

Part number:

HYDROMA

HYDRAULICKÉ SYSTÉMY

**HIDROMA
SYSTEMS**

UKŁADY HYDRAULICZNE

HYDROMA

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

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

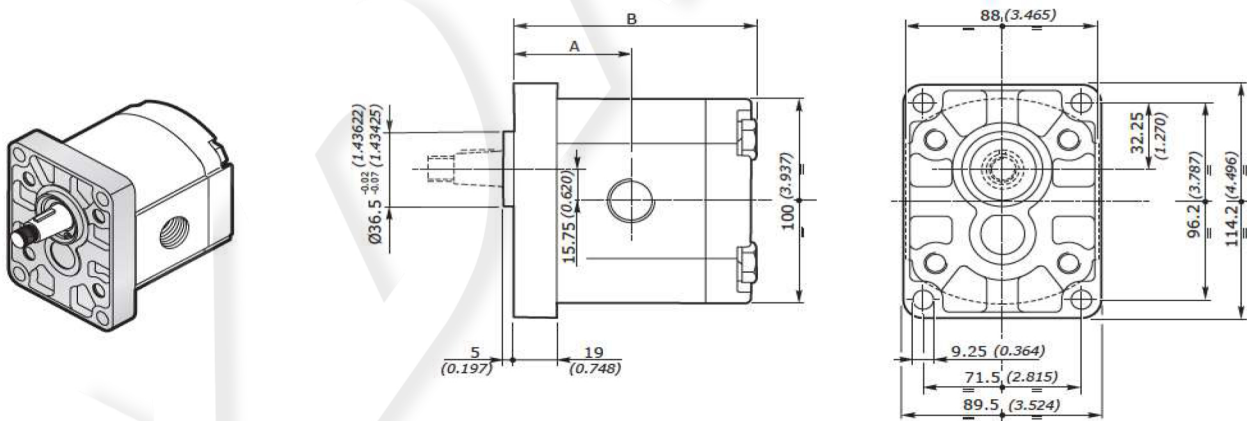
FLANGIA EUROPEA EUR EUROPEAN FLANGE

FLANGIA E COPERCHIO IN ALLUMINIO - FLANGE AND COVER IN ALUMINIUM

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

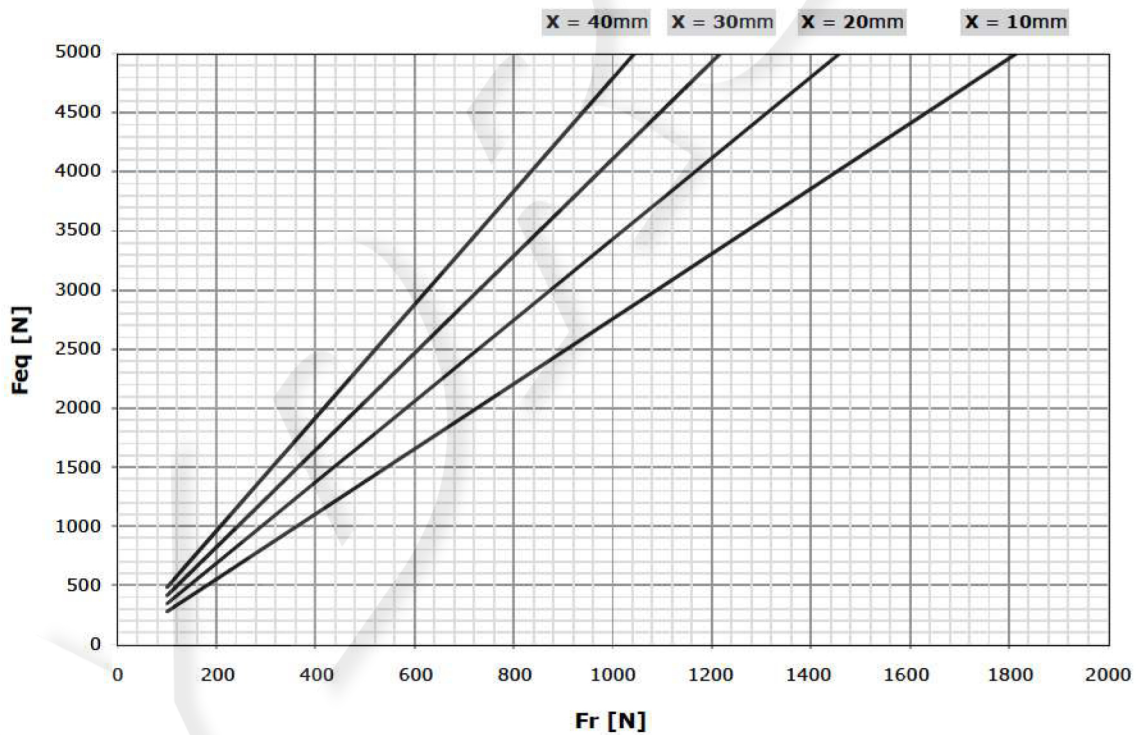
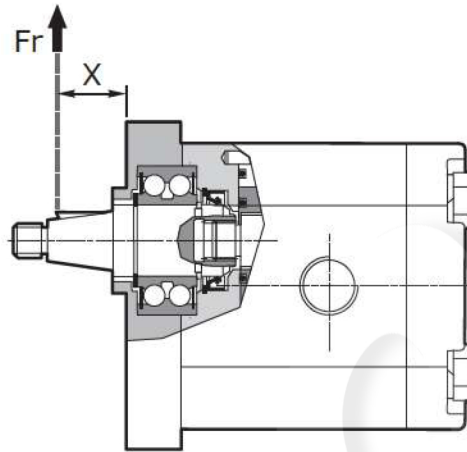
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Clienti.
Note - for higher pressure values please contact our Sales Dept.

DIMENSIONI • DIMENSIONS



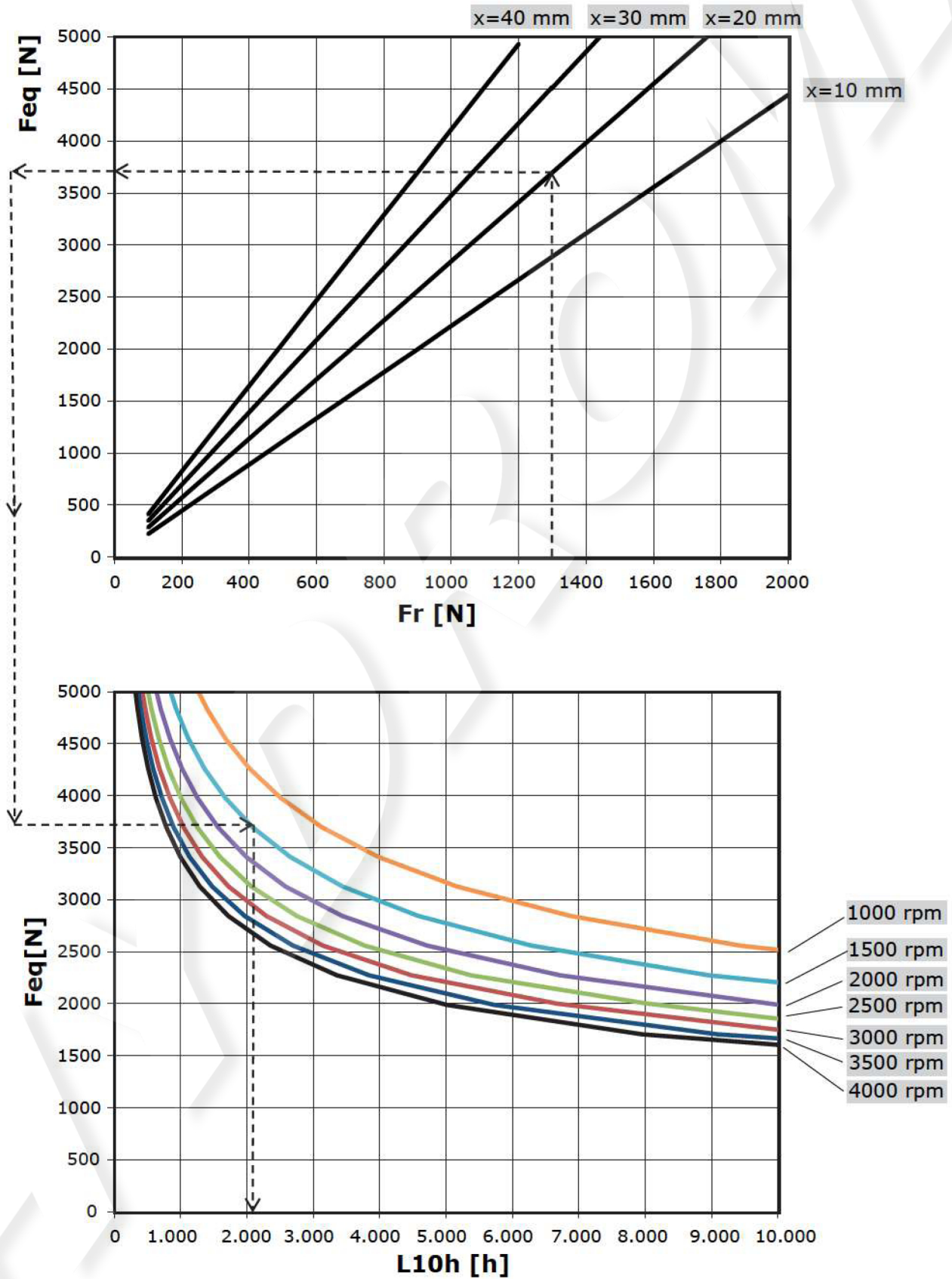
GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	1.748	93.0	3.661	2.30	5.07
2SP 060	46.0	1.811	96.3	3.791	2.45	5.40
2SP 080	48.1	1.894	100.5	3.957	2.60	5.73
2SP 110	50.2	1.976	104.6	4.118	2.70	5.95
2SP 140	52.7	2.075	109.6	4.315	2.80	6.17
2SP 160	54.8	2.157	113.8	4.480	2.95	6.51
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

CARICO DINAMICO EQUIVALENTE • EQUIVALENT DYNAMIC LOAD



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.

DIAGRAMMA CUSCINETTI • DIAGRAM BEARING EXPECTED LIFE



CODICE ORDINAZIONE • ORDER CODE

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

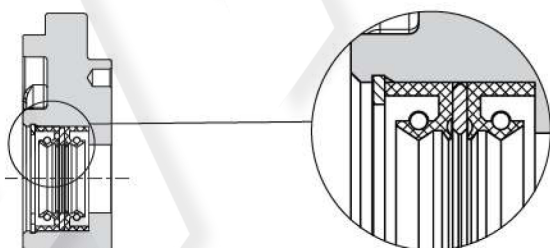
SIGLA - CODE	TIPO - TYPE	DESCRIZIONE - DESCRIPTION	PAGINA - PAGE
2SP	Tipo pompa <i>Pump type</i>	Pompa singola gruppo 2 <i>Single pump group 2</i>	5
G	Materiale flangia e coperchio <i>Flange and cover material</i>	A = alluminio / aluminium G = Ghisa / Cast iron	
140	Cilindrata <i>Displacement</i>	Cilindrata = 14 cm ³ /giro <i>Displacement = 0.85 in³/rev</i>	5
D	Senso di rotazione <i>Rotation wise</i>	D = Rotazione destra / Clockwise rotation S = Rotazione sinistra / Anticlockwise rotation R = Reversibile / Reversible	8
EUR	Tipo Flangia <i>Flange type</i>	Flangia standard <i>Standard flange</i>	52
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	51
10	Tipo Albero <i>Shaft type</i>	Vedi tabella compatibilità <i>See compatibility table</i>	53
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





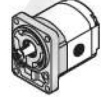

Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K (vedi pag.51).

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

	EUR	SAEA	SAEAOR	B80C	B50C	E52C
2SP						
A alluminio aluminium	◇	◇	◇	◇	◇	◇
G ghisa cast iron	◇	◇	◇	non disponibile not available	non disponibile not available	non disponibile not available

	P400D	SUPEUR	SAEB	SUPSAE	SUPB80C	SUPB50CX
2SP						
A alluminio aluminium	◇	◇	non disponibile not available	◇	◇	◇
G ghisa cast iron	non disponibile not available	◇	◇	non disponibile not available	non disponibile not available	non disponibile not available

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

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

	P400D	SUPEUR	SAEB	SUPSAE	SUPB80C	SUPB50CX
2SP	 Anello-Seal ring	 Anello-Seal ring	 Anello-Seal ring	 Anello-Seal ring	 Anello-Seal ring	 Anello-Seal ring
	B H K	B K	H			
NBR N	◇	◇	◇	◇	◇	◇
Viton V	●	●	●	●	●	●

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

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>	
H	Anello di tenuta fino a 8 bar <i>Sealing ring up to 8 bar</i>	
K	Anello di tenuta fino a 30 bar <i>Sealing ring up to 30 bar</i>	

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 Tapered 1:8	◊	●	●	●	◊		◊	◊	●	◊		
11 Conico 1:5 Tapered 1:5	●	●	●	◊	●			●	●		◊	◊
12 Cilindrico EUR EUR Parallel shaft	◊	●	●	◊	◊				●			
13 Cilindr. SAEA SAEA parallel shaft	●	◊	◊	●	●				●			
14 Scanalato SAEA 9T SAEA 9T splined	●	◊	◊	●	●				●			
15 Scanalato DIN5482 9T (26/24) DIN5482 9T splined (26/24)	●	●	●	◊	●				●			
16 Scanalato DIN5482 9T (20) DIN5482 9T splined (20)	●	●	●	◊	●			●	●			
17 Fresato a dente frontale Dihedral claw						◊						
30 Scanalato SAE SAE splined										●		
31 Cilindrico SAE SAE Parallel shaft										●		
40 Scanalato SAE 10T (52) SAE 10T splined (52)	●	●	●						●			
41 Scanalato SAE 10T (37.5) SAE 10T splined (37.5)	●	●	●						●			
42 Scanalato SAEA 11T (55.6) SAEA 11T splined (55.6)	●	●	●						●			
43 Scanalato SAEA 11T (31.5) SAEA 11T splined (31.5)	●	●	●						●			
44 Scanalato SAEA 11T (13.5) SAEA 11T splined (13.5)	●	●	●						●			
45 Scanalato SAEB 13T (41.2) SAEB 13T splined (41.2)									◊			
46 Cilindrico SAEB SAEB Parallel shaft										●		
47 Cilindrico Parallel shaft											●	

◊ = Combinazione standard - Standard combination

● = Combinazione disponibile - Available combination

2SP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

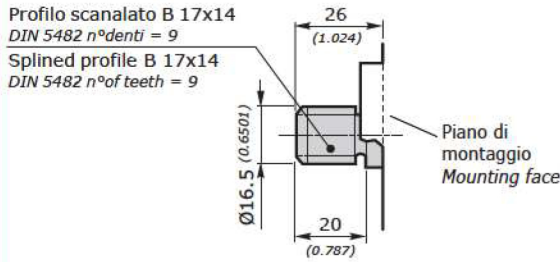
<p>10 Conico 1:8 Tapered 1:8 Coppia 140 Nm Torque 104 ft-lbs</p>	<p>Disponibile per - available for: EUR- SAEA- SAEAOR- B50C- P400D- SUPEUR</p>	<p>Disponibile per - available for: B80C</p>
<p>11 Conico 1:5 Tapered 1:5 Coppia 140 Nm Torque 104 ft-lbs</p>	<p>Disponibile per - available for: EUR- SAEA-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

2SP

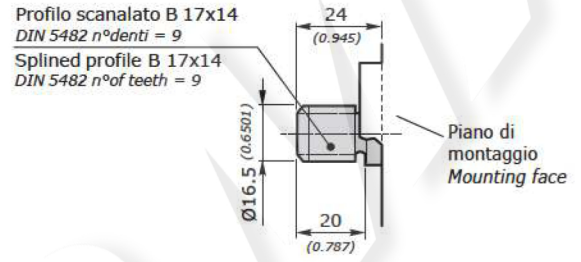
DIMENSIONI ALBERO - SHAFT DIMENSIONS

15
 Scanalato
 DIN5482 9T
 (26/24)
 DIN5482 9T
 splined (26/24)

Coppia 100 Nm
 Torque 74 ft-lbs



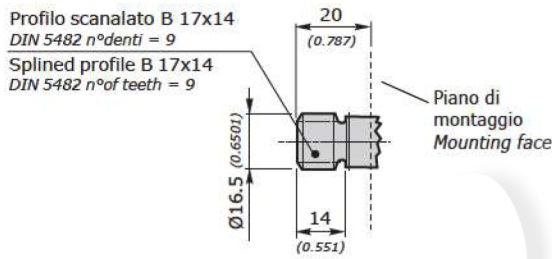
Disponibile per - available for: **EUR - SAEA - SAEAOR - B50C**



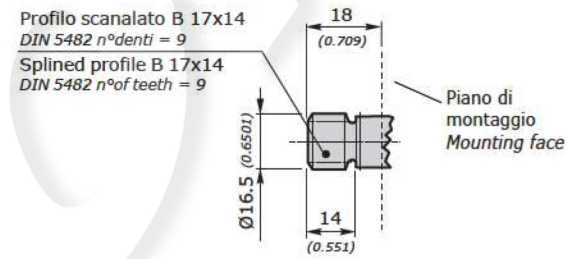
Disponibile per - available for: **B80C**

16
 Scanalato
 DIN5482
 9T (20)
 DIN5482 9T
 splined (20)

Coppia 100 Nm
 Torque 74 ft-lbs



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

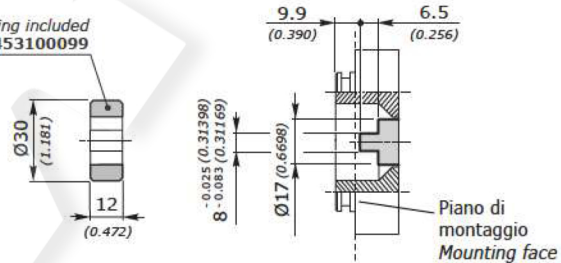


Disponibile per - available for: **B80C**

17
 Fresato a dente
 frontale
 Dihedral claw

Coppia 80 Nm
 Torque 59 ft-lbs

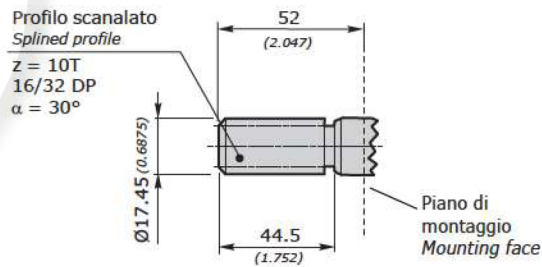
Giunto incluso - Coupling included
 Codice - Code: **010453100099**



Disponibile per - available for: **E52C**

40
 Scanalato SAE
 10T (52)
 SAE 10T
 splined (52)

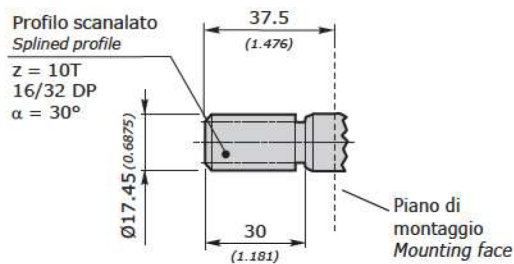
Coppia 130 Nm
 Torque 96 ft-lbs



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

41
 Scanalato SAE
 10T (37.5)
 SAE 10T
 splined (37.5)

Coppia 130 Nm
 Torque 96 ft-lbs



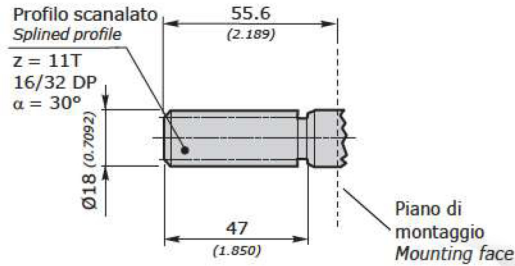
Disponibile per - available for: **SAEA - SAEAOR**

2SP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

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

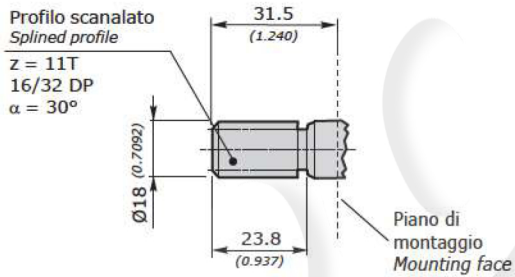
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - available for: SAEA - SAEAOR

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

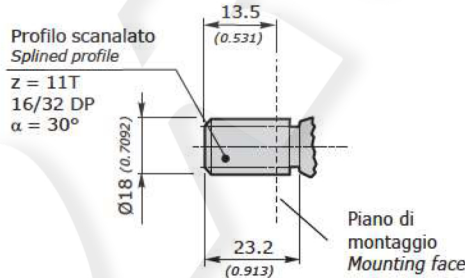
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - available for: SAEA - SAEAOR

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

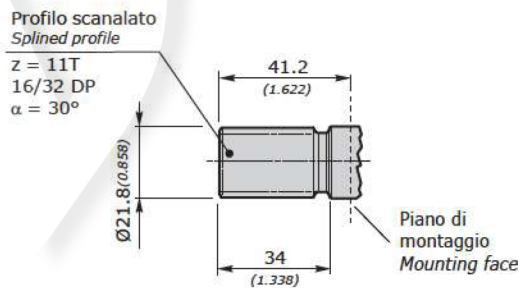
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - available for: SAEA - SAEAOR

45
Scanalato SAEB
11T (41.2)
SAEB 11T
splined (41.2)

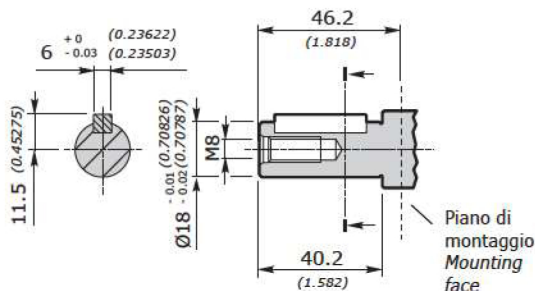
Coppia 280 Nm
Torque 207 ft-lbs



Disponibile per - available for: SAEB

46*
Cilindrico
Parallel shaft

Coppia 110 Nm
Torque 81 ft-lbs



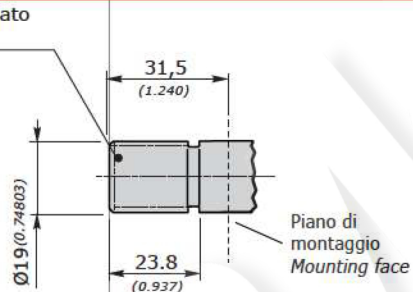
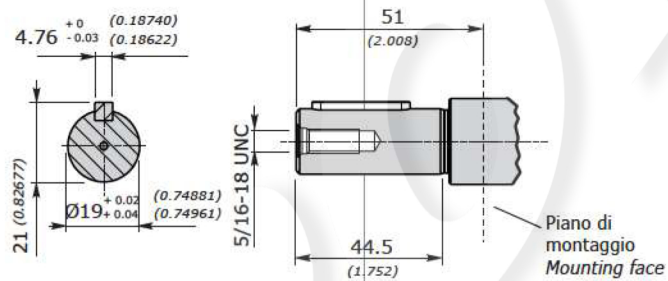
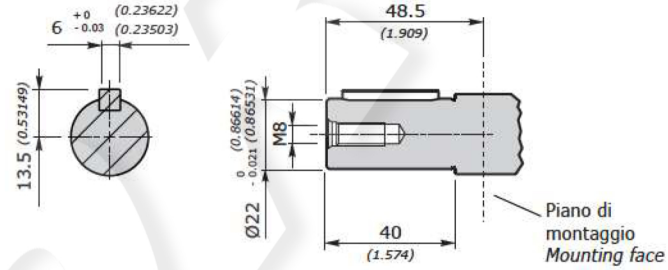
Disponibile per - available for: SAEB

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

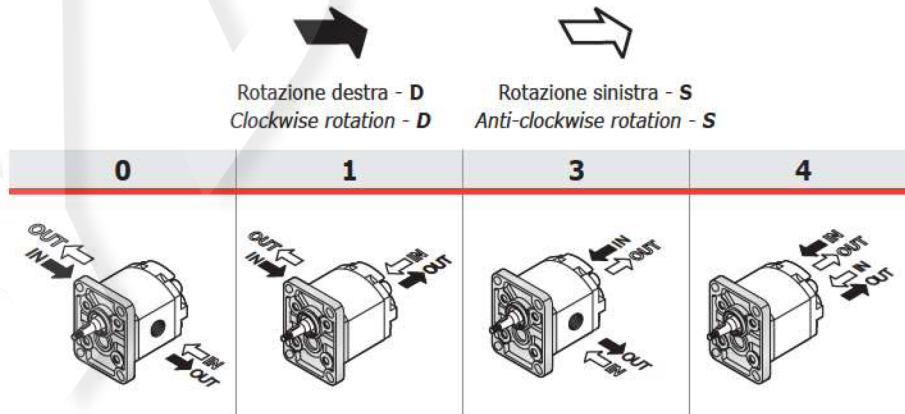
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

DIMENSIONI ALBERO - SHAFT DIMENSIONS

<p>30 Scanalato SAE 11T SAE 11T splined</p> <p>Coppia 150 Nm Torque 111 ft-lbs</p>	<p>Profilo scanalato Splined profile</p> <p>$z = 8T$ $16/32 DP$ $\alpha = 30^\circ$</p>  <p>Disponibile per - available for: SUPSAE</p>
<p>31 Cilindrico SAE SAE Parallel shaft</p> <p>Coppia 90 Nm Torque 67 ft-lbs</p>	 <p>Disponibile per - available for: SUPSAE</p>
<p>47 Cilindrico Ø 22 Ø 22 Parallel shaft</p> <p>Coppia 110 Nm Torque 81 ft-lbs</p>	 <p>Disponibile per - available for: SUPB80C</p>

POSIZIONE CONNESSIONE • CONNECTION POSITION



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

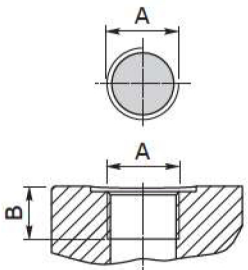
IN = ASPIRAZIONE - SUCTION
OUT = MANDATA - DELIVERY

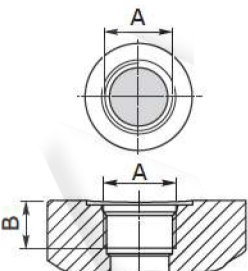
TIPO CONNESSIONE • CONNECTION TYPE

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

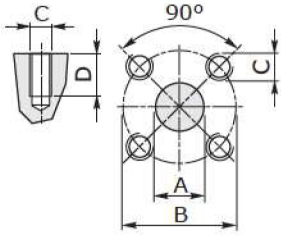
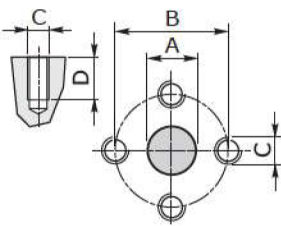

The connection types shown correspond to standard configuration; for different applications contact our Commercial Dept.

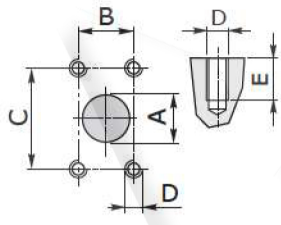
2SP		POSIZIONE CONNESSIONE - CONNECTION POSITION			
		0	1	3	4
GAS	G	◇	◇	◇	◇
UNF	U	◇	◇	◇	◇
FLANGIATE FLANGED	T	◇			
	N	◇			
	M	◇			
	F	◇			

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

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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

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

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

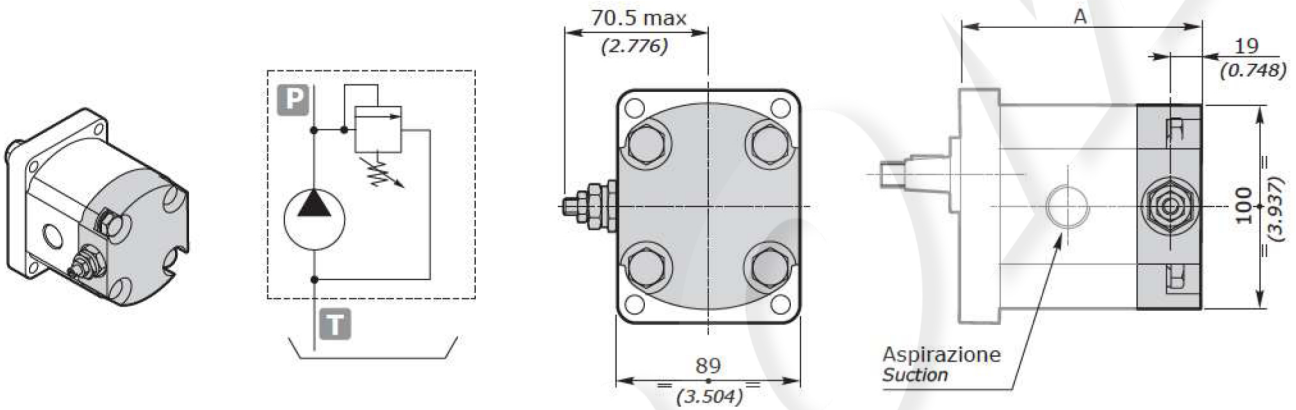
*: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.

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

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. E' rappresentata una pompa con rotazione sinistra.

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

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is 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					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

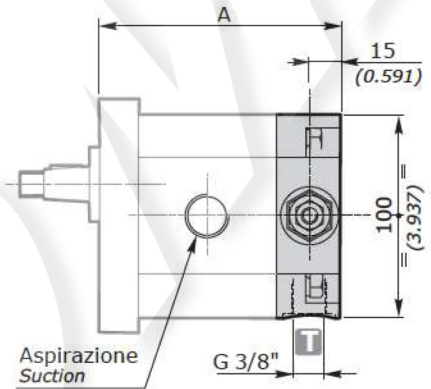
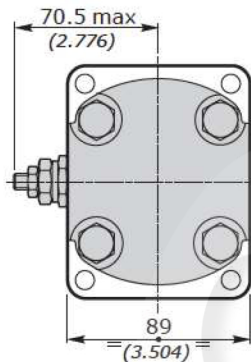
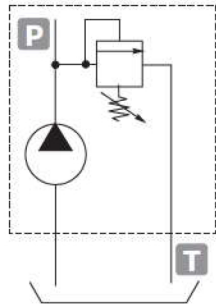
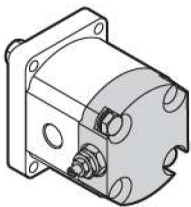
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).

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

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VLPE

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



GRUPPO GROUP 2	EUR-SAEA-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
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. E' rappresentata una pompa con rotazione sinistra. Nelle pompe con rotazione destra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is 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

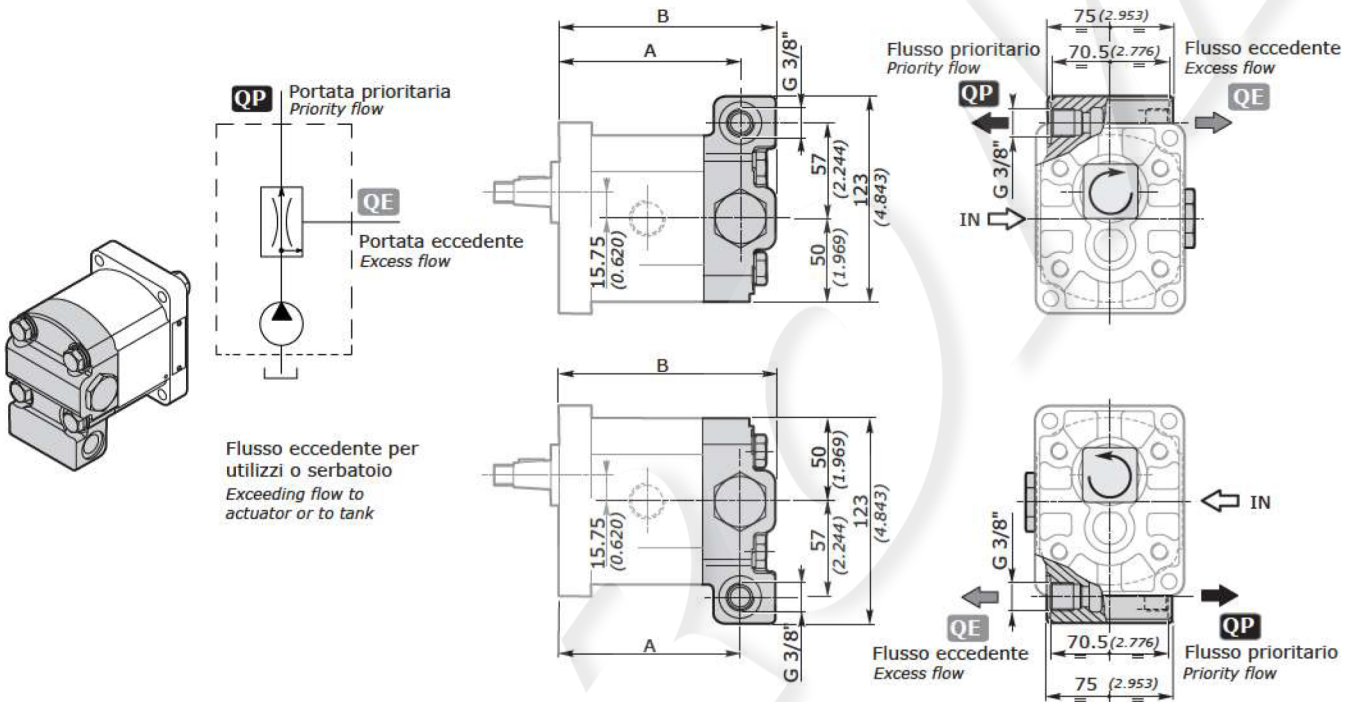
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

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

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

VRF

VALVOLA REGOLATRICE DI FLUSSO
PRIORITY FLOW DIVIDER VALVE



GRUPPO GROUP 2	EUR - SAEA - B50C		A B80C		E52C		EUR - 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 - 0 - G - VRF 5

VRF = Coperchio con VRF / Cover with VRF

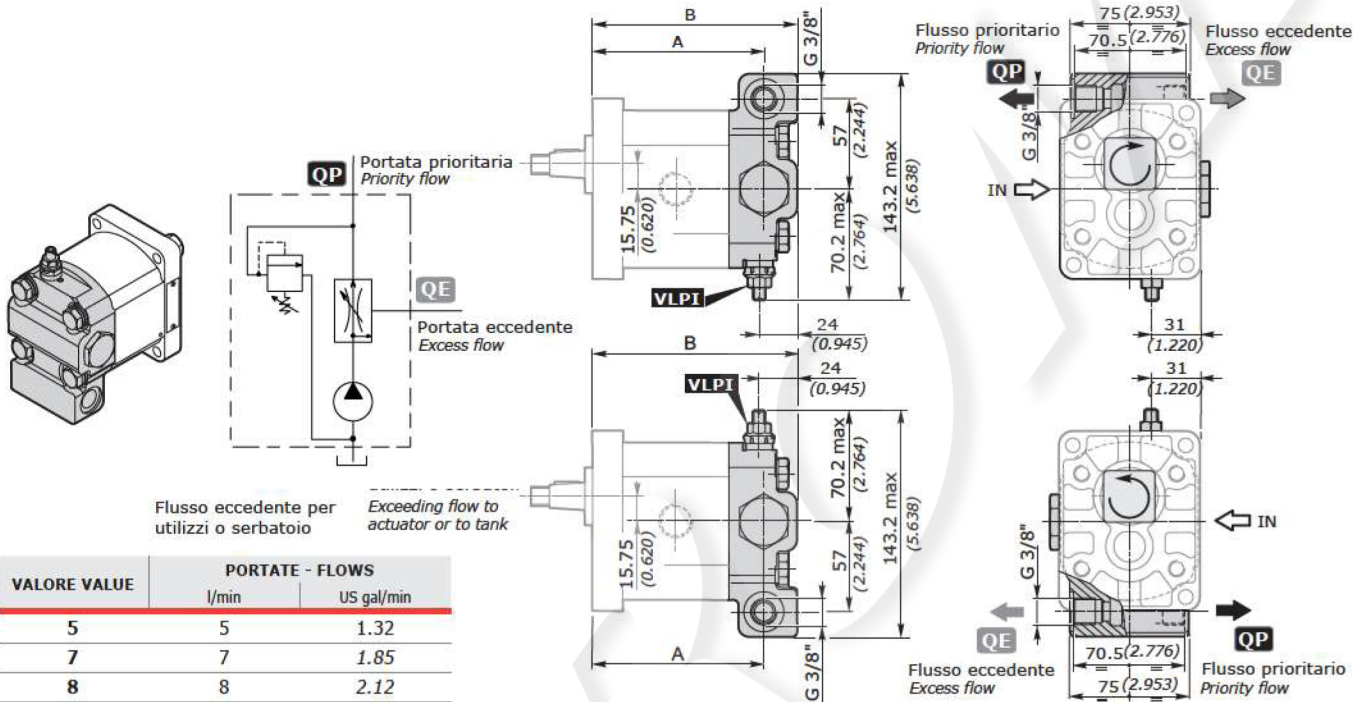
5 = portata prioritaria - vedi tabella / Priority flow - see table

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)



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

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	A						B					
	STD - SAE - B50C		B80C		E52C		STD - SAE - 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 - 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

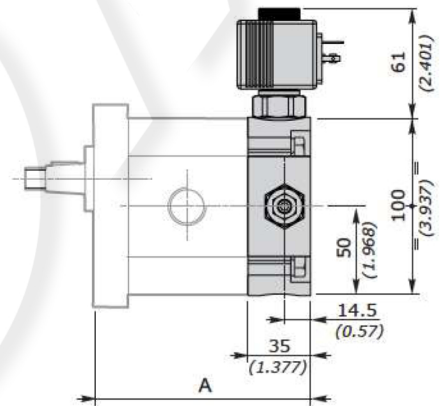
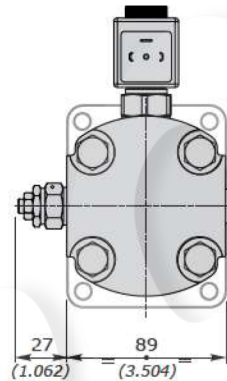
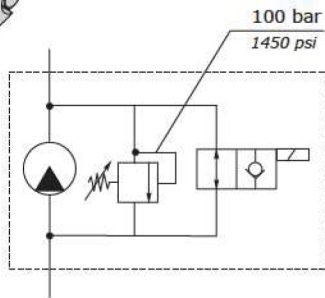
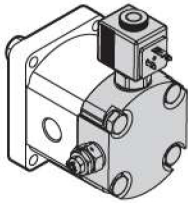
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

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

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

VLPI\
EF

VALVOLA UNLOADING
UNLOADING VALVE



GRUPPO GROUP 2	EUR-SAE-B50C		A B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SP 040	108.8	4.283	110.8	4.362	106.1	4.177
2SP 060	112.1	4.413	114.1	4.492	109.4	4.307
2SP 080	116.3	4.578	118.3	4.657	113.6	4.472
2SP 110	120.4	4.740	122.4	4.818	117.7	4.633
2SP 140	125.4	4.937	127.4	5.015	122.7	4.830
2SP 160	129.6	5.102	131.6	5.181	126.9	4.996
2SP 190	134.6	5.299	136.6	5.377	131.9	5.192
2SP 220	139.6	5.496	141.6	5.574	136.9	5.389
2SP 260	145.4	5.724	147.4	5.803	142.7	5.618
2SP 310	153.8	6.055	155.8	6.133	151.1	5.948

esempio • example: **2SP - A - 080 - D - EUR - B - N - 10 - 0 - N - NA(UNL) - EF10 - VLPI (N100)**

EF10 = Coperchio con valvola unloading / Cover with unloading valve

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

100 = Taratura - vedi tabella / Setting - see table

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

NOTE: La valvola VLPI va ordinata separatamente.

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

NOTES: VLPI valve must be ordered separately.

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

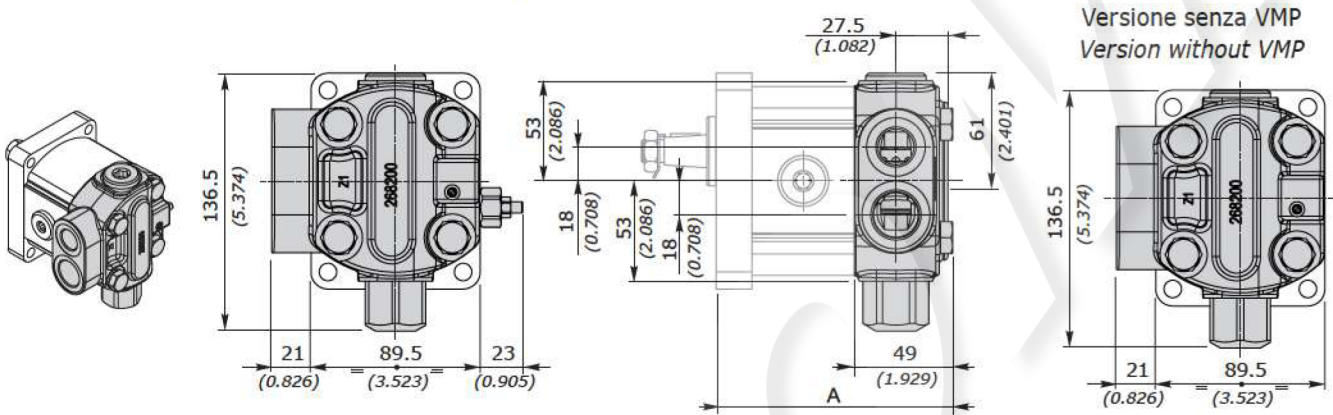
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

CP (LS)

VALVOLA PRIORITARIA
PRIORITY VALVE

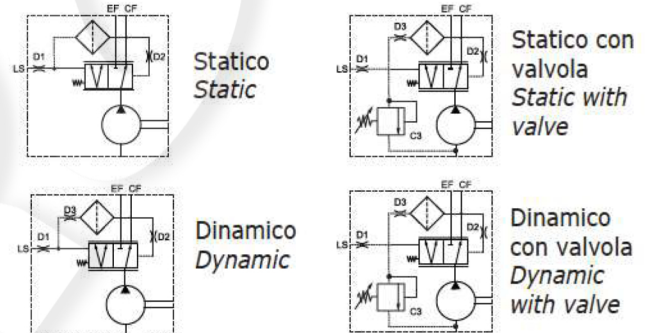
Per versioni con valvola LS prioritaria l'ingranaggio è speciale

For version with LS a special drive gear is needed



CARATTERISTICHE STROZZATORI / ORIFICES FEATURES							
tipo type	mm	in	molla spring	Pressione di Stand-By / Stand-By pressure			
				5 l/min - 1.32 USgpm		80 l/min - 21.13 USgpm	
				bar	psi	bar	psi
1	0.7	0.027	4	4	58	5	72.5
2	0.7	0.027	4	4	58	5	72.5
3	X	X	4	4	58	5	72.5
3	0.5	0.019	4	5	72.5	6.5	94.2
3	0.6	0.023	4	6	87	7.5	108.7
3	0.7	0.027	4	7	101.5	10	145
1	0.7	0.027	7	7	101.5	9	130.5
2	0.7	0.027	7	7	101.5	9	130.5
3	X	X	7	7	101.5	9	130.5
3	0.5	0.019	7	9	130.5	11	159.5
3	0.6	0.023	7	11	159.5	14	203
3	0.7	0.027	7	14	203	18	261
1	0.7	0.027	10	10	145	13	188.5
2	0.7	0.027	10	10	145	13	188.5
3	X	X	10	10	145	13	188.5
3	0.5	0.019	10	12.5	181.2	16.5	239.2
3	0.6	0.023	10	15.5	224.7	20	290
3	0.7	0.027	10	20	290	26	377

X= statico / static



GRUPPO GROUP 2	A					
	EUR-SAE-B50C		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

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

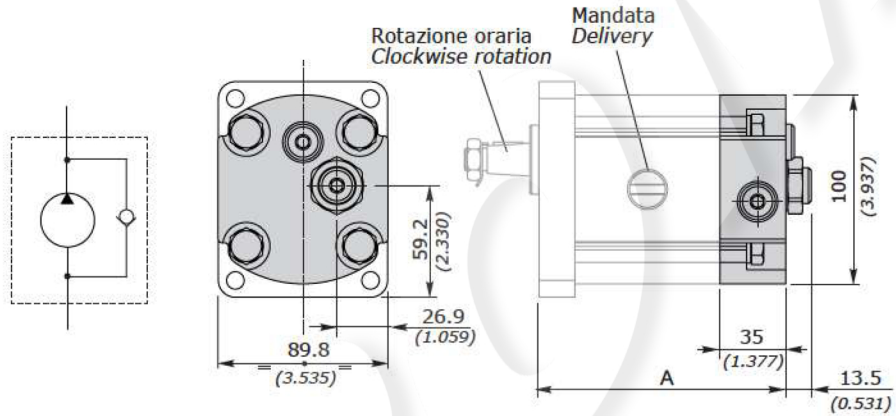
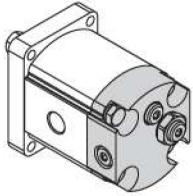
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - white spring	B	molla nera - black spring	N	molla rossa - red spring	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	435 ÷ 1160		1175 ÷ 2900		2915 ÷ 5075	
STANDARD	70 bar (1015 psi)		150 bar (2175 psi)		250 bar (3625 psi)	

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

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

VA

VALVOLA ANTICAVITAZIONE
ANTICAVITATION VALVE



GRUPPO GROUP 2	EUR-SAE-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:

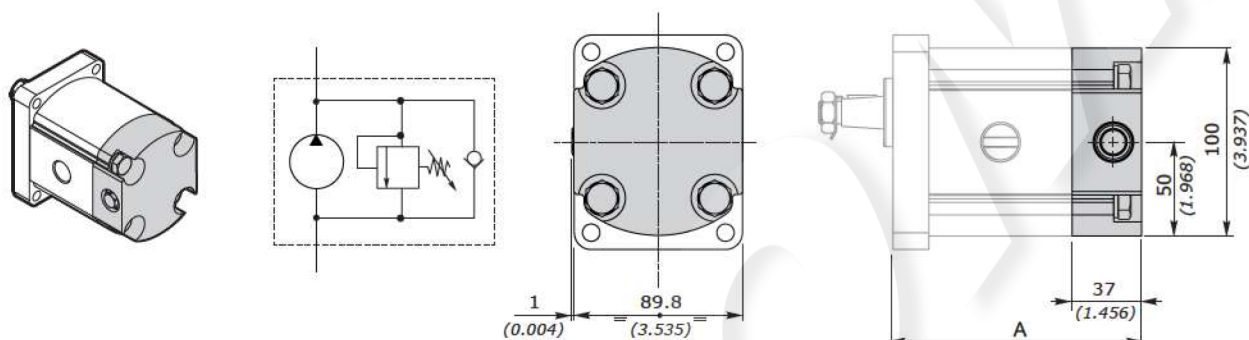
2SP - A - 140 - D - EUR - B - N - 10 - G - VA

VA = Coperchio con valvola anticavitazione / Cover with anticavitation valve

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VMA

VALVOLA ANTICAVITAZIONE E ANTIURTO
 ANTICAVITATION AND ANTISHOCK VALVE



GRUPPO GROUP 2	EUR-SAE-B50C		A		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

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

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

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