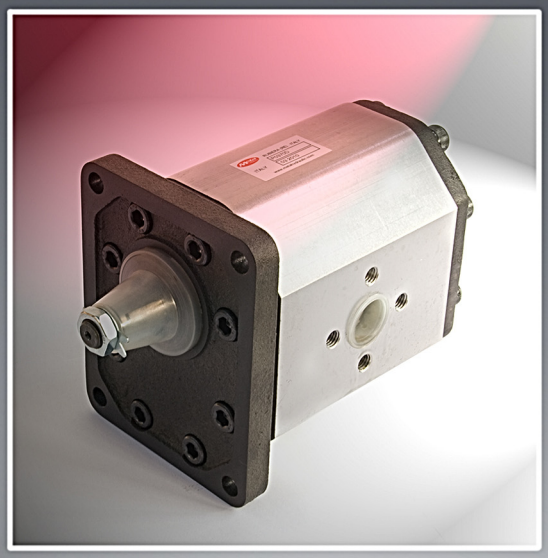
Meta HYDRAULIC



Gear Pumps and Motors

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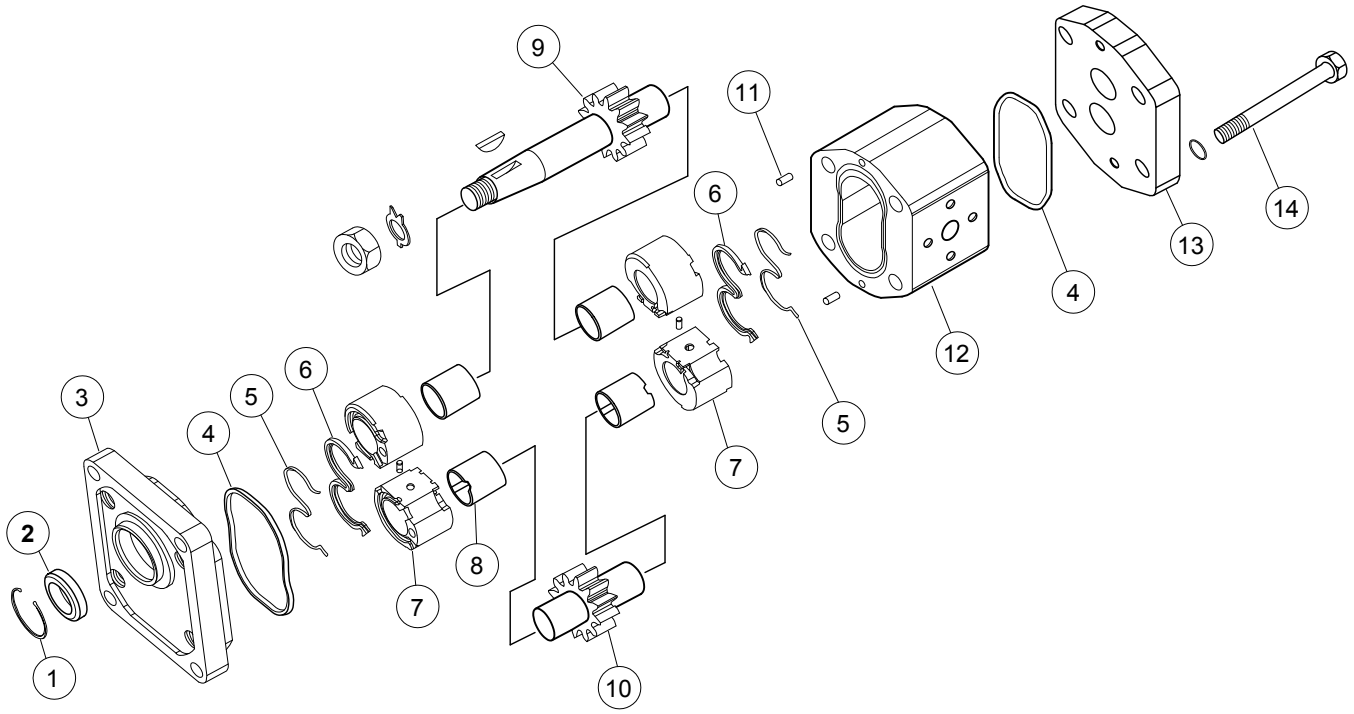

COMPONENTI POMPA	*PUMP'S PARTS*
1. ANELLO ELASTICO	*1. STOP RING*
2. ANELLO DI TENUTA	*2. SHAFT SEAL*
3. FLANGIA	*3. FRONT COVER*
4. GUARNIZIONE CORPO	*4. HOUSING SEAL*
5. ANTIESTRUSIONE	*5. ANTI-EXTRUSION SEAL*
6. GUARNIZIONE DI COMPENSAZIONE	*6. COMPENSATION SEAL*
7. BOCCOLA	*7. BUSHING*
8. BOCCOLA DU	*8. DU BEARING*
9. INGRANAGGIO CONDUTTORE	*9. DRIVE GEAR*
10. INGRANAGGIO CONDOTTO	*10. DRIVEN GEAR*
11. SPINA CENTRAGGIO	*11. CENTRING PIN*
12. CORPO	*12. BODY*
13. COPERCHIO POSTERIORE	*13. END COVER*
14. TIRANTI	*14. FASTENING SCREWS*

INFORMAZIONI TECNICHE

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Per ottenere dalle pompe serie VP le migliori condizioni in termini di durata e prestazioni è consigliato seguire le raccomandazioni e i suggerimenti di installazione ed utilizzo indicate nel presente catalogo.
Per quanto riguarda il sistema idraulico nel quale andrà inserita la pompa, valgono alcune considerazioni generali: prestare molta cura nella progettazione e nella realizzazione dell'intero impianto, in special modo per quanto riguarda i condotti d'aspirazione, di mandata, di ritorno, e la posizione dei componenti presenti (valvole, filtri, serbatoi, scambiatori di calore, accumulatori, ecc).
E inoltre importante dotare l'impianto di idonei sistemi di sicurezza, di strumentazione affidabile e di sistemi adeguati atti ad evitare turbolenze nel fluido, in special modo sul condotto di ritorno al serbatoio, e ad evitare l'entrata in circolo nel sistema d'aria, acqua, o contaminanti di vario genere.
È fondamentale dotare l'impianto di un idoneo sistema di filtrazione.

Please strictly follow assembly and use indications given in this catalogue for top performance and longer life of the VP series. Some general considerations should be made on the hydraulic system, in which the pump must be fitted. Special attention shall be devoted to hydraulic system design and assembly, especially to intake, delivery and return pipes and position of system parts (valves, filters, tanks, heat exchangers and accumulators).
Proper safety devices and reliable instruments to avoid fluid turbulence, especially in return pipe to the tank, and prevent air, water or foreign bodies from entering into the system are of major importance.
It is also very important to equip the hydraulic system with a proper filtering unit.

NOTE PER L'INSTALLAZIONE

Prima di avviare l'impianto a regime, consigliammo di osservare alcuni semplici accorgimenti.

- Verificare, nel caso di pompa monodirezionale, che il senso di rotazione sia coerente con quello dell'albero dal quale deriva il moto.
- Controllare l'allineamento tra l'albero della pompa e l'albero del motore: è necessario che il collegamento non induca carichi assiali o radiali.
- Proteggere l'anello di tenuta dell'albero della pompa in caso di verniciatura; verificare la pulizia nella zona di contatto tra anello di tenuta ed albero: la presenza di polvere può accelerare le usure e causare delle perdite.
- Verificare che nelle flange di connessione alle porte di aspirazione e mandata non siano presenti trucioli, sporco od altro.
- Assicurarsi che i terminal dei condotti d'aspirazione e di ritorno siano sempre al di sotto del livello del fluido e comunque il più possibile lontani tra di loro.
- Installare, se possibile, la pompa sotto battente.
- Riempire la pompa di fluido facendola ruotare a mano.
- Durante il primo avviamento, scollegare lo scarico della pompa per permettere di spurgare l'aria del circuito.
- Durante il primo avviamento, tarare le valvole limitatrici di pressione al minor valore possibile.
- Evitare di sottoporre le pompe ad un regime di rotazione inferiore a quello minimo consentito in compresenza di livelli di pressione superiori a P1.
- Evitare partenze sotto carico in condizioni di bassa temperatura o comunque dopo lunghi periodi d'inattività (evitare o comunque limitare le partenze sotto carico è un ottimo sistema per garantire lunga durata alla pompa).
- Avviare l'impianto per qualche istante attivando tutta la componentistica; sfiatare successivamente il circuito per verificare l'effettivo corretto riempimento.
- Verificare il livello del fluido nel serbatoio dopo il caricamento di tutta la componentistica.
- Aumentare infine gradualmente la pressione, tenendo controllate le temperature del fluido e delle altre parti in movimento, controllare la velocità di rotazione fino a raggiungere i valori di esercizio previsti che devono mantenersi entro i limiti indicati del presente catalogo.

INSTALLATION NOTE

Before starting the system on a continuous basis, we suggest to adopt some simple precautions.

- *Check for the direction of rotation of the pump to be consistent with the drive shaft one (in case of single rotation pump).*
- *Check for the proper alignment of pump shaft and motor shaft: it is necessary that the connection does not induce axial or radial loads.*
- *Protect drive shaft seal during pump painting. Check if contact area between seal ring and shaft is clean: dust could provoke quicker wear and leakage.*
- *Remove all dirt, chips and all foreign bodies from flanges connecting inlet and delivery ports.*
- *Ensure that intake and return pipes ends are always below fluid level and as far from each other as possible.*
- *Install the pump below head, if possible.*
- *Fill the pump with fluid, and turn it by hand.*
- *Disconnect pump drain during start-up to bleed air off the circuit.*
- *At first start-up set pressure limiting valves at min. value possible.*
- *Avoid lower rotation speed than min. allowed with pressure higher than P1.*
- *Do not start the system at low temperatures under load conditions or after long stops (always avoid or limit load starting for pump longer life).*
- *Start the system for a few minutes and turn on all components; bleed air off the circuit to check its proper filling.*
- *Check fluid level in the tank after loading all components.*
- *At last, gradually increase pressure, continuously check fluid and moving parts temperature, check rotation speed until you reach set operating values that shell be within the limits indicated in this catalogue.*

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PULIZIA DELL'IMPIANTO E FILTRAZIONE

È ormai universalmente riconosciuto che la maggior parte dei prematuri cali di prestazioni delle pompe è dovuta ad un loro funzionamento con fluidi contaminati; l'estrema riduzione delle tolleranze che contraddistinguono i componenti delle pompe e il loro conseguente funzionamento con giochi ridotti, possono essere irrimediabilmente compromessi se non si pone estrema cura nel mantenere il fluido pulito.
È comunemente accertato che le particelle circolanti continuamente nel fluido agiscono come agente abrasivo danneggiando le superfici con cui vengono a contatto e contribuendo alla formazione di ulteriore contaminante.
Per questo raccomandiamo di porre molta attenzione alla pulizia in fase di avviamento e al mantenimento della stessa nell'impianto. Gli interventi necessari per controllare e limitare il grado di contaminazione devono essere effettuati in maniera preventiva e correttiva.
Le azioni preventive comprendono l'accurata pulizia dell'impianto durante la fase di montaggio, la conseguente eliminazione delle bave residue, delle scorie delle saldature ecc, ed il trattamento del fluido prima del riempimento.
L'iniziale livello di contaminazione del fluido usato per riempire l'impianto non dovrebbe superare la classe 18/15 (rif. ISO 4406). Tale livello potrebbe essere superato anche da fluidi nuovi; prevedere quindi una adeguata filtrazione anche al momento del riempimento dell'impianto e comunque ad ogni rabbocco.
Dimensionare adeguatamente il serbatoio facendo in modo che abbia una capacità proporzionata al volume del fluido spostato dalla pompa in un minuto di funzionamento.
Il controllo e la correzione dei livelli di contaminazione del fluido durante il funzionamento si ottiene attraverso l'installazione di filtri aventi la funzione di trattenere le particelle trasportate dal fluido.
Due sono i parametri che determinano la buona scelta del filtro: il potere assoluto di filtrazione e il rapporto di filtrazione β.
Bassi valori di potere assoluto di filtrazione e altri valori del rapporto di filtrazione β per particelle di piccole dimensioni concorrono a garantire buone caratteristiche di filtrazione. È pertanto molto importante limitare, oltre alle dimensioni massime, anche il numero delle particelle di più piccole dimensioni che oltrepassano il filtro.
Risulta pertanto evidente che, all'aumentare della pressione di esercizio e al grado di sofisticazione dell'impianto, la filtrazione deve diventare sempre più efficace.
Il sistema di filtrazione deve comunque garantire livelli di contaminazione non superiori a quelli sotto riportati:

CLEANING AND FILTERING THE SYSTEM

It is widely known that most pumps early failures are due to contaminated fluids. The extreme reduction of the tolerances requires in the design of the pumps and therefore their operation with minimum clearances, are heavily influenced by a fluid that is not perfectly clean.
It is proved that particles circulating in the fluid act as abrasive agents, damaging the surfaces they touch and increasing the quantity of contaminant.
For this reason, ensure that system is perfectly clean during startup and keep it clean for its whole operating life.
Necessary interventions to check and limit contamination should be performed in a preventive and corrective way.
Preventive actions include: proper cleaning of the system during assembly, de-burring, eliminating the welding scum and fluid filtering before filling up.
Starting contamination level of system fluid should not exceed class 18/15 (ref. ISO 4406). Even fresh fluids might exceed this contamination level; there for always pre-filter the fluid when filling up or topping up the system. Fit a proper tank; its capacity should be proportional to the volume displaced by the pump in one working minute.
Fluid contamination level check and correction during operation can be obtained through filters then retain the particles in the fluid. Two parameters tell which filter is most suitable: absolute filtering power and β filtering ratio. Low absolute filtering power and high β filtering ratio for small particles help ensuring good filtration. It is then very important to limit not only max. dimensions, but also the number of smaller particles that pass through the filter.
It goes without saying that with an operating pressure increase and according to the system sophistication degree, filtering should become more and more efficient.
The filtering system shall always ensure contamination levels not exceeding the values indicated below:

Contaminazione	*Contamination*	Pressione / *Pressure* < 140 bar	Pressione / *Pressure* 140 ÷ 210 bar	Pressione / *Pressure* > 210 bar
Classe NAS 1638	*NAS 1638 Class*	10	9	8
Classe ISO 4406	*ISO 4406 Class*	19/16	18/15	17/14
Rapporto βx = 75	*Ratio βx = 75*	25-40 µm	12-15 µm	6-12 µm

Per sistemi che impiegano servo-valvole sofisticate è consigliato impiegare un sistema di filtrazione con potere assoluto minore o uguale a 5 µm.

It is recommended to use a filtering system having absolute filtering power 5 µm or lower in the systems using sophisticated valve slaves.

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FLUIDI IDRAULICI

Si raccomanda l'uso di fluidi specifici per circuiti idraulici a base d'olio minerale, con buone caratteristiche antiusura e antischiuma, con proprietà di rapida disaerazione, antiossidanti, anticorrosione, lubrificanti e in grado di soddisfare quanto previsto dalla norma DIN 51525, dalla norma VDMA 24317 e di superare l'11° stadio della prova FZG.
Per i modelli standard, la temperatura del fluido durante il funzionamento della pompa deve essere compreso tra -10°C e +80°C.
I valori di viscosità cinematica del fluido sono i seguenti:

HYDRAULIC FLUIDS

Use specific mineral oil based hydraulic fluids having good anti-wear, anti-foaming (rapid de-aeration), antioxidant, anti-corrosion and lubricating properties. Fluids should also comply with DIN 51525 and VDMA 24317 standards and get through 11th stage of FZG test.
For the standard models, the temperature of the fluid should be between -10°C and +80°C.
Fluid kinematic viscosity ranges are the following:

Permessi (previa verifica)	*Allowed value (upon verification)*	6 ÷ 500 cSt
Raccomandati	*Recommended value*	10 ÷ 100 cSt
Consetiti all'avviamento	*Value allowed at star-tup*	<2000 cSt

In caso di utilizzo di fluidi diversi da quelli sopra consigliati, specificare il tipo impiegato e le relative condizioni di funzionamento in modo che il nostro Ufficio Tecnico-Commerciale possa valutare eventuali problemi di compatibilità o di durata dei componenti.

If fluids other then above mentioned ones are used, please always indicate type of used fluid and operating conditions so that our Sales and Technical Dept. can weigh possible problems on compatibility or useful life of system parts.

PRESSIONE IN ASPIRAZIONE

In normali condizioni di funzionamento, nel condotto di aspirazione rileviamo una pressione inferiore a quella atmosferica; il campo di pressioni di esercizio in alimentazione deve essere compreso tra 0.7 e 3 bar (assoluti).

INLET PRESSURE

Under standard working conditions, intake pipe pressure is lower than atmospheric pressure. The operating inlet pressure should range between 0.7 and 3 bars (absolute).

VELOCITA' MINIMA DI ROTAZIONE

La versatilità delle pompe serie VP è evidenziata anche dall'ampia varietà di regimi di rotazione ai quali è possibile sottoporle: i valori massimi sono presenti nelle tabelle di prodotto e variano in funzione del modello, mentre i valori minimi sono indicati nella seguente tabella:

MIN. ROTATION SPEED

The versatility of the VP series pumps can be perceived from the wide range of rotation speeds they can be subject to: max. values are indicated in product tables and change according to the model, while min. values are as follows:

Serie 1.5VP	*1.5VP series*	1.4	2.1	2.8	3.5	4.1	5.2	6.2	7.6	9.3	11	13.8
Velocità min. [giri / min]	*Max. speed [rpm]*	800							600			

Serie 2VP	*2VP Series*	3	4	6	8	10	12	14	16	18	20	22	25	28	30
Velocità min. [giri / min]	*Max. speed [rpm]*	700			500					400					

Serie 3VP	*3VP Series*	20	22	26	33	39	46	50	52	55	63	71
Velocità min. [giri / min]	*Max. speed [rpm]*	600			500					400		

INFORMAZIONI TECNICHE — TECHNICAL INFORMATION

DEFINIZIONE DELLE PRESSIONI

Le tabelle di prodotto presentano tre livelli massimi di pressione (P1, P2, P3) alle quali ogni pompa può essere sottoposta; si intende con:

P_3 = pressione massima di picco
P_2 = pressione massima intermittente
P_1 = pressione massima continua

PRESSURE DEFINITION

Product tables show three max. pressure levels (P1, P2, and P3) to which each pump can be used.

peak max. pressure
intermittent max. pressure
continuous max. pressure

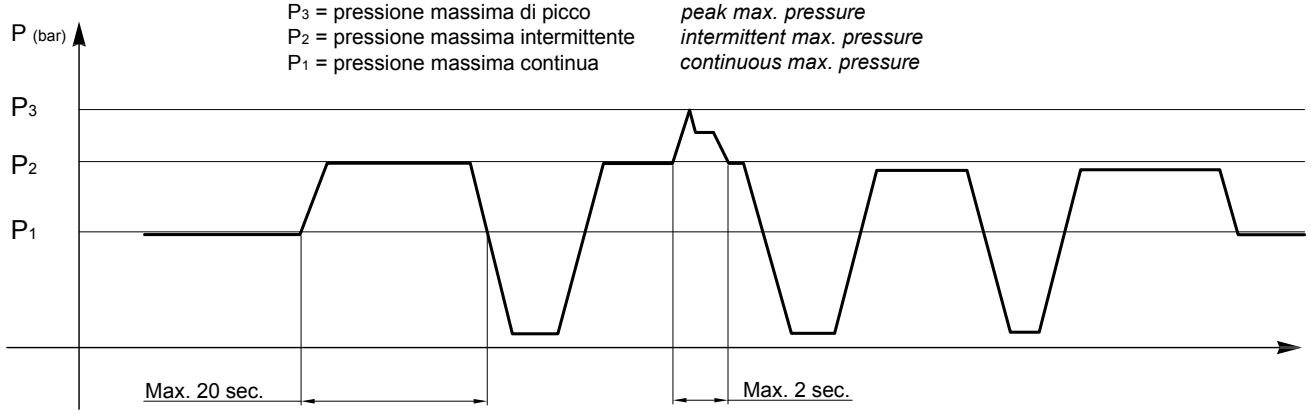


Diagramma pressione in funzione del tempo.

Pressure diagram as a function of time.

I valori di pressione P1, P2 e P3 possono essere raggiunti solo se non vengono superati i seguenti regimi di rotazione:

P1, P2 e P3 values can be attained only if system does not go over the following rotation speeds:

Serie 1.5VP	*1.5VP Series*	1.4	2.1	2.8	3.5	4.1	5.2	6.2	7.6	9.3	11	13.8
Velocità max. [giri / min]	*Max. speed [rpm]*	6000		5000		4000		3800	3200	2600	2200	1800

Serie 2VP	*2VP Series*	3	4	6	8	10	12	14	16	18	20	22	25	28	30
Velocità max. [giri / min]	*Max. speed [rpm]*	4000			3000			4000		3500		3000		2500	

Serie 3VP	*3VP Series*	20	22	26	33	39	46	50	52	55	63	71
Velocità max. [giri / min]	*Max. speed [rpm]*	3500		3000						2800		2500

Se nelle caratteristiche di funzionamento dell'impianto fossero presenti condizioni diversi da quelle sopraindicate, consigliamo di interpellare il nostro Ufficio Tecnico-Commerciale.

Please call our Sales and Technical Dept for system operating conditions other than indicated in the product tables.

CONDOTTI D'ASPIRAZIONE E MANDATA

Le tubazioni presenti nell'impianto idraulico, siano esse rigide o flessibili, non devono presentare: bruschi cambiamenti di direzione, piccoli raggi di curvatura, improvvise variazioni di sezione e la loro lunghezza non deve essere eccessiva o sproporzionata; la sezione dei condotti deve essere dimensionata affinché la velocità del fluido non ecceda i valori consigliati. Raccomandiamo di tenere in particolare considerazione l'eventuale riduzione di diametro dei condotti di entrata o di uscita presente nei raccordi o flangia. I valori di riferimento sono:

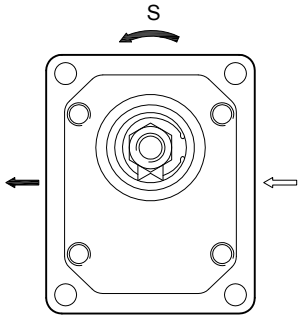
INLET AND DELIVERY LINES

Hydraulic systems pipes should show no sudden changes of direction, sharp bends and sudden differences in cross-section. They should not be too long or out of proportion. Pipe cross-section should be sized so that fluid velocity does not exceed recommended values.
It is advisable to carefully consider the possible diameter reduction of the inlet or outlet pipes fitted on flange fittings.
Reference values are the following:

Condotto di aspirazione	*Intake line*	0.5 ÷ 1.6 m/s
Condotto di mandata	*Delivery line*	2 ÷ 6 m/s
Condotto di ritorno	*Return line*	1.6 ÷ 3 m/s

SENSO DI ROTAZIONE

Le pompe serie VP possono essere fornite sia in configurazione monodirezionale che bidirezionale.
Il senso di rotazione di una pompa monodirezionale è definito per convenzione nel seguente modo: guardando la pompa frontalmente con l'albero conduttore posizionato verso l'alto e sporgente verso chi guarda, se si tratta di rotazione destra "D", il suo movimento sarà in senso orario e di conseguenza il lato mandata sarà posto a destra e quella d'aspirazione a sinistra. Viceversa con pompe a rotazione sinistra "S" mantenendo naturalmente lo stesso punto di osservazione.

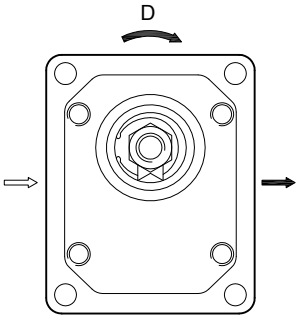


S = rotazione sinistra
counter-clockwise rotation

Le pompe serie VP reversibili o bidirezionali "R", alterano le caratteristiche funzionali dei modelli monodirezionali con rotazione oraria ed antioraria.

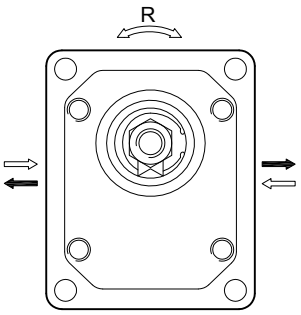
DIRECTION OF ROTATION

VP series pumps are available in both single rotation and bi-rotational configurations.
Direction of rotation of single rotation pumps is conventionally defined as follows: when standing before the pump with driving shaft up with its projecting end towards the observer, the pump is rotating clockwise in case of right-hand rotation "D"; therefore, delivery side is on the right, whereas intake side is on the left.
The contrary will happen with left-hand pumps "S", keeping the same point of view.



D = rotazione destra
clockwise rotation

Bi-rotational VP series pumps "R.", can rotate both clockwise and counter-clockwise.



R = reversible
reversible rotation

TRAINO

Il collegamento della pompa al motore deve essere realizzato attraverso un giunto (elastico, a manicotto, Oldham) che, durante la rotazione, non trasferisca alcuna forza radiale e/o assiale all'albero della pompa stessa. In caso contrario sarebbe inevitabile un rapidissimo decadimento delle prestazioni a causa di rapide usure delle parti interne in movimento. Per questo il giunto deve essere in grado di assorbire gli inevitabili (sarebbe minimi) errori di coassialità tra l'albero della pompa e quello del motore e, nel caso di giunti a manicotto od Oldham, anche di avere sufficiente movimento assiale (tale comunque da garantire sempre un corretto e sufficiente ricoprimento dell'albero conduttore della pompa). Inoltre sempre nel caso d'utilizzo di manicotti scanalati o giunti Oldham, per evitare il rapido deterioramento degli stessi, occorre assicurare una costante lubrificazione mediante grasso o prodotti specifici.
Nel caso di trascinamento mediante ruote dentate, pulegge o catene, è disponibile per alcuni modelli l'opzione T (permette applicazioni di carichi radiali e/o assiali all'albero).
Per maggiori dettagli, consigliamo di interpellare il nostra Ufficio Tecnico-Commerciale.

DRIVE

Connect the pump to the motor using either a flexible coupling (either box or Oldham coupling) so that no radial and/or axial force is transmitted to the pump shaft during rotation, otherwise pump efficiency will dramatically drop due to early wear of inner moving parts. Therefore, coupling must absorb inevitable-even though reduced-misalignment between pump shaft and motor shaft. Box coupling or Oldham coupling should also move axially freely enough (enough for proper contact surface onto pump driving shaft).
Furthermore, to avoid early wear of either splined or Oldham couplings, they should be lubricated at regular intervals using specific grease.
In case of driving through gears, pulleys or chains, the T option is recommended. This option allow radial and/or axial loads on the pump shaft.
Please contact our Sales or Technical Dept for further details.

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FORMULE DI USO CORRENTE

Velocità del fluido
Per calcolare la velocità (v) di un fluido in un condotto:

$$v = Q / 6 \bullet A \ [m / s]$$

Q = portata [litri / min]
A = sezione del condotto [cm²]

Portata erogata da una pompa
Per calcolare la portata (Q) di una pompa:

$$Q = V \bullet n \bullet n\ vol \bullet 10^{-3} \ [litri / min]$$

V = cilindrata [cm³ / giro]
n = velocità di rotazione [giri / min]
n vol = rendimento volumetrico (considerare 0,95 come valore indicativo per regimi di rotazione compresi tra 1000 e 2000 giri / min)

Momento torcente assorbito da una pompa
Per determinare il momento torcente (M) necessario per il funzionamento di una pompa sottoposta ad un differenziale di pressione fra mandata e aspirazione:

$$M = (V \bullet \Delta p) / (62,8 \bullet n\ hm) \ [Nm]$$

V = cilindrata [cm³ / giro]
Δp = differenziale di pressione [bar]
n hm = rendimento idromeccanico (considerato come valore indicativo 0,80 per funzionamento a freddo e 0,85 per funzionamento a regime)

Potenza assorbita da una pompa
Per determinare la potenza (P) idraulica ceduta al fluido da una pompa sottoposta ad un differenziale di pressione fra mandata e aspirazione:

$$P = (Q \bullet \Delta p) / (600 \bullet n\ tot) \ [kW]$$

Q = portata [litri / min]
Δp = differenziale di pressione [bar]
n tot = rendimento totale (n hm • n vol)

I valori dei n vol e n hm (e di conseguenza n tot) dipendono dal differenziale di pressione tra aspirazione e mandata, dalla velocità di rotazione, dalle caratteristiche del fluido utilizzato (in relazione ai fattori di temperatura e di viscosità) e dal grado di filtrazione. Per dati più precisi sui rendimenti si consiglia di contattare il nostro Ufficio Tecnico-Commerciale.
I corretti valori di portata, coppia e potenza assorbita in funzione del differenziale di pressione e della velocità di rotazione e a condizioni di prova stabilite, sono riportati nei grafici presenti nelle pagine dedicate alle curve caratteristiche.

FREQUENTLY USED FORMULAS

Fluid speed
Calculate the speed (v) of a fluid in a pipe as follows:

$$v = Q / 6 \bullet A \ [m / s]$$

Q = flow rate [liters / min]
A = inside area of pipe [cm²]

Delivered flow rate
Calculate flow rate (Q) as follows:

$$Q = V \bullet n \bullet n\ vol \bullet 10^{-3} \ [liters / min]$$

V = displacement [cm³ / rotation]
n = rotation speed [rotations per minute]
n vol = pump volumetric efficiency (take 0,95 as an indicative value for rotation speeds ranging between 1000 and 2000 rotations per minute).

Absorbed torque
Calculate necessary torque (M) of a pump subject to pressure differential between inlet and outlet as follows:

$$M = (V \bullet \Delta p) / (62,8 \bullet n\ hm) \ [Nm]$$

V = displacement [cm ³ / rotation]
Δp = pressure differential [bar]
n hm = hydromechanical efficiency (take 0,80 as indicative value under cold conditions and 0,85 under working conditions).

Absorbed power
Calculate hydraulic power (P) transferred to fluid from a pump subject to a pressure differential between inlet and delivery as follows:

$$P = (Q \bullet \Delta p) / (600 \bullet n\ tot) \ [kW]$$

Q = flow rate [liters / min]
Δp = pressure differential [bar]
n tot = total pump efficiency (n hm · n vol)

Values for n vol and n hm (and conseguently n tot) depend on pressure differential between inlet and delivery, rotation speed, fluid features (temperature and viscosity) and filtering degree. Call our Sales and Technical Dept. for further details on efficiency.
The proper values for flow rate, torque and power absorbed according to pressure differential, rotation speed and set test conditions, can be found on the pages dedicated to the performance curves.

SERIE 0.5VP - *0.5VP SERIES*

COME ORDINARE - *HOW TO ORDER*

0.5V	P	Cilindrata *Size*	Rotazione *Rotation*	Bocche *Ports*	Albero *Shaft*	Flangia *Flange*	Pos. bocche *Port position*	Guarnizioni *Seals*	Opzioni *Options*
Serie *Series*	Pompa *pump*	0.19	**D** Destrosa *CW*	**Z0**	**G0**	**B0**	-	-	-
		0.26	**S** Sinistrosa *CCW*	**L0**	**C0**	**B1**	**A**	**B**	-
		0.38	**R** Revers.le *Reversible*	**L1**		**A0**	**B**	**V**	-
		0.50		**L2**		**A1**	**C**	**H**	-
		0.65				**B2**	**D**	**T**	-
		0.75					**R**	**N**	
		0.88							
		1.00							
		1.25							
		1.50							
		1.75							
		2.0							

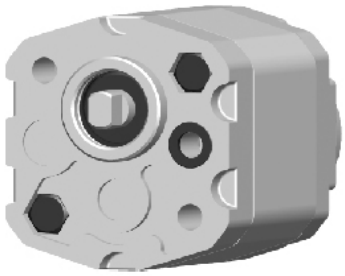
Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
A Aspirazione frontale - Mandata frontale / *front Inlet - front Outlet*
B Aspirazione posteriore - Mandata frontale / *back Inlet - front Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
D Aspirazione laterale - Mandata frontale / *side Inlet - front Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

0.5VP..D - L0 G0 B0



Aspirazione posteriore filetto da ¼" BSPP profondità utile 12mm

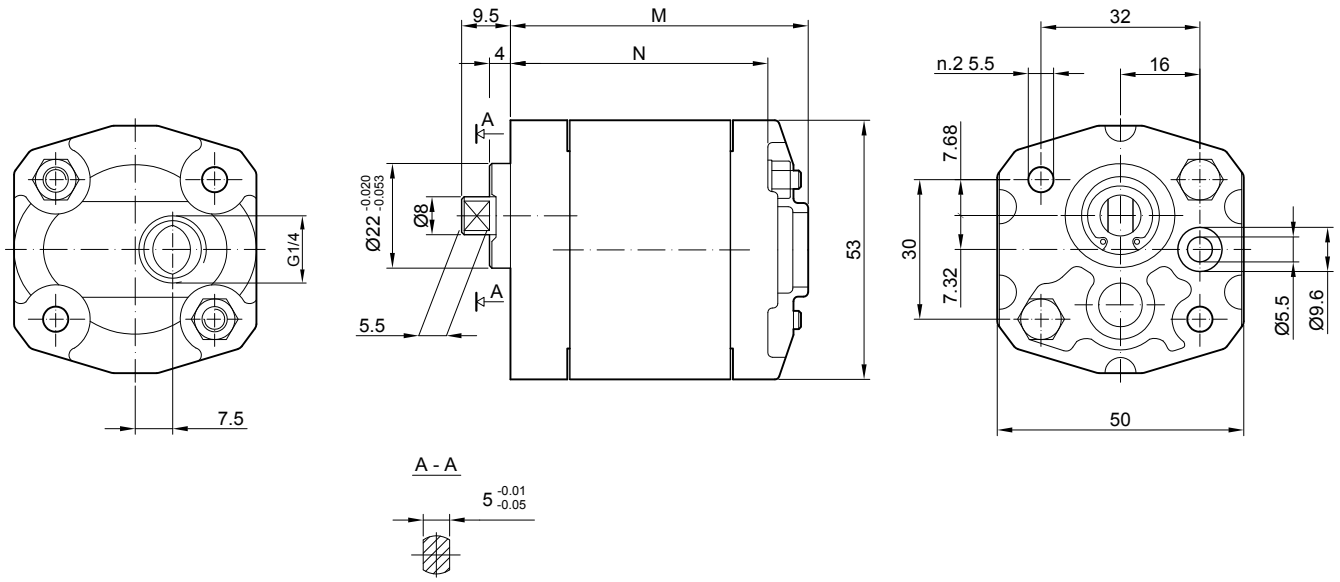
End cover ¼" BSPP thread depth 12 mm

Assemblaggio con 4 tiranti da M5 coppia di serraggio 5.4 ± 0.5 Nm

To mount the pump n. 4 M5 screws with a torque wrench settings fixed at 5.4 ± 0.5 Nm

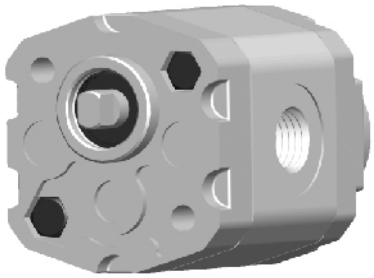
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	N
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
0.5VP 0.19 D	0.19	200	230	250	7000	1000	60	51
0.5VP 0.26 D	0.26	200	230	250	7000	1000	60.5	51.5
0.5VP 0.38 D	0.38	200	230	250	7000	1000	61.5	52.5
0.5VP 0.50 D	0.50	200	230	250	7000	1000	62.5	53.5
0.5VP 0.65 D	0.65	200	230	250	7000	1000	63.5	54.5
0.5VP 0.75 D	0.75	200	230	250	7000	1000	64.5	55.5
0.5VP 0.88 D	0.88	200	230	250	7000	1000	65.5	56.5
0.5VP 1.00 D	1.00	200	230	250	6000	850	66.5	57.5
0.5VP 1.25 D	1.25	200	230	250	5000	700	68.5	59.5
0.5VP 1.50 D	1.50	200	230	250	4000	600	70.5	61.5
0.5VP 1.75 D	1.75	180	210	230	4000	600	72.5	63.5
0.5VP 2.00 D	2.00	160	190	210	3000	500	74.5	65.5

0.5VP..D - L2 G0 B1



Aspirazione / mandata laterale filetto da ¼" BSPP profondità utile 9 mm

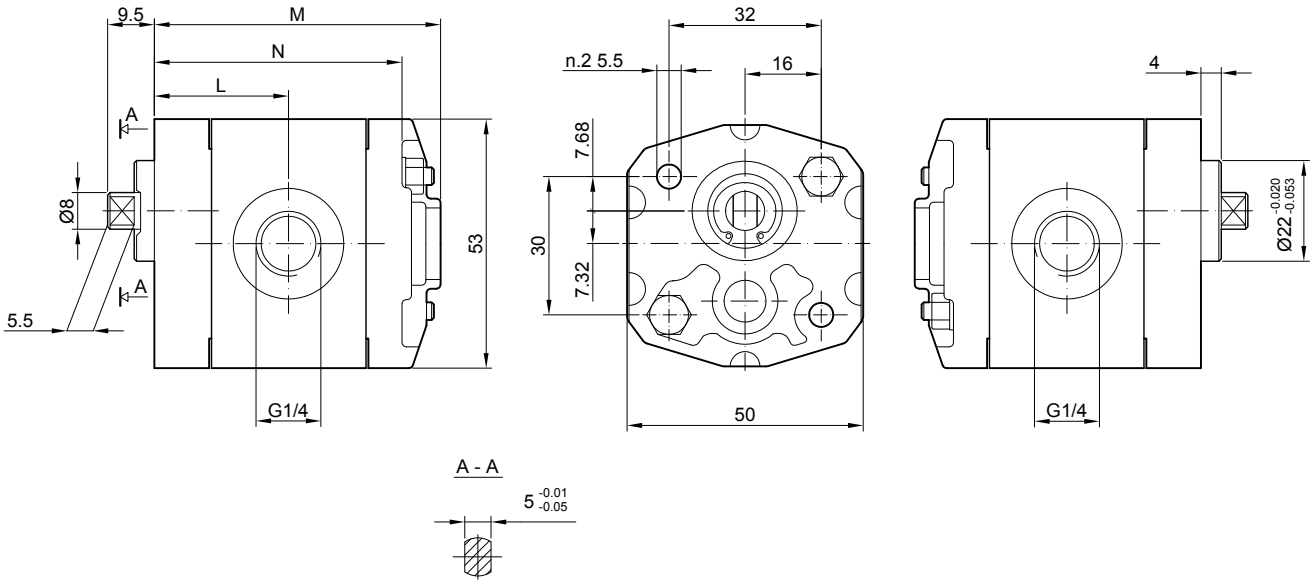
Lateral inlet / outlet ¼" BSPP thread depth 9 mm

Assemblaggio con 4 tiranti da M5 coppia di serraggio 5.4 ± 0.5 Nm

To mount the pump n. 4 M5 screws with a torque wrench settings fixed at 5.4 ± 0.5 Nm

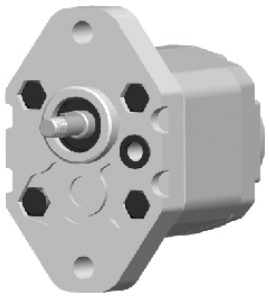
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	N
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
0.5VP 0.19 D	0.19	200	230	250	7000	1000	60	27.2	51
0.5VP 0.26 D	0.26	200	230	250	7000	1000	60.5	27.5	51.5
0.5VP 0.38 D	0.38	200	230	250	7000	1000	61.5	28	52.5
0.5VP 0.50 D	0.50	200	230	250	7000	1000	62.5	28.5	53.5
0.5VP 0.65 D	0.65	200	230	250	7000	1000	63.5	29	54.5
0.5VP 0.75 D	0.75	200	230	250	7000	1000	64.5	29.5	55.5
0.5VP 0.88 D	0.88	200	230	250	7000	1000	65.5	30	56.5
0.5VP 1.00 D	1.00	200	230	250	6000	850	66.5	30.5	57.5
0.5VP 1.25 D	1.25	200	230	250	5000	700	68.5	31.5	59.5
0.5VP 1.50 D	1.50	200	230	250	4000	600	70.5	32.5	61.5
0.5VP 1.75 D	1.75	180	210	230	4000	600	72.5	33.5	63.5
0.5VP 2.00 D	2.00	160	190	210	3000	500	74.5	34.5	65.5

0.5VP..D - L0 C0 A0



Aspirazione posteriore filetto da ¼" BSPP profondità utile 12mm

End cover ¼" BSPP thread depth 12 mm

Assemblaggio con 4 tiranti da M5 coppia di serraggio 5.4 ± 0.5 Nm

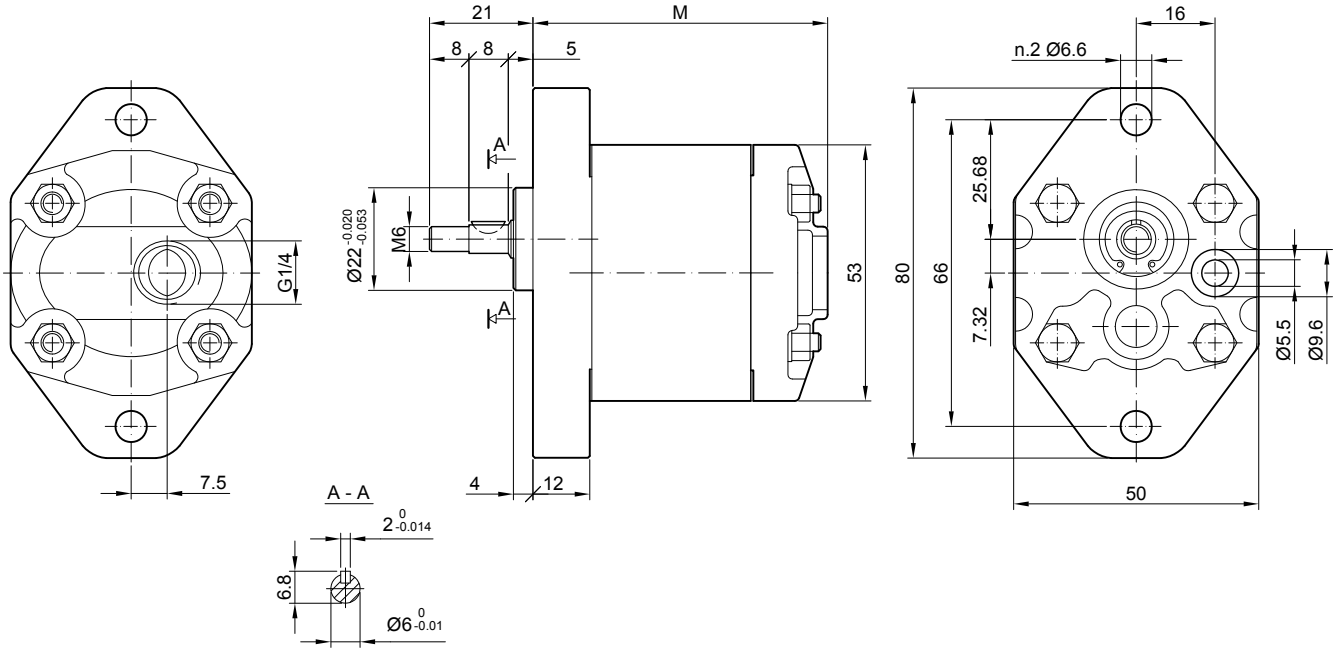
To mount the pump n. 4 M5 screws with a torque wrench settings fixed at 5.4 ± 0.5 Nm

Filetto M6 su albero con coppia di serraggio 7 Nm

Shaft M6 nut, with a torque wrench settings fixed at 7 Nm

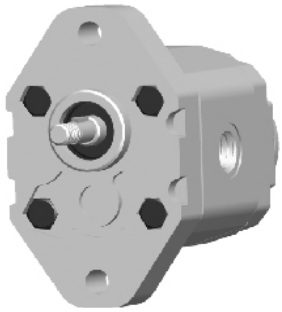
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure* P1	P2	P3	Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions* M
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm
0.5VP 0.19 D	0.19	200	230	250	7000	1000	60
0.5VP 0.26 D	0.26	200	230	250	7000	1000	60.5
0.5VP 0.38 D	0.38	200	230	250	7000	1000	61.5
0.5VP 0.50 D	0.50	200	230	250	7000	1000	62.5
0.5VP 0.65 D	0.65	200	230	250	7000	1000	63.5
0.5VP 0.75 D	0.75	200	230	250	7000	1000	64.5
0.5VP 0.88 D	0.88	200	230	250	7000	1000	65.5
0.5VP 1.00 D	1.00	200	230	250	6000	850	66.5
0.5VP 1.25 D	1.25	200	230	250	5000	700	68.5
0.5VP 1.50 D	1.50	200	230	250	4000	600	70.5
0.5VP 1.75 D	1.75	180	210	230	4000	600	72.5
0.5VP 2.00 D	2.00	160	190	210	3000	500	74.5

0.5VP..D - L2 C0 A1



Aspirazione / mandata laterale filetto da ¼" BSPP profondità utile 9 mm

Lateral inlet / outlet ¼" BSPP thread depth 9 mm

Assemblaggio con 4 tiranti da M5 coppia di serraggio 5.4 ± 0.5 Nm

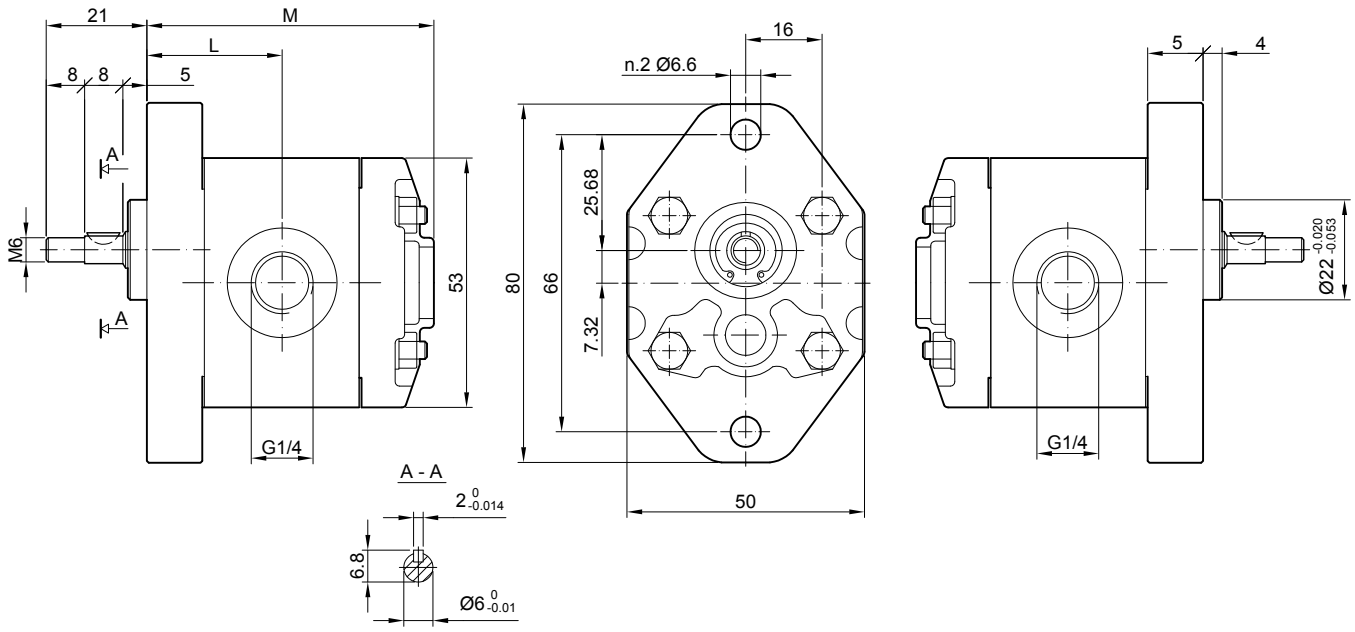
To mount the pump n. 4 M5 screws with a torque wrench settings fixed at 5.4 ± 0.5 Nm

Filetto M6 su albero con coppia di serraggio 7 Nm

Shaft M6 nut, with a torque wrench settings fixed at 7 Nm

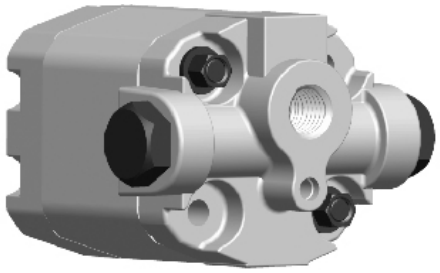
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
0.5VP 0.19 D	0.19	200	230	250	7000	1000	60	27.2
0.5VP 0.26 D	0.26	200	230	250	7000	1000	60.5	27.5
0.5VP 0.38 D	0.38	200	230	250	7000	1000	61.5	28
0.5VP 0.50 D	0.50	200	230	250	7000	1000	62.5	28.5
0.5VP 0.65 D	0.65	200	230	250	7000	1000	63.5	29
0.5VP 0.75 D	0.75	200	230	250	7000	1000	64.5	29.5
0.5VP 0.88 D	0.88	200	230	250	7000	1000	65.5	30
0.5VP 1.00 D	1.00	200	230	250	6000	850	66.5	30.5
0.5VP 1.25 D	1.25	200	230	250	5000	700	68.5	31.5
0.5VP 1.50 D	1.50	200	230	250	4000	600	70.5	32.5
0.5VP 1.75 D	1.75	180	210	230	4000	600	72.5	33.5
0.5VP 2.00 D	2.00	160	190	210	3000	500	74.5	34.5

0.5VP..R - L0 G0 B2 - VQ1



Aspirazione posteriore da ¼" BSPP, profondità utile 12mm

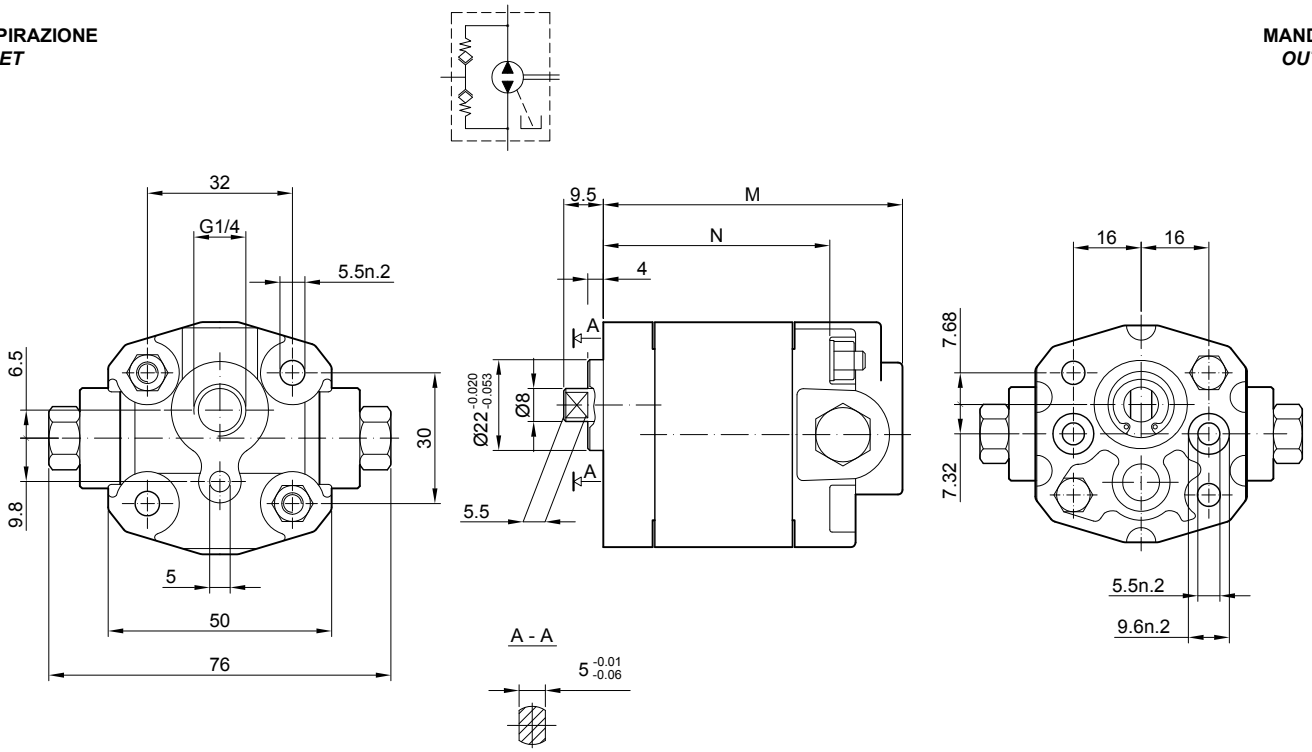
Assemblaggio con 4 tiranti da M5 coppia di serraggio 5.4 ± 0.5 Nm

End cover ¼" BSPP thread depth 12 mm

To mount the pump n. 4xM5 screws with a torque wrench settings fixed at 5.4 ± 0.5 Nm

ASPIRAZIONE
INLET

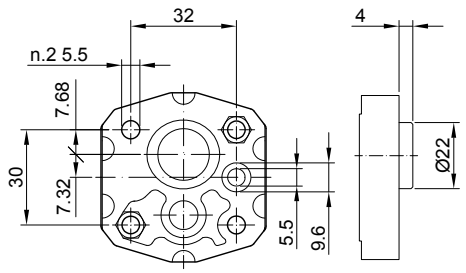
MANDATA
OUTLET



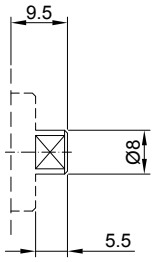
Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	N
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
0.5VP 0.19 R	0.19	150	170	190	7000	1000	68	51
0.5VP 0.26 R	0.26	150	170	190	7000	1000	68.5	51.5
0.5VP 0.38 R	0.38	150	170	190	7000	1000	69.5	52.5
0.5VP 0.50 R	0.50	150	170	190	7000	1000	70.5	53.5
0.5VP 0.65 R	0.65	150	170	190	7000	1000	71.5	54.5
0.5VP 0.75 R	0.75	150	170	190	7000	1000	72.5	55.5
0.5VP 0.88 R	0.88	150	170	190	7000	1000	73.5	56.5
0.5VP 1.00 R	1.00	150	170	190	6000	850	74.5	57.5
0.5VP 1.25 R	1.25	150	170	190	5000	700	76.5	59.5
0.5VP 1.50 R	1.50	150	170	190	4000	600	78.5	61.5
0.5VP 1.75 R	1.75	150	170	190	4000	600	80.5	63.5
0.5VP 2.00 R	2.00	150	170	190	3000	500	82.5	65.5

SERIE 0.5VP - *0.5VP SERIES*

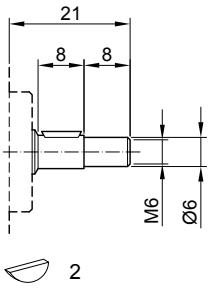
FLANGE / *FRONT COVERS*



B0



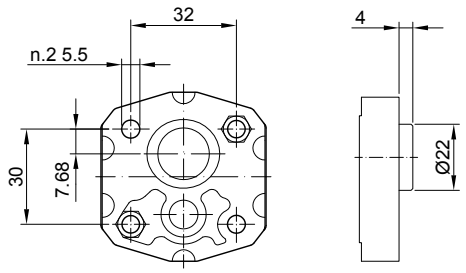
G0



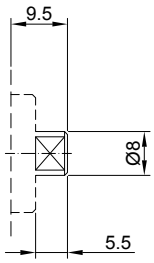
C0

Coppia max 10 Nm
Max. torque 10 Nm

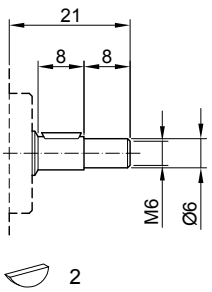
Coppia max 8 Nm
Max. torque 8 Nm



B1



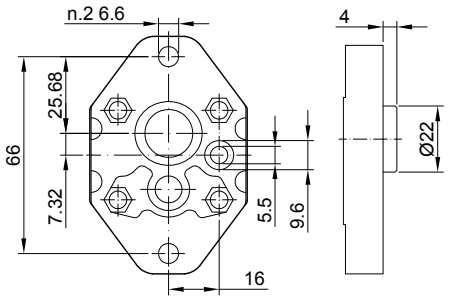
G0



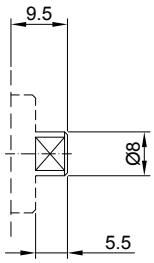
C0

Coppia max 10 Nm
Max. torque 10 Nm

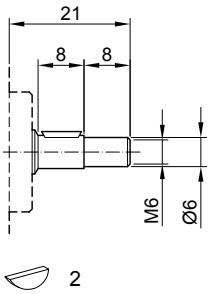
Coppia max 8 Nm
Max. torque 8 Nm



A0



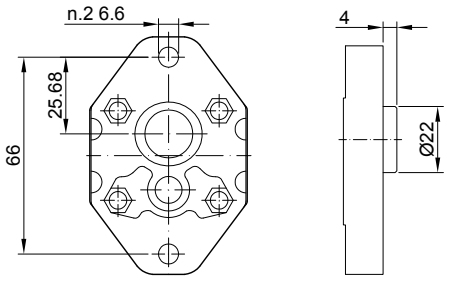
G0



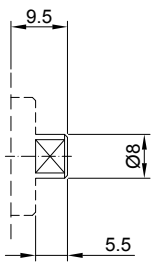
C0

Coppia max 10 Nm
Max. torque 10 Nm

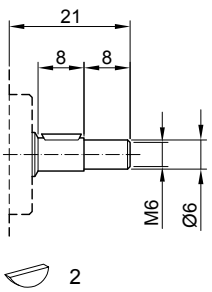
Coppia max 8 Nm
Max. torque 8 Nm



A1



G0



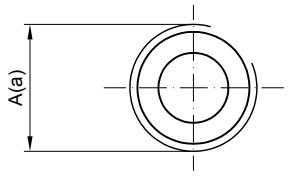
C0

Coppia max 10 Nm
Max. torque 10 Nm

Coppia max 8 Nm
Max. torque 8 Nm

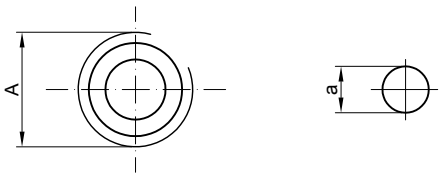
SERIE 0.5VP - *0.5VP SERIES*

BOCCHE / *PORTS*



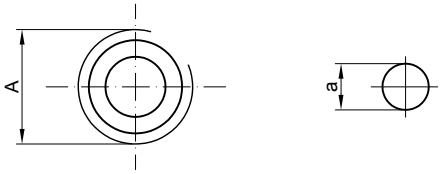
Z0

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
0.5VP 0.19 ÷ 2.00	M10x1	M10x1



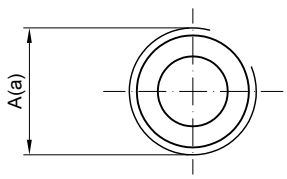
L0

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
0.5VP 0.19 ÷ 2.00	G1/4	ø5.5



L1

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
0.5VP 0.19 ÷ 2.00	G3/8	ø5.5

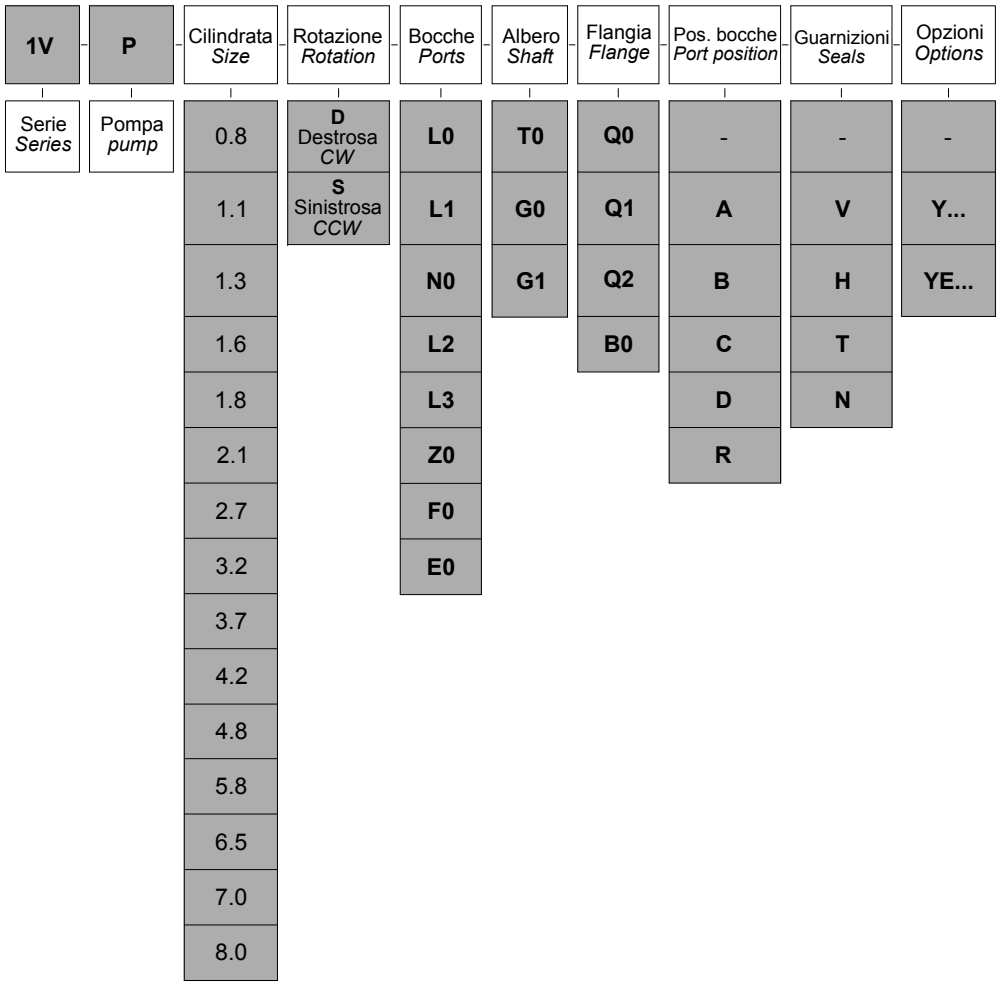


L2

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
0.5VP 0.19 ÷ 2.00	G1/4	G1/4

SERIE 1VP - *1VP SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
A Aspirazione frontale - Mandata frontale / *front Inlet - front Outlet*
B Aspirazione posteriore - Mandata frontale / *back Inlet - front Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
D Aspirazione laterale - Mandata frontale / *side Inlet - front Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Y... Valvola di massima (...= campo 10-250 bar) con scarico in aspirazione - *Relief valve (...= range 10-250 bar) with discharge to suction*
YE... Valvola di massima (...= range 10-250 bar) con scarico esterno - *Relief valve (...= range 10-250 bar) with external discharge*

1VP..D - L1 G0 Q0

Aspirazione posteriore da 3/8" BSPP profondità utile 12 mm

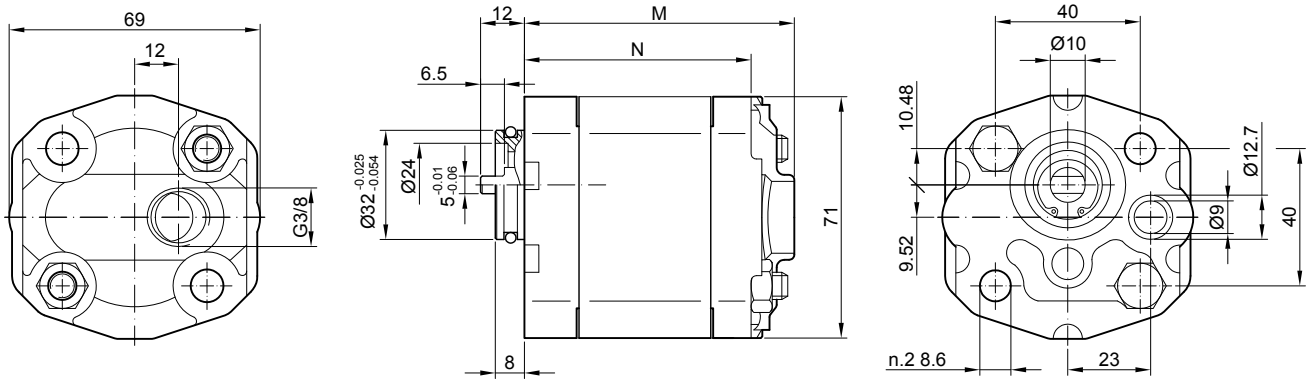
End cover 3/8" BSPP thread depth 12 mm

Assemblaggio con 2 tiranti da M8 coppia di serraggio 27 ± 3 Nm

To mount the pump n.2xM8 screws with a torque wrench settings fixed at 27 ± 3 Nm

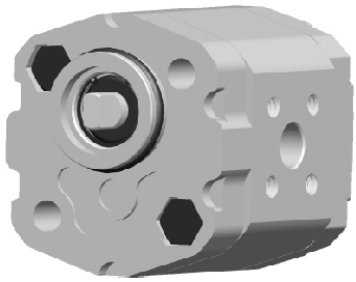
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	N
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5	62.5
1VP 1.1 D	1.1	230	250	270	6000	1000	74	63
1VP 1.3 D	1.3	230	250	270	6000	1000	75	64
1VP 1.6 D	1.6	230	250	270	6000	1000	76	65
1VP 1.8 D	1.8	230	250	270	6000	1000	77	66
1VP 2.1 D	2.1	230	250	270	6000	1000	78	67
1VP 2.7 D	2.7	230	250	270	6000	800	80	69
1VP 3.2 D	3.2	210	230	250	5000	800	82	71
1VP 3.7 D	3.7	210	230	250	4500	800	84	73
1VP 4.2 D	4.2	210	230	250	4000	800	86	75
1VP 4.8 D	4.8	190	210	230	3500	600	88	77
1VP 5.8 D	5.8	175	185	200	3000	600	92	81
1VP 6.5 D	6.5	165	170	175	2800	600	94	83
1VP 7.0 D	7.0	150	155	160	2500	600	96	85
1VP 8.0 D	8.0	140	145	150	2100	600	100	89

1VP..D - F0 G0 Q1



Filetti M6 profondità utile 12 mm

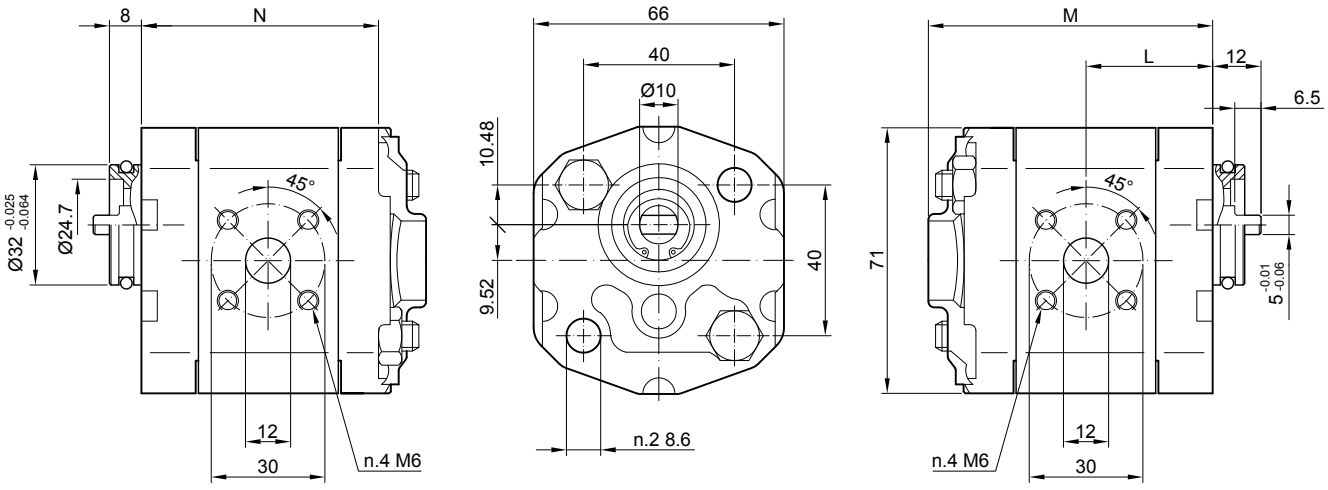
M6 threads depth 12 mm

Assemblaggio con 2 tiranti da M8 coppia di serraggio 27 ± 3 Nm

To mount the pump n.2 x M8 screws with a torque wrench settings fixed at 27 ± 3 Nm

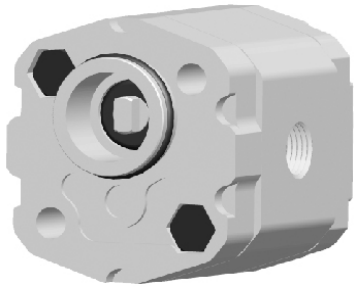
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	N	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5	62.5	32.8
1VP 1.1 D	1.1	230	250	270	6000	1000	74	63	33
1VP 1.3 D	1.3	230	250	270	6000	1000	75	64	33.5
1VP 1.6 D	1.6	230	250	270	6000	1000	76	65	34
1VP 1.8 D	1.8	230	250	270	6000	1000	77	66	34.5
1VP 2.1 D	2.1	230	250	270	6000	1000	78	67	35
1VP 2.7 D	2.7	230	250	270	6000	800	80	69	36
1VP 3.2 D	3.2	210	230	250	5000	800	82	71	37
1VP 3.7 D	3.7	210	230	250	4500	800	84	73	38
1VP 4.2 D	4.2	210	230	250	4000	800	86	75	39
1VP 4.8 D	4.8	190	210	230	3500	600	88	77	40
1VP 5.8 D	5.8	175	185	200	3000	600	92	81	42
1VP 6.5 D	6.5	165	170	175	2800	600	94	83	43
1VP 7.0 D	7.0	150	155	160	2500	600	96	85	44
1VP 8.0 D	8.0	140	145	150	2100	600	100	89	46

1VP..D - L3 G1 Q2



Aspirazione e mandata laterali da 3/8" BSPP, profondità utile 12 mm

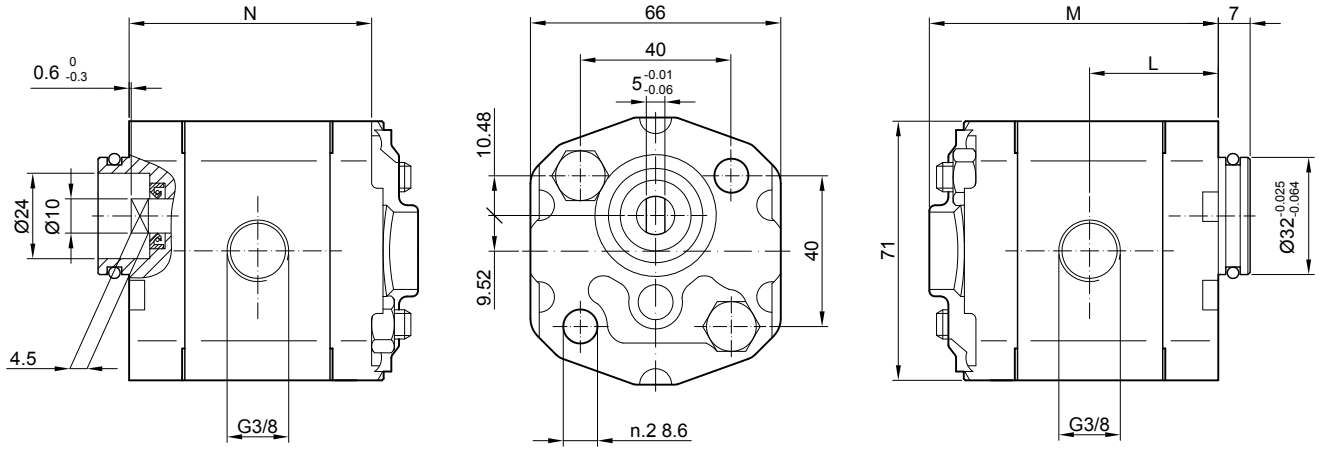
3/8" BSPP lateral threads depth 12 mm

Assemblaggio con 2 tiranti da M8 coppia di serraggio 27 ± 3 Nm

To mount the pump n.2 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

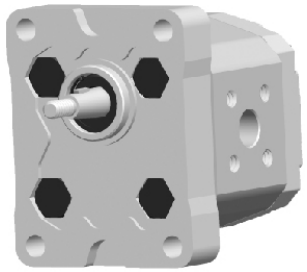
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	N	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5	62.5	32.8
1VP 1.1 D	1.1	230	250	270	6000	1000	74	63	33
1VP 1.3 D	1.3	230	250	270	6000	1000	75	64	33.5
1VP 1.6 D	1.6	230	250	270	6000	1000	76	65	34
1VP 1.8 D	1.8	230	250	270	6000	1000	77	66	34.5
1VP 2.1 D	2.1	230	250	270	6000	1000	78	67	35
1VP 2.7 D	2.7	230	250	270	6000	800	80	69	36
1VP 3.2 D	3.2	210	230	250	5000	800	82	71	37
1VP 3.7 D	3.7	210	230	250	4500	800	84	73	38
1VP 4.2 D	4.2	210	230	250	4000	800	86	75	39
1VP 4.8 D	4.8	190	210	230	3500	600	88	77	40
1VP 5.8 D	5.8	175	185	200	3000	600	92	81	42
1VP 6.5 D	6.5	165	170	175	2800	600	94	83	43
1VP 7.0 D	7.0	150	155	160	2500	600	96	85	44
1VP 8.0 D	8.0	140	145	150	2100	600	100	89	46

1VP..D - F0 T0 B0



Filetto M6 profondità 12 mm

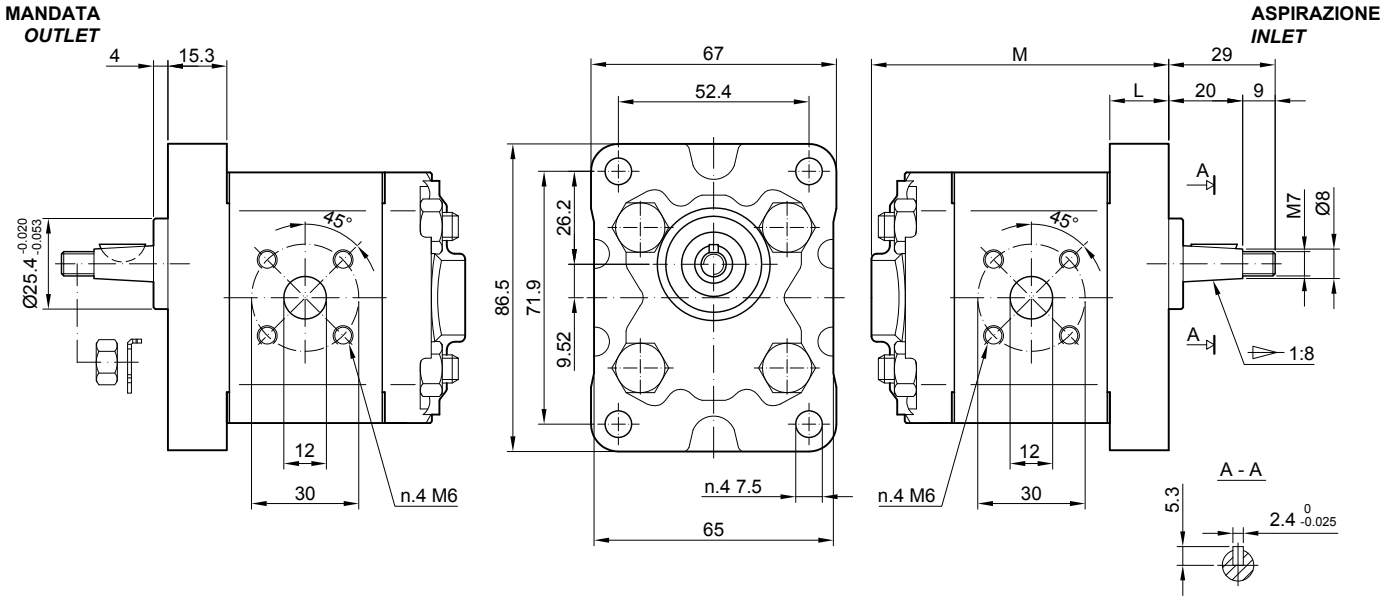
M6 thread depth 12 mm

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ±3 Nm

To mount the pump n.4 x M8 screws with a torque wrench settings fixed at 27 ± 3 Nm

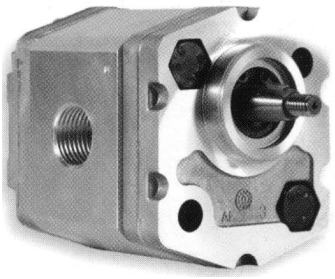
Filetto M7 su albero con coppia di serraggio 8 Nm

Shaft M7 nut, with a torque wrench settings fixed at 8 Nm



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5	32.8
1VP 1.1 D	1.1	230	250	270	6000	1000	74	33
1VP 1.3 D	1.3	230	250	270	6000	1000	75	33.5
1VP 1.6 D	1.6	230	250	270	6000	1000	76	34
1VP 1.8 D	1.8	230	250	270	6000	1000	77	34.5
1VP 2.1 D	2.1	230	250	270	6000	1000	78	35
1VP 2.7 D	2.7	230	250	270	6000	800	80	36
1VP 3.2 D	3.2	210	230	250	5000	800	82	37
1VP 3.7 D	3.7	210	230	250	4500	800	84	38
1VP 4.2 D	4.2	210	230	250	4000	800	86	39
1VP 4.8 D	4.8	190	210	230	3500	600	88	40
1VP 5.8 D	5.8	190	210	230	3000	600	92	42
1VP 6.5 D	6.5	180	200	220	2800	600	94	43
1VP 7.0 D	7.0	160	180	200	2500	600	96	44
1VP 8.0 D	8.0	160	180	200	2100	600	100	46

1VP..D - Z0 T1 Q3



Filetto M14 x 1.5 profondità utile 12 mm
Filetto M18 x 1.5 profondità utile 12 mm

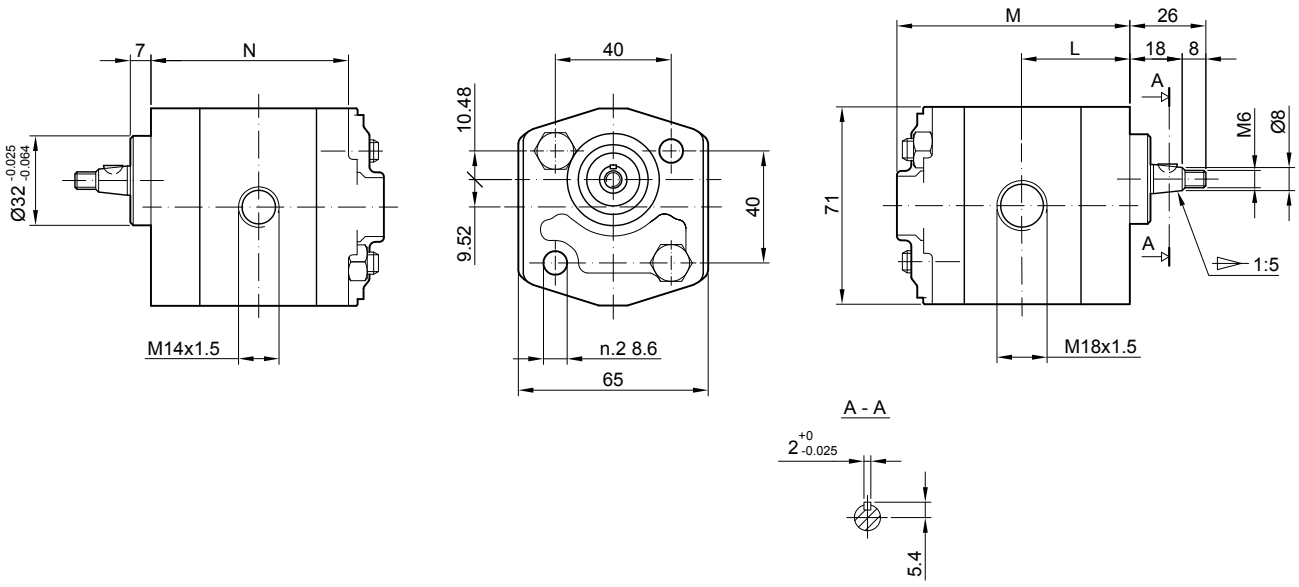
M14 x 1.5 thread depth 12 mm
M18 x 1.5 thread depth 12 mm

Assemblaggio con 2 tiranti da M8 coppia di serraggio 23 ± 2.4 Nm

To mount the pump n.2 x M8 screws, with a torque wrench settings fixed at 23 ± 2.4 Nm

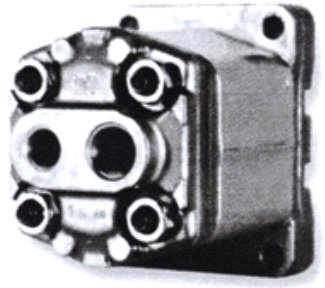
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			L	M	N
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
1VP 1.1 D	1.1	230	250	270	6000	1000	33	74	62
1VP 1.3 D	1.3	230	250	270	6000	1000	33.5	75	63
1VP 1.6 D	1.6	230	250	270	6000	1000	34	76	64
1VP 2.1 D	2.1	230	250	270	6000	1000	35	78	66
1VP 2.7 D	2.7	230	250	270	6000	1000	36	80	68
1VP 3.2 D	3.2	210	230	250	5000	800	37	82	70
1VP 3.7 D	3.7	210	230	250	4500	800	38	84	72
1VP 4.2 D	4.2	210	230	250	4000	800	39	86	74
1VP 4.8 D	4.8	190	210	230	3500	600	40	88	76
1VP 5.8 D	5.8	190	210	230	3000	600	42	92	80
1VP 6.5 D	6.5	180	200	220	2800	600	43	94	82
1VP 7.0 D	7.0	160	180	200	2500	600	44	96	84
1VP 8.0 D	8.0	160	180	200	2100	600	46	100	88

1VP..D - L2 T0 B0 - R



Filetto G1/4 profondità utile 12 mm
Filetto G3/8 profondità utile 12 mm

G1/4 thread depth 12 mm
G3/8 thread depth 12 mm

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

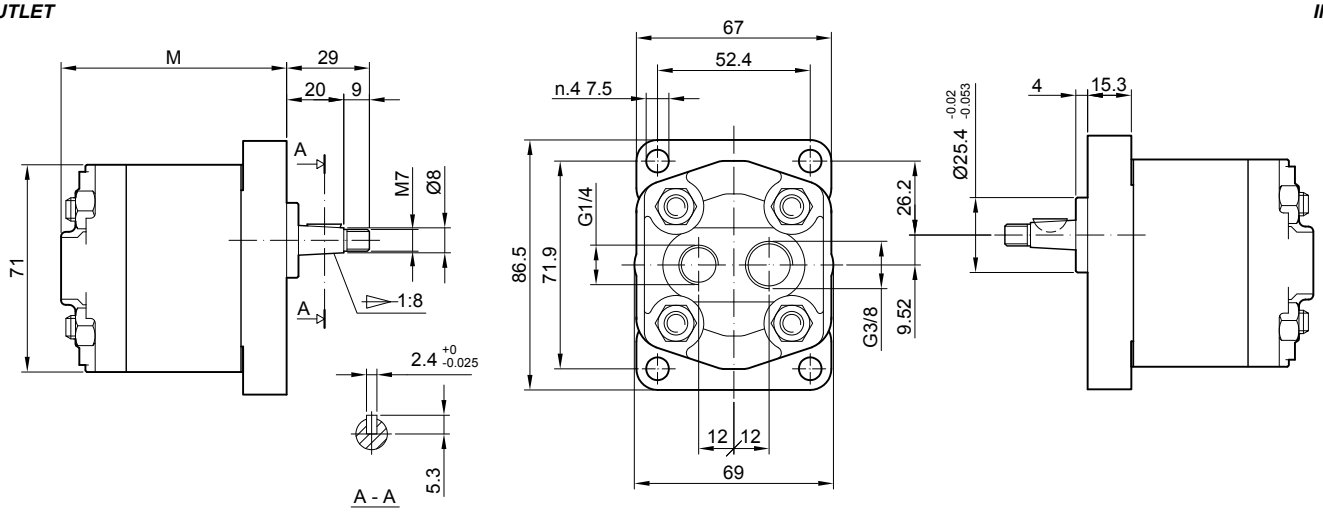
To mount the pump n.4 x M8 screws with a torque wrench settings fixed at 27 ± 3 Nm

Filetto M7 su albero con coppia di serraggio 8 Nm

Shaft M7 nut, with a torque wrench settings fixed at 8 Nm

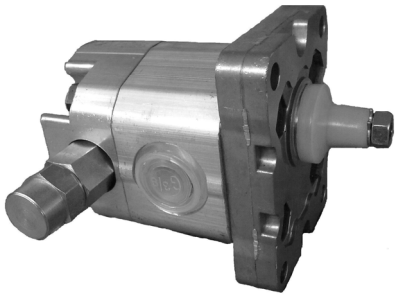
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure* P1	P2	P3	Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions* M
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5
1VP 1.1 D	1.1	230	250	270	6000	1000	75
1VP 1.3 D	1.3	230	250	270	6000	1000	76
1VP 1.6 D	1.6	230	250	270	6000	1000	77
1VP 1.8 D	1.8	230	250	270	6000	1000	78
1VP 2.1 D	2.1	230	250	270	6000	1000	79
1VP 2.7 D	2.7	230	250	270	6000	800	81
1VP 3.2 D	3.2	210	230	250	5000	800	83
1VP 3.7 D	3.7	210	230	250	4500	800	85
1VP 4.2 D	4.2	210	230	250	4000	800	87
1VP 4.8 D	4.8	190	210	230	3500	600	89
1VP 5.8 D	5.8	190	210	230	3000	600	93
1VP 6.5 D	6.5	180	200	220	2800	600	95
1VP 7.0 D	7.0	160	180	200	2500	600	96
1VP 8.0 D	8.0	160	180	200	2100	600	101

1VP..D - F0 T0 B0 Y..



Drenaggio esterno disponibile — *External drain available*

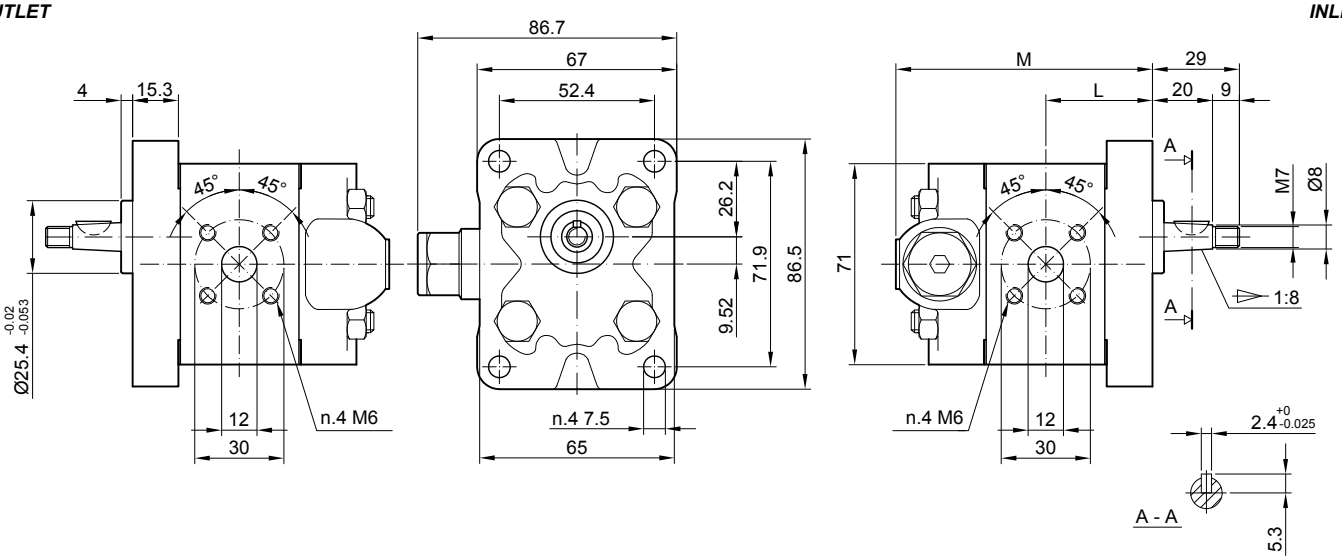
Filetto M6 profondità utile 12 mm — *M6 thread depth 12 mm*

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm — *To mount the pump n.4 x M8 screws with a torque wrench settings fixed at 27 ± 3 Nm*

Filetto M7 su albero con coppia di serraggio 8 Nm — *Shaft M7 nut, with a torque wrench settings fixed at 8 Nm*

MANDATA ***OUTLET***

ASPIRAZIONE ***INLET***

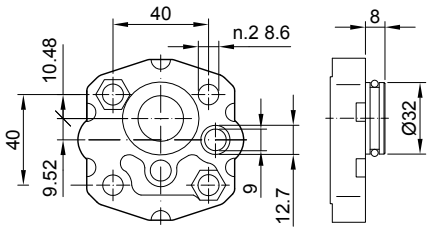


Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	74.5	32.8
1VP 1.1 D	1.1	230	250	270	6000	1000	75	33
1VP 1.3 D	1.3	230	250	270	6000	1000	76	33.5
1VP 1.6 D	1.6	230	250	270	6000	1000	77	34
1VP 1.8 D	1.8	230	250	270	6000	1000	78	34.5
1VP 2.1 D	2.1	230	250	270	6000	1000	79	35
1VP 2.7 D	2.7	230	250	270	6000	800	81	36
1VP 3.2 D	3.2	210	230	250	5000	800	83	37
1VP 3.7 D	3.7	210	230	250	4500	800	85	38
1VP 4.2 D	4.2	210	230	250	4000	800	87	39
1VP 4.8 D	4.8	190	210	230	3500	600	89	40
1VP 5.8 D	5.8	190	210	230	3000	600	93	42
1VP 6.5 D	6.5	180	200	220	2800	600	95	43
1VP 7.0 D	7.0	160	180	200	2500	600	96	44
1VP 8.0 D	8.0	160	180	200	2100	600	101	46

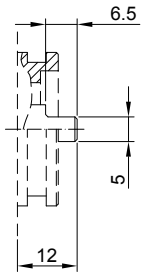
SERIE 1VP - *1VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

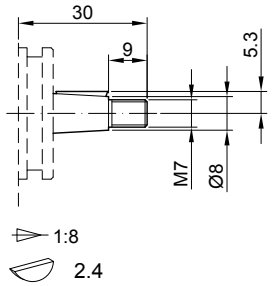


Q0



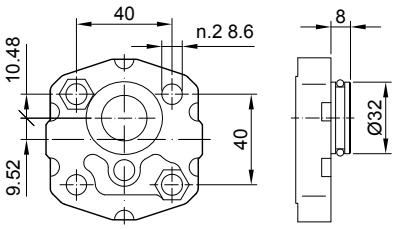
G0

Coppia max 20 Nm
Max. torque 20 Nm

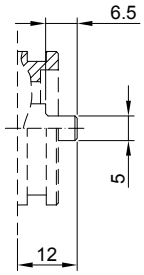


T0

Coppia max 25 Nm
Max. torque 25 Nm

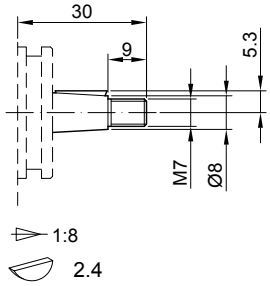


Q1



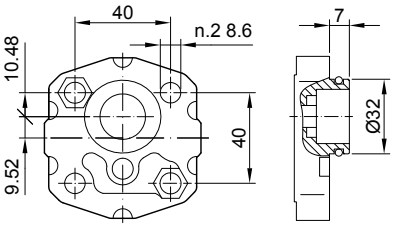
G0

Coppia max 20 Nm
Max. torque 20 Nm

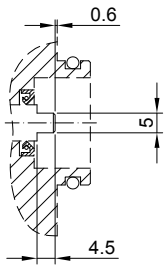


T0

Coppia max 25 Nm
Max. torque 25 Nm

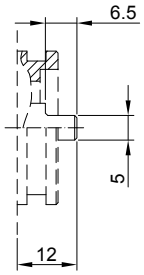


Q2



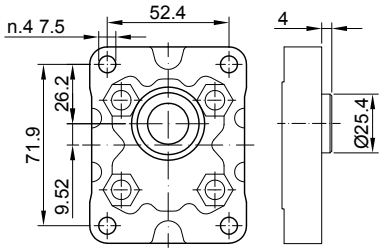
G1

Coppia max 20 Nm
Max. torque 20 Nm

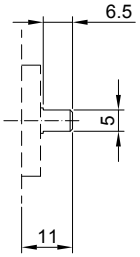


G0

Coppia max 20 Nm
Max. torque 20 Nm

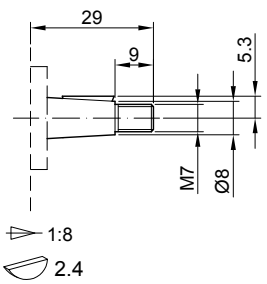


B0



G0

Coppia max 20 Nm
Max. torque 20 Nm

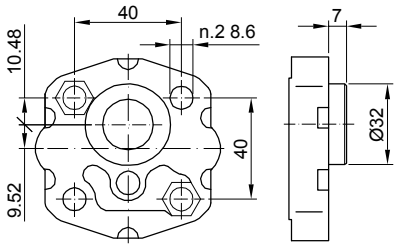


T0

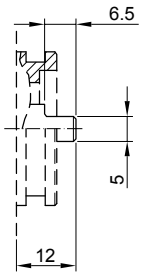
Coppia max 25 Nm
Max. torque 25 Nm

SERIE 1VP - *1VP SERIES*

FLANGE / *FRONT COVERS*



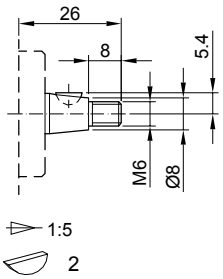
Q3



G0

Coppia max 20 Nm
Max. torque 20 Nm

ALBERI / *SHAFTS*

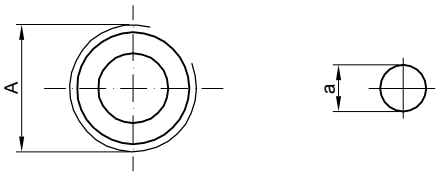


T1

Coppia max 25 Nm
Max. torque 25 Nm

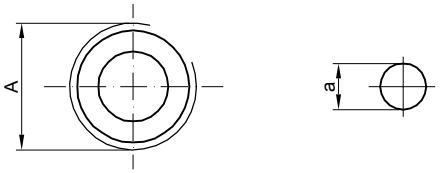
SERIE 1VP - *1VP SERIES*

BOCCHE / *PORTS*



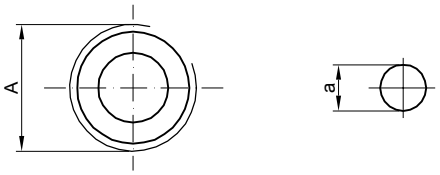
L0

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	G1/4	Ø9



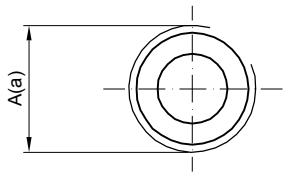
L1

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	G3/8	Ø9



N0

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	3/8 NPT	Ø9

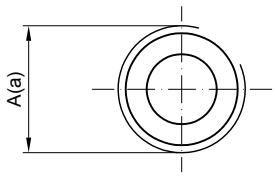


L2

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	G3/8	G1/4

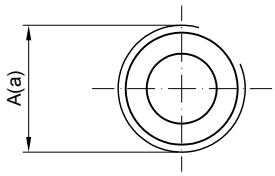
SERIE 1VP - *1VP SERIES*

BOCCHE / *PORTS*



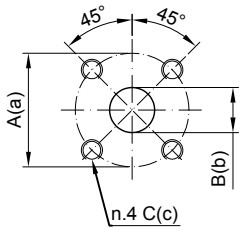
L3

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	G3/8	G3/8



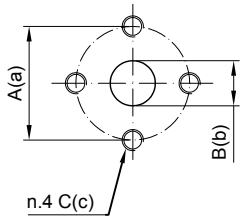
Z0

Tipo *Type*	Aspirazione *Inlet*	Mandata *Outlet*
	A	a
1VP 0.8 ÷ 8	M18x1.5	M14x1.5



F0

Tipo *Type*	Aspirazione *Inlet*			Mandata *Outlet*		
	A	B	C	a	b	c
1VP 0.8 ÷ 8	30	12	M6	30	12	M6

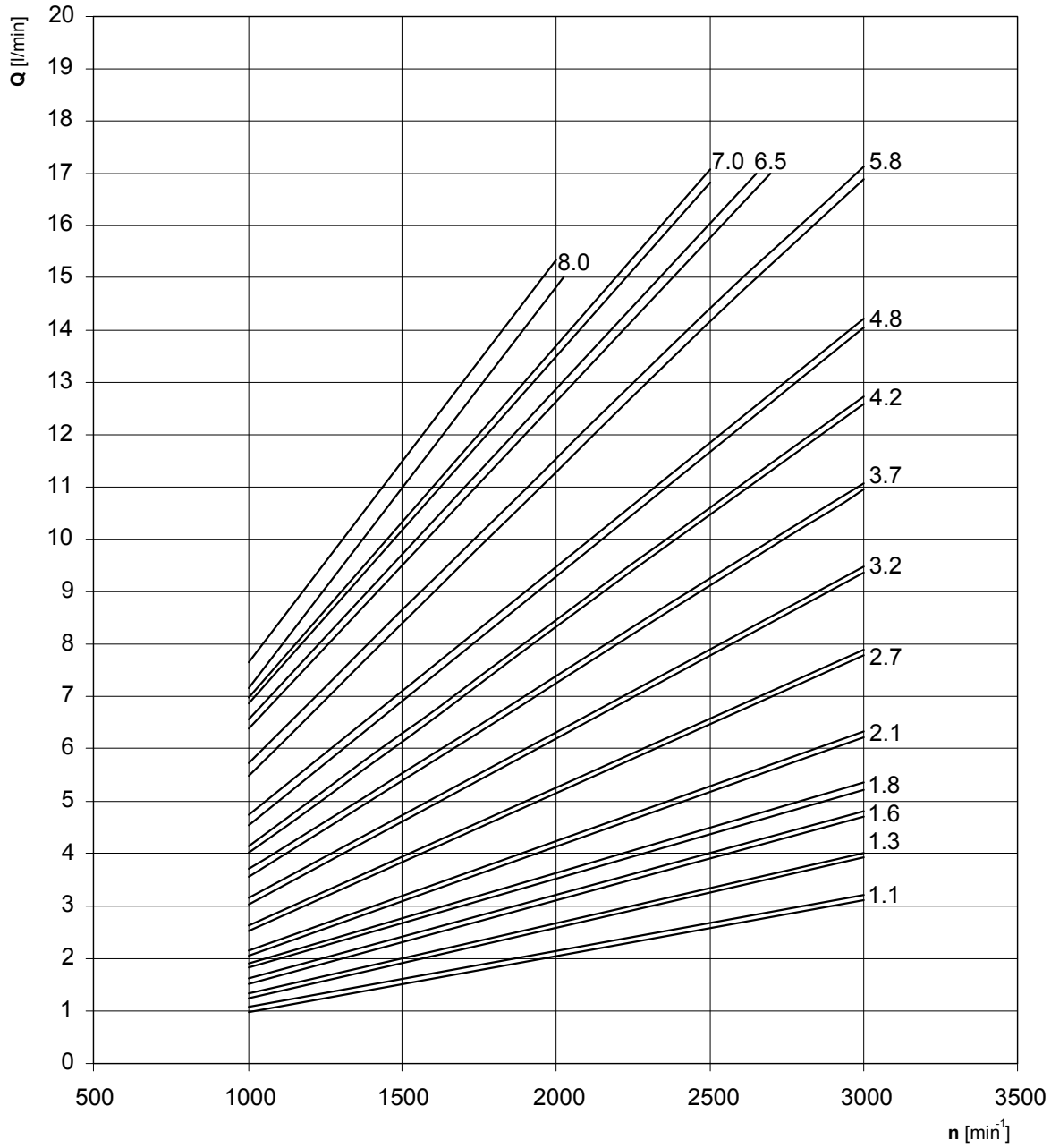


E0

Tipo *Type*	Aspirazione *Inlet*			Mandata *Outlet*		
	A	B	C	a	b	c
1VP 0.8 ÷ 8	30	12	M6	30	12	M6

SERIE 1VP - *1VP SERIES*

1VP CURVE CARATTERISTICHE / *1VP PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50 °C, using oil with viscosity 30 cSt at these pressure.

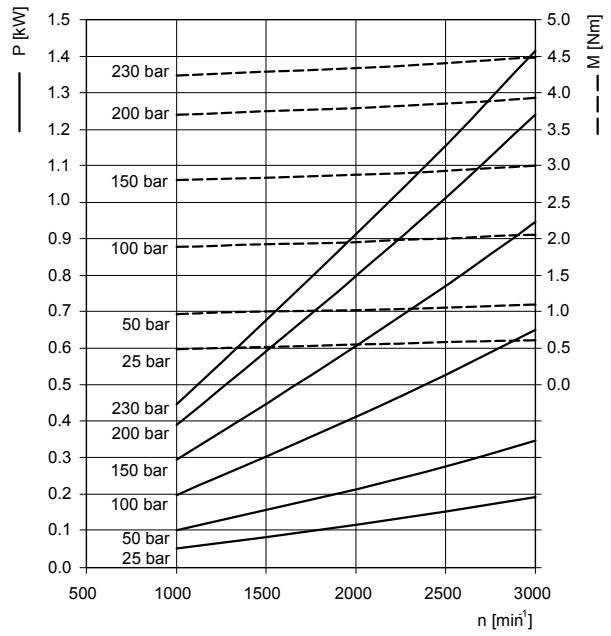
1.1 1.3 1.6 2.1 2.7	25-230 bar
3.2 3.7 4.2	25-210 bar
4.8 5.8	25-190 bar
8.0	25-140 bar

SERIE 1VP - *1VP SERIES*

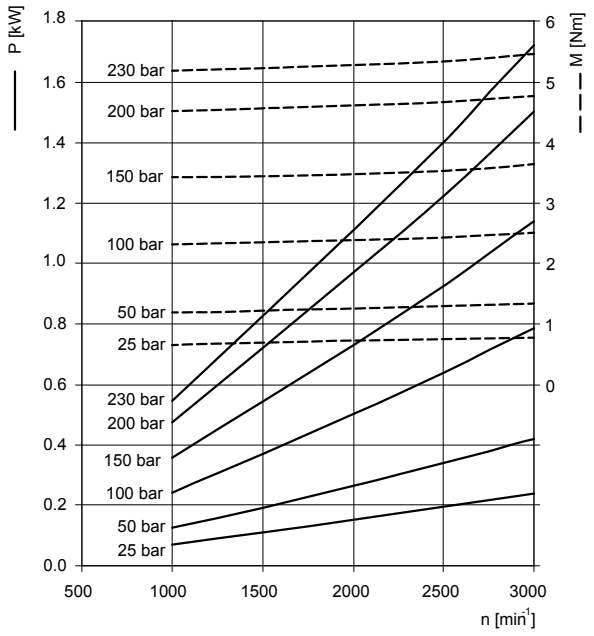
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

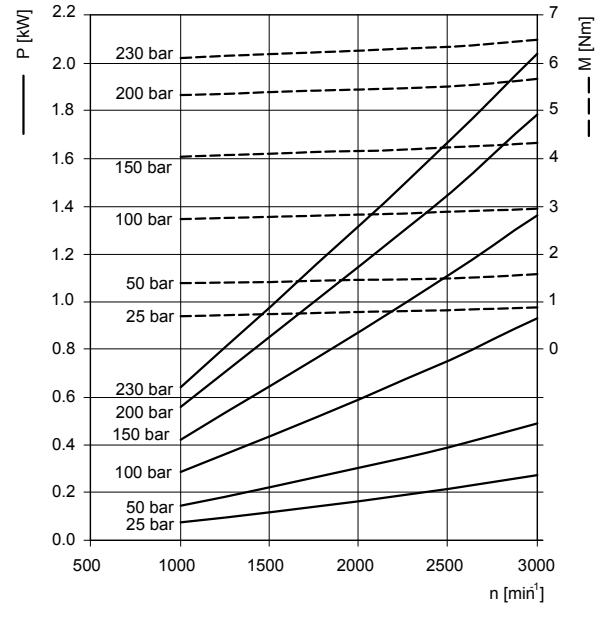
1VP 1.1



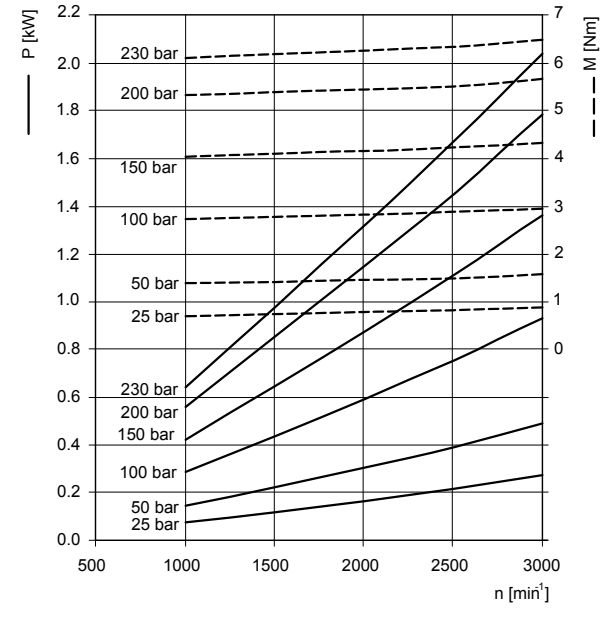
1VP 1.3



1VP 1.6



1VP 1.8

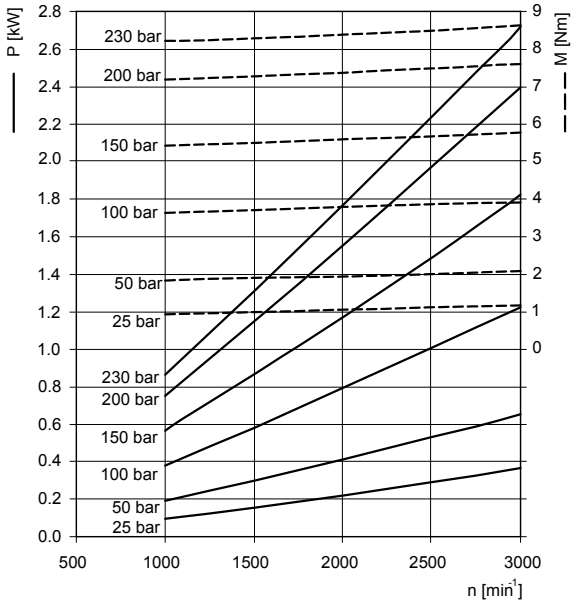


SERIE 1VP - *1VP SERIES*

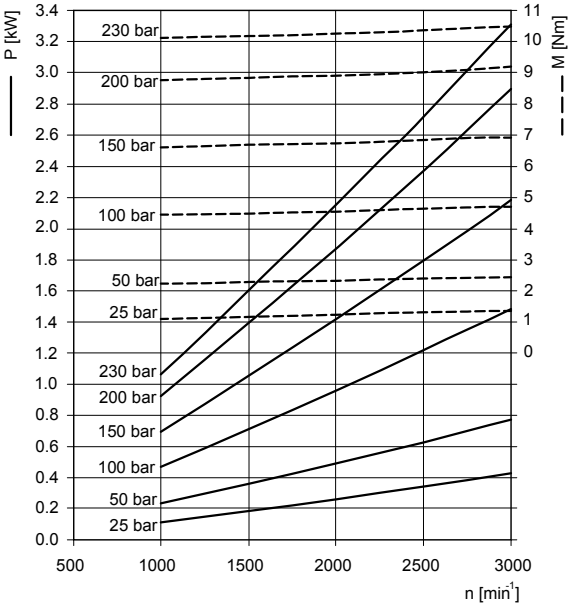
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

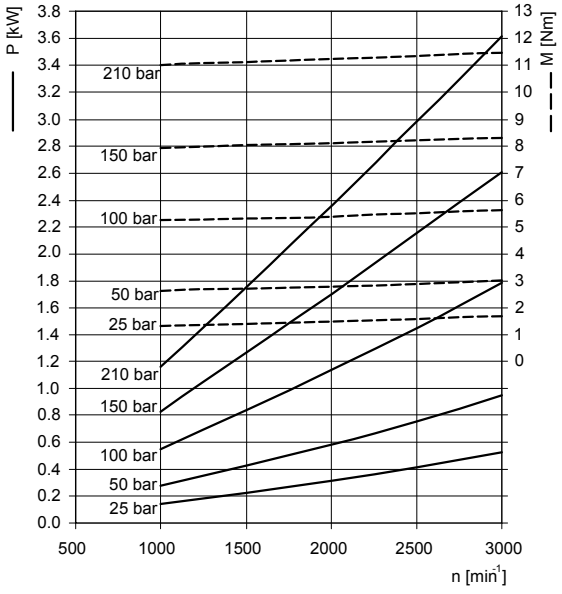
1VP 2.1



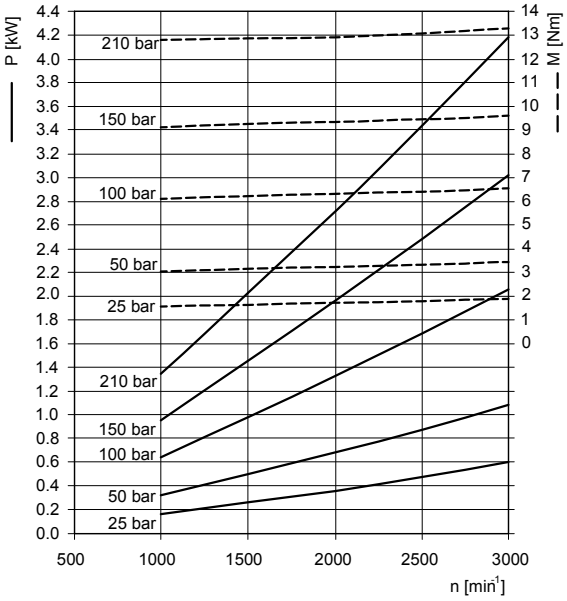
1VP 2.7



1VP 3.2



1VP 3.7

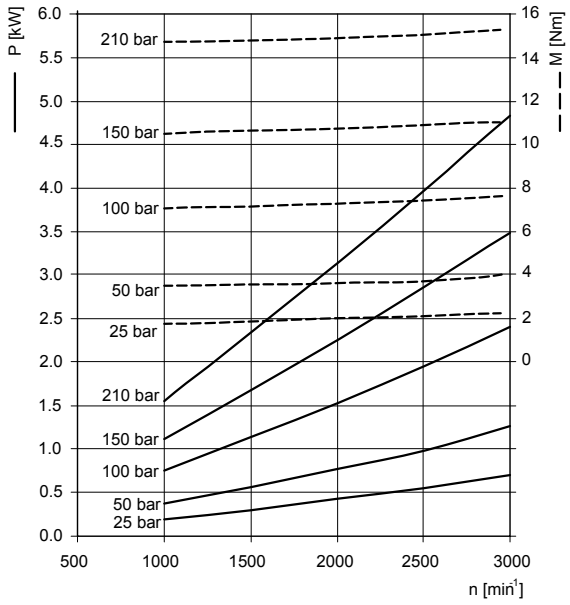


SERIE 1VP - *1VP SERIES*

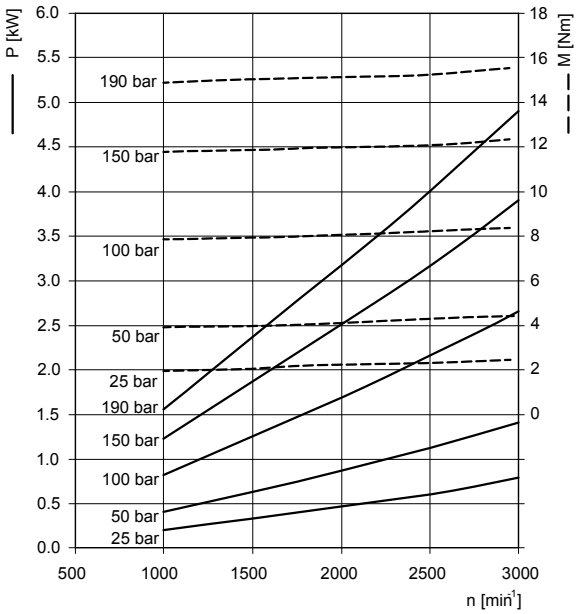
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

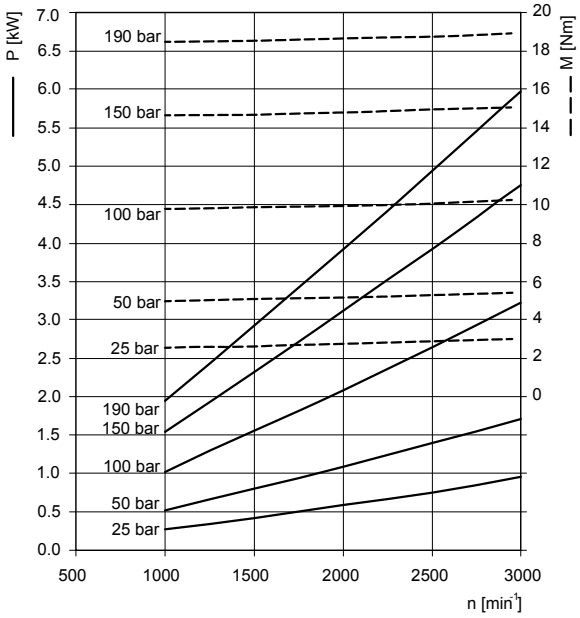
1VP 4.2



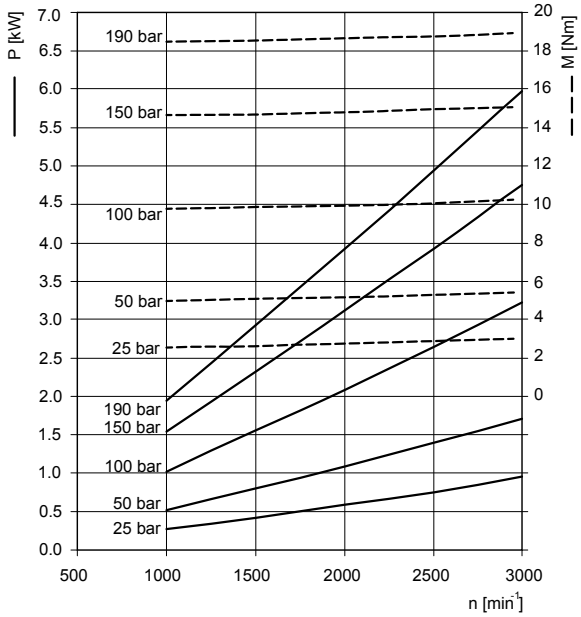
1VP 4.8



1VP 5.8



1VP 7.0

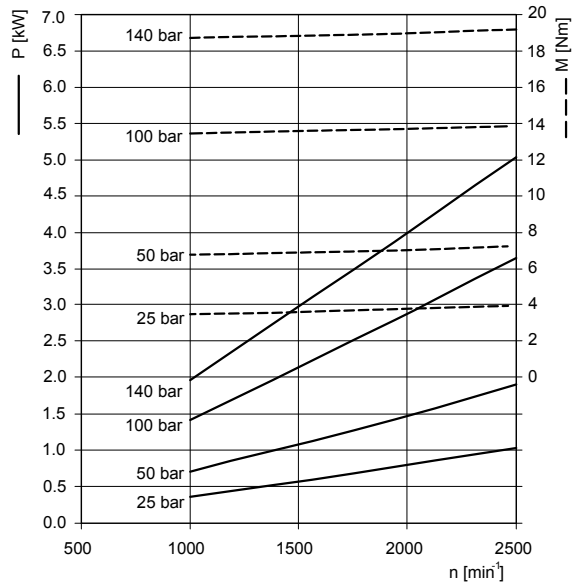


SERIE 1VP - *1VP SERIES*

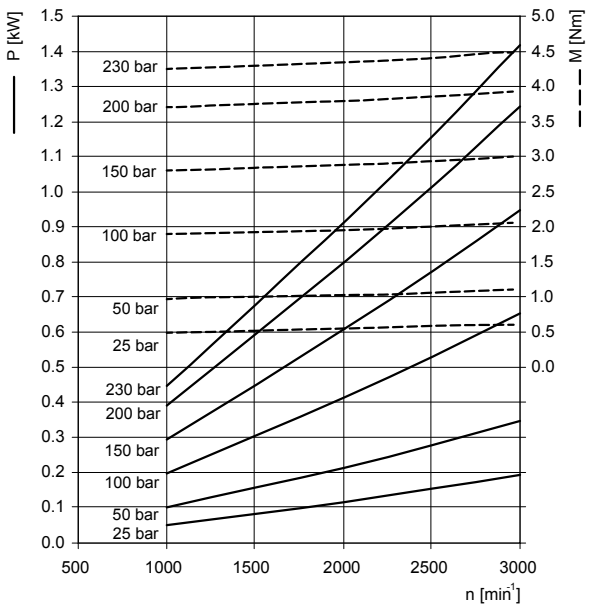
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

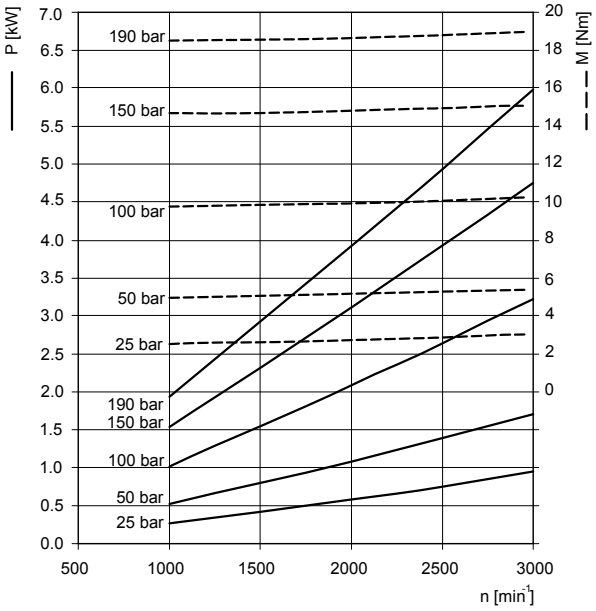
1VP 8.0



1VP 0.8

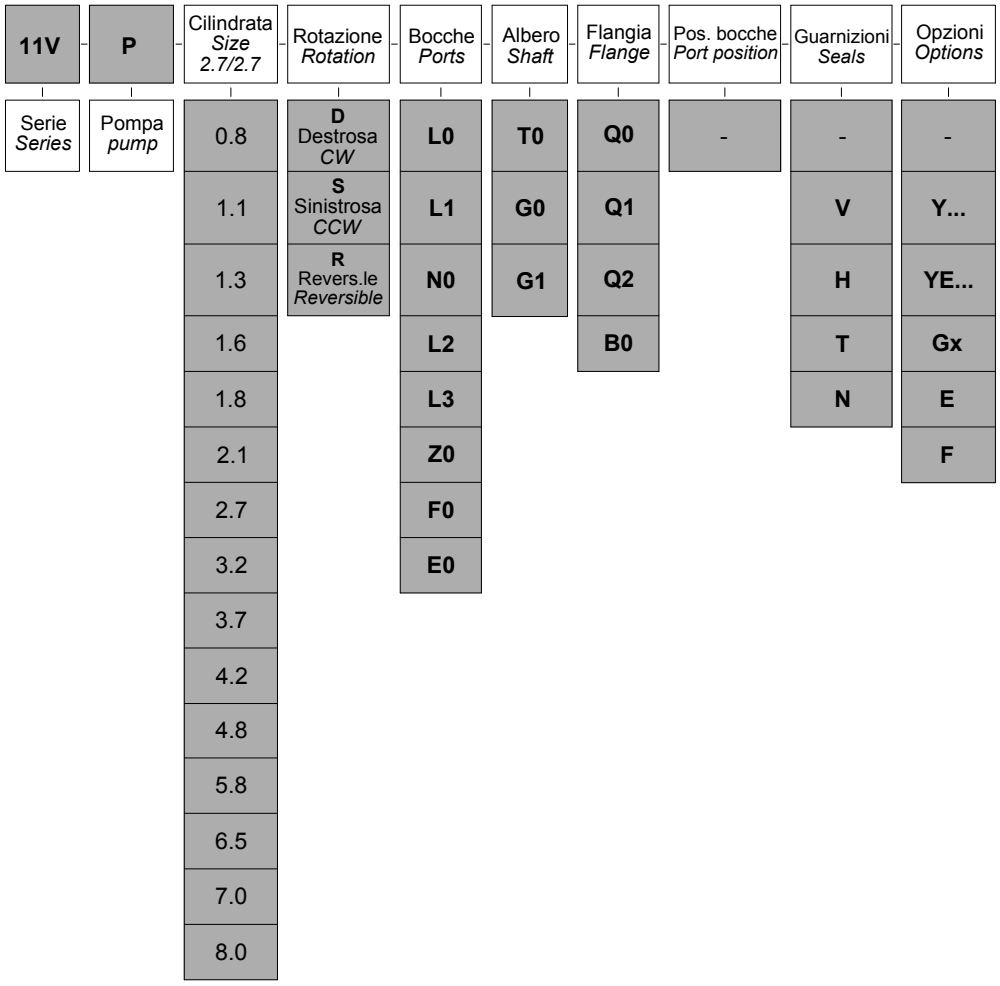


1VP 6.5



POMPE MULTIPLE - *MULTIPLE PUMPS*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*

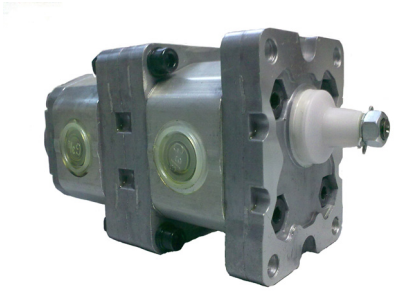
Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Y... Valvola di massima (...= campo 10-250 bar) con scarico in aspirazione - *Relief valve (...= range 10-250 bar) with discharge to suction*
YE... Valvola di massima (...= range 10-250 bar) con scarico esterno - *Relief valve (...= range 10-250 bar) with external discharge*
Gx Aspirazione unica (**x** indicare il corpo 1-2 o 3 dove è collocata la bocca di aspirazione) - liquidi in comune
*Common suction (**x** indicate 1-2 or 3 corresponding to the body where suction is located) - common oil*
E Aspirazione separata - liquidi separate
Separated suction - separated oil
F Aspirazione separata - liquidi in comune
Separated suction - common oil

11VP../..D - F0 T0 B0 - E



Profondità 12 mm filetto M6

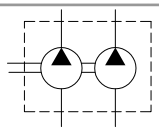
M6 thread depth 12 mm

Assemblaggio con 8 tiranti da M8 coppia di serraggio 27 ± 3 Nm

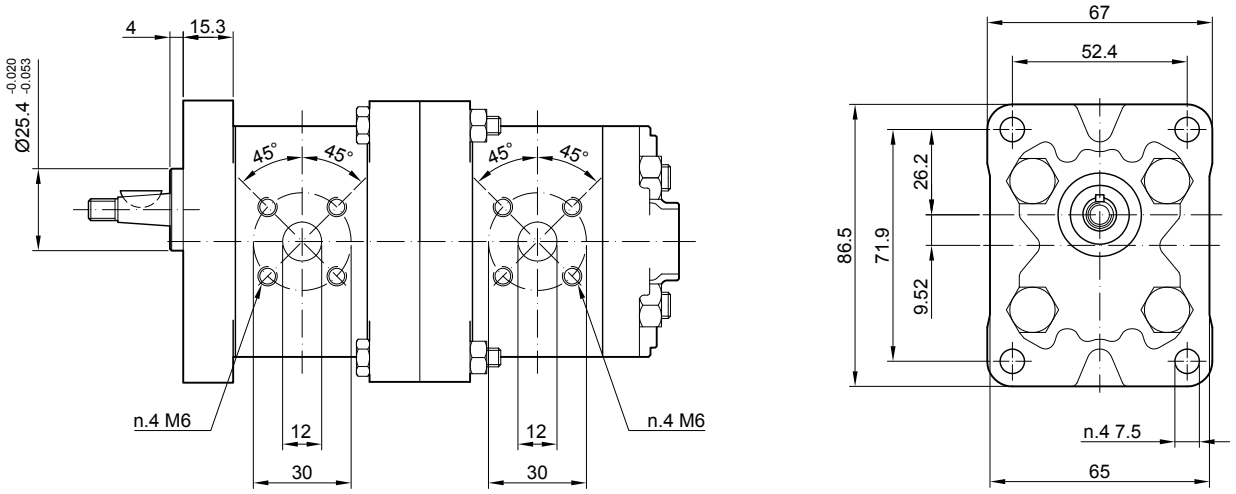
To mount the pump n.8 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

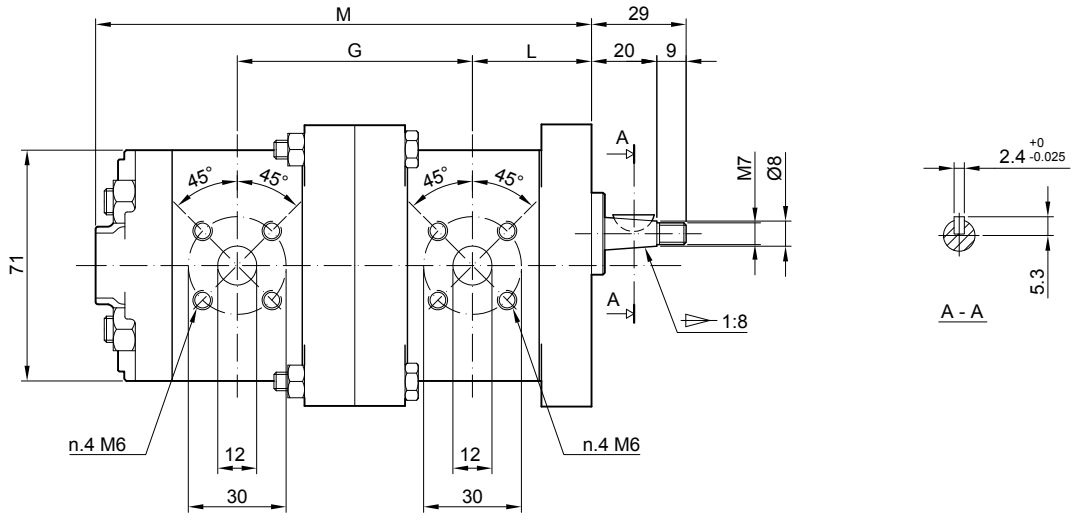
Filetto M7 su albero con coppia di serraggio 8 Nm

Shaft M7 nut, with a torque wrench setting fixed at 8 Nm



MANDATA
OUTLET





ASPIRAZIONE
INLET

Tipo *Type*	Cilindrata 1° *Displacement 1st*	Cilindrata 2° *Displacement 2nd*	Portata 1° elemento *Flow 1st Section* *(1500rpm)*	Portata 2° elemento *Flow 2nd Section* *(1500rpm)*	Dimensioni *Dimensions* G	L	M
	cm^3/giro *(cm^3/rev)*	cm^3/giro *(cm^3/rev)*	litri/min *(litres/min)*	bar	mm	mm	
11VP D 1.1 + 1.1	1.1	1.1	1.6	1.6	68.1	34	143.1
11VP D 1.3 + 1.1	1.3	1.1	2.0	1.6	68.6	34.5	144.1
11VP D 1.3 + 1.3	1.3	1.3	2.0	2.0	69.1	34.5	145.1
11VP D 1.6 + 1.1	1.6	1.1	2.4	1.6	69.1	35	145.1
11VP D 1.6 + 1.3	1.6	1.3	2.4	2.0	69.6	35	146.1
11VP D 1.6 + 1.6	1.6	1.6	2.4	2.4	70.1	35	147.1
11VP D 2.1 + 1.1	2.1	1.1	3.2	1.6	70.1	36	147.1
11VP D 2.1 + 1.3	2.1	1.3	3.2	2.0	70.6	36	148.1
11VP D 2.1 + 1.6	2.1	1.6	3.2	2.4	71.1	36	149.1
11VP D 2.1 + 2.1	2.1	2.1	3.2	3.2	72.1	36	151.1
11VP D 2.7 + 1.1	2.7	1.1	4.0	1.6	71.1	37	149.1
11VP D 2.7 + 1.3	2.7	1.3	4.0	2.0	71.6	37	150.1
11VP D 2.7 + 1.6	2.7	1.6	4.0	2.4	72.1	37	151.1
11VP D 2.7 + 2.1	2.7	2.1	4.0	3.2	73.1	37	153.1
11VP D 2.7 + 2.7	2.7	2.7	4.0	4.0	74.1	37	155.1
11VP D 3.2 + 1.1	3.2	1.1	4.8	1.6	72.1	38	151.1
11VP D 3.2 + 1.3	3.2	1.3	4.8	2.0	72.6	38	152.1
11VP D 3.2 + 1.6	3.2	1.6	4.8	2.4	73.1	38	153.1
11VP D 3.2 + 2.1	3.2	2.1	4.8	3.2	74.1	38	155.1
11VP D 3.2 + 2.7	3.2	2.7	4.8	4.0	75.1	38	157.1
11VP D 3.2 + 3.2	3.2	3.2	4.8	4.8	76.1	38	159.1
11VP D 3.7 + 1.1	3.7	1.1	5.6	1.6	73.1	39	153.1
11VP D 3.7 + 1.3	3.7	1.3	5.6	2.0	73.6	39	154.1
11VP D 3.7 + 1.6	3.7	1.6	5.6	2.4	74.1	39	155.1
11VP D 3.7 + 2.1	3.7	2.1	5.6	3.2	75.1	39	157.1
11VP D 3.7 + 2.7	3.7	2.7	5.6	4.0	76.1	39	159.1
11VP D 3.7 + 3.2	3.7	3.2	5.6	4.8	77.1	39	161.1
11VP D 3.7 + 3.7	3.7	3.7	5.6	5.6	78.1	39	163.1
11VP D 4.2 + 1.1	4.2	1.1	6.4	1.6	74.1	40	155.1
11VP D 4.2 + 1.3	4.2	1.3	6.4	2.0	74.6	40	156.1
11VP D 4.2 + 1.6	4.2	1.6	6.4	2.4	75.1	40	157.1
11VP D 4.2 + 2.1	4.2	2.1	6.4	3.2	76.1	40	159.1
11VP D 4.2 + 2.7	4.2	2.7	6.4	4.0	77.1	40	161.1
11VP D 4.2 + 3.2	4.2	3.2	6.4	4.8	78.1	40	163.1
11VP D 4.2 + 3.7	4.2	3.7	6.4	5.6	79.1	40	165.1
11VP D 4.2 + 4.2	4.2	4.2	6.4	6.4	80.1	40	167.1
11VP D 4.8 + 1.1	4.8	1.1	7.2	1.6	75.1	41	157.1
11VP D 4.8 + 1.3	4.8	1.3	7.2	2.0	75.6	41	158.1
11VP D 4.8 + 1.6	4.8	1.6	7.2	2.4	76.1	41	159.1
11VP D 4.8 + 2.1	4.8	2.1	7.2	3.2	77.1	41	161.1
11VP D 4.8 + 2.7	4.8	2.7	7.2	4.0	78.1	41	163.1
11VP D 4.8 + 3.2	4.8	3.2	7.2	4.8	79.1	41	165.1
11VP D 4.8 + 3.7	4.8	3.7	7.2	5.6	80.1	41	167.1
11VP D 4.8 + 4.2	4.8	4.2	7.2	6.4	81.1	41	169.1
11VP D 4.8 + 4.8	4.8	4.8	7.2	7.2	82.1	41	171.1
11VP D 5.8 + 1.1	5.8	1.1	8.7	1.6	77.1	43	161.1
11VP D 5.8 + 1.3	5.8	1.3	8.7	2.0	77.6	43	162.1
11VP D 5.8 + 1.6	5.8	1.6	8.7	2.4	78.1	43	163.1
11VP D 5.8 + 2.1	5.8	2.1	8.7	3.2	79.1	43	165.1
11VP D 5.8 + 2.7	5.8	2.7	8.7	4.0	80.1	43	167.1
11VP D 5.8 + 3.2	5.8	3.2	8.7	4.8	81.1	43	169.1
11VP D 5.8 + 3.7	5.8	3.7	8.7	5.6	82.1	43	171.1
11VP D 5.8 + 4.2	5.8	4.2	8.7	6.4	83.1	43	173.1
11VP D 5.8 + 4.8	5.8	4.8	8.7	7.2	84.1	43	175.1
11VP D 5.8 + 5.8	5.8	5.8	8.7	8.7	86.1	43	179.1
11VP D 8.0 + 1.1	8.0	1.1	11.9	1.6	81.1	47	169.1
11VP D 8.0 + 1.3	8.0	1.3	11.9	2.0	81.6	47	170.1
11VP D 8.0 + 1.6	8.0	1.6	11.9	2.4	82.1	47	171.1
11VP D 8.0 + 2.1	8.0	2.1	11.9	3.2	83.1	47	173.1
11VP D 8.0 + 2.7	8.0	2.7	11.9	4.0	84.1	47	175.1
11VP D 8.0 + 3.2	8.0	3.2	11.9	4.8	85.1	47	177.1
11VP D 8.0 + 3.7	8.0	3.7	11.9	5.6	86.1	47	179.1
11VP D 8.0 + 4.2	8.0	4.2	11.9	6.4	87.1	47	181.1
11VP D 8.0 + 4.8	8.0	4.8	11.9	7.2	88.1	47	183.1
11VP D 8.0 + 5.8	8.0	5.8	11.9	8.7	90.1	47	187.1
11VP D 8.0 + 8.0	8.0	8.0	11.9	11.9	94.1	47	195.1

POMPE 11VP DOPPIE

DOUBLE 11VP PUMP

Le pompe del gruppo 1 VP sono presenti anche in versione pompa doppia.
Per altre tipologie di configurazioni non esplicitamente indicate (flange, alberi, ecc.), si consiglia di consultare il nostro Ufficio Tecnico-Commerciale.

1VP pumps are available in double version, too.
Please contact our Sales-Technical Dept. for further details on specific configurations not explicitly indicated (flanges, shafts and so on).

Per un corretto impiego delle pompe doppie gruppo 1 VP, è necessario considerare le seguenti avvertenze:

- Verificare che l'assorbimento di potenza dell'elemento anteriore sia sempre maggiore o uguale a quello dell'elemento posteriore.
- Le prestazioni e le caratteristiche di ogni elemento sono le stesse delle corrispondenti pompe singole.
- La massima velocità di rotazione della pompa doppia viene determinata dalla più bassa tra le velocità di rotazione massime di ciascuno dei due elementi.
- Le pressioni di esercizio vengono limitate dai valori di massime coppie trasmissibili dall'albero del primo elemento e dall'albero che collega i due elementi tra loro.
- La coppia trasmessa dall'albero del primo elemento è data dalla somma delle coppie trasmesse da ognuno dei singoli elementi.

For proper operation of 1VP double pumps, you shall comply with the following instructions:

- *Check that power absorption of the front element is equal or higher than the rear element.*
- *Element performance and features are the same as the elements of the corresponding single pumps.*
- *Double pump max. rotation speed is determined by the lowest speed among max. rotation speeds of every single element.*
- *Operating pressures are limited by the max. torque transmissible by the shaft of the first element and by the shaft connecting the two elements one to the other.*
- *The torque transmitted by the shaft of the first element is the sum of the torques transmitted by each single element.*

La coppia o momento torcente di ogni singolo elemento può essere determinato nel seguente modo:

The torque of every single element can be determined with the following formula.

Momento torcente assorbita da una pompa
Per determinare il momento torcente (**M**) necessario per il funzionamento di una pompa sottoposta ad un differenziale di pressione fra mandata ed aspirazione:

Absorbed torque
*Calculate necessary torque (**M**) of a pump subject to pressure differential between inlet and outlet as follows:*

$$\mathbf{M} = (V \cdot \Delta p) / (62.8 \cdot \eta hm) \text{ [Nm]}$$

$$\boldsymbol{M} = (V \cdot \Delta p) / (62.8 \cdot \eta hm) \text{ [Nm]}$$

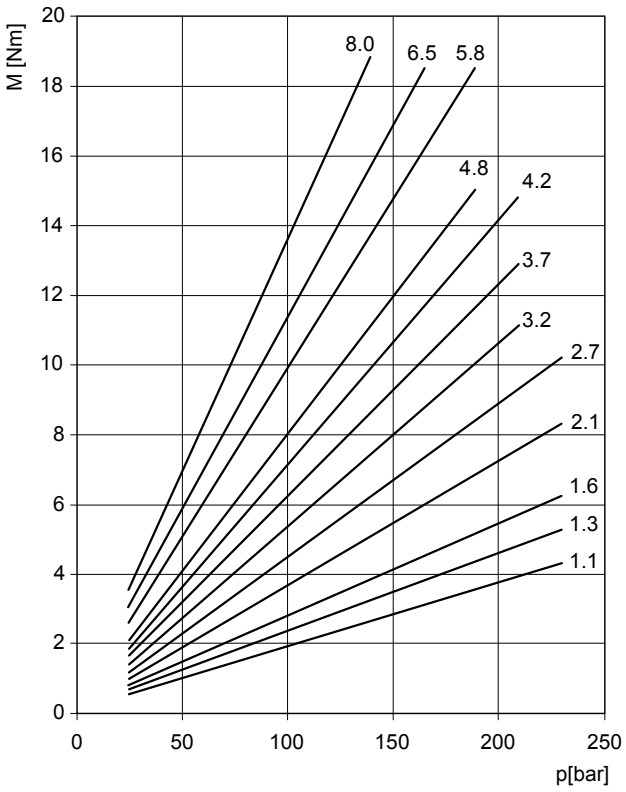
V = cilindrata [cm³ / giro]
Δp = differenziale di pressione [bar]
ηhm = rendimento idromeccanico (considerare come valore indicativo 0,80 per funzionamento a freddo e 0,85 per funzionamento a regime).

***V** = displacement [cm ³ / rotation]*
Δp = pressure differential [bar]
ηhm = hydromechanical efficiency (take 0,80 as indicative value under cold conditions and 0,85 under working conditions).

POMPE 11VP DOPPIE

DOUBLE 11VP PUMP

1VP



Coppia assorbita dall'albero di trascinamento
Per effetuare una corretta verifica degli alberi e delle massime coppie applicabili ad essi, si propone un semplice esempio.

Verifica albero primario
Supponiamo di dover impiegare una pompa doppia tipo 1VP D 5.8 + 1VP D 2.7 rispettivamente alla pressione massima di 150 bar e 100 bar. Intersecando i valori di pressione con le rispettive taglie sul grafico a lato, abbiamo i seguenti risultati: l'elemento 1VP D 5.8 assorbe 14.8Nm e l'elemento 1VP D 2.7 assorbe 4.5Nm.
Risulta pertanto che la coppia applicata all'albero del primo elemento sarà data dalla somma delle coppie assorbite dalle due pompe:

14.8 + 4.5 = 19.3Nm

Tale valore non deve mai superare il valore limite ammesso per quel tipo di albero (nel nostro caso il valore massimo è 26.3Nm)

Verifica albero secondario
Nel nostro esempio la coppia applicata all'albero del secondo elemento (pari a 4.2Nm) risulta accettabile in quanto non viene superato il valore limite ammesso per quel tipo di albero (nel nostro caso il valore massimo è 21.5Nm)

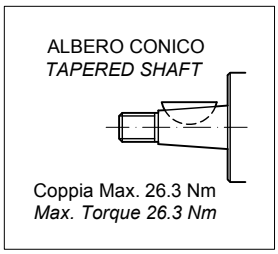
Driving shaft absorbed torque
For a proper check of the shafts and of the max. torques that they can bear, see the following example.

Primary shaft check
Let's say that we should use a double pump 1VP D 5.8 + 2.7 with max. pressure respectively of 150 bar and 100 bar.
By making pressure values correspond to the sizes in the table on the side, we shall obtain as a result the following: 1VP D 5.8 element can bear 4.5Nm.
You then have that the torque applied on the shaft of the first element will be the sum of the torques absorbed by the two pumps:

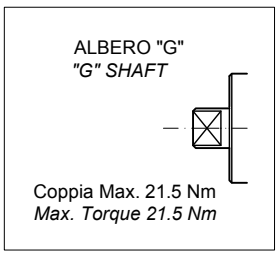
14.8 + 4.5 = 19.3Nm

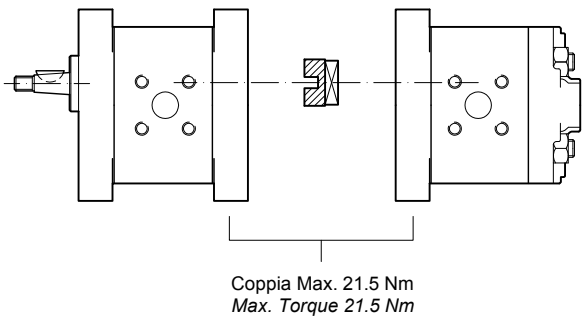
This value shall never go over the limit value allowed for that type of shaft (in this case, max. value would be 26.3Nm).

Secondary shaft check
In our example the torque applied to the shaft of the second element (4.2Nm) is allowed because it does not exceed the limit for that type of shaft (in this case, max. value would be 21.5Nm).



Bloccaggio giunto: n. 1 dado M7, coppia di serraggio 12 Nm.
To block the coupling: n. 1 M7 nut, with a torque wrench setting fixed at 12 Nm.





INFORMAZIONI TECNICHE

TECHNICAL INFORMATION

POMPE MULITIPLE HIGH-LOW

La pompa High-Low 11VP-HL è la pompa ideale per applicazioni che richiedono un avanzamento e/o ritorno veloce dell'attuatore con bassi carichi ed un moto lento dell'attuatore con carichi elevati. Rispetto alle pompe tradizionali questo modello offre il grande vantaggio di poter ottimizzare il consumo di potenza.
La pompa High-Low 11VP-HL è uno speciale tipo di pompa con valvole integrate (come mostrato nel circuito idraulico) ed è stata specificatamente sviluppata per applicazioni quali piccoli compattatori di rifiuti, spaccalegna, sistemi di bloccaggio, macchine per crimpaggio etc.

HIGH-LOW MULTIPLE PUMPS

11 VP-HL High-Low hydraulic gear pumps is the very ideal pump for applications which require a quick approach and / or return at the actuator at low loads and slow motion of the actuator at high loads. In particular this model offers the advantage of requiring lower power of the motor.
11 VP-HL High-Low hydraulic gears pump is a special double stage pump with special integrated valves (as shown in the hydraulic diagram) has been specially designed for applications such as small trash compactors, log splitters, clamping mechanisms, crimping machines, metal forming machines etc.

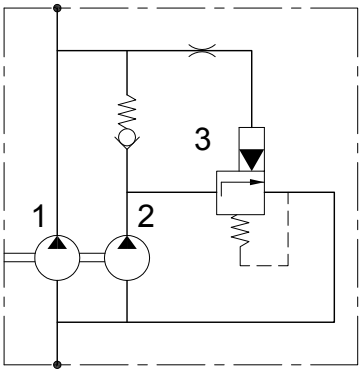
SPECIFICHE TECNICHE

TECHNICAL FEATURES

Primo stadio Bassa portata alta pressione *First stage Low displacement high pressure*	Da 1,1 cm³ / giro a 3,2 cm³ / giro - P1 = 230 bar *From 1,1 cm³ / rev to 3,2 cm³ / rev P1 = 230 bar*
Secondo stadio Alta portata bassa pressione *Second stage High displacement low pressure*	Da 3,7 cm³ / giro a 12 cm³ / giro - (Pressione imposta dalla valvola disgiuntrice) *From 3,7 cm³ / rev to12 cm³ / rev - (Pressure set by unloading valve)*
Valvola disgiuntrice *Unloading valve*	Regolazione standard 35 bar *Standard setting 35 bar*
Velocità di rotazione *RPM pump range*	Da 1.000 giri / min a 3.500 giri / min. *From 1.000 rpm to 3.500 rpm*
Bocche *Ports*	Aspirazione unica. Mandata unica. Bocche laterali tipo L5 *Common inlet. Common outlet. Side ports code L5*
Flange ed alberi *Flanges and shafts*	Modelli 1 VP; *As 1VP;*

Per condizione di funzionamento diverse da quelle indicate prego contattare il nostro Ufficio Tecnico / Commerciale.

For systems operating condition other than indicated please contact our Technical / Commercial Dept.



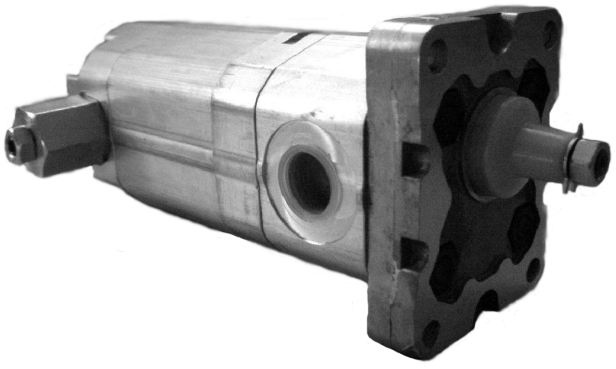
1. Primo stadio alta pressione
   First stage high pressure

2. Secondo stadio bassa pressione
   Second stage low pressure

3. Valvola disgiuntrice
   Unloading valve

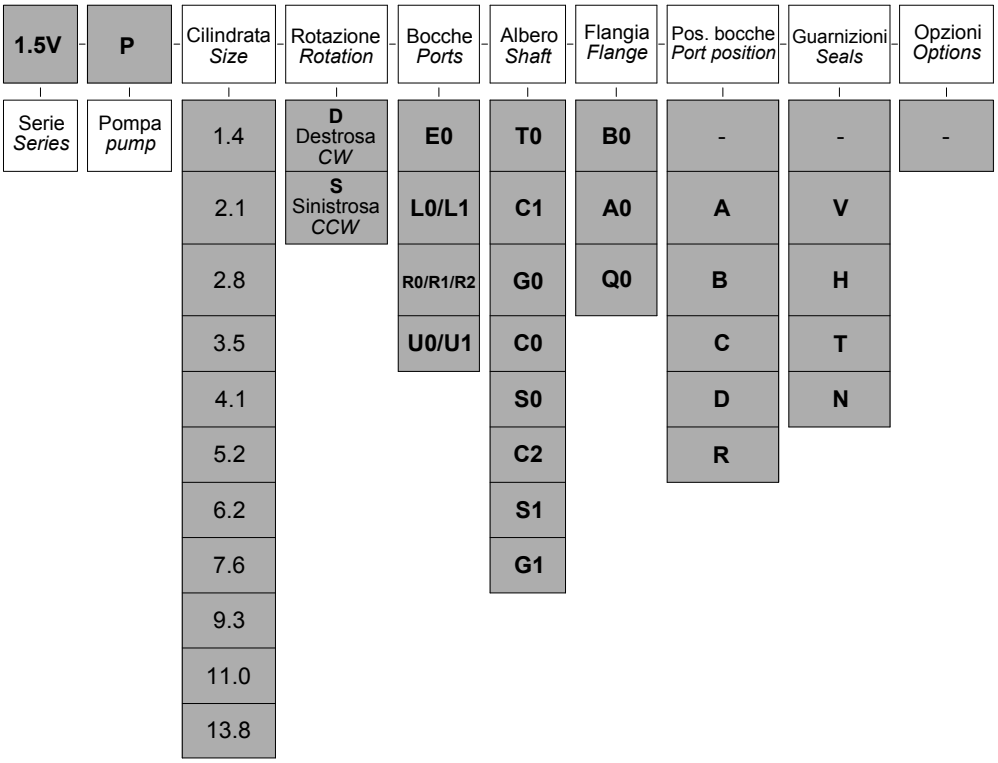
SCHEMA IDRAULICO
Pompa doppia stadio a cilindrata fissa mono direzionale con integrato sistema high-low.

HYDRAULIC CIRCUIT
Double stage fixed displacement single rotation with integrated high-low system.



SERIE 1.5VP - *1.5VP SERIES*

COME ORDINARE - *HOW TO ORDER*



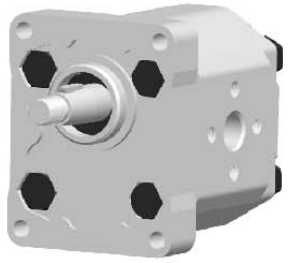
Posizione bocche - *Port position*

-	Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
A	Aspirazione frontale - Mandata frontale / *front Inlet - front Outlet*
B	Aspirazione posteriore - Mandata frontale / *back Inlet - front Outlet*
C	Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
D	Aspirazione laterale - Mandata frontale / *side Inlet - front Outlet*
R	Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

-	Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V	Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H	Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T	Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N	Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

1.5VP..D - E0 T0 B0



Filetti bocche M6x13 mm

Ports thread M6x13 mm

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

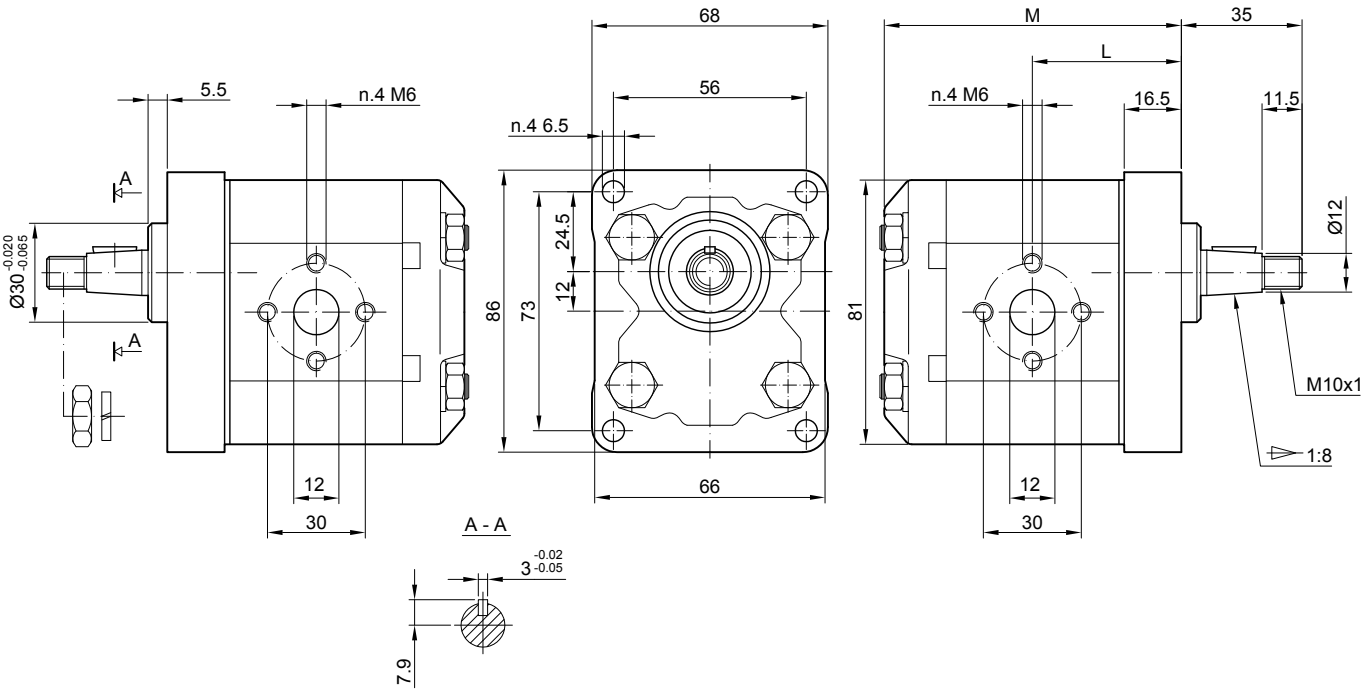
To mount the pump n.4 x M8 screws with a torque wrench settings fixed at 27 ± 3 Nm

Filetto M10 su albero con coppia di serraggio 40 Nm

Shaft M10 nut, with a torque wrench settings fixed at 40 Nm

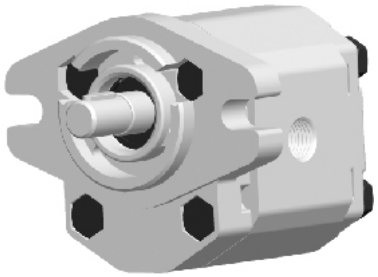
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
1.5VP 1.4 D	1.4	250	270	290	6000	800	80.5	40
1.5VP 2.1 D	2.1	250	270	290	6000	800	82.5	41
1.5VP 2.8 D	2.8	250	270	290	5000	800	84.5	42
1.5VP 3.5 D	3.5	250	270	290	5000	800	86.5	43
1.5VP 4.1 D	4.1	250	270	290	4000	800	88.5	44
1.5VP 5.2 D	5.2	230	245	260	4000	800	91.5	45.5
1.5VP 6.2 D	6.2	230	245	260	3800	800	94.5	47
1.5VP 7.6 D	7.6	200	215	230	3200	600	98.5	49
1.5VP 9.3 D	9.3	180	195	210	2600	600	103.5	51.5
1.5VP 11 D	11.0	170	185	200	2200	600	108.5	54
1.5VP 13.8 D	13.8	150	165	180	1800	600	116.5	58

1.5VP..D - R. C0 A0



Bocche di aspirazione e mandata filettate SAE coniche.

Inlet and outlet port SAE taper threaded

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

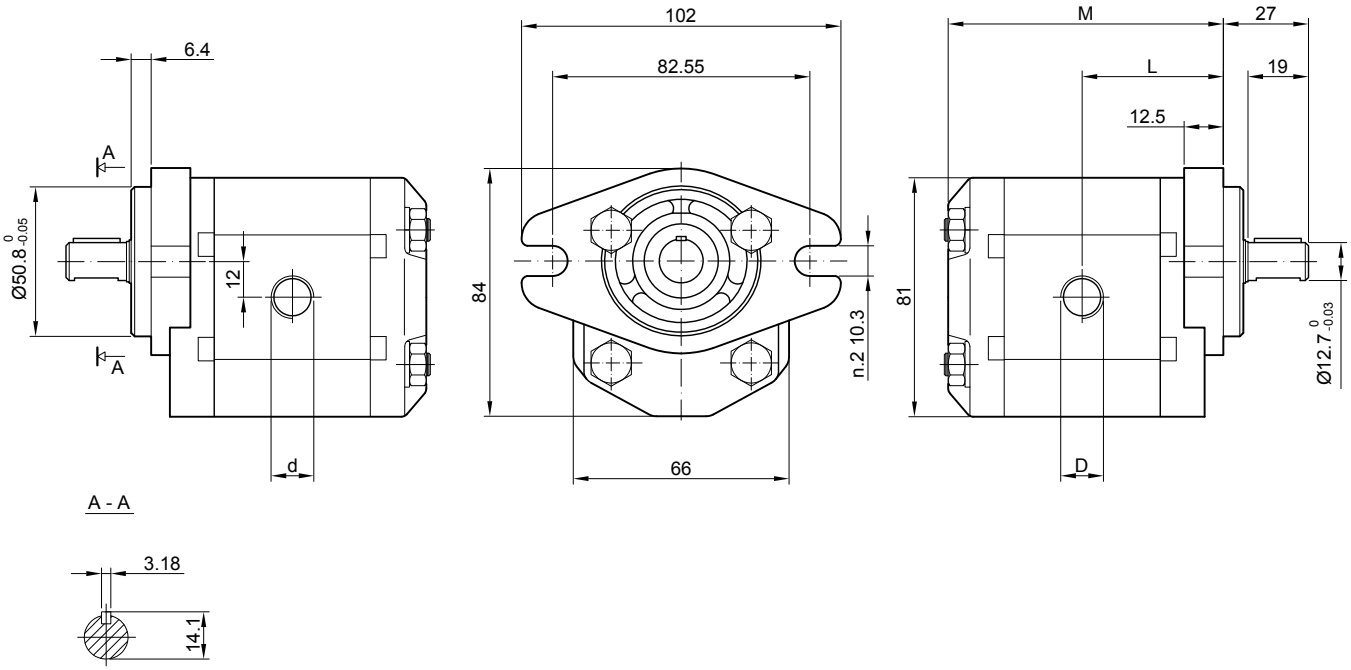
To mount the pump n.4 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

Flangia SAE A-A (J744c)

Mounting flange SAE A-A (J744c)

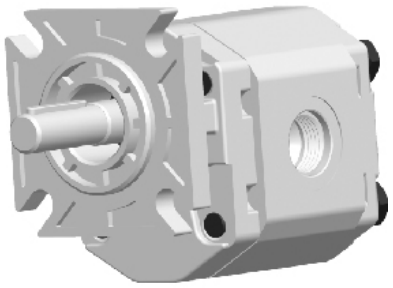
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni Dimensions			
		P1	P2	P3			M	L	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm		
1.5VP 1.4 D	1.4	250	270	290	6000	800	82.5	42	PT1/2	PT3/8
1.5VP 2.1 D	2.1	250	270	290	6000	800	82.5	43	PT1/2	PT3/8
1.5VP 2.8 D	2.8	250	270	290	5000	800	86.5	44	PT1/2	PT3/8
1.5VP 3.5 D	3.5	250	270	290	5000	800	88.5	45	PT1/2	PT3/8
1.5VP 4.1 D	4.1	250	270	290	4000	800	90.5	46	PT1/2	PT3/8
1.5VP 5.2 D	5.2	230	245	260	4000	800	93.5	47.5	PT1/2	PT3/8
1.5VP 6.2 D	6.2	230	245	260	3500	800	96.5	49	PT1/2	PT3/8
1.5VP 7.6 D	7.6	200	215	230	3000	600	100.5	51	PT3/4	PT1/2
1.5VP 9.3 D	9.3	180	195	210	2500	600	105.5	53.5	PT3/4	PT1/2
1.5VP 11 D	11.0	170	185	200	2500	600	110.5	56	PT3/4	PT1/2
1.5VP 13.8 D	13.8	150	165	180	2000	600	118.5	60	PT3/4	PT1/2

1.5VP..D - U. C2 Q0



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J1926/1)

Inlet and outlet port SAE threaded with O-ring seal (SAE J1926/1)

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

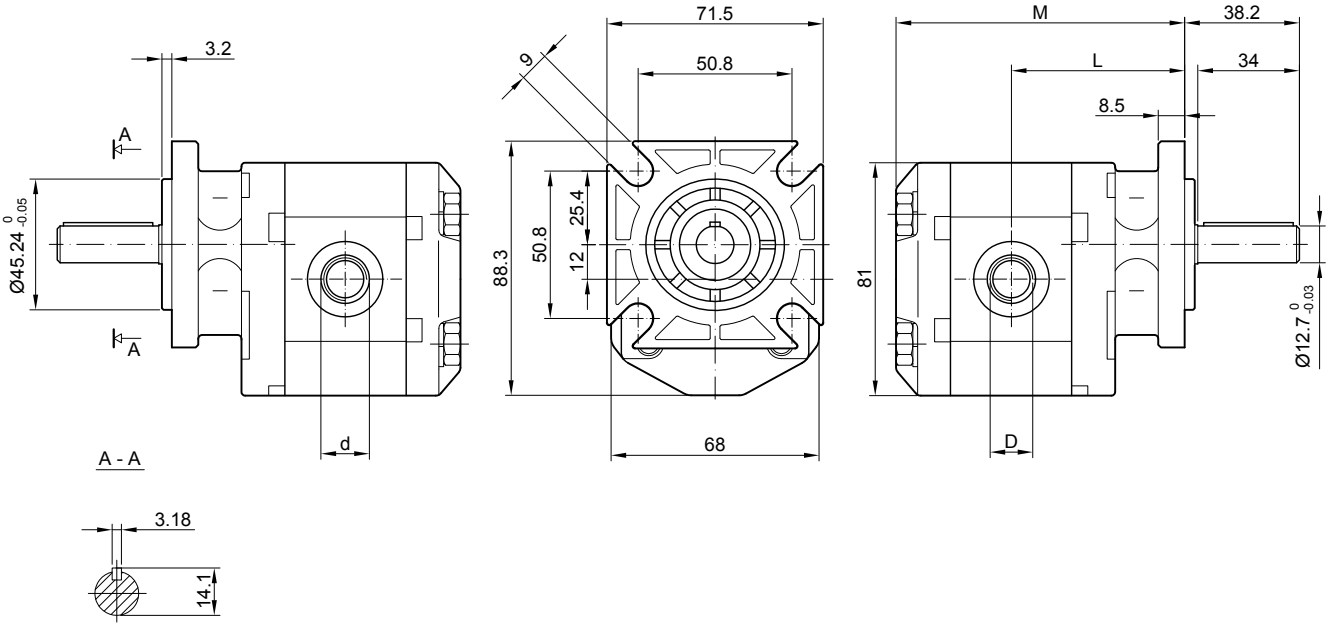
To mount the pump n.4 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

Flangia SAE A-A 4 fori

Mounting flange SAE A-A 4 holes

MANDATA
OUTLET

ASPIRAZIONE
INLET

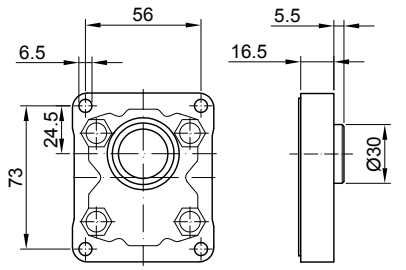


Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni Dimensions			
		P1	P2	P3			M	L	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm		
1.5VP 1.4 D	1.4	250	270	290	6000	800	98	59	3/4-16UNF	9/16-18UNF
1.5VP 2.1 D	2.1	250	270	290	6000	800	100	60	3/4-16UNF	9/16-18UNF
1.5VP 2.8 D	2.8	250	270	290	5000	800	102	61	3/4-16UNF	9/16-18UNF
1.5VP 3.5 D	3.5	250	270	290	5000	800	104	62	3/4-16UNF	9/16-18UNF
1.5VP 4.1 D	4.1	250	270	290	4000	800	106	63	3/4-16UNF	9/16-18UNF
1.5VP 5.2 D	5.2	230	245	260	4000	800	109	64.5	3/4-16UNF	9/16-18UNF
1.5VP 6.2 D	6.2	230	245	260	3500	800	112	66	3/4-16UNF	9/16-18UNF
1.5VP 7.6 D	7.6	200	215	230	3000	600	116	68	7/8-14UNF	3/4-16UNF
1.5VP 9.3 D	9.3	180	195	210	2500	600	121	70.5	7/8-14UNF	3/4-16UNF
1.5VP 11 D	11.0	170	185	200	2500	600	126	73	7/8-14UNF	3/4-16UNF
1.5VP 13.8 D	13.8	150	165	180	2000	600	134	77	7/8-14UNF	3/4-16UNF

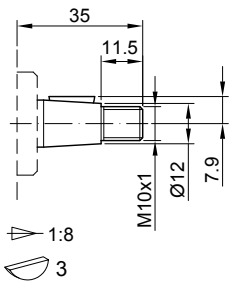
SERIE 1.5VP - *1.5VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

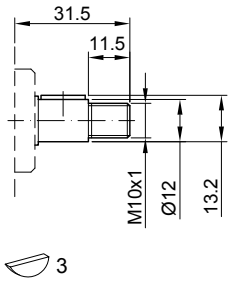


B0



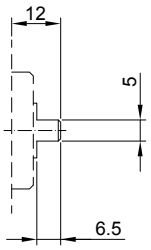
T0

Coppia max 100 Nm
Max. torque 100 Nm



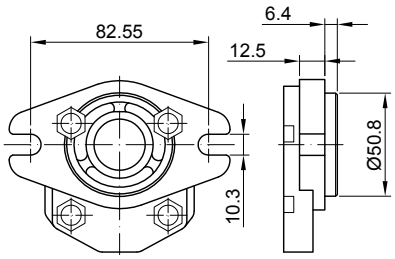
C1

Coppia max 55 Nm
Max. torque 55 Nm

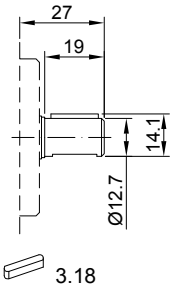


G0

Coppia max 45 Nm
Max. torque 45 Nm

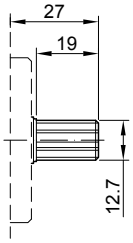


A0



C0

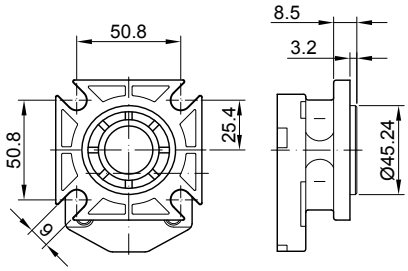
Coppia max 60 Nm
Max. torque 60 Nm



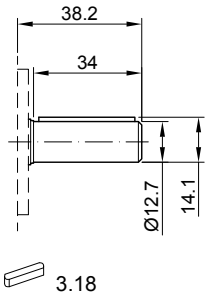
DP20/40-30° - 9T

S0

Coppia max 100 Nm
Max. torque 100 Nm

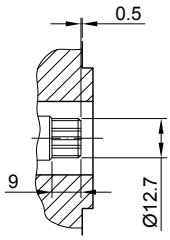


Q0



C2

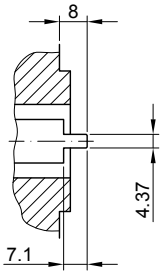
Coppia max 100 Nm
Max. torque 100 Nm



DP20/40-30° - 9T

S1

Coppia max 95 Nm
Max. torque 95 Nm

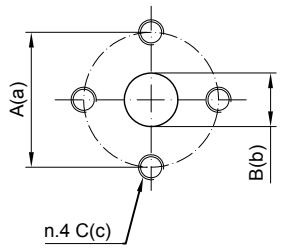


G1

Coppia max 45 Nm
Max. torque 45 Nm

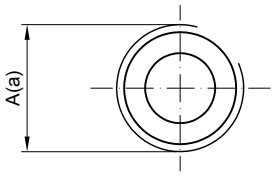
SERIE 1.5VP - *1.5VP SERIES*

BOCCHE / *PORTS*



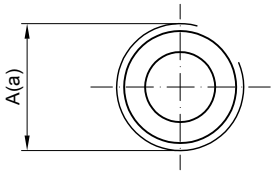
E0

Tipo *Type*	Aspirazione *Inlet*			Mandata *Outlet*		
	A	B	C	a	b	c
1.5VP 1.4 ÷ 13.8	30	13	M6	30	13	M6



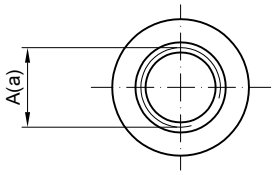
L0/L1

Tipo *Type*	Codice bocca *Port code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
1.5VP 1.4 ÷ 3.5	L0	G1/2	G3/8
1.5VP 4.1 ÷ 13.8	L1	G1/2	G1/2



R0/R1/R2

Tipo *Type*	Codice bocca *Port code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
1.5VP 1.4 ÷ 6.2	R0	PT1/2	PT3/8
1.5VP 7.6 ÷ 13.8	R1	PT3/4	PT1/2
1.5VP 1.4 ÷ 13.8	R2	PT1/2	PT1/2

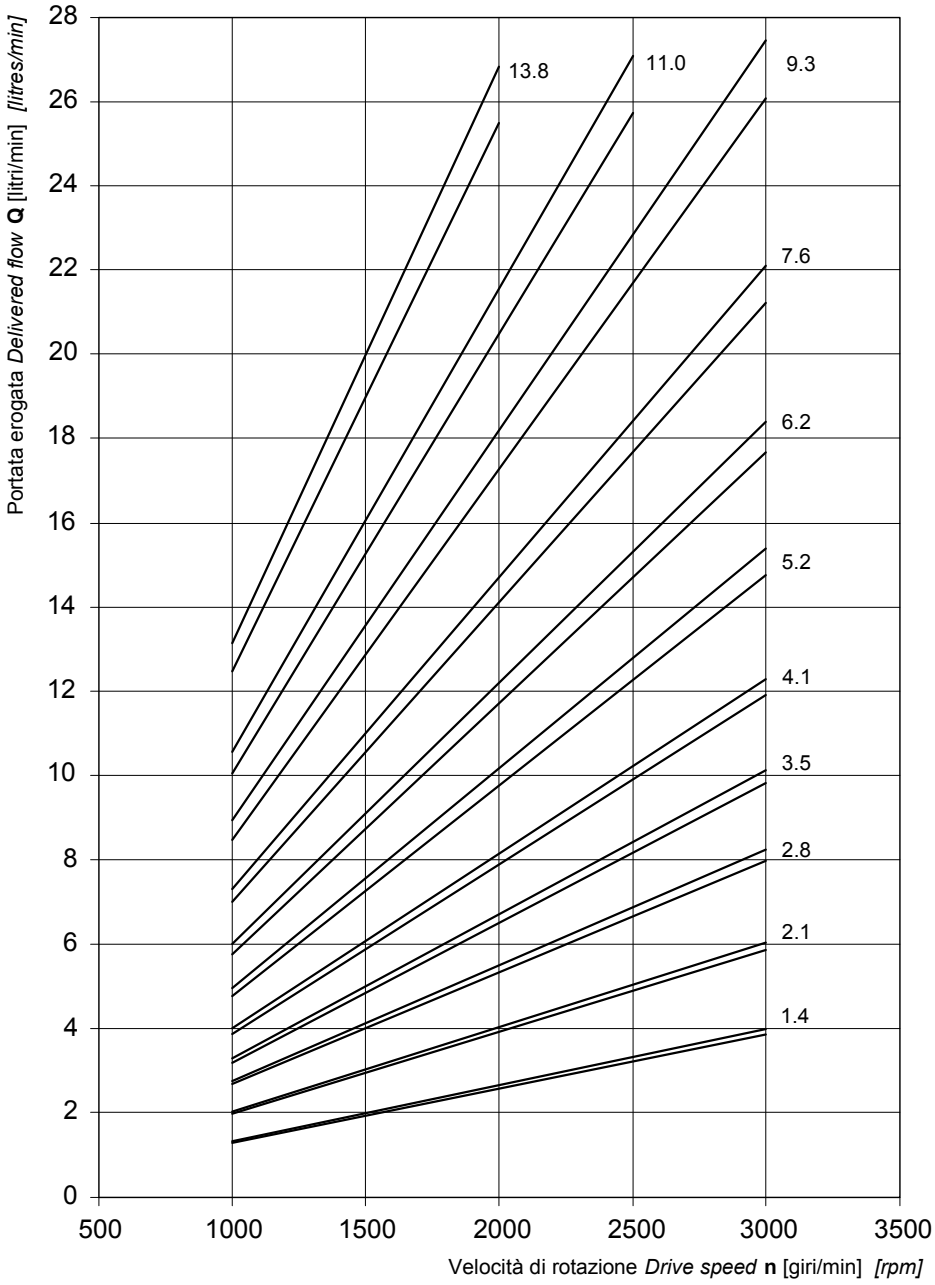


U0/U1

Tipo *Type*	Codice bocca *Port code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
1.5VP 1.4 ÷ 6.2	U0	3/4-16UNF	9/16-18UNF
1.5VP 7.6 ÷ 13.8	U1	7/8-14UNF	3/4-16UNF

SERIE 1.5VP - *1.5VP SERIES*

1.5VP CURVE CARATTERISTICHE / *1.5VP PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50 °C, using oil with viscosity 30 cSt at these pressure.

1.4
2.1
2.8
3.5 — 25-240 bar

4.1
5.2 — 25-230 bar

6.2 — 25-220 bar

7.6 — 25-180 bar

9.3 — 25-170 bar

11.0 — 25-150 bar

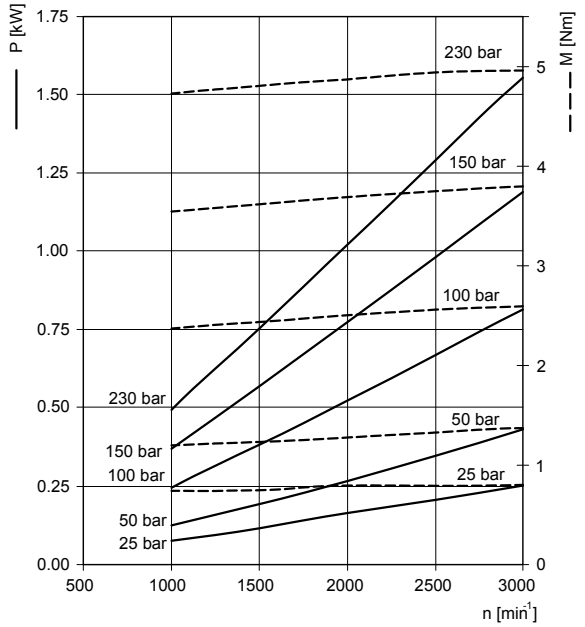
13.8 — 25-140 bar

SERIE 1.5VP - *1.5VP SERIES*

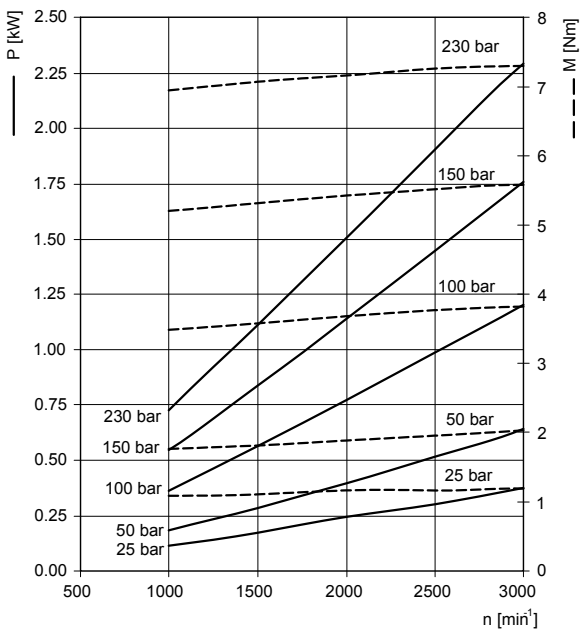
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

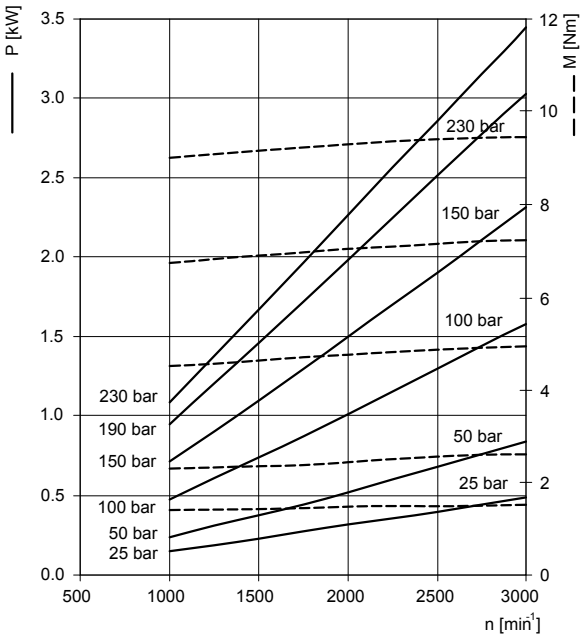
1.5VP 1.4



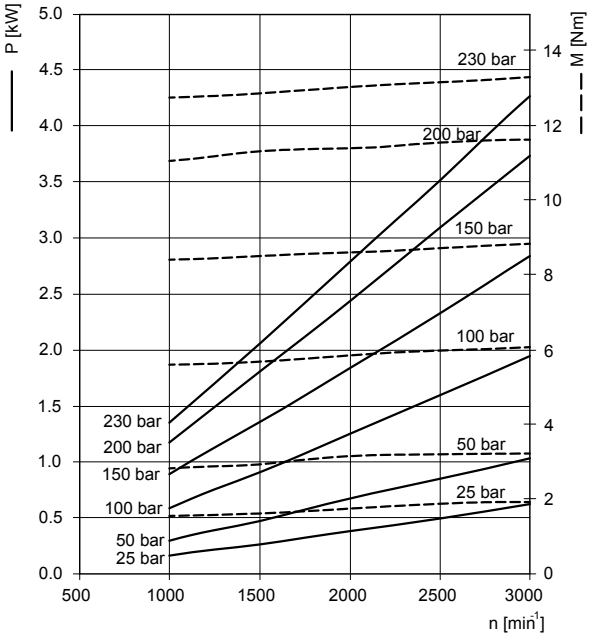
1.5VP 2.1



1.5VP 2.8



1.5VP 3.5

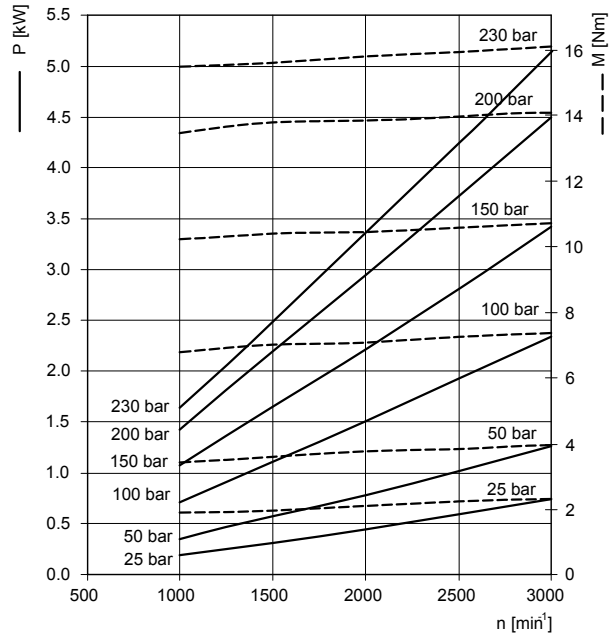


SERIE 1.5VP - *1.5VP SERIES*

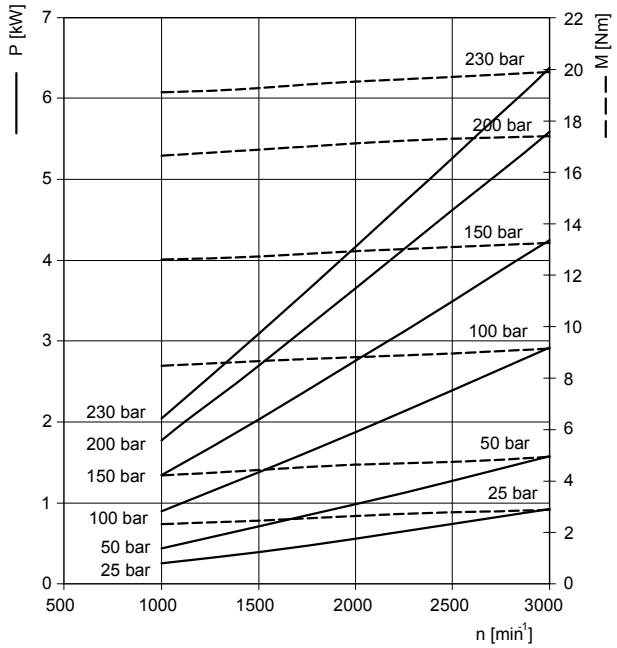
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

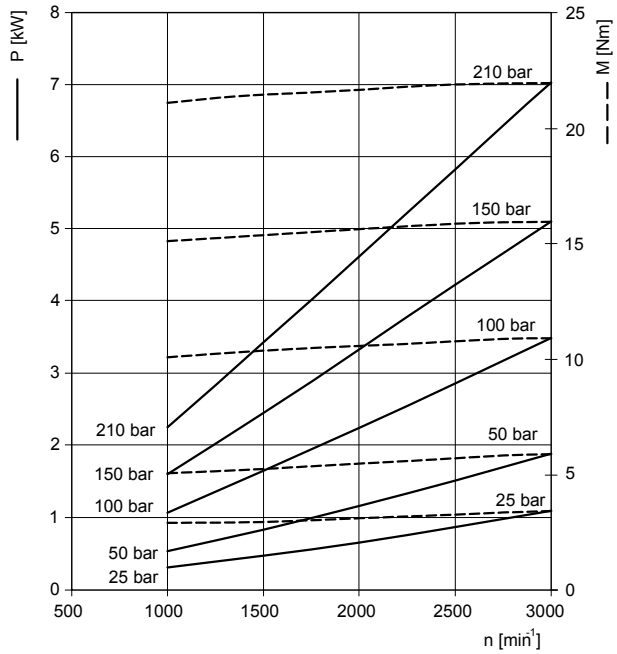
1.5VP 4.1



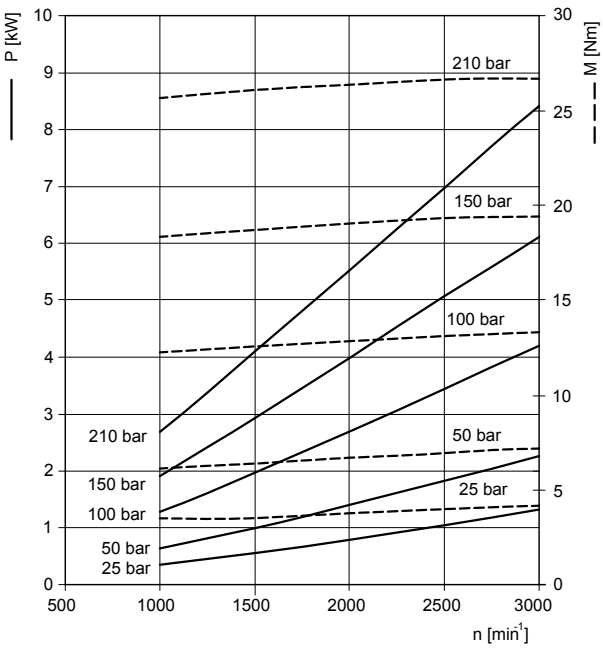
1.5VP 5.2



1.5VP 6.2



1.5VP 7.6

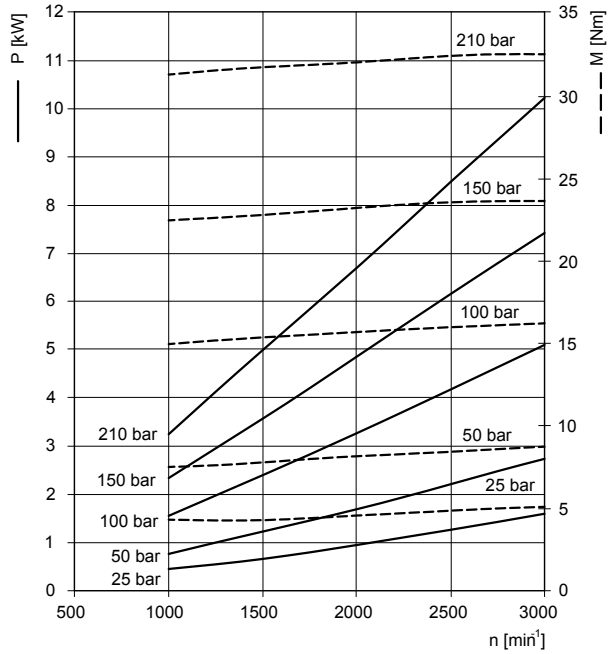


SERIE 1.5VP - *1.5VP SERIES*

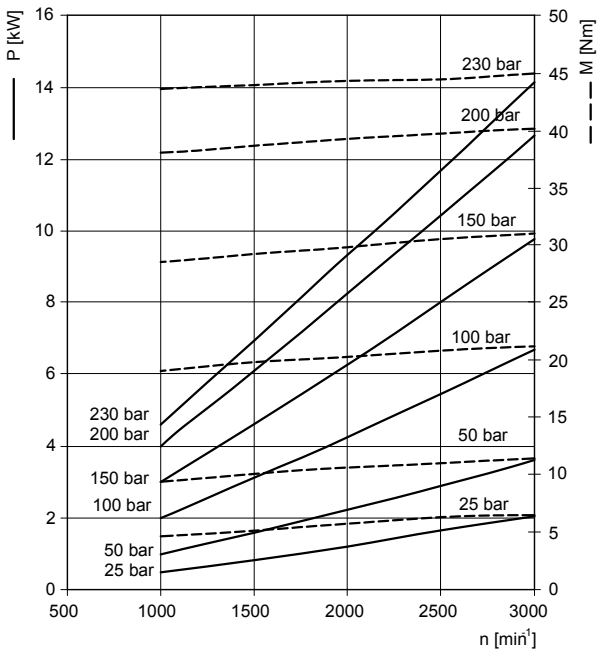
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

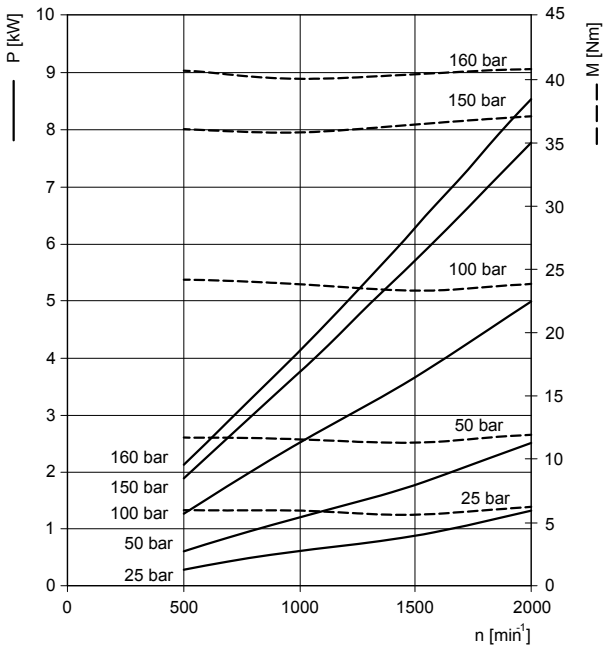
1.5VP 9.3



1.5VP 11.0

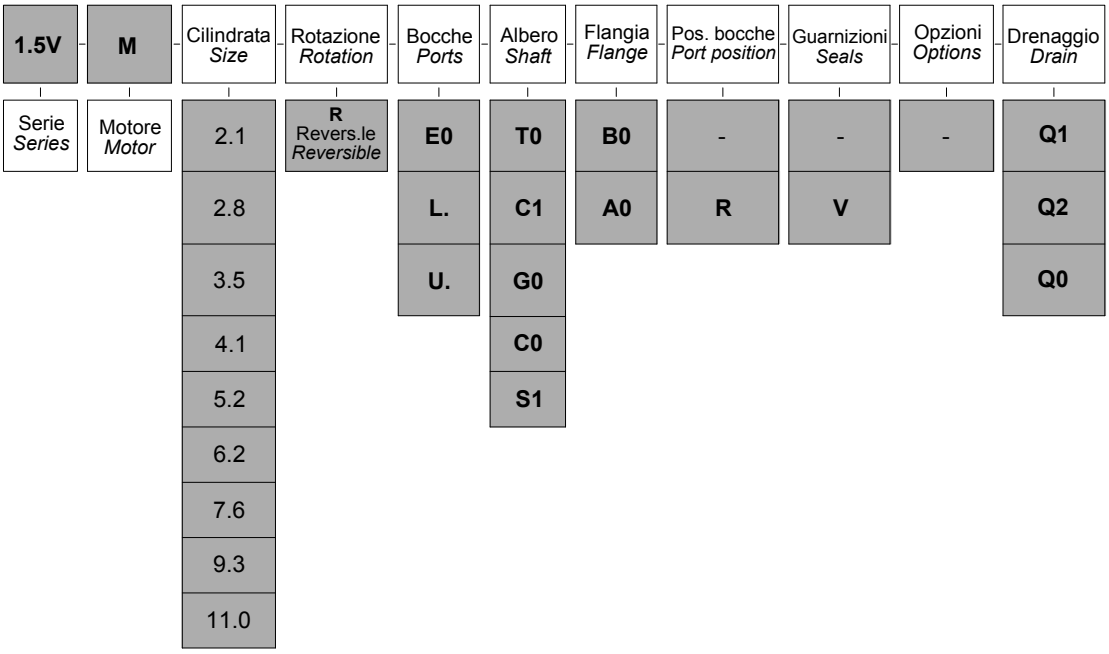


1.5VP 13.8



SERIE 1.5VMR - *1.5VMR SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Laterale / *Side*
R Posteriore / *Rear*

Guarnizioni - *Seals*

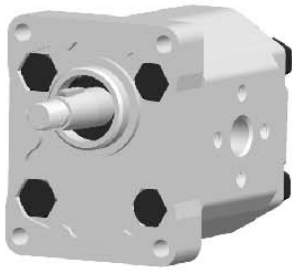
- Buna (-10°C + 80°C)
V Viton (-10°C + 120°C)

Opzioni - *Options*

Drenaggio - *Drain*

Q1 Drenaggio esterno / *External drain 1/4 BSPP*
Q2 Drenaggio esterno / *External drain 9/16 - 18 UNF*
Q0 Drenaggio interno / *Internal drain*

1.5VM..R - E0 T0 B0 Q1



Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

To mount the pump, n.4 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

Filetti bocche M6 x 13 mm

M6 threads depth 13mm

Drenaggio G1/4 profondità utile 12 mm

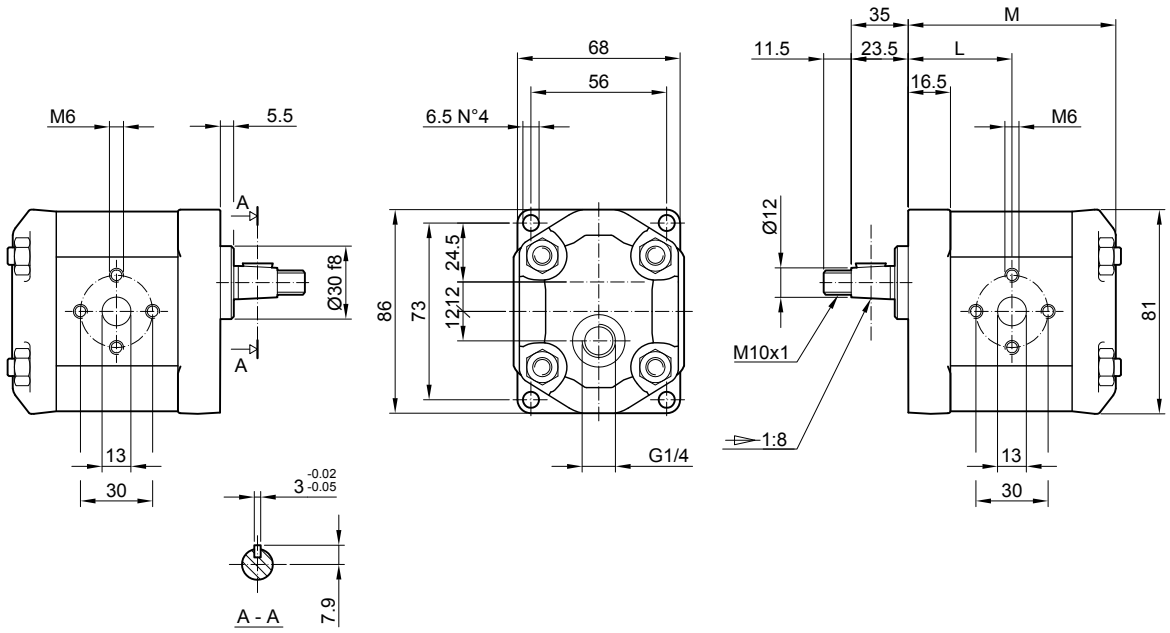
G1/4 drain port thread depth 12 mm

Filetto M10 su albero con coppia di serraggio 40 Nm

Shaft M10 nut, with a torque wrench settings fixed at 40 Nm

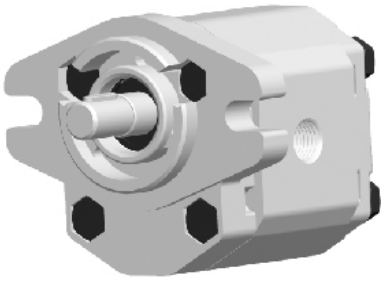
ASPIRAZIONE
INLET

MANDATA
OUTLET



Tipo *Type*	Cilindrata *Displacement*	Velocità minima *Min. speed*	Pressioni massime *Max pressure*			Velocità Massima *Max speed*	Dimensioni *Dimensions*	
			Pe	Pc	Pp		L	M
	cm^3/giro (cm^3/rev)	giri/min (rpm)	bar	bar	bar	giri/min (rpm)	mm	mm
1VM 2.8 R	2.8	800	250	240	270	5000	42	84,5
1VM 3.5 R	3.5	800	250	240	270	5000	43	86,5
1VM 4.1 R	4.1	800	250	240	270	4000	44	88,5
1VM 5.2 R	5.2	800	230	220	245	4000	45,5	91,5
1VM 6.2 R	6.2	800	230	220	245	3800	47	94,5
1VM 7.6 R	7.6	600	200	190	215	3200	49	98,5
1VM 9.3 R	9.3	600	180	170	195	2600	51,5	103,5
1VM 11 R	11	600	170	160	185	2200	54	108,5

1.5VM..R - U. C0 A0 Q2



Bocche di aspirazione e mandata filettate SAE

Inlet and outlet port SAE threaded

Assemblaggio con 4 tiranti da M8 coppia di serraggio 27 ± 3 Nm

To mount the pump, n.4xM8 screws, with a torque wrench settings fixed at 27±3 Nm

Flangia SAE A-A (J744c)

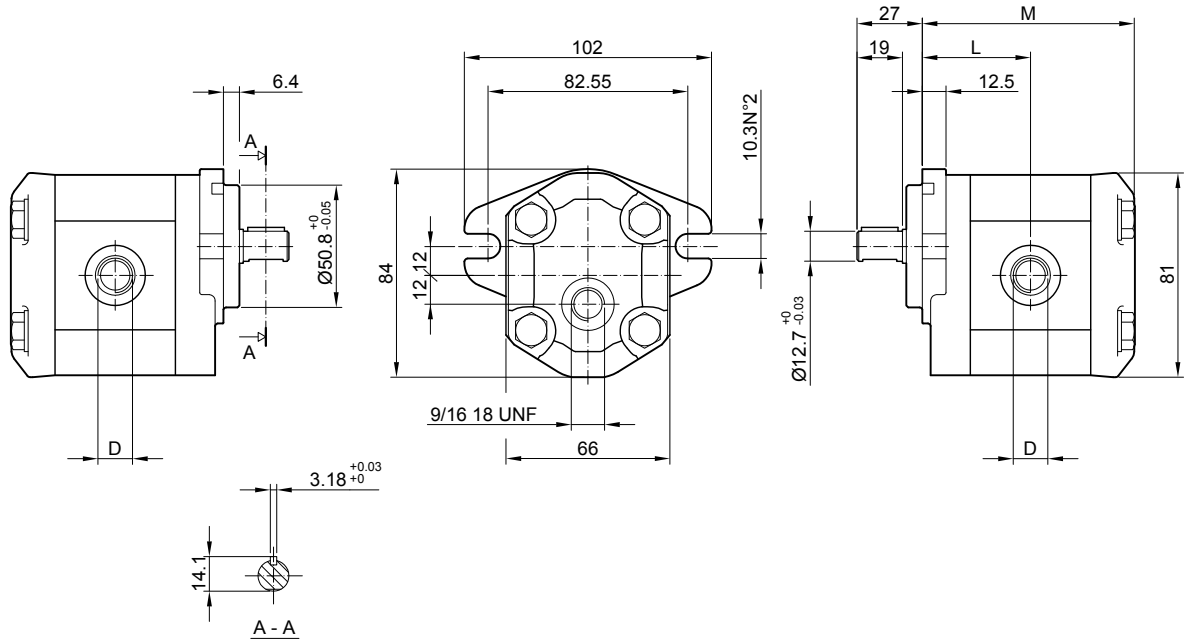
Mounting flange SAE A-A (J744c)

Drenaggio 9/16 - 18 UNF profondità utile 12 mm

9/16 - 18 UNF drain port thread depth 12 mm

ASPIRAZIONE
INLET

MANDATA
OUTLET

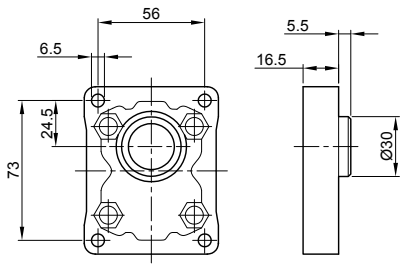


Tipo *Type*	Cilindrata *Displacement*	Velocità minima *Min. speed*	Pressioni massime *Max pressure*			Velocità Massima *Max speed*	Dimensioni *Dimensions*		
			Pe	Pc	Pp		L	M	D
	cm^3/giro (cm^3/rev)	giri/min (rpm)	bar	bar	bar	giri/min (rpm)	mm	mm	
1VM 2.8 R	2,8	800	250	240	270	5000	44	86,5	9/16 - 18 UNF
1VM 3.5 R	3,5	800	250	240	270	5000	45	88,5	9/16 - 18 UNF
1VM 4.1 R	4,1	800	250	240	270	4000	46	90,5	9/16 - 18 UNF
1VM 5.2 R	5,2	800	230	220	245	3500	47,5	93,5	9/16 - 18 UNF
1VM 6.2 R	6,2	800	230	220	245	3000	49	96,5	9/16 - 18 UNF
1VM 7.6 R	7,6	600	200	190	215	3500	51	100,5	3/4-16 UNF
1VM 9.3 R	9,3	600	180	170	195	3000	53,5	105,5	3/4-16 UNF
1VM 11 R	11,0	600	170	160	185	2500	56	110,5	3/4-16 UNF

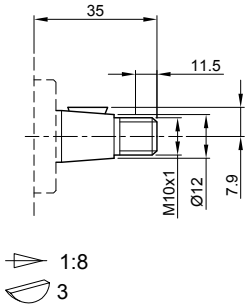
SERIE 1.5VM - *1.5VM SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

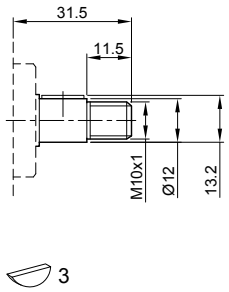


B0



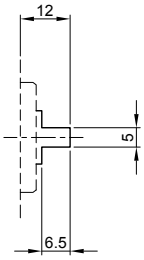
T0

Coppia max 100 Nm
Max. torque 100 Nm



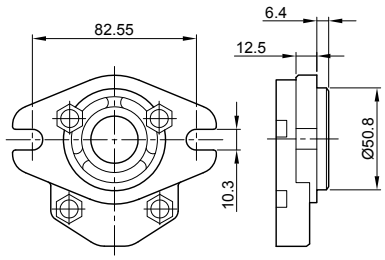
C1

Coppia max 55 Nm
Max. torque 55 Nm

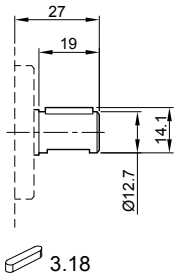


G0

Coppia max 45 Nm
Max. torque 45 Nm

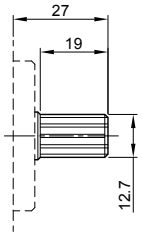


A0



C0

Coppia max 60 Nm
Max. torque 60 Nm



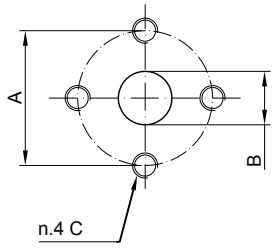
DP20/40-30° - 9T

S0

Coppia max 100 Nm
Max. torque 100 Nm

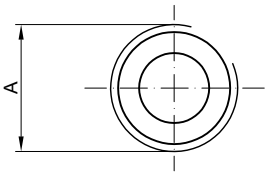
SERIE 1.5VM - *1.5VM SERIES*

BOCCHE / *PORTS*



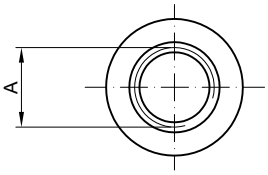
E0

Tipo *Type*	Motore Bidirezionale *Bi-directional Motor*					
	A	B	C			
1.5VM 2.8 ÷ 11	30	13	M6			



L3

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*	
		A	
1.5VM 2.8 ÷ 11	L3	3/8 BSPP	

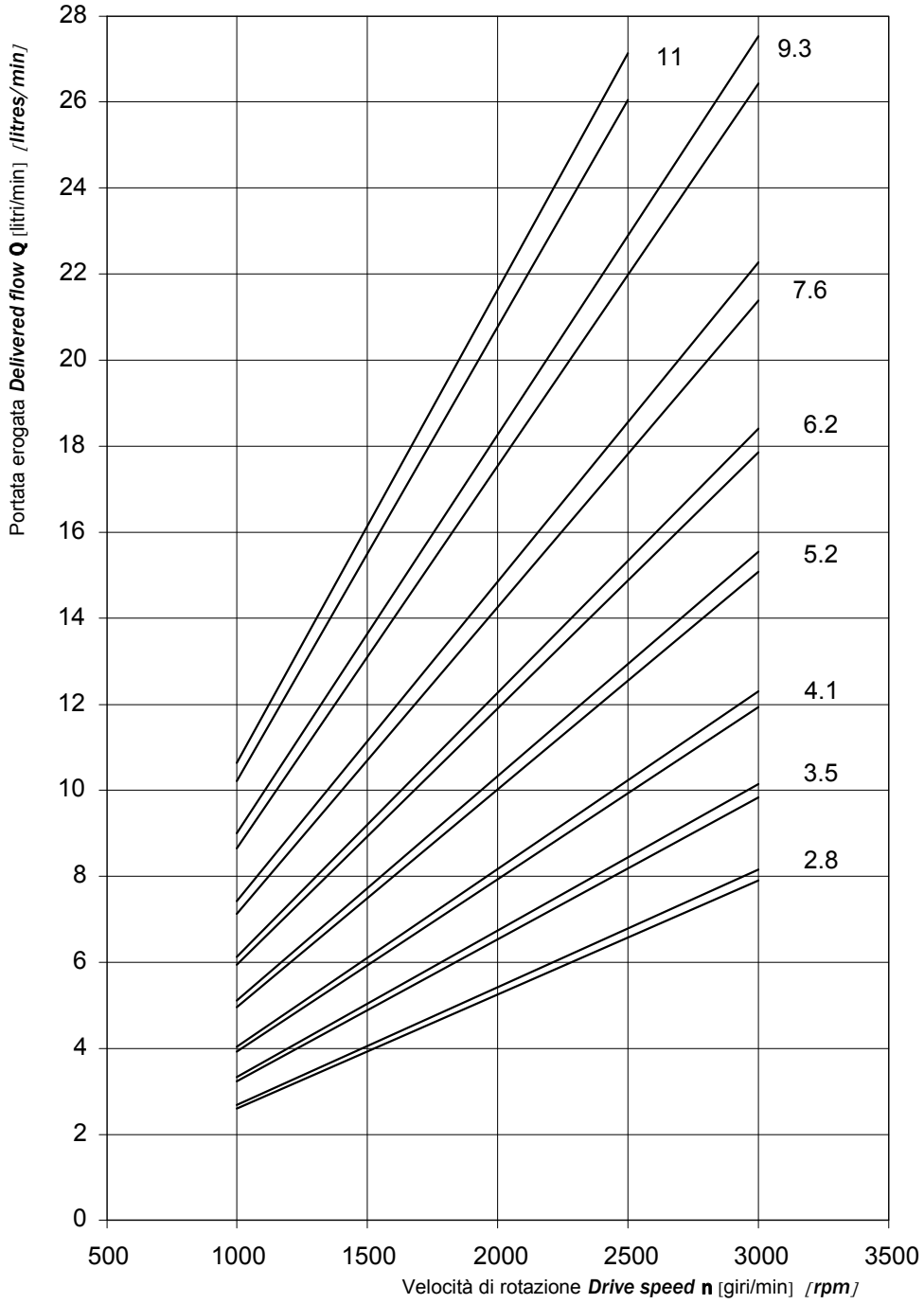


U.

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*	
		A	
1.5VM 2.8 ÷ 6.2	U.	9/16 - 18UNF	
1.5VM 7.6 ÷ 11	U.	3/4 - 16UNF	

SERIE 1.5VM - *1.5VM SERIES*

1.5VM CURVE CARATTERISTICHE / *1.5VM PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50 °C, using oil with viscosity 30 cSt at these pressure.

2.8, 3.5 — 25-240 bar

4.1, 5.2 — 25-230 bar

6.2 — 25-220 bar

7.6 — 25-180 bar

9.3 — 25-170 bar

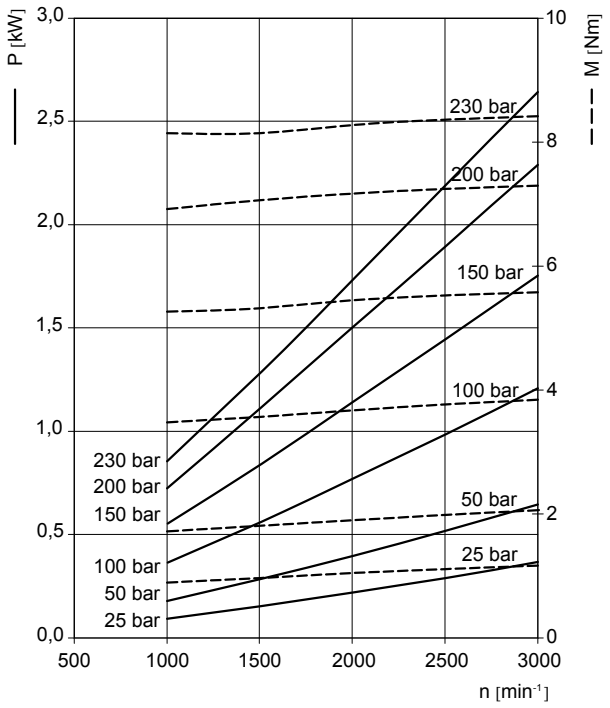
11 — 25-150 bar

SERIE 1.5VM - *1.5VM SERIES*

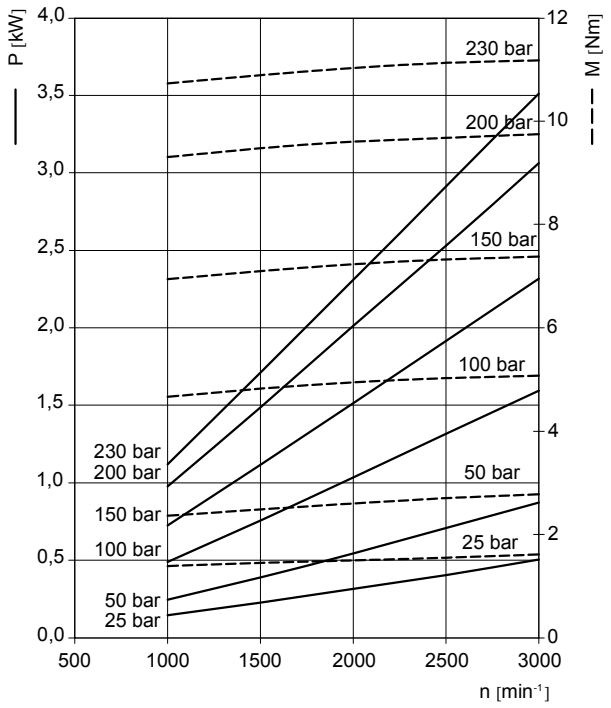
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

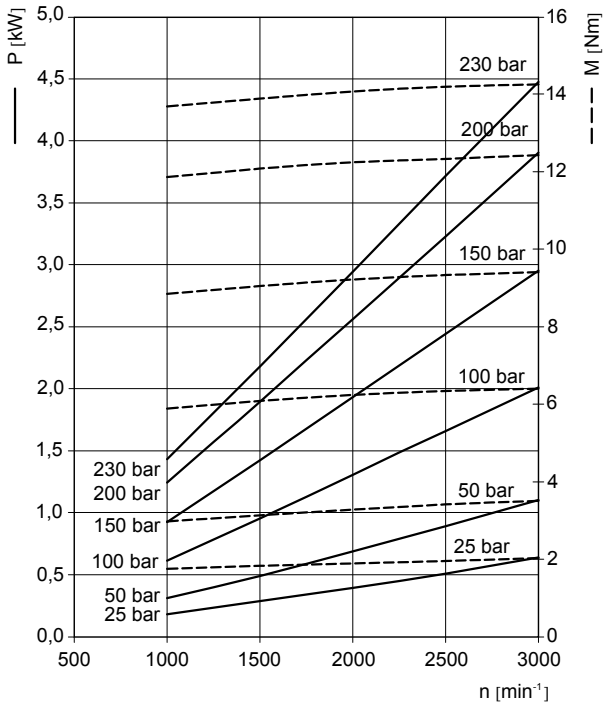
1.5VM 2.8



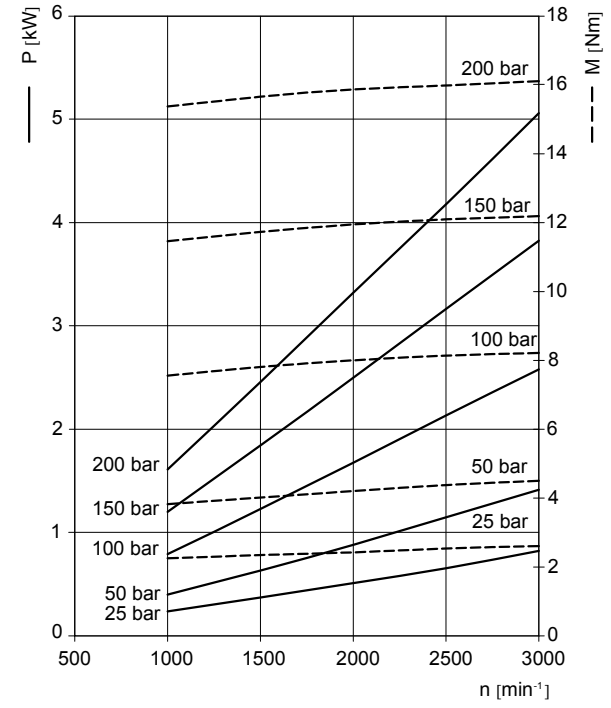
1.5VM 3.5



1.5VM 4.1



1.5VM 5.2

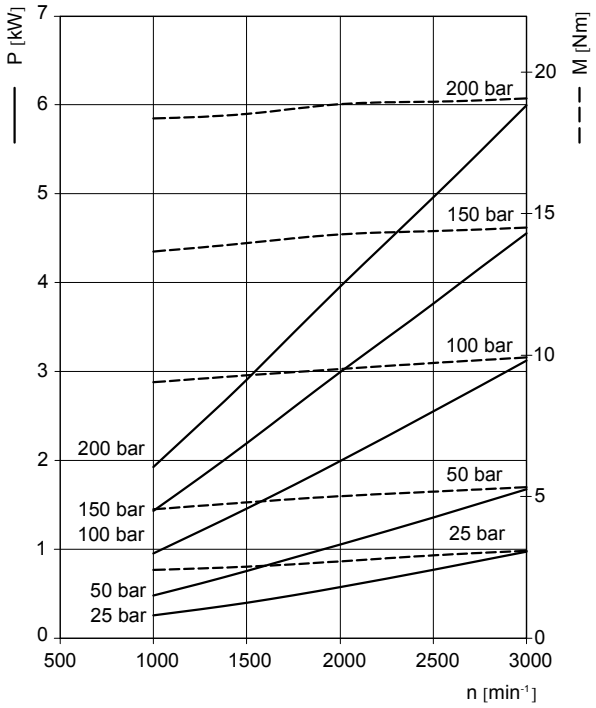


SERIE 1.5VM - *1.5VM SERIES*

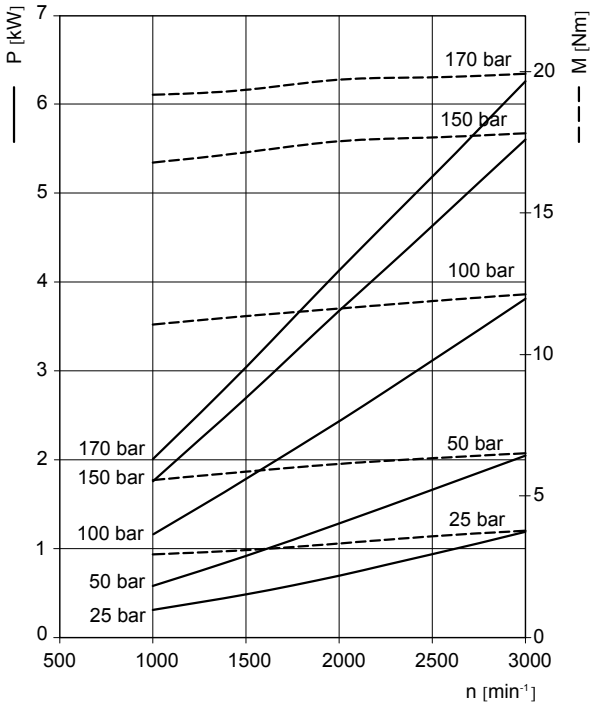
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

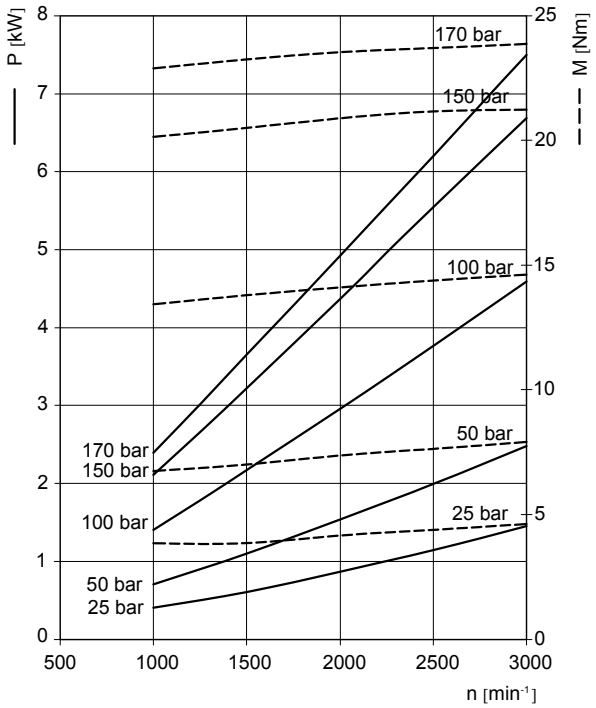
1.5VM 6.2



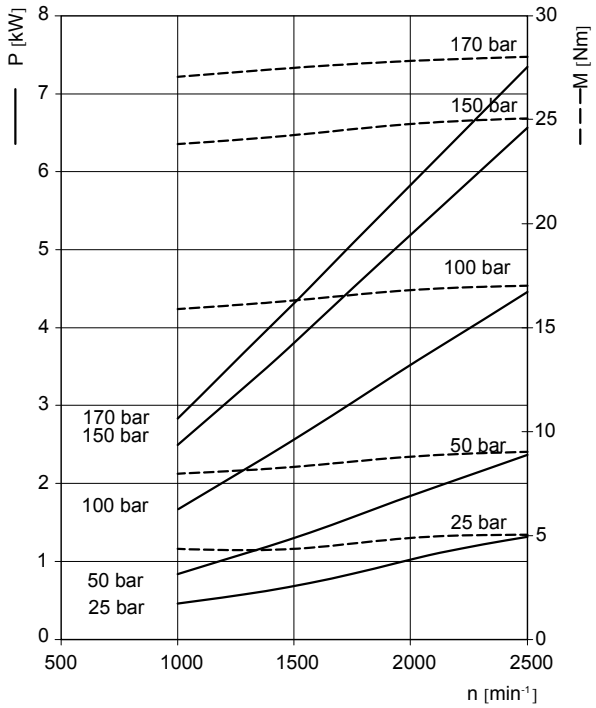
1.5VM 7.6



1.5VM 9.3

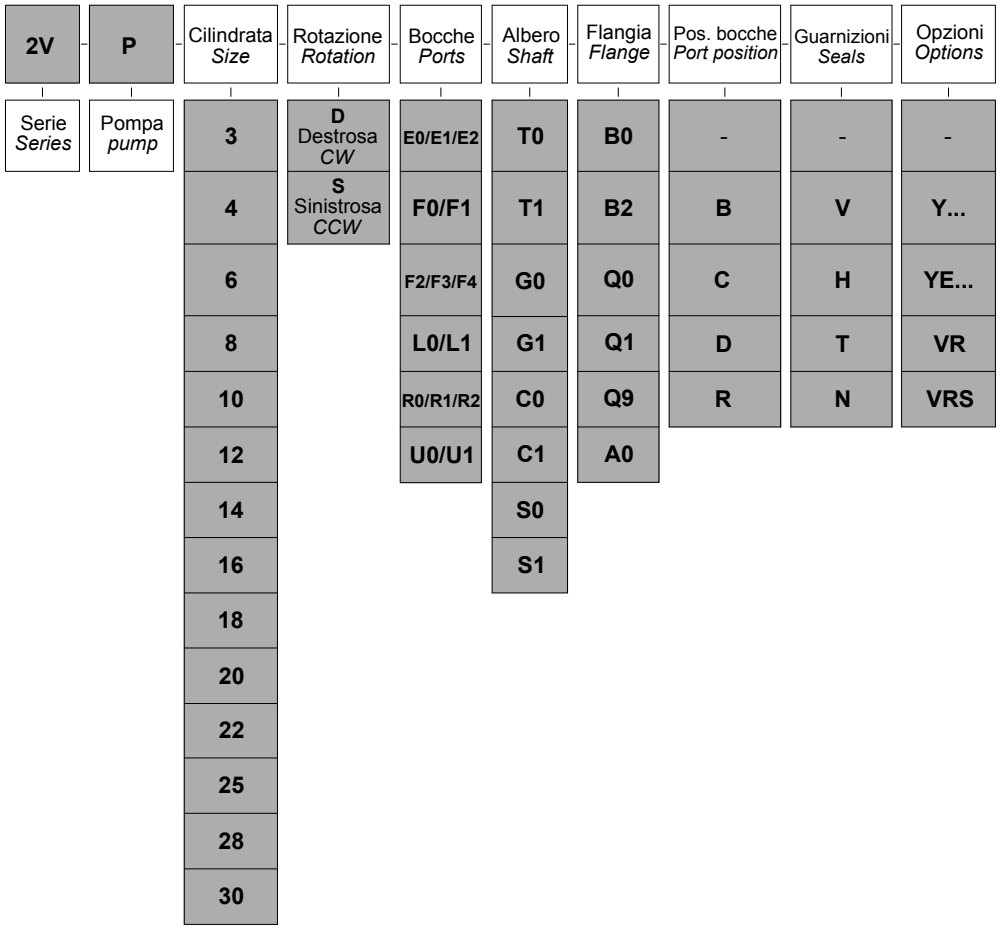


1.5VM 11



SERIE 2VP - *2VP SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

-	Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
B	Aspirazione posteriore - Mandata frontale / *back Inlet - front Outlet*
C	Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
D	Aspirazione laterale - Mandata frontale / *side Inlet - front Outlet*
R	Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

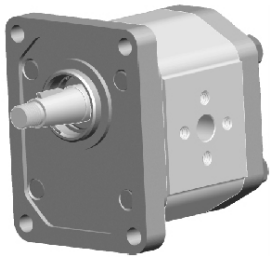
Guarnizioni - *Seals*

-	Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V	Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H	Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T	Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N	Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Y...	Valvola di massima (...= campo 10-250 bar) con scarico in aspirazione - *Relief valve (...= range 10-250 bar) with discharge to suction*
YE...	Valvola di massima (...= range 10-250 bar) con scarico esterno - *Relief valve (...= range 10-250 bar) with external discharge*
VRxx	Reglatore di portata compensato a 3 vie (**xx** = campo 2-30 l/min) con eccesso ritornato in aspirazione *Flow compensed control valve 3-way (**xx** = range 2-30 l/min) with excess flow returned to suction*
VRSxx/xx	Reglatore di portata compensato a 3 vie (**xx** = campo 2-30 l/min) con eccesso in aspirazione + valvola di massima (**xxx** = campo 100-180 bar) *Flow control valve 3-way (**xx** = range 2-30 l/min) with excess flow returned to suction + relief valve (**xxx** = range 100-180 bar)*

2VP..D - E. T0 B0



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13mm, M8 thread depth 17mm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm

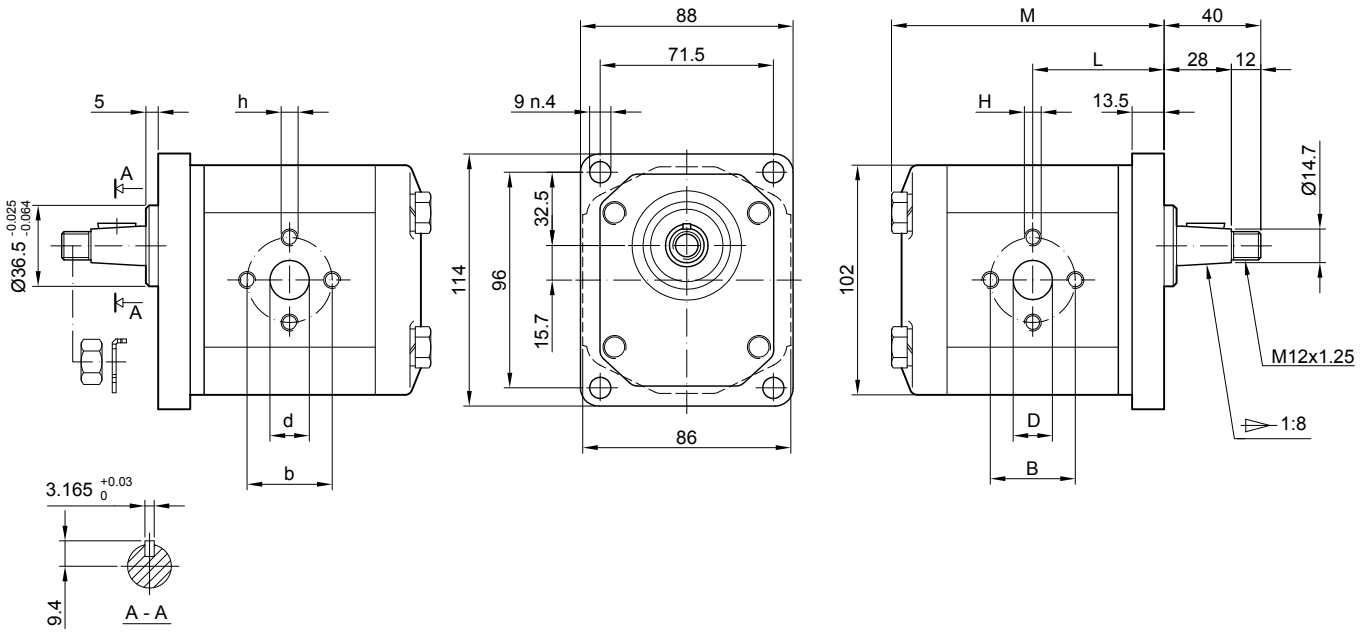
To mount the pump n.4 x M10 screws with a torque wrench settings fixed at 70 Nm

Filetto M12 x 1.25 su albero con coppia di serraggio 50 Nm

Shaft M12 x 1.25 nut, with a torque wrench settings fixed at 50 Nm

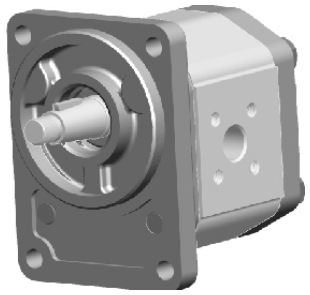
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo	Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni							
Type	*Displacement*	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*							
		P1	P2	P3			M	L	B	D	H	b	d	h
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm		mm	mm	
2VP 3 D	3	270	285	300	4000	800	91.1	43.6	30	13	M6	30	13	M6
2VP 4 D	4	270	285	300	4000	600	92.7	44.4	30	13	M6	30	13	M6
2VP 6 D	6	270	285	300	4000	600	96	46	30	13	M6	30	13	M6
2VP 8 D	8	270	285	300	3500	500	99.3	47.7	30	13	M6	30	13	M6
2VP 10 D	10	270	285	300	3000	500	102.6	49.3	40	20	M8	30	13	M6
2VP 12 D	12	270	285	300	3000	500	105.9	51	40	20	M8	30	13	M6
2VP 14 D	14	250	265	280	4000	500	109.3	52.7	40	20	M8	30	13	M6
2VP 16 D	16	250	265	280	4000	500	112.7	54.4	40	20	M8	30	13	M6
2VP 18 D	18	250	265	280	3600	400	116	56	40	20	M8	30	13	M6
2VP 20 D	20	220	235	250	3200	400	119.3	57.7	40	20	M8	30	13	M6
2VP 22 D	22	220	235	250	3000	400	122.6	59.3	40	20	M8	30	13	M6
2VP 25 D	25	200	215	230	3000	400	127.6	61.8	40	22	M8	30	13	M6
2VP 28 D	28	180	190	200	2500	400	132.6	64.3	40	22	M8	30	13	M6
2VP 30 D	30	160	170	180	2500	400	135.9	66	40	22	M8	40	13	M8

2VP..D - F. T1 B2



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13, M8 thread depth 17mm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm

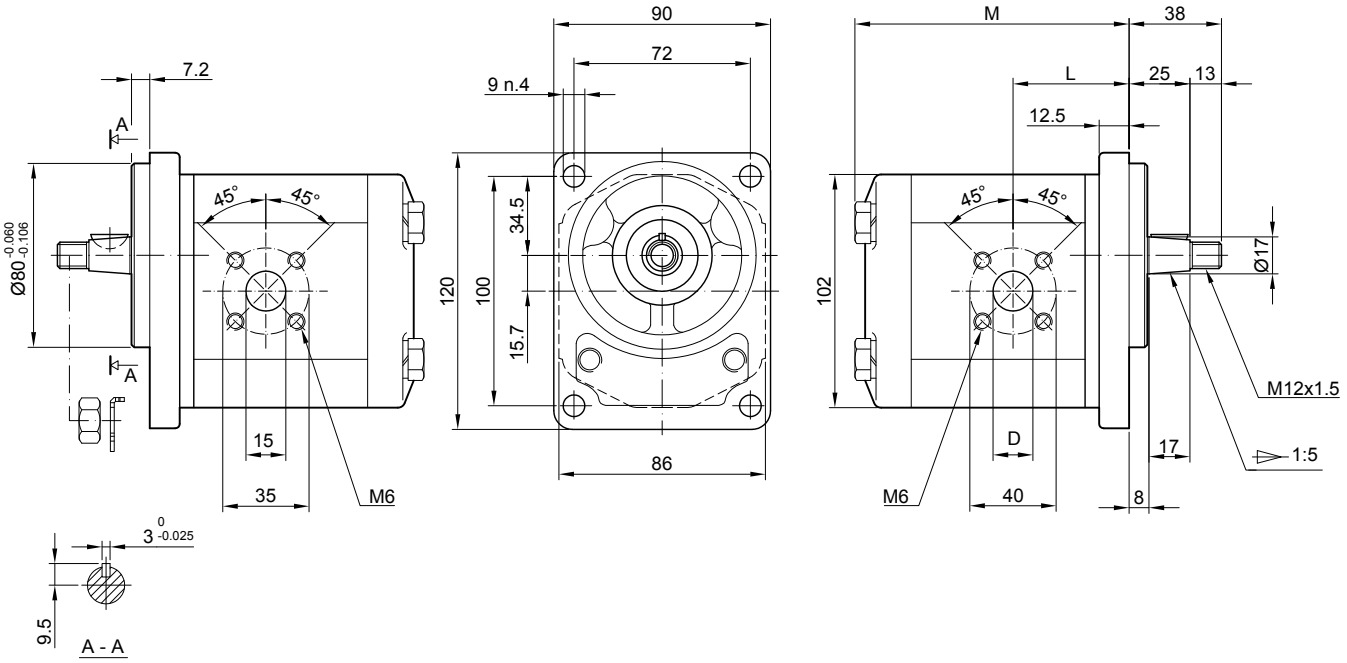
To mount the pump n.4 M10 screws with a torque wrench settings fixed at 70 Nm

Filetto M12 x 1.25 su albero con coppia di serraggio 50 Nm

Shaft M12 x 1.25 nut, with a torque wrench settings fixed at 50 Nm

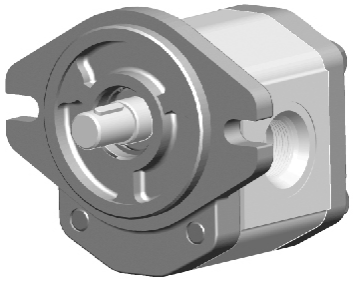
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	91.1	39.9	15
2VP 4 D	4	270	285	300	4000	600	92.7	39.9	15
2VP 6 D	6	270	285	300	4000	600	96	41.1	15
2VP 8 D	8	270	285	300	3500	500	99.3	43.2	15
2VP 10 D	10	270	285	300	3000	500	102.6	43.7	20
2VP 12 D	12	270	285	300	3000	500	105.9	47.5	20
2VP 14 D	14	250	265	280	4000	500	109.3	47.5	20
2VP 16 D	16	250	265	280	4000	500	112.7	47.5	20
2VP 18 D	18	250	265	280	3600	400	116	47.5	20
2VP 20 D	20	220	235	250	3200	400	119.3	47.5	20
2VP 22 D	22	220	235	250	3000	400	122.6	55.1	20
2VP 25 D	25	200	215	230	3000	400	127.6	61.8	20
2VP 28 D	28	180	190	200	2500	400	132.6	64.3	20
2VP 30 D	30	160	170	180	2500	400	135.9	66	20

2VP..D - U. C0 A0



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J1926/1)

"D" and "d" ports are machined in compliance with threaded port with O-ring seal in truncated housing (SAE J1926/1)

Assemblaggio con 4 tiranti (V) da M10 coppia di serraggio 70 Nm

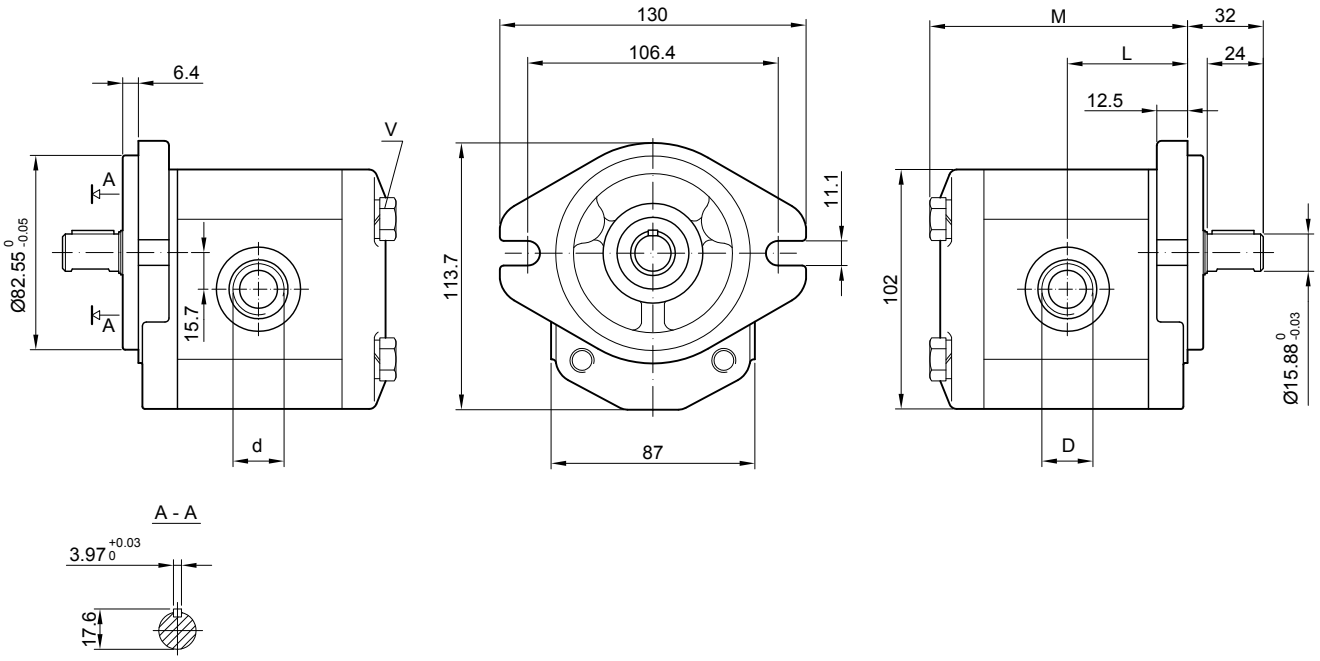
To mount the pump n.4 M10 screws (v) with a torque wrench settings fixed at 70 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

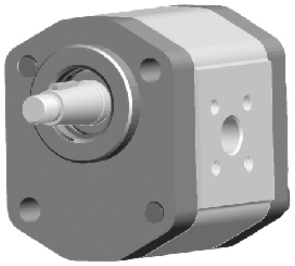
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*			
		P1	P2	P3			M	L	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	91.1	43.6	1 1/16-12UNF	7/8-14UNF
2VP 4 D	4	270	285	300	4000	600	92.7	44.4	1 1/16-12UNF	7/8-14UNF
2VP 6 D	6	270	285	300	4000	600	96	46	1 1/16-12UNF	7/8-14UNF
2VP 8 D	8	270	285	300	3500	500	99.3	47.7	1 1/16-12UNF	7/8-14UNF
2VP 10 D	10	270	285	300	3000	500	102.6	49.3	1 1/16-12UNF	7/8-14UNF
2VP 12 D	12	270	285	300	3000	500	105.9	51	1 1/16-12UNF	7/8-14UNF
2VP 14 D	14	250	265	280	4000	500	109.3	52.7	1 1/16-12UNF	7/8-14UNF
2VP 16 D	16	250	265	280	4000	500	112.7	54.4	1 1/16-12UNF	7/8-14UNF
2VP 18 D	18	250	265	280	3600	400	116	56	1 1/16-12UNF	7/8-14UNF
2VP 20 D	20	220	235	250	3200	400	119.3	57.7	1 1/16-12UNF	7/8-14UNF
2VP 22 D	22	220	235	250	3000	400	122.6	59.3	1 1/16-12UNF	7/8-14UNF
2VP 25 D	25	200	215	230	3000	400	127.6	61.8	1 1/16-12UNF	7/8-14UNF
2VP 28 D	28	180	190	200	2500	400	132.6	64.3	1 1/16-12UNF	7/8-14UNF
2VP 30 D	30	160	170	180	2500	400	135.9	66	1 5/16-12UNF	7/8-14UNF

2VP..D - F. T1 Q0



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13, M8 thread depth 17mm

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

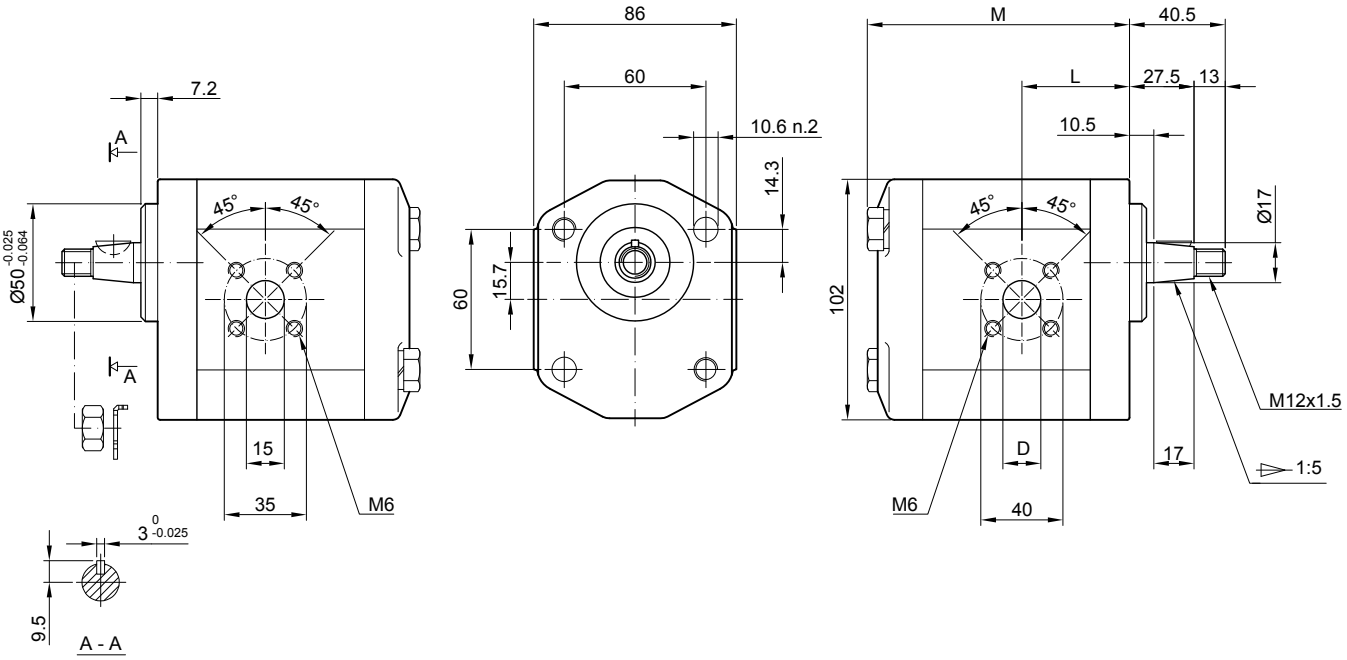
To mount the pump n.2 M10 screws with a torque wrench settings fixed at 50 Nm

Filetto M12 x 1.5 su albero con coppia di serraggio 50 Nm

Shaft M12 x 1.5 nut, with a torque wrench settings fixed at 50 Nm

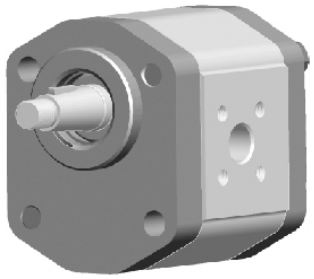
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	88.6	37.4	15
2VP 4 D	4	270	285	300	4000	600	90.2	37.4	15
2VP 6 D	6	270	285	300	4000	600	93.5	38.6	15
2VP 8 D	8	270	285	300	3500	500	96.8	40.7	15
2VP 10 D	10	270	285	300	3000	500	100.1	41.2	20
2VP 12 D	12	270	285	300	3000	500	103.4	45	20
2VP 14 D	14	250	265	280	4000	500	106.8	45	20
2VP 16 D	16	250	265	280	4000	500	110.2	45	20
2VP 18 D	18	250	265	280	3600	400	113.5	47.5	20
2VP 20 D	20	220	235	250	3200	400	116.8	47.5	20
2VP 22 D	22	220	235	250	3000	400	120.1	52.6	20
2VP 25 D	25	200	215	230	3000	400	125.1	59.3	20
2VP 28 D	28	180	190	200	2500	400	130.1	61.8	20
2VP 30 D	30	160	170	180	2500	400	133.4	63.5	20

2VP..D - F. T1 Q1



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13, M8 thread depth 17mm

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

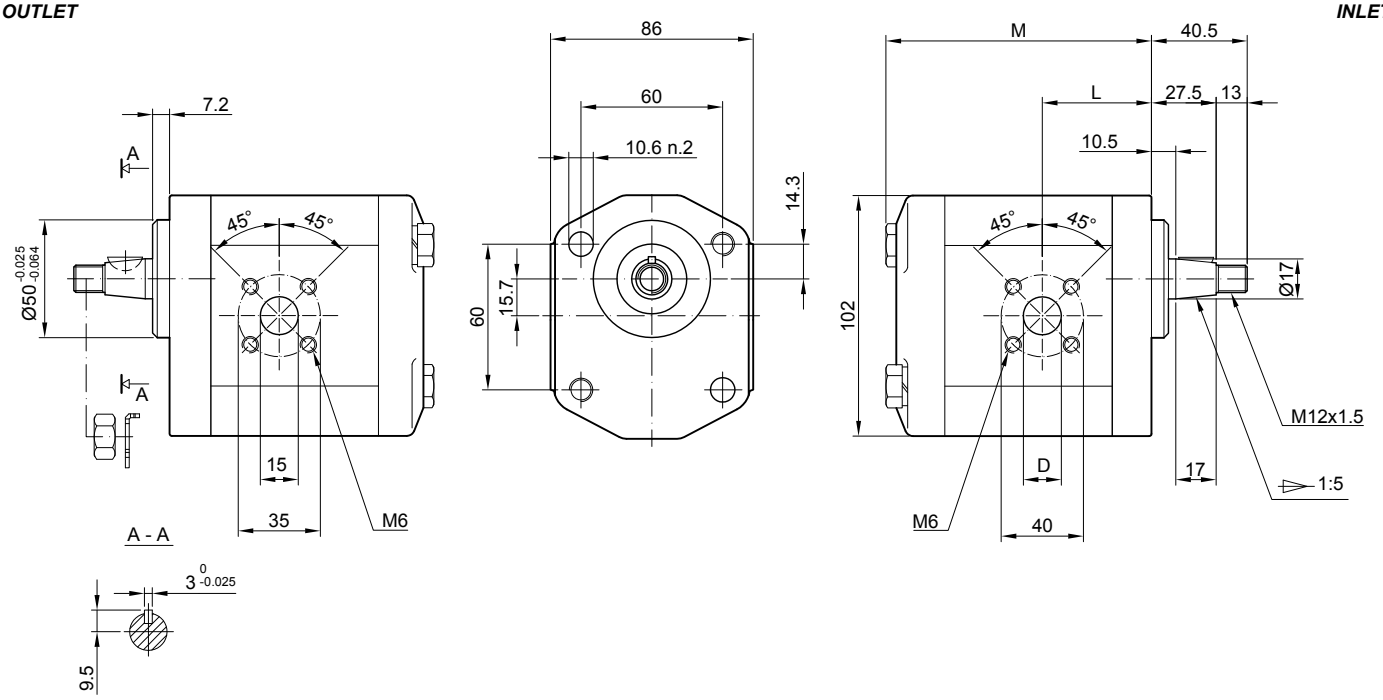
To mount the pump n.2 x M10 screws with a torque wrench settings fixed at 50 Nm

Filetto M12 x 1.5 su albero con coppia di serraggio 50 Nm

Shaft M12 x 1.5 nut, with a torque wrench settings fixed at 50 Nm

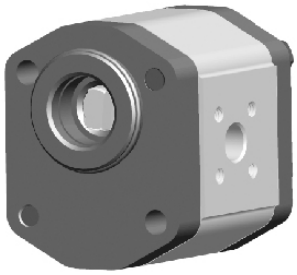
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	88.6	37.4	15
2VP 4 D	4	270	285	300	4000	600	90.2	37.4	15
2VP 6 D	6	270	285	300	4000	600	93.5	38.6	15
2VP 8 D	8	270	285	300	3500	500	96.8	40.7	15
2VP 10 D	10	270	285	300	3000	500	100.1	41.2	20
2VP 12 D	12	270	285	300	3000	500	103.4	45	20
2VP 14 D	14	250	265	280	4000	500	106.8	45	20
2VP 16 D	16	250	265	280	4000	500	110.2	45	20
2VP 18 D	18	250	265	280	3600	400	113.5	47.5	20
2VP 20 D	20	220	235	250	3200	400	116.8	47.5	20
2VP 22 D	22	220	235	250	3000	400	120.1	52.6	20
2VP 25 D	25	200	215	230	3000	400	125.1	59.3	20
2VP 28 D	28	180	190	200	2500	400	130.1	61.8	20
2VP 30 D	30	160	170	180	2500	400	133.4	63.5	20

2VP..D - F. G1 Q9



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13, M8 thread depth 17mm

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

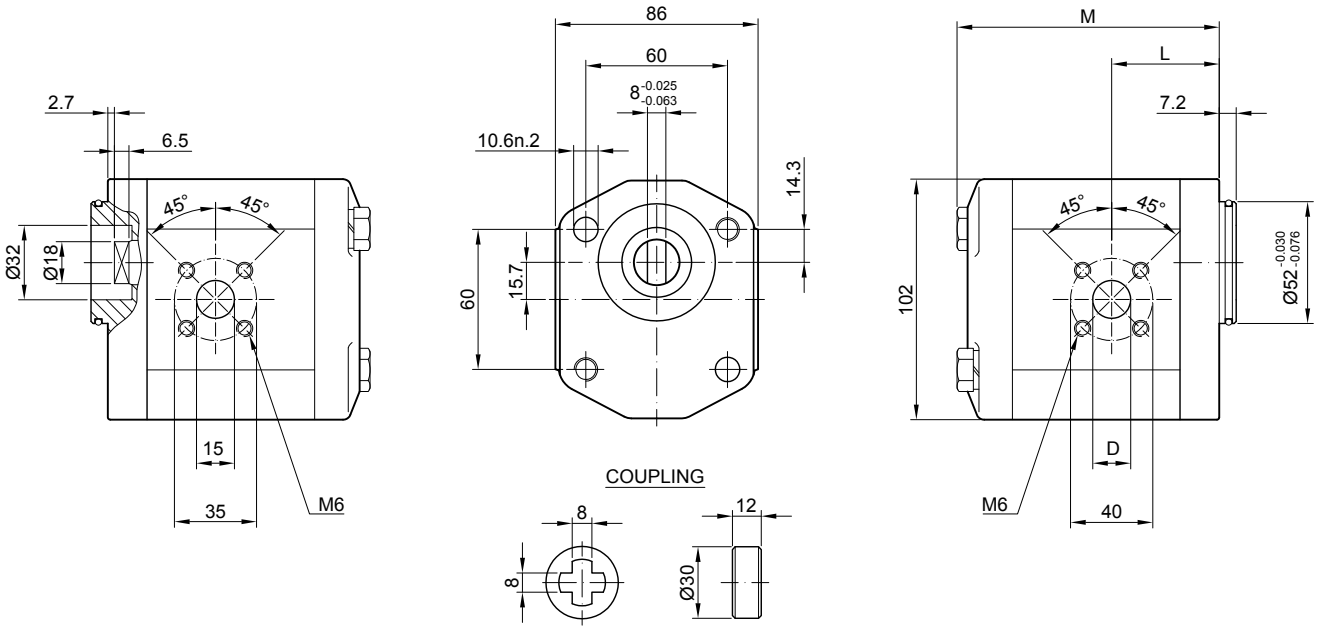
To mount the pump n.2 M10 screws with a torque wrench settings fixed at 50 Nm

Coppia max giunto 70 Nm

Coupling Max. torque 70 Nm

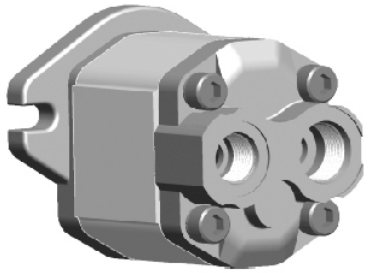
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	88.6	37.4	15
2VP 4 D	4	270	285	300	4000	600	90.2	37.4	15
2VP 6 D	6	270	285	300	4000	600	93.5	38.6	15
2VP 8 D	8	270	285	300	3500	500	96.8	40.7	15
2VP 10 D	10	270	285	300	3000	500	100.1	41.2	20
2VP 12 D	12	270	285	300	3000	500	103.4	45	20
2VP 14 D	14	250	265	280	4000	500	106.8	45	20
2VP 16 D	16	250	265	280	4000	500	110.2	45	20
2VP 18 D	18	250	265	280	3600	400	113.5	45	20
2VP 20 D	20	220	235	250	3200	400	116.8	45	20
2VP 22 D	22	220	235	250	3000	400	120.1	52.6	20
2VP 25 D	25	200	215	230	3000	400	125.1	59.3	20
2VP 28 D	28	180	190	200	2500	400	130.1	61.8	20
2VP 30 D	30	160	170	180	2500	400	133.4	63.5	20

2VP..D - U. C0 A0 - R



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J1926/1 - ISO J1926/1)

"D" and "d" ports are machined in compliance with threaded port with O-ring seal in truncated housing (SAE J1926/1 - ISO J1926/1)

Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm

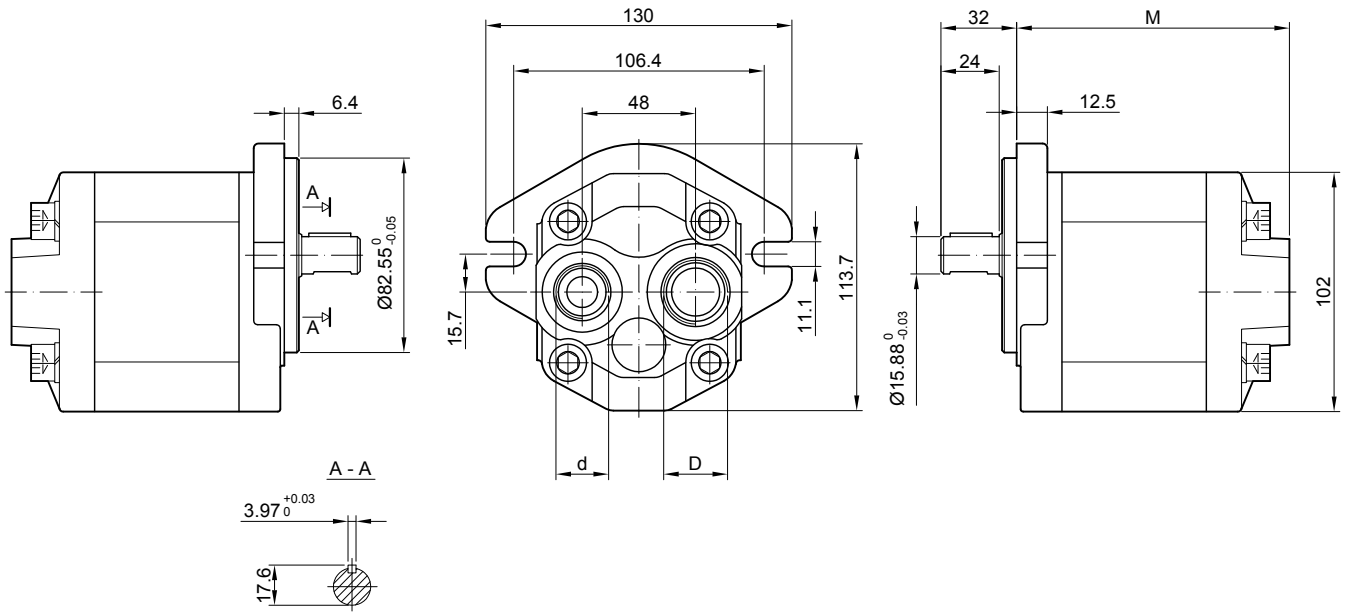
To mount the pump n.4xM10 screws,with a torque wrench settings fixed at 70 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

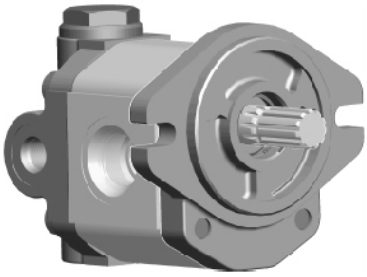
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	103.1	1 1/16-12UNF	7/8-14UNF
2VP 4 D	4	270	285	300	4000	600	104.7	1 1/16-12UNF	7/8-14UNF
2VP 6 D	6	270	285	300	4000	600	108	1 1/16-12UNF	7/8-14UNF
2VP 8 D	8	270	285	300	3500	500	111.3	1 1/16-12UNF	7/8-14UNF
2VP 10 D	10	270	285	300	3000	500	114.6	1 1/16-12UNF	7/8-14UNF
2VP 12 D	12	270	285	300	3000	500	117.9	1 1/16-12UNF	7/8-14UNF
2VP 14 D	14	250	265	280	4000	500	121.3	1 1/16-12UNF	7/8-14UNF
2VP 16 D	16	250	265	280	4000	500	124.7	1 1/16-12UNF	7/8-14UNF
2VP 18 D	18	250	265	280	3600	400	128	1 1/16-12UNF	7/8-14UNF
2VP 20 D	20	220	235	250	3200	400	131.3	1 1/16-12UNF	7/8-14UNF
2VP 22 D	22	220	235	250	3000	400	134.6	1 1/16-12UNF	7/8-14UNF
2VP 25 D	25	200	215	230	3000	400	139.6	1 1/16-12UNF	7/8-14UNF
2VP 28 D	28	180	190	200	2500	400	144.6	1 1/16-12UNF	7/8-14UNF
2VP 30 D	30	160	170	180	2500	400	147.9	1 1/16-12UNF	7/8-14UNF

2VP..D - U. S1 A0 VRSxx/xxx



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J1926/1)

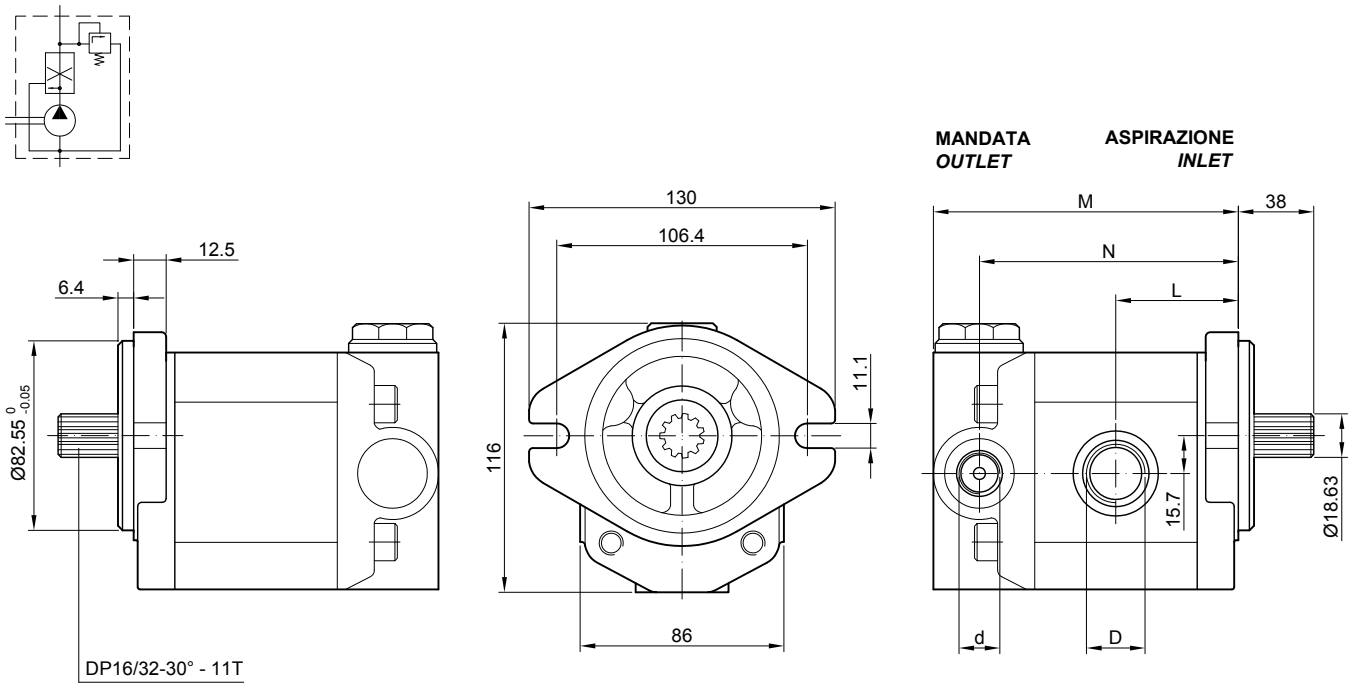
Assemblaggio con 4 tiranti da M10 coppia di serraggio 70Nm

Flangia anteriore e coperchio posteriore in ghisa

"D" and "d" ports are machined in compliance with threaded port with O-ring seal in truncated housing (SAE J1926/1)

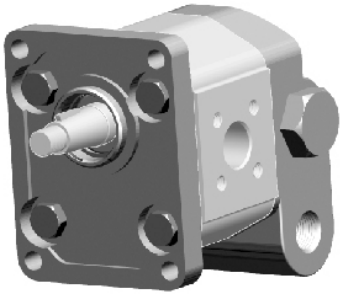
To mount the pump, n.4 M10 screws, with a torque wrench settings fixed at 70Nm

Cast iron front flange and back cover



Tipo *Type*	Cilindrata *Displacement*	Pressione *Control pressure*	Portata *Control flow*	Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*				
						M	L	N	D	d
	(cm^3/rev)	bar	L/min	(r/min)	(r/min)	mm	mm	mm	mm	mm
2VP 3 D	3	xxx = 100…180	xx = 2…30	4000	800	112.1	43.6	92.1	1 1/16-12UNF	7/8-14UNF
2VP 4 D	4			4000	600	113.7	44.4	93.7	1 1/16-12UNF	7/8-14UNF
2VP 6 D	6			4000	600	117	46	97	1 1/16-12UNF	7/8-14UNF
2VP 8 D	8			3500	500	120.3	47.7	100.3	1 1/16-12UNF	7/8-14UNF
2VP 10 D	10			3000	500	123.6	49.3	103.6	1 1/16-12UNF	7/8-14UNF
2VP 12 D	12			3000	500	126.9	51	106.9	1 1/16-12UNF	7/8-14UNF
2VP 14 D	14			4000	500	130.3	52.7	110.3	1 1/16-12UNF	7/8-14UNF
2VP 16 D	16			4000	500	133.7	54.4	113.7	1 1/16-12UNF	7/8-14UNF
2VP 18 D	18			3600	400	137	56	117	1 1/16-12UNF	7/8-14UNF
2VP 20 D	20			3200	400	140.3	57.7	120.3	1 1/16-12UNF	7/8-14UNF
2VP 22 D	22			3000	400	143.6	59.3	123.6	1 1/16-12UNF	7/8-14UNF
2VP 25 D	25			3000	400	148.6	61.8	128.6	1 1/16-12UNF	7/8-14UNF
2VP 28 D	28			2500	400	153.6	64.3	133.6	1 1/16-12UNF	7/8-14UNF
2VP 30 D	30			2500	400	156.9	66	136.9	1 1/16-12UNF	7/8-14UNF

2VP..D - F. T0 B0 - VRSxx/xxx



Profondità 13mm filetto M6, 14mm filetto M18x1.5

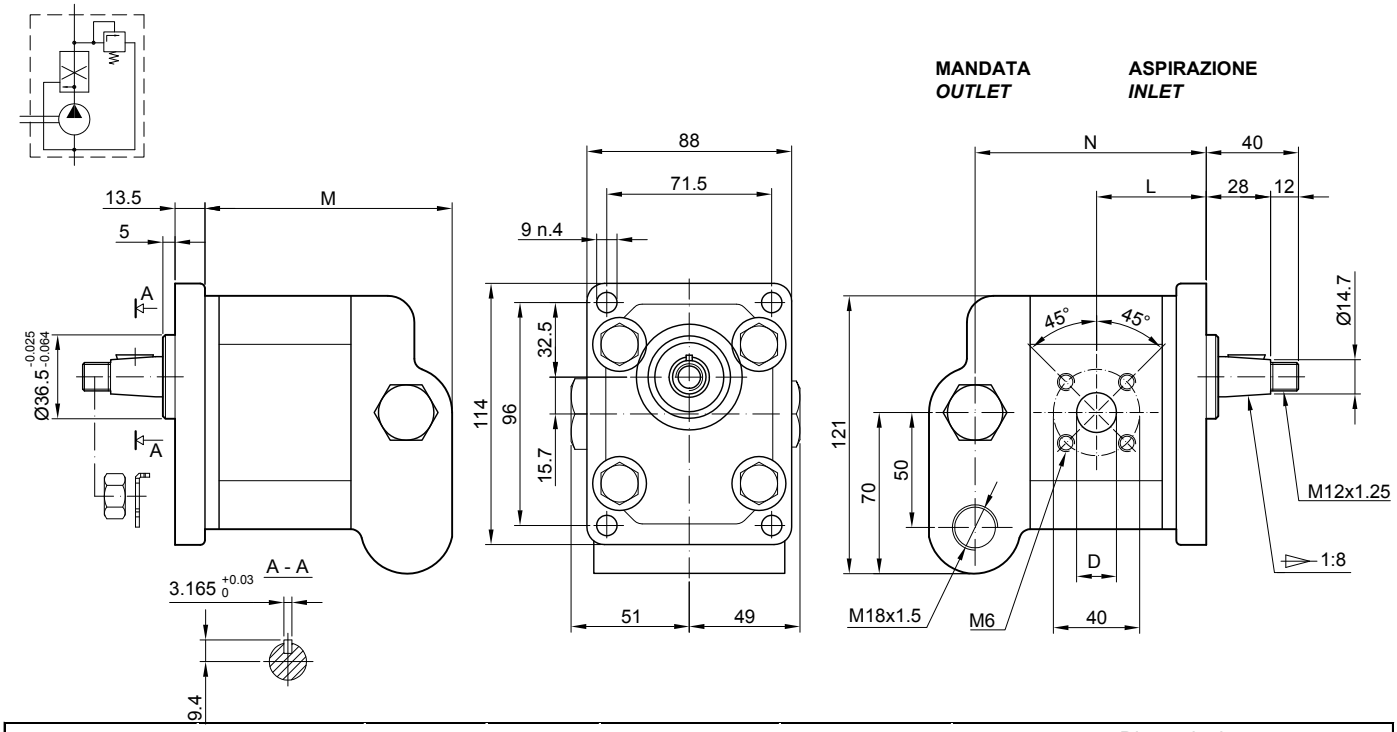
M6 thread depth 13 M18x1.5 thread depth 14mm

Assemblaggio con 4 tiranti da M10, coppia di serraggio 70Nm

To mount the pump, n.4xM10 screws with a torque wrench settings fixed at 70Nm

Filetto M12x1.25 su albero con coppia di serraggio 50Nm

Shaft M12x1.25 nut, with a torque wrench settings fixed at 50Nm

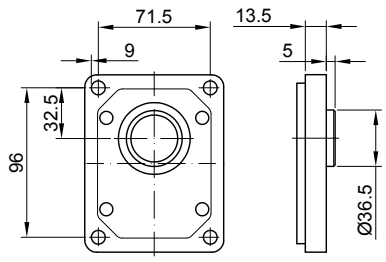


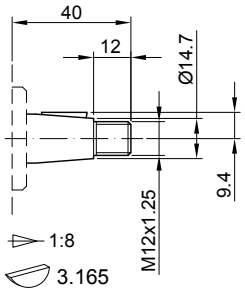
Tipo *Type*	Cilindrata *Displacement*	Pressione *Control pressure*	Portata *Control flow*	Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*			
						M	L	N	D
	(cm^3/rev)	bar	L/min	(r/min)	(r/min)	mm	mm	mm	mm
2VP 3 D	3	xxx = 100…180	xx = 2…30	4000	800	112.1	43.6	96.1	15
2VP 4 D	4			4000	600	113.7	44.4	97.7	15
2VP 6 D	6			4000	600	117	46	101	15
2VP 8 D	8			3500	500	120.3	47.7	104.3	15
2VP 10 D	10			3000	500	123.6	49.3	107.6	20
2VP 12 D	12			3000	500	126.9	51	110.9	20
2VP 14 D	14			4000	500	130.3	52.7	114.3	20
2VP 16 D	16			4000	500	133.7	54.4	117.7	20
2VP 18 D	18			3600	400	137	56	121	20
2VP 20 D	20			3200	400	140.3	57.7	124.3	20
2VP 22 D	22			3000	400	143.6	59.3	127.6	20
2VP 25 D	25			3000	400	148.6	61.8	132.6	20
2VP 28 D	28			2500	400	153.6	64.3	137.6	20
2VP 30 D	30			2500	400	156.9	66	140.9	20

SERIE 2VP - *2VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

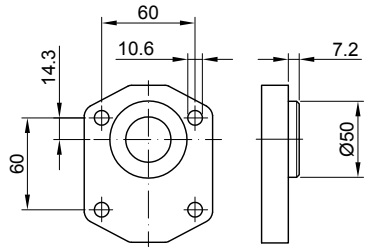


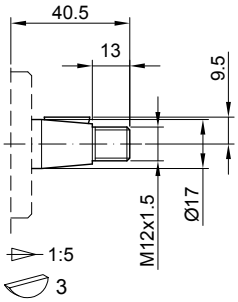


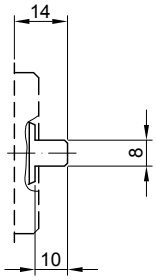
B0

T0 (woodruff key 3.165mm)
T4 (woodruff key 4mm)

Coppia max 200 Nm
Max. torque 200 Nm







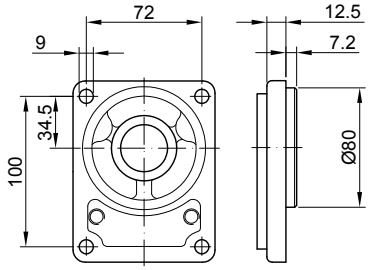
Q0

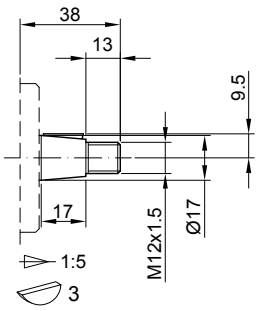
T1

Coppia max 180 Nm
Max. torque 180 Nm

G0

Coppia max 100 Nm
Max. torque 100 Nm





B2

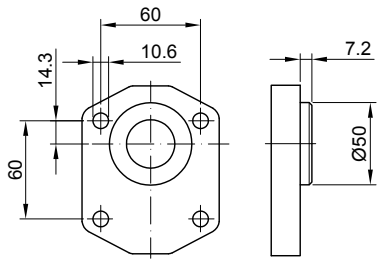
T1

Coppia max 180 Nm
Max. torque 180 Nm

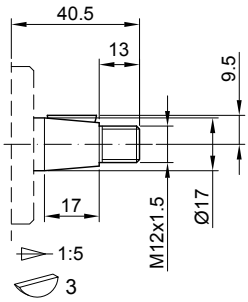
SERIE 2VP - *2VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

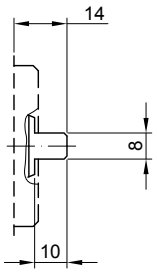


Q1



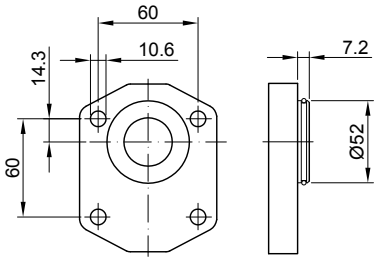
T1

Coppia max 180 Nm
Max. torque 180 Nm

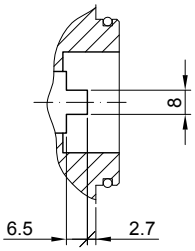


G0

Coppia max 100 Nm
Max. torque 100 Nm

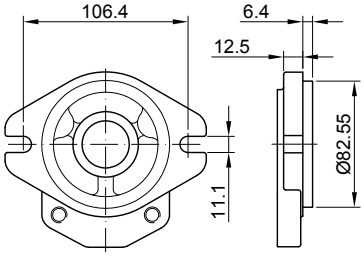


Q9

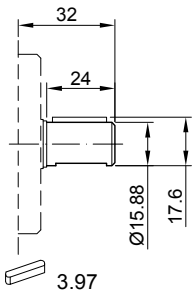


G1

Coppia max 100 Nm
Max. torque 100 Nm

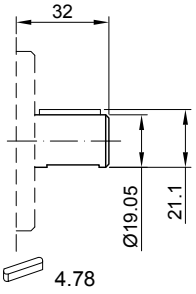


A0



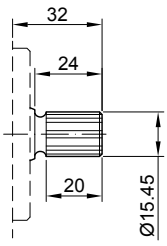
C0

Coppia max 140 Nm
Max. torque 140 Nm



C1

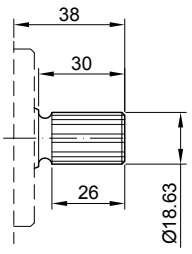
Coppia max 160 Nm
Max. torque 160 Nm



DP16/32-30° - 9T

S0

Coppia max 185 Nm
Max. torque 185 Nm



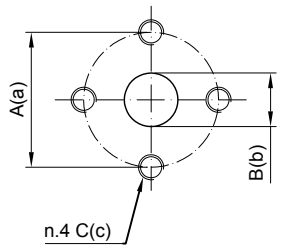
DP16/32-30° - 11T

S1

Coppia max 200 Nm
Max. torque 200 Nm

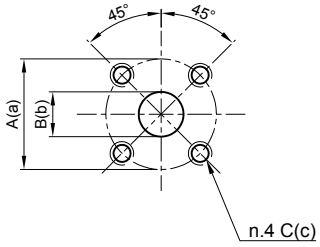
SERIE 2VP - *2VP SERIES*

BOCCHE / *PORTS*



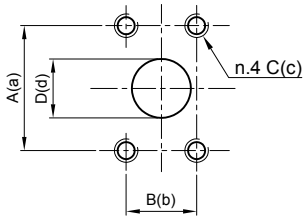
E0/E1/E2/E4

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*			Mandata *Outlet*		
		A	B	C	a	b	c
2VP 3 ÷ 8	E0	30	13	M6	30	13	M6
2VP 10 ÷ 22	E1	40	20	M8	30	13	M6
2VP 25 ÷ 30	E2	40	22	M8	30	13	M6
2VP 30	E4	40	21	M8	40	19	M8



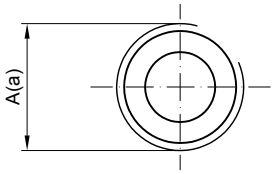
F0/F1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*			Mandata *Outlet*		
		A	B	C	a	b	c
2VP 3 ÷ 8	F0	40	15	M6	35	15	M6
2VP 10 ÷ 30	F1	40	20	M6	35	15	M6



F2/F3/F4

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*				Mandata *Outlet*			
		A	B	C	D	a	b	c	d
2VP 3 ÷ 16	F2	38.1	17.48	5/16 - 18UNC	13	38.1	17.48	5/16 - 18UNC	13
2VP 18 ÷ 20	F3	47.63	22.23	3/8 - 16UNC	20	38.1	17.48	5/16 - 18UNC	13
2VP 28 ÷ 30	F4	47.63	22.23	3/8 - 16UNC	20	47.63	22.23	3/8 - 16UNC	20

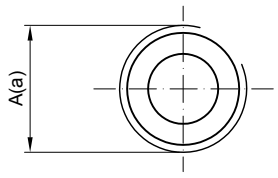


L0/L1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2VP 3 ÷ 6	L0	G 1/2	G 1/2
2VP 8 ÷ 30	L1	G 3/4	G 1/2
2VP 16 ÷ 30	L3	G 1	G 3/4
2VP 8 ÷ 30	L4	G 3/4	G 3/4

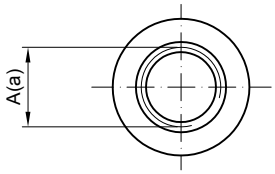
SERIE 2VP - *2VP SERIES*

BOCCHE / *PORTS*



R0/R1/R2

Tipo *Type*	Codice bocca *Port code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2VP 3 ÷ 12	R0	PT 1/2	PT 1/2
2VP 14 ÷ 25	R1	PT 3/4	PT 1/2
2VP 28 ÷ 30	R2	PT 1	PT 3/4

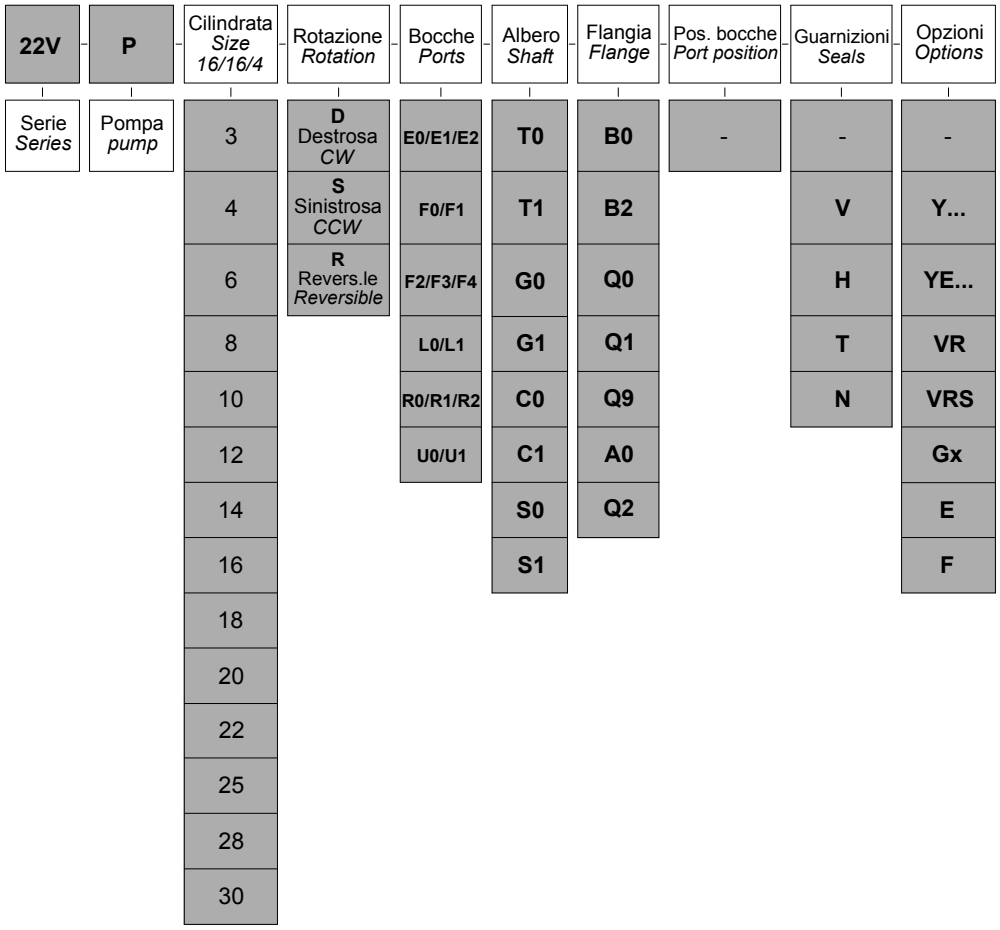


U0/U1

Tipo *Type*	Codice bocca *Port code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2VP 3 ÷ 28	U0	1 1/16-12UNF	7/8-14UNF
2VP … 30	U1	1 5/16-12UNF	7/8-14UNF
2VP 3 ÷ 28	U2	7/8-14UNF	3/4 - 16UNF
2VP 8 ÷ 30	U3	1 5/16-12UNF	1 1/16-12UNF

POMPE MULTIPLE - *MULTIPLE PUMPS*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*

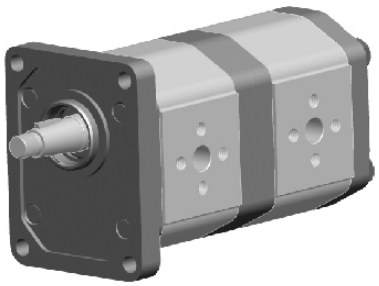
Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Y... Valvola di massima (...= campo 10-250 bar) con scarico in aspirazione - *Relief valve (...= range 10-250 bar) with discharge to suction*
YE... Valvola di massima (...= range 10-250 bar) con scarico esterno - *Relief valve (...= range 10-250 bar) with external discharge*
VRxx Regolatore di portata compensato a 3 vie (**xx** = campo 2 - 30 l/min) con eccesso ritornato in aspirazione
*Flow compensed control valve 3-way (**xx** = range 2 - 30 l/min) with excess flow returned to suction*
VRxx/xxx Regolatore di portata compensato a 3 vie (**xx** = campo 2-30 l/min) con eccesso in aspirazione + valvola di massima (**xxx** = campo 100-180 bar)
*Flow control valve 3-way (**xx** = range 2 - 30 l/min) with excess flow returned to suction + relief valve (**xxx** = range 100 - 180 bar)*
Gx Aspirazione unica (**x** indicare il corpo 1-2 o 3 dove è collocata la bocca di aspirazione) - liquidi in comune
*Common suction (**x** indicate 1-2 or 3 corresponding to the body where suction is located) - common oil*
E Aspirazione separata - liquidi separate
Separated suction - separated oil
F Aspirazione separata - liquidi in comune
Separated suction - common oil

22VP../..D - E. T0 B0 - E



Profondità 13mm filetto M6, 17mm filetto M8

M6 thread depth 13, M8 thread depth 17mm

Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm

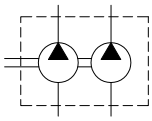
To mount the pump n.4 M10 screws, with a torque wrench settings fixed at 70 Nm

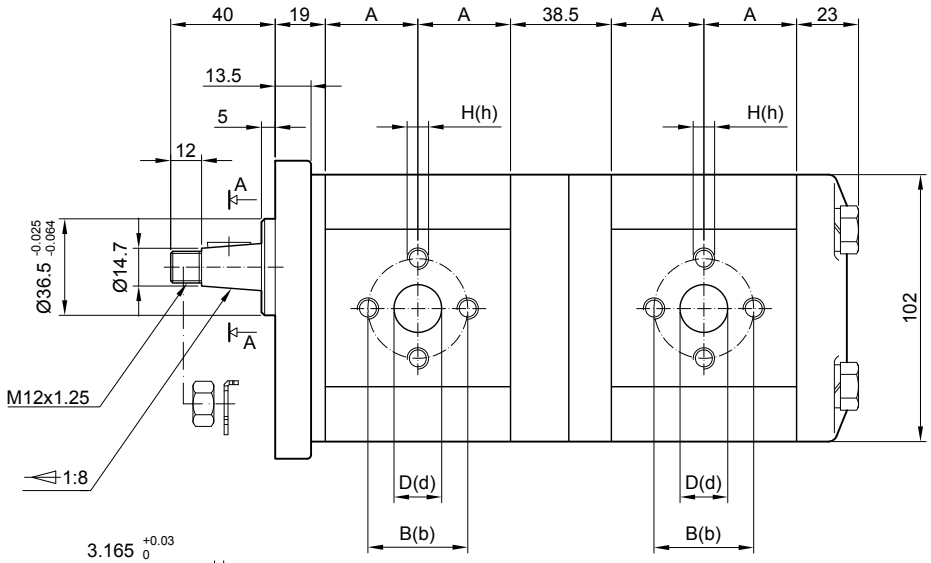
Filetto M12 x 1.25 su albero con coppia di serraggio 40 Nm

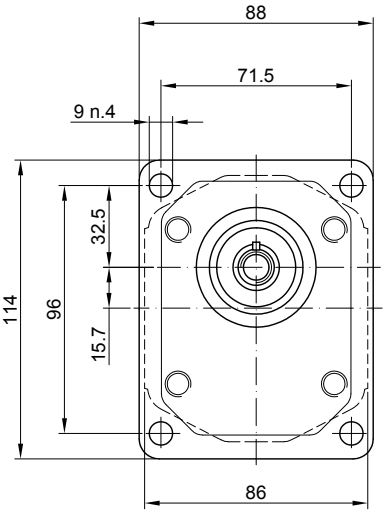
Shaft M12 x 1.25 nut, with a torque wrench settings fixed at 40 Nm

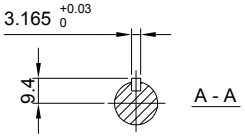
Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover



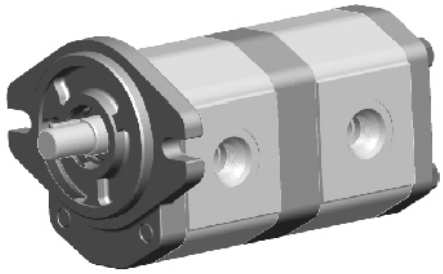






Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni	Aspirazione			Mandata		
Displacement	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*	*Inlet*			*Outlet*		
	P1	P2	P3			A	B	D	H	b	d	h
(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm		mm	mm	
3	270	285	300	4000	800	24.5	30	13	M6	30	13	M6
4	270	285	300	4000	600	25.3	30	13	M6	30	13	M6
6	270	285	300	4000	600	27	30	13	M6	30	13	M6
8	270	285	300	3500	500	28.6	30	13	M6	30	13	M6
10	270	285	300	3000	500	30.3	40	20	M8	30	13	M6
12	270	285	300	3000	500	32	40	20	M8	30	13	M6
14	250	265	280	4000	500	33.6	40	20	M8	30	13	M6
16	250	265	280	4000	500	35.3	40	20	M8	30	13	M6
18	250	265	280	3600	400	37	40	20	M8	30	13	M6
20	220	235	250	3200	400	38.6	40	20	M8	30	13	M6
22	220	235	250	3000	400	40.3	40	20	M8	30	13	M6
25	200	215	230	3000	400	42.8	40	22	M8	30	13	M6
28	180	190	200	2500	400	45.3	40	22	M8	30	13	M6
30	160	170	180	2500	400	47	40	22	M8	30	13	M6

22VP../..D - U. C0 A0 - F



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J1926/1)

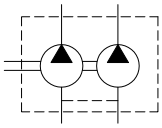
"D" and "d" ports are machined in compliance with threaded port with O-ring seal in truncated housing SAE J1926/1

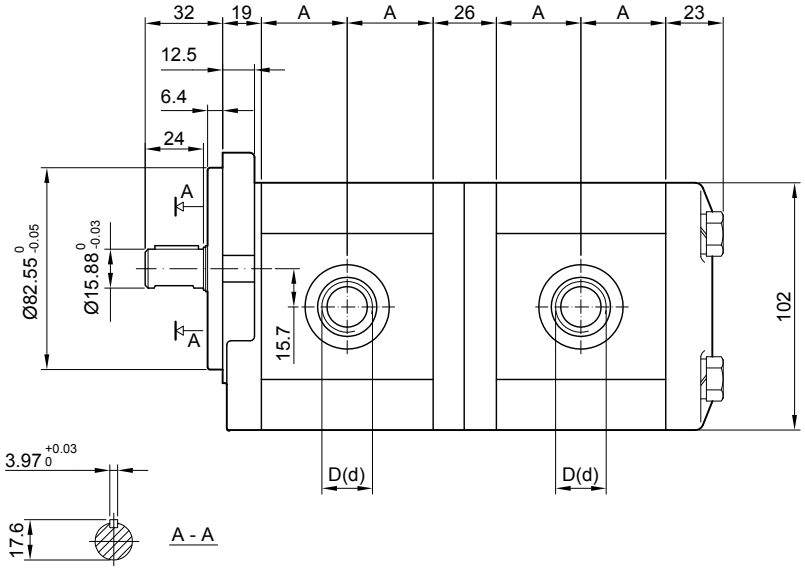
Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm

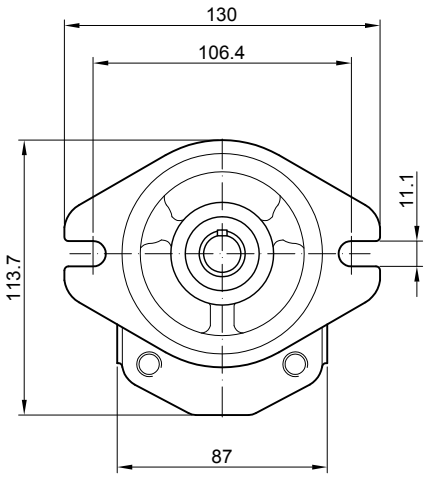
To mount the pump n.4 x M10 screws, with a torque wrench settings fixed at 70 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover







Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni	Aspirazione	Mandata
Displacement	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*	*Inlet*	*Outlet*
	P1	P2	P3			A	D	d
(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
3	270	285	300	4000	800	24.5	1 1/16-12UNF	7/8-14UNF
4	270	285	300	4000	600	25.3	1 1/16-12UNF	7/8-14UNF
6	270	285	300	4000	600	27	1 1/16-12UNF	7/8-14UNF
8	270	285	300	3500	500	28.6	1 1/16-12UNF	7/8-14UNF
10	270	285	300	3000	500	30.3	1 1/16-12UNF	7/8-14UNF
12	270	285	300	3000	500	32	1 1/16-12UNF	7/8-14UNF
14	250	265	280	4000	500	33.6	1 1/16-12UNF	7/8-14UNF
16	250	265	280	4000	500	35.3	1 1/16-12UNF	7/8-14UNF
18	250	265	280	3600	400	37	1 1/16-12UNF	7/8-14UNF
20	220	235	250	3200	400	38.6	1 1/16-12UNF	7/8-14UNF
22	220	235	250	3000	400	40.3	1 1/16-12UNF	7/8-14UNF
25	200	215	230	3000	400	42.8	1 1/16-12UNF	7/8-14UNF
28	180	190	200	2500	400	45.3	1 1/16-12UNF	7/8-14UNF
30	160	170	180	2500	400	47	1 5/16-12UNF	7/8-14UNF

21VP.. / .. . - L. T0 B0 - E

Flangia anteriore in ghisa

Cast iron front flange

Aspirazioni separate

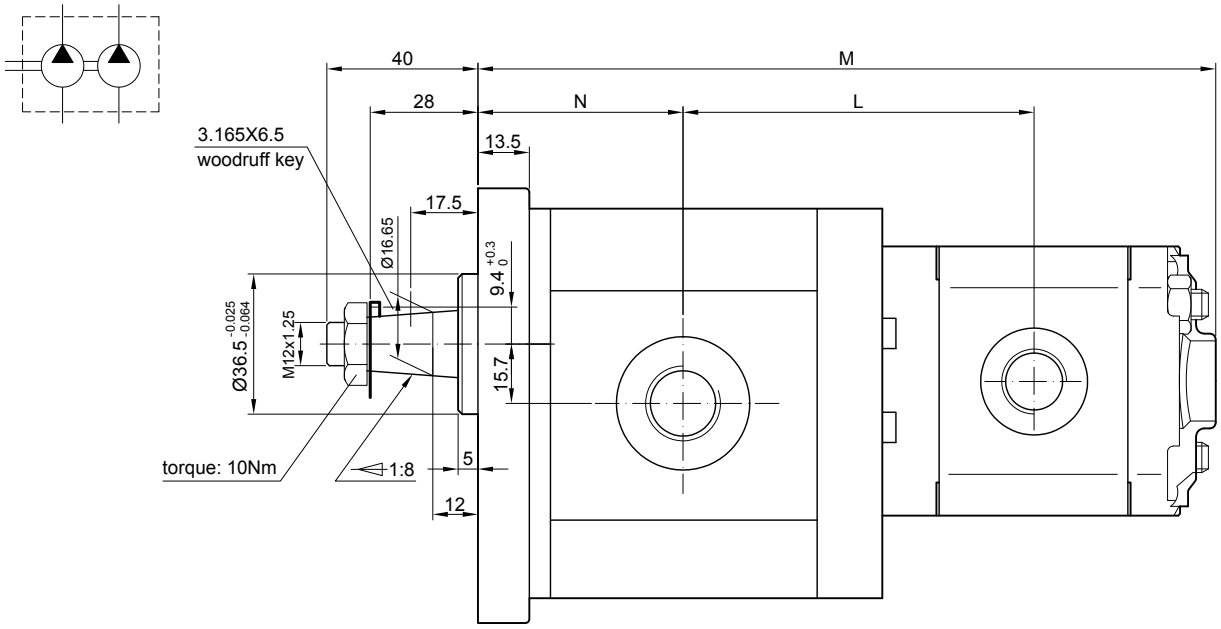
Separated suction line

Assemblaggio con 2 tiranti da M8 con coppia di serraggio 27±3 Nm

To mount the pump n.2 x M8 screws, with a torque wrench settings fixed at 27 ± 3 Nm

Filetto M12 x 1.25 su albero con coppia di seraggio 50 Nm

Shaft M12 x 1.25 nut, with a torque wrench settings fixed at 50 Nm



Tipo *Type*	Cilindrata 1° *Displacement 1st*	Cilindrata 2° *Displacement 2nd*	Pressione massima *Max pressure*			Dimensioni *Dimensions*		
			P1	P2	P3	M	L	N
	(cm^3/rev)	(cm^3/rev)	P1 (bar)	P2 (bar)	P3 (bar)	mm	mm	mm
21VP4/0.8	4	0.8	27	28	30	159.7	75.2	44.4
21VP4/1.1	4	1.1	27	28	30	160.2	75.4	44.4
21VP4/1.3	4	1.3	27	28	30	161.2	75.9	44.4
21VP4/1.6	4	1.6	27	28	30	162.2	76.4	44.4
21VP4/1.8	4	1.8	27	28	30	163.2	76.9	44.4
21VP4/2.1	4	2.1	27	28	30	164.2	77.4	44.4
21VP4/2.7	4	2.7	27	28	30	166.2	78.4	44.4
21VP4/3.2	4	3.2	27	28	30	168.2	79.4	44.4
21VP4/3.7	4	3.7	27	28	30	170.2	80.4	44.4
21VP4/4.2	4	4.2	27	28	30	172.2	81.4	44.4
21VP6/0.8	6	0.8	27	28	30	163	76.8	46
21VP6/1.1	6	1.1	27	28	30	163.5	77	46
21VP6/1.3	6	1.3	27	28	30	164.5	77.5	46
21VP6/1.6	6	1.6	27	28	30	165.5	78	46
21VP6/1.8	6	1.8	27	28	30	166.5	78.5	46
21VP6/2.1	6	2.1	27	28	30	167.5	79	46
21VP6/2.7	6	2.7	27	28	30	169.5	80	46
21VP6/3.2	6	3.2	27	28	30	171.5	81	46
21VP6/3.7	6	3.7	27	28	30	173.5	82	46
21VP6/4.2	6	4.2	27	28	30	175.5	83	46

21VP.. / .. . - L. T0 B0 - E

Tipo *Type*	Cilindrata 1° *Displacement 1st*	Cilindrata 2° *Displacement 2nd*	Pressione *Pressure*			Dimensioni *Dimensions*		
						M	L	N
	(cm³/rev)	*(cm³/rev)*	P1 (bar)	P2 (bar)	P3 (bar)	mm	mm	mm
21VP6/4.8...	6	4.8	27	28	30	177.5	84	46
21VP6/5.8...	6	5.8	27	28	30	181.5	86	46
21VP8/0.8...	8	0.8	27	28	30	166.3	78.5	47.7
21VP8/1.1...	8	1.1	27	28	30	166.8	78.7	47.7
21VP8/1.3...	8	1.3	27	28	30	167.8	79.2	47.7
21VP8/1.6...	8	1.6	27	28	30	168.8	79.7	47.7
21VP8/1.8...	8	1.8	27	28	30	169.8	80.2	47.7
21VP8/2.1...	8	2.1	27	28	30	170.8	80.7	47.7
21VP8/2.7...	8	2.7	27	28	30	172.8	81.7	47.7
21VP8/3.2...	8	3.2	27	28	30	174.8	82.7	47.7
21VP8/3.7...	8	3.7	27	28	30	176.8	83.7	47.7
21VP8/4.2...	8	4.2	27	28	30	178.8	84.7	47.7
21VP8/4.8...	8	4.8	27	28	30	180.8	85.7	47.7
21VP8/5.8...	8	5.8	27	28	30	184.8	87.7	47.7
21VP8/7...	8	7	27	28	30	188.8	89.7	47.7
21VP8/8...	8	8	27	28	30	192.8	91.7	47.7
21VP10/0.8...	10	0.8	27	28	30	169.6	80.1	49.3
21VP10/1.1...	10	1.1	27	28	30	170.1	80.3	49.3
21VP10/1.3...	10	1.3	27	28	30	171.1	80.8	49.3
21VP10/1.6...	10	1.6	27	28	30	172.1	81.3	49.3
21VP10/1.8...	10	1.8	27	28	30	173.1	81.8	49.3
21VP10/2.1...	10	2.1	27	28	30	174.1	82.3	49.3
21VP10/2.7...	10	2.7	27	28	30	176.1	83.3	49.3
21VP10/3.2...	10	3.2	27	28	30	178.1	84.3	49.3
21VP10/3.7...	10	3.7	27	28	30	180.1	85.3	49.3
21VP10/4.2...	10	4.2	27	28	30	182.1	86.3	49.3
21VP10/4.8...	10	4.8	27	28	30	184.1	87.3	49.3
21VP10/5.8...	10	5.8	27	28	30	186.1	89.3	49.3
21VP10/7...	10	7	27	28	30	192.1	91.3	49.3
21VP10/8...	10	8	27	28	30	196.1	93.3	49.3
21VP12/0.8...	12	0.8	27	28	30	172.9	81.8	51
21VP12/1.1...	12	1.1	27	28	30	173.4	82	51
21VP12/1.3...	12	1.3	27	28	30	174.4	82.5	51
21VP12/1.6...	12	1.6	27	28	30	175.4	83	51
21VP12/1.8...	12	1.8	27	28	30	176.4	83.5	51
21VP12/2.1...	12	2.1	27	28	30	177.4	84	51
21VP12/2.7...	12	2.7	27	28	30	179.4	85	51
21VP12/3.2...	12	3.2	27	28	30	181.4	86	51
21VP12/3.7...	12	3.7	27	28	30	183.4	87	51
21VP12/4.2...	12	4.2	27	28	30	185.4	88	51
21VP12/4.8...	12	4.8	27	28	30	187.4	89	51
21VP12/5.8...	12	5.8	27	28	30	191.4	91	51
21VP12/7...	12	7	27	28	30	195.4	93	51
21VP12/8...	12	8	27	28	30	199.4	95	51
21VP14/0.8...	14	0.8	25	26	28	176.3	83.5	52.7
21VP14/1.1...	14	1.1	25	26	28	176.8	83.7	52.7
21VP14/1.3...	14	1.3	25	26	28	177.8	84.2	52.7
21VP14/1.6...	14	1.6	25	26	28	178.8	84.7	52.7
21VP14/1.8...	14	1.8	25	26	28	179.8	85.2	52.7
21VP14/2.1...	14	2.1	25	26	28	180.8	85.7	52.7
21VP14/2.7...	14	2.7	25	26	28	182.8	86.7	52.7
21VP14/3.2...	14	3.2	25	26	28	184.8	87.7	52.7
21VP14/3.7...	14	3.7	25	26	28	186.8	88.7	52.7
21VP14/4.2...	14	4.2	25	26	28	188.8	89.7	52.7
21VP14/4.8...	14	4.8	25	26	28	190.8	90.7	52.7
21VP14/5.8...	14	5.8	25	26	28	194.8	92.7	52.7
21VP14/7...	14	7	25	26	28	198.8	94.7	52.7
21VP14/8...	14	8	25	26	28	202.8	96.7	52.7
21VP16/0.8...	16	0.8	25	26	28	179.7	85.2	54.4
21VP16/1.1...	16	1.1	25	26	28	180.2	85.4	54.4
21VP16/1.3...	16	1.3	25	26	28	181.2	85.9	54.4
21VP16/1.6...	16	1.6	25	26	28	182.2	86.4	54.4
21VP16/1.8...	16	1.8	25	26	28	183.2	86.9	54.4
21VP16/2.1...	16	2.1	25	26	28	184.2	87.4	54.4
21VP16/2.7...	16	2.7	25	26	28	186.2	88.4	54.4

21VP.. / .. . - L. T0 B0 - E

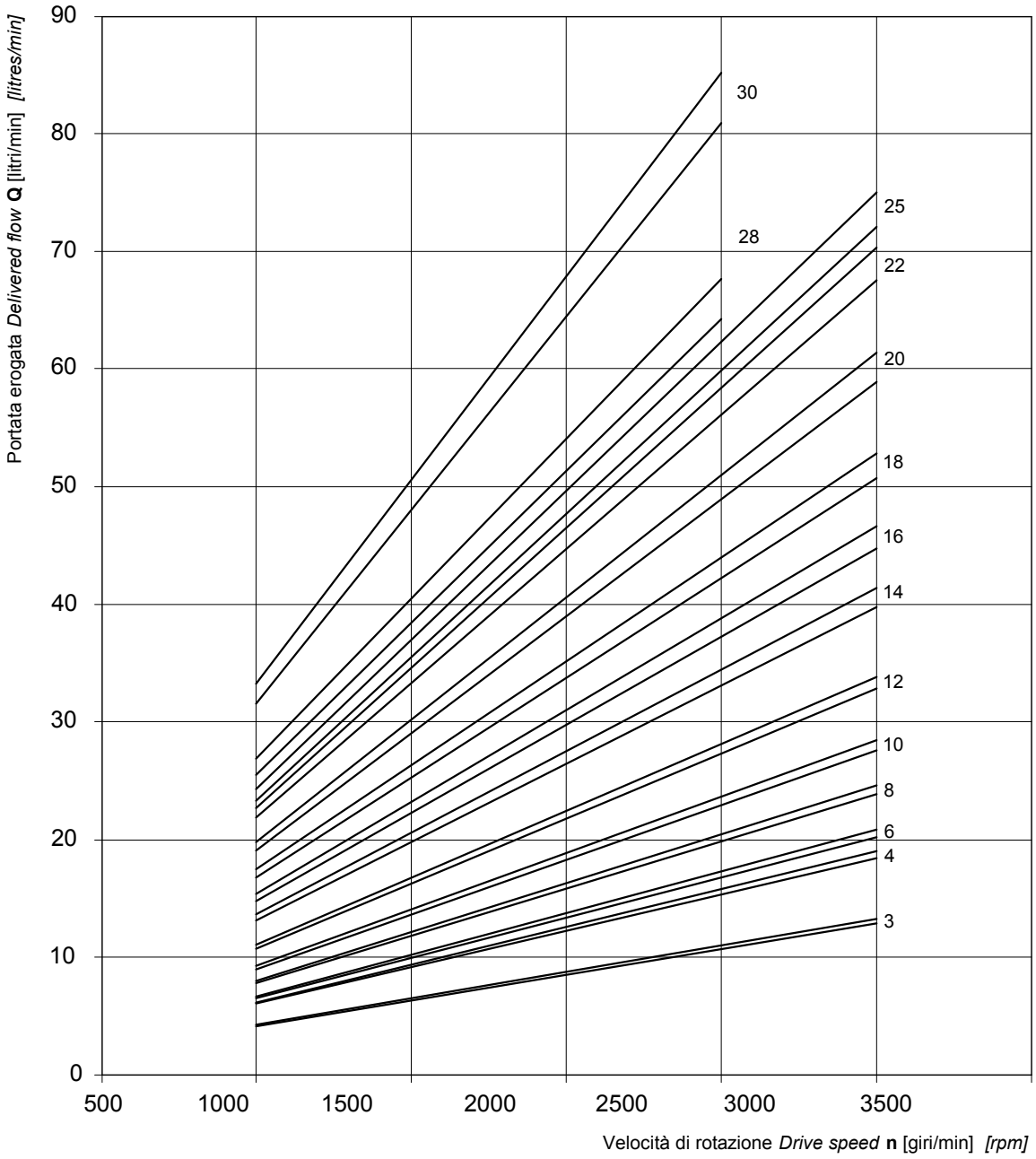
Tipo *Type*	Cilindrata 1° *Displacement 1st*	Cilindrata 2° *Displacement 2nd*	Pressione *Pressure*			Dimensioni *Dimensions*		
						M	L	N
	(cm³/rev)	*(cm³/rev)*	P1 (bar)	P2 (bar)	P3 (bar)	mm	mm	mm
21VP16/3.2…	16	3.2	25	26	28	188.2	89.4	54.4
21VP16/3.7…	16	3.7	25	26	28	190.2	90.4	54.4
21VP16/4.2…	16	4.2	25	26	28	192.2	91.4	54.4
21VP16/4.8…	16	4.8	25	26	28	194.2	92.4	54.4
21VP16/5.8…	16	5.8	25	26	28	196.2	94.4	54.4
21VP16/7…	16	7	25	26	28	202.2	96.4	54.4
21VP16/8…	16	8	25	26	28	206.2	98.4	54.4
21VP18/0.8…	18	0.8	25	26	28	183	86.8	56
21VP18/1.1…	18	1.1	25	26	28	183.5	87	56
21VP18/1.3…	18	1.3	25	26	28	184.5	87.5	56
21VP18/1.6…	18	1.6	25	26	28	185.5	88	56
21VP18/1.8…	18	1.8	25	26	28	186.5	88.5	56
21VP18/2.1…	18	2.1	25	26	28	187.5	89	56
21VP18/2.7…	18	2.7	25	26	28	189.5	90	56
21VP18/3.2…	18	3.2	25	26	28	191.5	91	56
21VP18/3.7…	18	3.7	25	26	28	193.5	92	56
21VP18/4.2…	18	4.2	25	26	28	195.5	93	56
21VP18/4.8…	18	4.8	25	26	28	197.5	94	56
21VP18/5.8…	18	5.8	25	26	28	201.5	96	56
21VP18/7…	18	7	25	26	28	205.5	98	56
21VP18/8…	18	8	25	26	28	209.5	100	56
21VP20/0.8…	20	0.8	22	23	25	186.3	88.5	57.7
21VP20/1.1…	20	1.1	22	23	25	186.8	88.7	57.7
21VP20/1.3…	20	1.3	22	23	25	187.8	89.2	57.7
21VP20/1.6…	20	1.6	22	23	25	188.8	89.7	57.7
21VP20/1.8…	20	1.8	22	23	25	189.8	90.2	57.7
21VP20/2.1…	20	2.1	22	23	25	190.8	90.7	57.7
21VP20/2.7…	20	2.7	22	23	25	192.8	91.7	57.7
21VP20/3.2…	20	3.2	22	23	25	194.8	92.7	57.7
21VP20/3.7…	20	3.7	22	23	25	196.8	93.7	57.7
21VP20/4.2…	20	4.2	22	23	25	198.8	94.7	57.7
21VP20/4.8…	20	4.8	22	23	25	200.8	95.7	57.7
21VP20/5.8…	20	5.8	22	23	25	204.8	97.7	57.7
21VP20/7…	20	7	22	23	25	206.8	99.7	57.7
21VP20/8…	20	8	22	23	25	212.8	101.7	57.7
21VP22/0.8…	22	0.8	22	23	25	189.6	90.1	59.3
21VP22/1.1…	22	1.1	22	23	25	190.1	90.3	59.3
21VP22/1.3…	22	1.3	22	23	25	191.1	90.8	59.3
21VP22/1.6…	22	1.6	22	23	25	192.1	91.3	59.3
21VP22/1.8…	22	1.8	22	23	25	193.1	91.8	59.3
21VP22/2.1…	22	2.1	22	23	25	194.1	92.3	59.3
21VP22/2.7…	22	2.7	22	23	25	196.1	93.3	59.3
21VP22/3.2…	22	3.2	22	23	25	198.1	94.3	59.3
21VP22/3.7…	22	3.7	22	23	25	200.1	95.3	59.3
21VP22/4.2…	22	4.2	22	23	25	202.1	96.3	59.3
21VP22/4.8…	22	4.8	22	23	25	204.1	97.3	59.3
21VP22/5.8…	22	5.8	22	23	25	208.1	99.3	59.3
21VP22/7…	22	7	22	23	25	212.1	101.3	59.3
21VP22/8…	22	8	22	23	25	216.1	103.3	59.3
21VP25/0.8…	25	0.8	20	21	23	194.6	92.6	61.8
21VP25/1.1…	25	1.1	20	21	23	195.1	192.8	61.8
21VP25/1.3…	25	1.3	20	21	23	196.1	93.3	61.8
21VP25/1.6…	25	1.6	20	21	23	197.1	93.8	61.8
21VP25/1.8…	25	1.8	20	21	23	198.1	94.3	61.8
21VP25/2.1…	25	2.1	20	21	23	199.1	94.8	61.8
21VP25/2.7…	25	2.7	20	21	23	201.1	95.8	61.8
21VP25/3.2…	25	3.2	20	21	23	203.1	96.8	61.8
21VP25/3.7…	25	3.7	20	21	23	205.1	97.8	61.8
21VP25/4.2…	25	4.2	20	21	23	207.1	98.8	61.8
21VP25/4.8…	25	4.8	20	21	23	209.1	99.8	61.8
21VP25/5.8…	25	5.8	20	21	23	213.1	101.8	61.8
21VP25/7…	25	7	20	21	23	217.1	103.8	61.8
21VP25/8…	25	8	20	21	23	221.1	105.8	61.8
21VP28/0.8…	28	0.8	18	19	20	199.6	95.1	64.3
21VP28/1.1…	28	1.1	18	19	20	200.1	95.3	64.3

21VP.. / .. . - L. T0 B0 - E

Tipo *Type*	Cilindrata 1° *Displacement 1st*	Cilindrata 2° *Displacement 2nd*	Pressione *Pressure*			Dimensioni *Dimensions*		
						M	L	N
	(cm³/rev)	*(cm³/rev)*	P1 (bar)	P2 (bar)	P3 (bar)	mm	mm	mm
21VP28/1.3…	28	1.3	18	19	20	201.1	95.8	64.3
21VP28/1.6…	28	1.6	18	19	20	202.1	96.3	64.3
21VP28/1.8…	28	1.8	18	19	20	203.1	96.8	64.3
21VP28/2.1…	28	2.1	18	19	20	204.1	97.3	64.3
21VP28/2.7…	28	2.7	18	19	20	206.1	98.3	64.3
21VP28/3.2…	28	3.2	18	19	20	208.1	99.3	64.3
21VP28/3.7…	28	3.7	18	19	20	210.1	100.3	64.3
21VP28/4.2…	28	4.2	18	19	20	212.1	101.3	64.3
21VP28/4.8…	28	4.8	18	19	20	214.1	102.3	64.3
21VP28/5.8…	28	5.8	18	19	20	218.1	104.3	64.3
21VP28/7…	28	7	18	19	20	222.1	106.3	64.3
21VP28/8…	28	8	18	19	20	226.1	108.3	64.3
21VP30/0.8…	30	0.8	16	17	18	202.9	96.8	66
21VP30/1.1…	30	1.1	16	17	18	203.4	97	66
21VP30/1.3…	30	1.3	16	17	18	204.4	97.5	66
21VP30/1.6…	30	1.6	16	17	18	205.4	98	66
21VP30/1.8…	30	1.8	16	17	18	206.4	98.5	66
21VP30/2.1…	30	2.1	16	17	18	207.4	99	66
21VP30/2.7…	30	2.7	16	17	18	209.4	100	66
21VP30/3.2…	30	3.2	16	17	18	211.4	101	66
21VP30/3.7…	30	3.7	16	17	18	213.4	102	66
21VP30/4.2…	30	4.2	16	17	18	215.4	103	66
21VP30/4.8…	30	4.8	16	17	18	217.4	104	66
21VP30/5.8…	30	5.8	16	17	18	221.4	106	66
21VP30/7…	30	7	16	17	18	225.4	108	66
21VP30/8…	30	8	16	17	18	229.4	110	66

SERIE 2VP - *2VP SERIES*

2VP CURVE CARATTERISTICHE / *2VP PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50 °C, using oil with viscosity 30 cSt at these pressure.

3, 4, 6 — 25-250 bar

8, 10 — 25-240 bar

14, 16 — 25-220 bar

18 — 25-210 bar

22 — 25-190 bar

25 — 25-170 bar

28 — 25-160 bar

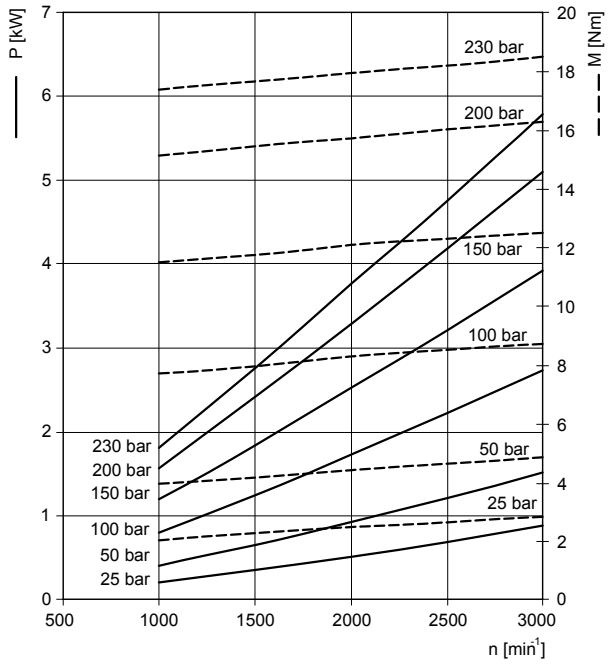
30 — 25-130 bar

SERIE 2VP - *2VP SERIES*

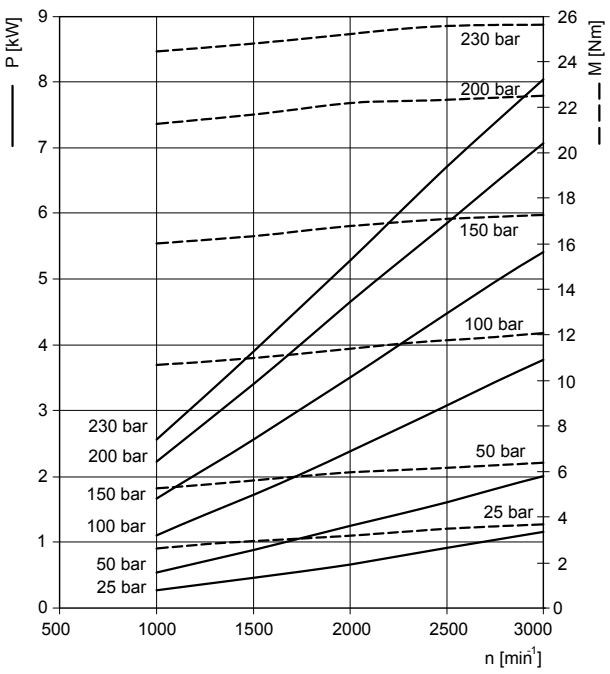
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

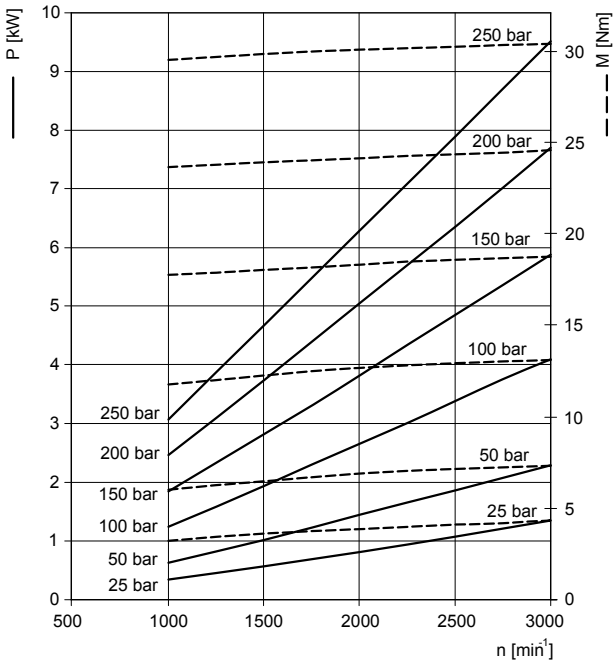
2VP 3



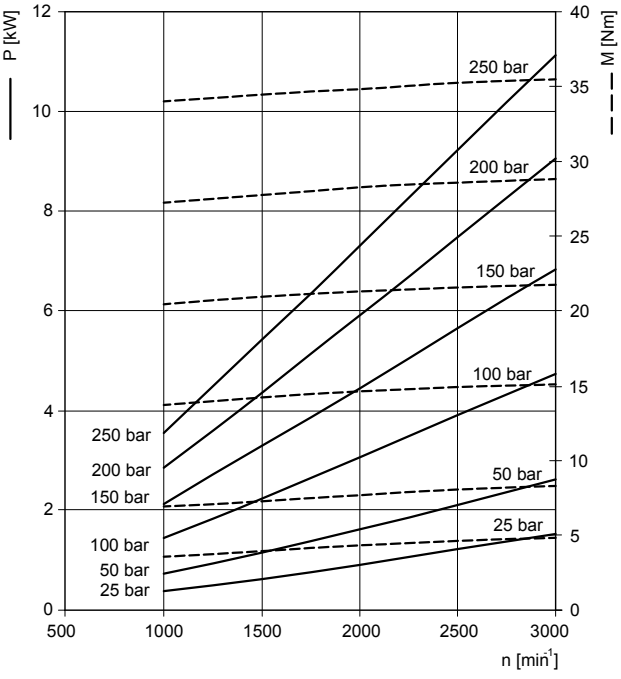
2VP 4



2VP 6



2VP 8

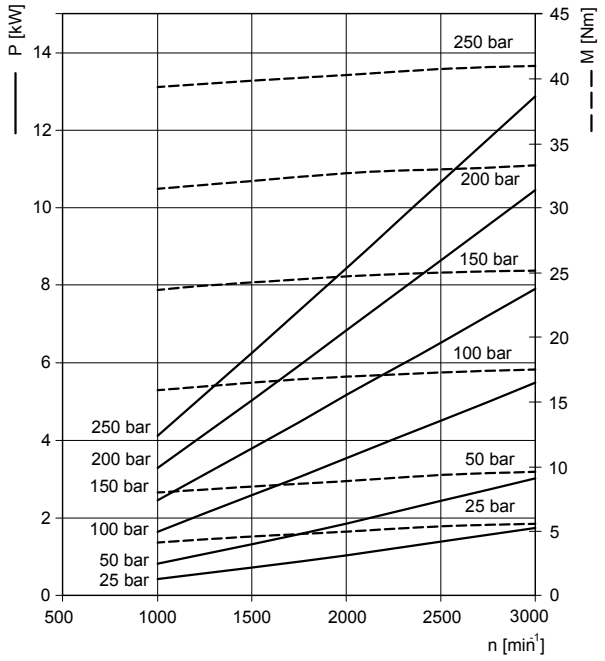


SERIE 2VP - *2VP SERIES*

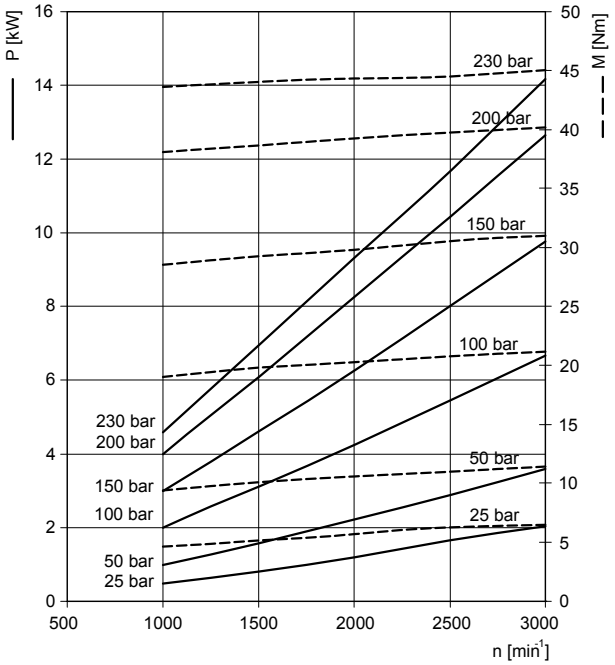
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

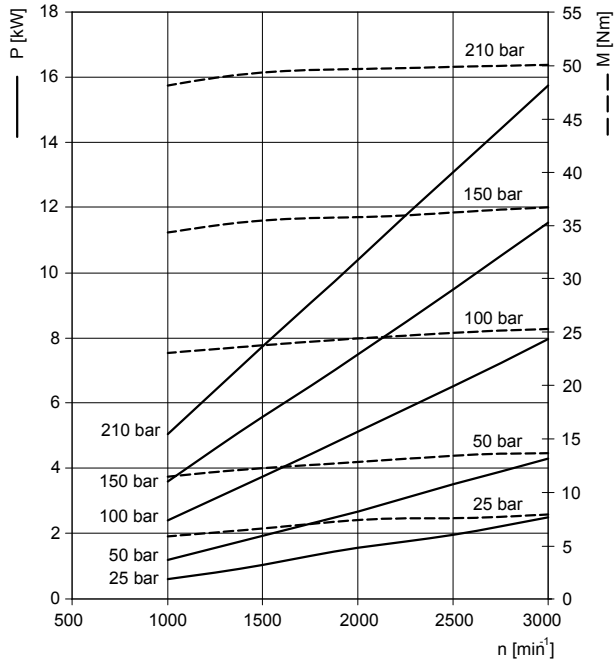
2VP 10



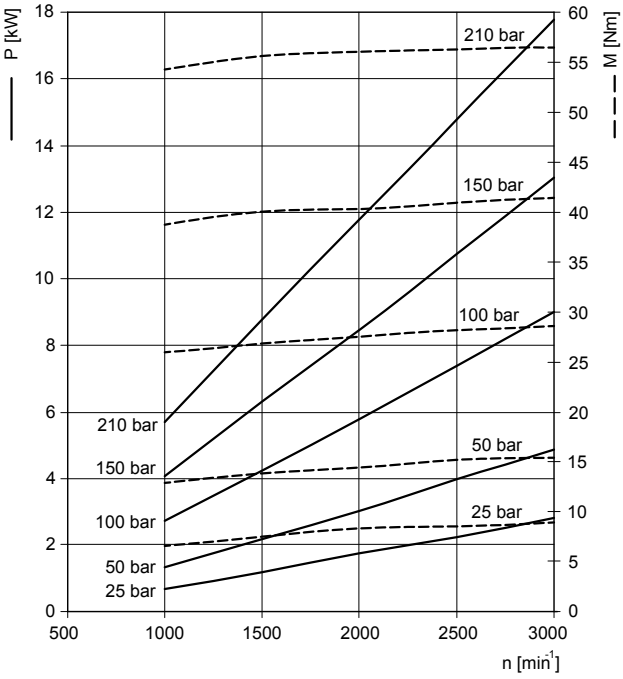
2VP 12



2VP 14



2VP 16

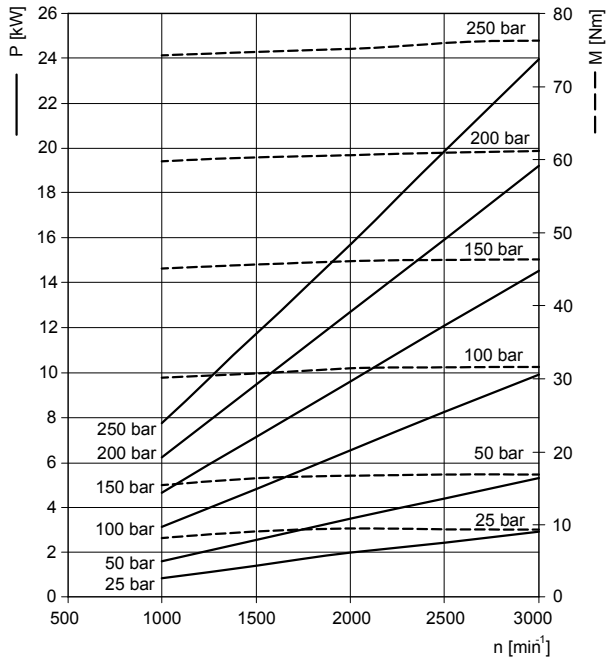


SERIE 2VP - *2VP SERIES*

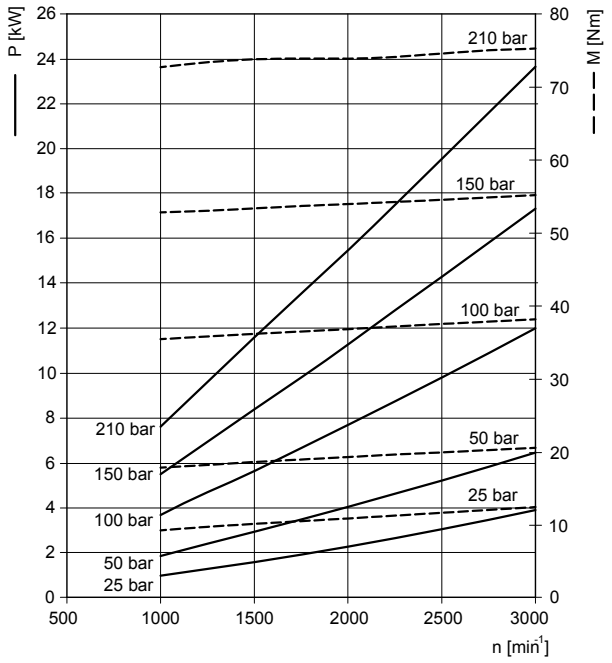
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

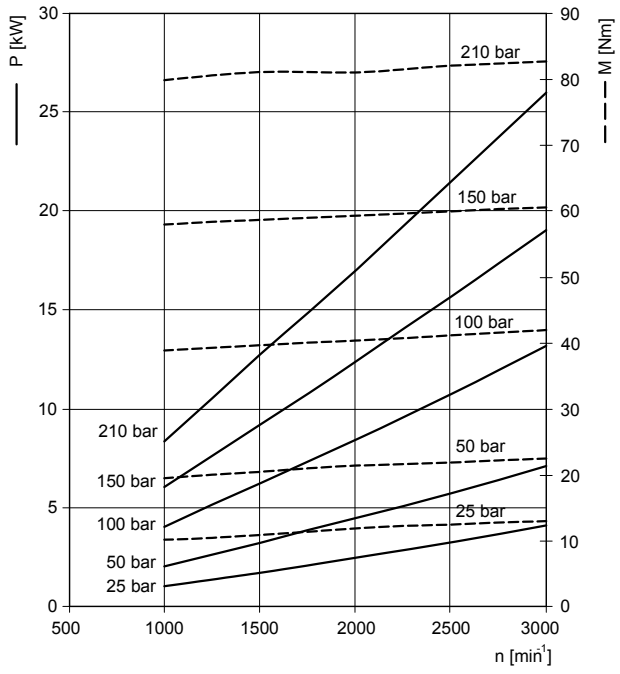
2VP 18



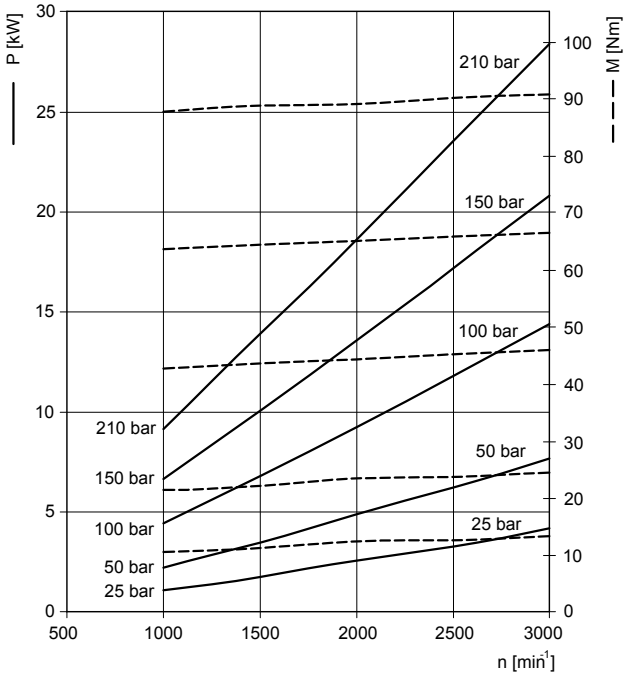
2VP 20



2VP 22



2VP 25

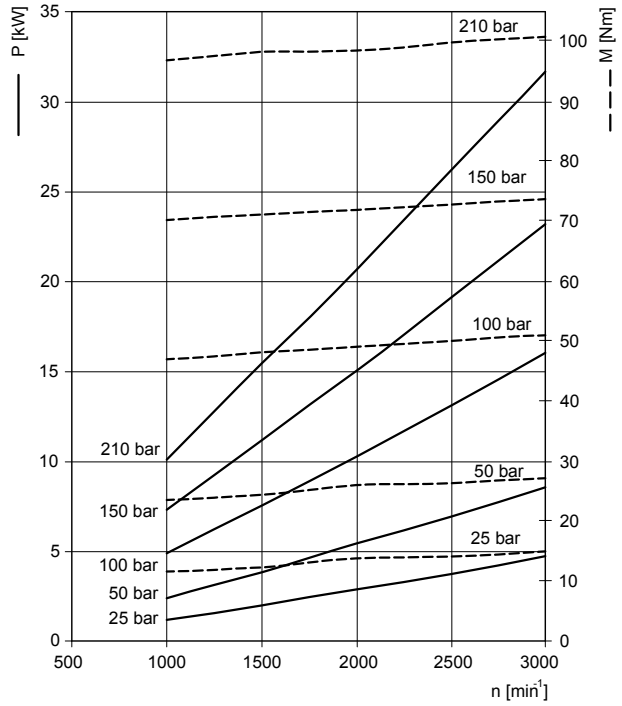


SERIE 2VP - *2VP SERIES*

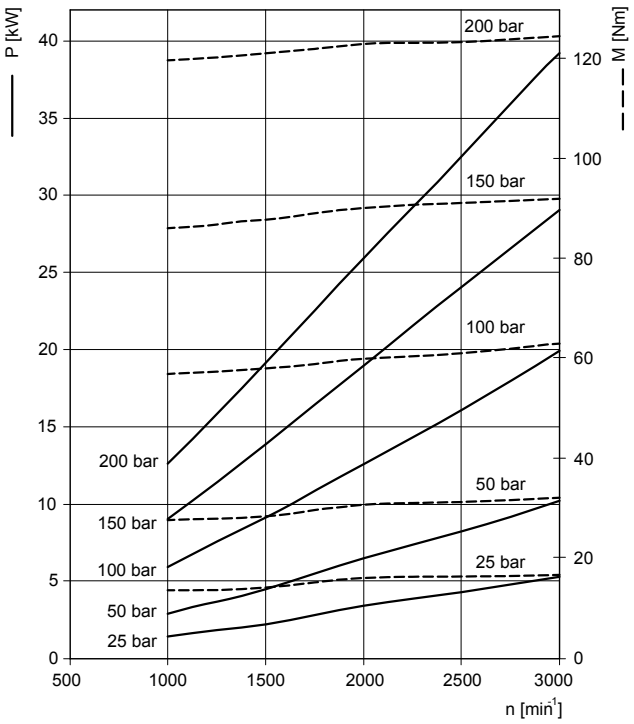
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

2VP 28

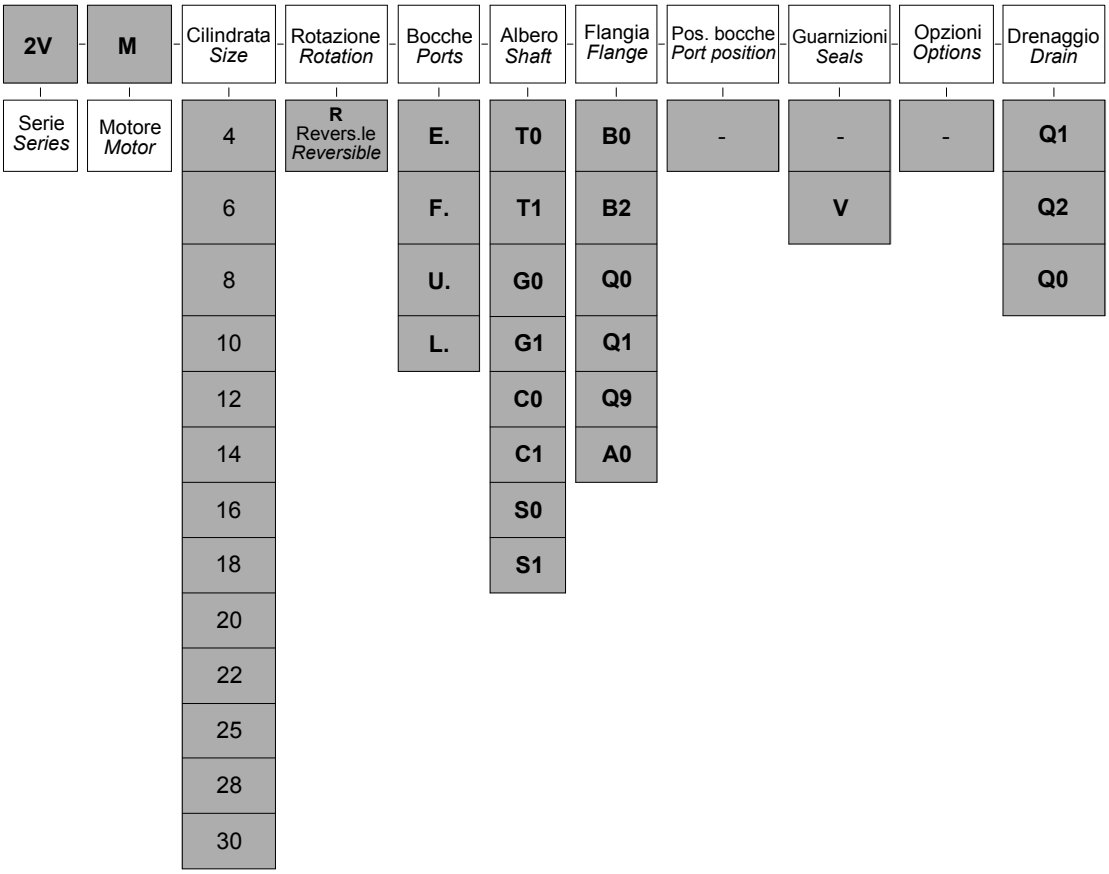


2VP 30



SERIE 2VMR - *2VMR SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Laterale / *Side*
R Posteriore / *Rear*

Guarnizioni - *Seals*

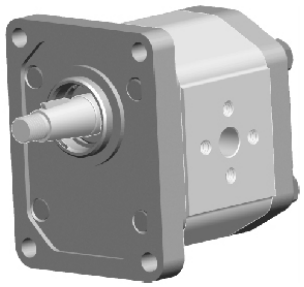
- Buna (-10°C + 80°C)
V Viton (-10°C + 120°C)

Opzioni - *Options*

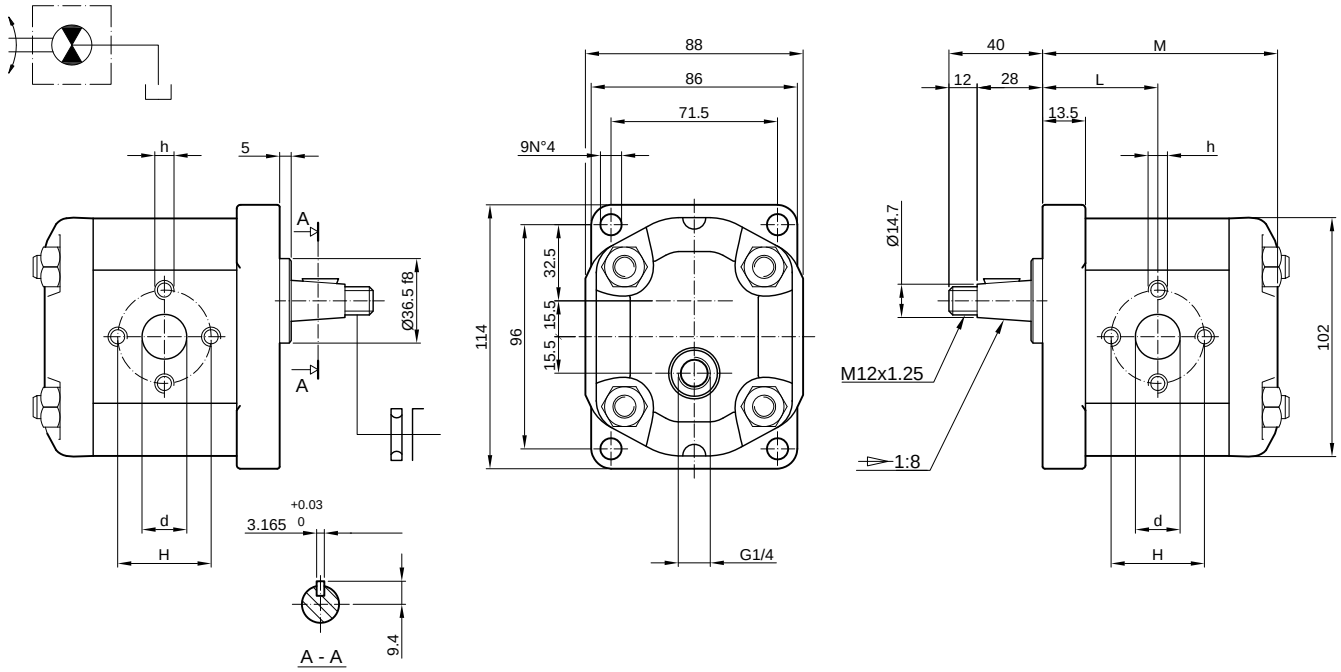
Drenaggio - *Drain*

Q1 Drenaggio esterno / *External drain 1/4 BSPP*
Q2 Drenaggio esterno / *External drain 9/16 - 18 UNF*
Q0 Drenaggio interno / *Internal drain*

2VM..R - E. T0 B0 Q1

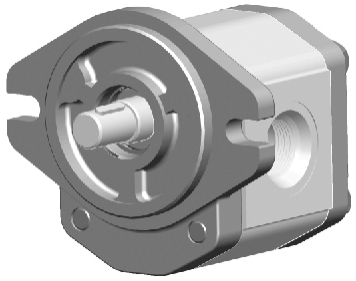


Profondità 13mm filetto M6, 17mm filetto M8	*M6 thread depth 13mm, M8 thread depth 17mm*
Flangia anteriore e coperchio posteriore in ghisa	*Cast iron front flange and back cover*
Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm	*To mount the pump n.4xM10 screws with a torque wrench settings fixed at 70 Nm*
Drenaggio 1/4 BSPP profondità utile 12mm	*1/4 BSPP drain port thread depth 12mm*
Estremità albero M12x1.25 coppia di serraggio 50 Nm	*Shaft M12x1.25 nut wrench torque 50 Nm*



Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure*			Velocità Minima *Min. speed*	Velocità Massima *Max. speed*	Dimensioni *Dimensions*				
		P1	P2	P3			L	M	d	h	H
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm
2VM 4 R	4	240	260	270	800	4000	44.4	92.7	13	M6	30
2VM 6 R	6	240	260	270	800	4000	46	96	13	M6	30
2VM 8 R	8	240	260	270	800	3500	47.7	99.3	13	M6	30
2VM 10 R	10	240	260	270	800	3000	49.3	102.6	13	M8	40
2VM 12 R	12	240	260	270	700	3000	51	105.9	19	M8	40
2VM 14 R	14	220	230	250	700	4000	52.7	109.3	19	M8	40
2VM 16 R	16	220	230	250	700	4000	54.4	112.7	19	M8	40
2VM 18 R	18	210	220	235	700	3600	56	116	19	M8	40
2VM 20 R	20	200	210	225	700	3200	57.7	119.3	19	M8	40
2VM 22 R	22	200	210	225	700	3000	59.3	122.6	19	M8	40
2VM 25 R	25	180	190	205	500	3000	61.8	127.6	19	M8	40
2VM 28 R	28	170	180	195	500	2500	64.3	132.6	19	M8	40
2VM 30 R	30	170	180	195	500	2500	66	135.9	19	M8	40

2VM..R - U. C0 A0-Q1



Bocche di entrata e uscita filettate SAE con tenuta O-ring (SAE J1926/1)

Both ports are machined in compliance with threaded port with O-ring seal in truncated housing (SAE J1926/1)

Assemblaggio con 4 tiranti (V) da M10 coppia di serraggio 70 Nm

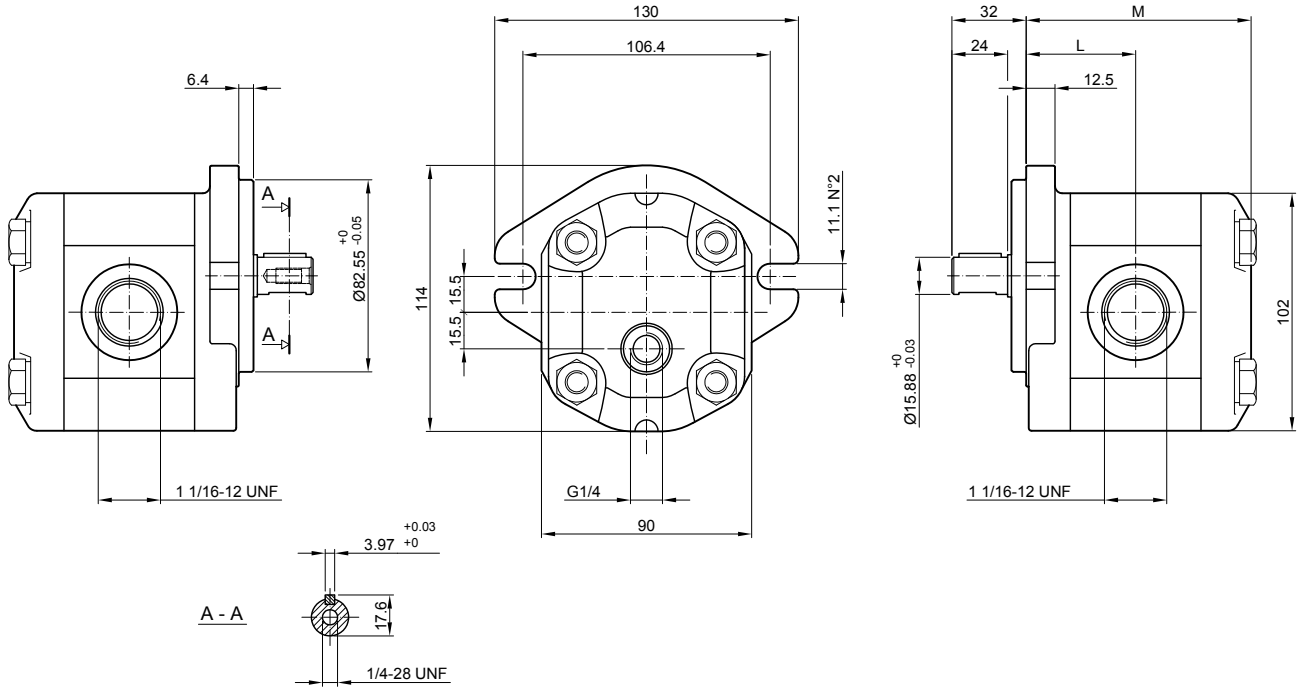
To mount the pump n.4 M10 screws (v) with a torque wrench settings fixed at 70 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

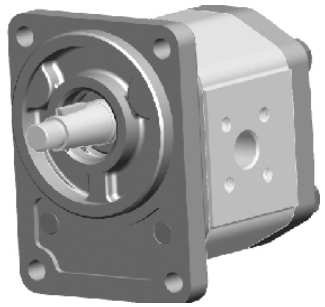
Drenaggio 1/4 BSPP profondità utile 12mm

1/4 BSPP drain port thread depth 12mm

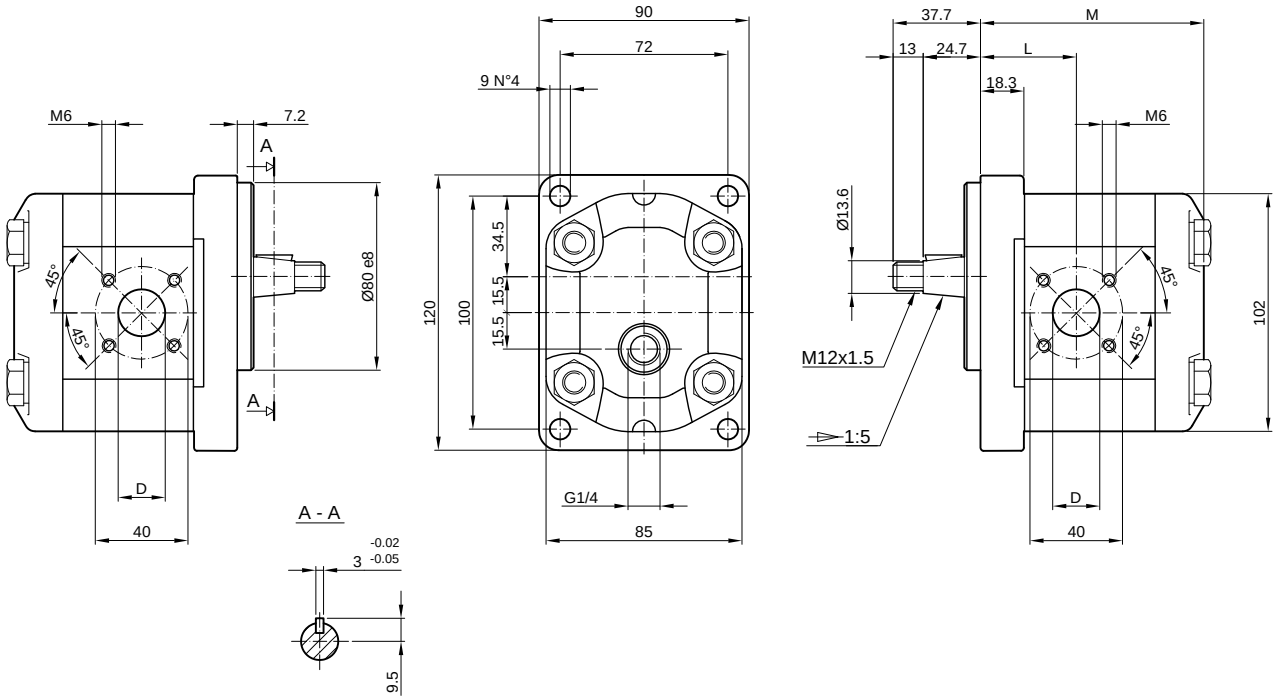


Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure*			Velocità Massima *Max. speed*	Velocità Minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
2VM 4 R	4	250	240	270	4000	800	92.7	44.4
2VM 6 R	6	250	240	270	4000	800	96	46
2VM 8 R	8	250	240	270	4000	800	99.3	47.7
2VM 10 R	10	250	240	270	4000	800	102.6	49.3
2VM 12 R	12	230	220	250	4000	700	105.9	51
2VM 14 R	14	230	220	250	3200	700	109.3	52.7
2VM 16 R	16	210	200	225	2800	700	112.7	54.4
2VM 18 R	18	210	200	225	2500	700	116	56
2VM 20 R	20	180	170	195	2200	700	119.3	57.7
2VM 22 R	22	180	170	195	2200	700	122.6	59.3
2VM 25 R	25	170	160	185	2000	500	127.6	61.8
2VM 28 R	28	170	160	185	1800	500	132.6	64.3
2VM 30 R	30	170	160	185	1800	500	135.9	66

2VM..R - F. T1 B2-Q1

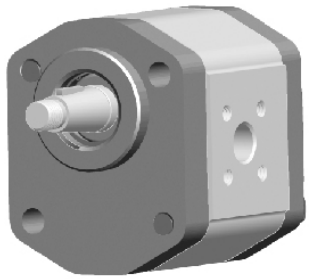


Profondità 13mm filetto M6	*M6 thread depth 13*
Flangia anteriore e coperchio posteriore in ghisa	*Cast iron front flange and back cover*
Assemblaggio con 4 tiranti da M10 coppia di serraggio 70 Nm	*To mount the pump n.4 M10 screws with a torque wrench settings fixed at 70 Nm*
Filetto M12x1.25 su albero con coppia di serraggio 50 Nm	*Shaft M12x1.25 nut, with a torque wrench settings fixed at 50 Nm*
Drenaggio BSPP 1/4 profondità utile 12mm	*BSPP 1/4 drain port thread depth 12mm*



Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure* P1	P2	P3	Velocità Massima *Max. speed*	Velocità Minima *Min. speed*	Dimensioni *Dimensions* M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VM 4 R	4	250	240	270	4000	800	92.7	39.9	15
2VM 6 R	6	250	240	270	4000	800	96	41.1	15
2VM 8 R	8	250	240	270	4000	800	99.3	43.2	15
2VM 10 R	10	250	240	270	4000	800	102.6	43.7	20
2VM 12 R	12	230	220	250	4000	700	105.9	47.5	20
2VM 14 R	14	230	220	250	4000	700	109.3	47.5	20
2VM 16 R	16	210	200	225	4000	700	112.7	47.5	20
2VM 18 R	18	210	200	225	4000	700	116	47.5	20
2VM 20 R	20	180	170	195	3400	700	119.3	47.5	20
2VM 22 R	22	180	170	195	3000	700	122.6	55.1	20
2VM 25 R	25	170	160	185	2600	500	127.6	61.8	20
2VM 28 R	28	170	160	185	2600	500	132.6	64.3	20
2VM 30 R	30	170	160	185	2600	500	135.9	66	20

2VM..R - F. T1 Q1-Q0



Profondità 13mm filetto M6

M6 thread depth 13.

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

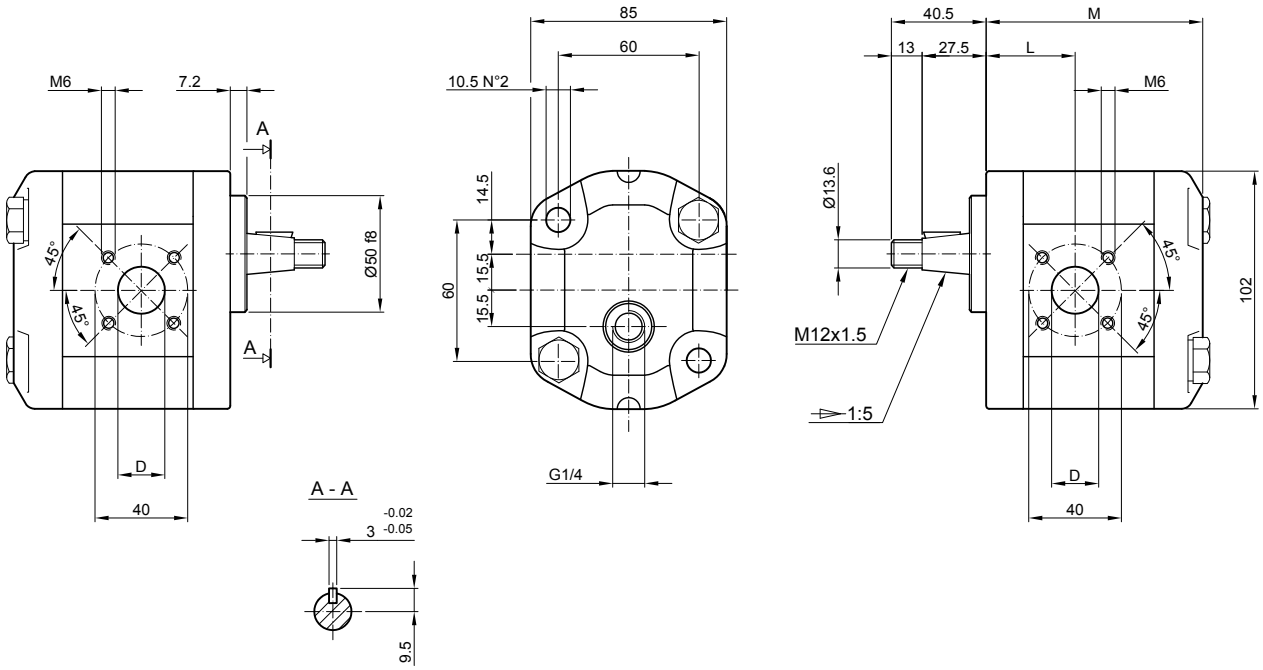
To mount the pump n.2 M10 screws with a torque wrench settings fixed at 50 Nm

Filetto M12x1.5 su albero con coppia di serraggio 50 Nm

Shaft M12x1.5 nut, with a torque wrench settings fixed at 50 Nm

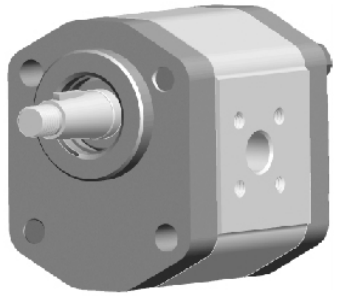
Drenaggio BSPP 1/4 profondità utile 12mm

BSPP 1/4 drain port thread depth 12mm



Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure* P1	P2	P3	Velocità Massima *Max. speed*	Velocità Minima *Min. speed*	Dimensioni *Dimensions* M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VM 4 R	4	250	240	270	4000	800	90.2	37.4	15
2VM 6 R	6	250	240	270	4000	800	93.5	38.6	15
2VM 8 R	8	250	240	270	4000	800	96.8	40.7	15
2VM 10 R	10	250	240	270	4000	800	100.1	41.2	20
2VM 12 R	12	230	220	250	4000	700	103.4	45	20
2VM 14 R	14	230	220	250	4000	700	106.8	45	20
2VM 16 R	16	210	200	225	4000	700	110.2	45	20
2VM 18 R	18	210	200	225	4000	700	113.5	47.5	20
2VM 20 R	20	180	170	195	3400	700	116.8	47.5	20
2VM 22 R	22	180	170	195	3000	700	120.1	52.6	20
2VM 25 R	25	170	160	185	2600	500	125.1	59.3	20
2VM 28 R	28	170	160	185	2600	500	130.1	61.8	20
2VM 30 R	30	170	160	185	2600	500	133.4	63.5	20

2VM..R - F. T1 Q1-Q1



Profondità 13mm filetto M6.

M6 thread depth 13.

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

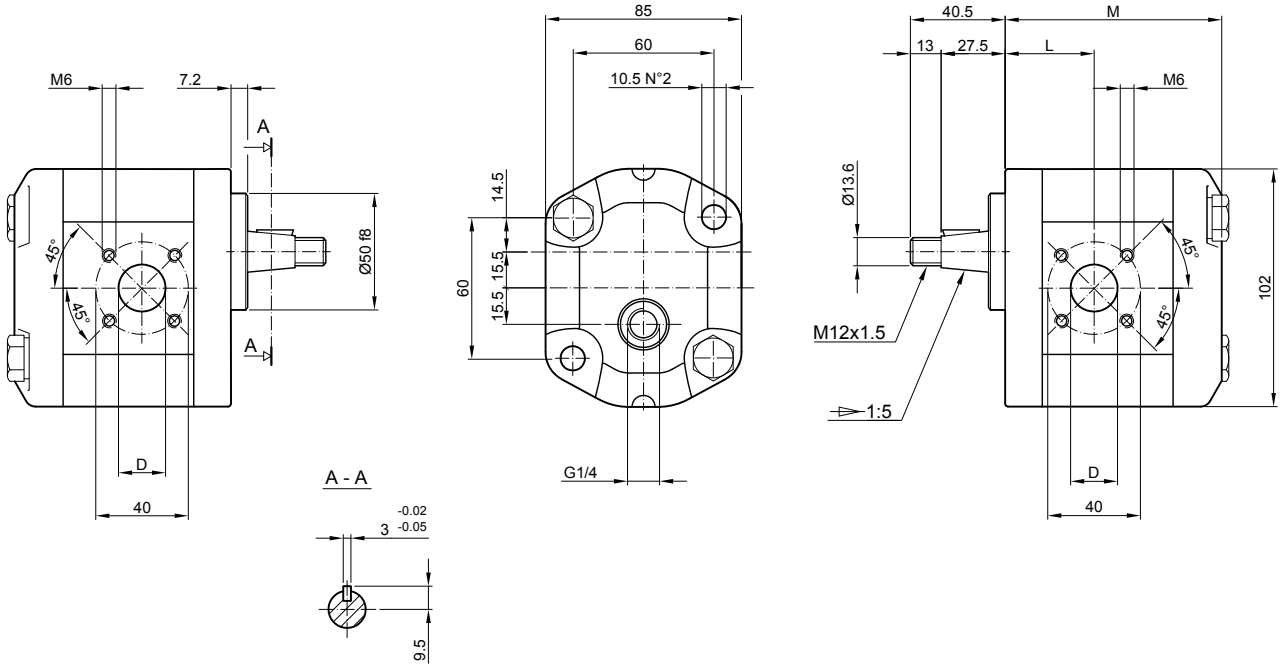
To mount the pump n.2 M10 screws with a torque wrench settings fixed at 50 Nm

Filetto M12x1.5 su albero con coppia di serraggio 50 Nm

Shaft M12x1.5 nut, with a torque wrench settings fixed at 50 Nm

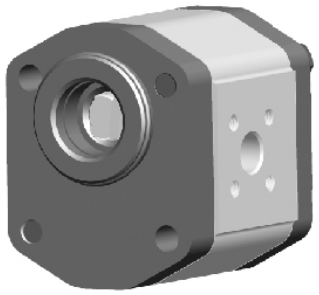
Drenaggio BSPP 1/4 profondità utile 12mm

BSPP 1/4 drain port thread depth 12mm



Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure* P1	P2	P3	Velocità Massima *Max. speed*	Velocità Minima *Min. speed*	Dimensioni *Dimensions* M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VM 4 R	4	250	240	270	4000	800	90.2	37.4	15
2VM 6 R	6	250	240	270	4000	800	93.5	38.6	15
2VM 8 R	8	250	240	270	4000	800	96.8	40.7	15
2VM 10 R	10	250	240	270	4000	800	100.1	41.2	20
2VM 12 R	12	230	220	250	4000	700	103.4	45	20
2VM 14 R	14	230	220	250	4000	700	106.8	45	20
2VM 16 R	16	210	200	225	4000	700	110.2	45	20
2VM 18 R	18	210	200	225	4000	700	113.5	47.5	20
2VM 20 R	20	180	170	195	3400	700	116.8	47.5	20
2VM 22 R	22	180	170	195	3000	700	120.1	52.6	20
2VM 25 R	25	170	160	185	2600	500	125.1	59.3	20
2VM 28 R	28	170	160	185	2600	500	130.1	61.8	20
2VM 30 R	30	170	160	185	2600	500	133.4	63.5	20

2VM..R - F. G1 Q9-Q1



Profondità 13mm filetto M6.

M6 thread depth 13.

Assemblaggio con 2 tiranti da M10 coppia di serraggio 50 Nm

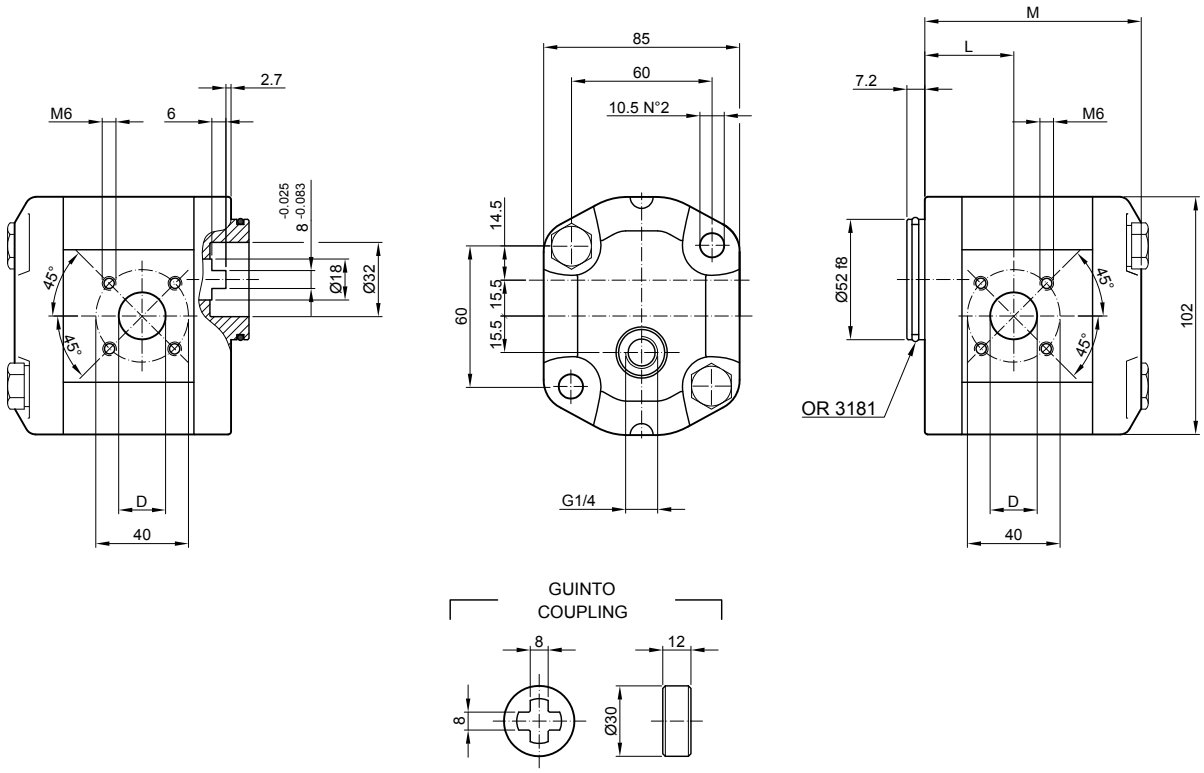
To mount the pump n.2 M10 screws with a torque wrench settings fixed at 50 Nm

Filetto M12x1.5 su albero con coppia di serraggio 50 Nm

Shaft M12x1.5 nut, with a torque wrench settings fixed at 50 Nm

Drenaggio BSPP 1/4 profondità utile 12mm

BSPP 1/4 drain port thread depth 12mm

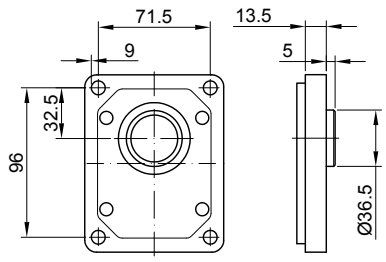


Tipo *Type*	Cilindrata *Displacement*	Pressioni massime *Max pressure*			Velocità Massima *Max. speed*	Velocità Minima *Min. speed*	Dimensioni *Dimensions*		
		P1	P2	P3			M	L	D
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm
2VM 4 R	4	250	240	270	4000	800	90.2	37.4	15
2VM 6 R	6	250	240	270	4000	800	93.5	38.6	15
2VM 8 R	8	250	240	270	4000	800	96.8	40.7	15
2VM 10 R	10	250	240	270	4000	800	100.1	41.2	20
2VM 12 R	12	230	220	250	4000	700	103.4	45	20
2VM 14 R	14	230	220	250	4000	700	106.8	45	20
2VM 16 R	16	210	200	225	4000	700	110.2	45	20
2VM 18 R	18	210	200	225	4000	700	113.5	47.5	20
2VM 20 R	20	180	170	195	3400	700	116.8	47.5	20
2VM 22 R	22	180	170	195	3000	700	120.1	52.6	20
2VM 25 R	25	170	160	185	2600	500	125.1	59.3	20
2VM 28 R	28	170	160	185	2600	500	130.1	61.8	20
2VM 30 R	30	170	160	185	2600	500	133.4	63.5	20

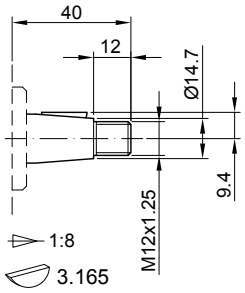
SERIE 2VM..R - *2VM..R SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

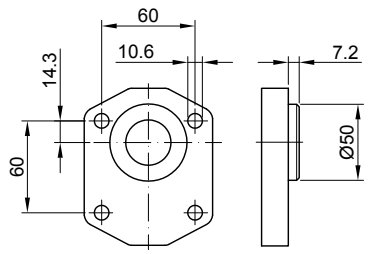


B0

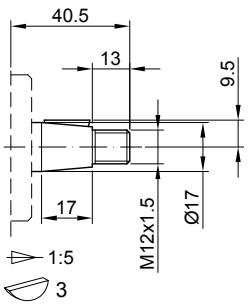


T0

Coppia max 200 Nm
Max. torque 200 Nm

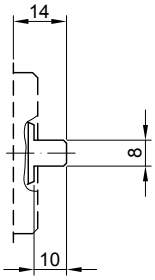


Q0



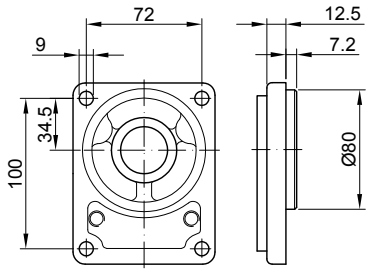
T1

Coppia max 180 Nm
Max. torque 180 Nm

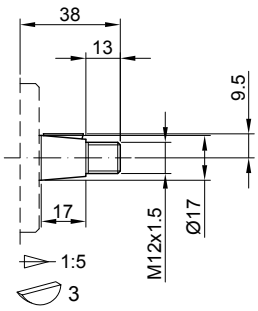


G0

Coppia max 100 Nm
Max. torque 100 Nm



B2



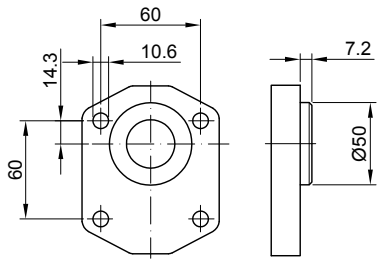
T1

Coppia max 180 Nm
Max. torque 180 Nm

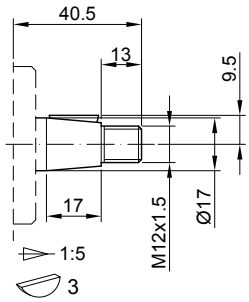
SERIE 2VM..R - *2VM..R SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

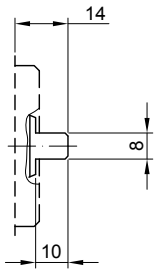


Q1



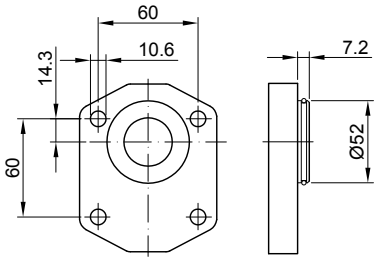
T1

Coppia max 180 Nm
Max. torque 180 Nm

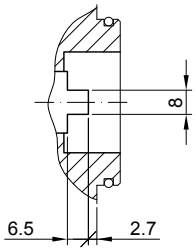


G0

Coppia max 100 Nm
Max. torque 100 Nm

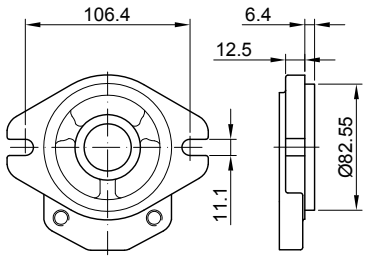


Q9

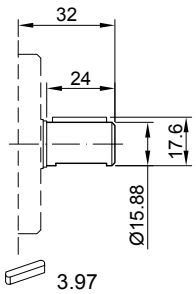


G1

Coppia max 100 Nm
Max. torque 100 Nm

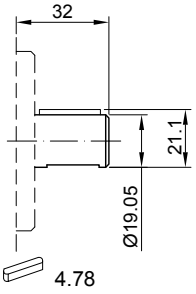


A0



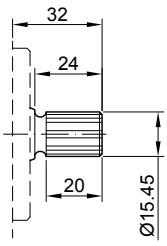
C0

Coppia max 140 Nm
Max. torque 140 Nm



C1

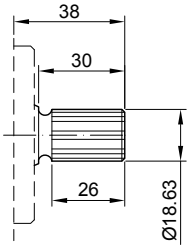
Coppia max 160 Nm
Max. torque 160 Nm



DP16/32-30° - 9T

S0

Coppia max 185 Nm
Max. torque 185 Nm



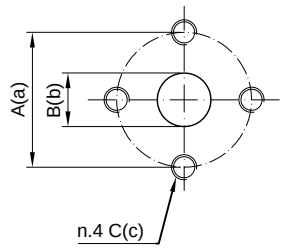
DP16/32-30° - 11T

S1

Coppia max 200 Nm
Max. torque 200 Nm

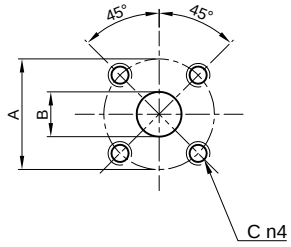
SERIE 2VM..R - *2VM..R SERIES*

BOCCHE / *PORTS*



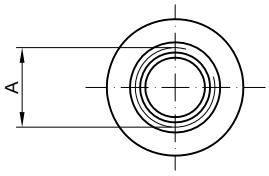
E0/E4

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*			Mandata *Outlet*		
		A	B	C	a	b	c
2VM 4 ÷ 6 R	E0	30	13	M6	30	13	M6
2VM 8 ÷ 10 R	E4	40	13	M8	40	13	M8
2VM 12 ÷ 20 R	E4	40	19	M8	40	13	M8
2VM 22 ÷ 28 R	E4	40	19	M8	40	19	M8
2VM 30 R	E4	40	21	M8	40	19	M8



F.

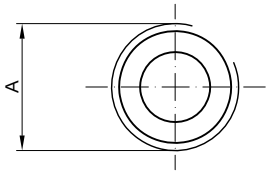
Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*					
		A	B	C			
2VM 4 ÷ 8 R	F.	40	15	M6			
2VM 10 ÷ 30 R	F.	40	20	M6			



STANDARD SAE J1926/1

U7/U8

	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*	
		A	
2VM 4 ÷ 28 R	U7	1 1/16 - 12 UNF	
2VM 30 R	U8	1 5/16 - 12 UNF	

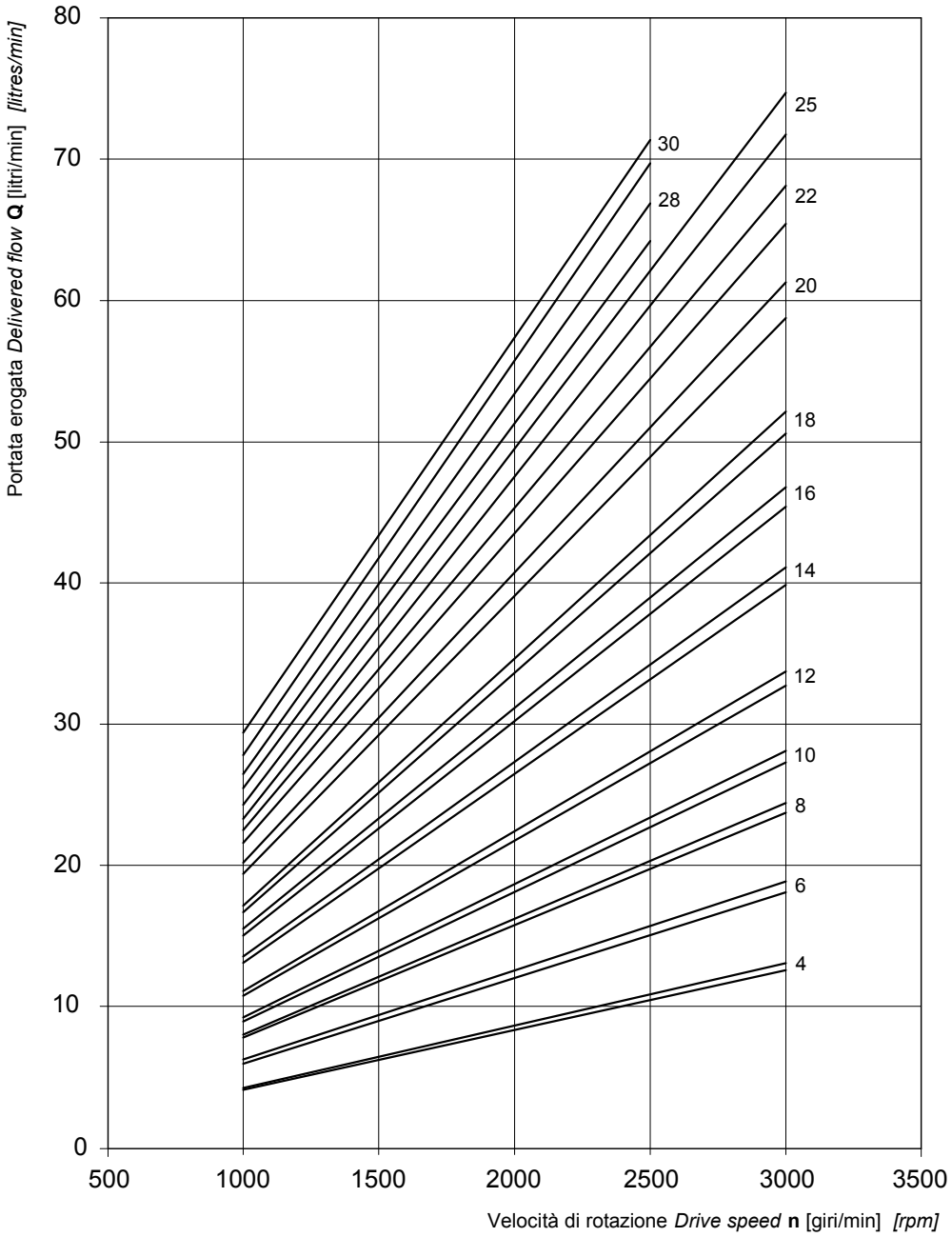


L0/L4

Tipo *Type*	Codice bocca *Ports code*	Motore Biderizionale *Bi-directional Motor*	
		A	
2VM 4 ÷ 12 R	L0	G 1/2	
2VM 14 ÷ 30 R	L4	G 3/4	

SERIE 2VM - *2VM SERIES*

2VM CURVE CARATTERISTICHE / *2VM PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50°C, using oil with viscosity 30 cSt at these pressure.

4, 6 — 25-250 bar

8, 10, 12 — 25-240 bar

14, 16 — 25-220 bar

18 — 25-210 bar

20 — 25-190 bar

22, 25 — 25-170 bar

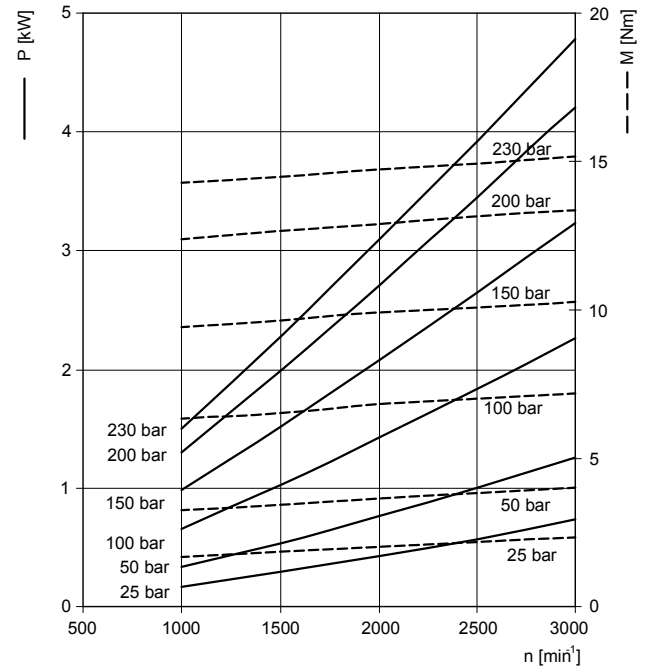
28, 30 — 25-160 bar

SERIE 2VM - *2VM SERIES*

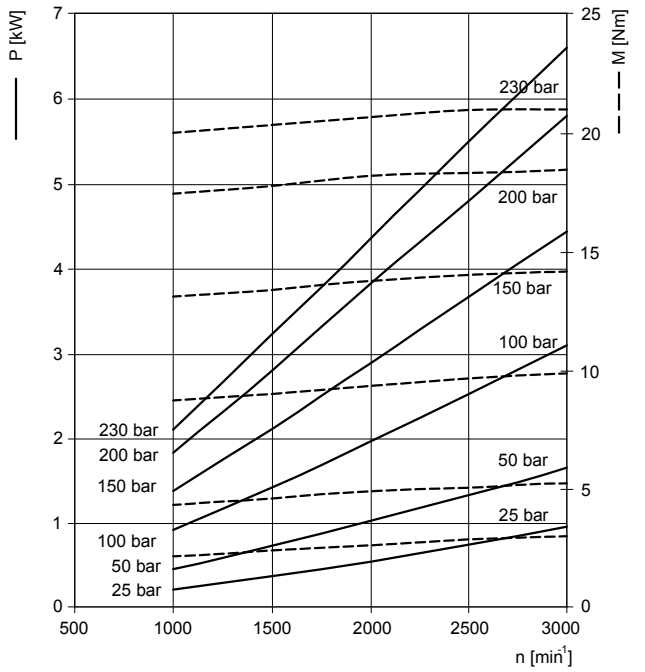
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

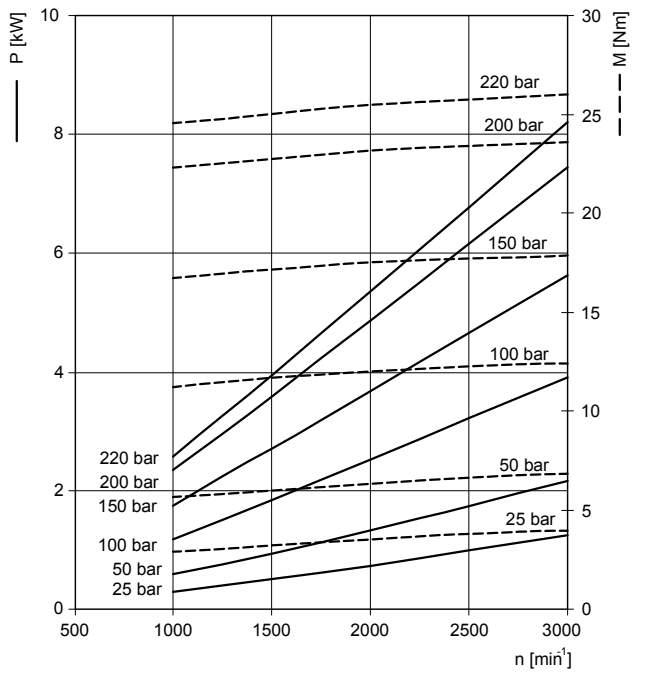
2VM 4



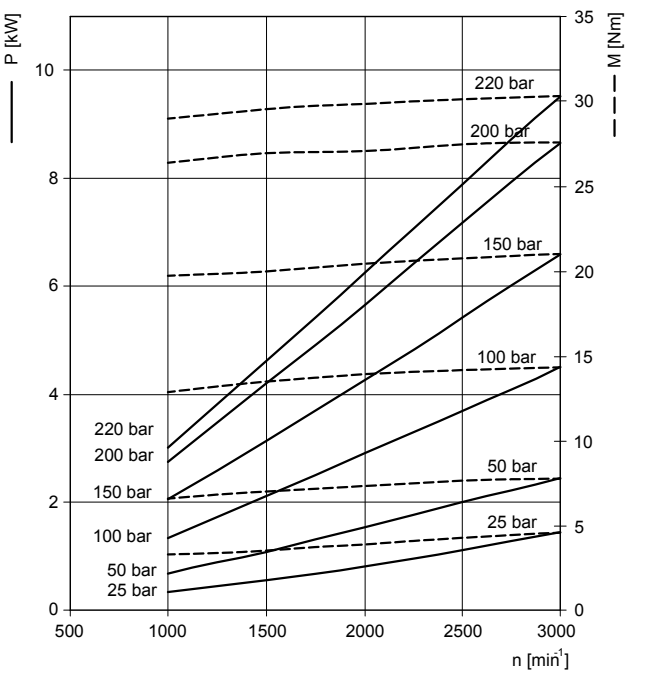
2VM 6



2VM 8



2VM 10

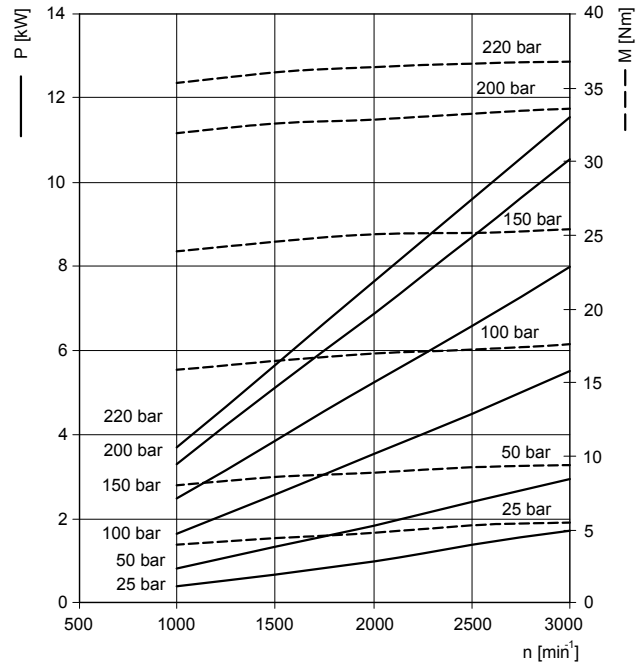


SERIE 2VM - *2VM SERIES*

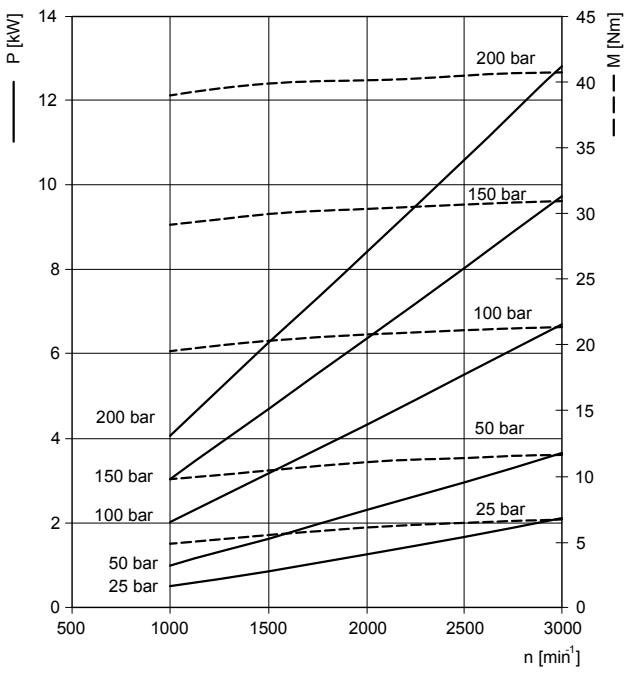
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

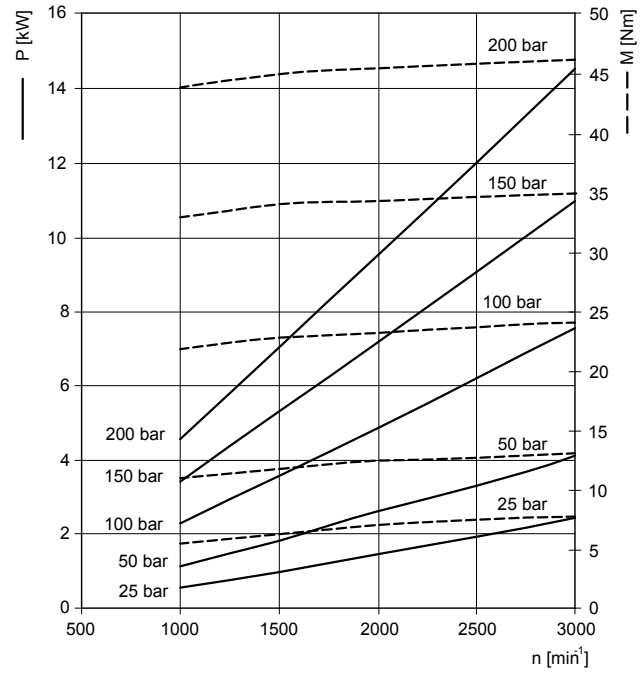
2VM 12



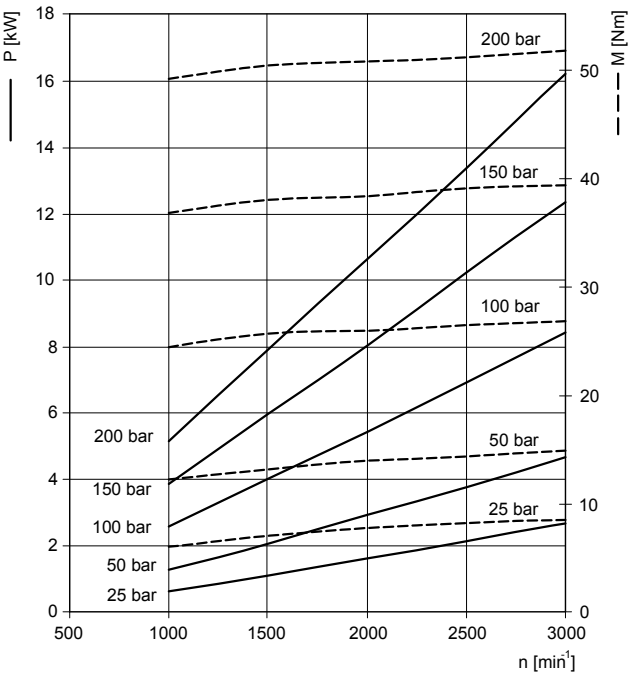
2VM 14



2VM 16



2VM 18

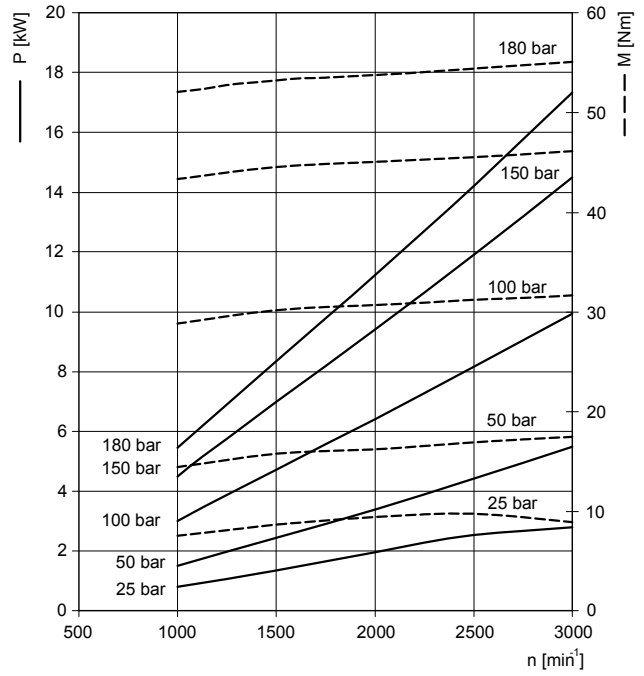


SERIE 2VM - *2VM SERIES*

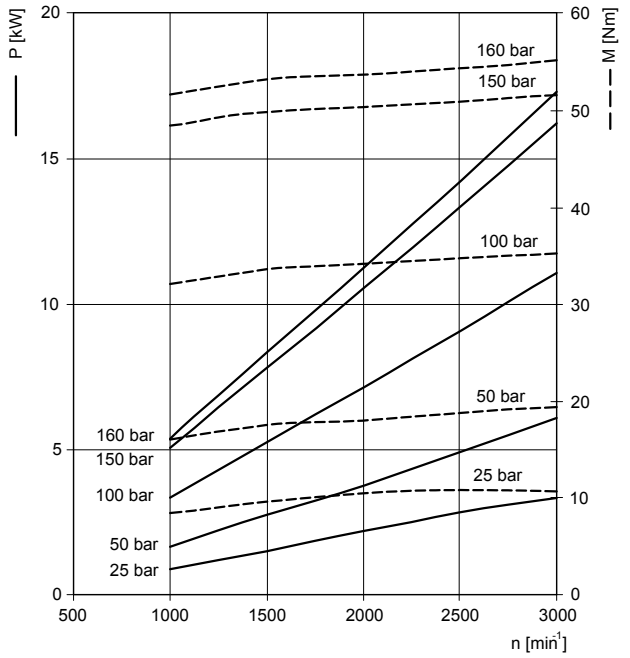
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

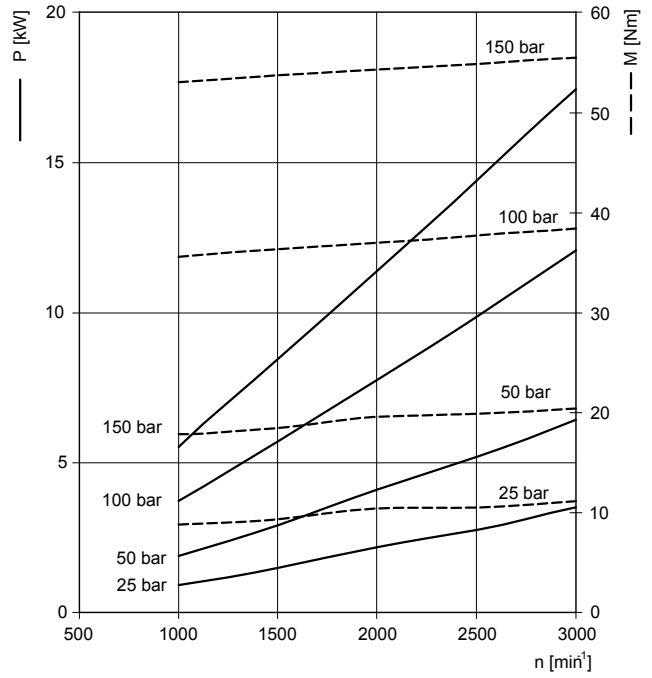
2VM 20



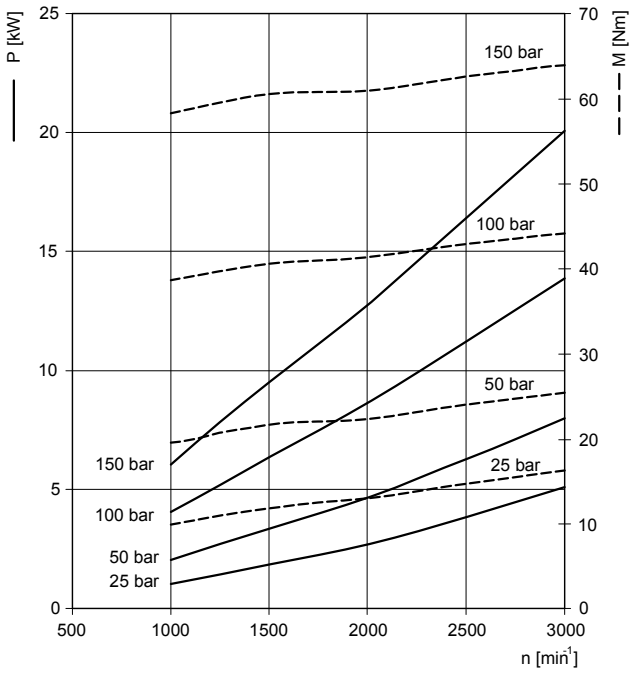
2VM 22



2VM 25

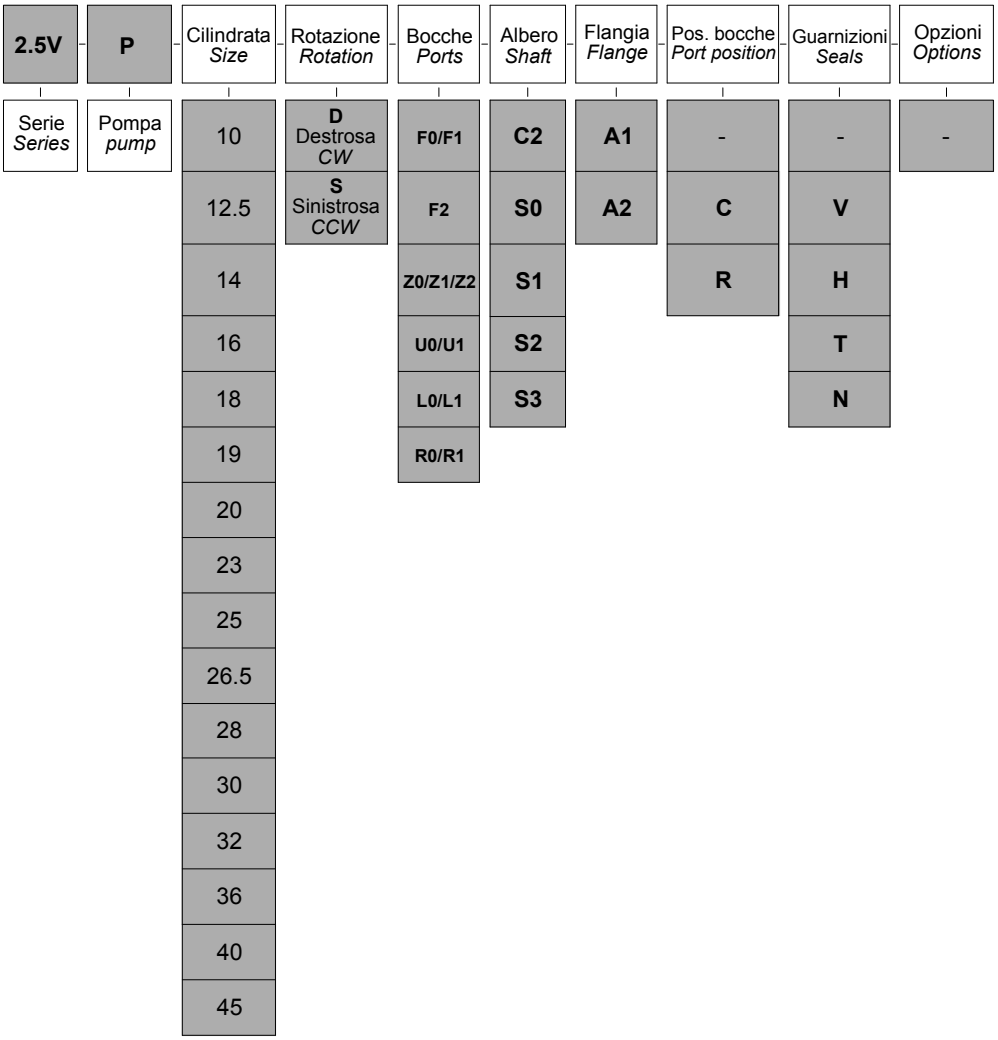


2VM 28



SERIE 2.5VP - *2.5VP SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

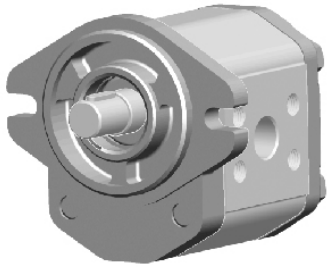
- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Nota: Pompe multiple solo tipo F (aspirazione separata - liquidi in comune)
Note: *Multiple pumps type F only (separated suction - common oil)*

2.5VP..D - F. C2 A1



Profondità 15mm filetto M10x1.25

M10x1.25 thread depth 15

Assemblaggio con 4 tiranti da M12 coppia di serraggio 130 Nm

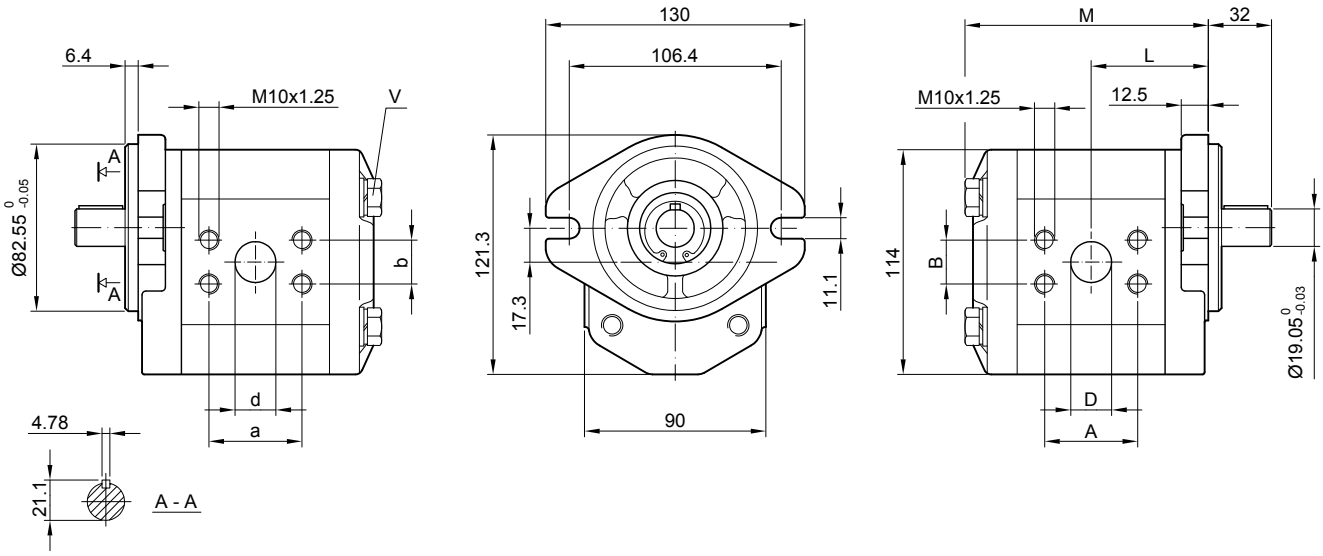
To mount the pump n.4 M12 screws with a torque wrench settings fixed at 130 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

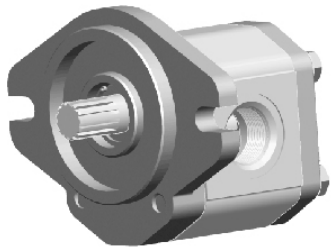
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*							
		P1	P2	P3			M	L	A	B	D	a	b	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm	mm	mm
2.5VP 10 D	10	250	270	290	4000	800	110	53.3	47.6	22.2	20	47.6	22.2	13
2.5VP 12.5 D	12.5	250	270	290	4000	800	113	54.8	47.6	22.2	20	47.6	22.2	13
2.5VP 14 D	14	250	270	290	4000	700	115	55.8	47.6	22.2	20	47.6	22.2	13
2.5VP 16 D	16	250	270	290	3500	700	118	57.1	47.6	22.2	20	47.6	22.2	13
2.5VP 18 D	18	250	270	290	3500	600	120	58.3	52.4	26.2	25	47.6	22.2	20
2.5VP 19 D	19	250	270	290	3500	600	121	58.8	52.4	26.2	25	47.6	22.2	20
2.5VP 20 D	20	250	270	290	3000	500	123	59.6	52.4	26.2	25	47.6	22.2	20
2.5VP 23 D	23	230	250	260	3500	500	126	61.3	52.4	26.2	25	47.6	22.2	20
2.5VP 25 D	25	230	250	260	3500	500	129	62.6	52.4	26.2	25	47.6	22.2	20
2.5VP 26.5 D	26.5	230	250	260	3500	500	131	63.6	52.4	26.2	25	47.6	22.2	20
2.5VP 28 D	28	230	250	260	3500	500	133	64.6	52.4	26.2	25	47.6	22.2	20
2.5VP 30 D	30	230	250	260	3000	400	135	65.6	52.4	26.2	25	47.6	22.2	20
2.5VP 32 D	32	200	230	250	3000	400	138	67.1	52.4	26.2	25	47.6	22.2	20
2.5VP 36 D	36	200	230	250	2750	400	142	69.1	52.4	26.2	25	47.6	22.2	20
2.5VP 40 D	40	160	180	200	2500	400	148	71.6	52.4	26.2	25	47.6	22.2	20
2.5VP 45 D	45	160	180	200	2500	400	153	74.6	52.4	26.2	25	47.6	22.2	20

2.5VP..D - U. S3 A2



Bocche di aspirazione e mandata filettate SAE con tenuta O-ring (SAE J 1926/1)

"D" and "d" ports are machined in compliance with O-ring seal in truncated housing (SAE J1926/1)

Assemblaggio con 4 tiranti da M12 coppia di serraggio 130 Nm

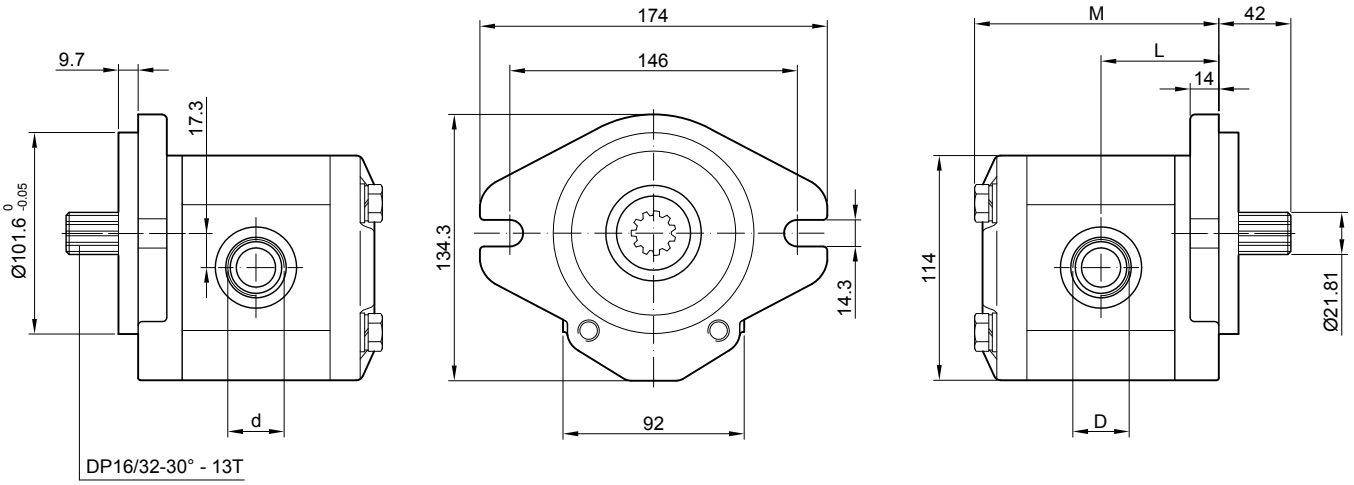
To mount the pump n.4xM12 screws with a torque wrench settings fixed at 130 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

MANDATA
OUTLET

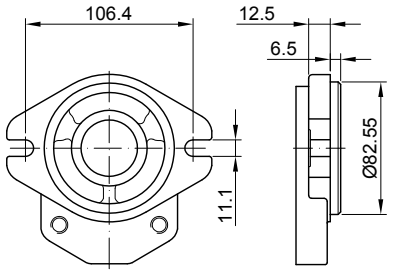
ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità *Max. speed*	Velocità *Min. speed*	Dimensioni *Dimensions*			
		P1	P2	P3			M	L	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm
2.5VP 10 D	10	280	290	300	4000	800	110	53.3	1 1/16-12UNF	7/8-14UNF
2.5VP 12.5 D	12.5	280	290	300	4000	800	113	54.8	1 1/16-12UNF	7/8-14UNF
2.5VP 14 D	14	280	290	300	4000	700	115	55.8	1 1/16-12UNF	7/8-14UNF
2.5VP 16 D	16	280	290	300	3500	700	118	57.1	1 1/16-12UNF	7/8-14UNF
2.5VP 18 D	18	280	290	300	3500	600	120	58.3	1 1/16-12UNF	7/8-14UNF
2.5VP 19 D	19	280	290	300	3500	600	121	58.8	1 1/16-12UNF	7/8-14UNF
2.5VP 20 D	20	280	290	300	3000	500	123	59.6	1 1/16-12UNF	7/8-14UNF
2.5VP 23 D	23	250	265	280	3500	500	126	61.3	1 1/16-12UNF	7/8-14UNF
2.5VP 25 D	25	250	265	280	3500	500	129	62.6	1 5/16-12UNF	1 1/16-12UNF
2.5VP 26.5 D	26.5	250	265	280	3500	500	131	63.6	1 5/16-12UNF	1 1/16-12UNF
2.5VP 28 D	28	250	265	280	3500	500	133	64.6	1 5/16-12UNF	1 1/16-12UNF
2.5VP 30 D	30	250	265	280	3000	400	135	65.6	1 5/16-12UNF	1 1/16-12UNF
2.5VP 32 D	32	230	245	260	3000	400	138	67.1	1 5/16-12UNF	1 1/16-12UNF
2.5VP 36 D	36	230	245	260	2750	400	142	69.1	1 5/16-12UNF	1 1/16-12UNF
2.5VP 40 D	40	190	200	210	2500	400	148	71.6	1 5/16-12UNF	1 1/16-12UNF
2.5VP 45 D	45	190	200	210	2500	400	153	74.6	1 5/16-12UNF	1 1/16-12UNF

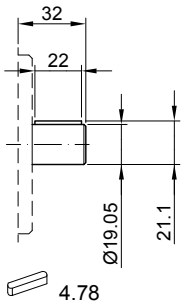
SERIE 2.5VP - *2.5VP SERIES*

FLANGE / *FRONT COVERS*



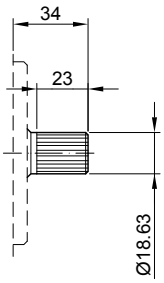
A1

ALBERI / *SHAFTS*



C2

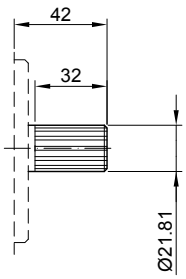
Coppia max 190 Nm
Max. torque 190 Nm



DP16/32-30° - 11T

S2

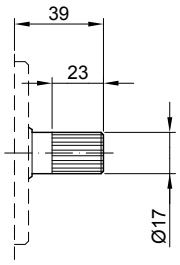
Coppia max 210 Nm
Max. torque 210 Nm



DP16/32-30° - 13T

S3

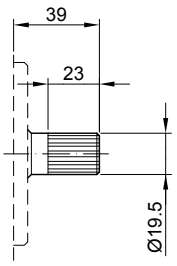
Coppia max 300 Nm
Max. torque 300 Nm



DP16/32-30° - 10T

S1

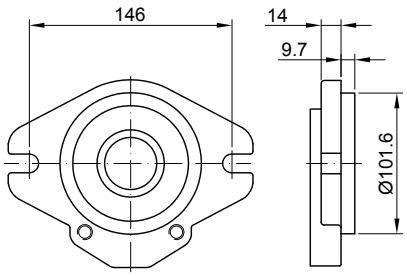
Coppia max 200 Nm
Max. torque 200 Nm



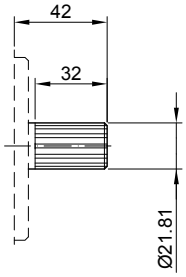
EXT12Z-1.5m - 30°

S0

Coppia max 220 Nm
Max. torque 220 Nm



A2



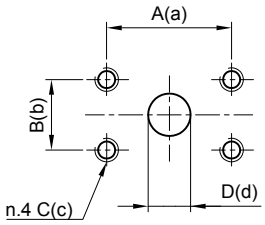
DP16/32-30° - 13T

S3

Coppia max 300 Nm
Max. torque 300 Nm

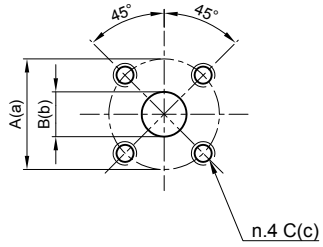
SERIE 2.5VP - *2.5VP SERIES*

BOCCHE / *PORTS*



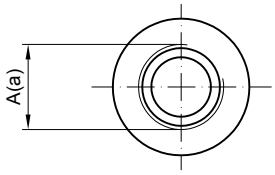
F0/F1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*				Mandata *Outlet*			
		A	B	C	D	a	b	c	d
2.5VP 10 ÷ 16	F0	47.6	22.2	M10x1.25	20	47.6	22.2	M10x1.25	13
2.5VP 18 ÷ 45	F1	52.4	26.2	M10x1.25	25	47.6	22.2	M10x1.25	20



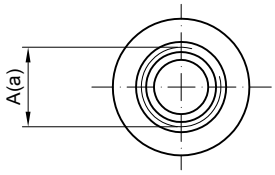
F2

Tipo *Type*	Aspirazione *Inlet*			Mandata *Outlet*		
	A	B	C	a	b	c
2.5VP 10 ÷ 16	55	20	M8	55	13	M8
2.5VP 18 ÷ 45	55	25	M8	55	20	M8



Z0/Z1/Z2

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2.5 VP 10 ÷ 14	Z0	M22x1.5	M18x1.5
2.5 VP 16 ÷ 20	Z1	M27x2	M22x1.5
2.5 VP 23 ÷ 45	Z2	M33x2	M27x2

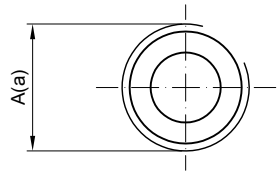


U0/U1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2.5VP 10 ÷ 23	U0	1 1/16-12UNF	7/8-14 UNF
2.5VP 25 ÷ 45	U1	1 5/16-12UNF	1 1/16-12UNF

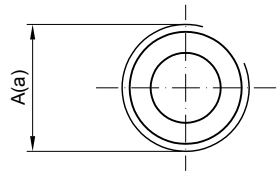
SERIE 2.5VP - *2.5VP SERIES*

BOCCHE / *PORTS*



L0/L1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2.5VP 10 ÷ 23	L0	G 3/4	G 1/2
2.5VP 25 ÷ 45	L1	G 1	G 3/4

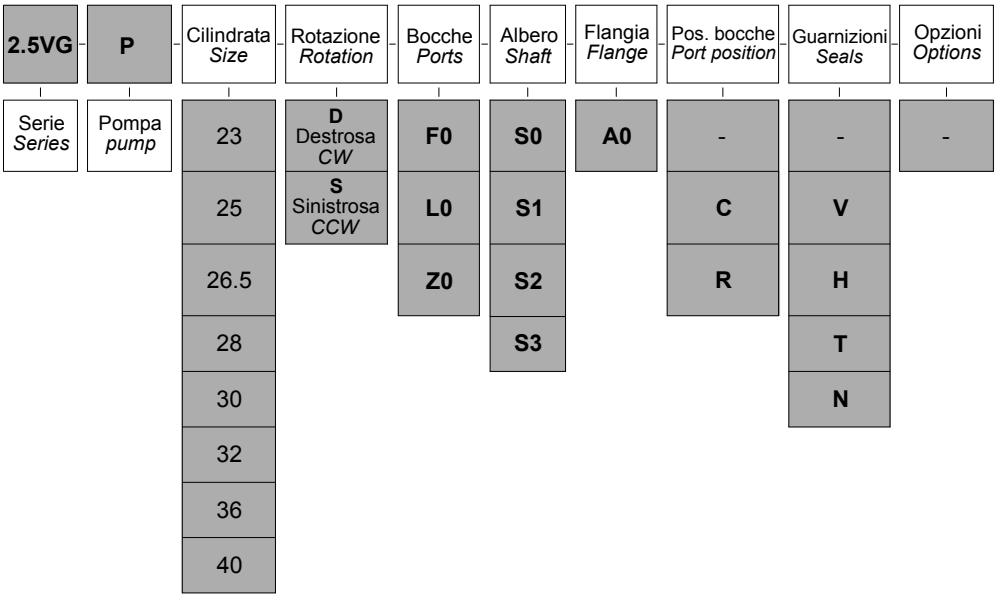


R0/R1

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
2.5VP 10 ÷ 23	R0	PT 3/4	PT 1/2
2.5VP 25 ÷ 45	R1	PT 1	PT 3/4

SERIE 2.5VGP - *2.5VGP SERIES*

COME ORDINARE - *HOW TO ORDER*



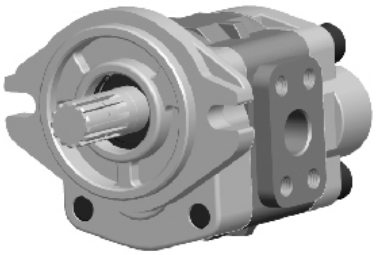
Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

2.5VGP..D - F0 S3 A0



Profondità 15mm filetto M10x1.25

M10x1.25 thread depth 15

Assemblaggio con 4 tiranti da M12 coppia di serraggio 75 Nm

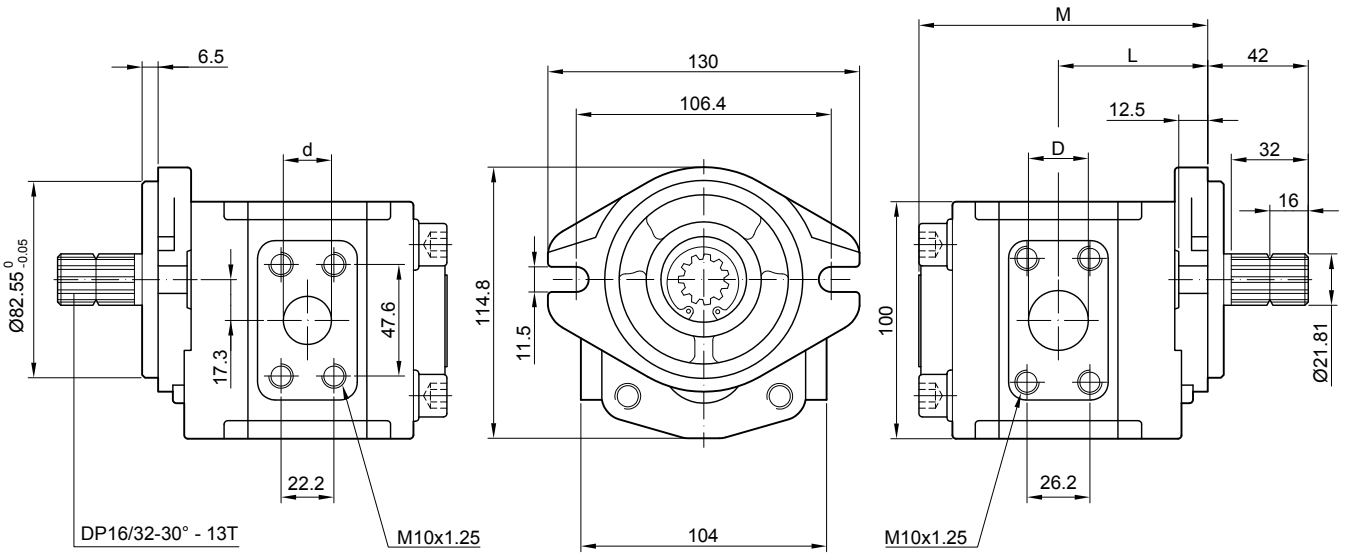
To mount the pump n.4xM12 screws with a torque wrench settings fixed at 75 Nm

Flangia anteriore e coperchio posteriore in alluminio, corpo in ghisa

Aluminium front flange and back cover, cast iron body

MANDATA
OUTLET

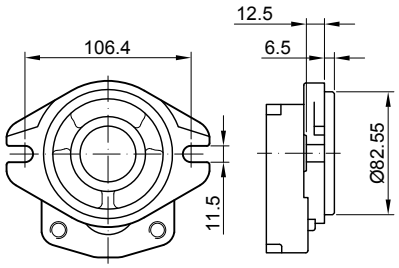
ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*			
		P1	P2	P3			M	L	D	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm
2.5VGP 23 D	23	230	250	260	3500	600	118	60.5	25	20
2.5VGP 25 D	25	230	250	260	3500	600	120	61.8	25	20
2.5VGP 26.5 D	26.5	230	250	260	3500	600	122	62.8	25	20
2.5VGP 28 D	28	230	250	260	3500	600	124	63.8	25	20
2.5VGP 30 D	30	230	250	260	3000	600	126	64.8	25	20
2.5VGP 32 D	32	200	230	250	3000	600	129	66.3	25	20
2.5VGP 36 D	36	200	230	250	2750	500	133	68.3	25	20
2.5VGP 40 D	40	160	180	200	2500	500	138	70.8	28	20

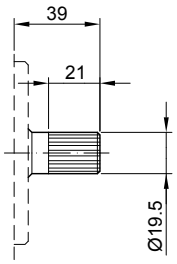
SERIE 2.5VGP - *2.5VGP SERIES*

FLANGE / *FRONT COVERS*



A0

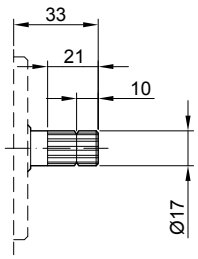
ALBERI / *SHAFTS*



EXT12Z-1.5m - 30°

S0

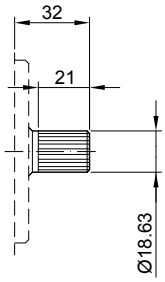
Coppia max 220 Nm
Max. torque 220 Nm



DP16/32-30° - 10T

S1

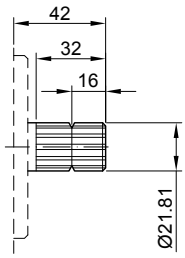
Coppia max 200 Nm
Max. torque 200 Nm



DP16/32-30° - 11T

S2

Coppia max 210 Nm
Max. torque 210 Nm



DP16/32-30° - 13T

S3

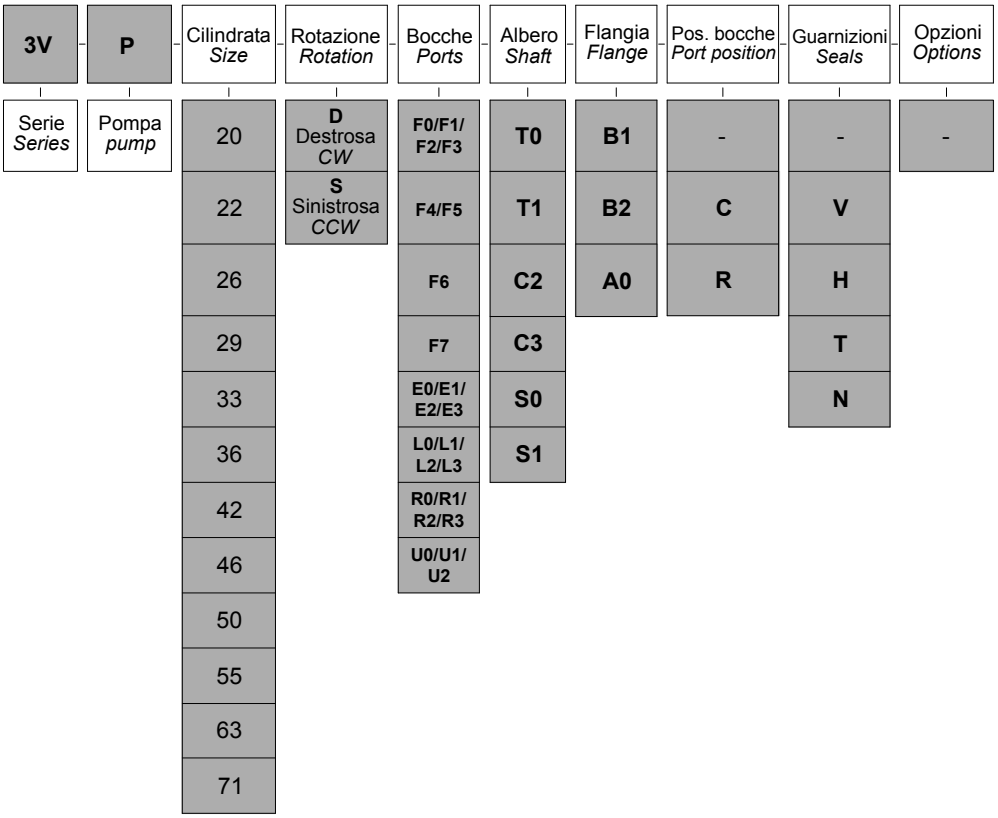
Coppia max 300 Nm
Max. torque 300 Nm

BOCCHE / *PORTS*

NOTA: BOCCHE DISPONIBILE F0/F1; L0/L1 E Z0/Z1/Z2 (VEDI PAG. 5E)
NOTE: *AVAILABLE PORTS F0/F1; L0/L1 AND Z0/Z1/Z2 (SEE PAG. 5E)*

SERIE 3VP - *3VP SERIES*

COME ORDINARE - *HOW TO ORDER*



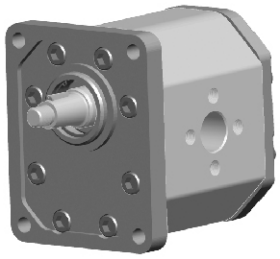
Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

3VP..D - E. T0 B1



Profondità 18mm filetto M10

M10 thread depth 18

Assemblaggio con 8 tiranti da M10 coppia di serraggio 47±3 Nm

To mount the pump n.8 x M10 screws, with a torque wrench settings fixed at 47±3 Nm

Filetto M14 x 1.5 su albero con coppia di serraggio 80 Nm

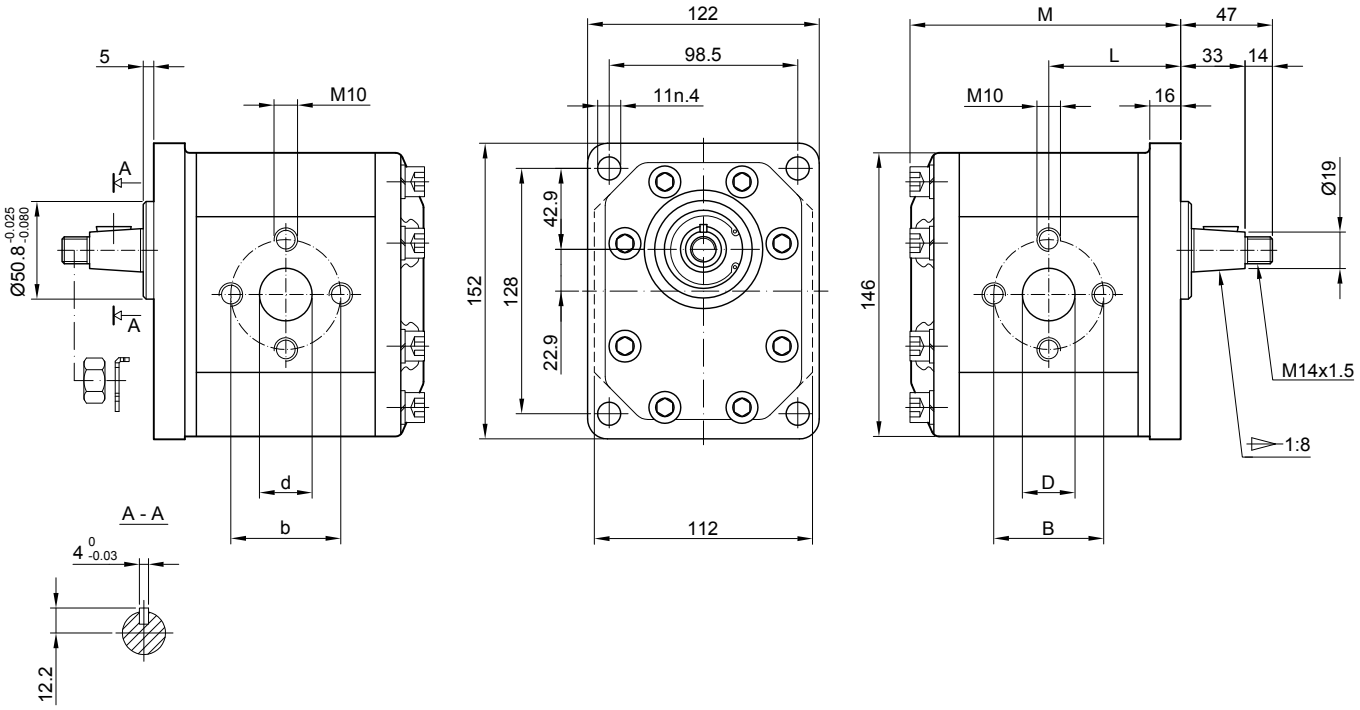
Shaft M14 x 1.5 nut, with a torque wrench settings fixed at 80 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

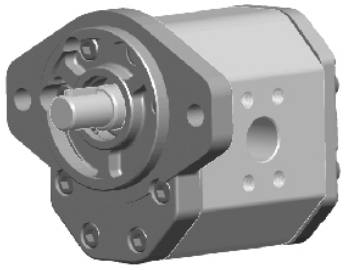
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo	Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni					
Type	*Displacement*	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*					
		P1	P2	P3			M	L	B	D	b	d
	(cm3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm
3VP 20 D	20	250	265	280	3500	600	128	63	56	27	56	19
3VP 22 D	22	250	265	280	3500	600	130	64	56	27	56	19
3VP 26 D	26	250	265	280	3000	600	133	65	56	27	56	19
3VP 29 D	29	250	265	280	3000	600	135	66	56	27	56	19
3VP 33 D	33	230	250	270	3000	500	139	68	56	27	56	19
3VP 36 D	36	230	250	270	3000	500	142	70	56	27	56	19
3VP 42 D	42	230	250	270	3000	500	149	73	51	27	51	27
3VP 46 D	46	230	250	270	3000	500	152	75	51	27	51	27
3VP 50 D	50	220	240	260	3000	500	156	77	56	27	56	27
3VP 55 D	55	200	230	250	2800	400	160	79	62	33	51	27
3VP 63 D	63	200	230	250	2800	400	168	83	62	33	51	27
3VP 71 D	71	180	200	220	2500	400	175	86	62	33	51	27

3VP..D - F. C2 A0



Profondità 19 filetto 3/8-16 UNC
Profondità 19 filetto 7/16-14 UNC

3/8-16 UNC thread depth 19
7/16-14 UNC thread depth 19

Assemblaggio con 8 tiranti da M10 coppia di serraggio 47±3 Nm

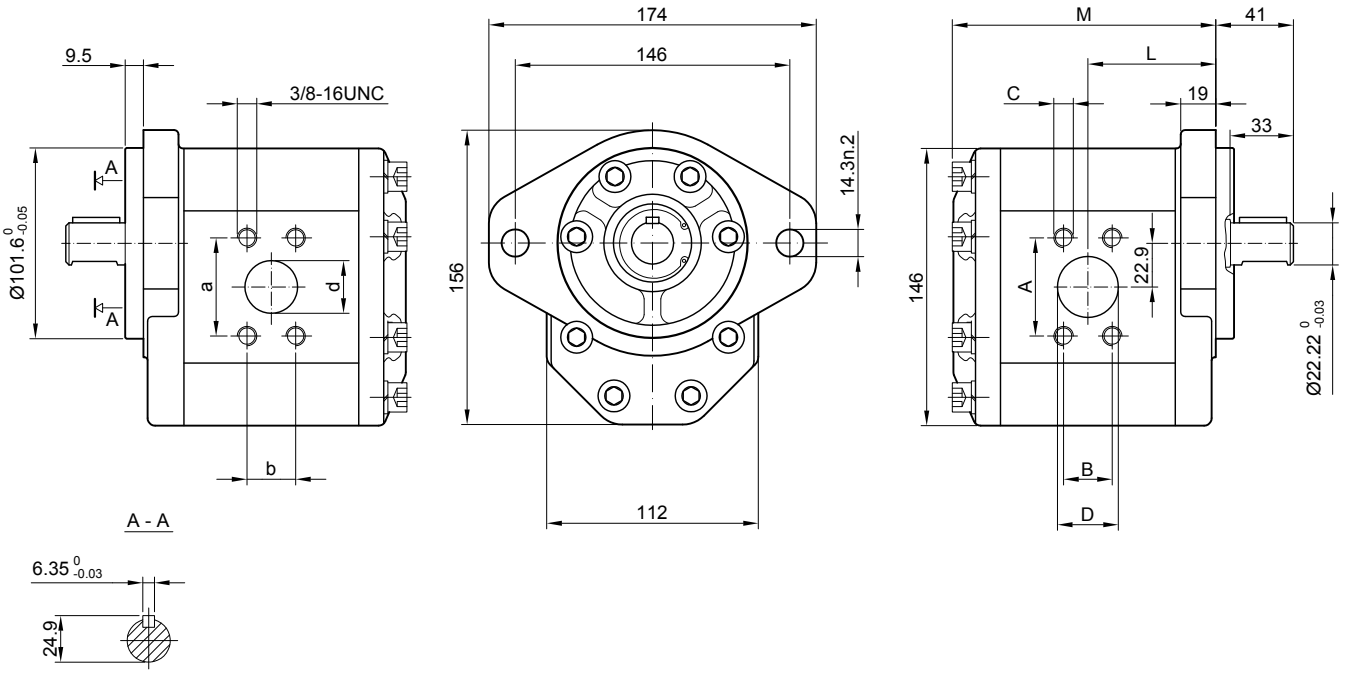
To mount the pump n.8 M10 screws, with a torque wrench settings fixed at 47±3 Nm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

MANDATA
OUTLET

ASPIRAZIONE
INLET

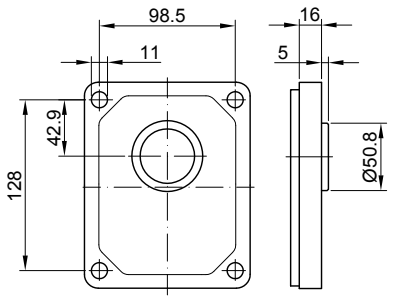


Tipo *Type*	Cilindrata *Displacemen*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*								
		P1	P2	P3			M	L	A	B	C	D	a	b	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	UNC	mm	mm	mm	mm
3VP 20 D	20	250	265	280	3500	600	128	63	52.4	26.2	3/8	27	47.6	22.2	19
3VP 22 D	22	250	265	280	3500	600	130	64	52.4	26.2	3/8	27	47.6	22.2	19
3VP 26 D	26	250	265	280	3000	600	133	65	52.4	26.2	3/8	27	47.6	22.2	19
3VP 29 D	29	250	265	280	3000	600	135	66	52.4	26.2	3/8	27	47.6	22.2	19
3VP 33 D	33	230	250	270	3000	500	139	68	52.4	26.2	3/8	27	47.6	22.2	19
3VP 36 D	36	230	250	270	3000	500	142	70	52.4	26.2	3/8	27	47.6	22.2	19
3VP 42 D	42	230	250	270	3000	500	149	73	52.4	26.2	3/8	27	47.6	22.2	19
3VP 46 D	46	230	250	270	3000	500	152	75	52.4	26.2	3/8	27	47.6	22.2	19
3VP 50 D	50	220	240	260	3000	500	156	77	52.4	26.2	3/8	27	47.6	22.2	19
3VP 55 D	55	200	230	250	2800	400	160	79	58.7	30.2	7/16	33	52.4	26.2	27
3VP 63 D	63	200	230	250	2800	400	168	83	58.7	30.2	7/16	33	52.4	26.2	27
3VP 71 D	71	180	200	220	2500	400	175	86	58.7	30.2	7/16	33	52.4	26.2	27

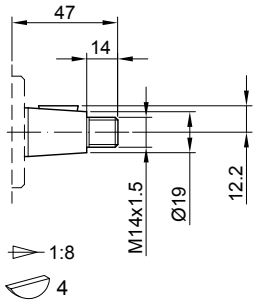
SERIE 3VP - *3VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

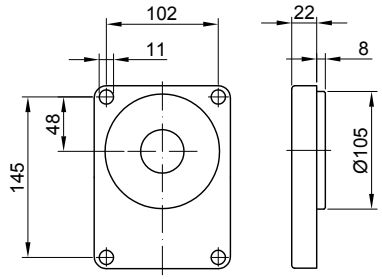


B1

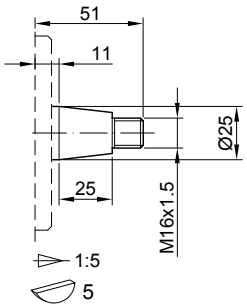


T0

Coppia max 300 Nm
Max. torque 300 Nm

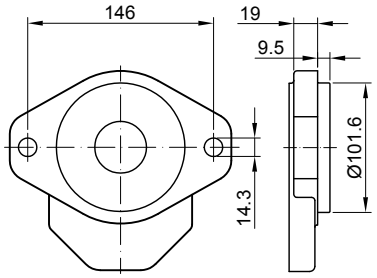


B2

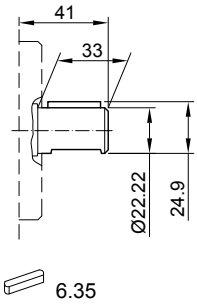


T1

Coppia max 350 Nm
Max. torque 350 Nm

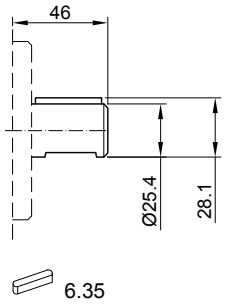


A0



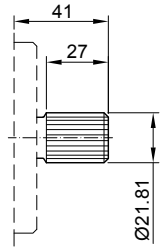
C2

Coppia max 400 Nm
Max. torque 400 Nm



C3

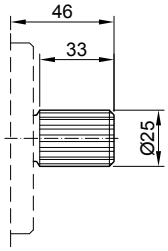
Coppia max 450 Nm
Max. torque 450 Nm



DP16/32-30° - 13T

S0

Coppia max 500 Nm
Max. torque 500 Nm



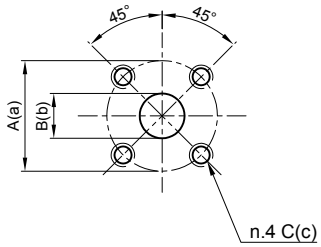
DP16/32-30° - 15T

S1

Coppia max 600 Nm
Max. torque 600 Nm

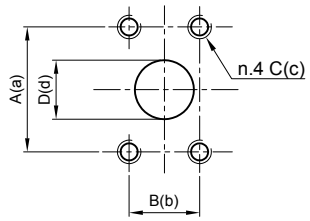
SERIE 3VP - *3VP SERIES*

BOCCHE / *PORTS*



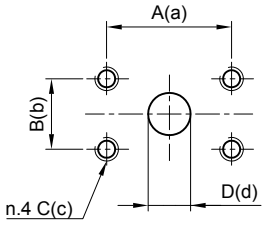
F0/F1/F2/F3

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*			Mandata *Outlet*		
		A	B	C	a	b	c
3VP 20 ÷ 29	F0	50	20	M8	50	20	M8
3VP 33 ÷ 46	F1	65	25	M8	65	20	M8
3VP 50 ÷ 71	F2	76	33	M10	76	25	M10
3VP 50 ÷ 63	F3	76	33	M8	76	25	M8



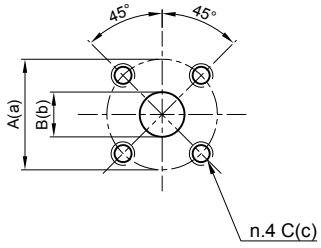
F4/F5

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*				Mandata *Outlet*			
		A	B	C	D	a	b	c	d
3VP 20 ÷ 50	F4	52.4	26.2	3/8 - 16UNC	27	47.6	22.2	3/8 - 16UNC	19
3VP 55 ÷ 71	F5	58.7	30.2	7/16 - 14UNC	33	52.4	26.2	3/8 - 16UNC	27



F6

Tipo *Type*	Aspirazione *Inlet*				Mandata *Outlet*			
	A	B	C	D	a	b	c	d
3VP 20 ÷ 29	57.2	26	M10	25	52.7	26	M10	20
3VP 33 ÷ 36	57.2	26	M10	30	52.7	26	M10	20
3VP 42 ÷ 46	57.2	26	M10	35	52.7	26	M10	20
3VP 50 ÷ 63	57.2	26	M10	35	52.7	26	M10	25

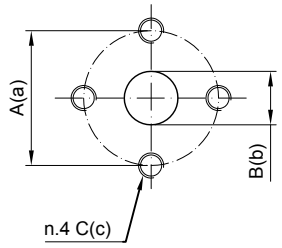


F7

Tipo *Type*	Aspirazione *Inlet*			Mandata *Outlet*		
	A	B	C	a	b	c
3VP 20 ÷ 71	55	27	M8	55	19	M8

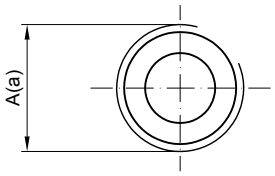
SERIE 3VP - *3VP SERIES*

BOCCHE / *PORTS*



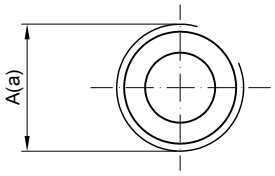
E0/E1/E2/E3

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*			Mandata *Outlet*		
		A	B	C	a	b	c
3VP 20 ÷ 36	E0	56	27	M10	56	19	M10
3VP 42 ÷ 46	E1	51	27	M10	51	27	M10
3VP 50	E2	56	27	M10	56	27	M10
3VP 55 ÷ 71	E3	62	33	M10	51	27	M10



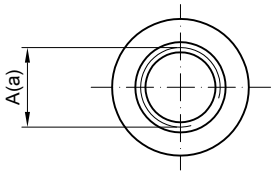
L0/L1/L2/L3

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
3VP 20 ÷ 22	L0	G 3/4	G 3/4
3VP 26 ÷ 42	L1	G 1	G 3/4
3VP 46 ÷ 63	L2	G 1 1/4	G 1
3VP 71	L3	G 1 1/2	G 1 1/4



R0/R1/R2/R3

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
3VP 20 ÷ 22	R0	PT 3/4	PT 3/4
3VP 26 ÷ 42	R1	PT 1	PT 3/4
3VP 46 ÷ 63	R2	PT 1 1/4	PT 1
3VP 71	R3	PT 1 1/2	PT 1 1/4

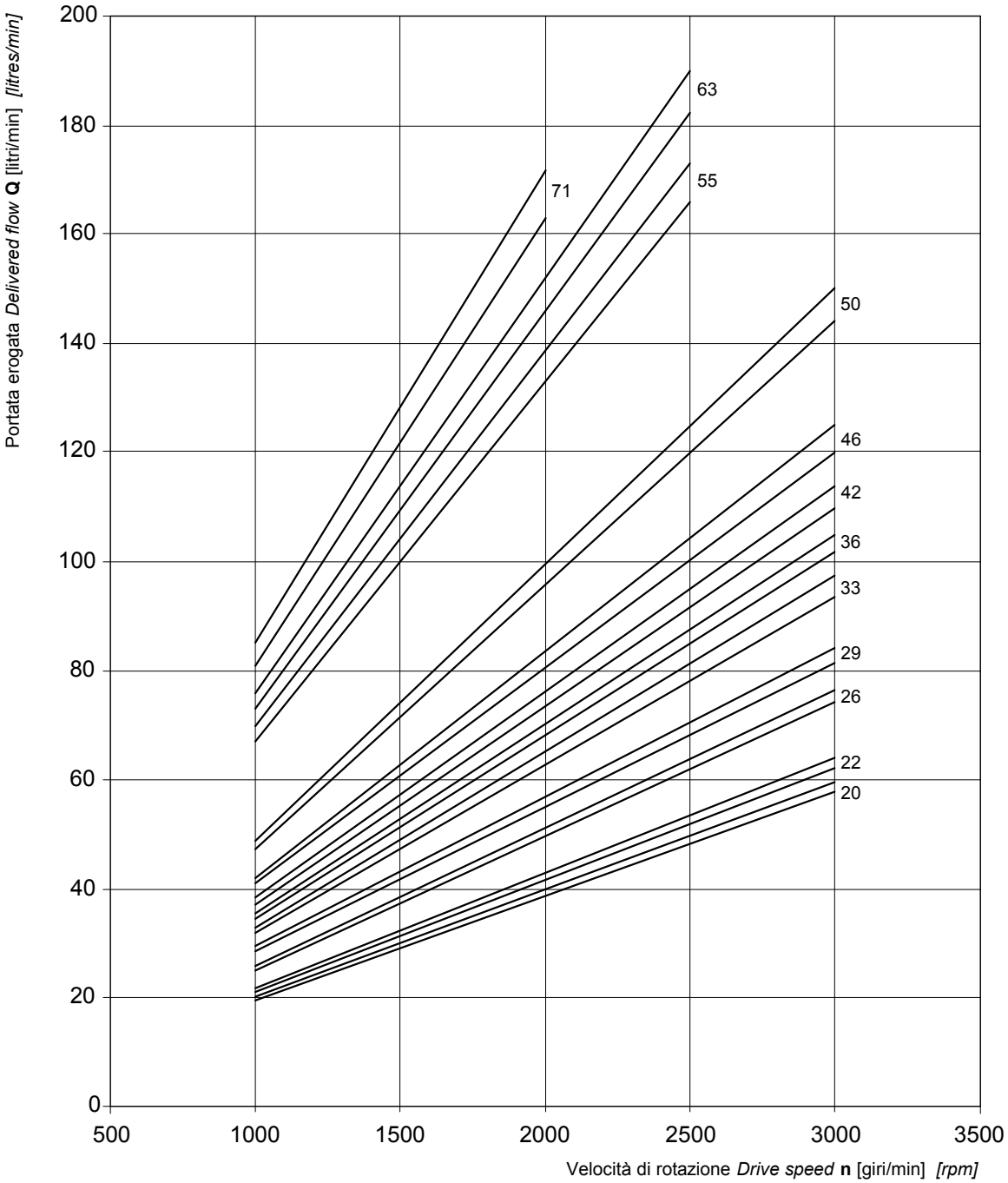


U0/U1/U2

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*	Mandata *Outlet*
		A	a
3VP 20 ÷ 36	U0	1 5/16 - 12UNF	1 1/16 - 12UNF
3VP 42 ÷ 50	U1	1 5/8 - 12UNF	1 1/16 - 12UNF
3VP 55 ÷ 71	U2	1 7/8 - 12UNF	1 5/16 - 12UNF

SERIE 3VP - *3VP SERIES*

3VP CURVE CARATTERISTICHE / *3VP PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50°C, using oil with viscosity 30 cSt at these pressure.

20 ÷ 29 ├ 25-250 bar

33 ÷ 42 ├ 25-240 bar

50 ├ 25-220 bar

55 ├ 25-180 bar

63 ├ 25-170 bar

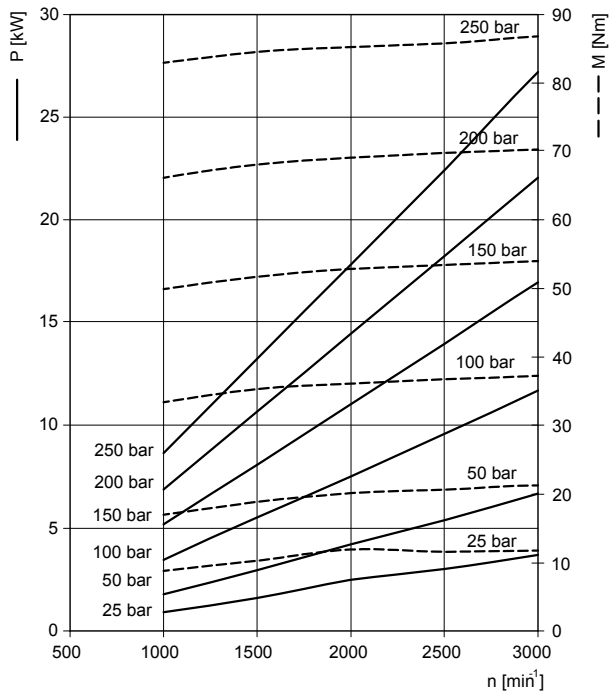
71 ├ 25-150 bar

SERIE 3VP - *3VP SERIES*

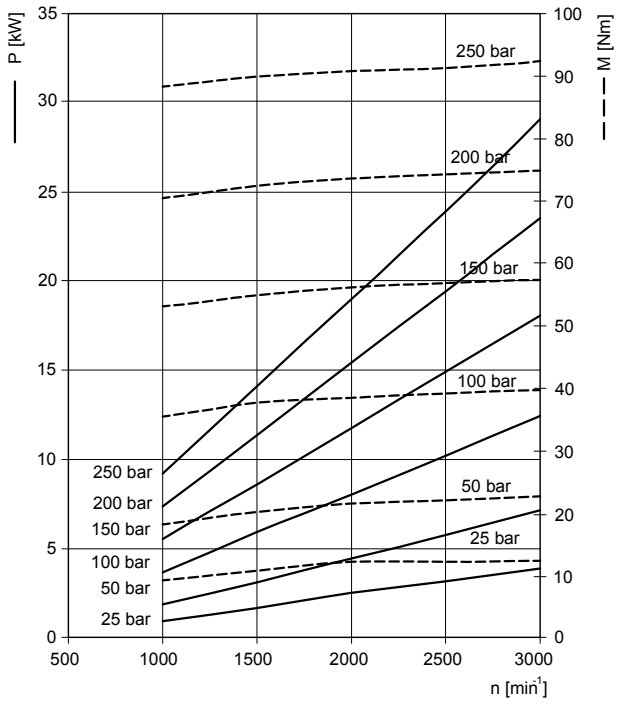
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

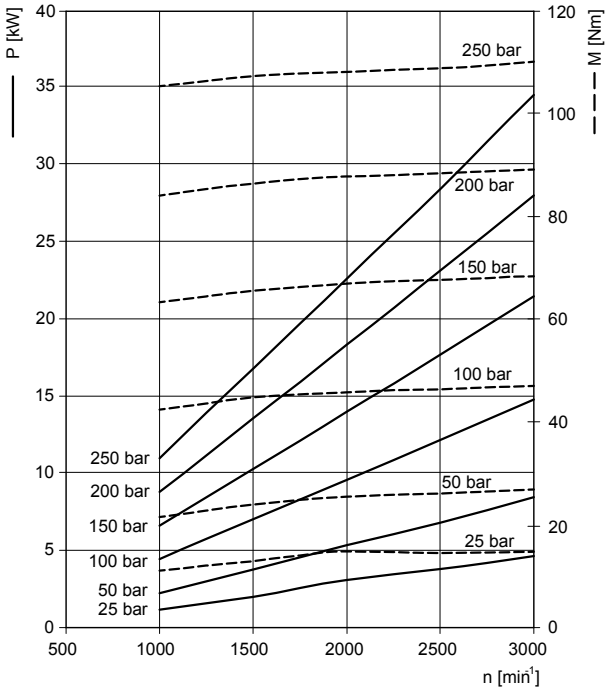
3VP 20



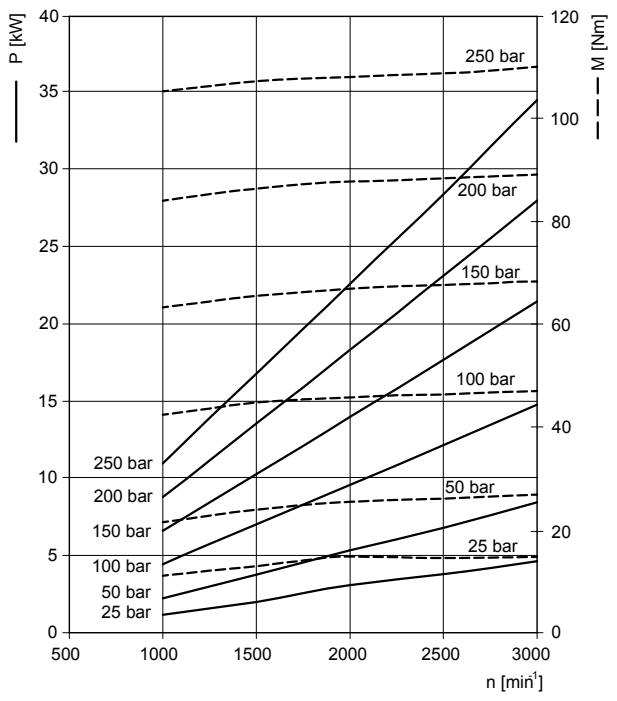
3VP 22



3VP 26



3VP 29

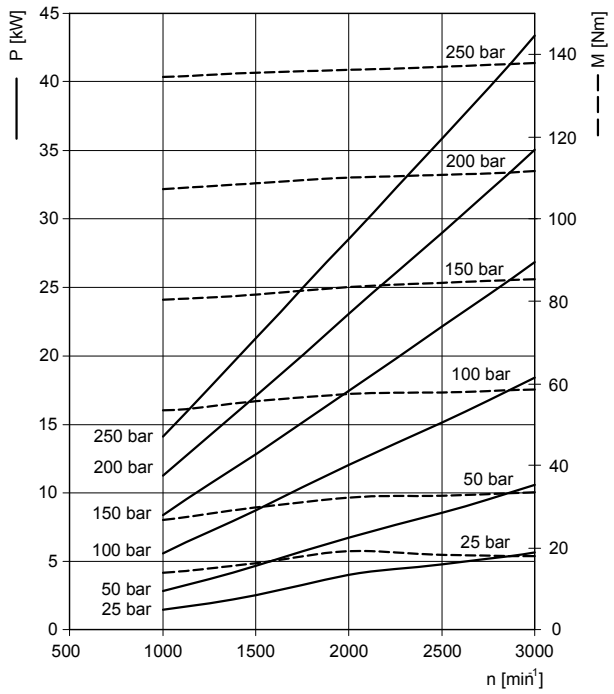


SERIE 3VP - *3VP SERIES*

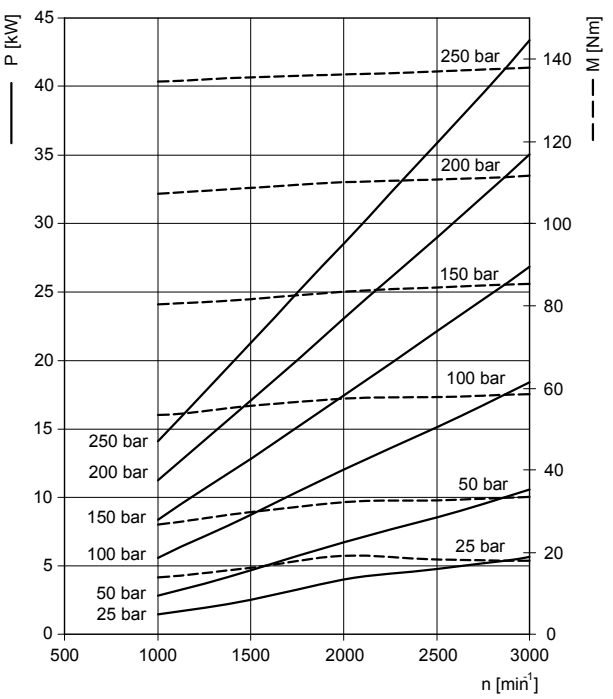
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

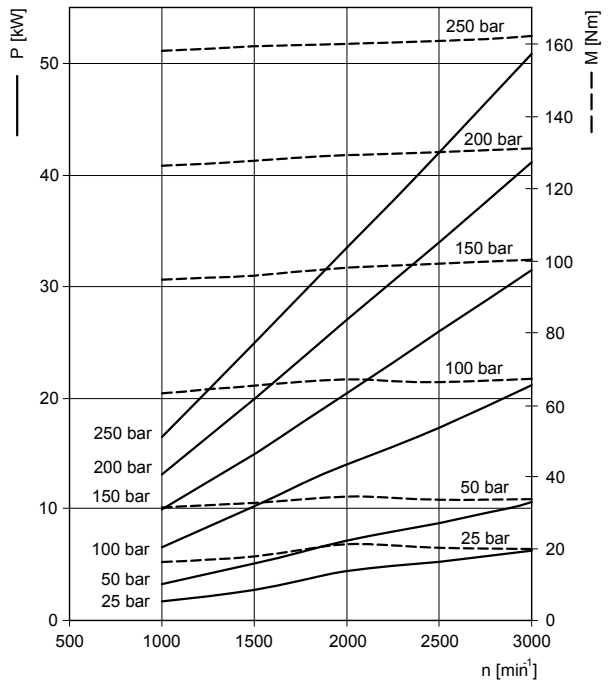
3VP 33



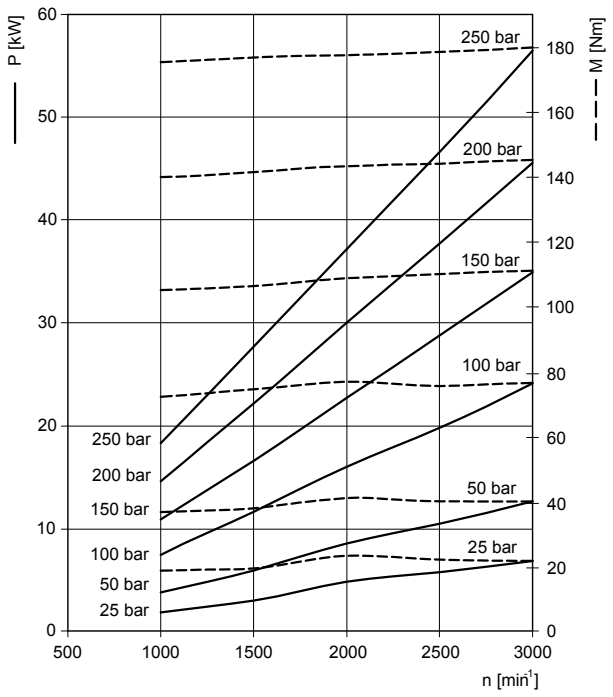
3VP 36



3VP 42



3VP 46

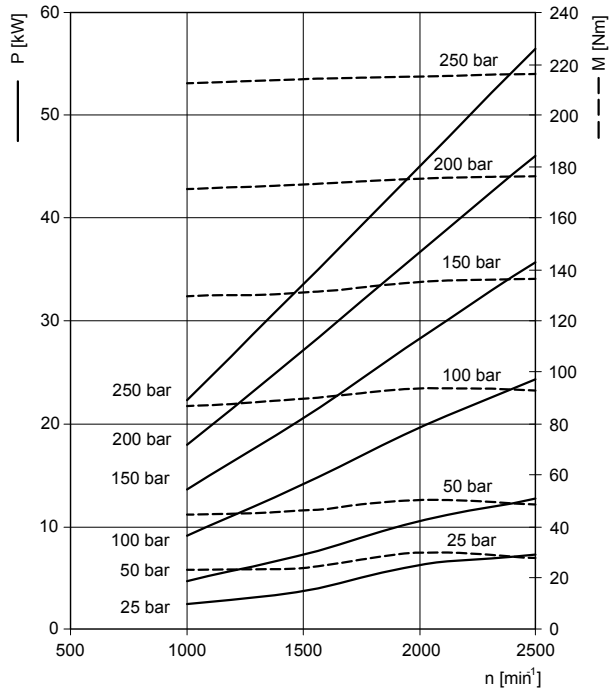


SERIE 3VP - *3VP SERIES*

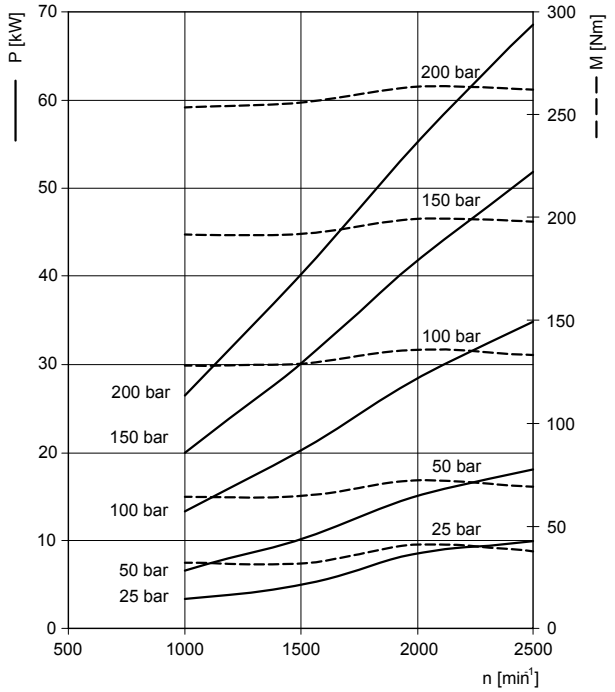
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza assorbita - *Absorbed power* **P** [kW]
Momento torcente assorbito - *Absorbed torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

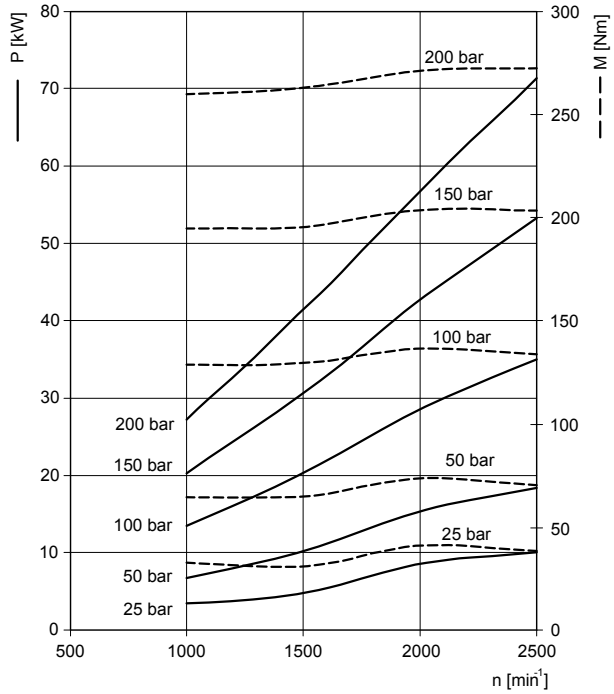
3VP 50



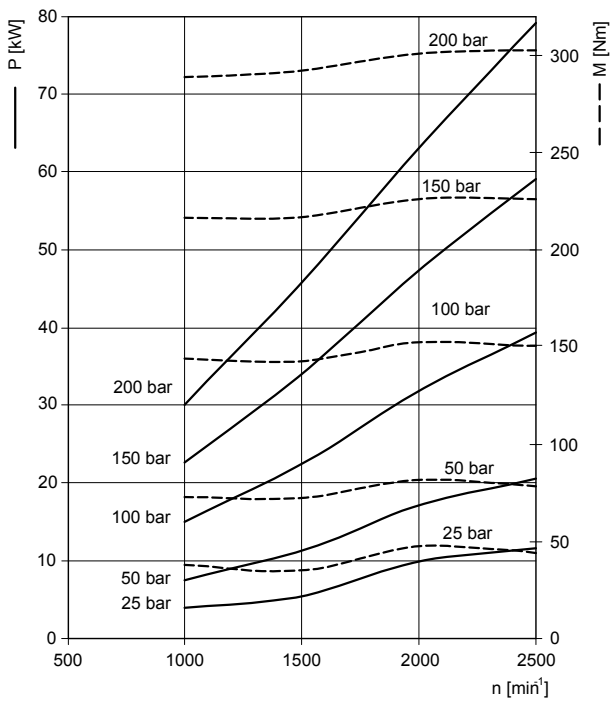
3VP 55



3VP 63

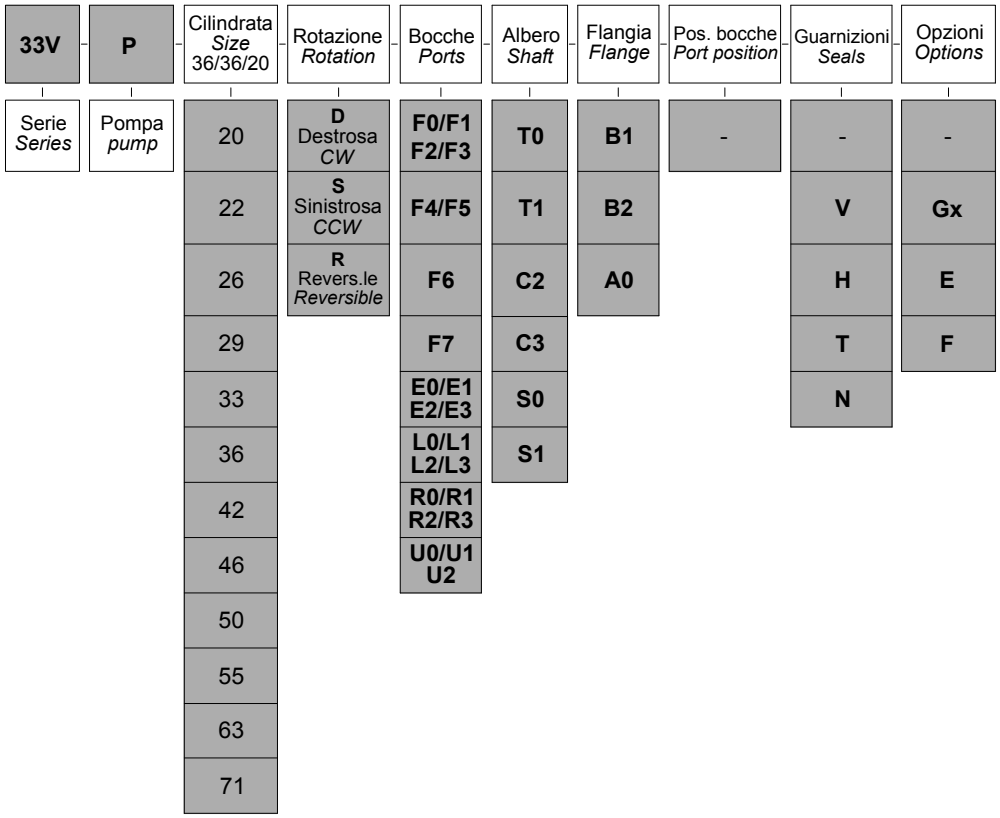


3VP 71



POMPE MULTIPLE - *MULTIPLE PUMPS*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*

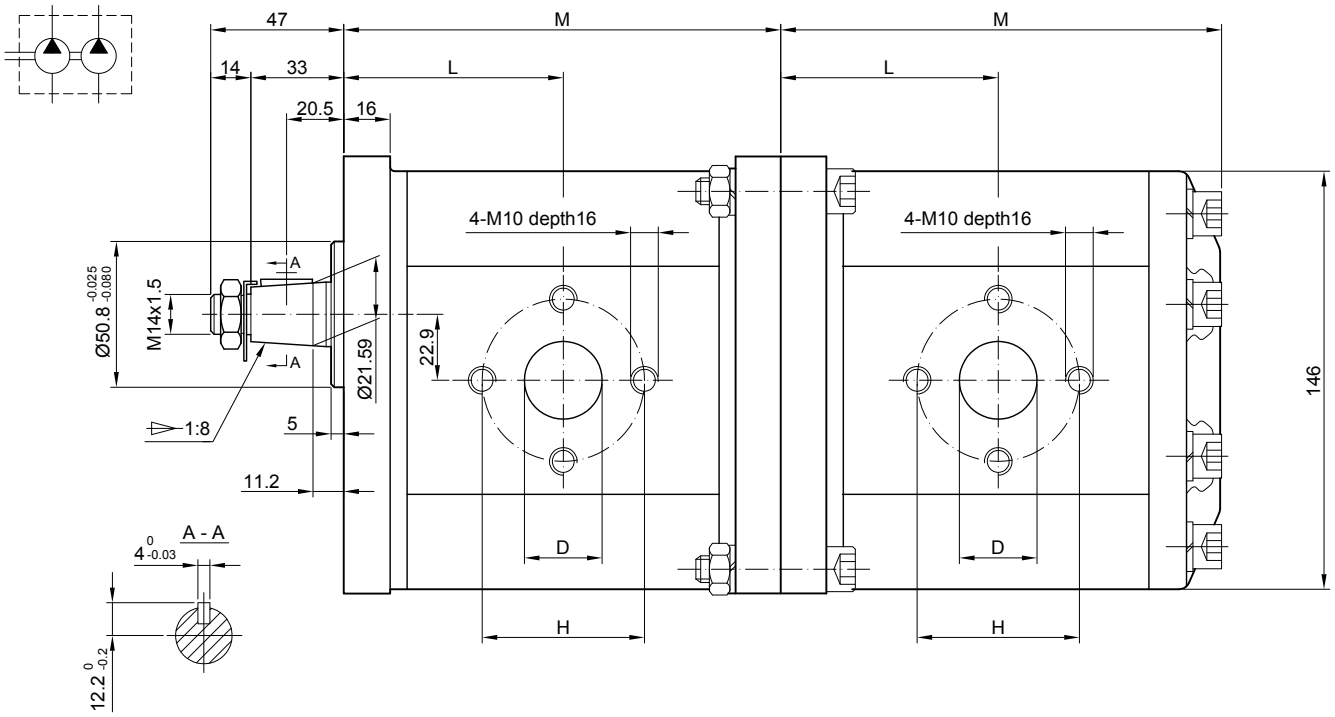
Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Gx Aspirazione unica (**x** indicare il corpo 1-2 o 3 dove è collocata la bocca di aspirazione) - liquidi in comune
*Common suction (**x** indicate 1-2 or 3 corresponding to the body where suction is located) - common oil*
E Aspirazione separata - liquidi separate
Separated suction - separated oil
F Aspirazione separata - liquidi in comune
Separated suction - common oil

33VP../.. D - E./E. T0 B1 - E



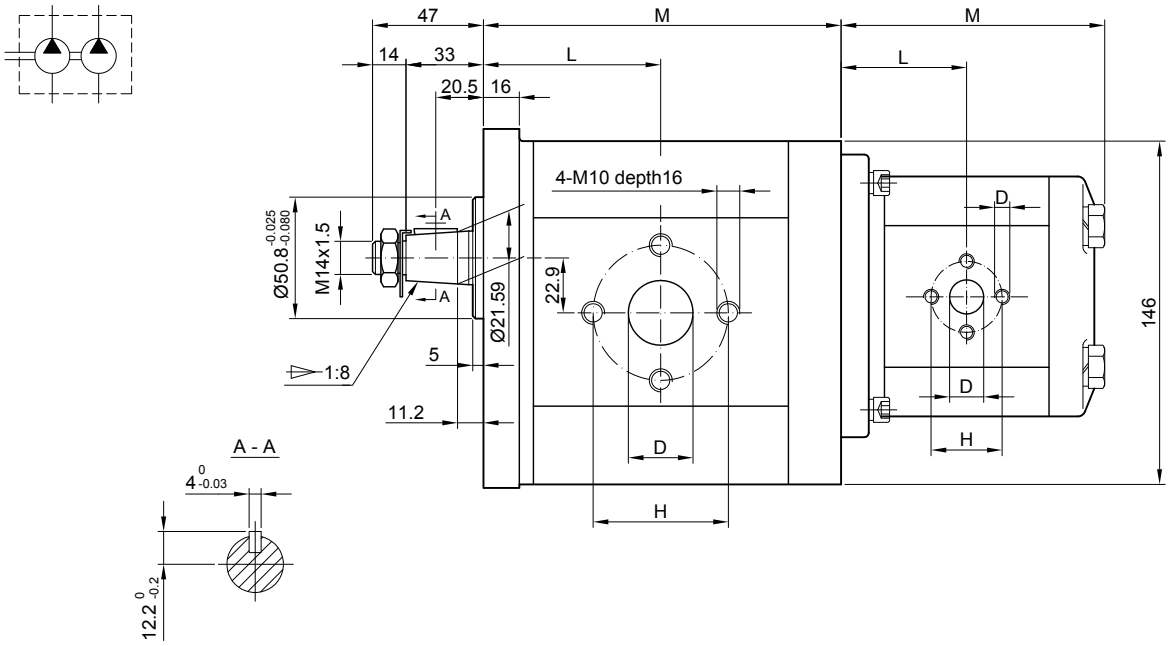
PRIMO STADIO / *FIRST STAGE*

Tipo	Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni					
Type	*Displacement*	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*					
		P1	P2	P3			M	L	H	D	h	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm
33VP 20 D	20	250	265	280	3500	600	125	63	56	27	56	19
33VP 22 D	22	250	265	280	3500	600	127	64	56	27	56	19
33VP 26 D	26	250	265	280	3000	600	130	65	56	27	56	19
33VP 29 D	29	250	265	280	3000	600	133	66	56	27	56	19
33VP 33 D	33	230	250	270	3000	500	136	68	56	27	56	19
33VP 36 D	36	230	250	270	3000	500	139	70	56	27	56	19
33VP 42 D	42	230	250	270	3000	500	146	73	51	27	51	27
33VP 46 D	46	230	250	270	3000	500	149	75	51	27	51	27
33VP 50 D	50	220	240	260	3000	500	153	77	56	27	56	27
33VP 55 D	55	200	230	250	2800	400	157	79	62	33	51	27
33VP 63 D	63	200	230	250	2800	400	165	83	62	33	51	27
33VP 71 D	71	180	200	220	2500	400	172	86	62	33	51	27

SECONDO STADIO / *SECOND STAGE*

Tipo	Cilindrata	Pressione massima			Velocità Massima	Velocità minima	Dimensioni					
Type	*Displacement*	*Max pressure*			*Max. speed*	*Min. speed*	*Dimensions*					
		P1	P2	P3			M	L	H	D	h	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm
3VP 20 D	20	250	265	280	3500	600	128	63	56	27	56	19
3VP 22 D	22	250	265	280	3500	600	130	64	56	27	56	19
3VP 26 D	26	250	265	280	3000	600	133	65	56	27	56	19
3VP 29 D	29	250	265	280	3000	600	135	66	56	27	56	19
3VP 33 D	33	230	250	270	3000	500	139	68	56	27	56	19
3VP 36 D	36	230	250	270	3000	500	142	70	56	27	56	19
3VP 42 D	42	230	250	270	3000	500	149	73	51	27	51	27
3VP 46 D	46	230	250	270	3000	500	152	75	51	27	51	27
3VP 50 D	50	220	240	260	3000	500	156	77	56	27	56	27
3VP 55 D	55	200	230	250	2800	400	160	79	62	33	51	27
3VP 63 D	63	200	230	250	2800	400	168	83	62	33	51	27
3VP 71 D	71	180	200	220	2500	400	175	86	62	33	51	27

32VP../..D - E./E. T0 B1 - E



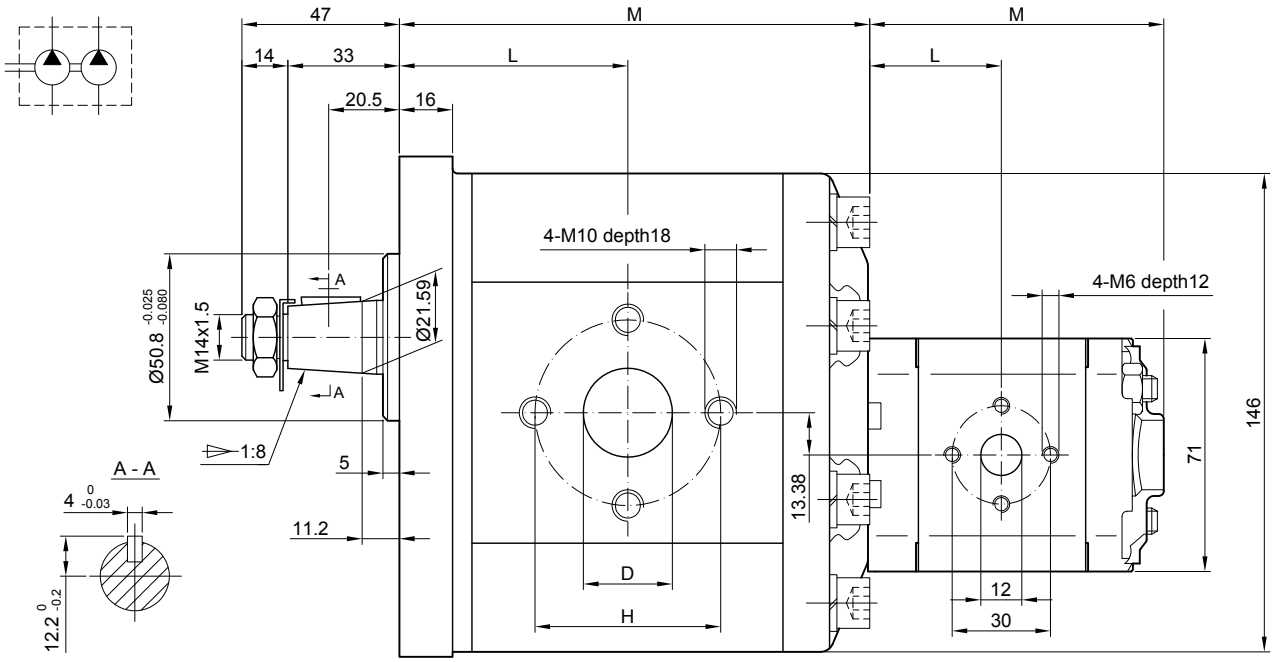
PRIMO STADIO / *FIRST STAGE*

Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*					
		P1	P2	P3			M	L	B	D	b	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm
32VP 20 D	20	250	265	280	3500	600	128	63	56	27	56	19
32VP 22 D	22	250	265	280	3500	600	130	64	56	27	56	19
32VP 26 D	26	250	265	280	3000	600	133	65	56	27	56	19
32VP 29 D	29	250	265	280	3000	600	135	66	56	27	56	19
32VP 33 D	33	230	250	270	3000	500	139	68	56	27	56	19
32VP 36 D	36	230	250	270	3000	500	142	70	56	27	56	19
32VP 42 D	42	230	250	270	3000	500	149	73	51	27	51	27
32VP 46 D	46	230	250	270	3000	500	152	75	51	27	51	27
32VP 50 D	50	220	240	260	3000	500	156	77	56	27	56	27
32VP 55 D	55	200	230	250	2800	400	160	79	62	33	51	27
32VP 63 D	63	200	230	250	2800	400	168	83	62	33	51	27
32VP 71 D	71	180	200	220	2500	400	175	86	62	33	51	27

SECONDO STADIO / *SECOND STAGE*

Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*							
									Intrata *Inlet*			Uscita *Outlet*		
		P1	P2	P3			M	L	H	D	D	h	d	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm	mm	mm
2VP 3 D	3	270	285	300	4000	800	91.1	43.6	30	13	M6	30	13	M6
2VP 4 D	4	270	285	300	4000	600	92.7	44.4	30	13	M6	30	13	M6
2VP 6 D	6	270	285	300	4000	600	96	46	30	13	M6	30	13	M6
2VP 8 D	8	270	285	300	3500	500	99.3	47.7	30	13	M6	30	13	M6
2VP 10 D	10	270	285	300	3000	500	102.6	49.3	40	20	M8	30	13	M6
2VP 12 D	12	270	285	300	3000	500	105.9	51	40	20	M8	30	13	M6
2VP 14 D	14	250	265	280	4000	500	109.3	52.7	40	20	M8	30	13	M6
2VP 16 D	16	250	265	280	4000	500	112.7	54.4	40	20	M8	30	13	M6
2VP 18 D	18	250	265	280	3600	400	116	56	40	20	M8	30	13	M6
2VP 20 D	20	220	235	250	3200	400	119.3	57.7	40	20	M8	30	13	M6
2VP 22 D	22	220	235	250	3000	400	122.6	59.3	40	20	M8	30	13	M6
2VP 25 D	25	200	215	230	3000	400	127.6	61.8	40	22	M8	30	13	M6
2VP 28 D	28	180	190	200	2500	400	132.6	64.3	40	22	M8	30	13	M6
2VP 30 D	30	160	170	180	2500	400	135.9	66	40	22	M8	30	13	M6

31VP../.. D - E./E. T0 B1 - E



PRIMO STADIO / *FIRST STAGE*

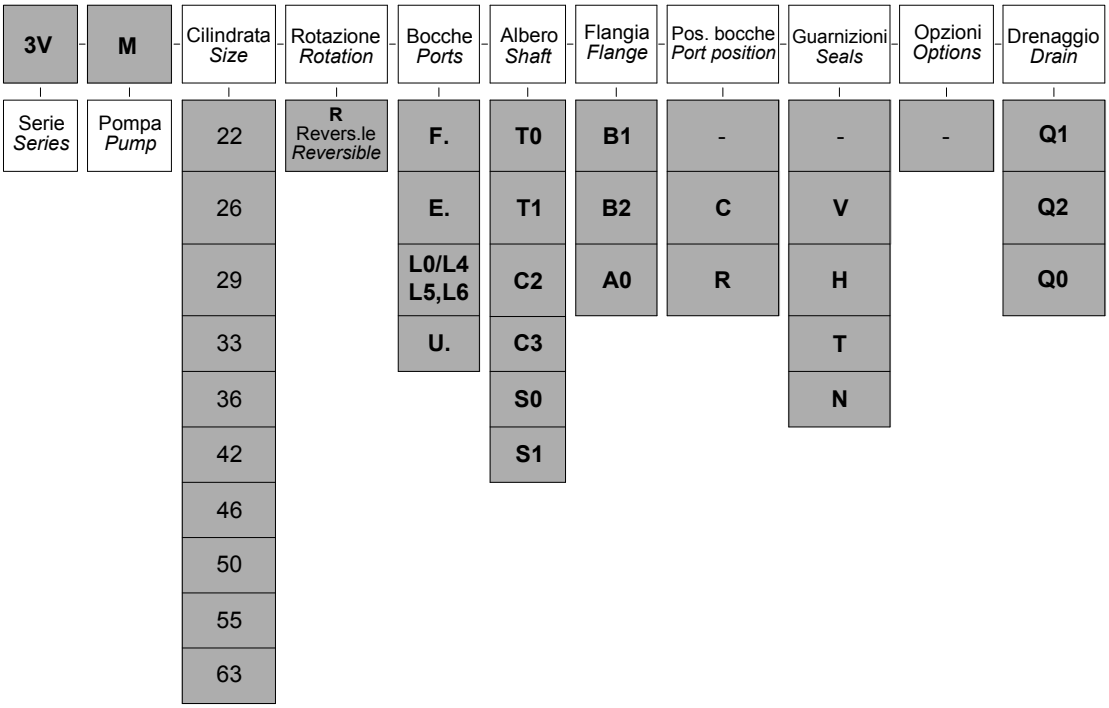
Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità Massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*					
		P1	P2	P3			M	L	B	D	b	d
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm	mm	mm
31VP 20 D	20	250	265	280	3500	600	128	63	56	27	56	19
31VP 22 D	22	250	265	280	3500	600	130	64	56	27	56	19
31VP 26 D	26	250	265	280	3000	600	133	65	56	27	56	19
31VP 29 D	29	250	265	280	3000	600	135	66	56	27	56	19
31VP 33 D	33	230	250	270	3000	500	139	68	56	27	56	19
31VP 36 D	36	230	250	270	3000	500	142	70	56	27	56	19
31VP 42 D	42	230	250	270	3000	500	149	73	51	27	51	27
31VP 46 D	46	230	250	270	3000	500	152	75	51	27	51	27
31VP 50 D	50	220	240	260	3000	500	156	77	56	27	56	27
31VP 55 D	55	200	230	250	2800	400	160	79	62	33	51	27
31VP 63 D	63	200	230	250	2800	400	168	83	62	33	51	27
31VP 71 D	71	180	200	220	2500	400	175	86	62	33	51	27

SECONDO STADIO / *SECOND STAGE*

Tipo *Type*	Cilindrata *Displacement*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*	
		P1	P2	P3			M	L
	(cm³/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm
1VP 0.8 D	0.8	230	250	270	6000	1000	73.5	32.8
1VP 1.1 D	1.1	230	250	270	6000	1000	74	33
1VP 1.3 D	1.3	230	250	270	6000	1000	75	33.5
1VP 1.6 D	1.6	230	250	270	6000	1000	76	34
1VP 1.8 D	1.8	230	250	270	6000	1000	77	34.5
1VP 2.1 D	2.1	230	250	270	6000	1000	78	35
1VP 2.7 D	2.7	230	250	270	6000	800	80	36
1VP 3.2 D	3.2	210	230	250	5000	800	82	37
1VP 3.7 D	3.7	210	230	250	4500	800	84	38
1VP 4.2 D	4.2	210	230	250	4000	800	86	39
1VP 4.8 D	4.8	190	210	230	3500	600	88	40
1VP 5.8 D	5.8	175	185	200	3000	600	92	42
1VP 6.5 D	6.5	165	170	175	2800	600	94	43
1VP 7.0 D	7.0	150	155	160	2500	600	96	44
1VP 8.0 D	8.0	140	145	150	2100	600	100	46

SERIE 3VMR - *3VMR SERIES*

COME ORDINARE - *HOW TO ORDER*



Posizione bocche - *Port position*

- Laterale / *Side*
R Posteriore / *Rear*

Guarnizioni - *Seals*

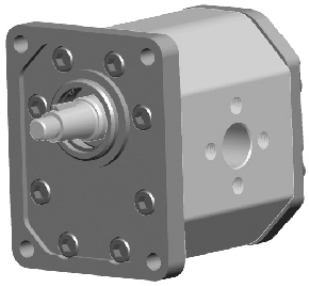
- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

Opzioni - *Options*

Drenaggio - *Drain*

Q1 Drenaggio esterno / *External drain 3/8 BSPP*
Q2 Drenaggio esterno / *External drain 9/16 - 18 UNF*
Q0 Drenaggio interno / *Internal drain*

3VM..R - E. T0 B1-Q1



Profondità 19mm filetto M10

M10 thread depth 19mm

Flangia anteriore e coperchio posteriore in ghisa

Cast iron front flange and back cover

Assemblaggio con 8 tiranti da M10 coppia di serraggio 80 Nm

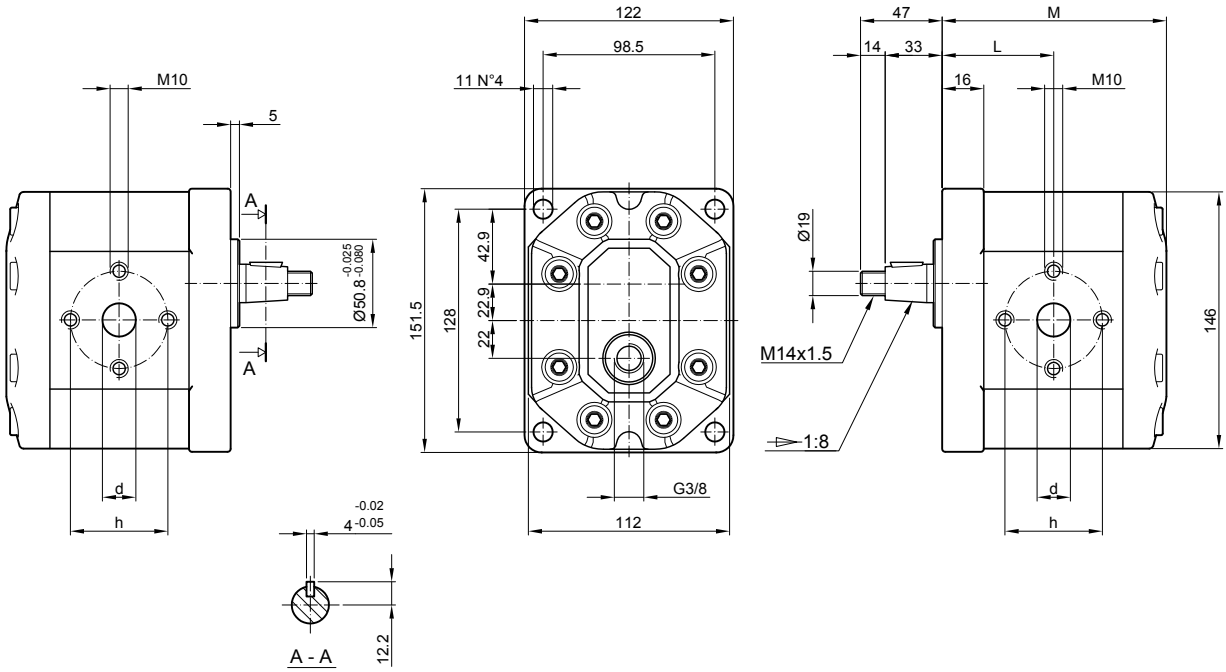
To mount the pump n.8xM10 screws with a torque wrench settings fixed at 80 Nm

Drenaggio 3/8 BSPP profondità utile 15mm

3/8 BSPP drain port thread depth 15mm

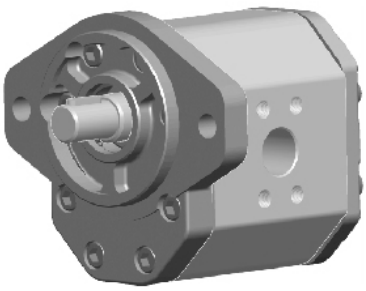
MANDATA
OUTLET

ASPIRAZIONE
INLET



Tipo *Type*	Cilindrata *Displacement*	Velocità minima *Min. speed*	Pressioni massime *Max pressure*			Velocità Massima *Max speed*	Dimensioni *Dimensions*			
			Pe	Pc	Pp		L	M	d	h
	cm^3/giro (cm^3/rev)	giri/min (rpm)	bar	bar	bar	giri/min (rpm)	mm	mm	mm	mm
3VM 22 R	22	600	230	220	250	3500	64	130	27	56
3VM 26 R	26	600	230	220	250	3000	65	133	27	56
3VM 29 R	29	600	230	220	250	3000	66	135	27	56
3VM 33 R	33	500	230	220	250	3000	68	139	27	56
3VM 36 R	36	500	220	210	240	3000	70	142	27	56
3VM 42 R	42	500	210	200	230	2800	73	149	27	51
3VM 46 R	46	500	210	200	230	2800	75	152	27	51
3VM 50 R	50	500	200	190	215	2500	77	156	27	56
3VM 55 R	55	400	200	190	215	2500	79	160	33	62
3VM 63 R	63	400	190	180	205	2500	83	168	33	62

3VM..R - F. C2 A0-Q2



Profondità 19 filetto 3/8-16 UNC

3/8-16 UNC thread depth 19

Assemblaggio con 8 tiranti da M10 coppia di serraggio 47±3 Nm

To mount the pump n.8 M10 screws, with a torque wrench settings fixed at 47±3 Nm

Flangia anteriore e coperchio posteriore in ghisa

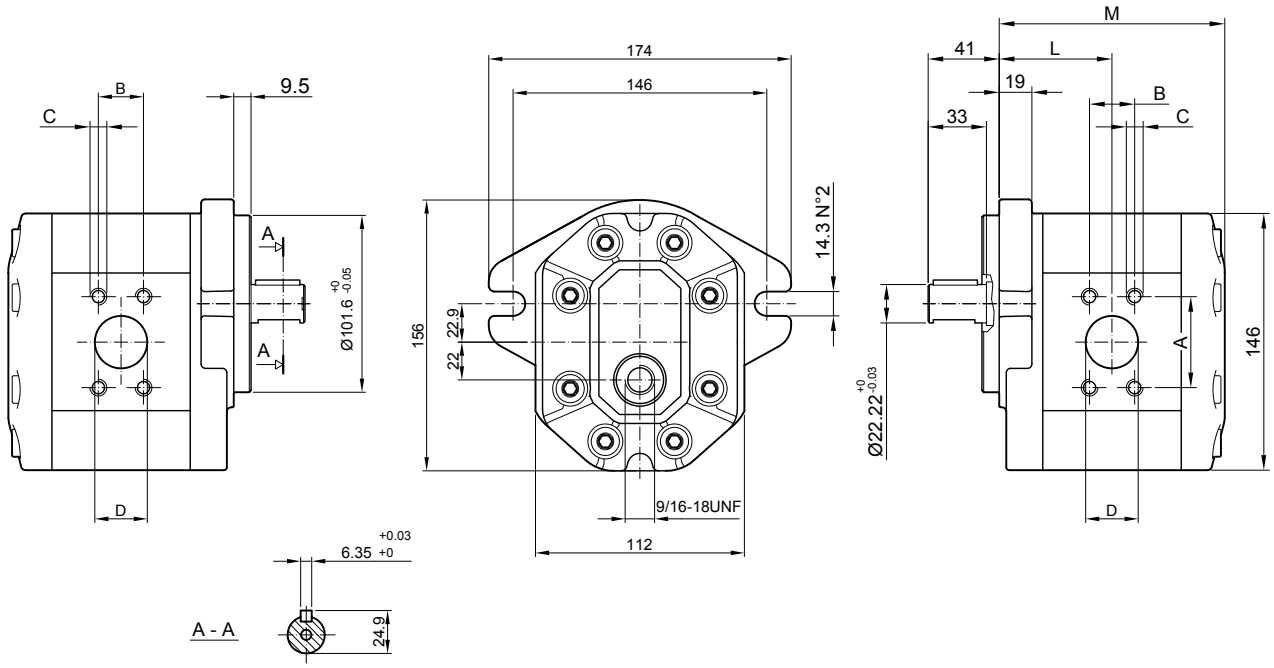
Cast iron front flange and back cover

Drenaggio G3/8 profondità utile 15 mm

G3/8 drain port thread depth 15 mm

MANDATA
OUTLET

ASPIRAZIONE
INLET

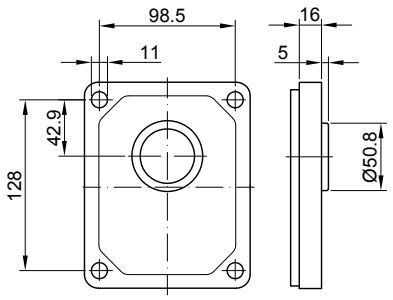


Tipo *Type*	Cilindrata *Displacement*	Velocità minima *Min. speed*	Pressioni massime *Max pressure*			Velocità Massima *Max speed*	Dimensioni *Dimensions*					
			Pe	Pc	Pp		L	M	B	A	C	D
	cm^3/giro (cm^3/rev)	giri/min (rpm)	bar	bar	bar	giri/min (rpm)	mm	mm	mm	mm	UNC	mm
3VM 22 R	22	600	230	220	250	3500	64	130	22,20	47,60	3/8	19
3VM 26 R	26	600	230	220	250	3000	65	133	22,20	47,60	3/8	19
3VM 29 R	29	600	230	220	250	3000	66	135	22,20	47,60	3/8	19
3VM 33 R	33	500	230	220	250	3000	68	139	22,20	47,60	3/8	19
3VM 36 R	36	500	220	210	240	3000	70	142	22,20	47,60	3/8	19
3VM 42 R	42	500	210	200	230	2800	73	149	22,20	47,60	3/8	19
3VM 46 R	46	500	210	200	230	2800	75	152	22,20	47,60	3/8	19
3VM 50 R	50	500	200	190	215	2500	77	156	22,20	47,60	3/8	19
3VM 55 R	55	400	200	190	215	2500	79	160	26,20	52,40	3/8	27
3VM 63 R	63	400	190	180	205	2500	83	168	26,20	52,40	3/8	27

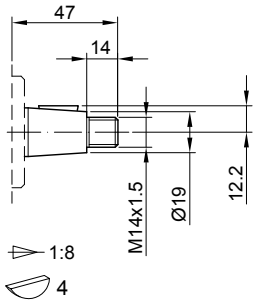
SERIE 3VM..R - *3VM..R SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*

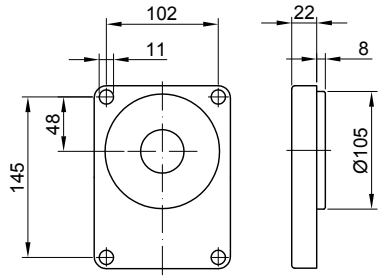


B1

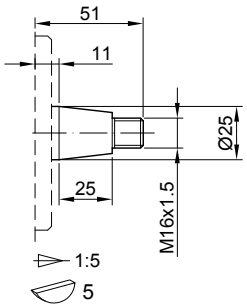


T0

Coppia max 300 Nm
Max. torque 300 Nm

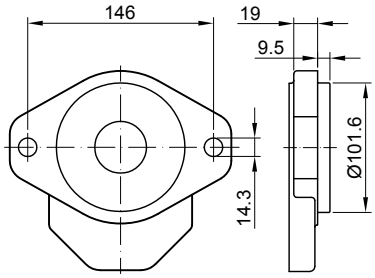


B2

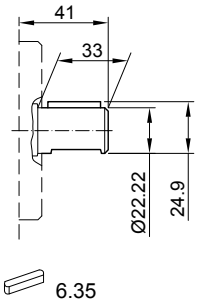


T1

Coppia max 350 Nm
Max. torque 350 Nm

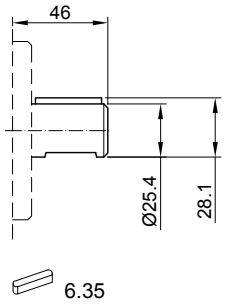


A0



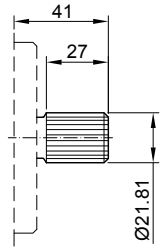
C2

Coppia max 400 Nm
Max. torque 400 Nm



C3

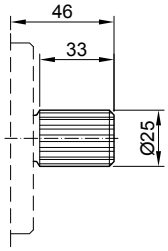
Coppia max 450 Nm
Max. torque 450 Nm



DP16/32-30° - 13T

S0

Coppia max 500 Nm
Max. torque 500 Nm



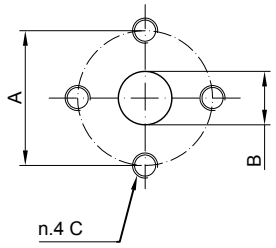
DP16/32-30° - 15T

S1

Coppia max 600 Nm
Max. torque 600 Nm

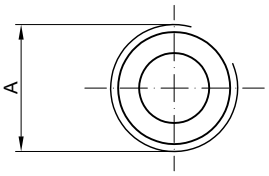
SERIE 3VM..R - *3VM..R SERIES*

BOCCHE / *PORTS*



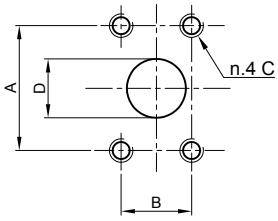
E1/E2/E3

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*					
		A	B	C			
3VM 22 ÷ 36	E2	56	27	M10			
3VM 42 ÷ 46	E1	51	27	M10			
3VM 50	E2	56	27	M10			
3VM 55 ÷ 63	E3	62	33	M10			



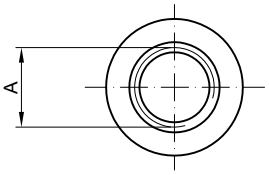
L0/L4/L5

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*	
		A	
3VM 22	L0	G 3/4	
3VM 26 ÷ 42	L4	G 1	
3VM 46 ÷ 63	L5	G 1 1/4	



F.

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*							
		A	B	C	D				
3VM 22 ÷ 50	F.	47.6	22.2	3/8 - 16UNC	19				
3VM 55 ÷ 63	F.	52.4	26.2	3/8 - 16UNC	27				

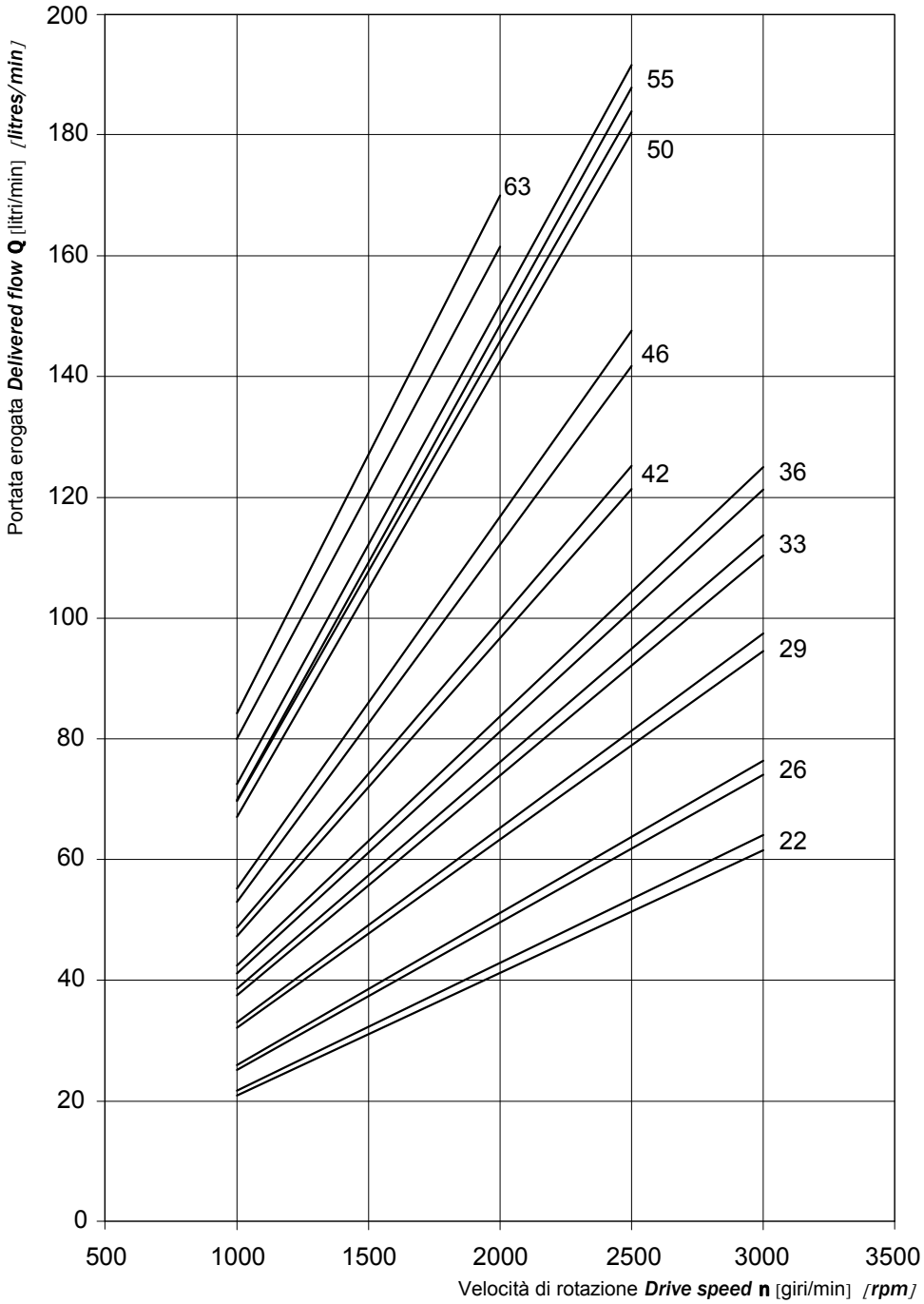


U.

Tipo *Type*	Codice bocca *Ports code*	Motore Bidirezionale *Bi-directional Motor*	
		A	
3VM 22 ÷ 36	U.	1 1/16 - 12UNF	
3VM 42 ÷ 50	U.	1 1/16 - 12UNF	
3VM 55 ÷ 63	U.	1 5/16 - 12UNF	

SERIE 3VM - *3VM SERIES*

3VM CURVE CARATTERISTICHE / *3VM PERFORMANCE CURVES*



Le curve sono state ottenute alla temperatura di 50°C, utilizzando olio con viscosità 30 cSt alle pressioni sotto riportate.

Each curve has been obtained at 50°C, using oil with viscosity 30 cSt at these pressure.

22, 26 — 25-250 bar

29, 33, 36 — 25-240 bar

42 — 25-220 bar

46 — 25-200 bar

50 — 25-180 bar

55 — 25-170 bar

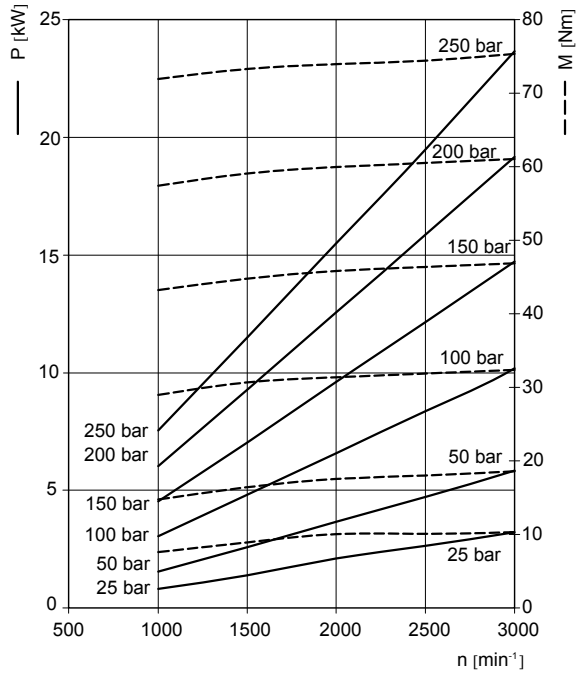
63 — 25-150 bar

SERIE 3VM - *3VM SERIES*

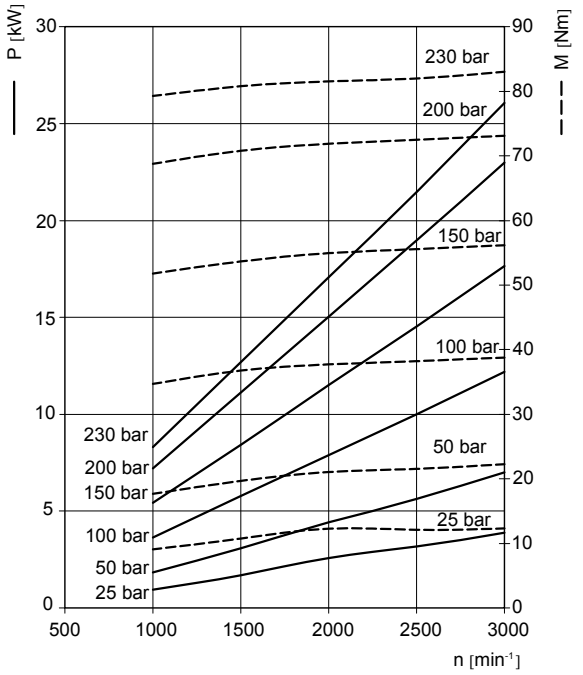
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

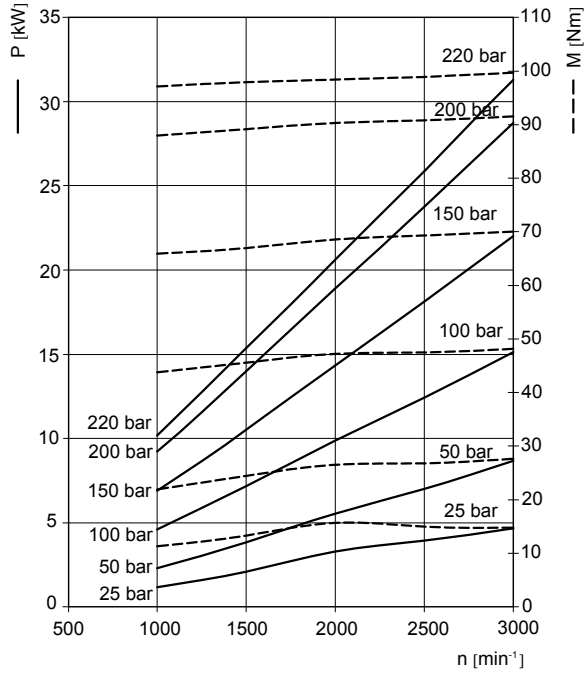
3VM 22



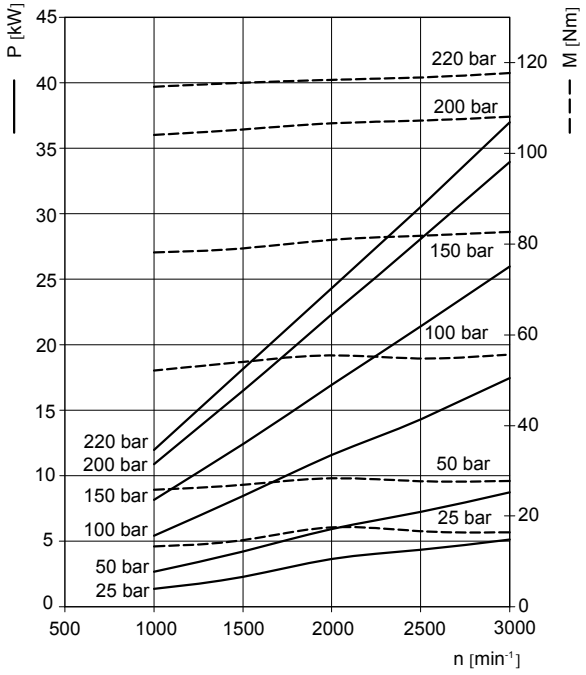
3VM 26



3VM 29



3VM 33

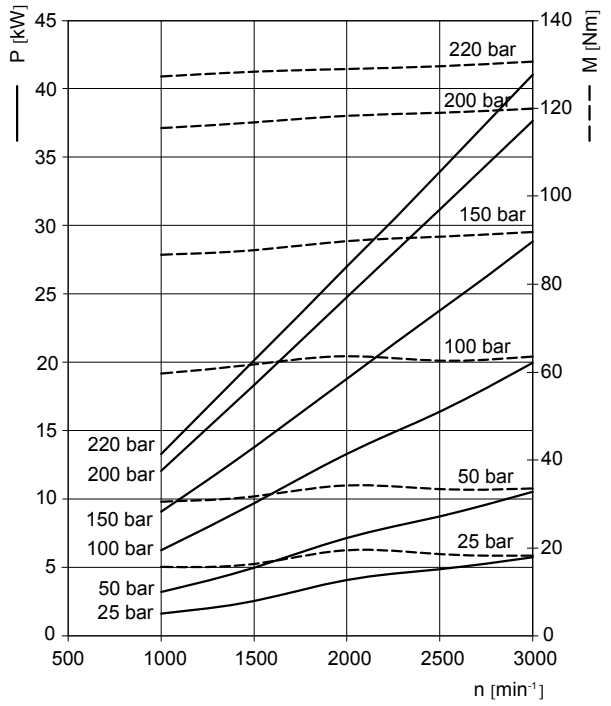


SERIE 3VM - *3VM SERIES*

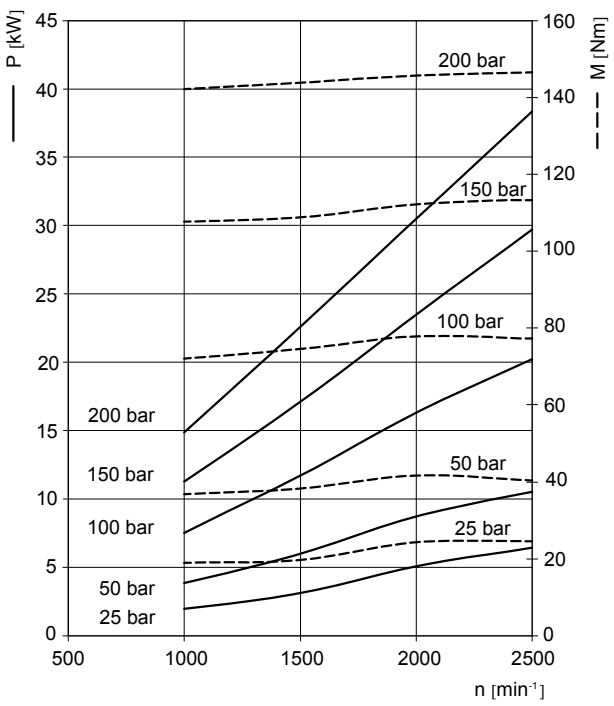
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

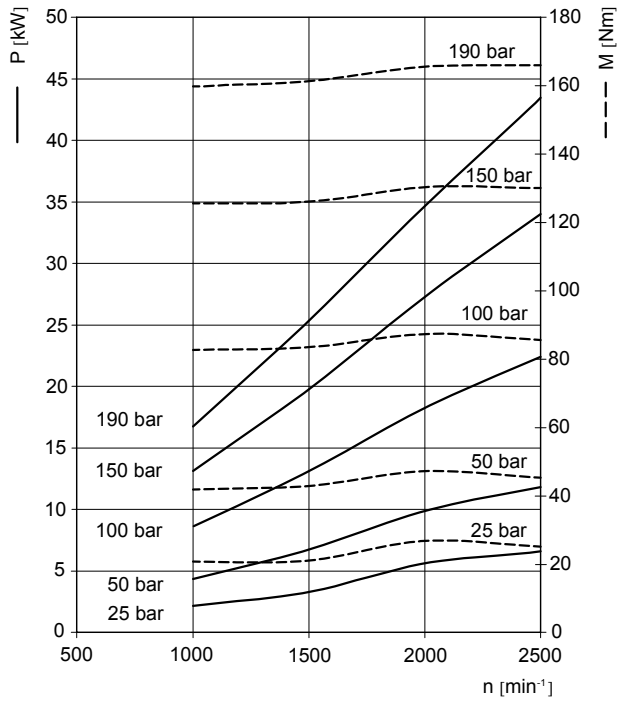
3VM 36



3VM 42



3VM 46

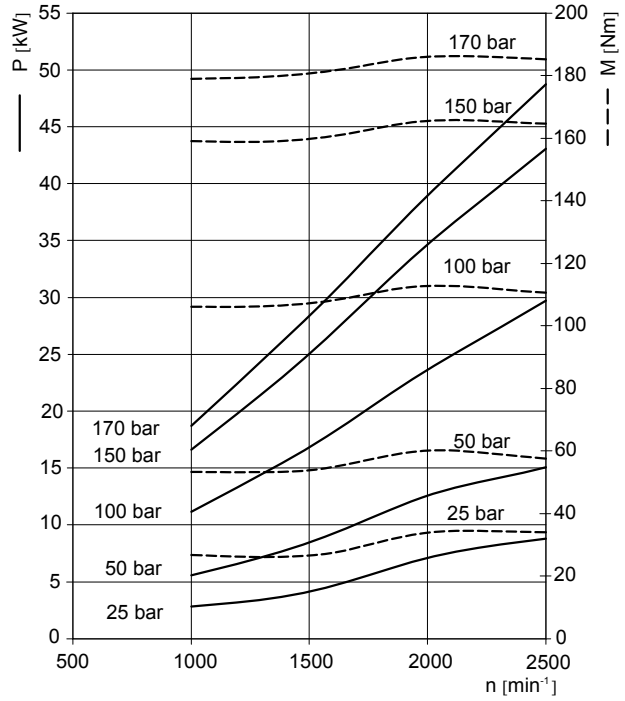


SERIE 3VM - *3VM SERIES*

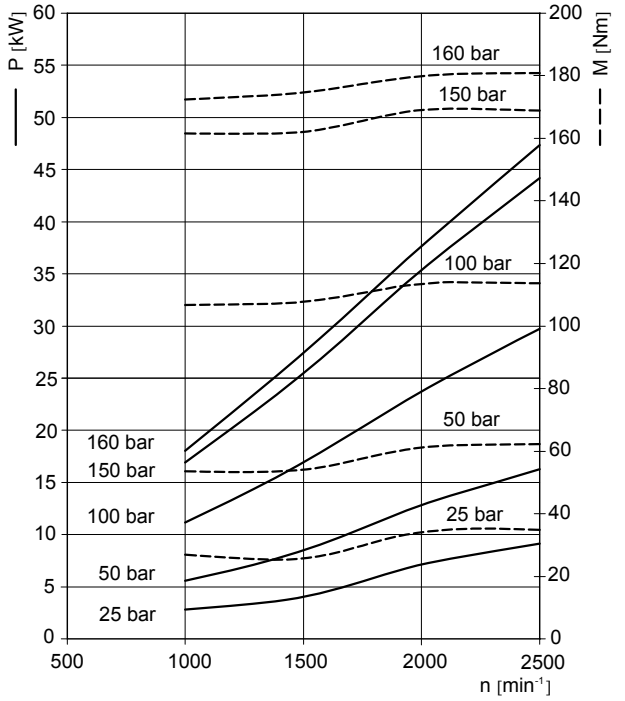
CURVE CARATTERISTICHE / *PERFORMANCE CURVES*

Potenza erogata - *Delivered power* **P** [kW]
Momento torcente erogato - *Delivered torque* **M** [Nm]
Velocità di rotazione - *Drive speed* **n** [giri/min] [*rpm*]

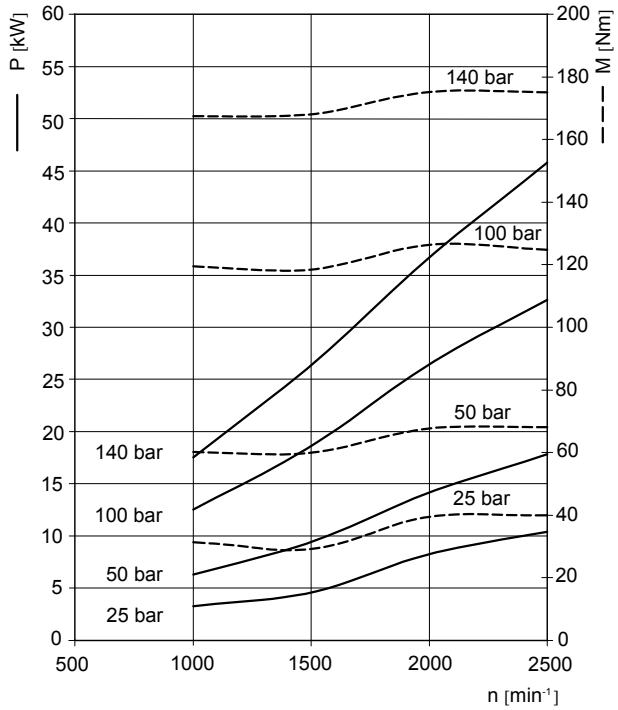
3VM 50



3VM 55

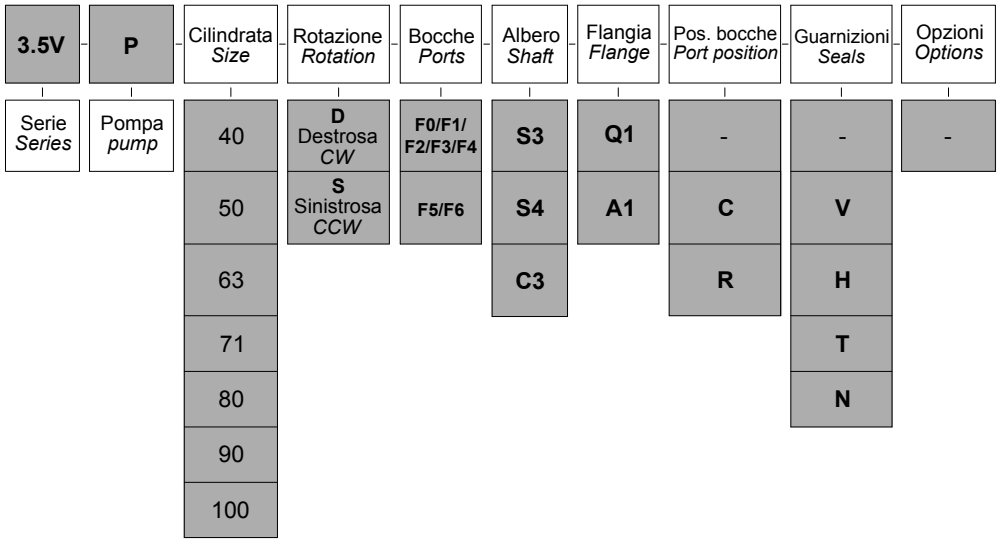


3VM 63



SERIE 3.5VP - *3.5VP SERIES*

COME ORDINARE - *HOW TO ORDER*



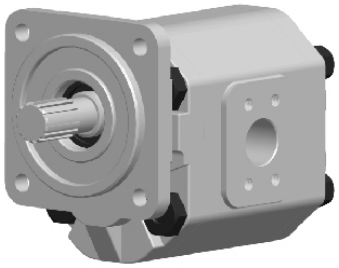
Posizione bocche - *Port position*

- Aspirazione laterale - Mandata laterale / *side Inlet - side Outlet*
C Aspirazione posteriore - Mandata laterale / *back Inlet - side Outlet*
R Aspirazione e Mandata posteriore / *back Inlet - back Outlet*

Guarnizioni - *Seals*

- Buna (-10°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
V Viton (-10°C + 120°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
H Silicon (-40°C + 80°C) - Max pressione in Aspirazione 3 bar assoluti / *Inlet pressure up to 3 bar absolute*
T Buna (-10°C + 80°C) - Max pressione in Aspirazione 6 bar assoluti / *Inlet pressure up to 6 bar absolute*
N Buna (-10°C + 80°C) - Max pressione in Aspirazione 10 bar assoluti / *Inlet pressure up to 10 bar absolute*

3.5VP..D - F.. S3 Q1



Profondità 16mm filetto M8
Profondità 20mm filetto M12

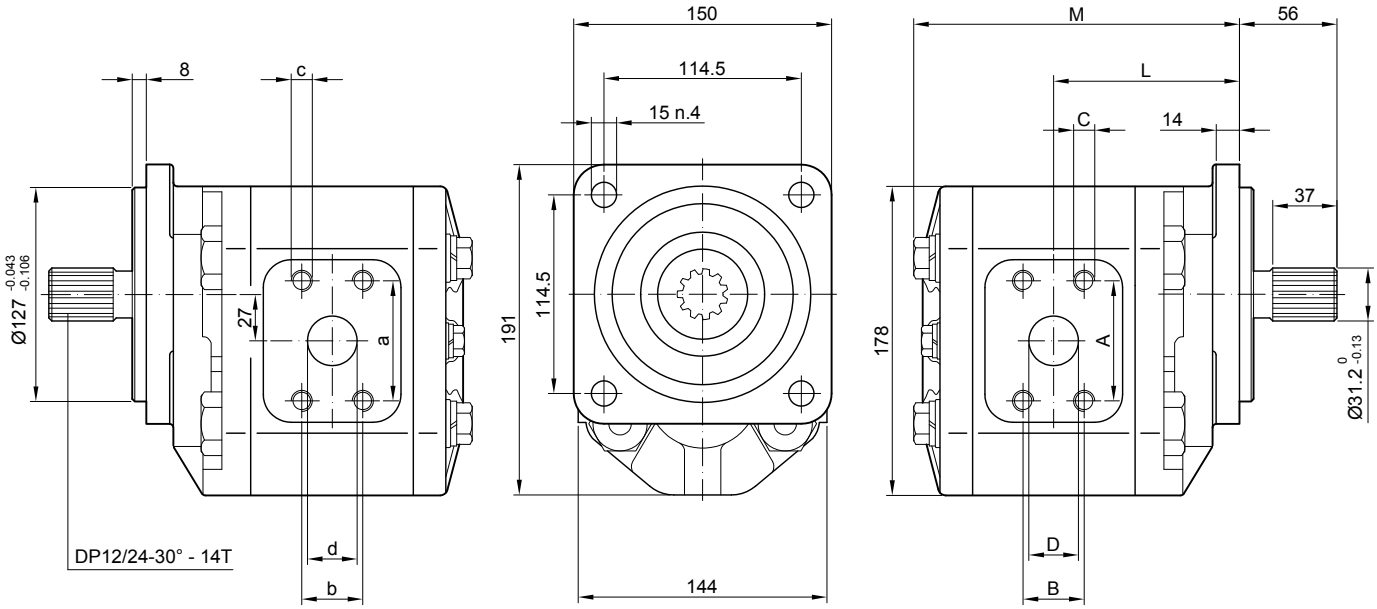
Assemblaggio con 8 tiranti da M14 coppia di serraggio 185±5 Nm

M8 thread depth 16mm
M12 thread depth 20mm

To mount the pump n.8xM14 screws, with a torque wrench settings fixed at 185±5 Nm

MANDATA
OUTLET

ASPIRAZIONE
INLET

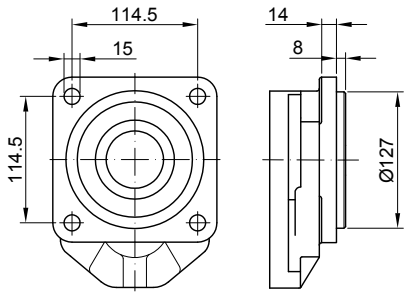


Tipo *Type*	Cilindrata *Displ.nt*	Pressione massima *Max pressure*			Velocità massima *Max. speed*	Velocità minima *Min. speed*	Dimensioni *Dimensions*									
		P1	P2	P3			M	L	A	B	C	D	a	b	c	d
	(cm^3/rev)	bar	bar	bar	(r/min)	(r/min)	mm	mm	mm	mm		mm	mm	mm		mm
3.5VP 40 D	40	250	265	280	2750	600	189	108	60	30	M10	32	52	26	M10	25
3.5VP 50 D	50	250	265	280	2750	600	195	111	60	30	M10	32	52	26	M10	25
3.5VP 63 D	63	250	265	280	2750	500	203	115	60	30	M10	32	52	26	M10	25
3.5VP 71 D	71	230	250	270	2500	500	208	117	70	36	M12	35	60	30	M10	32
3.5VP 80 D	80	230	250	270	2500	500	213	120	70	36	M12	35	60	30	M10	32
3.5VP 90 D	90	200	230	250	2500	500	219	123	70	36	M12	40	60	30	M10	32
3.5VP 100 D	100	200	230	250	2500	500	225	126	70	36	M12	40	60	30	M10	32

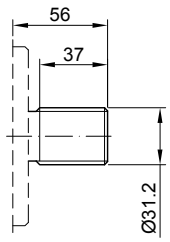
SERIE 3.5VP - *3.5VP SERIES*

FLANGE / *FRONT COVERS*

ALBERI / *SHAFTS*



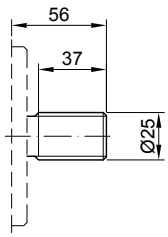
Q1



DP12/24-30° - 14T

S3

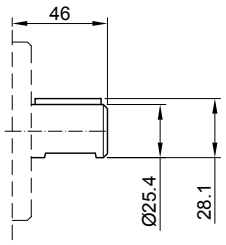
Coppia max 920 Nm
Max. torque 920 Nm



DP16/32-30° - 15T

S4

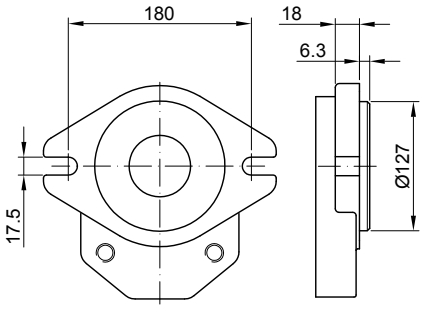
Coppia max 600 Nm
Max. torque 600 Nm



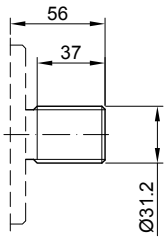
6.35

C3

Coppia max 450 Nm
Max. torque 450 Nm



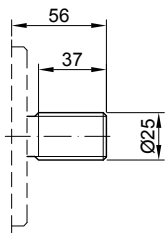
A1



DP12/24-30° - 14T

S3

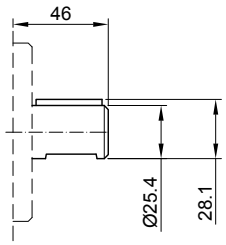
Coppia max 920 Nm
Max. torque 920 Nm



DP16/32-30° - 15T

S4

Coppia max 600 Nm
Max. torque 600 Nm



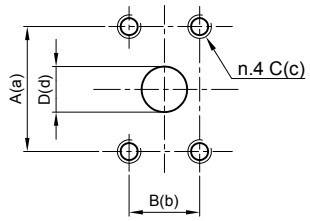
6.35

C3

Coppia max 450 Nm
Max. torque 450 Nm

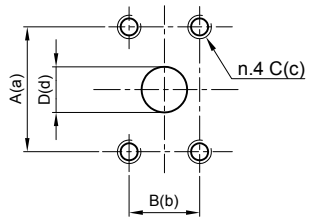
SERIE 3.5VP - *3.5VP SERIES*

BOCCHE / *PORTS*



F0/F1/F2/F3/F4

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*				Mandata *Outlet*			
		A	B	C	D	a	b	c	d
3.5VP 40	F0	48	22	M8	20	48	22	M8	20
3.5VP 50	F1	52	26	M10	25	48	22	M8	20
3.5VP 40 ÷ 63	F2	60	30	M10	32	52	26	M10	25
3.5VP 71 ÷ 80	F3	70	36	M12	35	60	30	M10	32
3.5VP 90 ÷ 100	F4	70	36	M12	40	60	30	M10	32



F5/F6

Tipo *Type*	Codice bocca *Ports code*	Aspirazione *Inlet*				Mandata *Outlet*			
		A	B	C	D	a	b	c	d
3.5VP 50 ÷ 63	F5	60	30	M10	32	52	26	M8	25
3.5VP 71 ÷ 80	F6	60	36	M10	35	60	36	M10	28
3.5VP 90 ÷ 100	F6	60	36	M10	40	60	36	M10	32

RACCORDI - *FITTINGS*

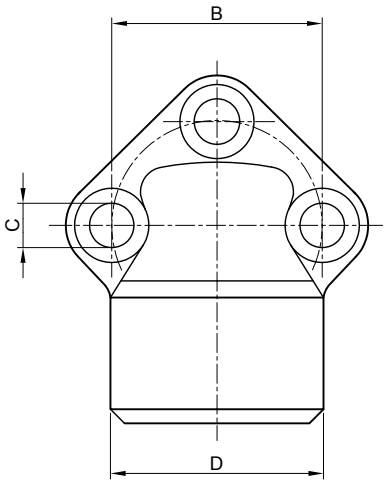
Raccordi a gomito in acciaio tipo RG - *Steel elbow joint*

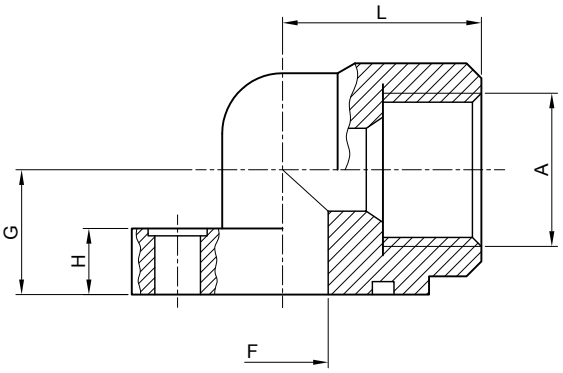
Descrizione

Construito in acciaio saldabile adatti per il montaggio su motori e pompe oleodinamiche ad ingranaggi.
Pressione max di esercizio 315 bar.
Vengono forniti completi di viti, O-Ring e rondelle.

Description

Weldable steel elbow joints, suitable to be mounted on hydraulic gear pumps and motors.
Max. working pressure 315 bar.
They are supplied complete with O-Ring, fastening bolts and washers.





A richiesta si eseguono anche a saldare di tasca - *On request we also produce it socket welding*

Tipo *Type*	Press. Maxes (Bar) *Max. Press. (Bar)*	Gruppo pompa *Pump size*	Dimensioni - *Dimension (mm)*								N° Fori *Holes*	Viti Metriche *Metric Screws*	O - Ring
			A	B	C	D	F	G	H	L			
RG 26 3/8"	**300**	0,5	3/8" gas	26	5,5	30,5	11,5	18	9,5	27	3	M5x20	2056
RG 26 1/2"	**300**	0,5	1/2" gas	26	5,5	30,5	11,5	18	9,5	27	3	M5x20	2056
RG 26 M18x1,5	**300**	0,5	M18x1,5	26	5,5	30,5	11,5	18	9,5	27	3	M5x20	2056
RG 30 3/8"	**300**	1	3/8" gas	30	6,5	30,5	11,5	18	9,5	27	3	M6x20	121
RG 30 1/2"	**300**	1	1/2" gas	30	6,5	30,5	11,5	18	9,5	27	3	M6x20	121
RG 30 M18x1,5	**300**	1	M18x1,5	30	6,5	30,5	11,5	18	9,5	27	3	M6x20	121
RG 40 3/8"	**300**	2	3/8" gas	40	8,5	40	20	21	10,5	38	3	M8x25	132
RG 40 1/2"	**300**	2	1/2" gas	40	8,5	40	20	21	10,5	38	3	M8x25	132
RG 40 3/4"	**300**	2	3/4" gas	40	8,5	40	20	21	10,5	38	3	M8x25	132
RG 40/23,5 1/2"	**300**	2	1/2" gas	40	8,5	40	23,5	21	10,5	38	3	M8x25	2100
RG 40/23,5 3/4"	**300**	2	3/4" gas	40	8,5	40	23,5	21	10,5	38	3	M8x25	2100
RG 51 3/4"	**300**	3A	3/4" gas	51	10,5	45	25	27	13,5	47	3	M10x30	3125
RG 51 1"	**300**	3A	1" gas	51	10,5	45	25	27	13,5	47	3	M10x30	3125
RG 56 3/4"	**300**	3B	3/4" gas	56	10,5	45	34	27	13,5	47	3	M10x30	3150
RG 56 1"	**300**	3B	1" gas	56	10,5	45	34	27	13,5	47	3	M10x30	3150
RG 62 1"	**300**	3,5	1" gas	62	10,5	60	32	36	19	56	3	M10x35	4150
RG 62 1" 1/4	**300**	3,5	1" 1/4 gas	62	10,5	60	32	36	19	56	3	M10x35	4150
RG 62 1" M12	**300**	3,5	1"	62	12,5	60	32	36	19	56	3	M12x35	4150
RG 62 1" 1/4 M12	**300**	3,5	1" 1/4 gas	62	12,5	60	32	36	19	56	3	M12x35	4150
RG 72,5 1" 1/4	**300**	4	1" gas	72,5	12,5	62	38	38	16	58	3	M12x35	4187
RG 72,5 1" 1/2	**300**	4	1" 1/2 gas	72,5	122,5	62	38	38	16	58	3	M12x35	4187
RG 92 2" 1/2 *	**10**	5	2" 1/2 gas	92	12,5	95	63	50	21	75	3	M12x40	173

*** Materiale: ghisa - *Material: cast iron***