# POMPE E MOTORI A PISTONI ASSIALI AD ASSE INCLINATO

# *BENT AXIS AXIAL PISTON PUMPS AND MOTORS*

# AXIALKOLBENPUMPEN-MOTOREN

# HM BF 80•90

398SBF0113A01

# HM BF

## MOTORI A PISTONI ASSIALI A CILINDRATA FISSA
## *AXIAL PISTON FIXED-DISPLACEMENT MOTORS*
## KONSTANTMOTOREN

I motori a pistoni assiali serie HM BF sono a cilindrata fissa del tipo ad asse inclinato e sono stati concepiti per operare sia in circuito chiuso che aperto.
Il sistema è stato progettato in modo da ottenere un angolo di inclinazione di 40° dei pompanti rispetto all'asse dell'albero uscente.
Tale geometria permette:
- elevata coppia di spunto
- elevata efficienza volumetrica e meccanica
- elevata velocità massima
- elevate pressioni massime

Questi motori possono essere forniti a richiesta completi di valvola di flussaggio, sensore di giri, valvole di massima anticavitazione.

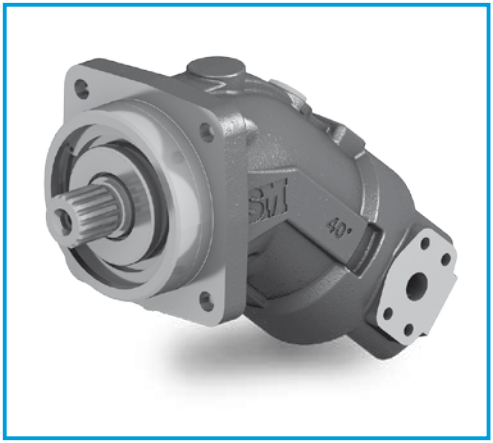
*Axial piston motors series HM BF are fixed displacement and bent axis and have been designed to work both in an open and in a closed circuit.*
*The system has been designed in order to obtain 40° angle of inclination of the pumps with respect to the axle of the outgoing shaft.*
*This geometry allows:*
- *high static torque*
- *high volumetric and mechanical efficiency*
- *high maximum reachable speed*
- *high maximum pressures*

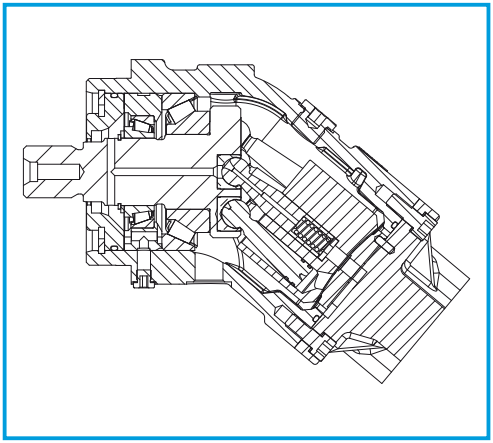
*Motors can be supplied on request with flushing valve, speed sensor, relief and anticavitation valve.*

Die Axialkolbenmotore der Baureihe HM BF sind Schrägachsenmotoren mit konstantem Verdrängungsvolumen und können sowohl im offenen, als auch im geschlossenen Kreislauf arbeiten. Die Schrägachsenmotoren wurden so konstruiert, daß sie einen großen Schwenkwinkel von 40° haben. Dies ermöglicht:
- Höheres Anlaufmoment
- Gute mechanisch hydraulische und volumetrische Wirkungsgrade
- Hohe Enddrehzahl
- Hohe Betriebsdrücke

Die Motoren können komplett mit Spül- und Speisedruckventil, Drehwinkelsensor ausgestattet werden, Druckbegrenzungs- und Nachsaugventil ausgestattet werden.

# HM BF 80•90



## DATI TECNICI
## *TECHNICAL DATA*
## TECHNISCHE MERKMALE

| GRUPPO *GROUP* BAUREIHE | CILINDRATA TEORICA *NOMINAL DISPLACEMENT* FÖRDERVOLUMEN | | PRESSIONE *PRESSURE* DRUCK | | | | | | VELOCITÀ DI ROTAZIONE *SPEED* DREHZAHL | | MASSA *WEIGHT* GEWICHT | | MOMENTO POLARE D'INERZIA *INERTIAL MASS* TRAGHEITSMOMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CONTINUA *CONTINUOS* DAUER | | INTERMITTENTE *INTERMITTENT* INTERMITTIERENDER | | PICCO *PEAK* SPITZEN | | MAX CONTINUA *MAX CONTINUOUS* KONTINUIERLICH MAX | MAX INTERMITTENTE *MAX INTERMITTENT* INTERMITTIERENDER MAX | | | |
| | $cm^3$ | $in^3$ | bar | psi | bar | psi | bar | psi | $min^{-1}$ | $min^{-1}$ | kg | lbs | kg • $m^2$ |
| HM BF | 80 | 4,88 | 350 | 5075 | 400 | 5800 | 450 | 6525 | 4500 | 5000 | 27,7 | 61,1 | 0,0072 |
| | 90 | 5,49 | 350 | 5075 | 400 | 5800 | 450 | 6525 | 4500 | 5000 | 27,7 | 61,1 | 0,0072 |

La velocità di rotazione minima è 50 $min^{-1}$

*The minimum rotation speed is 50 $min^{-1}$*

Die Mindestdrehgeschwindigkeit beträgt 50 $min^{-1}$

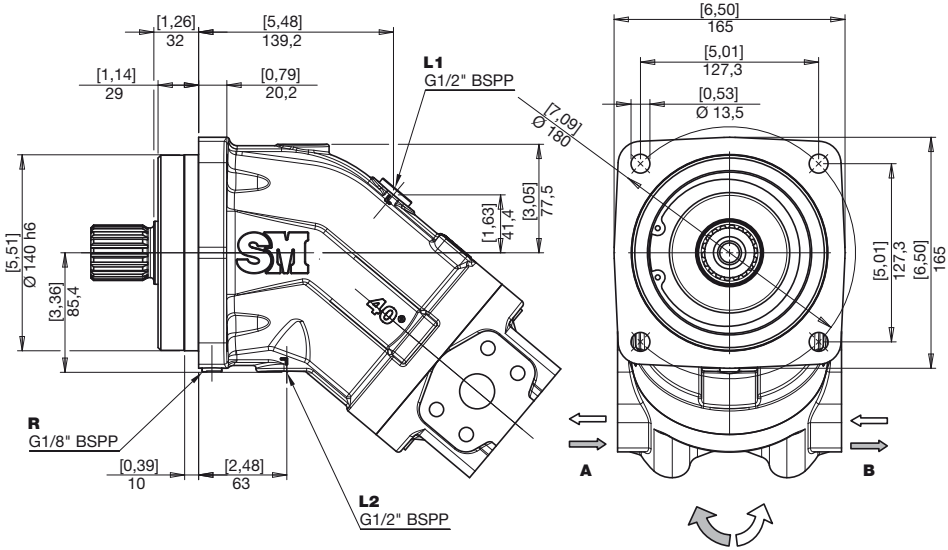
- La somma delle pressioni alle bocche A e B non deve superare i 700 bar / 10150 psi.
- Per applicazioni con carico radiale sull'albero motore (pignoni, cinghie trapezoidali), è consentita una pressione continua ridotta a 315 bar / 4550 psi (Pmax = 350 bar / 5100 psi).
- In caso di carico pulsante sopra i 315 bar / 4550 psi, utilizzare la versione con albero scanalato.

- *The summation of pressure at ports A and B may not exceed 700 bar / 10150 psi.*
- *For applications with radial load of the drive shaft (pinions, belts) is allowed a continuous pressure reduced of 315 bar / 4550 psi (Pmax = 350 bar / 5100 psi)*
- *In cases of pulsating loading above 315 bar / 4550 psi we recommend to use the splined shaft.*

- Die Summe der Drücke an den Öffnungen A und B darf 700 bar/10150 psi. nicht überschreiten
- Für Anwendungen mit Radiallast an der Motorwelle (Ritzel, Keilriemen), ist ein kontinuierlicher reduzierter Druck zu 315 bar/4550 psi (Pmax = 350 bar / 5100 psi) zugelassen.
- Im Falle einer Stoßlast über 315 bar /4550 psi, muss die Version mit Keilwelle verwendet werden."

## DIMENSIONI
## *SIZE*
## ABMESSUNGEN

**I** **FLANGIA ISO**
***ISO FLANGE***
**ISO FLANSCH**

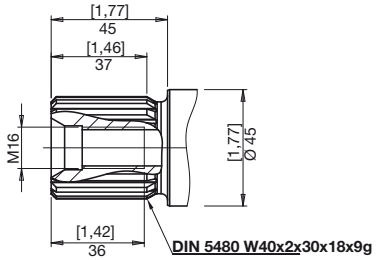



| | | | |
|---|---|---|---|
| **L1**<br>**L2** | Drenaggi<br>*Drain*<br>Leckölanschluss | **R** | Spurgo<br>*Air bleed*<br>Entlüftung |
| **A**<br>**B** | Ingresso / Uscita<br>*Inlet / Outlet*<br>Eingang / Ausgang | **L1**<br>**R** | Tappati<br>*Plugged*<br>Verschlossen |

## ESTREMITÀ ALBERI
## *SPLINE SHAFTS*
## WELLENPROFILE

### Z

***COPPIA MAX***
***MAX TORQUE*** **1490 N•m**
**MAX DREHMOMENT**

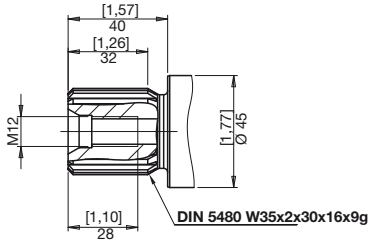



**PRESSIONE CONTINUA**
***CONTINUOUS PRESSURE***
**NENNDRUCK**
**400 bar / 5800 psi**

**PRESSIONE DI PICCO**
***PEAK PRESSURE***
**HOCHSTDRUCK**
**450 bar / 6525 psi**

### X

***COPPIA MAX***
***MAX TORQUE*** **990 N•m**
**MAX DREHMOMENT**

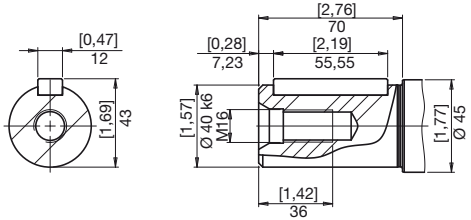



**PRESSIONE CONTINUA**
***CONTINUOUS PRESSURE***
**NENNDRUCK**
**350 bar / 5075 psi**

**PRESSIONE DI PICCO**
***PEAK PRESSURE***
**HOCHSTDRUCK**
**400 bar / 5800 psi**

### C

***COPPIA MAX***
***MAX TORQUE*** **420 N•m**
**MAX DREHMOMENT**

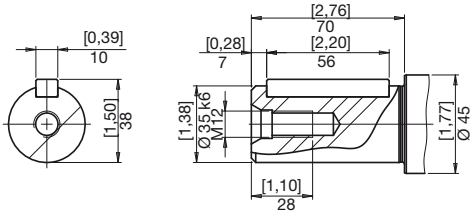



**PRESSIONE CONTINUA**
***CONTINUOUS PRESSURE***
**NENNDRUCK**
**350 bar / 5075 psi**

**PRESSIONE DI PICCO**
***PEAK PRESSURE***
**HOCHSTDRUCK**
**400 bar / 5800 psi**

### Y

***COPPIA MAX***
***MAX TORQUE*** **385 N•m**
**MAX DREHMOMENT**




**PRESSIONE CONTINUA**
***CONTINUOUS PRESSURE***
**NENNDRUCK**
**350 bar / 5075 psi**

**PRESSIONE DI PICCO**
***PEAK PRESSURE***
**HOCHSTDRUCK**
**400 bar / 5800 psi**

Per applicazioni con carico radiale sull'albero motore (pignoni, cinghie trapezoidali), con albero tipo X e Y è consentita una pressione continua di 315 bar (Pmax = 350 bar).
In caso di carico pulsante sopra 315 bar, utilizzare la versione con albero scanalato Z.

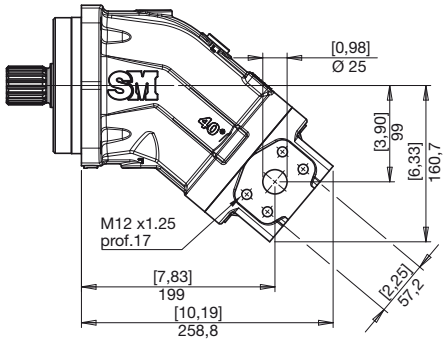
*With shaft type X and Y is allowed a continuous pressure of 315 bar (Pmax = 350 bar) for applications with radial load of the drive shaft (pinions, belts).*
*In cases of pulsating loading above 315 bar must be use the version with splined shaft Z.*

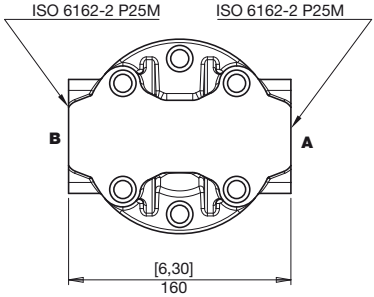
Bei Wellenende X und Y ist bei Abtrieben mit Querkraftbelastung der Triebwelle (Ritzel, Keilriemen) ein Nenndruck von 315 bar zulässig (pmax = 350 bar).
Bei pulsierender Belastung über 315 bar empfehlen wir die Ausführung mit Zahnwelle Z.

# DISTRIBUTORI
## *PORT PLATES*
## ANSCHLUSSPLATTE

**SL**

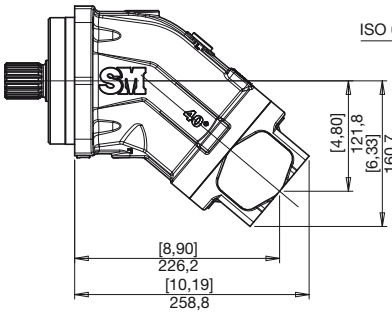
**ATTACCHI FLANGE SAE LATERALI**
***SAE PORTS AT SIDE***
**SAE FLANSCHANSCHLÜSSE SEITLICH GEGENÜBERLIEGEND**

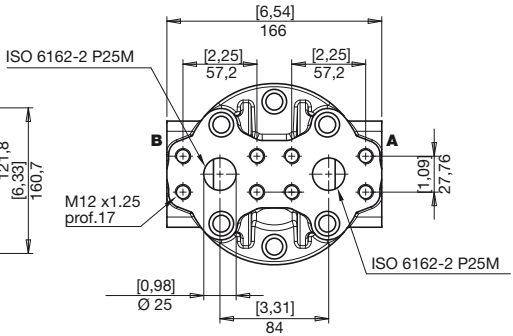



**SP**

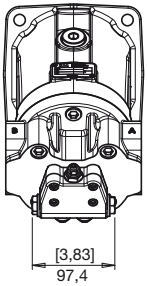
**ATTACCHI FLANGE SAE POSTERIORI**
***SAE PORTS REAR***
**SAE FLANSCHANSCHLÜSSE HINTEN**

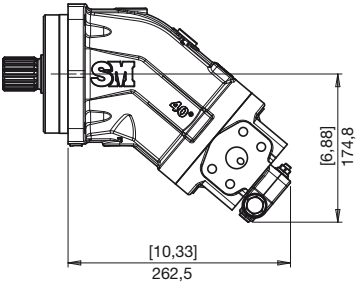


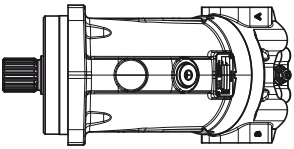



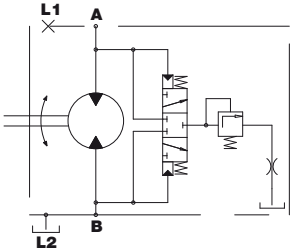
## V

**VALVOLA DI FLUSSAGGIO**
***FLUSHING AND BOOST VALVE***
**SPUL- UND SPEISEDRUCKVENTIL**



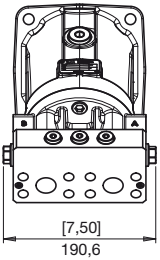



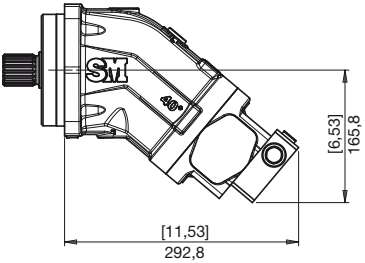



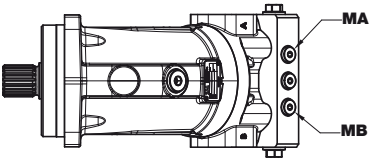


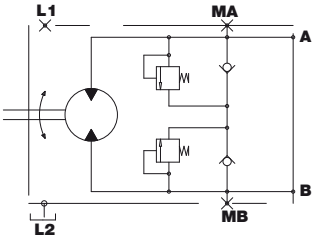

## *

**VALVOLA LIMITATRICE DI PRESSIONE E ANTICAVITAZIONE**
***PRESSURE LIMITER AND ANTICAVITATION VALVE***
**DRUCKBEGRENZUNGS UND NACHSAUGVENTIL**



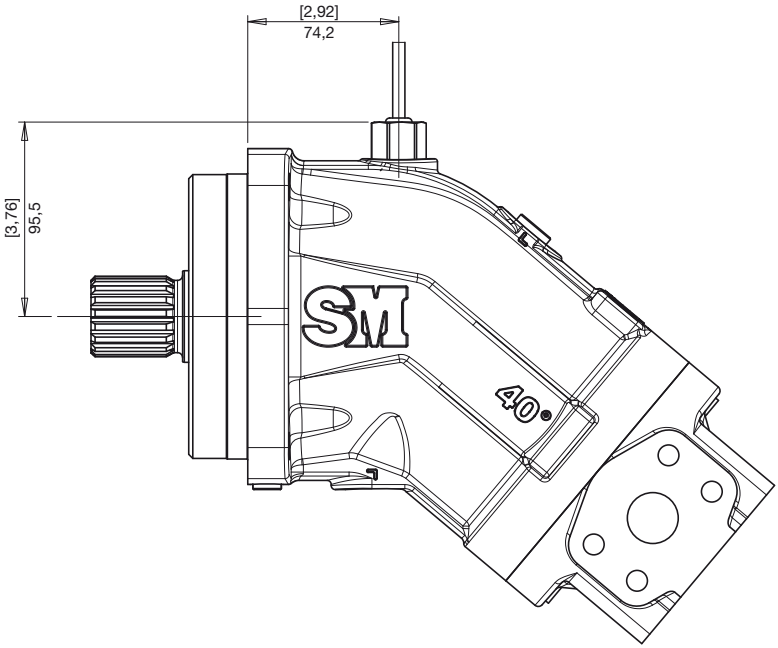




*Vedi pagina 8 istruzioni per l'ordinazione

**See page 8 for ordering instructions*

*Siehe Seite 8 Bestellungsanweisungen

**S** SENSORE DI GIRI
*RPM SENSOR*
DREHZAHLSENSOR



## ISTRUZIONI PER L'ORDINAZIONE
## *ORDERING INSTRUCTIONS*
## BESTELLANLEITUNG

**HM BF I 080 Z SL 0 0 0 ...**

**PRODOTTO**
***PRODUCT***
**PRODUKT**

**BF** - Motori a pistoni assiali a cilindrata fissa flangia ISO
***BF*** - *Fixed-displacement axial piston motor ISO flange*
**BF** - Konstant-Axialkolbenmotoren ISO Flansch

**FLANGIA**
***FLANGE***
**FLANSCHE**

**I** - ISO

**CILINDRATA STANDARD**
***STANDARD DISPLACEMENT***
**FÖRDERVOLUMEN STANDARD**

**080** - 80 cc
**090** - 90 cc

**ESTREMITÀ ALBERO**
***SHAFT PROFIL***
**WELLENENDE**

**Z** - dentato DIN 5480
**C** - cilindrico DIN 6885
**X** - dentato DIN 5480
**Y** - cilindrico DIN 6885

***Z*** - splined shaft *DIN 5480*
***C*** - round shaft *DIN 6885*
***X*** - splined shaft *DIN 5480*
***Y*** - round shaft *DIN 6885*

**Z** - Zahnwelle DIN 5480
**C** - zylindrisch DIN 6885
**X** - Zahnwelle DIN 5480
**Y** - zylindrisch DIN 6885

**DISTRIBUTORI**
***PORT PLATES***
**ANSCHLÜSSPLATTE**

**SL** - attacchi flangia SAE laterali
**SP** - attacchi flangia SAE posteriori

***SL*** - *SAE ports at side*
***SP*** - *SAE ports rear*

**SL** - SAE Flanschanschlüsse seitlich gegenüberliegend
**SP** - SAE Flanschanschlüsse hinten

**ESECUZIONI SPECIALI**
***SPECIAL VERSIONS***
**SONDERBAUARTEN**

**ACCESSORI**
***ACCESSORIES***
**ZUBEHÖR**

**0** - nessuna opzione
**S** - con sensore di giri

***0*** - *no accessories*
***S*** - *RPM sensor*

**0** - kein Zubehör
**S** - Drehzahlsensor

**VALVOLE**
***VALVES***
**VENTILE**

**0** - nessuna valvola
***0*** - *Without valve*
**0** - Öhne Ventil

**V** - con valvola di flussaggio
***V*** - *Flushing and boost valve*
**V** - Spül- und Speisedruckventil

con valvole di massima/ anticavitazione
*With pressure limiter and anticavitation valve*
Mit druckbegrenzungs und nachsaugventil

**B** - setting 150 bar (2175 psi)
**D** - setting 180 bar (2610 psi)
**E** - setting 210 bar (3045 psi)
**H** - setting 230 bar (3335 psi)
**G** - setting 250 bar (3625 psi)
**I** - setting 280 bar (4060 psi)
**L** - setting 300 bar (4350 psi)
**M** - setting 320 bar (4640 psi)
**O** - setting 350 bar (5075 psi)
**P** - setting 400 bar (5800 psi)

**GUARNIZIONI**
***SEALS***
**DICHTUNGEN**

**0** - NBR
application range -30 °C to +100 °C
**F** - FKM (VITON)
application range -20 °C to +200 °C