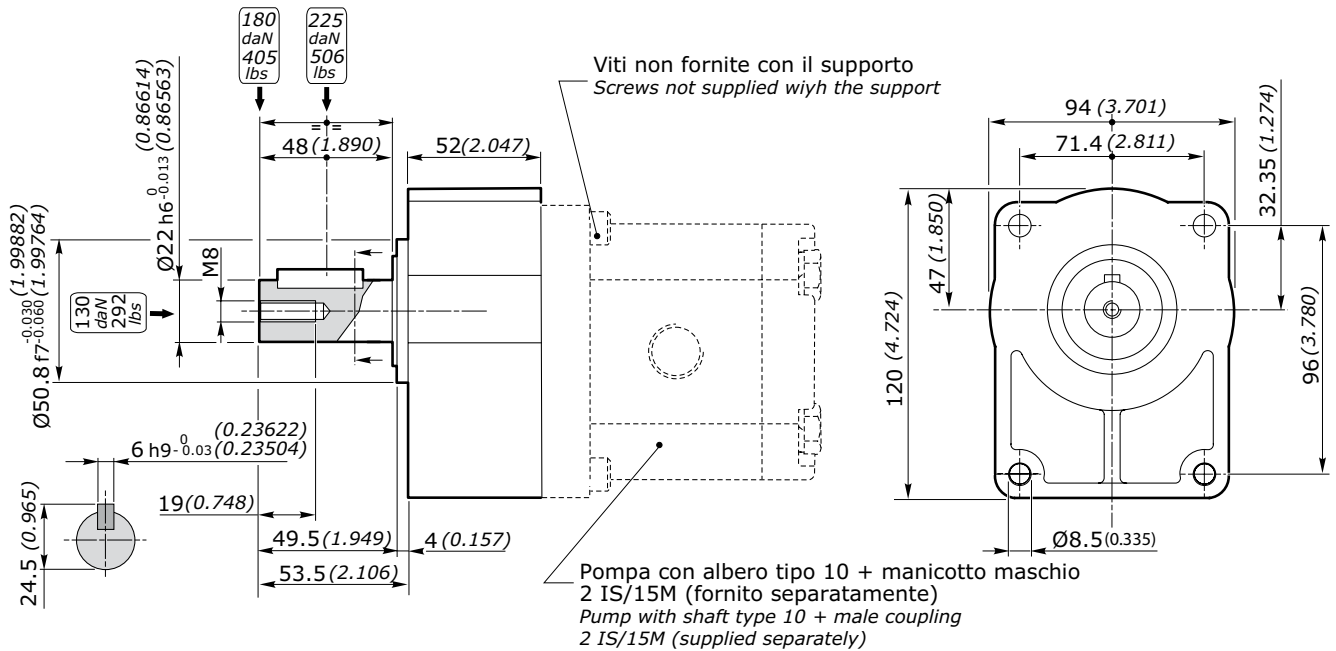
SUPPORTI • SUPPORTS

GRUPPO - GROUP

2

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

Codice ordinazione - Order code: **01521300000000**

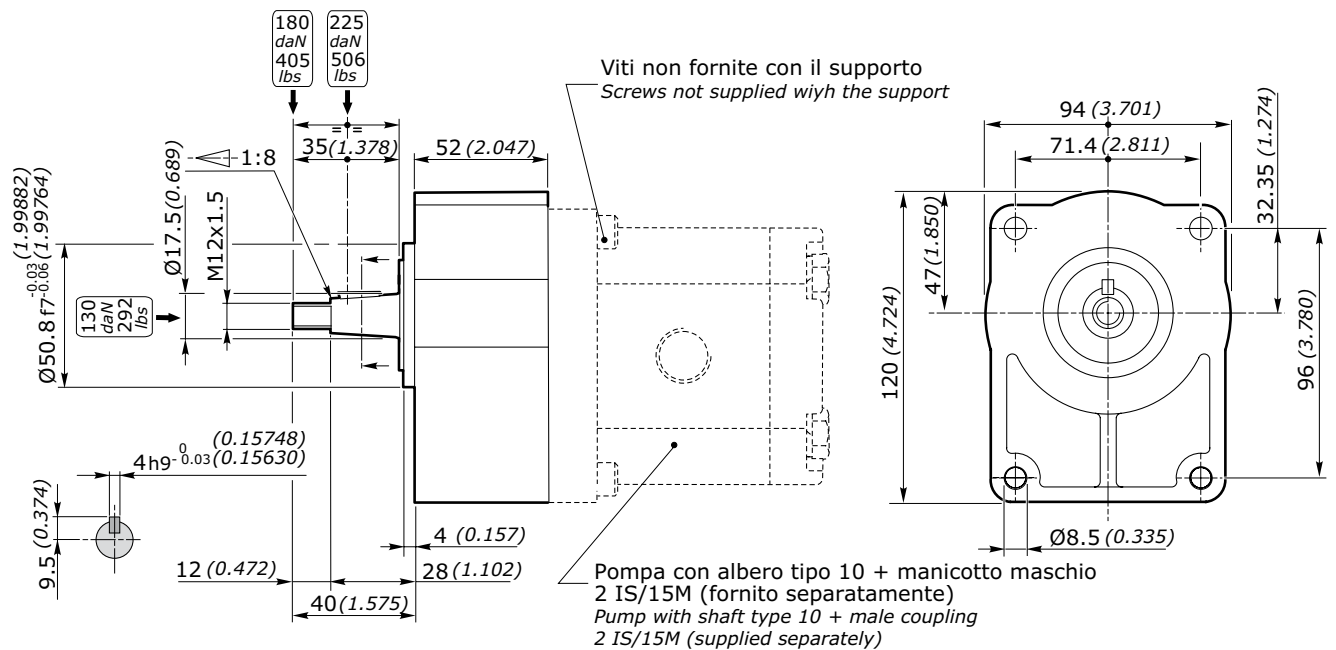


GRUPPO - GROUP

2

SUPPORTO RINFORZATO CON ALBERO TIPO 10 • RENFORCED SUPPORT WITH SHAFT TYPE 10

Codice ordinazione - Order code: **01521301000000**



**ACCESSORI**  
**ACCESSORIES**

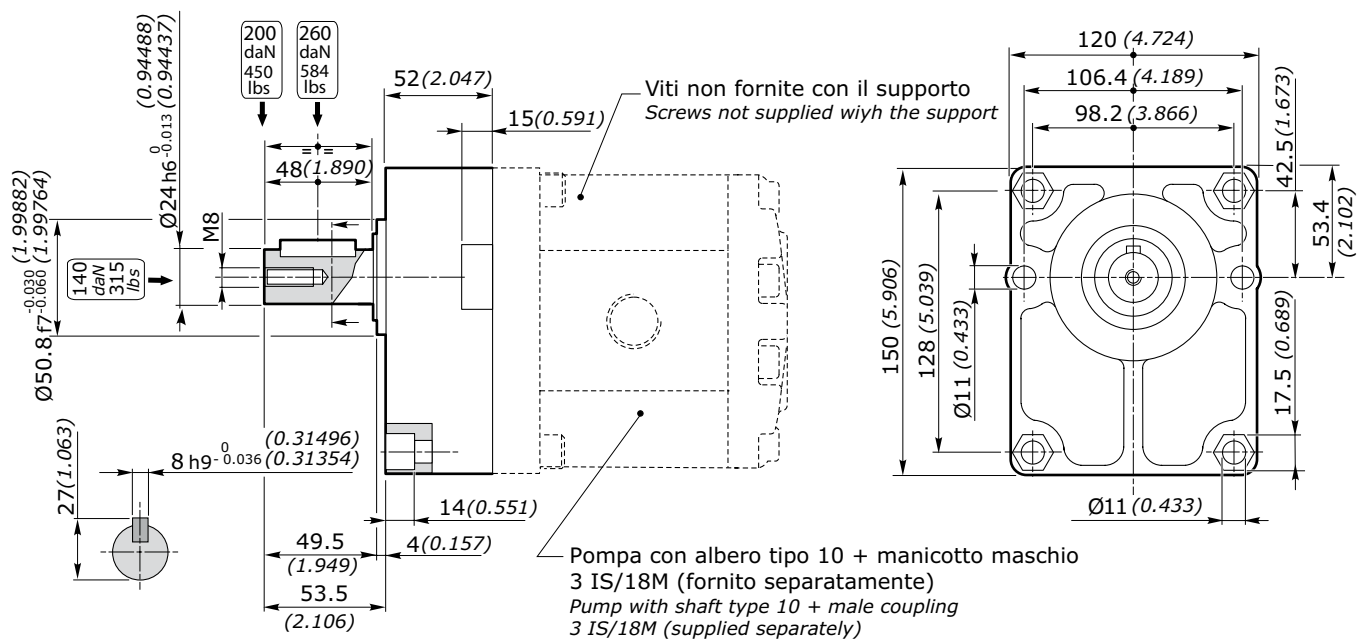
**SUPPORTI • SUPPORTS**

GRUPPO - GROUP

**3**

SUPPORTO CON ALBERO TIPO 12 • SUPPORT WITH SHAFT TYPE 12

Codice ordinazione - Order code: **01530210000000**

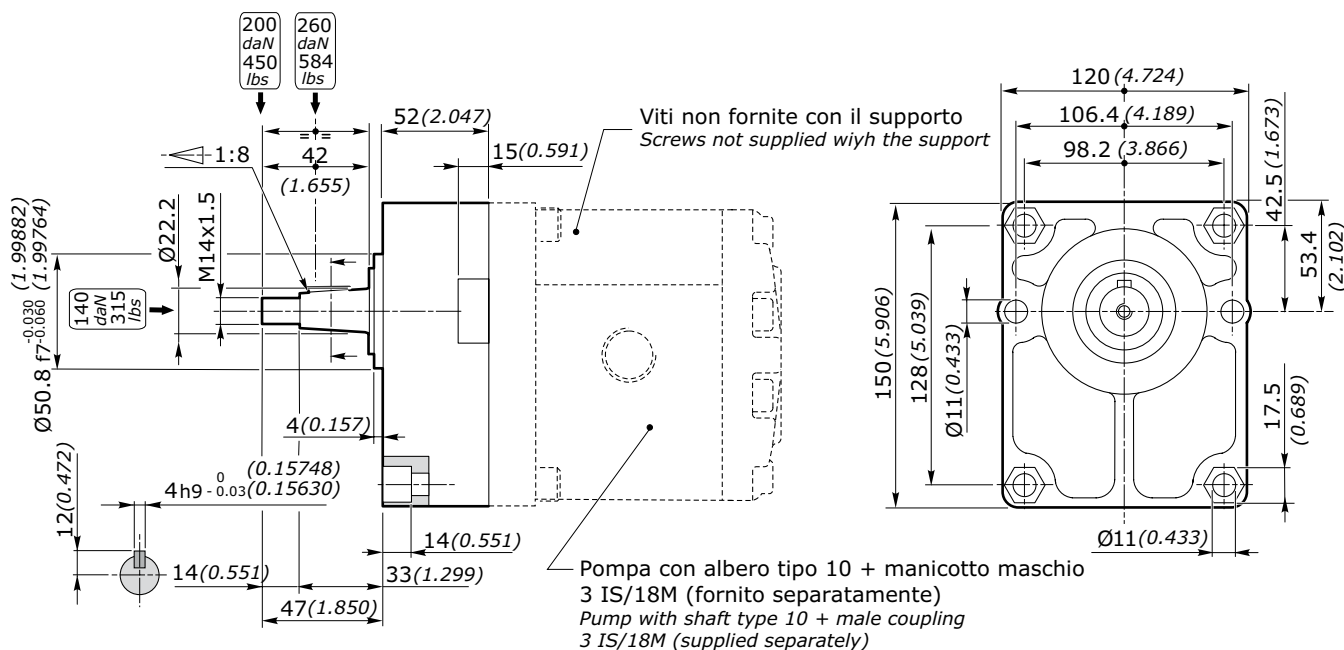


GRUPPO - GROUP

**3**

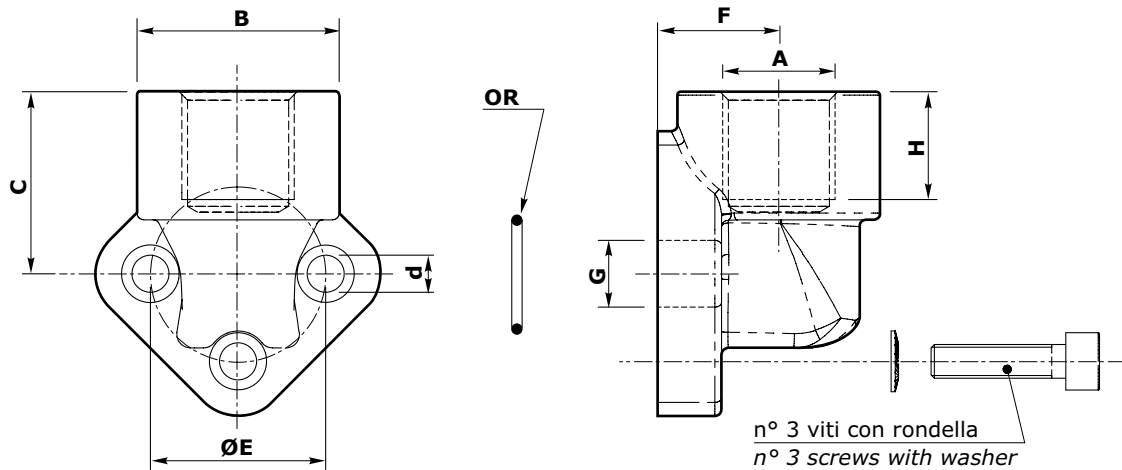
SUPPORTO CON ALBERO TIPO 12 • SUPPORT WITH SHAFT TYPE 12

Codice ordinazione - Order code: **01530220000000**



**RACCORDI • CONNECTORS**
**RACCORDO 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
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
<b>FG 3/8" - 26</b>	G 3/8	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
<b>FG 3/8" - 30</b>	G 3/8	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
<b>FG 1/2" - 30</b>	G 1/2	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
<b>FG 3/4" - 40</b>	G 3/4	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
<b>FG 1" - 51</b>	G 1	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
<b>FG 1"1/2 - 72.5</b>	G 1"1/2	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

**ACCIAIO - STEEL**

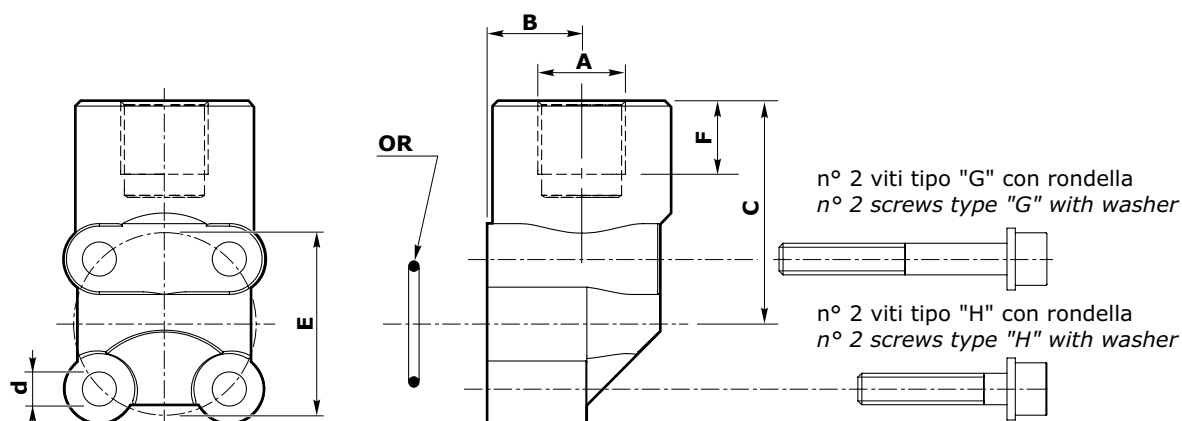
TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
<b>FG 3/8" - 26</b>	016000000
<b>FG 3/8" - 30</b>	016100000
<b>FG 1/2" - 30</b>	016200000
<b>FG 3/4" - 40</b>	016300000
<b>FG 1" - 51</b>	016400000
<b>FG 1"1/2 - 72.5</b>	016500000

**ACCESSORI**  
**ACCESSORIES**

**RACCORDI • CONNECTORS**

**RACCORDO 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 SCREW TYPE H	VITI TIPO G SCREW TYPE G
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
<b>FG 3/8" 0.5 BKA</b>	G 3/8	18	0.709	40	1.575	6.5	0.256	30	1.181	16	0.630	15.88 X 2.62	M6 X 35 UNI 5931	M6 X 45 UNI 5931
<b>FG 1/2" 0.5 BKA</b>	G 1/2	18	0.709	40	1.575	6.5	0.256	30	1.181	16	0.630	15.88 X 2.62		
<b>FG 3/8" 1 BKA</b>	G 3/8	18	0.709	40	1.575	6.5	0.256	35	1.378	16	0.630	18.72 X 2.62	M6 X 20 UNI 5931	M6 X 35 UNI 5931
<b>FG 1/2" 1 BKA</b>	G 1/2	18	0.709	40	1.575	6.5	0.256	35	1.378	16	0.630	18.72 X 2.62		
<b>FG 1/2" 2 BKA</b>	G 1/2	24	0.945	41.5	1.634	6.5	0.256	40	1.575	16	0.630	23.81 X 2.62		
<b>FG 3/4" 2 BKA</b>	G 3/4	24	0.945	41.5	1.634	6.5	0.256	40	1.575	16	0.630	23.81 X 2.62		

**ALLUMINIO • ALUMINIUM**

TIPO - TYPE	A	B		C		d		E		F		OR	VITI TIPO H SCREW TYPE H	VITI TIPO G SCREW TYPE G
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
<b>FG 3/8" 0.5 BKAL</b>	G 3/8	18	0.709	40	1.575	6.5	0.256	30	1.181	14	0.551	15.88 X 2.62	M6 X 30 UNI 5931	M6 X 45 UNI 5931
<b>FG 1/2" 0.5 BKAL</b>	G 1/2	18	0.709	40	1.575	6.5	0.256	30	1.181	14	0.551	15.88 X 2.62		
<b>FG 3/8" 1 BKAL</b>	G 3/8	18	0.709	40	1.575	6.5	0.256	35	1.378	16	0.630	18.72 X 2.62		
<b>FG 1/2" 1 BKAL</b>	G 1/2	18	0.709	40	1.575	6.5	0.256	35	1.378	16	0.630	18.72 X 2.62		
<b>FG 1/2" 2 BKAL</b>	G 1/2	24	0.945	41.5	1.634	6.5	0.256	40	1.575	16	0.630	23.81 X 2.62	M6 X 35 UNI 5931	M6 X 55 UNI 5931
<b>FG 3/4" 2 BKAL</b>	G 3/4	24	0.945	41.5	1.634	6.5	0.256	40	1.575	16	0.630	23.81 X 2.62		

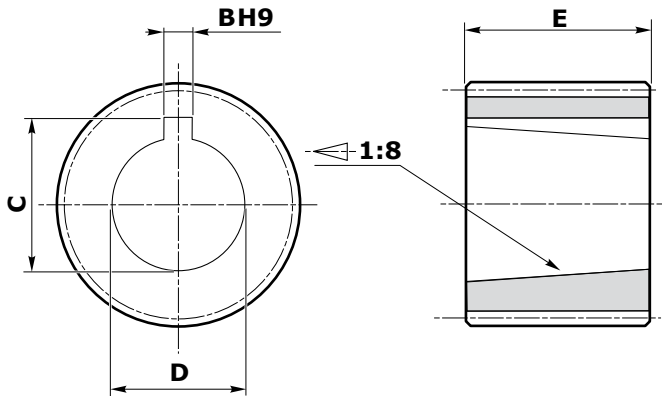
ACCIAIO - STEEL	
TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
<b>FG 3/8" 0.5 BKA</b>	-
<b>FG 1/2" 0.5 BKA</b>	-
<b>FG 3/8" 1 BKA</b>	01999110.000.000
<b>FG 1/2" 1 BKA</b>	01999120.000.000
<b>FG 1/2" 2 BKA</b>	01999220.000.000
<b>FG 3/4" 2 BKA</b>	01999230.000.000

ALLUMINIO - ALUMINIUM	
TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
<b>FG 3/8" 0.5 BKAL</b>	01998010.000.000
<b>FG 1/2" 0.5 BKAL</b>	01998020.000.000
<b>FG 3/8" 1 BKAL</b>	01998110.000.000
<b>FG 1/2" 1 BKAL</b>	01998120.000.000
<b>FG 1/2" 2 BKAL</b>	01998220.000.000
<b>FG 3/4" 2 BKAL</b>	01998230.000.000

**MANICOTTI DI TRASCINAMENTO • MALES COUPLING**

## MANICOTTO DI TRASCINAMENTO POMPE • COUPLING FOR GEAR PUMPS

maschio - male

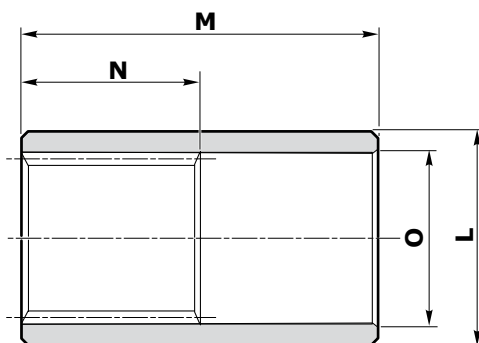


TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
<b>1 IS / 12M</b>	018.001.000.000.000
<b>1 IS / 14M</b>	018.002.000.000.000
<b>2 IS / 14M</b>	018.003.000.000.000
<b>2 IS / 15M</b>	018.004.000.000.000
<b>3 IS / 18M</b>	018.005.000.000.000
<b>4 IS / 23M</b>	018.006.000.000.000

TIPO - TYPE	PROFILO PROFILE DIN 5482	N. DENTI N. TEETH	B		C		D		E		COPPIA SERRAGGIO DADO-GIUNTO NUT-JOINT SCREW TIGHTENING TORQUE	
			mm	inch	mm	inch	mm	inch	mm	inch	Nm	in-lbs
<b>1 IS / 12M</b>	B20 X 17	12	2.4	0.094	9.6	0.378	7.82	0.308	14.5	0.571	9 ÷ 10	80 ÷ 89
<b>1 IS / 14M</b>	B25 X 22	14	2.4	0.094	9.6	0.378	7.82	0.308	14.5	0.571	9 ÷ 10	80 ÷ 89
<b>2 IS / 14M</b>	B25 X 22	14	3.17	0.125	16.5	0.650	14.31	0.563	22	0.866	22 ÷ 25	195 ÷ 221
<b>2 IS / 15M</b>	B28 X 25	15	3.17	0.125	15.8	0.622	14.31	0.563	22	0.866	32 ÷ 35	283 ÷ 310
<b>3 IS / 18M</b>	B35 X 31	18	4	0.157	21	0.827	18.39	0.724	26	1.024	50 ÷ 55	443 ÷ 487
<b>4 IS / 23M</b>	B48 X 44	23	6.35	0.250	30.2	1.189	27.50	1.083	42	1.654	100 ÷ 120	885 ÷ 1062

## MANICOTTO DI TRASCINAMENTO POMPE • COUPLING FOR GEAR PUMPS

femmina - female



TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
<b>1 IS / 12F</b>	018.021.000.000.000
<b>1 IS / 14F</b>	018.022.000.000.000
<b>2 IS / 15F</b>	018.023.000.000.000
<b>3 IS / 18F</b>	018.024.000.000.000
<b>4 IS / 23F</b>	018.025.000.000.000

TIPO - TYPE	PROFILO PROFILE DIN 5482	N. DENTI N. TEETH	L		M		N		O	
			mm	inch	mm	inch	mm	inch	mm	inch
<b>1 IS / 12F</b>	A20 X 17	12	2.4	0.094	9.6	0.378	7.82	0.308	14.5	0.571
<b>1 IS / 14F</b>	A25 X 22	14	2.4	0.094	9.6	0.378	7.82	0.308	14.5	0.571
<b>2 IS / 15F</b>	A28 X 25	15	3.17	0.125	15.8	0.622	14.31	0.563	22	0.866
<b>3 IS / 18F</b>	A35 X 31	18	4	0.157	21	0.827	18.39	0.724	26	1.024
<b>4 IS / 23F</b>	A48 X 44	23	6.35	0.250	30.2	1.189	27.50	1.083	42	1.654



**CODICI ORDINAZIONE**  
**ORDER CODES**

CODICI COMPLETI POMPA SINGOLA - GRUPPO 1 COMPLETE ORDER CODE SINGLE PUMP - GROUP 1		
1SP		
CODICE CODE	SIGLA DI ORDINAZIONE COMPLETA COMPLETE ORDER CODE	DESCRIZIONE DESCRIPTION
<b>1GP10010000</b>	1SP-A-090-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 0.89 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.05 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010028</b>	1SP-A-012-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 1.18 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.07 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010032</b>	1SP-A-012-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 1.18 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.07 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010066</b>	1SP-A-016-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 1.6 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.10 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010088</b>	1SP-A-020-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 2.0 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.12 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010090</b>	1SP-A-020-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 2.0 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.12 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010126</b>	1SP-A-025-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 2.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.15 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010129</b>	1SP-A-025-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 2.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.15 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010163</b>	1SP-A-032-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 3.2 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.20 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010167</b>	1SP-A-032-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 3.2 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.20 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010204</b>	1SP-A-032-S-MC32-B-N-27-5-G	Flangia per minicentralina - cilindrata 3.2 cm <sup>3</sup> /giro - connessione GAS <i>Power-pack Flange - displacement 0.20 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010211</b>	1SP-A-037-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 3.7 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.23 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010241</b>	1SP-A-042-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 4.2 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.26 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010243</b>	1SP-A-042-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 4.2 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.26 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010275</b>	1SP-A-050-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 5.0 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.31 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010278</b>	1SP-A-050-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 5.0 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.31 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010312</b>	1SP-A-063-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 6.3 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.38 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP10010316</b>	1SP-A-063-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 6.3 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.38 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP10010320</b>	1SP-A-063-D-EUR-B-N-14-0-N	Flangia Europea - cilindrata 6.3 cm <sup>3</sup> /giro - albero 14 - connessione UNF <i>European flange - displacement 0.38 in<sup>3</sup>/rev - shaft 14 - connection UNF</i>
<b>1GP10010374</b>	1SP-A-078-S-MC32-B-N-27-5-G	Flangia per minicentralina - cilindrata 7.76 cm <sup>3</sup> /giro - connessione GAS <i>Power-pack Flange - displacement 0.47 in<sup>3</sup>/rev - connection GAS</i>

**CODICI ORDINAZIONE**  
**ORDER CODES**

CODICI COMPLETI POMPA SINGOLA - GRUPPO 2 COMPLETE ORDER CODE SINGLE PUMP - GROUP 2		
2SP		
CODICE CODE	SIGLA DI ORDINAZIONE COMPLETA COMPLETE ORDER CODE	DESCRIZIONE DESCRIPTION
<b>1GP20010000</b>	2SP-A-040-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 4.0 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.24 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010005</b>	2SP-A-040-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 4.0 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.24 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010075</b>	2SP-A-060-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 6.0 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.37 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010081</b>	2SP-A-060-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 6.0 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.37 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010172</b>	2SP-A-080-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 8.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.52 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010179</b>	2SP-A-080-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 8.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.52 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010299</b>	2SP-A-110-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 11 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.67 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010307</b>	2SP-A-110-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 11 cm <sup>3</sup> /giro - connessione UNF (destra) <i>European flange - displacement 0.67 in<sup>3</sup>/rev - connection UNF (right)</i>
<b>1GP20010375</b>	2SP-A-110-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 11 cm <sup>3</sup> /giro - albero 14 - connessione UNF <i>SAEA flange - displacement 0.67 in<sup>3</sup>/rev - shaft 14 - connection UNF</i>
<b>1GP20010396</b>	2SP-A-110-S-EUR-B-N-10-0-N	Flangia Europea - cilindrata 11 cm <sup>3</sup> /giro - connessione UNF (sinistra) <i>European flange - displacement 0.67 in<sup>3</sup>/rev - connection UNF (left)</i>
<b>1GP20010447</b>	2SP-A-140-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 14 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 0.85 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010454</b>	2SP-A-140-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 14 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 0.85 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010515</b>	2SP-A-140-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 14 cm <sup>3</sup> /giro - albero 14 - connessione UNF <i>SAEA flange - displacement 0.85 in<sup>3</sup>/rev - shaft 14 - connection UNF</i>
<b>1GP20010572</b>	2SP-A-160-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 16.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 1.01 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010579</b>	2SP-A-160-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 16.5 cm <sup>3</sup> /giro - connessione UNF (destra) <i>European flange - displacement 1.01 in<sup>3</sup>/rev - connection UNF (right)</i>
<b>1GP20010637</b>	2SP-A-160-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 16.5 cm <sup>3</sup> /giro - albero 14 - connessione UNF <i>SAEA flange - displacement 1.01 in<sup>3</sup>/rev - shaft 14 - connection UNF</i>
<b>1GP20010657</b>	2SP-A-160-S-EUR-B-N-10-0-N	Flangia Europea - cilindrata 16.5 cm <sup>3</sup> /giro - connessione UNF (sinistra) <i>European flange - displacement 1.01 in<sup>3</sup>/rev - connection UNF (left)</i>
<b>1GP20010706</b>	2SP-A-190-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 19.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 1.19 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010715</b>	2SP-A-190-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 19.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 1.19 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010706</b>	2SP-A-220-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 22.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 1.37 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010715</b>	2SP-A-220-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 22.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 1.37 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP20010921</b>	2SP-A-260-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 26 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 1.59 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP20010929</b>	2SP-A-260-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 26 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 1.59 in<sup>3</sup>/rev - connection UNF</i>

**CODICI ORDINAZIONE**  
**ORDER CODES**

CODICI COMPLETI POMPA SINGOLA - GRUPPO 3 COMPLETE ORDER CODE SINGLE PUMP - GROUP 3		
3GP		
CODICE CODE	SIGLA DI ORDINAZIONE COMPLETA COMPLETE ORDER CODE	DESCRIZIONE DESCRIPTION
<b>1GP30010066</b>	3GP-G-230-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 23 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 1.4 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010116</b>	3GP-G-300-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 30.2 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 1.8 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP30010117</b>	3GP-G-300-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 30.2 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 1.8 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010178</b>	3GP-G-340-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 33.8 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 2.1 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP30010179</b>	3GP-G-340-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 33.8 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 2.1 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010234</b>	3GP-G-370-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 37.5 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 2.3 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP30010235</b>	3GP-G-370-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 37.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 2.3 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010244</b>	3GP-G-440-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 44.6 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 2.7 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP30010245</b>	3GP-G-440-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 44.6 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 2.7 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010349</b>	3GP-G-530-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 53 cm <sup>3</sup> /giro - connessione GAS <i>European flange - displacement 3.2 in<sup>3</sup>/rev - connection GAS</i>
<b>1GP30010351</b>	3GP-G-530-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 53 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 3.2 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010359</b>	3GP-G-620-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 62.7 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 3.8 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010408</b>	3GP-G-700-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 70.5 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 4.3 in<sup>3</sup>/rev - connection UNF</i>
<b>1GP30010413</b>	3GP-G-770-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 77.2 cm <sup>3</sup> /giro - connessione UNF <i>European flange - displacement 4.7 in<sup>3</sup>/rev - connection UNF</i>

**CODICI ORDINAZIONE**  
**ORDER CODES**

CODICI COMPLETI MOTORE - GRUPPO 2 COMPLETE ORDER CODE MOTOR - GROUP 2		
2SM		
CODICE CODE	SIGLA DI ORDINAZIONE COMPLETA COMPLETE ORDER CODE	DESCRIZIONE DESCRIPTION
<b>1GM20010126</b>	2SM-A-110-R-EUR-B-N-10-0-G	Flangia europea - cilindrata 11 cm <sup>3</sup> /giro - connessione GAS (reversibile) <i>European flange - displacement 0.67 in<sup>3</sup>/rev - connection GAS (reversible)</i>
<b>1GM20010128</b>	2SM-A-110-R-EUR-B-N-10-0-N	Flangia europea - cilindrata 11 cm <sup>3</sup> /giro - connessione UNF (reversibile) <i>European flange - displacement 0.67 in<sup>3</sup>/rev - connection UNF (reversible)</i>
<b>1GM20010180</b>	2SM-A-140-R-EUR-B-N-10-0-G	Flangia europea - cilindrata 14 cm <sup>3</sup> /giro - connessione GAS (reversibile) <i>European flange - displacement 0.85 in<sup>3</sup>/rev - connection GAS (reversible)</i>
<b>1GM20010181</b>	2SM-A-140-R-EUR-B-N-10-0-N	Flangia europea - cilindrata 14 cm <sup>3</sup> /giro - connessione UNF (reversibile) <i>European flange - displacement 0.85 in<sup>3</sup>/rev - connection UNF (reversible)</i>
<b>1GM20010223</b>	2SM-A-160-R-EUR-B-N-10-0-G	Flangia europea - cilindrata 16.5 cm <sup>3</sup> /giro - connessione GAS (reversibile) <i>European flange - displacement 1.01 in<sup>3</sup>/rev - connection GAS (reversible)</i>
<b>1GM20010225</b>	2SM-A-160-R-EUR-B-N-10-0-N	Flangia europea - cilindrata 16.5 cm <sup>3</sup> /giro - connessione UNF (reversibile) <i>European flange - displacement 1.01 in<sup>3</sup>/rev - connection UNF (reversible)</i>
<b>1GM20010269</b>	2SM-A-190-R-EUR-B-N-10-0-G	Flangia europea - cilindrata 19.5 cm <sup>3</sup> /giro - connessione GAS (reversibile) <i>European flange - displacement 1.19 in<sup>3</sup>/rev - connection GAS (reversible)</i>
<b>1GM20010271</b>	2SM-A-190-R-EUR-B-N-10-0-N	Flangia europea - cilindrata 19.5 cm <sup>3</sup> /giro - connessione UNF (reversibile) <i>European flange - displacement 1.19 in<sup>3</sup>/rev - connection UNF (reversible)</i>