

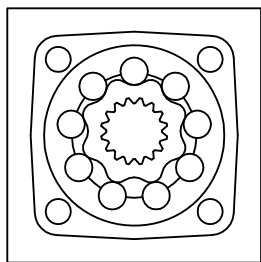
HT



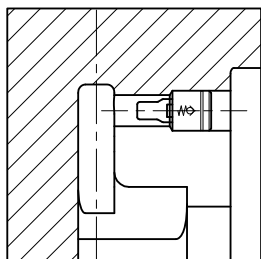
MOTORI ORBITALI

HYDRAULIC MOTOR SERIES

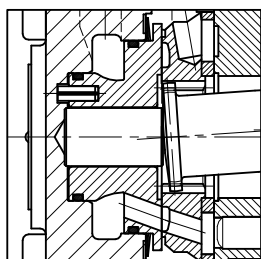
CARATTERISTICHE DEL MOTORE MOTOR FEATURES



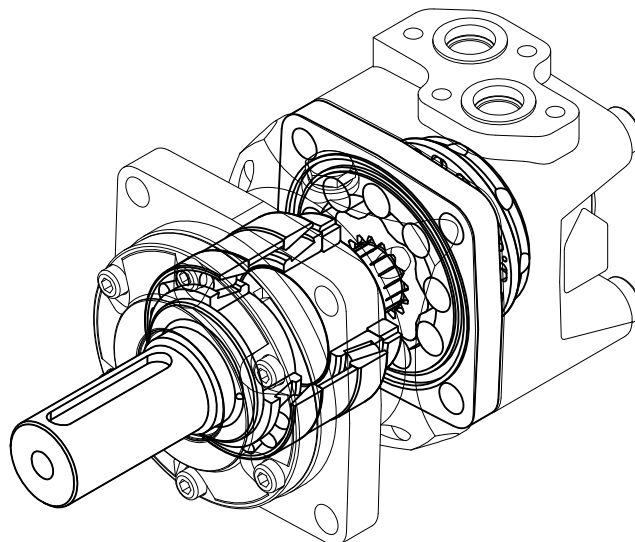
Organo motore roller che consente elevate pressioni di esercizio e lunga durata.
Heavy duty, roller type stator meant to work at high pressure ant to guarantee extra long lasting.



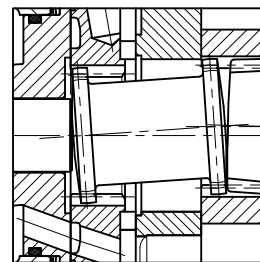
Valvole di drenaggio incorporate che ricircolano allo scarico il fluido drenato interamente.
Built-in check valves to recirculate internally drained fluid through return line.



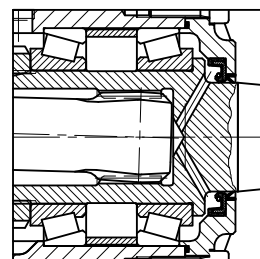
Distribuzione con valvola a disco con recupero automatico dei giochi effettuato dal fluido in pressione; viene così raggiunto un livello più basso di drenaggio ed un rendimento più elevato.
Disc valve distribution with automatic compensation of backlash done by fluid under pressure: lower drain figures are then guaranteed together with high efficiency.



Comando con semigiunto separato della distribuzione per garantirne una precisa fasatura.
Separate disc valves drive to guarantee sharp phase.



Albero supportato da due robusti cuscinetti a rulli conici che assicurano una grande tenuta ai carichi.
Shaft supported by two heavy duty tapered roller bearings that ensure outstanding radial load capacity.



CODICE DI ORDINAZIONE ORDERING CODE

Serie Series		Cilindrata Displacement		Flangia Flange		Albero Shaft		Opzioni Options	
HT		160		D		C40			
CODICE CODE	Serie Series	CODICE CODE	Cilindrata Displacement	CODICE CODE	Flangia Flange	CODICE CODE	Albero (solo HT) Shaft (only HT)	CODICE CODE	Opzioni Options
HT	Versione Base Standard Version	160	161.1 cm ³ /giro [9.8 in ³ /rev]	D	ISO 4 Fori ISO 4 Bolts				Nessuna Opzione Without option
HTC	Versione Corta Short Version	200	201.4 cm ³ /giro [12.2 in ³ /rev]	C	SAE-C (solo HT versione SAE) SAE-C (only HT SAE version)			FKM	Guarnizioni VITON VITON Seals
		250	251.8 cm ³ /giro [15.3 in ³ /rev]					SAE(*)	Versione SAE (solo HT) SAE Version (only HT)
		315	326.3 cm ³ /giro [19.9 in ³ /rev]			C40	Cilindrico Ø40 mm Parallel keyed 1.56 in	VSC06	VSC/F - 6 l/min VSC/F - 1.58 U.S. gpm
		400	410.9 cm ³ /giro [25 in ³ /rev]			CN40	Conico Taper	VSC09	VSC/F - 10.5 l/min VSC/F - 2.77 U.S. gpm
		500	523.6 cm ³ /giro [31.9 in ³ /rev]			S38	Scanalato Z17 12/24 DP 17T 12/24 DP Splined	VSC15	VSC/F - 15 l/min VSC/F - 3.96 U.S. gpm
						C38	Cilindrico Ø38.1 mm (solo HT versione SAE) Parallel keyed 1.48 in (only HT SAE version)	VSC20	VSC/F - 20 l/min VSC/F - 5.28 U.S. gpm

(*) Speciale a richiesta / Special on request

In caso di caratteristiche non elencate, contattare Uff. Tecnico.
Please contact technical department for not listed features.

CARATTERISTICHE TECNICHE TECHNICAL SPECIFICATIONS

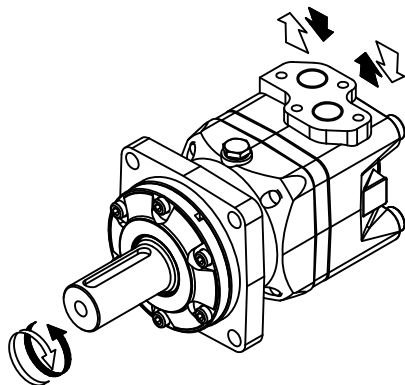
Motore Motor	Cilindrata Displacement cm ³ /giro [in ³ /rev]	Max. pressione in ingresso Max. input pressure bar [psi]	Pressione diff. max. Max. differential pressure bar [psi]	Coppia max. Max. torque Nm [lbf·ft]	Portata max. Max. flow l/min [U.S. gpm]	Velocità max. Max. speed rpm	Potenza max. Max. horsepower kW [hp]						
HT 160	161.1 [9.8]	Cont Int ⁽¹⁾ Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int ⁽¹⁾ Peak ⁽²⁾	200 [2900] 240 [3480] 280 [4060]	Cont Int ⁽¹⁾ Peak ⁽²⁾	470 [346.3] 560 [412.7] 660 [486.4]	Cont Int ⁽¹⁾	100 [26.4] 125 [33]	Cont Int ⁽¹⁾	625 780	Cont Int ⁽¹⁾	27.5 [36.8] 32 [42.8]
HT 200	201.4 [12.2]	Cont Int ⁽¹⁾ Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int ⁽¹⁾ Peak ⁽²⁾	200 [2900] 240 [3480] 280 [4060]	Cont Int ⁽¹⁾ Peak ⁽²⁾	590 [434.8] 710 [523.2] 820 [604.3]	Cont Int ⁽¹⁾	125 [33] 150 [39.6]	Cont Int ⁽¹⁾	625 750	Cont Int ⁽¹⁾	33.5 [44.8] 40 [53.6]
HT 250	251.8 [15.3]	Cont Int* Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int* Peak ⁽²⁾	200 [2900] 240 [3480] 280 [4060]	Cont Int* Peak ⁽²⁾	730 [538] 880 [648.5] 1020 [751.7]	Cont Int ⁽¹⁾	125 [33] 150 [39.6]	Cont Int ⁽¹⁾	500 600	Cont Int ⁽¹⁾	33.5 [44.8] 40 [53.6]
HT 315	326.3 [19.9]	Cont Int ⁽¹⁾ Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int ⁽¹⁾ Peak ⁽²⁾	200 [2900] 240 [3480] 280 [4060]	Cont Int ⁽¹⁾ Peak ⁽²⁾	950 [700.1] 1140 [840.1] 1330 [980.2]	Cont Int ⁽¹⁾	125 [33] 150 [39.6]	Cont Int ⁽¹⁾	380 460	Cont Int ⁽¹⁾	33.5 [44.8] 40 [53.6]
HT 400	410.9 [825]	Cont Int ⁽¹⁾ Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int ⁽¹⁾ Peak ⁽²⁾	180 [2610] 210 [3045] 240 [3480]	Cont Int ⁽¹⁾ Peak ⁽²⁾	1080 [795.9] 1260 [928.6] 1440 [1061.2]	Cont Int ⁽¹⁾	125 [33] 150 [39.6]	Cont Int ⁽¹⁾	305 365	Cont Int ⁽¹⁾	30 [40.2] 35 [46.9]
HT 500	523.6 [31.9]	Cont Int ⁽¹⁾ Peak ⁽²⁾	210 [3045] 250 [3625] 300 [4350]	Cont Int ⁽¹⁾ Peak ⁽²⁾	160 [2320] 180 [2610] 210 [3045]	Cont Int ⁽¹⁾ Peak ⁽²⁾	1220 [899.1] 1370 [1009.6] 1600 [1179.2]	Cont Int ⁽¹⁾	125 [33] 150 [39.6]	Cont Int ⁽¹⁾	240 285	Cont Int ⁽¹⁾	26.5 [35.5] 30 [40.2]

Motore Motor	Max. pressione di scarico con drenaggio (cont.) Max. Outlet pressure whit Drain line (cont.) bar [psi]		Max. Pressione di avviamento a vuoto Max. starting pressu- re with no load bar [psi]	Coppia minima di spunto Min. starting torque Nm [lbf-ft]			Portata di drenaggio ³⁾ Oli flow in the drain line ³⁾ Nm [lbf-ft]		Velocità minima Min. speed [rpm]
HT 160	Cont Int ¹⁾ Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	340 [250.5] 410 [302.1]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	10
HT 200	Cont Int ¹⁾ Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	430 [316.9] 520 [383.2]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	9
HT 250	Cont Int* Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	530 [390.6] 630 [464.3]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	8
HT 315	Cont Int ¹⁾ Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	740 [545.3] 890 [655.9]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	7
HT 400	Cont Int ¹⁾ Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	840 [619] 970 [714.8]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	6
HT 500	Cont Int ¹⁾ Peak ²⁾	140 [2030] 175 [2537] 210 [3045]	10 [145]	A Δp max. At max. Δp	Cont Int ¹⁾	950 [700.1] 1060 [781.2]	At Δp = 140 bar [2030 psi] At Δp = 210 bar [3045 psi]	15 [11] 30 [22.1]	5

¹⁾ Le condizioni intermittenti non devono durare più del 10% di ogni minuto. - Intermittent duty must not exceed 10% each minute.

²⁾ Le condizioni di picco non devono durare più del 1% di ogni minuto. - Peak duty must not exceed 1% each minute.

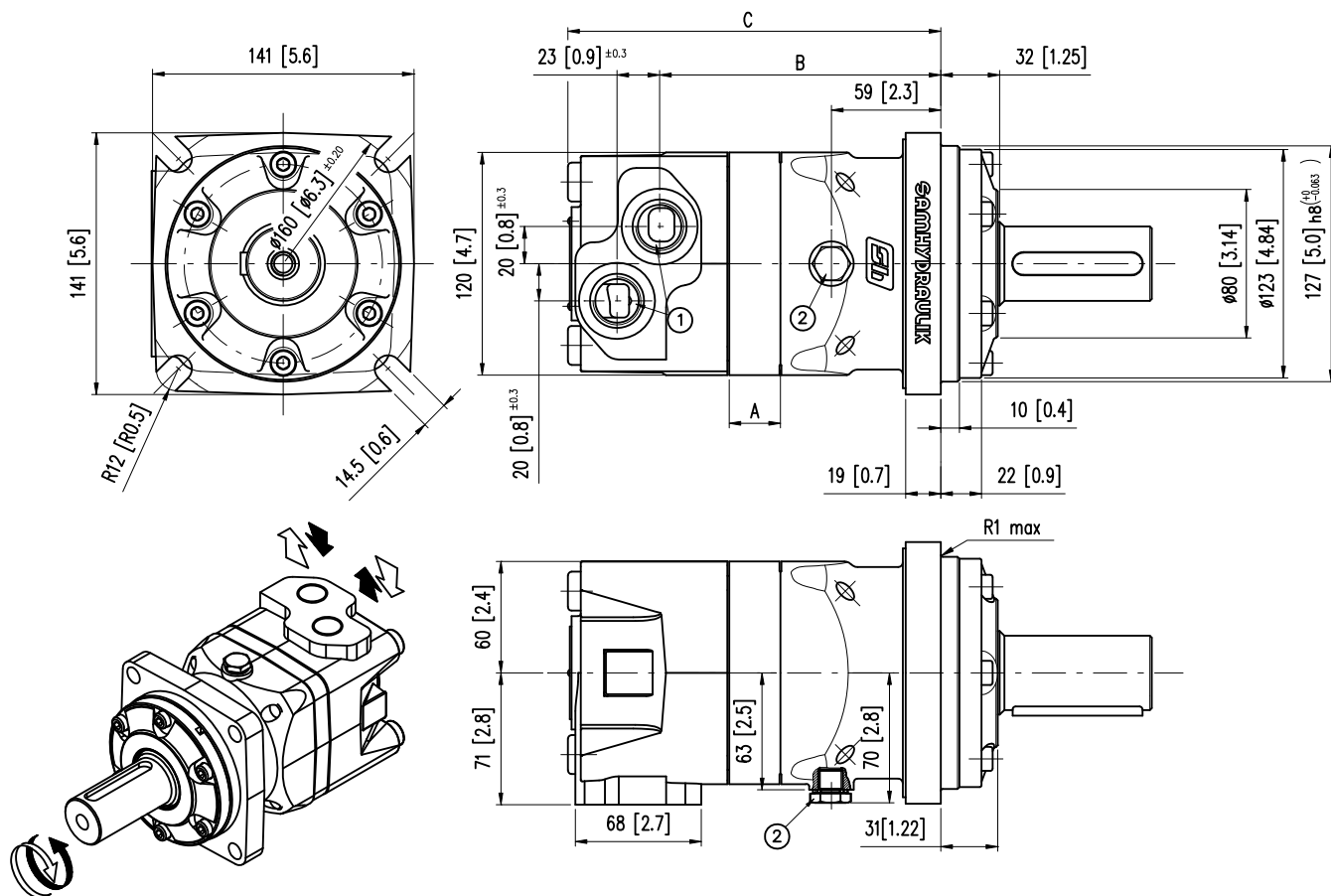
³⁾ Viscosità dell'olio 35 cSt. - Oil viscosity 35 cSt.



- 1) N.2 Fori di alimentazione 3/4 G (BSPP) prof. filetto 17 mm
N.2 3/4 G (BSPP) main ports thread depth [0.66 in]
- 2) Nrenaggio motore 1/4 G (BSPP) prof. filetto 12 mm
1/4 G (BSPP) drain port thread depth [0.46 in]
- 3) N.4 Fori M10 prof. filetto 12 mm
N.4 M10 hole thread depth [0.46 in]

		HT 160	HT 200	HT 250	HT 315	HT 400	HT 500
A	mm [in]	20 [0.78]	25 [0.97]	31.3 [1.22]	40.6 [1.58]	51.1 [1.99]	65.2 [2.54]
B	mm [in]	144 [5.61]	149 [5.81]	155.3 [6.05]	164.6 [6.41]	175.1 [6.82]	189.2 [7.37]
C	mm [in]	193.5 [7.54]	198.5 [7.74]	204.8 [7.98]	214.1 [8.34]	224.6 [8.75]	238.7 [9.3]
Pesi - Weight	kg [lb]	20 [44]	20.5 [45.1]	21 [46.2]	22 [48.4]	23 [50.6]	24 [52.8]

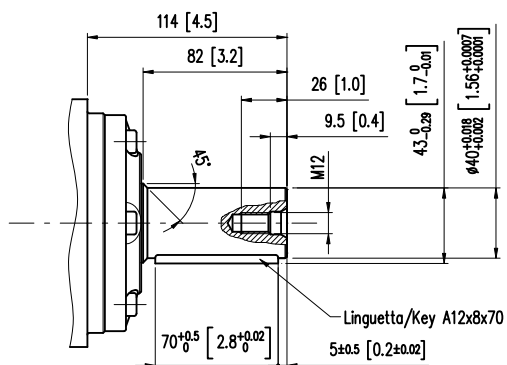
SPECIALE A RICHIESTA - SPECIAL ON REQUEST



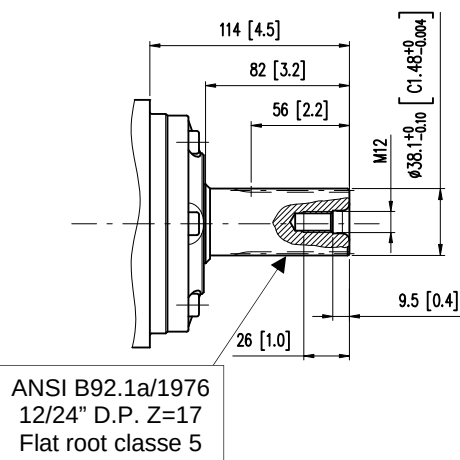
- 1) N.2 Fori di alimentazione 1" 1/16 - 12 UN prof. filetto 20 mm
N.2 1" 1/16 - 12 UN main ports thread depth [0.78 in]
2) Drenaggio motore 9/16 - 18 UNF prof. filetto 13 mm
9/16 - 18 UNF drain port thread depth [0.5 in]

		HT 160 SAE	HT 200 SAE	HT 250 SAE	HT 315 SAE	HT 400 SAE	HT 500 SAE
A	mm [in]	20 [0.78]	25 [0.97]	31.3 [1.22]	40.6 [1.58]	51.1 [1.99]	65.2 [2.54]
B	mm [in]	144 [5.61]	149 [5.81]	155.3 [6.05]	164.6 [6.41]	175.1 [6.82]	189.2 [7.37]
C	mm [in]	193.5 [7.54]	198.5 [7.74]	204.8 [7.98]	214.1 [8.34]	224.6 [8.75]	238.7 [9.3]
Pesi - Weight	kg [lb]	20 [44]	20.5 [45.1]	21 [46.2]	22 [48.4]	23 [50.6]	24 [52.8]

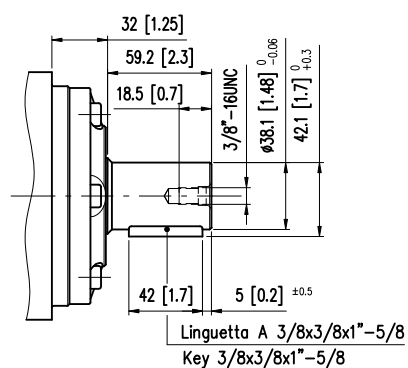
ALBERO CILINDRICO C40
C40 PARALLEL KEYED SHAFT



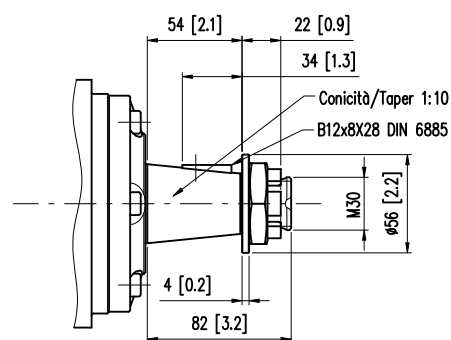
ALBERO SCANALATO S38
S38 SPLINED SHAFT

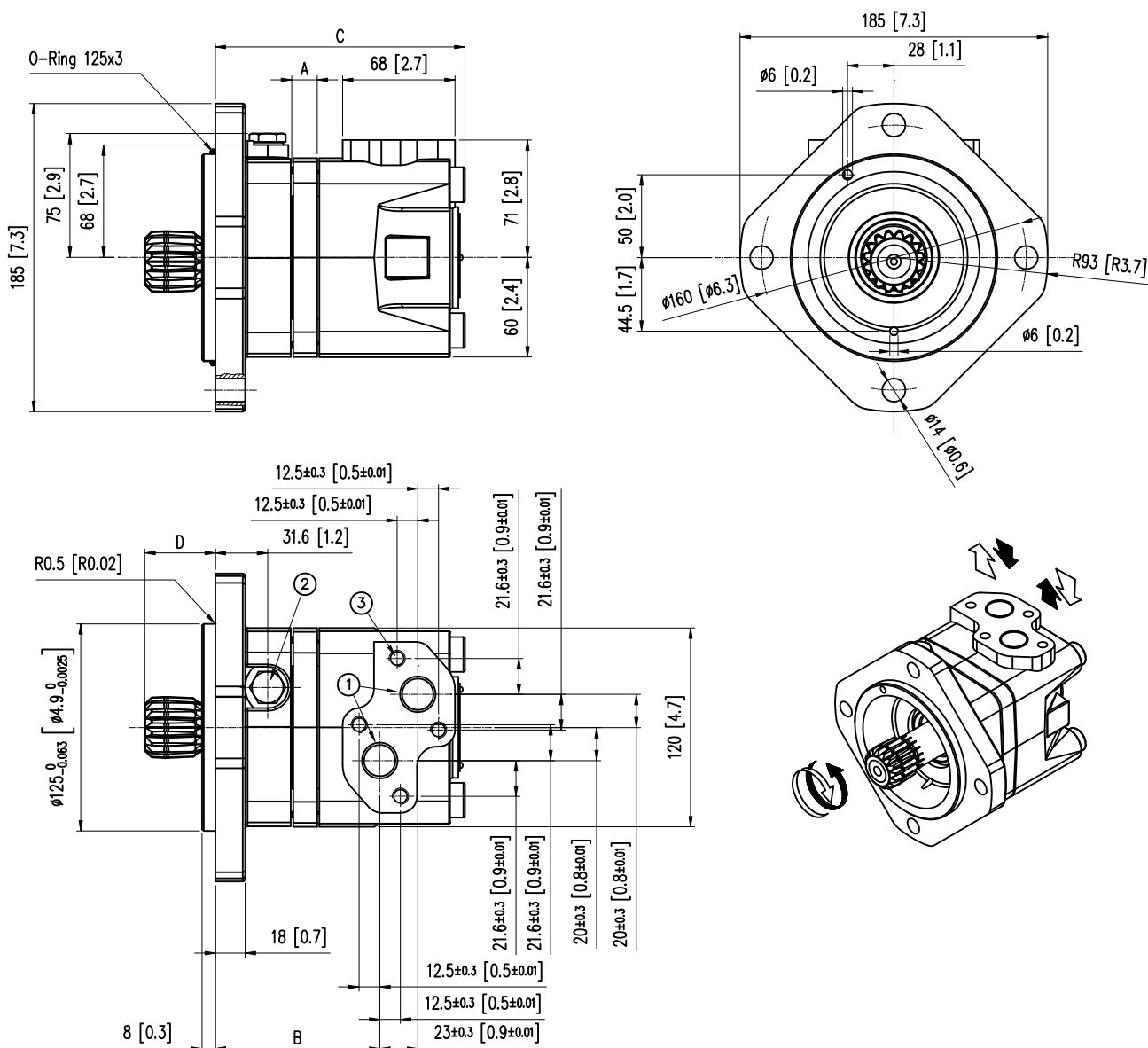


ALBERO CILINDRICO C38
C38 PARALLEL KEYED SHAFT



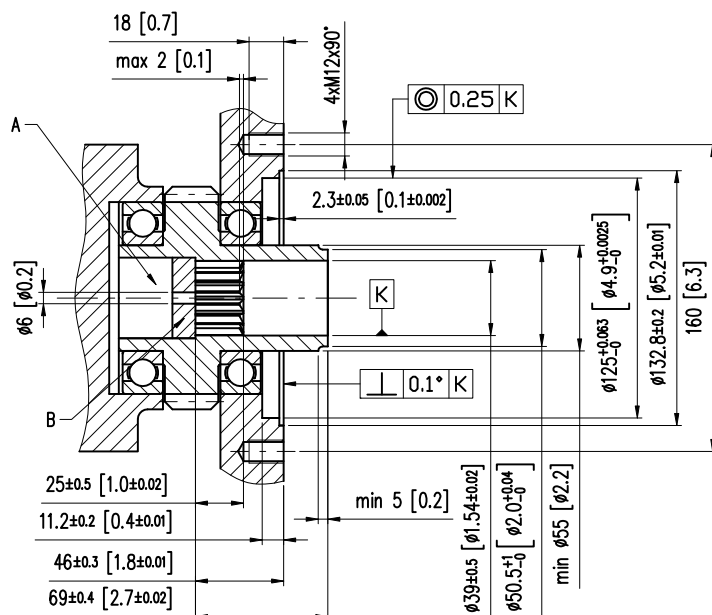
ALBERO CONICO CN40
CN40 TAPERED SHAFT



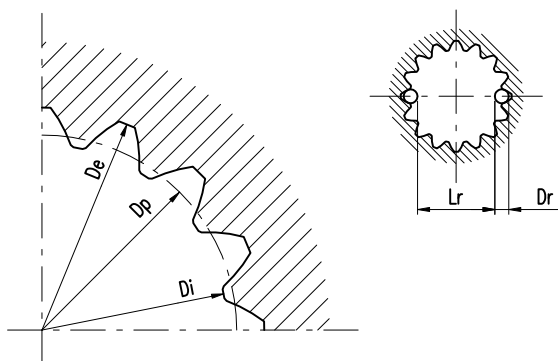


- 1) N.2 Fori di alimentazione 3/4 G (BSPP) prof. filetto 17 mm
N.2 3/4 G (BSPP) main ports thread depth [0.66 in]
- 2) Drenaggio motore 1/4 G (BSPP) prof. filetto 12 mm
1/4 G (BSPP) drain port thread depth [0.46 in]
- 3) N.4 Fori M10 prof. filetto 12 mm
N.4 M10 hole thread depth [0.66 in]

		HTC 160	HTC 200	HTC 250	HTC 315	HTC 400	HTC 500
A	mm [in]	20 [0.78]	25 [0.97]	31.3 [1.22]	40.6 [1.58]	51.1 [1.99]	65.2 [2.54]
B	mm [in]	102.6 [4]	107.6 [4.19]	113.9 [4.44]	124 [4.83]	124.5 [4.85]	147.8 [5.76]
C	mm [in]	154.1 [6]	159.1 [6.2]	165.4 [6.45]	175.5 [6.84]	185.2 [7.22]	199.3 [7.77]
D	mm [in]	37 [1.44]	36.5 [1.42]	36.8 [1.43]	36.4 [1.41]	36.9 [1.43]	36.9 [1.43]
Pesi - Weight	kg [lb]	18 [39.6]	18.5 [40.7]	19 [41.8]	20 [44]	21 [46.2]	22 [48.4]



A: Foro di ricolazione olio/Oil circulation hole
B: Piastra di riscontro indurita/Hardened stop plate



Profilo scanalato / Internal involute spline
Standard ANSI B92.1 - 1970 classe 5
(correzione / corrected $m \cdot x = 1$)

Passo diametrale Diametral Pich		12/24
Numero di denti Number of theeth	Z	16
Diametro primitivo Pich diameter	Dp	33.866
Angolo di pressione Pressure angle		30°
Modulo Module	m	2.1166
Diametro interno Minor diameter	Di	32.1 ^{+0.04} ₀
Diametro esterno Major diameter	De	38. ^{+0.04} ₀
Misura massima tra i rullini* Max measurament between pins*	Lr	26. ^{+0.20} ₀
Diametro rullini Pins diameter	Dr	4.834 h5

Materiale:

Acciaio NiCr con trattamento termico di C.T.R. o durezza di 58 HRC.

Material:

NiCr steel with case hardening, induction hardening and tempering treatment or with hardness of 58 HRC.

Drenaggio:

La linea di drenaggio deve essere collegata quando la pressione sullo scarico del motore è superiore alla pressione ammessa dal componente accoppiato al motore. Il drenaggio può essere collegato in due punti:

- 1) Alla bocca di drenaggio del motore.
- 2) Alla bocca di drenaggio del componente accoppiato.

* Dimensioni definitive dopo il trattamento
* Finished dimensions (when hardened)

Drain line:

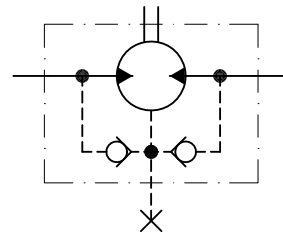
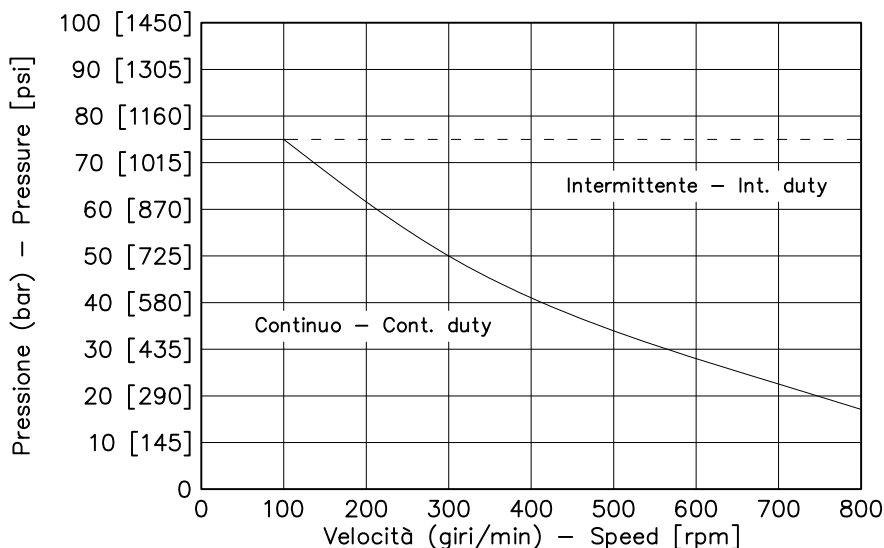
A drain line must be used when the return line pressure exceed the permissible pressure in the attached component. The drain line can be connected at two different points:

- 1) At the motor drain connection.
- 2) At the drain connection of the attached component.

MASSIMA PRESSIONE AMMESSA SULLA GUARNIZIONE ALBERO MAX PERMISSIBLE SHAFT SEAL PRESSURE

Pressione massima di scarico senza drenaggio o massima pressione nella linea di drenaggio.
Per condizioni di pressione e velocità non contemplate dal presente grafico si consiglia di contattare la S.A.M. Hydraulik.

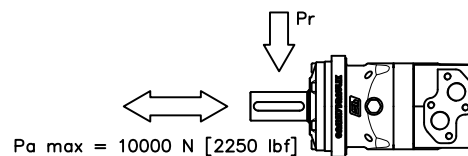
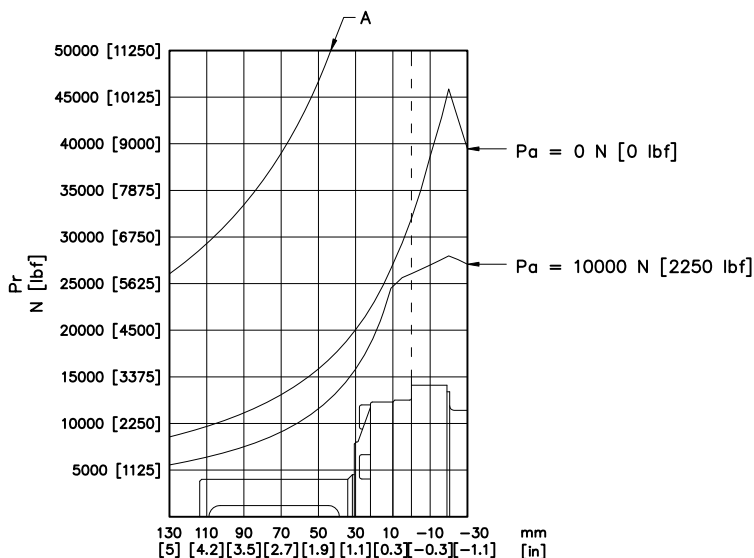
Max. return pressure without drain line or max. pressure in the drain line.
For pressure and speeds not showed in the curve below, please contact S.A.M. Hydraulik.



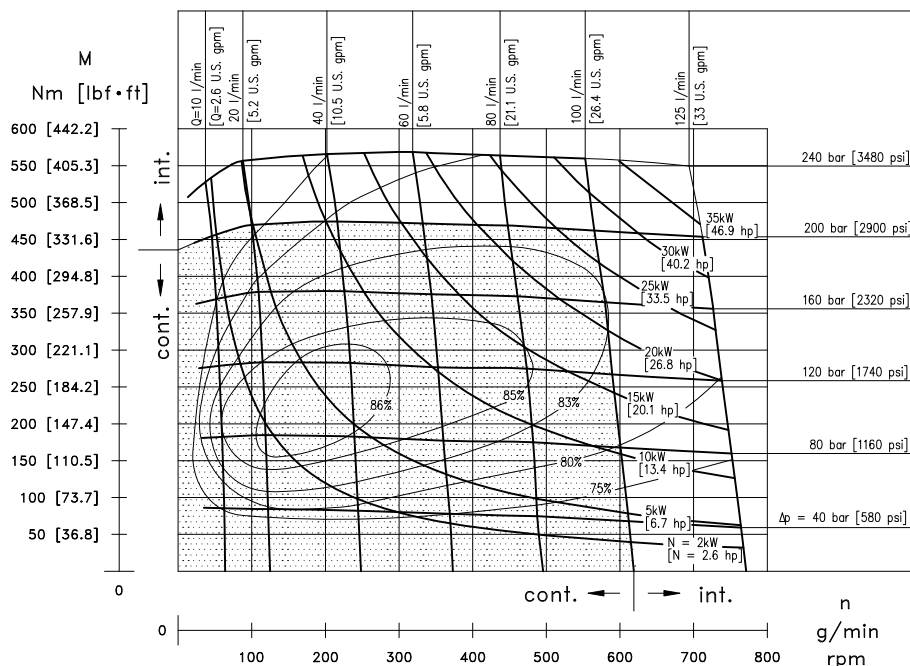
CARICHI AMMESSI SULL'ALBERO SHAFT LOAD CAPACITY

Il diagramma dei carichi è valido per una vita dei cuscinetti L_{10h} di 3000 ore alla velocità di 200 giri/min quando viene utilizzato olio a base minerale minerale con un adeguato contenuto di additivi anti usura. La vita dei cuscinetti è stata calcolata con un grado di affidabilità del 90%.
La curva "A" fornisce il carico radiale limite sopportato dai cuscinetti in condizioni di carico statico massimo.

Loads diagram is for a bearings life L_{10h} of 3000 hours at 200 rpm when mineral base hydraulic oil with a sufficient content of anti-wear additives is used. Bearing life calculation refers to a 90% degree of reliability.
Curve "A" shows the maximum radial load that can be taken by the bearings under maximum static load duty.



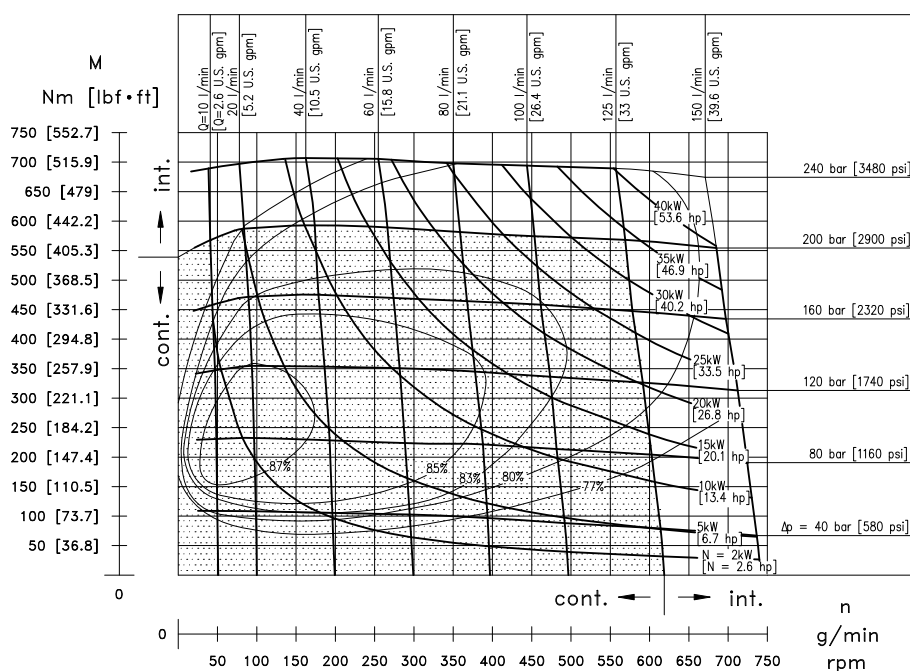
HT 160



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

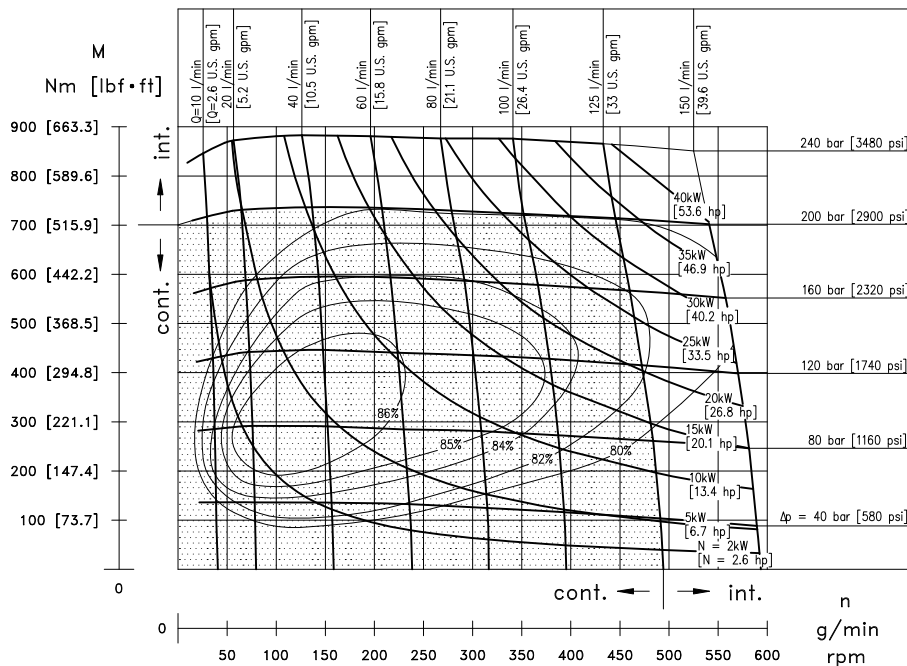
HT 200



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

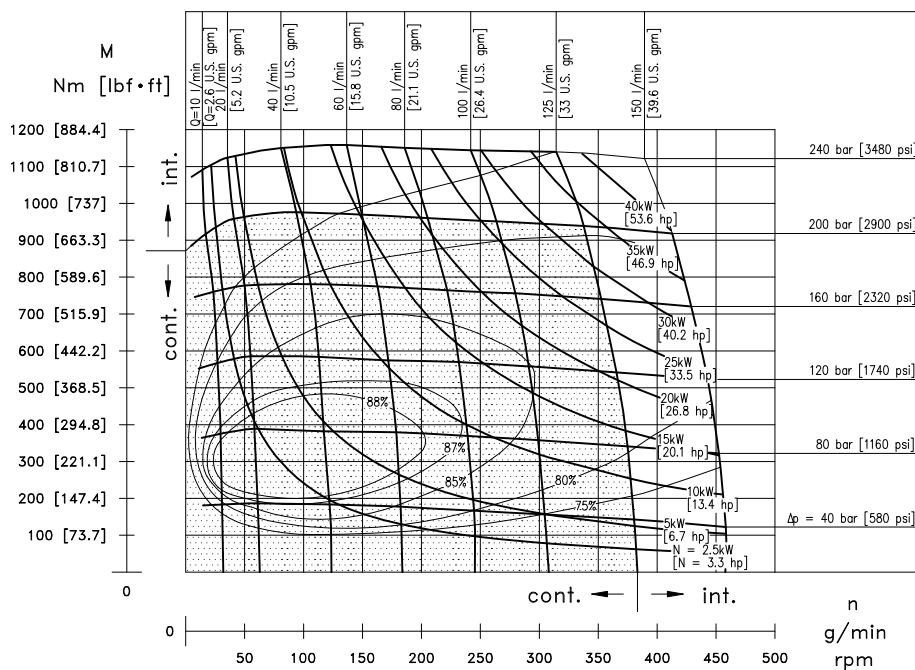
HT 250



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

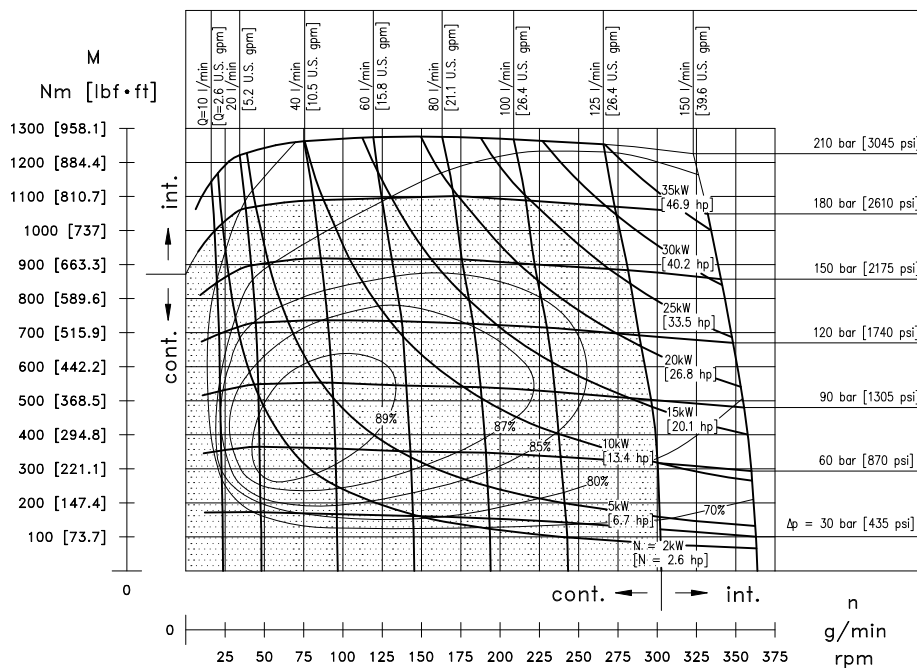
HT 315



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

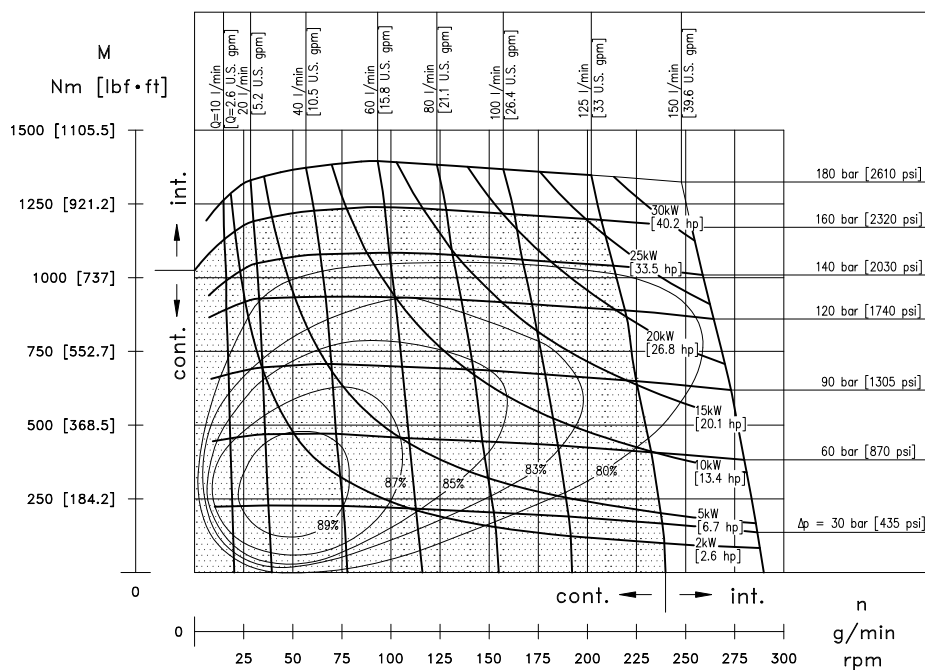
HT 400



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

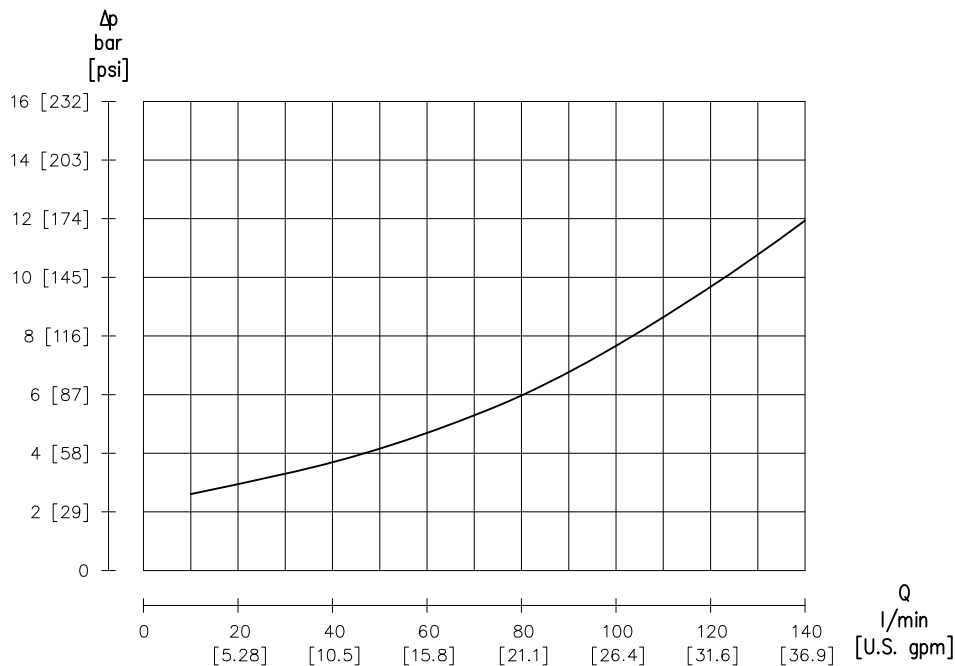
HT 500



Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

PERDITE DI CARICO PER ATTRAVERSAMENTO PRESSURE LOSS



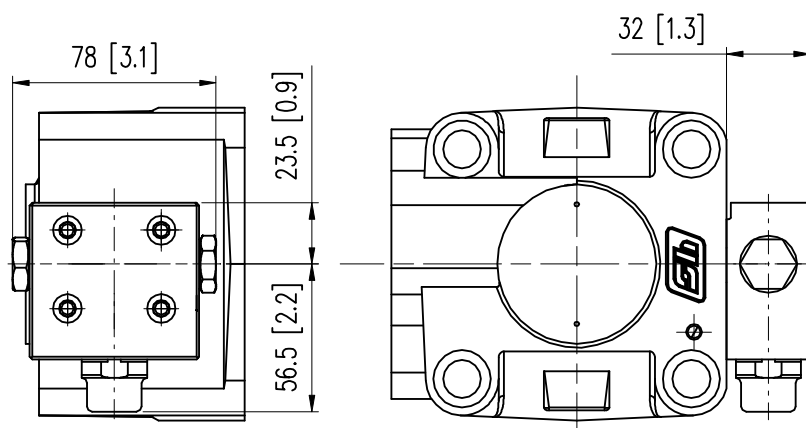
Il diagramma è stato ottenuto con prove eseguite su un numero significativo di motori, utilizzando un olio avente una viscosità cinematica di 37 cSt alla temperatura di 45 C°.

Diagram according to tests done with a relevant number of motors and using hydraulic oil with kinematic viscosity of 37 cSt at 45 C° temperature.

COPERCHIO SPECIALE PER VALVOLA DI LAVAGGIO SPECIAL COVER FOR FLUSHING VALVE

*Per il montaggio diretto della valvola di lavaggio sui motori è necessario utilizzare un coperchio speciale.
Se si vuole predisporre il motore con valvola di lavaggio è necessario specificare in fase d'ordine il tipo di valvola VSC/F.*

The mount the flushing valve on motors, it is necessary to use a special cover.
If it is necessary to assembly the flushing valve on motors, to specify in the purchase order the VSC/F valves type.



Per maggiori informazioni sulla valvola di lavaggio, consultare la sezione Valvole ed Accessori o il Bollettino Informativo 05-0082-A04
For more informations on the Flushing valve, see the Valves and Accessories section or Service Bulletin - 05-0082-A04

