

INTRODUZIONE • INTRODUCTION

La pompa ad ingranaggi esterni è un componente ampiamente utilizzato per applicazioni oleodinamiche: la sua semplicità nella costruzione (rispetto ad altre tipologie di pompe più complesse come ad esempio pompe orbitali o a pistoni) unita alla grande versatilità, resistenza e lunga durata consentono una manutenzione ridotta e costi d'acquisto più contenuti.

Tali pompe possono sia lavorare in condizioni gravose con l'erogazione di elevate potenze idrauliche, sia in condizioni standard con una bassa emissione acustica ed elevati rendimenti idromeccanici e volumetrici grazie all'ottima bilanciatura.

La gamma Galtech grazie un costante lavoro di ricerca unito all'esperienza pluriennale, alla meticolosa scelta dei materiali e alla costante cura nel processo non solo di produzione, ma anche nei test di validazione si è ampliata mantenendo elevati standard qualitativi.

Le pompe ad ingranaggi esterni sono costituite da 3 gruppi: 1SP, 2SP (a 12 denti) e 3GP (a 10 denti) con ben 32 cilindrate da 0.89 a 77 cc/giro adatte alle più varie applicazioni sia industriali che nel campo del mobile con elevati rapporti potenza/peso e potenza/dimensioni.

Si possono raggiungere pressioni elevate fino a 300 bar e velocità massime di rotazione di 4000 giri/min.

Le pompe Galtech possono essere assemblate con totale intercambiabilità sia con flange standard (europea, tedesca, SAE) sia con tipologie speciali ed utilizzate con una vasta gamma di alberi come quelli conici, cilindrici scanalati e fresati con dente frontale.

Sono disponibili vari coperchi e flange in ghisa per ridurre la rumorosità e aumentare i limiti operativi. Inoltre è possibile montare coperchi con valvola limitatrice di pressione e valvole regolatrici di flusso.

Tutte le pompe sono predisposte per il montaggio in una o più ulteriori unità per la realizzazione di pompe multiple: diverse soluzioni di accoppiamento sono disponibili per privilegiare la compattezza costruttiva o una intercambiabilità più flessibile.

The external gear pump is widely used for oleodynamic applications: its simplicity in construction (compared to other types of more complex pumps such as orbital or axial piston pumps) coupled with great versatility, strength and durability allow reduced maintenance and lower purchasing costs.

These pumps can work both under harsh conditions with high hydraulic power supply, both in standard conditions with a low noise level and high hydromechanical efficiency and excellent volumetric balancing.

The Galtech range thanks to a constant research combined with years of experience, meticulous choice of materials and constant care of the process not only in production, but also in the validation tests, has expanded while maintaining high quality standards.

The external gear pumps consist of 3 groups: 1SP, 2SP (12 teeth) and 3GP (10 teeth) with 32 displacements from 0.89 to 77 cc/rev suited to various applications in the field of mobile with high industrial power-to-weight and power/size ratios.

You can reach high pressures up to 300 bar and maximum speeds of rotation of 4000 rpm.

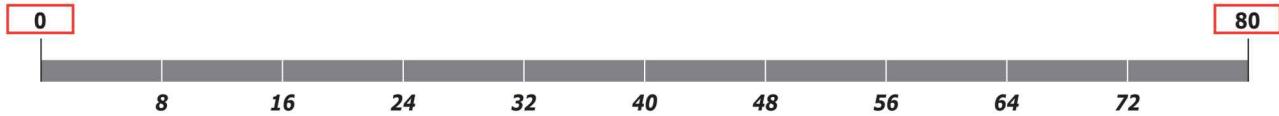
Galtech pumps can be assembled with complete interchangeability both with standard flanges (European, German, SAE) and with special flanges used with a variety of shafts as those the cylindrical, conical grooved and milled ones with front tooth.

Several cast iron covers and flanges are available to reduce noise and to increase the operating limits. Covers with pressure relief valve and flow control valves can be assembled as well.

All the pumps are arranged for the mounting into one or more additional units to complete multiple pumps: different coupling solutions are available to privilege the construction compactness or a more flexible interchangeability.

POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

Le cilindrate disponibili sono evidenziate nel seguente diagramma (cm³/giro):
The available displacements are shown below (cm³/rev):



POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>
	<i>cm³/giro</i>	<i>in³/rev</i>		<i>l/min</i>	<i>Gal/min</i>	
1SP 009	0.89	0.05	6000	5.3	1.40	600
1SP 012	1.18	0.07	6000	7.1	1.88	600
1SP 016	1.6	0.10	6000	9.6	2.54	400
1SP 020	2.0	0.12	5500	11	2.91	400
1SP 025	2.5	0.15	5000	12.5	3.30	400
1SP 032	3.2	0.20	4500	14.4	3.80	400
1SP 037	3.7	0.23	4000	14.8	3.91	400
1SP 042	4.2	0.26	3500	14.7	3.88	400
1SP 050	5.0	0.31	3000	15	3.96	400
1SP 063	6.3	0.38	2700	17	4.49	400
1SP 078	7.76	0.47	2500	19.4	5.13	400
1SP 098	9.78	0.60	2000	19.6	5.18	400

FLANGE - FLANGES

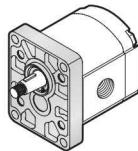


POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	<i>cm³/giro</i>	<i>in³/rev</i>	<i>giri/min - rpm</i>	<i>l/min</i>	<i>Gal/min</i>	<i>giri/min - rpm</i>
2SP 040	4	0.24	4000	16	4.23	500
2SP 060	6	0.37	4000	24	6.34	500
2SP 080	8.5	0.52	3500	29.7	7.85	500
2SP 110	11	0.67	3500	38.5	10.17	500
2SP 140	14	0.85	3500	49	12.95	500
2SP 160	16.5	1.01	3500	57.7	15.24	500
2SP 190	19.5	1.19	3300	64.3	16.99	500
2SP 220	22.5	1.37	2800	63	16.64	500
2SP 260	26	1.59	2500	65	17.17	500
2SP 310	31.5	1.92	2200	69	18.22	500

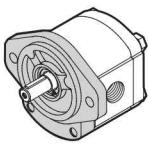
FLANGE - FLANGES

EUR



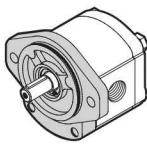
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SAEA



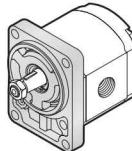
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SAEAOR



pagina/page 38

B80C



pagina/page 39

B50C

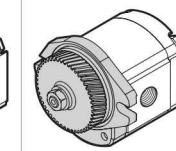


pagina/page 40

E52C

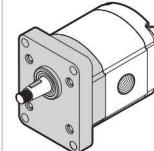


P400D



pagina/page 41

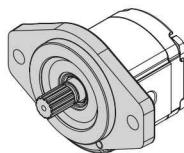
SUPEUR



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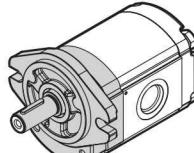
FLANGE - FLANGES

SAEB*



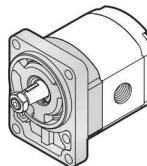
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SUPSAE



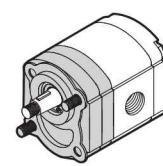
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SUPB80C



pagina/page 46

SUPB50CX



pagina/page 47

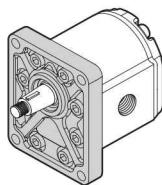
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POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>
	<i>cm³/giro</i>	<i>in³/rev</i>		<i>l/min</i>	<i>Gal/min</i>	
3GP 190	19.3	1.2	3500	67.6	17.84	600
3GP 230	23.0	1.4	3500	80.3	21.22	600
3GP 300	30.2	1.8	3300	99.7	26.33	600
3GP 340	33.8	2.1	3300	111.6	29.49	600
3GP 370	37.5	2.3	3300	123.6	32.66	600
3GP 440	44.6	2.7	3000	133.8	35.35	600
3GP 530	53.0	3.2	3000	159.1	42.04	600
3GP 620	62.7	3.8	2500	156.8	41.41	600
3GP 700	70.5	4.3	2500	176.3	46.58	600
3GP 770	77.2	4.7	2200	169.8	44.84	600

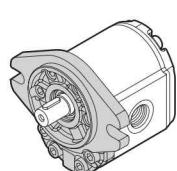
FLANGE - FLANGES

EUR



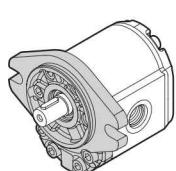
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SAEB*

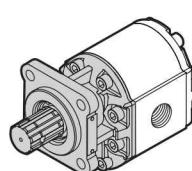


pagina/page 69

SAEBOR



ZFC



pagina/page 70

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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, antiwear, antiossidanti, anticorrosione e con proprietà di rapida disareazione ed elevato indice di viscosità;

- viscosità raccomandata 15÷92 mm²/s
- viscosità limite d'avviamento 2000 mm²/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 mm²/s (cSt)
- Start-up viscosity limit 2000 mm²/s (cSt)

During normal operation, the oil temperature must be between 20°C and 65°C with 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), it is necessary to use sealing ring for high pressures.

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 garantiscono una velocità dell'olio compresa fra 0.6 e 2 m/s.

Particular attention must be given to the sizing of rigid or flexible pipes, 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 oil impurity and to guarantee a longer duration of the pump, the system must be equipped with effective filtration, whose operation must be periodically checked.

The recommended filtration levels are as follows:

Up to 150 bar:

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

Over 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 starting the system setting, 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 leakages.
 - 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 puleggi 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.

• 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 strengthened shaft.

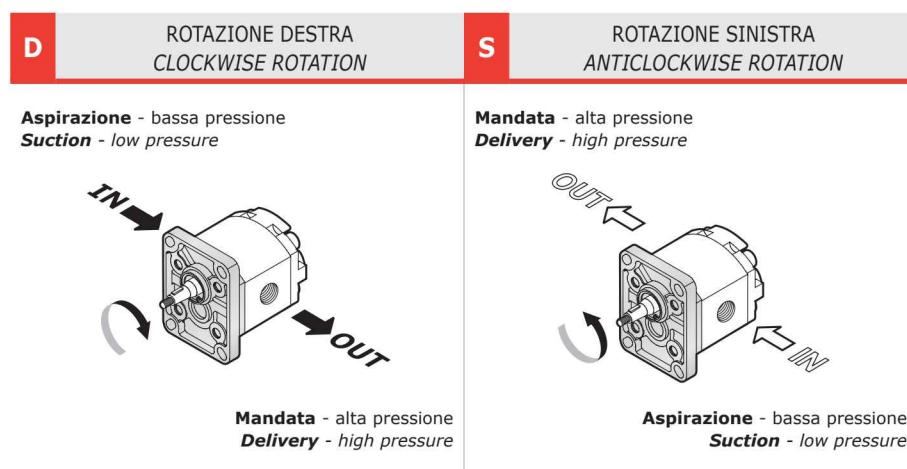
• The coupling joint between the spline shafts has to be properly lubricated, free to move axially and of a suitable length to cover both motor and pump shafts.

Installation notes:

- disconnect the drain pump to bleed off the air in the circuit and set the pressure relief valve at the minimum value.
- 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 specified in this catalogue.

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

USCITA FLUIDO AD ALTA PRESSIONE
HIGH PRESSURE FLUID EXIT



SENSO DI ROTAZIONE • ROTATION WISE

Il senso di rotazione viene definito S (sinistro) e D (destro) 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 wise is defined as S (anticlockwise) or D (clockwise) by observing the shaft from the front. In case of anticlockwise rotation "S" the suction will be to the right of the drive shaft while the delivery will be to your left; the opposite will be for monodirectional pump right "D". When ordering, it is necessary to specify the required rotation; direction or it is possible to modify the internal structure as illustrated below (reversal).

**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)

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

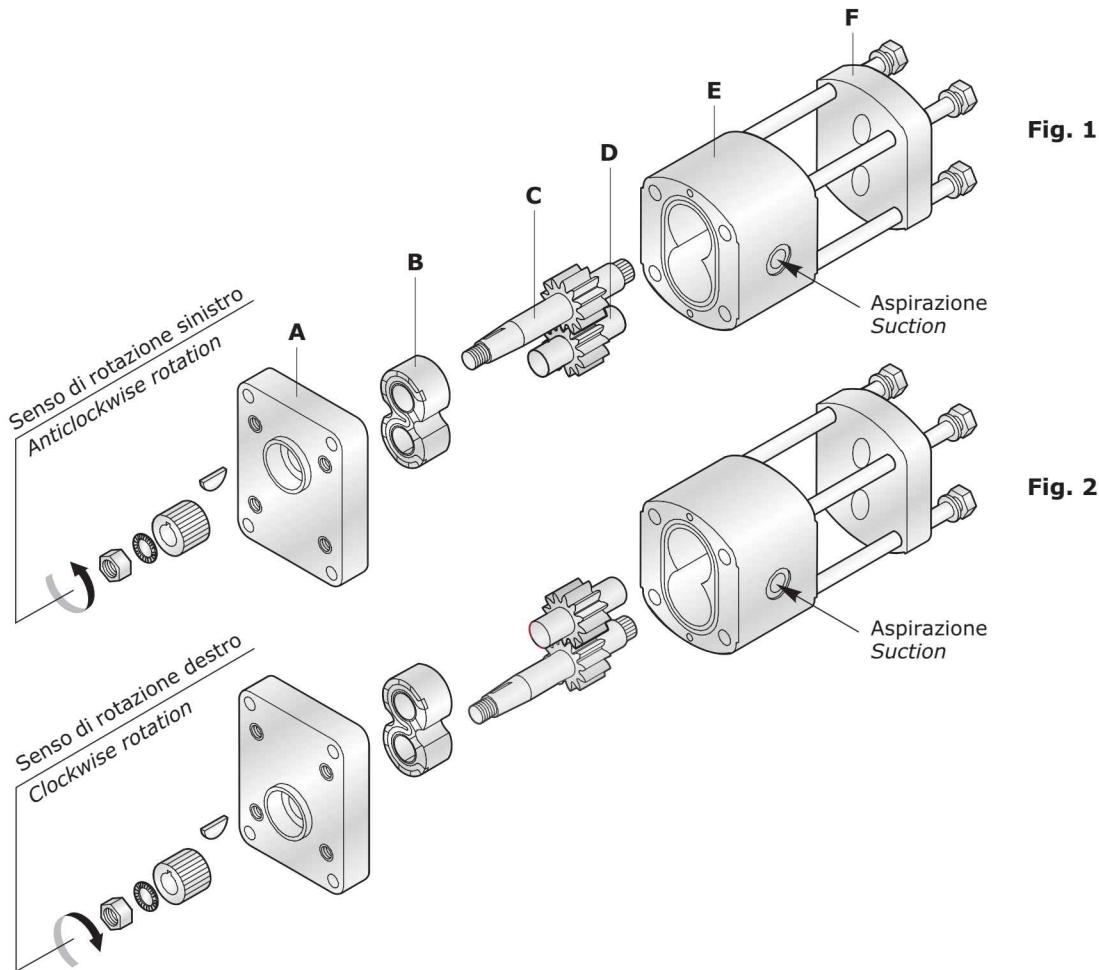
- Smontare la pompa come da fig. 1.
- Sfilare gli ingranaggi C e D e rimontarli secondo la fig. 2.
- Rimontare la boccola B nella stessa posizione della fig. 1.
- Capovolgere la flangia A e rimontare la pompa serrando le viti con una chiave dinamometrica.
- Per le pompe 3PG, smontare solo la flangia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

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

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

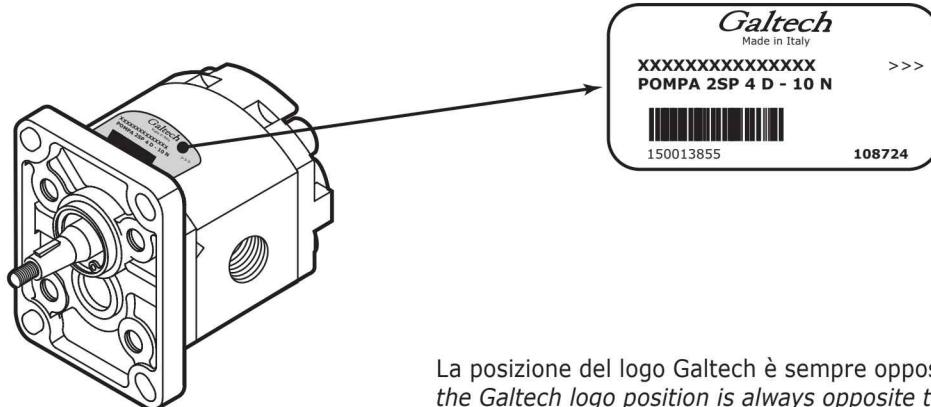
How to invert the pump wise rotation:

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



**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 is always opposite to the flange.



TIPO DI POMPA - PUMP TYPE	GRUPPO - GROUP 1SP	GRUPPO - GROUP 2SP	GRUPPO - GROUP 3GP
Numero di viti <i>Screws number</i>	4	4	16
Tipo di filetto <i>Thread type</i>	M8	M10	M10
Coppia di serraggio viti <i>Screw tightening torque</i>	30 Nm / 266 in-lbs	50 Nm / 443 in-lbs	60 Nm / 531 in-lbs
Tipo di giunto <i>Coupling type</i>	1IS 12M	2IS 14M / 2IS 15M	3IS 18M
Coppia di serraggio dado giunto <i>Nut coupling tightening torque</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**

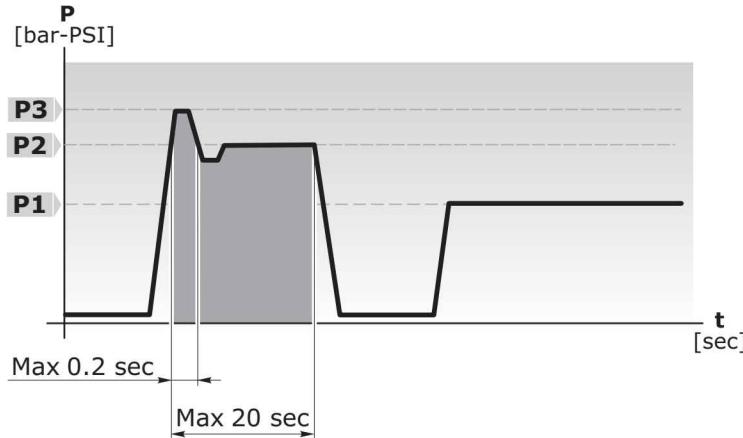
DEFINIZIONE DELLE PRESSIONI • DEFINITION OF PRESSURES

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 P1, P2 or P3 pressures shown in the performance tables.

The following diagram illustrates the definitions and applicability by respecting the included rotation speed limits.



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		
Q	Portata <i>Flow</i>	[l/min] [Gal/min]
M	Coppia <i>Torque</i>	[Nm] [lfb.in]
P	Potenza <i>Power</i>	[kW] [HP]
V	Cilindrata <i>Displacement</i>	[cm³/giro] [in³/rev]
n	Velocità <i>Speed</i>	[min⁻¹]
Δp	Pressione <i>Pressure</i>	[bar] [PSI]
η_v	Rendimento volumetrico <i>Volumetric efficiency</i>	
η_m	Rendimento meccanico <i>Mechanical efficiency</i>	
η_t	Rendimento totale <i>Overal efficiency</i>	

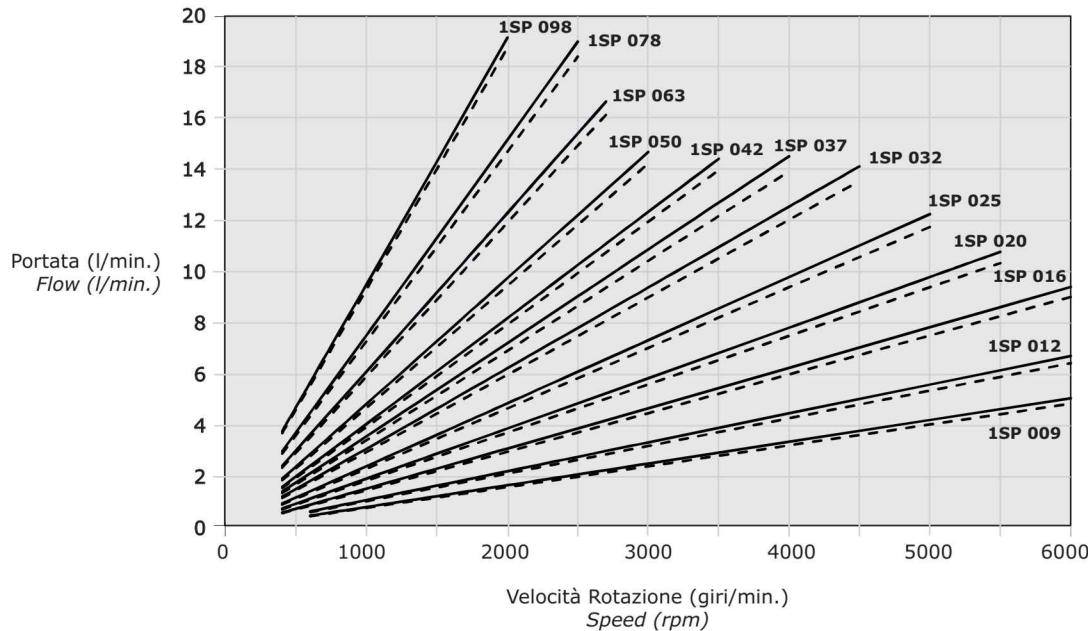
FORMULE UTILI - USEFUL FORMULAS		
Q =	$V \cdot \eta_v \cdot n / 1000$	[l/min]
	$V \cdot \eta_v \cdot n / 231$	[Gal/min]
M =	$\frac{\Delta p \cdot V}{62.83 \cdot \eta_m}$	[Nm]
	$\frac{\Delta p \cdot V}{2 \cdot 3.14 \cdot \eta_m}$	[lfb.in]
P =	$\frac{\Delta p \cdot V \cdot n}{600 \cdot 1000 \cdot \eta_t}$	[kW]
	$\frac{\Delta p \cdot V \cdot n}{395934 \cdot \eta_t}$	[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 cm³/giro	0.061 in³/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 - ROTATION SPEED CHART



GRUPPO GROUP 1SP

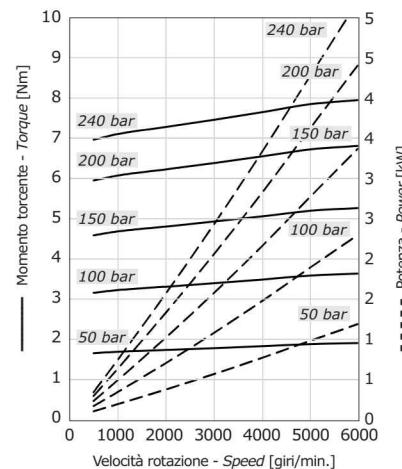
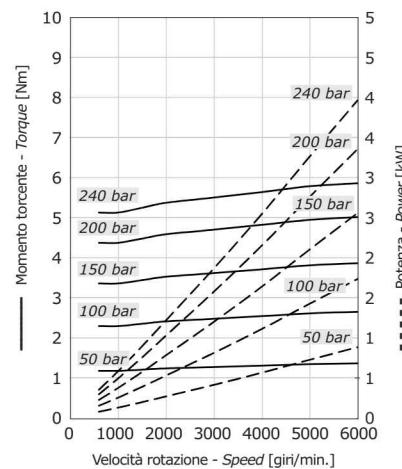
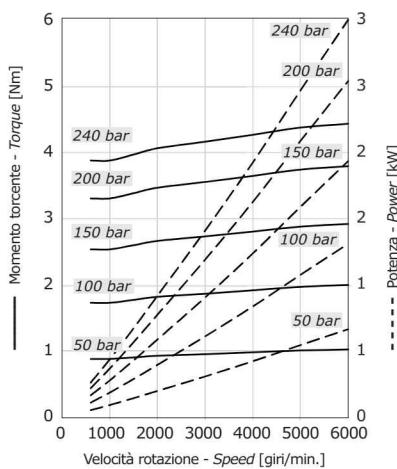
DIAGRAMMI POTENZE
POWER DIAGRAM

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

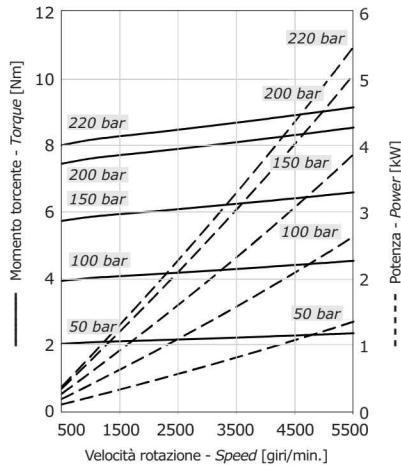
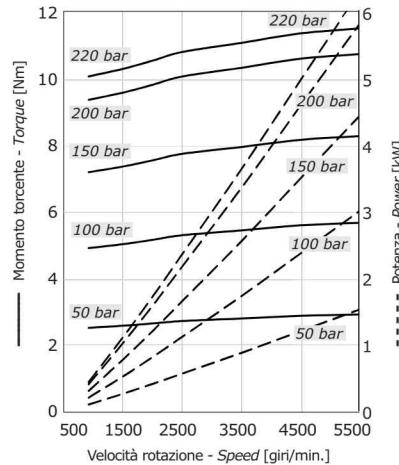
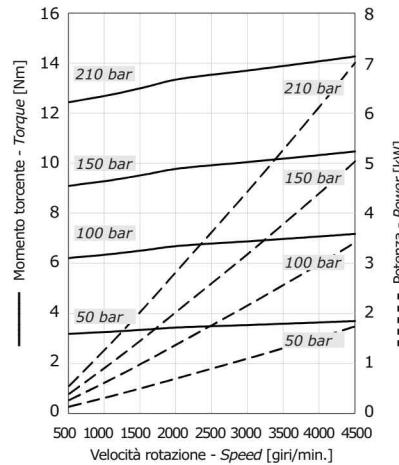
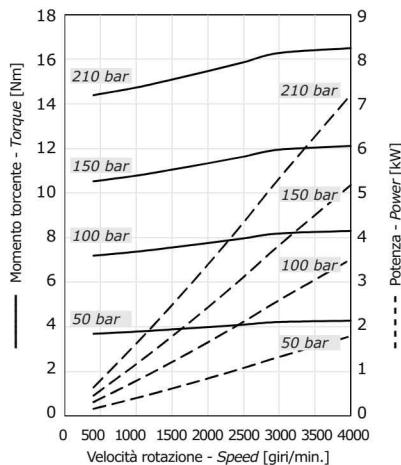
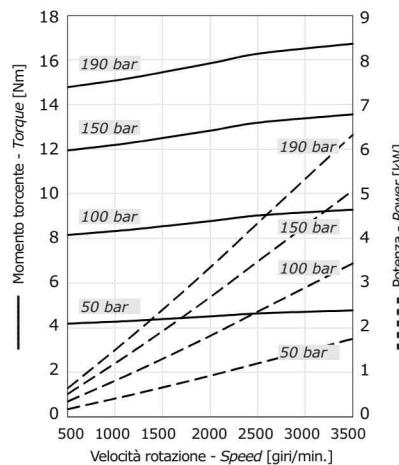
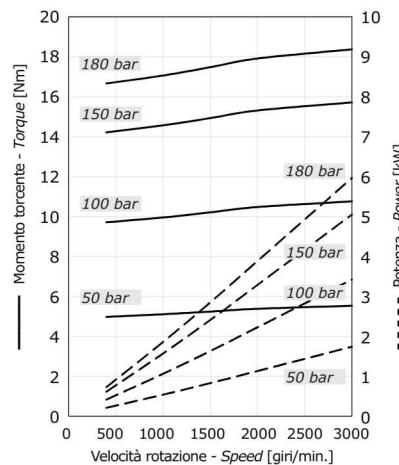
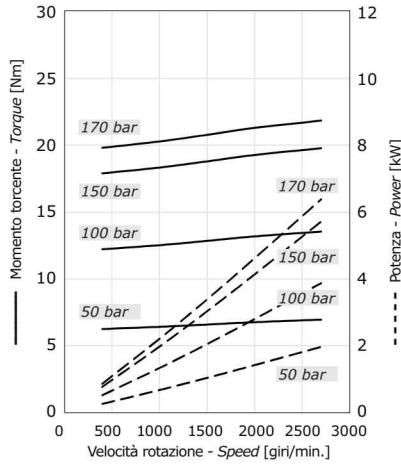
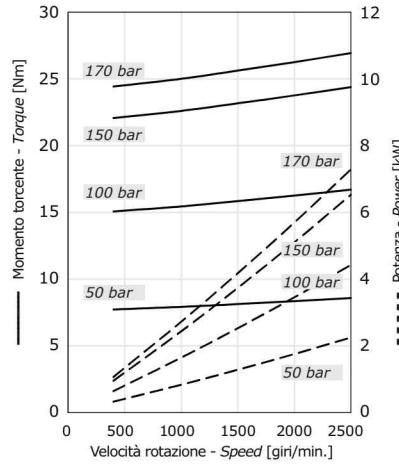
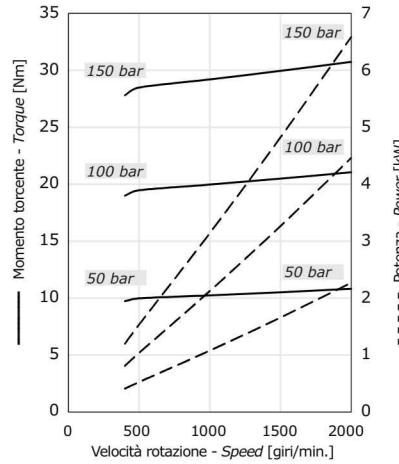
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1SP 012

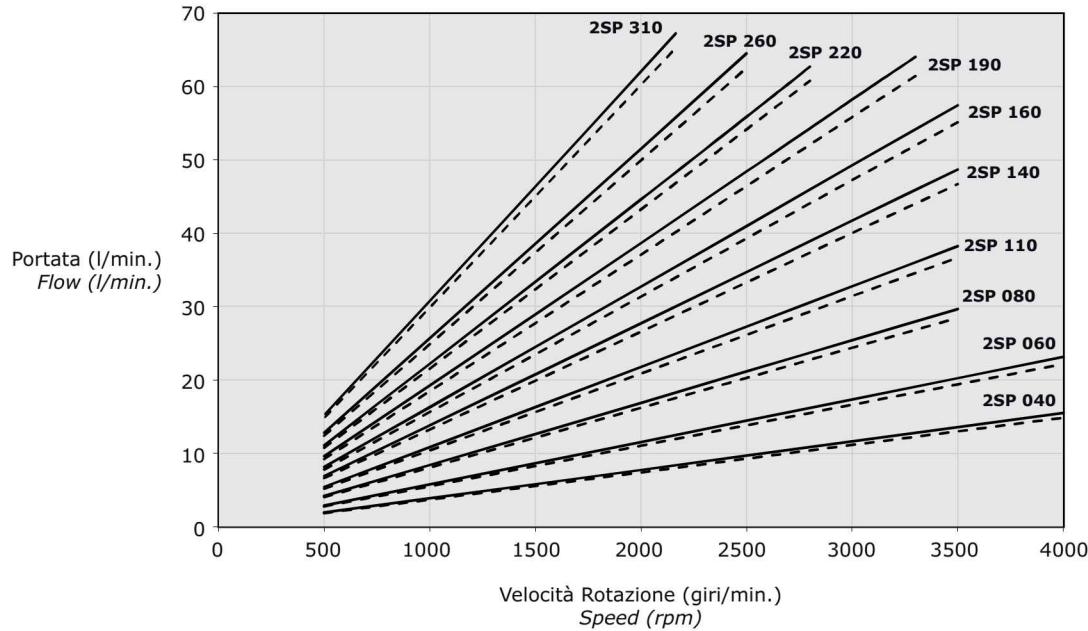
1SP 016



POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

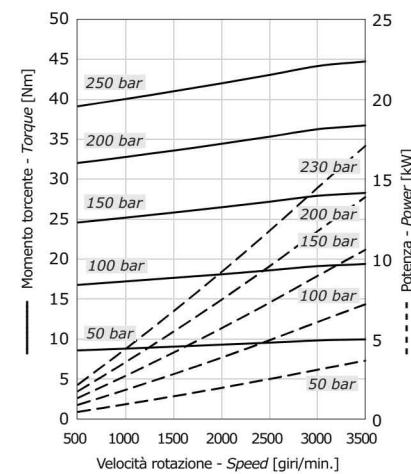
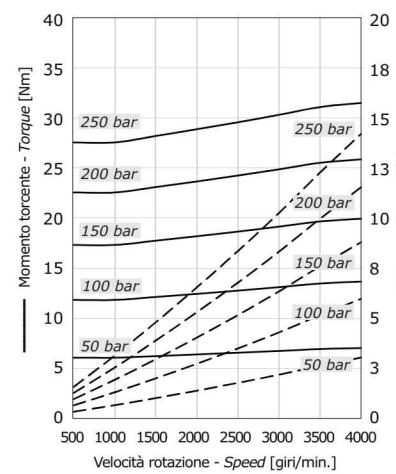
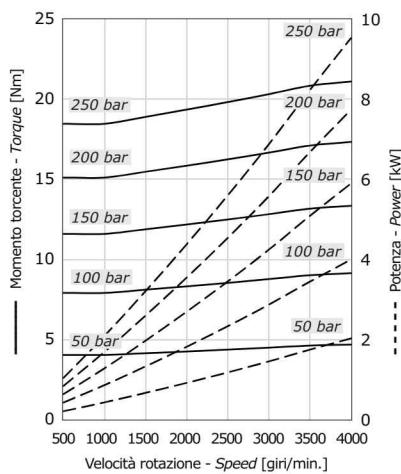
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**POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES**
**GRUPPO
GROUP 2SP**

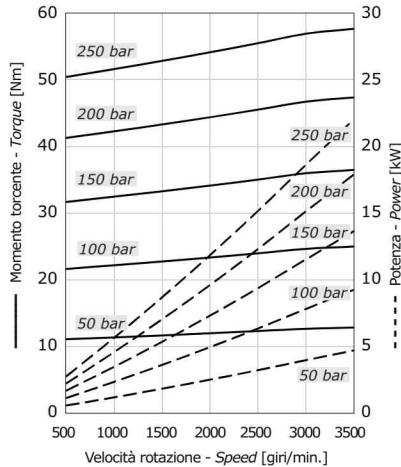
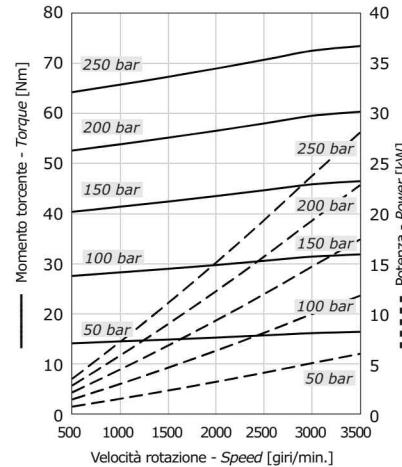
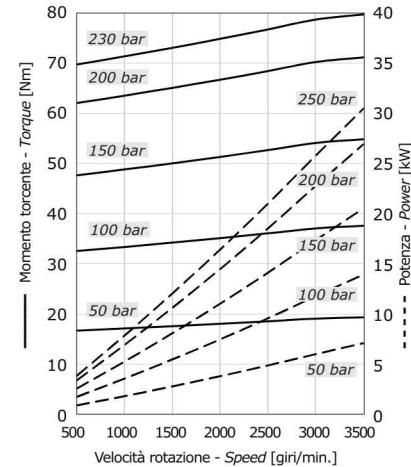
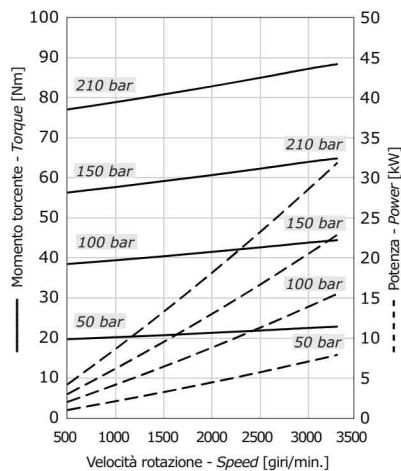
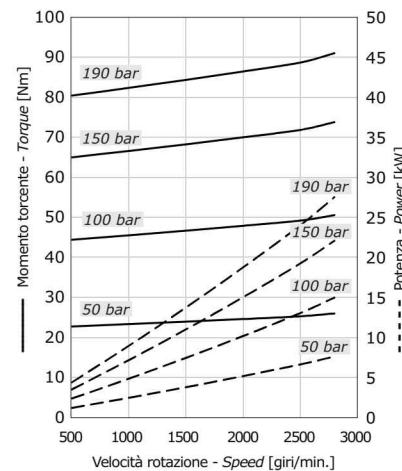
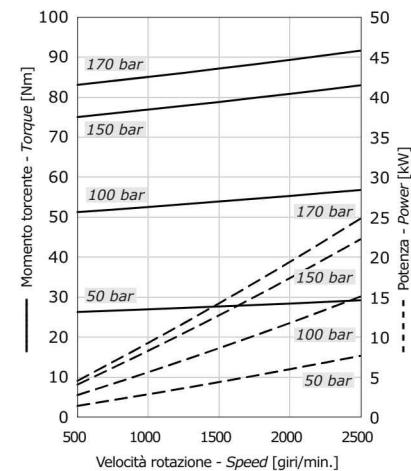
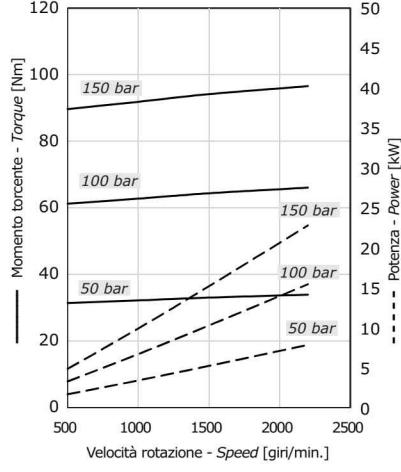
DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

**GRUPPO
GROUP 2SP**

DIAGRAMMI POTENZE
POWER DIAGRAM

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

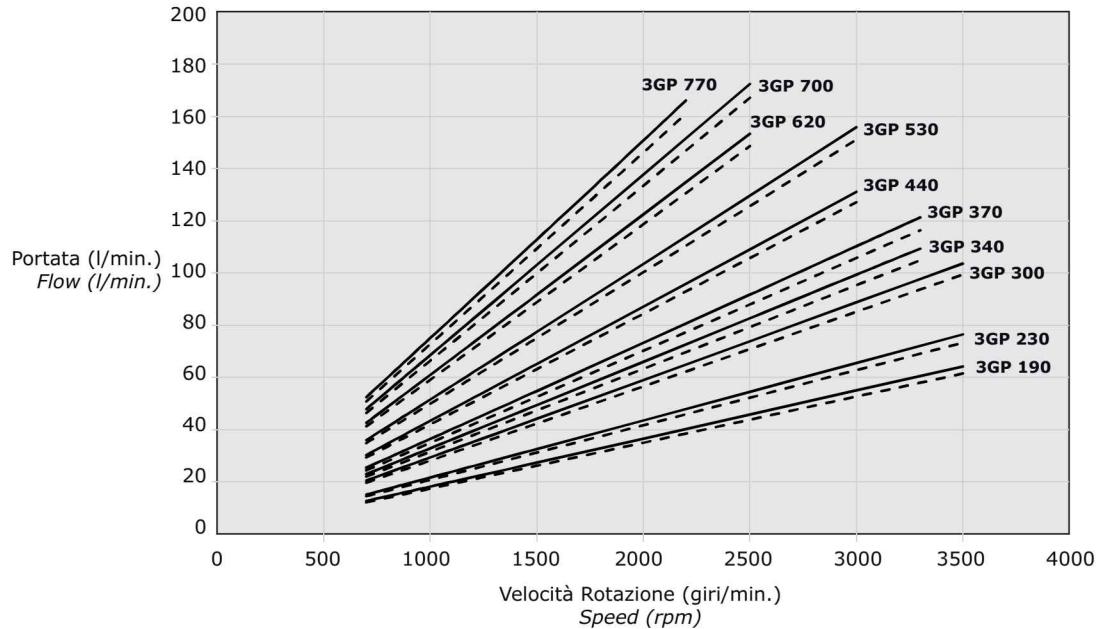
2SP 040
2SP 060
2SP 080


POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

2SP 110**2SP 140****2SP 160****2SP 190****2SP 220****2SP 260****2SP 310**

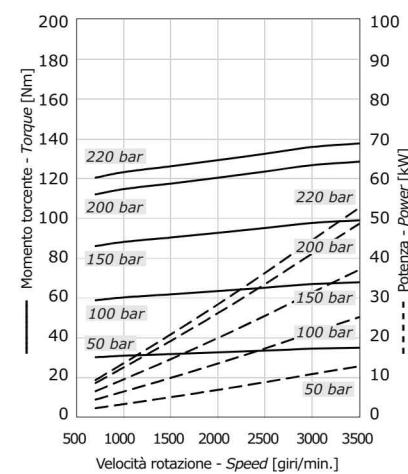
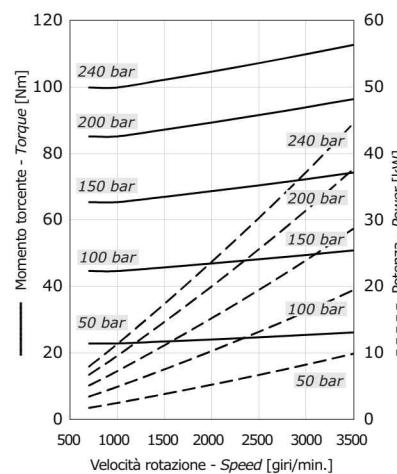
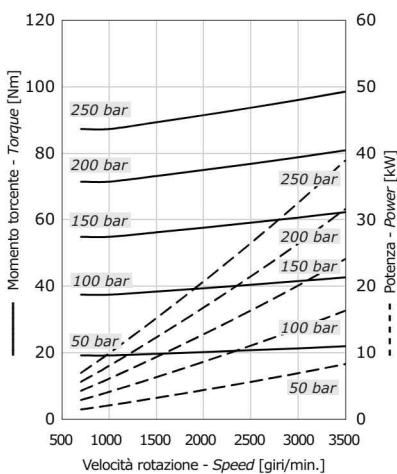
**POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES**

**GRUPPO
GROUP 3GP**

 DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
 FLOW - ROTATION SPEED CHART

**GRUPPO
GROUP 3GP**

 DIAGRAMMI POTENZE
 POWER DIAGRAM

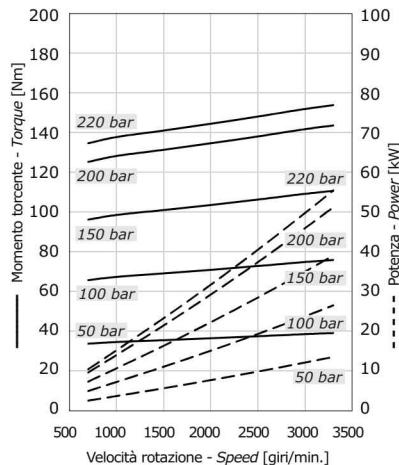
Grafici rilevati a banco di collaudo a 40°C con olio VG46
 Diagrams recorded on test bench at 40°C with VG46 mineral oil

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3GP 230
3GP 300


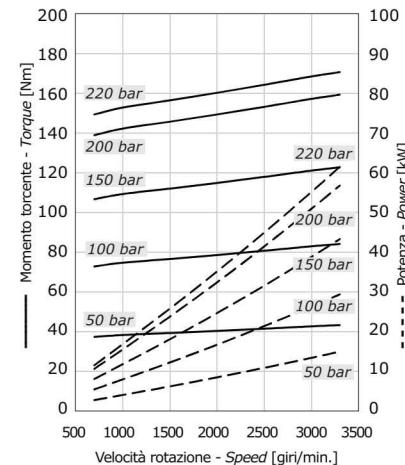
POMPE AD INGRANAGGI PRESTAZIONI

GEAR PUMPS *PERFORMANCES*

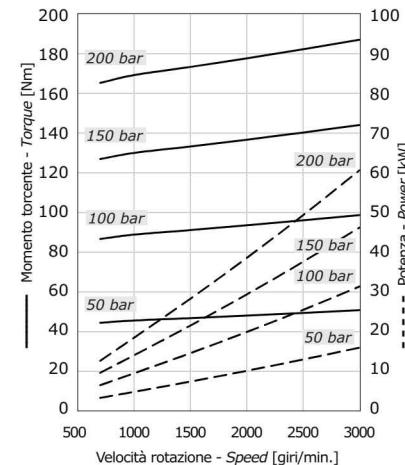
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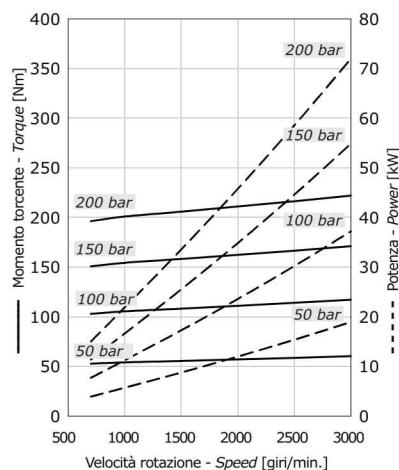
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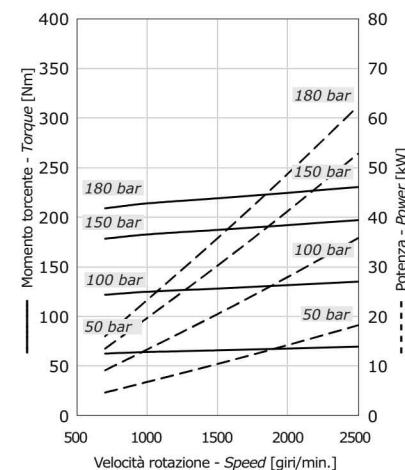
3GP 440



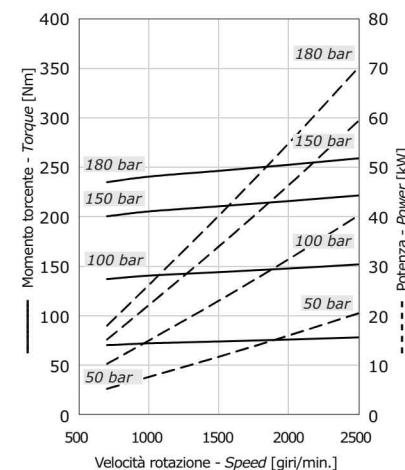
3GP 530



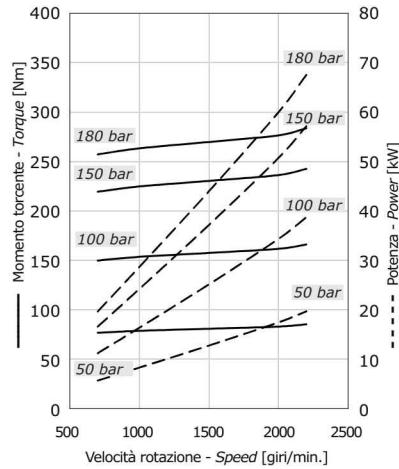
3GP 620



3GP 700



3GP 770



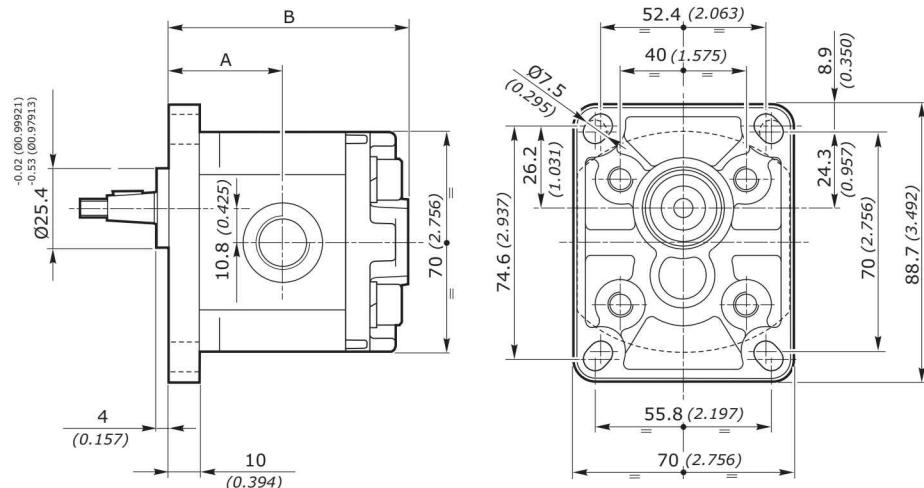
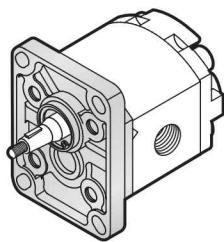
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

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	
			P1		P2		P3					
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS

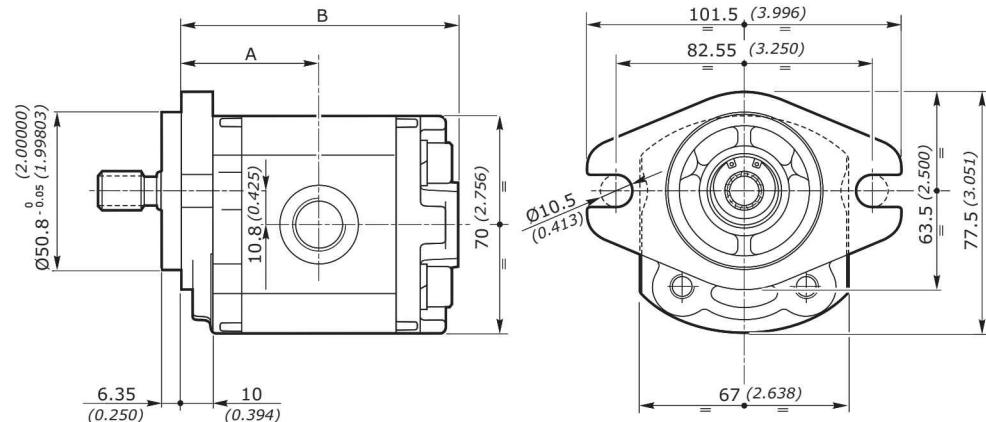
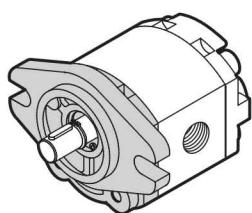


GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
1SP 009	34.80	1.370	73.6	2.898	0.91	2.01
1SP 012	35.35	1.392	74.7	2.941	0.93	2.05
1SP 016	36.20	1.425	76.4	3.008	0.95	2.09
1SP 020	36.95	1.455	77.9	3.067	0.97	2.14
1SP 025	37.95	1.494	79.9	3.146	1.00	2.21
1SP 032	39.30	1.547	82.6	3.252	1.04	2.29
1SP 037	40.30	1.587	84.6	3.331	1.07	2.36
1SP 042	41.25	1.624	86.5	3.406	1.10	2.43
1SP 050	42.80	1.685	89.6	3.528	1.14	2.51
1SP 063	45.35	1.785	94.7	3.728	1.22	2.69
1SP 078	48.20	1.898	100.4	3.953	1.30	2.87
1SP 098	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	
	<i>cm³/giro</i>	<i>in³/rev</i>	P1	P2	P3	<i>bar</i>	<i>psi</i>	<i>bar</i>	<i>psi</i>	<i>giri/min - rpm</i>	<i>l/min</i>	<i>Gal/min</i>
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS


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

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

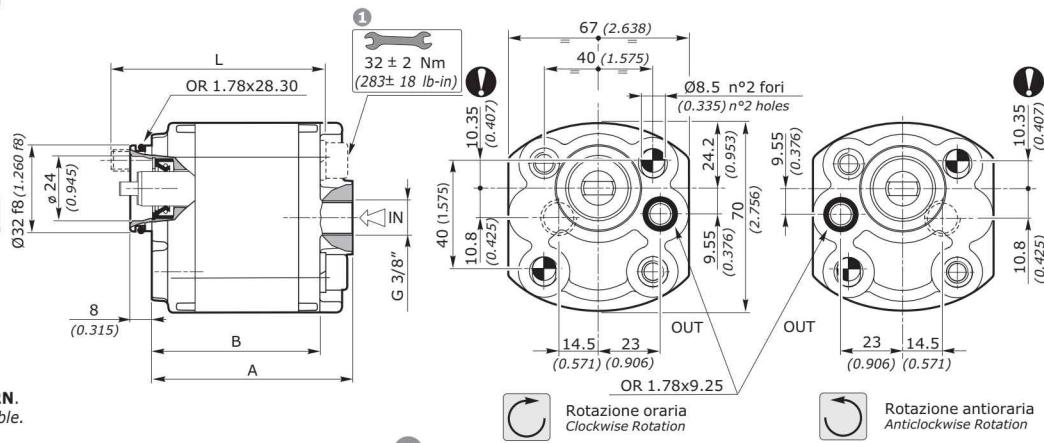
FLANGIA PER MINICENTRALINA
MC32
POWER-PACK FLANGE

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW	VELOCITÀ MIN MIN SPEED			
			P1		P2		P3							
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi						
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600		
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600		
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400		
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400		
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400		
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400		
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400		
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400		
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400		
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400		
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400		
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dept.

MC32

MC32N

DIMENSIONI • DIMENSIONS


E' disponibile la flangia senza foro **MC32N**.
The flange without hole **MC32N** is available.

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).

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

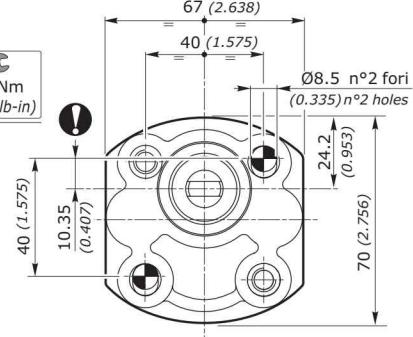
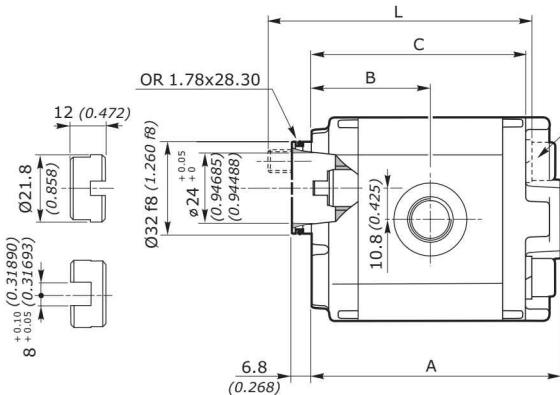
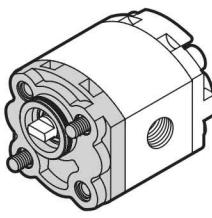
The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		L 1	MASSA - MASS		
	mm	inch	mm	inch		mm	inch	kg
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		
		P1	P2	P3	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dept.

DIMENSIONI • DIMENSIONS


Nota - Flangia senza paraolio.
Note - Flange without shaft seal.

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

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

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

GRUPPO - GROUP 1	A mm	A inch	B mm	B inch	C mm	C inch	L mm	L inch	MASSA - MASS kg	MASSA - MASS 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 TEDESCA FISSAGGIO MINICENTRALINA CON ANELLO DI TENUTA

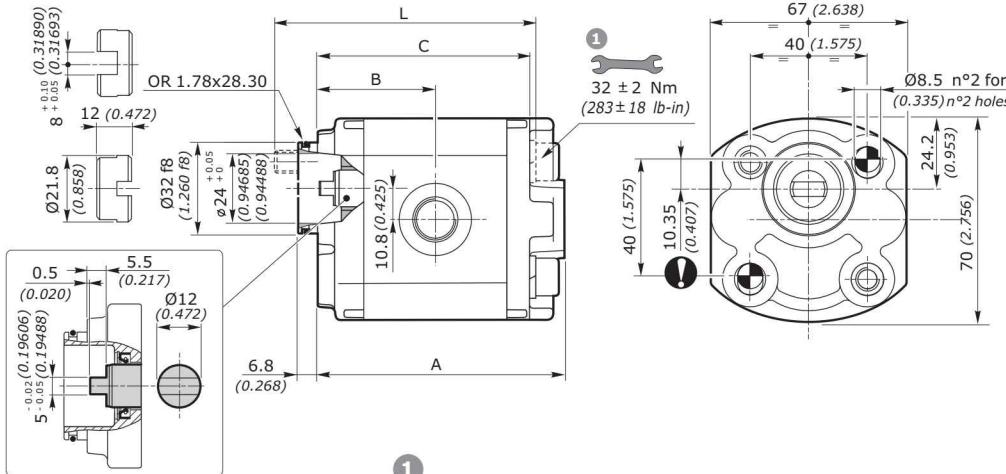
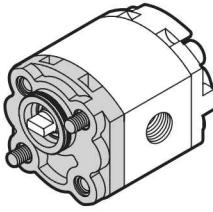
E32BC

POWER-PACK FIXING GERMAN FLANGE
WITH SEAL SHAFT

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600		
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600		
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400		
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400		
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400		
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400		
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400		
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400		
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400		
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400		
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400		
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



1

Coppia di serraggio viti: 32 ± 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 ± 2 Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1

Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).
The screw kit for the pump assembly should be ordered separately.

Ordering code: **0019W** (+ length **L** - see table)

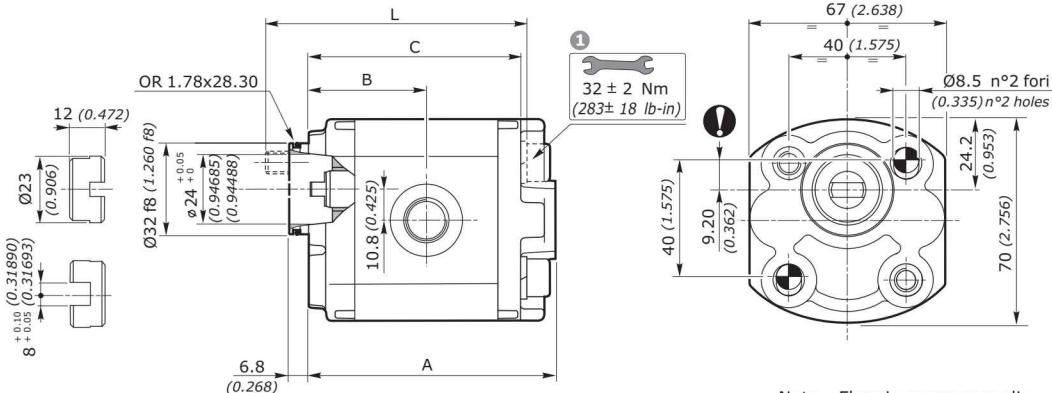
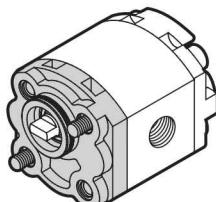
The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A mm	A inch	B mm	B inch	C mm	C inch	L mm	L inch	MASSA - MASS kg	MASSA - MASS 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
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1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
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1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
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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		
		P1		P2		P3						
<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi	<i>giri/min - rpm</i>	<i>l/min</i>	<i>Gal/min</i>	<i>giri/min - rpm</i>	
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

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DIMENSIONI • DIMENSIONS

1

Coppia di serraggio viti: 32 ± 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 ± 2 Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1

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

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

Nota - Flangia senza paraolio.

Note - Flange without shaft seal.

GRUPPO - GROUP 1	A <i>mm</i>	A <i>inch</i>	B <i>mm</i>	B <i>inch</i>	C <i>mm</i>	C <i>inch</i>	L ① <i>mm</i>	L ① <i>inch</i>	MASSA - MASS <i>kg</i>	MASSA - MASS <i>lbs</i>
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
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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

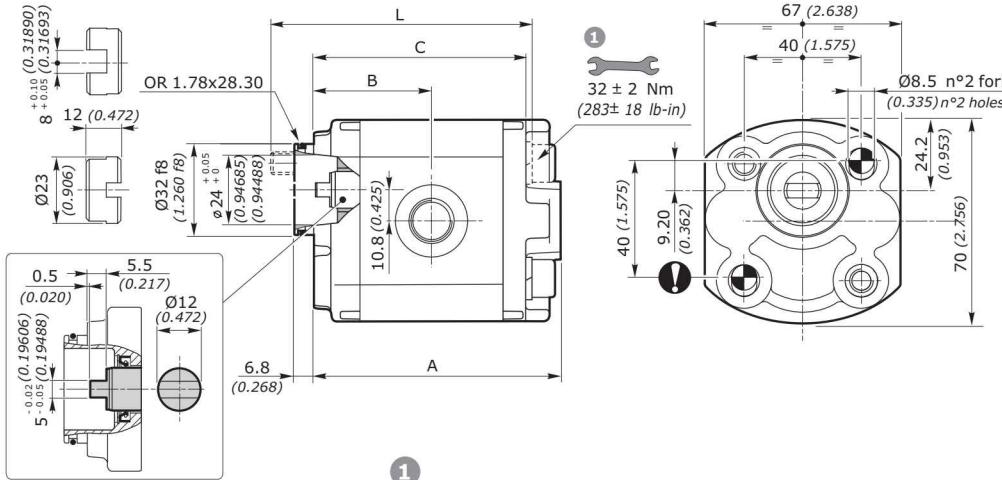
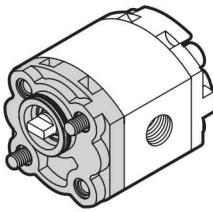
E32CC

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		
		P1		P2		P3						
cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm	
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



1

Coppia di serraggio viti: $32 \pm 2 \text{ Nm}$ (viti classe 10.9-12.9 UNI EN 20898/1)
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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

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

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

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
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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
1SP	Tipo pompa <i>Pump type</i>	Pompa singola - gruppo 1 <i>Single pump - group 1</i>	4
A	Materiale flangia e coperchio <i>Flange and cover material</i>	A = alluminio / <i>aluminium</i>	
020	Cilindrata <i>Displacement</i>	Cilindrata = 2 cm ³ /giro <i>Displacement = 0.12 in³/rev</i>	4
D	Senso di rotazione <i>Rotation wise</i>	D = Rotazione destra / <i>Clockwise rotation</i> S = Rotazione sinistra / <i>Anticlockwise rotation</i> R = Reversibile / <i>Reversible</i>	8
EUR	Tipo Flangia <i>Flange type</i>	Flangia europea standard <i>Standard European flange</i>	26
B	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	
N	Tipo guarnizione <i>Gasket type</i>	N = NBR V = Viton	27
10	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	
0	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	
G	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	30



POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

TIPOLOGIA FLANGIA • FLANGE TYPE

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

◊ = Combinazione standard - Standard combination

ANELLO DI TENUTA • SEAL RING

SIGLA - CODE	TIPO - TYPE	DIAGRAMMA - DIAGRAM						
A	Flangia senza anello di tenuta <i>Flange without seal ring</i>	/						
B	Anello di tenuta fino a 3 bar <i>Sealing ring up to 3 bar</i>	<table border="1"> <caption>Data for Graph B: Pressure vs RPM</caption> <thead> <tr> <th>RPM</th> <th>Pressure (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1500</td><td>3.0</td></tr> <tr><td>1500 - 6000</td><td>Decreasing from 3.0 to ~0.8</td></tr> </tbody> </table>	RPM	Pressure (bar)	0 - 1500	3.0	1500 - 6000	Decreasing from 3.0 to ~0.8
RPM	Pressure (bar)							
0 - 1500	3.0							
1500 - 6000	Decreasing from 3.0 to ~0.8							
H	Anello di tenuta fino a 8 bar <i>Sealing ring up to 8 bar</i>	<table border="1"> <caption>Data for Graph H: Pressure vs RPM</caption> <thead> <tr> <th>RPM</th> <th>Pressure (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1500</td><td>8.0</td></tr> <tr><td>1500 - 6000</td><td>Decreasing from 8.0 to ~2.5</td></tr> </tbody> </table>	RPM	Pressure (bar)	0 - 1500	8.0	1500 - 6000	Decreasing from 8.0 to ~2.5
RPM	Pressure (bar)							
0 - 1500	8.0							
1500 - 6000	Decreasing from 8.0 to ~2.5							
K	Anello di tenuta fino a 30 bar <i>Sealing ring up to 30 bar</i>	<table border="1"> <caption>Data for Graph K: Pressure vs RPM</caption> <thead> <tr> <th>RPM</th> <th>Pressure (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1500</td><td>30.0</td></tr> <tr><td>1500 - 6000</td><td>Decreasing from 30.0 to ~10</td></tr> </tbody> </table>	RPM	Pressure (bar)	0 - 1500	30.0	1500 - 6000	Decreasing from 30.0 to ~10
RPM	Pressure (bar)							
0 - 1500	30.0							
1500 - 6000	Decreasing from 30.0 to ~10							

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

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

	EUR			SAEAA			MC32			E32BX			E32BC			E32CX			E32CC		
1SP								Anello - seal ring													
	B	H	K	B	H	K	B	H	K	A	B	K	A	B	K	B	K				
NBR N	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	●	◊	◊	◊	◊	●				
Viton V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				

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

COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION

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

◊ = Combinazione standard - Standard combination

● = Combinazione disponibile - Available combination

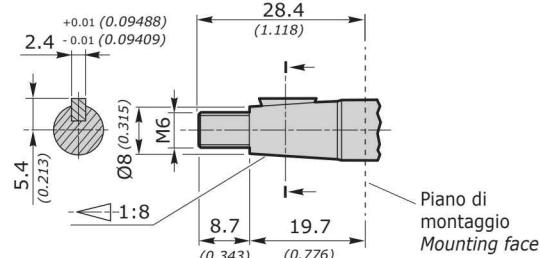
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

1SP

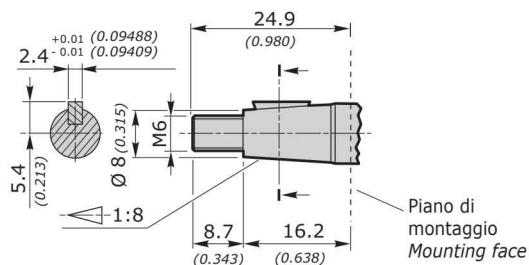
DIMENSIONI ALBERO - SHAFT DIMENSIONS

10

Conico 1:8
Tapered 1:8

Coppia 30 Nm
Torque 22 ft-lbs


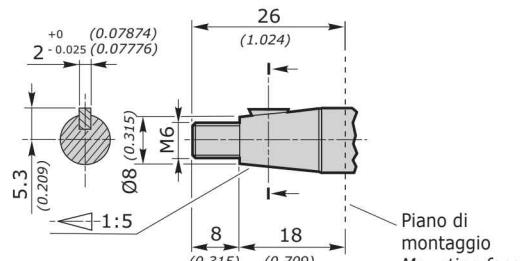
Disponibile per - available for: EUR - MC32



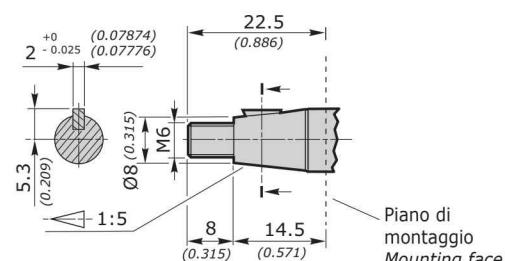
Disponibile per - available for: SAEAA

11

Conico 1:5
Tapered 1:5

Coppia 30 Nm
Torque 22 ft-lbs


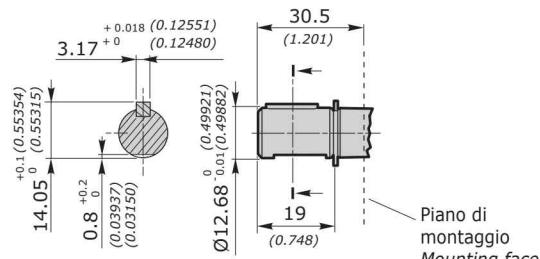
Disponibile per - available for: EUR - MC32



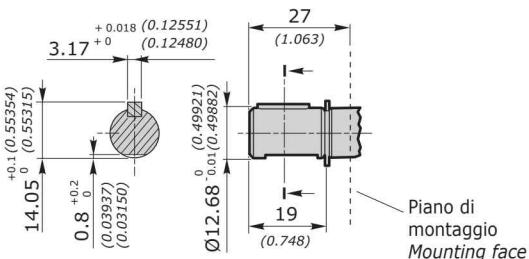
Disponibile per - available for: SAEAA

13

Cilindrico
SAEAA
Parallel shaft
SAEAA

Coppia 35 Nm
Torque 26 ft-lbs


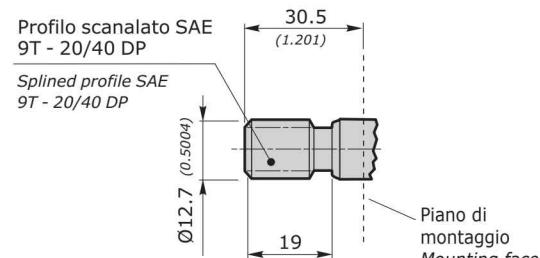
Disponibile per - available for: EUR



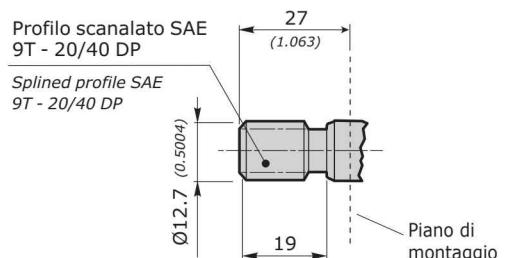
Disponibile per - available for: SAEAA

14

Scanalato
SAEAA 9T
SAEAA
9T splined

Coppia 40 Nm
Torque 30 ft-lbs


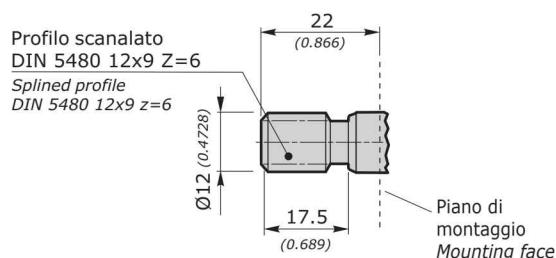
Disponibile per - available for: EUR



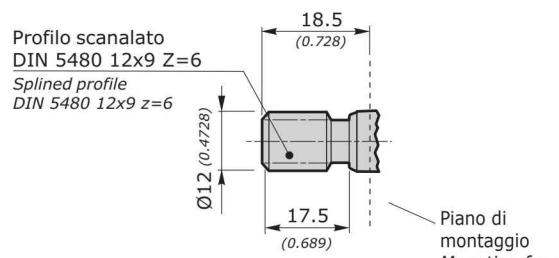
Disponibile per - available for: SAEAA

15

Scanalato
DIN 5480
6T 12x9
DIN 5480
splined

Coppia 30 Nm
Torque 22 ft-lbs


Disponibile per - available for: EUR - MC32



Disponibile per - available for: SAEAA

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

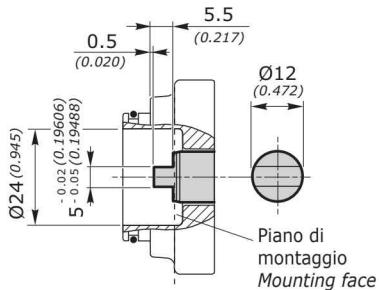
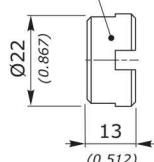
1SP

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

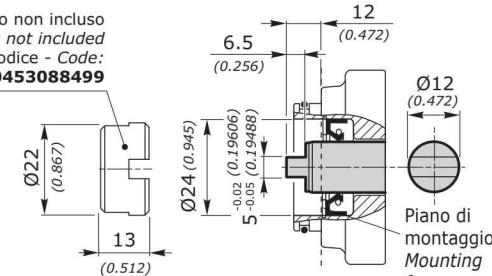


Disponibile per - available for: **E32BX - E32BC - E32CX - E32CC**

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

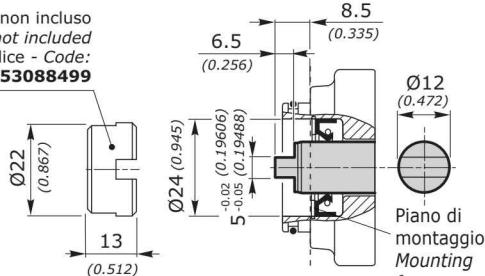
Coppia 25 Nm
 Torque 19 ft-lbs

Giunto non incluso
 Coupling not included
 Codice - Code: 010453088499



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

Giunto non incluso
 Coupling not included
 Codice - Code: 010453088499



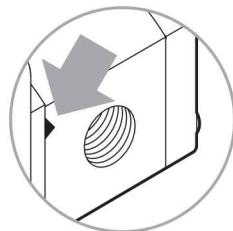
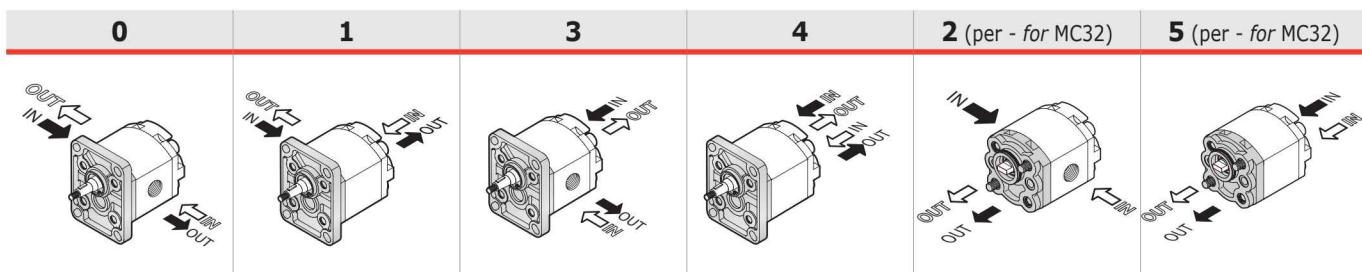
Disponibile per - available for: **SAEAA**

POSIZIONE CONNESSIONE • CONNECTION POSITION



Rotazione destra - **D**
 Clockwise rotation - **D**

Rotazione sinistra - **S**
 Anti-clockwise rotation - **S**

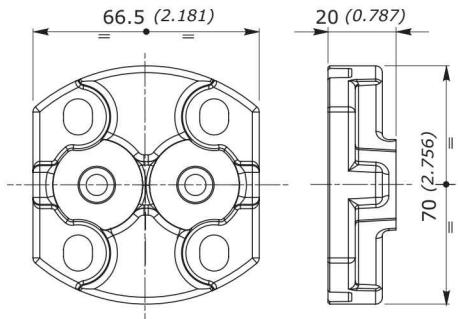


Il segno del corpo indica il lato aspirazione per le pompe
 The sign on the body identifies the suction side for the pumps

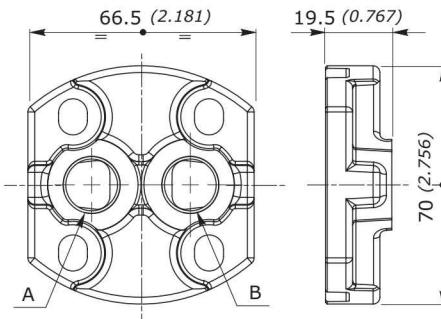
IN = ASPIRAZIONE - SUCTION
OUT = MANDATA - DELIVERY

**POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP**
COPERCHIO STANDARD • STANDARD COVER

Per posizioni **0 e 2**
For position **0 and 2**



Per posizioni **1, 3, 4 e 5**
For position **1, 3, 4 and 5**



CONNESSIONI / CONNECTION		
A	B	
GAS	G 3/8	G 3/8
SAE	SAE 6	SAE 6

TIPO CONNESSIONE • CONNECTION TYPE

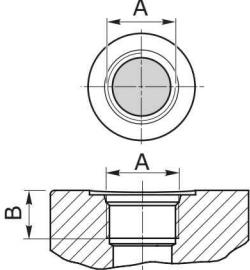
Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

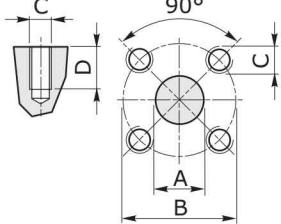
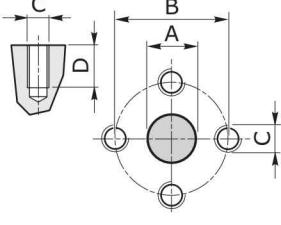
The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

1SP	POSIZIONE CONNESSIONE - CONNECTION POSITION					
	0	1	3	4	2	5
GAS G	◊	◊	◊	◊	◊	◊
UNF U	◊	◊	◊	◊	◊	◊
FLANGIATE FLANGED T	◊				◊	
FLANGED N	◊				◊	

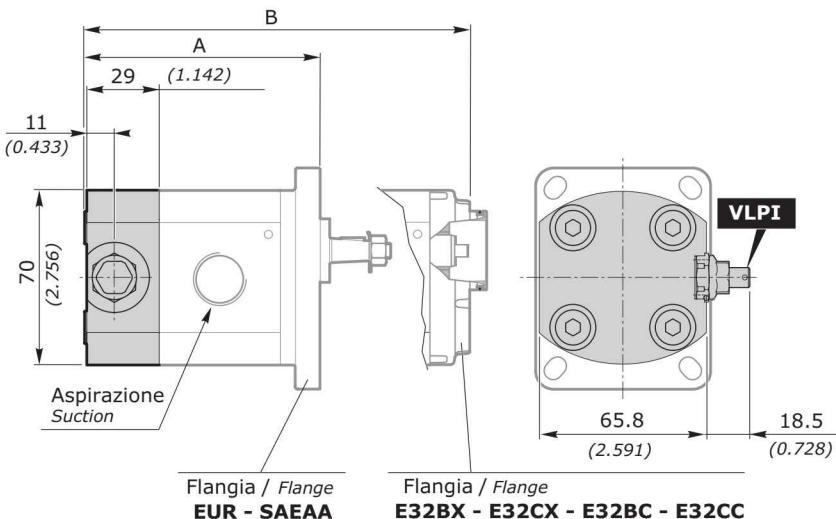
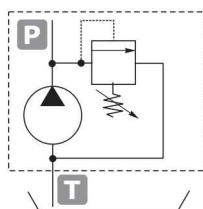
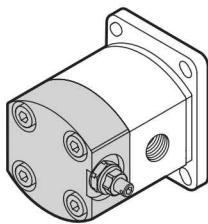
GAS	UNI ISO 228/1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN			MANDATA - DELIVERY OUT		
				A	B		A	B	
	G		009						
			012						
			016						
			020						
			025						
			032						
			037						
			042						
			050						
			063						
			078						
			098						
				G 3/8"	14 [mm] 0.552 [inch]	40 [Nm]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

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			
	U	009									
		012		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]		
		016									
		020									
		025		SAE 8 3/4"-14 UNF			SAE 8 3/4"-14 UNF				
		032									
		037									
		042			15 [mm] 0.591 [inch]	50 [Nm] 443 [in.lbs]					
		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	
	T	009											
		012											
		016											
		020											
		025		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]
		032											
		037											
		042											
		050											
		063											
		078											
		098											
	N	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]		M6					M6		
		032											
		037											
		042											
		050											
		063											
		078											
		098											

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

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


GRUPPO GROUP 1	A EUR		A SAEAA		B 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 carried out for times not over 10" each minute, to avoid the overheating of the pump.

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 with internal exhaust

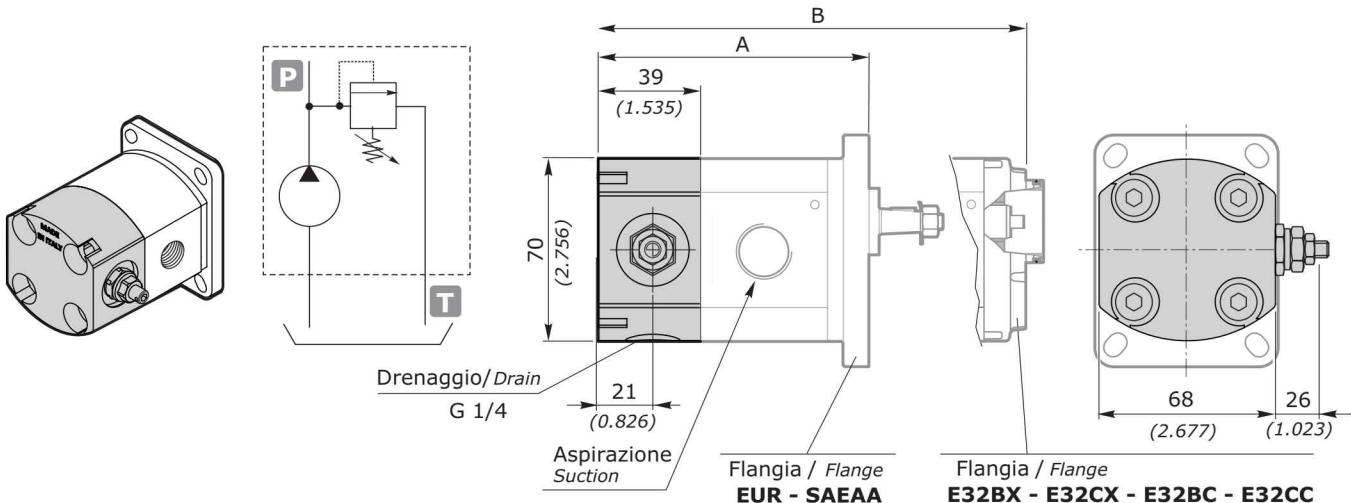
N = Tipo molla - vedi tabella / Spring type - see table

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
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 1SP
GEAR PUMPS GROUP 1SP
VLPEVALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST

GRUPPO GROUP 1	A EUR		A SAEAA		B E32BX - E32CX E32BC - E32CC	
	mm	inch	mm	inch	mm	inch
1SP 009	92.6	3.645	96.1	3.783	92.6	3.645
1SP 012	93.7	3.688	97.2	3.826	93.7	3.688
1SP 016	95.4	3.755	98.9	3.893	95.4	3.755
1SP 020	96.9	3.814	100.4	3.952	96.9	3.814
1SP 025	98.9	3.893	102.4	4.031	98.9	3.893
1SP 032	101.6	4	105.1	4.137	101.6	4
1SP 037	103.6	4.078	107.1	4.216	103.6	4.078
1SP 042	105.5	4.153	109.0	4.291	105.5	4.153
1SP 050	108.6	4.275	112.1	4.413	108.6	4.275
1SP 063	113.7	4.476	117.2	4.614	113.7	4.476
1SP 078	119.4	4.7	122.9	4.838	119.4	4.7
1SP 098	127.3	5.011	130.8	5.149	127.3	5.011

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. È rappresentata una pompa con rotazione destra. Nelle pompe con rotazione sinistra, 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 with clockwise rotation. In the case of pumps with anticlockwise rotation, the valve is on the opposite side.

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

VLPE = Coperchio con VPL a scarico esterno / Cover with VPL with 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	molla nera - black spring	N	molla rossa - red spring
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

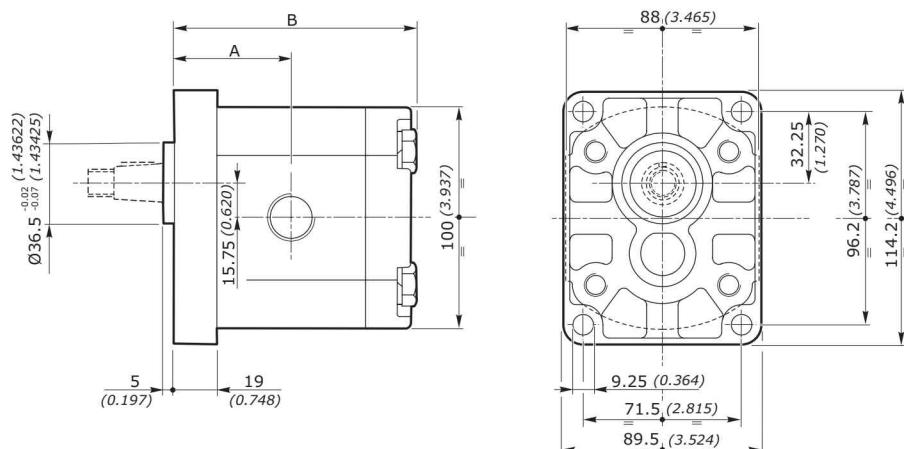
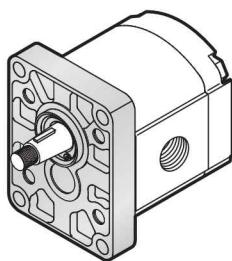
FLANGIA EUROPEA EUR EUROPEAN FLANGE

FLANGIA E COPERTURA IN ALLUMINIO - FLANGE AND COVER IN ALUMINIUM

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500		
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500		
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500		
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500		
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500		
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500		
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500		
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500		
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500		
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

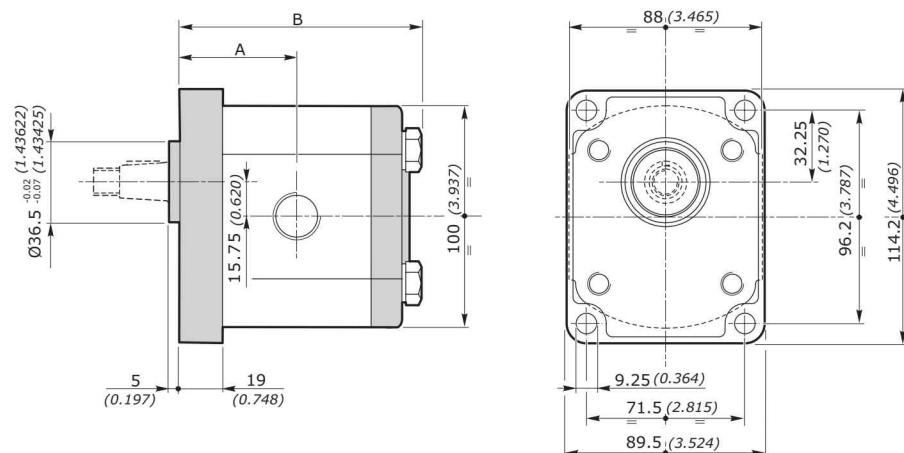
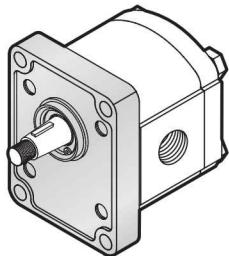
FLANGIA EUROPEA EUR EUROPEAN FLANGE

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

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	260	3770	280	4060	300	4350	4000	16	4.23	500		
2SP 060	6	0.37	260	3770	280	4060	300	4350	4000	24	6.34	500		
2SP 080	8.5	0.52	260	3770	280	4060	300	4350	3500	29.7	7.85	500		
2SP 110	11	0.67	260	3770	280	4060	300	4350	3500	38.5	10.17	500		
2SP 140	14	0.85	260	3770	280	4060	300	4350	3500	49	12.95	500		
2SP 160	16.5	1.01	240	3480	250	3625	260	3770	3500	57.7	15.24	500		
2SP 190	19.5	1.19	220	3190	230	3335	240	3480	3300	64.3	16.99	500		
2SP 220	22.5	1.37	200	2900	210	3045	220	3190	2800	63	16.64	500		
2SP 260	26	1.59	180	2610	190	2755	200	2900	2500	65	17.17	500		
2SP 310	31.5	1.92	140	2030	150	2175	160	2320	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	1.748	93.0	3.661	3.40	7.50
2SP 060	46.0	1.811	96.3	3.791	3.55	7.83
2SP 080	48.1	1.894	100.5	3.957	3.70	8.16
2SP 110	50.2	1.976	104.6	4.118	3.80	8.38
2SP 140	52.7	2.075	109.6	4.315	3.90	8.60
2SP 160	54.8	2.157	113.8	4.480	4.05	8.93
2SP 190	57.3	2.256	118.8	4.677	4.20	9.26
2SP 220	59.8	2.354	123.8	4.874	4.35	9.59
2SP 260	62.7	2.469	129.6	5.102	4.50	9.92
2SP 310	66.9	2.636	138.0	5.437	4.71	10.25

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

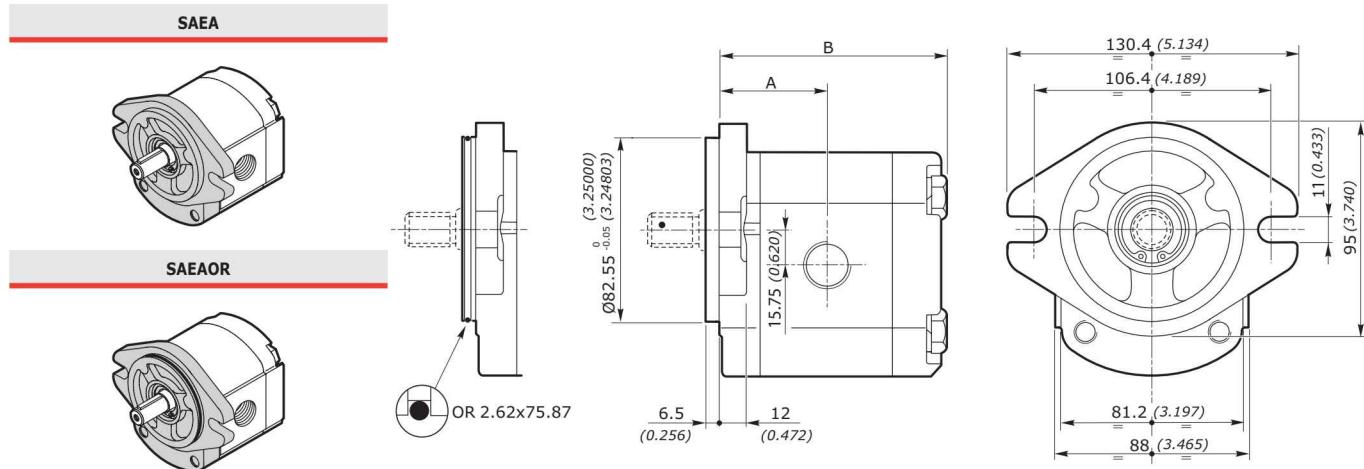
FLANGIA SAE SAEA-SAEAOR SAE FLANGE

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			
			P1		P2		P3							
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500		
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500		
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500		
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500		
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500		
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500		
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500		
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500		
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500		
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

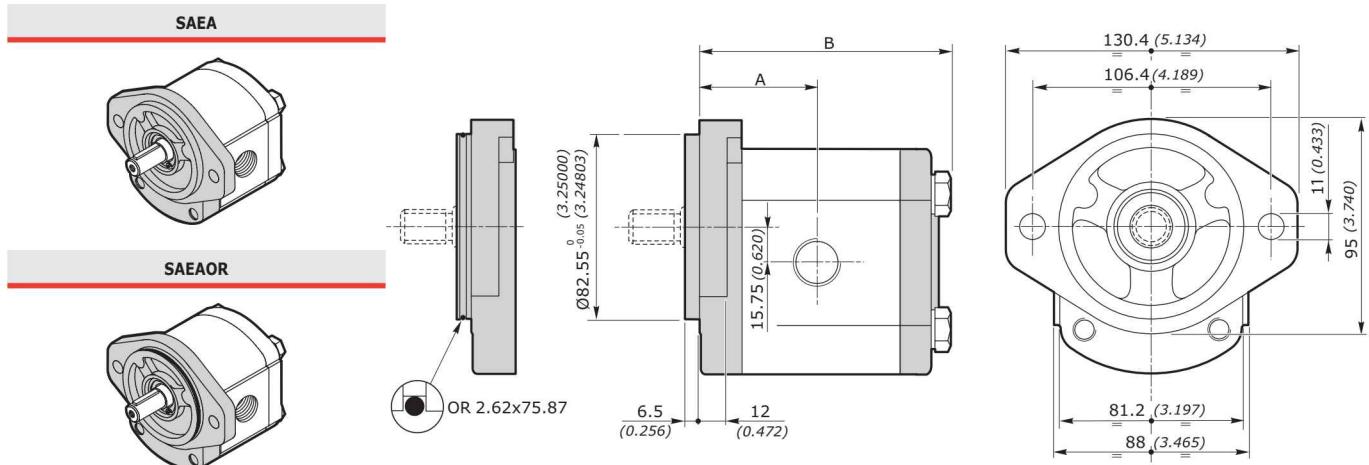
FLANGIA SAE SAEA-SAEAOR SAE FLANGE

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

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	<i>bar</i>	<i>psi</i>	<i>bar</i>	<i>psi</i>	<i>bar</i>	<i>psi</i>						
2SP 040	4	0.24	260	3770	280	4060	300	4350	4000	16	4.23	500		
2SP 060	6	0.37	260	3770	280	4060	300	4350	4000	24	6.34	500		
2SP 080	8.5	0.52	260	3770	280	4060	300	4350	3500	29.7	7.85	500		
2SP 110	11	0.67	260	3770	280	4060	300	4350	3500	38.5	10.17	500		
2SP 140	14	0.85	260	3770	280	4060	300	4350	3500	49	12.95	500		
2SP 160	16.5	1.01	240	3480	250	3625	260	3770	3500	57.7	15.24	500		
2SP 190	19.5	1.19	220	3190	230	3335	240	3480	3300	64.3	16.99	500		
2SP 220	22.5	1.37	200	2900	210	3045	220	3190	2800	63	16.64	500		
2SP 260	26	1.59	180	2610	190	2755	200	2900	2500	65	17.17	500		
2SP 310	31.5	1.92	140	2030	150	2175	160	2320	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

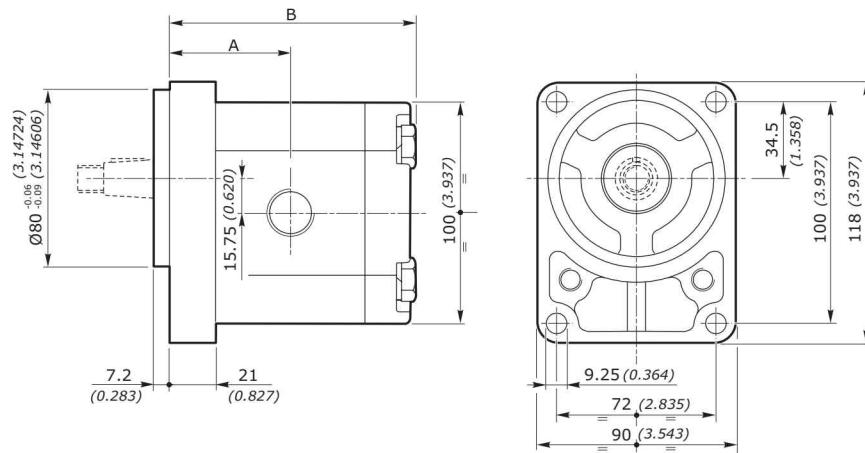
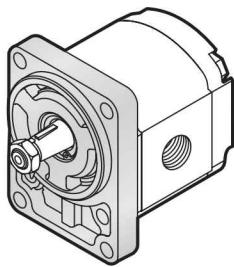
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

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	
			P1		P2		P3					
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dept.

DIMENSIONI • DIMENSIONS



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	46.4	1.827	95.0	3.740	2.30	5.07
2SP 060	48.0	1.890	98.3	3.870	2.45	5.40
2SP 080	50.1	1.972	102.5	4.035	2.60	5.73
2SP 110	52.2	2.055	106.6	4.197	2.70	5.95
2SP 140	54.7	2.154	111.6	4.394	2.80	6.17
2SP 160	56.8	2.236	115.8	4.559	2.95	6.51
2SP 190	59.3	2.335	120.8	4.756	3.10	6.84
2SP 220	61.8	2.433	125.8	4.953	3.25	7.17
2SP 260	64.7	2.547	131.6	5.181	3.40	7.50
2SP 310	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	
			P1		P2		P3					
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dept.

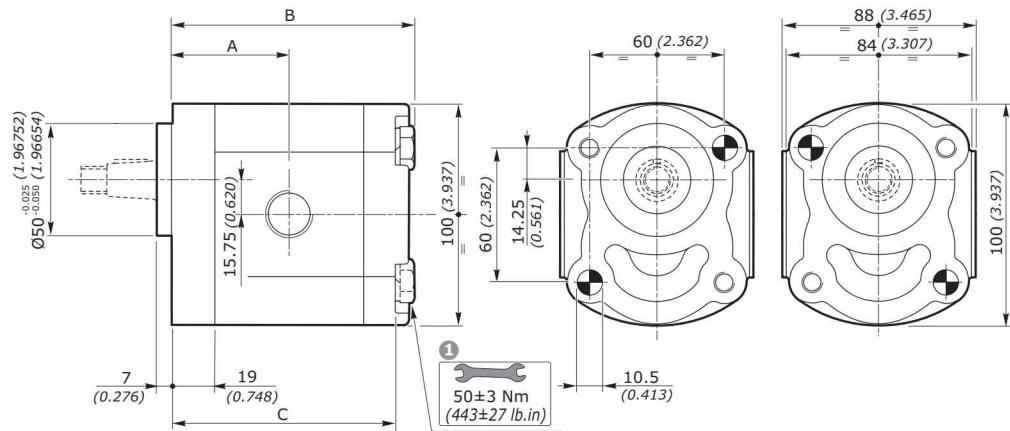
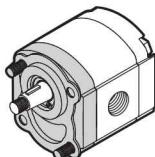
Note - For higher pressure values please contact our Sales Dept.

DIMENSIONI • DIMENSIONS

B50CX



B50CY



1

Coppia di serraggio viti: 50 ± 3 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: 354 ± 27 Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3 Nm

1

Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1). The screw kit for the pump assembly should be ordered separately.

Ordering code: **0029W** (+ length **L** - see table)

The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	1.748	93.0	3.661	84.0	3.307	105	4.134	2.30	5.07
2SP 060	46.0	1.811	96.3	3.791	87.3	3.437	105	4.134	2.45	5.40
2SP 080	48.1	1.894	100.5	3.957	91.5	3.602	110	4.331	2.60	5.73
2SP 110	50.2	1.976	104.6	4.118	95.6	3.764	115	4.528	2.70	5.95
2SP 140	52.7	2.075	109.6	4.315	100.6	3.961	120	4.724	2.80	6.17
2SP 160	54.8	2.157	113.8	4.480	104.8	4.126	125	4.921	2.95	6.51
2SP 190	57.3	2.256	118.8	4.677	109.8	4.323	130	5.118	3.10	6.84
2SP 220	59.8	2.354	123.8	4.874	114.8	4.520	135	5.315	3.25	7.17
2SP 260	62.7	2.469	129.6	5.102	120.6	4.748	140	5.512	3.40	7.50
2SP 310	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	
			P1		P2		P3					
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.

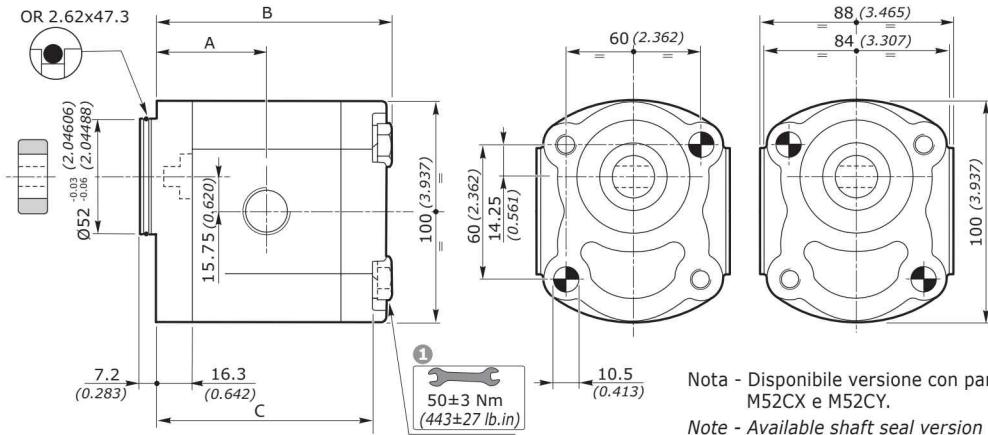
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS

E52CX



E52CY



Nota - Disponibile versione con paraolio M52CX e M52CY.

Note - Available shaft seal version M52CX and M52CY.

1

Coppia di serraggio viti: 50 ± 3 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 ± 3 Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3 Nm

Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1). The screw kit for the pump assembly should be ordered separately.

Ordering code: **0029W** (+ length **L** - see table)

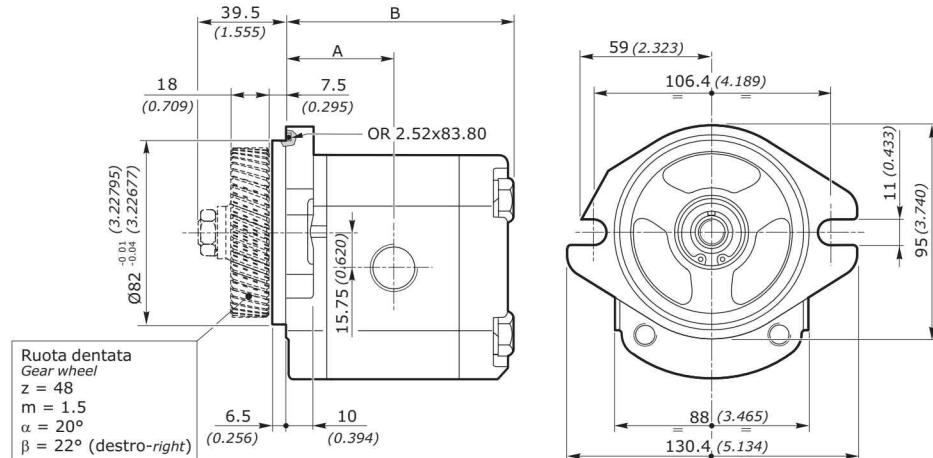
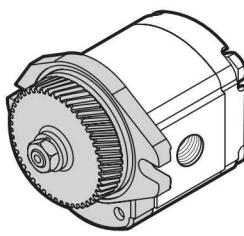
The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	41.7	1.642	90.3	3.555	81.3	3.201	100	3.937	2.30	5.07
2SP 060	43.3	1.705	93.6	3.685	84.6	3.331	105	4.134	2.45	5.40
2SP 080	45.4	1.787	97.8	3.850	88.8	3.496	110	4.331	2.60	5.73
2SP 110	47.5	1.870	101.9	4.012	92.9	3.657	115	4.528	2.70	5.95
2SP 140	50.0	1.969	106.9	4.209	97.9	3.854	120	4.724	2.80	6.17
2SP 160	52.1	2.051	111.1	4.374	102.1	4.020	120	4.724	2.95	6.51
2SP 190	54.6	2.150	116.1	4.571	107.1	4.217	125	4.921	3.10	6.84
2SP 220	57.1	2.248	121.1	4.768	112.1	4.413	130	5.118	3.25	7.17
2SP 260	60.0	2.362	126.9	4.996	117.9	4.642	140	5.512	3.40	7.50
2SP 310	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	
		P1		P2		P3		bar	psi	giri/min - rpm	l/min	Gal/min	
		cm ³ /giro	in ³ /rev	bar	psi	bar	psi						
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500	
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500	
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500	
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500	
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500	
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500	
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500	
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500	
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500	
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500	

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
 Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS


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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

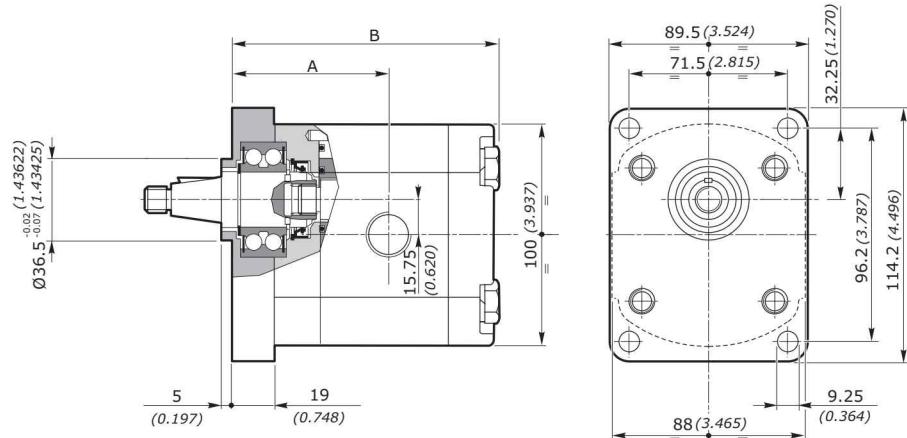
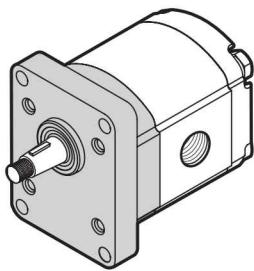
VERSIONE DA UTILIZZARE IN PRESENZA DI CARICHI ASSIALI E/O RADIALI
VERSION TO BE USED WITH AXIAL AND/OR RADIAL LOADS

FLANGIA SUPEUR FLANGE

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
	<i>cm³/giro</i>	<i>in³/rev</i>	P1		P2		P3							
			bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500		
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500		
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500		
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500		
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500		
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500		
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500		
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500		
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500		
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare
il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



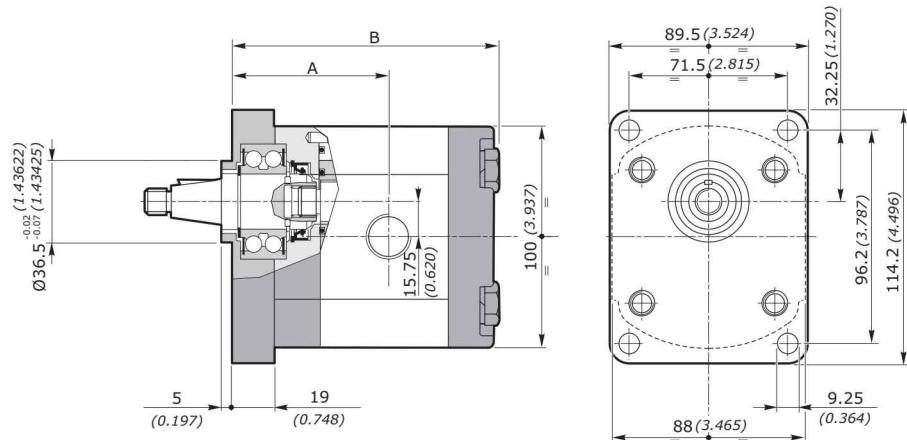
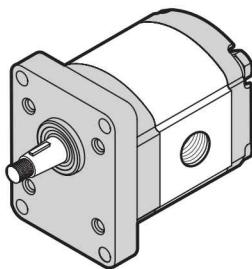
La flangia SUPEUR è sempre allestita con anello di rinforzo.
SUPEUR flange is always equipped with sealing ring

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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP
FLANGIA SUPEUR 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 <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	260	3770	280	4060	300	4350	4000	16	4.23	500		
2SP 060	6	0.37	260	3770	280	4060	300	4350	4000	24	6.34	500		
2SP 080	8.5	0.52	260	3770	280	4060	300	4350	3500	29.7	7.85	500		
2SP 110	11	0.67	260	3770	280	4060	300	4350	3500	38.5	10.17	500		
2SP 140	14	0.85	260	3770	280	4060	300	4350	3500	49	12.95	500		
2SP 160	16.5	1.01	240	3480	250	3625	260	3770	3500	57.7	15.24	500		
2SP 190	19.5	1.19	220	3190	230	3335	240	3480	3300	64.3	16.99	500		
2SP 220	22.5	1.37	200	2900	210	3045	220	3190	2800	63	16.64	500		
2SP 260	26	1.59	180	2610	190	2755	200	2900	2500	65	17.17	500		
2SP 310	31.5	1.92	140	2030	150	2175	160	2320	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS


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

GRUPPO - GROUP 2	A mm	A inch	B mm	B inch	MASSA - MASS	
					kg	lbs
2SP 040	64.4	2.535	113.0	4.449	3.467	7.643
2SP 060	66.0	2.598	116.3	4.579	3.617	7.974
2SP 080	68.1	2.681	120.5	4.744	3.767	8.304
2SP 110	70.2	2.764	124.6	4.906	3.867	8.525
2SP 140	72.7	2.863	129.6	5.102	3.967	8.745
2SP 160	74.8	2.945	133.8	5.268	4.117	9.076
2SP 190	77.3	3.043	138.8	5.465	4.267	9.407
2SP 220	79.8	3.142	143.8	5.661	4.417	9.737
2SP 260	82.7	3.256	149.6	5.890	4.567	10.068
2SP 310	86.9	3.424	158.0	6.225	4.777	10.531

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

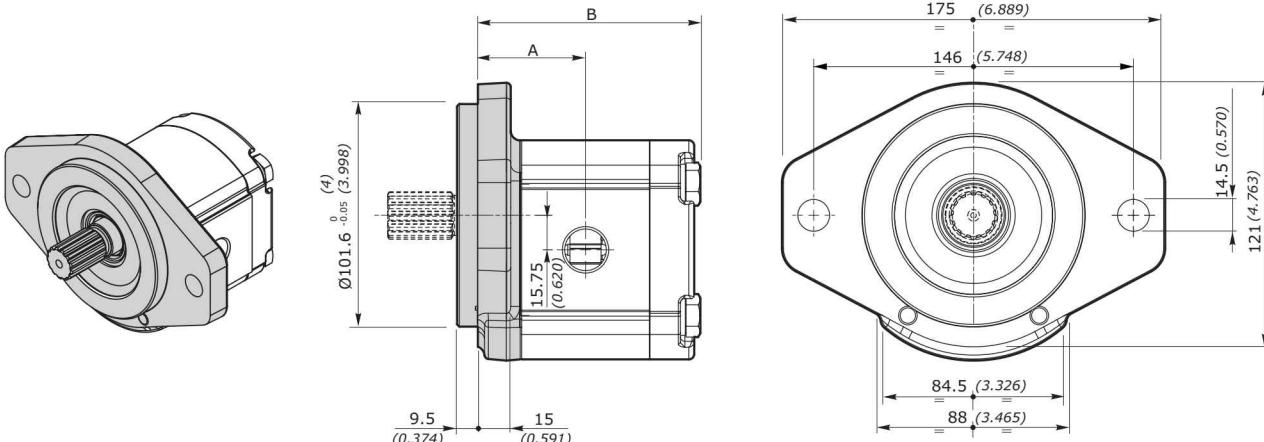
FLANGIA SAE SAEB* **SAEB FLANGE**

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

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED <i>giri/min - rpm</i>	PORTATA MAX MAX FLOW <i>l/min</i>	VELOCITÀ MIN MIN SPEED <i>giri/min - rpm</i>			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	260	3770	280	4060	300	4350	4000	16	4.23	500		
2SP 060	6	0.37	260	3770	280	4060	300	4350	4000	24	6.34	500		
2SP 080	8.5	0.52	260	3770	280	4060	300	4350	3500	29.7	7.85	500		
2SP 110	11	0.67	260	3770	280	4060	300	4350	3500	38.5	10.17	500		
2SP 140	14	0.85	260	3770	280	4060	300	4350	3500	49	12.95	500		
2SP 160	16.5	1.01	240	3480	250	3625	260	3770	3500	57.7	15.24	500		
2SP 190	19.5	1.19	220	3190	230	3335	240	3480	3300	64.3	16.99	500		
2SP 220	22.5	1.37	200	2900	210	3045	220	3190	2800	63	16.64	500		
2SP 260	26	1.59	180	2610	190	2755	200	2900	2500	65	17.17	500		
2SP 310	31.5	1.92	140	2030	150	2175	160	2320	2200	69	18.22	500		

* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



* Configurabile come 1^a pompa in tandem; elementi interni non intercambiabili
Configuration as 1st tandem pump; internal elements are not interchangeable

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	45.4	1.787	94	3.701	4.90	10.80
2SP 060	47.0	1.850	97.3	3.831	5.05	11.13
2SP 080	49.1	1.933	101.5	3.996	5.20	11.46
2SP 110	51.2	2.016	105.6	4.157	5.30	11.68
2SP 140	53.7	2.114	110.6	4.354	5.40	11.90
2SP 160	55.8	2.197	114.8	4.520	5.55	12.24
2SP 190	58.3	2.295	119.8	4.717	5.70	12.57
2SP 220	60.8	2.394	124.8	4.913	5.85	12.90
2SP 260	63.7	2.508	130.6	5.142	6.00	13.23
2SP 310	67.9	2.673	139	5.472	6.20	13.67

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

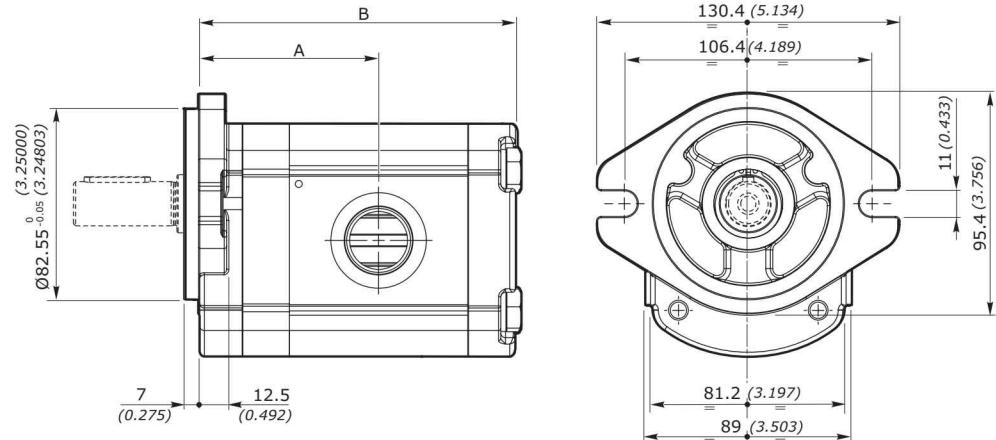
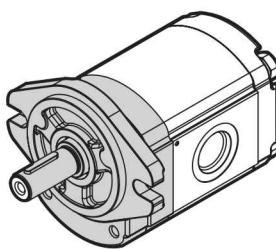
FLANGIA SUPSAE FLANGE

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			
			P1		P2		P3							
	<i>cm³/giro</i>	<i>in³/rev</i>	bar	psi	bar	psi	bar	psi						
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500		
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500		
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500		
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500		
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500		
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500		
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500		
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500		
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500		
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	<i>mm</i>	<i>inch</i>	<i>mm</i>	<i>inch</i>	<i>kg</i>	<i>lbs</i>
2SP 040	64.4	2.535	113.0	4.448	2.80	6.172
2SP 060	66.0	2.598	116.3	4.578	2.95	6.503
2SP 080	68.1	2.681	120.5	4.744	3.10	6.834
2SP 110	70.2	2.763	124.6	4.905	3.20	7.054
2SP 140	72.7	2.862	129.6	5.102	3.30	7.275
2SP 160	74.8	2.944	133.8	5.267	3.45	7.605
2SP 190	77.3	3.043	138.8	5.464	3.60	7.936
2SP 220	79.8	3.141	143.8	5.661	3.75	8.267
2SP 260	82.7	3.255	149.6	5.889	3.90	8.598
2SP 310	86.9	3.421	138.0	6.220	4.10	9.038

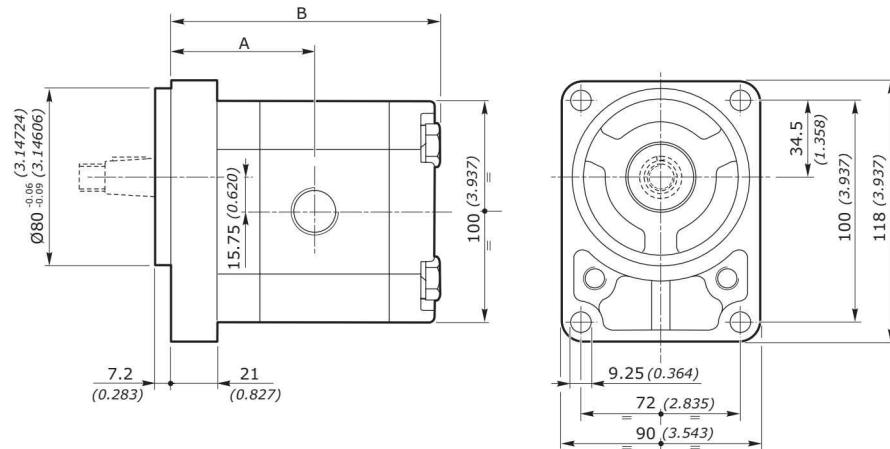
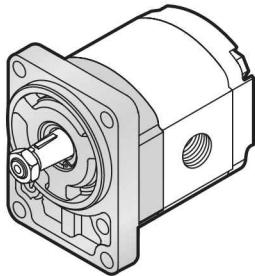
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SUPB80C FLANGE

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW	VELOCITÀ MIN MIN SPEED	
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi				
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	66.4	2.614	115.0	4.527	2.763	6.09
2SP 060	68	2.677	118.3	4.657	2.913	6.42
2SP 080	70.1	2.760	122.5	4.823	3.063	6.75
2SP 110	72.2	2.842	126.6	4.984	3.163	6.97
2SP 140	74.7	2.941	131.6	5.181	3.263	7.20
2SP 160	76.8	3.023	135.8	5.346	3.413	7.52
2SP 190	79.3	3.122	140.8	5.543	3.563	7.85
2SP 220	81.8	3.220	145.8	5.740	3.713	8.18
2SP 260	84.7	3.334	151.6	5.968	3.863	8.52
2SP 310	88.9	3.500	160.0	6.299	4.073	8.98

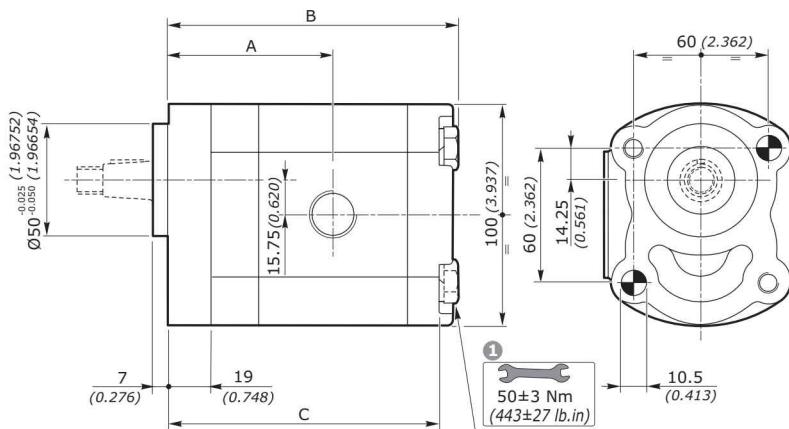
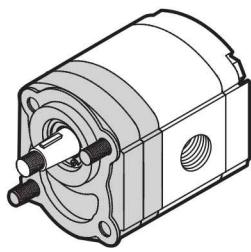
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SUPB50CX FLANGE

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW	VELOCITÀ MIN MIN SPEED	
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi				
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - For higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



1

Coppia di serraggio viti: 50 ± 3 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: 354 ± 27 Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3 Nm

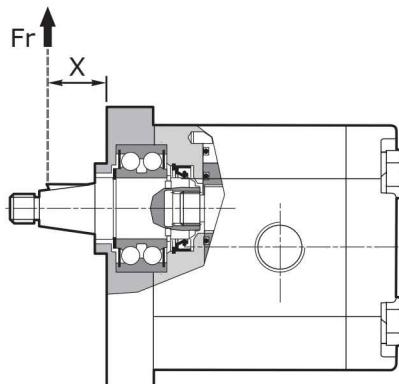
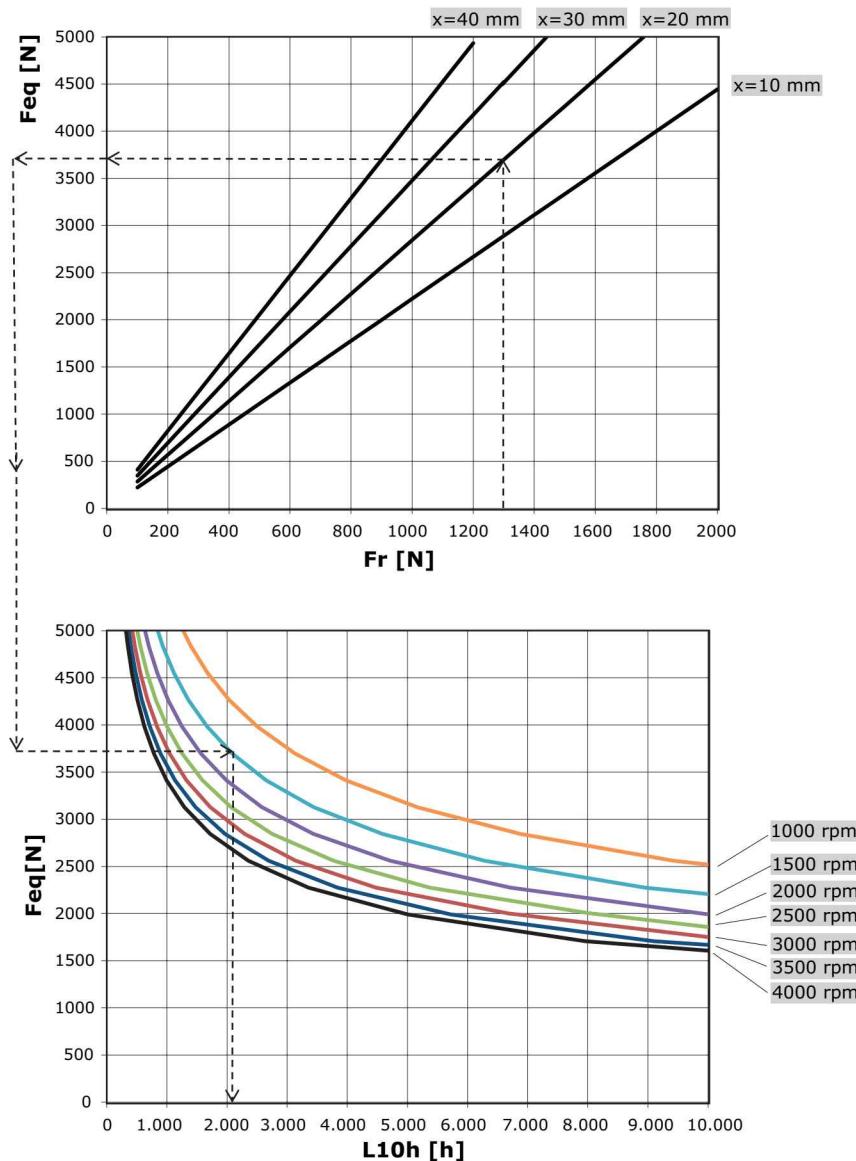
1

Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1). The screw kit for the pump assembly should be ordered separately.

Ordering code: **0029W** (+ length **L** - see table)

The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L ①	MASSA - MASS		
	mm	inch	mm	inch	mm	inch		mm	inch	kg
2SP 040	64.4	2.535	113.0	4.448	104.0	4.094	125	4.921	2.76	6.08
2SP 060	66.0	2.598	116.3	4.578	107.3	4.224	125	4.921	2.91	6.41
2SP 080	68.1	2.681	120.5	4.744	111.5	4.390	130	5.118	3.06	6.75
2SP 110	70.2	2.763	124.6	4.905	115.6	4.551	135	5.314	3.16	6.97
2SP 140	72.7	2.862	129.6	5.102	120.6	4.748	140	5.512	3.26	7.19
2SP 160	74.8	2.944	133.8	5.267	124.8	4.913	145	5.709	3.41	7.52
2SP 190	77.3	3.043	138.8	5.464	129.8	5.110	150	5.905	3.56	7.85
2SP 220	79.8	3.141	143.8	5.661	134.8	5.307	155	6.102	3.71	8.18
2SP 260	82.7	3.256	149.6	5.890	140.6	5.535	160	6.299	3.86	8.51
2SP 310	86.9	3.421	158.0	6.220	149.0	5.866	170	6.692	4.07	8.97

**POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP**
CARICO DINAMICO EQUIVALENTE • EQUIVALENT DYNAMIC LOAD

DIAGRAMMA CUSCINETTI • DIAGRAM BEARING EXPECTED LIFE


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

CODICE ORDINAZIONE • ORDER CODE

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

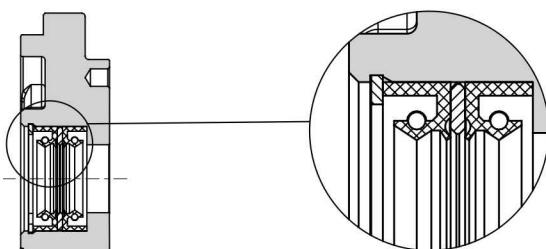
SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
2SP	Tipo pompa <i>Pump type</i>	Pompa singola gruppo 2 <i>Single pump group 2</i>	5
G	Materiale flangia e coperchio <i>Flange and cover material</i>	A = alluminio / <i>aluminium</i> G = Ghisa / <i>Cast iron</i>	50
140	Cilindrata <i>Displacement</i>	Cilindrata = 14 cm ³ /giro <i>Displacement = 0.85 in³/rev</i>	5
D	Senso di rotazione <i>Rotation wise</i>	D = Rotazione destra / <i>Clockwise rotation</i> S = Rotazione sinistra / <i>Anticlockwise rotation</i> R = Reversibile / <i>Reversible</i>	8
EUR	Tipo Flangia <i>Flange type</i>	Flangia standard <i>Standard flange</i>	50
B	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	51
N	Tipo guarnizione <i>Gasket type</i>	N = NBR V = Viton	50
10	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	52
0	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	57
G	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	58



VERSIONI CON DOPPIO PARAOLIO • DOUBLE SHAFT SEAL VERSION

Disponibili versioni con doppio paraolio per EUR, SAEA, SAEAOR e B50C.

Available versions with double shaft seal for EUR, SAEA, SAEAOR and B50C.



esempio • example:

2SP - A - 160 - S - SAEA2 - B - N - 14 - N

SAEA2 = Doppio paraolio / Double Shaft Seal

Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K (vedi pag.51).

Note - The version with shaft seal is supplied with K rings type with low pressure or high pressure (see page 51).

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

TIPOLOGIA FLANGIA • FLANGE TYPE

2SP	EUR	SAEA	SAEAOR	B80C	B50C	E52C
A alluminio aluminium	◊	◊	◊	◊	◊	◊
G ghisa cast iron	◊	◊	◊	non disponibile <i>not available</i>	non disponibile <i>not available</i>	non disponibile <i>not available</i>
2SP	P400D	SUEUR	SAEB*	SUPSAE	SUPB80C	SUPB50CX
A alluminio aluminium	◊	◊	non disponibile <i>not available</i>	◊	◊	◊
G ghisa cast iron	non disponibile <i>not available</i>	◊	◊	non disponibile <i>not available</i>	non disponibile <i>not available</i>	non disponibile <i>not available</i>

* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

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

2SP	EUR	SAEA	SAEAOR	B80C	B50C	E52C				
	Anello-Seal ring									
	B	H	K	B	H	K	B	H	K	A
NBR N	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
Viton V	●	●	●	●	●	●	●	●	●	●

2SP	P400D	SUEUR	SAEB*	SUPSAE	SUPB80C	SUPB50CX
	Anello-Seal ring					
	B	H	K	B	K	H
NBR N	◊	◊	◊	◊	◊	◊
Viton V	●	●	●	●	●	●

* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

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

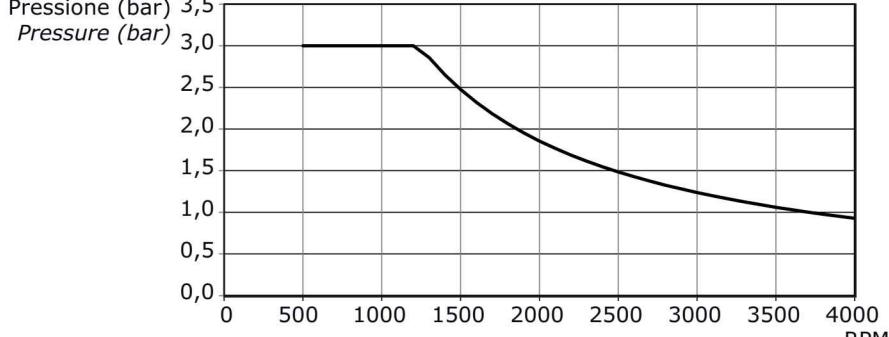
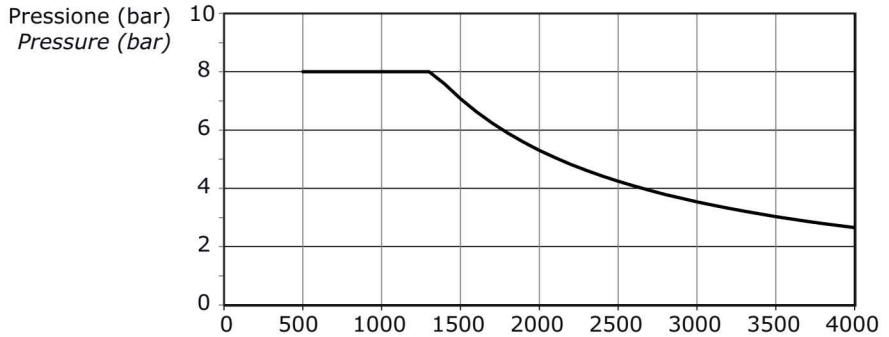
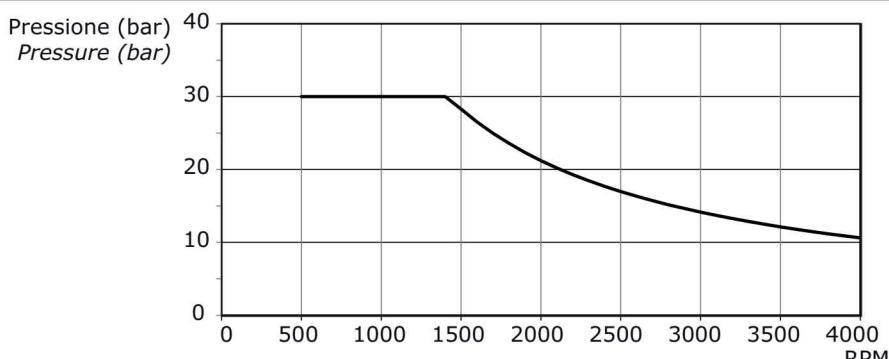
N = Guarnizione in NBR / NBR o-ring

◊ = Combinazione standard - Standard combination

● = Combinazione disponibile - Available combination

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

ANELLO DI TENUTA • SEAL RING

SIGLA - CODE	TIPO - TYPE	DIAGRAMMA - DIAGRAM						
A	Flangia senza anello di tenuta <i>Flange without seal ring</i>	/						
B	Anello di tenuta fino a 3 bar <i>Sealing ring up to 3 bar</i>	<p>Pressione (bar) 3,5 Pressure (bar) 3,0</p>  <table border="1"> <caption>Data for Graph A: Flange without seal ring</caption> <thead> <tr> <th>RPM</th> <th>Pressione (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1300</td><td>3,0</td></tr> <tr><td>1300 - 4000</td><td>Decreasing from 3,0 to ~1,0</td></tr> </tbody> </table>	RPM	Pressione (bar)	0 - 1300	3,0	1300 - 4000	Decreasing from 3,0 to ~1,0
RPM	Pressione (bar)							
0 - 1300	3,0							
1300 - 4000	Decreasing from 3,0 to ~1,0							
H	Anello di tenuta fino a 8 bar <i>Sealing ring up to 8 bar</i>	<p>Pressione (bar) 10 Pressure (bar) 8</p>  <table border="1"> <caption>Data for Graph H: Sealing ring up to 8 bar</caption> <thead> <tr> <th>RPM</th> <th>Pressione (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1300</td><td>8</td></tr> <tr><td>1300 - 4000</td><td>Decreasing from 8 to ~2,5</td></tr> </tbody> </table>	RPM	Pressione (bar)	0 - 1300	8	1300 - 4000	Decreasing from 8 to ~2,5
RPM	Pressione (bar)							
0 - 1300	8							
1300 - 4000	Decreasing from 8 to ~2,5							
K	Anello di tenuta fino a 30 bar <i>Sealing ring up to 30 bar</i>	<p>Pressione (bar) 40 Pressure (bar) 30</p>  <table border="1"> <caption>Data for Graph K: Sealing ring up to 30 bar</caption> <thead> <tr> <th>RPM</th> <th>Pressione (bar)</th> </tr> </thead> <tbody> <tr><td>0 - 1300</td><td>30</td></tr> <tr><td>1300 - 4000</td><td>Decreasing from 30 to ~10</td></tr> </tbody> </table>	RPM	Pressione (bar)	0 - 1300	30	1300 - 4000	Decreasing from 30 to ~10
RPM	Pressione (bar)							
0 - 1300	30							
1300 - 4000	Decreasing from 30 to ~10							

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION

2SP	EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR	SAEB*	SUPSAE	SUPB80C	SUPB50CX
10 Conico 1:8 <i>Tapered 1:8</i>	◊	●	●	●	◊		◊	◊	●	◊		
11 Conico 1:5 <i>Tapered 1:5</i>	●	●	●	◊	●			●	●	◊	◊	
12 Cilindrico EUR <i>EUR Parallel shaft</i>	◊	●	●	◊	◊				●			
13 Cilindr. SAEA <i>SAEA parallel shaft</i>	●	◊	◊	●	●				●			
14 Scanalato SAEA 9T <i>SAEA 9T splined</i>	●	◊	◊	●	●				●			
15 Scanalato DIN5482 9T (26/24) <i>DIN5482 9T splined (26/24)</i>	●	●	●	◊	●				●			
16 Scanalato DIN5482 9T (20) <i>DIN5482 9T splined (20)</i>	●	●	●	◊	●			●	●			
17 Fresato a dente frontale <i>Dihedral claw</i>						◊						
30 Scanalato SAE <i>SAE splined</i>										●		
31 Cilindrico SAE <i>SAE Parallel shaft</i>										●		
40 Scanalato SAE 10T (52) <i>SAE 10T splined (52)</i>	●	●	●						●			
41 Scanalato SAE 10T (37.5) <i>SAE 10T splined (37.5)</i>	●	●	●						●			
42 Scanalato SAEA 11T (55.6) <i>SAEA 11T splined (55.6)</i>	●	●	●						●			
43 Scanalato SAEA 11T (31.5) <i>SAEA 11T splined (31.5)</i>	●	●	●						●			
44 Scanalato SAEA 11T (13.5) <i>SAEA 11T splined (13.5)</i>					●							
45 Scanalato SAEB 13T (41.2) <i>SAEB 13T splined (41.2)</i>							◊					
46 Cilindrico SAEB <i>SAEB Parallel shaft</i>										●		
47 Cilindrico <i>Parallel shaft</i>										●		

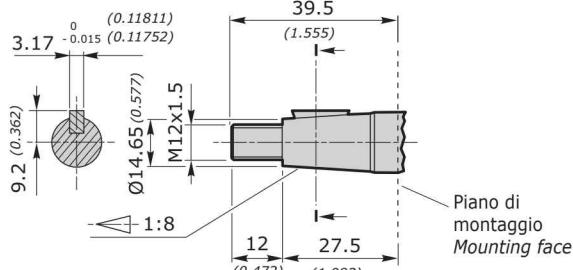
◊ = Combinazione standard - Standard combination

● = Combinazione disponibile - Available combination

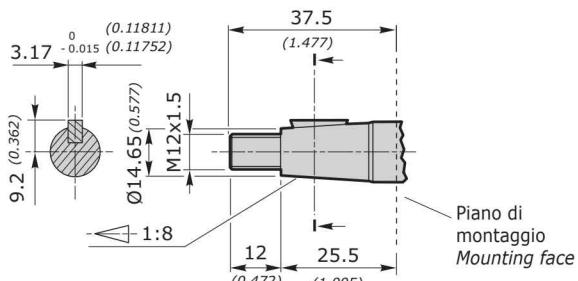
* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

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

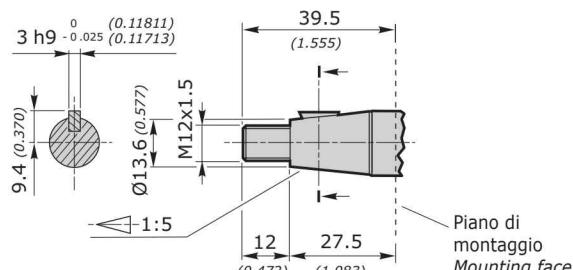
DIMENSIONI ALBERO - SHAFT DIMENSIONS

10Conico 1:8
Tapered 1:8Coppia 140 Nm
Torque 104 ft-lbs

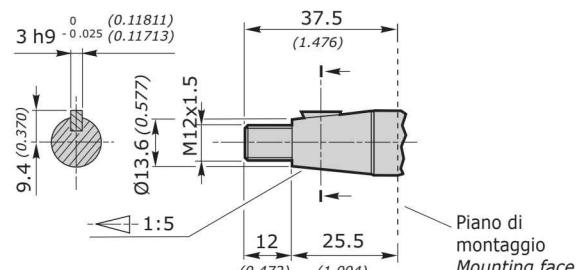
Disponibile per - available for: EUR-SAEA-SAEAOR-B50C-P400D-SUPEUR



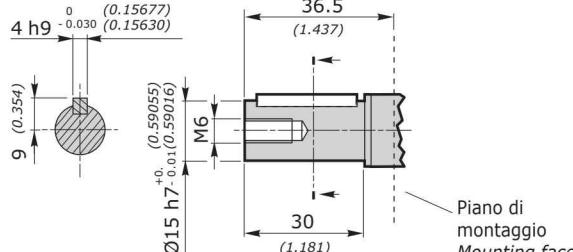
Disponibile per - available for: B80C

11Conico 1:5
Tapered 1:5Coppia 140 Nm
Torque 104 ft-lbs

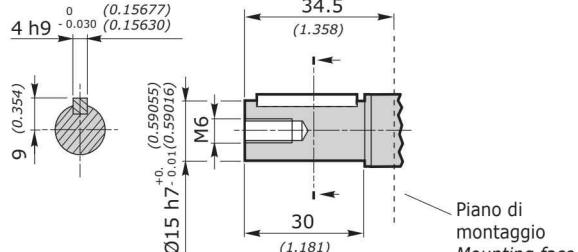
Disponibile per - available for: EUR - SAEA - SAEAOR - B50C



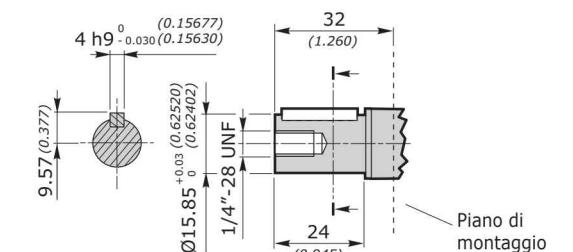
Disponibile per - available for: B80C

12Cilindrico EUR
EUR Parallel
shaftCoppia 80 Nm
Torque 59 ft-lbs

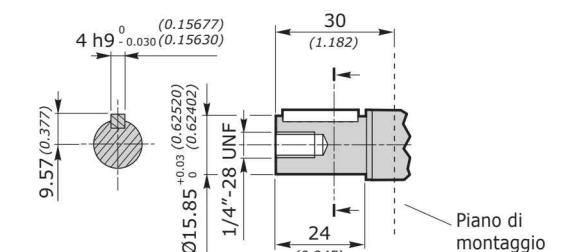
Disponibile per - available for: EUR - SAEA - SAEAOR - B50C



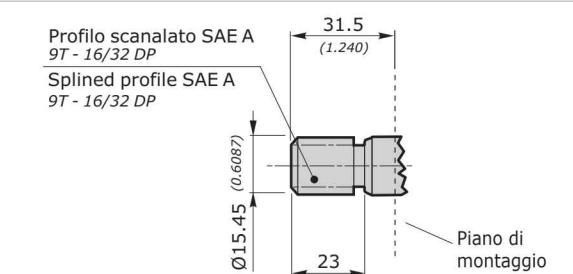
Disponibile per - available for: B80C

13Cilindrico SAEA
SAEA Parallel
shaftCoppia 90 Nm
Torque 67 ft-lbs

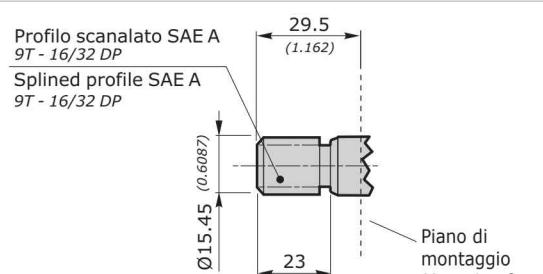
Disponibile per - available for: EUR - SAEA - SAEAOR - B50C



Disponibile per - available for: B80C

14Scanalato
SAEA 9T
SAEA 9T
splinedCoppia 100 Nm
Torque 74 ft-lbs

Disponibile per - available for: EUR - SAEA - SAEAOR - B50C



Disponibile per - available for: B80C

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

		DIMENSIONI ALBERO - SHAFT DIMENSIONS
15	<p>Scanalato DIN5482 B 17x14 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>Piano di montaggio Mounting face</p>
	Disponibile per - available for: EUR - SAEA - SAEAOR - B50C	Disponibile per - available for: B80C
16	<p>Scanalato DIN5482 B 17x14 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>Piano di montaggio Mounting face</p>
	Disponibile per - available for: EUR - SAEA - SAEAOR - B50C	Disponibile per - available for: B80C
17	<p>Fresato a dente frontale Dihedral claw</p> <p>Coppia 80 Nm Torque 59 ft-lbs</p>	<p>Giunto incluso - Coupling included Codice - Code: 010453100099</p> <p>Piano di montaggio Mounting face</p>
	Disponibile per - available for: E52C	
40	<p>Scanalato SAE 10T (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 $\alpha = 30^\circ$</p> <p>Piano di montaggio Mounting face</p>
	Disponibile per - available for: SAEA - SAEAOR	
41	<p>Scanalato SAE 10T (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 $\alpha = 30^\circ$</p> <p>Piano di montaggio Mounting face</p>
	Disponibile per - available for: SAEA - SAEAOR	

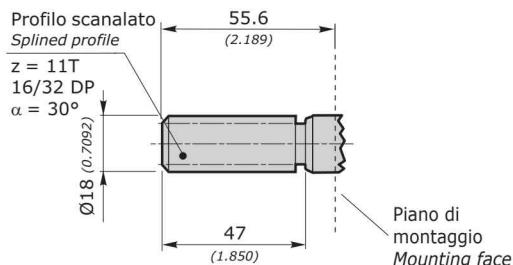
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

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

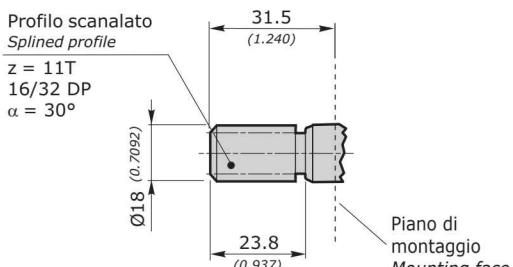
Coppia 150 Nm
 Torque 111 ft-lbs



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

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

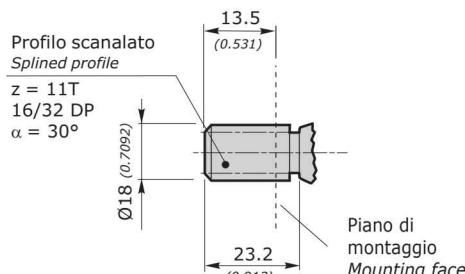
Coppia 150 Nm
 Torque 111 ft-lbs



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

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

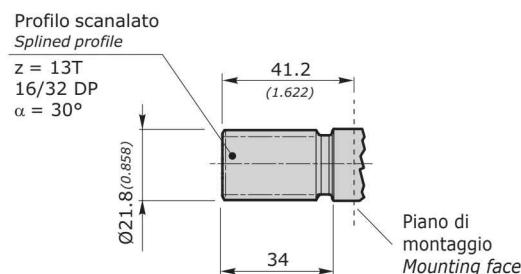
Coppia 150 Nm
 Torque 111 ft-lbs



Disponibile per - available for: **E52C**

45
 Scanalato SAEB
 13T (41.2)
 SAEB 13T
 splined (41.2)

Coppia 280 Nm
 Torque 207 ft-lbs

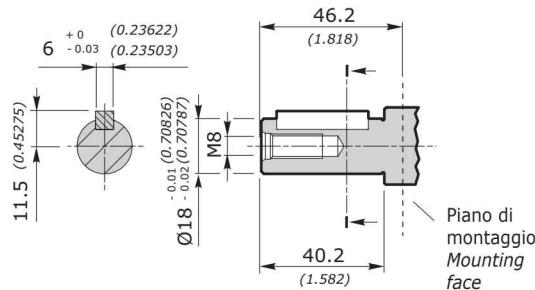


Disponibile per - available for: **SAEB**

46*
 Cilindrico
Parallel shaft

Coppia 110 Nm
 Torque 81 ft-lbs

* Solo per versione con cuscinetto.
 Available only for version with bearing



Disponibile per - available for: **SUPER - SUPSAE**

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

30

Scanalato SAE
11T
SAE 11T
splined

Coppia 150 Nm
Torque 111 ft-lbs

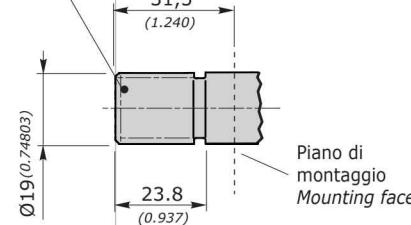
Profilo scanalato

Splined profile

$Z = 8T$

16/32 DP

$\alpha = 30^\circ$



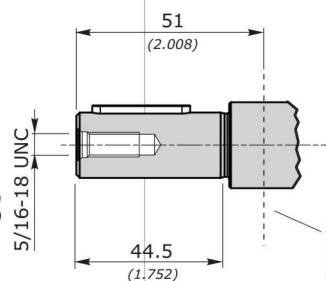
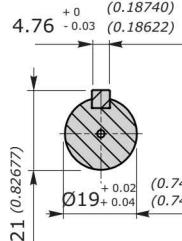
Piano di
montaggio
Mounting face

Disponibile per - available for: **SUPSAE**

31

Cilindrico SAE
SAE Parallel
shaft

Coppia 90 Nm
Torque 67 ft-lbs



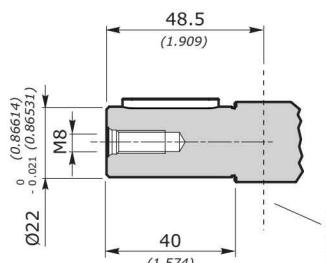
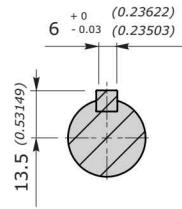
Piano di
montaggio
Mounting face

Disponibile per - available for: **SUPSAE**

47

Cilindrico Ø 22
Ø 22 Parallel
shaft

Coppia 110 Nm
Torque 81 ft-lbs



Piano di
montaggio
Mounting face

Disponibile per - available for: **SUPB80C**

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

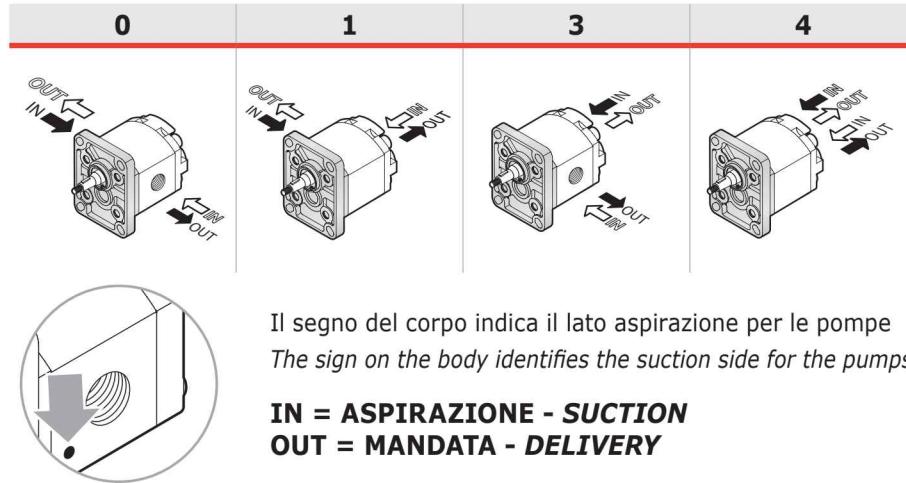
POSIZIONE CONNESSIONE • CONNECTION POSITION



Rotazione destra - **D**
Clockwise rotation - **D**

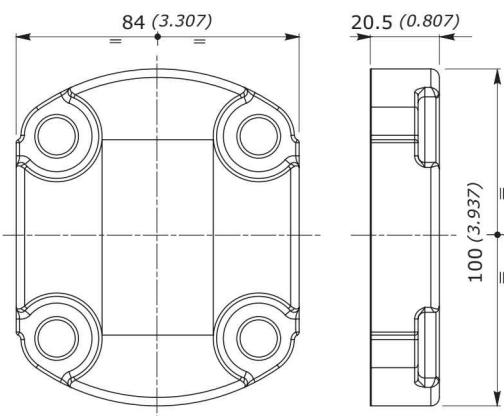


Rotazione sinistra - **S**
Anti-clockwise rotation - **S**

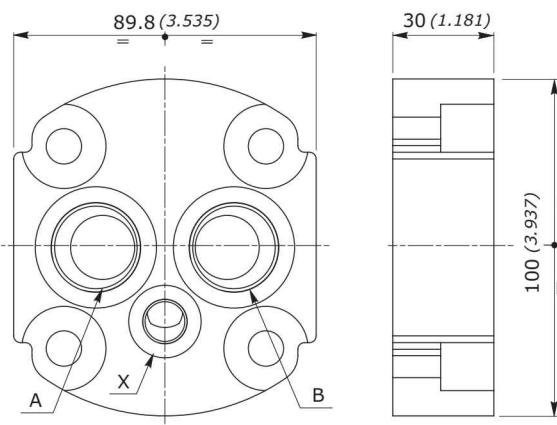


COPERCHIO STANDARD • STANDARD COVER

Per posizione **0**
For position **0**



Per posizioni **1, 3, 4**
For position **1, 3, 4**



CONNESSIONI / CONNECTION

	A	B	X
GAS	G 3/4	G 3/4	G 1/4
SAE	SAE 12	SAE 12	SAE 6

**POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP**
TIPO CONNESSIONE • CONNECTION TYPE

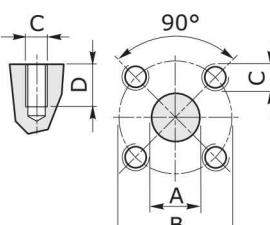
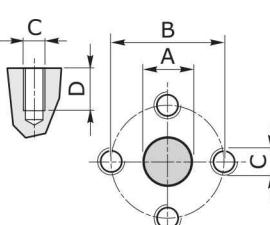
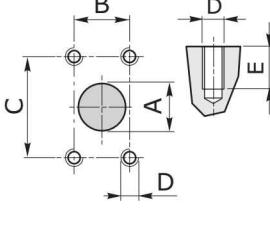
Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale. *The connection types shown correspond to standard configuration; for different applications contact our Commercial Dept.*

2SP		POSIZIONE CONNESSIONE - CONNECTION POSITION			
		0	1	3	4
GAS	G	◊	◊	◊	◊
UNF	U	◊	◊	◊	◊
	T	◊			
FLANGIATE FLANGED	N	◊			
	M	◊			
	F	◊			

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

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

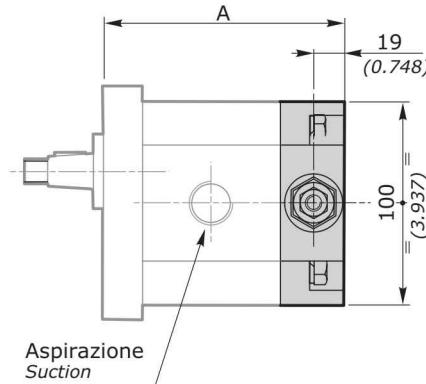
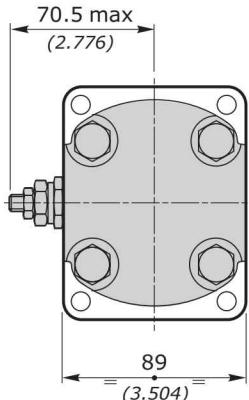
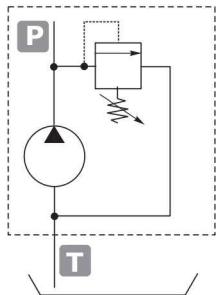
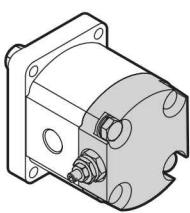
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN					MANDATA DELIVERY OUT				
				A	B	C	D		A	B	C	D	
	T	40											
		60											
		80											
		110	20 [mm] 0.787 [inch]	40 [mm] 1.575 [inch]	M6	15 [mm] 0.591 [inch]	8 [Nm] 71 [in.lbs]						
		140											
		160											
		190											
		220											
		260											
		310											
	N	40	13 [mm] 0.512 [inch]	30 [mm] 1.181 [inch]	M6	15 [mm] 0.591 [inch]	8 [Nm] 71 [in.lbs]						
		60											
		80											
		110											
		140											
		160	19 [mm] 0.748 [inch]	40 [mm] 1.575 [inch]	M8	14 [mm] 0.552 [inch]	15 [Nm] 133 [in.lbs]						
		190											
		220											
		260											
		310											
	M	40											
		60											
		80											
		110											
		140											
		160	19 [mm] 0.748 [inch]	40 [mm] 1.575 [inch]	M8	14 [mm] 0.552 [inch]	15 [Nm] 133 [in.lbs]						
		190											
		220											
		260											
		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
	F*	40											
		60	20 [mm] 0.787 [inch]	17,4 [mm] 0.685 [inch]	38 [mm] 1.496 [inch]	M6	15 [mm] 0.591 [inch]	8 [Nm] 71 [in.lbs]					
		80											
		110											
		140											
		160											
		190	26 [mm] 1.024 [inch]	22,4 [mm] 0.882 [inch]	47,6 [mm] 1.874 [inch]	M6	15 [mm] 0.591 [inch]	8 [Nm] 71 [in.lbs]					
		220											
		260											
		310											

*: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.

*: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.

**POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP**
OPZIONI • OPTIONS
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
2SP 040	104.8	4.126	106.8	4.205	102.1	4.020
2SP 060	108.1	4.256	110.1	4.335	105.4	4.150
2SP 080	112.3	4.421	114.3	4.500	109.6	4.315
2SP 110	116.4	4.583	118.4	4.661	113.7	4.476
2SP 140	121.4	4.780	123.4	4.858	118.7	4.673
2SP 160	125.6	4.945	127.6	5.024	122.9	4.839
2SP 190	130.6	5.142	132.6	5.220	127.9	5.035
2SP 220	135.6	5.339	137.6	5.417	132.9	5.232
2SP 260	141.4	5.567	143.4	5.646	138.7	5.461
2SP 310	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. È 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 with anticlockwise rotation.

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

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 with internal exhaust

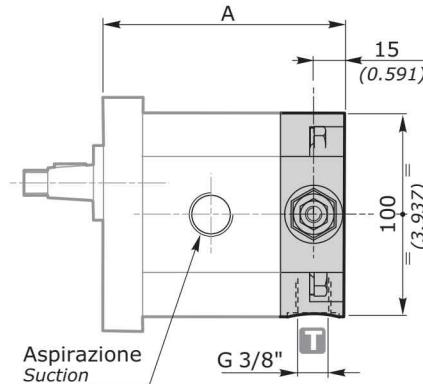
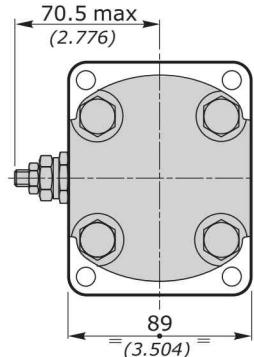
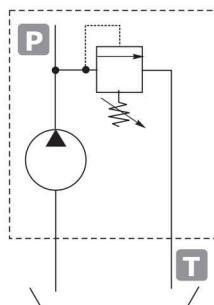
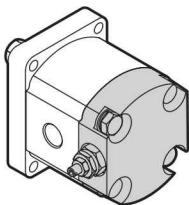
N = Tipo molla - vedi tabella / Spring type - see table

120 = Taratura - vedi tabella / Setting - see table

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS			
	B	molla bianca - white spring	N	molla nera - black spring
bar	30 ÷ 80		81 ÷ 200	
psi	435 ÷ 1160		1175 ÷ 2900	
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
VLPEVALVOLA 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
2SP 040	100.8	3.969	102.8	4.047	98.1	3.862
2SP 060	104.1	4.098	106.1	4.177	101.4	3.992
2SP 080	108.3	4.264	110.3	4.343	105.6	4.157
2SP 110	112.4	4.425	114.4	4.504	109.7	4.319
2SP 140	117.4	4.622	119.4	4.701	114.7	4.516
2SP 160	121.6	4.787	123.6	4.866	118.9	4.681
2SP 190	126.6	4.984	128.6	5.063	123.9	4.878
2SP 220	131.6	5.181	133.6	5.260	128.9	5.075
2SP 260	137.4	5.409	139.4	5.488	134.7	5.303
2SP 310	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. È 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 with anticlockwise rotation. In the case of pumps with clockwise rotation, the valve is on 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 with 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				R
	B	molla bianca - white spring	molla nera - black spring	N	
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)

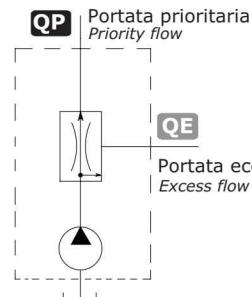
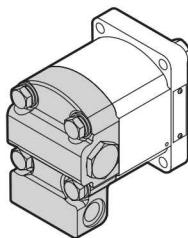
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

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

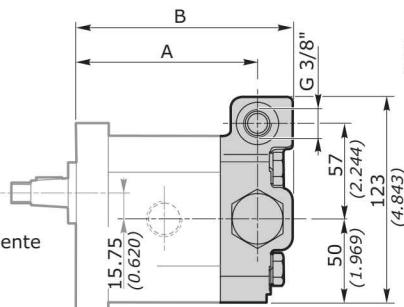
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VRF

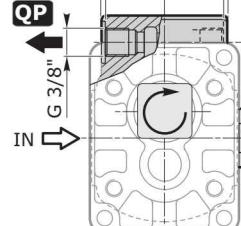
VALVOLA REGOLATRICE DI FLUSSO
 PRIORITY FLOW DIVIDER VALVE



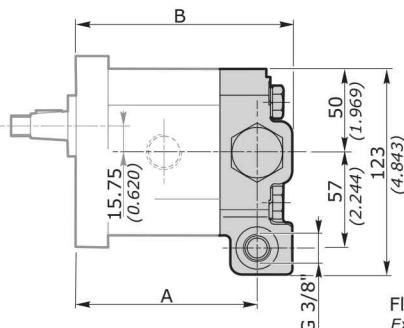
Flusso eccedente per utilizzzi o serbatoio
 Exceeding flow to actuator or to tank



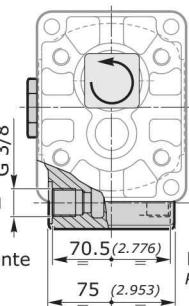
Flusso prioritario
 Priority flow



Flusso eccedente
 Excess flow



Flusso eccedente
 Excess flow



Flusso prioritario
 Priority flow

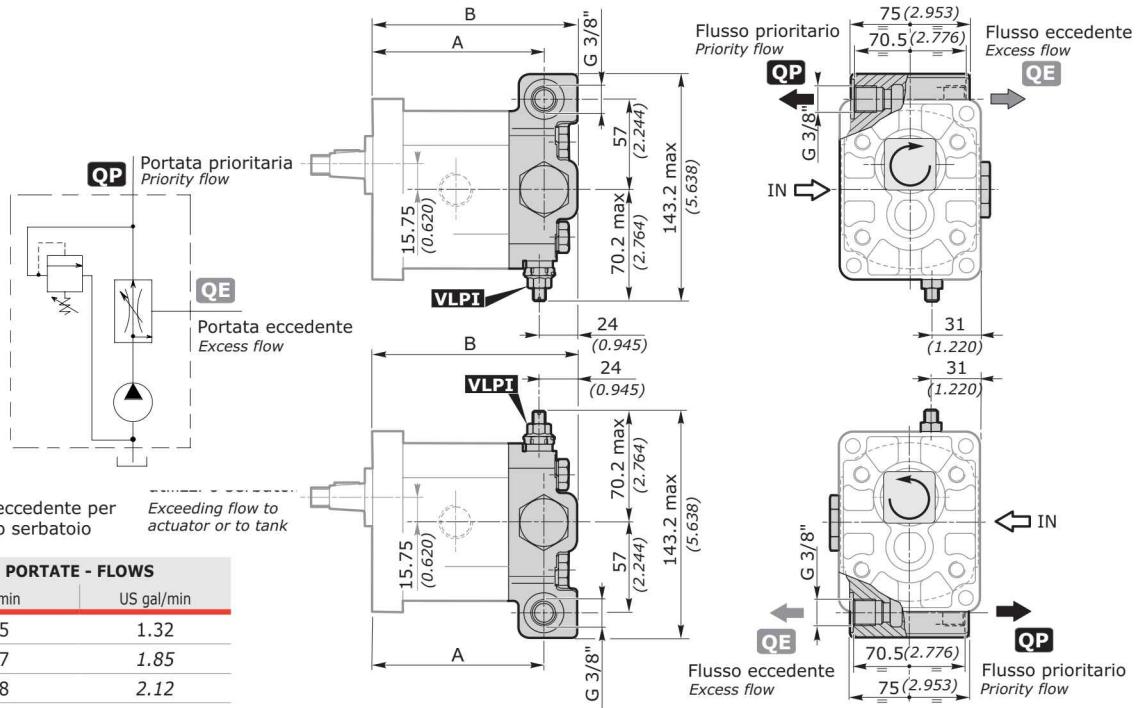
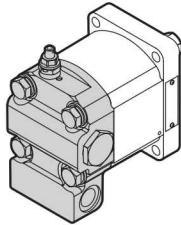
GRUPPO GROUP 2	A				B				B			
	EUR - SAEA - B50C		B80C		E52C		EUR - SAEA - B50C		B80C		E52C	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
2SP 040	91.8	3.614	93.8	3.693	89.1	3.508	112.8	4.441	114.8	4.520	110.1	4.335
2SP 060	95.1	3.744	97.1	3.823	92.4	3.638	116.1	4.571	118.1	4.650	113.4	4.465
2SP 080	99.3	3.909	101.3	3.988	96.6	3.803	120.3	4.736	122.3	4.815	117.6	4.630
2SP 110	103.4	4.071	105.4	4.150	100.7	3.965	124.4	4.898	126.4	4.976	121.7	4.791
2SP 140	108.4	4.268	110.4	4.346	105.7	4.161	129.4	5.094	131.4	5.173	126.7	4.988
2SP 160	112.6	4.433	114.6	4.512	109.9	4.327	133.6	5.260	135.6	5.339	130.9	5.154
2SP 190	117.6	4.630	119.6	4.709	114.9	4.524	138.6	5.457	140.6	5.535	135.9	5.350
2SP 220	122.6	4.827	124.6	4.906	119.9	4.720	143.6	5.654	145.6	5.732	140.9	5.547
2SP 260	128.4	5.055	130.4	5.134	125.7	4.949	149.4	5.882	151.4	5.961	146.7	5.776
2SP 310	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
5	5	1.32
7	7	1.85
8	8	2.12
11	11	2.91
14	14	3.70
21	21	6.54

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP
VRFVLPI
VALVOLA REGOLATRICE DI FLUSSO E VALVOLA LIMITATRICE DI PRESSIONE (SCARICO INTERNO)
PRIORITY FLOW DIVIDER VALVE AND PRESSURE RELIEF VALVE (INTERNAL EXHAUST)


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

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

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

120 = Taratura - vedi tabella / Setting - see table

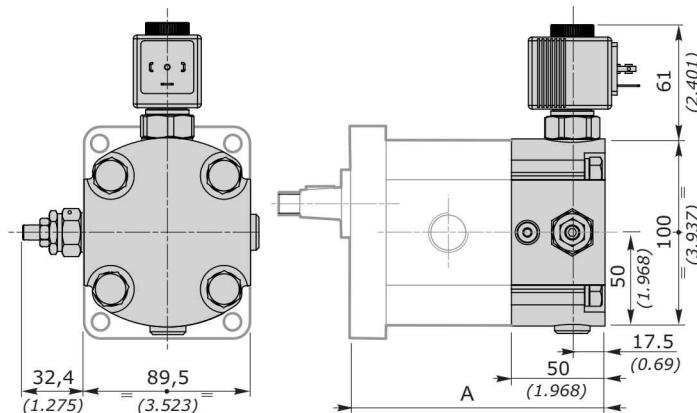
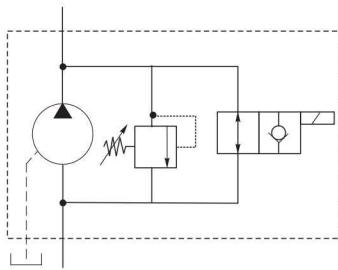
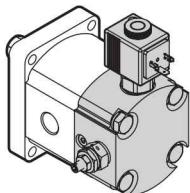
TIPO - TYPE	molla bianca - white spring	B	CAMPI DI TARATURE - CALIBRATION FIELDS			R
			molla nera - black spring	N	molla rossa - red spring	
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

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

UNLD

 VALVOLA UNLOADING
 UNLOADING VALVE


GRUPPO GROUP 2	EUR-SAEA B50C		A		B80C		E52C	
	mm	inch	mm	inch	mm	inch	mm	inch
2SM 040	123.8	4.874	125.8	4.952	121.1	4.767		
2SM 060	127.1	5.003	129.1	5.082	124.4	4.897		
2SM 080	131.3	5.169	133.3	5.248	128.6	5.062		
2SM 110	135.4	5.330	137.4	5.409	132.7	5.224		
2SM 140	140.4	5.527	142.4	5.606	137.7	5.421		
2SP 160	144.6	5.692	146.6	5.771	141.9	5.586		
2SP 190	149.6	5.889	151.6	5.968	146.9	5.793		
2SP 220	154.6	6.086	156.6	6.165	151.9	5.980		
2SP 260	160.4	6.314	162.4	6.393	157.7	6.208		
2SP 310	168.8	6.645	170.8	6.724	166.1	6.539		

 esempio • example: **2SP-A-140-D-EUR-B-N-10-0-T-NA(UNLD)-VLPI(N100)-12VDC**
UNLD = Coperchio con valvola unloading standard - Standard cover with unloading valve

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

100 = Taratura - vedi tabella / Setting - see table

TIPO - TYPE	CAMPI DI TARATURA - CALIBRATION FIELDS				R
	B	molla bianca - white spring	N	molla nera - black spring	
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)

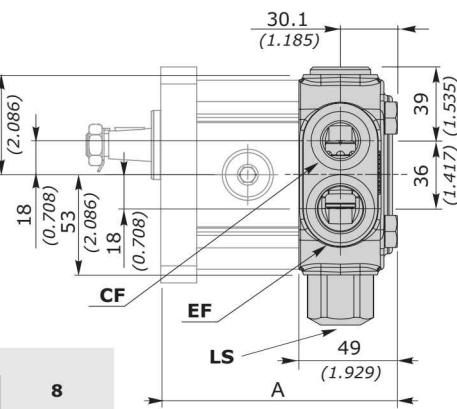
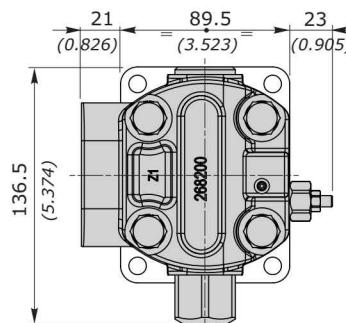
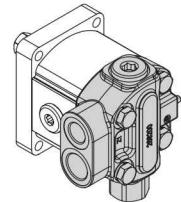
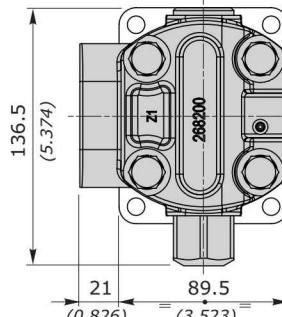
NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP
CP (LS)VALVOLA PRIORITARIA
PRIORITY VALVE

Con questa valvola è necessario un ingranaggio condotto speciale

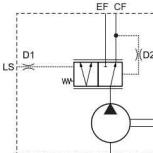
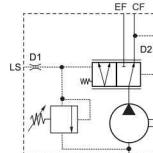
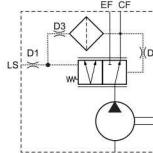
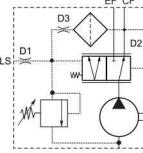
With this valve a special drive gear is needed

Versione senza VMP
Version without VMP

1	2	3	4	5	6	7	8
CP	M	I	(7	\ 0.7	- 0.6)	- VMP02	(110)
1 / coperchio con valvola prioritaria - cover with priority valve							
2 posiz. bocche coperchio cover ports position	A	lato aspirazione corpo - body suction side					
	M	lato manda corpo - body delivery side					
3 posizione bocca LS LS port position	I	sul lato inferiore del coperchio on bottom side of the cover					
	S	sul lato superiore del coperchio on upper side of the cover					
4 configurazione molla spring configuration	4	4 bar - 58 psi					
	7	7 bar - 101.5 psi					
	10	10 bar - 145 psi					
5 dimensione strozzatore tipo 2 type 2 orifice dimension	0.7	foro da 0.7 - 0.7 hole					
6 caratteristiche strozzatore tipo 3 type 3 orifice features	0.6	vedere la tabella sotto - see below					
7 VMP02 opzionale in pos. M optional VMP02, position M	VMP02	con valvola VMP02- with VMP02 valve					
	-	senza valvola VMP02- without VMP02 valve					
8 taratura VMP02 - VMP02 setting	110	110 bar - 1590 psi					

CONNESSIONI / CONNECTION

CF	EF	LS
GAS	G 1/2	G 1/4
SAE	SAE 8	SAE 10

Statico
StaticStatico con valvola
Static with valveDinamico
DynamicDinamico con valvola
Dynamic with valve

CARATTERISTICHE STROZZATORI TIPO 3 E MOLLA ORIFICES TYPE 3 FEATURES AND SPRING							
mm	in	molla spring	Pressione di Stand-By / Stand-By pressure				A
			5 l/min - 1.32 USgpm bar	80 l/min - 21.13 USgpm psi	5 l/min - 1.32 USgpm bar	80 l/min - 21.13 USgpm psi	
X	X		4	58	5	72.5	
0.5	0.019	4	5	72.5	6.5	94.2	
0.6	0.023		6	87	7.5	108.7	
0.7	0.027		7	101.5	10	145	
X	X		7	101.5	9	130.5	
0.5	0.019	7	9	130.5	11	159.5	
0.6	0.023		11	159.5	14	203	
0.7	0.027		14	203	18	261	
X	X		10	145	13	188.5	
0.5	0.019	10	12.5	181.2	16.5	239.2	
0.6	0.023		15.5	224.7	20	290	
0.7	0.027		20	290	26	377	

X= statico / static

esempio • example: **2SP - A - 140 - D - EUR - B - N - 10 - G - CPMI (7\0.7-0.6) - VMP02(110)****CP** = Coperchio con valvola prioritaria / Cover with priority valve**7** = Tipo molla - vedi tabella / Spring type - see table**110** = Taratura - vedi tabella / Setting - see table

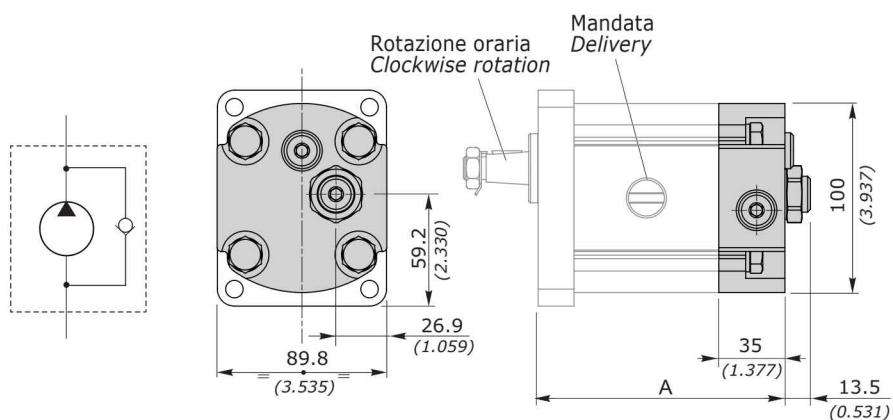
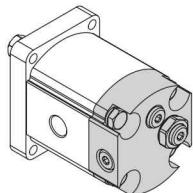
GRUPPO GROUP 2	EUR-SAEA-B50C	A		B80C		E52C	
		mm	inch	mm	inch	mm	inch
2SP 040	123.3	4.854		125.3	4.933	120.6	4.748
2SP 060	126.6	4.984		128.6	5.062	123.9	4.877
2SP 080	130.8	5.149		132.8	5.228	128.1	5.043
2SP 110	134.9	5.311		136.9	5.389	132.2	5.204
2SP 140	139.9	5.507		141.9	5.586	137.2	5.401
2SP 160	144.1	5.673		146.1	5.751	141.4	5.566
2SP 190	149.1	5.870		151.1	5.948	146.4	5.763
2SP 220	154.1	6.067		156.1	6.145	151.4	5.960
2SP 260	159.9	6.295		161.9	6.374	157.2	6.188
2SP 310	168.3	6.625		170.3	6.704	165.6	6.519

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

VA

 VALVOLA ANTICAVITAZIONE
 ANTICAVITATION VALVE


GRUPPO GROUP 2	EUR-SAEA-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SP 040	109.3	4.303	111.3	4.381	106.6	4.196
2SP 060	112.6	4.433	114.6	4.511	109.9	4.326
2SP 080	116.8	4.598	118.8	4.677	114.1	4.492
2SP 110	120.9	4.759	122.9	4.838	118.2	4.653
2SP 140	125.9	4.956	127.9	5.035	123.2	4.850
2SP 160	130.1	5.122	132.1	5.200	127.4	5.015
2SP 190	135.1	5.318	137.1	5.397	132.4	5.212
2SP 220	140.1	5.515	142.1	5.594	137.4	5.409
2SP 260	145.9	5.744	147.9	5.822	143.2	5.637
2SP 310	154.3	6.074	156.3	6.153	151.6	5.968

esempio • example:

2SP - A - 110 - D - EUR - H - N - 10 - G - VA
D = Rotazione destra / Clockwise rotation

S = Rotazione sinistra / Anticlockwise rotation

D(R) = Reversibile, montata unidirezionale e valvola come motore destro

Reversible, mounted as clockwise rotation and valve as right gear motor
S(R) = Reversibile, montata unidirezionale e valvola come motore sinistro

Reversible, mounted as anticlockwise rotation and valve as left gear motor
R....VA(D)/VA(S) = Reversibile / Reversible

VA = Coperchio con valvola anticavitazione / Cover with anticavitation valve

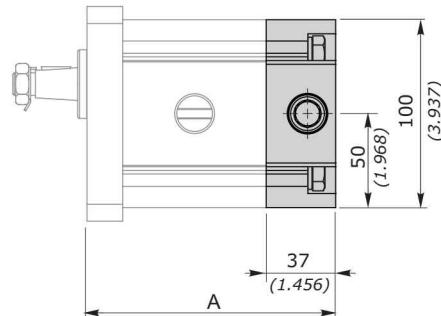
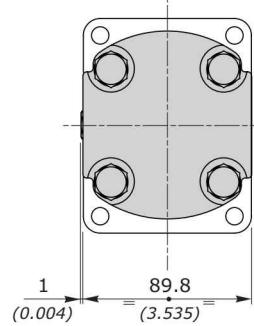
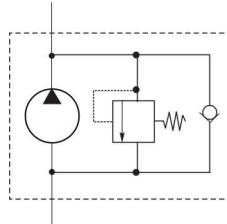
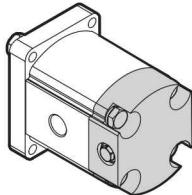
R....VA(D) = Valvola montata come motore destro / Valve mounted as right gear motor

R....VA(S) = Valvola montata come motore sinistro / Valve mounted as left gear motor

NOTA: Nell'esempio viene descritta una pompa a rotazione destra con valvola anticavitazione montata come pompa destra, per altre configurazioni contattare il Servizio Commerciale

NOTE: in the example is represented gear pump with clockwise rotation and anticavitation valve mounted as right gear pump. For other configurations please contact our Sales Dpt.

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VMAVALVOLA ANTICAVITAZIONE E ANTIURTO
ANTICAVITATION AND ANTISHOCK VALVE

GRUPPO GROUP 2	EUR-SAEA-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SP 040	111.3	4.381	113.3	4.450	108.6	4.275
2SP 060	114.6	4.511	116.6	4.590	111.9	4.405
2SP 080	118.8	4.677	120.8	4.755	116.1	4.570
2SP 110	122.9	4.838	124.9	4.917	120.2	4.732
2SP 140	127.9	5.035	129.9	5.114	125.2	4.929
2SP 160	132.1	5.200	134.1	5.279	129.4	5.094
2SP 190	137.1	5.397	139.1	5.476	134.4	5.291
2SP 220	142.1	5.594	144.1	5.673	139.4	5.488
2SP 260	147.9	5.822	149.9	5.901	145.2	5.716
2SP 310	156.3	6.153	158.3	6.232	153.6	6.047

esempio • example:

2SP - A - 140 - D - EUR - B - N - 10 - G - VMA**VMA** = Coperchio con valvola anticavitazione / Cover with anticavitation valve

VALVOLE ANTICAVITAZIONE A TARATURA FISSA - FIXED SETTING ANTICAVITATION VALVES

bar	50	63	80	100	110	125	140	150	160	175	190	200	210	230	240	250	260	270	280
psi	725	914	1150	1450	1590	1800	2050	2150	2300	2550	2750	2900	3050	3350	3500	3600	3750	3900	4050

taratura riferita a 10 l/min / setting is referred to 2.6 US gpm

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard.

NOTE: Without setting request, it will be considered standard.

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

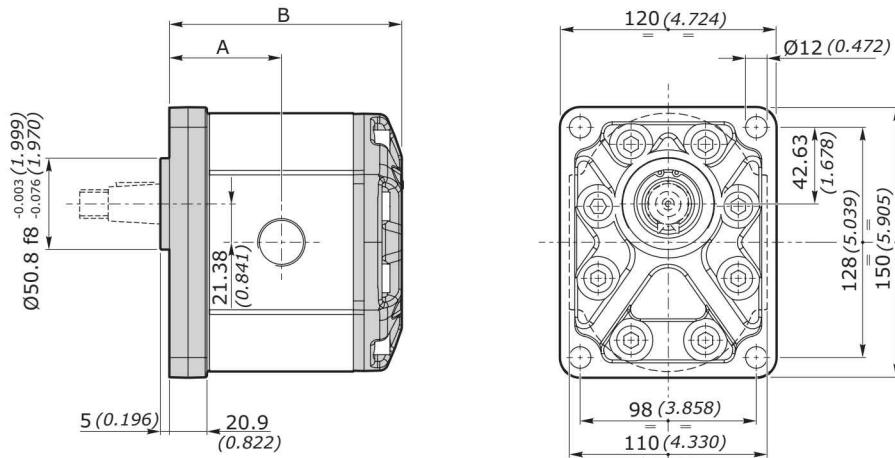
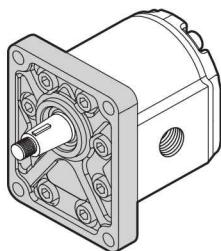
FLANGIA EUROPEA EUR EUROPEAN FLANGE

FLANGIA E COPERTURA 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	
			P1		P2		P3					
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

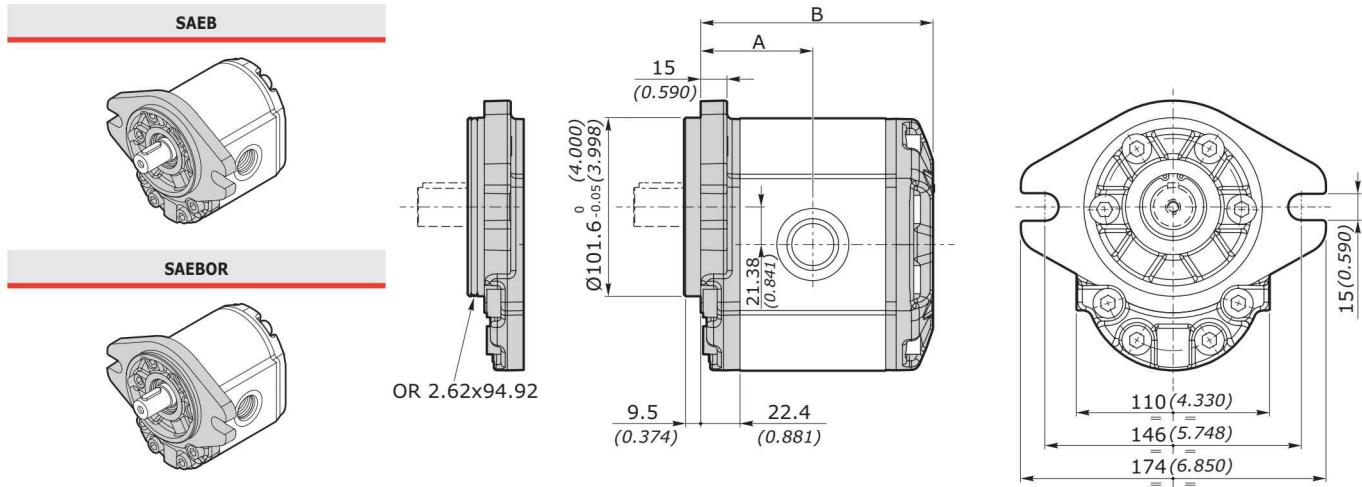
FLANGIA SAE SAEB-SAEBOR SAE FLANGE

FLANGIA E COPERTURA IN GHISA - CAST IRON FLANGE AND COVER

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE						VELOCITÀ MAX MAX SPEED giri/min - rpm	PORTATA MAX MAX FLOW l/min	VELOCITÀ MIN MIN SPEED giri/min - rpm			
			P1		P2		P3							
	cm ³ /giro	in ³ /rev	bar	psi	bar	psi	bar	psi						
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600		
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600		
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600		
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600		
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600		
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600		
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600		
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600		
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600		
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600		

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

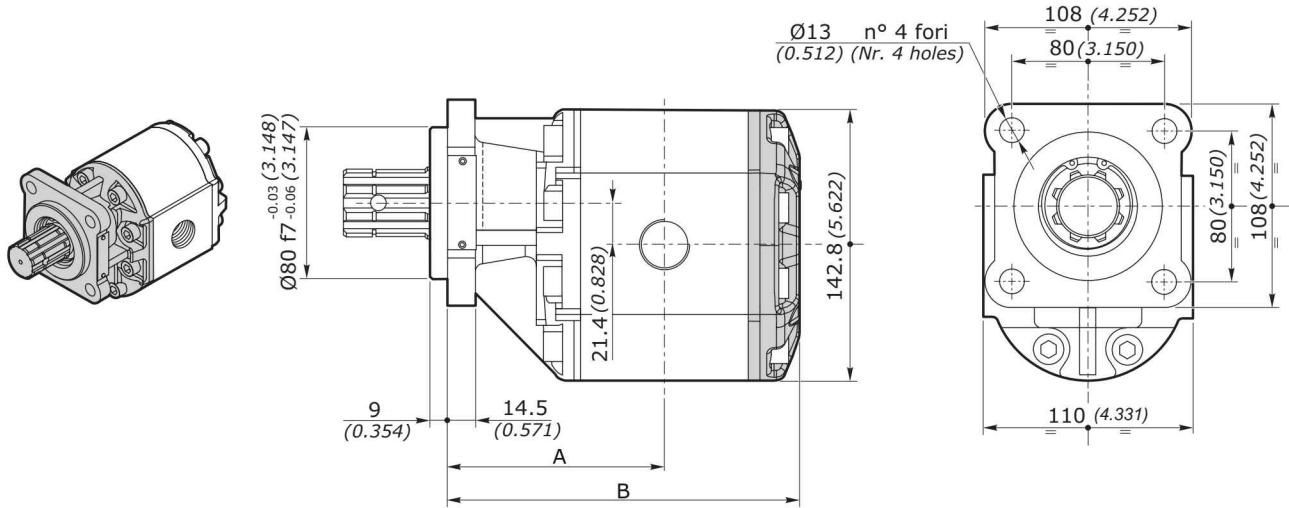
FLANGIA ZFC FLANGE

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	
			P1		P2		P3					
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • DIMENSIONS



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

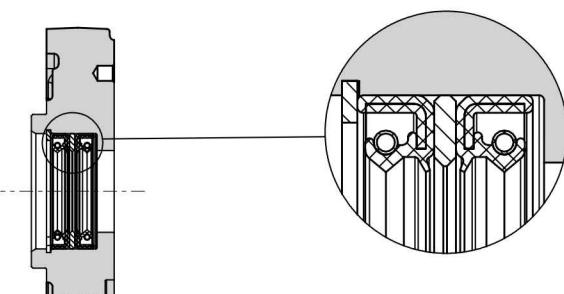
SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
3GP	Tipo pompa <i>Pump type</i>	Pompa singola gruppo 3 <i>Single pump group 3</i>	6
G	Materiale flangia e coperchio <i>Flange and cover material</i>	G = Ghisa / Cast iron	72
340	Cilindrata <i>Displacement</i>	Cilindrata = 33.8 cm ³ /giro <i>Displacement = 2.1 in³/rev</i>	6
D	Senso di rotazione <i>Rotation wise</i>	D = Rotazione destra / <i>Clockwise rotation</i> S = Rotazione sinistra / <i>Anticlockwise rotation</i> R = Reversibile / <i>Reversible</i>	8
EUR	Tipo Flangia <i>Flange type</i>	Flangia standard europea <i>European standard flange</i>	72
B	Tipo anello di tenuta <i>Seal ring type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	
N	Tipo guarnizione <i>Gasket type</i>	N = NBR V = Viton	73
10	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	
0	Posizione connessione <i>Connection position</i>	Vedi tabella compatibilità <i>See compatibility table</i>	75
G	Tipo connessione <i>Connection type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	



VERSIONI CON DOPPIO PARAOLIO • DOUBLE SHAFT SEAL VERSION

Disponibili versioni con doppio paraolio per EUR, SAEB, SAEBOR.

Available versions with double shaft seal for EUR, SAEB, SAEBOR.



esempio • example:

3GP - G - 340 - D - EUR2 - B - N - 10 - 0 - F

EUR2= Doppio paraolio / Double Shaft Seal

Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K (vedi pag. 72).

Note - The version with shaft seal is supplied with K rings type with low pressure or high pressure (see page 72).

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

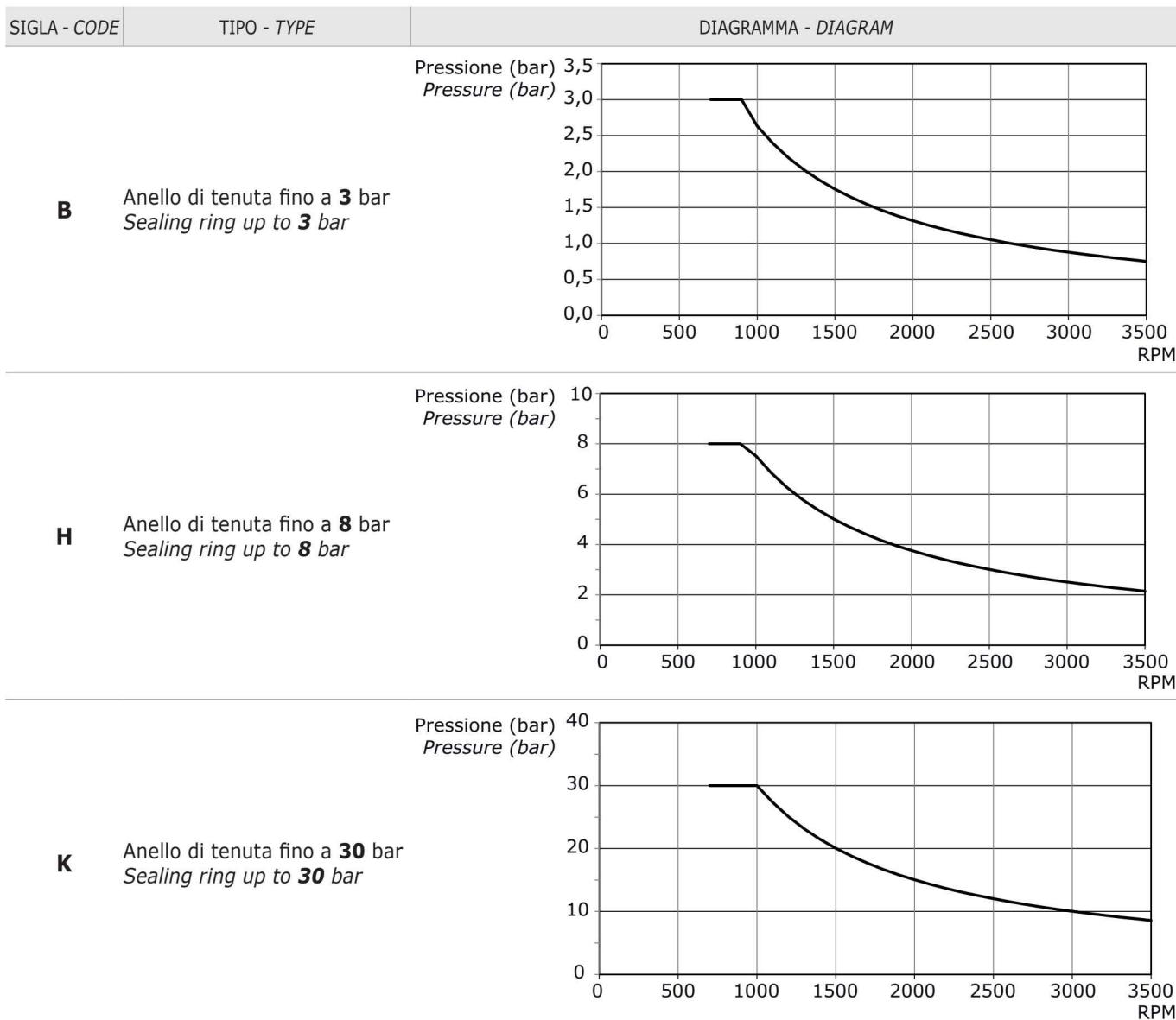
TIPOLOGIA FLANGIA • FLANGE TYPE

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

◊ = Combinazione standard - *Standard combination*

* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

ANELLO DI TENUTA • SEAL RING



POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

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

		EUR			SAEB*			SAEBOR			ZFC	
3GP		B	H	K	B	H	K	B	H	K	B	
NBR	N	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
Viton	V	●	●	●	●	●	●	●	●	●	●	●

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

COMBINAZIONE ALBERO - FLANGIA • SHAFT - FLANGE COMBINATION

		EUR			SAEB*			SAEBOR			ZFC	
3GP		B	H	K	B	H	K	B	H	K	B	
10	Conico 1:8 Tapered 1:8	◊			●			●				
13	Cilindrico SAEB SAEB Parallel shaft		●		◊			◊				
14	Scanalato SAEB 13T (38.2) SAEB 13T splined (38.2)		●		◊			◊				
14R	Scanalato SAEB 13T (44.7) SAEB 13T splined (44.7)		●		●			●				
24	Scanalato UNI8953 UNI8953 Splined										◊	

◊ = Combinazione standard - Standard combination

● = Combinazione disponibile - Available combination

* Contattare il servizio commerciale. /Available soon. Please contact our Sales Dpt.

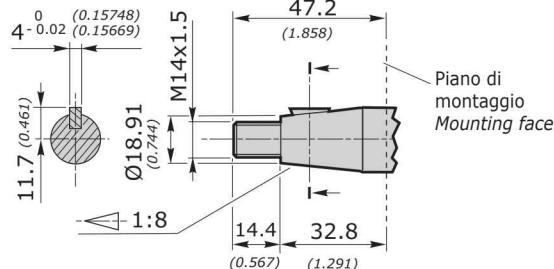
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

3GP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

10
 Conico 1:8
Tapered 1:8

Coppia 240 Nm
 Torque 178 ft-lbs

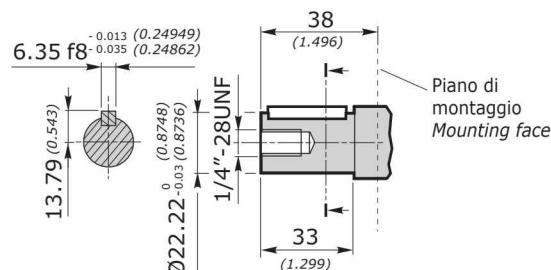


Disponibile per - available for: EUR - SAEB - SAEBOR

13

Cilindrico SAEB
 SAEB Parallel
 shaft

Coppia 200 Nm
 Torque 148 ft-lbs

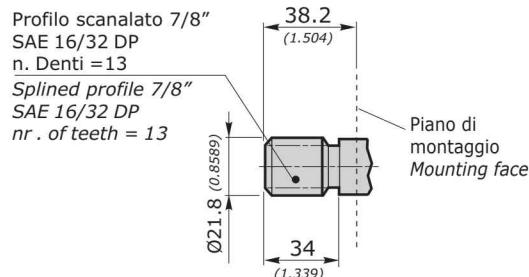


Disponibile per - available for: EUR - SAEB - SAEBOR

14

Scanalato SAEB
 13T (38.2)
 SAEB 13T
 splined (38.2)

Coppia 270 Nm
 Torque 200 ft-lbs

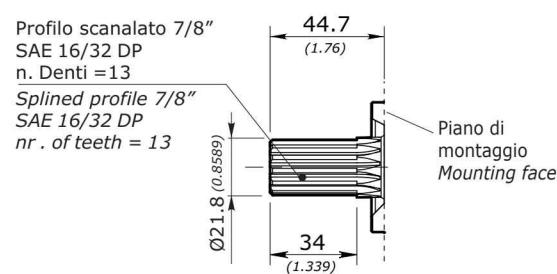


Disponibile per - available for: EUR - SAEB - SAEBOR

14R

Scanalato SAEB
 13T (44.7)
 SAEB 13T
 splined (44.7)

Coppia 270 Nm
 Torque 200 ft-lbs

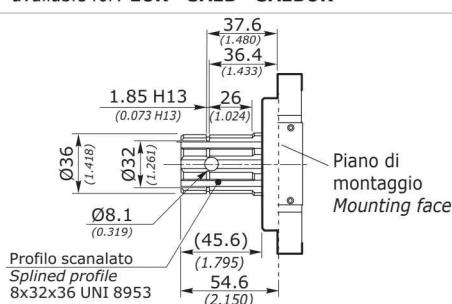


Disponibile per - available for: EUR - SAEB - SAEBOR

24

Scanalato
 UNI8953
 UNI8953
 Splined

Coppia 330 Nm
 Torque 245 ft-lbs

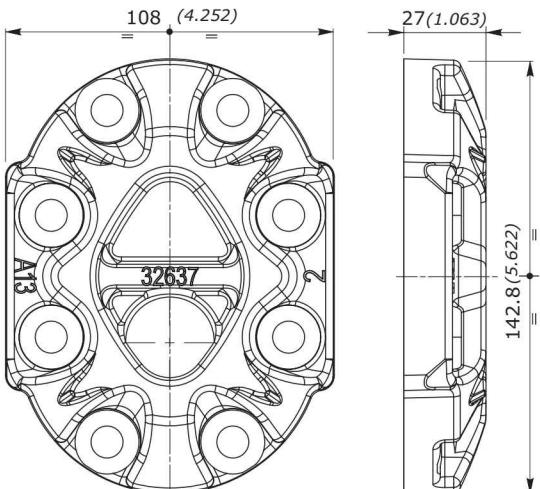


Disponibile per - available for: ZFC

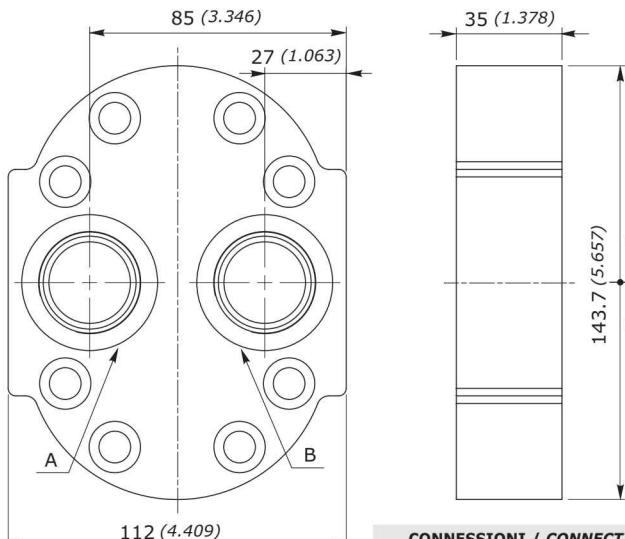
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

COPERCHIO STANDARD • STANDARD COVER

Per posizione **0**
 For position **0**



Per posizioni **1, 3, 4**
 For position **1, 3, 4**



CONNESSIONI / CONNECTION	
A	B
GAS	G 1
SAE	SAE 16

G 1
 SAE 16

G 1
 SAE 12

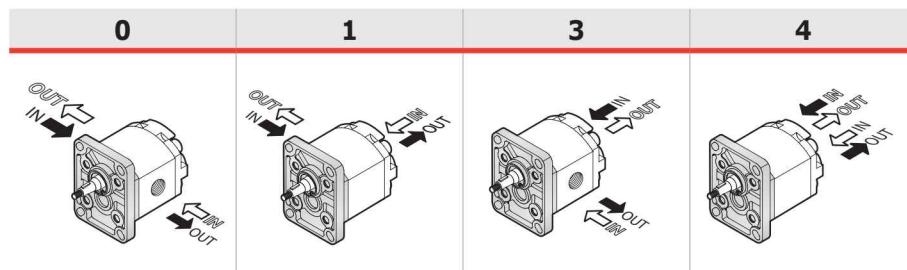
POSIZIONE CONNESSIONE • CONNECTION POSITION



Rotazione destra - **D**
 Clockwise rotation - **D**



Rotazione sinistra - **S**
 Anti-clockwise rotation - **S**



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

IN = ASPIRAZIONE - SUCTION
OUT = MANDATA - DELIVERY

TIPO CONNESSIONE • CONNECTION TYPE

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

3GP	POSIZIONE CONNESSIONE - CONNECTION POSITION			
	0	1	3	4
GAS G	◊	◊	◊	◊
UNF W	◊	◊	◊	◊
FLANGIATE T	◊			
FLANGED N	◊			
	F	◊		

**POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP**
TIPO CONNESSIONE • CONNECTION TYPE

GAS	UNI ISO 228/1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE - SUCTION IN				MANDATA - DELIVERY OUT				
				A	B		A	B				
						190	G 1"	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]	G 3/4"	17 [mm] 0.670 [inch]	60 [mm] 531 [in.lbs]
						230						
						300						
						340	G 1" 1/4"	20 [mm] 0.788 [inch]	80 [Nm] 709 [in.lbs]	G 1"	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]
						370						
						440						
						530						
						620						
						700						
						770						
UNF	ANSI/ASME B1.1	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN				MANDATA DELIVERY OUT				
						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	SAE 20 1"5/8-12 UN	20 [mm] 0.788 [inch]	80 [Nm] 709 [in.lbs]	SAE 16 1"5/16-12 UN	20 [mm] 0.788 [inch]	70 [Nm] 620 [in.lbs]
						370						
						440						
						530						
						620						
						700	SAE 24 1"7/8-12 UN	20 [mm] 0.788 [inch]	90 [Nm] 798 [in.lbs]	SAE 20 1"5/8-12 UN	20 [mm] 0.788 [inch]	80 [Nm] 709 [in.lbs]
						770						
FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN				MANDATA DELIVERY OUT				
						190	M8	16 [mm] 0.630 [inch]	15 [Nm] 133 [in.lbs]	M8	16 [mm] 0.630 [inch]	15 [Nm] 133 [in.lbs]
						230						
						300						
						340	M10	15 [mm] 0.591 [inch]	20 [Nm] 177 [in.lbs]	M8	15 [mm] 0.591 [inch]	15 [Nm] 133 [in.lbs]
						370						
						440						
						530						
						620						
						700						
						770						
FLANGIATE FLANGED	ISO/R 262	SIGLA CODE	CIL. DISPL.	ASPIRAZIONE SUCTION IN				MANDATA DELIVERY OUT				
						190	M8	15 [mm] 0.591 [inch]	15 [Nm] 133 [in.lbs]	M8	15 [mm] 0.591 [inch]	15 [Nm] 133 [in.lbs]
						230						
						300						
						340	M8	15 [mm] 0.591 [inch]	20 [Nm] 177 [in.lbs]	M8	15 [mm] 0.591 [inch]	15 [Nm] 133 [in.lbs]
						370						
						440						
						530						
						620						
						700						
						770						

*: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.

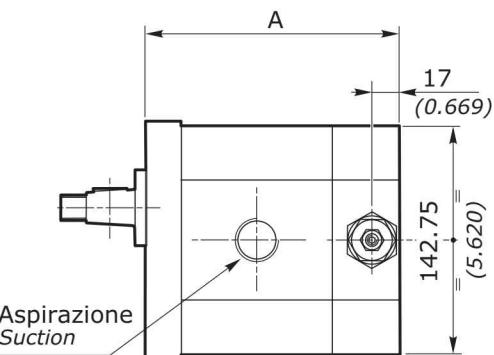
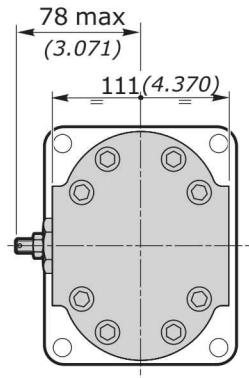
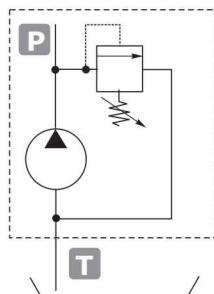
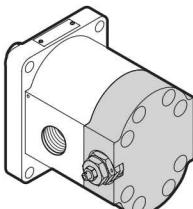
*: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

OPZIONI • OPTIONS

VLPI

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



GRUPPO GROUP 3	A EUR - SAEB - SAEBO mm	A inch
3GP 190	146.30	5.759
3GP 230	149.30	5.877
3GP 300	155.30	6.114
3GP 340	158.30	6.232
3GP 370	161.30	6.350
3GP 440	167.30	6.586
3GP 530	174.30	6.862
3GP 620	182.30	7.177
3GP 700	188.30	7.413
3GP 770	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 with anticlockwise rotation.

The opening of the pressure relief valve should be carried out for times not over 7" each minute, to avoid the pump 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 with internal exhaust

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

120 = Taratura - vedi tabella / Setting - see table

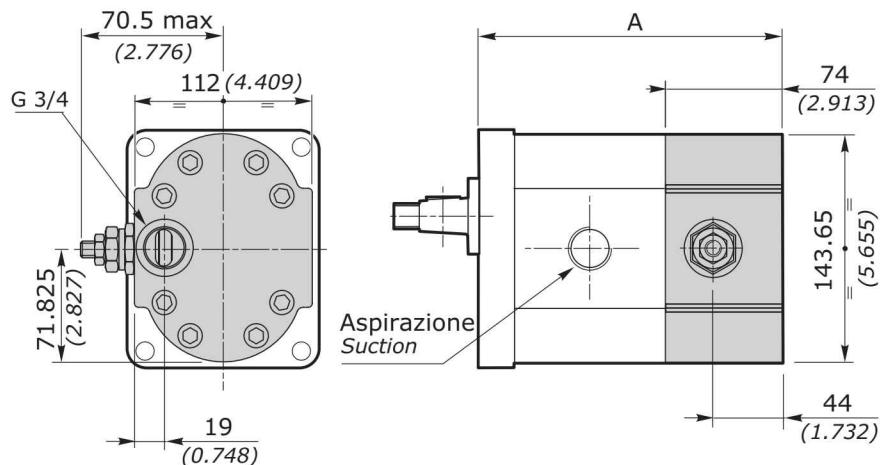
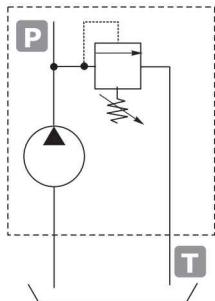
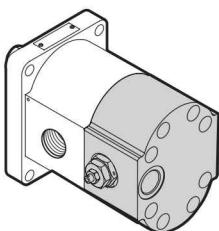
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS				R
	B	molla bianca - white spring	molla nera - black spring	N	
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)

NOTA: In caso si 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 3GP
GEAR PUMPS GROUP 3GP

VLPE

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


GRUPPO GROUP 3	A	
	EUR - SAEB - SAEBOR mm	inch
3GP 190	176.30	6.941
3GP 230	179.30	7.059
3GP 300	185.30	7.295
3GP 340	188.30	7.413
3GP 370	191.30	7.531
3GP 440	197.30	7.767
3GP 530	204.30	8.043
3GP 620	212.30	8.358
3GP 700	218.30	8.594
3GP 770	224.30	8.830

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. È 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 with anticlockwise rotation. In the case of pumps with clockwise rotation, the valve is on the opposite side.

esempio • example: **3GP - A - 230 - D - EUR - B - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / Cover with VPL with 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	molla nera - black spring	N
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).