SH7V - Variable displacement axial piston motors for open and closed circuit

Index

Type	**Displacement** cm³/rev [in³/rev]	**Max. flow** l/min [U.S. gpm]	**Max. pressure cont.** bar [psi]	**Max. peak pressure** bar [psi]
SH7V 055	61 [3.72]	271 [71.5]	430 [6235]	480 [6960]
SH7V 075	80.58 [4.91]	322 [85]	430 [6235]	480 [6960]
SH7V 108	112.5 [6.86]	400 [105.6]	430 [6235]	480 [6960]
SH7V 160	160.8 [9.81]	500 [132]	430 [6235]	480 [6960]
SH7V 200	216 [13.176]	626 [165.37]	430 [6235]	480 [6960]

SH7V series are a family of variable displacement motors, bent axis piston design 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 able the SH7V series motors to provide up to 430 bar [6235 psi] continuous and 480 bar [6960 psi] peak performance. Fully laboratory tested and field proven, these motors provide maximum efficiency and long life even at very bad filtering conditions. Heavy duty bearings permit high radial and axial loads. Versatile design includes a variety of control and shaft ends that will adapt the SH7V series motors to any application both industrial and mobile.

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·m^2 [lbf·ft^2]	Moment of inertia
m	kg [lbs]	Weight
$n_{0\ max}$	rpm	Maximum speed
p_{nom}	bar [psi]	Maximum cont. pressure
p_{max}	bar [psi]	Maximum pressure peak

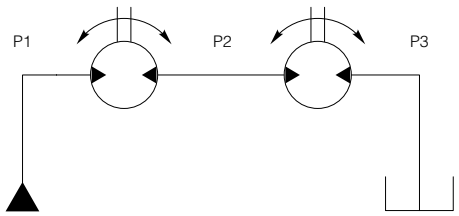
q_{max}	l/min [U.S. gpm]	Maximum flow
q_d	l/min [U.S. gpm]	External drain flow
T_k	Nm/bar [lbf.ft/psi]	Torque costant
T_{nom}	Nm [lbf.ft]	Maximum torque at pressure cont.
T_{max}	Nm [lbf.ft]	Maximum torque at pressure peak
V_g	cm^3/rev [in^3/rev]	Displacement
P_{max}	kW [hp]	Maximum power at p_{nom}
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. 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. For further information see at Fluids and filtering section.

Temperature ranges:
The operating temperature of the oil must be within -25ºC ÷ 115ºC [-13ºF ÷ 239ºF]. The running of the unit with oil temperature higher than 115ºC [239°F] or lower than -25ºC [-13°F] is not allowed. For further information see at Fluids and filtering section.

Filtering:
A correct filtering helps to extend the service 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. For further details see at Fluids and filtration section.

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

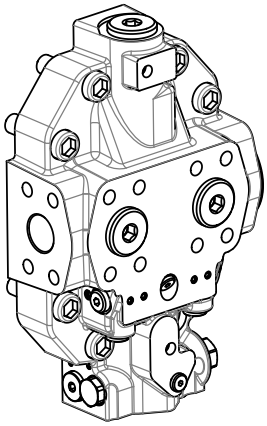


Case drain pressure:
Maximum permissible case drain pressure is 10 bar [145 psi]. A higher pressure can damage the main shaft seal or reduce its life.

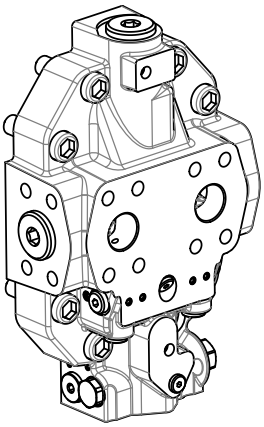
Seals:
Seals used on standard SH7V series axial piston motors are of FKM seals (Fluoroelastomer - Viton®). In case of use of use special fluids, contact Dana.

Minimum rotating speed:
Under “minimum rotating speed” we mean the minimum speed ensuring a smooth running of the piston unit. Operation smoothness at low speeds depends on many factors, as type of load and operating pressure. At a speed higher than 150 rpm, a smooth running is ensured almost in every case. Lower speeds are, usually, possible. For special applications please contact Dana.

Port plates:
The SH7V motor port plate has inlet and outlet ports, both lateral (LM-LS cover) and frontal (FM-FS cover). Unused ports are plugged with blind flanges. The kind of ports to be used must be specified when ordering.



LM-LS Port plate



FM-FS Port plate

Flushing valve:
The motors can be equipped with built in flushing valve for closed circuit operation. The use of the flushing valve in open loop circuits should be avoided, please contact Dana for further information

Installation:
SH7V 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. Installation of the unit with shaft in vertical position and above the tank involves some limitations. For further details see at General installation guidelines.

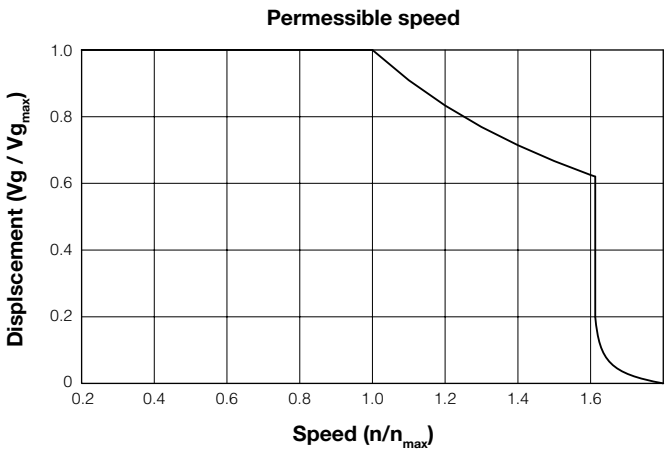
Technical data

			Size				
			55	75	108	160	200
Max. Displacement	**Vg**	cm^3/rev [in^3/rev]	61 [3.72]	80.58 [4.91]	112.5 [6.86]	160.8 [9.81]	216 [13.176]
Min. Displacement	**Vg_{min}**	cm^3/rev [in^3/rev]	30 [1.83]	40 [2.44]	56 [3.416]	80 [4.88]	108 [6.59]
Displacement minimum possible	**Vg_{min}**	cm^3/rev [in^3/rev]	12.2 [0.74]	16 [0.97]	22 [1.34]	32.2 1.96]	43 [2.62]
Displacement Optional	**Vg_{o}**	cm^3/rev [in^3/rev]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]
Max. Press. cont.	**p_{nom}**	bar [psi]	430 [6235]	430 [6235]	430 [6235]	430 [6235]	430 [6235]
Max. Press. peak	**p_{max}**	bar [psi]	480 [6960]	480 [6960]	480 [6960]	480 [6960]	480 [6960]
Max. flow	**q_{max}**	l/min [U.S.gpm]	271 [71.5]	322 [85]	400 [105.6]	500 [132]	626 [165.37]
Max. speed at Vg_{max} and q_{max}	**$n_{0\ max}$**	rpm	4450	4000	3550	3100	2900
Max. speed at $Vg<Vg_{max}$ (2)	**$n_{0\ max\ lim}$**	rpm	7000	6150	5600	5000	4600
Max. speed at Vg_0	**$n_{0\ max\ lim}$**	rpm	8350	7350	6300	5500	5100
Torque constant Vg_{max}	**T_k**	Nm/bar [lbf.ft/psi]	0.97 [0.04]	1.28 [0.06]	1.79 [0.09]	2.56 [0.13]	3.44 [0.17]
Max power at q_{max} and p_{nom}	**P_{max}**	kW [hp]	194 [259.9]	231 [309.5]	273 [365.8]	330 [442.2]	449 [602.1]
Max. torque cont. at p_{nom}	**T_{nom}**	Nm [lbf.ft]	418 [308]	552 [406.8]	770 [567.5]	1101 [811.4]	1479 [1090]
Max torque peak at p_{max}	**T_{max}**	Nm [lbf.ft]	466 [343.4]	616 [453.9]	859 [633]	1230 [906.5]	1651 [1216]
Moment of inertia	**J**	$kg{\cdot}m^2$ [$lbf.ft^2$]	0.005 [0.12]	0.009 [0.22]	0.0124 [0.31]	0.026 [0.616]	0.035 [0.829]
Weight (3)	**m**	kg [lbs]	28 [61.7]	36 [79.3]	47 [103.6]	63 [138.4]	82 [180.7]
Drain flow (4)	**q_d**	l/min [U.S.gpm]	3 [0.79]	4 [1.05]	5 [1.32]	5 [1.32]	5 [1.32]

(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.

Notes:

(1) Maximum and minimum displacement can be changed with continuity. When ordering state Vg_{max} and Vg_{min} required.
(2) Determination of admissible speed n_{max} value can be increased by reducing motor maximum displacement. To determine the relationship beetwen Vg_{max} and nmax use the right side chart. Motor maximum admissible speed is $n_{max\ lim}$.
(3) Approximate values.
(4) Maximum value at 250 bar [3625 psi] with mineral oil at 45ºC [113°F] and 35 cSt of viscosity.



Ordering code

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	15	16
Series	Motor	Size	Maximum displacement limitation	Minimum displacement limitation	Mount flange	Shaft end	Port cover	Seal	Control	Control specification	Valve	Flanged valves features	Flushing valve	Series feature	Painting
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

1

Series	
SH7V	Variable displacement axial piston motor for open and closed circuit

2

Motor	
M	Motor

3

Size	
055	61 cm³/rev [3.72 in³/rev]
075	80.58 cm³/rev [4.91 in³/rev]
108	112.5 cm³/rev [6.86 in³/rev]
160	160.8 cm³/rev [9.81 in³/rev]
200	216 cm³/rev [13.176 in³/rev]

4

Maximum displacement limitation			Size				
			055	075	108	160	200
61÷30	From 61 cm³/rev [3.721 in³/rev] to 30 cm³/rev [1.830 in³/rev]	Standard 61 cm³/rev [3.721 in³/rev]	●	–	–	–	–
80÷64	From 80 cm³/rev [4.880 in³/rev] to 64 cm³/rev [3.904 in³/rev]	Standard 80 cm³/rev [4.880 in³/rev]	–	●	–	–	–
112÷91	From 112 cm³/rev [6.832 in³/rev] to 91 cm³/rev [5.551 in³/rev]	Standard 112 cm³/rev [6.832 in³/rev]	–	–	●	–	–
160÷130	From 160 cm³/rev [9.760 in³/rev] to 130 cm³/rev [7.930 in³/rev]	Standard 160 cm³/rev [9.760 in³/rev]	–	–	–	●	–
216÷172	From 216 cm³/rev [13.176 in³/rev] to 172 cm³/rev [10.492 in³/rev]	Standard 216 cm³/rev [13.176 in³/rev]	–	–	–	–	●

● Available
– Not available

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

5

Minimum displacement limitation			Size				
			055	075	108	160	200
0	0 cm³/rev		●	●	●	●	●
12÷42	From 12 cm³/rev [0.732 in³/rev] to 42 cm³/rev [2.562 in³/rev]	Standard 30 cm³/rev [1.830 in³/rev]	●	–	–	–	–
16÷56	From 16 cm³/rev [0.976 in³/rev] to 56 cm³/rev [3.416 in³/rev]	Standard 40 cm³/rev [2.440 in³/rev]	–	●	–	–	–
22÷80	From 22 cm³/rev [1.342 in³/rev] to 80 cm³/rev [4.880 in³/rev]	Standard 56 cm³/rev [3.416 in³/rev]	–	–	●	–	–
32÷112	From 32 cm³/rev [1.952 in³/rev] to 112 cm³/rev [6.832 in³/rev]	Standard 80 cm³/rev [4.880 in³/rev]	–	–	–	●	–
43÷108	From 43 cm³/rev [2.623 in³/rev] to 108 cm³/rev [6.588 in³/rev]	Standard 108 cm³/rev [6.588 in³/rev]	–	–	–	–	●

● Available
– Not available

6

Mount flange		Size				
		055	075	108	160	200
OC	ISO 4 Bolts Ø 125 mm [Ø 4.921 in]	●	–	–	–	–
OD	ISO 4 Bolts Ø 140 mm [Ø 5.511 in]	–	●	–	–	–
OE	ISO 4 Bolts Ø 160 mm [Ø 6.299 in]	–	–	●	–	–
OF	ISO 4 Bolts Ø 180 mm [Ø 7.086 in]	–	–	–	●	–
OG	ISO 4 Bolts Ø 200 mm [Ø 7.87 in]	–	–	–	–	●
05	SAE-C 4 Bolts	●	●	–	–	–
08	SAE-D 4 Bolts	–	–	●	●	–
10	SAE-E 4 Bolts	–	–	–	–	●

● Available
– Not available

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

7

Shaft end		Size				
		055	075	108	160	200
S20	Splined 27T - 16/32 DP	–	–	●	●	–
S19	Splined 15T - 8/16 DP	–	–	–	●	●
S15	Splined 13T - 8/16 DP	–	–	●	●	●
S12	Splined 14T - 12/24 DP	●	●	–	–	–
SAR	Splined W50x2x30x24 - DIN 5480	–	–	–	●	●
SAP	Splined W45x2x30x21 - DIN 5480	–	–	●	●	–
SAO	Splined W40x2x30x18 - DIN 5480	–	●	●	–	–
SAM	Splined W35x2x30x16 - DIN 5480	●	●	–	–	–
SAI	Splined W30x2x30x14 - DIN 5480	●	–	–	–	–
C18	Ø44.45 mm [1.75 in] Parallel keyed	–	–	●	–	–
C17	Ø31.75 mm [1.25 in] Parallel keyed	●	–	–	–	–
CAJ	Ø45 mm [1.772 in] Parallel keyed	–	–	–	●	–
CAK	Ø40 mm [1.574 in] Parallel keyed	–	–	●	–	–
CAY	Ø35 mm - 10x8x56 [1.378 in - 0.39x0.31x2.2] Parallel keyed	–	●	–	–	–
CAW	Ø30 mm [1.181 in] Parallel keyed	●	–	–	–	–

● Available
– Not available

8

Port cover		Size									
		055		075		108		160		200	
		Mount flange									
		OC	05	OD	05	OE	08	OF	08	OG	10
FM	Metric End Main ports	●	●	●	●	●	●	●	●	●	●
FS	SAE End Main ports	●	●	●	●	●	●	●	●	●	●
LM	Metric Main Ports positioned 180° apart	●	●	●	●	●	●	●	●	●	●
LS	SAE Main Ports positioned 180° apart	●	●	●	●	●	●	●	●	●	●
L3	Metric Main Ports positioned 180° apart (no VSC)	●	-	●	-	●	-	●	-	-	-

● Available
– Not available

Warning
Referred ports are the ones on the portplate and on the controls

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

9

Seal	
V	FKM

10

Control		Port Cover				
		FM	FS	LM	LS	L3
2EE	Electric two positions control with pressure override	●	●	●	●	–
2EN	Electric two positions control	●	●	●	●	–
2IE	Hydraulic two positions control with pressure override	●	●	●	●	–
2IN	Hydraulic two positions control	●	●	●	●	–
REE	Electric proportional control with pressure override	●	●	●	●	●
RED	Electric proportional control with double step pressure override	●	●	●	●	●
REN	Electric proportional control	●	●	●	●	●
RIE	Hydraulic proportional control with pressure override	●	●	●	●	●
RID	Hydraulic proportional control with double step pressure override	●	●	●	●	●
RIN	Hydraulic proportional control	●	●	●	●	●
RPE	Working pressure control	●	●	●	●	–
RPI	Working pressure control with hidraulic override	●	●	●	●	●
RPS	Working pressure control with electric override	●	●	●	●	●
ROE	Working pressure control Δp 100 bar	●	●	●	●	●
ROI	Working pressure control Δp 100 bar with hidraulic override	●	●	●	●	●
ROS	Working pressure control Δp 100 bar with electric override	●	●	●	●	●

● Available
– Not available

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

11

Control specification			Control (Chosen)														
			RPE	ROE	2EE	2EN	2IE	2IN	REE	RED [1]	REN	RID [1]	RIE	RIN	RPI	ROI	ROS	RPS
Displacemet setting	1	From Max. Displac. to Min. Displac. ($Vg_{max} \rightarrow Vg_{min}$)	–	–	●	●	●	●	●	●	●	●	●	●	–	–	–	–
	2	From Min. Displac. to Max. Displac. ($Vg_{min} \rightarrow Vg_{max}$)	●	●	–	●	–	●	–	–	●	–	–	●	●	●	●	●
None	00		–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
Pressure Setting (*)	(*)	100÷400 bar [1430÷5802 psi]	●	–	●	–	●	–	●	●	–	●	●	–	●	–	–	–
		100÷350 bar [1430÷5076 psi]	–	●	–	–	–	–	–	–	–	–	–	–	–	●	●	●
Start of control, Setting range (*)	(*)	5-10-15-20 bar [72-145-218-290 psi]	–	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
Δp Displacement change	25	25 bar [363 psi]	–	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
Voltage	12	12 - Connector DIN43650	–	–	●	●	–	–	●	●	●	–	–	–	–	–	●	●
	24	24 - Connector DIN43650	–	–	●	●	–	–	●	●	●	–	–	–	–	–	●	●
	D2	12 - Deutsch DT04	–	–	●	●	–	–	●	–	●	–	–	–	–	–	●	●
	D4	24 - Deutsch DT04	–	–	●	●	–	–	●	–	●	–	–	–	–	–	●	●
	A2	12 V - ATEX T6 (Solo 55 2EN)	–	–	–	●	–	–	–	–	●	–	–	–	–	–	–	–
	A4	24 V - ATEX T6 (Solo 55 2EN)	–	–	–	●	–	–	–	–	●	–	–	–	–	–	–	–
Control orifice (**)	04	With Ø 0.4 mm [Ø 0.015 in] Control Orifice	●	–	●	●	●	●	–	–	–	–	–	–	–	–	–	–
	05	With Ø 0.5 mm [Ø 0.0196 in] Control Orifice	–	●	–	–	–	–	●	●	●	●	●	●	●	●	●	●
	07	With Ø 0.7 mm [Ø 0.027 in] Control Orifice	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Specify for each control, all the required values for the chosen control.

● Available
– Not available

[1] Specify Pressure Setting values for Step 1 and Step 2 (Step1<Step2)
(*) Supply the setting value
(**) 0.4 mm [Ø 0.015 in] (standard) nozzle, provides a smooth control response (max-to-min and min-to-max), while Ø 0.5-0.7 mm [Ø 0.0196-0.027 in] (optional) nozzle, provides a faster reaction.

Warning:
The values showed are only valid in maximum and minimum displacement conditions of the respective displacement.
For different values, verify the possibility with the control diagrams present on the catalogue.

Ordering code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

12

Valve		Size				
		055	075	108	160	200
XXXX	None	●	●	●	●	●
VCD1	VCD/1 Pilot assisted overcentre valve	LM	LM	LM	LM	LM
VCD2	VCD/2 Pilot assisted overcentre valve	–	LM	LM	LM	LM
VCR2	VCR2 D/AF Double acting overcentre valve	FM	–	–	–	–
VCR4	VCR4 double acting overcentre valve	–	FM	FM	FM	–

● Available
– Not available

The valves are available with ISO port cover only, please contact Technical department for SAE version
The LM - FM digit means that the valve is only available with LM - FM port cover.

13

Flanged valves features		Valve				
		XXXX	VCD1	VCD2	VCR2	VCR4
000	Feature not necessary	●	–	–	–	–
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	–	●	–	–	–
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	–	–	●	–	–
010	Not Set - Aluminum 60÷350 bar [870 to 5075 psi] [Piloting ratio 6.2:1]	–	–	–	●	–
013	Not Set 140÷350 bar [2030 to 5075 psi] [Piloting ratio 4.5:1]	–	–	–	–	●

● Available
– Not available

Please contact Technical department for valve which require specific setting.
For the feature see catalogue valves.

14

Flushing valve		Port Cover				
		FM	FS	LM	LS	L3
XX	No Flushing Valve	-	-	-	-	●
PR	Arranged for Flushing Valve	●	●	●	●	-
06	VSC/F Flushing valve - 6 l/min [1.58 U.S. gpm]	●	●	●	●	-
09	VSC/F Flushing valve - 10.5 l/min [2.77 U.S. gpm]	●	●	●	●	-
15	VSC/F Flushing valve - 15 l/min [3.96 U.S. gpm]	●	●	●	●	-

● Available
– Not available

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SH7V	M	055	61	30	OC	S20	FM	V	RPE	2 100 04	XXXX	000	PR	XX	XX

15

Series feature	
XX	None
TS	Prepared for tachometer sensor
TW	Tachometer + sensor 2-channel-Hall effect PNP - 5V
TZ	Tachometer + sensor 2-channel-Hall effect

● Available
– Not available

16

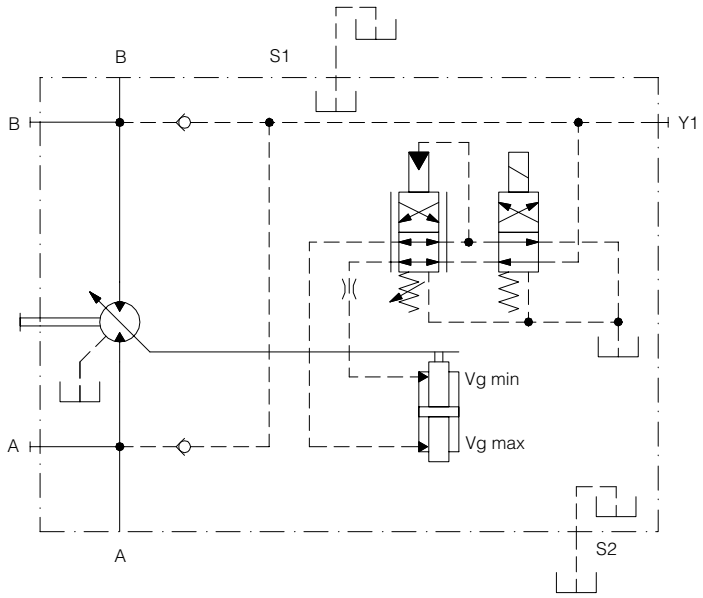
Painting	
XX	Not Required
01	Black Painted RAL 9005
02	Blue Painted RAL 5015

Hydraulic two positions control with pressure override 2EE

The 2EE control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as '2EN' control, when solenoid valve is switched off the motor is at Vg_{max}. The motor displacement is adjusted to Vgmin when the solenoid valve is switched on and if the operating pressure rises beyond the pressure setting, the pressure limiting device overrides the electric two positions control and the motor swivels out to Vg_{max}. Swivel range is from Vg_{max} to Vg_{min} (displacement setting 1 per our ordering code).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



Size:
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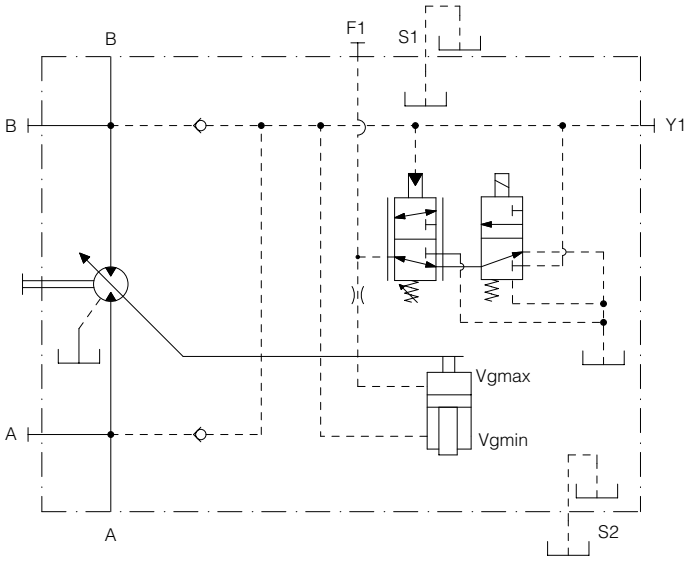
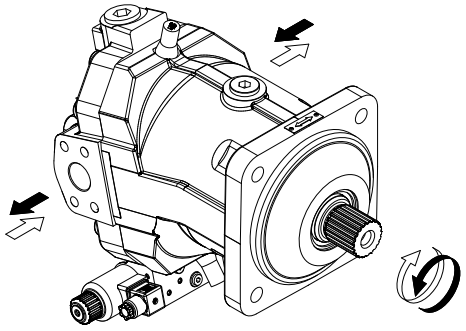


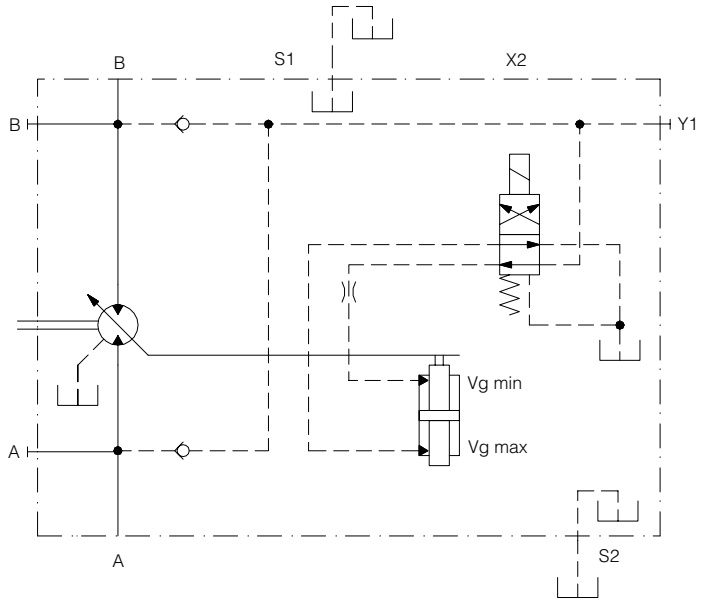
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The electric two positions control allows the displacement of the motor to be set to Vg_{max} or Vg_{min} by switching an ON/OFF solenoid valve. The feed back spring is missing so Vgmax or Vgmin only can be set. 12V DC and 24V DC ON/OFF solenoid are available. The swivel range is 1 (from Vg_{max} to Vg_{min}) or 2 (swivel range from Vg_{min} to Vg_{max}).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



Size:
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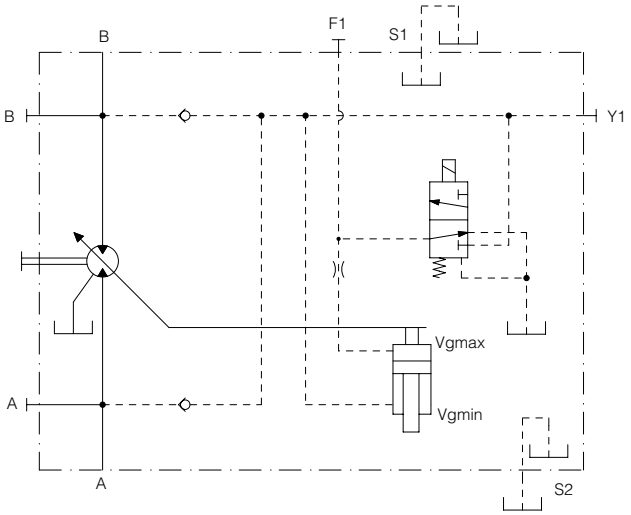
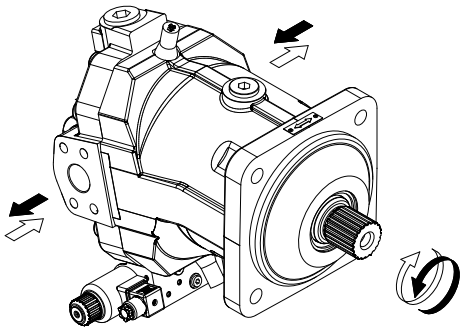


The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

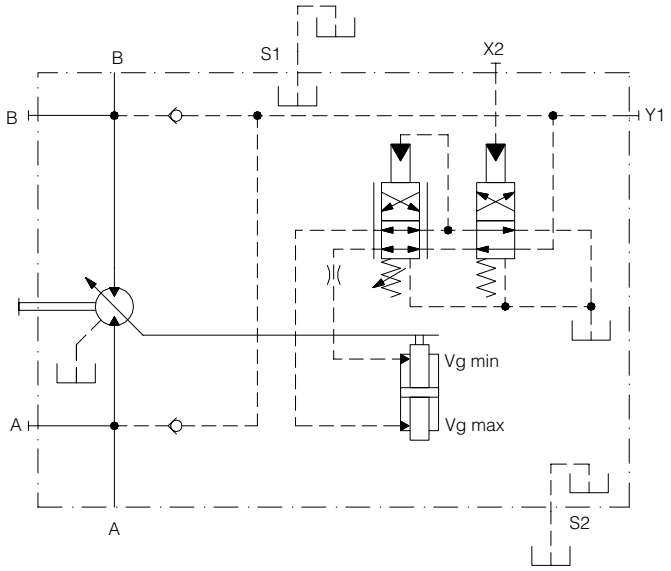


Hydraulic two positions control with pressure override 2IE

The 2IE control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as 2IN control, the motor displacement is adjusted to Vgmin when the pilot pressure applied at port X2. Minimum required pilot pressure = 10 bar [145 psi] and maximum permissible pressure at port X2=100 bar [1450 psi]. If the operating pressure rises beyond the pressure setting, the pressure limiting device the motor swivels out to Vg_{max}. Swivel range is from Vg_{max} to Vg_{min} (displacement setting 1 per our ordering code).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



Size:
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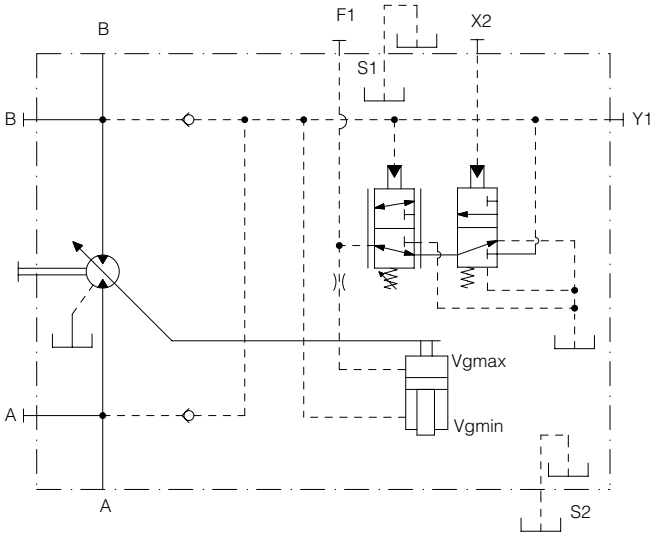
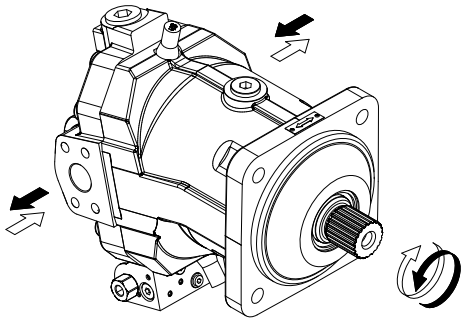


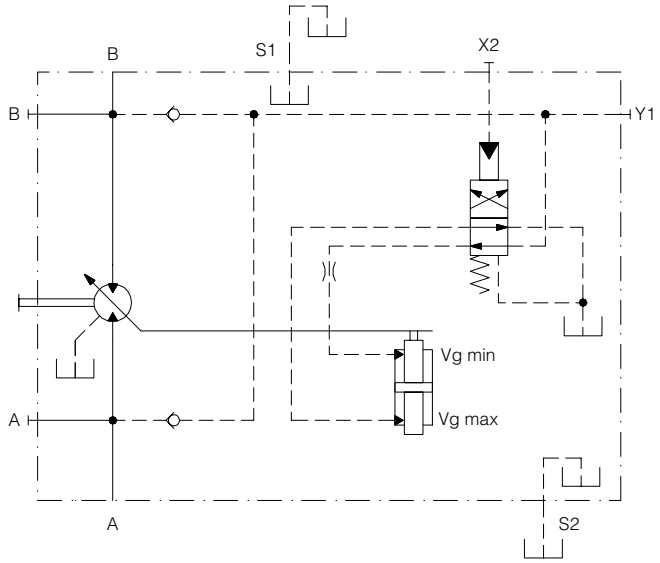
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The hydraulic two positions control allows the displacement of the motor to be set to Vg_{max} or Vg_{min} by applying or not a pilot pressure at port X2. The feed back spring is missing so Vg_{max} or Vg_{min} only can be set. Minimum required pilot pressure = 10 bar [145 psi] and maximum permissible pressure at port X2=100 bar [1450 psi]. The swivel range is 1 (from Vg_{max} to Vg_{min}) or 2 (swivel range from Vg_{min} to Vg_{max}).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



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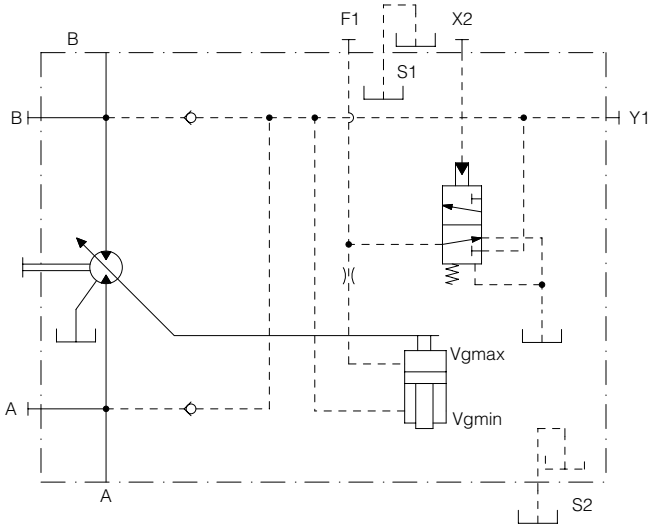
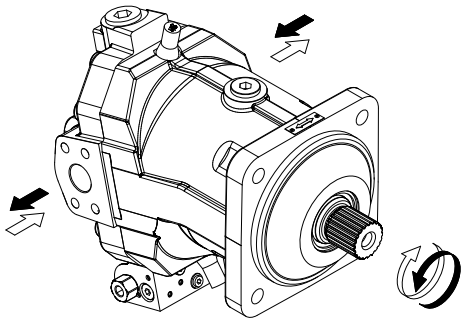


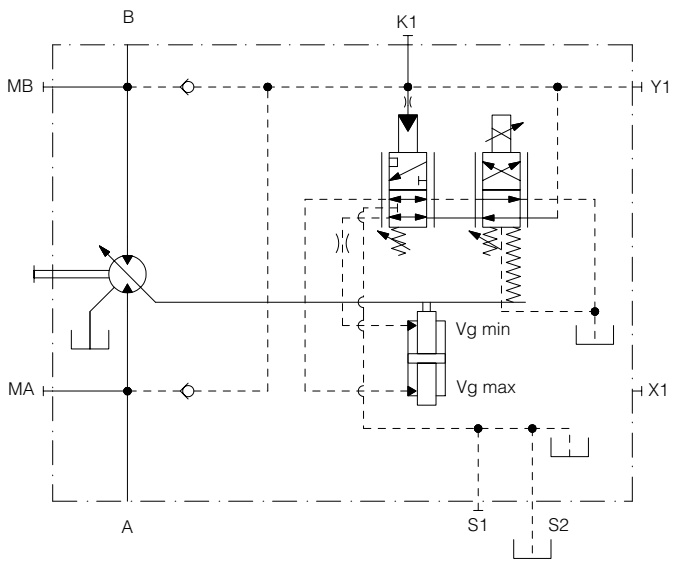
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The REE control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as REN control, when solenoid valve is switched off the motor is at Vgmax. The proportional solenoid valve is available in 12V DC and 24V DC version and with connector DIN 43650 o DEUTSCH. The motor displacement is adjusted to Vg_{min} when the solenoid valve is switched on and if the operating pressure rises beyond the pressure setting, the pressure limiting device overrides the electric two positions control and the motor swivels out to Vg_{max}. Swivel range is from Vgmax to Vg_{min} (displacement setting 1 per our ordering code).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



Size:
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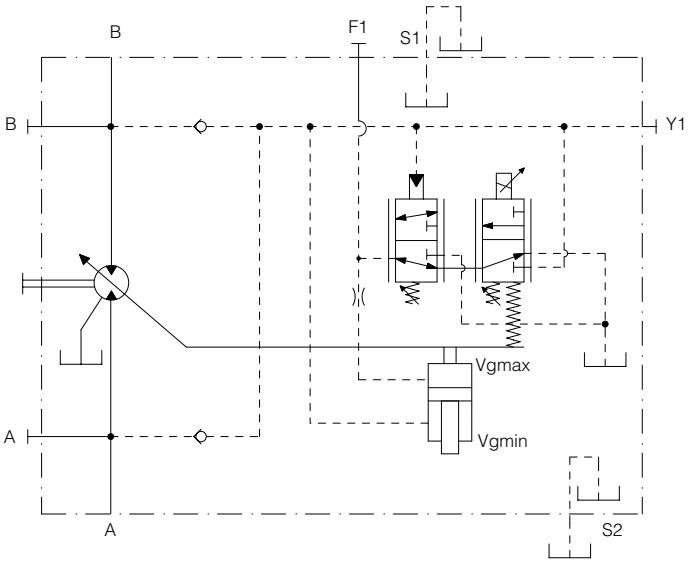
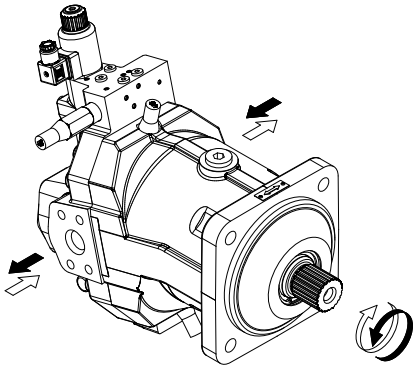


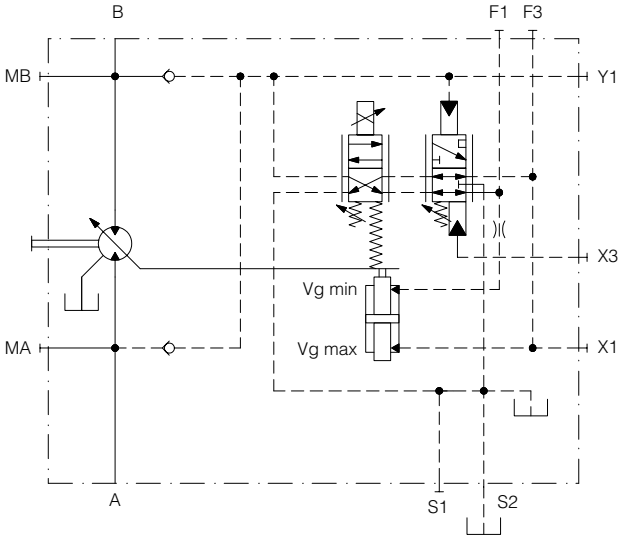
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The RED control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as REN control, when solenoid valve is switched off the motor is at Vg_{max}. The proportional solenoid valve is available in 12V DC and 24V DC version and with connector DIN 43650 o DEUTSCH. The motor displacement is adjusted to Vg_{min} when the solenoid valve is switched on and if the operating pressure rises beyond the pressure setting, the pressure limiting device overrides the electric two positions control and the motor swivels out to Vg_{max}. Swivel range is from Vg_{max} to Vg_{min} (displacement setting 1 per our ordering code). Applying a pressure to port X3, the setting of PE control can be overridden by a different value of pressure. Setting range from 16 bar [232 psi] to 64 bar [928 psi] around.

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



Size:
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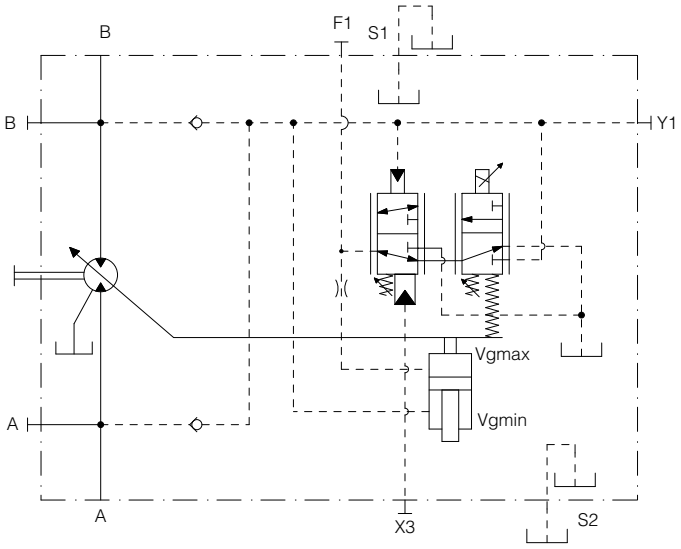
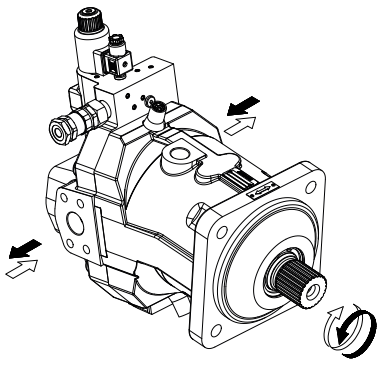


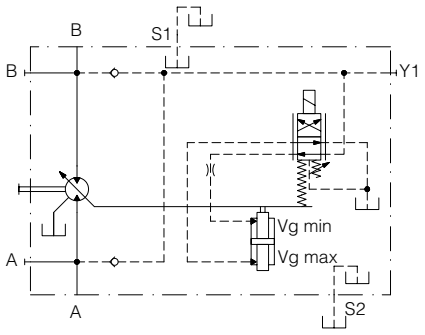
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

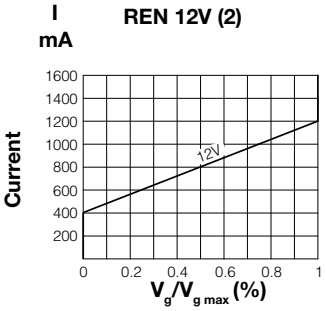


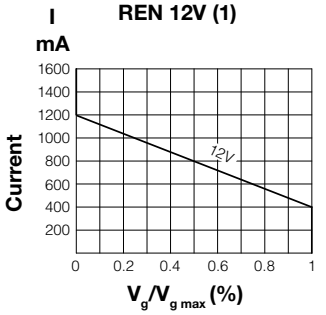
The electrical proportional control allows stepless and programmable adjustment of the motor displacement proportionally to the current strength supplied to a proportional solenoid valve available in 12V DC and 24V DC version and with connector DIN 43650 o DEUTSCH. The proportional solenoid valve applies a force on the spool proportional to the current strength and the motor swivels until a force balance is restored by a feed-back spring. To control the proportional solenoid valve a 24V DC (12V DC) supply is required. Current range between 200 (400) and 600 (1200) mA approx. (with standard setting of Max and Min displacement). Max permissible current = 800 (1600) mA. Usually the swivel range is from Vg_{max} to Vg_{min} (displacement setting type 1 as per our ordering code) so that increasing the current strength the motor swivels towards Vg_{min}, however displacement setting type 2 (swivels range from Vg_{min} to Vg_{max}) is also available. The electronic devices are available to control the solenoid (they must be ordered separately).

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160







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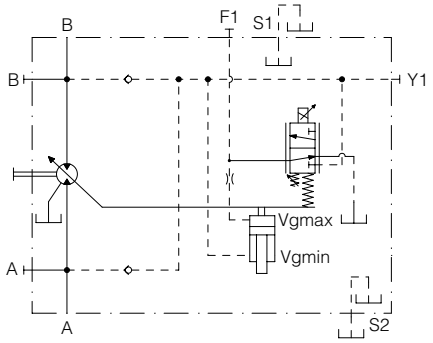
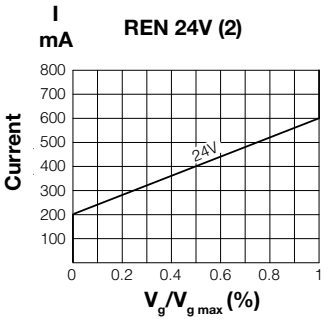
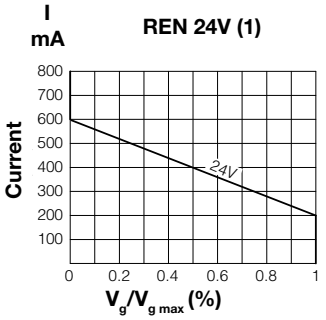
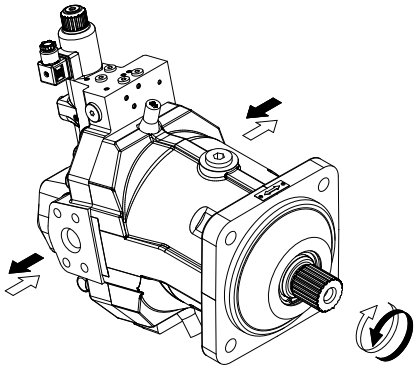






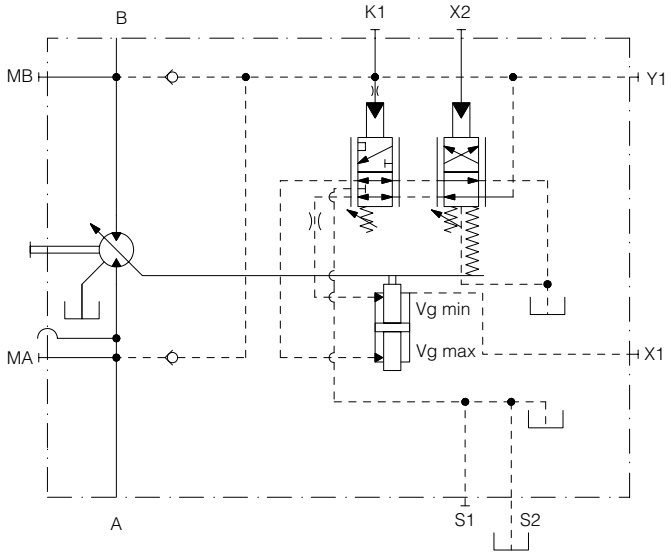
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The RIE control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as RIN control, the motor displacement is adjusted to Vg_{min} when the pilot pressure applied at port X2. If the operating pressure rises beyond the pressure setting, the pressure limiting device the motor swivels out to Vg_{max}. Swivel range is from Vg_{max} to Vg_{min} (displacement setting 1 per our ordering code). Start of control, Setting range from 5 bar [72.5 psi] to 20 bar [290 psi] around. Pilot pressure range 25 bar [362.5 psi]. Max permissible pilot pressure at port X2 = 100 bar [1450 psi].

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



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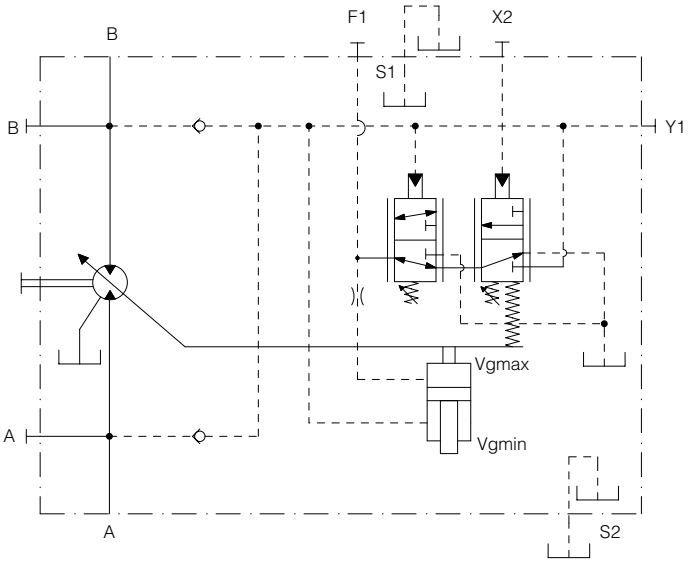
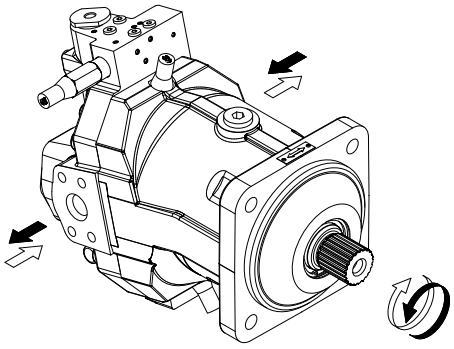


The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

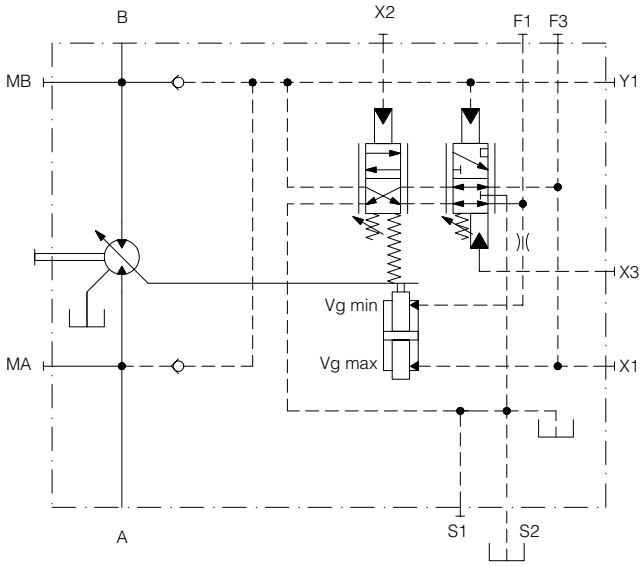


Hydraulic proportional control with double step pressure override RID

The RID control version with the pressure override allows the motor to swivel to Vg_{max} when the pressure setting is reached. Same as RIN control, the motor displacement is adjusted to Vgmin when the pilot pressure applied at port X2. If the operating pressure rises beyond the pressure setting, the pressure limiting device the motor swivels out to Vg_{max}. Swivel range is from Vg_{max} to Vg_{min} (displacement setting 1 per our ordering code). Applying a pressure to port X3, the setting of PE control can be overridden by a different value of pressure. Setting range from 16 bar [232 psi] to 64 bar [928 psi] around. Start of control, Setting range from 5 bar [72.5 psi] to 20 bar [290 psi] around. Pilot pressure range 25 bar [362.5 psi]. Max permissible pilot pressure at port X2 = 100 bar [1450 psi].

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160



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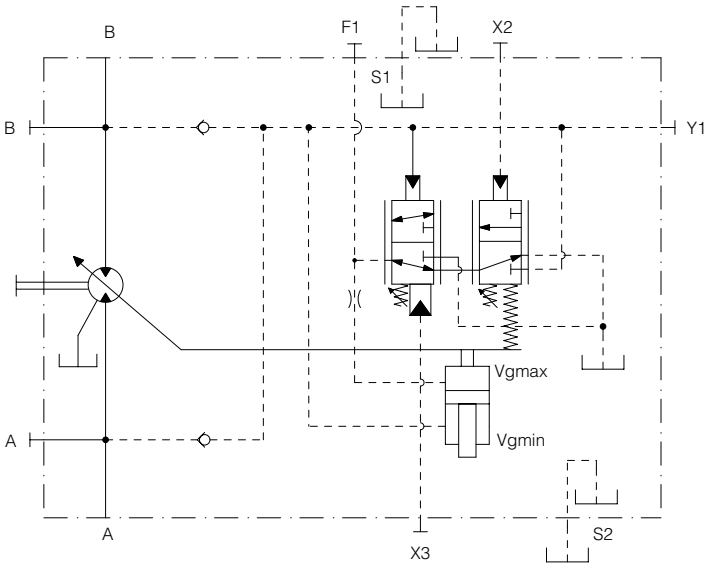
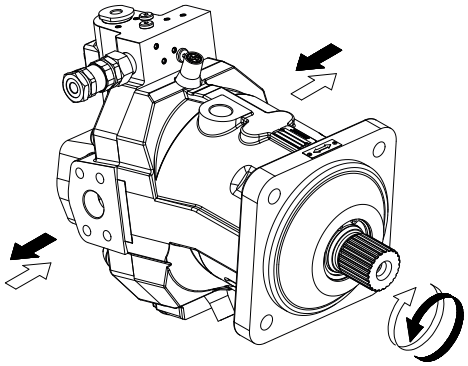


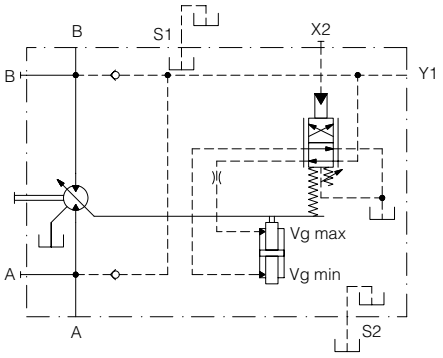
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

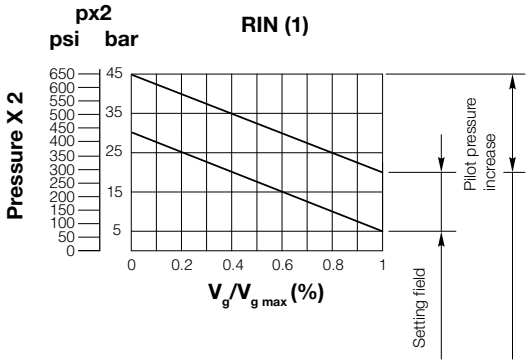


The hydraulic proportional control allows a stepless adjustment of the motor displacement proportionally to the pilot pressure applied at port X2. The pilot pressure applies a force on the spool and the motor swivels until a force balance on the arm is stored by feed back spring. Therefore the motor displacement is adjusted in direct proportion with the pilot pressure. Usually the swivel range is from Vgmax to Vg_{min} (displacement setting type 1 as per our ordering code) so that increasing the pilot pressure the motor swivels towards Vg_{min}, however, displacement setting type 2 (swivel range from Vg_{min} to Vg_{max}) is also available. Start of control, Setting range from 5 bar [72.5 psi] to 20 bar [290 psi] around. Pilot pressure range 25 bar [362.5 psi]. Max permissible pilot pressure at port X2 = 100 bar [1450 psi].

Note:
For reliable control, an operating pressure of at least 20 bar [290 psi], is necessary at port A (B). If in the application this pressure is not guaranteed, an auxiliary pressure of 20 bar [290 psi] is to be applied at port Y1.

Size:
055-075-108-160





Size:
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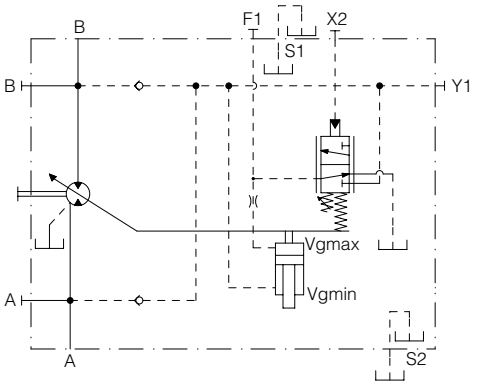
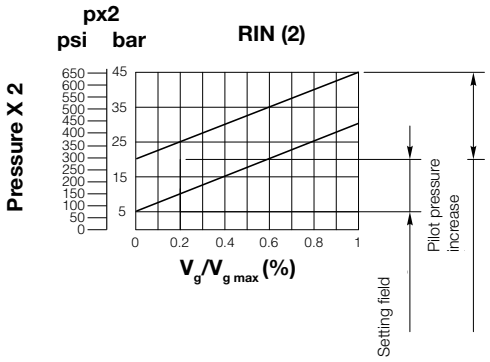
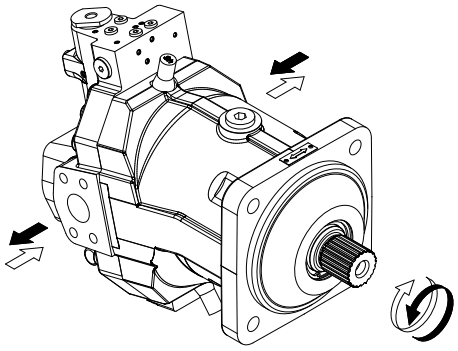




The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



The working pressure control allows to swivel the motor displacement from $V_{g\,min}$ to $V_{g\,max}$ when the operating pressure rises beyond the preset operating pressure, so that the motor is at $V_{g\,min}$ when min torque and max speed are required and at $V_{g\,max}$ when max torque and min speed are required. The operating pressure applies a force on the spool which is matched by an adjustable spring. The motor keeps the Vgmin until the operating pressure reaches the setting value (pressure setting). Once the preset pressure rises beyond, the motor swivels from $V_{g\,min}$ to $V_{g\,max}$. The swivel range is from $V_{g\,min}$ to $V_{g\,max}$ (displacement setting type 2 as per our ordering code). Start of control adjustable between 100 and 400 bar [1450 and 5800 psi].

When ordering please clearly state:
Control pressure setting.

Size:
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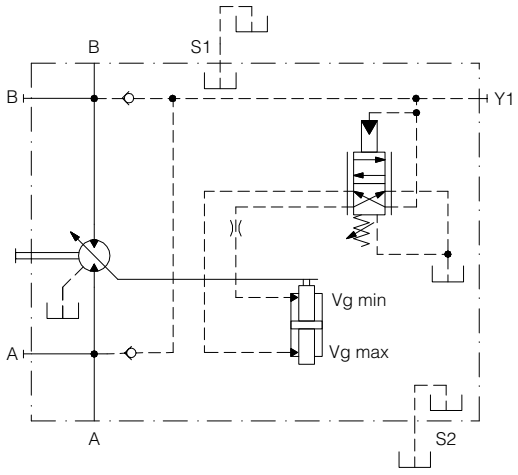

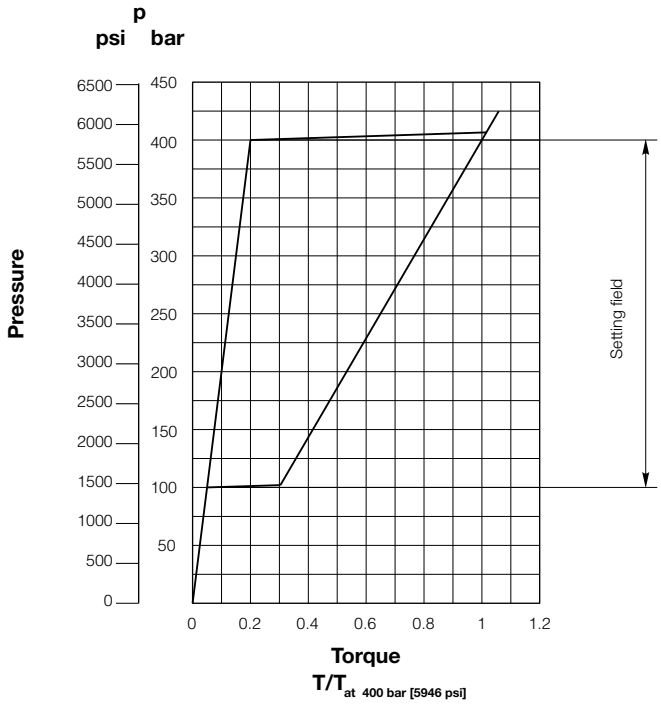

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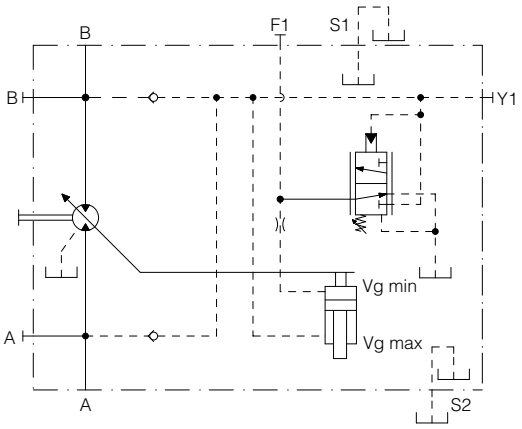
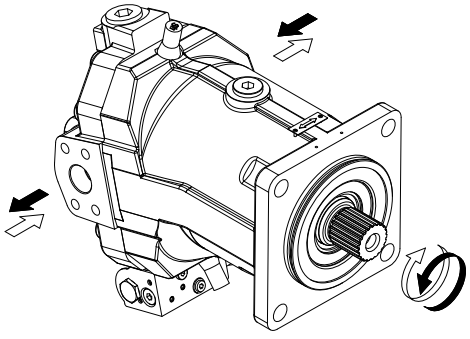


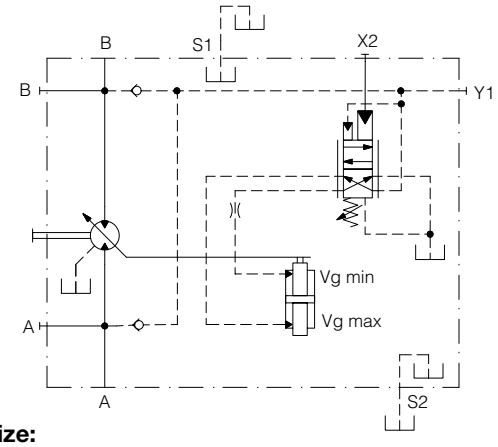
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



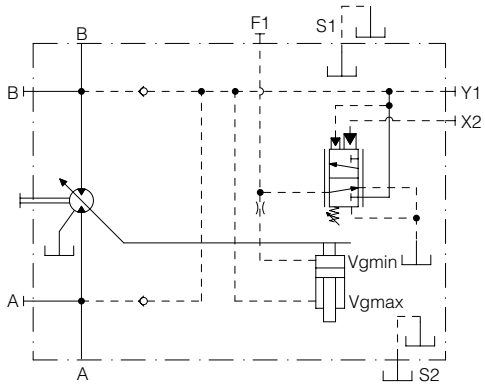
The hydraulic limiting device makes possible to reduce the pressure setting of RPE control by means of an external pilot pressure applied at port X2. The RPE control pressure setting is reduced proportionally to the pilot pressure in the ratio of 1/17 (for each pilot pressure bar, the preset operating pressure is reduced of 17 bar) [170 psi each 10 psi of pilot pressure]. Max permissible pilot pressure at port X2 = 100 bar [1450 psi]. Example: preset operating pressure of RPE control = 300 bar [4350 psi]. By applying at port X2 a pilot pressure of 10 bar [145 psi] , the pressure setting comes to 130 bar [1885 psi] (300-(10x17)=130) (4350- (145X17)=1885). Should it be required to swivel the motor to Vgmax independently from the operating pressure, a pilot pressure of 20 bar [290 psi] should be applied at port X2. Swivel range from Vg_{min} to Vg_{max} (assembly type 2 as per our ordering code). Start of control adjustable between 100 and 400 bar [1450 and 5800 psi].

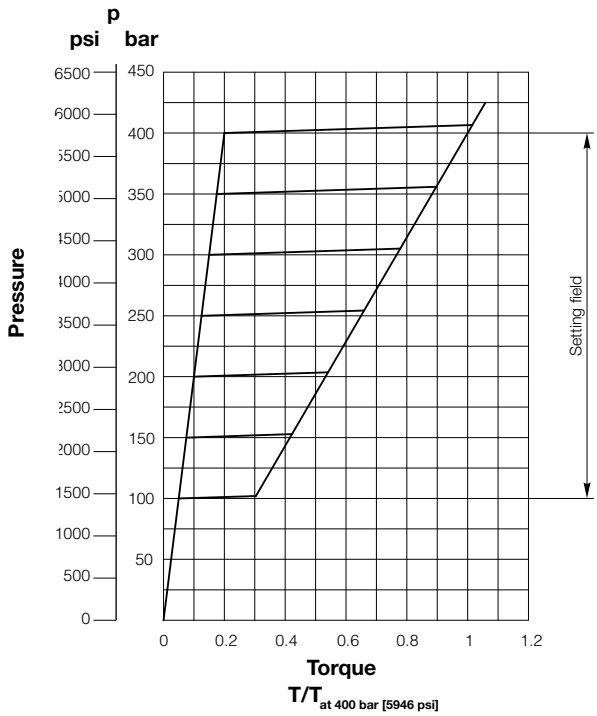
When ordering please clearly state:
Control pressure setting.

Size:
055-075-108-160

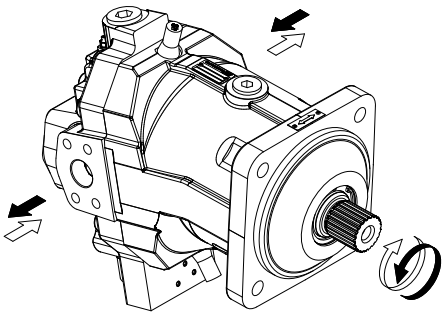


Size:
200





The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



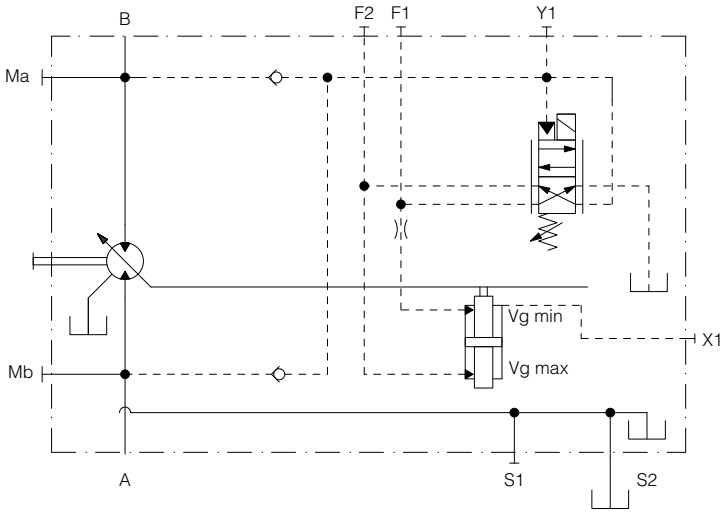
Working pressure control with electrical override

RPS

RPS control is a pressure related control which permits the changing of displacement $V_{g\,min}$ to $V_{g\,max}$ when working pressure exceeds setting threshold, so that the motor works at $V_{g\,min}$ when low torque and high speed are required and at $V_{g\,max}$ when high torque and low speed are required. The motor stands at $V_{g\,min}$ till working pressure reaches setting threshold.
Δp of working pressure that allows the changing of diaplacement from minimum to maximum is around 10 bar (such as RPE control).
This pressure related control can be overridden by an electrical signal; when solenoid is energized , the motor reaches maximum displacement without stopping in an intermediate position. Swivel range from $V_{g\,min}$ to $V_{g\,max}$ (assembly type 2 as per our ordering code).
Setting pressure range is 100-300 bar.

When ordering please clearly state:
Control pressure setting.

Size:
055 - 075 - 108 - 160



Size:
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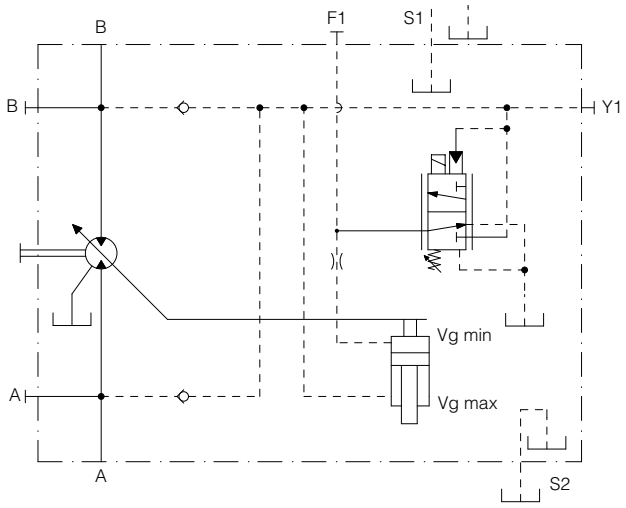
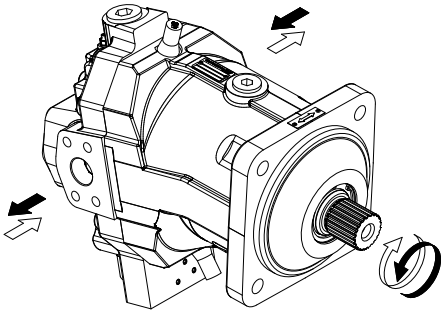


The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

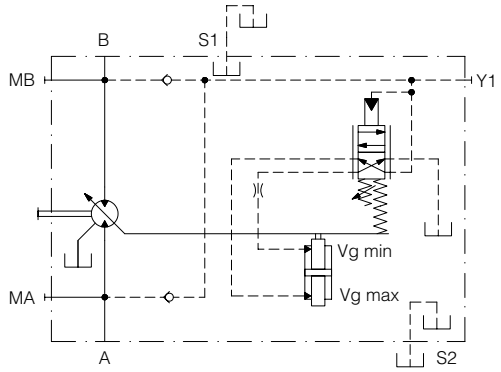


The “ROE” control allows a larger pressure range for displacement variation in comparison to “RPE” control. The increase of pressure range for variation from Vg_{min} to Vg_{max} allows a smoother working of the motor during displacement variation. The “ROE” allows the displacement variation with the pressure range show in the table.

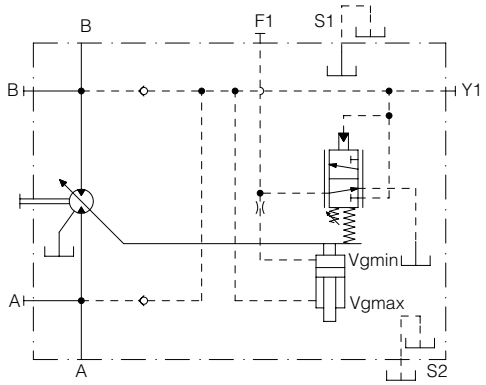
Δp bar [psi]	**P_{min}** bar [psi]	**P_{max}** bar [psi]
100 [1450]	100 [1450]	350 [5075]

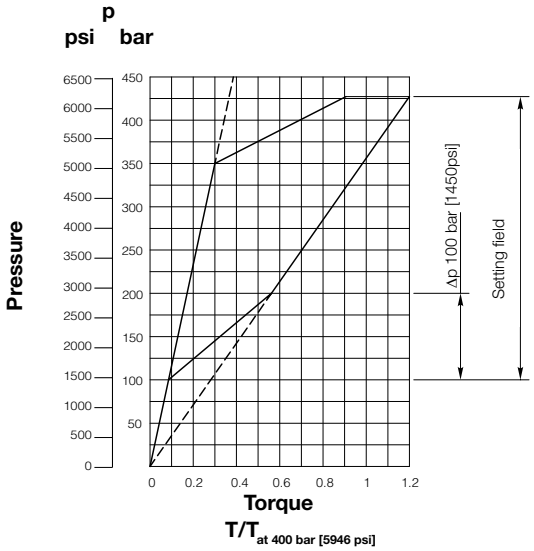
Where:
- Δp is the working pressure range that allows the displacement variation.
- P_{min} is the minimum pressure at which displacement variation starting can be set.
- P_{max} is the maximum pressure at which displacement variation starting can be set.

Size:
055-075-108-160



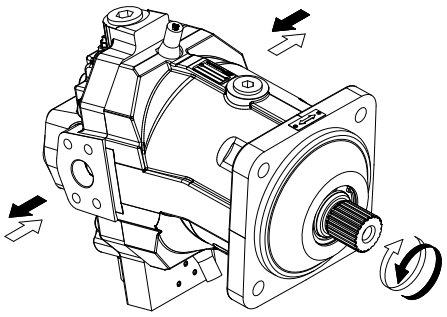
Size:
200





Warning:
in case of displacement limitation, the control shall vary of a reduced Δp with respect to its standard one.
Please contact Dana for more info.

The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.

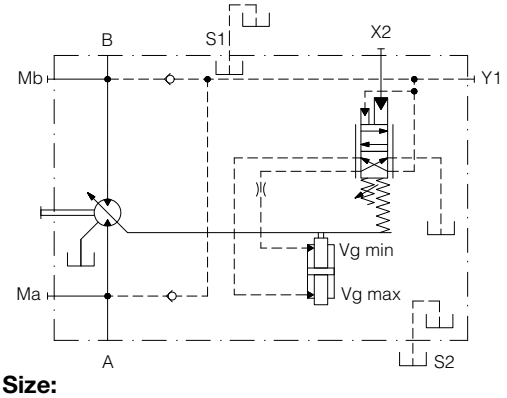


Working pressure control Δp 100 bar with hydraulic override

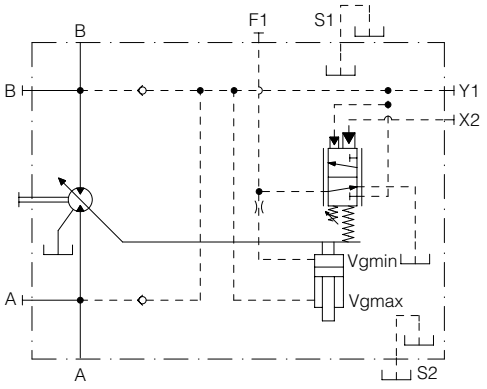
The hydraulic limiting device makes possible to reduce the pressure setting of ROE control by means of an external pilot pressure applied at port X2. The ROE control pressure setting is reduced proportionally to the pilot pressure in the ratio of 1/17 (for each pilot pressure bar, the preset operating pressure is reduced of 17 bar) [170 psi each 10 psi of pilot pressure]. Max permissible pilot pressure at port X2 = 100 bar [1450 psi].
Example: preset operating pressure of ROE control = 300 bar [4350 psi]. By applying at port X2 a pilot pressure of 10 bar [145 psi] , the pressure setting comes to 130 bar [1885 psi] (300-(10x17)=130) (4350 - (145X17)=1885). Should it be required to swivel the motor to $V_{g\,max}$ independently from the operating pressure, a pilot pressure of 20 bar [290 psi] should be applied at port X2.
Swivel range from $V_{g\,min}$ to $V_{g\,max}$ (assembly type 2 as per our ordering code). Start of control adjustable between 100 and 350 bar [1450 and 5000 psi].

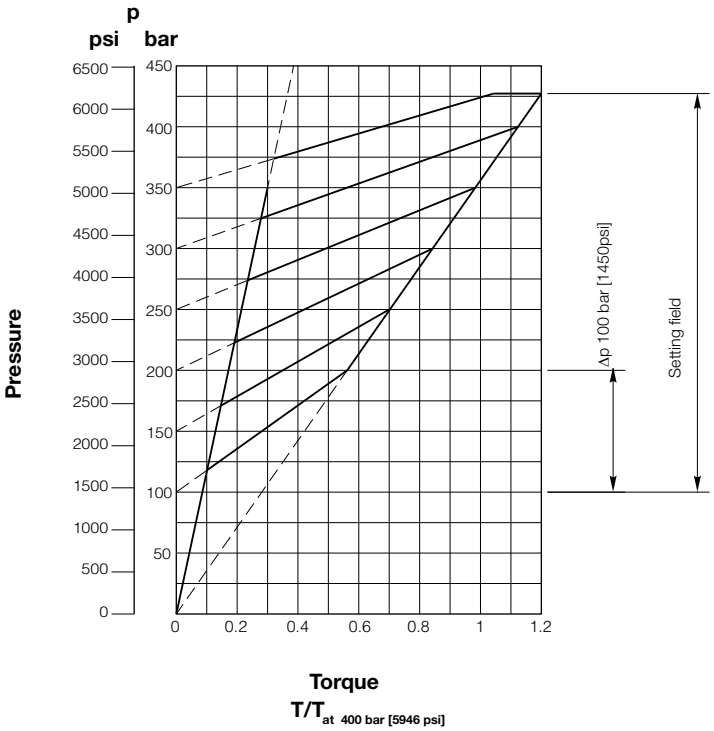
When ordering please clearly state:
Control pressure setting.

Size:
055 - 075 - 108 - 160

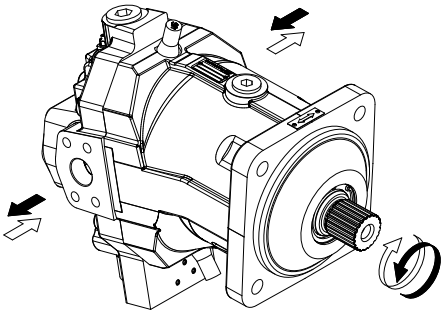


Size:
200





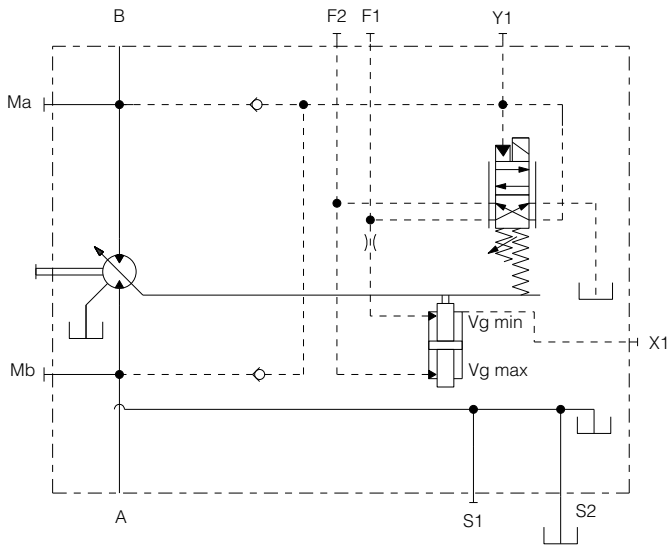
The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



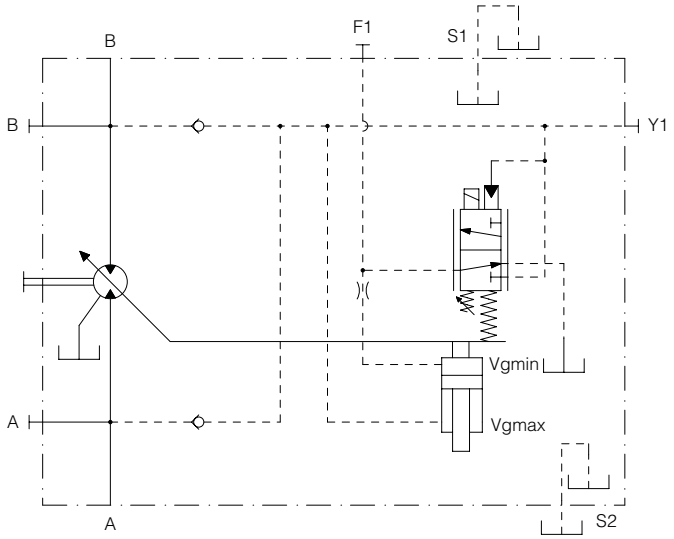
ROS control is a pressure related control which permits the changing of displacement $V_{g\,min}$ to $V_{g\,max}$ when working pressure exceeds setting threshold, so that the motor works at $V_{g\,min}$ when low torque and high speed are required and at $V_{g\,max}$ when high torque and low speed are required. The motor stands at $V_{g\,min}$ till working pressure reaches setting threshold. Δp of working pressure that allows the changing of diaplacement from minimum to maximum is 100 bar (such as ROE control).
This pressure related control can be overridden by an electrical signal; when solenoid is energized , the motor reaches maximum displacement without stopping in an intermediate position. Swivel range from $V_{g\,min}$ to $V_{g\,max}$ (assembly type 2 as per our ordering code).
Setting pressure range is 100-300 bar.

When ordering please clearly state:
Control pressure setting.

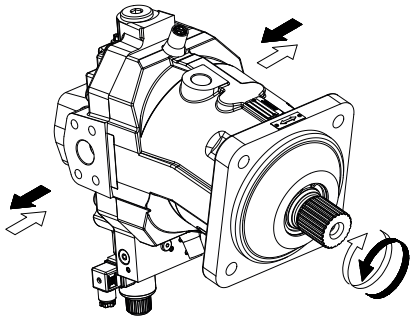
Size:
055 - 075 - 108 - 160



Size:
200

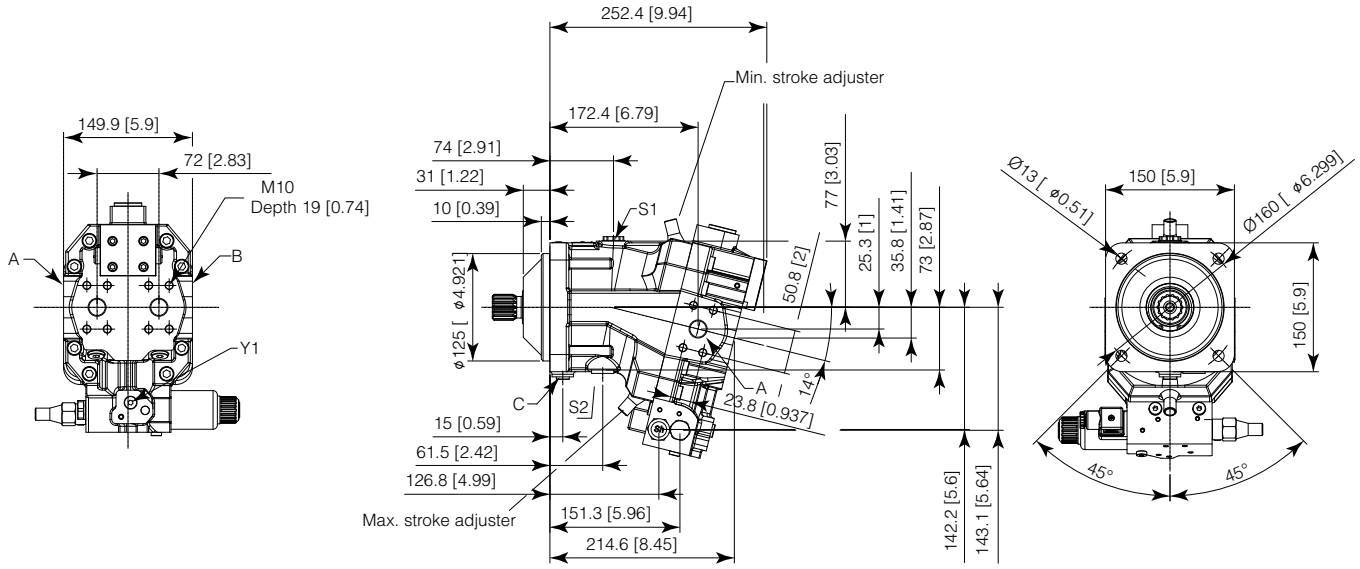


The relation between direction of rotation of shaft and direction of flow in SH7V motor is shown in the picture below.



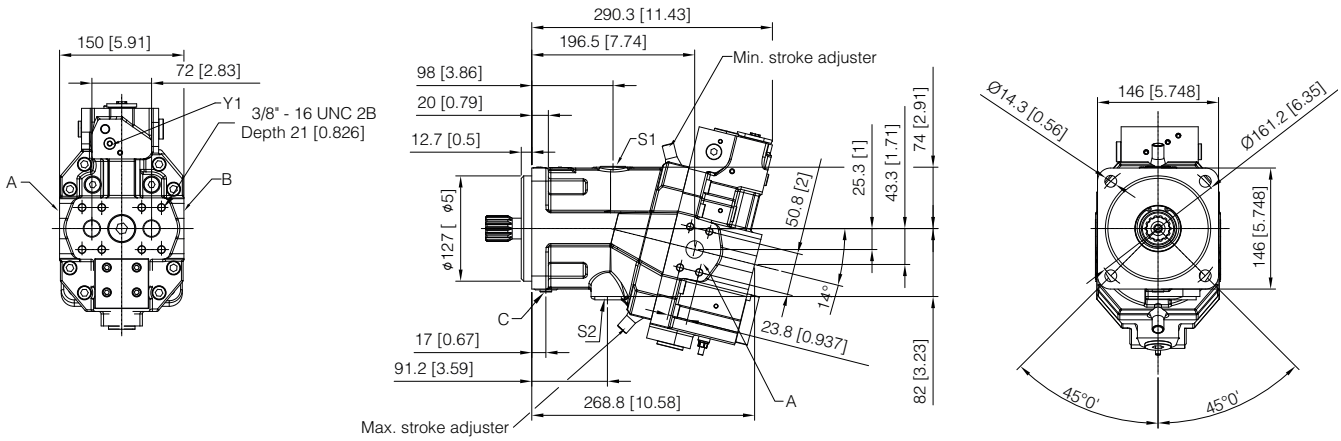
SH7V 055 - Motor dimensions

SH7V 055 Motor - Mounting flange ISO 4 Bolts (OC)



A-B: Service line ports - 3/4” SAE 6000
C: Air bleed bearings flushing port - 1/8 G (BSPP)
S1-S2: Case drain port - 1/2 G (BSPP)
Y1: Working pressure piloting port - 1/8 G (BSPP)

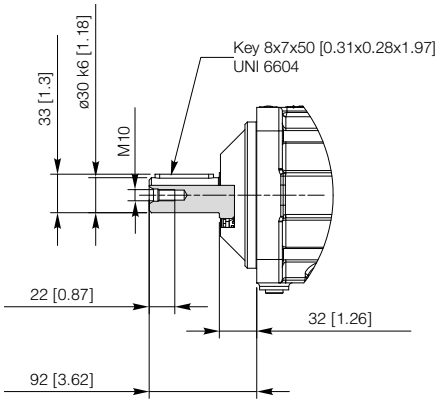
SH7V 055 Motor - Mounting flange SAE-C 4 Bolts (O5)



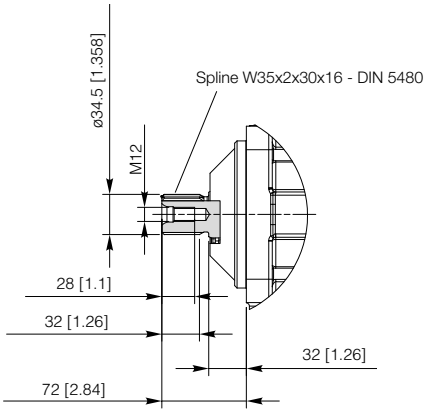
A-B: Service line ports - 3/4” SAE 6000
C: Air bleed bearings flushing port - 7/16”-20 UNF
S1-S2: Case drain port - 1” 1/16 - 12 UN 2B
Y1: Working pressure piloting port - 7/16”-20 UNF-2B

7 Shaft end

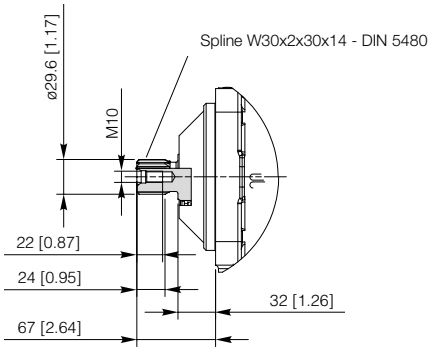
CAW Parallel keyed shaft



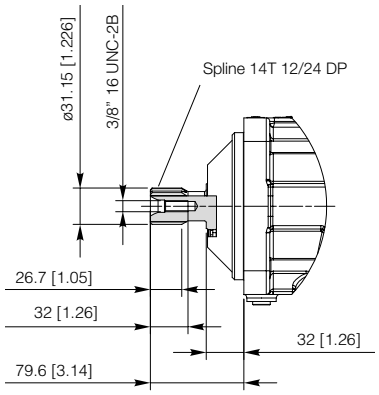
SAM Splined shaft



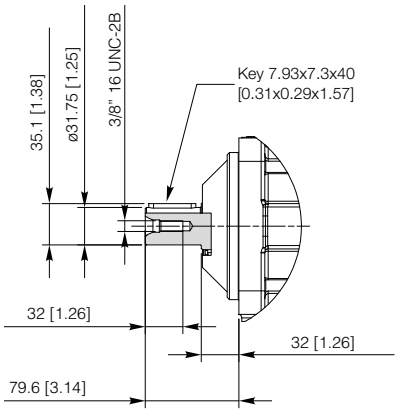
SAI Splined shaft



S12 Splined shaft



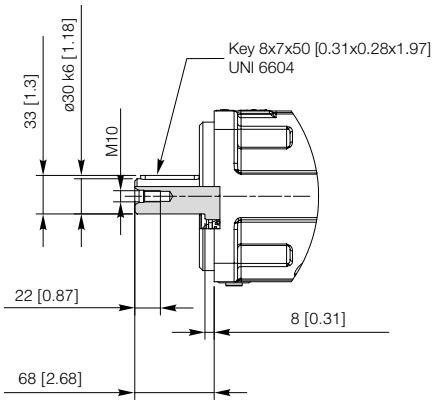
C17 Parallel keyed shaft



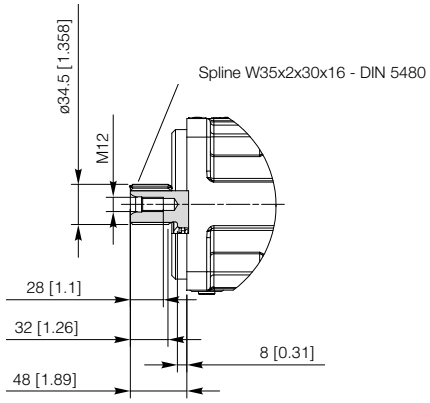
SH7V 055 - Shafts dimensions for mounting flange SAE-C 4 bolts (O5)

7 Shaft end

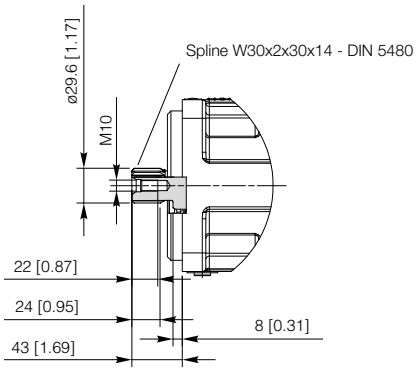
CAW Parallel keyed shaft



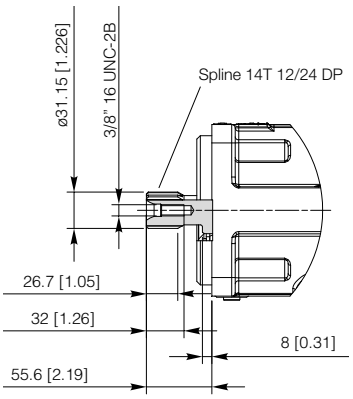
SAM Splined shaft



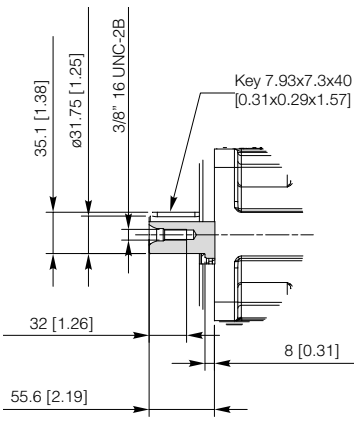
SAI Splined shaft



S12 Splined shaft

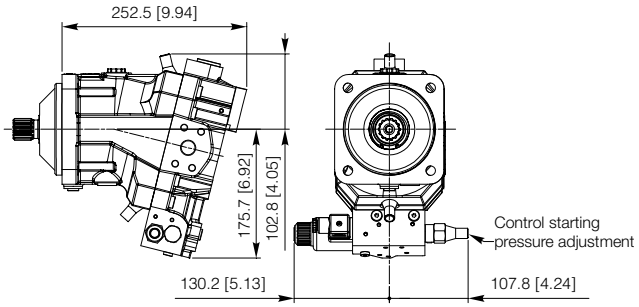


C17 Parallel keyed shaft

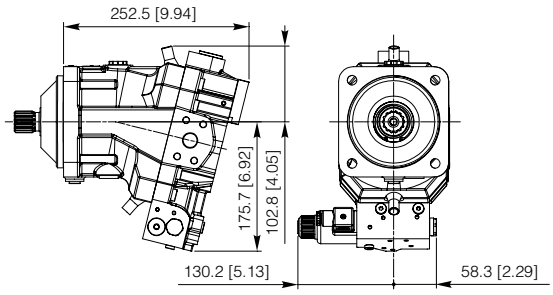


10 Control

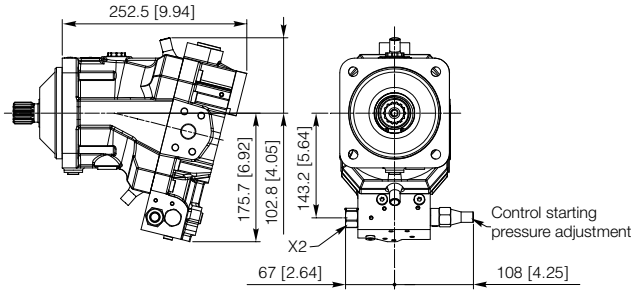
2EE Control



2EN Control

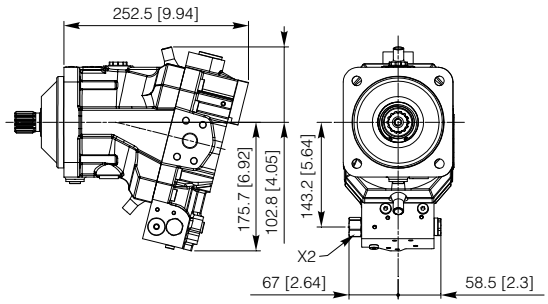


2IE Control



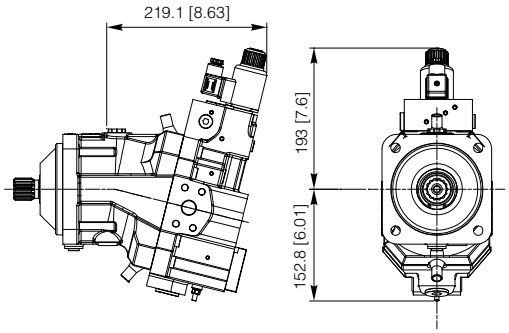
X2: Piloting port - 1/4 G (BSPP)

2IN Control

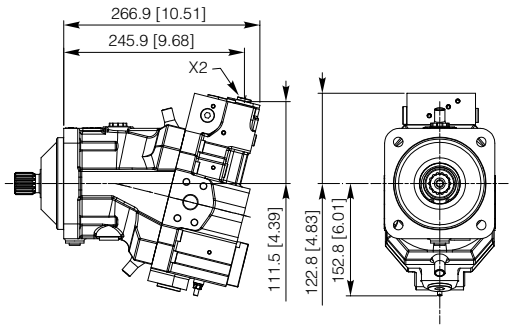


X2: Piloting port - 1/4 G (BSPP)

REN Control



RIN Control

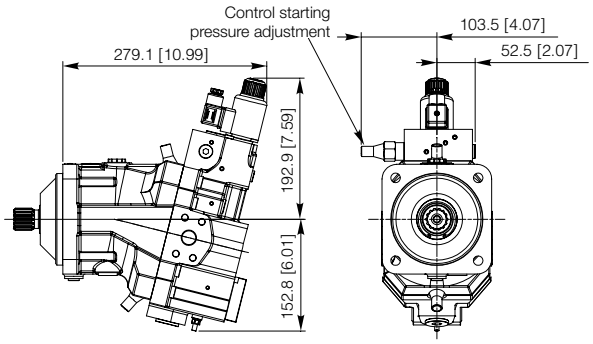


X2: Piloting port - 1/4 G (BSPP)

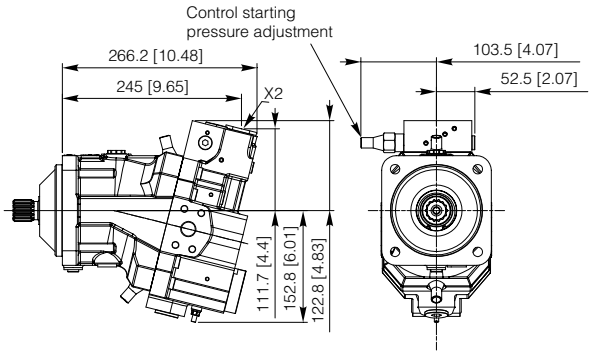
SH7V 055 - Control dimensions for mounting flange ISO 4 bolts (OC) (Displ. setting 1)

10 Control

REE Control

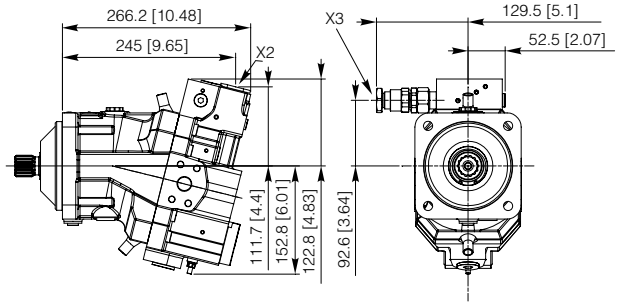


RIE Control



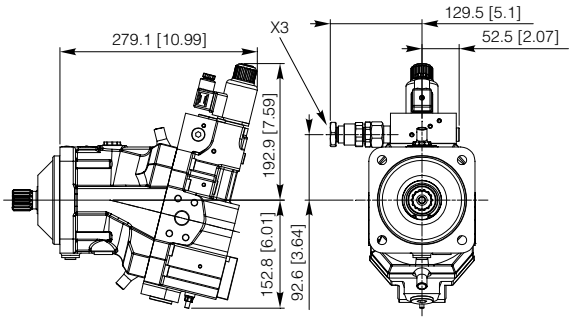
X2: Piloting port - 1/4 G (BSPP)

RID Control



X2: Piloting port - 1/4 G (BSPP)
X3: Double step piloting port - 1/4 G (BSPP)

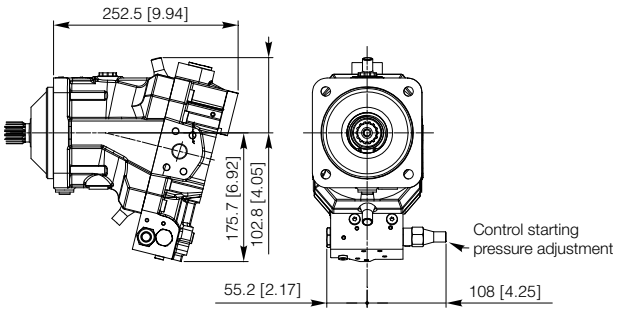
RED Control



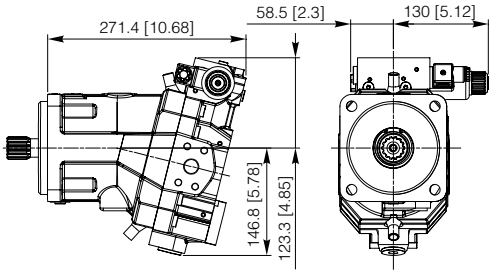
X3: Double step piloting port - 1/4 G (BSPP)

10 Control

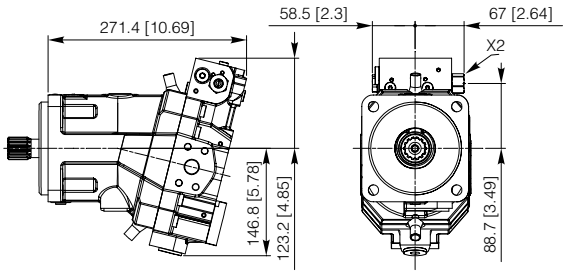
RPE Control



2EN Control

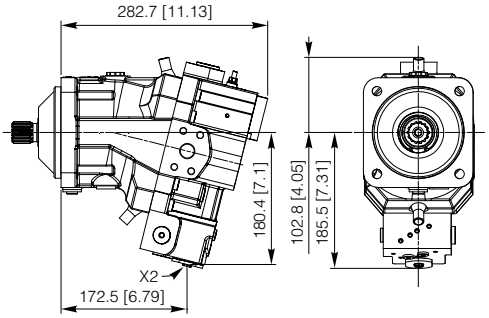


2IN Control



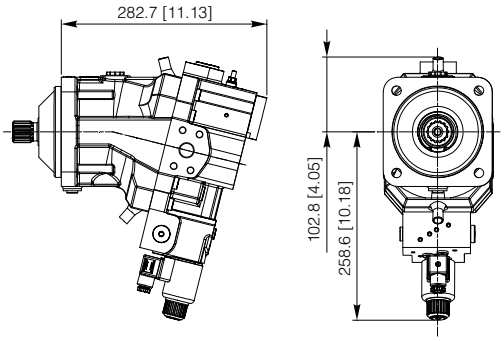
X2: Piloting port - 1/4 G (BSPP)

RIN Control

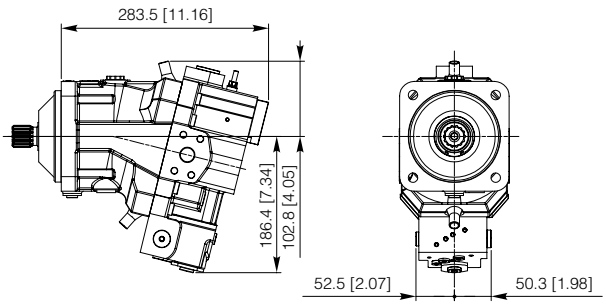


X2: Piloting port - 1/4 G (BSPP)

REN Control



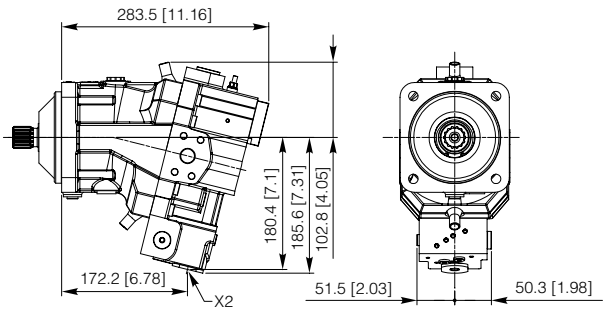
ROE Control



SH7V 055 - Control dimensions for mounting flange ISO 4 bolts (OC) (Displ. setting 2)

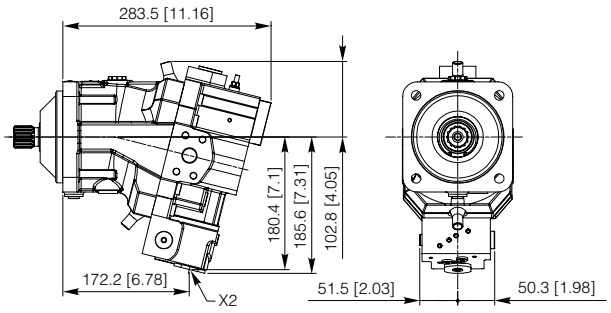
10 Control

ROI Control



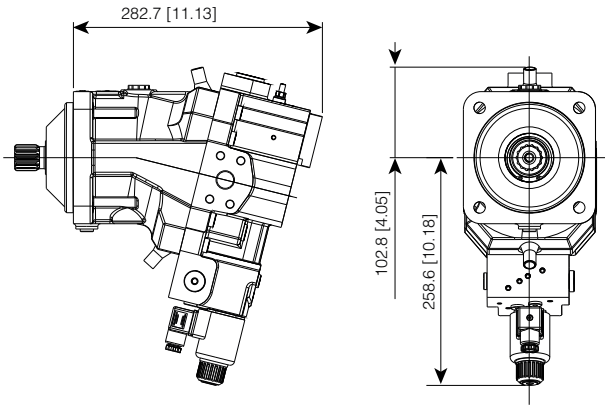
X2: Piloting port - 1/4 G (BSPP)

RPI Control

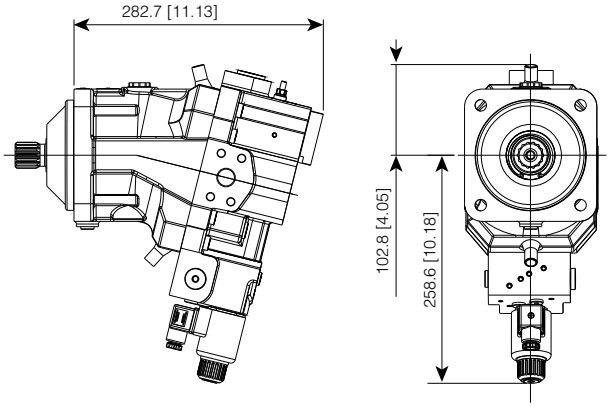


X2: Piloting port - 1/4 G (BSPP)

ROS Control

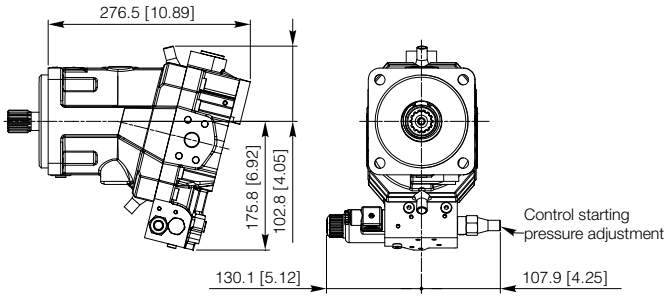


RPS Control

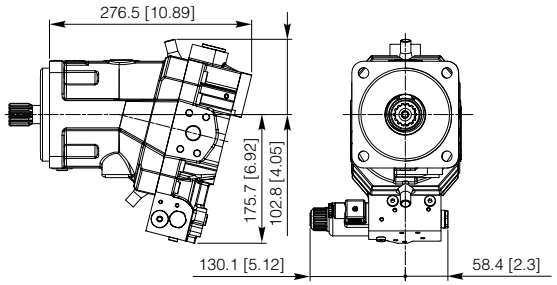


10 Control

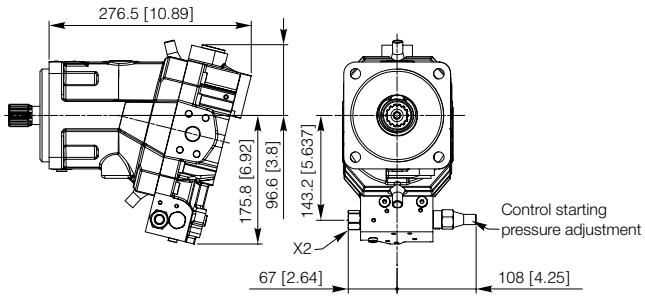
2EE Control



2EN Control

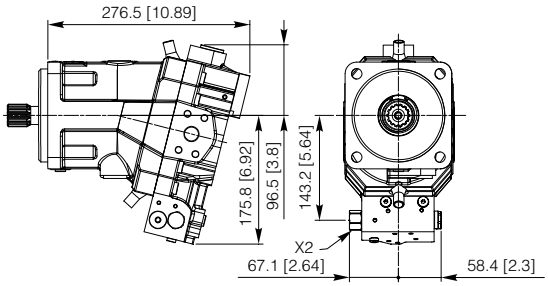


2IE Control



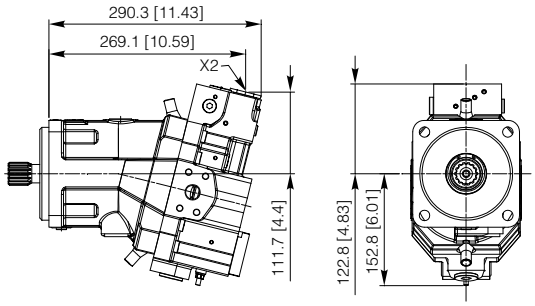
X2: Piloting port - 7/16” - 20 UNF

2IN Control



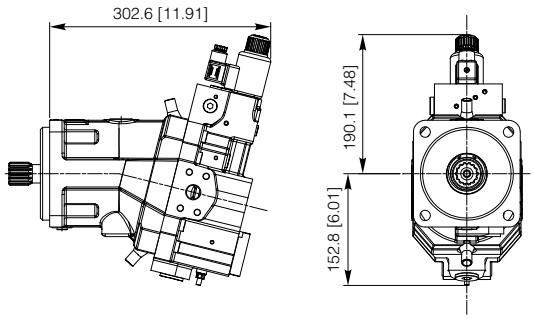
X2: Piloting port - 7/16” - 20 UNF

RIN Control



X2: Piloting port - 7/16” - 20 UNF

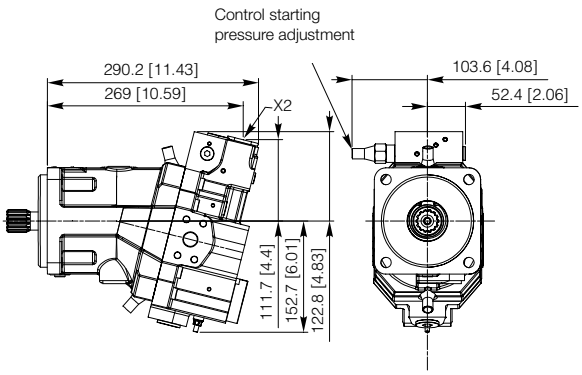
REN Control



SH7V 055 - Control dimensions for mounting flange SAE-C 4 bolts (O5) (Displ. setting 1)

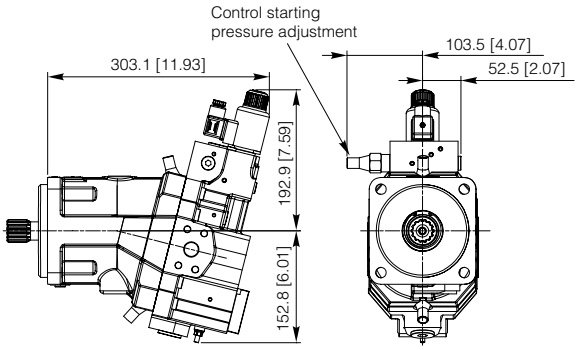
10 Control

RIE Control

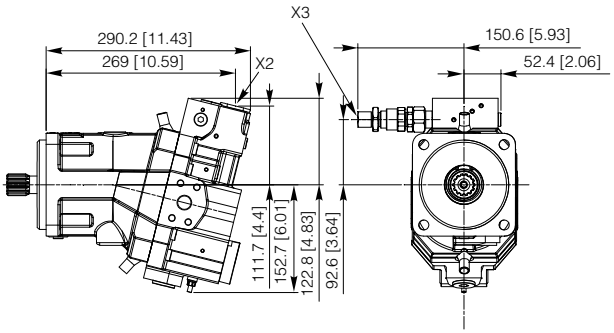


X2: Piloting port - 7/16” - 20 UNF

REE Control

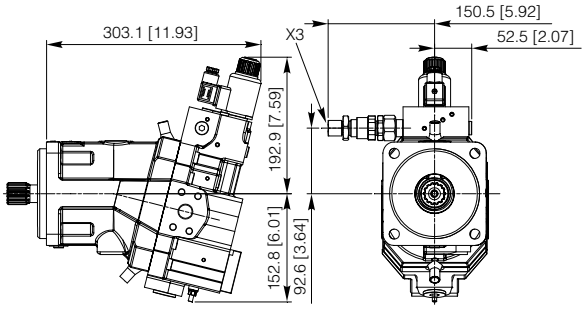


RID Control



X2: Piloting port - 7/16” - 20 UNF
X3: Double step piloting port - 7/16” - 20 UNF

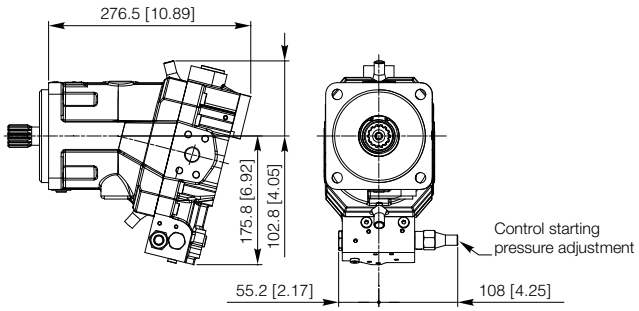
RED Control



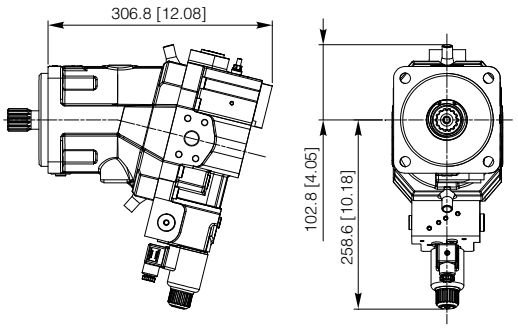
X3: Double step piloting port - 7/16” - 20 UNF

10 Control

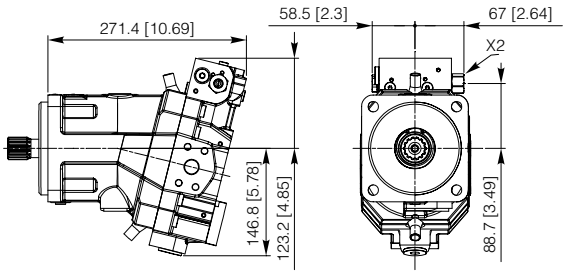
RPE Control



2EN Control

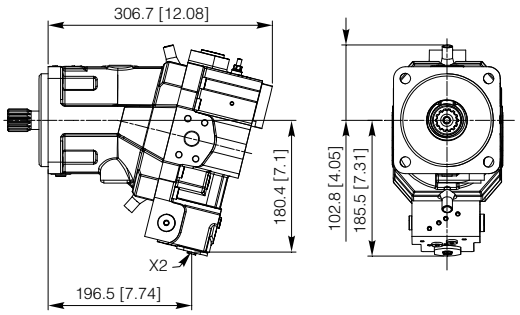


2IN Control



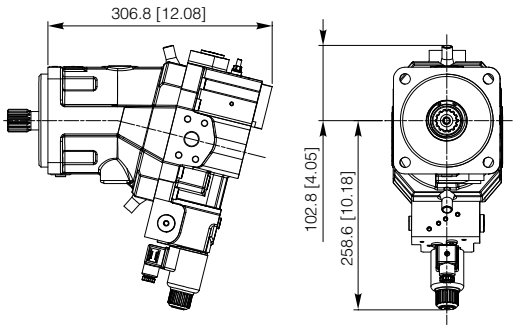
X2: Piloting port - 7/16" - 20 UNF

RIN Control

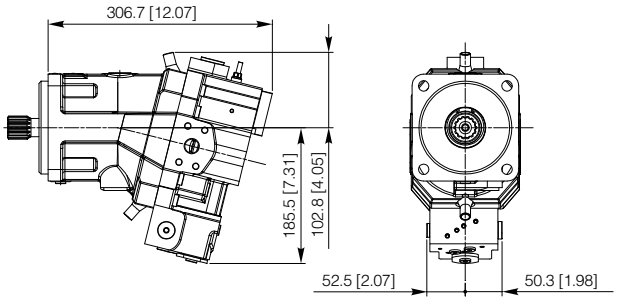


X2: Piloting port - 7/16" - 20 UNF

REN Control



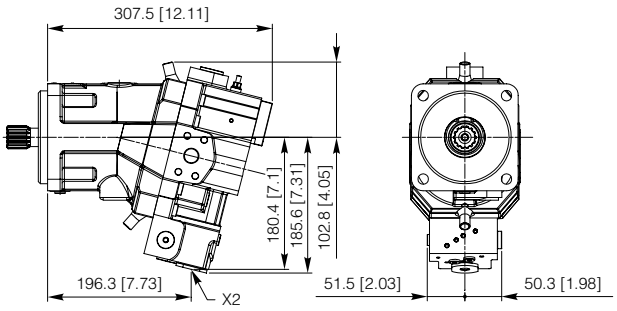
ROE Control



SH7V 055 - Control dimensions for mounting flange SAE-C 4 bolts (O5) (Displ. setting 2)

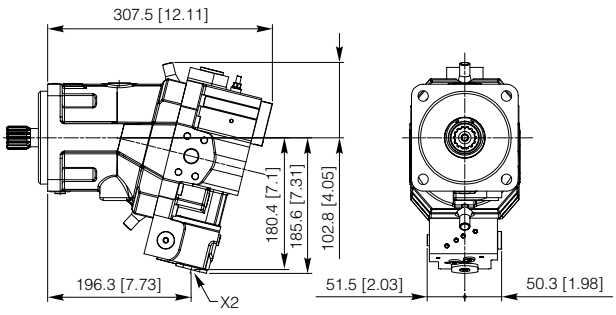
10 Control

ROI Control



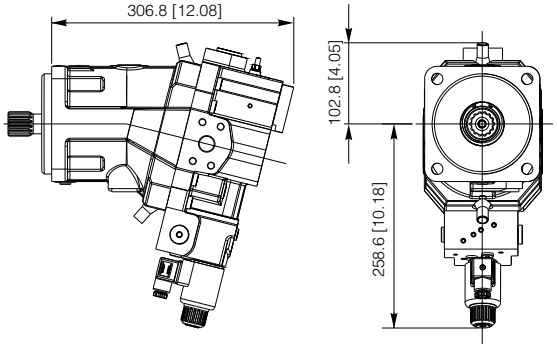
X2: Piloting port - 7/16” - 20 UNF

RPI Control

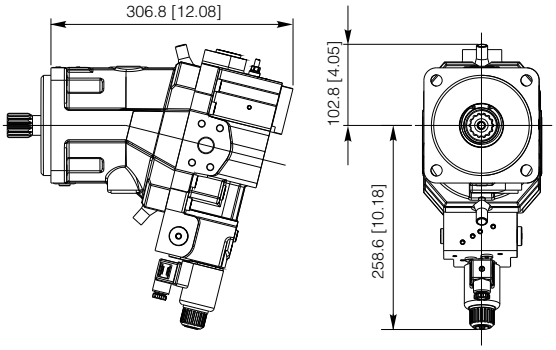


X2: Piloting port - 7/16” - 20 UNF

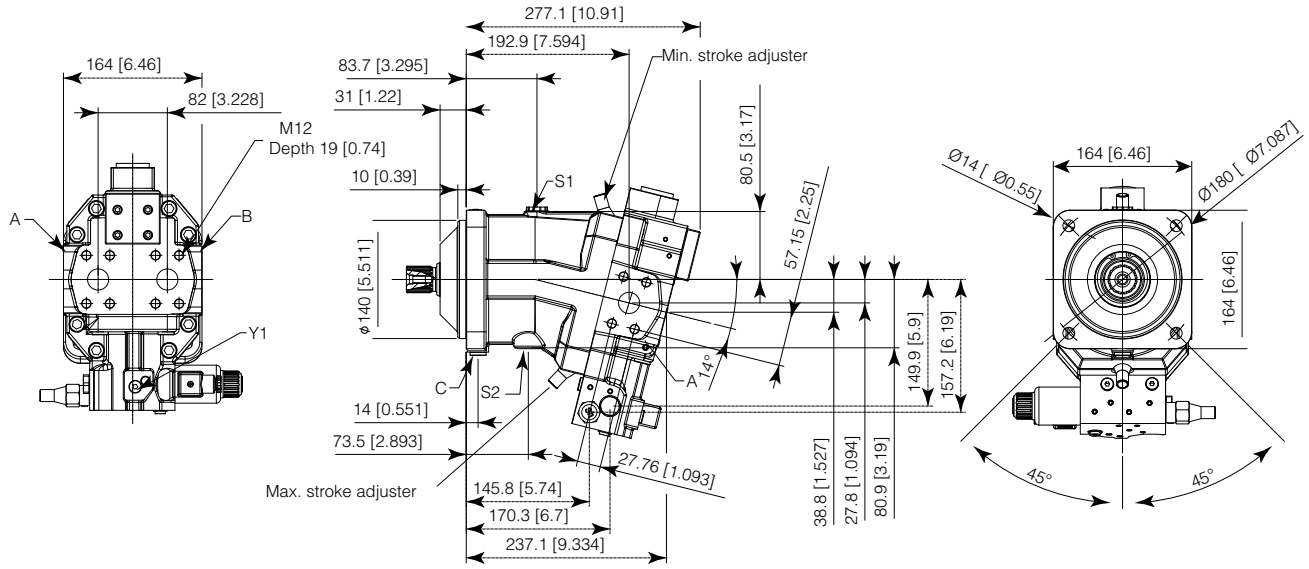
ROS Control



RPS Control

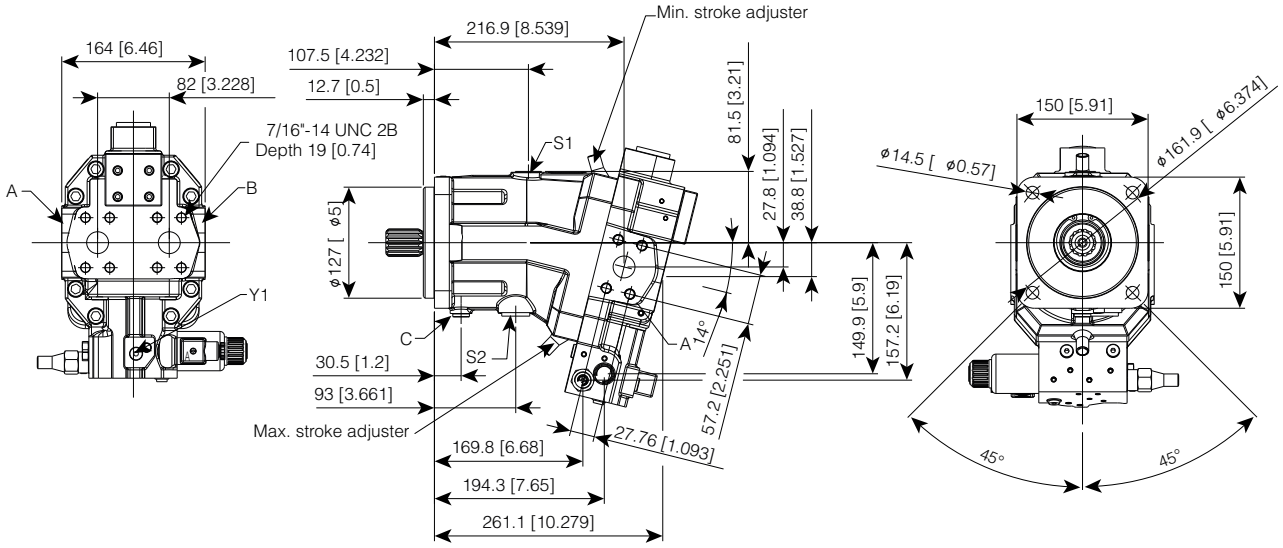


SH7V 075 Motor - Mounting flange ISO 4 Bolts (OD)



A-B: Service line ports - 1” SAE 6000
C: Air bleed bearings flushing port - 1/4 G (BSPP)
S1-S2: Case drain port - 1/2 G (BSPP)
Y1: Working pressure piloting port - 1/8 G (BSPP)

SH7V 075 Motor - Mounting flange SAE-C 4 Bolts (O5)

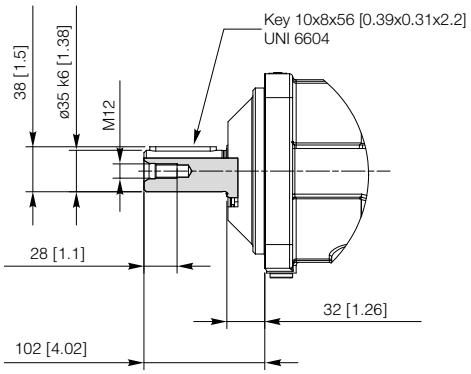


A-B: Service line ports - 1” SAE 6000
C: Air bleed bearings flushing port - 7/16”-20 UNF
S1-S2: Case drain port - 1” 1/16 - 12 UN 2B
Y1: Working pressure piloting port - 7/16”-20 UNF-2B

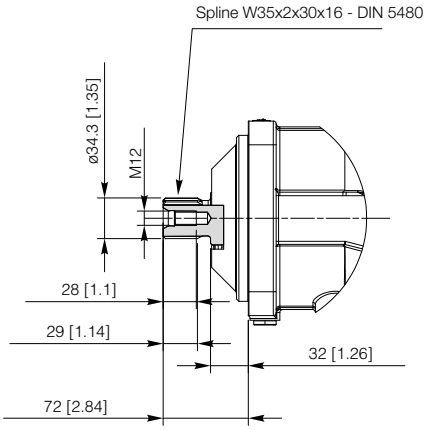
SH7V 075 - Shafts dimensions for mounting flange ISO 4 bolts (OD)

7 Shaft end

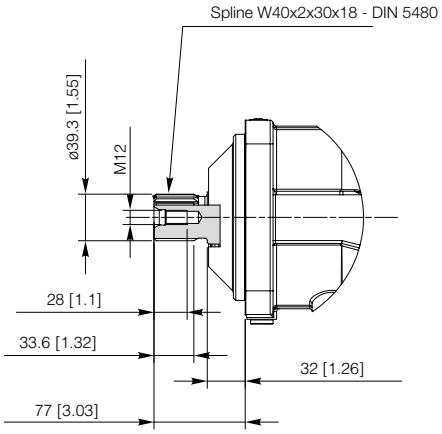
CAY Parallel keyed shaft



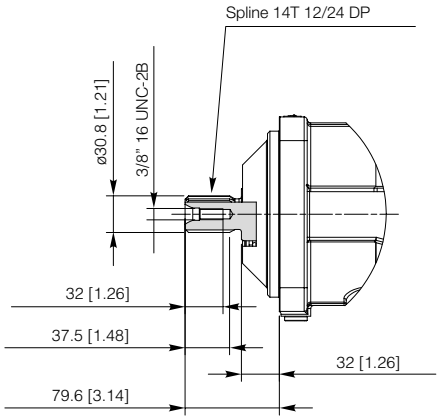
SAM Splined shaft



SAO Splined shaft

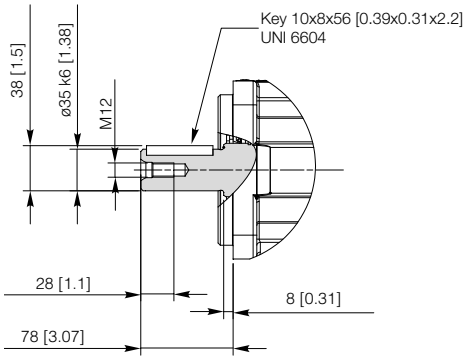


S12 Splined shaft

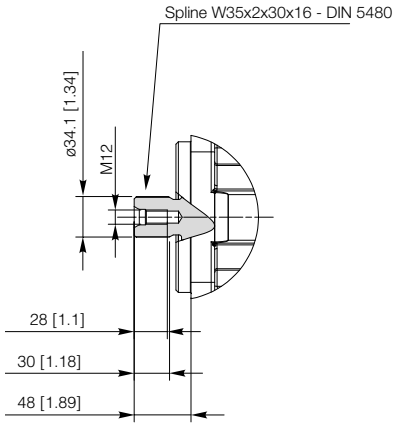


7 Shaft end

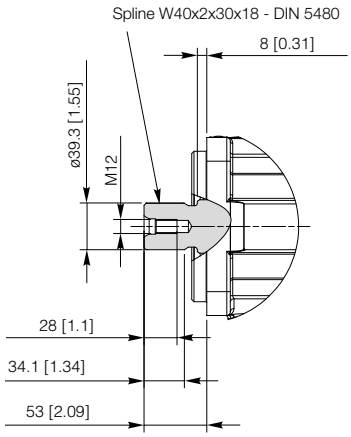
CAY Parallel keyed shaft



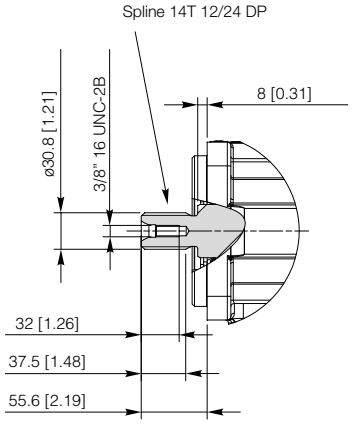
SAM Splined shaft



SAO Splined shaft



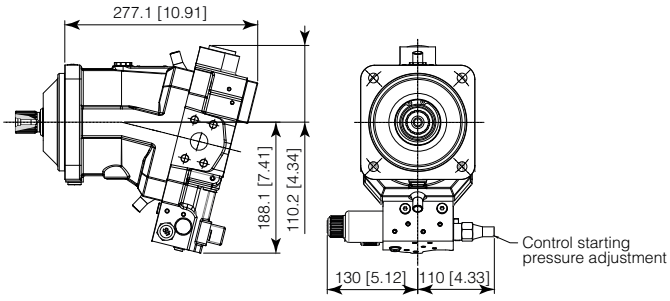
S12 Splined shaft



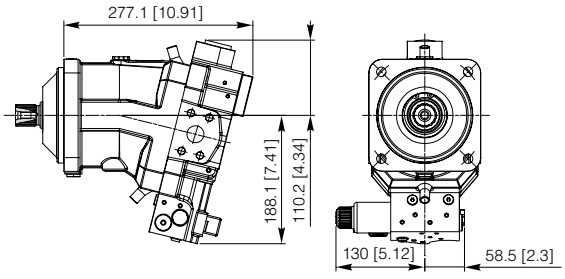
SH7V 075 - Control dimensions for mounting flange ISO 4 bolts (OD) (Displ. setting 1)

10 Control

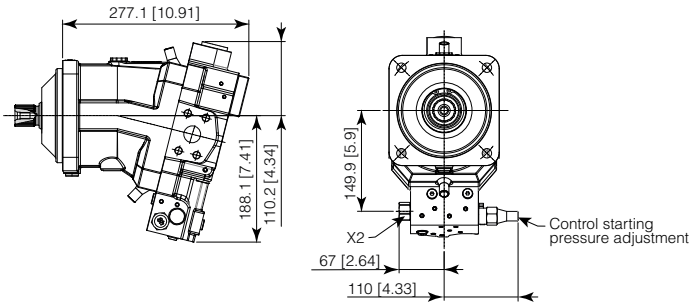
2EE Control



2EN Control

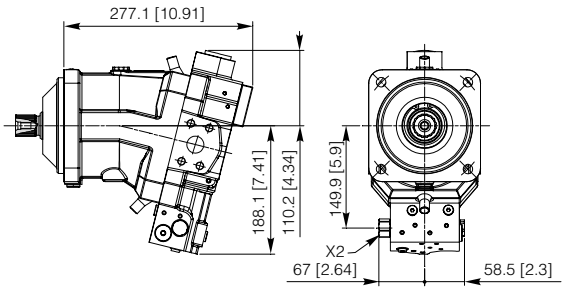


2IE Control



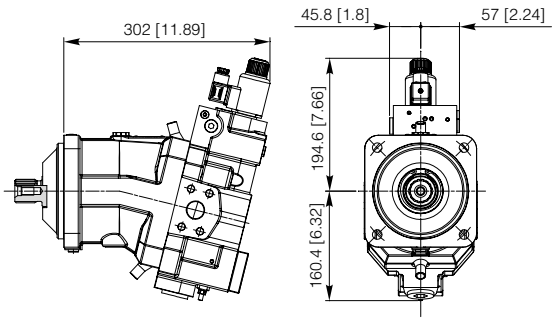
X2: Piloting port - 1/4 G (BSPP)

2IN Control

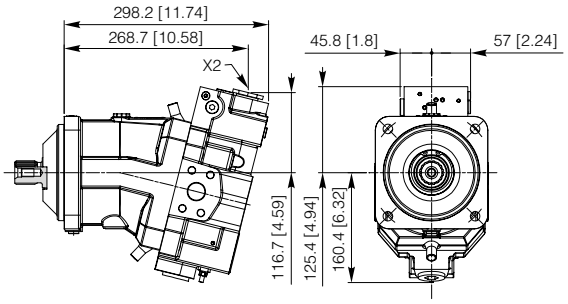


X2: Piloting port - 1/4 G (BSPP)

REN Control



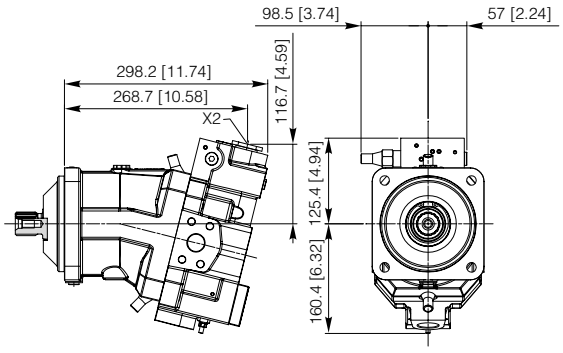
RIN Control



X2: Piloting port - 1/4 G (BSPP)

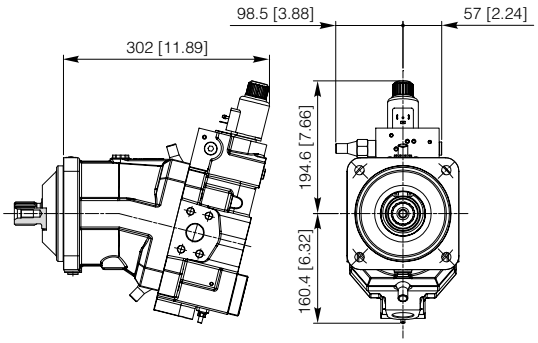
10 Control

RIE Control

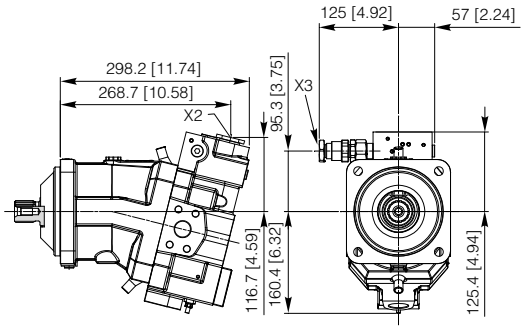


X2: Piloting port - 1/4 G (BSPP)

REE Control

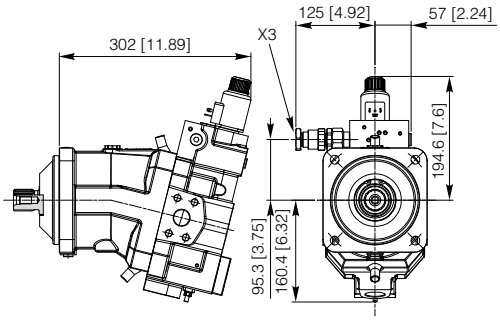


RID Control



X2: Piloting port - 1/4 G (BSPP)
X3: Double step piloting port - 1/4 G (BSPP)

RED Control

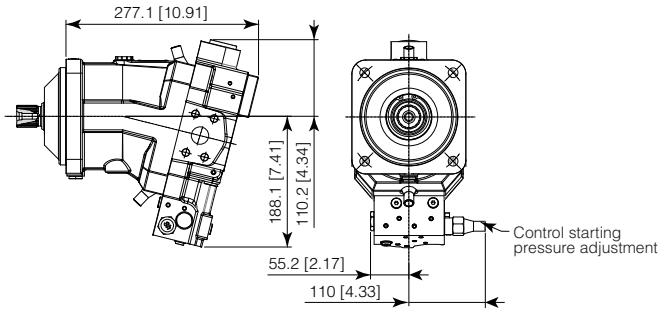


X3: Double step piloting port - 1/4 G (BSPP)

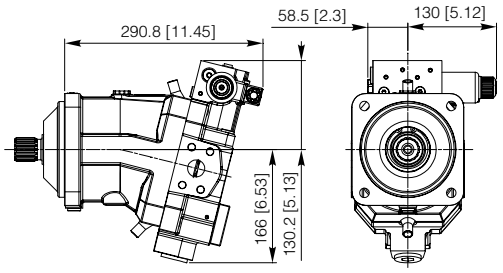
SH7V 075 - Control dimensions for mounting flange ISO 4 bolts (OD) (Displ. setting 2)

10 Control

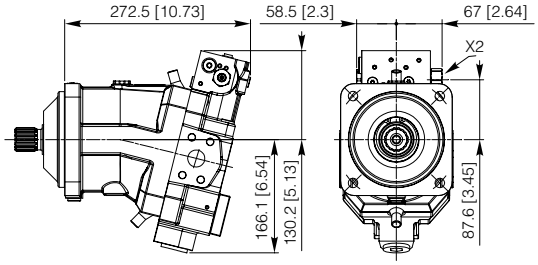
RPE Control



2EN Control

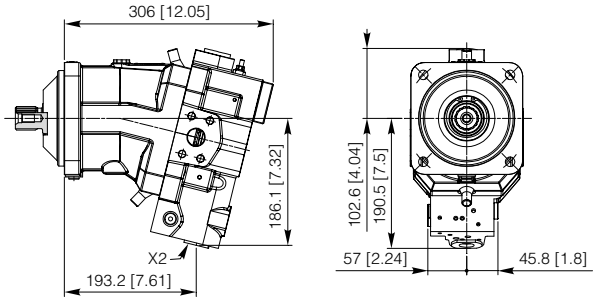


2IN Control



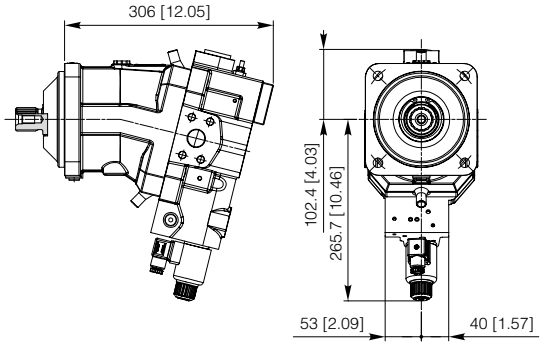
X2: Piloting port - 1/4 G (BSPP)

RIN Control

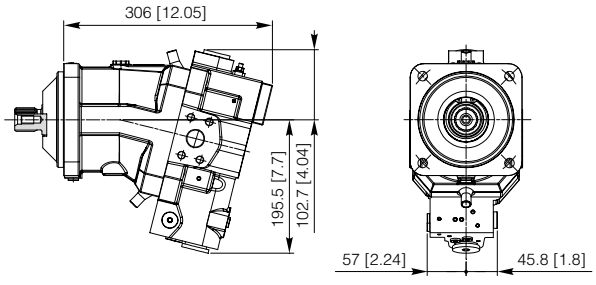


X2: Piloting port - 1/4 G (BSPP)

REN Control

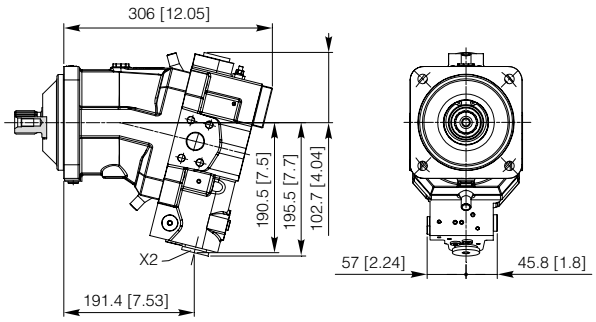


ROE Control



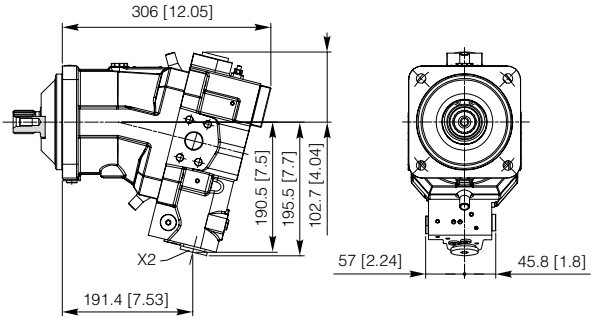
10 Control

ROI Control



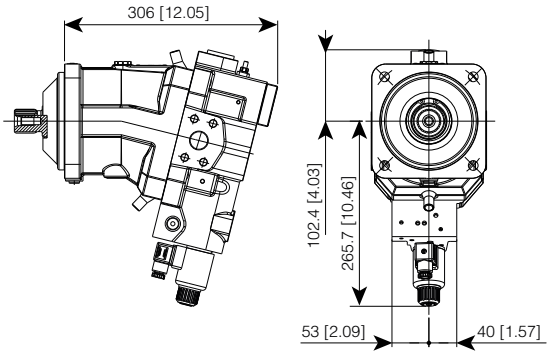
X2: Piloting port - 1/4 G (BSPP)

RPI Control

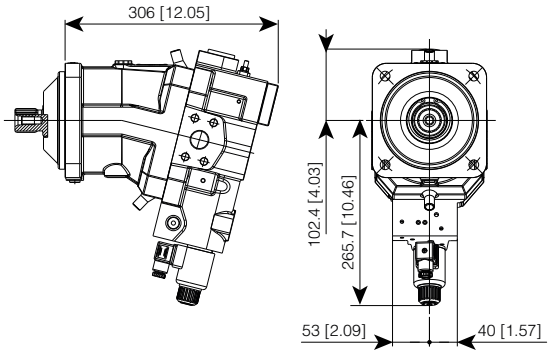


X2: Piloting port - 1/4 G (BSPP)

ROS Control



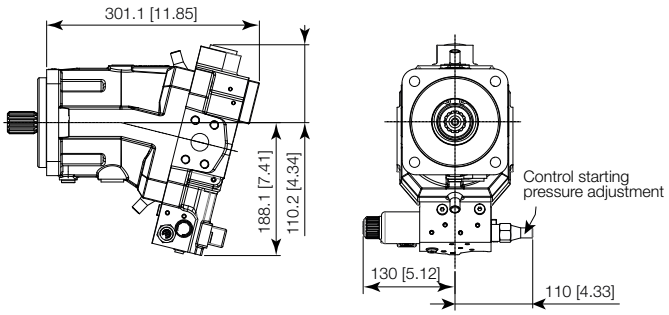
RPS Control



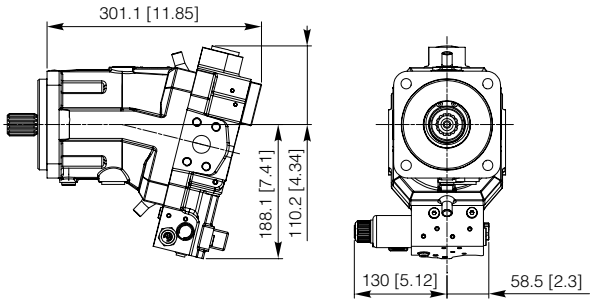
SH7V 075 - Control dimensions for mounting flange SAE-C 4 bolts (05) (Displ. setting 1)

10 Control

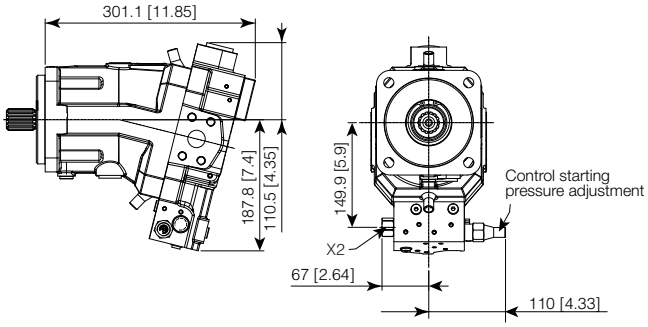
2EE Control



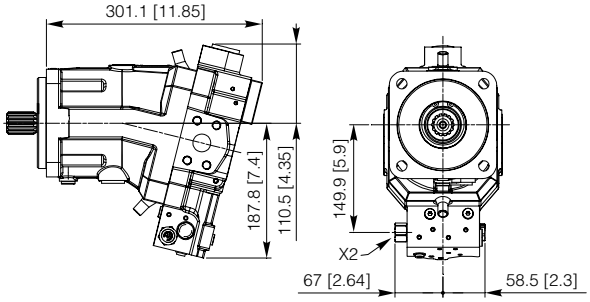
2EN Control



2IE Control

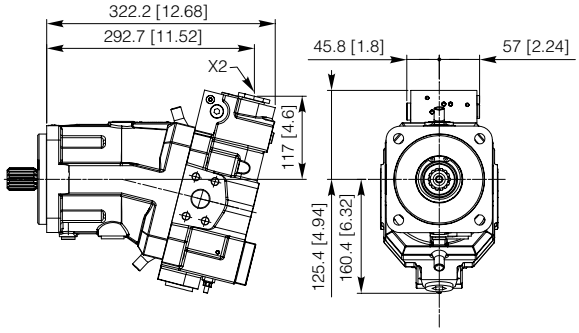


2IN Control

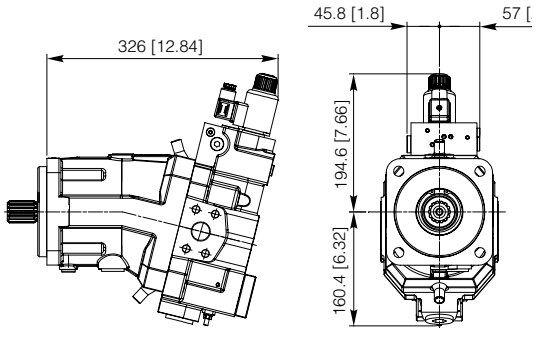


X2: Piloting port - 7/16”-20 UNF

RIN Control



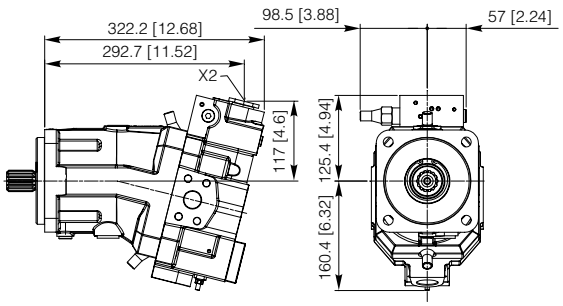
REN Control



X2: Piloting port - 7/16”-20 UNF

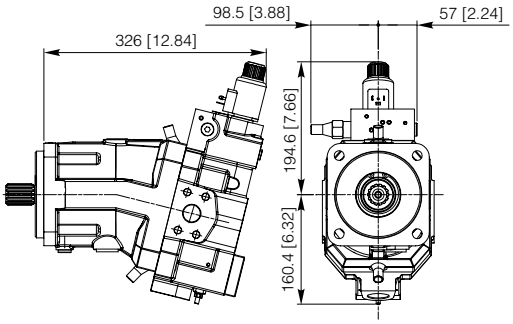
10 Control

RIE Control

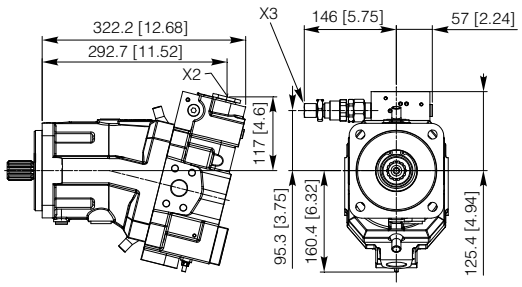


X2: Piloting port - 7/16”-20 UNF

REE Control

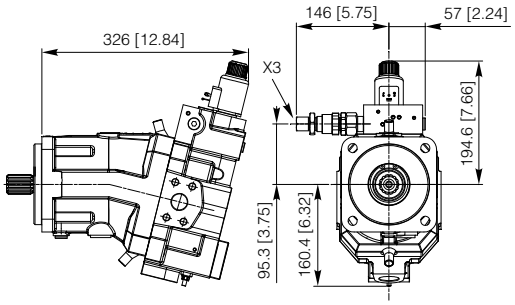


RID Control



X2: Piloting port - 7/16”-20 UNF
X3: Double step piloting port - 7/16”-20 UNF

RED Control

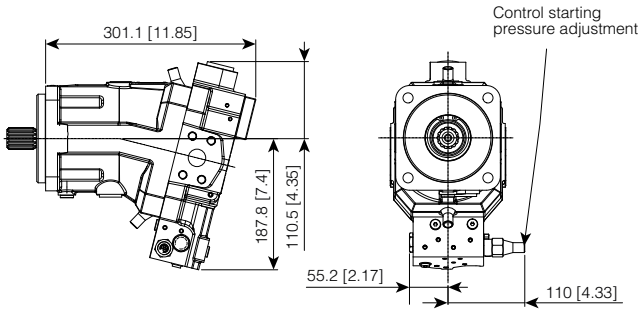


X3: Double step piloting port - 7/16”-20 UNF

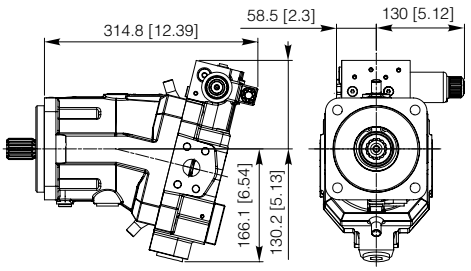
SH7V 075 - Control dimensions for mounting flange SAE-C 4 bolts (05) (Displ. setting 2)

10 Control

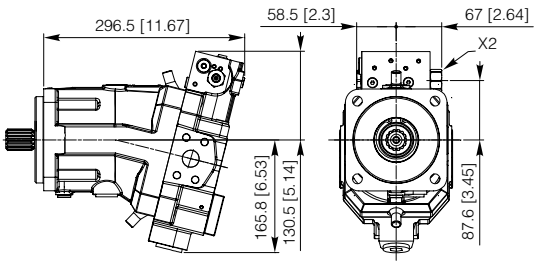
RPE Control



2EN Control

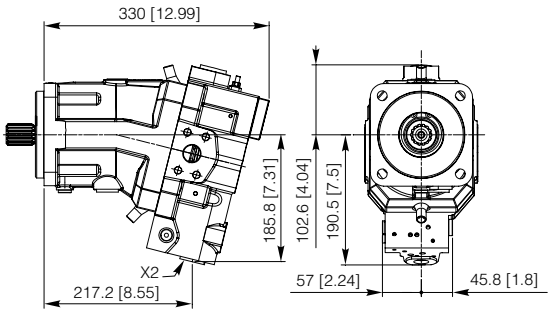


2IN Control



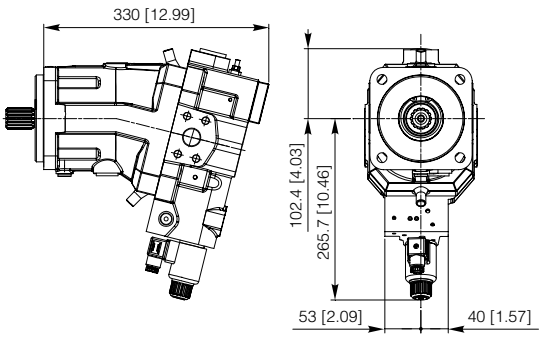
X2: Piloting port - 7/16”-20 UNF

RIN Control

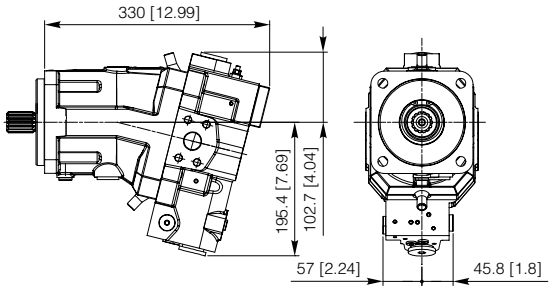


X2: Piloting port - 7/16”-20 UNF

REN Control

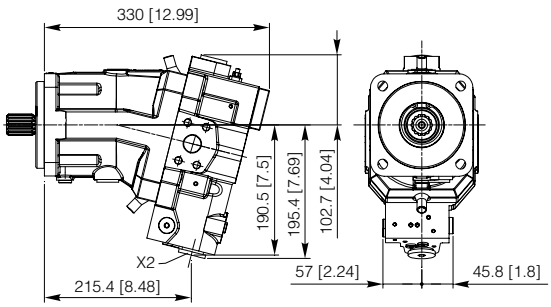


ROE Control



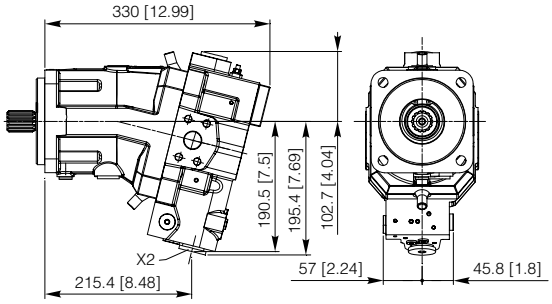
10 Control

ROI Control



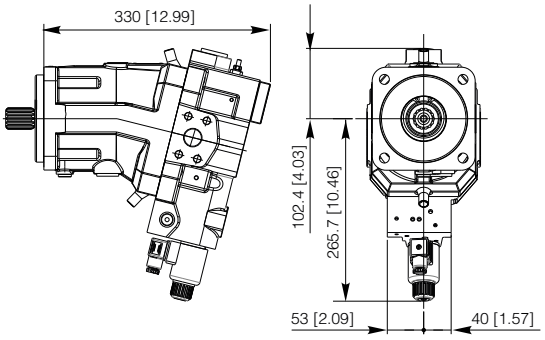
X2: Piloting port - 7/16”-20 UNF

RPI Control

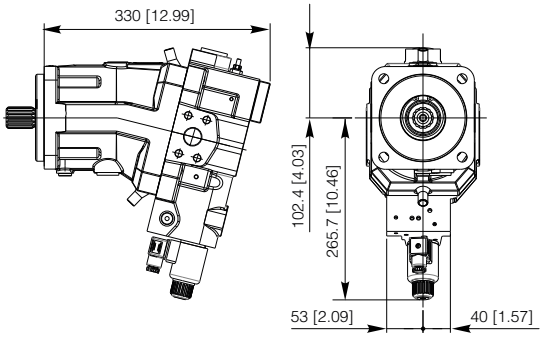


X2: Piloting port - 7/16”-20 UNF

ROS Control

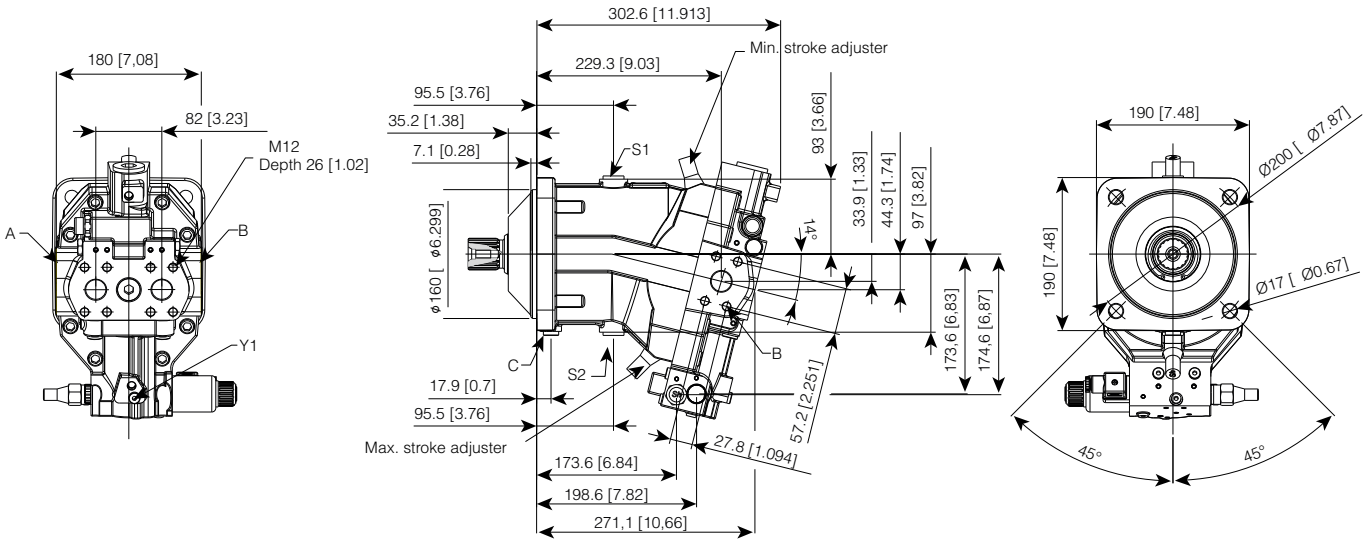


RPS Control



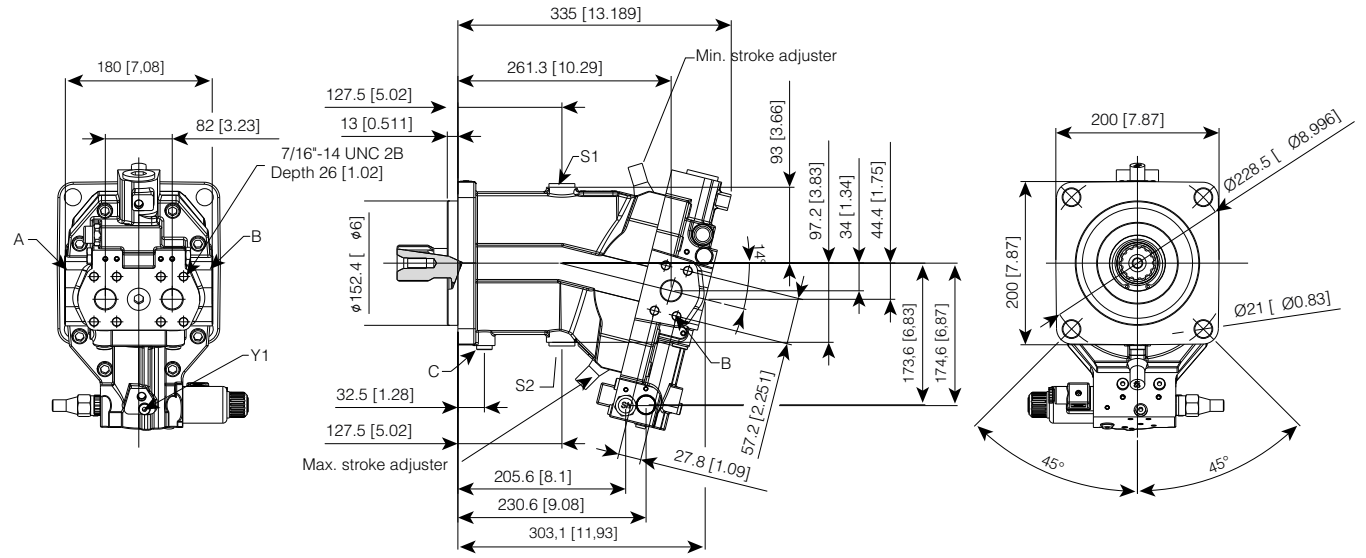
SH7V 108 - Motor dimensions

SH7V 108 Motor - Mounting flange ISO 4 Bolts (OE)



A-B: Service line ports - 1” SAE 6000
C: Air bleed bearings flushing port - 1/4 G (BSPP)
S1-S2: Case drain port - 1/2 G (BSPP)
Y1: Working pressure piloting port - 1/8 G (BSPP)

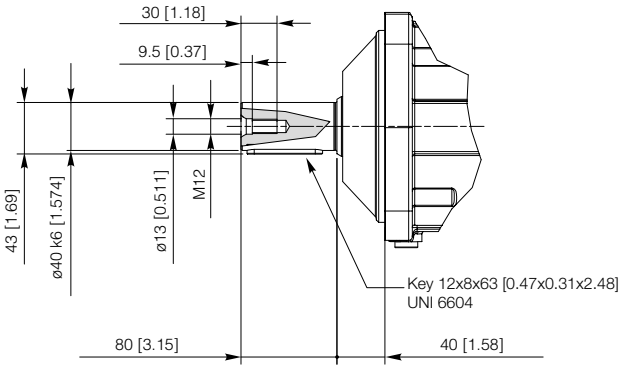
SH7V 108 Motor - Mounting flange SAE-C 4 Bolts (08)



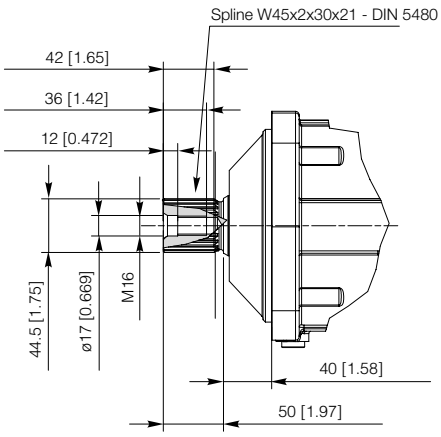
A-B: Service line ports - 1” SAE 6000
C: Air bleed bearings flushing port - 7/16”-20 UNF
S1-S2: Case drain port - 1” 1/16 - 12 UN 2B
Y1: Working pressure piloting port - 7/16”-20 UNF-2B

7 Shaft end

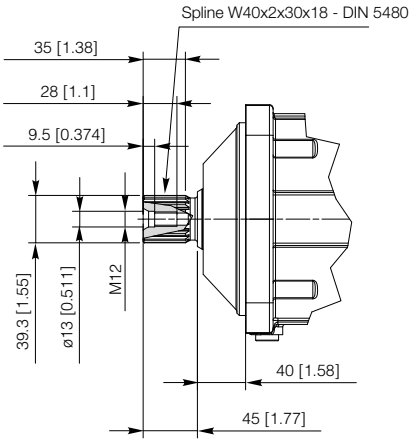
CAK Parallel keyed shaft



SAP Splined shaft



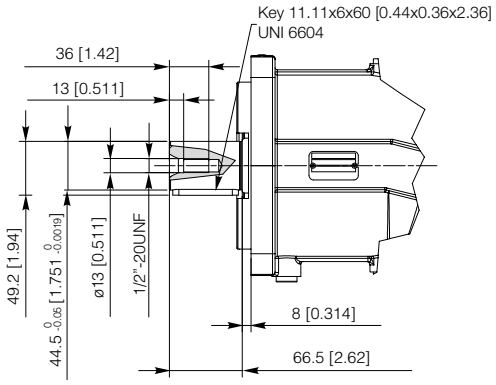
SA0 Splined shaft



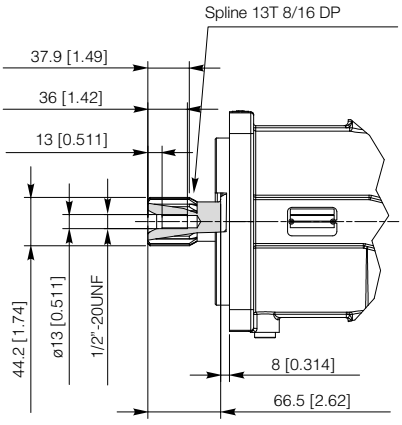
SH7V 108 - Shafts dimensions for mounting flange SAE-C 4 bolts (08)

7 Shaft end

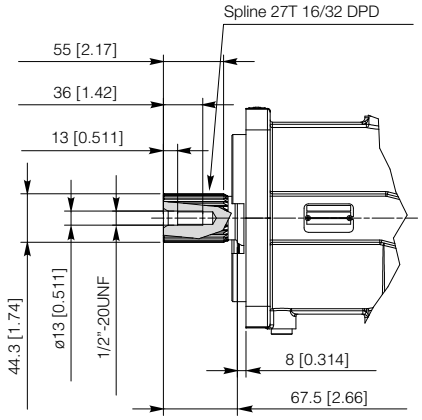
C18 Parallel keyed shaft



S15 Splined shaft

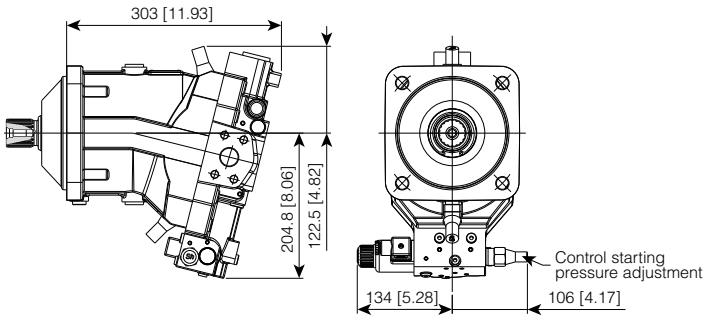


S20 Splined shaft

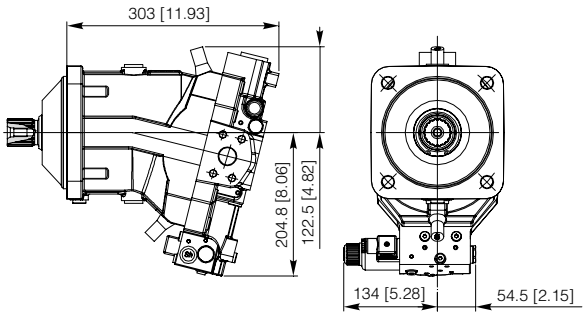


10 Control

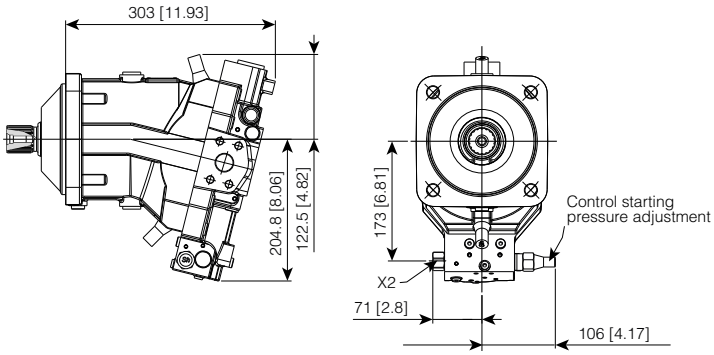
2EE Control



2EN Control

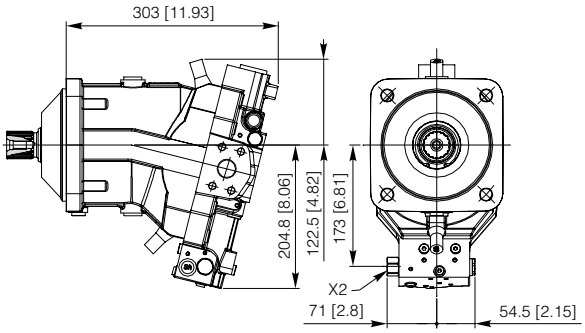


2IE Control



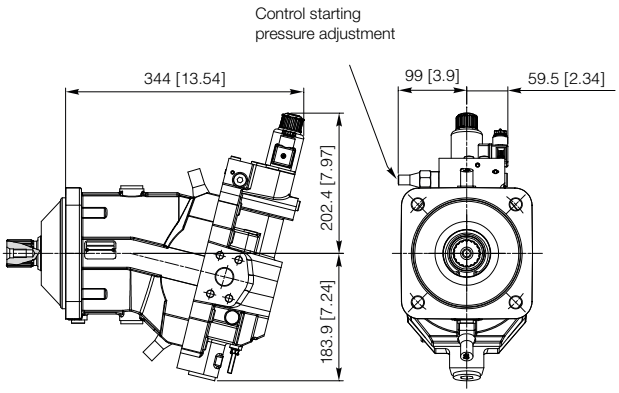
X2: Piloting port - 1/4 G (BSPP)

2IN Control

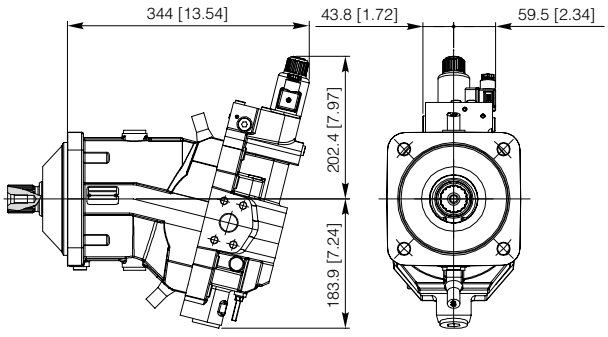


X2: Piloting port - 1/4 G (BSPP)

REE Control



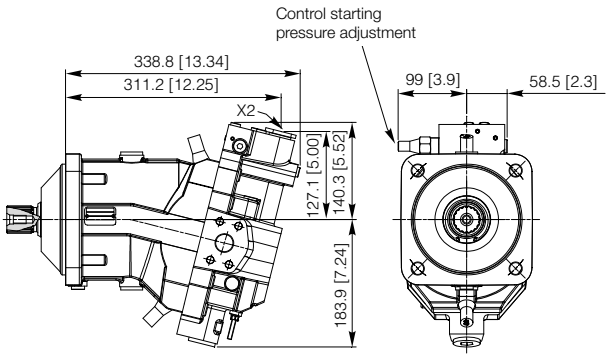
REN Control



SH7V 108 - Control dimensions for mounting flange ISO 4 bolts (OE) (Displ. setting 1)

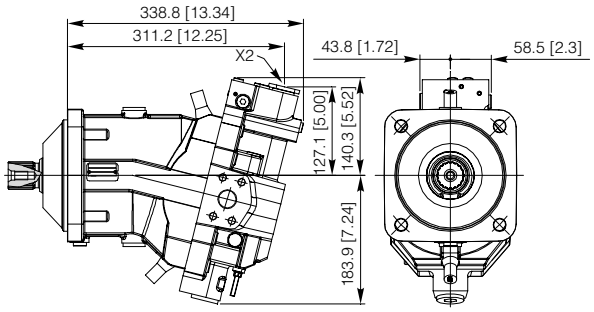
10 Control

RIE Control



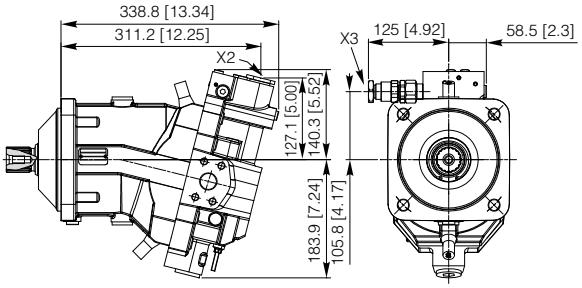
X2: Piloting port - 1/4 G (BSPP)

RIN Control



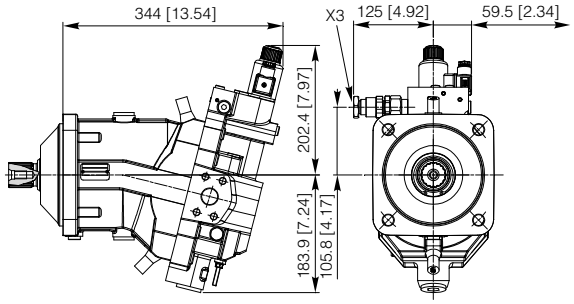
X2: Piloting port - 1/4 G (BSPP)

RID Control



X2: Piloting port - 1/4 G (BSPP)
X3: Double step piloting port - 1/4 G (BSPP)

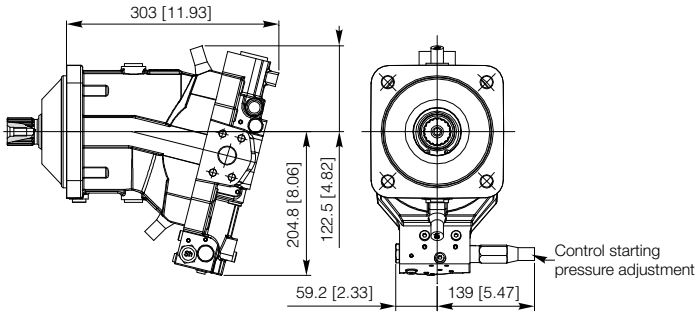
RED Control



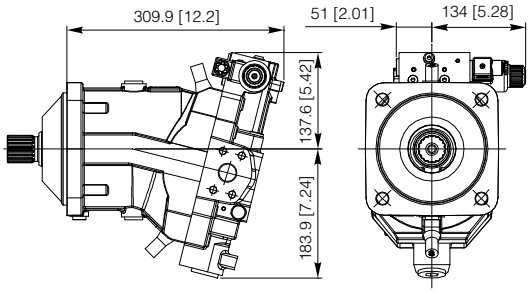
X3: Double step piloting port - 1/4 G (BSPP)

10 Control

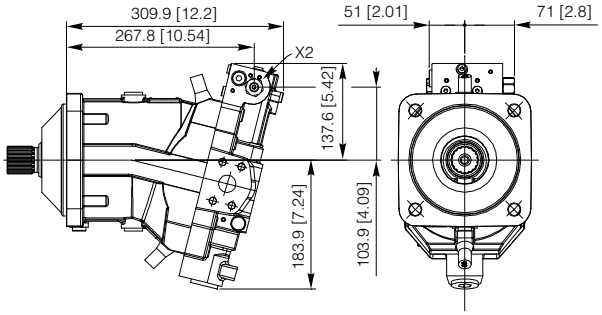
RPE Control



2EN Control

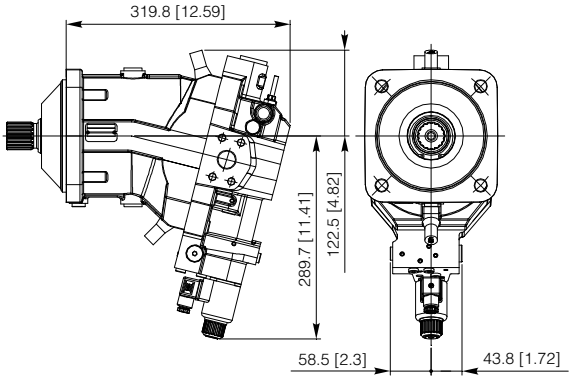


2IN Control

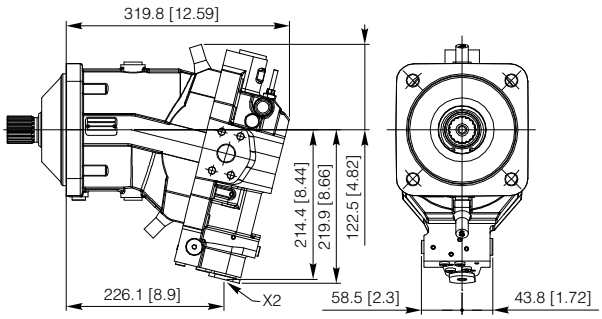


X2: Piloting port - 1/4 G (BSPP)

REN Control

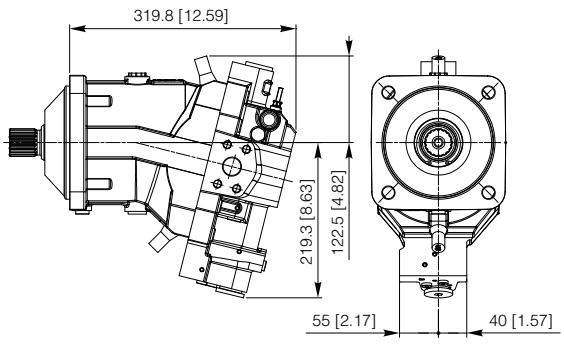


RIN Control



X2: Piloting port - 1/4 G (BSPP)

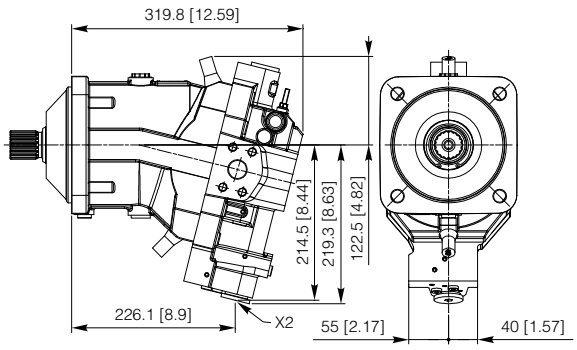
ROE Control



SH7V 108 - Control dimensions for mounting flange ISO 4 bolts (OE) (Displ. setting 2)

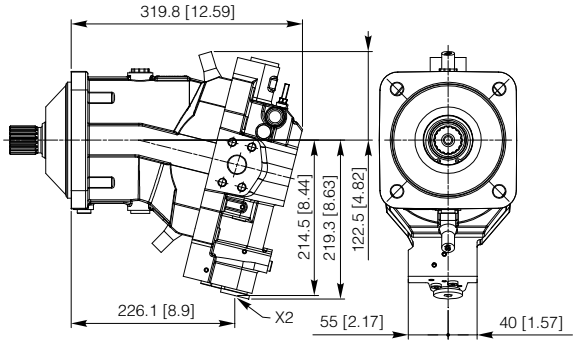
10 Control

ROI Control



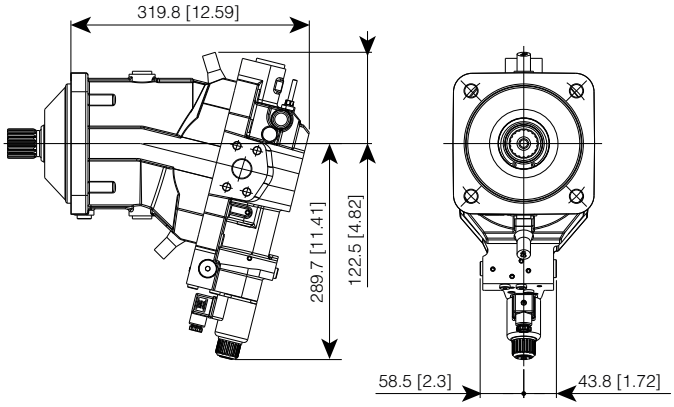
X2: Piloting port - 1/4 G (BSPP)

RPI Control

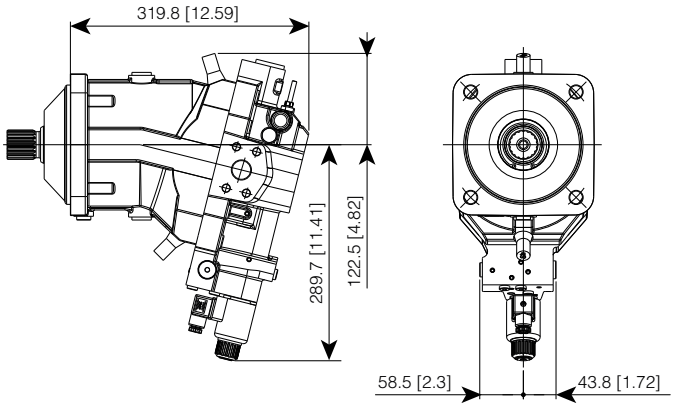


X2: Piloting port - 1/4 G (BSPP)

ROS Control

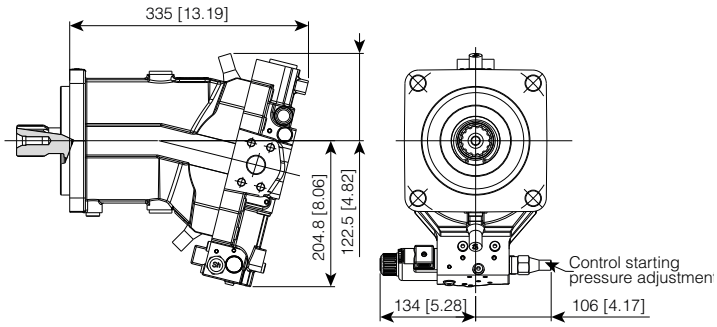


RPS Control

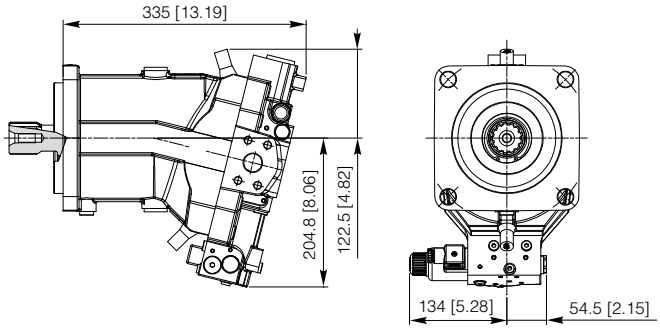


10 Control

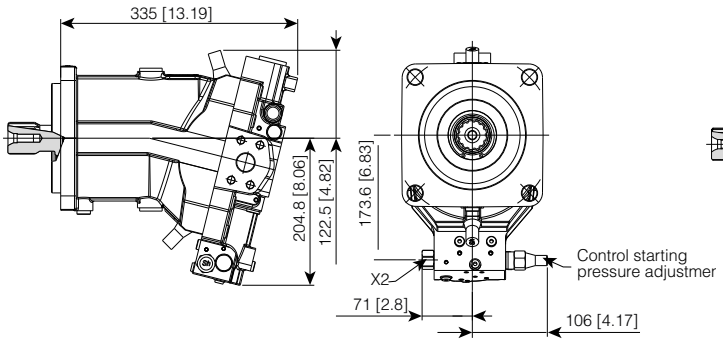
2EE Control



2EN Control

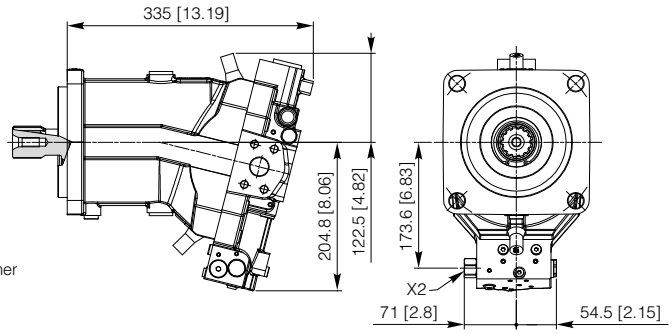


2IE Control



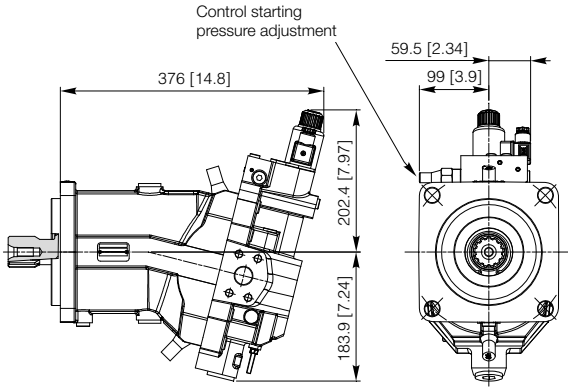
X2: Piloting port - 7/16”-20 UNF

2IN Control

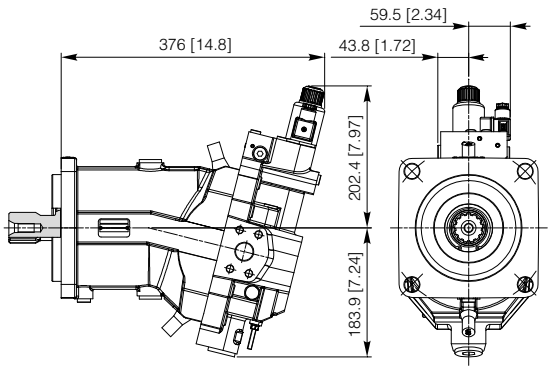


X2: Piloting port - 7/16”-20 UNF

REE Control



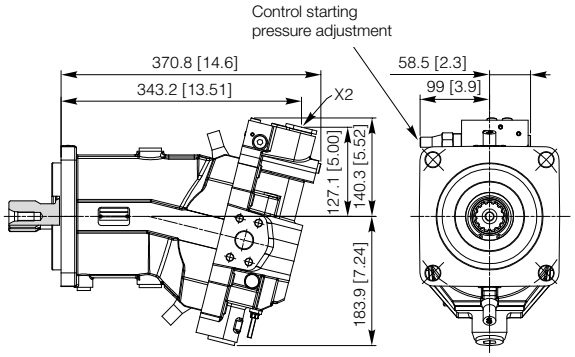
REN Control



SH7V 108 - Control dimensions for mounting flange SAE-C 4 bolts (08) (Displ. setting 1)

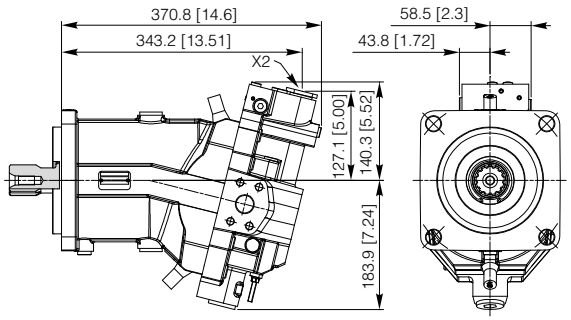
10 Control

RIE Control



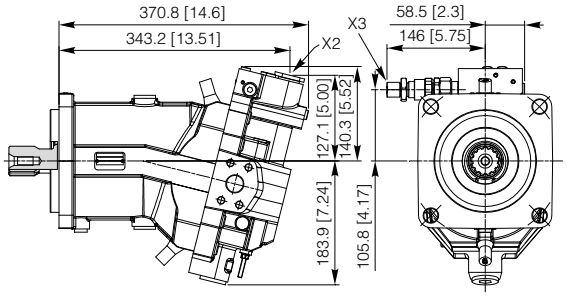
X2: Piloting port - 7/16”-20 UNF

RIN Control



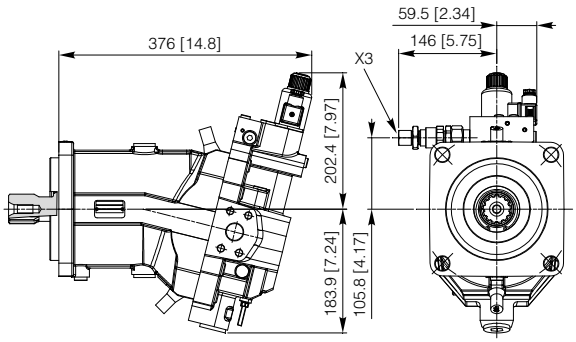
X2: Piloting port - 7/16”-20 UNF

RID Control



X2: Piloting port - 7/16”-20 UNF
X3: Double step piloting port - 7/16”-20 UNF

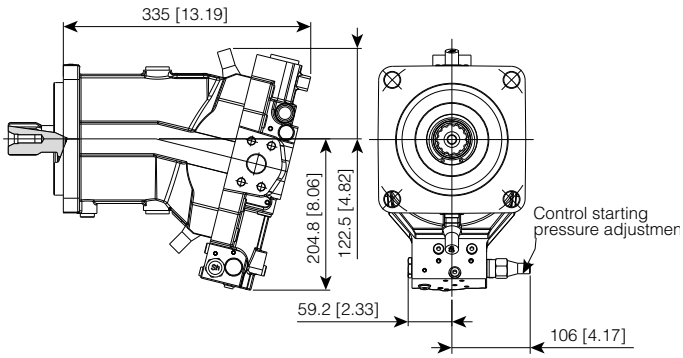
RED Control



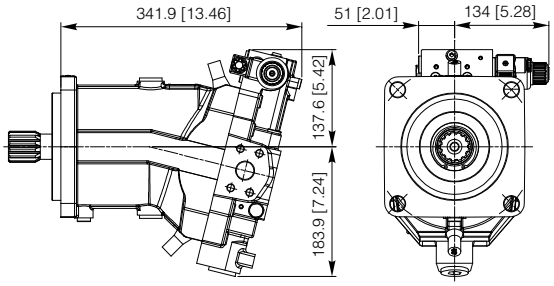
X3: Double step piloting port - 7/16”-20 UNF

10 Control

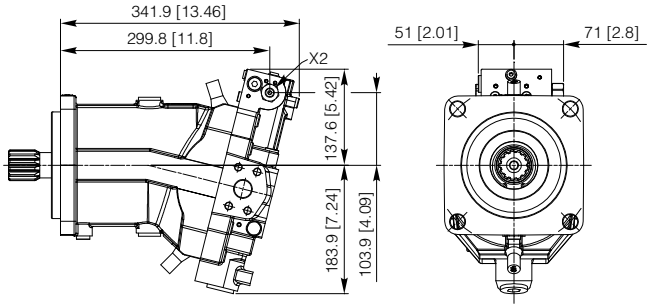
RPE Control



2EN Control

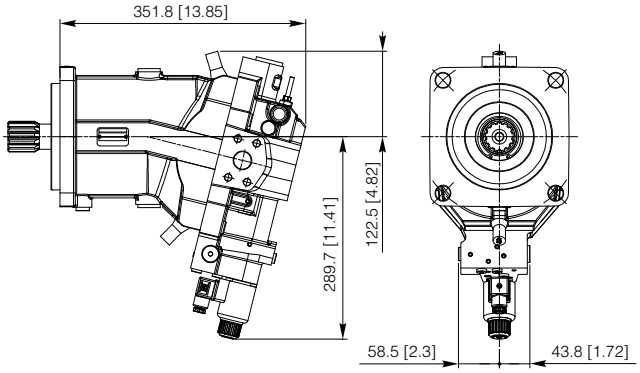


2IN Control

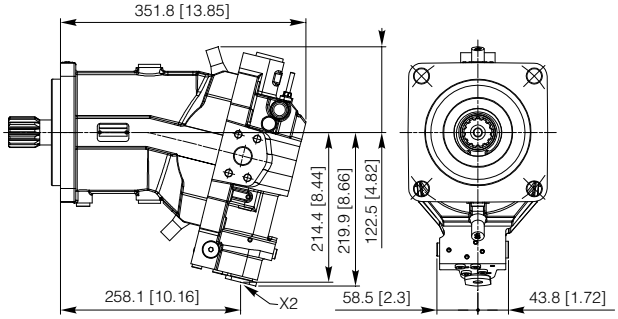


X2: Piloting port - 7/16”-20 UNF

REN Control

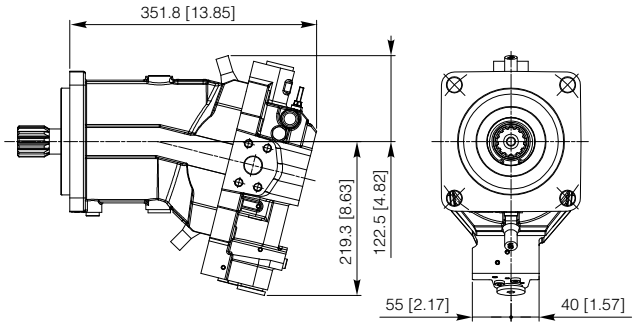


RIN Control



X2: Piloting port - 7/16”-20 UNF

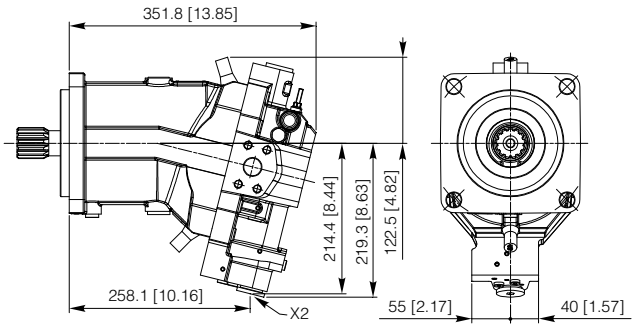
ROE Control



SH7V 108 - Control dimensions for mounting flange SAE-C 4 bolts (08) (Displ. setting 2)

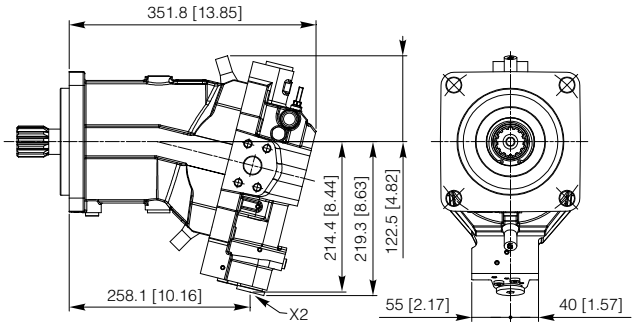
10 Control

ROI Control



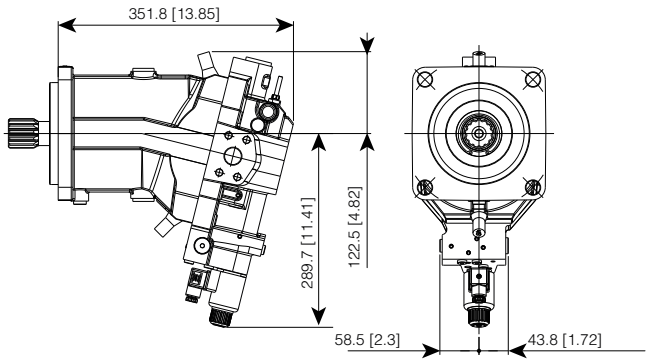
X2: Piloting port - 7/16”-20 UNF

RPI Control

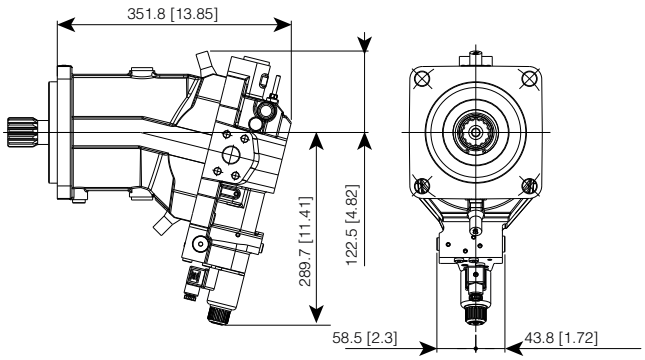


X2: Piloting port - 7/16”-20 UNF

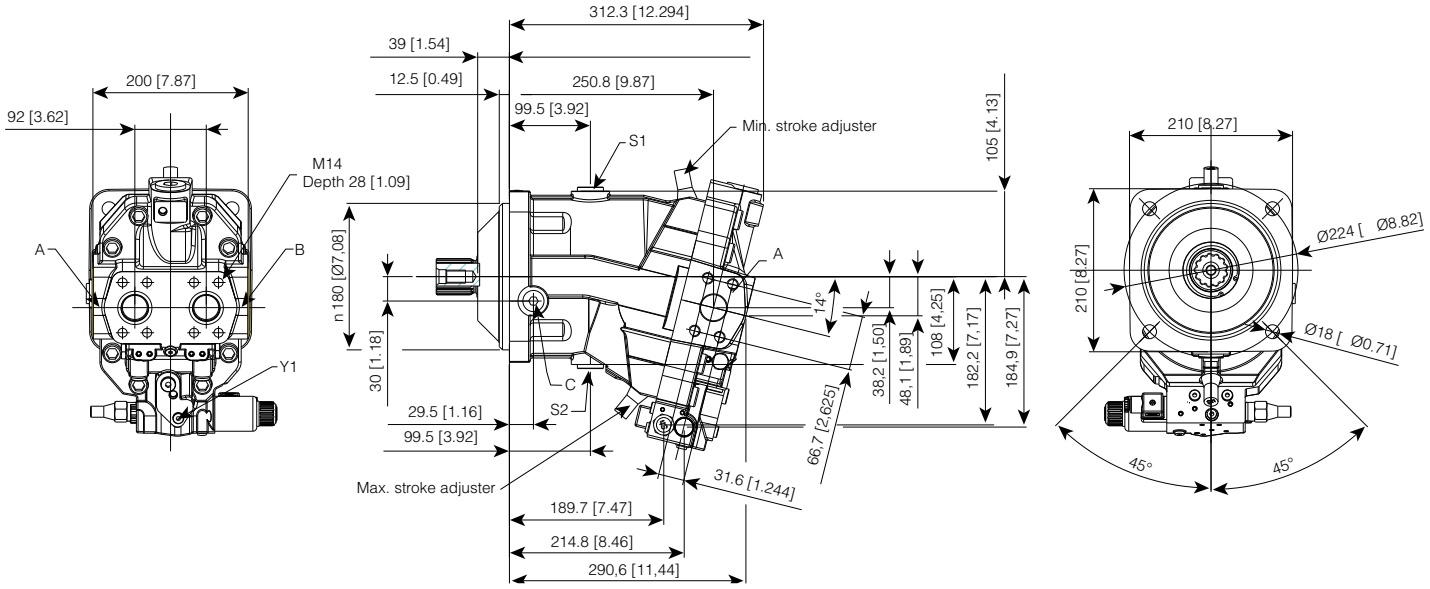
ROS Control



RPS Control

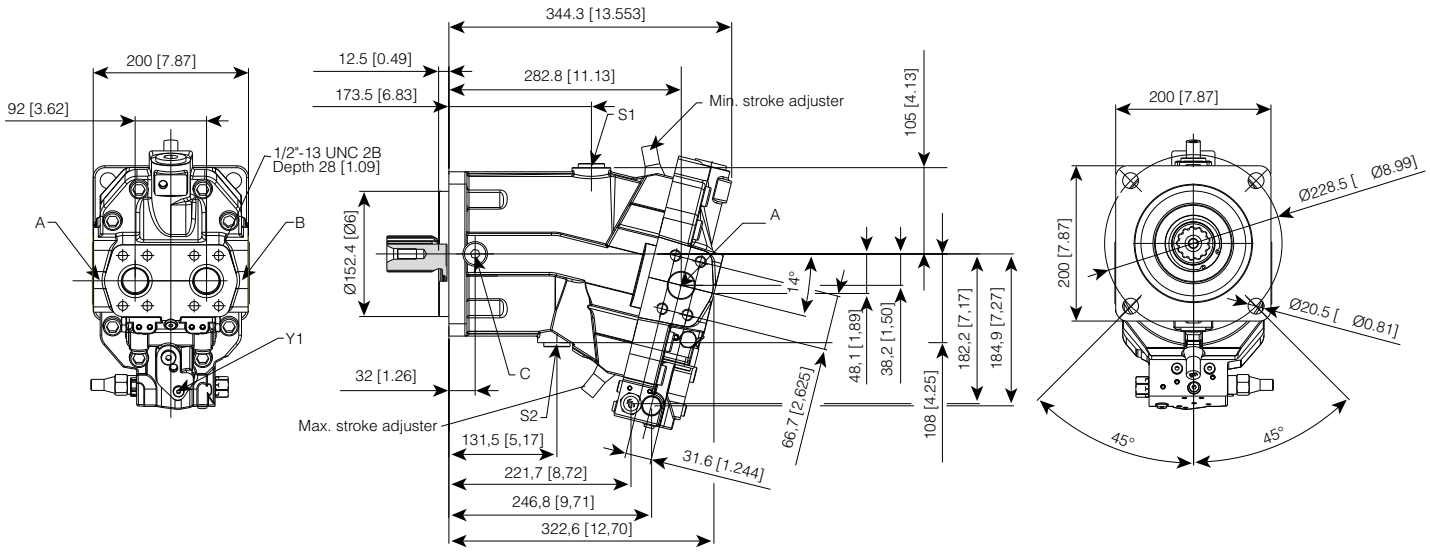


SH7V 160 Motor - Mounting flange ISO 4 Bolts (OF)



A-B: Service line ports - 1”1/4 SAE 6000
C: Air bleed bearings flushing port - 1/2 G (BSPP)
S1-S2: Case drain port - 3/4 G (BSPP)
Y1: Working pressure piloting port - 1/8 G (BSPP)

SH7V 160 Motor - Mounting flange SAE-D 4 Bolts (08)

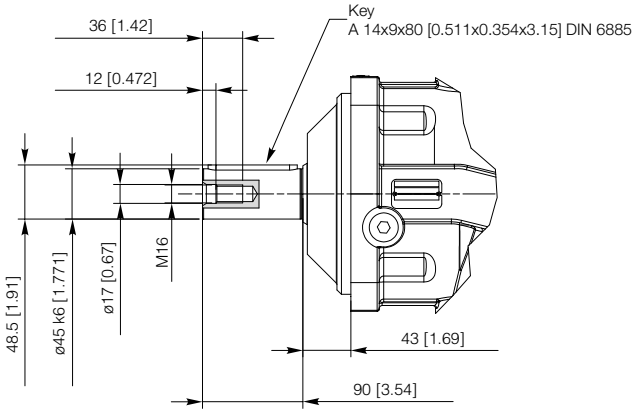


A-B: Service line ports - 1”1/4 SAE 6000
C: Air bleed bearings flushing port - 3/4”-16 UNF-2B
S1-S2: Case drain port - 1” 1/16 - 12 UN-2B
Y1: Working pressure piloting port - 7/16”-20 UNF-2B

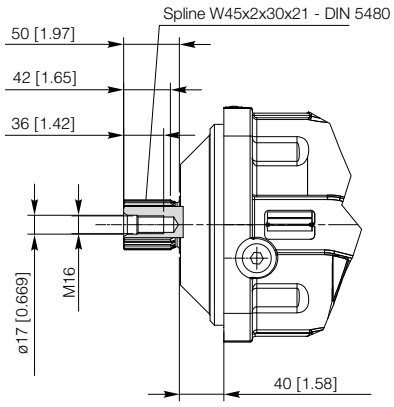
SH7V 160 - Shafts dimensions for mounting flange ISO 4 bolts (OF)

7 Shaft end

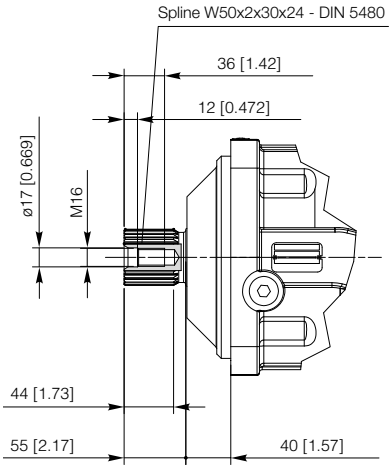
CAJ Parallel keyed shaft



SAP Splined shaft

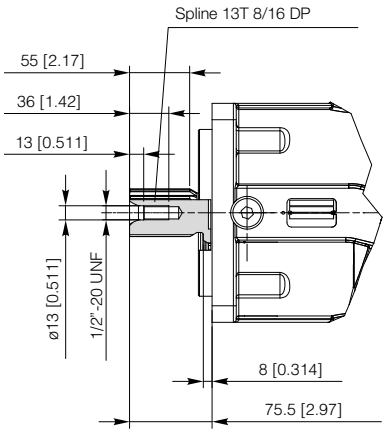


SAR Splined shaft

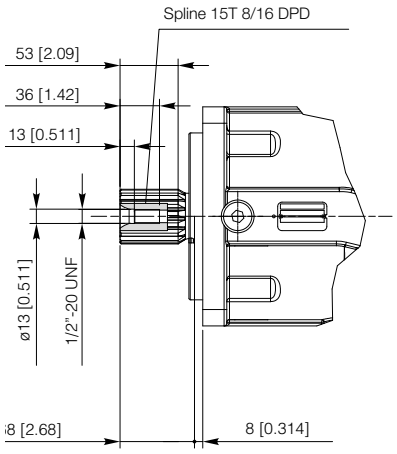


7 Shaft end

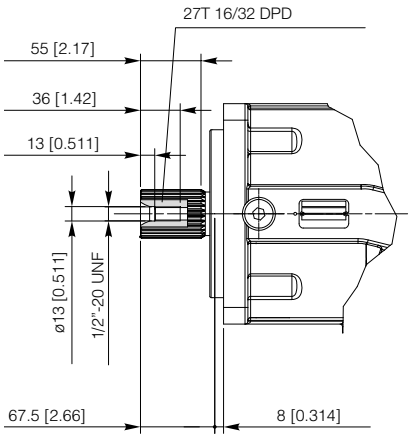
S15 Splined shaft



S19 Splined shaft



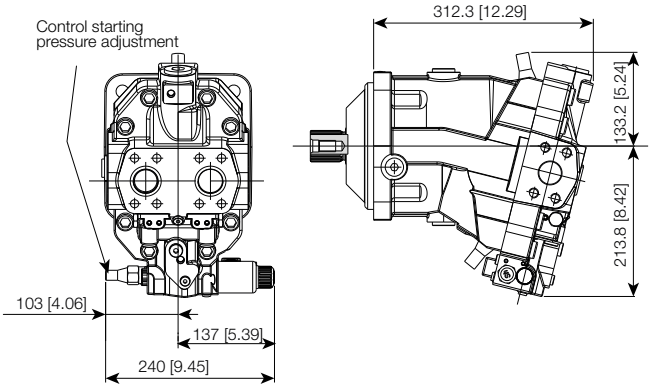
S20 Splined shaft



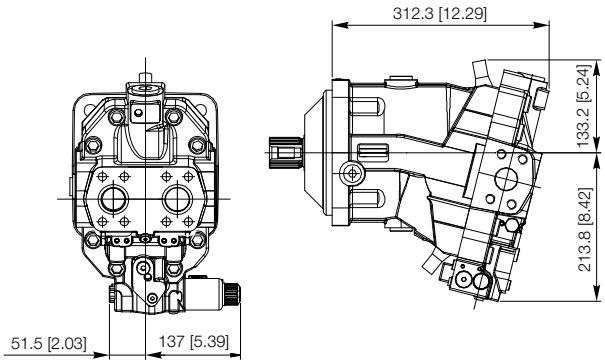
SH7V 160 - Control dimensions for mounting flange ISO 4 bolts (OF) (Displ. setting 1)

10 Control

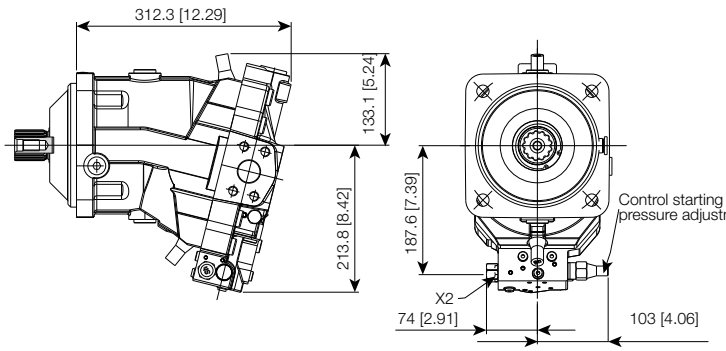
2EE Control



2EN Control

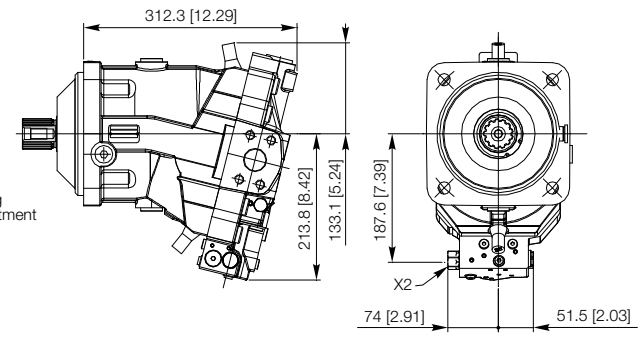


2IE Control



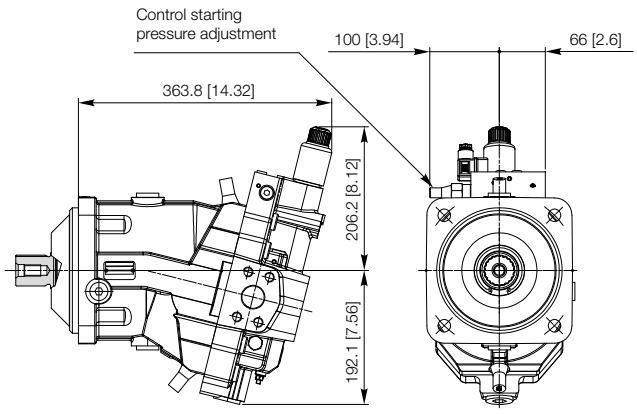
X2: Piloting port - 1/4 G (BSPP)

2IN Control

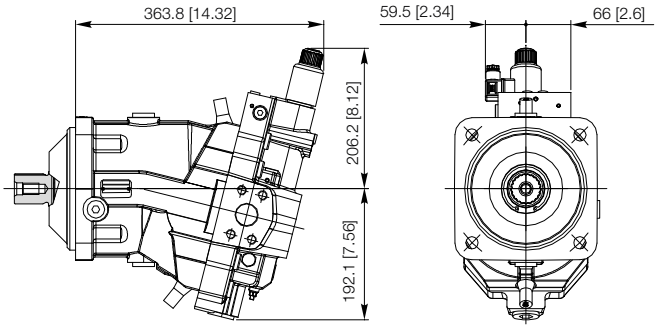


X2: Piloting port - 1/4 G (BSPP)

REE Control

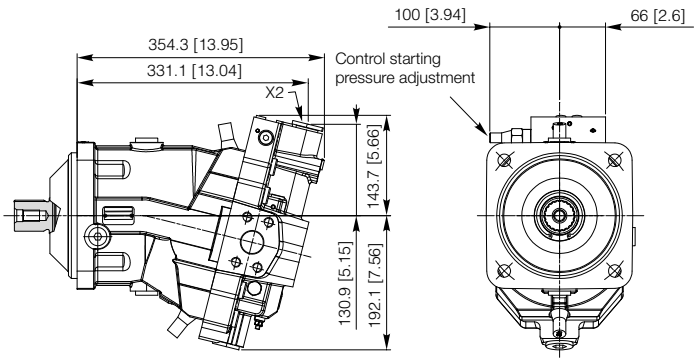


REN Control



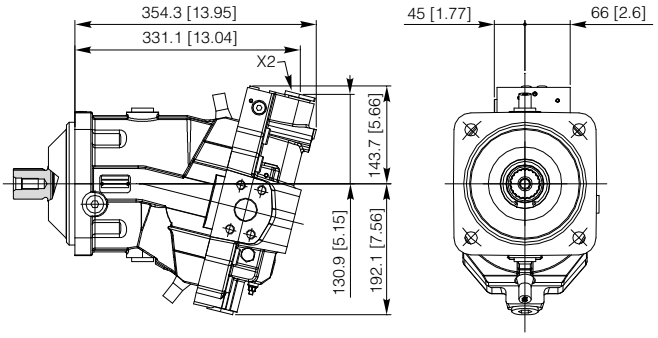
10 Control

RIE Control



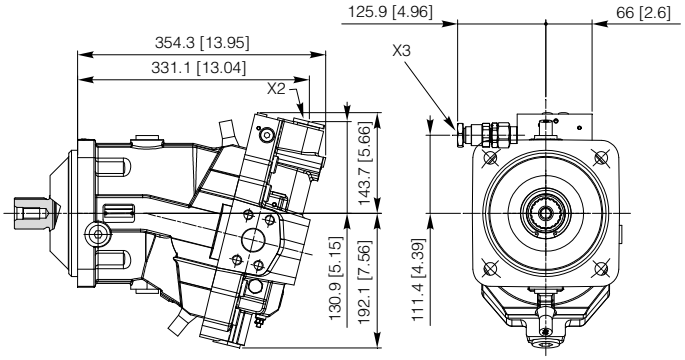
X2: Piloting port - 1/4 G (BSPP)

RIN Control



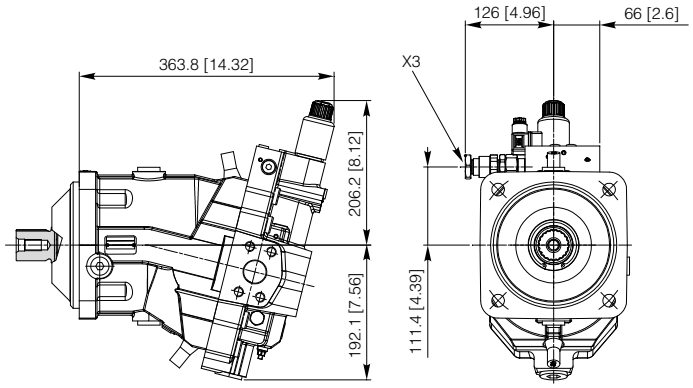
X2: Piloting port - 1/4 G (BSPP)

RID Control



X2: Piloting port - 1/4 G (BSPP)
X3: Double step piloting port - 1/4 G (BSPP)

RED Control

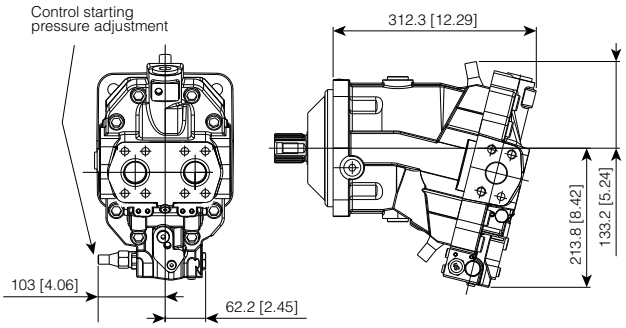


X3: Double step piloting port - 1/4 G (BSPP)

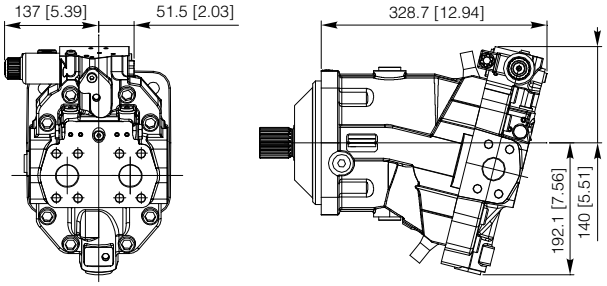
SH7V 160 - Control dimensions for mounting flange ISO 4 bolts (OF) (Displ. setting 2)

10 Control

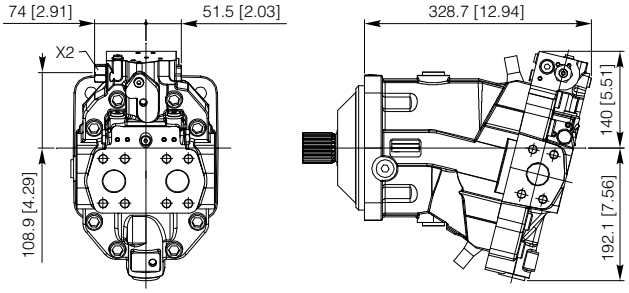
RPE Control



2EN Control

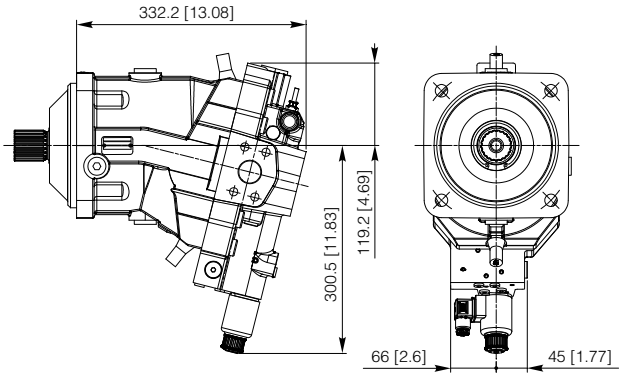


2IN Control

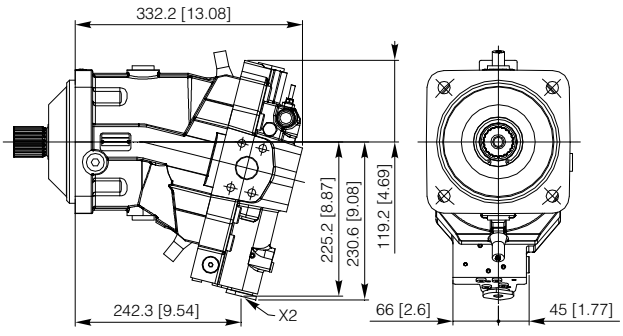


X2: Piloting port - 1/4 G (BSPP)

REN Control

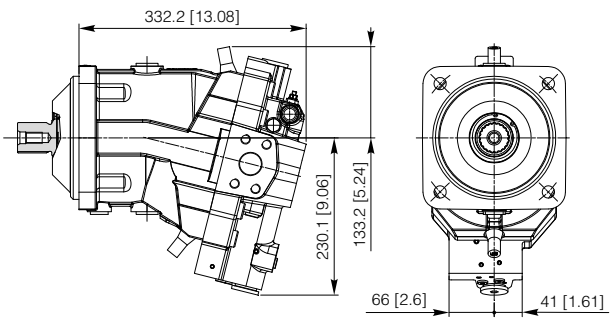


RIN Control



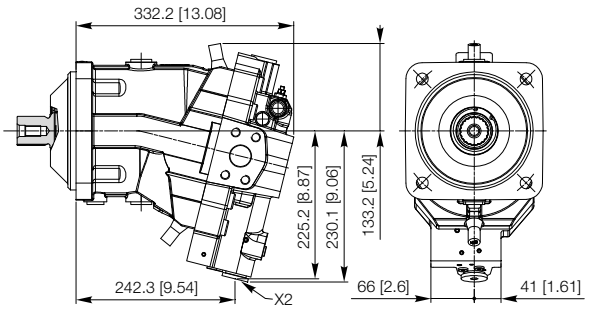
X2: Piloting port - 1/4 G (BSPP)

ROE Control



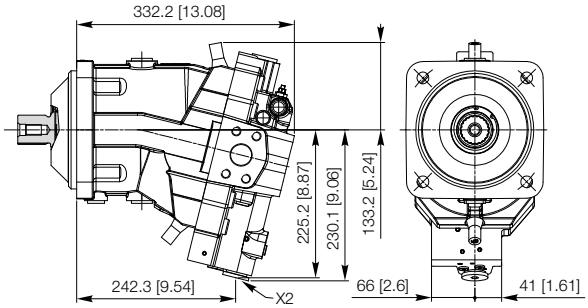
10 Control

ROI Control



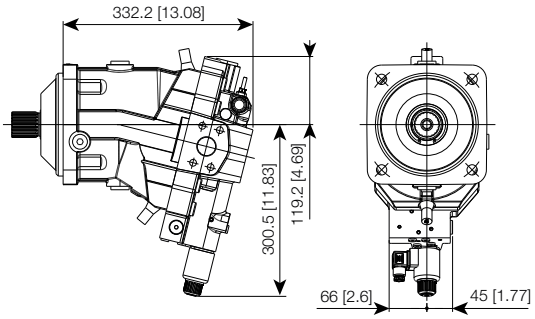
X2: Piloting port - 1/4 G (BSPP)

RPI Control

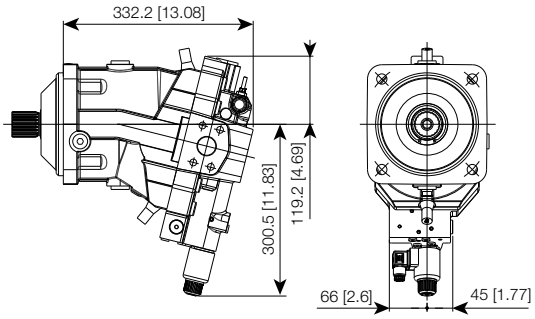


X2: Piloting port - 1/4 G (BSPP)

ROS Control



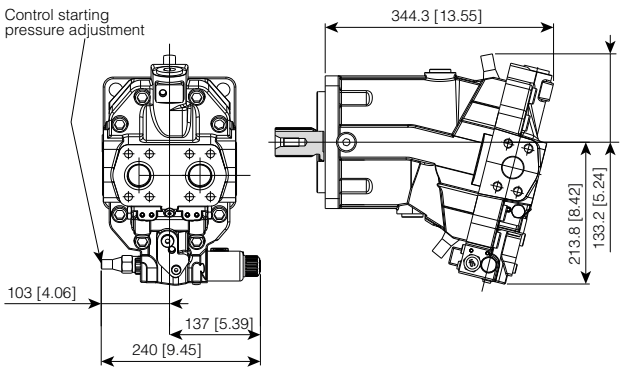
RPS Control



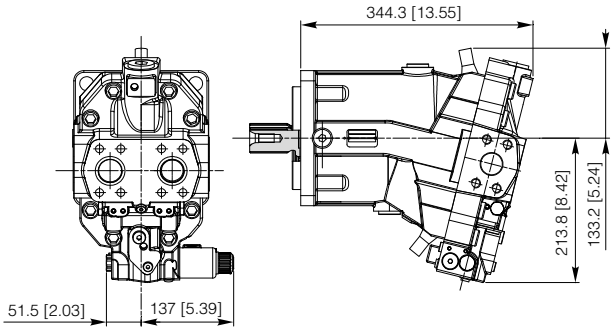
SH7V 160 - Control dimensions for mounting flange SAE-D 4 bolts (08) (Displ. setting 1)

10 Control

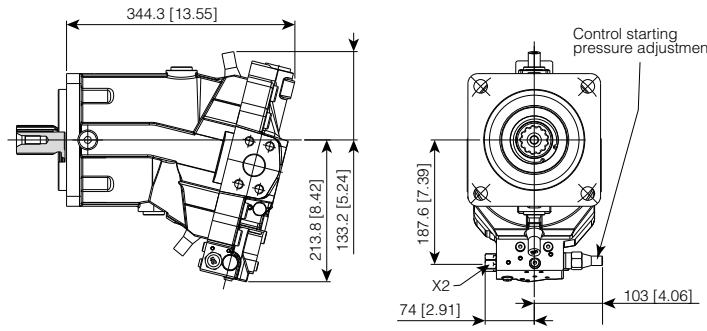
2EE Control



2EN Control

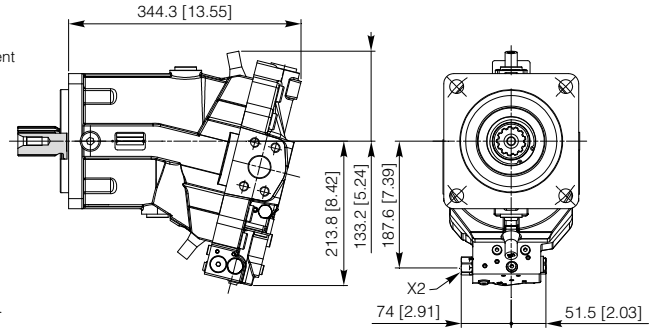


2IE



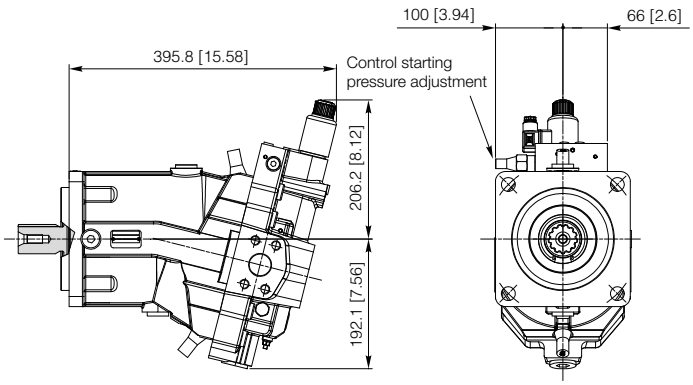
X2: Piloting port - 7/16”-20 UNF-2B

2IN Control

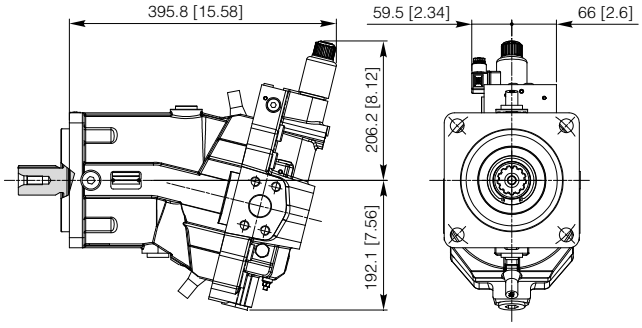


X2: Piloting port - 7/16”-20 UNF-2B

REE Control

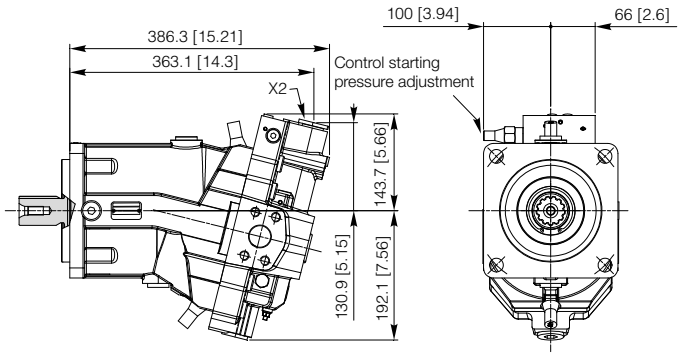


REN Control



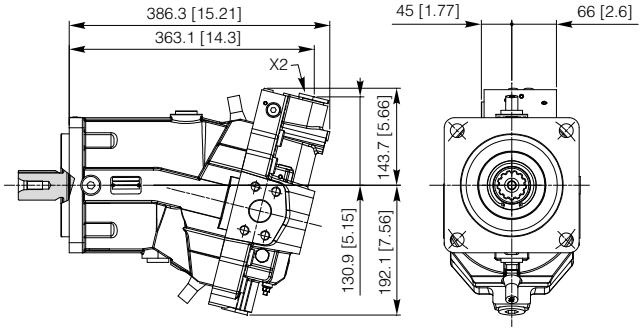
10 Control

RIE Control



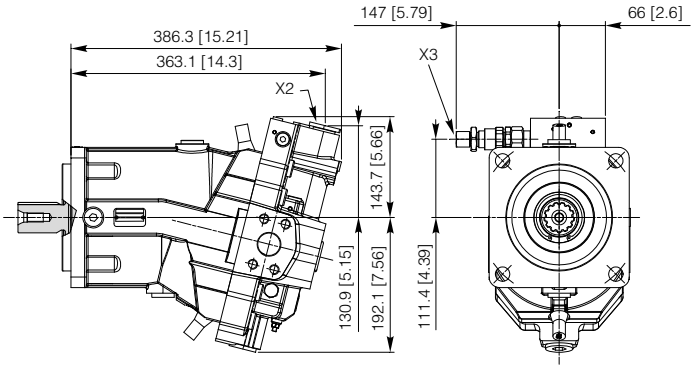
X2: Piloting port - 7/16”-20 UNF-2B

RIN Control



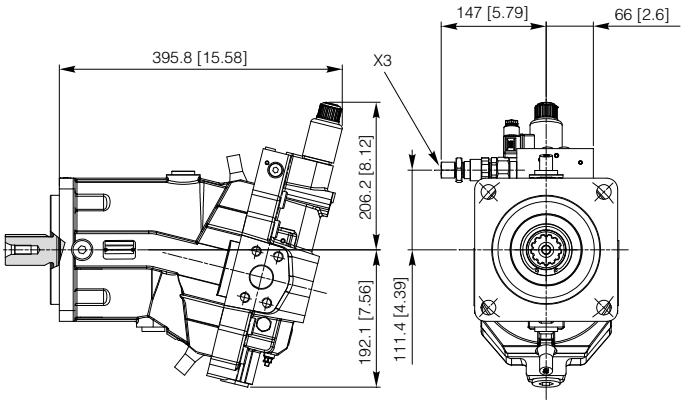
X2: Piloting port - 7/16”-20 UNF-2B

RID Control



X2: Piloting port - 7/16”-20 UNF
X3: Double step piloting port - 7/16”-20 UNF

RED Control

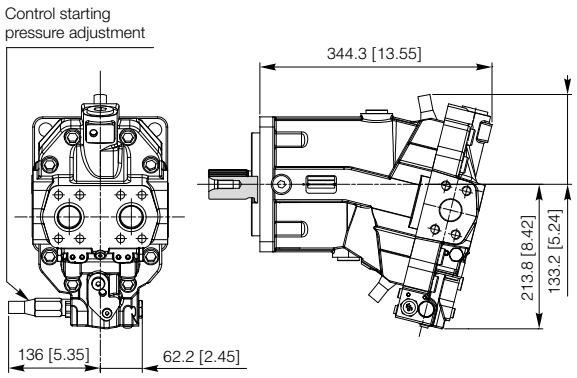


X3: Double step piloting port - 7/16”-20 UNF

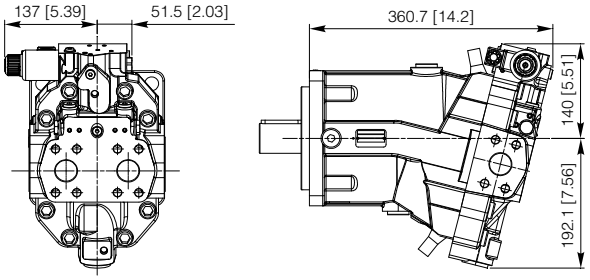
SH7V 160 - Control dimensions for mounting flange SAE-D 4 bolts (08) (Displ. setting 2)

10 Control

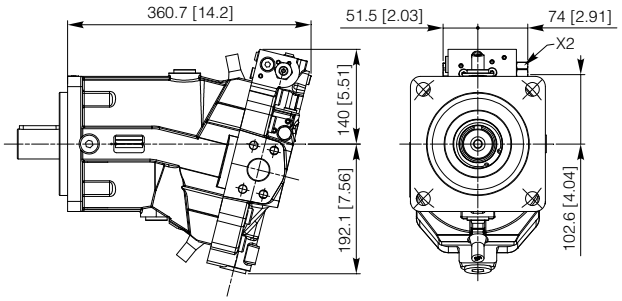
RPE Control



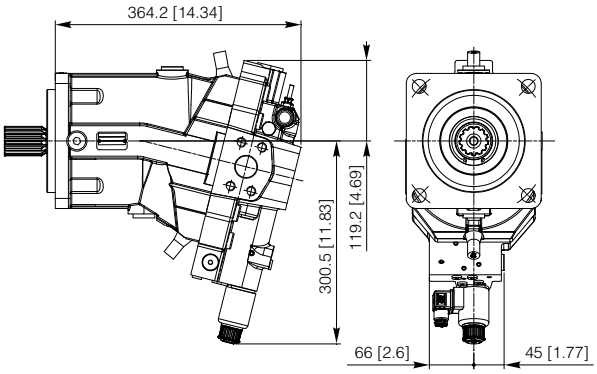
2EN Control



2IN Control

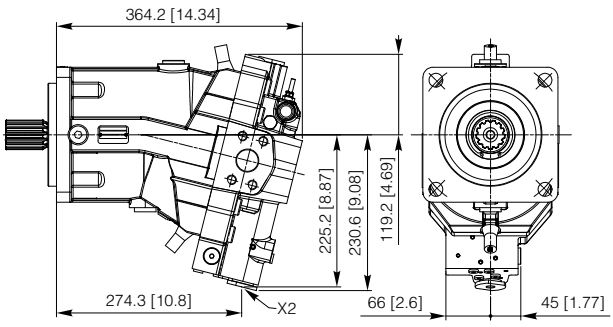


REN Control

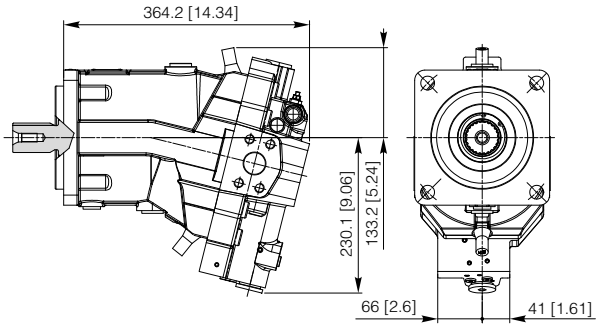


X2: Piloting port - 7/16”-20 UNF-2B

RIN Control



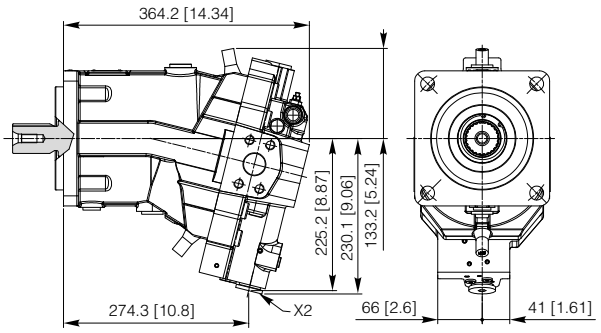
ROE Control



X2: Piloting port - 7/16”-20 UNF-2B

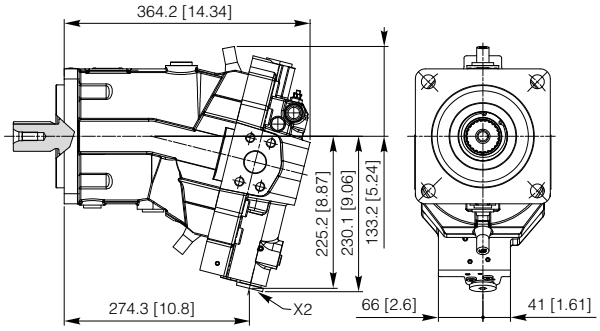
10 Control

ROI Control



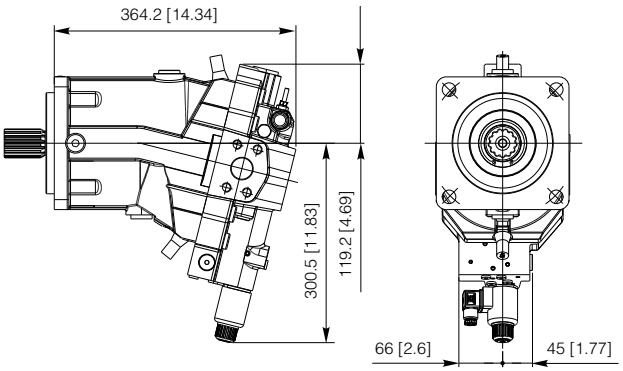
X2: Piloting port - 7/16”-20 UNF-2B

RPI Control

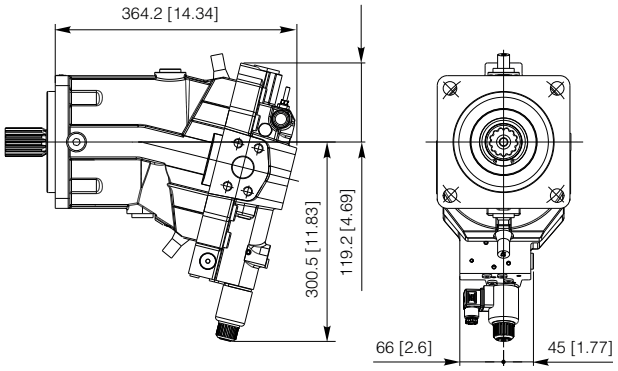


X2: Piloting port - 7/16”-20 UNF-2B

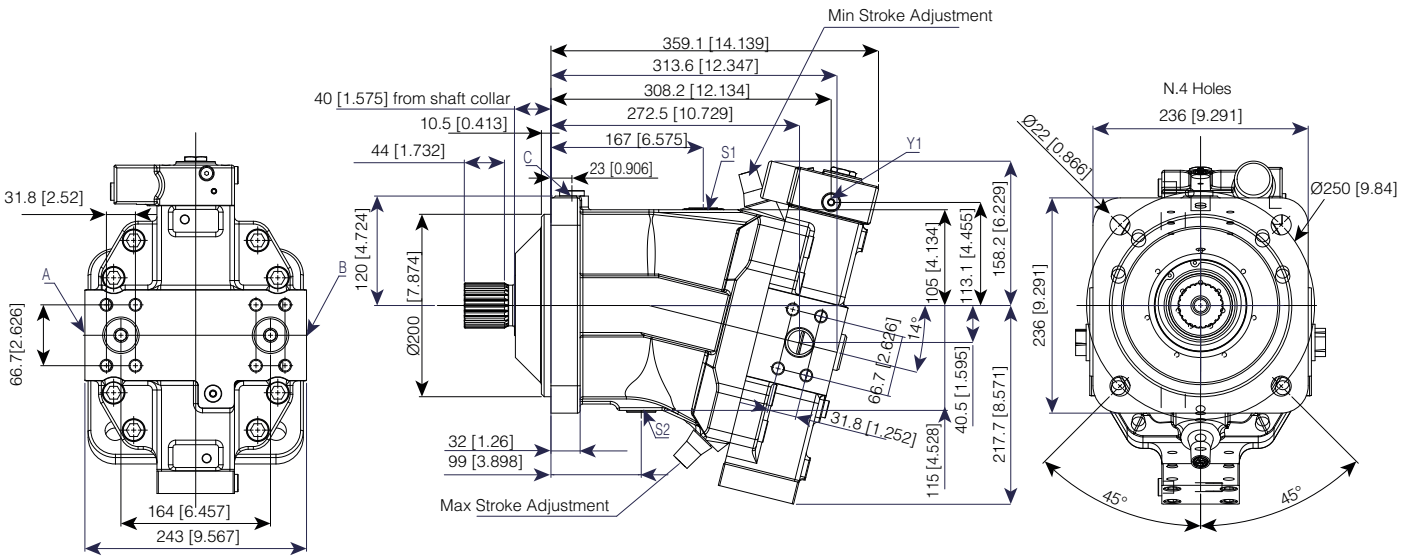
ROS Control



RPS Control

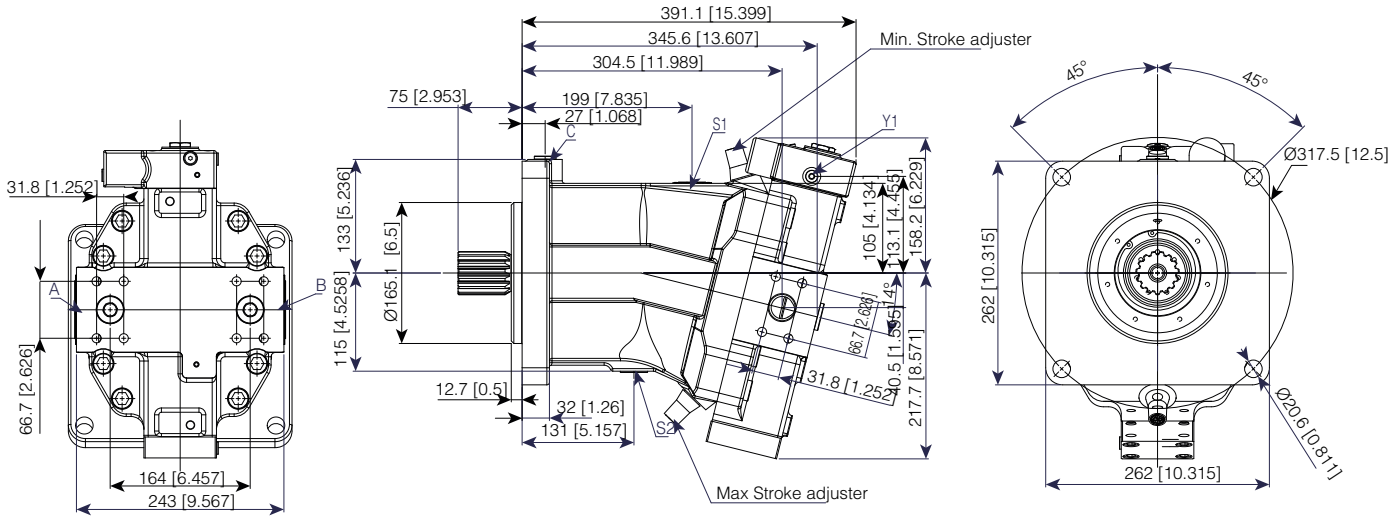


SH7V 200 Motor - Mounting flange ISO 4 Bolts (OG)



A-B: Service line ports - 1”1/4 SAE 6000
C: Air bleed bearings flushing port - 1/2 G (BSPP)
S1-S2: Case drain port - 3/4 G (BSPP)
Y1: Working pressure piloting port - 1/8 G (BSPP)

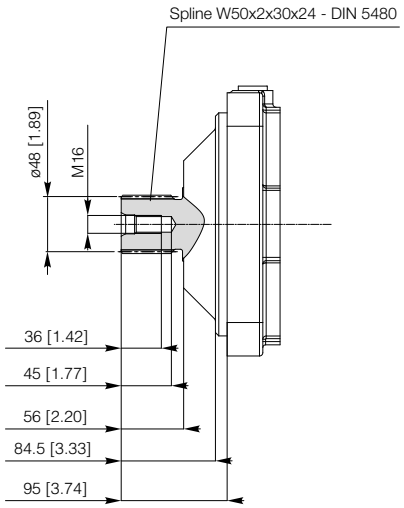
SH7V 200 Motor - Mounting flange SAE-E 4 Bolts (10)



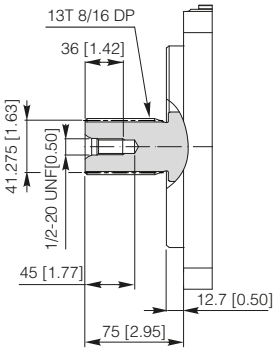
A-B: Service line ports - 1”1/4 SAE 6000
C: Air bleed bearings flushing port - 3/4”-16 UNF-2B
S1-S2: Case drain port - 1” 1/16 - 12 UN-2B
Y1: Working pressure piloting port - 7/16”-20 UNF-2B

7 Shaft end - for mounting flange SAE

SAR Splined shaft

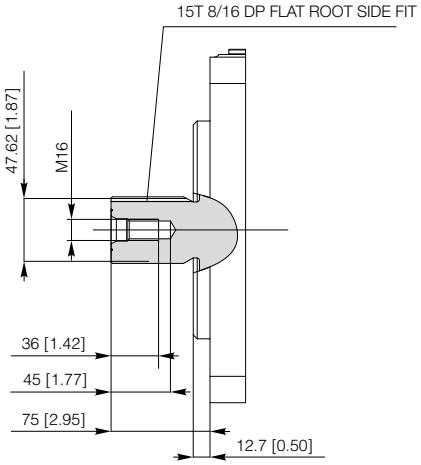


S15 Splined shaft



7 Shaft end - for mounting flange ISO

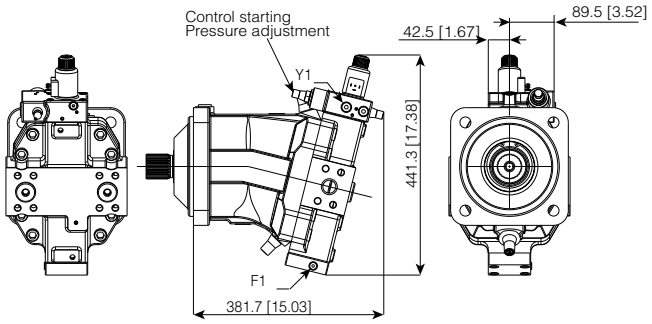
S19 Splined shaft



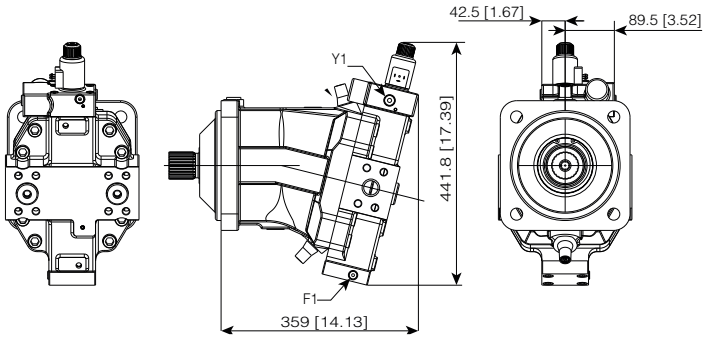
SH7V 200 - Control dimensions for mounting flange ISO 4 bolts (OG) (Displ. setting 1)

10 Control

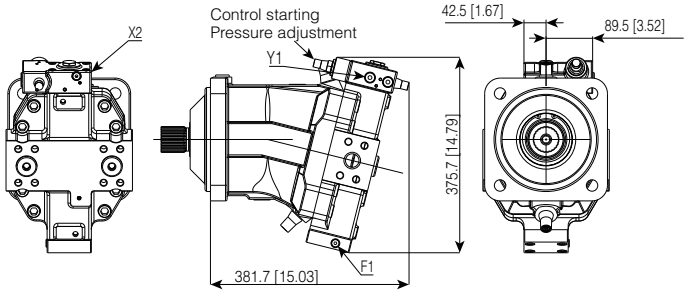
2EE Control



2EN Control

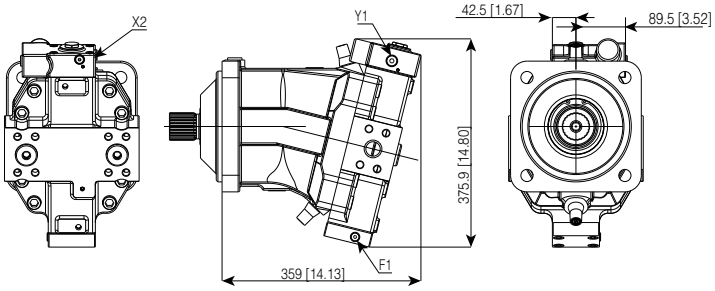


2IE Control



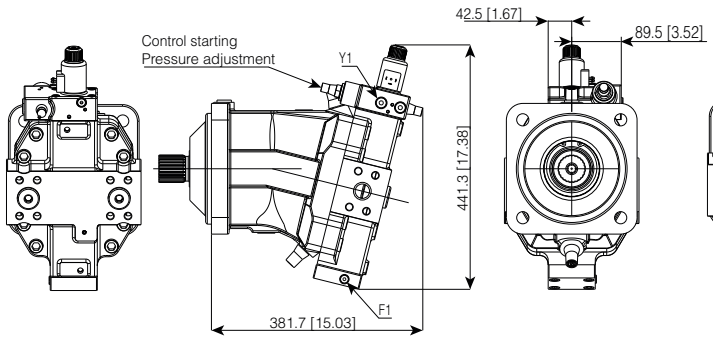
X2: Piloting port - 7/16”-20 UNF

2IN Control

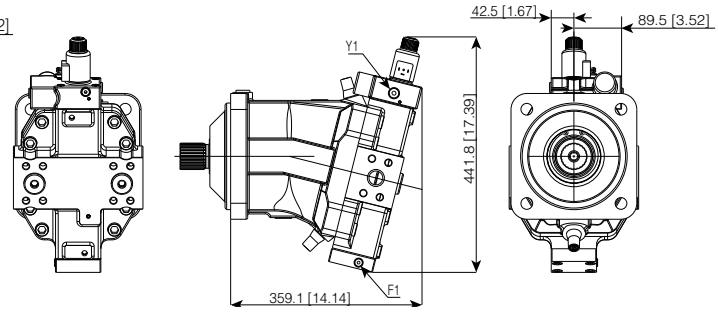


X2: Piloting port - 7/16”-20 UNF

REE Control

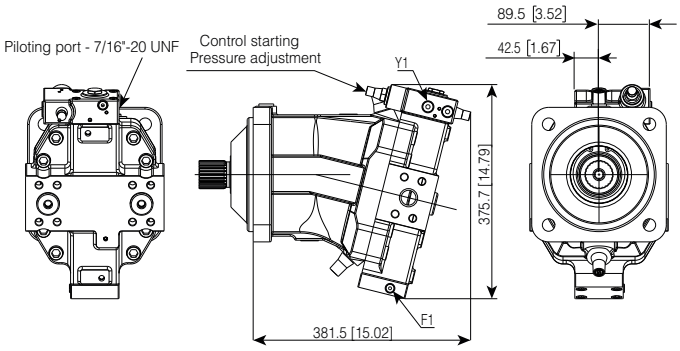


REN Control

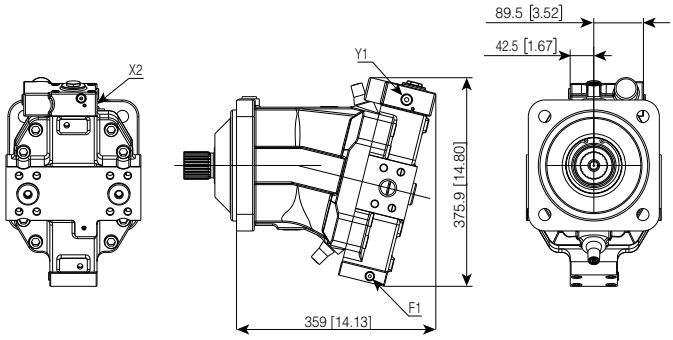


10 Control

RIE Control

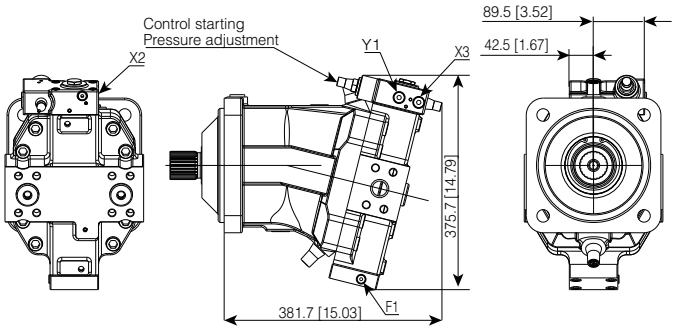


RIN Control



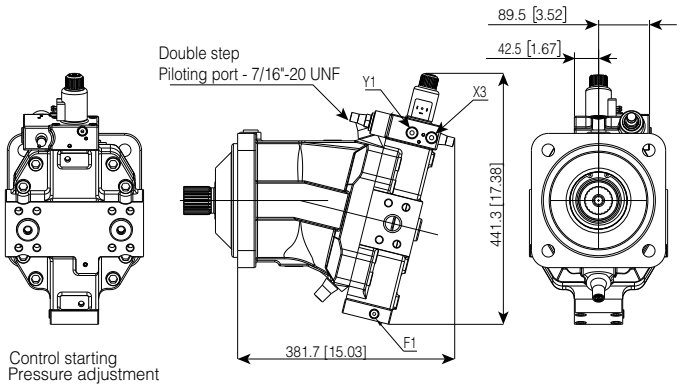
X2: Piloting port - 7/16”-20 UNF

RID Control



X2: Piloting port - 7/16"-20 UNF
X3: Double step Piloting port - 7/16"-20 UNF

RED Control

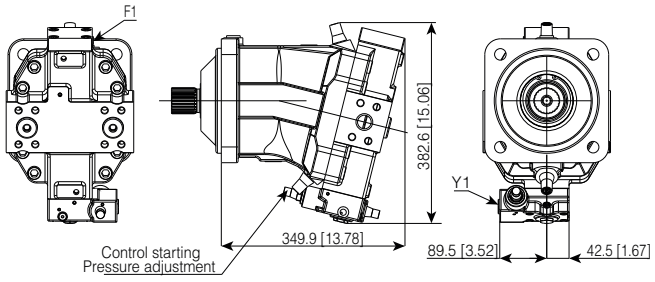


X3: Double step piloting port - 1/4 G (BSPP)

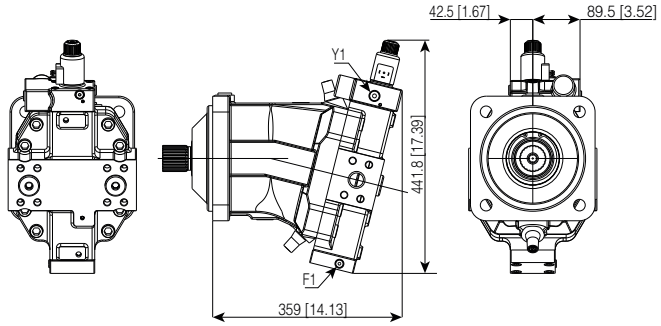
SH7V 200 - Control dimensions for mounting flange ISO 4 bolts (OG) (Displ. setting 2)

10 Control

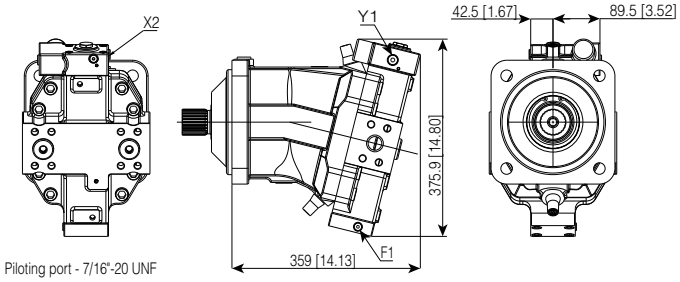
RPE Control



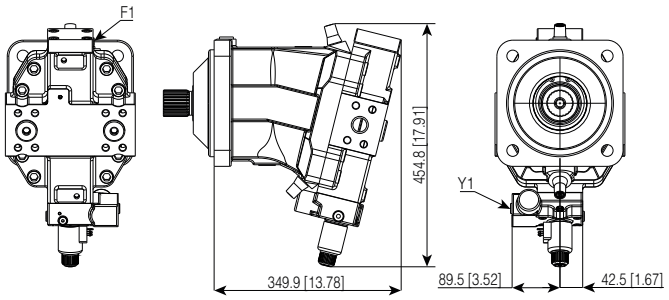
2EN Control



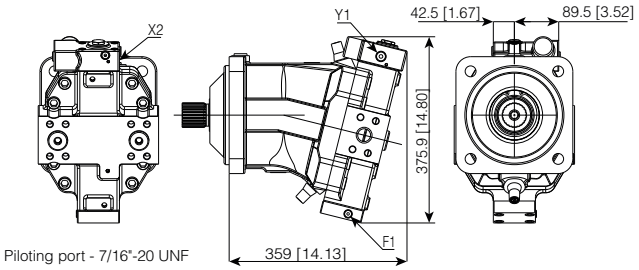
2IN Control



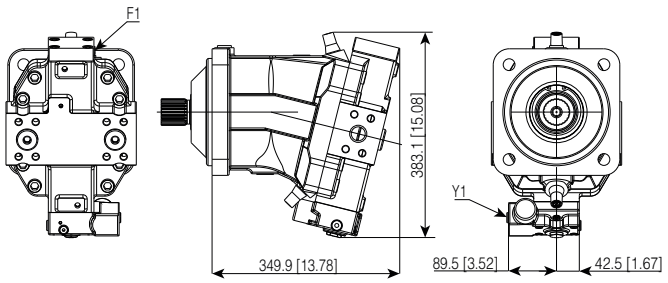
REN Control



RIN Control

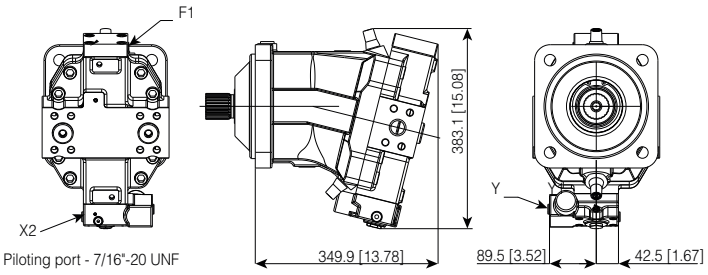


ROE Control

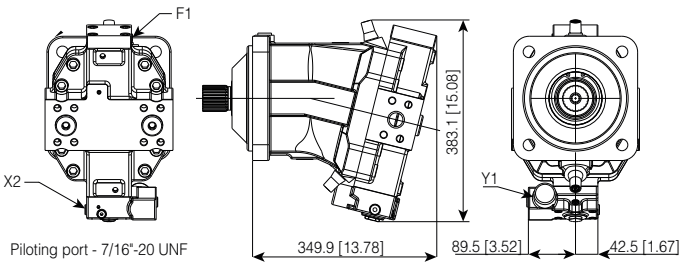


10 Control

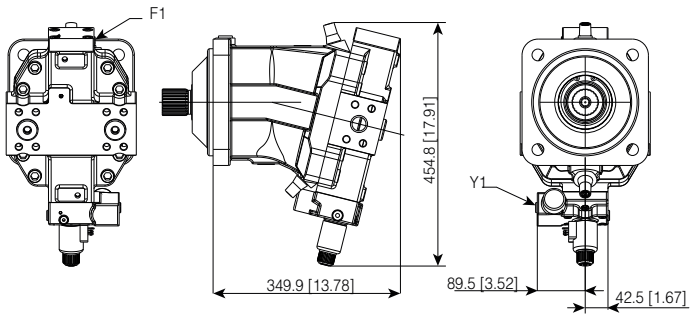
ROI Control



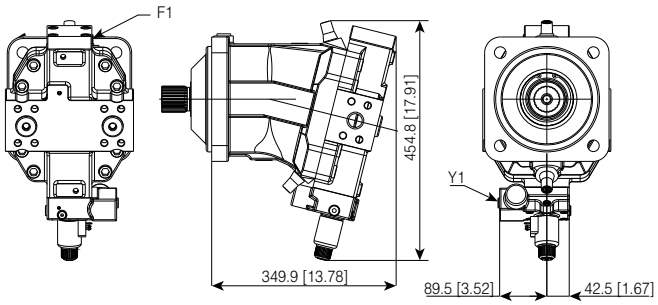
RPI Control



ROS Control



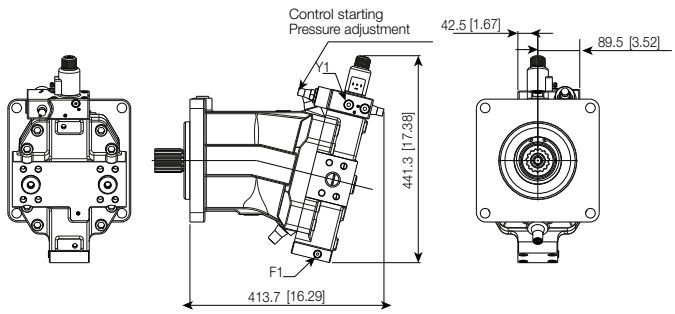
RPS Control



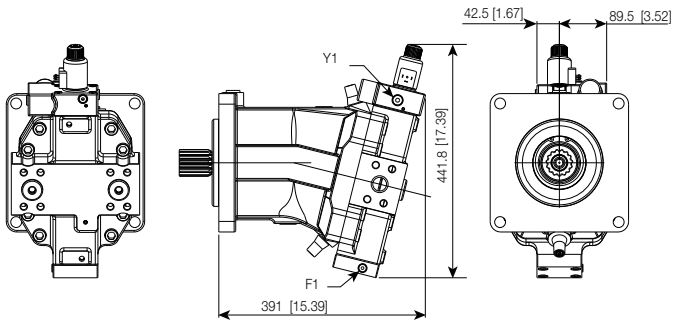
SH7V 200 - Control dimensions for mounting flange SAE-D 4 bolts (10) (Displ. setting 1)

10 Control

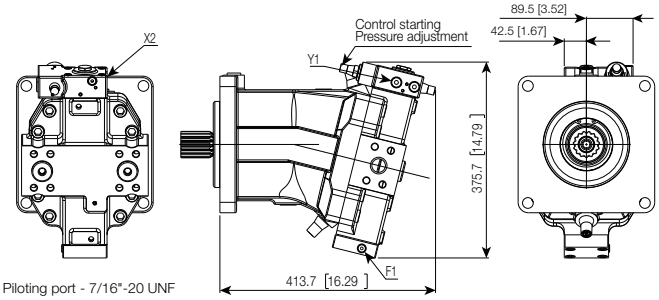
2EE Control



2EN Control

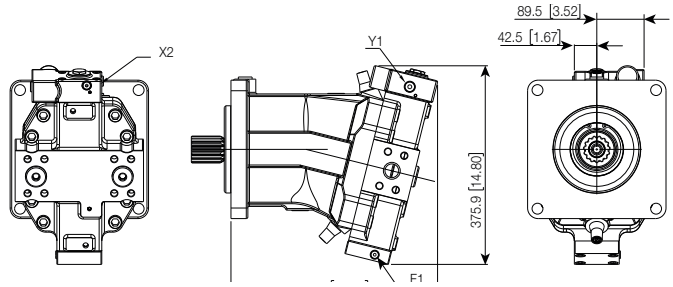


2IE Control

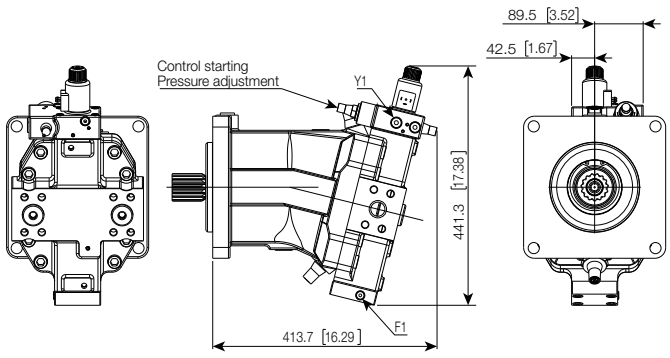


Piloting port - 7/16"-20 UNF

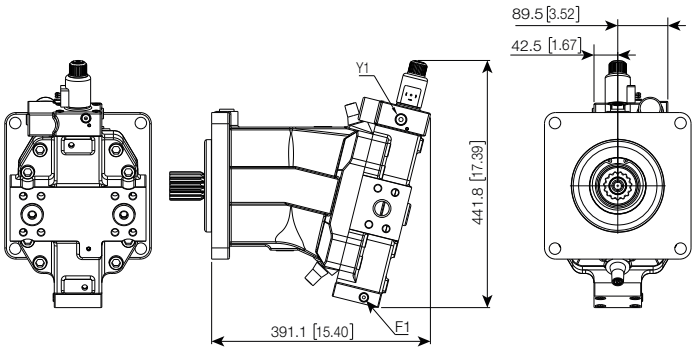
2IN Control



REE Control

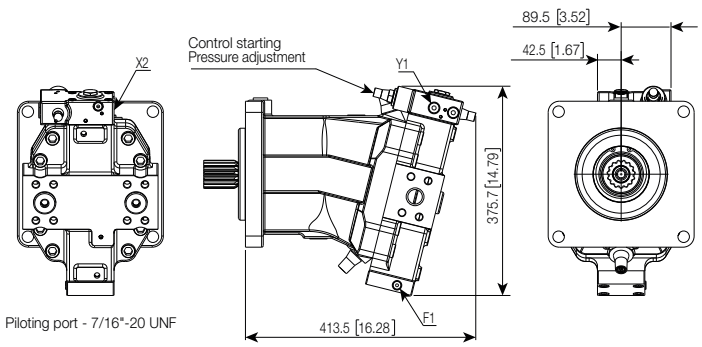


REN Control

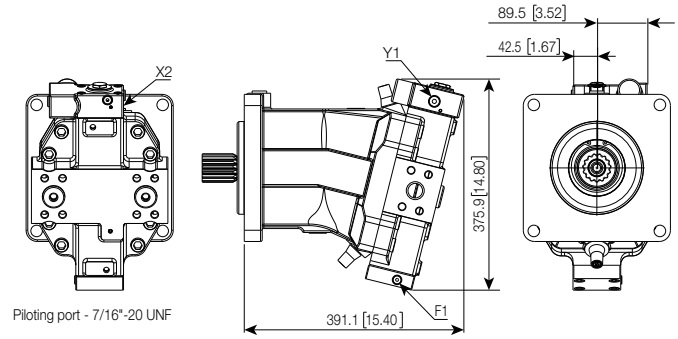


10 Control

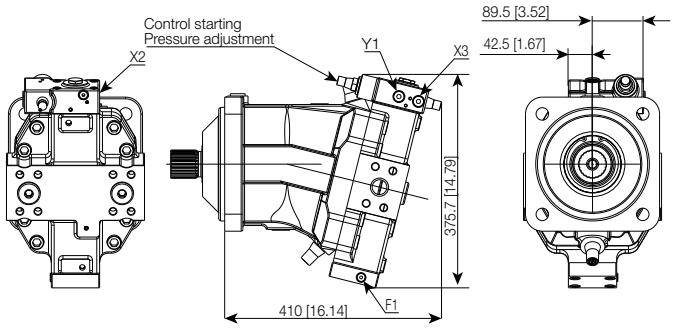
RIE Control



RIN Control

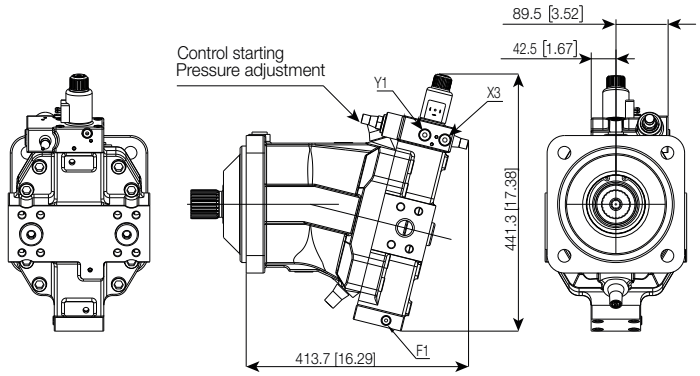


RID Control



X2: Piloting port - 7/16"-20 UNF
X3: Double step piloting port - 7/16"-20 UNF

RED Control

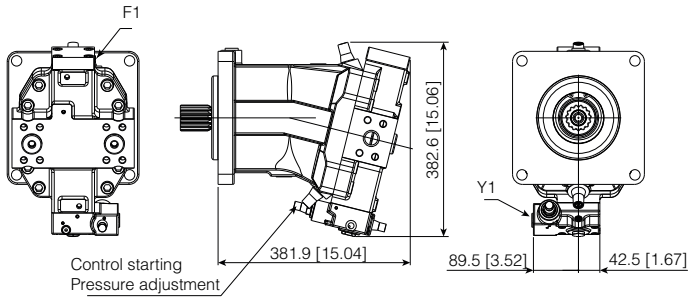


X3: Double step piloting port - 7/16"-20 UNF

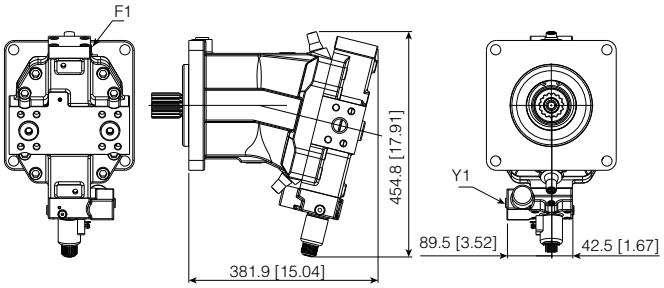
SH7V 200 - Control dimensions for mounting flange SAE-D 4 bolts (10) (Displ. setting 2)

10 Control

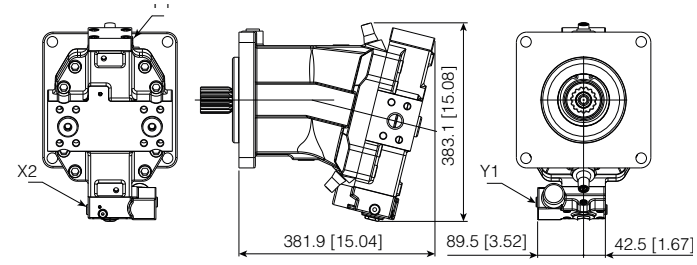
RPE Control



2EN Control

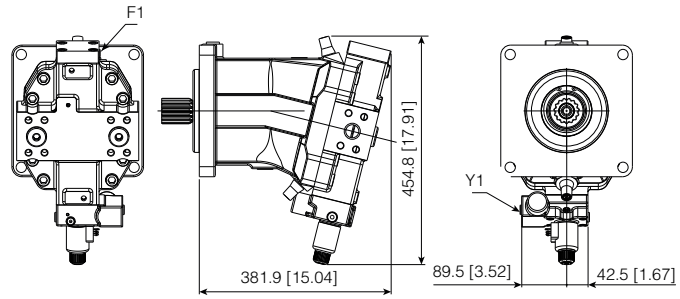


2IN Control

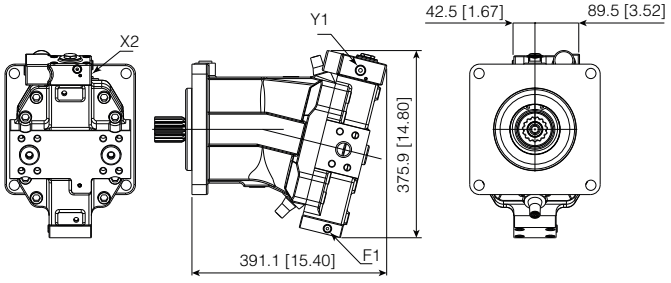


Piloting port - 7/16" - 20 UNF

REN Control

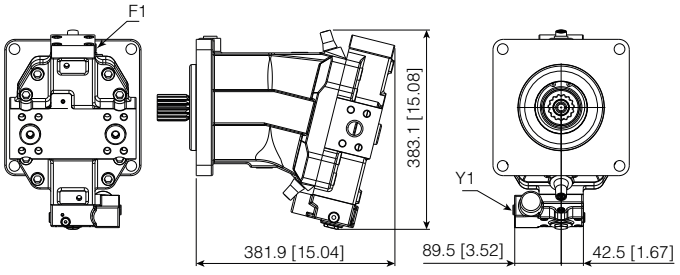


RIN Control



Piloting port - 7/16"-20 UNF

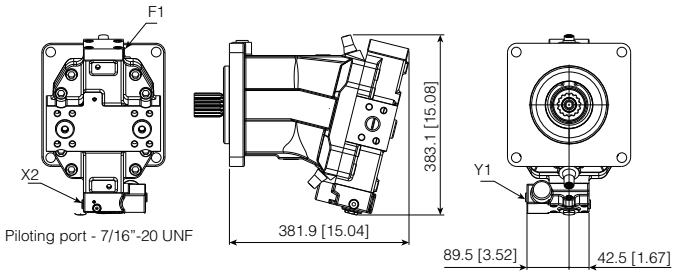
ROE Control



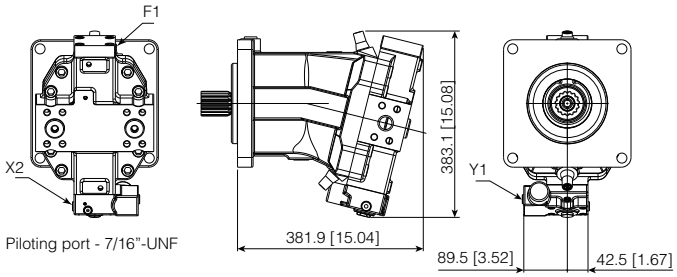
X2: Piloting port - 7/16"-20 UNF-2B

10 Control

ROI Control

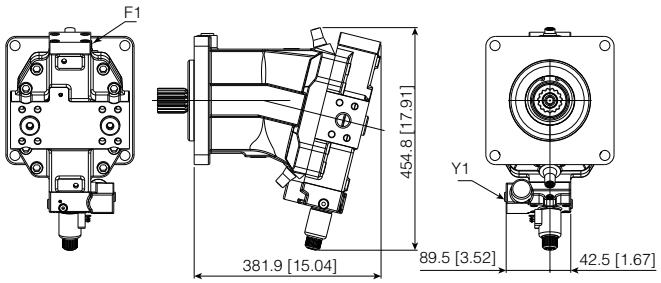


RPI Control

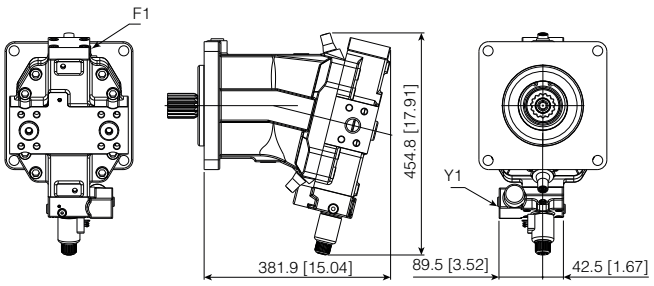


X2: Piloting port - 7/16"-20 UNF-2B

ROS Control



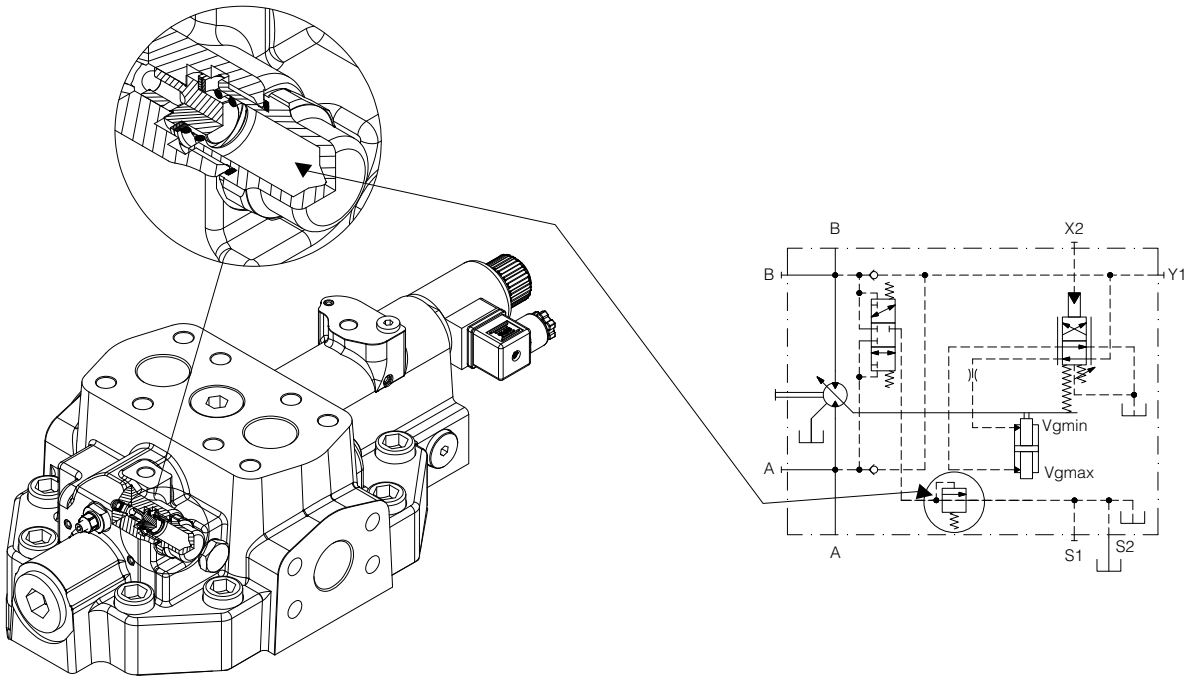
RPS Control



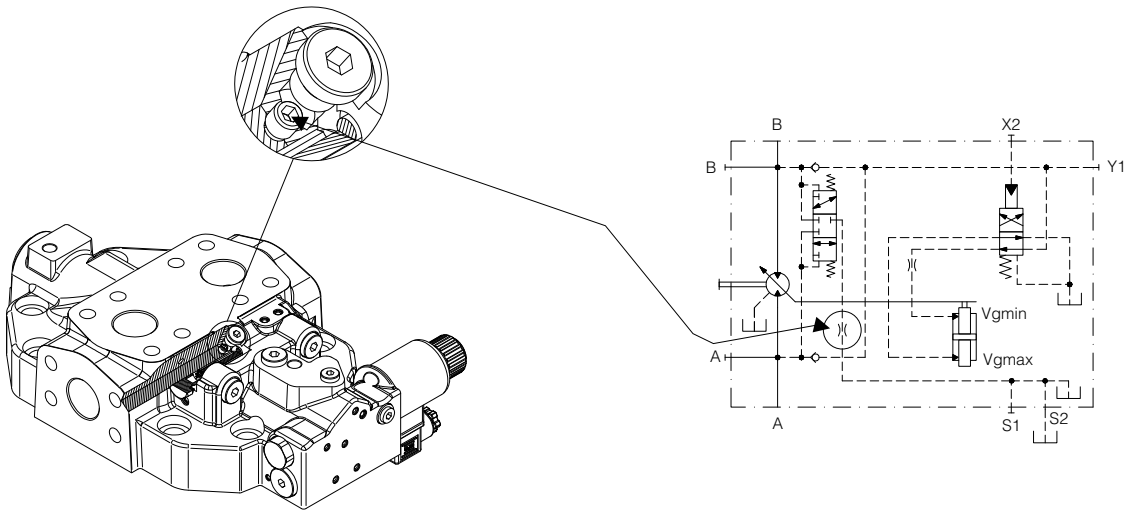
Flushing valve

For closed circuit operation, the motors can be equipped with built in flushing valve.

Only for SH7V 108 - 160

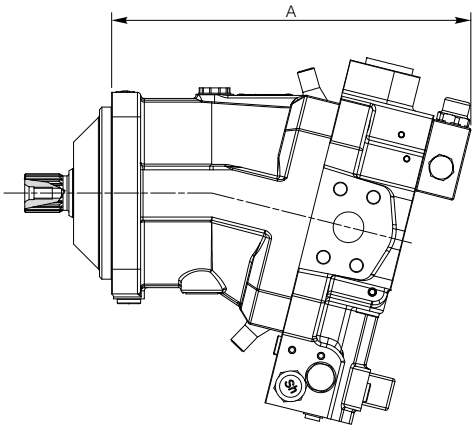


Only for SH7V 160 with two positions controls



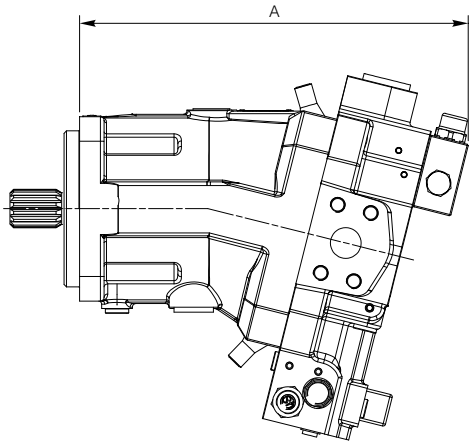
SH7V 055-075 Motor - Mounting flange ISO

Only for SH7V 055 - 075



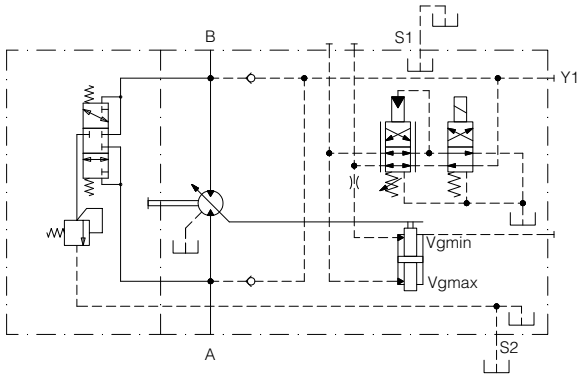
SH7V 055 - 075 Motor - Mounting flange SAE

Only for SH7V 055 - 075

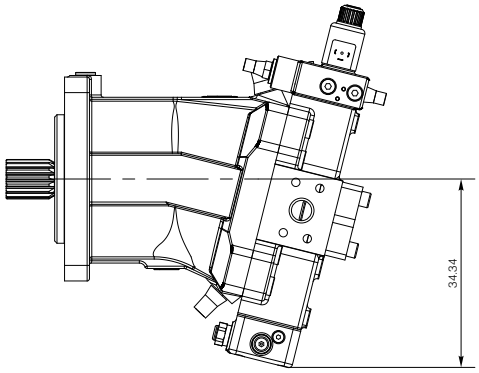


Flushing valve

	Size			
	SH7V 055 ISO	**SH7V 075 ISO**	**SH7V 055 SAE**	**SH7V 075 SAE**
A mm [in]	268.3 [10.56]	292.6 [11.51]	323 [12.72]	316.6 [12.46]



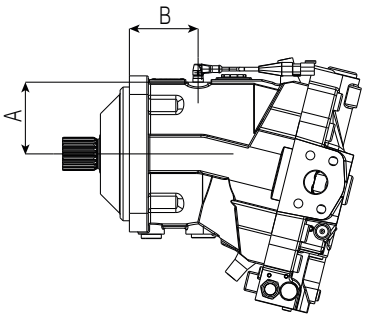
Only for SH7V 200

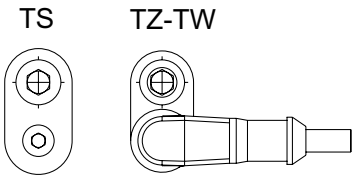


TS - TW - TZ

TS: Tachometer predisposition. Supplied with phonic wheel assembled on rotating group **without sensor**.

TW-TZ: With tachometer. Supplied with phonic wheel and sensor.





	Size									
	SH7V055 ME	**SH7V075 ME**	**SH7V108 ME**	**SH7V160 ME**	**SH7V200 ME**	**SH7V55 SE**	**SH7V075 SE**	**SH7V108 SE**	**SH7V160 SE**	**SH7V200 SE**
A mm [inch]	64 [2.52]	79.9 [3.14]	88.9 [3.49]	96.9 [3.81]	101.9 [4.01]	88 [3.46]	79.9 [3.14]	88.9 [3.49]	96.9 [3.81]	101.9 [4.01]
B mm [inch]	75.5 [2.97]	76.5 [3.01]	86.5 [3.40]	92.5 [3.64]	105 [4.13]	75.5 [2.97]	100.5 [3.95]	120.5 [4.74]	124.5 [4.90]	105 [4.13]

TW
2-Channel differential-hall effect operating principle (1 square wave -1 digital for direction of rotation) Output signal PNP
Power supply 4.5-16 VDC
Frequency 0 - 20.000 Hz
Operating temperature -40°C - +110°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

TZ
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				
	SH7V 055	**SH7V 075**	**SH7V 108**	**SH7V 160**	**SH7V 200**
Number of pulses per revolution	54	58	67	75	80