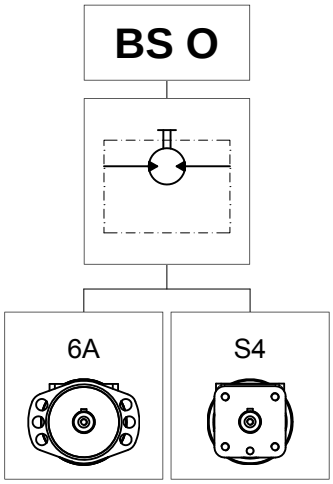
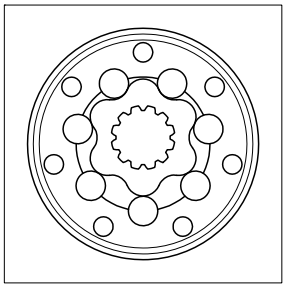
BS

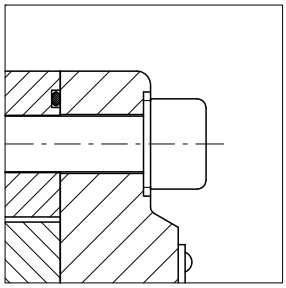
MOTORI ORBITALI

HYDRAULIC MOTOR SERIES

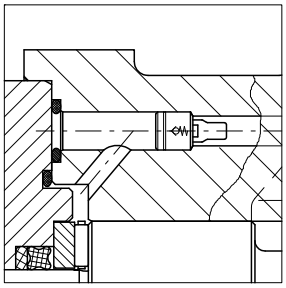




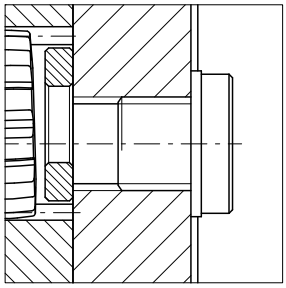
Roller ad alto rendimento per elevate prestazioni e durata.
High-performance roller for improved efficiency and life.



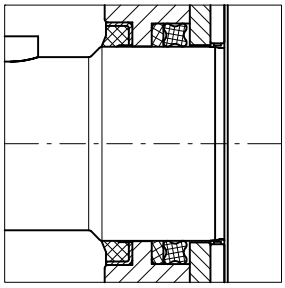
Viti del coperchio posteriore in acciaio ad alta resistenza per sopportare gli sforzi indotti dall'alta pressione.
High resistance stainless steel screws capable of withstanding the stress induced by high pressure.



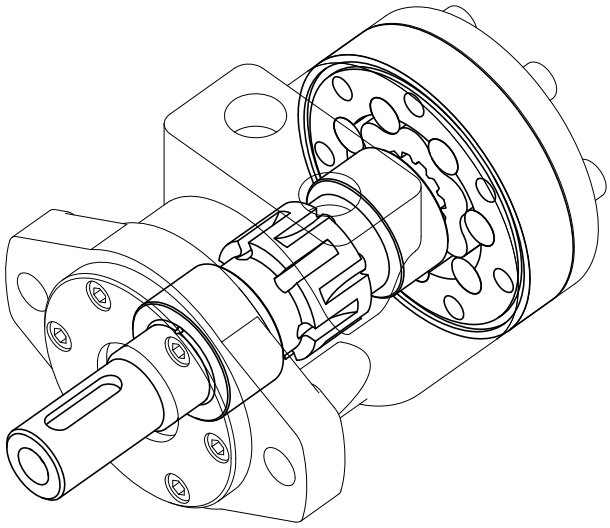
Valvole di drenaggio incorporate: ricircolano allo scarico il fluido drenato internamente.
Built in check valves: to relieve case pressure to the low pressure side of the motor.

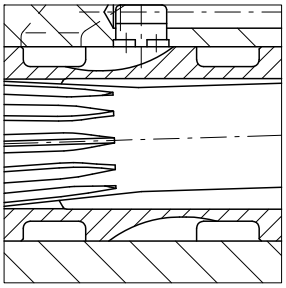


Foro drenaggio posteriore per un facile collegamento.
Case drain at rear (shown with plug).



Parapolvere per proteggere la guarnizione di tenuta dell'albero dalle impurità e guarnizione di tenuta ad alte prestazioni.
Seal to protect the high pressure shaft seal from dust and debris.





Valvola distributrice radiale ed albero in un solo pezzo con tolleranze ridotte al minimo per assicurare un drenaggio ridotto.
Spool valve integral to the output shaft of new design features optimizing clearance geometry and so minimizing the oil slippage.

Le seguenti lettere o numeri del codice, sono state sviluppate per identificare tutte le configurazioni possibili dei motori BS. Usare il seguente modulo per identificare le caratteristiche desiderate. ***Tutte le lettere o numeri del codice devono comparire in fase d'ordine.*** *Si consiglia di leggere attentamente il catalogo prima di iniziare la compilazione del codice di ordinazione.*

The following alphanumeric digits system has been developed to identify all of the configuration options for the BS motors. Use the model code below to specify the desired features. **All alphanumeric digits system of the code must be present when ordering.** We recommend to carefully read the catalogue before filling the ordering code.

CODICE PRODOTTO / MODEL CODE

1	2	3	4	5	6	7	8	8A	9	10

1 - *SERIE* / SERIES

BS	*Motore orbitale* Orbital motor

2 - *VERSIONI* / VERSIONS

O	*Versione O* O Version

3 - *CILINDRATA* / DISPLACEMENT

050	*51.6 cm^3/giro* [3.14 in^3/rev]
065	*64.9 cm^3/giro* [3.95 in^3/rev]
080	*80.4 cm^3/giro* [4.9 in^3/rev]
100	*100 cm^3/giro* [6.1 in^3/rev]
130	*125.7 cm^3/giro* [7.66 in^3/rev]
160	*160 cm^3/giro* [9.76 in^3/rev]
200	*200 cm^3/giro* [12.2 in^3/rev]
250	*250 cm^3/giro* [15.2 in^3/rev]
315	*314.5 cm^3/giro* [19.1 in^3/rev]
400	*393 cm^3/giro* [23.9 in^3/rev]

4 - *FLANGIA* / MOUNTING FLANGE

6A	*Ovale 6 Fori* Oval 6 Bolts	STANDARD
S4	4 fori 3/8 16 UNC - Ø44,45mm 4 Bolt 3/8 16 UNC - Ø1.75 in	

5 - *ATTACCHI* / MAIN PORTS

			***FLANGIA* / MOUNTING FLANGE**	
			6A	S4
S08	*Attacchi 7/8" - 14 UNF SAE10* 7/8" - 14 UNF SAE10 Main Ports	STANDARD	●	●
SS8	*Attacchi 1/2" - 14 NPTF* 1/2" - 14 NPTF Main Ports		/	●
BFL	*Attacchi Manifold* Manifold Main Ports		/	●
MS8	*Attacchi* 1/2 G BSPP 1/2 G BSPP (Main Ports)		/	/

● *Disponibile* - Available / *Non Disponibile* - Not Available

1	2	3	4	5	6	7	8	8A	9	10

6 - *ESTREMITÀ ALBERO* / OUTPUT SHAFT

CL254	*Albero Cilindrico Ø25.4 mm* 1 in Parallel keyed	STANDARD
SE250	*Albero Scanalato (profilo SAE 6B 1" Z6)* Splined Shaft *(SAE 6B 1" 6T spline)*	
SE210	*Albero Scanalato (profilo ANSI-B92.1a-1976-16/32 Z13)* Splined Shaft (ANSI-B92.1a-1976-16/32 13T spline)	*Speciale a richiesta* Special on request

7 - *TENUTE* / SEALS

N	NBR

8 - *VALVOLE* / VALVES

XXXX	*Non Richieste* Not Required

8A - *CARATTERISTICA VALVOLA* / VALVES FEATURE

000	*Caratteristica non necessaria* Feature not necessary

9 - *CARATTERISTICA VERSIONE* / VERSION FEATURE

XXX	*Non Richiesta* Not Required
DPS	Drenaggio posteriore 1/4 G (BSPP) + Raccordo M/F 1/4 G (BSPP) - 7/16" 20UNF2B Rear drain 1/4 G (BSPP) + Pipe Fitting M/F 1/4 G (BSPP) - 7/16" 20UNF2B

10 - *OPZIONI* / OPTIONS

XX	*Non Richieste* Not Required

DATI TECNICI PER MOTORE BS CON ALBERO CILINDRICO CL254
BS MOTOR TECHNICAL DATA WITH CL254 PARALLEL KEYED SHAFT

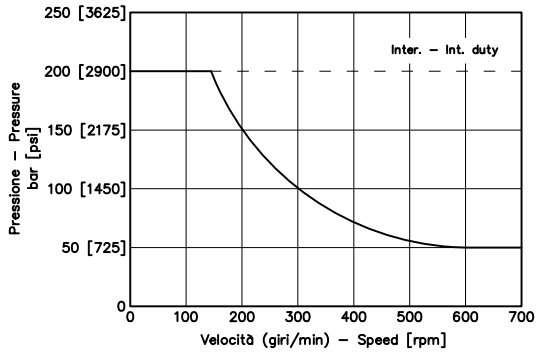
Motore Motor	Cilindrata Displacement	Pressione Max ingresso Max. input pressare	Pressione diff. max. Max.differential pressare	Coppia max. Max. torque	Portata max. Max. flow	Velocità max. Max. speed	Potenza max. Max. horsepower
	cm^3/rev [in^3/rev]	bar [psi]	bar [psi]	Nm [lbf·ft]	l/min [U.S. gpm]	giri/min [rpm]	kW [hp]
BS 050	51.6 [3.14]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 140 [2030] Int[1] 175 [2540] Peak[2] 225 [3262]	Cont 103 [75.9] Int[1] 126 [92.8]	Cont 40 [10.6] Int[1] 50 [13.2]	Cont 775 Int[1] 969	Cont 6.8 [9.1] Int[1] 8.4 [11.2]
BS 065	64.9 [3.95]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 150 [2175] Int[1] 185 [2682] Peak[2] 225 [3262]	Cont 140 [103.1] Int[1] 166 [122.3]	Cont 50 [13.2] Int[1] 60 [15.9]	Cont 770 Int[1] 924	Cont 9.2 [12.3] Int[1] 10.6 [14.2]
BS 080	80.4 [4.9]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int* 200 [2900] Peak[2] 225 [3262]	Cont 197 [145.1] Int* 218 [160.6]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 746 Int[1] 933	Cont 13 [17.4] Int[1] 15 [20.1]
BS 100	100 [6.1]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 237 [174.6] Int[1] 277 [204.1]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 600 Int[1] 750	Cont 13 [17.4] Int[1] 15 [20.1]
BS 130	125.7 [7.66]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 300 [221.1] Int[1] 340 [250.5]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 477 Int[1] 597	Cont 12.5 [16.8] Int[1] 14.5 [19.4]
BS 160	160 [9.76]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 140 [2030] Int[1] 175 [2540] Peak[2] 225 [3262]	Cont 296 [218.1] Int[1] 375 [276.3]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 375 Int[1] 469	Cont 10 [13.4] Int[1] 12.5 [16.8]
BS 200	200 [12.2]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 115 [1667] Int[1] 140 [2030] Peak[2] 225 [3262]	Cont 297 [218.8] Int[1] 380 [280]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 300 Int[1] 375	Cont 8.5 [11] Int[1] 10 [13.4]
BS 250	250 [15.2]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 90 [1305] Int[1] 120 [1740] Peak[2] 225 [3262]	Cont 297 [218.8] Int[1] 377 [277.8]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 240 Int[1] 300	Cont 7.1 [9.5] Int[1] 8.5 [11]
BS 315	314.5 [19.1]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 70 [1020] Int[1] 100 [1450] Peak[2] 210 [3045]	Cont 300 [221.1] Int[1] 420 [309.5]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 191 Int[1] 238	Cont 5 [6.7] Int[1] 6.6 [8.8]
BS 400	393 [23.9]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 55 [800] Int[1] 85 [1230] Peak[2] 175 [2537]	Cont 292 [215.2] Int[1] 425 [313.2]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 153 Int[1] 191	Cont 4.1 [5.4] Int[1] 6.1 [8.1]

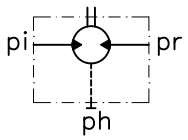
DATI TECNICI PER MOTORE BS CON ALBERO SCANALATO SE250
BS MOTOR TECHNICAL DATA WITH SE250 SPLINED SHAFT

Motore Motor	Cilindrata Displacement	Pressione max ingresso Max. input pressare	Pressione diff. max. Max.differential pressare	Coppia max. Max. torque	Portata max. Max. flow	Velocità max. Max. speed	Potenza max. Max. horsepower
	cm^3/rev [in^3/rev]	bar [psi]	bar [psi]	Nm [lbf·ft]	l/min [U.S. gpm]	giri/min [rpm]	kW [hp]
BS 050	51.6 [3.14]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 140 [2030] Int[1] 175 [2540] Peak[2] 225 [3262]	Cont 103 [75.9] Int[1] 126 [92.8]	Cont 40 [10.6] Int[1] 50 [13.2]	Cont 775 Int[1] 969	Cont 6.8 [9.1] Int[1] 8.4 [11.2]
BS 065	64.9 [3.95]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 150 [2175] Int[1] 185 [2682] Peak[2] 225 [3262]	Cont 140 [103.1] Int[1] 166 [122.3]	Cont 50 [13.2] Int[1] 60 [15.9]	Cont 770 Int[1] 924	Cont 9.2 [12.3] Int[1] 10.6 [14.2]
BS 080	80.4 [4.9]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int* 200 [2900] Peak[2] 225 [3262]	Cont 197 [145.1] Int* 218 [160.6]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 746 Int[1] 933	Cont 13 [17.4] Int[1] 15 [20.1]
BS 100	100 [6.1]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 237 [174.6] Int[1] 277 [204.1]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 600 Int[1] 750	Cont 13 [17.4] Int[1] 15 [20.1]
BS 130	125.7 [7.66]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 300 [221.1] Int[1] 340 [250.5]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 477 Int[1] 597	Cont 12.5 [16.8] Int[1] 14.5 [19.4]
BS 160	160 [9.76]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 165 [2390] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 350 [257.9] Int[1] 428 [315.4]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 375 Int[1] 469	Cont 11.8 [15.8] Int[1] 14.3 [19.1]
BS 200	200 [12.2]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 130 [1890] Int[1] 165 [2390] Peak[2] 225 [3262]	Cont 335 [246.8] Int[1] 446 [328.7]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 300 Int[1] 375	Cont 9.7 [12.9] Int[1] 12 [16]
BS 250	250 [15.2]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 105 [1522] Int[1] 135 [1957] Peak[2] 225 [3262]	Cont 347 [255.7] Int[1] 424 [312.4]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 240 Int[1] 300	Cont 8.3 [11.1] Int[1] 9.6 [12.8]
BS 315	314.5 [19.1]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 85 [1232] Int[1] 115 [1670] Peak[2] 210 [3045]	Cont 362 [266.7] Int[1] 484 [356.7]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 191 Int[1] 238	Cont 6 [8] Int[1] 7.6 [10.1]
BS 400	393 [23.9]	Cont 175 [2537] Int[1] 200 [2900] Peak[2] 225 [3262]	Cont 65 [942] Int[1] 90 [1310] Peak[2] 175 [2537]	Cont 345 [254.2] Int[1] 450 [331.6]	Cont 60 [15.9] Int[1] 75 [19.8]	Cont 153 Int[1] 191	Cont 4.9 [6.5] Int[1] 6.5 [8.7]

1) Le condizioni intermittenti non devono durare più del 10% di ogni minuto.Intermittent duty must not exceed 10% every minute.
2) Le condizioni di picco non devono durare più del 1% di ogni minuto. Peak duty must not exceed 1% of every minute.

La pressione ammissibile in carcassa è riportata nel grafico. Elevate pressioni in carcassa comportano basse velocità dell'albero. Se la massima pressione in carcassa è elevata, è necessario utilizzare il drenaggio.
Allowable case pressure is showed in the diagram below - diagram based on case pressure and shaft speed. Allowable case pressure is highest at low shaft speed. If max. allowable case pressure is exceeded, case drain line is needed.





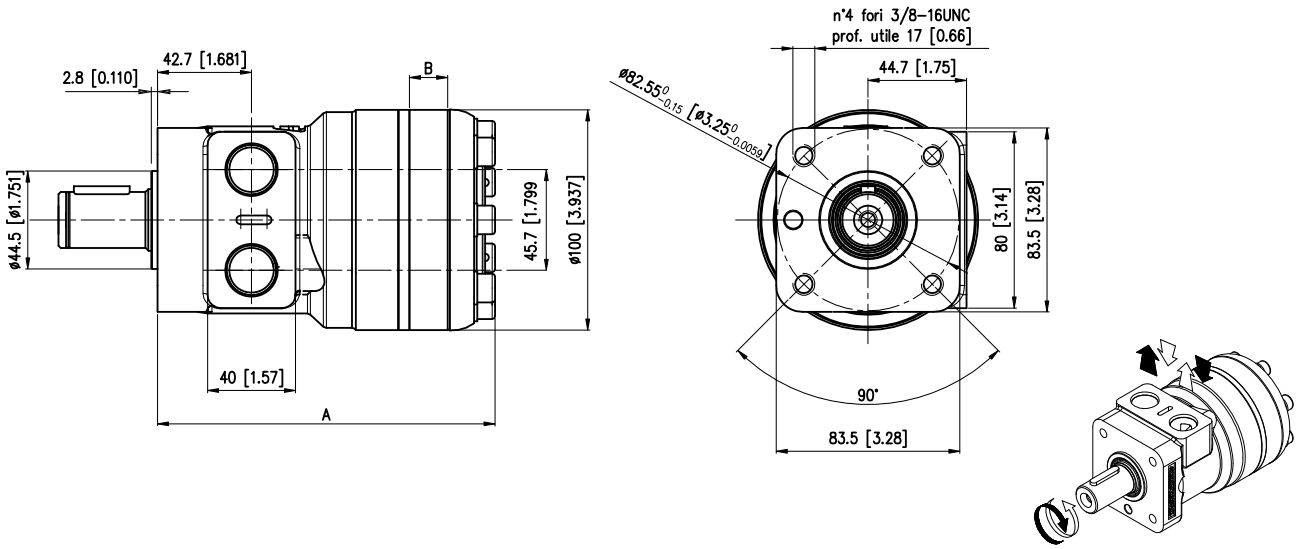
$$Ph = \frac{pi + pr}{2} [bar]$$

ph = pressione in carcassa — ph = housing pressure
pi = pressione di alimentazione — pi = inlet pressure
pr = pressione di scarico — pr = outlet pressure

- *La pressione in carcassa senza drenaggio è data dalla media tra pi e pr.*
- *Il motore BS è fornito senza drenaggio*
- *La massima pressione di scarico con drenaggio è di 175 bar Cont. - 200 bar Int. - 225 Peak*

- The case pressure without drain line is the average between inlet and return pressure.
- As standard, BS motors are supplied without drain port.
- Max. permissible return (back) pressure with drain line 175 bar [2540 psi] Cont. - 200 bar [2900 psi] Int. - 225 bar [3260 psi] Peak.

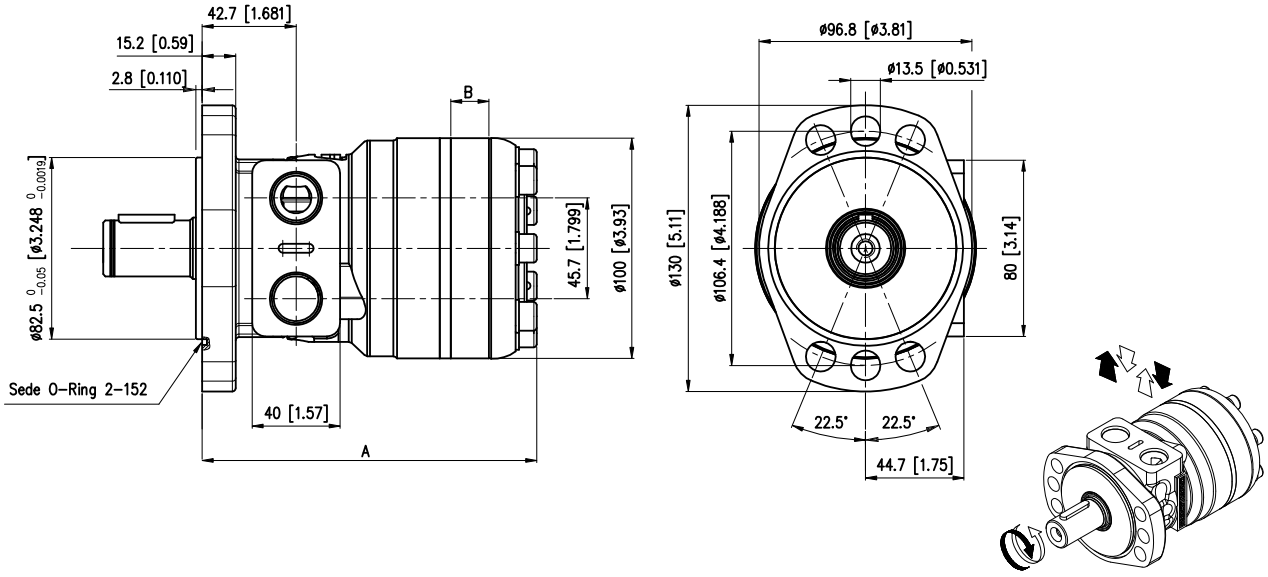
Flangia S4 Flange



		BS 050	BS 065	BS 080	BS 100	BS 130	BS 160	BS 200	BS 250	BS 315	BS 400
A	**mm [in]**	145 [5.70]	147.3 [5.79]	150 [5.90]	153.5 [6.04]	158 [6.22]	164 [6.45]	171 [6.73]	179.5 [7.06]	191 [7.51]	204.5 [8.05]
B	**mm [in]**	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Pesi **Weight**	**kg [lb]**	6.8 [14.96]	7 [15.42]	7.1 [15.62]	7.4 [16.28]	7.7 [16.94]	8 [17.6]	8.4 [18.48]	8.9 [19.58]	9.6 [21.12]	9.9 [21.78]

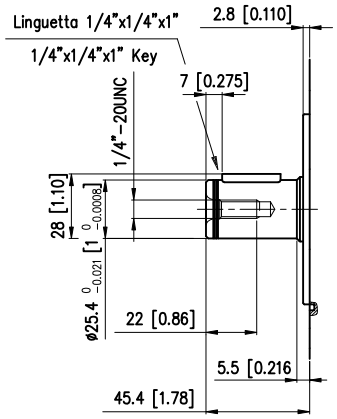
DIMENSIONI E PESI
DIMENSIONS AND WEIGHT
BS O

Flangia 6A Flange

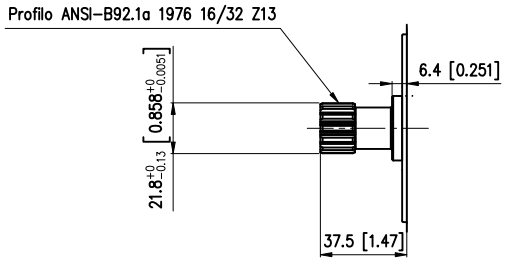


		BS 050	BS 065	BS 080	BS 100	BS 130	BS 160	BS 200	BS 250	BS 315	BS 400
A	**mm [in]**	143.7 [5.65]	146 [5.74]	148.7 [5.85]	152.1 [5.98]	156.5 [6.16]	162.5 [6.39]	169.5 [6.67]	178.2 [7.01]	189.5 [7.46]	203 [7.99]
B	**mm [in]**	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Pesi **Weight**	**kg [lb]**	6.8 [14.96]	7 [15.42]	7.1 [15.62]	7.4 [16.28]	7.7 [16.94]	8 [17.6]	8.4 [18.48]	8.9 [19.58]	9.6 [21.12]	9.9 [21.78]

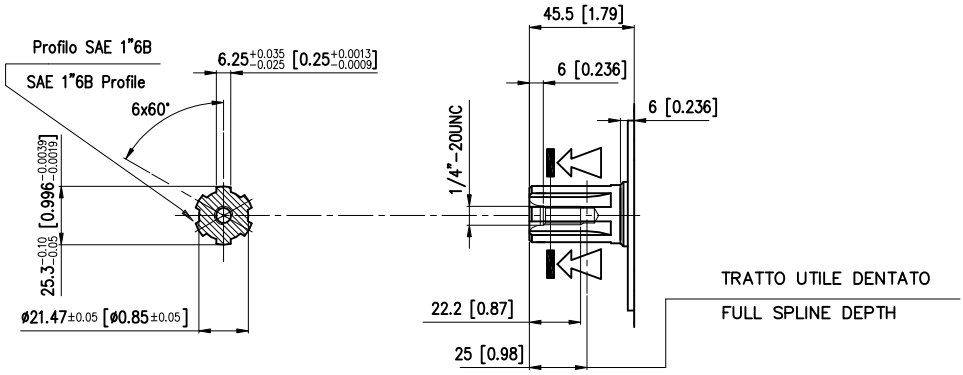
Cilindrico CL254
Parallel CL254



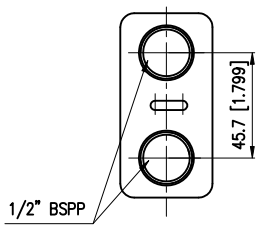
Scanalato SE210
Splined SE210



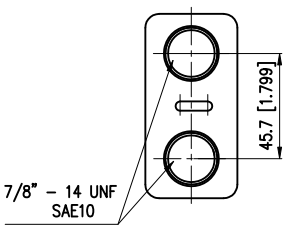
Scanalato SE250
Splined SE250



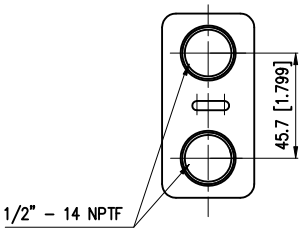
MS8



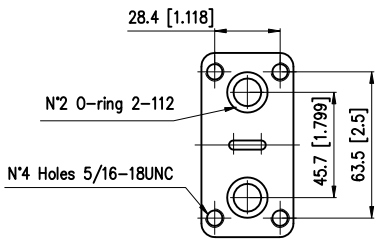
S08



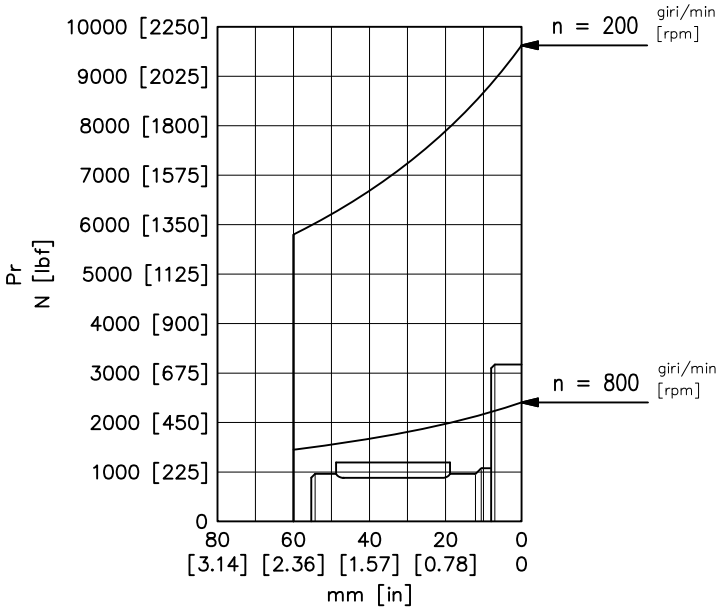
SS8

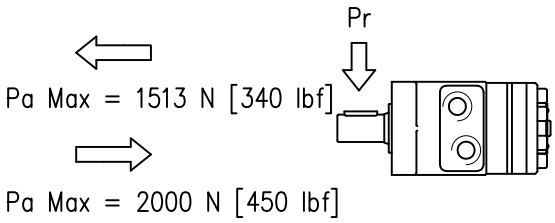


Manifold (BFL)



Curva carico radiale in funzione della velocità e della distanza dalla flangia, valido per flangia 4 fori tipo "S4"
Radial load capacity (Pr) curve according to speed and distance from flange valid for the 4 bolts flange type "S4"





$$Pr = \frac{800}{n} * \frac{219000[49275]}{91[3.58]+L} \quad N \quad [lbf]$$

$$n \geq 200 [rpm]$$

$$L \leq 68.5 \text{ mm } [2.69 \text{ in}]$$

N.B.: Nella formula usare 200 rpm se la velocità è inferiore a 200 rpm
N.B. In the above formula, use 200 rpm if the speed is below 200 rpm

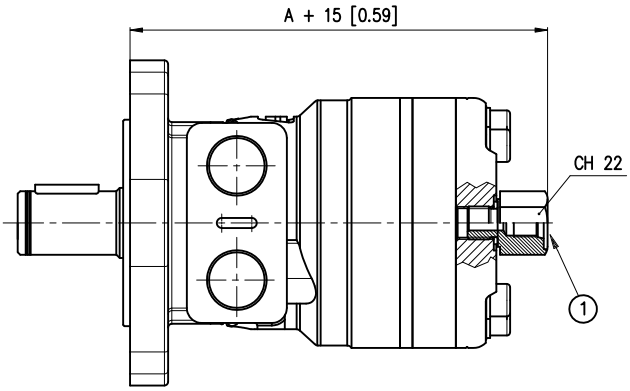
VERSIONE SPECIALE
SPECIAL VERSION

DRENAGGIO POSTERIORE + RACCORDO M/F 1/4 G (BSPP) - 7/16" 20UNF2B
REAR DRAIN + PIPE FITTING M/F 1/4 G (BSPP) - 7/16" 20UNF2B

Per i motori BS è possibile richiedere un attacco di drenaggio sul fondello.
Se si vuole predisporre il motore con l'attacco di drenaggio è necessario specificare in fase d'ordine il valore DPS (vedere punto 9 del codice di ordinazione).

For the BS motors, it is possible to put a drain port on the rear cover.
If it is necessary on the motor a drain port, to specify in the purchase order the value DPS (See position 9 of ordering code)

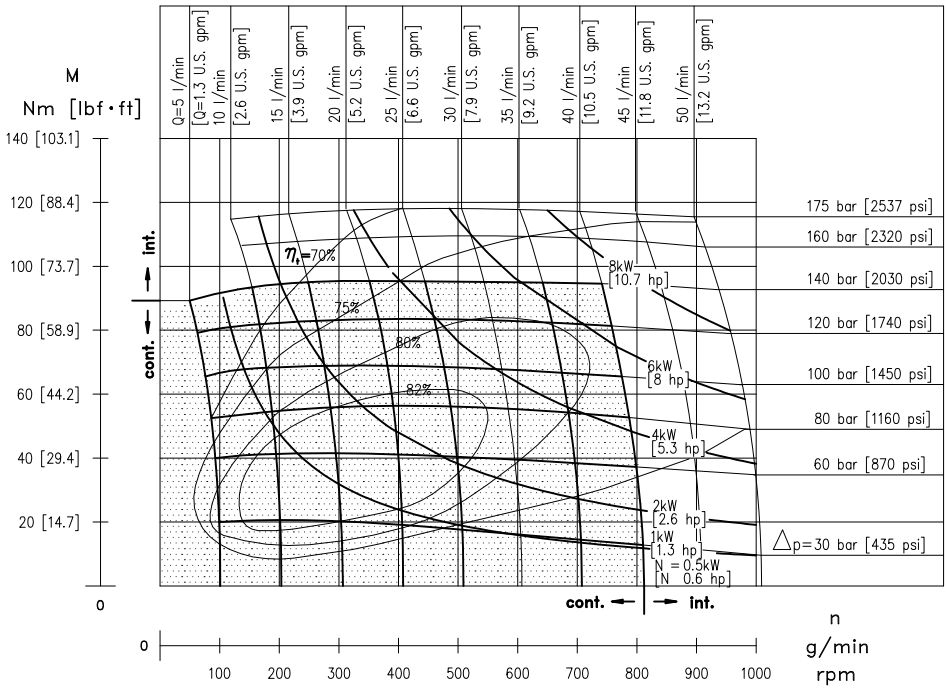
Versione disponibile per i motori con flangia: **6A**
Available on following Mounting flange motors: **S4**



1) *Drenaggio motore 7/16" 20 UNF 2B profondità filetto 12 mm*
7/16" 20 UNF 2B drain motor thread depth 0.472 in

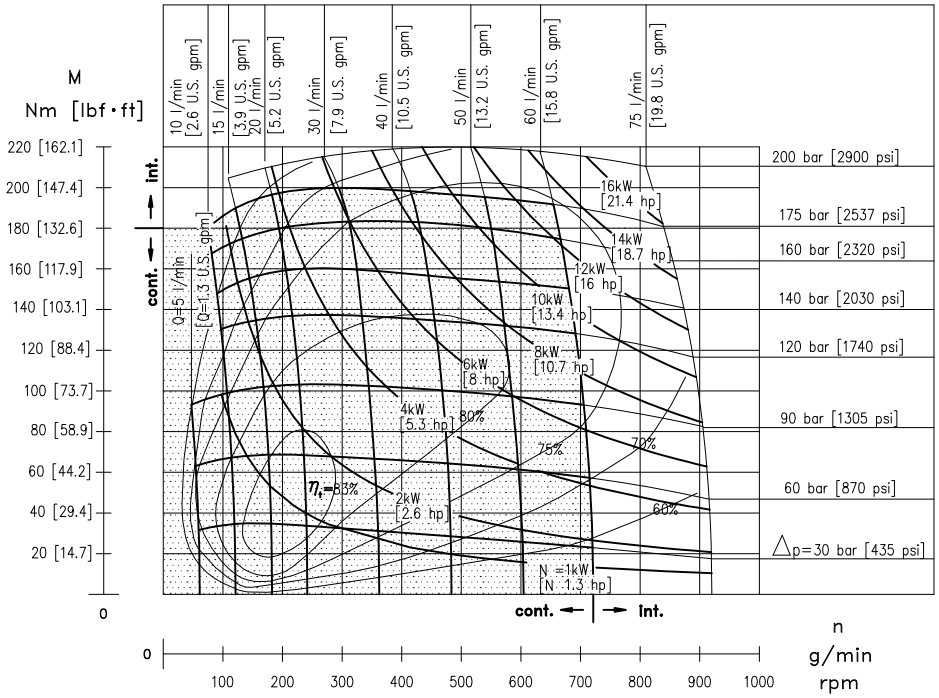
La quota "A" è riferita al dimensionale del motore senza raccordo .
"A" dimension is related to motor length without pipe fitting.

BS 050



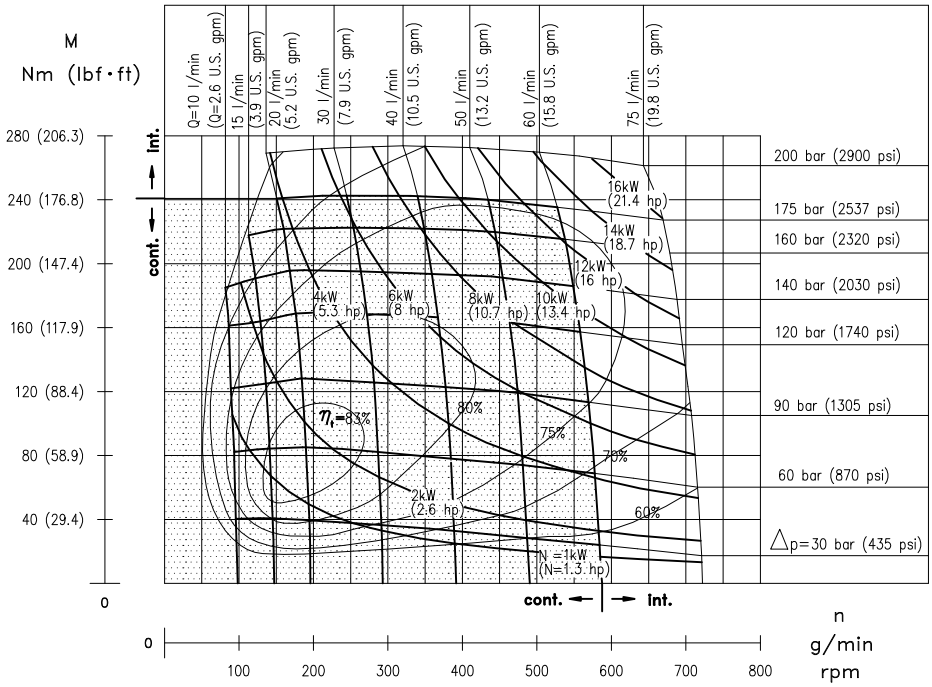
Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.
Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BS 080



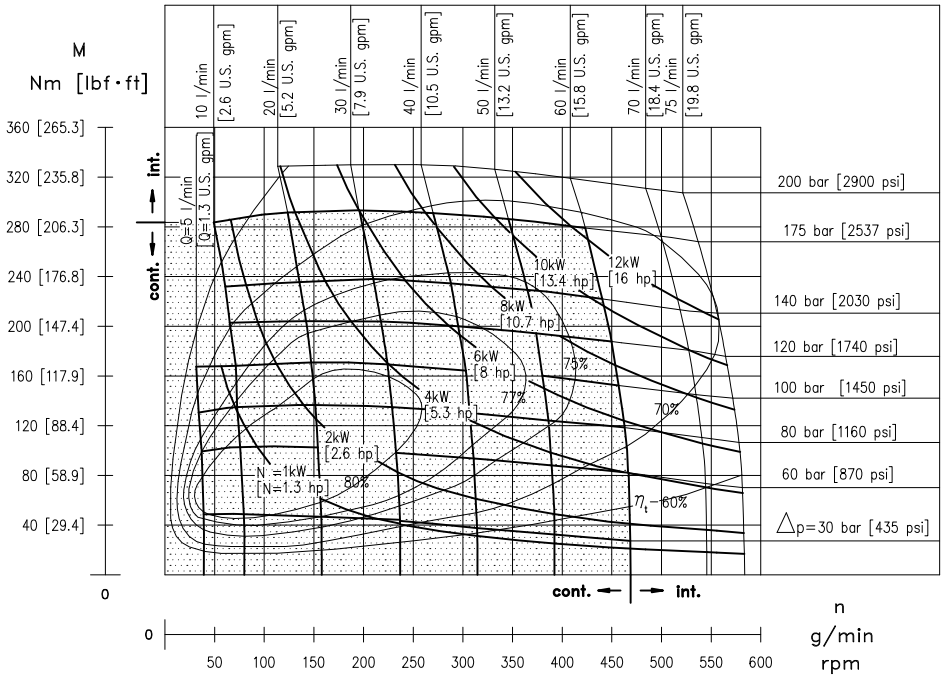
Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.
Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BS 100



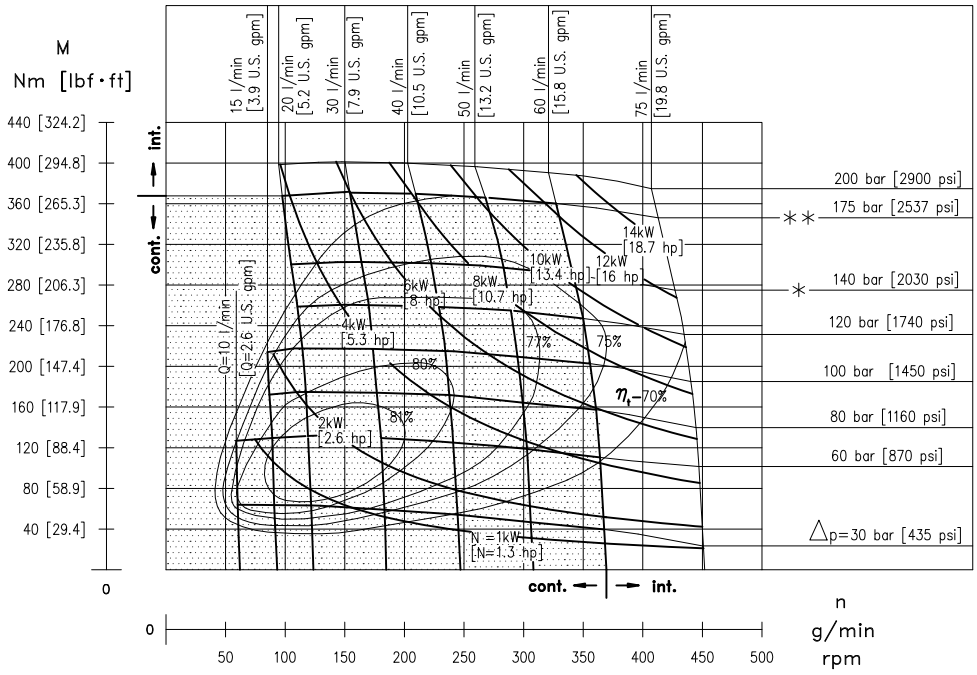
Pressioni e portate superiori a quelle ammesse in regime continuo non devono essere applicate contemporaneamente.
Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BS 130



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.

BS 160



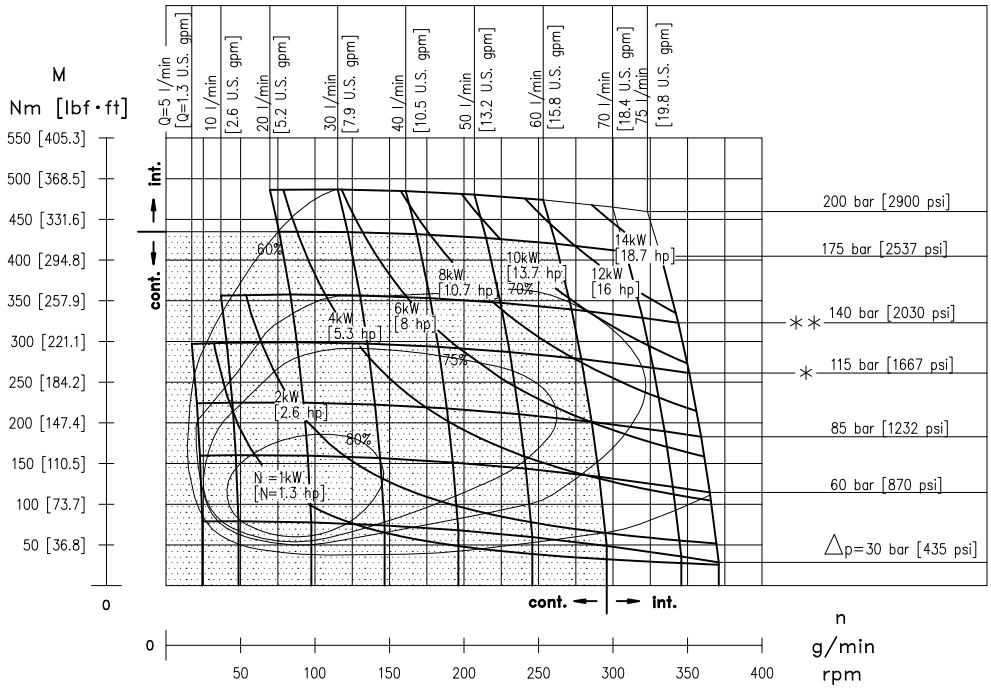
* *Pressione massima continua per versione con albero Ø25.*
** *Pressione massima intermittente per versione con albero Ø25.*

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

* *Constant maximum pressure for Ø25 shaft model.*
** *Intermittent maximum pressure for Ø25 shaft model.*

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

BS 200



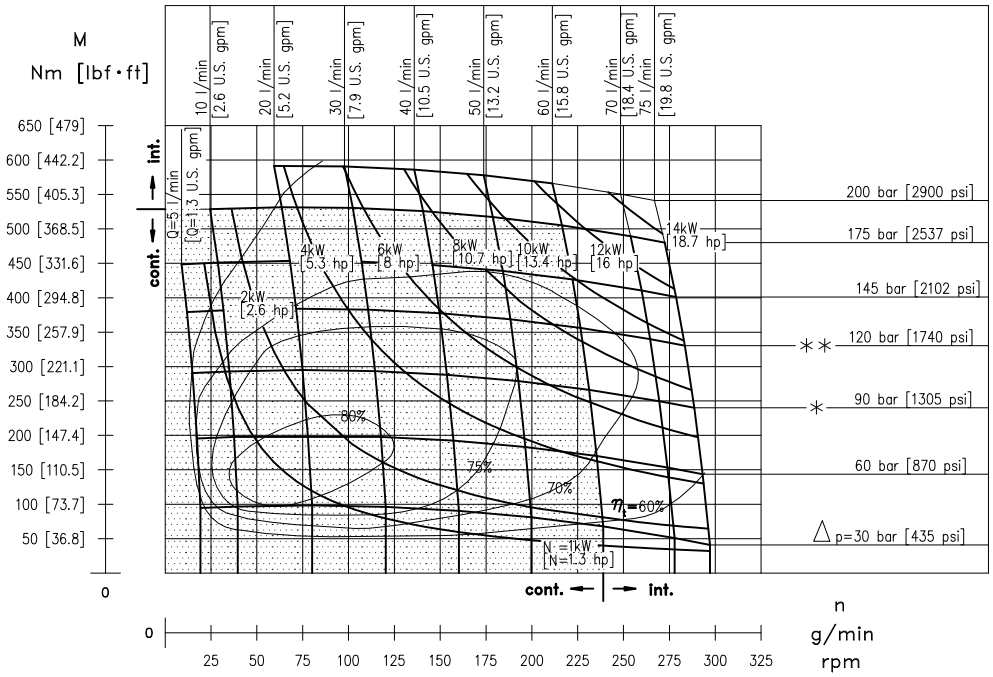
* *Pressione massima continua per versione con albero Ø25.*
** *Pressione massima intermittente per versione con albero Ø25.*

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

* *Constant maximum pressure for Ø25 shaft model.*
** *Intermittent maximum pressure for Ø25 shaft model.*

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

BS 250



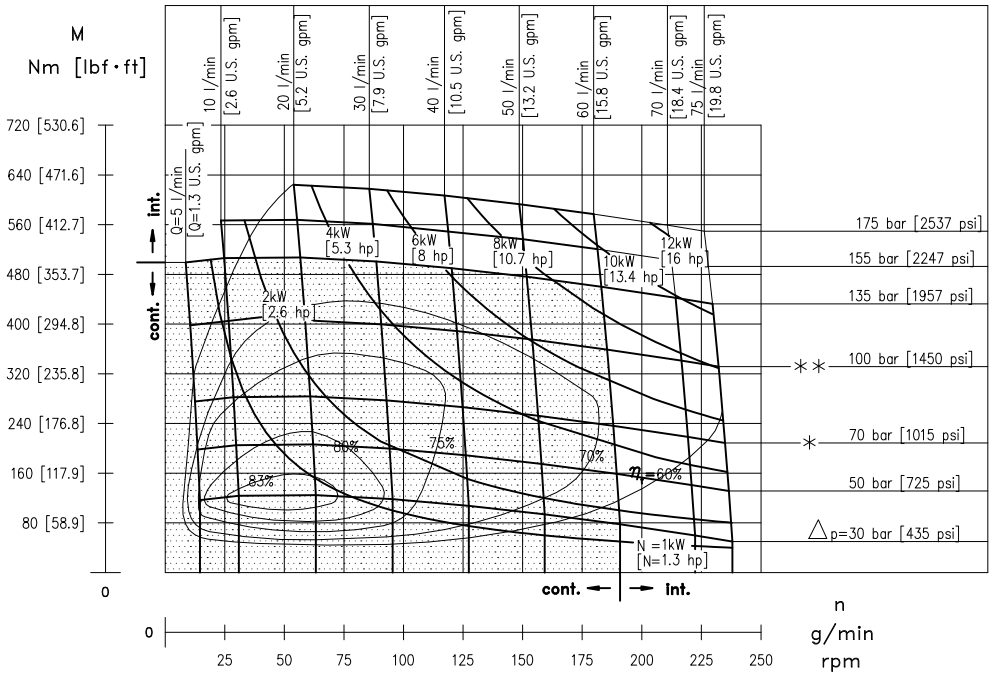
* *Pressione massima continua per versione con albero Ø25.*
** *Pressione massima intermittente per versione con albero Ø25.*

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

* *Constant maximum pressure for Ø25 shaft model.*
** *Intermittent maximum pressure for Ø25 shaft model.*

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

BS 315



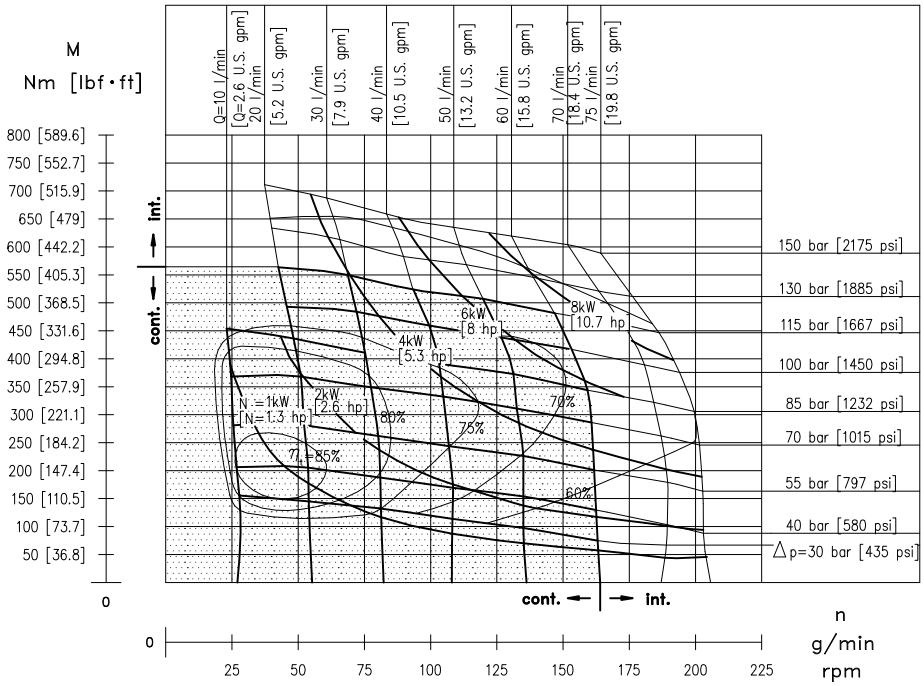
* *Pressione massima continua per versione con albero Ø25.*
** *Pressione massima intermittente per versione con albero Ø25.*

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

* *Constant maximum pressure for Ø25 shaft model.*
** *Intermittent maximum pressure for Ø25 shaft model.*

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

BS 400



* *Pressione massima continua per versione con albero Ø25.*
** *Pressione massima intermittente per versione con albero Ø25.*

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

* *Constant maximum pressure for Ø25 shaft model.*
** *Intermittent maximum pressure for Ø25 shaft model.*

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

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