HMC
hydraulics
www.hmc.com.br

Catálogos Online

walvoil
HYDRAULIC CONTROL SYSTEMS

Distribuidor e revendedor autorizado.

CATALOG

Hydraulic pilot control valves and feed units

walvoil

FLUID POWER E|MOTION

Additional information
This catalog shows the product in the most standard configurations.
Please contact our Sales Dpt. for more detailed information or special requests.

WARNING!
All specifications of this catalog refer to the standard product at this date.
Walvoil, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

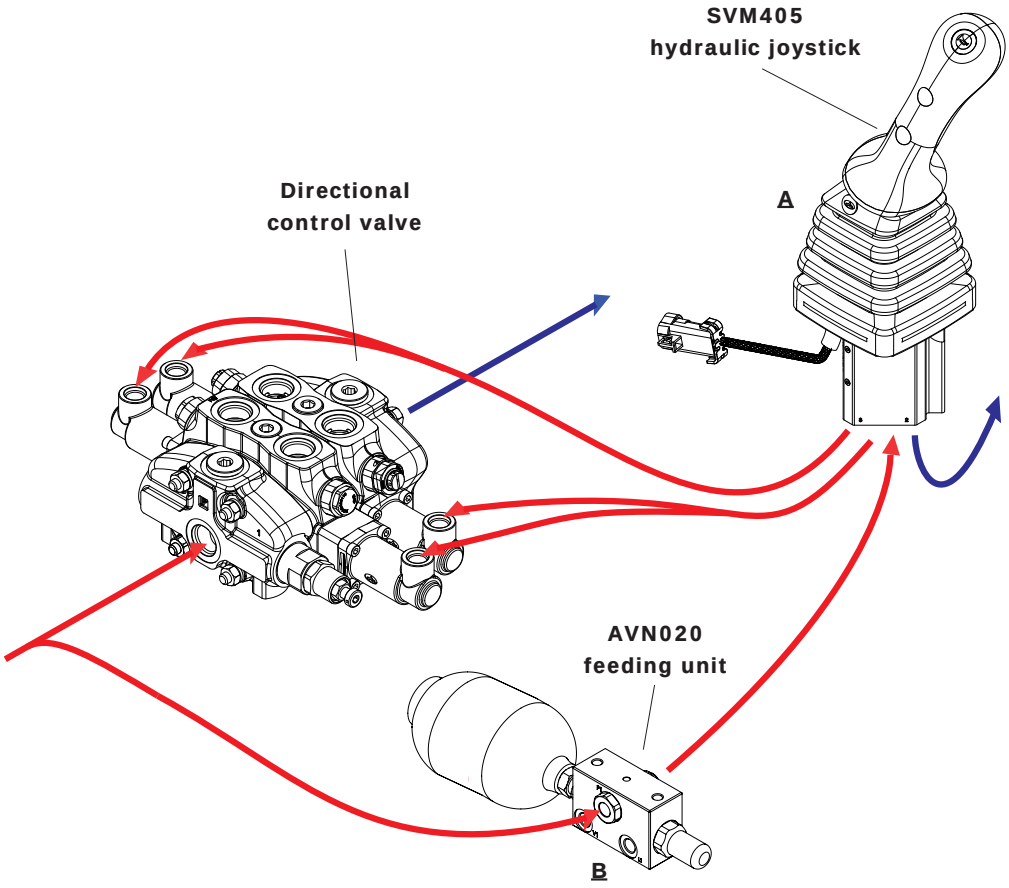
WALVOIL IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

1st edition April 2014

Index

System description

This is an ideal hydraulic proportional remote control system when max. movement precision and long-lasting reliability are required.
The system needs a secondary circuit with low pressure pilotage, fed separately by a dedicated pump and in derivation to the primary one. In this last case, it is necessary to include a feeding unit with eventual accumulator for emergency interventions into the circuit.



A - SVM hydraulic pilot control valve

Walvoil offers a wide range of hydraulic control valves.
The main product lines are:

1) Hydraulic joysticks

- SVM100 - SVM101
Hydraulic joysticks, single function available with wide range of handles. Hydraulic control valves available single or assembled from 1 to 10 sections.

- SVM400
Hydraulic joystick, double function available with wide range of handles. Single lever joystick to control two directional control valve working sections.

- SVM430 series (SVM430 - SVM431 - SVM432)
Special version operation of hydrostatic transmission.

- SVM400-EMD
Single electromagnetic detent on all ports or double on opposite ports.

- SVM405
Configuration with damping system.

2) Hydraulic joysticks with electromagnetic detent

- SVM150
Hydraulic joystick, single axis with electromagnetic detent available in every acting directions. It can be assembled up to 5 sections.

- SVM450
Hydraulic joystick, double axis available with a wide range of handles. It can be configured with up to 3 electromagnetic detents.

- SVM600
Combined joystick single axis-double axis for three working sections. It can be configured with up to 4 electromagnetic detents.

3) Hydraulic joysticks with pedal and other actuations

- SVM510 - SVM520 - SVM521
Pedal joystick to control one or two directional control valve working sections, reduced dimensions and weight.

- SVM500 series
Pedal hydraulic pilot valves, available in different configurations. High sensitivity and low force, reduced weight.
For agricultural machines and earth moving machines.

- SVM540
Double pedal hydraulic pilot valves for mini-excavator application.

- SVM701 - SVM710
Unit with single work port, handweel or pusher operating.

B - Feed unit and accessories

Feed unit can be chosen between two distinct series available:

1) AVN020
2 way series with or without unloader valve

2) FU series
Range from 1 to 4 stages, with or without hydraulic accumulator.

SVM hydraulic joysticks

SVM100-SVM101 / SVM400 / SVM430 series

- Single and double function
- Special configuration for hydrostatic transmission
- Wide range of handles available

Working conditions

This catalogue shows technical specifications and diagrams measured through mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

Nominal flow rating		from 5 to 20 l/min - *from 1.32 to 5.28 USgpm*
Max. feeding pressure	on P inlet port	from 30 to 100 bar - *from 435 to 1450 psi*
Max. backpressure	on T outlet port	3 bar - *43.5 psi*
Max. hysteresis		0.5 bar - *7.25 psi*
Internal leakage (all ports)	at 30 bar - *435 psi*, P⇒T	from 2.5 to 4.5 cm³/min - *from 0.15 to 0.27 in3/min*
Fluid		Mineral oil
Fluid temperature	with NBR (BUNA-N) seals	from -10°C to 80°C - *from 14 °F to 176 °F*
Viscosity	operating range	from 15 to 75 mm²/s - *from 15 to 75 cSt*
	min.	12 mm²/s - *12 cSt*
	max.	400 mm²/s - *400 cSt*
Max. contamination level		-/15/12 - ISO 4406 - *NAS1638 class 6*
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40 °F to 140 °F*
	with electric devices	from -20°C to 50°C - *from -4 °F to 122 °F*
Tie rod tightening torque (wrench 13)	only for SVM100-101	*24 Nm - 17.7 lbft*

NOTE - for different conditions please contact our Sales Dpt.

REFERENCE STANDARD

		BSP	UN-UNF
THREAD ACCORDING TO		ISO 228/1	ISO 263
		BS 2779	ANSI B1.1 unified
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926
	SAE		J11926
	DIN	3852-2 shape X or Y	

PORT THREADING

PORTS	Threads		Fitting tightening torque	
	UNI EN ISO 1179	UNI EN ISO 11926-2	Nm	*lbft*
P Inlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*
Ports	G 1/4	7/16-20 (SAE 4)	30	*22.13*
T Outlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*

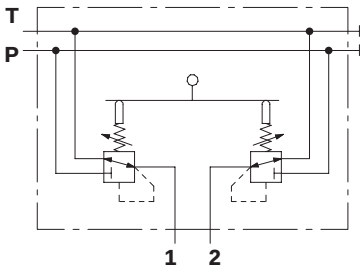
NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The manufacturer has to be consulted.

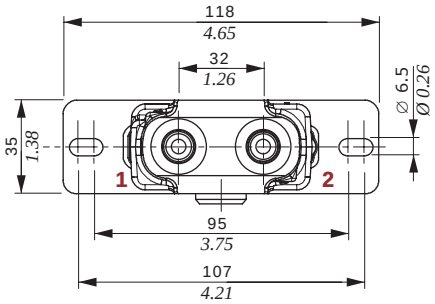
Dimensions and hydraulic circuit

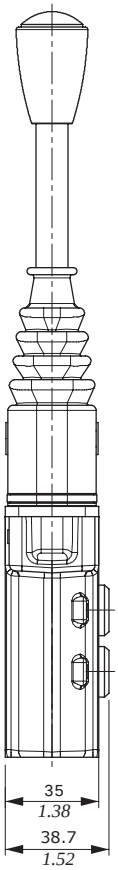
Single acting version

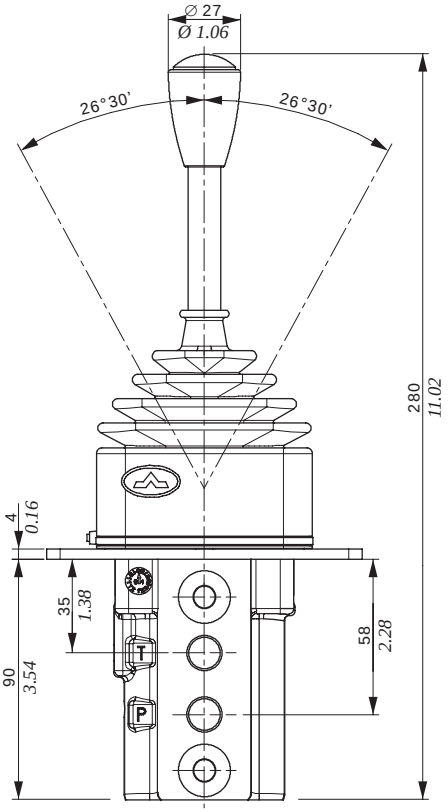
Single function configuration with side P and T ports.

Hydraulic circuit





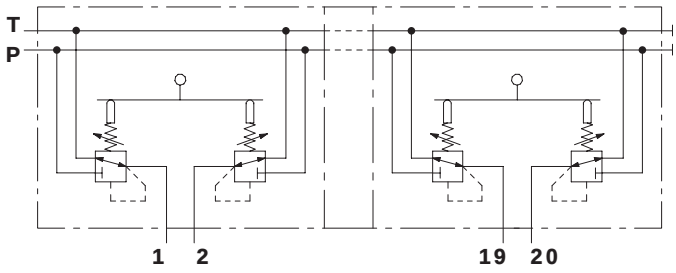




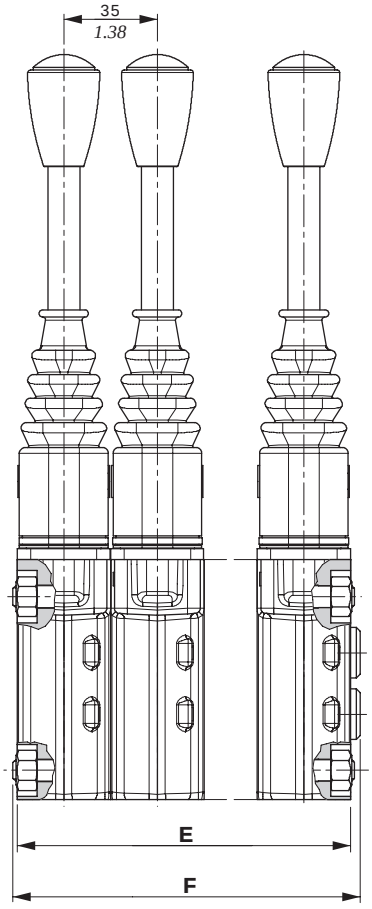
SVM100/n version

Multiple functions configuration with side P and T ports.

Hydraulic circuit



TYPE	E		F		TYPE	E		F	
	mm	*in*	mm	*in*		mm	*in*	mm	*in*
SVM100/2	70	*2.76*	75.2	*2.96*	**SVM100/7**	245	*9.65*	250.2	*9.85*
SVM100/3	105	*4.13*	110.2	*4.34*	**SVM100/8**	280	*11.02*	285.2	*11.23*
SVM100/4	140	*5.51*	145.2	*5.72*	**SVM100/9**	315	*12.40*	320.2	*12.61*
SVM100/5	175	*6.89*	180.2	*7.09*	**SVM100/10**	350	*13.78*	355.2	*13.98*
SVM100/6	210	*8.27*	215.2	*8.27*					

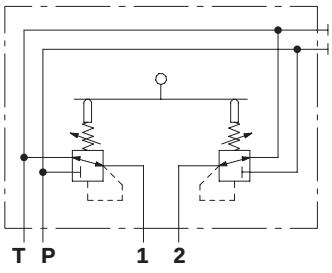


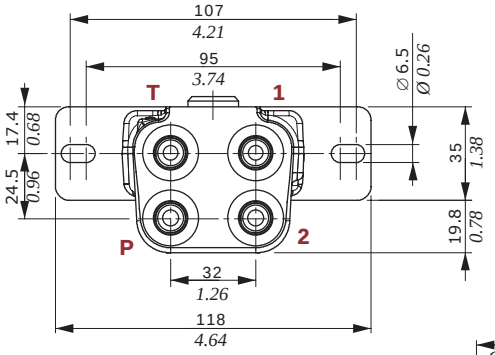
Dimensions and hydraulic circuit

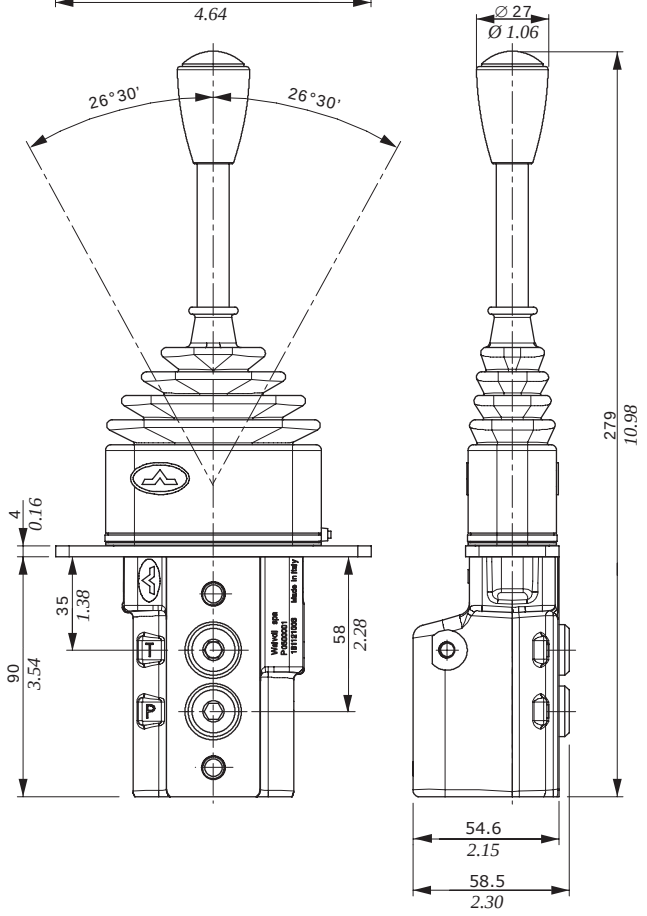
SVM101 version

Single function configuration with bottom P and T ports.

Hydraulic circuit



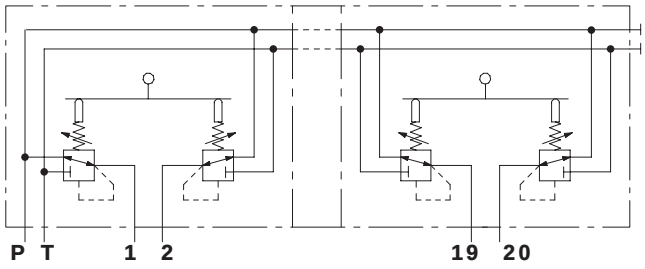




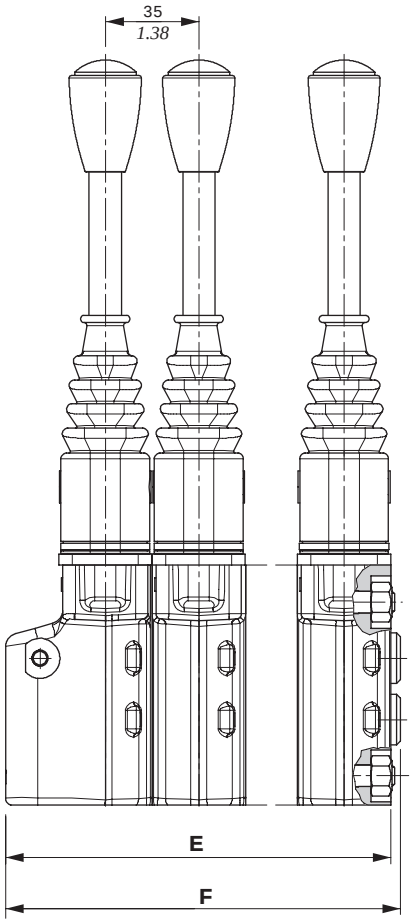
SVM101/n version

Multiple functions configuration with bottom P and T ports.

Hydraulic circuit



TYPE	E		F		TYPE	E		F	
	mm	*in*	mm	*in*		mm	*in*	mm	*in*
SVM101/2	89.6	*3.53*	93.3	*3.67*	**SVM101/7**	264.6	*10.42*	268.3	*10.56*
SVM101/3	124.6	*4.91*	128.3	*5.05*	**SVM101/8**	299.6	*11.79*	303.3	*11.94*
SVM101/4	159.6	*6.28*	163.3	*6.43*	**SVM101/9**	334.6	*13.17*	338.3	*13.32*
SVM101/5	194.6	*7.66*	198.3	*7.81*	**SVM101/10**	369.6	*14.55*	373.3	*14.70*
SVM101/6	229.6	*9.04*	233.3	*9.18*					



Ordering codes

description for 1st section: repeat the choice for following sections — 2nd section — Last section (max.10)

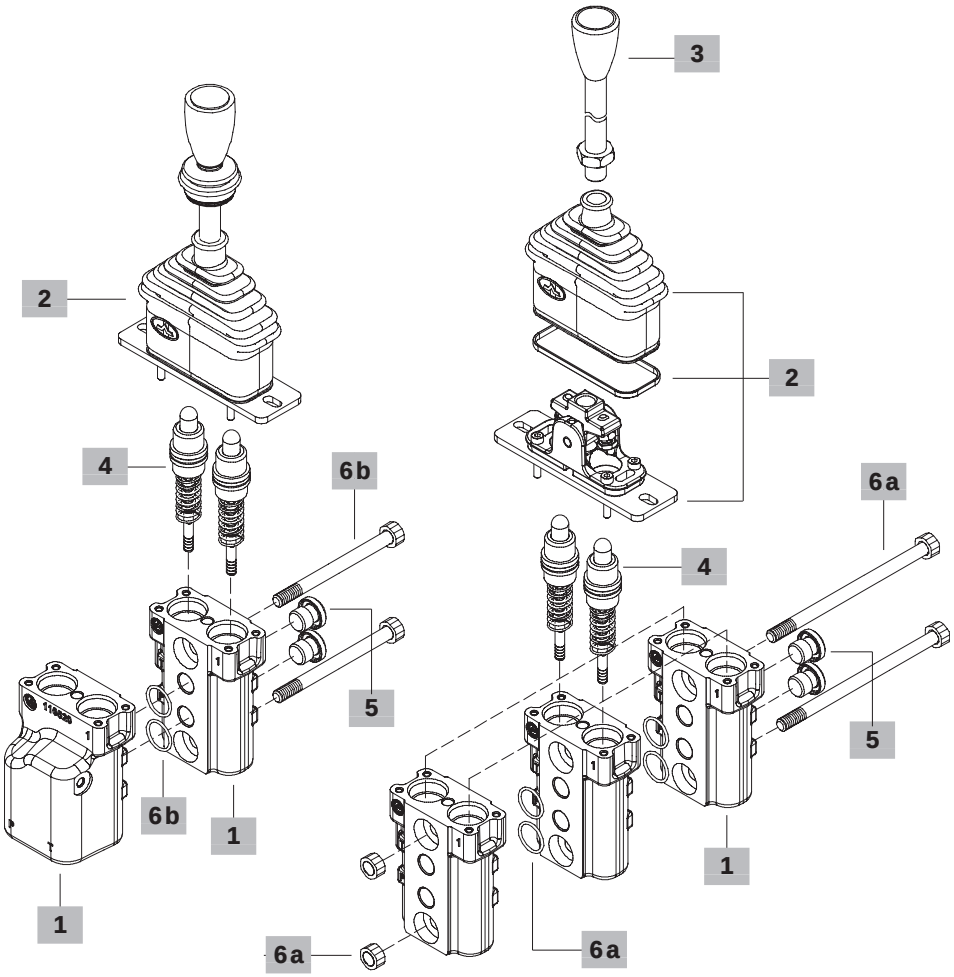
SVM100 / N - S / 01 G3 - 00001A - 00001A / ..... / .....

1 — 1 — 2 — 3 — 4

Substitute with number of sections

SVM101 / N - S / 02G3 - 00001A - 00001A / ..... / .....

1 — 1 — 2 — 4



Ordering codes

1 Body kit *

TYPE	CODE	DESCRIPTION
SVM100-S	3CO3122700	With side P and T ports
SVM101-S	3CO3122710	With bottom P and T ports

2 Control option

Complete with rubber bellow and fixing wrapper

Without handlever (for standard handlever see 3)

TYPE	CODE	DESCRIPTION
01	5CIN101000	Spring return to neutral position
03S	5CIN103008	With friction and neutral sensing, for 10, V, H, P and S series handles
05	5CIN105000	With detent in pos. 1 and spring return in neutral position
06	5CIN106000	With detent in pos. 2 and spring return in neutral position
07	5CIN107000	With detent in pos. 1 and 2; spring return in neutral position

Controls with handlevers

For assembling reasons, the under listed control kits must be supplied complete with handle. Please contact our Sales Department for use with different handles.

TYPE	CODE	DESCRIPTION
02G3	5CIN102000	With detent in neutral position, spring return in neutral position and type G knob; can not be used on two adjacent sections
03G3	5CIN103000	With friction and neutral sensing, G knob
03E3	5CIN103005	As previous, E knob, 15° bending rod
03JL3	5CIN103004	As previous, L knob with version microswitch
10G3	5CIN110000	With friction and detent in neutral, G knob; can not be used on two adjacent sections
11G3	5CIN111000	Detent in 3 positions, G knob; can not be used on two adjacent sections
16G3	5CIN116000	With operation microswitch (NO), neutral sensing, spring return in neutral position, G knob
20G3	5CIN120000	Detent in position 1 and 2, friction, neutral sensing, G knob
22G3	5CIN122000	With operation microswitch (NO), friction, G knob

3 Standard handlevers page 13

The pilot control valve is fitted with G3 handlever (less switches). Here below are listed the available handlevers configurations.

Without switch:

TYPE	CODE	DESCRIPTION
G3	5AST271218G	Ogival with portlight, straight rod (Standard)
G3(15)	5AST371227G	Ogival with portlight, 15° bending rod
G3(30)	5AST371228G	Ogival with portlight, 30° bending rod
E	5AST371214E	Spherical with portlight, 15° bending rod

With switch:

CAUTION: Do not available with pilot control valve type 07-16-20-22

TYPE	CODE	DESCRIPTION
JJ3	5AST271218J	With spring return push-button switch
JM3	5AST271218M	With 3 pos. detent rocker switch

For J handle specifications see the "handles and handlevers" catalog

4 Pressure control curves

For configuration and list available see from page 31 on

5 Closing plugs *

CODE	DESCRIPTION
3XTAP814120	SAE4 plug for upper ports (n. 2 plugs)

6a Assembling kit for SVM100

Only for SVM100/2 or higher: this kit contains tie rods, nuts and O-ring seal.

CODE	DESCRIPTION
5TIR108073	Assembling kit for SVM100/2
5TIR108108	Assembling kit for SVM100/3
5TIR108143	Assembling kit for SVM100/4
5TIR108178	Assembling kit for SVM100/5
5TIR108213	Assembling kit for SVM100/6
5TIR108248	Assembling kit for SVM100/7
5TIR108283	Assembling kit for SVM100/8
5TIR108319	Assembling kit for SVM100/9
5TIR108353	Assembling kit for SVM100/10

6b Assembling kit for SVM101

Only for SVM101/2 or higher: this kit contains tie rods, nuts and O-ring seal.

CODE	DESCRIPTION
5TIR108050	Assembling kit for SVM101/2
5TIR108085	Assembling kit for SVM101/3
5TIR108122	Assembling kit for SVM101/4
5TIR108156	Assembling kit for SVM101/5
5TIR108190	Assembling kit for SVM101/6
5TIR108225	Assembling kit for SVM101/7
5TIR108261	Assembling kit for SVM101/8
5TIR108295	Assembling kit for SVM101/9
5TIR108330	Assembling kit for SVM101/10

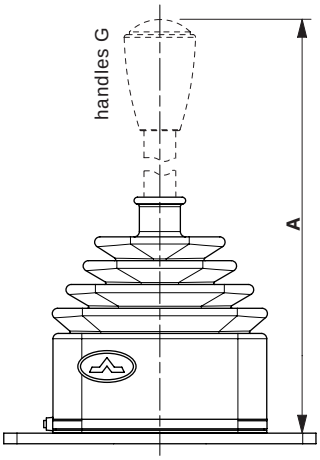
NOTE (*) – Codes are referred to **UN-UNF** thread.

Configuration option

Controls without handlevers

Controls type

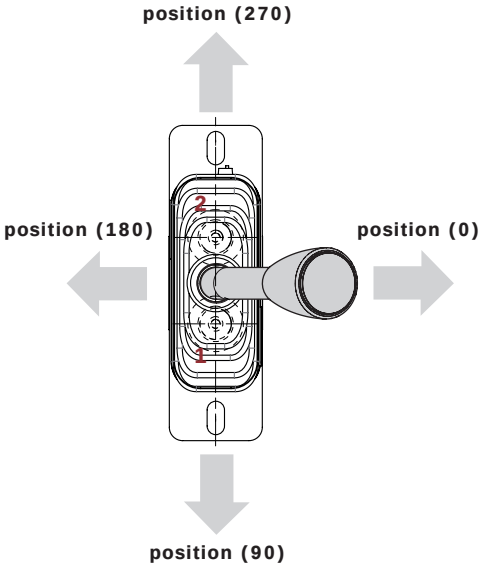
01: Spring return to neutral position
05: With detent in pos. 1 and spring return in neutral position
06: With detent in pos. 2 and spring return in neutral position
07: With detent in pos. 1 and 2; spring return in neutral position



handlever type	A mm	A *in*
G3 straight rod	186	*7.32*
G3 15° bending rod	184	*7.24*
G3 30° bending rod	176	*6.93*
E 15° bending rod	186	*7.32*
JJ3 straight rod	190	*7.48*

Controls type

03S: With friction and neutral sensing, for 10, V, H, P and S series handles



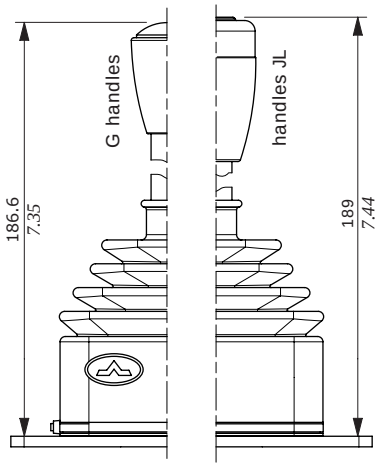
Controls with handlevers

Controls type

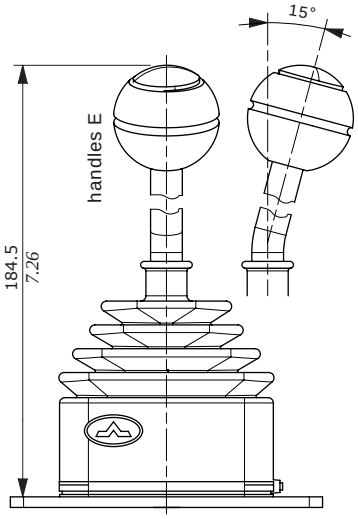
03G3: With friction and neutral sensing, ogival with portlight, G knob
03E3: As 03G3 control, E knob and 15° bending rod
03JL3: As 03G3 control, L knob with operation microswitch
16G3: With operation microswitch (NO), neutral sensing, spring return in neutral position, G knob
20G3: Detent in position 1 and 2, friction, neutral sensing, G knob
22G3: With operation microswitch (NO), friction, G knob

Controls type

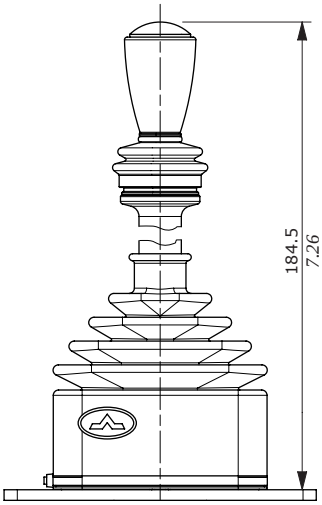
02G3: With detent and spring return in neutral position, type G knob; can not be used on two adjacent sections
10G3: With friction and detent in neutral position, G knob; can not be used on two adjacent sections
11G3: Detent in 3 positions, G knob; can not be used on two adjacent sections



03G3-16G3-20G3 22G3 control | **03E3 control**



03E3 control



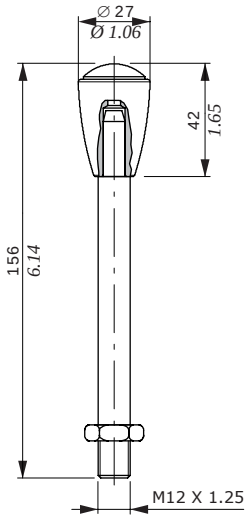
Configuration option

Standard handlevers without microsvitch

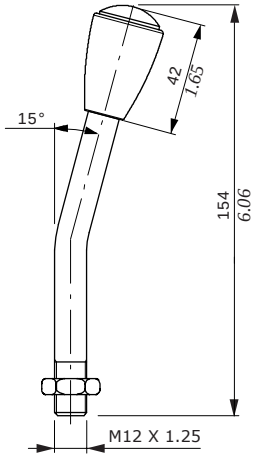
G type

Ogival handles with customizable portlight. It's possible to insert labels with specific machine functions (for example: lifting function).

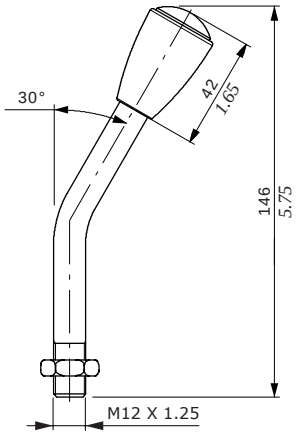
G type
straight rod



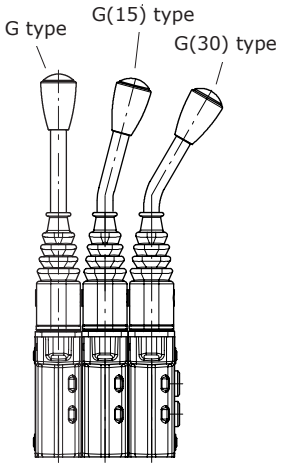
G(15) type
15° bending rod



G(30) type
30° bending rod



Mounting example
pilot control valve with 3 sections

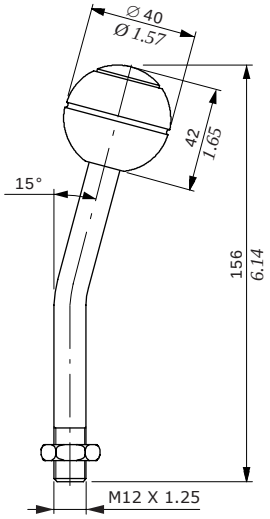


Standard handlevers with microsvitch

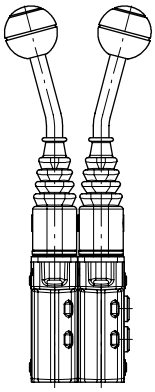
E type

Customizable handle as type G.

E type
15° bending rod



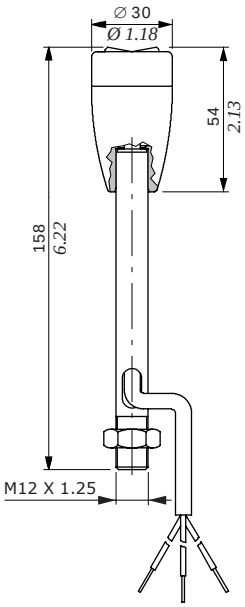
Mounting example
pilot control valve with 2 sections



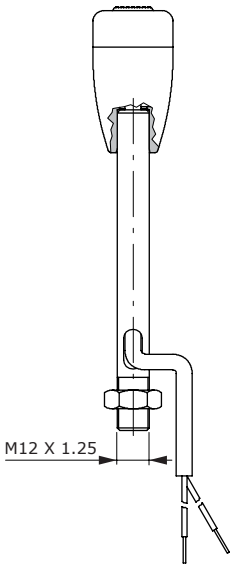
J type

Ogival handle, small dimensions, available with rocker switch and push-button.

JM type
with rocker switch



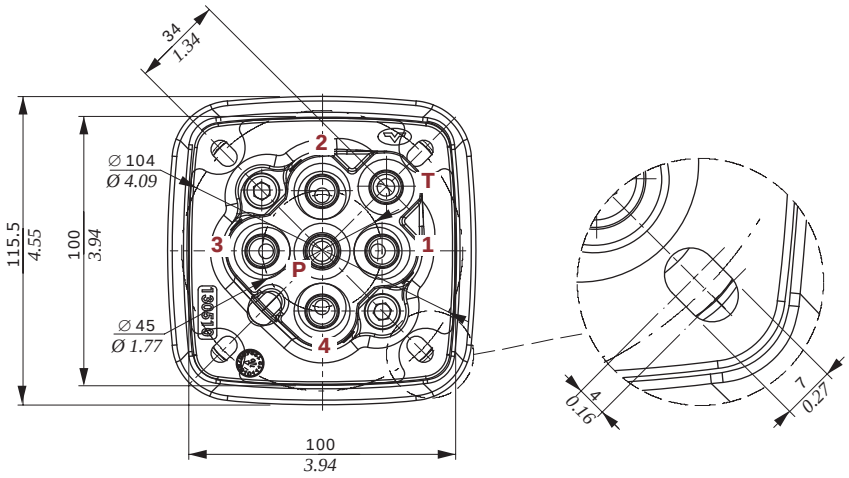
JJ type
with push-button switch



Note: for J Handle features see "handles and handlevers" catalog

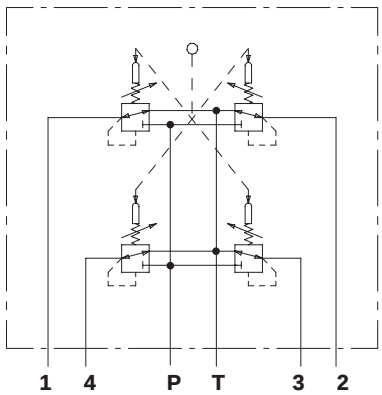
Dimensions and hydraulic circuit

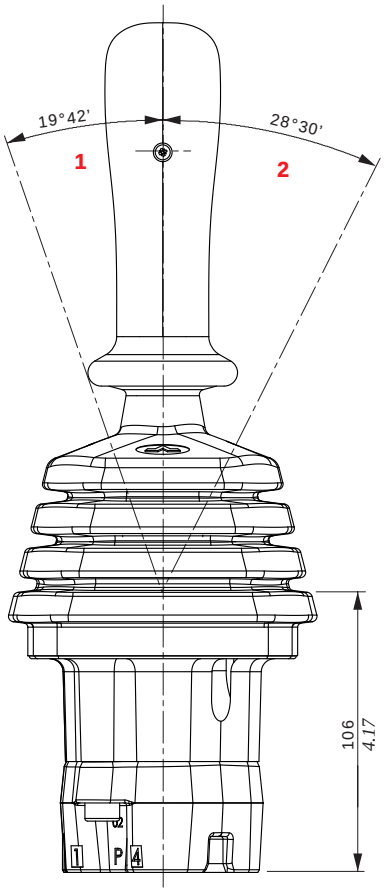
SVM400

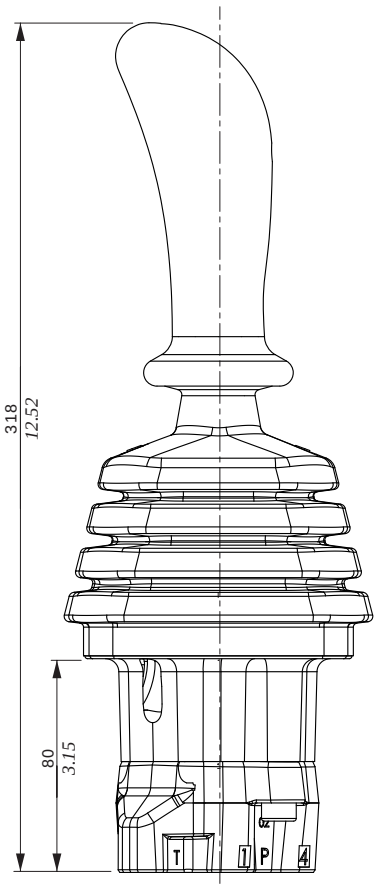


NOTE: normally the pilot control valve is supplied with the handle oriented towards port nr. 4 (see page 20)

Hydraulic circuit





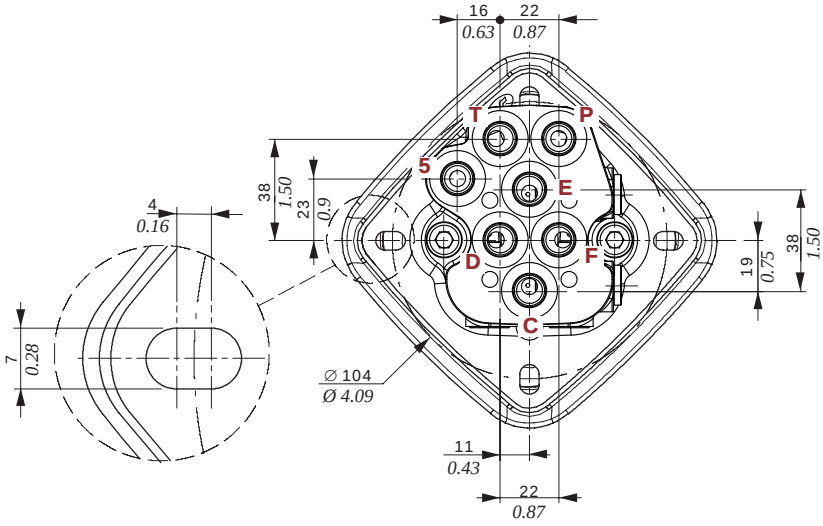


1 : Single work port
2 : Two simultaneous work ports

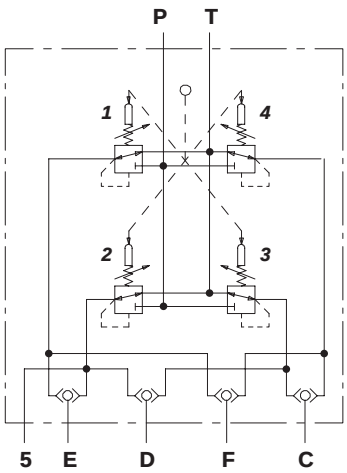
Dimensions and hydraulic circuit

SVM430

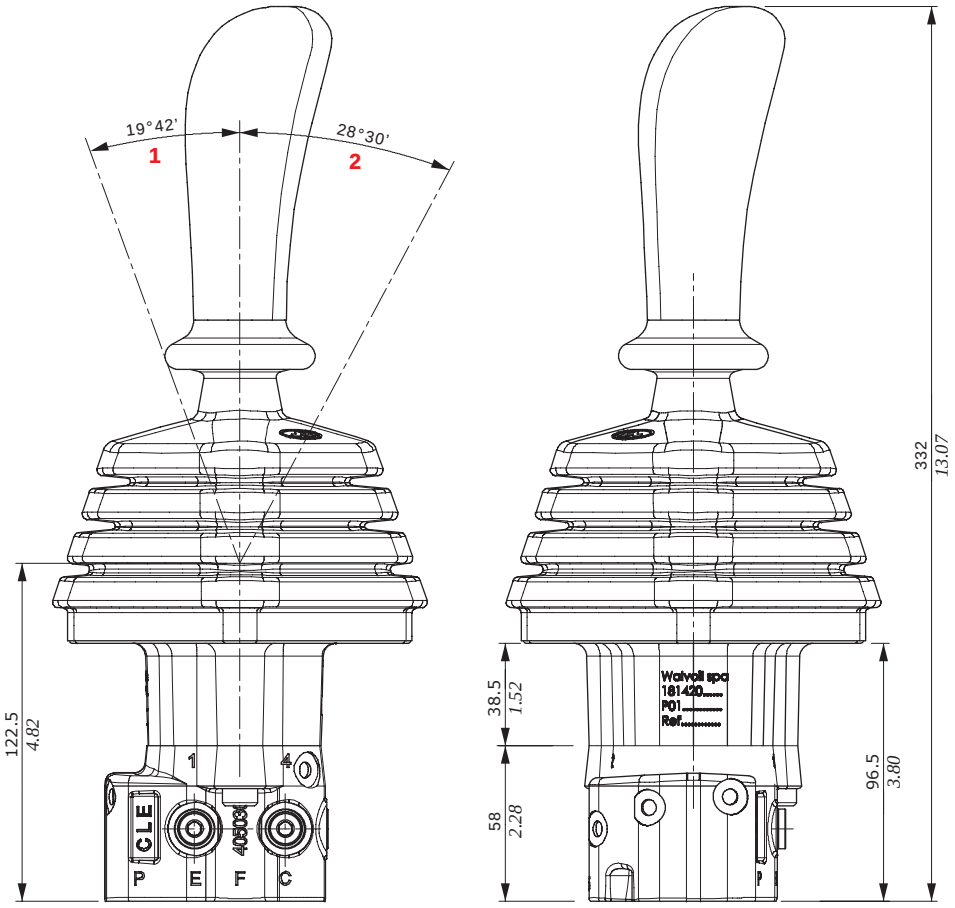
It's configured with pressure gauges (5) to get an additional output signal (ex. back-up alarm).



Hydraulic circuit



Work port **1** ⇒ **EF** port ⇒ **right**
Work port **2** ⇒ **ED** port ⇒ **back**
Work port **3** ⇒ **CD** port ⇒ **left**
Work port **4** ⇒ **CF** port ⇒ **forward**

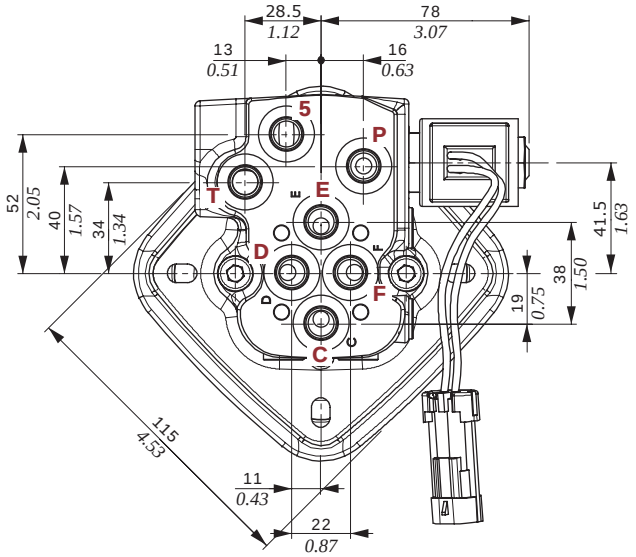


1 : Single work port
2 : Two simultaneous work ports

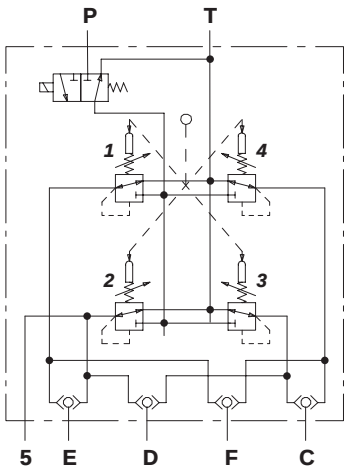
Dimensions and hydraulic circuit

SVM431

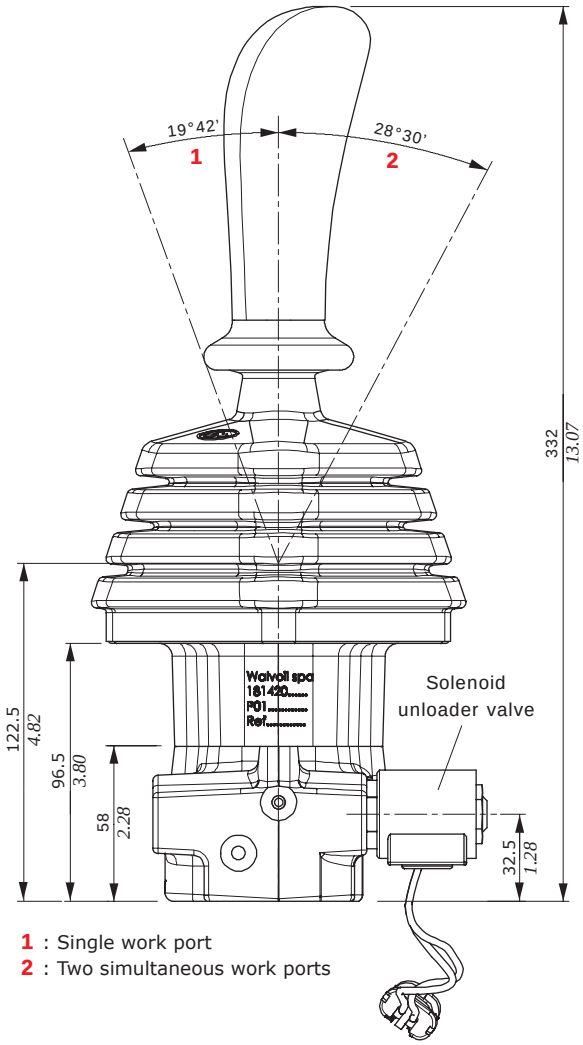
SVM431 it's configured with pressure gauges (5) to get an additional output signal with safety solenoid valve.



Hydraulic circuit



Work port **1** ⇒ **EF** port ⇒ **right**
Work port **2** ⇒ **ED** port ⇒ **back**
Work port **3** ⇒ **CD** port ⇒ **left**
Work port **4** ⇒ **CF** port ⇒ **forward**

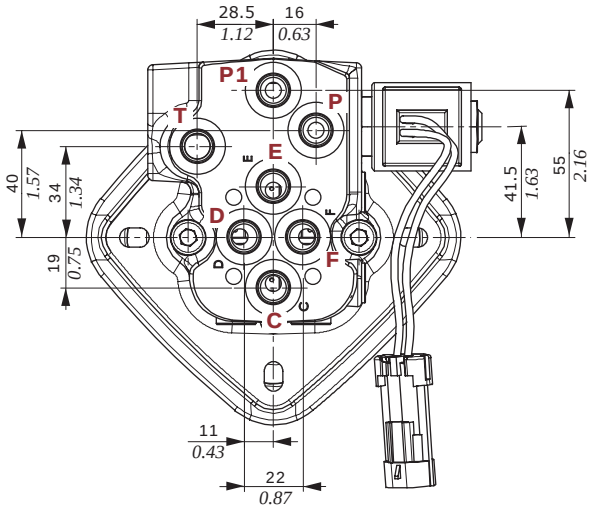


1 : Single work port
2 : Two simultaneous work ports

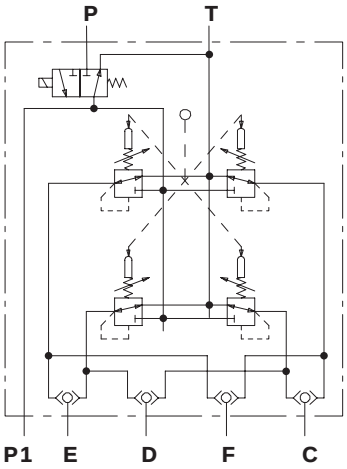
Dimensions and hydraulic circuit

SVM432

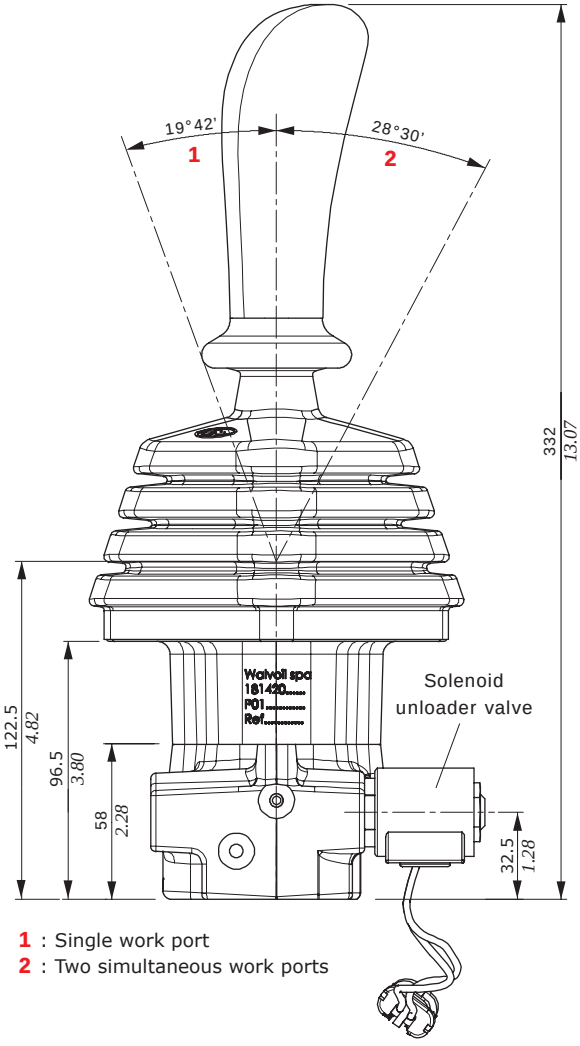
SVM432 it's configured with solenoid unloader valve and auxiliary under safety pressure gauge port (P1).



Hydraulic circuit



Work port **1** ⇒ **EF** port ⇒ **right**
Work port **2** ⇒ **ED** port ⇒ **back**
Work port **3** ⇒ **CD** port ⇒ **left**
Work port **4** ⇒ **CF** port ⇒ **forward**



1 : Single work port
2 : Two simultaneous work ports

Ordering codes

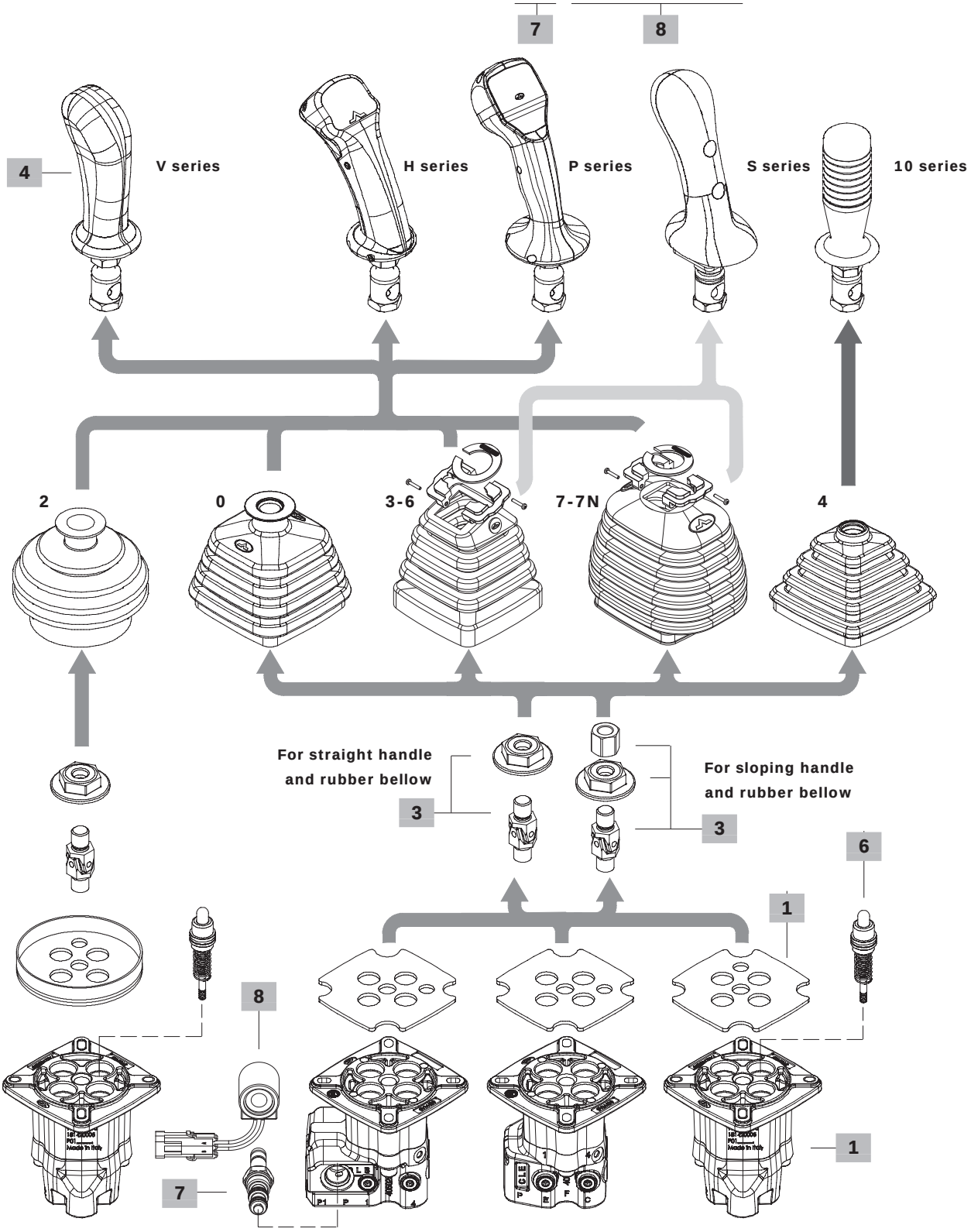
SVM400 / 0 1 - S / 01 V009 (90) - 00001A X 4 - <CRVN>

1 — 2 — 1 — 3 — 4 — 5 — 6

Body is painted as standard, with one coat of primer black antirust paint

SVM431 / 0 1 - S / 01 V009 (90) - 00001A x4 - ELN (W1F02)-12VDC - <CRVN>

7 — 8



Ordering codes

1 Body kit *

TYPE	CODE	DESCRIPTION
SVM400/1-S	5CO3422700	For rubber bellow square base
SVM400/3-S	5CO3422700C	For rubber bellow circular base
SVM430/1-S	5CO3432700	With auxiliary pressure gauge port, for rubber bellow square base
SVM431/1-S	5CO3432710	With solenoid unloader valve and auxiliary pressure gauge port, for rubber bellow square base
SVM432/1-S	5CO3432720	With solenoid unloader valve and auxiliary under-safety pressure gauge port, for rubber bellow square base

2 Rubber bellow

For V, H, P series handles

TYPE	CODE	DESCRIPTION
0	3SOF111130	Straight type, square base with logo
2	3SOF110100	Straight type, circular base; it can be used with sloping handles
3	5SOF111113	Sloping type, square base; only for 19° sloping handles. Fitted with adapter. Not available for type 16 control.
6	5SOF111114	As type 3 without logo. Not available for type 16 control.
7	5SOF111135	Universal type, rectangular base. It's fitted with adapter and it can be used straight and 30° sloping in all directions
7N	5SOF111137	As type 7 without logo
9	3SOF111131	As type 0 without logo

For S series handles

TYPE	CODE	DESCRIPTION
3	3SOF111113	Sloping type, square base; only for 19° sloping handles. Not available for type 16 control.
6	3SOF111114	As type 3 without logo. Not available for type 16 control.
7	3SOF111135	Universal type, rectangular base. It's fitted with adapter and it can be used straight and 30° sloping in all directions
7N	3SOF111137	As type 7 without logo

For 10 series handles

TYPE	CODE	DESCRIPTION
4	3SOF111100	Straight type, square base

3 Control option

Spring return in neutral position

TYPE	CODE	DESCRIPTION
01	5CIN4003	For V, H, P, S series handles and straight rubber bellow
	5CIN4001	For V, H, P, S series handles and sloping rubber bellow
01GP	5CIN4002	For 10 series handles

With microswitches for movement detection on each port.
It needs type 7 rubber bellow and special body: please contact our Sales Department.

TYPE	CODE	DESCRIPTION
16	5CIN4023	For V, H, P, S series handles and straight rubber bellow
	5CIN4021	For V, H, P, S series handles and sloping rubber bellow
16GP	5CIN4022	For 10 series handles

4 Handles

The pilot control valve can be configured with different types of handles (V, H, P, S series) with straight joint type 9 or sloping joint type 7 and 8.
Below are listed some pre-configured handles.
For technical specifications and full range of handles and other types of joint see the "Handles and handlevers" catalogue.

V series handles

TYPE	CODE	DESCRIPTION
V000	5IMP030000	Without switches with standard connection
V009	5IMP030011	Without switches with straight joint
V007	5IMP030070	Without switches with sloping 19° left joint (needs types 2 or 3 rubber bellow)
V008	5IMP030080	Without switches with sloping 19° right joint (needs types 2 or 3 rubber bellow)

S series handles

S007	2IM5000000	Without switches with sloping 19° left joint
S108-045	2IM5100000	Without switches with sloping 19° right joint
S117-045	2IM5110000	With proportional rocker switch and front trigger with sloping 19° left joint
S218-045	2IM5210002	With upper push-button and horn symbol and front trigger with sloping 19° right joint
S21A7-045	2IM5210003	With upper push-button without horn symbol and front trigger with sloping 19° left

5 Handle position

TYPE	DESCRIPTION
(-)	STANDARD configuration, cable operation on work port 4: **omitted in description**
(90)	Mounted with 90° rotation step: cable operation on work port 1
(180)	Mounted with 180° rotation step: cable operation on work port 2
(270)	Mounted with 270° rotation step: cable operation on work port 3

6 Pressure control curves

For configuration and list available see from page 31 on

7 Solenoid unloader valve

TYPE	CODE	DESCRIPTION
ELN	2X4800100	Without emergency operation
ELT	2X4800200	With emergency operation

8 Coil

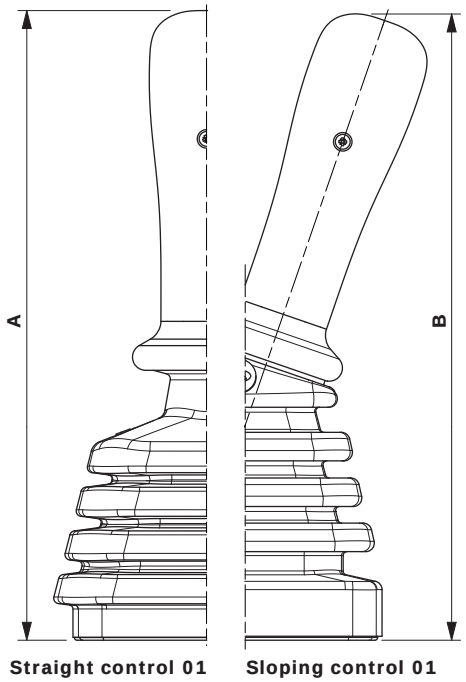
TYPE	CODE	DESCRIPTION
(D1F02)-12VDC	4SL6001200	12VDC, Deutsch connector integrated
(D1F02)-24VDC	4SL6002400	As previous 24VDC
(W1F02)-12VDC	4SL6001204	12VDC, Packard connector Weatherpack with wire (L = 210 mm wire + connector)

NOTE (*) – Codes are referred to **UN-UNF** thread.

Configuration option

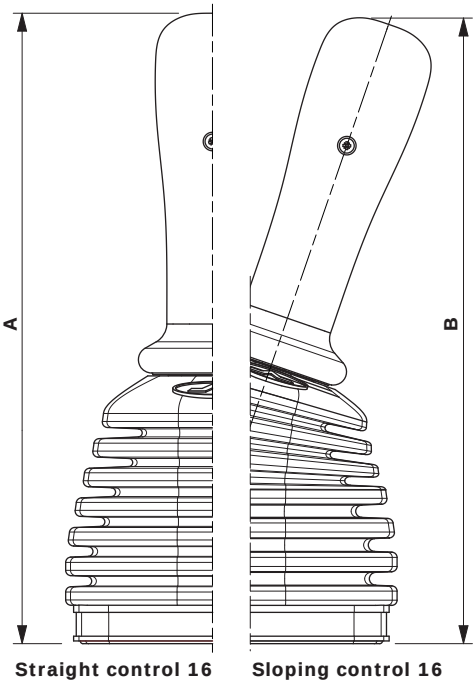
Control and handle options

Tipo 01: Spring return in neutral position.
Tipo 16: With microswitches for movement detection on each port. It needs type 7 rubber bellow and special body: please contact Sales Department.



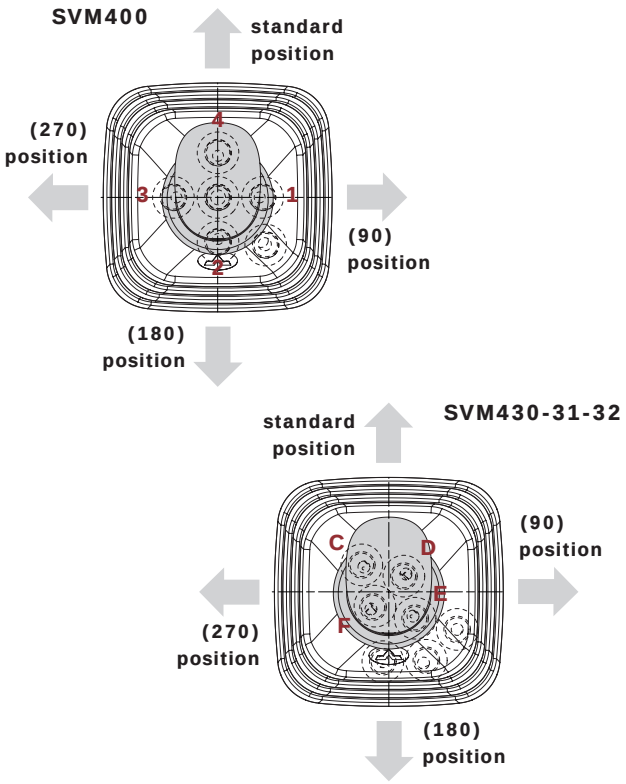
Straight control 01 Sloping control 01

Type	A		B	
	mm	*in*	mm	*in*
V series	238	*9.71*	236	*9.29*
H series	236	*9.29*	234	*9.21*
P series	255	*10.04*	253	*9.96*
S series	251	*9.88*	248	*9.76*
10 series	222	*8.74*	/	

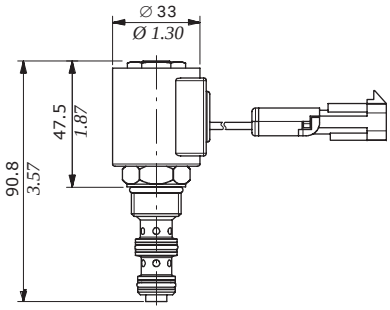


Straight control 16 Sloping control 16

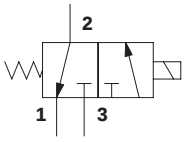
Handles positions



Solenoid unloader valve



ISO symbol



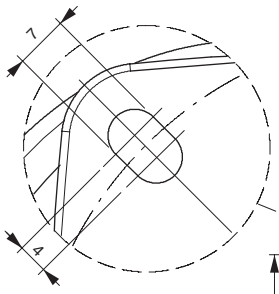
Features

SOLENOID VALVE
Nominal pressure . . . . . : 207 bar - *14.27 psi*
maximum internal leakage
on port 3 (de-energized coil) . . . . : 82 cm³/min a 207 bar
5 in3/min at 14.27 psi
on port 1 (energized coil) . . . . . : 164 cm³/min a 207 bar
10 in3/min at 14.27 psi

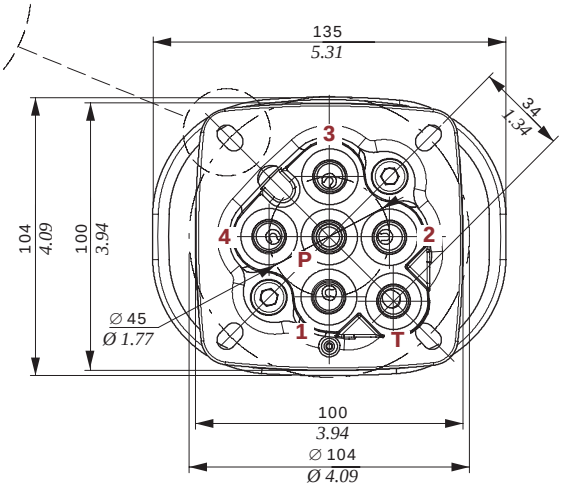
COIL
Nominal voltage tolerance . . . . . : ±15%
Power rating . . . . . : 14.7 W
Max. operating current . . . . . : 1.22 A a 12 VDC
0.61 A a 24 VDC
Coil insulance . . . . . : Class H
Weather protection (EN 60529) . . . : IP65 *
Insertion . . . . . : 100%
(*) with connector correctly fitted and O-ring protection

Dimensions and hydraulic circuit

Configuration with electromagnetic detent



NOTE: normally the pilot control valve is supplied with the handle oriented towards port nr. 4 (see page 24)



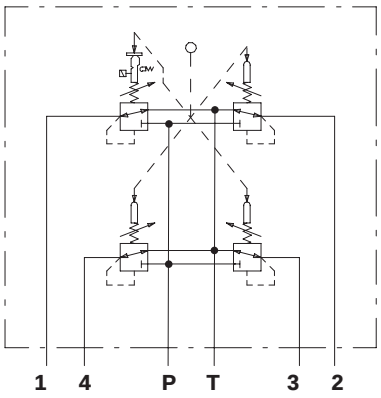
Features

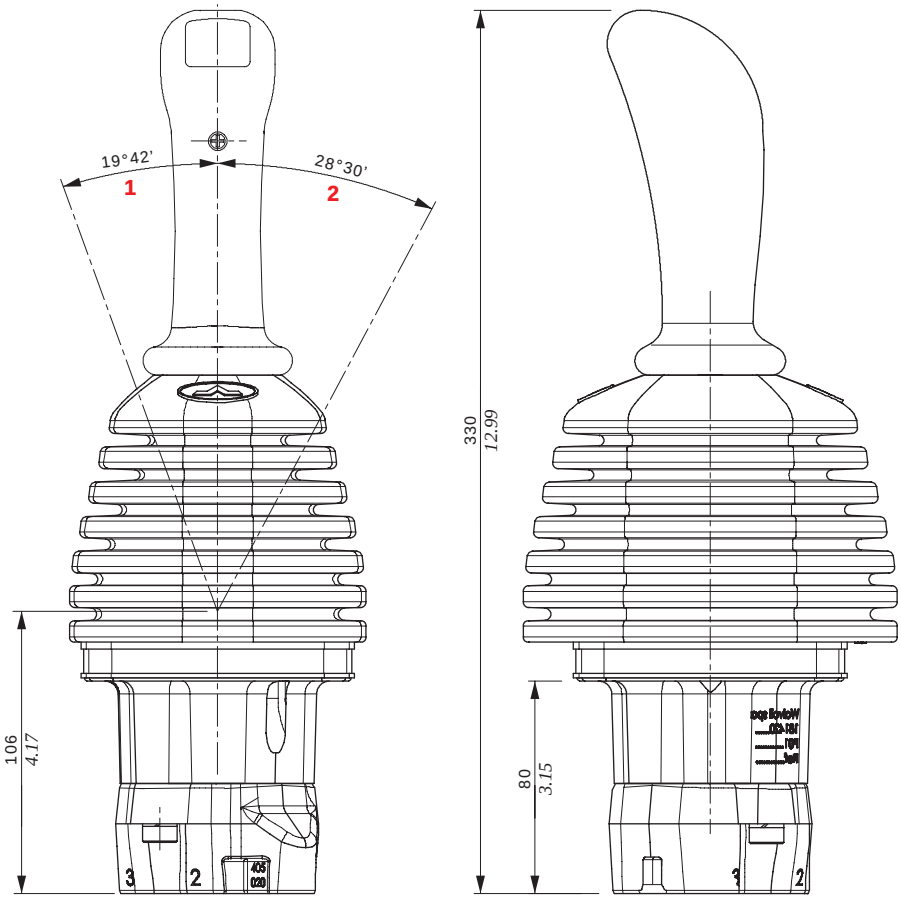
ELECTROMAGNET

Nominal voltage tolerance	: ±10%
Power rating	: 8 W - 12 VDC
	: 7.4 W - 24 VDC
Nominal current	: 0.66 A - 12 VDC
	: 0.3 A - 24VDC
Coil insulance	: Class H
Weather protection	: IP65
Insertion	: 100%

Hydraulic circuit

Example detent on working port 1





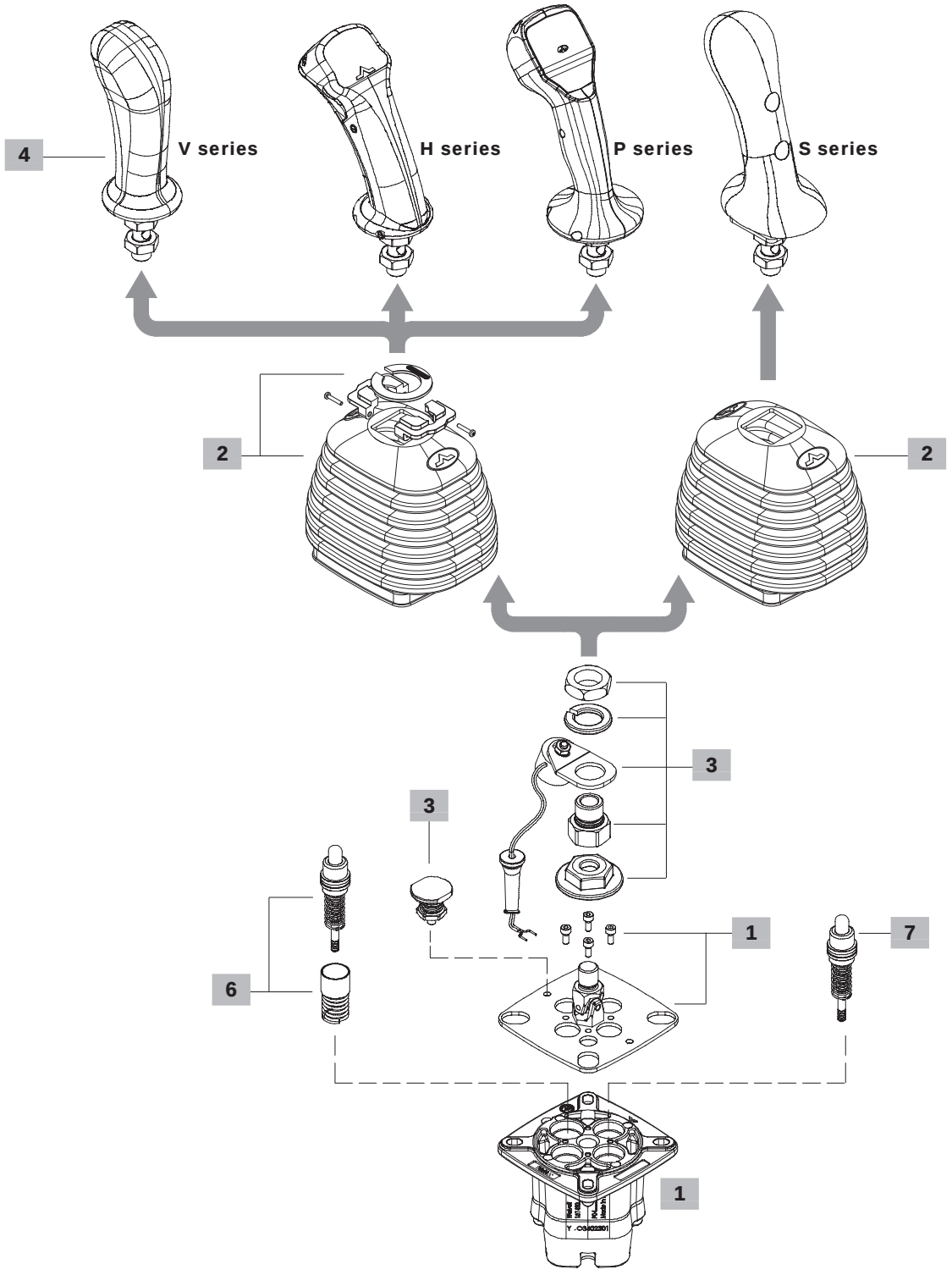
1 : Single work port
2 : Two simultaneous work ports

Ordering codes

SVM400-EMD1 / 7 1 - S / 01E15 (....) V00G (90) (....) - E0001M - 00001M X 3 - 12VDC - <CRVN>

1	2	1	3	8	4	5	8	6	7	3	

Body is painted as standard, with one coat of primer black antirust paint



Ordering codes

1 Body kit *

TYPE: **SVM400-EMD0/1-S** CODE: 5CO3422700
DESCRIPTION: Without detent arrangement
TYPE: **SVM400-EMD1/1-S** CODE: 5CO3402701
DESCRIPTION: With detent arrangement on port 1
TYPE: **SVM400-EMD(2-4)/1-S** CODE: 5CO3402706
DESCRIPTION: With detent arrangement on ports 2 and 4

2 Rubber bellow

For V, H, P series handles

TYPE	CODE	DESCRIPTION
7	5SOF111135	Universal type, rectangular base. It's fitted with adapter and it can be used straight and 30° sloping in all directions
7N	5SOF111137	As type 7 without logo

For S series handles

TYPE	CODE	DESCRIPTION
7	3SOF111135	Universal type, rectangular base. It's fitted with adapter and it can be used straight and 30° sloping in all directions
7N	3SOF111137	As type 7 without logo

3 Detent configuration

Cables are supplied with wires with tin-plate terminals

TYPE	CODE	DESCRIPTION
01E0	5CIN401E00	Spring return, without detent
Detent on port 1		
01E15	5CIN401E12	12 VDC - Spring return
01E15	5CIN4E401100	24 VDC - Spring return
Detent on ports 2 and 4		
01E25	5CIN401E22	12 VDC - Spring return
01E25	5CIN4E401200	24 VDC - Spring return

NOTE: For detent on different ports please contact our Sales Department.

4 Handles

The pilot control valve can be configured with different types of handles (V, H, P, S series) with straight joint type 9 or sloping joint type 7 and 8.
Below are listed some pre-configured handles.
For technical specifications and full range of handles and other types of joint see the "Handles and handlevers" catalogue.

V series handles

TYPE	CODE	DESCRIPTION
V00G	5IMP030014	Without switches with straight joint
V007	5IMP030070	Without switches with sloping 19° left joint (types 2 or 3 rubber bellow needed)
V008	5IMP030080	Without switches with sloping 19° right joint (types 2 or 3 rubber bellow needed)

S series handles

S007	2IM5000000	Without switches with sloping 19° left joint
S108-045	2IM5100000	Without switches with sloping 19° right joint
S117-045	2IM5110000	With proportional rocker switch and front trigger with sloping 19° left joint
S218-045	2IM5210002	With upper push-button and horn symbol and front trigger with sloping 19° right joint
S21A7-045	2IM5210003	With upper push-button without horn symbol and front trigger with sloping 19° left

5 Handle position

TYPE	DESCRIPTION
(-)	STANDARD configuration, operation to work port 4: **omitted in description**
(90)	Mounted with 90° rotation step: operation to work port 1
(180)	Mounted with 180° rotation step: operation to work port 2
(270)	Mounted with 270° rotation step: operation to work port 3

6 Pressure control curves

For electromagnetic detent (with pre-feeling) see from page 31 on

7 Pressure control curves

For standard type see from page 31 on

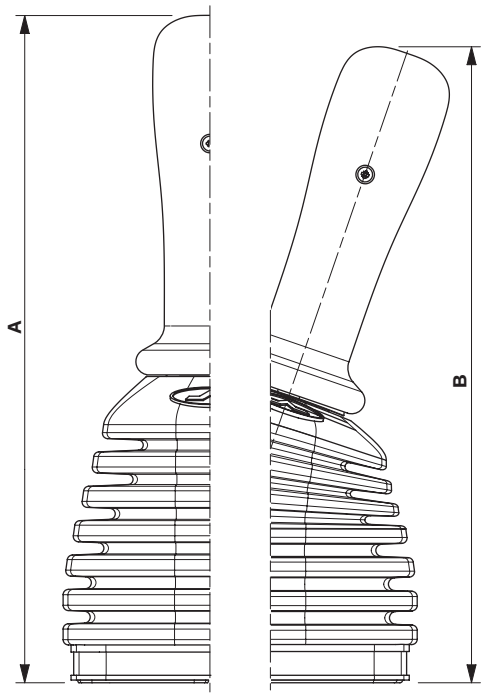
8 Connector

Configurations with detent or microswitch are provided with wires with tin-plate terminals. For connectors please contact our Sales Department

NOTE (*) – Codes are referred to **UN-UNF** thread.

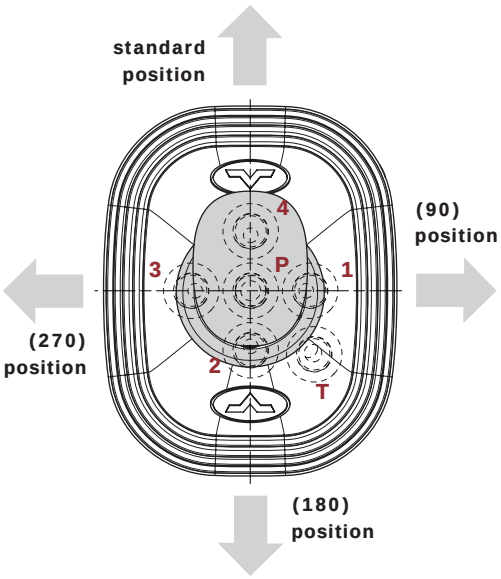
Configuration option

Handle options



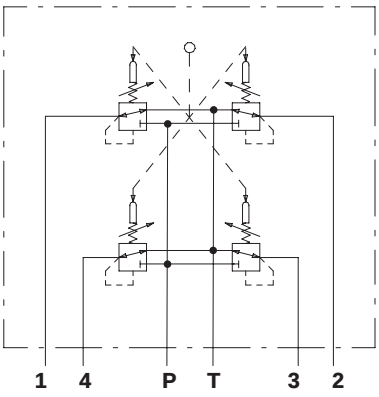
Type	A		B	
	mm	*in*	mm	*in*
V series	252	*9.92*	240	*9.45*
H series	250	*9.84*	240	*9.45*
P series	268	*10.55*	266	*10.47*
S series	266	*10.47*	261	*10.27*

Handle positions

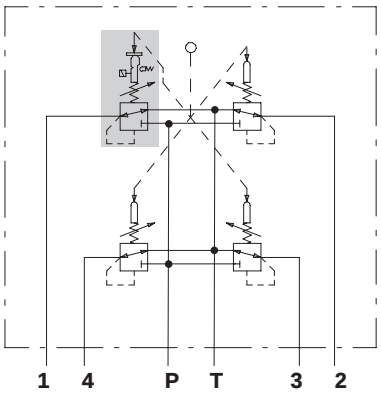


Detent configuration

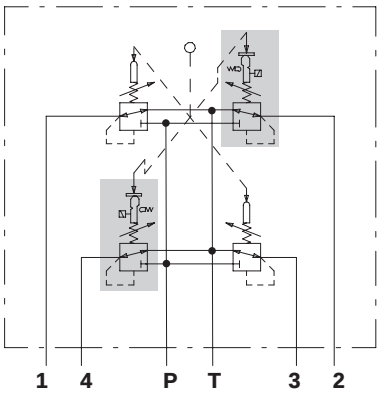
01E0 type
Spring return, without detent



01E15 type
Single detent on port 1
(detent on ports 2-3-4 on request),
spring return

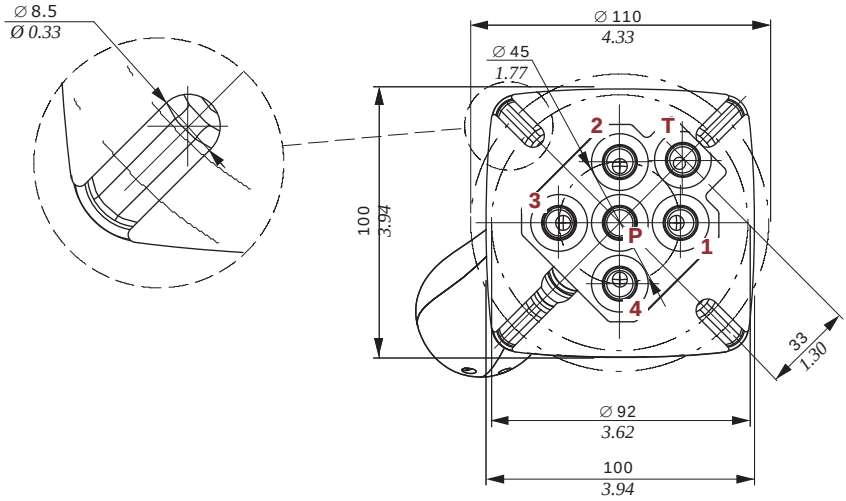


01E25 type
Detent on ports 2 and 4, spring return

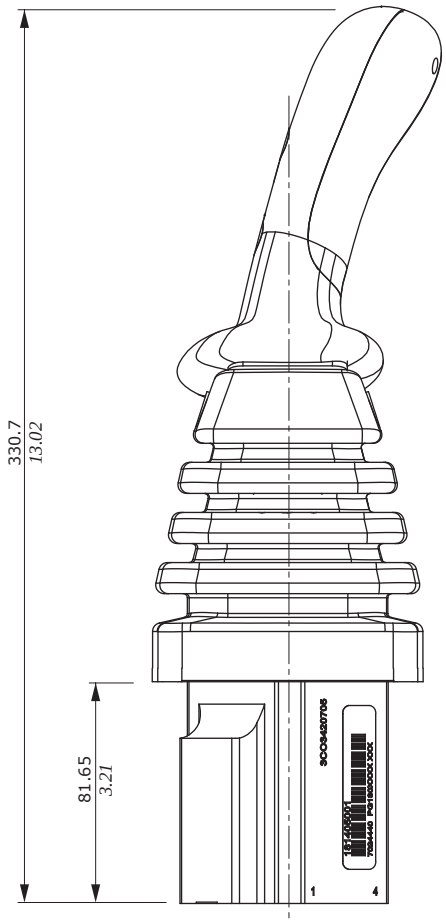


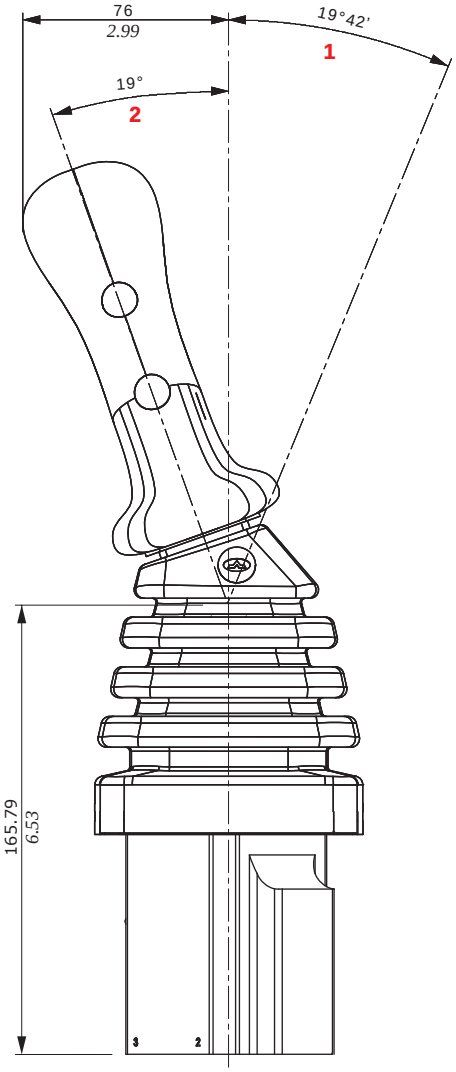
Dimensions and hydraulic circuit

Configuration with damping system.



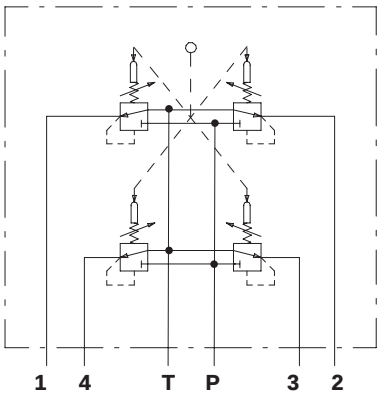
NOTE: normally the pilot control valve is supplied with the handle oriented towards port nr. 4 (see page 28)





1 : Single work port
2 : Two simultaneous work ports

Hydraulic circuit

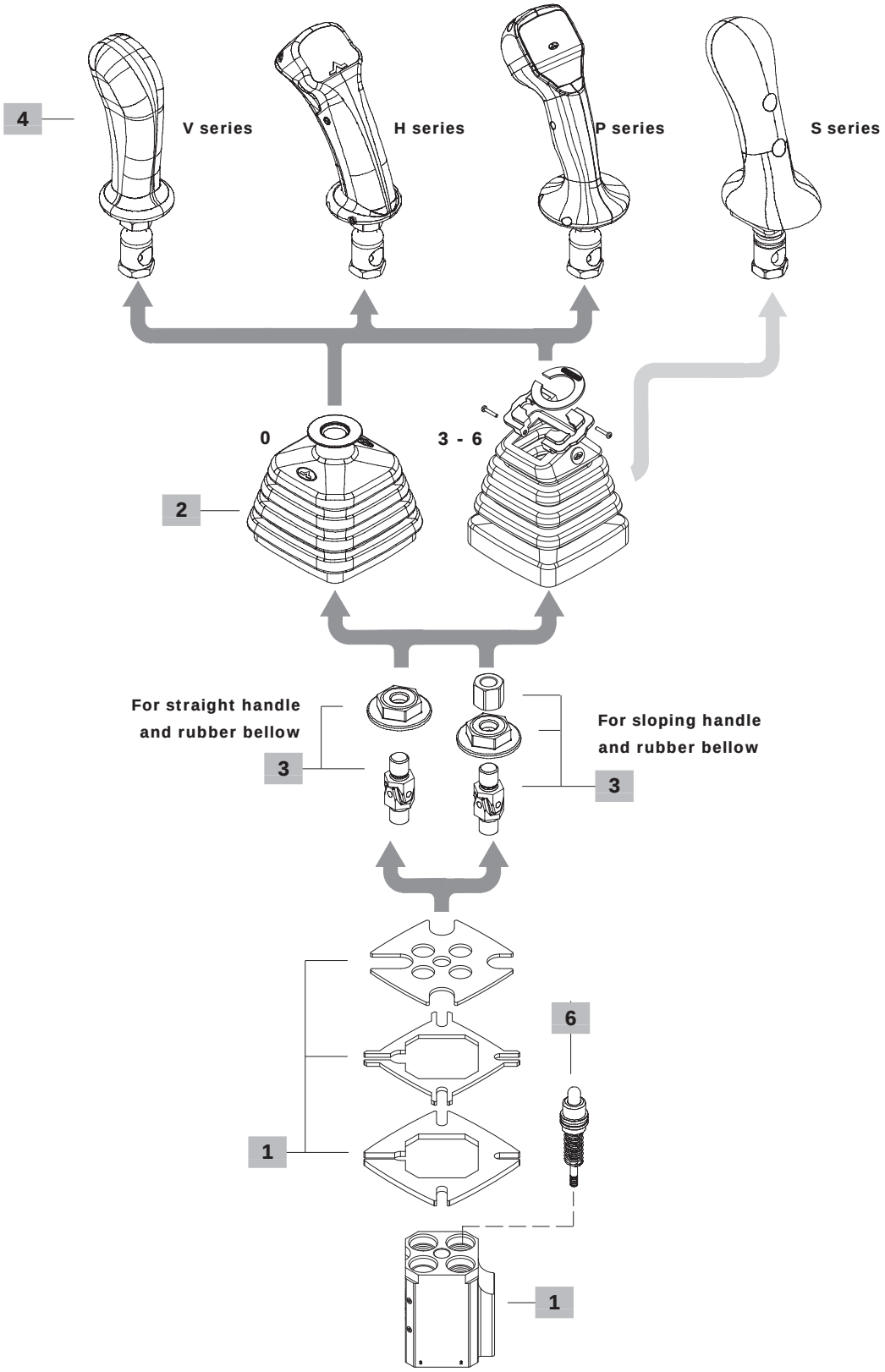


Ordering codes

SVM405 / 3 1 - S / 01 S108 (90) - 045(TM1M) - 000089NM X 4 - <CRVN>

1 2 1 3 4 5 4 6

Body is painted as standard, with one coat of primer black antirust paint



Ordering codes

1 Body kit *

TYPE	CODE	DESCRIPTION
SVM405/1-S	5CO3420705	For rubber bellow square base

2 Rubber bellow

For V, H, P series handles

TYPE	CODE	DESCRIPTION
0	3SOF111130	Straight type, square base with logo
3	5SOF111113	Sloping type, square base; only for 19° sloping handles. Fitted with adapter, not available for type 16 control
6	5SOF111114	As type 3 without logo, not available for type 16 control

For S series handles

TYPE	CODE	DESCRIPTION
3	3SOF111113	Sloping type, square base; only for 19° sloping handles. Not available for type 16 control
6	3SOF111114	As type 3 without logo. Not available for type 16 control

3 Control option

Spring return in neutral position

TYPE	CODE	DESCRIPTION
01	5CIN4003	For V, H, P, S series handles and straight rubber bellow
	5CIN4001	For V, H, P, S series handles and sloping rubber bellow

With microswitches for movement detection on each port.
It needs type 7 rubber bellow and special body: please contact our Sales Department.

TYPE	CODE	DESCRIPTION
16	5CIN4023	For V, H, P, S series handles and straight rubber bellow
	5CIN4021	For V, H, P, S series handles and sloping rubber bellow

4 Handles

The pilot control valve can be configured with different types of handles (V, H, P, S series) with straight joint type 9 or sloping joint type 7 and 8.
Below are listed some pre-configured handles.
For technical specifications and full range of handles and other types of joint see the "Handles and handlevers" catalogue.

V series handles

TYPE	CODE	DESCRIPTION
V000	5IMP030000	Without switches with standard connection
V009	5IMP030011	Without switches with straight joint
V007	5IMP030070	Without switches with sloping 19° left joint (needs types 2 or 3 rubber bellow)
V008	5IMP030080	Without switches with sloping 19° right joint (needs types 2 or 3 rubber bellow)

S series handles

S007	2IM5000000	Without switches with sloping 19° left joint
S108-045	2IM5100000	Without switches with sloping 19° right joint
S117-045	2IM5110000	With proportional rocker switch and front trigger with sloping 19° left joint
S218-045	2IM5210002	With upper push-button and horn symbol and front trigger with sloping 19° right joint
S21A7-045	2IM5210003	With upper push-button without horn symbol and front trigger with sloping 19° left

5 Handle position

TYPE	DESCRIPTION
(-)	STANDARD configuration, cable operation on work port 4: **omitted in description**
(90)	Mounted with 90° rotation step: cable operation on work port 1
(180)	Mounted with 180° rotation step: cable operation on work port 2
(270)	Mounted with 270° rotation step: cable operation on work port 3

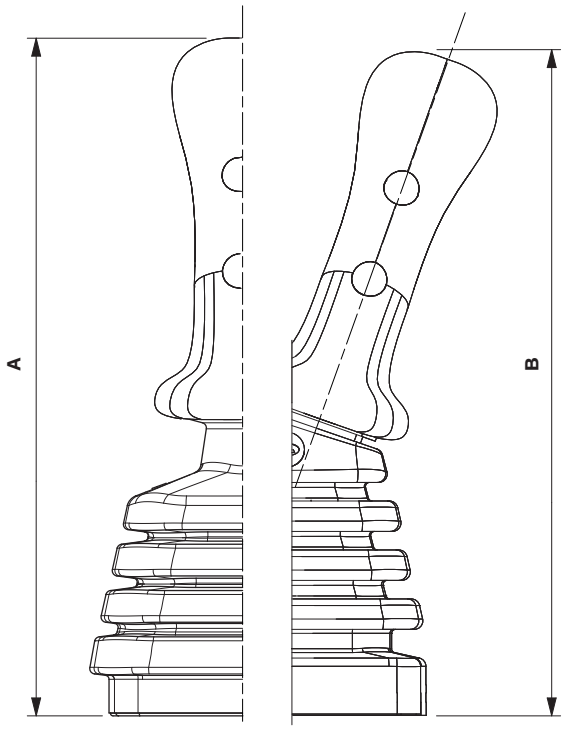
6 Pressure control curves

For configuration and list available see from page 31 on

NOTE (*) – Codes are referred to **UN-UNF** thread.

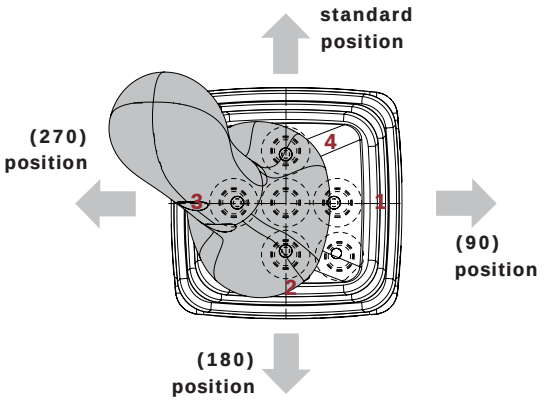
Configuration option

Handle options



Type	A		B	
	mm	*in*	mm	*in*
V series	239.2	*9.42*	237.2	*9.34*
H series	237.2	*9.34*	235.2	*9.26*
P series	256.2	*10.09*	254.2	*10.01*
S series	252.2	*9.93*	249.2	*9.81*

Handle positions

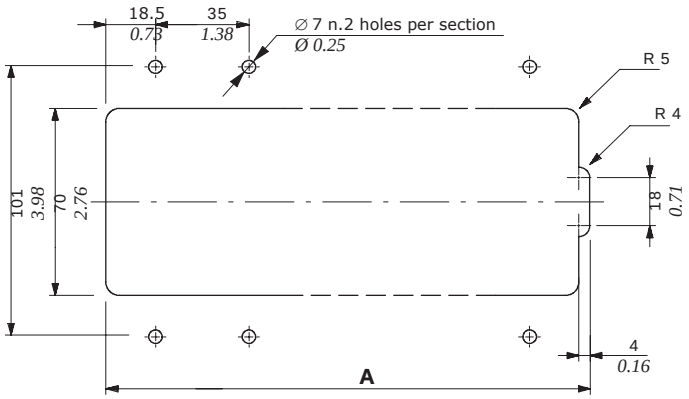


Notes

SVM pilot control valves assembled and tested as per the technical specification of this catalogue.
Before the final installation on your equipment, follow the below recommendations:
- the pilot valves must be assembled in horizontal position: considering the mass of the kinematic and control kit, a max.angle of 20° is allowed;
- the feeding unit can be assembled in any position;keep it away from heat sources when it is equipped with accumulator;
- fix the devices with suitable screw, use the appropriate flange or drilling, after tightening check the seal and the safety of the assembly;
- verify the integrity of the contact between devices and fittings and eliminate any impurities;
- correctly connect the devices, do not reverse the P and T ports (see dimensional pages to determine the initials of the ports);
- in order to prevent the possibility of water entering the rubber bellow, do not use high pressure wash directly on the valve;
- prior to painting, ensure plastic port plugs are tightly in place;
- the electrical cables have not to be submitted to mechanical forces (ex. tension or torsion);
- use original handles and handlevers.

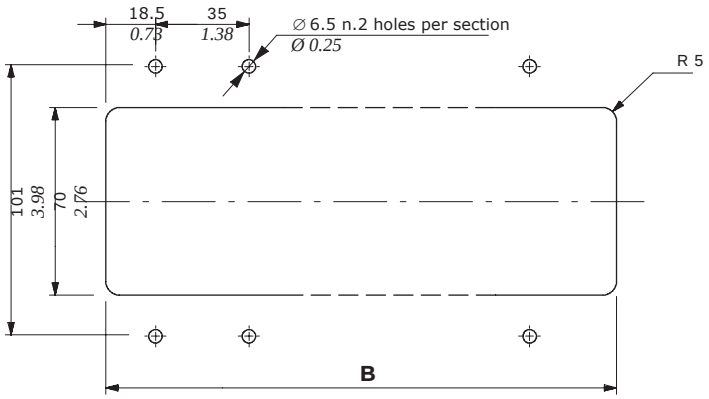
Panel cut out

SVM100 with side P and T ports
Upper mounting



Type	A	
	mm	*in*
SVM100/1	41	*1.61*
SVM100/2	76	*2.99*
SVM100/3	111	*4.37*
SVM100/4	146	*5.75*
SVM100/5	181	*7.12*
SVM100/6	216	*8.50*
SVM100/7	251	*9.88*
SVM100/8	286	*11.36*
SVM100/9	321	*12.64*
SVM100/10	356	*14.01*

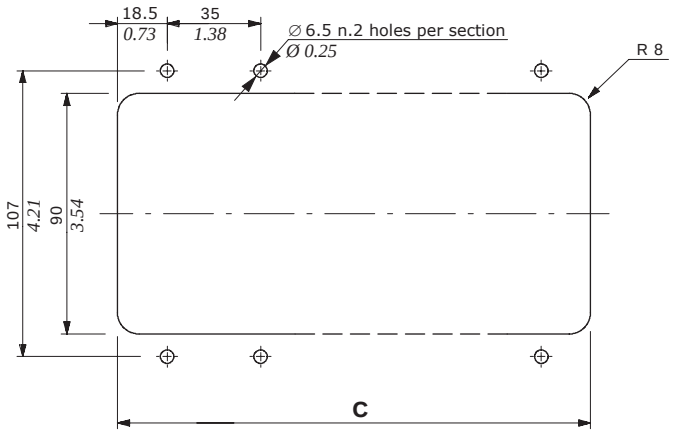
SVM101 with lower P and T ports
Upper mounting



Type	B	
	mm	*in*
SVM101/1	61	*2.40*
SVM101/2	96	*3.78*
SVM101/3	129	*5.08*
SVM101/4	159	*6.26*
SVM101/5	191	*7.52*
SVM101/6	224	*8.82*
SVM101/7	257	*10.12*
SVM101/8	291	*11.46*
SVM101/9	325	*12.79*
SVM101/10	359	*14.13*

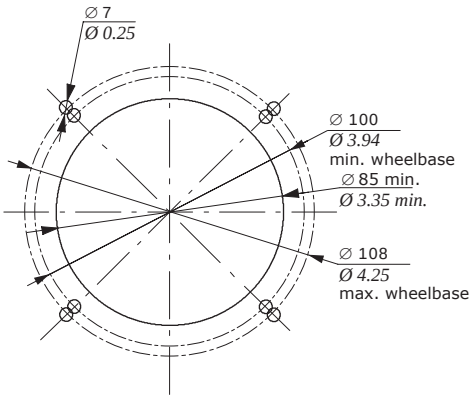
Panel cut out

SVM100-101 with upper and lower P and T ports
Upper mounting

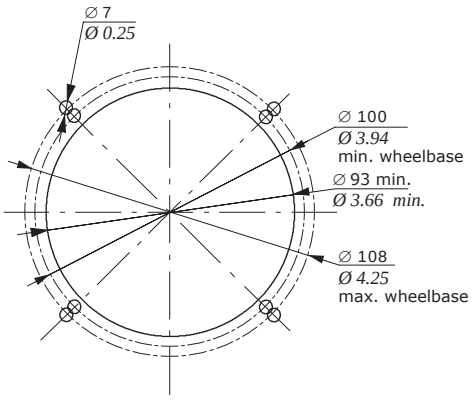


Tipo	C	
	mm	*in*
SVM100-101/1	37	*1.46*
SVM100-101/2	72	*2.83*
SVM100-101/3	107	*4.21*
SVM100-101/4	142	*5.59*
SVM100-101/5	177	*6.97*
SVM100-101/6	212	*8.35*
SVM100-101/7	247	*9.72*
SVM100-101/8	282	*11.10*
SVM100-101/9	317	*12.48*
SVM100-101/10	352	*13.86*

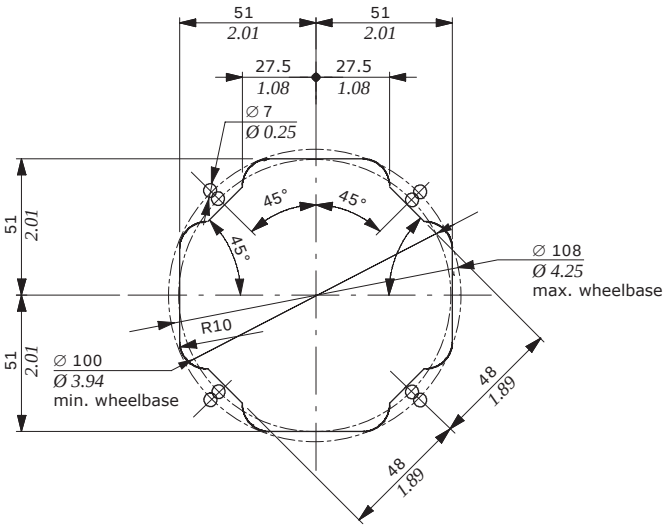
SVM400 - SVM400-EMD



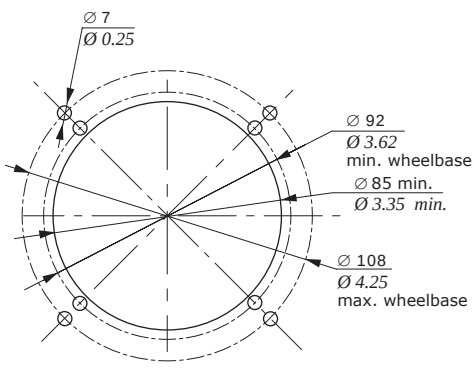
SVM430



SVM431 - SVM432



SVM405



Control curves description

SVM400 / ..... - 0 0 001 A

1 2 3 4

1 Curve type

TYPE	DESCRIPTION
0	Standard
D	With damping
E	With "pre-feeling"

2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step
2	Piecewise with step

3 Identification curve

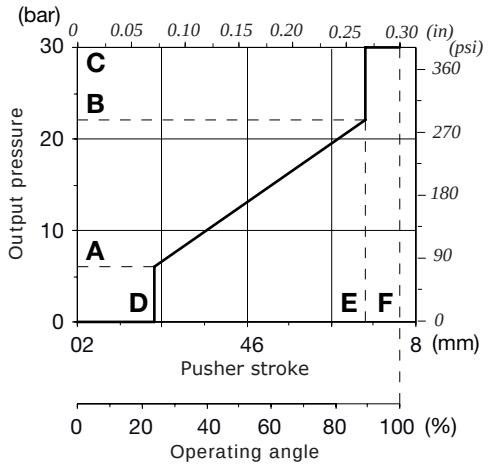
Progressive number, see tables on the following pages

4 Return springs

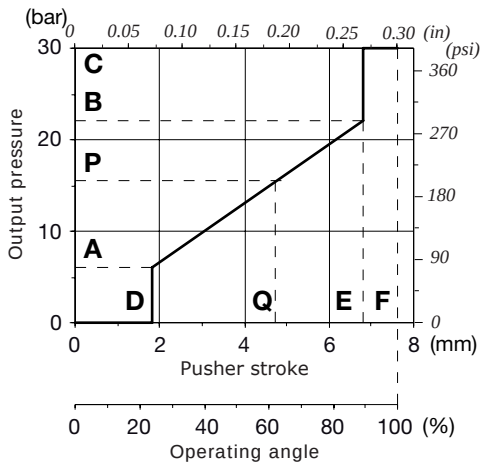
TYPE	DESCRIPTION
M	Operation range from 18 to 25.5 N - *from 4.04 to 5.73 lbf*
A	Operation range from 23 to 35.2 N - *from 5.17 to 7.91 lbf*
B	Operation range from 23 to 68.1 N - *from 5.17 to 15.31 lbf*
C	Operation range from 89 to 176 N - *from 20 to 39.56 lbf*
D	Operation range from 110 to 220 N - *from 24.73 to 49.46 lbf*
E	Operation range from 137.8 to 276.1 N - *from 30.98 to 62.07 lbf*

Control curves with step

00 type without pre-feeling



E0 type with pre-feeling for EM detent

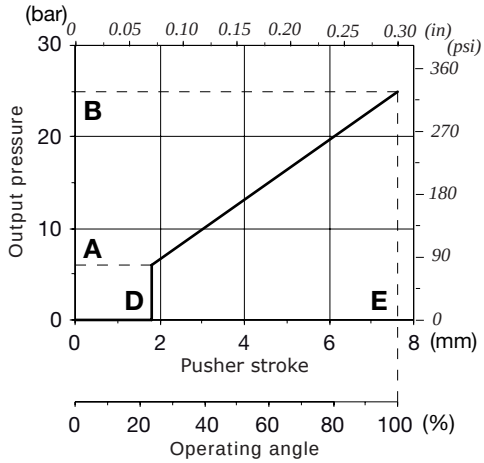


Curve description		Pressure								Stroke								
		A		P		B		C		D		Q		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
00	**023**	2 (±0.5)	*29 (±7.25)*			11.5 (±1)	*166.7 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40023A
E0	**046**	2 (±0.5)	*29 (±7.25)*	13 (±1)	*188.5 (±14.5)*	14.5 (±1)	*210.2 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CUR4E046M
00	**047**	2 (+3/0)	*29 (+43.5/0)*			70 (±4.5)	*1015 (±65.2)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40047A 5CUR40047C
00	**058**	2 (±0.5)	*29 (±7.25)*	10.5 (±0.7)	*152.2 (±10.5)*	11.6 (±1)	*168.2 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CUR4F058A
00	**066**	2 (±0.5)	*29 (±7.25)*			23 (±1.5)	*333.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40066B 5CUR40066C
00	**110**	2 (±0.5)	*29 (±7.25)*			15 (±1)	*217.5 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400110A
00	**043**	3.2 (±0.5)	*46.4 (±7.25)*			11.7 (±0.5)	*169.6 (±7.2)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400043A
00	**010**	3.25 (±0.5)	*47.12 (±7.25)*			14.8 (±1)	*214.6 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40010A
E0	**096**	3.5 (±0.5)	*50.7 (±7.25)*	15 (±0.5)	*217.5 (± .25)*	16.5 (±1)	*239.2 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR4E0096B
00	**086**	4 (±1)	*58 (±14.5)*			16.5 (±1)	*239.2 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40086A 5CUR40086C
E0	**094**	4 (±0.5)	*58 (±7.25)*	12.7 (±0.5)	*184.1 (±7.25)*	13.8 (±1)	*200.1 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CUR4E094M 5CUR4E094B
00	**076**	4.5 (±0.5)	*65.2 (±7.25)*			15 (±1)	*217.5 (±14.5)*	35	*507.5*	1.35	*0.05*			7	*0.27*	7.3	*0.30*	5CUR40076A
00	**017**	5 (± 0.5)	*72.5 (± 14.5)*			12 (± 1)	*(±14.5)*	35 -	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40017A 5CUR40017C
00	**071**	5 (±1)	*72.5 (±14.5)*			17 (± 1)	*246.5 (±14.5)*	35	*507.5*	1.35	*0.05*			6	*0.23*	7.3	*0.29*	5CUR40071A
00	**104**	5.5 (±1)	*79.75 (±14.5)*			17 (± 1)	*246.5 (±14.5)*	35	*507.5*	0.85	*0.03*			3.1	*0.12*	3.5	*0.14*	5CR400104A
00	**120**	5.7 (± 0.5)	*82.6 (± 14.5)*			16.8 (± 1.5)	*243.6 (±21.7)*	35	*507.5*	0.45	*0.02*			7.25	*0.28*	7.6	*0.30*	5CR400120A
00	**001**	5.8 (±1)	*84.1 (±14.5)*			22 (± 2)	*319 (±29)*	35	*507.5*	1.55	*0.06*			7	*0.27*	7.5	*0.29*	5CUR40001A
00	**024**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1.5)	*275.5 (±21.7)*	35	*507.5*	1.55	*0.06*			6.1	*0.24*	7.5	*0.29*	5CUR40024A 5CUR40024C
00	**025**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1.5)	*275.5 (±21.7)*	35	*507.5*	0.75	*0.029*			5.2	*0.20*	7.6	*0.30*	5CUR40025A
00	**031**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1)	*275.5 (±14.5)*	35	*507.5*	1.35	*0.05*			6.4	0.25	7.6	*0.30*	5CUR40031A
00	**085**	6 (±1)	*87 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40085A 5CUR40085B 5CUR40085C 5CUR40085M
00	**105**	6 (±0.5)	*87 (±7.25)*			20 (± 1)	*290 (±14.5)*	35	*507.5*	0.6	*0.02*			7.25	*0.28*	7.6	*0.30*	5CR400105B
00	**111**	6 (±1)	*87 (±14.5)*			25 (± 1)	*362.5 (±14.5)*	35	*507.5*	0.6	*0.02*			4.5	*0.18*	5.2	*0.20*	5CR400111B
00	**053**	8 (±0.5)	*116 (±7.25)*			22.3 (± 1)	*323.3 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40053A
00	**036**	12 (±0.5)	*174 (±7.25)*			25 (± 1)	*362.5 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40036A
00	**107**	12 (±1)	*174 (±14.5)*			20 (± 1)	*290 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400107A

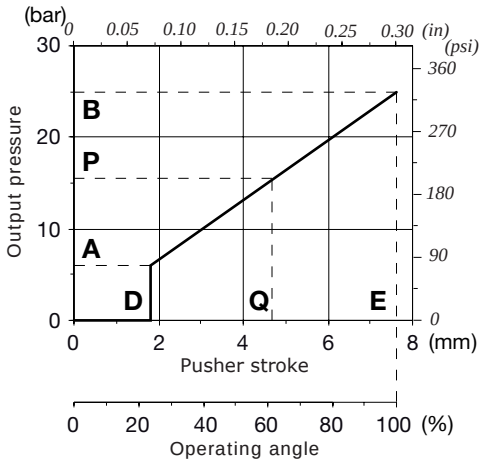
[1] indicates the curve with the specific return spring
For different curves please contact the Sales Department

Control curves without step

01 type without pre-feeling



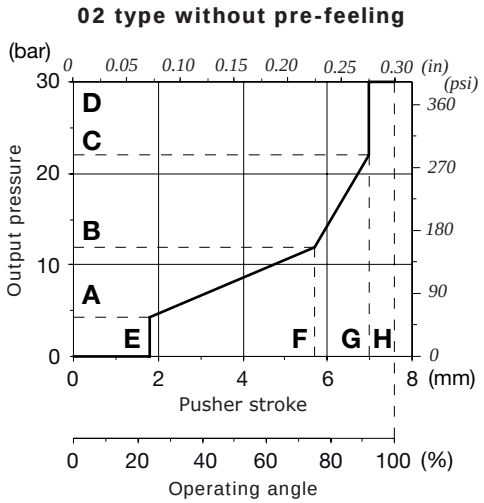
E1 type with pre-feeling for EM detent



Curve description		Pressure						Stroke						
		A		P		B		D		Q		E		
Type	Nr	bar (±toll)	psi (±toll)	bar (±toll)	psi (±toll)	bar (±toll)	psi (±toll)	mm	in	mm	in	mm	in	CODE [1]
01	**148**	0 (± 0.5)	*0 (±7.25)*			13 (± 1)	*188.5 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40148B
01	**099**	1 (± 0.5)	*14.5 (±7.25)*			20 (± 1.5)	*290 (±21.7)*	1.55	*0.06*			7.5	*0.29*	5CR401099A
01	**100**	1.2 (± 0.5)	*17.4 (±7.25)*			18.9 (± 1)	*274 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40100B 5CUR40100M
01	**105**	2 (± 0.5)	*29 (±7.25)*			8 (± 1)	*116 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40105A
01	**129**	2 (± 0.5)	*29 (±7.25)*			66 (± 4)	*957 (±58)*	0.85	*0.03*			6.8	*0.28*	5CUR40129A
01	**154**	2 (± 0.5)	*29 (±7.25)*			15 (± 1)	*217.5 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40154A 5CUR40154M
01	**138**	2.5 (± 0.5)	*36.2 (±7.25)*			13 (± 1)	*188.5 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40138A
01	**143**	3 (± 0,5)	*43.5 (±7.25)*			25 (± 1)	*362.5 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40143A
01	**157**	3.4 (± 1)	*49.3 (±14.5)*			17.2 (± 1)	*249.4 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40157A 5CUR40157B
01	**096**	4 (±1)	*58 (±14.5)*			18 (± 1)	*261 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CR401096M
01	**126**	4.5 (± 0.7)	*65.2 (±10.1)*			30.7 (± 1.5)	*445.1 (±21.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40126A
01	**166**	4.5 (± 0.5)	*65.2 (±7.25)*			15 (± 1.5)	*217.5 (±21.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40166A 5CUR40166M
01	**167**	5 (± 0.5)	*72.5 (±7.25)*			18 (± 1)	*261 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40167M
01	**170**	5 (± 0.5)	*72.5 (±7.25)*			20 (± 1)	*290 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40170A 5CUR40170M
01	**175**	5 (± 0.5)	*72.5 (±7.25)*			16 (± 1,5)	*232 (±21.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40175A 5CUR40175D
01	**118**	5.8 (± 1)	*84.1 (±14.5)*			19.5 (± 1.5)	*282.7 (±21.7)*	1.55	*0.06*			7.5	*0.29*	5CUR40118A
01	**135**	5.8 (± 0.5)	*84.1 (±7.25)*			23 (± 1.5)	*333.5 (±21.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40135A 5CUR40135M
01	**192**	5.8 (± 0.5)	*84.1 (±14.5)*			15 (± 1.5)	*217.5 (±21.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40192A 5CUR40192M
01	**103**	6 (± 1)	*87 (±14.5)*			30 (± 2.5)	*435 (±36.2)*	0.85	*0.03*			7.6	*0.30*	5CUR40103A 5CUR40103M
E1	**103**	6 (± 1)	*87 (±14.5)*	30 (± 1.5)	*435 (±21.7)*	34.7 (± 2)	*503.1 (±29)*	0.85	*0.03*	6.5	*0.25*	7.6	*0.30*	5CUR4E103M
01	**178**	6.5 (± 0.5)	*94.2 (±7.25)*			17.8 (± 1)	*258.1 (±14.5)*	0.85	*0.03*			5.8	*0.22*	5CUR40178A
01	**115**	8.3 (± 0.7)	*120.3 (±10.1)*			22.5 (± 1)	*326.2 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR40115M
01	**159**	10 (± 0.5)	*145 (±7.25)*			28 (± 1)	*406 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CUR401159A
01	**144**	35 (± 2)	*507.5 (±29)*			70 (± 3.5)	*1015 (±50.7)*	0.85	*0.03*			7.6	*0.30*	5CUR40144C

[1] indicates the curve with the specific return spring
For different curves please contact the Sales Department

Control curves piecewise with step



Curve description		Pressure								Stroke								
		A		B		C		D		E		F		G		H		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
02	**210**	1.5 (±1)	*21.7 (±14.5)*	7 (±1)	*101.5 (±14.5)*	15 (±1)	*217.5 (±14.5)*	35	*507.5*	0.85	*0.03*	5.7	*0.22*	7.25	*0.28*	7.6	*0.30*	5CUR40210C
02	**204**	4.3 (±0.5)	*62.3 (±7.25)*	12 (±0.8)	*174 (±11.6)*	20.5 (±1)	*297.2 (±14.5)*	35	*507.5*	0.85	*0.03*	5.7	*0.22*	7.25	*0.28*	7.6	*0.30*	5CUR40204C

[1] indicates the curve with the specific spring
For different curves contact the Sales Department

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code[1]	Range (bar/*psi*)	Type	Code	Type	Code[1]	Range (bar/*psi*)
Monoblock valves										
SD5 **SDM110**	8IM	5IDR205021	**026**	5CUR40026 *5CR400026N*	6.5-14 *94.2-203*	13IM	5IDR205330	**075**	5CUR40075 *5CR400075N*	5-15 *72.5-217.5*
								E075	5CUR4E075	5-15-16.3
SDM100	8IM	5IDR207300	**088**	5CUR40088 *5CR400088N*	8-27 *116-391.5*	13IMS	5IDR207350	**125**	5CUR40125 *5CR401125N*	8-22.5 *116-326.2*
								E045	5CR4E0045	6.5-15.5-16.5 *94.2-224.7-239.2*
SD11 **SD14**	8IM	5IDR210000	**070**	5CUR40070 *5CR400070N*	5.8-22.4 *84.1-324.8*					
SD18	8IM	5IDR220000	**070**	5CUR40070 *5CR400070N*	5.8-22.4 *84.1-324.8*					
SDM140 **DLM140**	8IM	5IDR208300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CUR40075 *5CR400075N*	5-15 *72.5-217.5*
								E075	5CUR4E075	5-15-16.3
SDM141	8IM	5IDR208300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CUR40075 *5CR400075N*	5-15 *72.5-217.5*
								E075	5CUR4E075	5-15-16.3
						13CIM	5IDR308313	**087**	5CUR40087 *5CR400087N*	5.8-17 *84.1-246.5*
								E087	5CUR4E087	5.8-17-18.5 *84.1-246.5-268.2*
Sectional valves										
SD6	8IM	5IDR206010	**075**	5CUR40075 *5CR400075N*	5-15 *72.5-217.5*					
	8IMP	5IDR206020	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
DLS7	8IMF3	5IDR207000	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
SDS100	8IM	5IDR207300	**088**	5CUR40088 *5CR400088N*	8-27 *116-391.5*	13IMS	5IDR20350	**125**	5CUR40125 *5CR401125N*	8-22.5 *116-326.2*
								E045	5CR4E0045	6.5-15.5-16.5 *94.2-224.7-239.2*
	8IMF3	5IDR207310	**088**	5CUR40088 *5CR400088N*	8-27 *116-391.5*					
SD8	8IM	5IDR208300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
DLS8	8IMF3	5IDR208220	**021**	5CR400021 *5CR400021N*	6-16.3 *87-236.3*					
SDS150	8IM	5IDR216300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
SDS180	8IM	5IDR216300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*	13IMP	5IDR216014	**073**	5CUR40073 *5CR400073N*	4-18 *58-261*
								E073	5CUR4E073	4-18-19.9 *58-261-288.5*
	8IMF3	5IDR216303	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
	8IMSPSL4P	5IDR218012	**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*					
	8IMO	5IDR216000	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
	8IMD	5IDR218300	V1=**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*					
			V2=**073**	5CUR40073 *5CR400073N*	4-18 *58-261*					
DLS180	8IM	5IDR216300	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
	8IMF3	5IDR216303	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*					
	8IMO	5IDR216000	**073**	5CUR40073 *5CR400073N*	4-18 *58-261*					
	8IMOHF3	5IDR216303-H	**073**	5CUR40073 *5CR400073N*	4-18 *58-261*					
SD25	8IM	5IDR225300	**004**	5CUR40004 *5CR400004N*	4.9-18.9 *71-274*	13IM	5IDR225360	**156**	5CUR40156 *5CR401156N*	3.4-14.5 *49.3-210.2*
								E0B09	5CUR4EB09	3.5-13.7-14.3 *50.7-198.6-207.3*
	8IMO	5IDR225000	**033**	5CUR40033 *5CR400033N*	5.8-19 *84.1-275.5*	13IMO	5IDR225350	**156**	5CUR40156 *5CR401156N*	3.4-14.5 *49.3-210.2*
								E0B09	5CUR4EB09	3.5-13.7-14.3 *50.7-198.6-207.3*
SDS400	8IM	5IDR208300	**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*	13IM	5IDR208310	**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*
								F0055	5CUR4F055	5-15-16.3 *72.5-217.5-236.3*

[1] Codes listed show the control curve without return spring reference: for spring details see page 31.
Control curve codes in "*italic*" are dedicated for SVM405 hydraulic pilot control valve.

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code[1]	Range (bar/*psi*)	Type	Code	Type	Code[1]	Range (bar/*psi*)
Distributori Load Sensing pre-compensati e Flow Sharing										
DPC130	8IM	5V08130800	**020**	5CUR40020 *5CR400020N*	4.3-15.2 *62.3-220.4*					
DPC200	8IM	5V08200801	**020**	5CUR40020 *5CR400020N*	4.3-15.2 *62.3-220.4*					
DPX050	8IM	5IDR20A300	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*	13IMP	5IDR20A310	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*
								E0086	5CUR4E086	4-16.5-18.2 *58-239.2-263.9*
	8IMF3	5IDR20A302	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*					
	8IMX	5IDR20A7301	**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*					
	8IMXF3	5IDR20A303	**028**	5CUR40028 *5CR400028N*	5-21 *72.5-304.5*					
DPX100	8IMN	5IDR204304	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*	13IMS	5IDR207350	**098**	5CUR40098 *5CR400098N*	7-22.5 *101.5-326.2*
								E0086	5CUR4E086	4-16.5-18.2 *58-239.2-263.9*
	8IMF3N	5IDR204314	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*					
	8IMXN	5IDR204303	**054**	5CUR40054 *5CR400054N*	6.2-24.5 *89.9-355.2*					
	8IMXF3N	5IDR204313	**054**	5CUR40054 *5CR400054N*	6.2-24.5 *89.9-355.2*					
DPX160	8IMN	5IDR209304	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*	13IM	5IDR209303	**089**	**5**CUR40089 *5CR400089N*	8-28 *116-406*
								E0033	5CUR4E033	5.8-19-20.8 *84.1-275.5-301.6*
	8IMF3N	5IDR209305	**089**	5CUR40089 *5CR400089N*	8-28 *116-406*	13IMP	5IDR209014	**073**	5CR400073 *5CR400073N*	4-18 *58-261*
								E0073	5CR4E0073	4-18-19.9 *58-261-288.5*

[1] Codes listed show the control curve without return spring reference: for spring details see page 31.
Control curve codes in "*italic*" are dedicated for SVM405 hydraulic pilot control valve.

SVM hydraulic joysticks with electromagnetic detent

SVM150 / SVM450 / SVM600

- Single, double and combined functions
- Wide range of handles available

Working conditions

This catalogue shows technical specifications and diagrams measured through mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

Nominal flow rating		from 5 to 20 l/min - *from 1.32 to 5.28 USgpm*
Max. feeding pressure	on P inlet port	from 30 to 100 bar - *from 435 to 1450 psi*
Max. backpressure	on T outlet port	3 bar - *43.5 psi*
Max. hysteresis		0.5 bar - *7.25 psi*
Internal leakage (all ports)	at 30 bar - *435 psi*, P⇒T	max 18 cm³/min - *1.10 in3/min*
Fluid		Mineral oil
Fluid temperature	with NBR (BUNA-N) seals	from -10°C to 80°C - *from 14 °F to 176 °F*
Viscosity	operating range	from 15 to 75 mm²/s - *from 15 to 75 cSt*
	min.	12 mm²/s - *12 cSt*
	max.	400 mm²/s - *400 cSt*
Max. contamination level		-/15/12 - ISO 4406 - *NAS1638 class 6*
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40 °F to 140 °F*
	with electric devices	from -20°C to 50°C - *from -4 °F to 122 °F*
Tie rod tightening torque (wrench 13)	only for SVM150	*24 Nm - 17.7 lbft*

NOTE - for different conditions please contact our Sales Department.

REFERENCE STANDARD

		BSP	UN-UNF
THREAD ACCORDING TO		ISO 228/1	ISO 263
		BS 2779	ANSI B1.1 unified
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926
	SAE		J11926
	DIN	3852-2 X or Y shape	

PORT THREADING

PORTS	Threads		Fitting tightening torque	
	UNI EN ISO 1179	UNI EN ISO 11926-2	Nm	*lbft*
P inlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*
Ports	G 1/4	7/16-20 (SAE 4)	30	*22.13*
T outlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*

NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The manufacturer has to be consulted.

Dimensions and hydraulic circuit

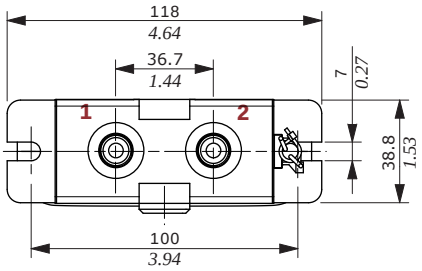
Single axes version

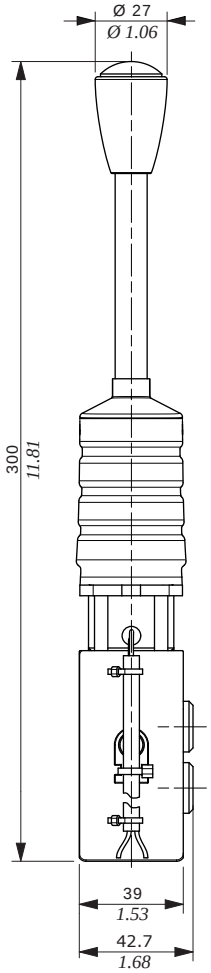
Without detent or with detent on single working port or both working ports

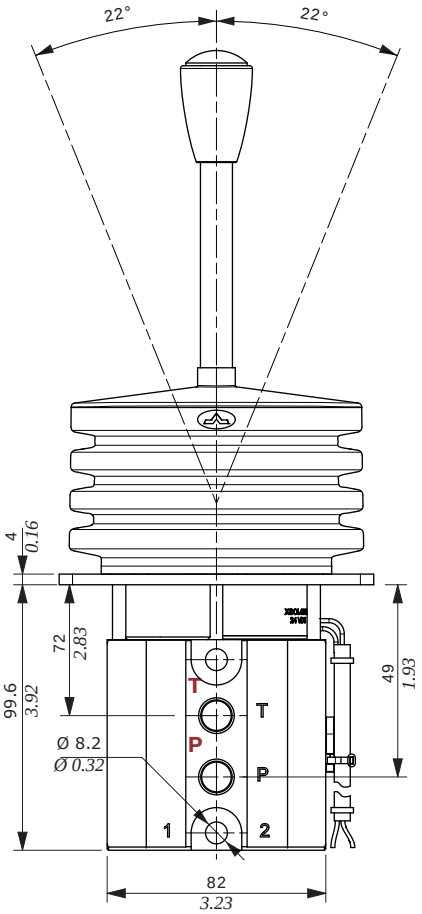
Features

ELECTROMAGNET

Nominal voltage tolerance	: ±10%
Power rating	: 8.2 W
Nominal current	: 0.69 A - 12 VDC
	: 0.345 A - 24VDC
Coil insulance	: Class H
Weather protection	: IP65
Insertion	: 100%



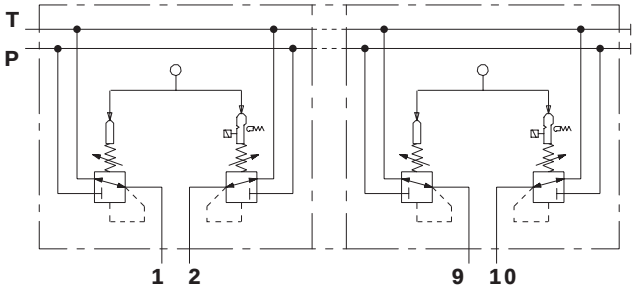




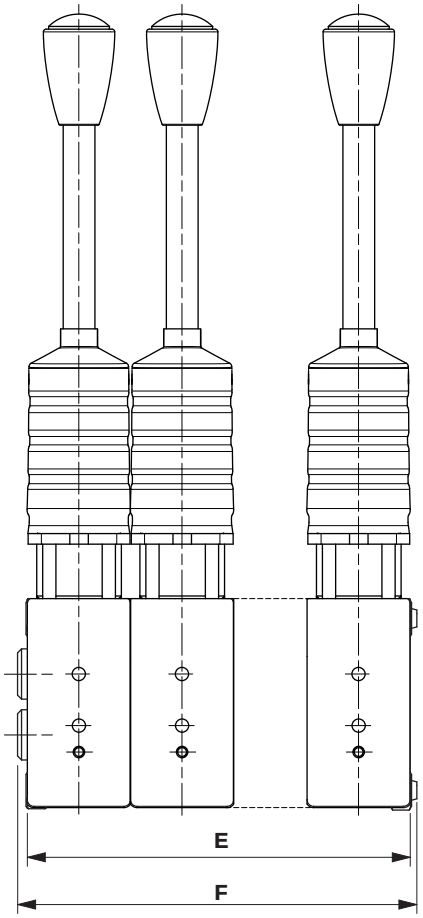
SVM150/n version

Configuration up to 5 sections

Hydraulic circuit



TIPO	E		F	
	mm	*in*	mm	*in*
SVM150/2	78	*3.07*	84	*3.31*
SVM150/3	117	*4.61*	123	*4.84*
SVM150/4	156	*6.14*	162	*6.38*
SVM150/5	195	*7.68*	201	*7.91*



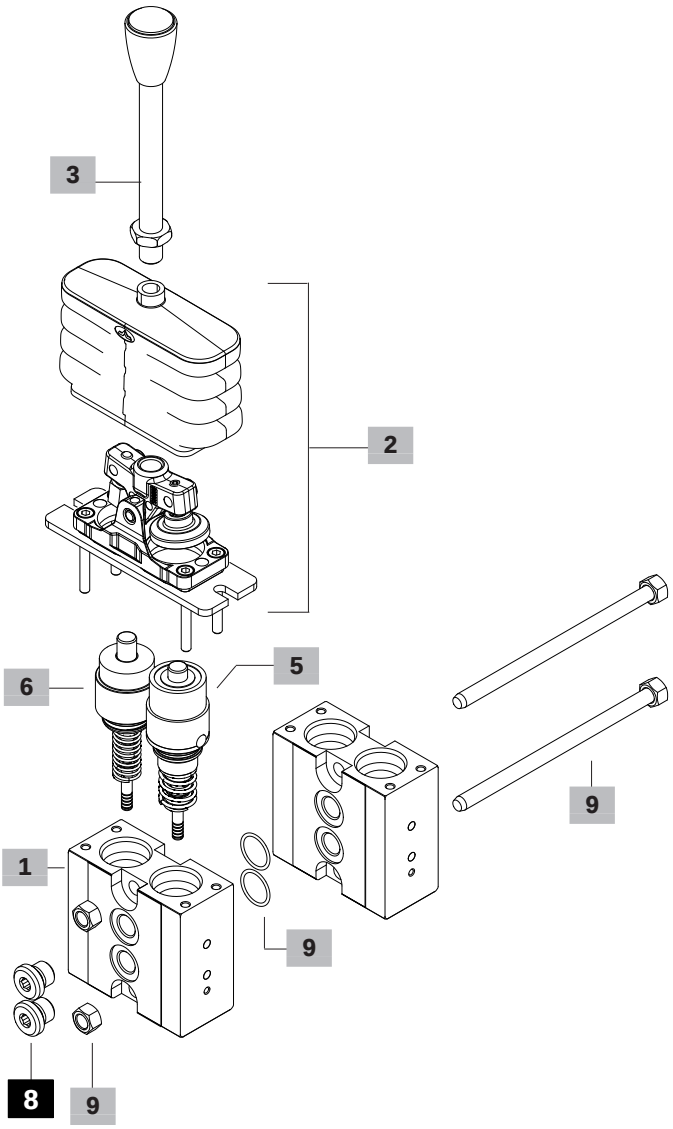
Ordering codes

description for 1st section: repeat the choice for following sections

last section (max.5)

SVM150/	n	- S /	01	EMD(1) /	G3	(....) -	E0028M -	A0028M /	.....	(....) -	12VDC
1	1		2	1	3	4	5	6		7	5

Substitute with number of sections



1 Body kit *

TYPE: **SVM150-S/EMD(0)** CODE: 3CO3132700
DESCRIPTION: Body without detent
TYPE: **SVM150-S/EMD(1)** CODE: 3CO3132701
DESCRIZIONE: Body with detent arrangement on port 1
TYPE: **SVM150-S/EMD(2)** CODE: 3CO3132702
DESCRIPTION: Body with detent arrangement on port 2
TYPE: **SVM150-S/EMD(1-2)** CODE: 3CO3132703
DESCRIPTION: Body with detent arrangement on ports 1 and 2

NOTE (*) – Codes are referred to **UN-UNF** thread

2 Detent configuration

Complete with rubber bellow and fixing wrapper

TYPE	CODE	DESCRIPTION
01/(0D)	5CIN10100D	Spring return to neutral position, without detent arrangement
01/(1D)	5CIN10110D	Spring return to neutral position, single detent arrangement; right or left position is defined by pressure control curve position
01/(2D)	5CIN10120D	Spring return to neutral position, double detent arrangement

NOTES: For detent arrangement on different ports, please contact our Sales Department.
The text between () can be omitted from composition description.

3 Standard handlevers

TYPE	CODE	DESCRIPTION
G3	5AST271218G	Ogival with portlight, straight rod (standard)
G3(15)	5AST371217G	Ogival with portlight, 15° bending rod
G3(30)	5AST371226G	Ogival with portlight, 30° bending rod
E	5AST371215E	Spherical with portlight, 15° bending rod

For features see page 41

4 Handle position

Only for bending rod

TYPE	DESCRIPTION
(0)	Handlever oriented on P and T plugged ports
(90)	Handlever oriented on port 1
(180)	Handlever oriented on P and T open ports
(270)	Handlever oriented on port 2

5 Pressure control curve

For electromagnetic detent (with pre-feeling) see from page 50 on.

6 Pressure control curve

Without electromagnetic detent and without pre-feeling see from page 50 on.

7 Connector

Configurations with detent or microswitch are provided with wires with tin-plate terminals. For connectors please contact our Sales Department.

8 Closing plugs *

CODE	DESCRIPTION
3XTAP814120	SAE4 plug for rear ports closing (n. 2 plugs)

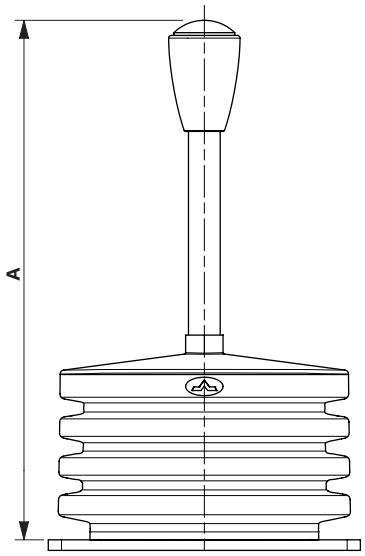
9 Assembling kit

This kit contains tie rods, nuts and O-ring seals

CODE	DESCRIPTION
5TIR108081	Assembling kit for SVM150/2
5TIR108127	Assembling kit for SVM150/3
5TIR108159	Assembling kit for SVM150/4
5TIR108199	Assembling kit for SVM150/5

Configuration option

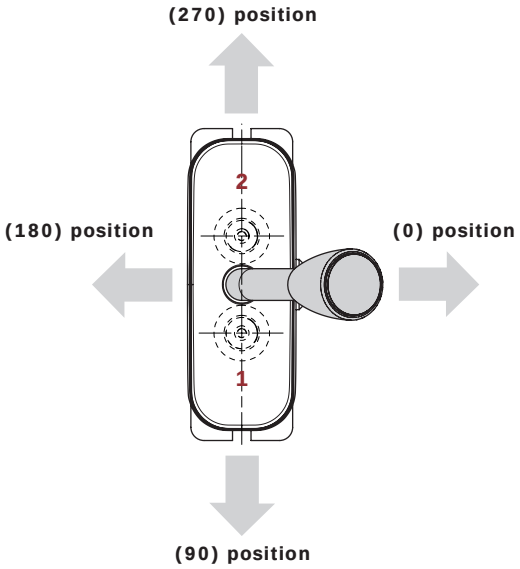
Handle option



Handlever Type	A	
	mm	*in*
G3 diritta	196	*7.72*
G3 incl. 15°	184	*7.24*
G3 incl. 30°	176	*6.23*
E incl. 15°	186	*7.32*

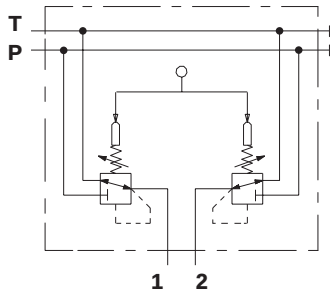
Handlever positions

Orientation only for bending rod

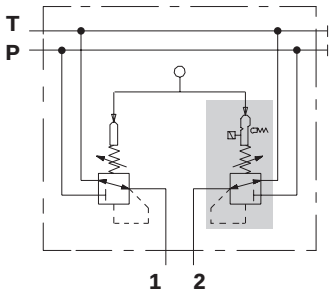


Detent configuration

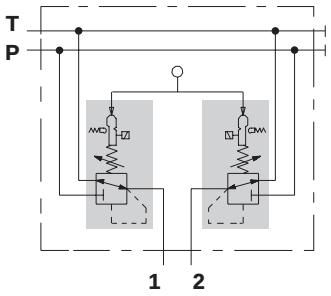
01/0D type
Spring return, without detent



01/1D type
Single detent on port 2 (detent on port 1 on request), spring return



01/2D type
Double detent on ports 1 and 2, spring return



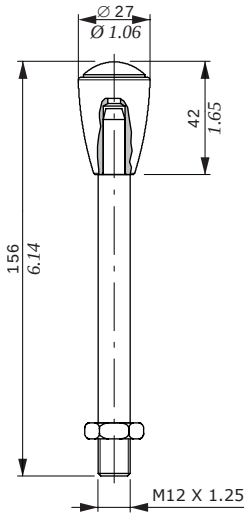
Configuration option

Standard handlevers without microswitch

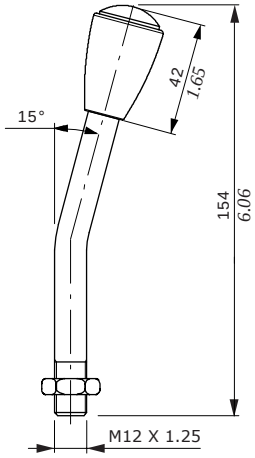
G type

Ogival handles with customizable portlight. It's possible to insert labels with specific machine functions (for example: lifting function).

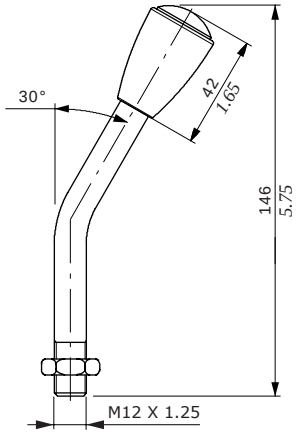
G type
straight rod



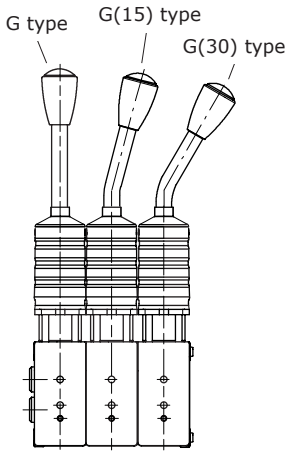
G(15) type
15° bending rod



G(30) type
30° bending rod



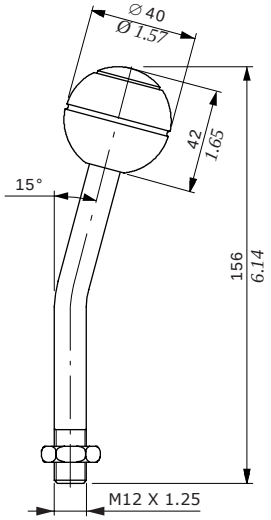
Mounting example
pilot control valve with 3 sections



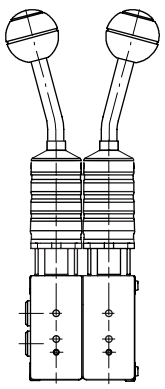
E type

Customizable handle as G type, 15° bending rod.

E type

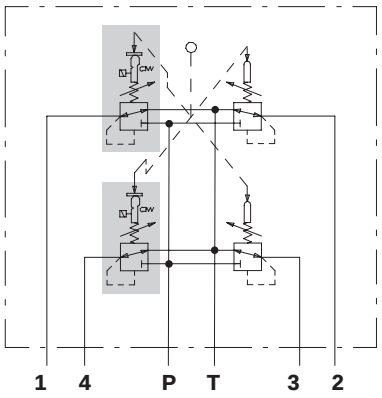


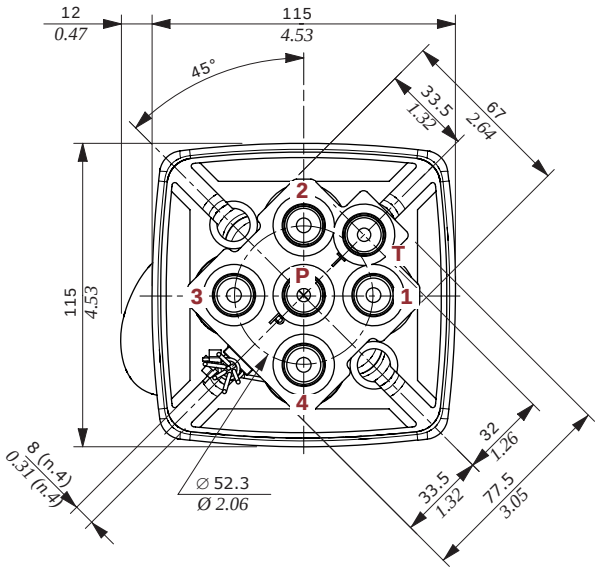
Mounting example
pilot control valve with 2 sections



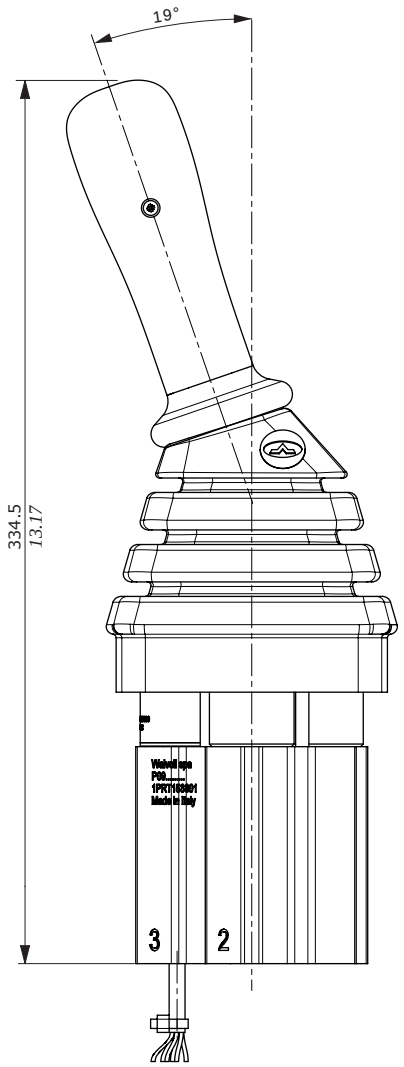
Dimensions and hydraulic circuit

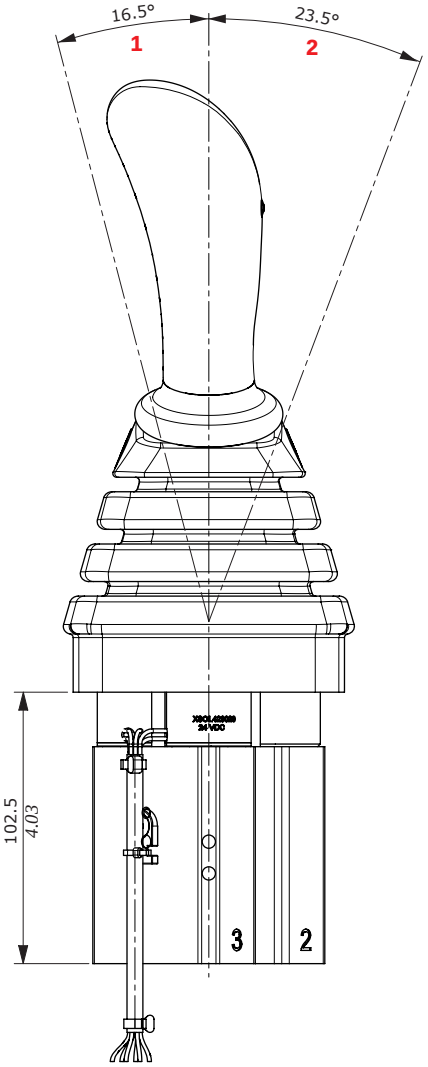
hydraulic circuit
Example detent on working ports 1 e 4





1 : Single work port
2 : Two simultaneous work ports





Features

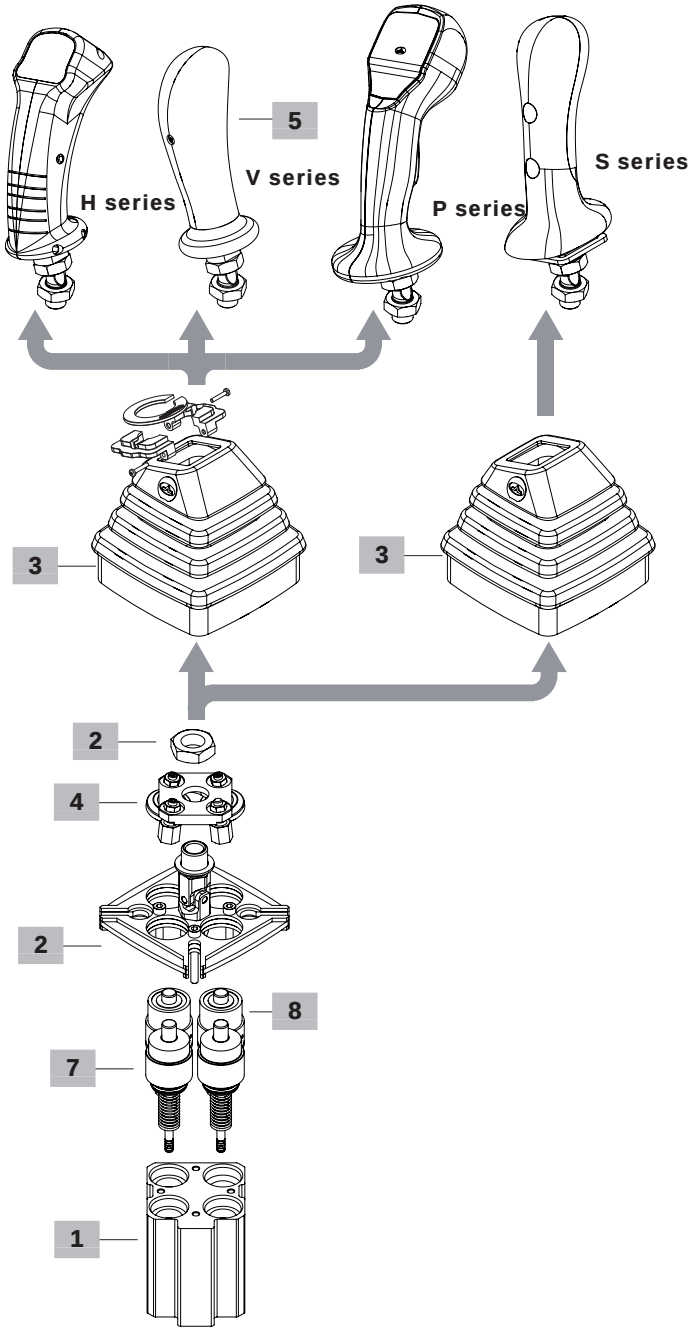
ELECTROMAGNET

Nominal voltage tolerance.	: ±10%
Power rating.	: 8.2 W
Nominal current	: 0.69 A - 12 VDC
	: 0.345 A - 24 VDC
Coil insulance	: Class H
Weather protection	: IP65
Insertion	: 100%

Ordering codes

SVM450-EMD(3-4)/ 3 1 - S / 01 - V007 (....) (....) - A0020M-....-....-E0020M - (....) - 12VDC

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



1 Body kit *

TYPE: **SVM450-EMD(4)/S** CODE: 3CO3450703
DESCRIPTION: With detent arrangement on port 4
TYPE: **SVM450-EMD(3-4)/S** CODE: 3CO3450701
DESCRIPTION: With detent arrangement on ports 3 and 4
TYPE: **SVM450-EMD(2-3-4)/S** CODE: 3CO3450702
DESCRIPTION: With detent arrangement on ports 2, 3 and 4

2 Flange kit

TYPE	CODE	DESCRIPTION
1	5FLA410045	Flange

3 Rubber bellow

TYPE	CODE	DESCRIPTION
3	5SOF111111	Sloping type, square base with logo; only for 19° sloping handles, adapter for V, H, P type handles
3	3SOF111111	As previous for S type handles

4 Detent configuration

With spring return in neutral position

TYPE	CODE	DESCRIPTION
01/(1D)	5CIN8011D	Kinematic kit arranged for 1 detent
01/(2D)	5CIN8012D	Kinematic kit arranged for 2 detent
01/(3D)	5CIN8013D	Kinematic kit arranged for 3 detent

NOTE: The text between () can be omitted from description of composition

5 Handles

The pilot control valve can be configured with different types of handles (V, H, P, S series) with straight joint type 9 or sloping joint type 7 and 8. Below are listed some handles pre-configured.
For technical specifications and full range of handles and other types of joint see the "Handles and handlevers" catalogue.

V series handles

TYPE	CODE	DESCRIPTION
V007	5IMP030070	Without switches with sloping 19° left joint
V008	5IMP030080	Without switches with sloping 19° right joint
V109-045	5IMP031160	With upper push-button with protection, horn symbol and straight joint

S series handles

S007	2IM5000000	Without switches with sloping 19° left joint
S107-045	2IM5100002	With upper push-button and horn symbol with sloping 19° left joint
S118-045	2IM5110011	With proportional rocker switch, dead-man switch and sloping 19° right joint

6 Handle position

TYPE	DESCRIPTION
(-)	Standard configuration, operation to work port 4: **omitted in description**
(90)	Mounted with 90° rotation step: operation to work port 1
(180)	Mounted with 180° rotation step: operation to work port 2
(270)	Mounted with 270° rotation step: operation to work port 3

7 Pressure control curves

Without electromagnetic detent and without pre-feeling see from page 50 on

8 Pressure control curves

With electromagnetic detent and pre-feeling see from page 50 on

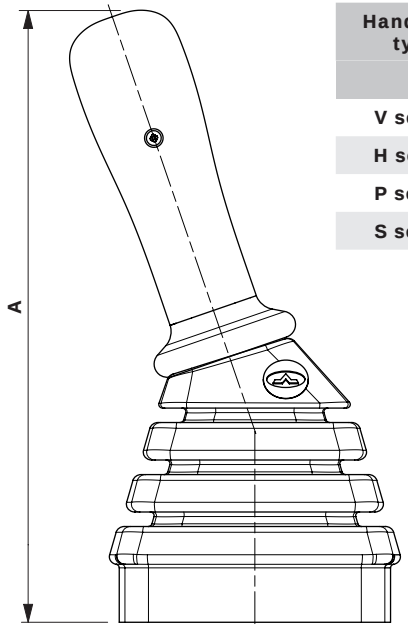
9 Connector

Configurations with detent or microswitch are provided with wires with tin-plate terminals. For connectors, please contact our Sales Department

NOTE (*) – Codes are referred to **UN-UNF** thread.

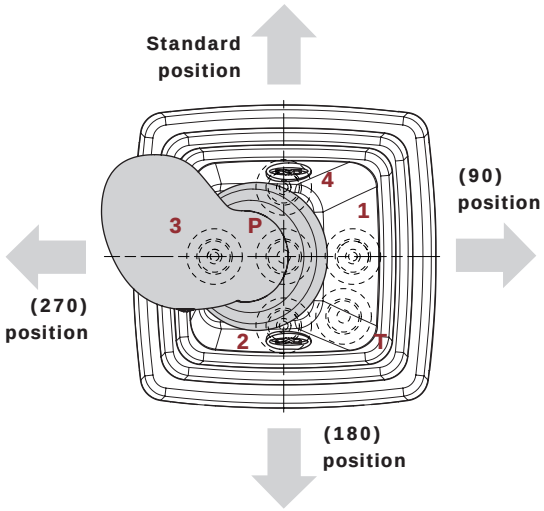
Configuration option

Handle option



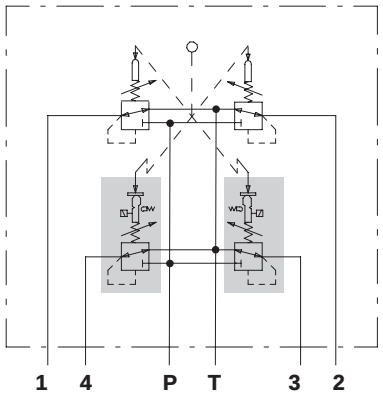
Handlever type	A	
	mm	*in*
V series	232	*9.13*
H series	250	*9.84*
P series	268	*10.55*
S series	266	*10.47*

Handle positions

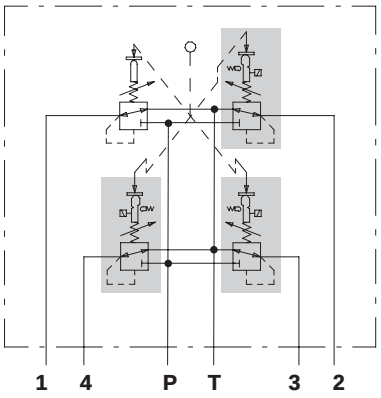


Detent configuration

01/2D type
Detent on ports 3 and 4, with spring return



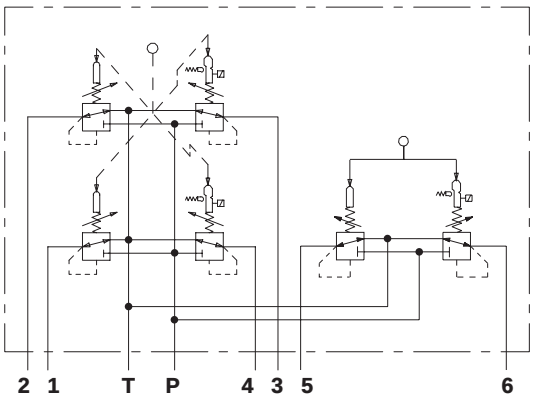
01/3D type
Detent on ports 2, 3 and 4 with spring return

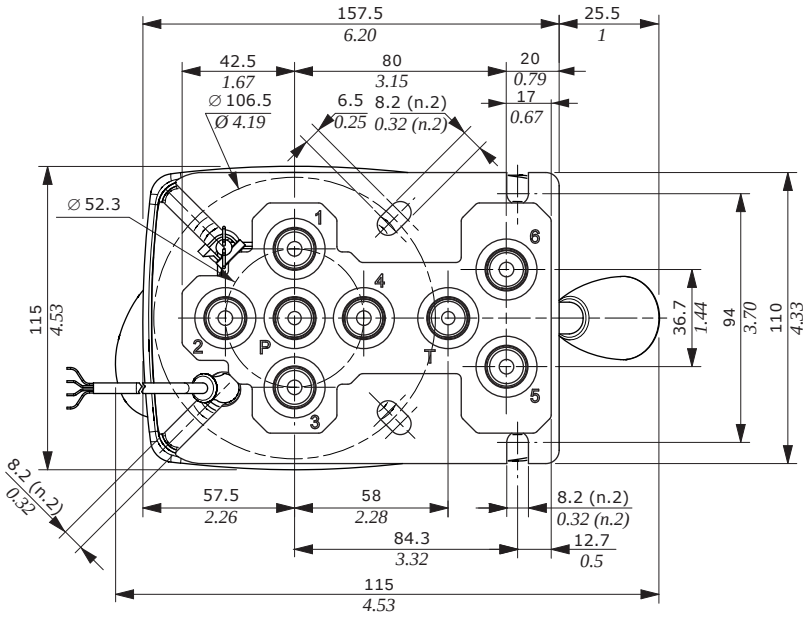


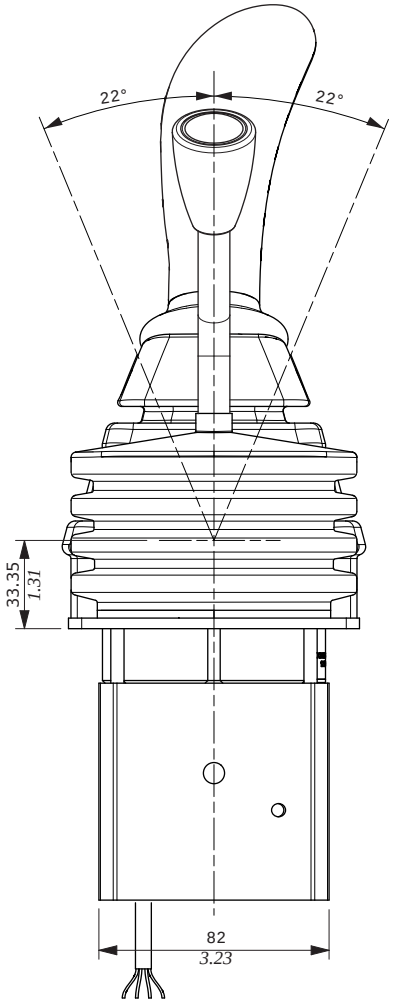
Dimensions and circuit hydraulic

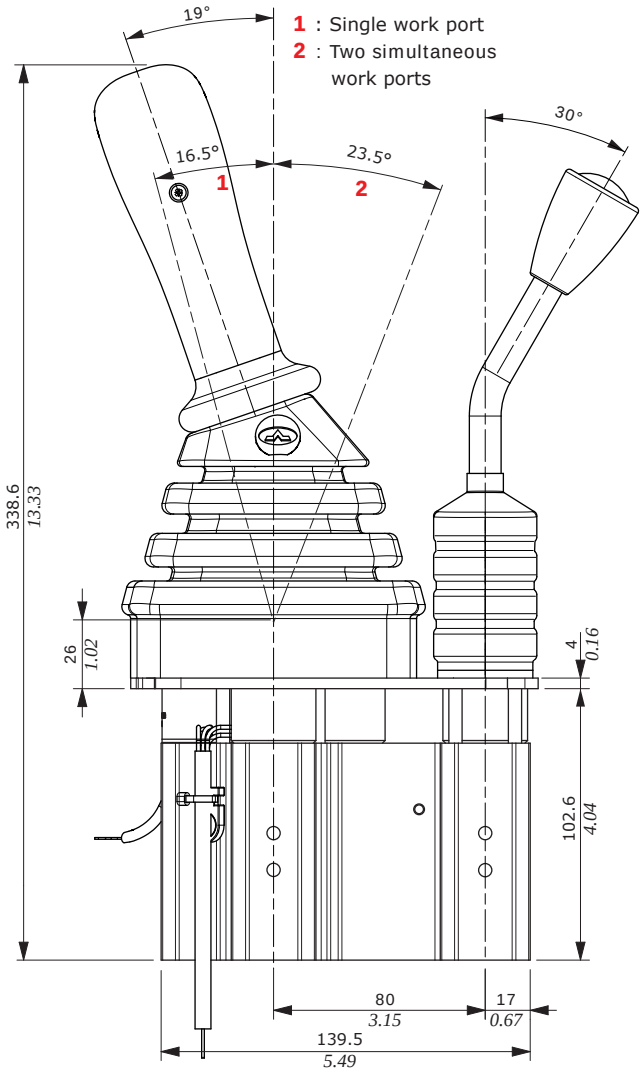
Hydraulic circuit

Example detent on working ports 3, 4 and 6









Orderig codes

control curves description

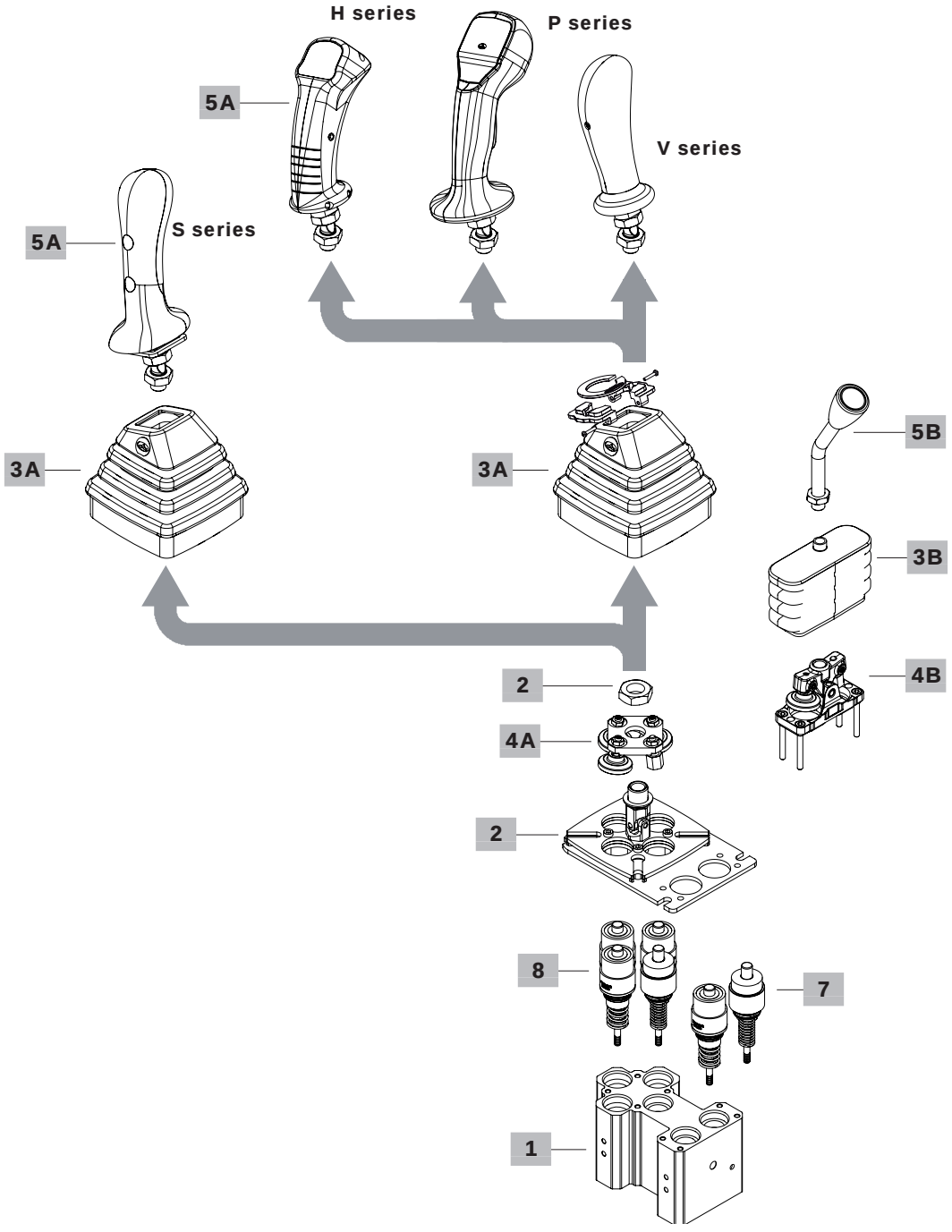
SVM600-EMD(2-3-4-6) / 3 .. - S / 01 - V007 (....) (....) - A0020M - .... - .... - E0020M /

1 | 3A | 3B | 1 | 4A | 5A | 6A | 9 | 7 | 8

control curves description

01 / G3(30) (0) - A0020M - E0020M - (....) - 12VDC

4B | 5B | 6B | 7 | 8 | 9 | 8



Ordering codes

1 Body kit *

TYPE: **SVM600-EMD(2-3)/S** CODE: **3CO3600700**
DESCRIPTION: With detent arrangement on ports 2 and 3
TYPE: **SVM600-EMD(1-2-3)/S** CODE: **3CO3600701**
DESCRIPTION: With detent arrangement on ports 1, 2 and 3
TYPE: **SVM600-EMD(2-3-6)/S** CODE: **3CO3600702**
DESCRIPTION: With detent arrangement on ports 2, 3 and 6
TYPE: **SVM600-EMD(1-2-3-6)/S** CODE: **3CO3600703**
DESCRIPTION: With detent arrangement on ports 1, 2, 3 and 6

2 Flange kit

TYPE	CODE	DESCRIPTION
1	5FLA411154	Assembling flange

7 Pressure control curves

Without electromagnetic detent and without pre-feeling see from page 51 on

8 Pressure control curves

With electromagnetic detent and pre-feeling see from page 51 on

9 Connector

Configurations with detent or microswitch are provided with wires with tin-plate terminals. For connectors, please contact our Sales Department

Joystick options

3A Rubber bellow

TYPE	CODE	DESCRIPTION
3	5SOF111111	Sloping type, square base with logo; only for 19° sloping handles, adapter for V, H, P type handles
3	3SOF111111	As previous for handles S type

4A Detent configuration

With spring return in neutral position

TYPE	CODE	DESCRIPTION
01/(2D)	5CIN8012D	Kinematic kit arranged for 2 detents
01/(3D)	5CIN8013D	Kinematic kit arranged for 3 detents

5A Handles

The pilot control valve can be configured with different types of handles (V, H, P, S series) with straight joint type 9 or sloping joint type 7 and 8.
Below are listed some pre-configured handles.
For technical specifications and full range of handles and other types of joint see the "Handles and handlevers" catalogue.

V series handles

TYPE	CODE	DESCRIPTION
V007	5IMP030070	Without switches with sloping 19° left joint
V008	5IMP030080	Without switches with sloping 19° right joint
V109-045	5IMP031160	With upper push-button with protection, horn symbol and straight joint

S series handles

S007	2IM5000000	Without switches with sloping 19° left joint
S107-045	2IM5100002	With upper push-button and horn symbol with sloping 19° left joint
S118-045	2IM5110011	With proportional rocker switch, dead-man switch and sloping 19° right joint

6A Handle position

TYPE	DESCRIPTION
(-)	Standard configuration, operation to work port 4: **omitted in description**
(90)	Mounted with 90° rotation step: operation to work port 1
(180)	Mounted with 180° rotation step: operation to work port 2
(270)	Mounted with 270° rotation step: operation to work port 3

Single acting options

3B Rubber bellow

TYPE	CODE	DESCRIPTION
-	3SOF190782	Standard rubber bellow (omitted in description)

4B Control option

Complete with rubber bellow and fixing wrapper

TYPE	CODE	DESCRIPTION
01/(0D)	5CIN1010D	Spring return to neutral position, without detent arrangement
01/(1D)	5CIN1011D	Spring return to neutral position, single detent arrangement; right or left position is defined by pressure control curve position
01/(2D)	5CIN1012D	Spring return to neutral position, double detent arrangement

The text between () can be omitted from composition description.

5B Standard handlevers

TYPE	CODE	DESCRIPTION
G3(30)	5AST371228G	Ogival with portlight, 30° bending rod

For features see page 48

6B Handle position

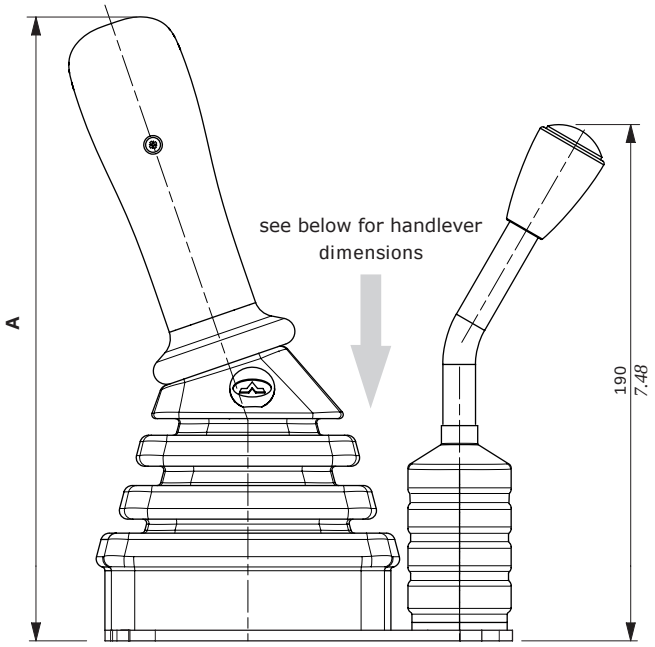
TYPE	DESCRIPTION
(0)	Handlever oriented on P and T plugged ports
(90)	Handlever oriented on port 5
(270)	Handlever oriented on port 6

For different positions, please contact our Sales Department.

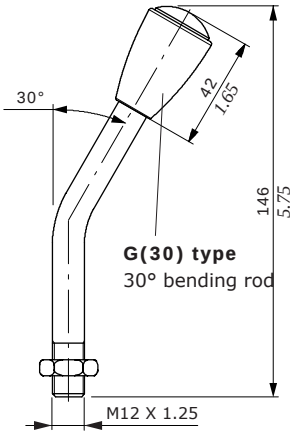
NOTE (*) – Codes are referred to **UN-UNF** thread.

Configuration option

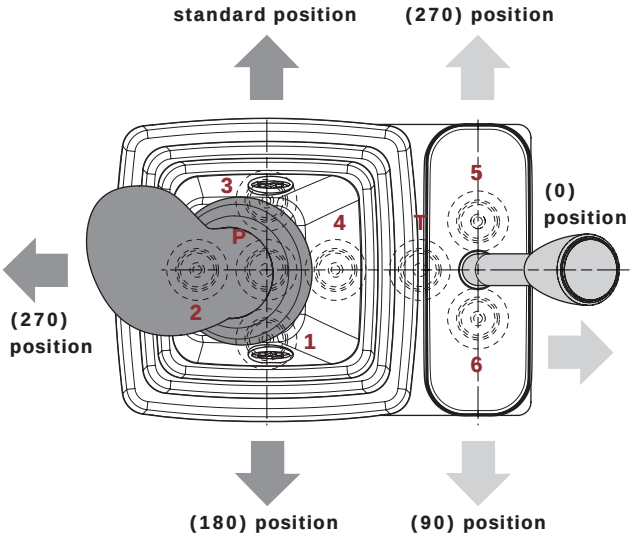
Handle and handlever option



handlever type	A	
	mm	*in*
V series	232	*9.13*
H series	250	*9.84*
P series	268	*10.55*
S series	266	*10.47*



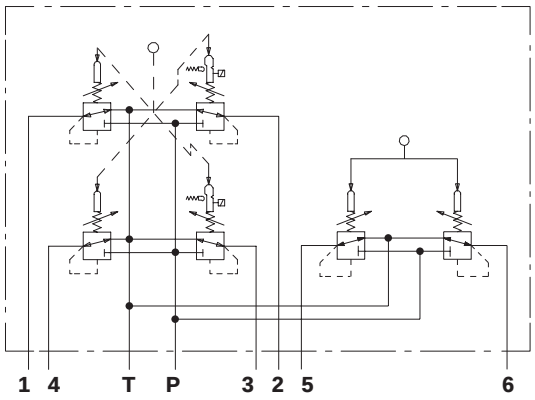
Handle and handlever positions



Detent configuration: examples

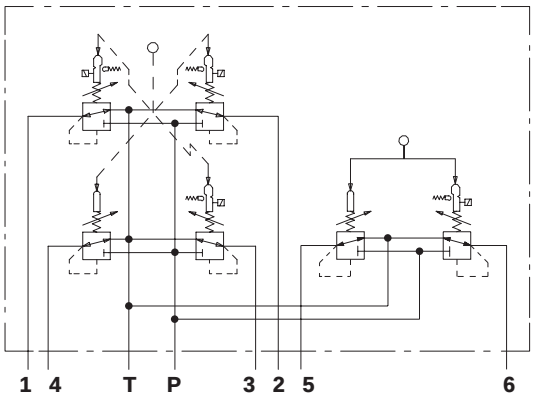
01/2D type (joystick)

Detent on ports 2 and 3, with spring return



01/3D type (joystick) + 01/1D (single acting)

Detent on ports 1, 2, 3 and 6, with spring return

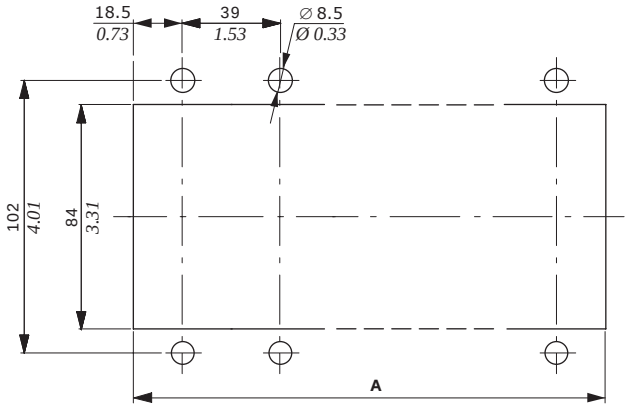


Notes

SVM pilot control valves assembled and tested as per the technical specification of this catalogue.
Before the final installation on your equipment, follow the below recommendations:
- the pilot valves must be assembled in horizontal position: considering the mass of the kinematic and control kit, a max.angle of 20° is allowed;
- the feeding unit can be assembled in any position;keep it away from heat sources when it is equipped with accumulator;
- fix the devices with suitable screw, use the appropriate flange or drilling, after tightening check the seal and the safety of the assembly;
- verify the integrity of the contact between devices and fittings and eliminate any impurities;
- correctly connect the devices, do not reverse the P and T ports (see dimensional pages to determine the initials of the ports);
- in order to prevent the possibility of water entering the rubber bellow, do not use high pressure wash directly on the valve;
- prior to painting, ensure plastic port plugs are tightly in place;
- the electrical cables have not to be submitted to mechanical forces (ex. tension or torsion);
- use original handles and handlevers.

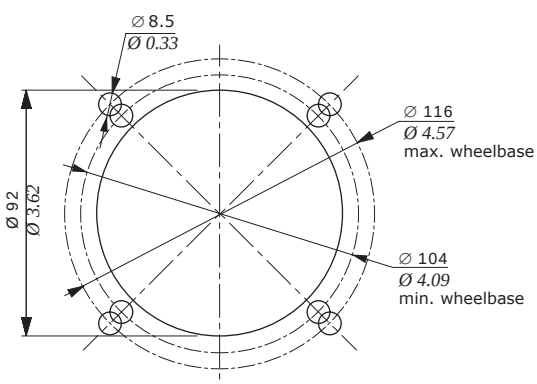
Panel cut out

SVM150

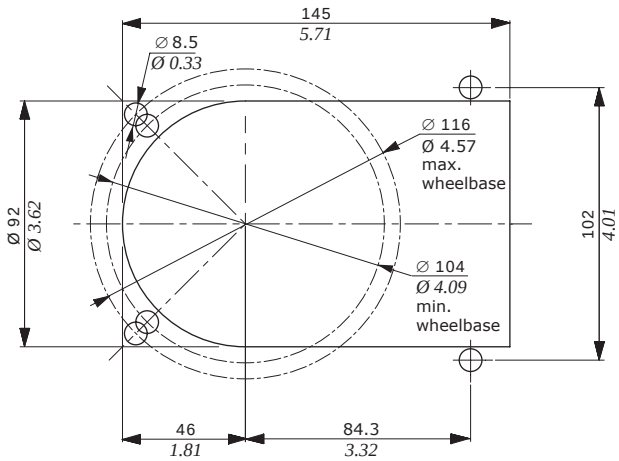


Type	A	
	mm	*in*
SVM150/1	37	*1.46*
SVM150/2	76	*2.99*
SVM150/3	115	*4.53*
SVM150/4	154	*6.06*
SVM150/5	193	*7.6*

SVM450



SVM600



Control curves description

SVM450 - EMD ..... - A 0 020 M

1 2 3 4

1 Curve type

TYPE	DESCRIPTION
A	Without pre-feeling, without solenoid
B	With pre-feeling, without solenoid
C	With solenoid 24VDC and pre-feeling
D	With solenoid 24VDC, without pre-feeling
E	With solenoid 12VDC, with pre-feeling
F	With solenoid 12VDC, without pre-feeling
G	With solenoid 24VDC and pre-feeling after step

2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

3 Identification curve

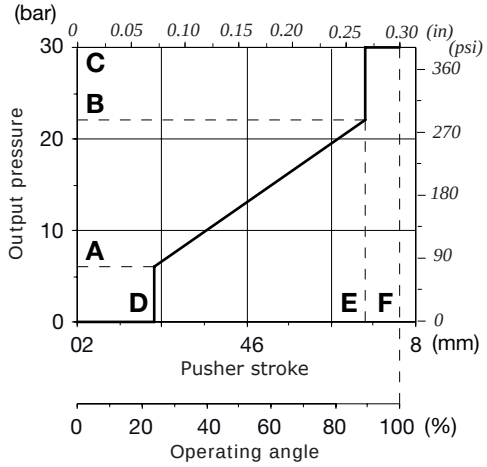
Progressive number, see tables on the following pages

4 Return springs

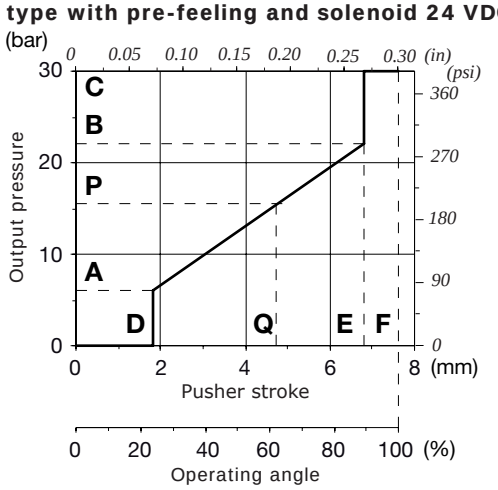
TYPE	DESCRIPTION
M	Operation range from 18 to 25.5 N - *from 4.04 to 5.73 lbf*
A	Operation range from 23 to 35.2 N - *from 5.17 to 7.91 lbf*
B	Operation range from 23 to 68.1 N - *from 5.17 to 15.31 lbf*
C	Operation range from 89 to 176 N - *from 20 to 39.56 lbf*
D	Operation range from 110 to 220 N - *from 24.73 to 49.46 lbf*
E	Operation range from 137.8 to 276.1 N - *from 30.98 to 62.07 lbf*

Control curves with step

A0 type without pre-feeling, without solenoid



E0 type with pre-feeling and solenoid 12 VDC
C0 type with pre-feeling and solenoid 24 VDC



Curve description		Pressure								Stroke								
		A		P		B		C		D		Q		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*(in)*	mm	*(in)*	mm	*(in)*	mm	*(in)*	CODE [1]
C0	**B09**	3.5 (± 0.5)	*50.7(±7.25)*	13.7 (± 1)	*198.6 (±14.5)*	15.1 (± 1)	*218.9 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0B09M
A0	**011**	3.5 (± 1)	*50.7 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0011M
C0	**011**	3.5 (± 1)	*50.7 (±14.5)*	25 (± 1.5)	*362.5 (±21.7)*	27.9 (± 1.5)	*41.8 (±21.7)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0011M
E0	**B09**	3.5 (± 0.5)	*50.7 (±7.25)*	13.7 (± 1)	*198.6 (±14.5)*	15.1 (± 1)	*218.9 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0B09M
A0	**099**	3.6 (± 1)	*52.2 (±14.5)*			15.8 (± 1)	*229.1 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0099M
C0	**B47**	3.8 (± 1)	*55.1 (±14.5)*	15.3 (± 0.5)	*221.8 (±7.25)*	16.8 (± 1)	*243.6 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7C0B47M
C0	**B47**	3.8 (± 1)	*55.1 (±14.5)*	15.3 (± 0.5)	*221.8 (±7.25)*	16.8 (± 1)	*243.6 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0347M
A0	**086**	4 (± 1)	*58 (±14.5)*			16.5 (± 1)	*239.2 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0086M
E0	**086**	4 (± 1)	*58 (±14.5)*	16.5 (± 0.5)	*239.2 (±7.25)*	18.2 (± 1)	*263.9 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0086M
C0	**118**	4 (± 0.5)	*58 (±7.25)*	13 (± 1)	*188.5 (±14.5)*	16.1 (± 1)	*233.4 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0118M
A0	**020**	4.3 (± 0.5)	*62.3 (±7.25)*			15.2 (± 1.5)	*220.4 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0020M
C0	**020**	4.3 (± 1)	*62.3 (±14.5)*	15.2 (± 1)	*220.4 (±14.5)*	16.6 (± 1)	*240.7 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7C0020M
A0	**028**	5 (± 1)	*72.5 (±14.5)*			21 (± 1.5)	*304.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0028M
C0	**028**	5 (± 1)	*72.5 (±14.5)*	20 (± 1.5)	*290 (±21.7)*	22 (± 2)	*319 (±29)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0028M
A0	**075**	5 (± 0.5)	*72.5 (±7.25)*			15 (± 1.5)	*22.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0075A
C0	**075**	5 (± 0.5)	*72.5 (±7.25)*	15 (± 1)	*217.5 (±14.5)*	16.3 (± 1.5)	*236.3 (±21.7)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0075A
C0	**075**	5 (± 0.5)	*72.5 (±7.25)*	15 (± 1)	*217.5 (±14.5)*	16.3 (± 1.5)	*236.3 (±21.7)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	8	*0.31*	5CR7C0075B
A0	**077**	5 (± 1)	*72.5 (±14.5)*			27 (± 2)	*391.5 (±29)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0077M
A0	**119**	5 (± 1)	*72.5 (±14.5)*			23.5 (± 2)	*340.7 (±29)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0119M
A0	**001**	5.8 (± 0.5)	*84.1 (±7.25)*			22 (± 1.5)	*319 (±21.7)*	30	*435*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0001M
C0	**001**	5.8 (± 1)	*84.1 (±14.5)*	22 (± 1.5)	*319 (±21.7)*	24.2 (± 2)	*350.9 (±29)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0001M
A0	**033**	5.8 (± 0.5)	*84.1 (±7.25)*			19.1 (± 1)	*276.9 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0033B
E0	**033**	5.8 (± 0.5)	*84.1 (±7.25)*	19 (± 1)	*275.5 (±14.5)*	20.8 (± 1)	*301.6 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0033B 5CR7E0033M
E0	**033**	5.8 (± 0.5)	*84.1 (±7.25)*	19 (± 1)	*275.5 (±14.5)*	20.8 (± 1)	*301.6 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0033M
C0	**070**	5.8 (± 1)	*84.1 (±14.5)*	22.4 (± 1.5)	*324.8 (±21.7)*	24.6 (± 1.5)	*356.7 (±21.7)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0070M
A0	**085**	6 (± 1)	*87 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0085A

[1] indicates the curve with the specific return spring
For different curves, please contact our Sales Department

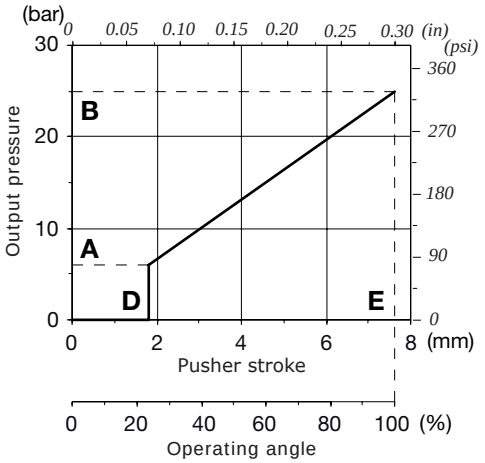
Control curves with step

Curve description		Pressure								Stroke								
		A		P		B		C		D		Q		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*(in)*	mm	*(in)*	mm	*(in)*	mm	*(in)*	CODE [1]
E0	**085**	6 (± 1)	*87 (±14.5)*	25 (± 2)	*362.5 (±29)*	27.5 (± 2)	*398.75 (±29)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0085M
A0	**085**	6 (± 1)	*87 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7A0085A 5CR7A0085M
C0	**085**	6 (± 1)	*87 (±14.5)*	25 (± 2)	*362.5 (±29)*	27.5 (± 2)	*398.75 (±29)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0085A 5CR7C0085M
E0	**085**	6 (± 1)	*87 (±14.5)*	25 (± 2)	*362.5 (±29)*	27.5 (± 2)	*398.75 (±29)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7E0085M
A0	**088**	8 (± 0.5)	*116 (±7.25)*			27 (± 1.5)	*391.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR7A0088M
C0	**088**	8 (± 0.5)	*116 (±7.25)*	27 (± 1)	*391.5 (±14.5)*	29.5 (± 1)	*427.7 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CR7C0088M

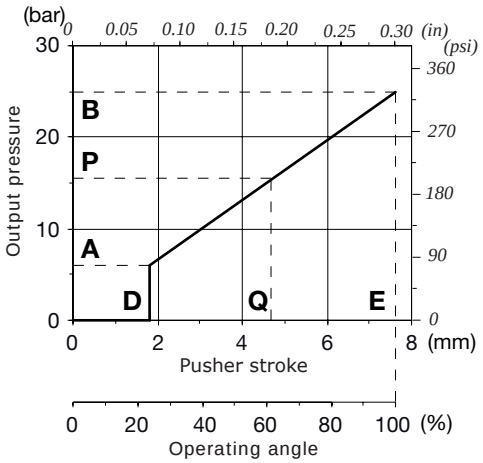
[1] indicates the curve with the specific return spring
For different curves, please contact our Sales Department

Control curves without step

A1 type without pre-feeling, without solenoid



C1 type with pre-feeling and solenoid 24 VDC



Curve description		Pressure						Stroke						
		A		P		B		D		Q		E		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
A1	**096**	4 (± 1)	*58 (±14.5)*			18 (± 1)	*261 (±14.5)*	0.85	*0.03*			7.6	*0.30*	5CR7A1096M
C1	**099**	4 (± 1)	*58 (±14.5)*	12.8 (± 1)	*185.6 (±14.5)*	18 (± 1)	*261 (±14.5)*	1.55	*0.06*	5.1	*0.2*	7.5	*0.29*	5CR7C1141M

[1] indicates the curve with the specific return spring
For different curves, please contact our Sales Department

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code[1]	Range (bar/*psi*)	Type	Code	Type	Code[1]	Range (bar/*psi*)
Monoblock valves										
SDM100	8IM	5IDR207300	**088**	5CR7A0088	8-27 *116-391.5*	13IM	5IDR205330	**075**	5CR7A0075	5-15 *72.5-217.5*
								C0075	5CR7C0075	5-15-16.3 *72.5-217.5-236.3*
SD11 SD14	8IM	5IDR210000	**001**	5CR7A0001	5.8-22.4 *84.1-324.8*					
SD18	8IM	5IDR220000	**001**	5CR7A0001	5.8-22.4 *84.1-324.8*					
SDM140 DLM140	8IM	5IDR208300	**033**	5CR7A0033	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CR7A0075	5-15 *72.5-217.5*
								C0075	5CR7C0075	5-15-16.3 *72.5-217.5-236.3*
SDM141	8IM	5IDR208300	**033**	5CR7A0033	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CR7A0075	5-15 *72.5-217.5*
								C0075	5CR7C0075	5-15-16.3 *72.5-217.5-236.3*
Sectional valves										
SD6	8IM	5IDR206010	**075**	5CR7A0075	5-15 *72.5-217.5*					
DLS7	8IMF3	5IDR207000	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
SDS100	8IM	5IDR207300	**088**	5CR7A0088	8-27 *116-391.5*					
	8IMF3	5IDR207310	**088**	5CR7A0088	8-27 *116-391.5*					
SD8	8IM	5IDR208300	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
SDS150	8IM	5IDR216300	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
SDS180	8IM	5IDR216300	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
	8IMF3	5IDR216303	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
	8IMSPSL4P	5IDR218012	**028**	5CR7A0028	5-21 *72.5-304.5*					
	8IMO	5IDR216000	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
DLS180	8IM	5IDR216300	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
	8IMF3	5IDR216303	**033**	5CR7A0033	5.8-19 *84.1-275.5*					
SD25	8IMO	5IDR225000	**033**	5CR7A0033	5.8-19 *84.1-275.5*	13IM	5IDR225360	**C0B09**	5CR7C0B09	3.5-13.7-15.1 *50.7-198.6-219*
						13IMO	5IDR225350	**C0B09**	5CR7C0B09	3.5-13.7-15.1 *50.7-198.6-219*
SDS400	8IM	5IDR208300	**028**	5CR7A0028	5-21 *72.5-304.5*	13IM	5IDR208310	**C0075**	5CR7C0075	5-15-16.3 *72.5-217.5-236.3*

[1] Codes listed show the control curve without return spring reference: for spring details see page 50.

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code(1)	Range (bar/*psi*)	Type	Code	Type	Code(1)	Range (bar/*psi*)
Pressure pre-compensated Load-Sensing and Flow Sharing valves										
DPC130	8IM	5V08130800	**020**	5CR7A0020	4.3-15.2 *62.3-220.4*					
DPC200	8IM	5V08200801	**020**	5CR7A0020	4.3-15.2 *62.3-220.4*					
DPX050	8IM	5IDR20A300	**088**	5CR7A0088	8-27 *116-391.5*	13IMP	5IDR20A310	**088**	5CR7A0088	8-27 *116-391.5*
	8IMF3	5IDR20A302	**088**	5CR7A0088	8-27 *116-391.5*					
	8IMX	5IDR20A301	**028**	5CR7A0028	5-21 *72.5-304.5*					
	8IMXF3	5IDR20A303	**028**	5CR7A0028	5-21 *72.5-304.5*					
DPX100	8IMN	5IDR204304	**088**	5CR7A0088	8-27 *116-391.5*					
	8IMF3N	5IDR204314	**088**	5CR7A0088	8-27 *116-391.5*					
	8IMXN	5IDR204303	**085**	5CR5A0085	6-25 *87-362.5*					
	8IMXF3N	5IDR204313	**085**	5CR5A0085	6-25 *87-362.5*					
DPX160	8IMN	5IDR209304	**088**	5CR7A0088	8-27 *116-391.5*	13IM	5IDR209303	**088**	5CR7A0088	8-27 *116-391.5*
								E0075	5CR7E0075	5.8-19-20.8 *84.1-275.5-301.6*
	8IMF3N	5IDR209305	**088**	5CR7A0088	8-27 *116-391.5*					

(1) Codes listed show the control curve without return spring reference: for spring details see page 50.

SVM hydraulic joysticks with pedal and other actuations

SVM510-SVM520-SVM521 / SVM500 series / SVM540 / SVM701-SVM710

- Single and double function
- Damping option
- High sensitivity and low force

Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

Nominal flow rating		from 5 to 20 l/min - *from 1.32 to 5.28 USgpm*
Max. feeding pressure	P on inlet port	from 30 to 100 bar - *from 435 to 1450 psi*
Max. backpressure	T on outlet port	3 bar - *43.5 psi*
Max. hysteresis		0.5 bar - *7.25 psi*
Internal leakage (all ports)	at 30 bar - *435 psi*, P⇒T	from 2.5 to 4.5 cm³/min - *from 0.15 to 0.27 in3/min*
Fluid		mineral oil
Fluid temperature	with NBR (BUNA-N) seals	from -10°C to 80°C - *from 14 °F to 176 °F*
Viscosity	operating range	from 15 to 75 mm²/s - *from 15 to 75 cSt*
	min.	12 mm²/s - *12 cSt*
	max.	400 mm²/s - *400 cSt*
Max. contamination level		-/15/12 - ISO 4406 - *NAS1638 class 6*
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40 °F to 140 °F*
	with electric devices	from -20°C to 50°C - *from -4 °F to 122 °F*

NOTE - for different conditions please contact Sales Dpt

REFERENCE STANDARD

		BSP	UN-UNF
THREAD ACCORDING TO		ISO 228/1	ISO 263
		BS 2779	ANSI B1.1 unified
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926
	SAE		J11926
	DIN	3852-2 shape X or Y	

PORTS THREADING

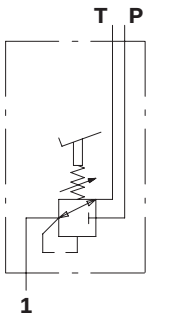
PORTS	Threads		Fitting tightening torque	
	UNI EN ISO 1179	UNI EN ISO 11926-2	Nm	*lbft*
P inlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*
Ports	G 1/4	7/16-20 (SAE 4)	30	*22.13*
T outlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*

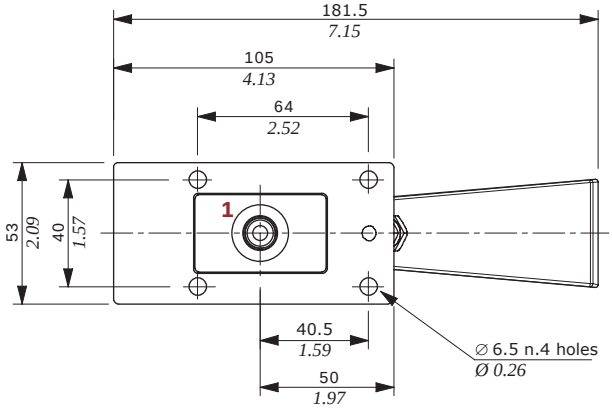
NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The manufacturer has to be consulted.

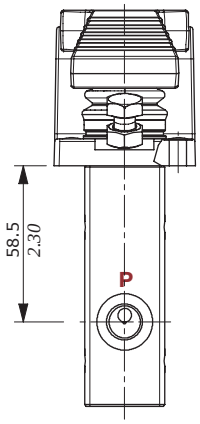
Dimensions and hydraulic circuit

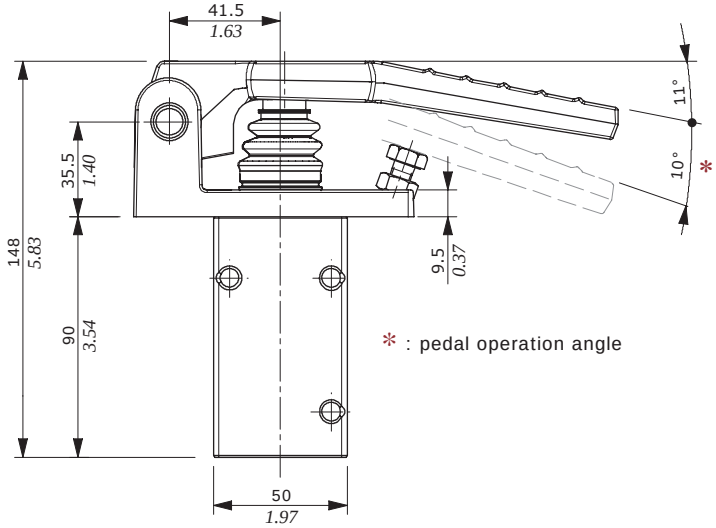
SVM510 version

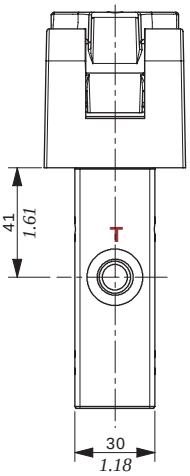
Hydraulic circuit







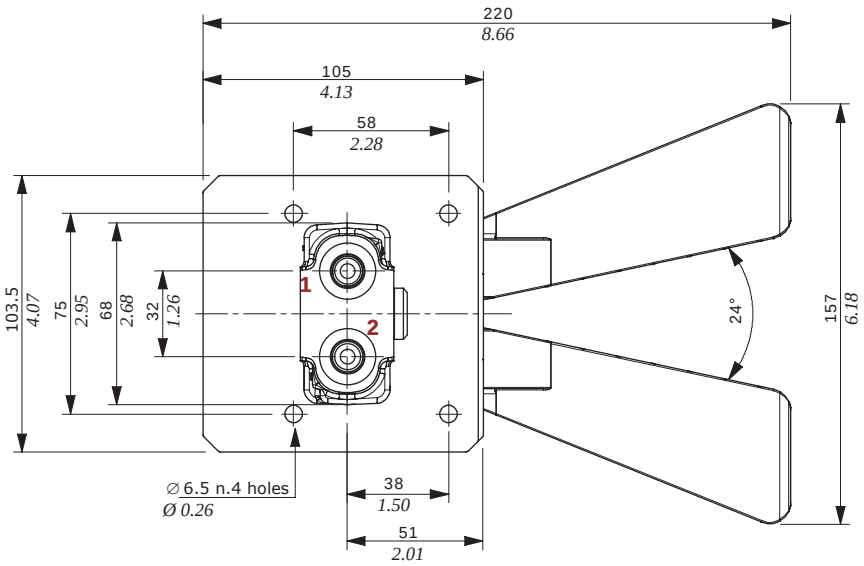




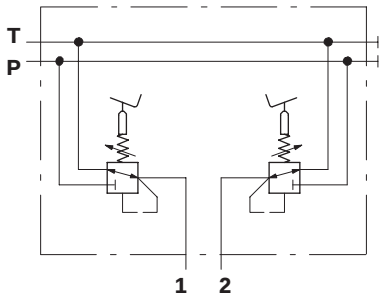
Dimensions and hydraulic circuit

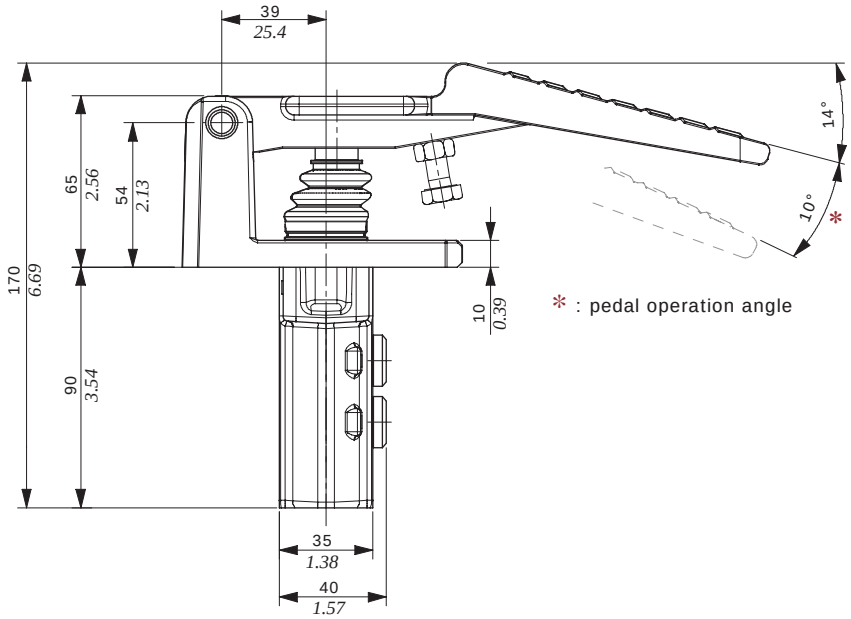
SVM520 version

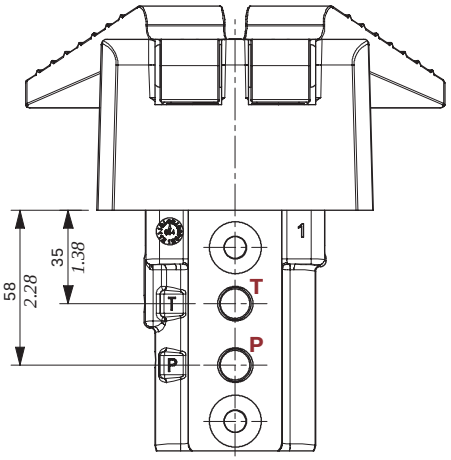
Configuration with side P and T ports.



Hydraulic circuit





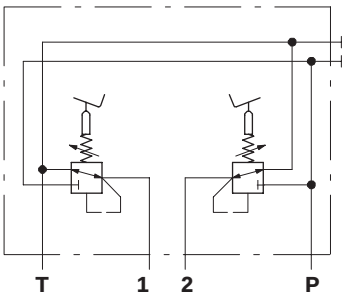


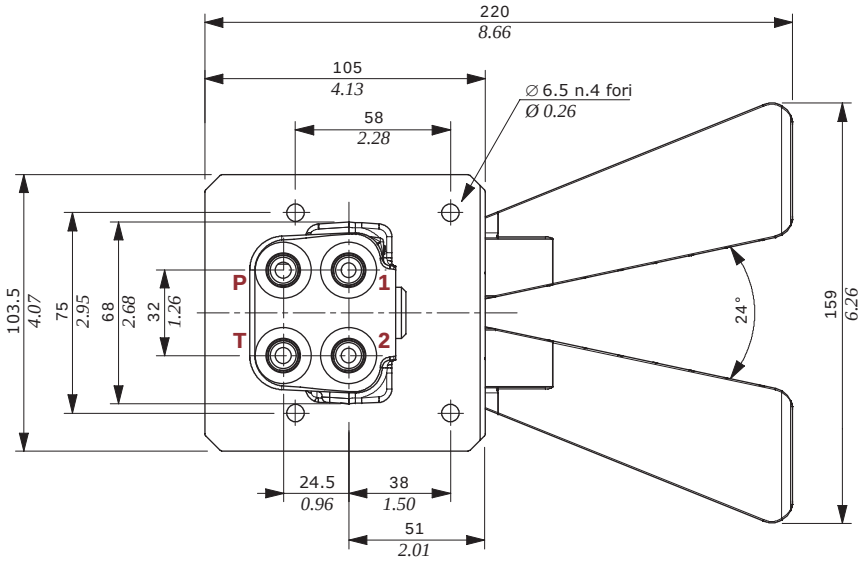
Dimensions and hydraulic circuit

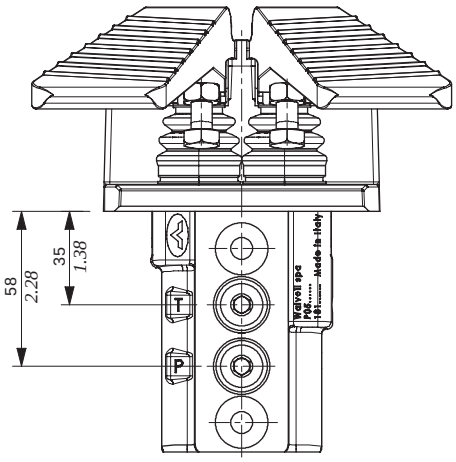
SVM521 version

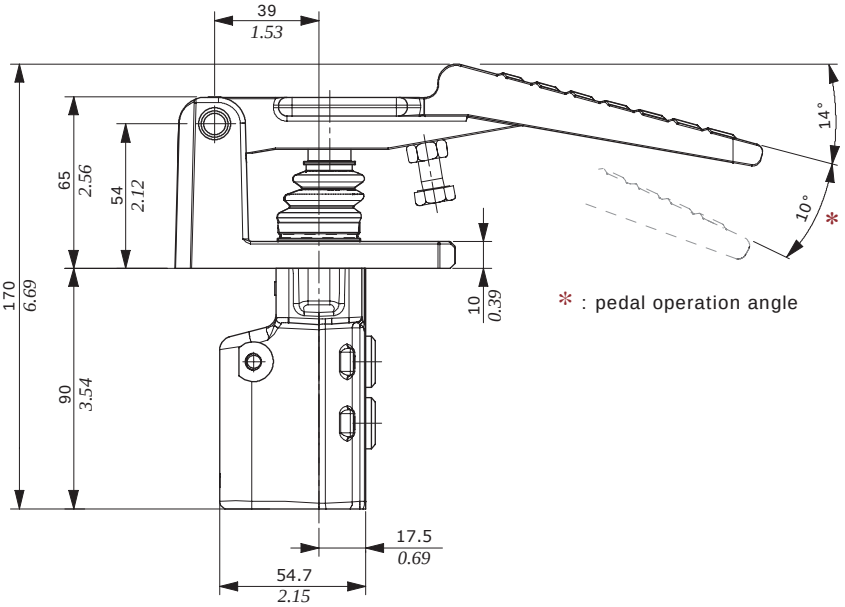
Configuration with bottom P and T ports.

Hydraulic circuit









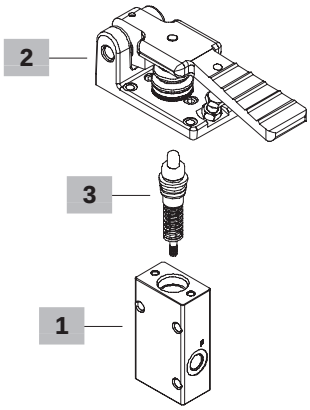
Ordering codes

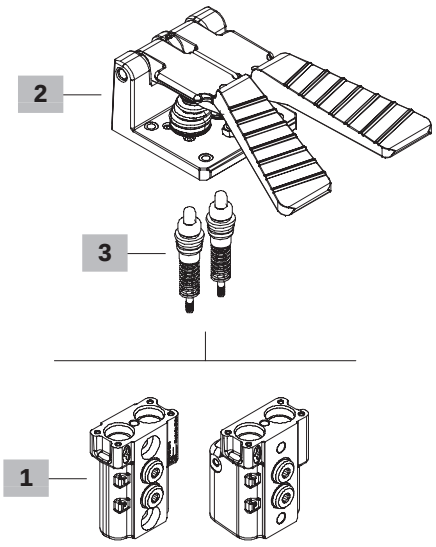
SVM510-S / 00001A

1
2
3

SVM520-S / 00001A x 2

1
2
3





1 Body kit *

TYPE	CODE	DESCRIPTION
SVM510-S	3CO3710700	Single pedal configuration
SVM520-S	3CO3122700	Double pedal configuration with side P and T ports
SVM521-S	3CO3122710	Double pedal configuration with bottom P and T ports

2 Operating pedal

TYPE	CODE	DESCRIPTION
SVM510	5CIN5003	Single pedal operating kit
SVM520	5CIN5002	Double pedal operating kit

3 Pressure control curves

For configuration and list available see from page 71 on

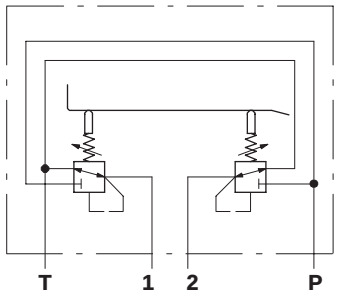
NOTE (*) – Codes are referred to **UN-UNF** thread.

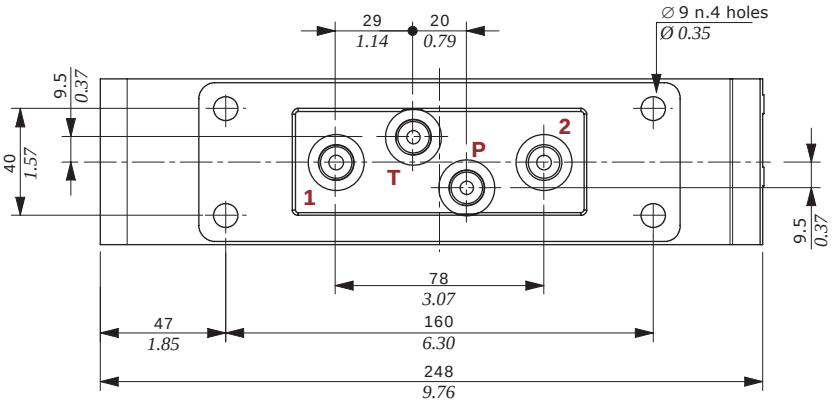
Dimensions and hydraulic circuit

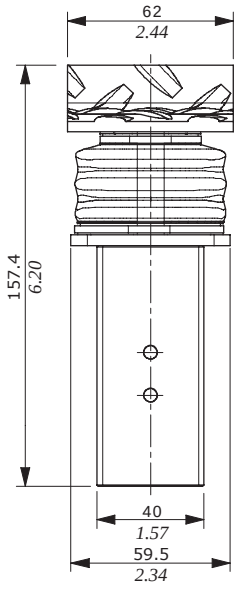
SVM500 version

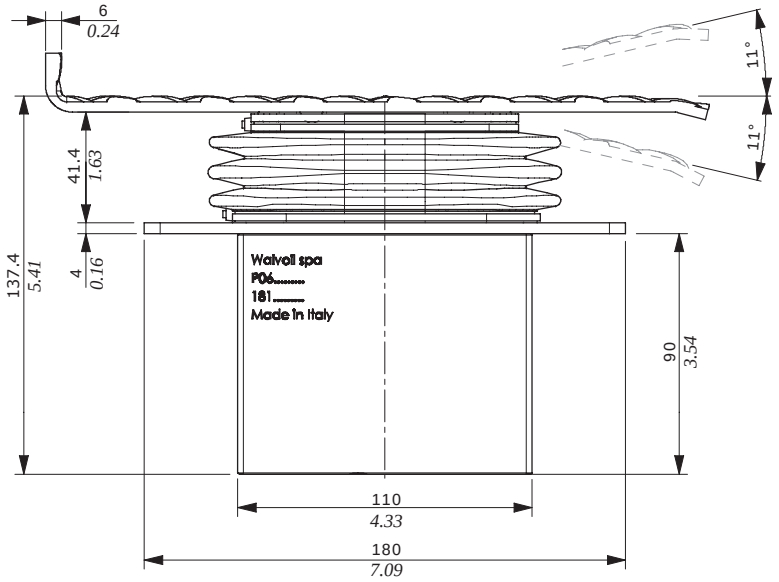
Configuration with lower ports.

Hydraulic circuit







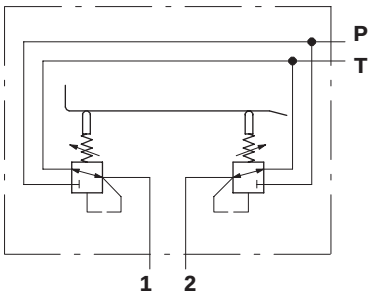


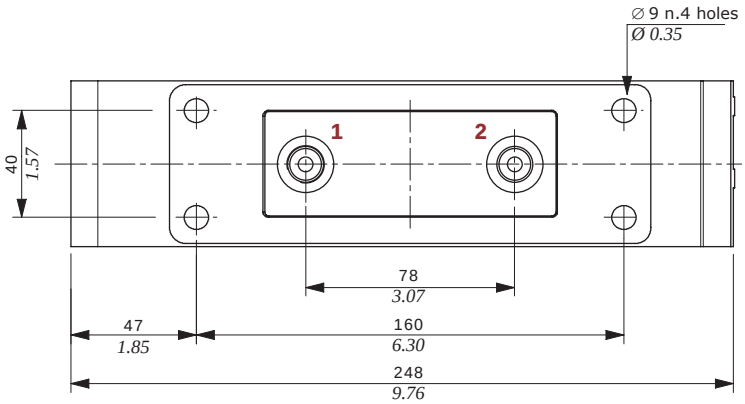
Dimensions and hydraulic circuit

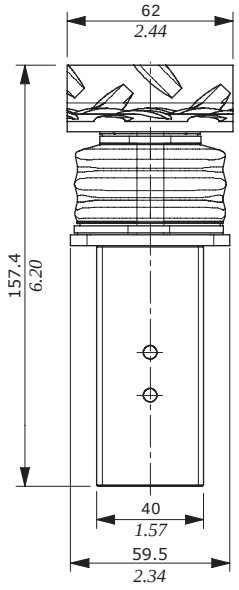
SVM502 version

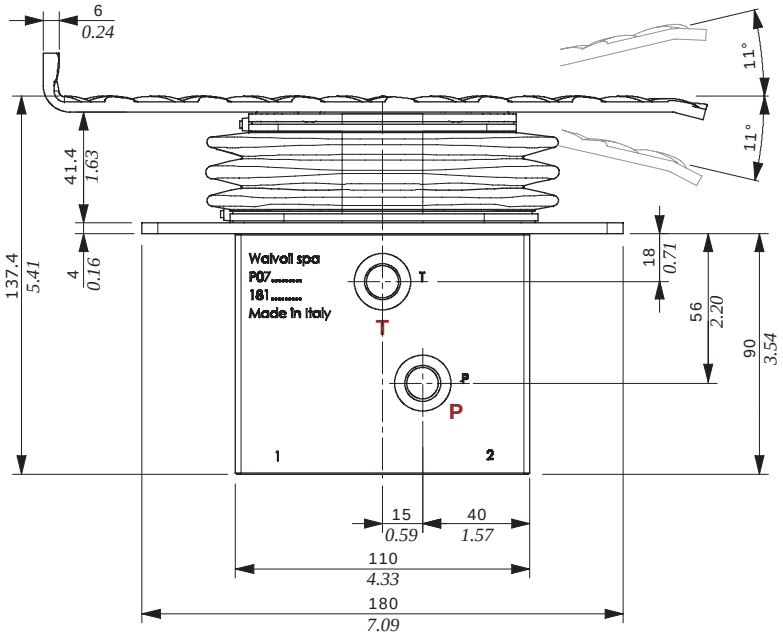
Configuration with side P and T ports, lower 1 and 2 ports.

Hydraulic circuit





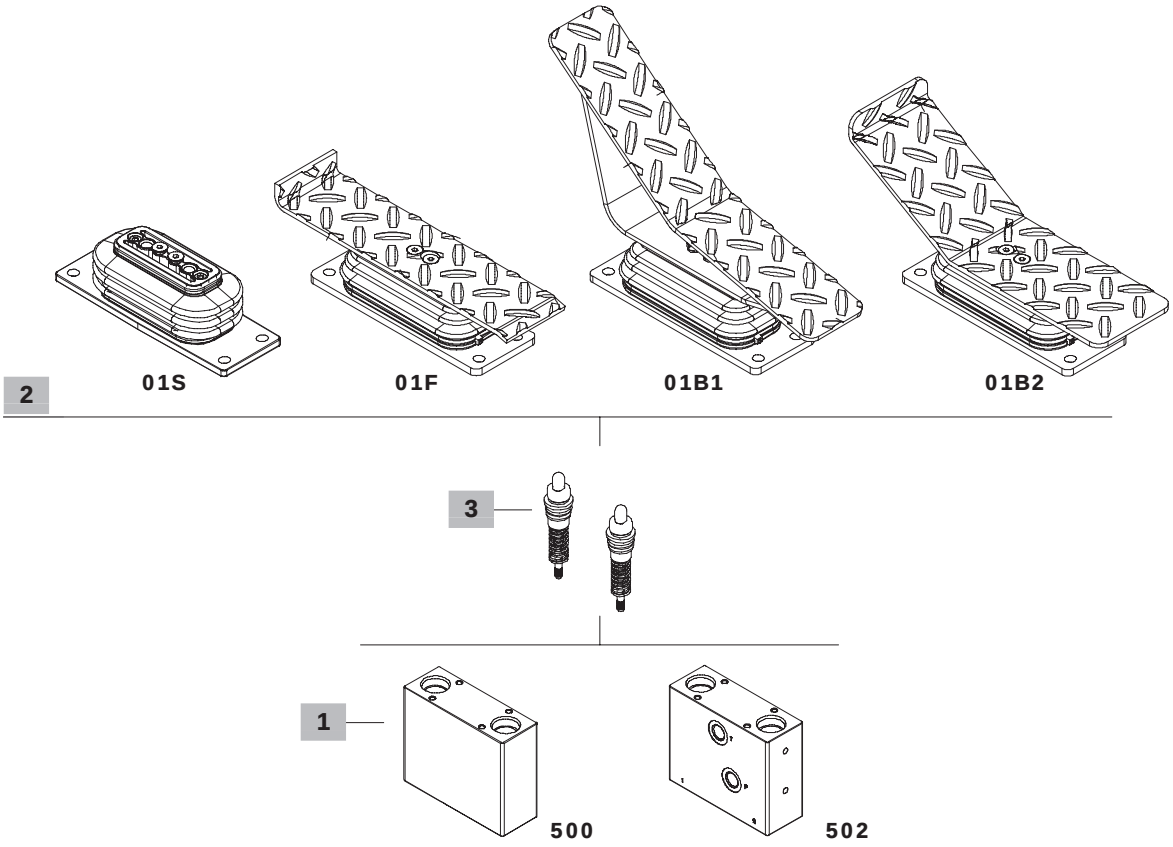




Ordering codes

SVM500-S / 01 F - 00001A x 2

1 2 3



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM500-S	3CO3510700	Configuration with lower ports
SVM502-S	3CO3510720	Configuration with side P and T ports, lower 1 and 2 ports

2 Pedal control options page 63

TYPE	CODE	DESCRIPTION
01S	5CIN5001S	With spring return in neutral position and with rubber bellow, without pedal
01F	5CIN5001F	As 01S flat pedal
01B1	5CIN5001B1	As 01S 154° sloping
01B2	5CIN5001B2	As 01S 150° sloping

3 Pressure control curves

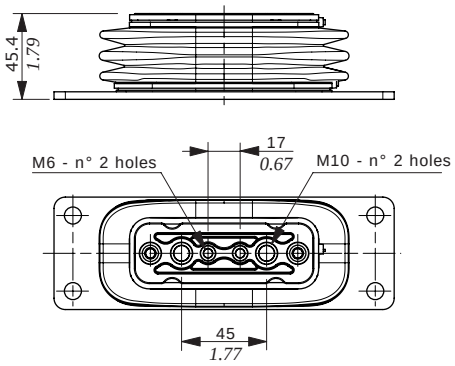
For configuration and list available see from page 71 on

NOTE (*) – Codes are referred to **UN-UNF** thread.

Control options

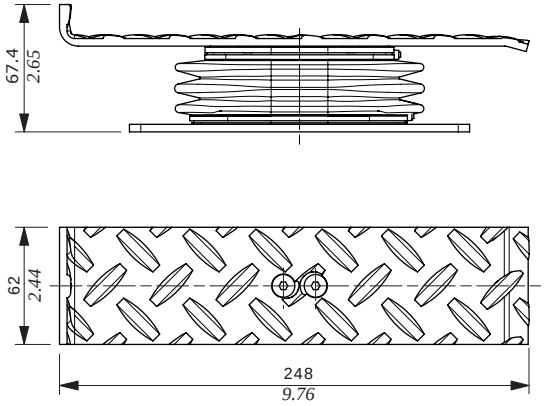
01S type

With spring return in neutral position, without pedal.



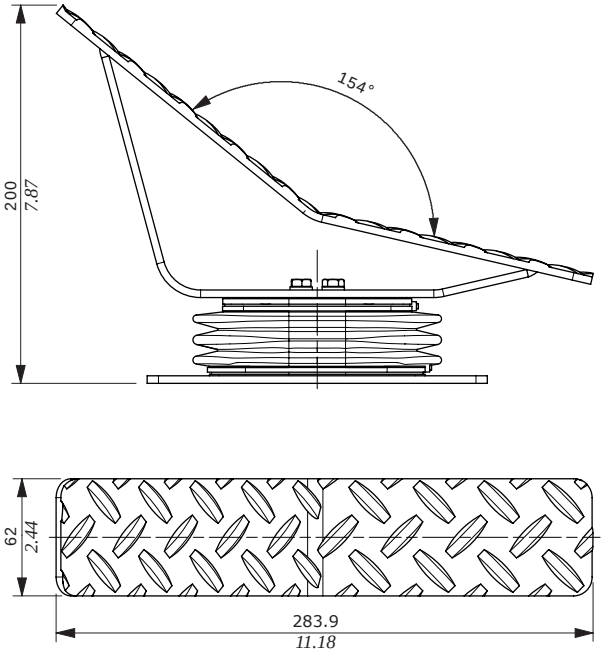
01F type

With spring return in neutral position.
Flat pedal with corrugated sheet, white galvanized.



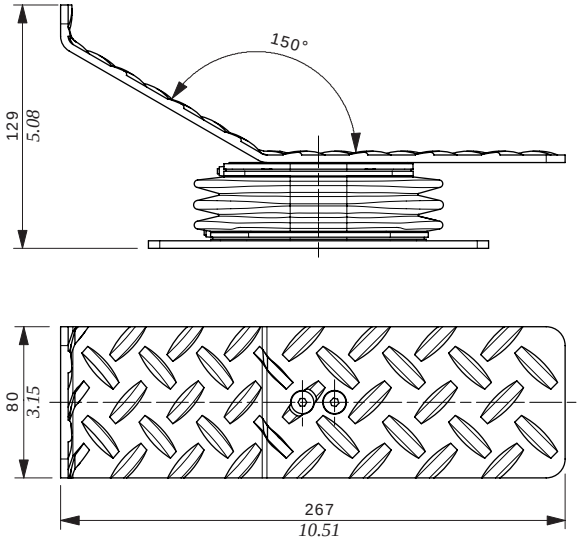
01B1 type

With spring return in neutral position.
Profiled pedal with corrugated sheet, white galvanized.



01B2 type

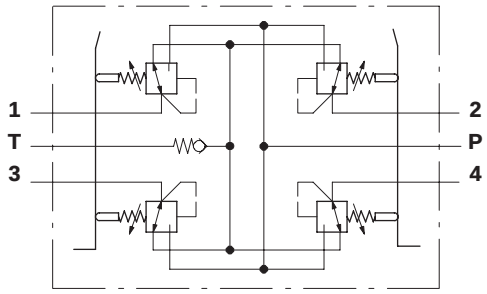
With spring return in neutral position.
Profiled pedal with corrugated sheet, white galvanized.

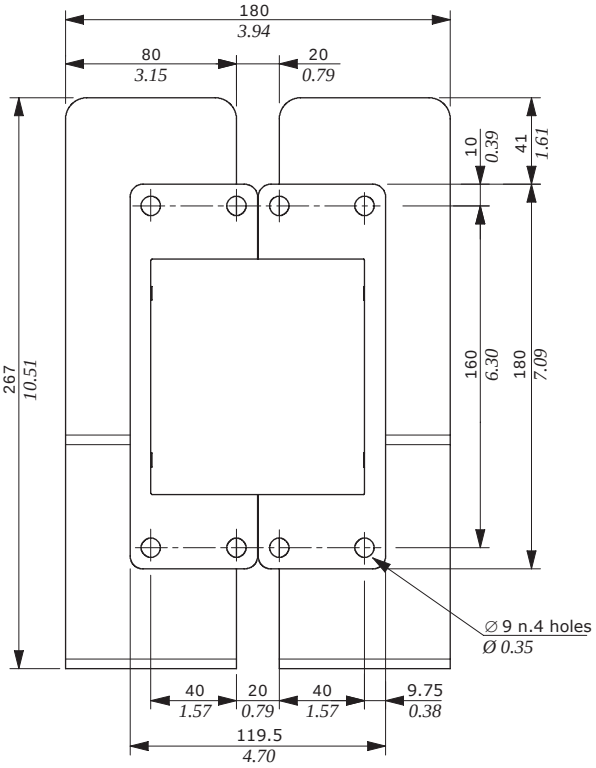


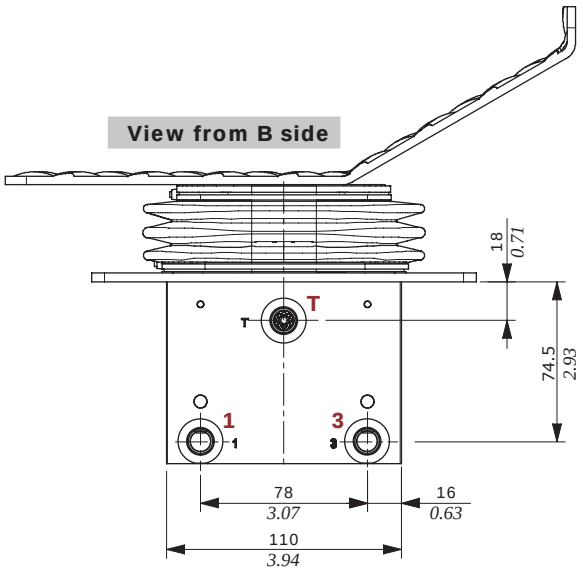
Dimensions and hydraulic circuit

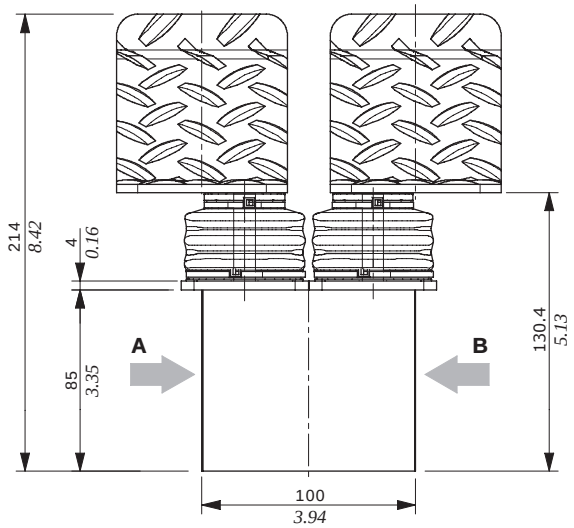
Double pedal configuration provided of damping system for swing reduction.

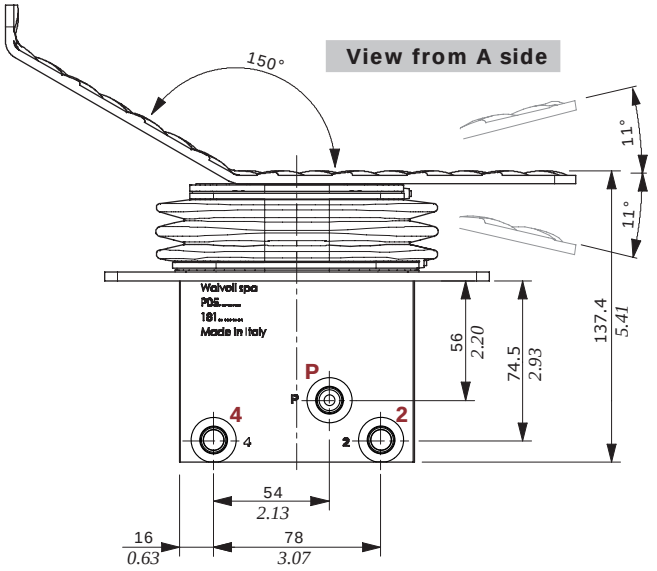
Hydraulic circuit







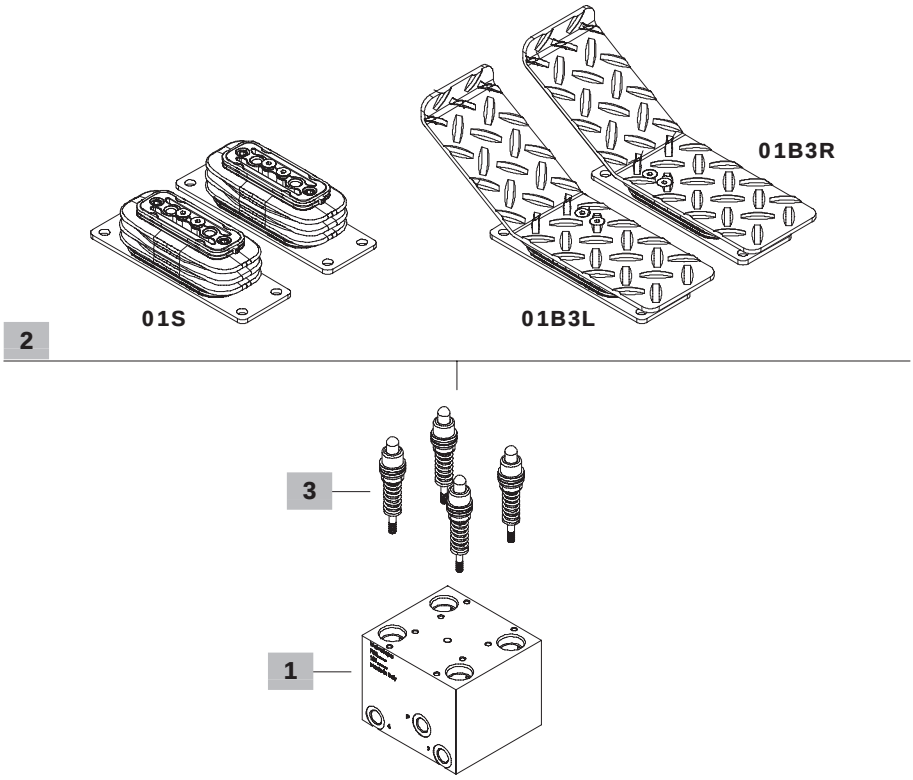




Ordering codes

SVM540-S / 01 B3L - D001C X 2 / 01 B3R - D0001C X 2 - VR

1 — 2 — 3 — 2 — 3 — check valve (always present)



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM540-S	3CO3540700	Pilot control valve body

2 Control options page 66

TYPE	CODE	DESCRIPTION
01S	5CIN5001S	With spring return in neutral position and with rubber bellow, without pedal
01B3L	5CIN5001B3L	As 01S 150° sloping, left pedal
01B3R	5CIN5001B3R	As 01S 150° sloping, right pedal

3 Pressure control curves

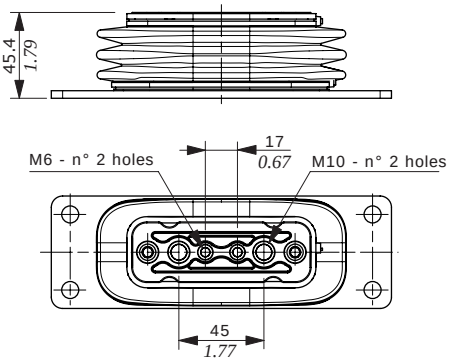
For configuration and list available see from page 71 on

NOTE (*) – Codes are referred to **UN-UNF** thread.

Control options

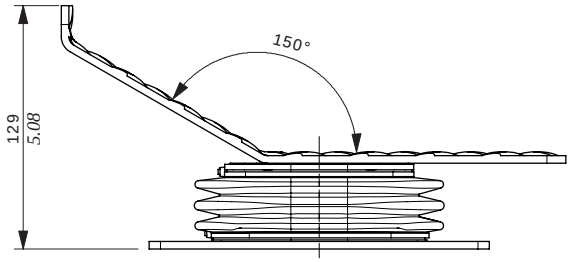
01S type

With spring return in neutral position without pedal.

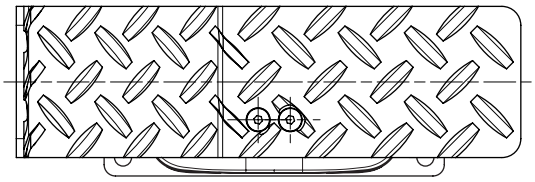


01B3 type

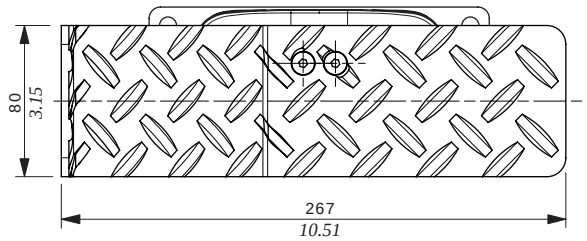
With spring return in neutral position.
Sloping pedal with corrugated sheet, white galvanized.



Right pedal 01B3R type



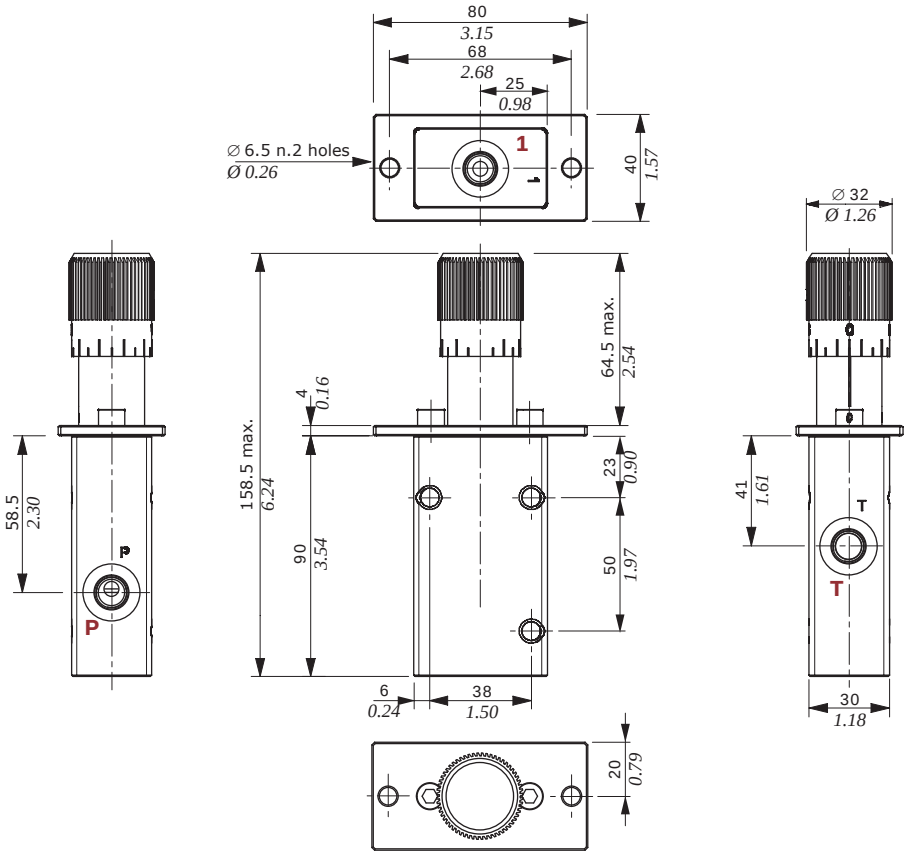
Left pedal 01B3L type



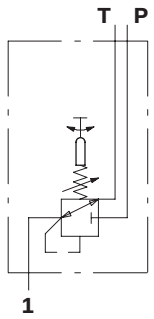
Dimensions and hydraulic circuit

SVM701 version

Configuration with handweel operating.

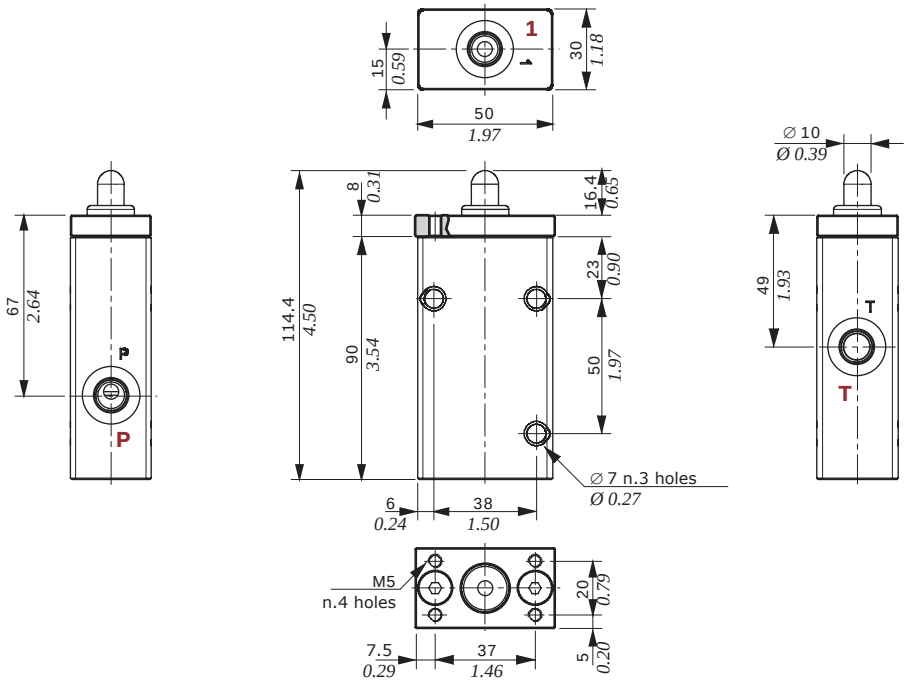


Hydraulic circuit

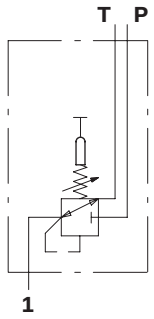


SVM710 version

Configuration with pusher operating.



Hydraulic circuit

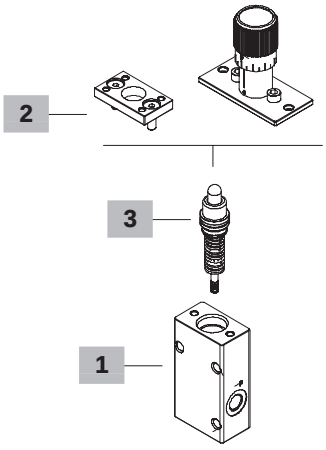


Ordering codes

Description example

SVM701-S / 00001A

1 2 3



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM701-710	3CO3710700	Body kit

2 Control option

TYPE	CODE	DESCRIPTION
SVM701	5CIN7002	Pusher operating and protection flange
SVM710	5CIN7011	With handweel operating

3 Pressure control curves

For configuration and list available see from page 71 on

NOTE (*) – Codes are referred to **UN-UNF** thread.

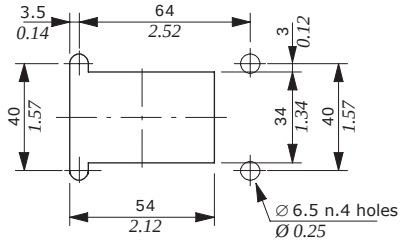
Notes

SVM pilot control valves assembled and tested as per the technical specification of this catalogue.
Before the final installation on your equipment, follow the below recommendations:

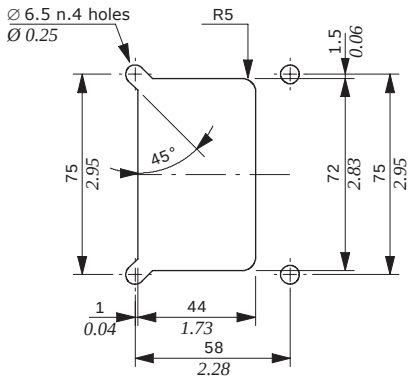
- the pilot valves must be assembled in horizontal position: considering the mass of the kinematic and control kit, a max.angle of 20° is allowed;
- the feeding unit can be assembled in any position;keep it away from heat sources when it is equipped with accumulator;
- fix the devices with suitable screw, use the appropriate flange or drilling, after tightening check the seal and the safety of the assembly;
- verify the integrity of the contact between devices and fittings and eliminate any impurities;
- correctly connect the devices, do not reverse the P and T ports (see dimensional pages to determine the initials of the ports);
- in order to prevent the possibility of water entering the rubber bellow, do not use high pressure wash directly on the valve;
- prior to painting, ensure plastic port plugs are tightly in place;
- the electrical cables have not to be submitted to mechanical forces (ex. tension or torsion);
- use original handles and handlevers.

Panel cut out

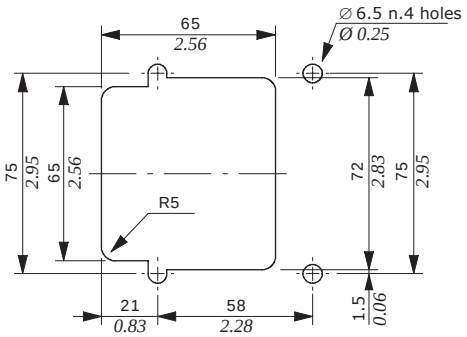
SVM510



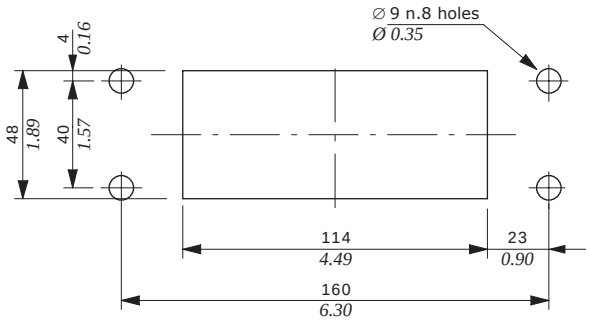
SVM520



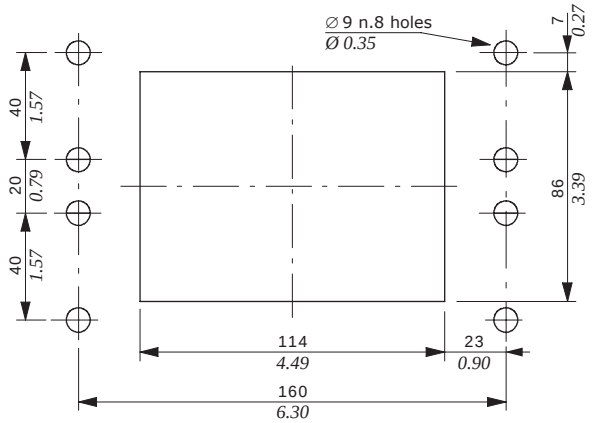
SVM521



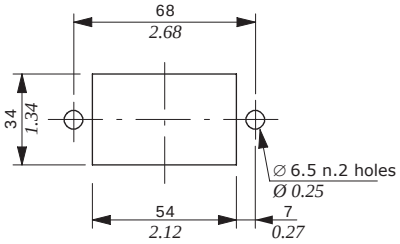
SVM500



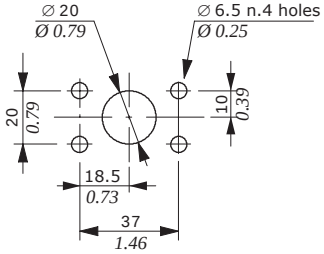
SVM540



SVM701



SVM710



Control curves description

SVM500 / ..... - 0 0 001 A

1 2 3 4

1 Curve type

TYPE	DESCRIPTION
0	Standard
D	With damping

2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

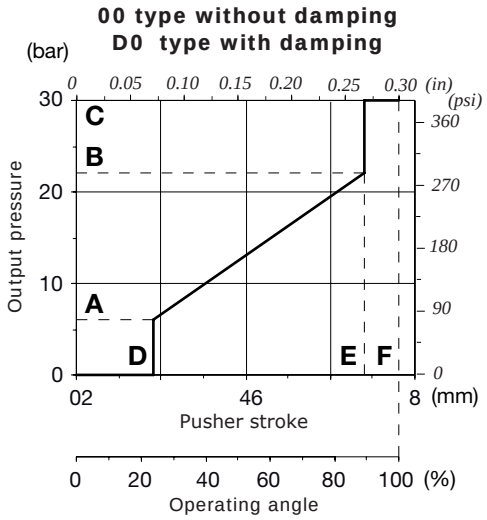
3 Identification curve

Progressive number, see tables on the following pages

4 Return springs

TYPE	DESCRIPTION
M	Operation range from 18 to 25.5 N - *from 4.04 to 5.73 lbf*
A	Operation range from 23 to 35.2 N - *from 5.17 to 7.91 lbf*
B	Operation range from 23 to 68.1 N - *from 5.17 to 15.31 lbf*
C	Operation range from 89 to 176 N - *from 20 to 39.56 lbf*
D	Operation range from 110 to 220 N - *from 24.73 to 49.46 lbf*
E	Operation range from 137.8 to 276.1 N - *from 30.98 to 62.07 lbf*

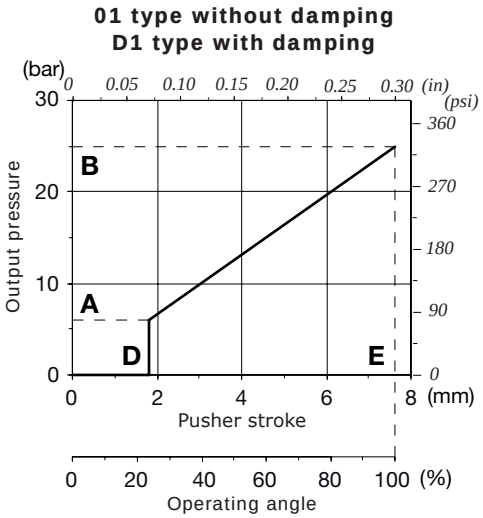
Curves with step



Curve description		Pressure								Stroke								
		A		P		B		C		D		Q		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
00	**023**	2 (±0.5)	*29 (±7.25)*			11.5 (±1)	*166.7 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40023A
00	**047**	2 (+3/0)	*29 (+43.5/0)*			70 (±4.5)	*1015 (±65.2)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40047A 5CUR40047C
00	**058**	2 (±0.5)	*29 (±7.25)*	10.5 (±0.7)	*152.2 (±10.5)*	11.6 (±1)	*168.2 (±14.5)*	35	*507.5*	0.85	*0.03*	6.5	*0.25*	7.25	*0.28*	7.6	*0.30*	5CUR4F058A
00	**066**	2 (±0.5)	*29 (±7.25)*			23 (±1.5)	*333.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40066B 5CUR40066C
00	**110**	2 (±0.5)	*29 (±7.25)*			15 (±1)	*217.5 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400110A
00	**043**	3.2 (±0.5)	*46.4 (±7.25)*			11.7 (±0.5)	*169.6 (±7.2)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400043A
00	**010**	3.25 (±0.5)	*47.12 (±7.25)*			14.8 (±1)	*214.6 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40010A
00	**086**	4 (±1)	*58 (±14.5)*			16.5 (±1)	*239.2 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40086A 5CUR40086C
D0	**020**	4.3 (±0.5)	*62.3 (±7.25)*			15.2 (± 1.5)	*220.4 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR4D020C
00	**076**	4.5 (±0.5)	*65.2 (±7.25)*			15 (±1)	*217.5 (±14.5)*	35	*507.5*	1.35	*0.05*			7	*0.27*	7.3	*0.30*	5CUR40076A
00	**017**	5 (± 0.5)	*72.5 (± 14.5)*			12 (± 1)	*(±14.5)*	35	*- 507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40017A 5CUR40017C
00	**071**	5 (±1)	*72.5 (±14.5)*			17 (± 1)	*246.5 (±14.5)*	35	*507.5*	1.35	*0.05*			6	*0.23*	7.3	*0.29*	5CUR40071A
00	**104**	5.5 (±1)	*79.75 (±14.5)*			17 (± 1)	*246.5 (±14.5)*	35	*507.5*	0.85	*0.03*			3.1	*0.12*	3.5	*0.14*	5CR400104A
00	**120**	5.7 (± 0.5)	*82.6 (± 14.5)*			16.8 (± 1.5)	*243.6 (±21.7)*	35	*507.5*	0.45	*0.02*			7.25	*0.28*	7.6	*0.30*	5CR400120A
00	**001**	5.8 (±1)	*84.1 (±14.5)*			22 (± 2)	*319 (±29)*	35	*507.5*	1.55	*0.06*			7	*0.27*	7.5	*0.29*	5CUR40001A
00	**024**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1.5)	*275.5 (±21.7)*	35	*507.5*	1.55	*0.06*			6.1	*0.24*	7.5	*0.29*	5CUR40024A 5CUR40024C
00	**025**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1.5)	*275.5 (±21.7)*	35	*507.5*	0.75	*0.029*			5.2	*0.20*	7.6	*0.30*	5CUR40025A
00	**031**	5.8 (±1)	*84.1 (±14.5)*			19 (± 1)	*275.5 (±14.5)*	35	*507.5*	1.35	*0.05*			6.4	0.25	7.6	*0.30*	5CUR40031A
00	**085**	6 (±1)	*87 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40085A 5CUR40085B 5CUR40085C 5CUR40085M
D0	**085**	6 (±1)	*87 (±14.5)*			25 (± 1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR4D085C
00	**105**	6 (±0.5)	*87 (±7.25)*			20 (± 1)	*290 (±14.5)*	35	*507.5*	0.6	*0.02*			7.25	*0.28*	7.6	*0.30*	5CR400105B
00	**111**	6 (±1)	*87 (±14.5)*			25 (± 1)	*362.5 (±14.5)*	35	*507.5*	0.6	*0.02*			4.5	*0.18*	5.2	*0.20*	5CR400111B
00	**053**	8 (±0.5)	*116 (±7.25)*			22.3 (± 1)	*323.3 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40053A
D0	**089**	8 (±0.5)	*116 (±7.25)*			28 (± 1)	*406 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR4D089C 5CUR4D089D
00	**036**	12 (±0.5)	*174 (±7.25)*			25 (± 1)	*362.5 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CUR40036A
00	**107**	12 (±1)	*174 (±14.5)*			20 (± 1)	*290 (±14.5)*	35	*507.5*	0.85	*0.03*			7.25	*0.28*	7.6	*0.30*	5CR400107A

[1] indicates the curve with the specific spring
For different curves, please contact our Sales Department

Control curves with step



Curve description		Pressure				Stroke				
		A		B		D		E		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	mm	*in*	mm	*in*	CODE [1]
01	**148**	0 (± 0.5)	*0 (±7.25)*	13 (± 1)	*188.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40148B
01	**099**	1 (± 0.5)	*14.5 (±7.25)*	20 (± 1.5)	*290 (±21.7)*	1.55	*0.06*	7.5	*0.29*	5CR401099A
01	**100**	1.2 (± 0.5)	*17.4 (±7.25)*	18.9 (± 1)	*274 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40100B 5CUR40100M
01	**105**	2 (± 0.5)	*29 (±7.25)*	8 (± 1)	*116 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40105A
01	**129**	2 (± 0.5)	*29 (±7.25)*	66 (± 4)	*957 (±58)*	0.85	*0.03*	6.8	*0.28*	5CUR40129A
01	**154**	2 (± 0.5)	*29 (±7.25)*	15 (± 1)	*217.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40154A 5CUR40154M
01	**138**	2.5 (± 0.5)	*36.2 (±7.25)*	13 (± 1)	*188.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40138A
01	**143**	3 (± 0,5)	*43.5 (±7.25)*	25 (± 1)	*362.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40143A
01	**157**	3.4 (± 1)	*49.3 (±14.5)*	17.2 (± 1)	*249.4 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40157A 5CUR40157B
01	**096**	4 (±1)	*58 (±14.5)*	18 (± 1)	*261 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CR401096M
01	**126**	4.5 (± 0.7)	*65.2 (±10.1)*	30.7 (± 1.5)	*445.1 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40126A
01	**166**	4.5 (± 0.5)	*65.2 (±7.25)*	15 (± 1.5)	*217.5 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40166A 5CUR40166M
D1	**155**	4.8 (± 1)	*69.6 (±14.5)*	21.5 (± 1.5)	*311.7 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40155A
01	**167**	5 (± 0.5)	*72.5 (±7.25)*	18 (± 1)	*261 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40167M
01	**170**	5 (± 0.5)	*72.5 (±7.25)*	20 (± 1)	*290 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40170A 5CUR40170M
01	**175**	5 (± 0.5)	*72.5 (±7.25)*	16 (± 1,5)	*232 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40175A 5CUR40175D
01	**118**	5.8 (± 1)	*84.1 (±14.5)*	19.5 (± 1.5)	*282.7 (±21.7)*	1.55	*0.06*	7.5	*0.29*	5CUR40118A
01	**135**	5.8 (± 0.5)	*84.1 (±7.25)*	23 (± 1.5)	*333.5 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40135A 5CUR40135M
01	**192**	5.8 (± 0.5)	*84.1 (±14.5)*	15 (± 1.5)	*217.5 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40192A 5CUR40192M
01	**103**	6 (± 1)	*87 (±14.5)*	30 (± 2.5)	*435 (±36.2)*	0.85	*0.03*	7.6	*0.30*	5CUR40103A 5CUR40103M
01	**178**	6.5 (± 0.5)	*94.2 (±7.25)*	17.8 (± 1)	*258.1 (±14.5)*	0.85	*0.03*	5.8	*0.22*	5CUR40178A
D1	**091**	7 (± 1)	*101.5 (±14.5)*	27 (± 1)	*391.5 (±14.5)*	0.85	*0.03*	6.2	*0.24*	5CR4D1091C
01	**115**	8.3 (± 0.7)	*120.3 (±10.1)*	22.5 (± 1)	*326.2 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40115M
01	**159**	10 (± 0.5)	*145 (±7.25)*	28 (± 1)	*406 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR401159A
01	**144**	35 (± 2)	*507.5 (±29)*	70 (± 3.5)	*1015 (±50.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40144C

[1] indicates the curve with the specific spring
For different curves, please contact our Sales Department

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code[1]	Range (bar/*psi*)	Type	Code	Type	Code[1]	Range (bar/*psi*)
Monoblock valves										
SD5 SDM110	8IM	5IDR205021	**026**	5CUR40026	6.5-14 *94.2-203*	13IM	5IDR205330	**075**	5CUR40075	5-15 *72.5-217.5*
SDM100	8IM	5IDR207300	**088**	5CUR40088	8-27 *116-391.5*	13IMS	5IDR207350	**125**	5CUR40125	8-22.5 *116-326.2*
SD11 SD14	8IM	5IDR210000	**070**	5CUR40070	5.8-22.4 *84.1-324.8*					
SD18	8IM	5IDR220000	**070**	5CUR40070	5.8-22.4 *84.1-324.8*					
SDM140 DLM140	8IM	5IDR208300	**033**	5CUR40033	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CUR40075	5-15 *72.5-217.5*
SDM141	8IM	5IDR208300	**033**	5CUR40033	5.8-19 *84.1-275.5*	13IM	5IDR208214	**075**	5CUR40075	5-15 *72.5-217.5*
								E075	5CUR4E075	5-15-16.3 *72.5-217.5-236.3*
						13CIM	5IDR308313	**087**	5CUR40087	5.8-17 *84.1-246.5*
Sectional valves										
SD6	8IM	5IDR206010	**075**	5CUR40075	5-15 *72.5-217.5*					
	8IMP	5IDR206020	**033**	5CUR40033	5.8-19 *84.1-275.5*					
DLS7	8IMF3	5IDR207000	**033**	5CUR40033	5.8-19 *84.1-275.5*					
SDS100	8IM	5IDR207300	**088**	5CUR40088	8-27 *116-391.5*	13IMS	5IDR207350	**125**	5CUR40125	8-22.5 *116-326.2*
	8IMF3	5IDR207310	**088**	5CUR40088	8-27 *116-391.5*					
SD8	8IM	5IDR208300	**033**	5CUR40033	5.8-19 *84.1-275.5*					
DLS8	8IMF3	5IDR208220	**021**	5CR400021	6-16.3 *87-236.3*					
SDS150	8IM	5IDR216300	**033**	5CUR40033	5.8-19 *84.1-275.5*					
SDS180	8IM	5IDR216300	**033**	5CUR40033	5.8-19 *84.1-275.5*	13IMP	5IDR216014	**073**	5CUR40073	4-18 *58-261*
	8IMF3	5IDR216303	**033**	5CUR40033	5.8-19 *84.1-275.5*					
	8IMSPSL4P	5IDR218012	**028**	5CUR40028	5-21 *72.5-304.5*					
	8IMO	5IDR216000	**033**	5CUR40033	5.8-19 *84.1-275.5*					
	8IMD	5IDR218300	V1=**028**	5CUR40028	5-21 *72.5-304.5*					
			V2=**073**	5CUR40073	4-18 *58-261*					
DLS180	8IM	5IDR216300	**033**	5CUR40033	5.8-19 *84.1-275.5*					
	8IMF3	5IDR216303	**033**	5CUR40033	5.8-19 *84.1-275.5*					
	8IMO	5IDR216000	**073**	5CUR40073	4-18 *58-261*					
	8IMOHF3	5IDR216303-H	**073**	5CUR40073	4-18 *58-261*					
SD25	8IM	5IDR225300	**004**	5CUR40004	4.9-18.9 *71-274*	13IM	5IDR225360	**156**	5CUR40156	3.4-14.5 *49.3-210.2*
	8IMO	5IDR225000	**033**	5CUR40033	5.8-19 *84.1-275.5*	13IMO	5IDR225350	**156**	5CUR40156	3.4-14.5 *49.3-210.2*
SDS400	8IM	5IDR208300	**028**	5CUR40028	5-21 *72.5-304.5*	13IM	5IDR208310	**028**	5CUR40028	5-21 *72.5-304.5*

[1] Codes listed show the control curve without return spring reference: for spring details see page 70.

Hydraulic control on directional valves and suggested control curves

Valve type	3 position controls		Control curve			Controls for floating		Control curve		
	Type	Code	Type	Code(1)	Range (bar/*psi*)	Type	Code	Type	Code(1)	Range (bar/*psi*)
Pressure pre-compensated Load-Sensing and Flow Sharing valves										
DPC130	8IM	5V08130800	**020**	5CUR40020	4.3-15.2 *62.3-220.4*					
DPC200	8IM	5V08200801	**020**	5CUR40020	4.3-15.2 *62.3-220.4*					
DPX050	8IM	5IDR20A300	**089**	5CUR40089	8-28 *116-406*	13IMP	5IDR20A310	**089**	5CUR40089	8-28 *116-406*
	8IMF3	5IDR20A302	**089**	5CUR40089	8-28 *116-406*					
	8IMX	5IDR20A301	**028**	5CUR40028	5-21 *72.5-304.5*					
	8IMXF3	5IDR20A303	**028**	5CUR40028	5-21 *72.5-304.5*					
DPX100	8IMN	5IDR204304	**089**	5CUR40089	8-28 *116-406*	13IMS	5IDR207350	**098**	5CUR40098	7-22.5 *101.5-326.2*
	8IMF3N	5IDR204314	**089**	5CUR40089	8-28 *116-406*					
	8IMXN	5IDR204303	**054**	5CUR40054	6.2-24.5 *89.9-355.2*					
	8IMXF3N	5IDR204313	**054**	5CUR40054	6.2-24.5 *89.9-355.2*					
DPX160	8IMN	5IDR209304	**089**	5CUR40089	8-28 *116-406*	13IM	5IDR209303	**089**	**5**CUR40089	8-28 *116-406*
	8IMF3N	5IDR209305	**089**	5CUR40089	8-28 *116-406*	13IMP	5IDR209014	**073**	5CR400073	4-18 *58-261*

(1) Codes listed show the control curve without return spring reference: for spring details see page 70.

Feed units and accessories

- 2 Way series with or without unloader valve (AVN020)
- Range from 1 to 4 stages with and without accumulator
- Diverter valve for pilot hydraulic control system

AVN020 working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

Max. pressure on inlet	on inlet, P port	350 bar - *5075 psi*
Nominal secondary pressure		30 bar - *435 psi*
Flow rating range		from 5 to 20 l/min - *from 1.32 to 5.28 USgpm*
Max. backpressure	to outlet, T port	3 bar - *43.5 psi*
Fluid		mineral oil
Fluid temperature	with NBR (BUNA-N) seals	from -20°C to 80°C - *from -4°F to 176°F*
Viscosity	operating range	from 15 to 75 mm²/s - *from 15 to 75 cSt*
	min.	12 mm²/s - *12 cSt*
	max.	400 mm²/s - *400 cSt*
Max. contamination level		-/19/16 - ISO 4406 - *NAS1638 class 10*
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40°F to 140°F*
	with electric devices	from -20°C to 50°C - *from -4°F to 122°F*

NOTE - for different conditions please contact Sales Dpt

FU series working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

		FU / 1	FU / 2	FU / 3	FU / 4
Max. pressure on inlet	on inlet P port	350 bar - *5075 psi*	350 bar - *5075 psi*	350 bar - *5075 psi*	350 bar - *5075 psi*
Flow rating range		60 l/min - *15.85 USgpm*	8 l/min - *2.11 USgpm*	10 l/min - *2.64 USgpm*	8 l/min - *2.11 USgpm*
Fluid		mineral oil			
Fluid temperature	with NBR (BUNA-N) seals	from -20°C to 90°C - *from -4°F to 194°F*			
Viscosity	operating range	from 15 to 75 mm²/s - *from 15 to 75 cSt*			
	min.	20 mm²/s - *20 cSt*			
	max.	200 mm²/s - *200 cSt*			
Max. contamination level		18/16/13 - ISO 4406 - *NAS1638 class 10*			
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40°F to 140°F*			
	with electric devices	from -20°C to 50°C - *from -4°F to 122°F*			

NOTE - for different conditions, please contact our Sales Dpt

DHV080 working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46mm²/s - *46 cSt* viscosity at 40°C - *104°F* temperature.

Nominal flow rating	10 l/min - *2.64 Usgpm*
Nominal pressure	100 bar - *1450 psi*
Internal leakage *(100 bar - 1450 psi)*	10 cm³/min - *0.61 in3/min*
Fluid	mineral oil
Viscosity (operating range)	from 12 to 400 mm²/s - *from 12 to 400 cSt*
Max. contamination range	-/19/16 - ISO 4406 - *NAS1638 class 10*
Fluid temperature	from -20° C to 80°C - *from -4° F to 176°F*
Ambient temperature	from -40° C to 60°C - *from 40° F to 140°F*
Salt spray (fog) testing	(ISO9227) 70 h

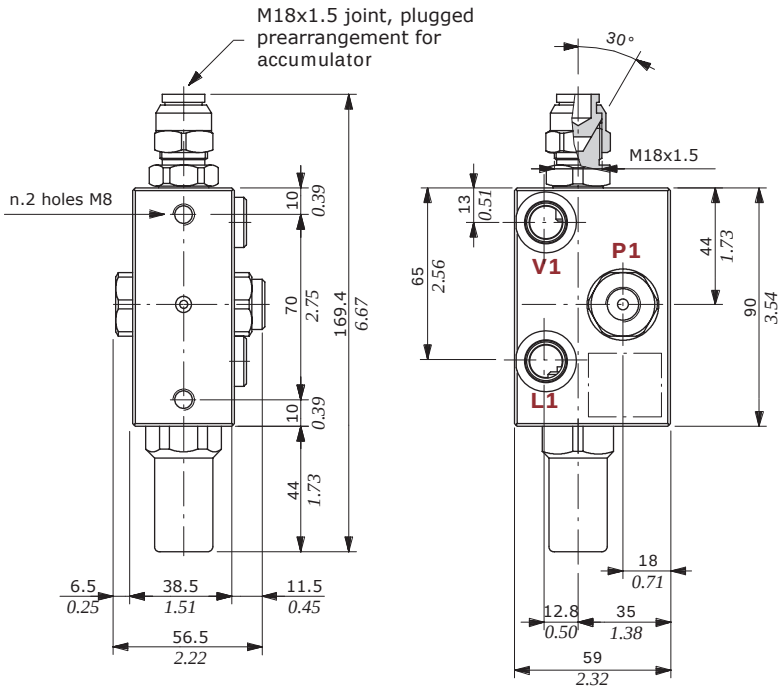
NOTE - for different conditions please contact Sales Dpt

REFERENCE STANDARD

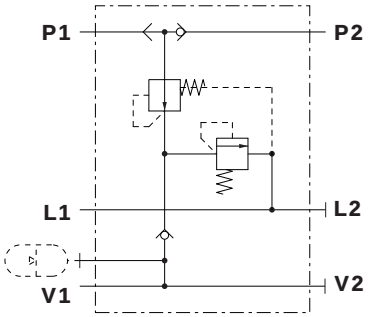
		BSP	UN-UNF
THREAD ACCORDING TO		ISO 228/1	ISO 263
		BS 2779	ANSI B1.1 unified
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926
	SAE		J11926
	DIN	3852-2 X or Y shape	

AVN020 dimensions and hydraulic circuit

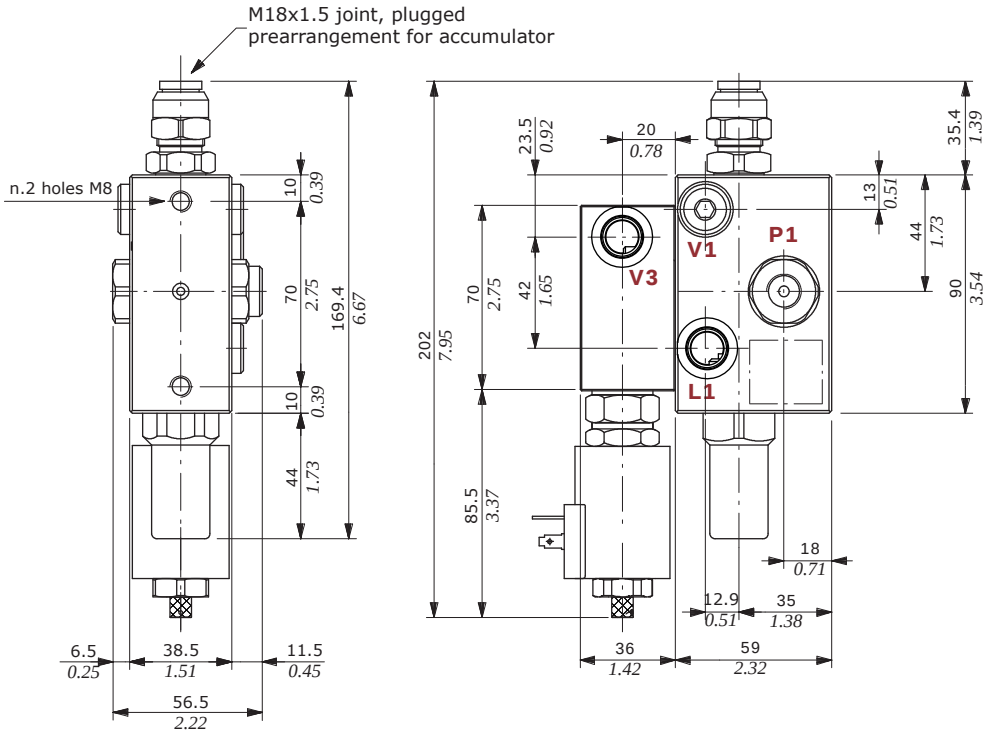
Version without unloader valve



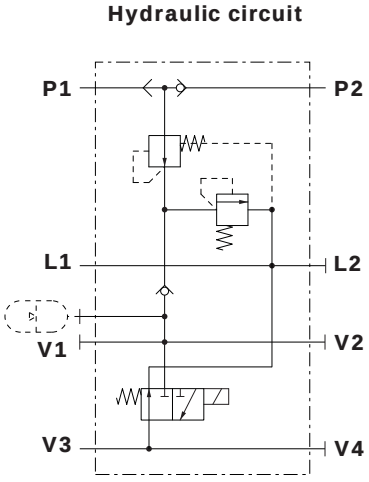
Hydraulic circuit



Version with unloader valve



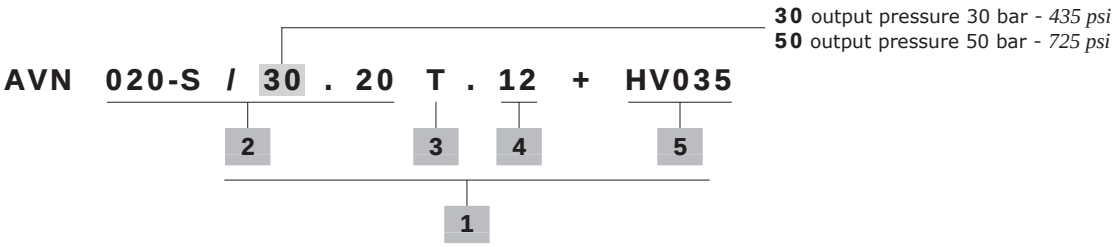
Hydraulic circuit

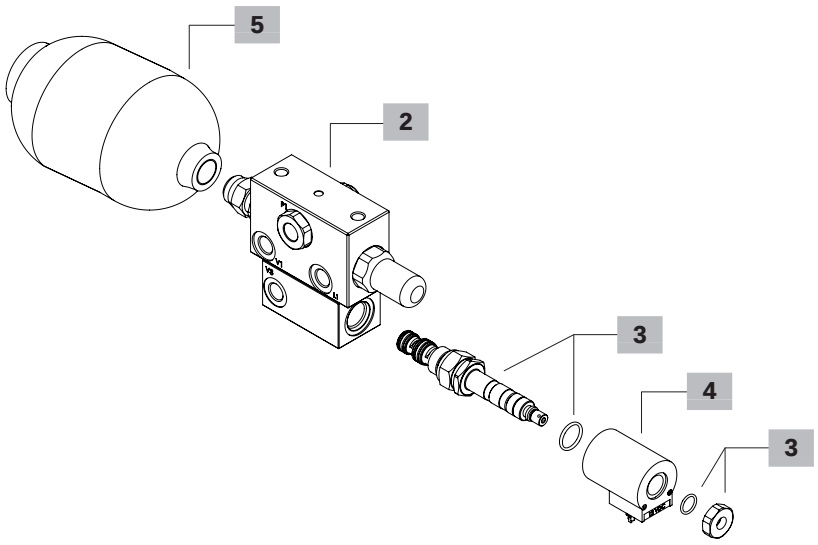


THREAD AND FITTING TIGHTENING TORQUES

Ports	Threads		Fitting tightening torque	
	BSP	UN-UNF	Nm	*lbft*
P1 inlet	G 1/4	9/16-18 (SAE 6)	30	*22.13*
L1, L2, V1, V2, V3, V4 Ports	G 1/4	9/16-18 (SAE 6)	30	*22.13*

AVN020 ordering codes





1 Complete unit *

Without unloader valve

TYPE: **AVN020-S/30.00** CODE: 180010006
DESCRIPTION: with 2 pressure ports, outlet pressure 30 bar - *435 psi*
TYPE: **AVN020-S/50.00** CODE: 180010013
DESCRIZIONE: with 2 pressure ports, outlet pressure 50 bar - *725 psi*

2 Body kit *

TYPE	CODE	DESCRIPTION
020-B/00.20	5CO2902201	with 2 pressure ports

NOTE: outlet pressure 30 and 50 bar - *435, 725 psi*

3 Unloader valve

TYPE	CODE	DESCRIPTION
T	0EJ08002043	With emergency screw

4 Coil

TYPE	CODE	DESCRIPTION
12	4SL3000120	12VDC, ISO4400 connector
24	4SL3000240	As previous 24VDC
12(JPT)	4SL3000122	12VDC, AMP/JPT connector
24(JPT)	4SL3000248	As previous 24VDC
12(JPT+DIODO)	4SL3001200	12VDC, AMP/JPT connector with diode
12(DT04)	4SL3000130	12VDC, DEUTSCH/DT04 connector
24(DT04)	4SL3000249	As previous 24VDC
12(DT04+DIODO)	4SL3000132	12VDC, DEUTSCH/DT04 connector, with diode
24(DT04+DIODO)	4SL3000247	As previous 24VDC

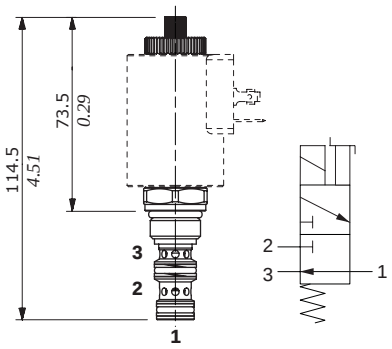
5 Optional accumulator

TYPE	CODE	DESCRIPTION
HV035	2X280020340S	Capacity 350 cm^3 - *21.36 in^3*
HV050	2X280020500S	Capacity 500 cm^3 - *30.51 in^3*
HV075	4AC7742000	Capacity 750 cm^3 - *45.77 in^3*
HV090	2X280020700S	Capacity 900 cm^3 - *54.92 in^3*
HV150	2X280021400S	Capacity 1500 cm^3 - *91.53 in^3*

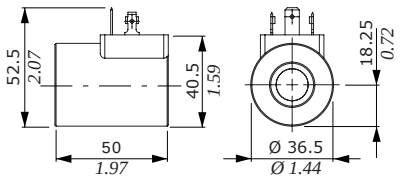
NOTE (*) – Codes are referred to **UN-UNF** thread.

AVN020 Configuration options

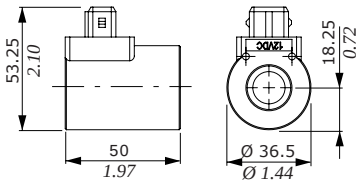
Solenoid unloader valve



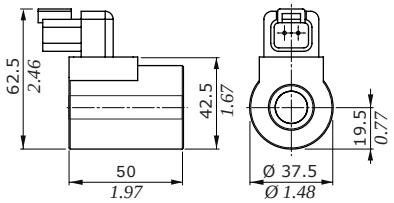
ISO4400 connector
needs 4CN1009995 connector



AMP JPT connector
needs 5CON003 connector



DEUTSCH DT04 connector
needs 5CON1410031 connector



Features

SOLENOID VALVE

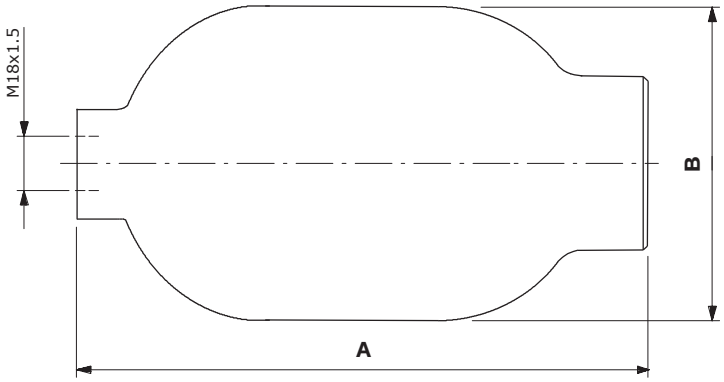
Nominal flow . . . . . : 12 l/min - *3.17 US gpm*
Max. pressure . . . . . : 50 bar - *725 psi*
internal leakage: . . . . . : 4 cm³/min - *0.24 in³/min*

COIL

Nominal voltage tolerance : ±10%
Power rating . . . . . : 21 W
Max. operating current . . . . . : 1.77 A - 12 VDC
: 0.89 A - 24VDC
Coil insulance . . . . . : Class F (155°C - *311°F*)
Weather protection . . . . . : IP65 - ISO4400
: IP69K - Deutsch DT
: IP65 - AMP JPT
Insertion. . . . . : 100%

Optional accumulators

With synthetic rubber membrane and steel body; Nitrogen accumulator precharged at 13 bar - *188 psi*



Type	Volume		A		B		Mass	
	cm³	*in³*	mm	*in*	mm	*in*	kg	*lb*
035	350	*21.35*	153	*6.02*	99	*3.90*	3.7	*8.16*
050	500	*30.51*	199	*7.83*	118	*4.64*	4.35	*9.59*
075	750	*45.77*	199	*7.83*	118	*4.64*	4.8	*10.58*
090	900	*54.92*	215	*8.46*	118	*4.64*	4.8	*10.58*
150	1500	*91.54*	297	*11.69*	118	*4.64*	6.8	*14.99*

Installation

In order to ensure the correct working pressure at 10 bar - *145 psi*, is required minimum pressure when starting.
The feed unit can be assembled in any position; keep it away from heat sources when accumulator is working.

FU series configuration examples

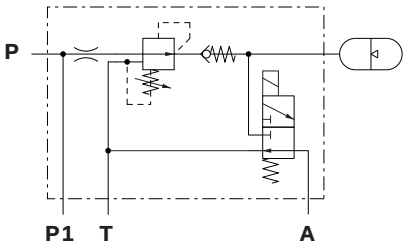
Type FU/1 - one stage

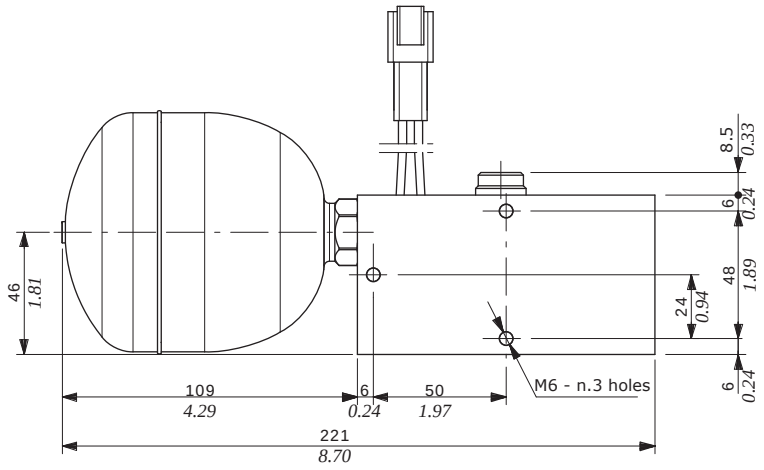
CODE: 1992752200

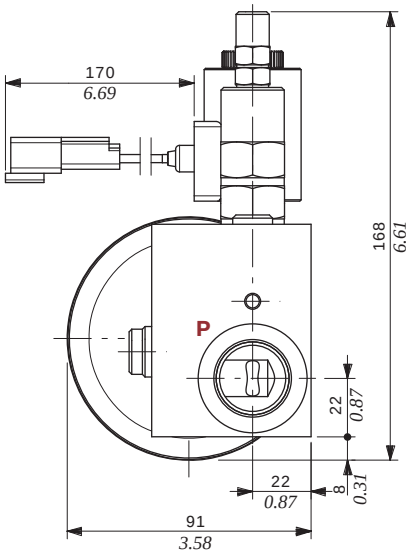
TYPE: FU-AC(SAE6-11)-RB08A(35)-F-NV/1EJ08F4(L=170)/NPM-SAE6(AT)12(PP1)-12VDC

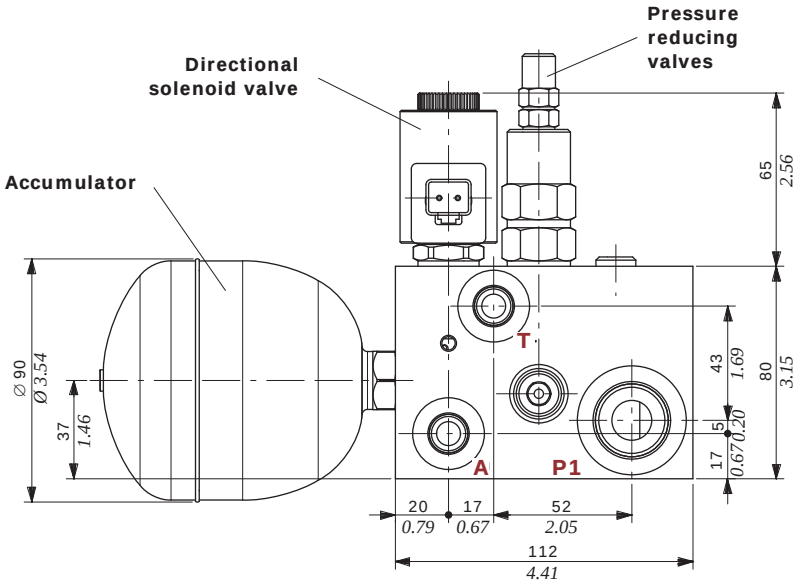
DESCRIPTION: one stage, with pressure reducing valve on inlet, 0.35 l accumulator and directional solenoid valve for the supply and control of the pressure line.

Hydraulic circuit









PORTS THREADING AND FITTINGS TIGHTENING TORQUE

PORTS	Threads (different threads on request)	Fitting tightening torque Nm	*lbft*
P, P1 inlet	1 1/16-12 UN (SAE 12)	65	*48*
A port	9/16-18 UNF (SAE 6)	30	*22*
T outlet	9/16-18 UNF (SAE 6)	30	*22*
Accumulator connection	9/16-18 UNF(SAE 6)	30	*22*

NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The fittings manufacturer has to be consulted.

FU series configuration examples

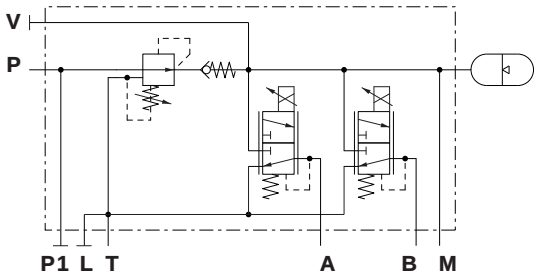
Type FU/2 - two stages

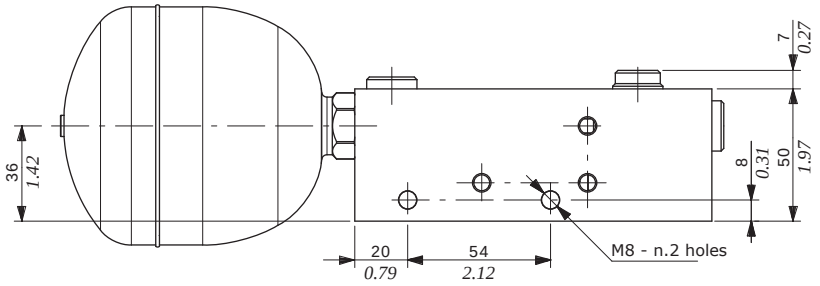
CODE: 1992820001

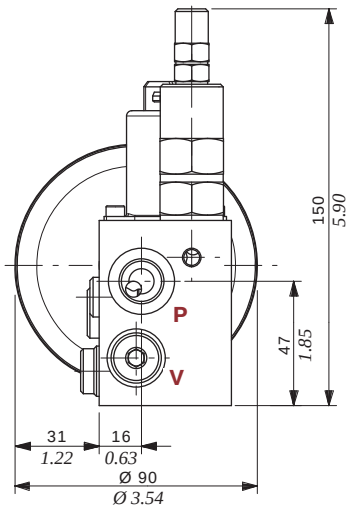
TYPE: FU-AC(SAE6-11)-RB08A(35)-F-NV/2RPT2/PMA-P1-L-V-BSP-24VDC-<TAP(P1LV)>

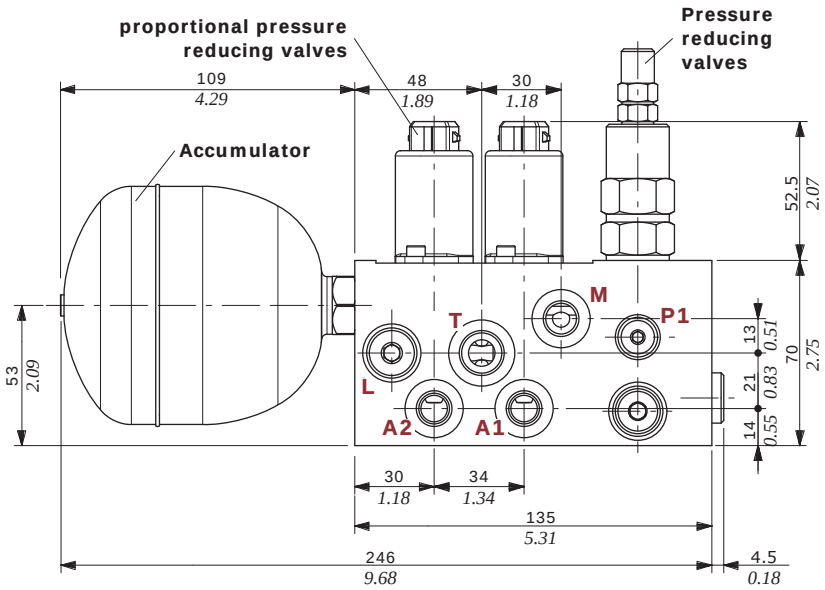
DESCRIPTION:two stages, with pressure reducing valve on inlet, 0.35 l accumulator and 2 proportional pressure reducing valves for the supply and control of the pressure lines.

Hydraulic circuit









PORTS THREADING AND FITTINGS TIGHTENING TORQUE			
PORTS	**Threads**	**Fitting tightening torque**	
	(different threads on request)	Nm	*lbft*
P Inlet	BSP G 3/8	42	*31*
P1 Inlet	BSP G 1/8	24	*17.7*
A, B, M, L, V Ports	BSP G 1/4	30	*22*
Outlet **T**	BSP G 3/8	42	*31*
Accumulator connection	9/16-18 UNF (SAE 6)	30	*22*

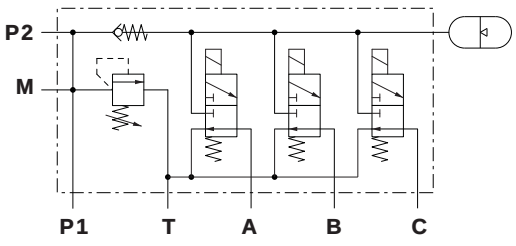
NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The fittings manufacturer has to be consulted.

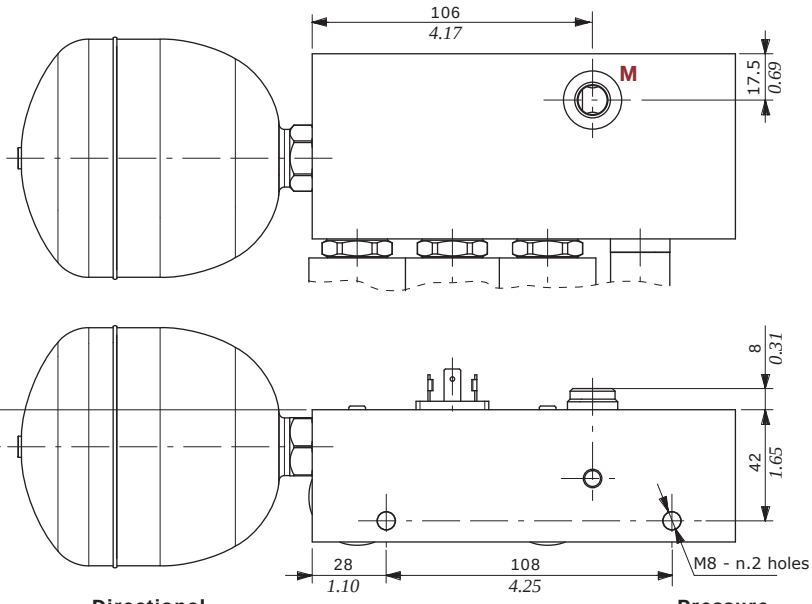
FU series configuration examples

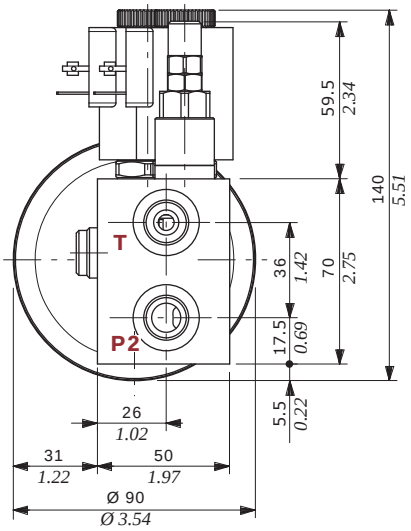
Type FU/3 - three stages

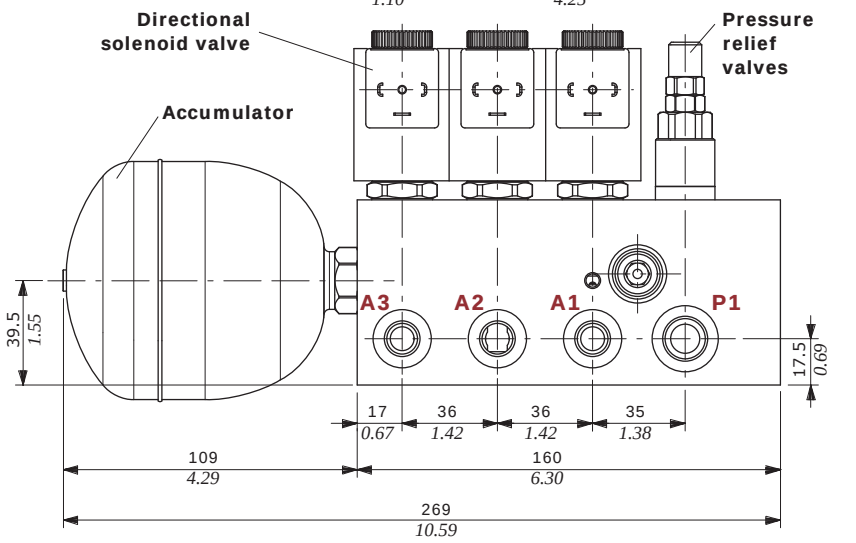
CODE: 1992830000
TYPE: FU-AC(SAE6-11)-NR-A-VMP5JN(TB.S-35)/3-EJ08F/PMI-P2-BSP-12VDC
DESCRIPTION: three stages, with pressure relief valve on inlet, 0.35 l accumulator and 3 directional solenoid valves for the supply and control of the pressure lines.

Hydraulic circuit









PORTS THREADING AND FITTINGS TIGHTENING TORQUE

PORTS	Threads (different threads on request)	Fitting tightening torque Nm	*lbft*
P1 inlet	BSP G 3/8	42	*31*
P2 inlet	BSP G 3/8	42	*31*
A1, A2, A3, M ports	BSP G 1/4	30	*22*
T outlet	BSP G 3/8	42	*31*
Accumulator connection	9/16-18 UNF (SAE 6)	30	*22*

NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The fittings manufacturer has to be consulted.

FU series configuration examples

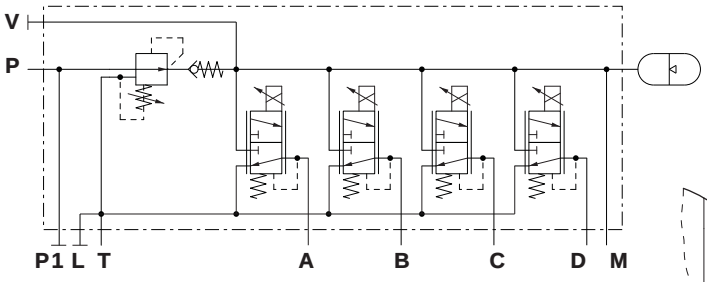
Type FU/4 - four stages

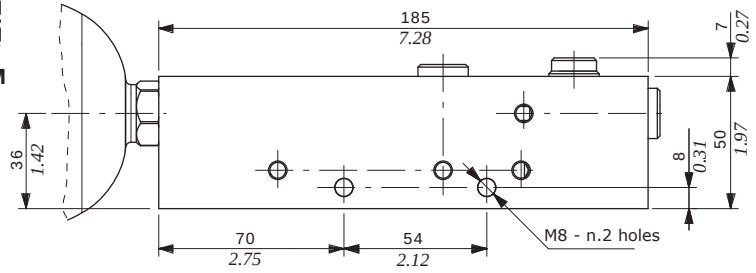
CODE: 1992840000

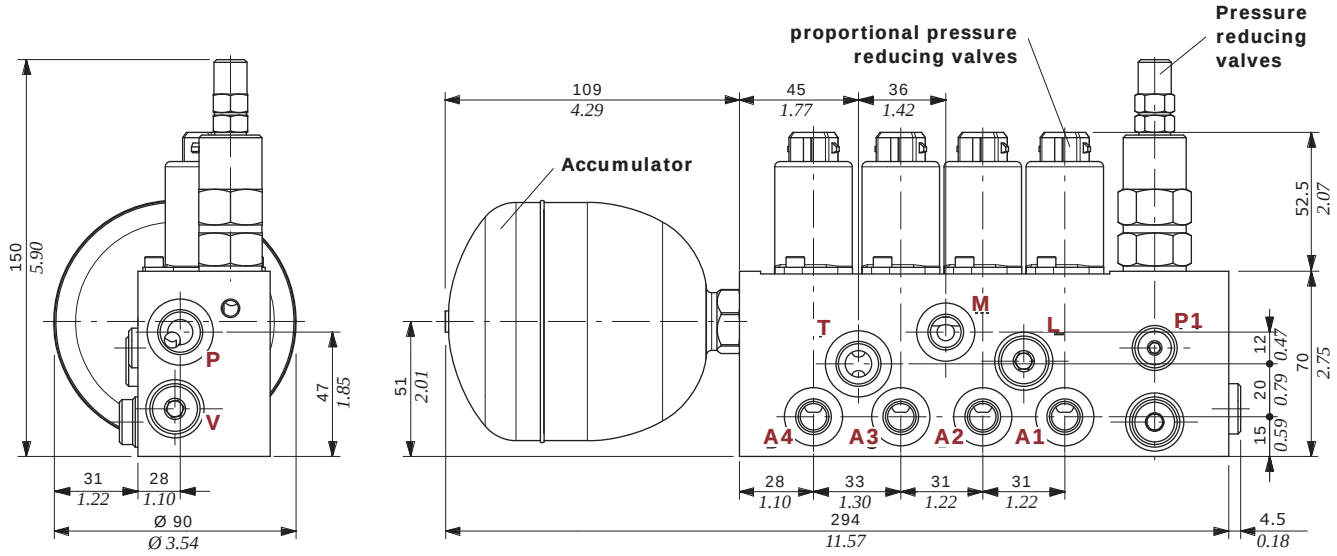
TYPE: FU-AC(SAE6-11)-RB08A(35)-F-NV/4RPT2/PMA-P1-L-V-BSP-24VDC-<TAP(P1LV)>

DESCRIPTION: four stages, with pressure reducing valve on inlet, 0.35 l accumulator and 4 proportional pressure reducing valves for the supply and control of the pressure lines.

Hydraulic circuit







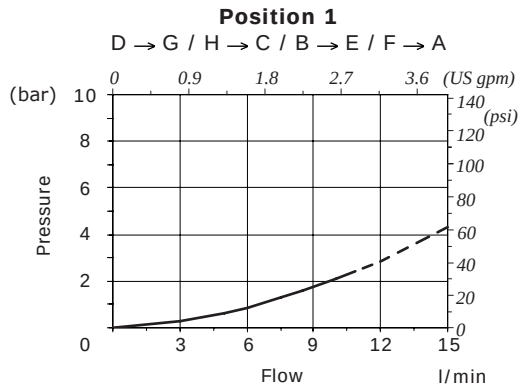
PORTS THREADING AND FITTINGS TIGHTENING TORQUE

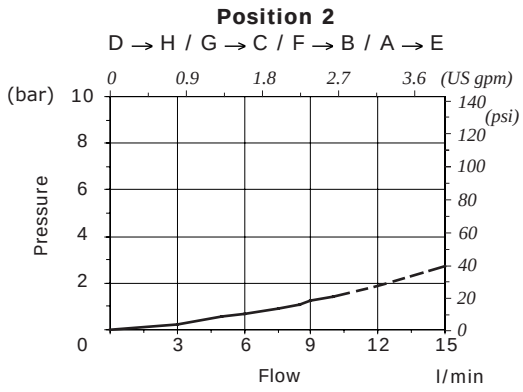
PORTS	Threads	Fitting tightening torque	
	(different threads on request)	Nm	*lbft*
P inlet	BSP G 3/8	42	*31*
P1 inlet	BSP G 1/8	24	*17.7*
A, B, C, D, M, L, V ports	BSP G 1/4	30	*22*
T outlet	BSP G 3/8	42	*31*
Accumulator connection	9/16-18 UNF (SAE 6)	30	*22*

NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The fittings manufacturer has to be consulted.

DHV080 diverter valve

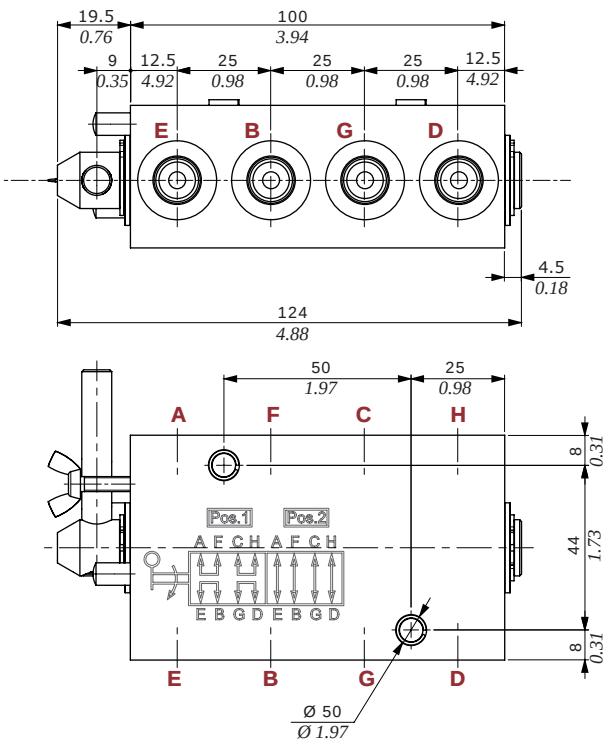
Pressure drop

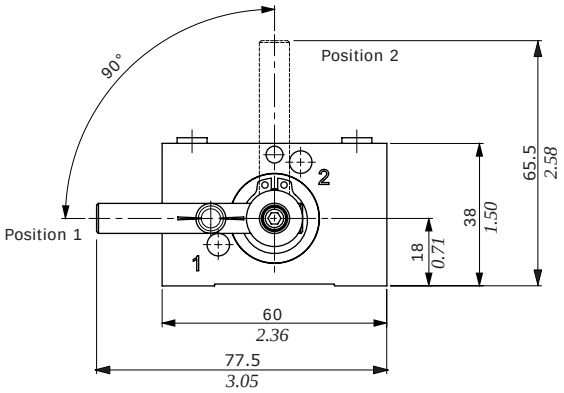




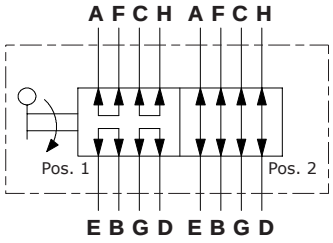
Dimensions and hydraulic circuit

The diverter valve is available in this configuration: **DHV080/8LN-SAE-<CVN>** code **140080002**
Supplied as standard, with one coat of primer black antirust.





Hydraulic circuit

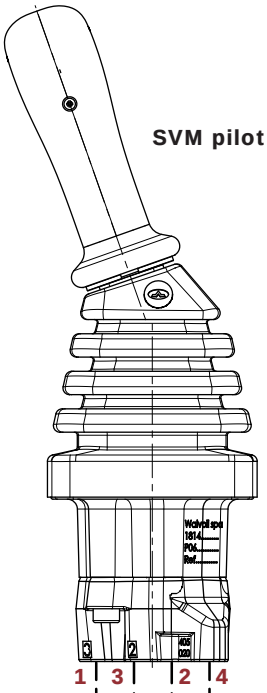


PORT THREADING AND FITTING TIGHTENING TORQUE				
PORTS	**Threads**		**Fitting tightening torque**	
	BSP	**UN-UNF**	Nm	*lbft*
A, B, C, D, E, F, G, H ports	G 1/4	7/16-20 UNF-2B (SAE4)	30	*22.13*

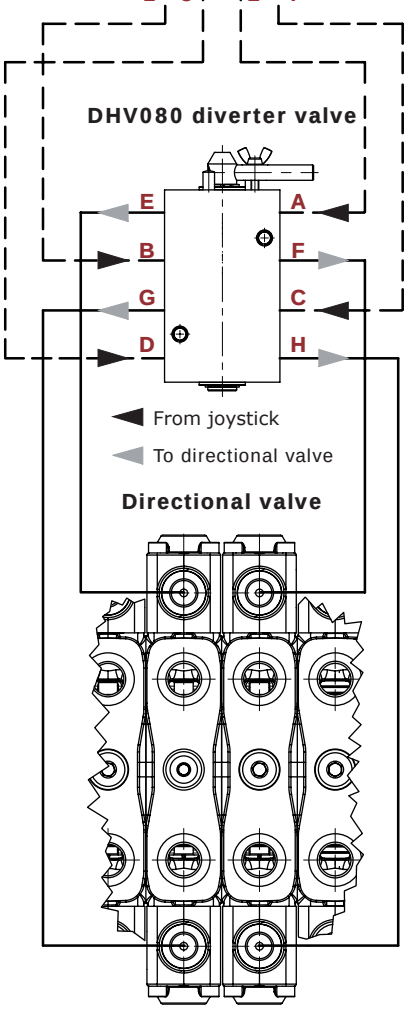
NOTE – These torque are recommended. Assembly tightening torque depends on many factors, including lubrication, coating and surface finish. The manufacturer shall be consulted.

DHV080 diverter valve

Typical application

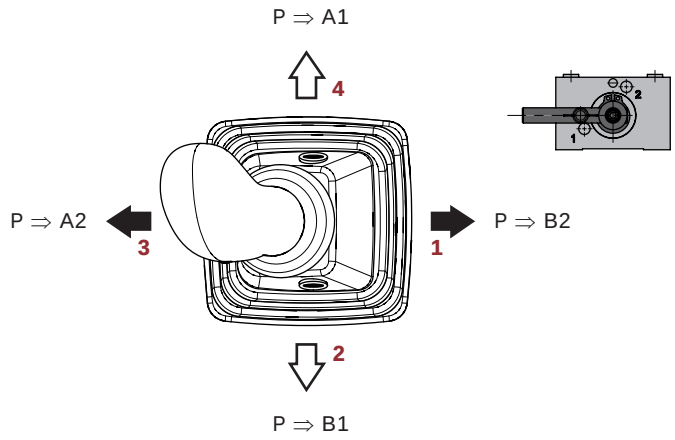


SVM pilot control valve

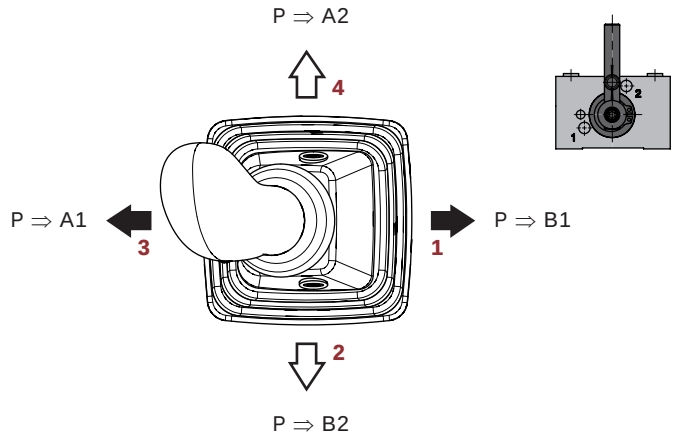


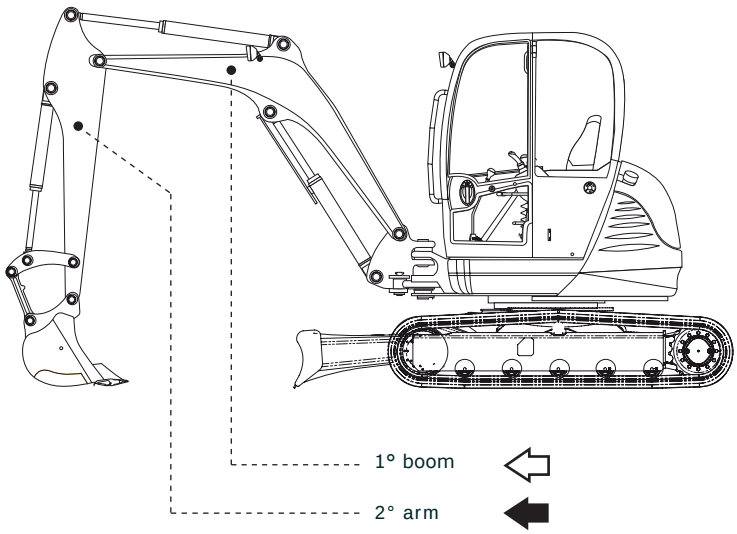
Joystick movement

Diverter valve in position 1
Backhoe configuration



Diverter valve in position 2
Mini-excavator configuration





Notes

Notes

1st edition April 2014

WWW.WALVOIL.COM

D1WWEF01A

walvoil
FLUID POWER E|MOTION