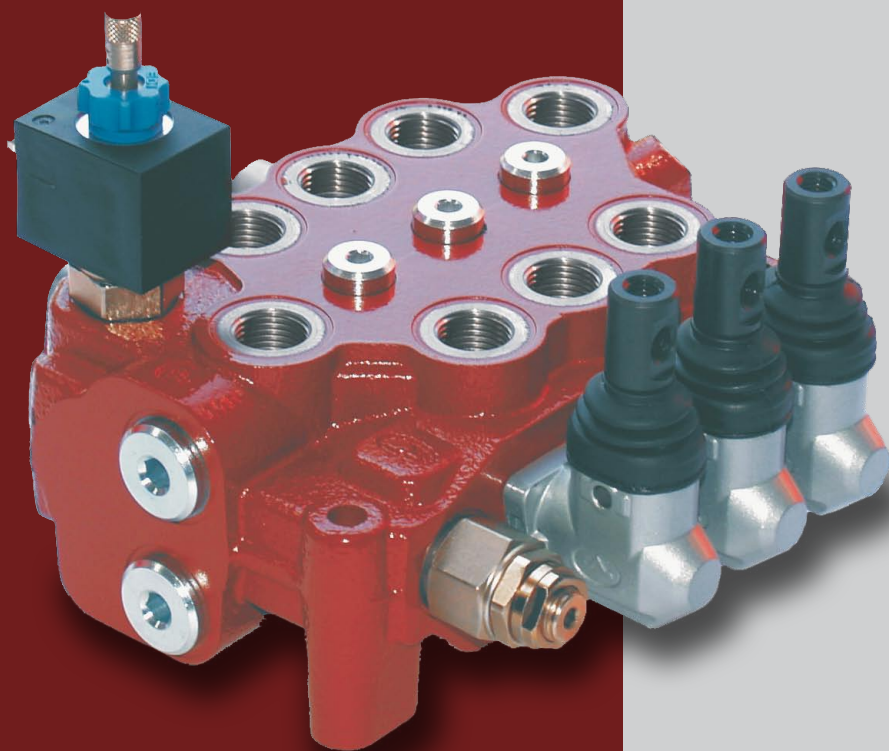


# SDM100

1 to 8 sections  
monoblock valve



## **Additional information**

This folder shows the product in the most standard configurations. Please contact Sales Dpt. for more detailed information or special request.

## **WARNING!**

All specifications of this folder 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.**

**Features**

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- Fitted with a main pressure relief valve and a load check valve on every working section.
- Available with parallel and series circuit, one section with series-parallel (tandem) circuit on request.
- Optional carry-over port.
- Anticavitation and antishock valves (with fixed or adjustable setting) available on every section.
- Optional flange mounted pilot check valves on every sections.
- Optional unloader solenoid valves.
- Wide range of controls: manual, pneumatic, electropneumatic, hydraulic, electrohydraulic, electric and remote with flexible cable.

## Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46mm<sup>2</sup>/s - 46 cSt viscosity at 40°C - 104°F temperature.

Nominal flow rating		70 l/min	18 US gpm
Operating pressure (max.)		315 bar	4600 psi
Back pressure (max.)	on outlet port <b>T</b>	10 bar	1450 psi
Internal leakage (max.) A(B)⇒T	Δp = 100 bar - 1450 psi fluid and valve at 40°C -104°F	5 cm <sup>3</sup> /min (max. 9 cm <sup>3</sup> /min)	0.31 in <sup>3</sup> /min (max. 0.55 in <sup>3</sup> /min)
Fluid		Mineral based oil	
Fluid temperature	with NBR (BUNA-N) seals	from -20°C to 80°C	from -4°F to 176°F
	with FPM (VITON) seals	from -20°C to 100°C	from -4°F to 212°F
Viscosity	operating range	from 15 to 75 mm <sup>2</sup> /s	from 15 to 75 cSt
	min.	12 mm <sup>2</sup> /s	12 cSt
	max.	400 mm <sup>2</sup> /s	400 cSt
Max contamination level		-/19/16 - ISO 4406	NAS 1638 - class 10
Ambient temperature for working conditions	with mechanical devices	from -40°C to 60°C	from -40°F to 140°F
	with pneumatic and hydraulic devices	from -30°C to 60°C	from -22°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

## Standard threads

REFERENCE STANDARD					
		BSP	UN-UNF	METRIC	NPTF
THREAD ACCORDING TO		ISO 228/1	ISO 263	ISO 262	ANSI B1.20.3
		BS 2779	ANSI B1.1 unified		
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926	6149	
	SAE		J1926	J2244	J476a
	DIN	3852-2 shape X or Y			

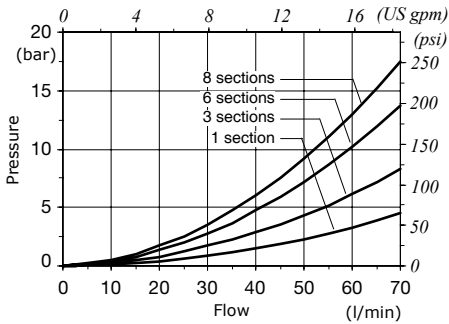
PORTS			
	BSP	UN-UNF	METRIC
Inlet <b>P</b> and carry-over <b>C</b>	G 1/2	7/8-14 (SAE10)	M22x1.5
Ports <b>A</b> and <b>B</b>	G 3/8	3/4-16 (SAE8)	M18x1.5
Outlet <b>T</b>	G 1/2	7/8-14 (SAE10)	M22x1.5
Hydraulic pilot	G 1/4	7/16-20 (SAE4)	G 1/4
Pneumatic pilot		NPTF 1/8-27	

NOTE- for different port size contact Sales Dpt

## Performance data

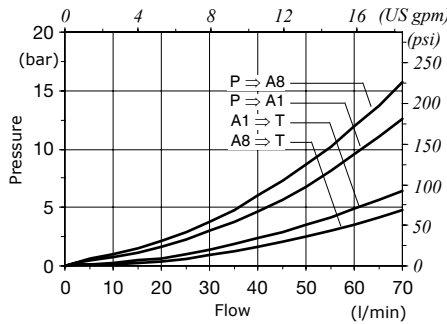
### General

**P ⇒ T pressure drop\***



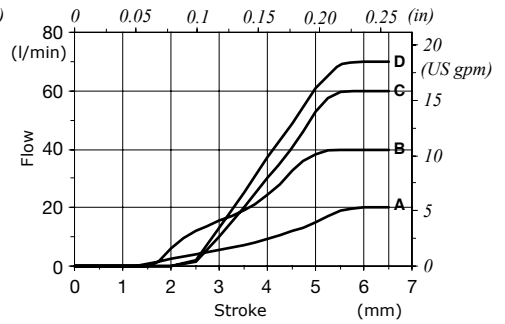
Note (\*): pressure drop curve with spool type 109 (for up to 60 l/min - 16 US gpm flow)

**P ⇒ A(B) e A(B) ⇒ T pressure drop\***



**Spool type 1 P ⇒ A(B) metering curve**

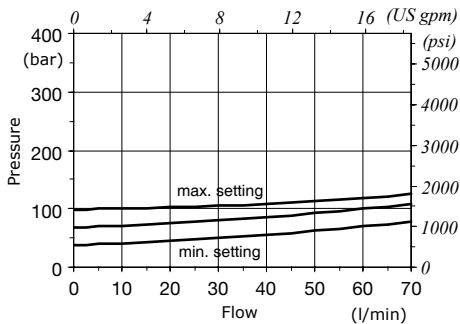
Q<sub>in</sub> = depending on spool - P = 60 bar / 870 psi



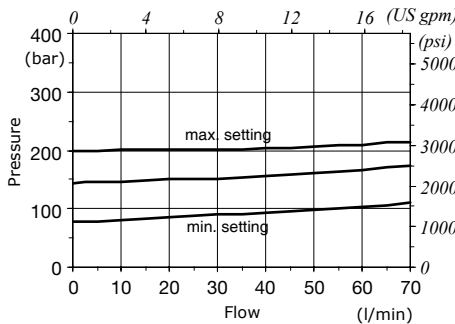
- A = spool type 102, up to 20 l/min - 5.3 US gpm
- B = spool type 101, up to 40 l/min - 10.5 US gpm
- C = spool type 109, up to 60 l/min - 16 US gpm
- D = spool type 127, up to 70 l/min - 18.5 US gpm

### Main pressure relief valve

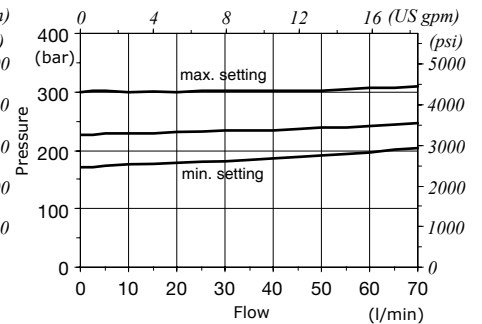
**TVG2 valve setting range (green band)**



**TVG3 valve setting range (blue band)**



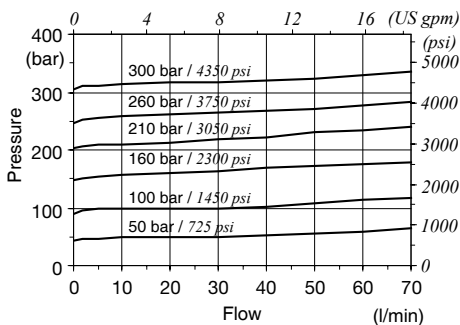
**TVG4 valve setting range (red band)**



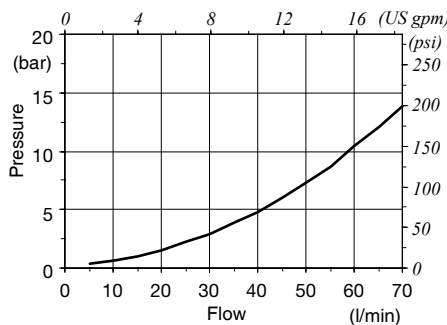
### Auxiliary valves

**Port valves type U**

Setting examples (10 l/min - 2.6 US gpm)

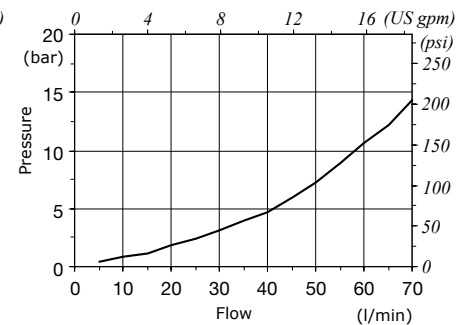


**Type U valves pressure drop (in anticavitation)**



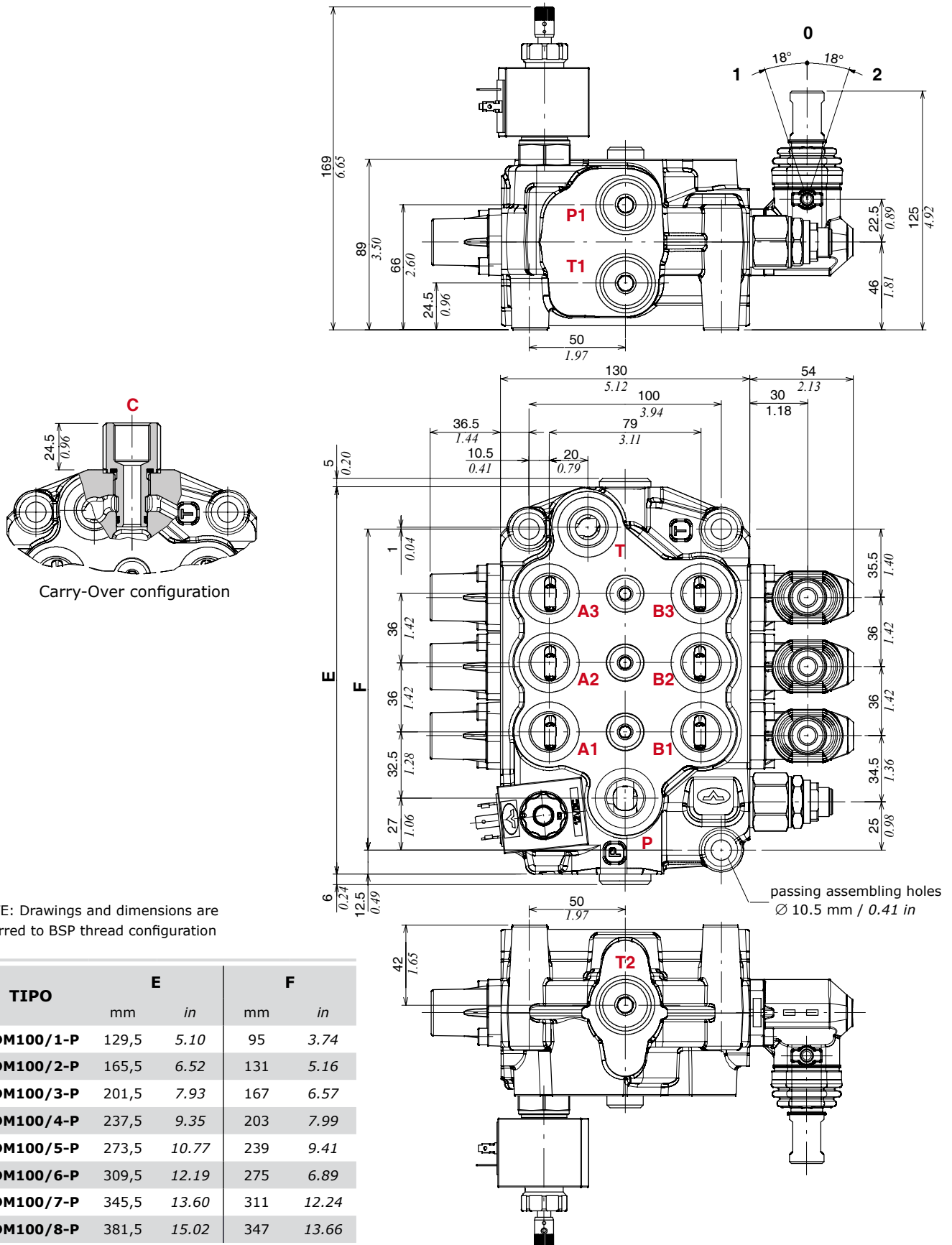
**Unloader valve pressure drop**

On SDM100/3 directional valve



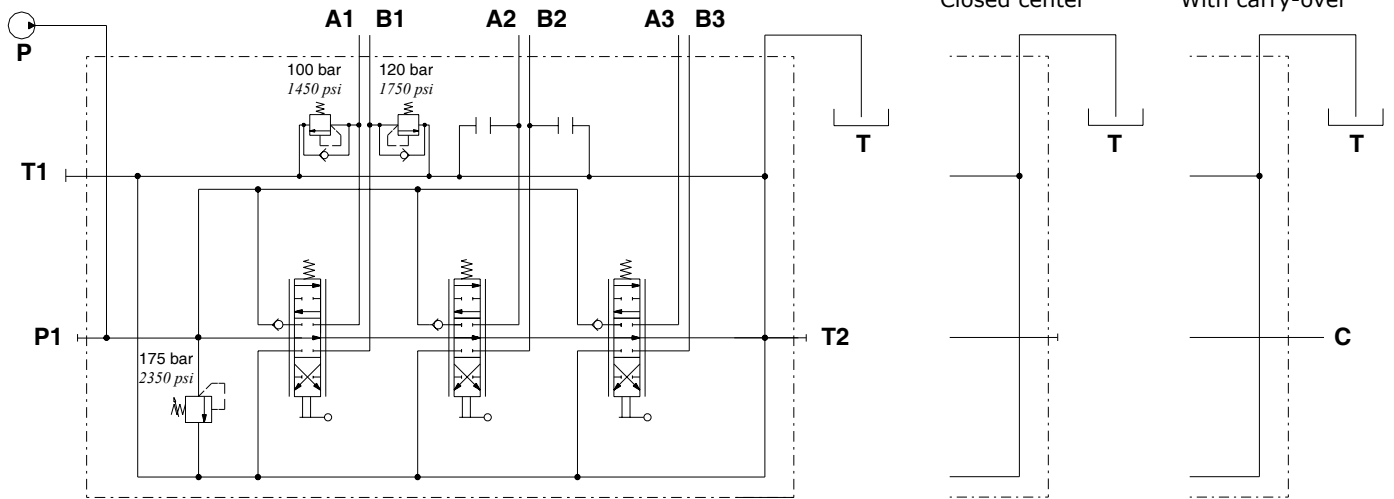
# SDM100

## Dimensional data

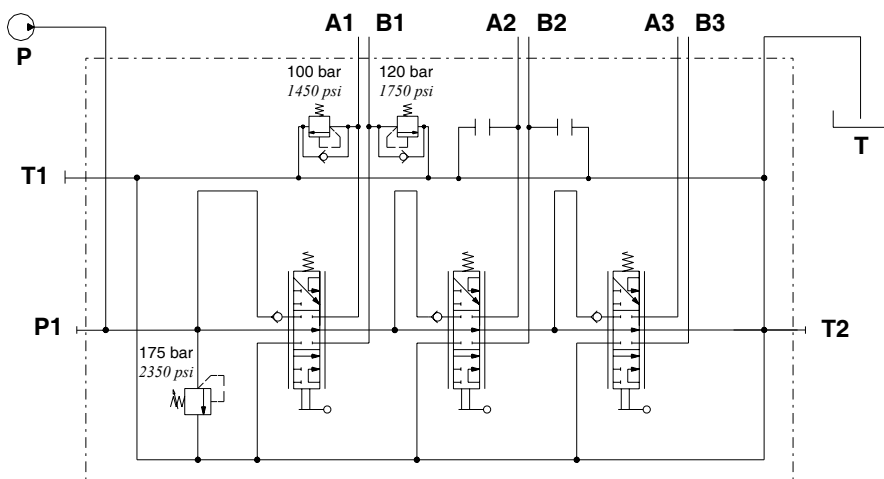


**Hydraulic circuit**

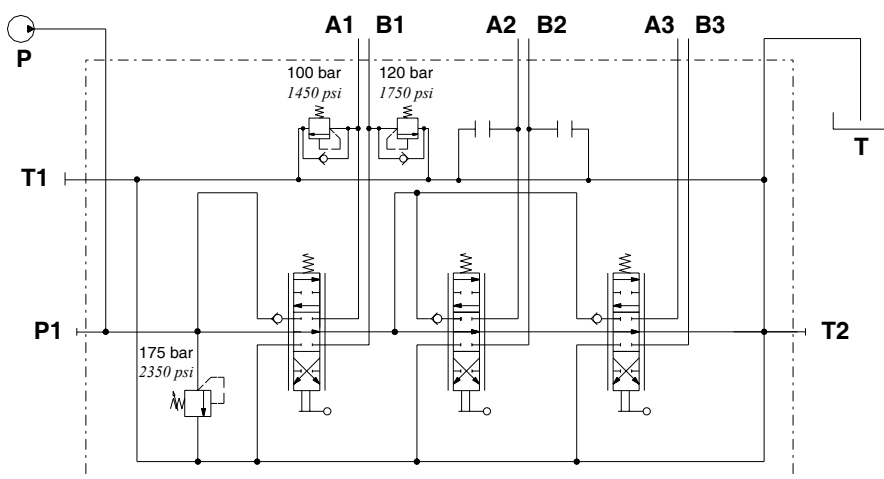
**Parallel circuit configuration**



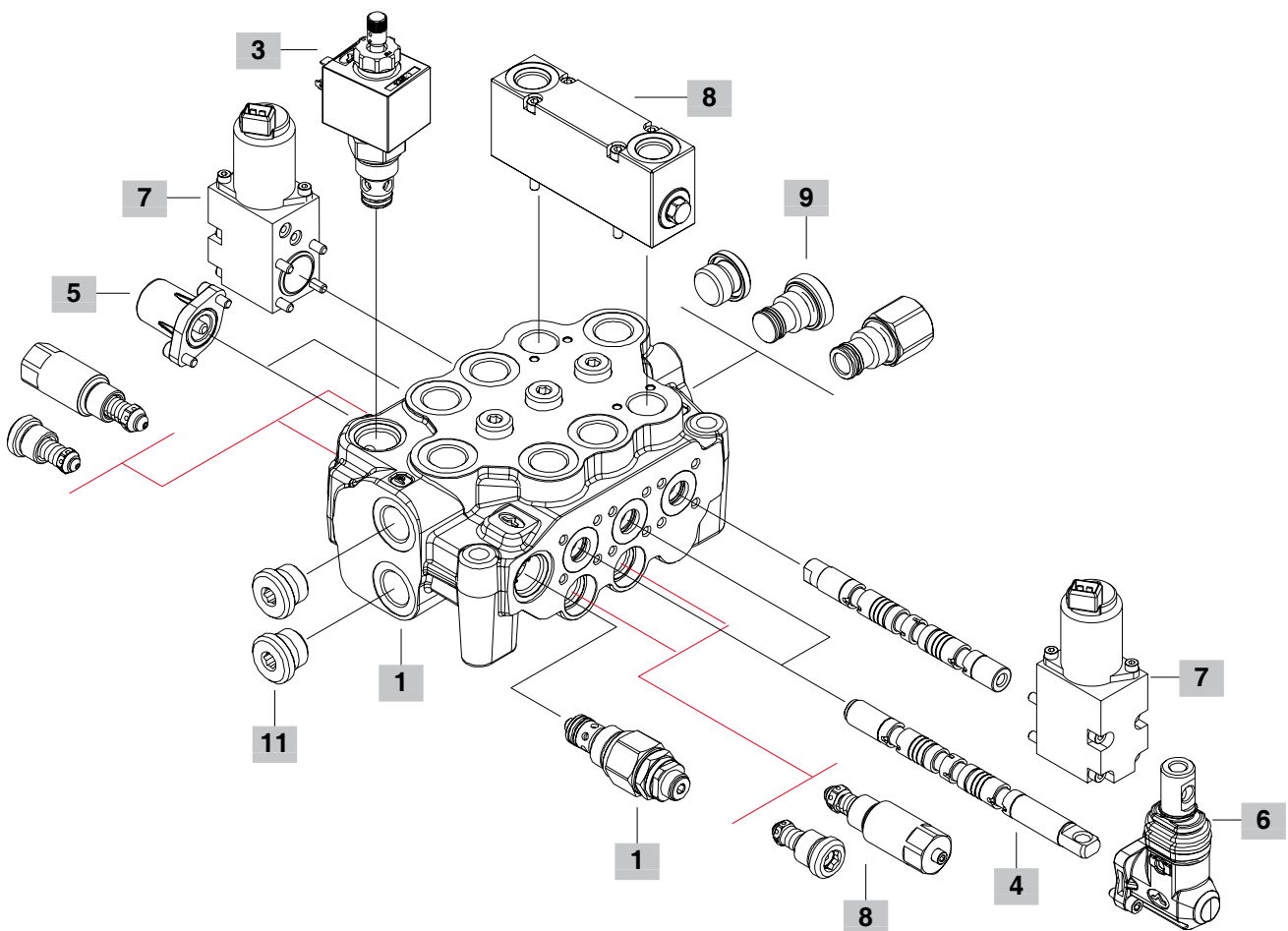
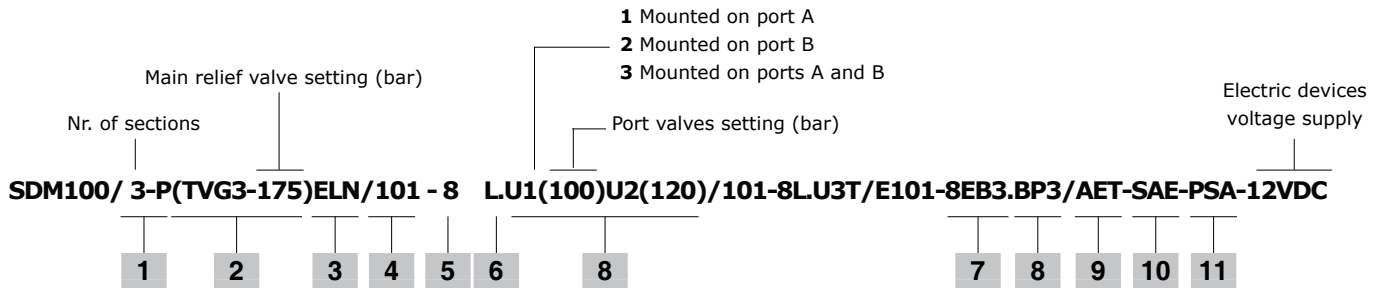
**Series circuit configuration**



**Series-parallel circuit (tandem) configuration**



## Description composition



### 1 Body kit

**1-P:** 1 section body  
**2-P:** 2 sections body  
**3-P:** 3 sections body  
**4-P:** 4 sections body

**5-P:** 5 sections body  
**6-P:** 6 sections body  
**7-P:** 7 sections body  
**8-P:** 8 sections body

For series and series-parallel circuit contact Sales Department

### 2 Pressure relief valve

#### Direct operation

**(TVG2-80):** Setting range from 63 to 100 bar / 900 to 1450 psi, standard setting 80 bar / 1160 psi

**(TVG3-175):** Setting range from 100 to 200 bar / 1450 to 2990 psi, standard setting 175 bar / 2550 psi

**(TVG4-220):** Setting range from 200 to 300 bar / 2900 to 4350 psi, standard setting 220 bar / 3200 psi

**SV:** Valve blenking plug



## Description composition

### 3 Unloader valve

**ELN:** Solenoid operated without emergency push-button  
**ELP:** Solenoid operated with emergency push-button  
**ELT:** Solenoid operated with "push and twist" emergency push-button  
**LT:** Valve blanking plug

### 4 Spools

If not specified otherwise, the spools are up to 40 l/min - 10.5 US gpm flow

**102:** Double acting, 3 positions, with A and B closed in neutral position; for up to 20 l/min - 5.3 US gpm flow  
**101:** As previous, up to 40 l/min - 10.5 US gpm flow  
**109:** As previous, up to 60 l/min - 16 US gpm flow  
**127:** As previous, up to 70 l/min - 18.5 US gpm flow  
**201:** Double acting, 3 positions, with A and B open to tank in neutral position  
**2H01:** Double acting, 3 positions, with A and B partially open to tank in neutral position  
**1S02:** Double acting, 3 positions, with A and B closed in neutral position, for series circuit  
**2S01:** Double acting, 3 positions, with A and B closed in neutral position, for series circuit  
**301:** Single acting in A, 3 positions, B plugged  
**401:** Single acting in B, 3 positions, A plugged:  
**801:** Double acting, 3 positions, regenerative in 2<sup>nd</sup> positions with spool out  
**501:** Double acting, 4 positions, floating in 4<sup>th</sup> positions with spool in: for "A" side positioners type 13 and 13F. Need special body, contact Sales Department

### 5 "A" side spool positioners

**7FTN:** With friction and neutral position sensor  
**8:** With spring return in neutral position  
**8D:** As type 8 and pin with M6 female thread for dual control  
**8F2:** With spring return in neutral position and adjustable flow limiter in position 2  
**8TL:** As type 8 and pin control for flexible cable operation  
**9B:** With detent in position 1 and spring return in neutral position  
**10B:** With detent in position 2 and spring return in neutral position  
**11B:** With detent in position 1 and 2, spring return in neutral position  
**8K:** As type 8 with spool solenoid lock device  
**8RM2:** With spring return in neutral position and electromagnetic detent in position 2  
**8MG3(NO):** With spring return in neutral position and operation with microswitch in pos. 1 and 2  
**8PP:** Proportional pneumatic kit  
**8EP3:** ON/OFF electropneumatic kit  
**13:** 4 positions, spring return in neutral, detent in 4<sup>th</sup> position: for spool type 501  
**13F:** 4 positions with spring return in neutral: for spool type 501

### 6 "B" side options

**L:** Standard lever box  
**LF1:** Lever box with adjustable flow limiter in position 1  
**LB3:** Steel lever box, heavy duty type  
**SLP:** Without lever box, with dust-proof plate  
**SLC:** Without lever box, with endcap  
**LCA1-4:** Joystick for 2 sections operation: config. type 1 and 4  
**LCA2-3:** Joystick for 2 sections operation: config. type 2 and 3  
**SLK:** Type SLP with solenoid spool lock device, needs special spools: contact Sales Department

### 7 Complete controls

They need special spools and particular bodies: contact Sales Dpt.

#### **ON/OFF direct solenoid control**

Note: The correct operation of the control, at the valve nominal pressure, is assured up to 50 l/min; please Contact the Sales Department for higher flow.

**8ES1:** Spring return to neutral, single acting in A  
**8ES2:** Spring return to neutral, single acting in B  
**8ES3:** Spring return to neutral, double acting

#### **Double side proportional hydraulic control**

**8IM:** Spring return to neutral  
**13IM:** Spring return to neutral for floating circuit spool

#### **Double side proportional electrohydraulic control**

**8EB3:** Spring return to neutral  
**8EB3LH:** With spring return to neutral and wet-type lever control  
**13EB3:** As type 8EB3 for floating circuit spool  
**13EB3LH:** As type 8EB3LH for floating circuit spool

### 8 Port valves

**C:** Anticavitation valve  
**P:** Fixed setting antishock valve: for complete list contact Sales Dpt.  
**U:** Fixed setting antishock with prefill valve: for list contact Sales Dpt.  
**UR:** Adjustable setting antishock with prefill valve: for adjusting range contact Sales Department  
**UT:** Valve blanking plug  
**BP:** Flange mounted pilot check valves: assembled on ports side

### 9 Circuit options

**AET:** Open centre  
**AEK:** Closed centre  
**AE:** With Carry-Over sleeve  
**VRC:** With backpressure valve  
**VRE:** With backpressure valve and Carry-Over sleeve

### 10 Threading specification

Specify thread type only if is different from BSP standard: see page 4

### 11 Port selections

**PSA:** Upper inlet P and outlet T  
**PSL:** Side inlet P1 and outlet T2  
**PSL-NOTAP(T1):** Side inlet P1 and outlet T1, on each side





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