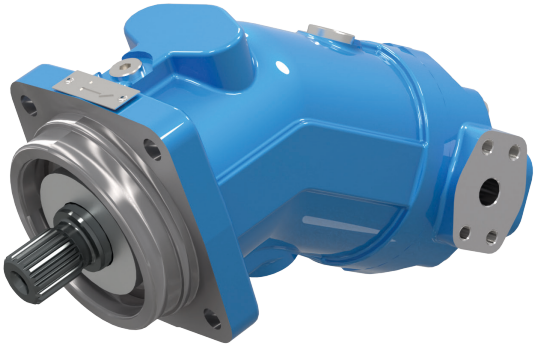




Index

General information - Features B2
Technical data B5
SH11C 010-016 Fan motors B6
Ordering code B7
Dimensions ISO 4 Bolts flange B13
Dimensions SAE B 2 Bolts flange B19
Other caratteristics B25

Type	Displacement cm³/rev [in³/rev]	Max. flow l/min [U.S. gpm]	Max pressure bar [psi]	Max peak pressure bar [psi]
SH11C 010	10.3 [0.626]	82 [21.66]	430 [6235]	480 [6960]
SH11C 016	16 [0.976]	128 [33.81]	430 [6235]	480 [6960]
SH11C 020	19.9 [1.213]	125 [33.00]	430 [6235]	480 [6960]
SH11C 030	31.9 [1.945]	201 [53.06]	430 [6235]	480 [6960]
SH11C 045*	46 [2.807]	257 [67.89]	430 [6235]	480 [6960]
SH11C 055	56.35 [3.437]	282 [74.45]	430 [6235]	480 [6960]
SH11C 063	63.26 [3.859]	316 [83.42]	430 [6235]	480 [6960]
SH11C 075	77.82 [4.747]	350 [92.4]	430 [6235]	480 [6960]
SH11C 090	86.23 [5.26]	388 [102.5]	430 [6235]	480 [6960]
SH11C 108	108.4 [6.612]	433 [114.31]	430 [6235]	480 [6960]
SH11C 125	124.8 [7.613]	500 [132.00]	430 [6235]	480 [6960]
SH11C 160	163.9 [9.998]	590 [155.76]	430 [6235]	480 [6960]
SH11C 180	178.1 [10.864]	641 [169.22]	430 [6235]	480 [6960]

*: Under development

SH11C motors are a family of fixed displacement, bent axis piston motors for operation in both open and closed circuit.
The proven design incorporating the lens shape valve plate, the high quality components and manufacturing techniques make the SH11C motors to able provide up to 430 bar [6235 psi] continuous and 480 bar [6960 psi] peak performance.
Fully laboratory tested and field proven, these units provide maximum efficiency and longlife. Heavy duty bearings permit high radial and axial loads.
Versatile design includes a variety of port plates, shaft ends and valves packages that will fit the SH11C motors to any application both industrial and mobile. SH11C motors are available in both ISO and SAE version.

© 2026 Dana Limited. All rights reserved.
The product images and drawings shown are for illustration purposes only and may not be an exact representation of the product.
We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.
Each product configuration listed below is subject to availability: please contact Sales Dpt. for more commercial detailed info.

General information - Features

Simbology:

C	N/bar [lbf/psi]	Load
$F_{ax\ max}$	N [lbf]	Axial pushing load
$F_{ax\ max}$	N [lbf]	Axial pulling load
F_q	N [lbf]	Radial load
$F_{q\ max}$	N [lbf]	Maximum permissible radial load
J	kg·m² [lbf·ft²]	Moment of inertia
m	kg [lbs]	Weight
n_{max}	rpm	Maximum speed
p_{max}	bar [psi]	Maximum continuous pressure
p_{peak}	bar [psi]	Maximum pressure peak

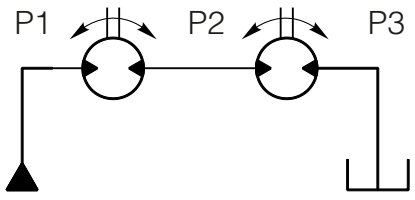
Q_{max}	l/min [U.S. gpm]	Maximum flow
Q_d	l/min [U.S. gpm]	External drain flow
T_k	Nm/bar [lbf.ft/psi]	Torque costant
T_{max}	Nm [lbf.ft]	Maximum torque at pressure continuous
T_{peak}	Nm [lbf.ft]	Maximum torque at pressure peak
V_g	cm³/rev [in³/rev]	Displacement
P_{max}	kW [hp]	Maximum power at p_{nom}
η_{hm}	%	Mech-hyd. efficiency
η_v	%	Volumetric efficiency

Hydraulic fluids:
Use fluids with mineral oil basis and anticorrosive, antioxidant and wear preventing addition agents (HL or HM). Viscosity range at operating temperature must be of 15 ÷40 cSt. For short periods and upon cold start, a max. viscosity of 800 cSt is allowed, for different types of viscosity please contact Dana. Viscosities less then 10 cSt are not allowed. A viscosity range of 10 ÷ 15 cSt is allowed for extreme operating conditions and for short periods only.

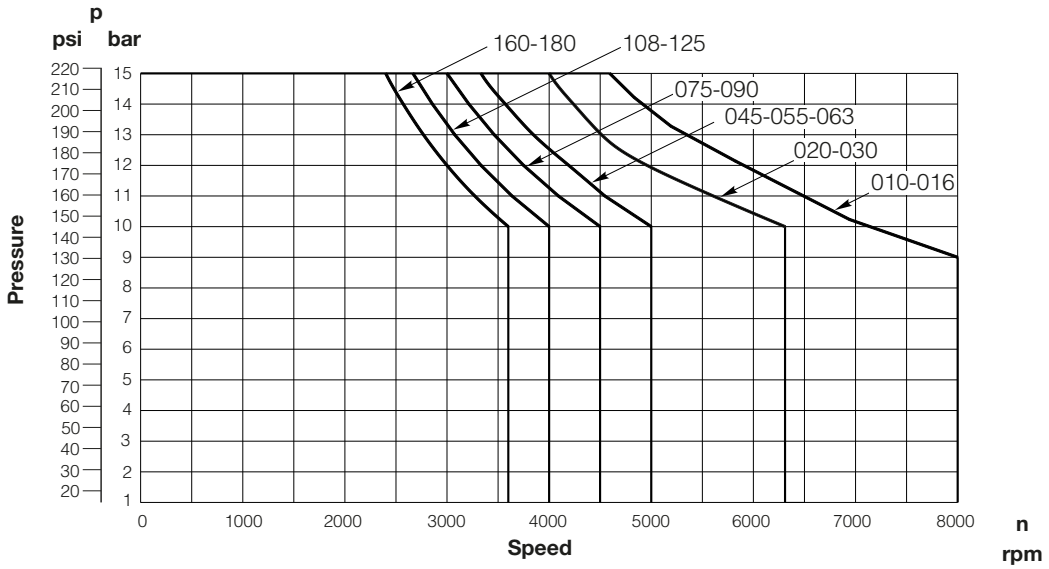
Temperature ranges:
The operating temperature of the oil must be within -25ºC÷ 115ºC [-13ºF ÷ 239ºF]. For applications with lower temperatures please contact Dana.

Filtering:
A correct filtering is essential for long and satisfactory life of axial piston units. In order to ensure a correct functioning of the unit, the max. permissible contamination class is 21/19/16 according to ISO 4406:1999.

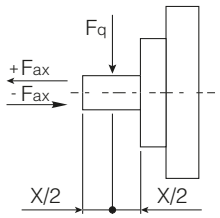
Operating pressure:
The maximum permissible pressure on pressure ports is 430 bar [6235 psi] continuous and 480 bar [6960 psi] peak. If two motors are connected in series, total working pressure P1+P2 has to be limited 700 bar max. [10150 psi].



Case drain pressure:
Maximum permissible case drain pressure is 10 bar [145 psi]. A higher pressure can damage the main shaft seal or reduce its life.



Output shaft:
Table is a guide to determine max. permissible loads. Values are calculated in such a way to assure at least 80% of the bearing operating life where no external load is applied. The published values are related to loads applied in the middle of shaft and in the least favourable direction.



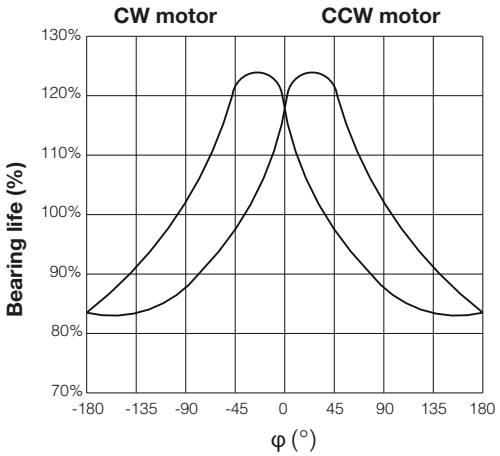
				Size												
				010	016	20	30	045*	55	63	75	90	108	125	160	180
Radial load	$F_{q\ max}$	N [lbf]		3000 [674.4]	3200 [719.4]	4300 [967.5]	6100 [1372.5]	8350 [1877.2]	9200[1] [2068]	10300[1] [2317.5]	11500[1] [2587.5]	12900[1] [2902.5]	13600[1] [3060]	15900[1] [3577.5]	18400[1] [4140]	20600[1] [4635]
Load		N/bar [lbf/psi]		8.5 [0,128]	9 [0,135]	12 [0.18]	19 [0.285]	23.8 [0,357]	25 [0.375]	30 [0.45]	25.7 [0.386]	28.5 [0.428]	35 [0.525]	37 [0.555]	41 [0.615]	45 [0.675]
Axial pulling load	$F_{ax\ max}$	N [lbf]	250 bar [3625 psi]	550 [123.6]	850 [191.1]	1000 [225]	1300 [292.5]	1740 [391.2]	1920 [432]	2150 [484]	2300 [517.5]	2800 [630]	2900 [652.5]	3300 [742.5]	3800 [855]	4050 [911.2]
			350 bar [5075 psi]	800 [179.8]	1050 [236.0]	1300 [292.5]	1800 [405]	2400 [539.5]	2650 [596]	2990 [673]	3550 [798.75]	3800 [855]	4050 [911.25]	4550 [1023.7]	5300 [1192.5]	5800 [1305]
Axial pushing load	$F_{ax\ max}$	N [lbf]	< 100 bar [< 1450 psi]	320 [71.9]	320 [71.9]	500 [112.5]	500 [112.5]	800 [179.8]	800 [180]	800 [180]	1000 [225]	1000 [225]	1250 [281.25]	1250 [281.25]	1600 [360]	1600 [360]
			> 100 bar [> 1450 psi]	3 [0,045]	3 [0,045]	5 [0.075]	5 [0.075]	8.7 [0,131]	9 [0.135]	9 [0.135]	12 [0.18]	12 [0.18]	13 [0.195]	13 [0.195]	17 [0.255]	17 [0.255]

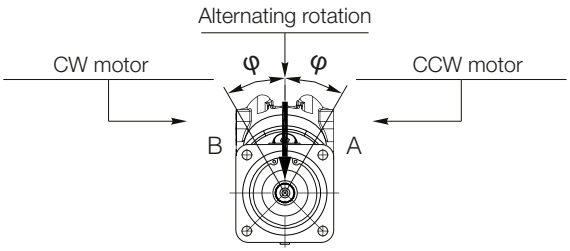
* : under development
1) : in the following table, values of Fq_{max} for the output shafts

			Max permissible radial force on the shaft:			
			SAI (SH11C 055-063)	SAM (SH11C 075-090)	SAO (SH11C 108-125)	SAP (SH11C 160-180)
Radial load	$F_{q\ max}$	N [lbf]	6500 [1462.5]	6500 [1462.5]	6500 [1462.5]	6500 [1462.5]

When an external side (radial) load is applied to the drive shaft, the bearing life will vary accordingly to the magnitude, location and direction of the load. The diagram shows how the bearing operating life varies versus the direction of the load. In the diagram 100% represents the bearing operating life where no external side load is applied to the drive shaft.

General information - Features





The bearing operating life increases up to 30% when the load is applied with some peculiar directions and the maximum increase is dependent on the operating pressure and the nominal size of the unit.
When considering the permissible axial force, the force - transfer direction must be taken in account:

- Pushing axial loads increase the bearing life.
- Pulling axial loads reduce the bearing life (if possible pulling axial loads should be avoided).

Seals:
Seals used on SH11C series are of FKM (Fluoroelastomer). In case of use of special fluids, contact Dana.

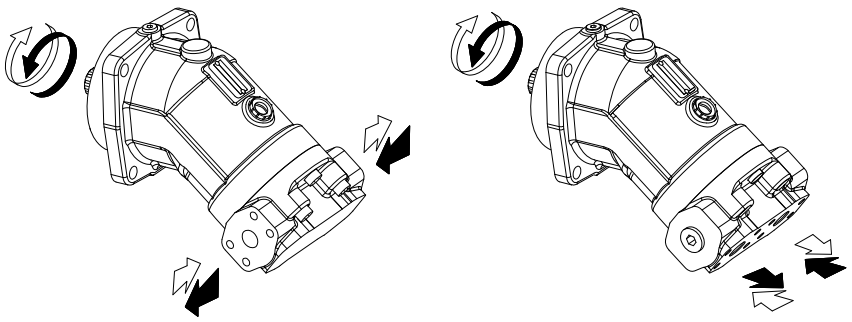
Minimum rotating speed:
No limit to Minimum speed; if uniformity of rotation is required, speed must not be less than 50 rpm. In case of use of special applications, contact Dana.

Installation:
SH11C series motors can be installed in every position or direction. These axial piston units have separate ports and drain chambers and so must be always drained. For further details see on the General Information Catalogue, the section “General installation guidelines”.

Flangeable valves:
Flangeable valves are available for motors both in open and closed loop. For more information see the catalogue Axial Valves.

Flushing valves:
The motors can be equipped with flushing valves.
The mount the flushing valve on motors, it is necessary to use a special port cover. For more information see the catalogue Axial Valves.

Relation between direction of rotation and direction of flow:
The relation between direction of rotation of shaft and direction of flow in SH11C piston units is shown in the picture below.



Reversible motor

			Size												
			010	016	20	30	045*	55	63	75	90	108	125	160	180
Displacement	V_g	cm^3/rev [in^3/rev]	10.3 [0.626]	16 [0.976]	19.9 [1.213]	31.9 [1.945]	46 [2.807]	56.35 [3.437]	63.26 [3.859]	77.82 [4.747]	86.23 [5.26]	108.4 [6.612]	124.8 [7.613]	163.9 [9.998]	178.1 [10.864]
Max. pressure	p_{max}	bar [psi]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]
Max. peak pressure	p_{peak}	bar [psi]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]
Max. speed	n_{max}	rpm	8000	8000	6300	6300	5600	5000	5000	4500	4500	4000	4000	3600	3600
Max. flow	Q_{max}	l/min [US gpm]	82 [21.66]	128 [33.81]	125 [33]	201 [53.06]	257 [67.89]	282 [74.45]	316 [83.42]	350 [92.4]	388 [102.5]	433 [114.31]	500 [132]	590 [155.76]	641 [169.22]
Max. power at p_{max}	P_{max}	kW [hp]	59 [79.1]	92 [123.4]	90 [120.6]	144 [192.96]	184 [246.7]	202 [270.68]	226 [302.84]	251 [336.34]	278 [372]	310 [415.4]	358 [479.72]	423 [566.82]	459 [615.06]
Torque costant	T_k	Nm/bar [lbf.ft/psi]	0.16 [0.008]	0.25 [0.013]	0.3 [0.015]	0.5 [0.025]	0.73 [0.037]	0.9 [0.045]	1 [0.05]	1.2 [0.06]	1.4 [0.07]	1.7 [0.085]	2 [0.1]	2.6 [0.13]	2.8 [0.14]
Max. torque at p_{max}	T_{max}	Nm [lbf.ft]	71 [52.36]	110 [81.13]	136 [100.23]	218 [160.66]	315 [232.33]	386 [284.48]	433 [319.12]	533 [392.82]	590 [435.13]	742 [546.85]	855 [630.13]	1122 [826.91]	1219 [898.40]
Max peak torque at p_{peak}	T_{peak}	Nm [lbf.ft]	79 [58.27]	122 [89.98]	152 [112.02]	244 [179.82]	352 [260.36]	431 [317.65]	484 [356.71]	595 [438.51]	659 [486.05]	829 [610.97]	954 [703.10]	1253 [923.46]	1361 [1003.06]
Moment of inertia (1)	J	$kg{\cdot}m^2$ [$lbf.ft^2$]	0.0005 [0,0118]	0.0005 [0,0118]	0.001 [0.0235]	0.001 [0.0235]	0.004 [0.094]	0.004 [0.094]	0.004 [0.094]	0.007 [0.1645]	0.007 [0.1645]	0.012 [0.2820]	0.012 [0.2820]	0.022 [0.5170]	0.022 [0.5170]
Weight (1)	m	kg [lbs]	6 [13.22]	6 [13.22]	10 [22.04]	10 [22.04]	18 [39.68]	19 [41.876]	19 [41.876]	23.7 [52.23]	23.7 [52.23]	35 [77.14]	35 [77.14]	48 [105.79]	48 [105.79]
External drain flow (2)	Q_d	l/min [US gpm]	0.8 [0.2113]	0.8 [0.2113]	1 [0.264]	1 [0.264]	1.2 [0.317]	1.2 [0.317]	1.2 [0.317]	2.5 [0.66]	2.5 [0.66]	3 [0.79]	3 [0.79]	3 [0.79]	3 [0.79]

*: Under development
1) Approximate values.
2) Average values at 250 bar [3625 psi] with mineral oil at 45°C [113°F] and 35 cSt of viscosity.

Theorical values, without considering η_{hm} and η_v approximate values. Peak operations must not exceed 1% of every minute.
A simultaneous maximum pressure and maximum speed not recommended.

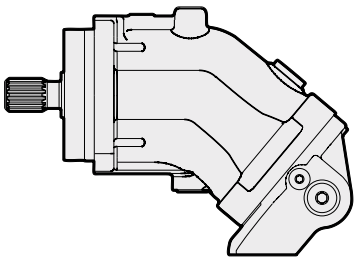
SH11C 010-016 Fan motors

SH11C 10-16 cc motors are common in fan application. Typical need of this application are built-in check valve in anti-cavitation function.

The fan motor can work safely at very high speed without reliability problems thanks to anti-cavitation valve. When the flow to the motor is shut off and the motor is rotating at high speed, the anti-cavitation valve will open and direct flow to the motor inlet port. To execute this function, it is necessary that sufficient return port back pressure is available. If the inlet pressure is insufficient, motor cavitation will be experienced.

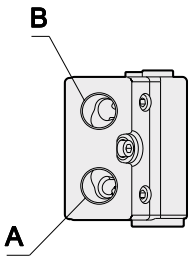
A back pressure, in an open circuit, can be created by a counter pressure valve through the line to the tank; if possible, it should be pilot operated to minimize power losses. A back pressure of about 8÷10 bar is sufficient in most applications.
Ordering code due to the built-in anti-cavitation valve, the direction of rotation of the motor must be specified when ordering the motor.

Typical applications
- Head exchangers
- Air seeders
- Blowers



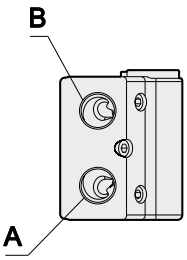
Clockwise

Rear cover VMD



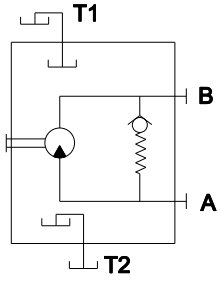
Counter Clockwise

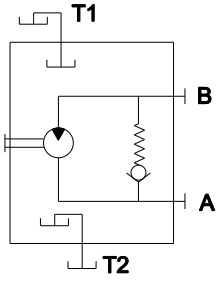
Rear cover VMS



A - B Service ports

T1 - T2 Drain ports





The following alphanumeric codes system has been developed to identify all of the configuration options for the SH11C motors. Use the model code below to specify the desired features.
All alphanumeric digits system of the code must be present when ordering.
We advise to carefully read the catalogue before filling the ordering code.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Series	Motor	Size	Version	Mount flange	Shaft end	Port cover	Direction of rotation	Seal	Valve	Valve feature	Flushing valve	Special feature	Painting
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

1

Series	
SH11C	Fixed displacement, bent axis, axial piston unit

2

Motor	
M	Motor

3

Size		
010	10.3 cm^3/rev	[0.626 in^3/rev]
016	16 cm^3/rev	[0.976 in^3/rev]
020	19.9 cm^3/rev	[1.213 in^3/rev]
030	31.9 cm^3/rev	[1.945 in^3/rev]
045*	46 cm^3/rev	[2.807in^3/rev]
055	56.35 cm^3/rev	[3.437 in^3/rev]
063	63.26 cm^3/rev	[3.859 in^3/rev]
075	77.82 cm^3/rev	[4.747 in^3/rev]
090	86.23 cm^3/rev	[5.260 in^3/rev]
108	108.4 cm^3/rev	[6.612 in^3/rev]
125	124.8 cm^3/rev	[7.613 in^3/rev]
160	163.9 cm^3/rev	[9.998 in^3/rev]
180	178.1 cm^3/rev	[10.984 in^3/rev]

*** :** under development

4

Version	
ME	ISO
SE	SAE

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

5

Mount flange		Size					
		010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
OA	ISO 4 holes Ø 80 mm [Ø3.15 in]	ME	–	–	–	–	–
OB	ISO 4 holes Ø 100 mm [Ø3.937 in]	–	ME	–	–	–	–
OC	ISO 4 holes Ø 125 mm [Ø4.921 in]	–	–	ME	–	–	–
OD	ISO 4 holes Ø 140 mm [Ø5.511 in]	–	–	–	ME	–	–
OE	ISO 4 holes Ø 160 mm [Ø6.299 in]	–	–	–	–	ME	–
OF	ISO 4 holes Ø 180 mm [Ø7.086 in]	–	–	–	–	–	ME
02	SAE-B 2 holes	SE	–	–	–	–	–
05	SAE-C 4 holes	–	SE	SE	SE	–	–
08	SAE-D 4 holes	–	–	–	–	SE	SE

* : under development

1) The ME digit means that the flange in only available for the ISO version.
2) The SE digit means that the flange in only available for the SAE version.

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

6

Shaft end			Size					
			010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
CAV	Parallel keyed Ø20 mm k6 [0.787 in k6] Key 6x6x30 [0.23x0.23x1.18]		ME	–	–	–	–	–
CMB	Parallel keyed Ø25 mm k6 [0.984 in k6] Key 8x7x32 [0.31x0.27x1.25]		ME	–	–	–	–	–
CBM	Parallel keyed Ø25 mm k6 [0.984 in k6] Key 8x7x40 [0.31x0.27x1.57]		–	ME	–	–	–	–
CBN	Parallel keyed Ø 30 mm k6 [1.181 in k6] Key 8x7x40 [0.31x0.27x1.57]	UPON REQUEST	–	ME	–	–	–	–
CAW	Parallel keyed Ø 30 mm k6 [1.181 in k6] Key 8x7x50 [0.31x0.27x1.97]		–	–	ME	–	–	–
CBP	Parallel keyed Ø 40 mm k6 [1.574 in k6] Key 12x8x56 [0.47x0.31x2.204]		–	–	–	ME	–	–
CAK	Parallel keyed Ø 40 mm k6 [1.574 in k6] Key 12x8x63 [0.47x0.31x2.48]		–	–	–	–	ME	–
CAJ	Parallel keyed Ø 45 mm k6 [1.772 in k6] Key 14x9x63 [0.55x0.35x2.48]	UPON REQUEST	–	–	–	–	ME–SE	–
CBQ	Parallel keyed Ø 45 mm k6 [1.772 in k6] Key 14x9x70 [0.55x0.35x2.75]		–	–	–	–	–	ME
CAX	Parallel keyed Ø 50 mm k6 [1.968 in k6] Key 14x9x70 [0.55x0.35x2.75]		–	–	–	–	–	ME–SE
CAY	Parallel keyed Ø 35 mm k6 [1.377 in k6] Key 10x8x56 [0.39x0.31x2.204]		–	–	–	ME	–	–
SAF	Splined W20x1.25x30x14x9g DIN 5480		ME	–	–	–	–	–
SAG	Splined W25x1.25x18x9g DIN 5480		ME	ME	–	–	–	–
SAI	Splined W30x2x14x9g DIN 5480		–	ME	ME	–	–	–
SAM	Splined W35x2x16x9g DIN 5480		–	–	ME	ME	–	–
SAO	Splined W40x2x18x9g DIN 5480		–	–	–	ME	ME	–
SAP	Splined W45x2x21x9g DIN 5480		–	–	–	–	ME	ME
SAR	Splined W50x2x24x9g DIN 5480		–	–	–	–	–	ME
C16	Parallel keyed Ø 22.22 mm [0.874 in] Key 6.35x6.25x25.4 [0.25x0.246x1]	UPON REQUEST	–	SE	–	–	–	–
C17	Parallel keyed Ø 31.75 mm [1.25 in] Key 7.93x7.3x40 [0.31x0.287x1.57]	UPON REQUEST	–	–	SE	–	–	–
C18	Parallel keyed Ø 44.45 mm [1.75 in] Key 11.11x9.2x60 [0.43x0.36x2.36]	UPON REQUEST	–	–	–	SE	SE	SE
S05	Splined 13T 16/32 DP		SE	SE	–	–	–	–
S12	Splined 14T 12/24 DP		–	SE	SE	SE	–	–
S15	Splined 13T 8/16 DP		–	–	–	–	SE	SE
S16	Splined 23T 16/32 DP	UPON REQUEST	–	–	–	–	SE	–

* : under development

1) The ME digit means that the flange in only available for the ISO version.
2) The SE digit means that the flange in only available for the SAE version.

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

7

Port cover		Size					
		010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
LM1	Lateral ports	SE	–	–	–	–	–
LM2	Lateral ports	–	ME–SE	ME–SE	ME–SE	ME–SE	ME–SE
LM3	Lateral ports	ME	ME	ME	–	–	–
FM2	Frontal ports	–	ME–SE	ME–SE	ME–SE	ME–SE	ME–SE
FM3	Frontal ports	ME	ME	ME	–	–	–
VM2	Lateral ports same side	–	ME–SE	ME–SE	ME–SE	ME–SE	ME–SE
VMD	Lateral ports same side with valve CW	ME	–	–	–	–	–
VMS	Lateral ports same side with valve CCW	ME	–	–	–	–	–
VSD	Lateral ports same side with valve CW	SE	–	–	–	–	–
VSS	Lateral ports same side with valve CCW	SE	–	–	–	–	–

* : under development
1) The ME digit means that the flange in only available for the ISO version.
2) The SE digit means that the flange in only available for the SAE version.

8

Direction of rotation (viewed from shaft side)	
RV	Reversible

9

Seal	
V	FKM

10

Valve			Size					
			010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
XXXX	None		•	•	•	•	•	•
VCDM	VCD/M Pilot assisted overcentre valve		–	VM2–FM2	VM2–FM2	VM2–FM2	VM2–FM2	VM2–FM2
VCD1	VCD/1 Pilot assisted overcentre valve		–	–	LM2	LM2	LM2	LM2
VCD2	VCD/2 Pilot assisted overcentre valve		–	–	–	LM2	LM2	LM2
VCR1	VCR1 D/AF Double acting overcentre valve	UPON REQUEST	–	VM2–FM2	–	–	–	–
VCR3	VCR3 Double acting overcentre valve		–	–	VM2–FM2	VM2–FM2	VM2–FM2	VM2–FM2
VU16	VU165 Check valve		–	LM2	–	LM2	–	–
VSD1	SD 120 anti-shock valve	UPON REQUEST	–	–	–	–	–	LM2

*** :** under development
• : Available
The valves are available with ISO port cover only, please contact Technical department for SAE version.
The VM2-FM2-LM2 digits means that the valves are only available with VM2-FM2-LM2 port covers.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

11

Valve feature			Valve							
			XXXX	VCDM	VCD1	VCD2	VCR1	VCR3	VU16	VSD1
000	Feature not necessary		●	–	–	–	–	●	–	–
001	Not Set 30÷350 bar [435 to 5075 psi] (Piloting ratio 6.2:1)	UPON REQUEST	–	–	–	–	●	–	–	–
002	Not Set 0÷350 bar [0 to 5075 psi] (Piloting ratio 2.9:1) - Control of rotation CW		–	–	●	–	–	–	–	–
006	Not Set 0÷350 bar [0 to 5075 psi] (Piloting ratio 2.9:1) - Control of rotation CCW		–	–	●	–	–	–	–	–
004	Not Set 30÷350 bar [435 to 5075 psi] (Piloting ratio 6.2:1) - Control of rotation CW		–	●	–	–	–	–	–	–
005	Not Set 30÷350 bar [435 to 5075 psi] (Piloting ratio 6.2:1) - Control of rotation CCW		–	●(1)	–	–	–	–	–	–
003	Not Set 250÷500 bar [3625 to 7250 psi] (Piloting ratio 13:1) - Control of rotation CW		–	–	–	●	–	–	–	–
007	Not Set 250÷500 bar [3625 to 7250 psi] (Piloting ratio 13:1) - Control of rotation CCW		–	–	–	●	–	–	–	–
008	Not Set (Max setting 350 bar [5075 psi]) Max Flow 65 l/min [17.2 U.S. gpm] Control of rotation CW		–	–	–	–	–	–	●	–
009	Not Set (Max setting 350 bar [5075 psi]) Max Flow 65 l/min [17.2 U.S. gpm] Control of rotation CCW		–	–	–	–	–	–	●	–
014	Not Set (Max setting 350 bar [5075 psi]) Control of rotation CW	UPON REQUEST	–	–	–	–	–	–	–	●
015	Not Set (Max setting 350 bar [5075 psi]) Control of rotation CCW	UPON REQUEST	–	–	–	–	–	–	–	●

• : Available
1) : Not available with VM2 port cover.

Please contact Technical department for valve which requie specific setting.
For the technical specifications see catalogue valves.

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SH11C	M	030	ME	OC	CMB	LM1	RV	V	VCDM	000	06	03	01

12

Flushing valve		Size					
		010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
XX	None	•	•	•	•	•	•
PR	Arranged for Flushing Valve	–	LM2	LM2	LM2	LM2	LM2
06	VSC/F Flushing valve - 6 l/min [1.58 U.S. gpm]	–	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2
09	VSC/F Flushing valve - 10.5 l/min [2.77 U.S. gpm]	–	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2
15	VSC/F Flushing valve - 15 l/min [3.96 U.S. gpm]	–	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2	LM2-VM2

*** :** under development
• : Available
It is not possible to combine the flushing valves with valve on table 10. For the technical specifications see catalogue valves.
1) The ME digit means that the flange in only available for the ISO version.
2) The SE digit means that the flange in only available for the SAE version.

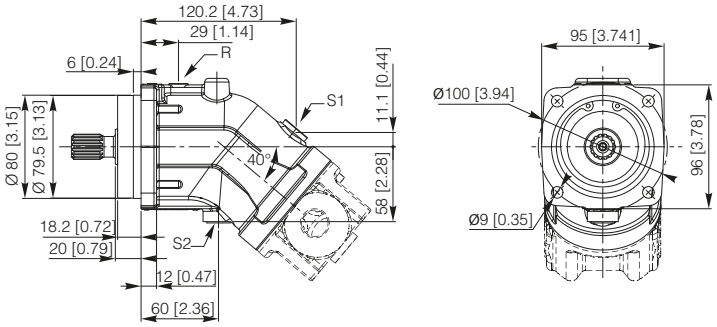
13

Special feature		Size					
		010 - 016	020 - 030	045* - 055 - 063	075 - 090	108 - 125	160 - 180
XX	None	•	•	•	•	•	•
03	SAE version with ISO port cover	•	–	• (1)	• (2)	–	• (2)
RD	Drain plugs reversed	–	•	•	•	•	•
TS	Prepared for tachometer sensor	–	•	•	•	•	•
TZ	Tachometer + sensor 2-channel-Hall effect	–	•	•	•	•	•

* : under development
• : Available
1) Available with VM2 port cover
2) Available with FM2 port cover
3) Available only in ME (ISO) version and LM2 port Cover

14

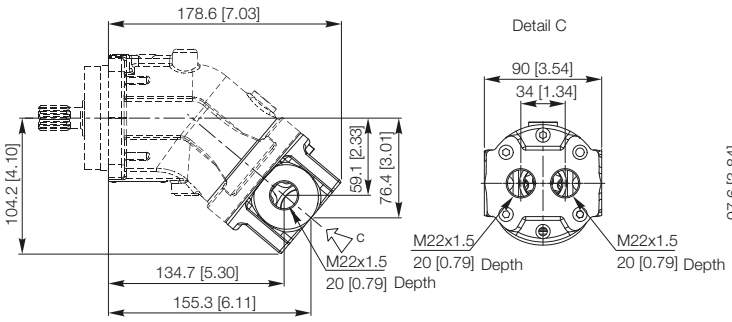
Painting	
XX	None
01	Painted RAL 9005
02	Painted RAL 5015



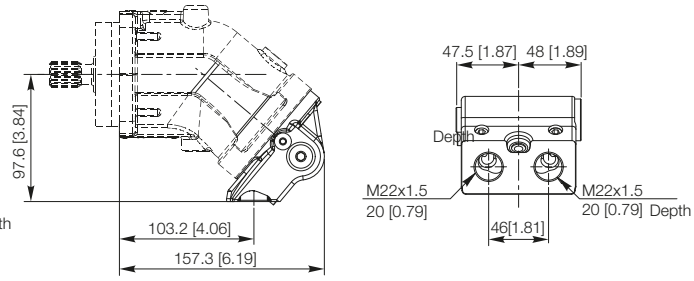
S1, S2: Drain ports (1 plugged) - 3/8 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

FM3 - LM3

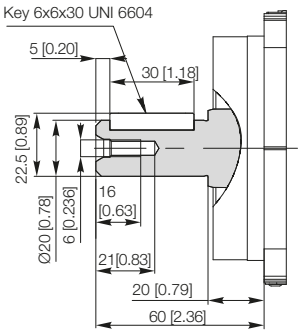


VMD - VMS

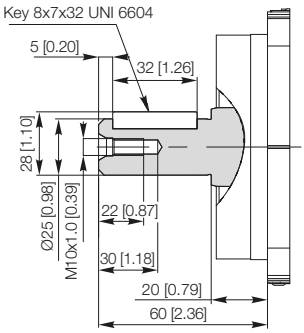


6 Shaft end

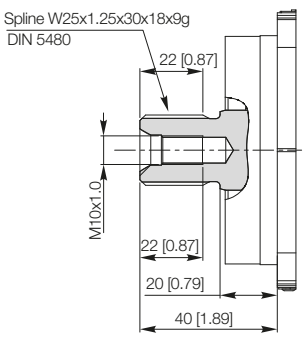
CAV Parallel keyed shaft



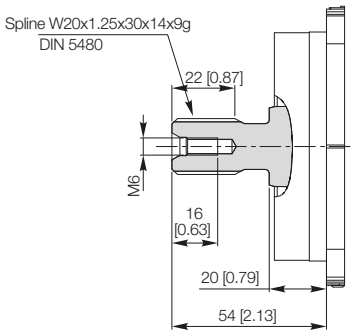
CMB Parallel keyed shaft



SAG Splined shaft

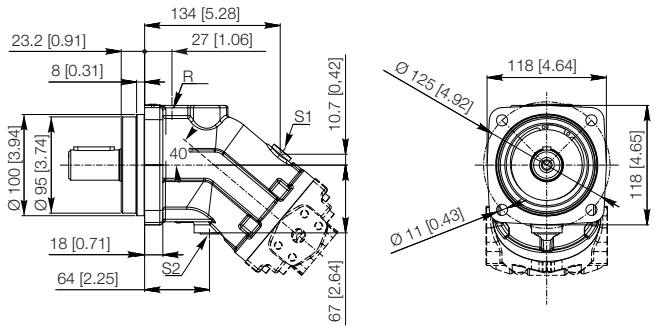


SAF Splined shaft



Dimensions ISO 4 Bolts flange (OA)

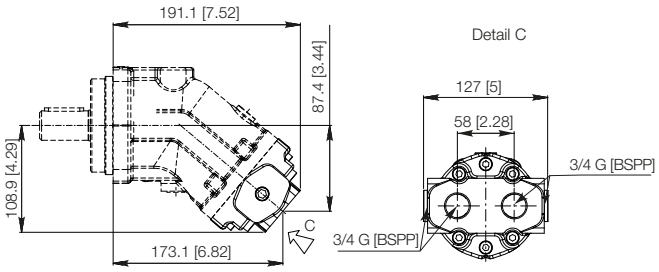
SH11C 020-030 ME



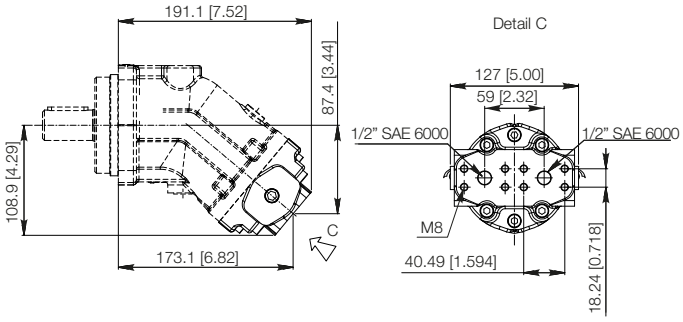
S1, S2: Drain ports (1 plugged) - 3/8 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

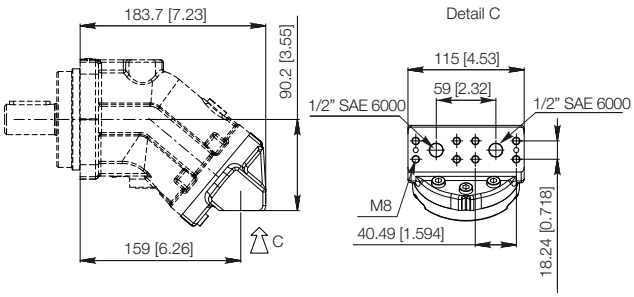
FM3 - LM3



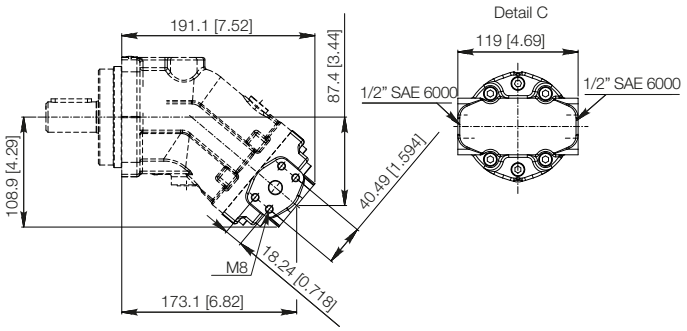
FM2



VM2

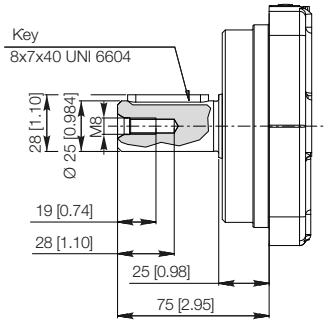


LM2

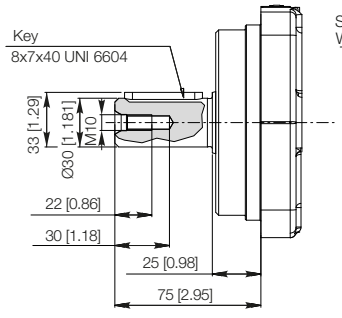


6 Shaft end

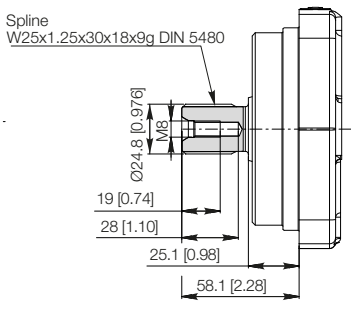
CBM Parallel keyed shaft



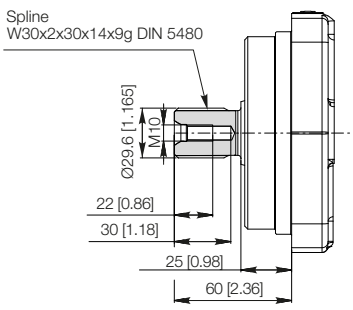
CBN Parallel keyed shaft

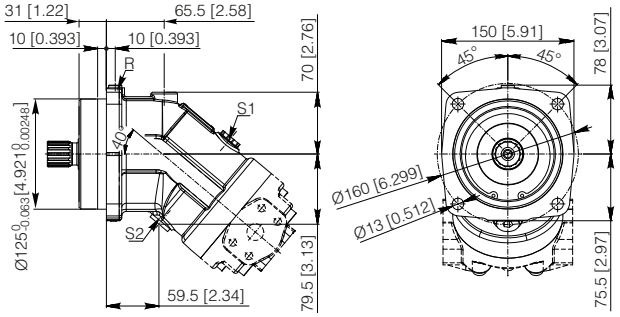


SAG Splined shaft



SAI Splined shaft

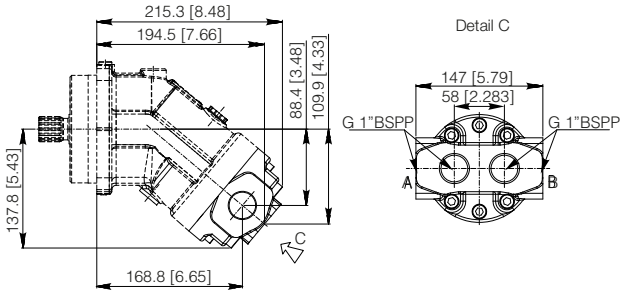




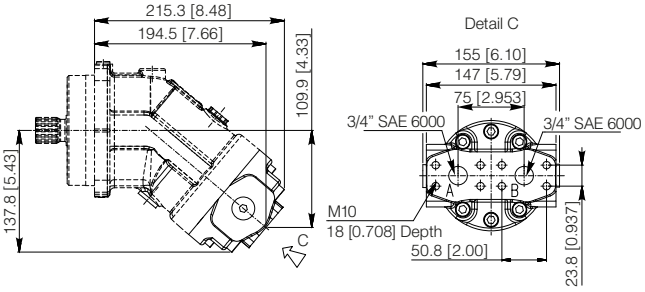
S1, S2: Drain ports (1 plugged) - 1/2 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

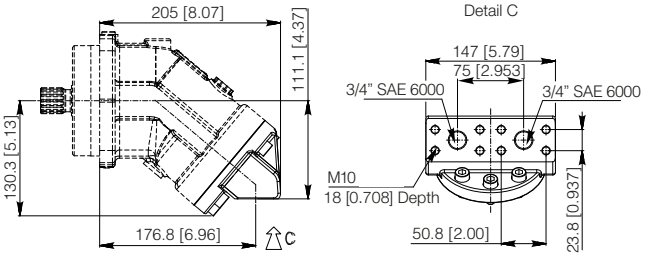
FM3 - LM3



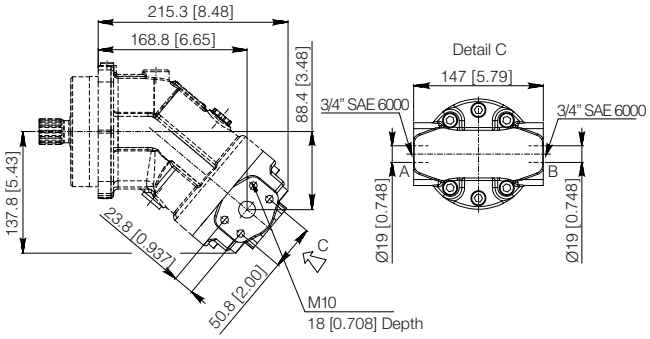
FM2



VM2

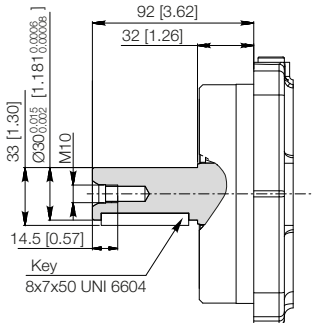


LM2

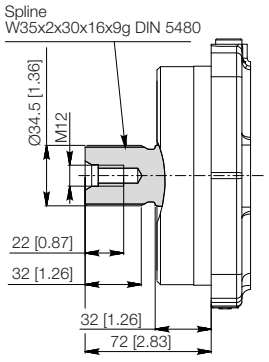


6 Shaft end

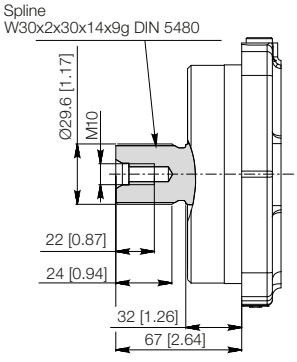
CAW Parallel keyed shaft



SAM Splined shaft

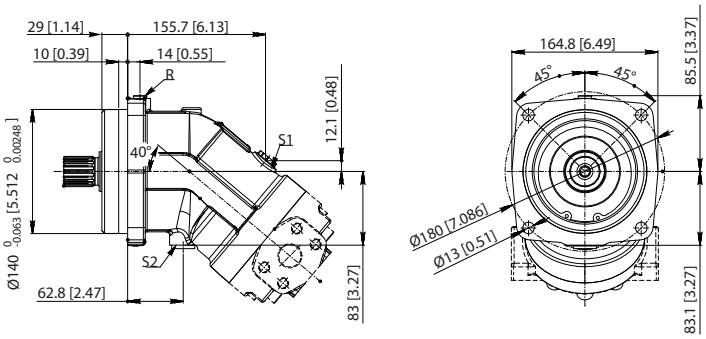


SAI Splined shaft



Dimensions ISO 4 Bolts flange (OD)

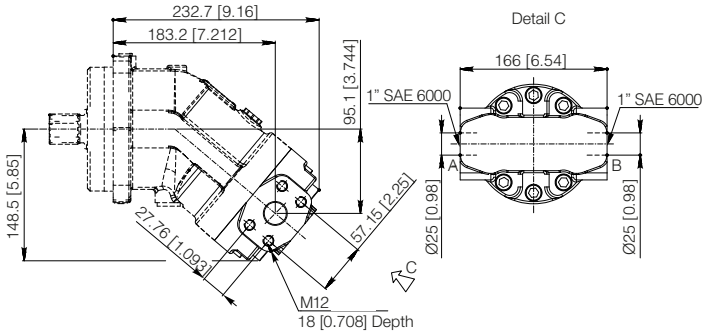
SH11C 075-090 ME



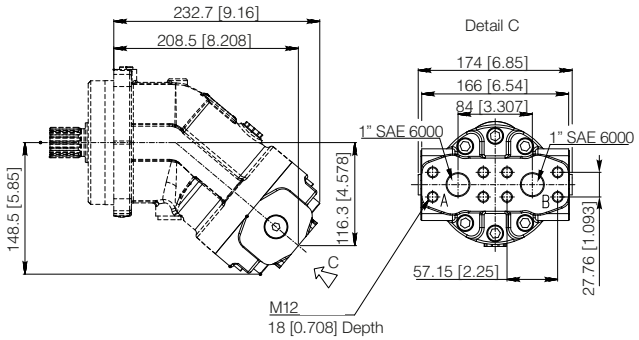
S1, S2: Drain ports (1 plugged) - 1/2 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

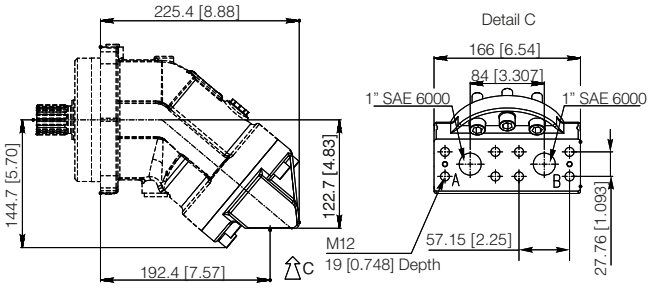
LM2



FM2

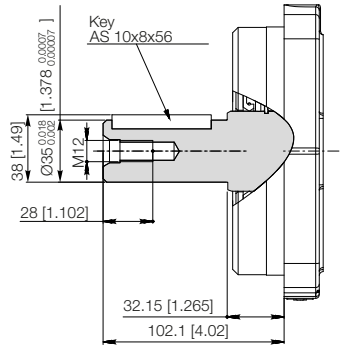


VM2

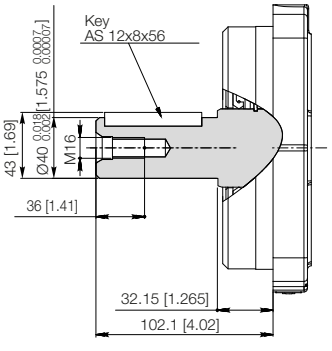


6 Shaft end

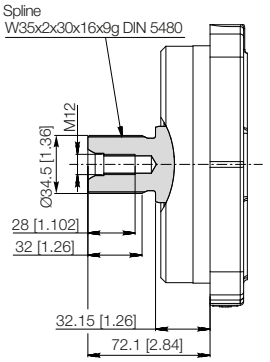
CAY Parallel keyed shaft



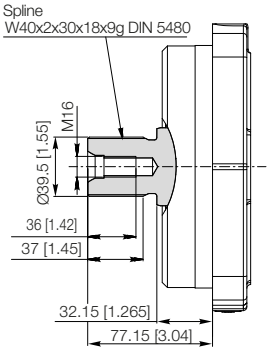
CBP Parallel keyed shaft



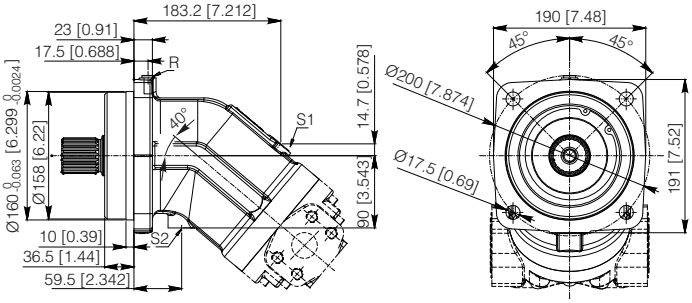
SAM Splined shaft



SAO Splined shaft



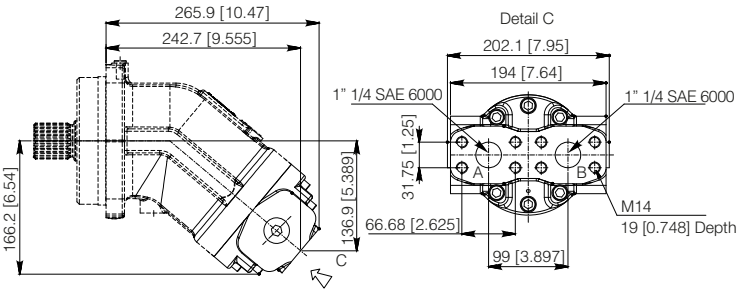
Click DANA button to return to Section Index
Click i button to return to main index



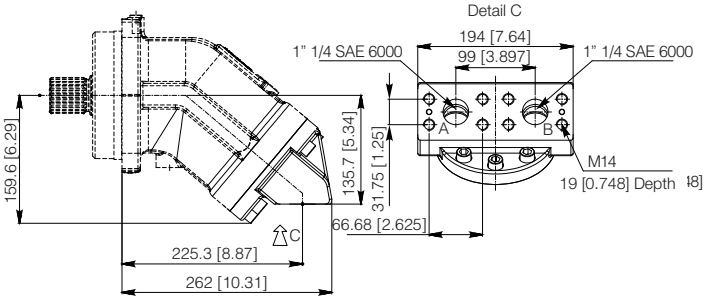
S1, S2: Drain ports (1 plugged) - 1/2 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

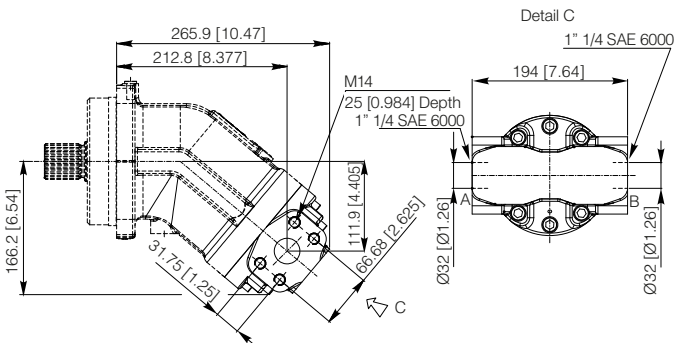
FM2



VM2

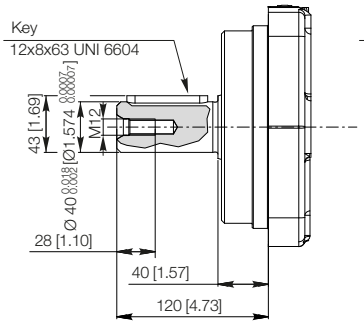


LM2

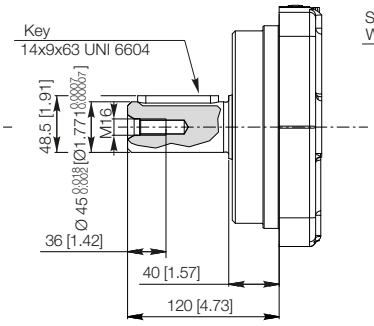


6 Shaft end

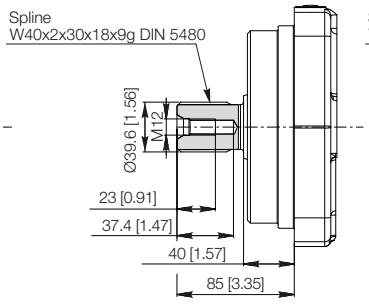
CAK Parallel keyed shaft



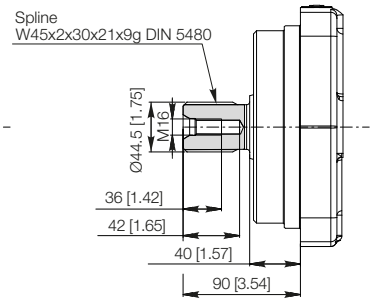
CAJ Parallel keyed shaft



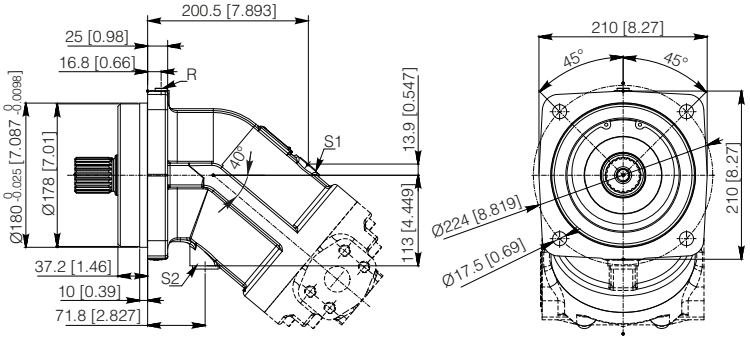
SAO Splined shaft



SAP Splined shaft



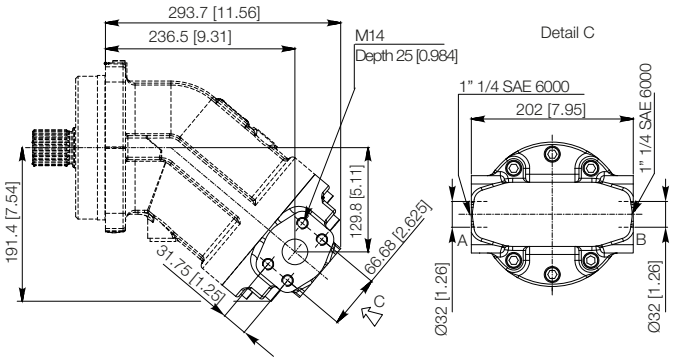
Dimensions ISO 4 Bolts flange (OF) — SH11C 160-180 ME



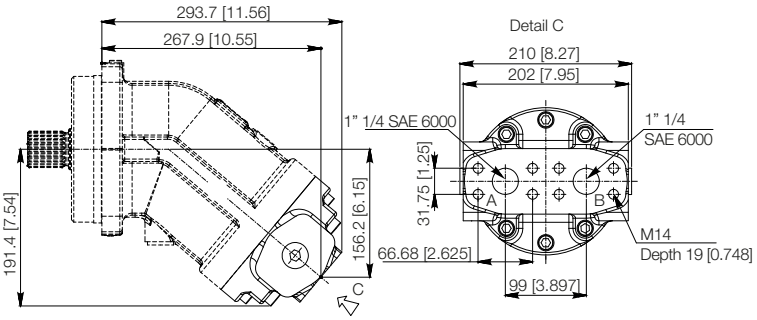
S1, S2: Drain ports (1 plugged) - 3/4 G (BSPP)
A, B: Service line ports
R: Air bleed (plugged) - 1/8 G (BSPP)

7 Port cover

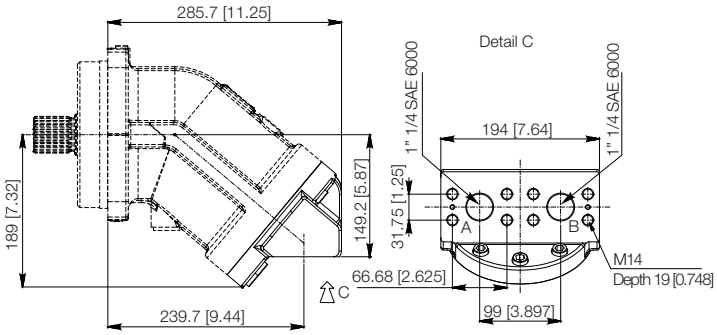
LM2



FM2

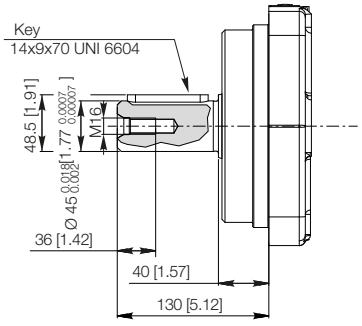


VM2

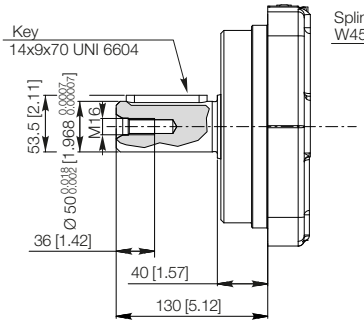


6 Shaft end

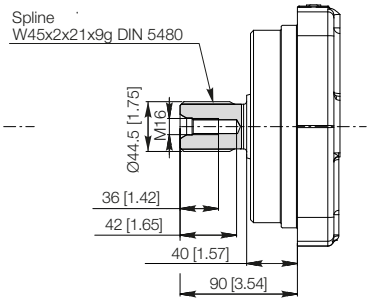
CBQ Parallel keyed shaft



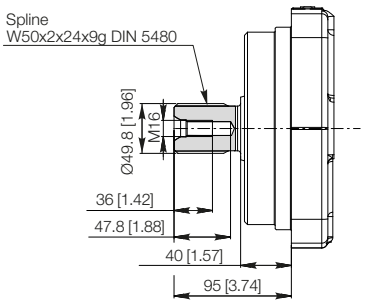
CAX Parallel keyed shaft



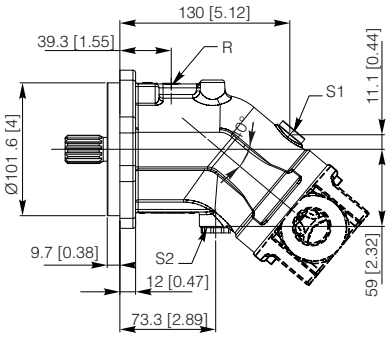
SAP Splined shaft

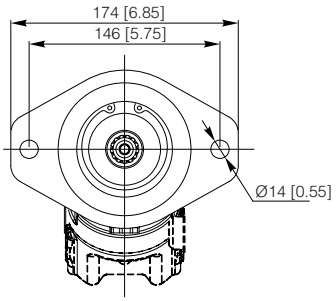


SAR Splined shaft



Click DANA button to return to Section Index
Click i button to return to main index

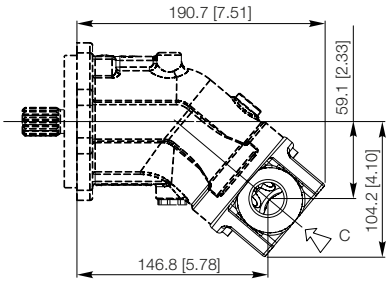


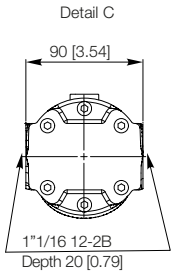


S1, S2: Drain ports (1 plugged) - 9/16-18 UNF 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16"-20 UNF 2B

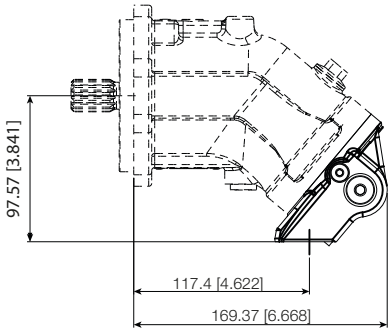
7 Port cover

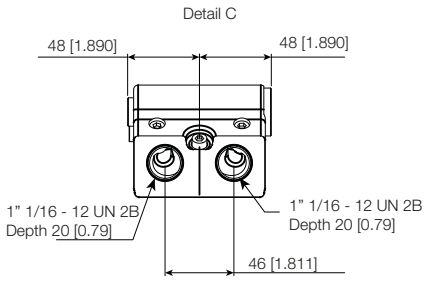
LM1





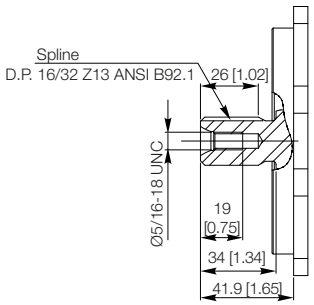
VSD - VSS



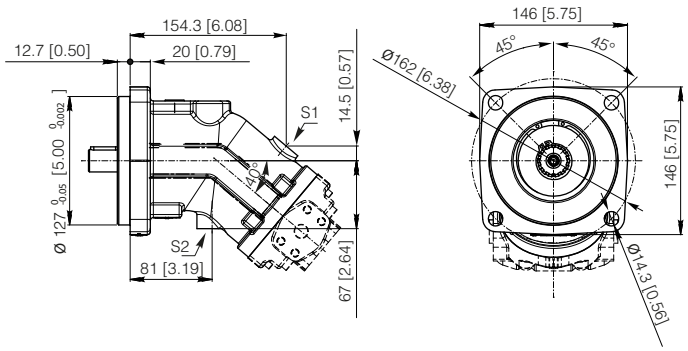


6 Shaft end

S05 Splined shaft



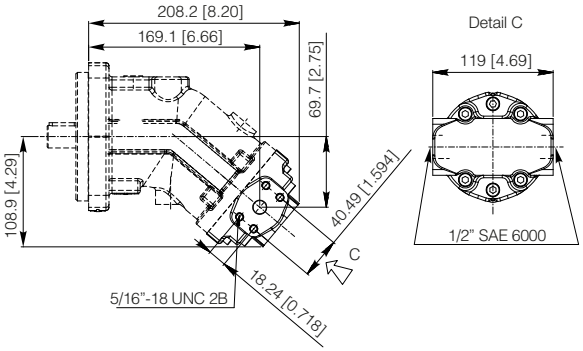
Dimensions SAE C 4 Bolts flange (O5) SH11C 020-030 SE



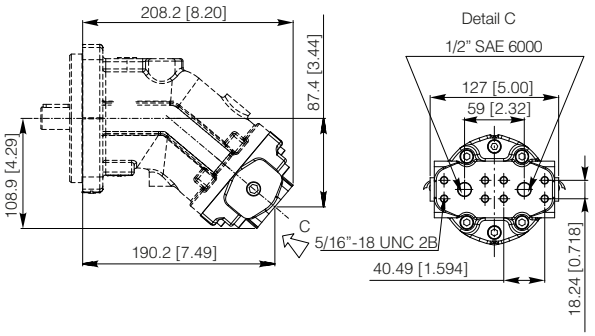
S1, S2: Drain ports (1 plugged) - 3/4"-16 UNF 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16"-20 UNF 2B

7 Port cover

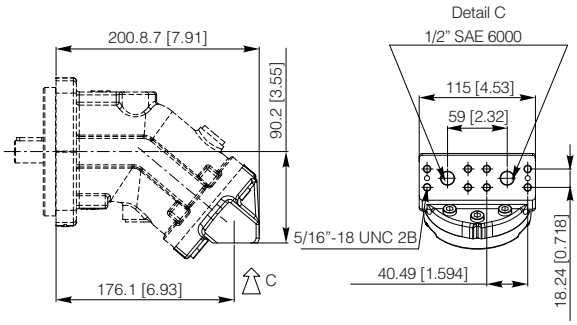
LM2



FM2

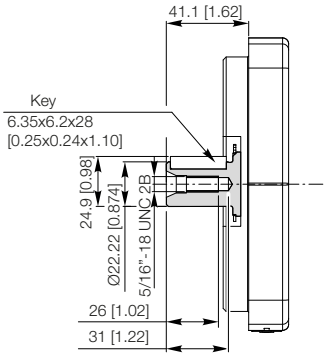


VM2

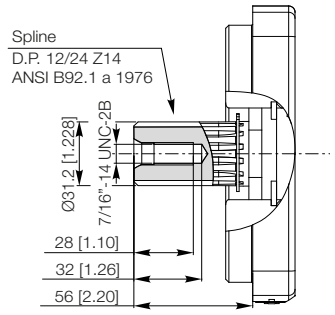


6 Shaft end

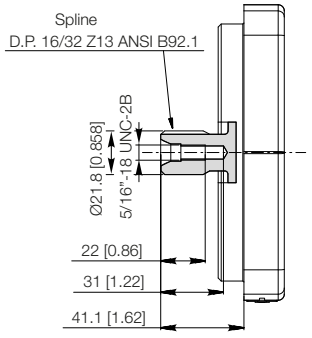
C16 Parallel keyed shaft

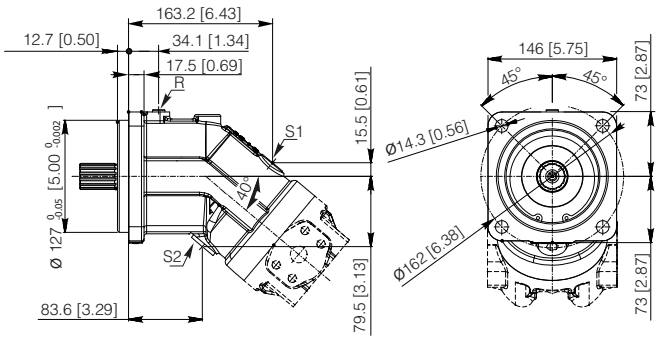


S12 Splined shaft



S05 Splined shaft

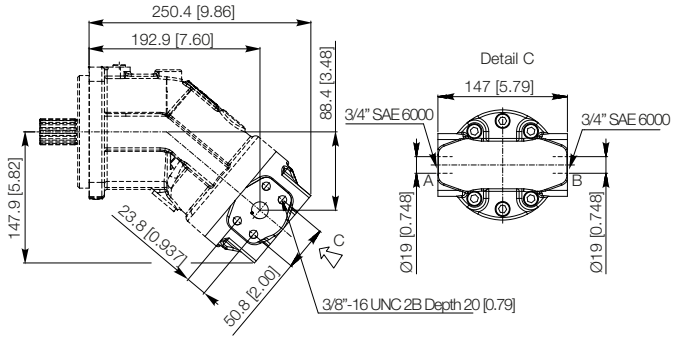




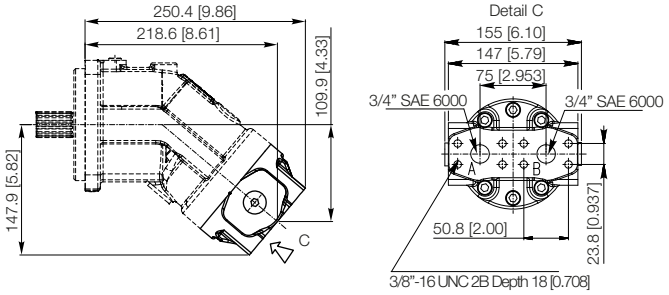
S1, S2: Drain ports (1 plugged) - 1” 1/16 - 12 UN 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16”-20 UNF

7 Port cover

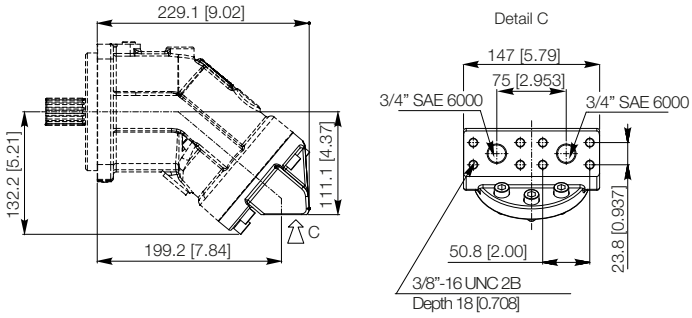
LM2



FM2

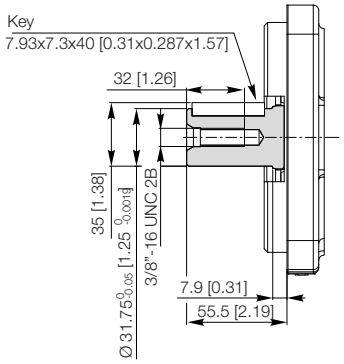


VM2

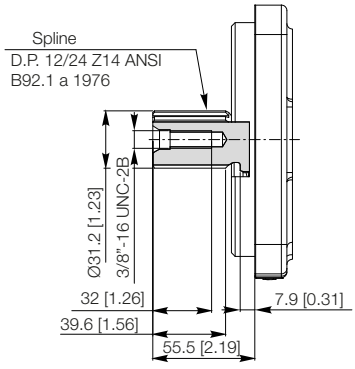


6 Shaft end

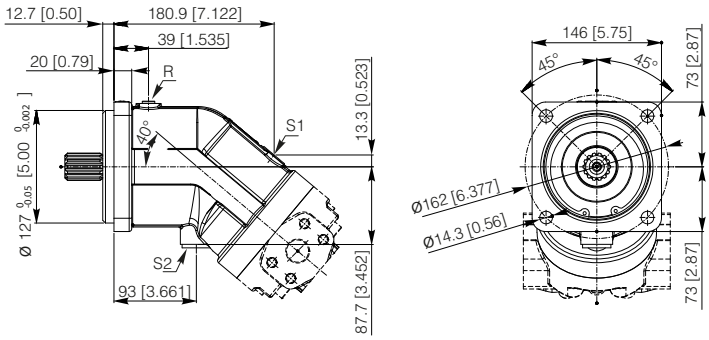
C17 Parallel keyed shaft



S12 Splined shaft



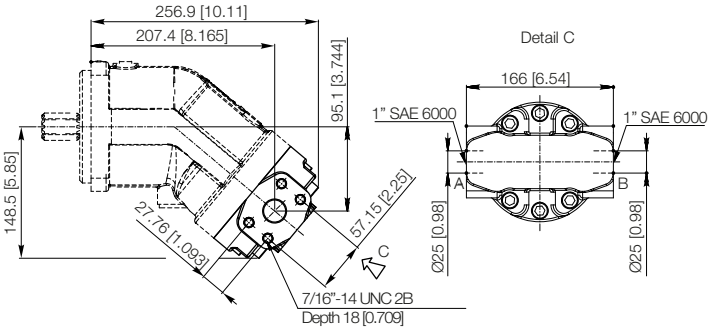
Dimensions SAE C 4 Bolts flange (O5) SH11C 075-090 SE



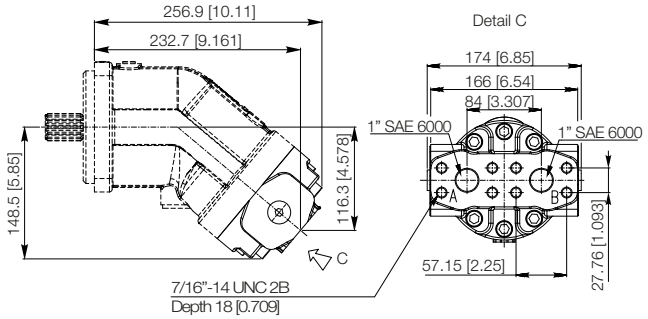
S1, S2: Drain ports (1 plugged) - 1” 1/16-12 UN 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16”-20 UNF 2B

7 Port cover

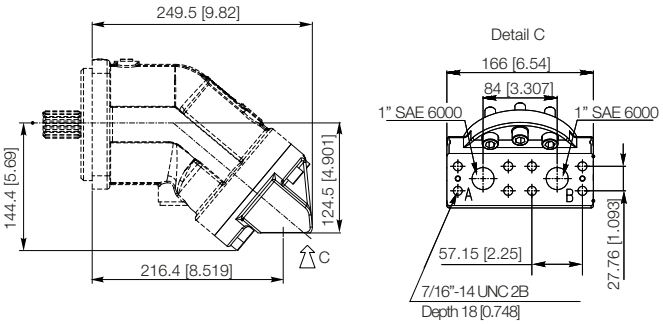
LM2



FM2

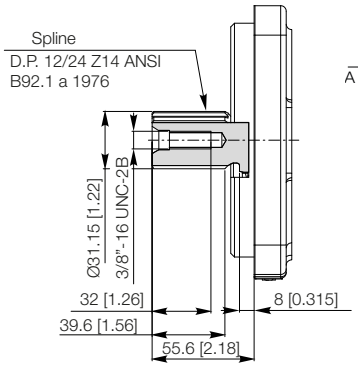


VM2

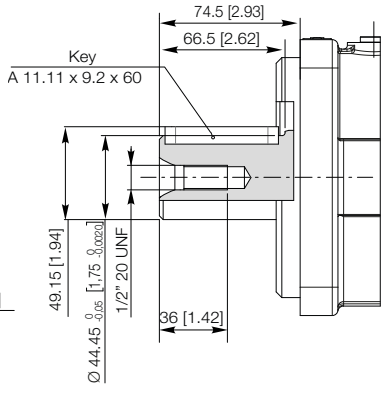


6 Shaft end

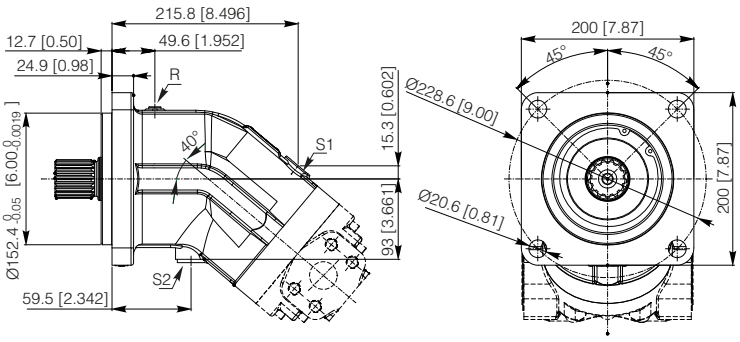
S12 Splined shaft



C18 Parallel shaft



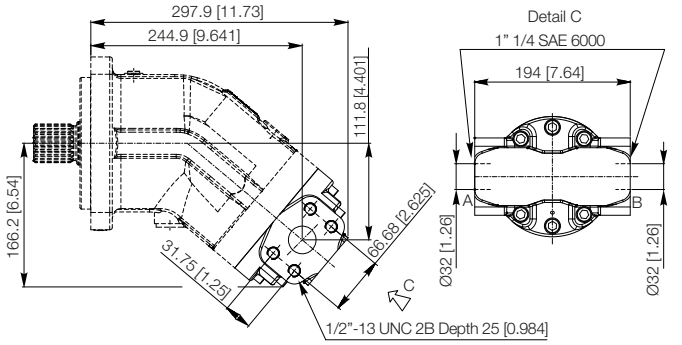
Click DANA button to return to Section Index
Click i button to return to main index



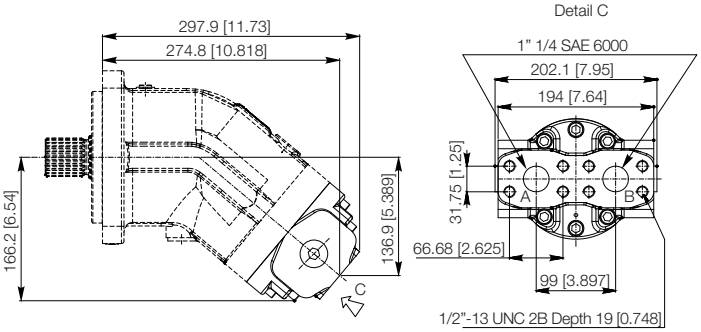
S1, S2: Drain ports (1 plugged) - 1" 1/16-12 UN 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16"-20 UNF

7 Port cover

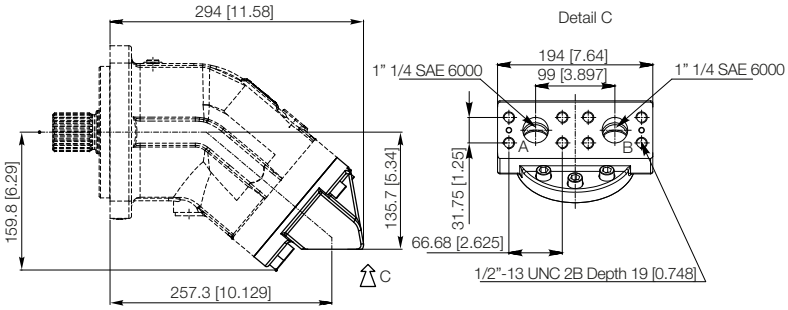
LM2



FM2

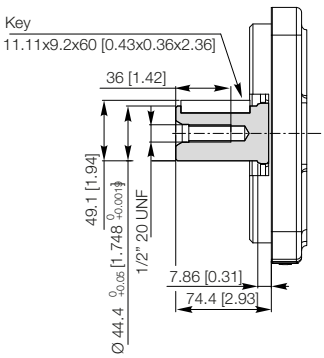


VM2

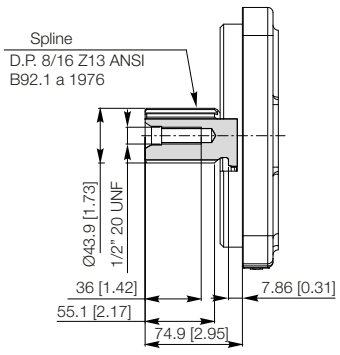


6 Shaft end

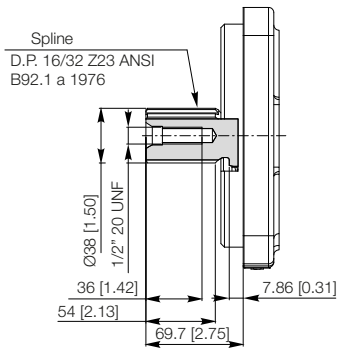
C18 Parallel keyed shaft



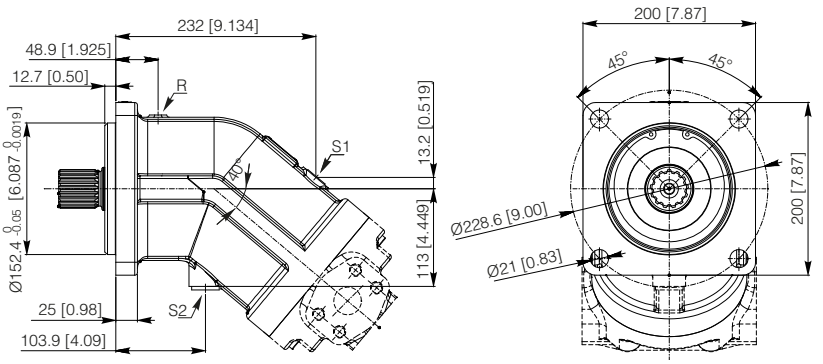
S15 Splined shaft



S16 Splined shaft



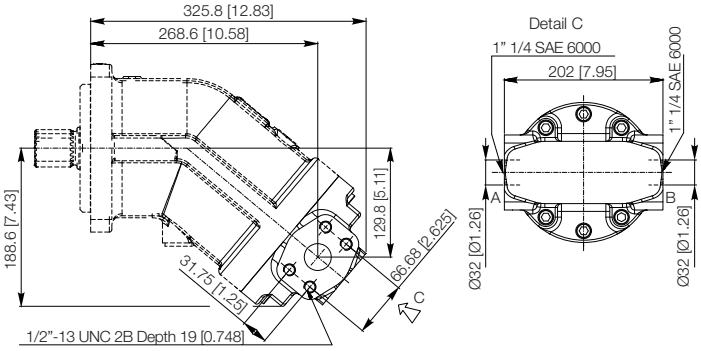
Dimensions SAE D 4 Bolts flange (O8) — SH11C 160-180 SE



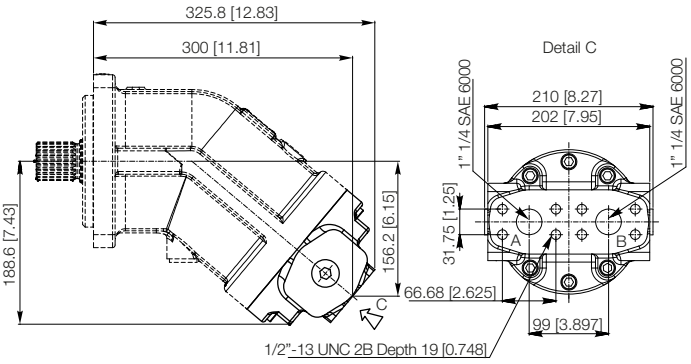
S1, S2: Drain ports (1 plugged) - 1” 1/16-12 UN 2B
A, B: Service line ports
R: Air bleed (plugged) - 7/16”-20 UNF

7 Port cover

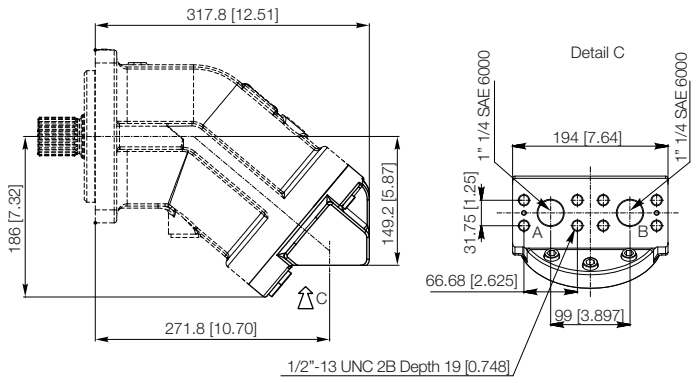
LM2



FM2

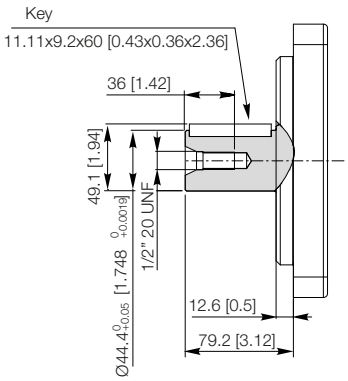


VM2

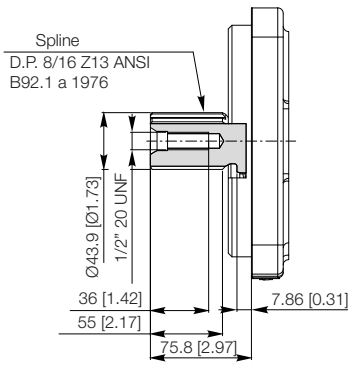


6 Shaft end

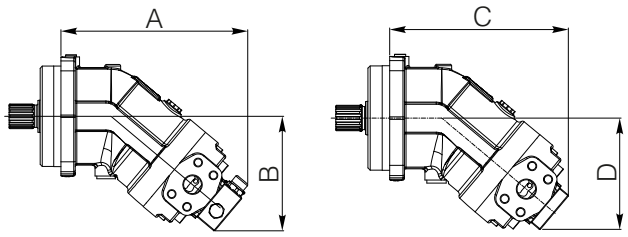
C18 Parallel keyed shaft



S15 Splined shaft



7 + 12 Version with flushing valve version and port cover “LM2”

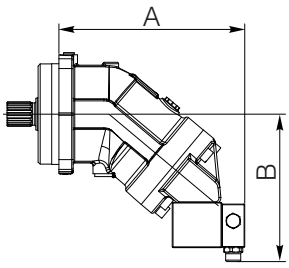


Flushing valve (06-09-15)

Arranged for flushing valve (PR)

		ME						SE					
		010 016	020 030	045-055 063	075 090	108 125	160 180	010 016	020 030	055 063	075 090	108 125	160 180
A	mm [in]	–	225 [8.85]	245.7 [9.67]	259.4 [10.21]	294.3 [11.58]	319.6 [12.58]	–	242 [9.52]	269.8 [10.62]	283.5 [11.16]	326.4 [12.85]	351.7 [13.85]
B	mm [in]	–	130 [5.11]	152.8 [6.01]	159.1 [6.26]	179.9 [7.08]	199.1 [7.84]	–	130 [5.11]	152.8 [6.01]	159.1 [6.26]	179.8 [7.08]	199.1 [7.84]
C	mm [in]	–	204 [8.03]	225.7 [8.88]	239.4 [9.42]	274.3 [10.79]	299.6 [11.79]	–	221 [8.70]	204 [9.83]	263.5 [10.37]	306.4 [12.06]	331.7 [13.05]
D	mm [in]	–	120 [4.72]	142.8 [5.62]	149.1 [5.87]	169.9 [6.68]	189.1 [7.44]	–	120 [4.72]	142.8 [5.62]	149.1 [5.87]	169.8 [6.68]	189.1 [7.44]

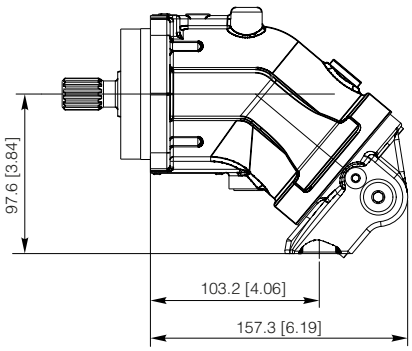
7 + 12 Version with flushing valve version and port cover “VM2”



Flushing valve (06-09-15)

		ME						SE					
		010 016	020 030	045-055 063	075 090	108 125	160 180	010 016	020 030	055 063	075 090	108 125	160 180
A	mm [in]	–	211 [8.31]	239.2 [9.41]	258.8 [10.18]	298.8 [1.76]	313.2 [12.33]	–	229 [9.01]	263.3 [10.36]	282.9 [11.13]	330.8 [13.02]	345.3 [13.59]
B	mm [in]	–	173 [6.81]	193.6 [7.62]	205.2 [8.08]	218.2 [8.59]	231.7 [9.12]	–	173 [6.81]	193.6 [7.62]	205.2 [8.08]	218.2 [8.59]	231.7 [9.12]

7 Lateral ports same side and unidirectional valve “VMD-VMS”

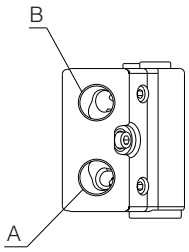


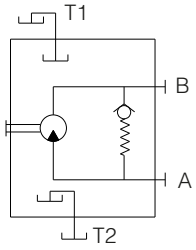
A - B Service ports M22x1.5

T1- T2 Drain ports 3/8 G (BSPP)

Rear cover VMD

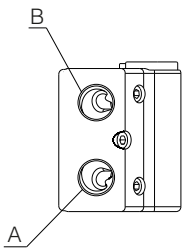
Clockwise

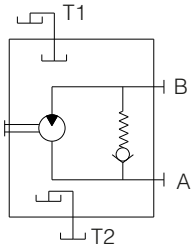




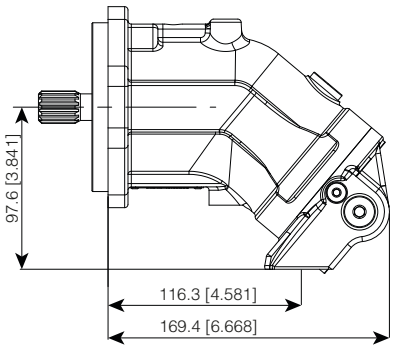
Rear cover VMS

Counterclockwise





7 Lateral ports same side and unidirectional valve “VSD-VSS”

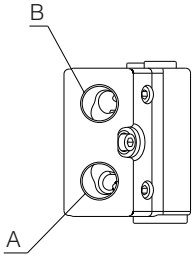


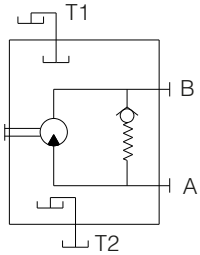
A - B service ports SAE 10 - 7/8 14 UNF 2B

T1- T2 Drain ports SAE 6 - 9/16 18 UNF 2B

Rear cover VSD

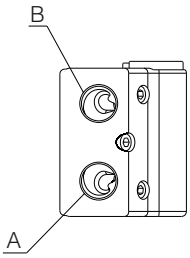
Clockwise

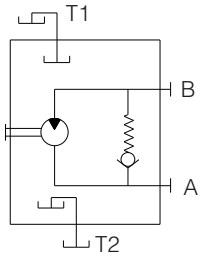




Rear cover VSS

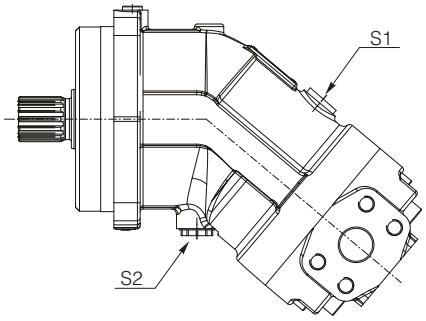
Counterclockwise





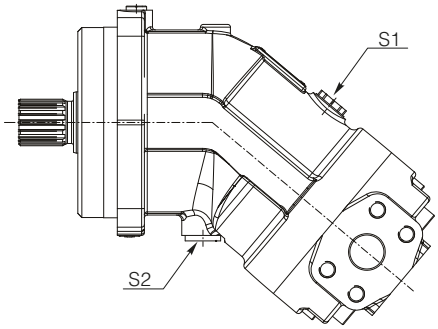
13 Drain plug reversed “RD”

STANDARD VERSION



S1 - Metallic plug.
S2 - Plastic plug.

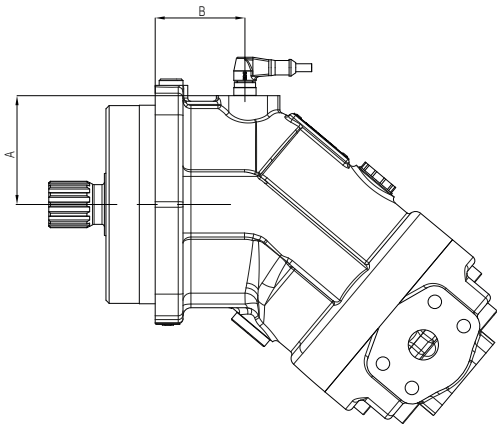
“RD” VERSION



S1 - Plastic plug.
S2 - Metallic plug.

For the SH11C is possible to request the drain plug reversed compared to standard.
If it is necessary in this configuration, to specify in the purchase order the value “RD” (see position 13 of ordering code).

13 Version with tachometer and sensor “TZ”



	ME					SE				
	020	045-055	075	108	160	020	045-055	075	108	160
	030	063	090	125	180	030	063	090	125	180
A mm [inch]	61.5 [2.42]	56.5 [2.22]	63 [2.48]	74 [2.91]	74.5 [2.93]	78.5 [3.09]	81 [3.18]	88 [3.46]	106 [4.17]	107.5 [4.23]
B mm [inch]	57 [2.24]	68.5 [2.69]	71.7 [2.82]	77.4 [3.04]	85 [3.34]	57 [2.24]	68.5 [2.69]	71.7 [2.82]	77.4 [3.04]	85 [3.34]

2-Channel differential-hall effect operating principle Sensor with dual-channel output (90°)
Power supply 8-32 VDC
Frequency 0-20.000 Hz
Operating temperature -40°C +125°C
Degree of protection IP67
Sensor connector Deutsch DT04-4P
Electromagnetic compatibility according to EN 60947-5-2
Resistence to schock and vibration in accordance with IEC 68-2-17 IEC 68-2-6

	Size				
	020	045-055	075	108	160
	030	063	090	125	180
Number of pulses per revolution	38	47	53	59	67

DANA SAMHYDRAULIK™

DANA SAMHYDRAULIK™