walvoil

Hydraulic pilot control valves and Feed units



TECHNICAL CATALOGUE

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

WARNING!
All specifications of this catalogue 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.

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SVM hydraulic joysticks with pedal and other actuations

SVM510-SVM520-SVM521 / SVM500 series / SVM540 series / SVM702-SVM710

- Single and double function
- Damping option
- High sensitivity and low force
- Available with anti-slip rubber coated pedals

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

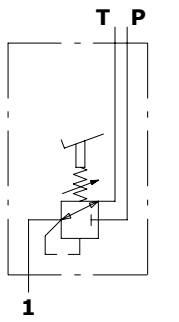
PORTS	Threads		Fitting tightening torque	
	UNI EN ISO 1179	UNI EN ISO 11926-2	Nm	*lbft*
P inlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*
Ports	G 1/4	7/16-20 (SAE 4)	30	*22.13*
T outlet	G 1/4	7/16-20 (SAE 4)	30	*22.13*

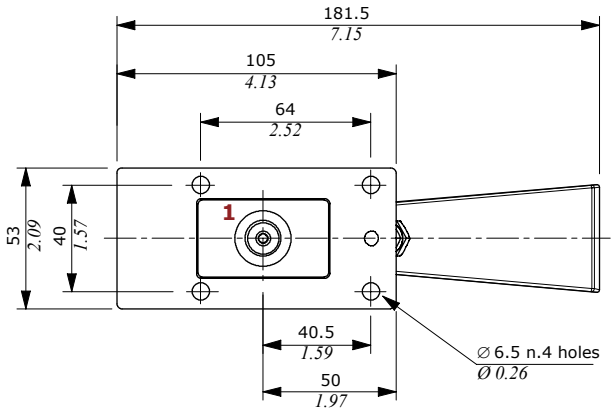
NOTE – These torques are recommended. Assembly tightening torque depends on many factors, including lubrification, coating and surface finishing. The manufacturer has to be consulted.

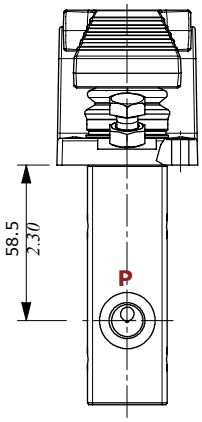
Dimensions and hydraulic circuit

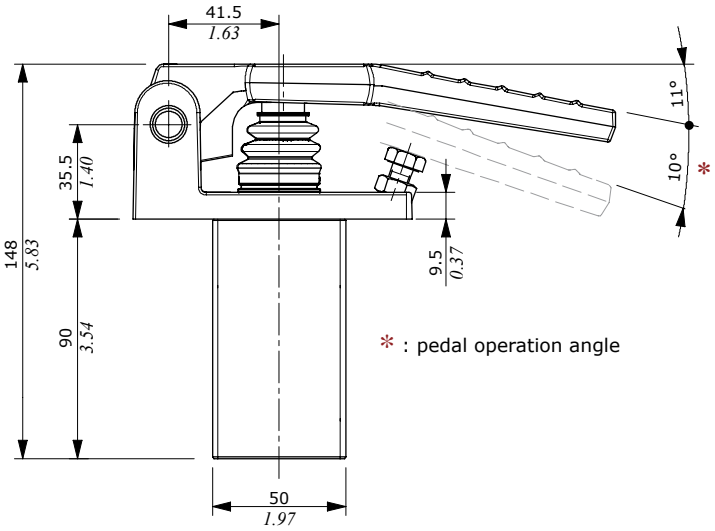
SVM510 type

Hydraulic circuit

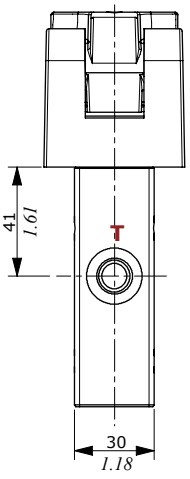








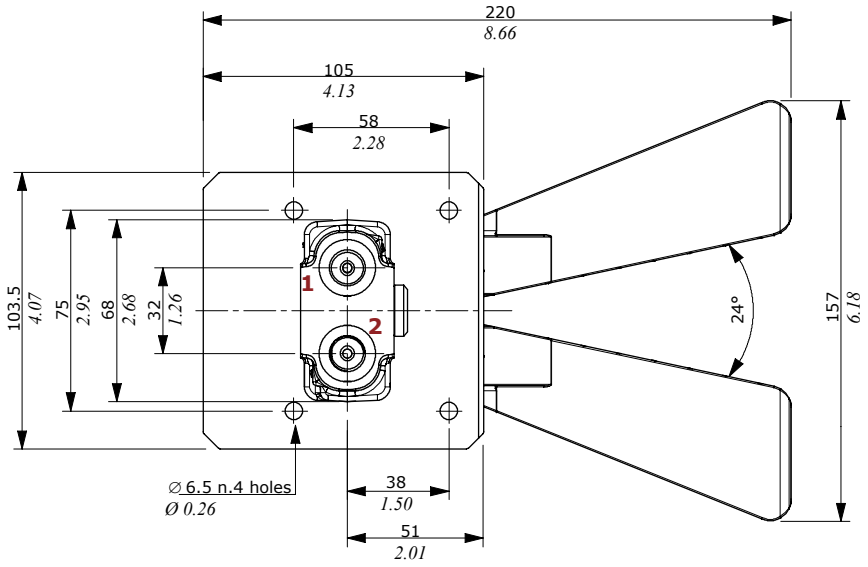
* : pedal operation angle



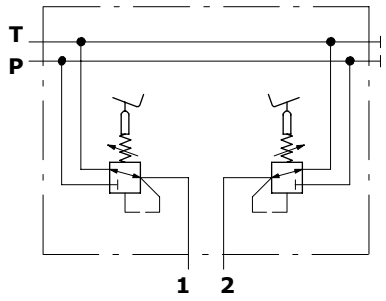
Dimensions and hydraulic circuit

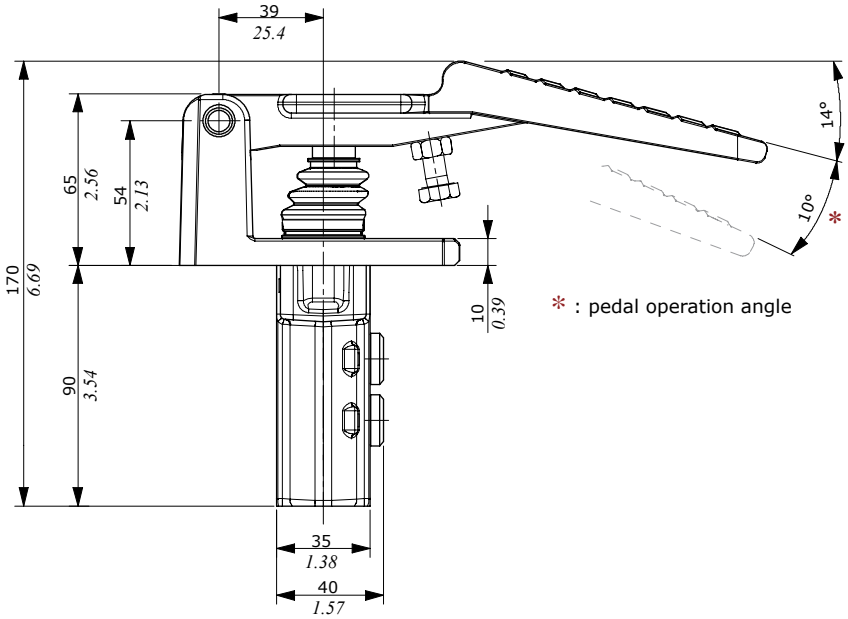
SVM520 type

Configuration with side P and T ports.

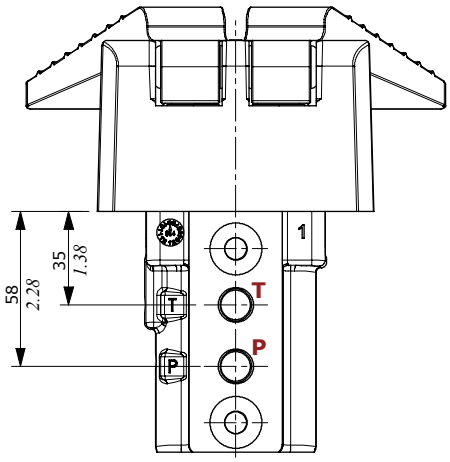


Hydraulic circuit





* : pedal operation angle

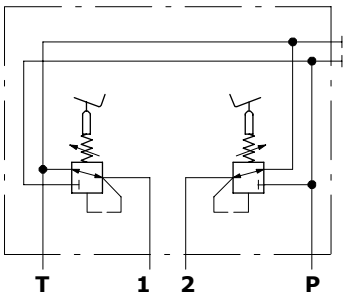


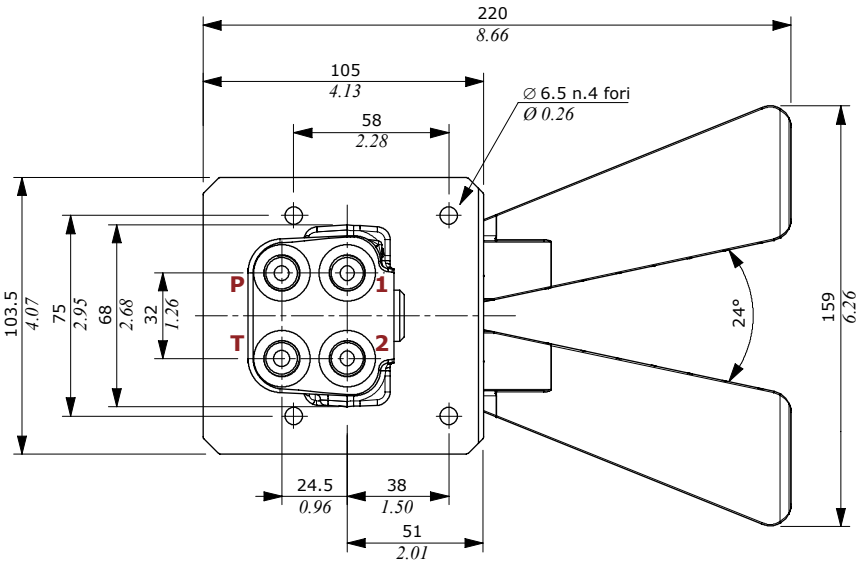
Dimensions and hydraulic circuit

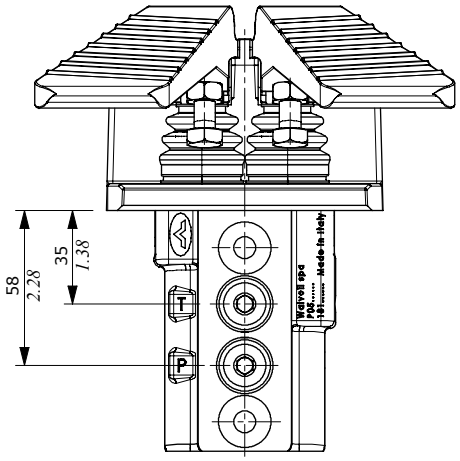
SVM521 type

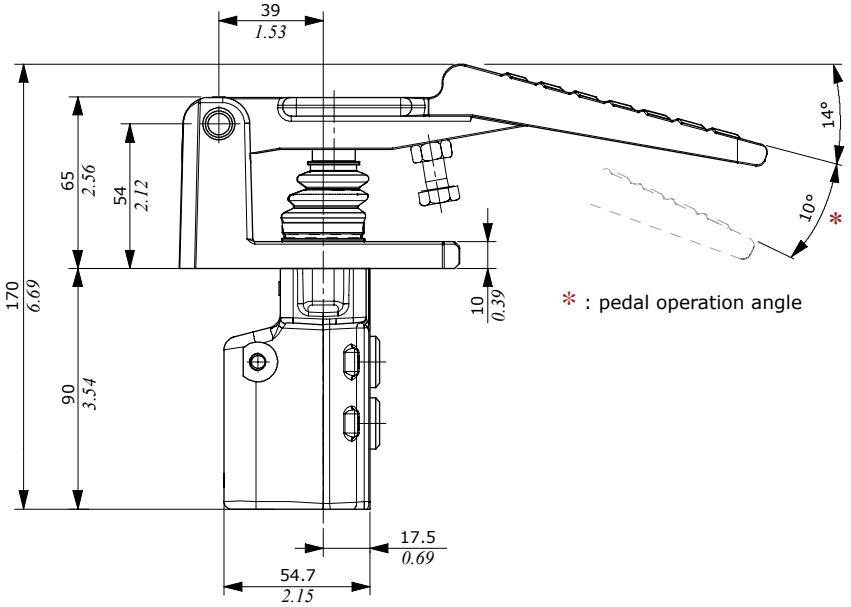
Configuration with bottom P and T ports.

Hydraulic circuit









* : pedal operation angle

Ordering codes

SVM510-B / 0 0 001 A

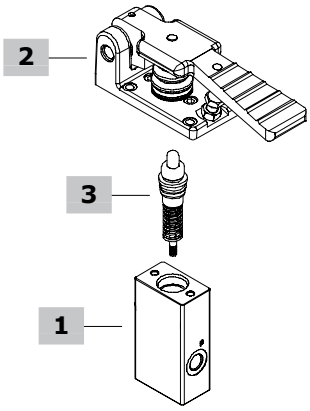
1 — 2

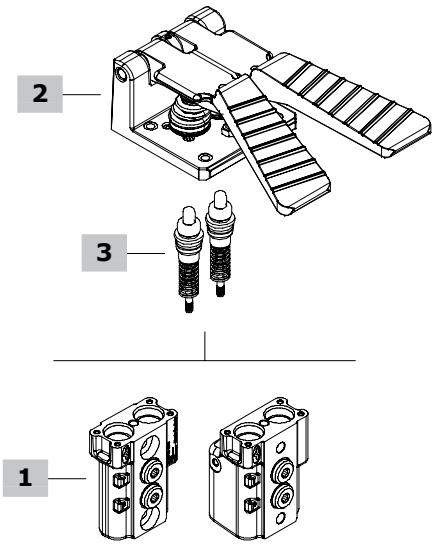
3.1 3.2 3.3 3.4 — 3

SVM520-B / 00001A x 2

1 — 2

3





1 Body kit *

TYPE	CODE	DESCRIPTION
SVM510-B	3CO3710300	Single pedal configuration
SVM520-B	3CO3122300	Double pedal configuration with side P and T ports
SVM521-B	3CO3122310	Double pedal configuration with bottom P and T ports

2 Operating pedal

TYPE	CODE	DESCRIPTION
SVM510	5CIN5003	Single pedal operating kit
SVM520-521	5CIN5002	Double pedal operating kit

3 Pressure control curves

For configuration and list available see from page 82

3.1 Curve type

TYPE	DESCRIPTION
0	Standard

3.2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

3.3 Curve identification

Progressive number,

3.4 Return springs

TYPE	DESCRIPTION
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 138 to 276 N - *from 31 to 62.04 lbf*

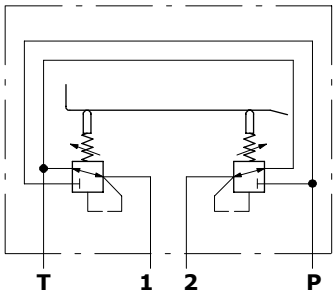
NOTE (*) – Codes are referred to **BSP** thread.

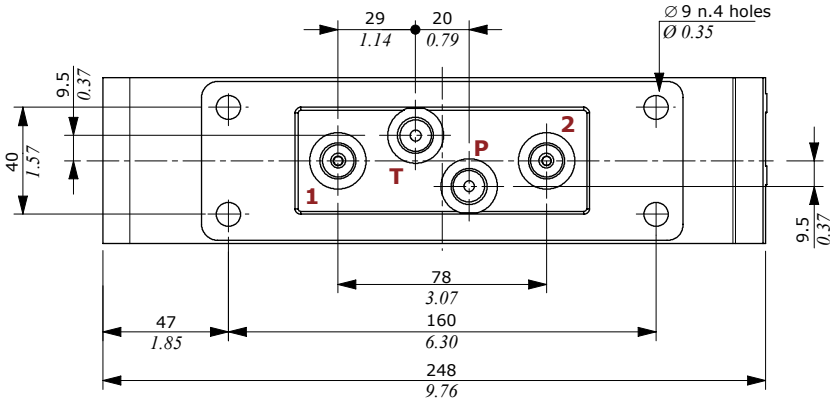
Dimensions and hydraulic circuit

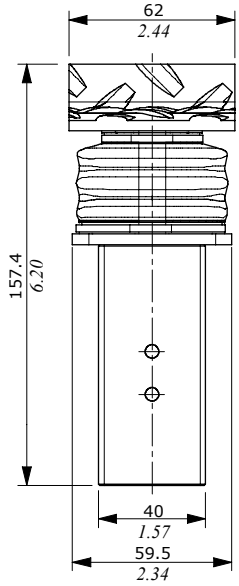
SVM500 type

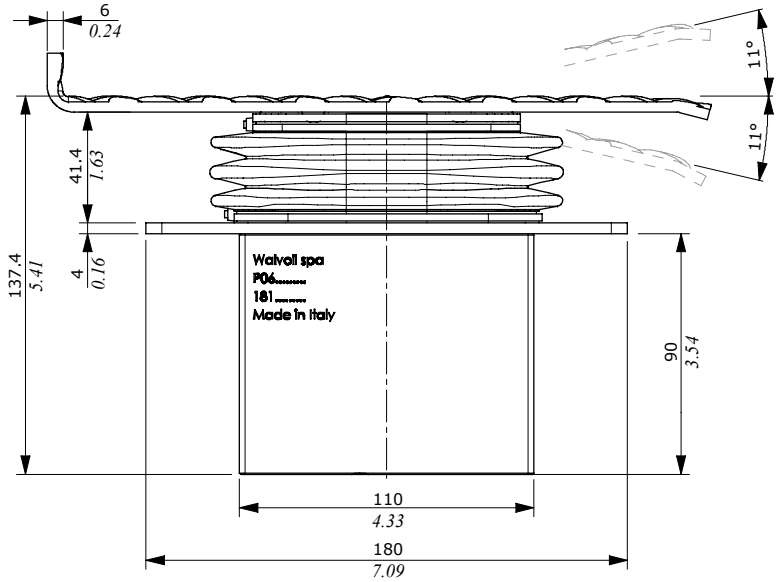
Configuration with lower ports.

Hydraulic circuit







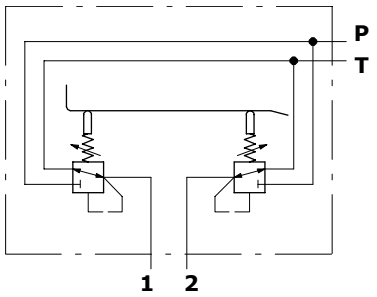


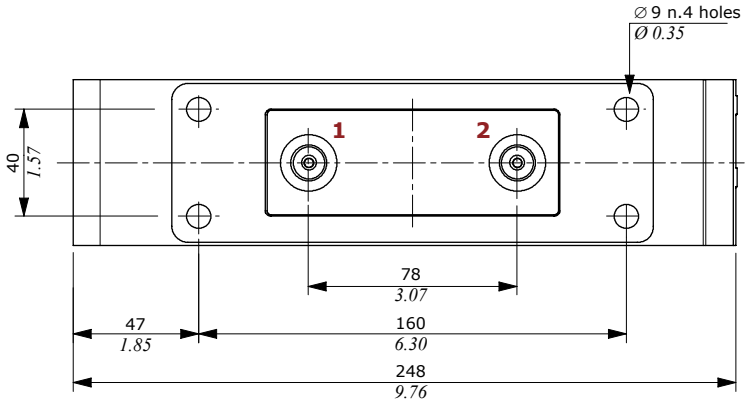
Dimensions and hydraulic circuit

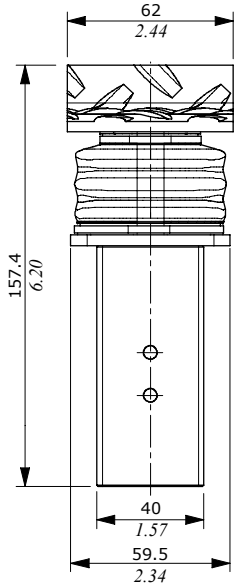
SVM502 type

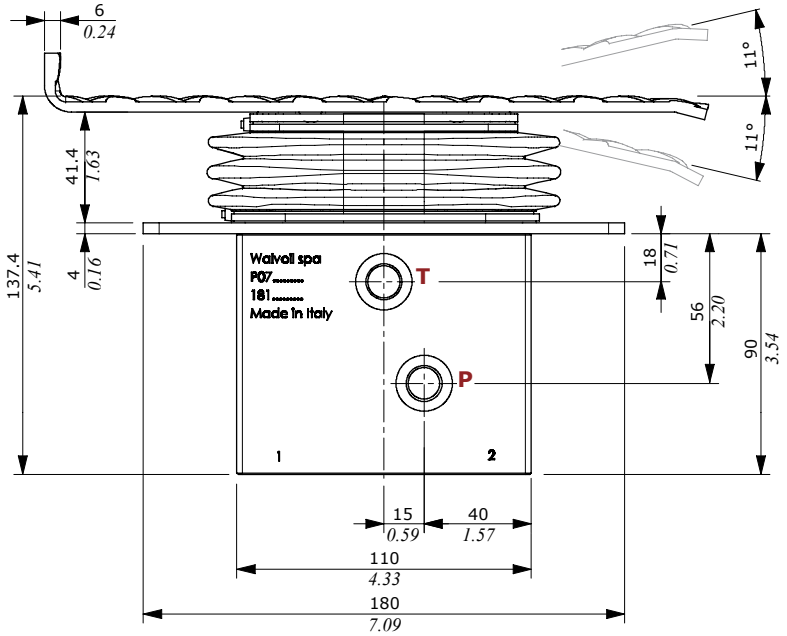
Configuration with side P and T ports, lower 1 and 2 ports.

Hydraulic circuit





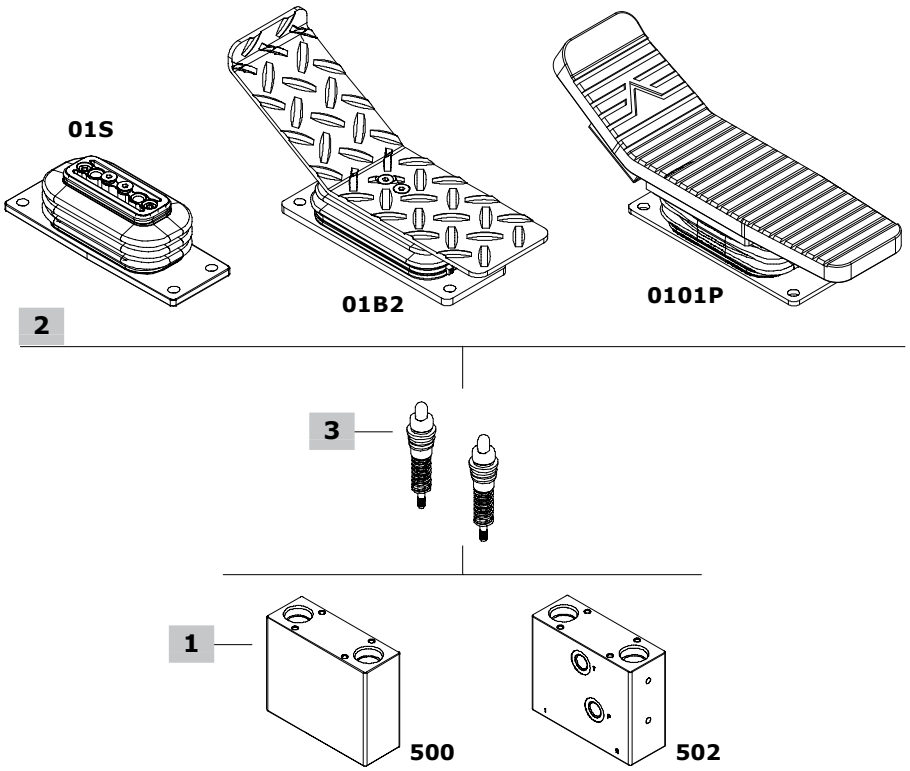




Ordering codes

SVM500-B / 01 F - 0 0 001 A x 2

1 — 2 — 3 (3.1 3.2 3.3 3.4)



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM500-B	3CO3510300	Configuration with lower ports
SVM502-B	3CO3510320	Configuration with side P and T ports, lower 1 and 2 ports

2 Control options

TYPE	CODE	DESCRIPTION
01S	5CIN5001S	With spring return in neutral position and rubber bellow, without pedal
01F	5CIN5001F	As 01S flat pedal
01B1	5CIN5001B1	As 01S 154° bent pedal
01B2	5CIN5001B2	As 01S 150° bent pedal
0101P	5CIN50001P00	As type 01S with 150° bent pedal and anti-slip rubber coating
0102P	5CIN50002P00	As type 01S with 150° bent and 30° tilted pedal, short type; anti-slip rubber coating
0103P	5CIN50003P00	s type 01S with 150° bent and 30° tilted pedal, long type; anti-slip rubber coating

3 Pressure control curves

For configuration and list available see from page 82

3.1 Curve type

TYPE	DESCRIPTION
0	Standard

3.2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

3.3 Curve identification

Progressive number

3.4 Return springs

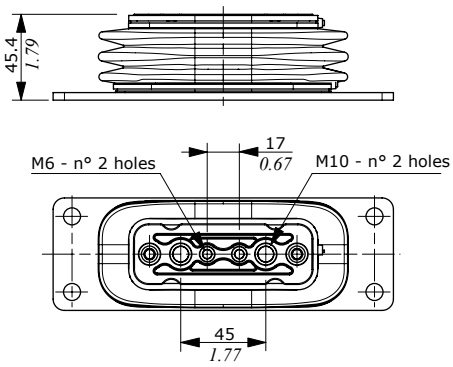
TYPE	DESCRIPTION
A	Operation range from 23 to 35.2 N - *from 5.17 to 7.91 lbf*
B	Operation range from 23 to 68.1 N - *from 5.17 to 15.31 lbf*
C	Operation range from 89 to 176 N - *from 20 to 39.56 lbf*
D	Operation range from 110 to 220 N - *from 24.73 to 49.46 lbf*
E	Operation range from 138 to 276 N - *from 31 to 62.04 lbf*

NOTE (*) – Codes are referred to **BSP** thread.

Control options

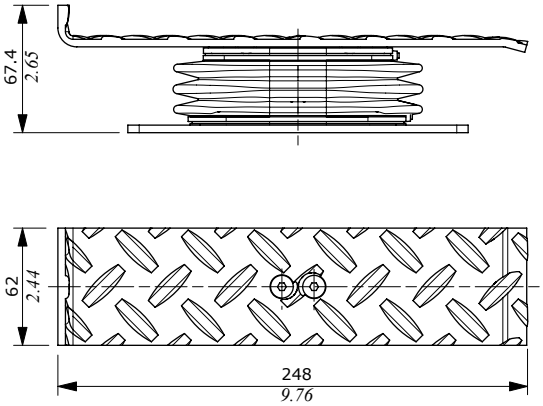
01S type

With spring return in neutral position, without pedal.



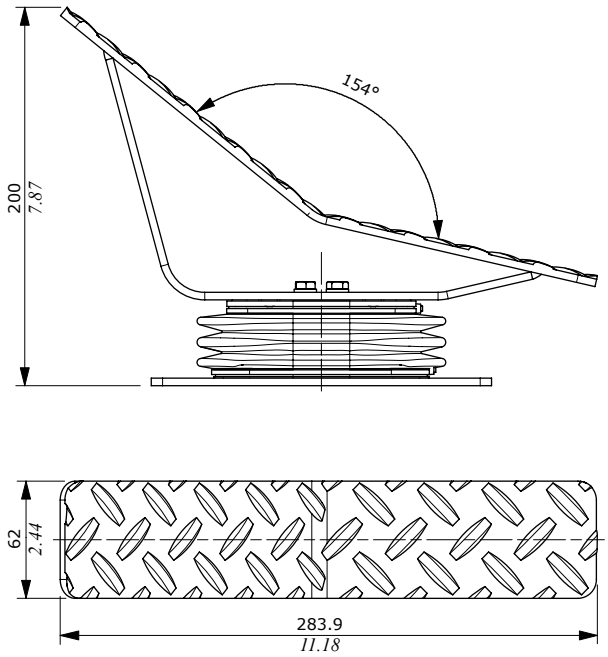
01F type

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



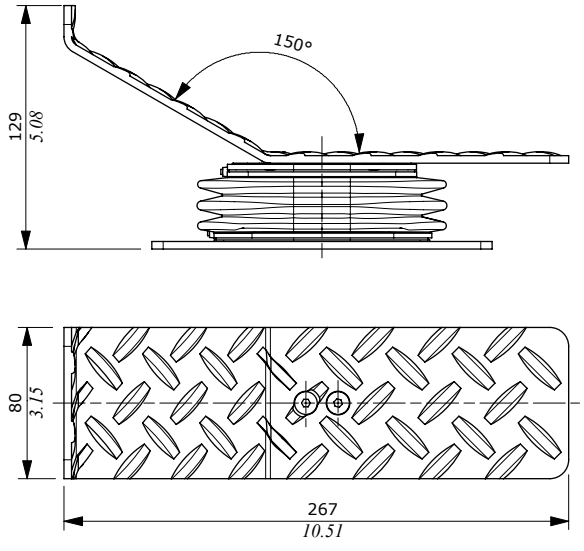
01B1 type

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



01B2 type

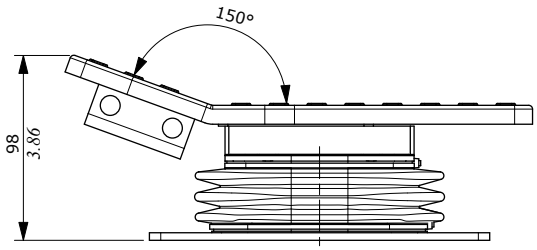
With spring return in neutral position.
Sloped pedal with corrugated sheet, white galvanized.

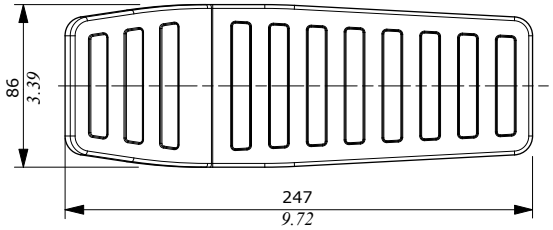


Control options

0101P type

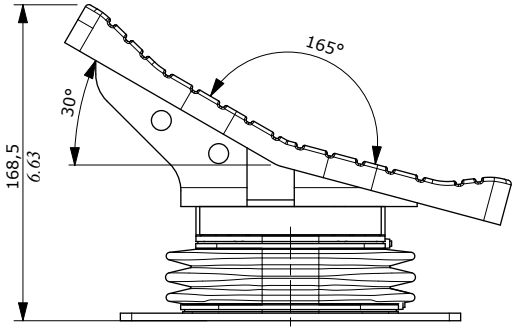
With spring return in neutral position.
Bent pedal with anti-slip rubber coating.

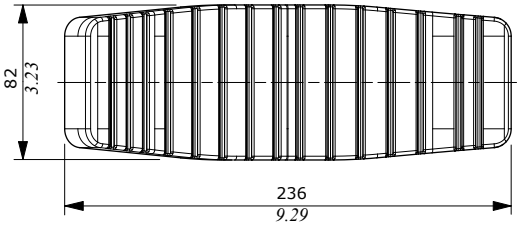




0102P type

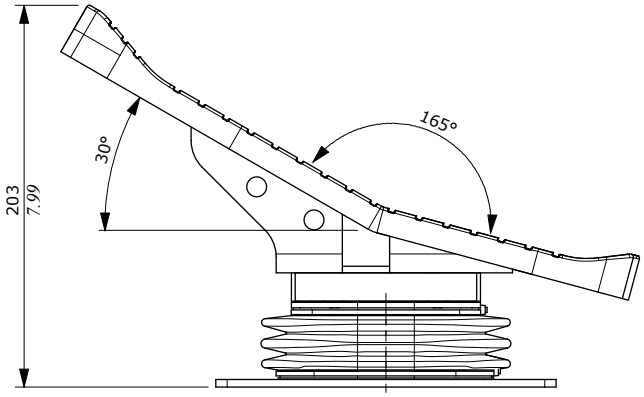
With spring return in neutral position.
Bent and tilted pedal with anti-slip rubber coating, short model.

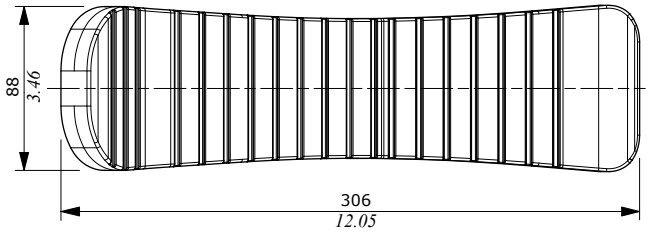




0103P type

With spring return in neutral position.
Bent and tilted pedal with anti-slip rubber coating, long model.



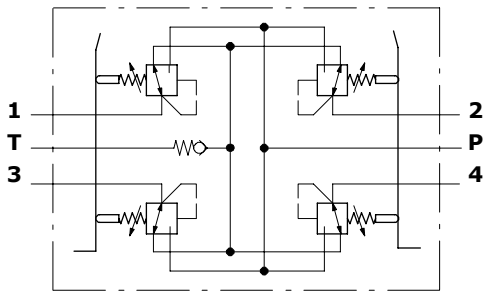


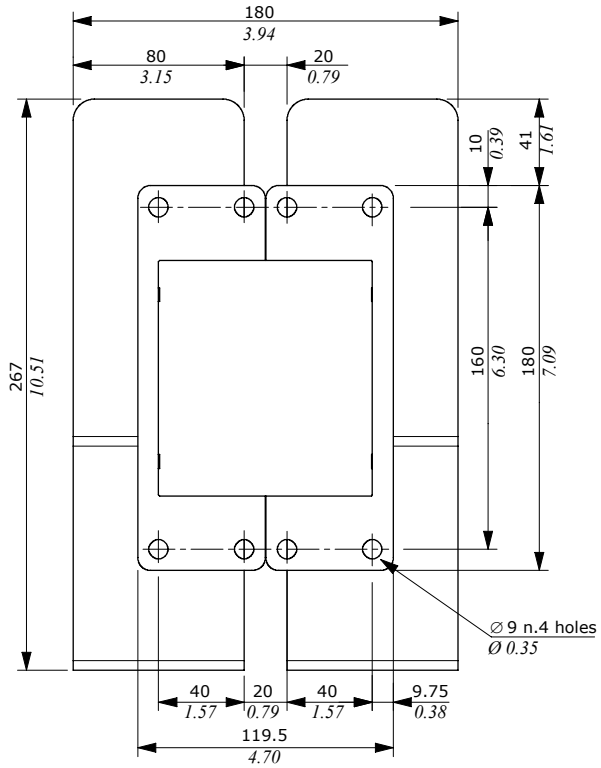
Dimensions and hydraulic circuit

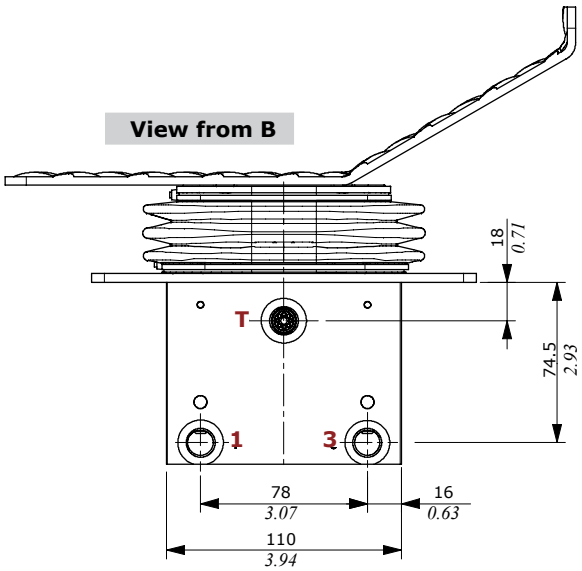
SVM540 type

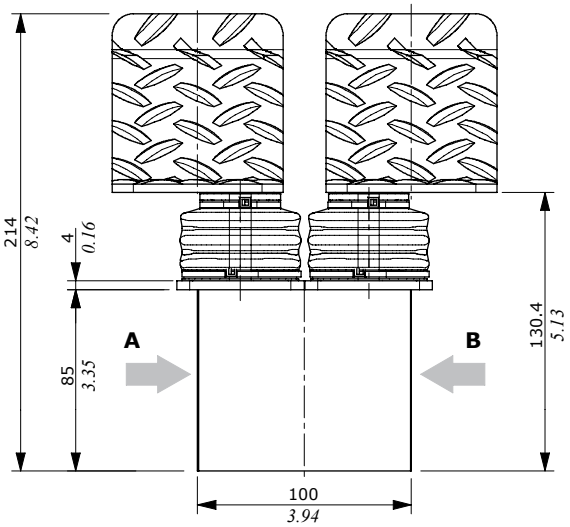
Double pedal configuration provided of damping system for swing reduction.

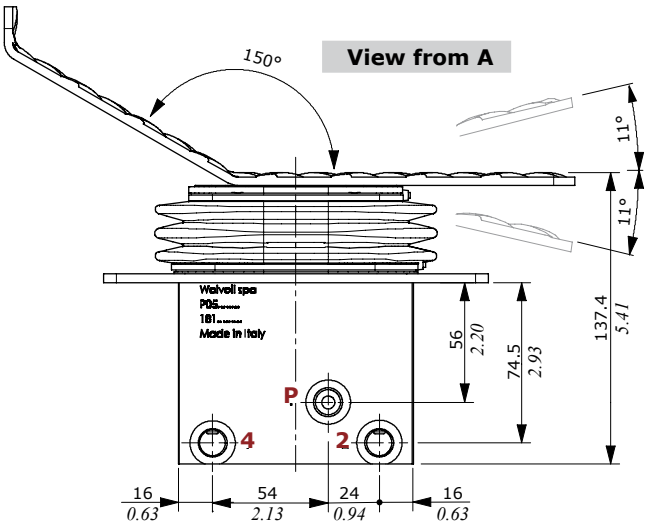
Hydraulic circuit







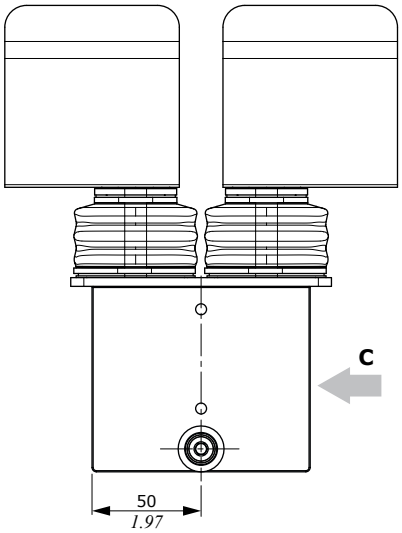


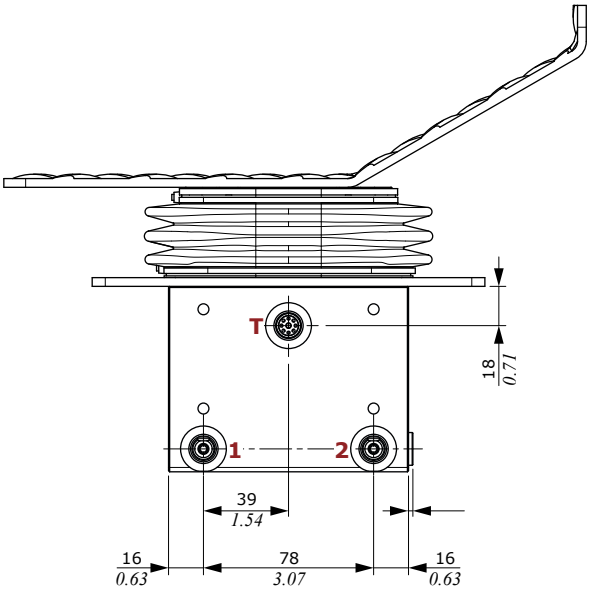


Dimensions and hydraulic circuit

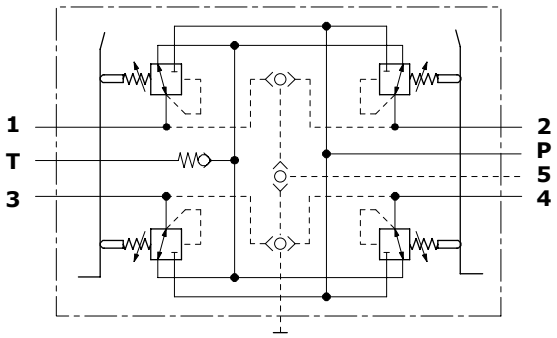
SVM546 version

Double pedal configuration provided of damping system for swing reduction, with shuttle valves and auxiliary port.
Dimensions are the same as SVM540 version.

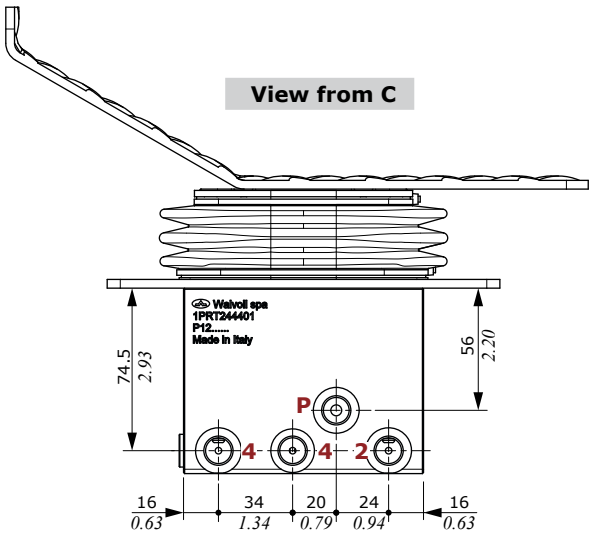




Hydraulic circuit



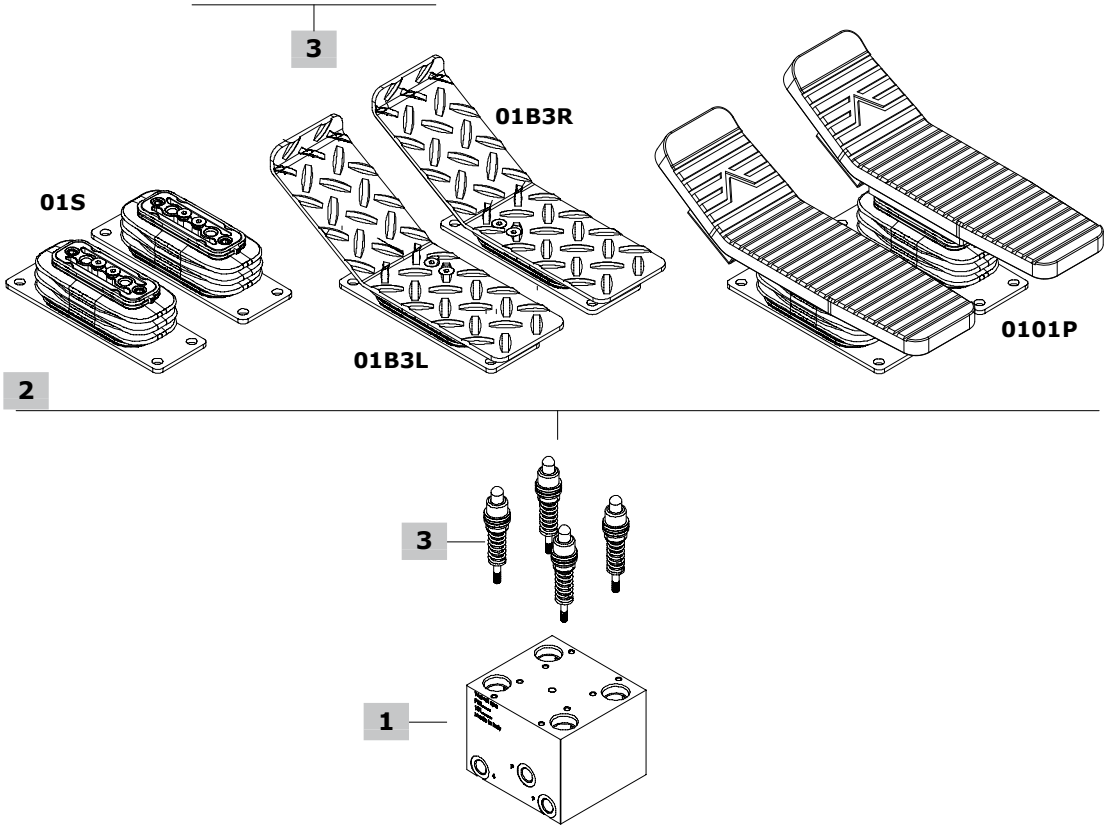
View from C



Ordering codes

SVM540-B / 01 B3L - D 0 006N C X 2 / 01 B3R - D0006NC X 2 - VR

1 — 2 — 3.1 3.2 3.3 3.4 — 2 — 3 — check valve (always present)



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM540-B	5CO3540300	Pilot control valve body with check valve
SVM546-B	5CO3546300A	Pilot control valve body with check valve, shuttle valves and auxiliary port

2 Control options

TYPE	CODE	DESCRIPTION
01S	5CIN5001S	With spring return in neutral position and rubber bellow, without pedal
01B3L	5CIN5001B3L	As type 01S with 150° bent left pedal
01B3R	5CIN5001B3R	As previous one, right pedal
0101P	5CIN50001P01	As type 01S with 150° bent pedal and anti-slip rubber coating
0102P	5CIN50002P01	As type 01S with 150° bent and 30° tilted pedal, short type; anti-slip rubber coating
0103P	5CIN50003P01	As type 01S with 150° bent and 30° tilted pedal, long type; anti-slip rubber coating

3 Pressure control curves

For configuration and list available see from page 82

3.1 Curve type

TYPE	DESCRIPTION
D	With Damping

3.2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

3.3 Curve identification

Progressive number

3.4 Return springs

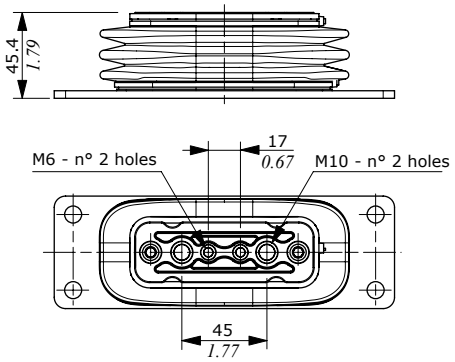
TYPE	DESCRIPTION
A	Operation range from 23 to 35.2 N - *from 5.17 to 7.91 lbf*
B	Operation range from 23 to 68.1 N - *from 5.17 to 15.31 lbf*
C	Operation range from 89 to 176 N - *from 20 to 39.56 lbf*
D	Operation range from 110 to 220 N - *from 24.73 to 49.46 lbf*
E	Operation range from 138 to 276 N - *from 31 to 62.04 lbf*

NOTE (*) – Codes are referred to **BSP** thread.

Control options

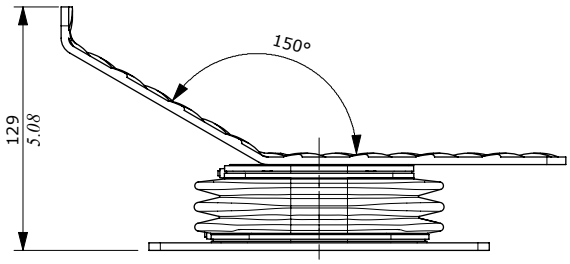
01S type

With spring return in neutral position without pedal.

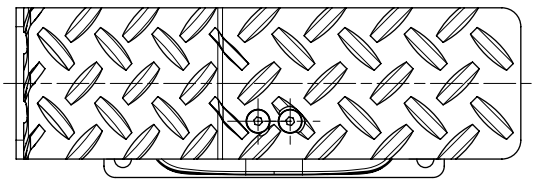


01B3 type

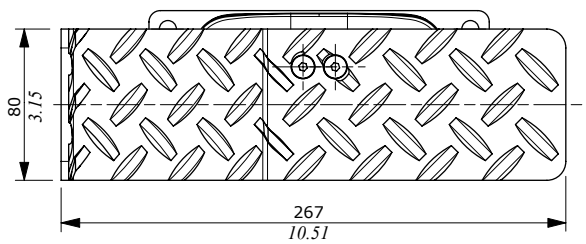
With spring return in neutral position.
Flat and shaped pedal with corrugated sheet, white galvanized.



Right pedal 01B3R type

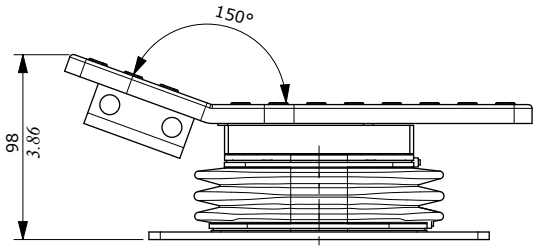


Left pedal 01B3L type

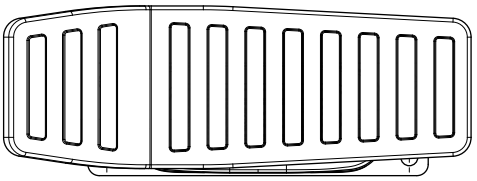


0101P type

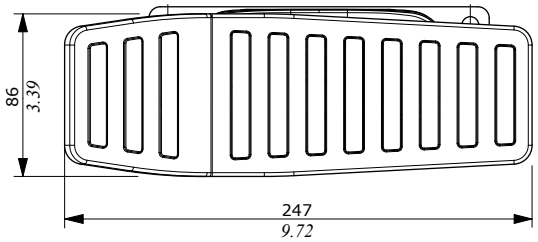
With spring return in neutral position.
Bent pedal with anti-slip rubber coating.



0101P assembly on the right



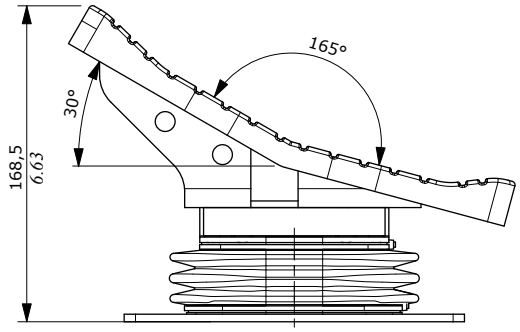
0101P assembly on the left



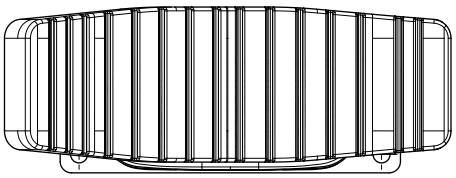
Control options

0102P type

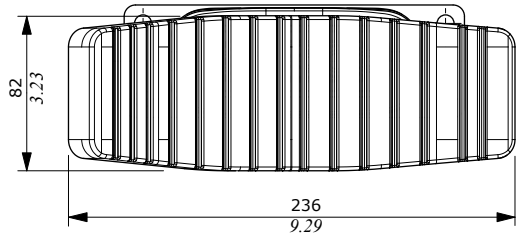
With spring return in neutral position.
Bent and tilted pedal with anti-slip rubber coating, short model



0102P assembly on the right

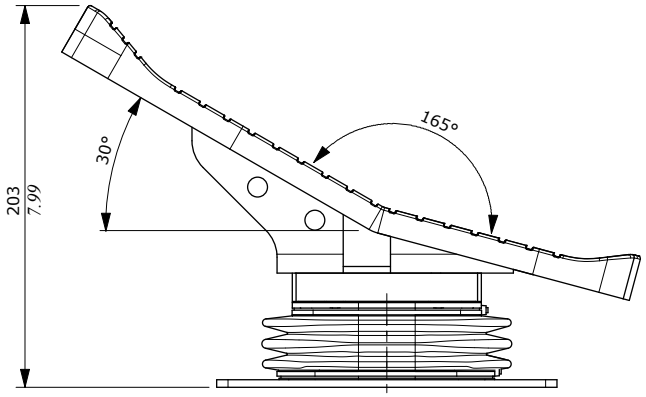


0102P assembly on the left

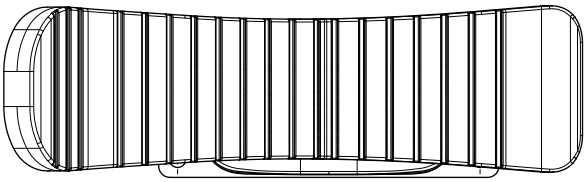


0103P type

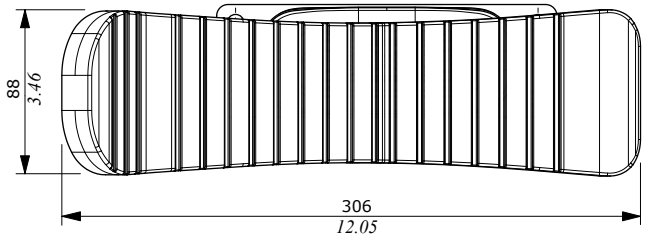
With spring return in neutral position.
Bent and tilted pedal with anti-slip rubber coating, long model



0103P assembly on the right



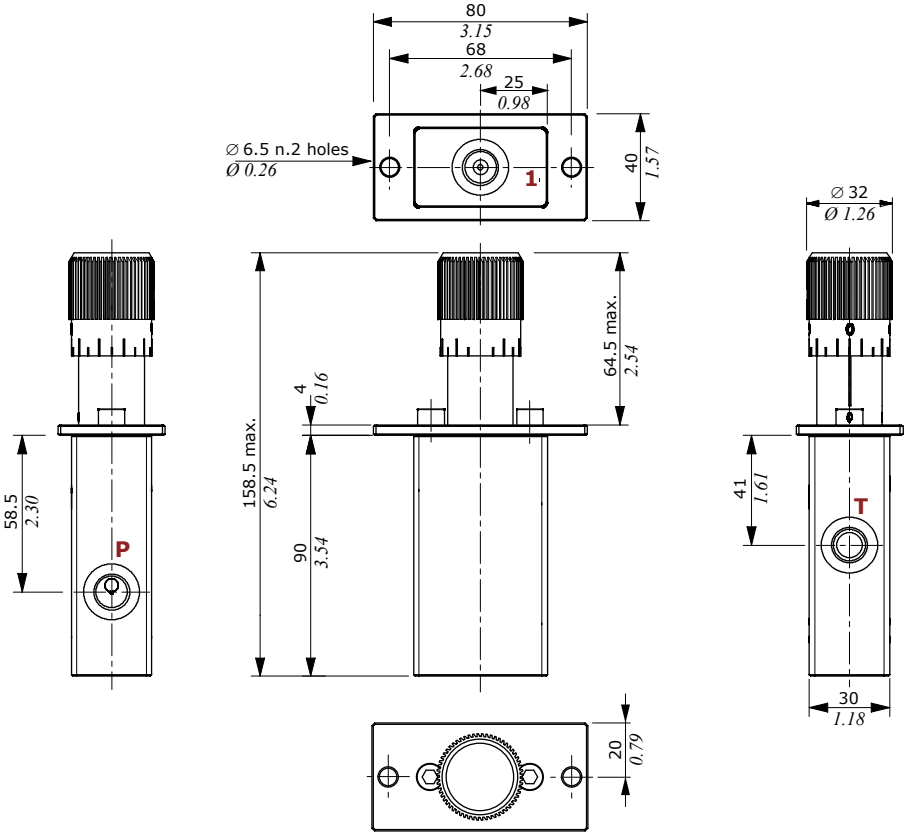
0103P assembly on the left



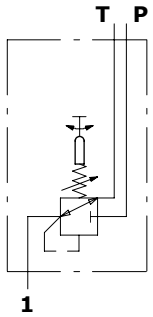
Dimension and hydraulic circuit

SVM702 type

Configuration with handweel operating.

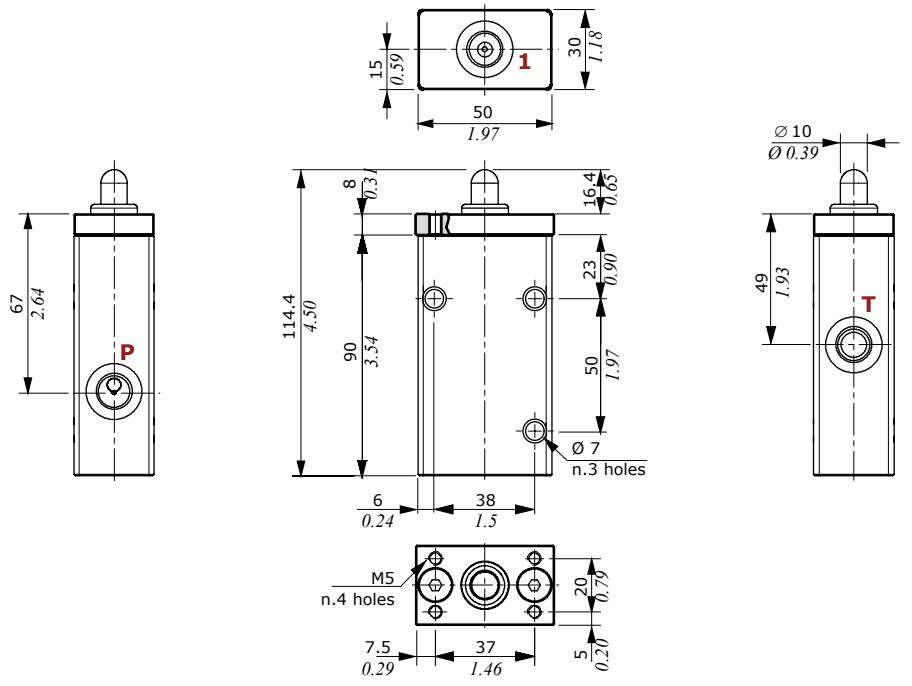


Hydraulic circuit

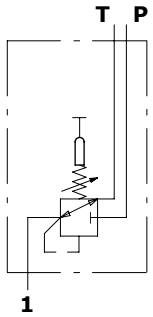


SVM710 type

Configuration with pusher operating.



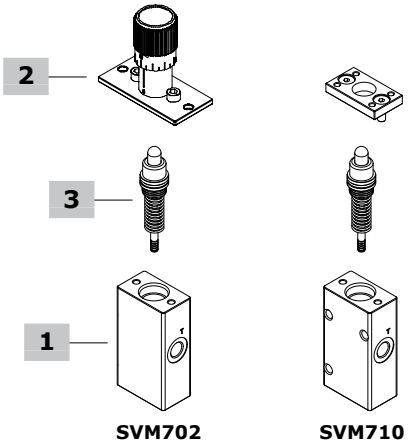
Hydraulic circuit



Ordering codes

SVM702-B / 0 0 001 A

1 — 2 — 3.1 — 3.2 — 3.3 — 3.4 — 3



1 Body kit *

TYPE	CODE	DESCRIPTION
SVM702	3CO3710300	Body kit
SVM710	3CO3710310	Body kit

2 Control option

TYPE	CODE	DESCRIPTION
SVM702	5CIN702000	With aluminum handweel operating
SVM710	5CIN7011	Pusher operating and protection flange

3 Pressure control curves

For configuration and list available see from page 82

3.1 Curve type

TYPE	DESCRIPTION
0	Standard

3.2 Typology of curves

TYPE	DESCRIPTION
0	With step
1	Without step

3.3 Curve identification

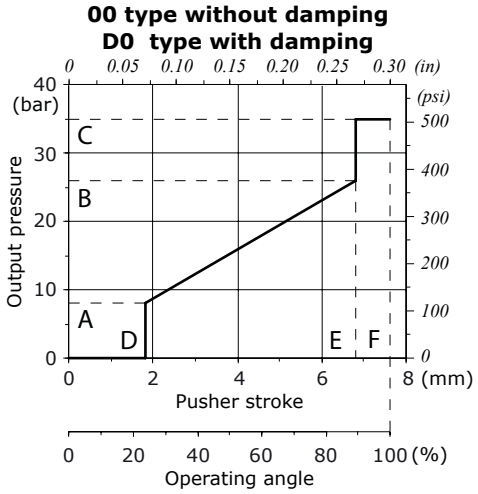
Progressive number

3.4 Return springs

TYPE	DESCRIPTION
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 138 to 276 N - *from 31 to 62.04 lbf*

NOTE (*) – Codes are referred to **BSP** thread.

Control curves with step



Curve description		Pressure						Stroke						
		A		B		C		D		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
Without damping														
00	**019**	0.5 (+1 -0.5)	*7.25 (+14.5, -7.25)*	11.4 (±1)	*165.3 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400019A
00	**022**	1 (±0.5)	*14.5 (±7.25)*	8 (±1)	*116.3 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40022A
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	**065**	2 (±0.5)	*29 (±7.25)*	20.5 (±1.5)	*297.25 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40065A
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 (±7.25)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400043A
00	**010**	3.25 (±0.5)	*74.13 (±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 5CUR40010M
00	**032**	3.4 (±0.5)	*49.3 (±7.25)*	29.4 (±1)	*426.3 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40032A 5CUR40032B 5CUR40032C
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
00	**073**	4 (±0.5)	*58(±7.25)*	18 (±1)	*261(±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400073A 5CR400073M
00	**020**	4.3 (±0.5)	*63.3 (±7.25)*	15.2 (±1)	*220.4 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40020A 5CUR40020B 5CUR40020C
00	**004**	4.9 (±0.5)	*72.5 (± 7.25)*	18.9 (±1)	*274 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40004A 5CUR40004C 5CUR40004M
00	**017**	5 (±0.5)	*72.5 (± 7.25)*	12 (± 1)	*174 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40017A 5CUR40017C
00	**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*	5CUR40028A 5CUR40028B 5CUR40028C 5CUR40028M
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	**075**	5 (±0.5)	*72.5 (± 7.25)*	15 (±1.5)	*217.5 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40075A 5CUR40075B 5CUR40075C 5CUR40075E 5CUR40075M
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	**115**	5.5		28.5				0.85	*0.03*	5.6	*0.22*	6.1	*0.24*	5CUR40115M
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

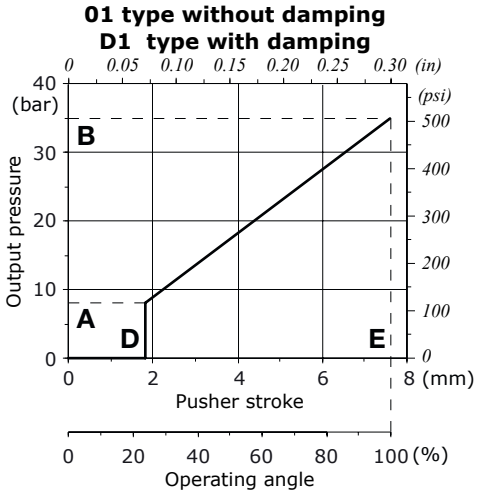
Control curves with step

Curve description		Pressure						Stroke						
		A		B		C		D		E		F		
Type	Nr	bar (±toll)	*psi (±toll)*	bar (±toll)	*psi (±toll)*	bar	*psi*	mm	*in*	mm	*in*	mm	*in*	CODE [1]
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	**033**	5.8 (±0.5)	*84.1 (± 7.25)*	19 (±1)	*275.5 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40033A 5CUR40033B 5CUR40033C 5CUR40033M
00	**070**	5.8 (±1)	*84.1 (±14.5)*	22.4 (±2)	*324.8 (±29)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40070A 5CUR40070B 5CUR40070D 5CUR40070M
00	**087**	5.8 (±0.5)	*84.1 (±7.25)*	17 (±1.5)	*246.5 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40087A
00	**021**	6 (±0.5)	*87 (±7.25)*	16.3 (±1)	*236.4 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400021A 5CR400021M
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	**054**	6.2 (±1)	*89.9 (±14.5)*	24.5 (±2)	*355.25 (±29)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40054A
00	**007**	6.5 (±1)	*94.25 (±14.5)*	36 (±2)	*522 (±29)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400007A
00	**026**	6.5 (±0.5)	*94.25 (±7.25)*	14 (±1)	*203 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40026A 5CUR40026B 5CUR40026C
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	**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*	5CUR40088A 5CUR40088B 5CUR40088C 5CUR40088M
00	**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*	5CUR40089A 5CUR40089C 5CUR40089D 5CUR40089M
00	**112**	8 (±1.5)	*116 (±21.7)*	54 (±3.5)	*783 (±50.75)*	60	*870*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400112A
00	**122**	10 (±1)	*145 (±14.5)*	27 (±2)	*391.5 (±29)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400122C
00	**124**	10 (±1)	*145 (±14.5)*	25 (±1.5)	*362.5 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400124A
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
00	**012**	14 (±1)	*203 (±14.5)*	28.5 (±1.5)	*413.25 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR400012A
00	**038**	22 (±2)	*319 (±29)*	37 (±3)	*536.5 (±43.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR40038C 5CUR40038M
With damping														
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
D0	**004**	4.9 (±0.5)	*72.5 (± 7.25)*	18.9 (±1)	*274 (±14.5)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CR4D0004C
D0	**075**	5 (±0.5)	*72.5 (± 7.25)*	15 (±1.5)	*217.5 (±21.7)*	35	*507.5*	0.85	*0.03*	7.25	*0.28*	7.6	*0.30*	5CUR4D075C
D0	**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*	5CR7D0028NM
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
D0	**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*	5CUR4D088A 5CUR4D088C
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

[1] Codes are referred to the curve with the specific return spring
For different curves please contact our Sales Department

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Control curves without 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]
Without pre-feeling										
01	**148**	0 (+0.5)	*0 (±7.25)*	13 (±1)	*188.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40148B
01	**151**	0 (+1)	*0 (+14.5)*	41 (±2)	*594.5 (±29)*	1	*0.04*	5.4	*0.21*	5CR401151C
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	**131**	1 (±1)	*14.5 (±14.5)*	15 (±1)	*217.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40131A 5CUR40131C
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	**163**	1.4 (±0.5)	*20.3 (±7.25)*	11.5 (±1)	*166.8 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40163A 5CUR40163M
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	**127**	3.4 (±0.5)	*49.3 (±7.25)*	12 (±1)	*174 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40127A 5CUR40127B
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	**114**	4 (±0.5)	*58 (±7.25)*	10 (±1)	*145 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40114A 5CUR40114B 5CUR40114M
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	**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	**111**	5.5 (±0.5)	*88 (±7.25)*	25.5 (±1)	*370 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40111A 5CUR40111B 5CUR40111C
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	**167**	6 (±0.5)	*87 (±7.25)*	18 (±1)	*261 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40167M
01	**103**	6 (±1)	*87 (±14.5)*	30 (±2.5)	*435 (±36.2)*	0.85	*0.03*	7.6	*0.30*	5CUR40103A 5CUR40103M
01	**106**	6 (±1)	*87 (±14.5)*	40 (±2)	*580 (±29)*	0.85	*0.03*	7.6	*0.30*	5CUR40106A 5CUR40106B 5CUR40106C

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Control curves without 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	**095**	6.5 (±0.5)	*94.25 (±7.25)*	17.8 (±1)	*258.1 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CR401095A
01	**125**	8 (±0.5)	*116 (±7.25)*	22.5 (±1)	*326.25 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CUR40125M
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	**090**	12 (±1)	*174 (±14.5)*	18 (±1)	*261 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CR401090A
01	**195**	14 (±1)	*203 (±14.5)*	29.5 (±1.5)	*427.75 (±21.7)*	0.85	*0.03*	7.6	*0.30*	5CR401195A
01	**144**	35 (±2)	*507.5 (±29)*	70 (±3.5)	*1015 (±50.7)*	0.85	*0.03*	7.6	*0.30*	5CUR40144C
With damping										
D1	**155**	4.8 (±1)	*69.6 (±14.5)*	21.5 (±1.5)	*311.75 (±21.7)*	0.85	*0.03*	6.2	*0.24*	5CUR4D020C
D1	**103**	6 (±1)	*87 (±14.5)*	30 (±2.5)	*435 (±36.25)*	0.85	*0.03*	7.6	*0.30*	5CR4D1103NC
D1	**091**	7 (±1)	*101.5 (±14.5)*	27 (±1)	*391.5 (±14.5)*	0.85	*0.03*	7.6	*0.30*	5CR4D1091NC

[1] Codes are referred to the curve with the specific return spring
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