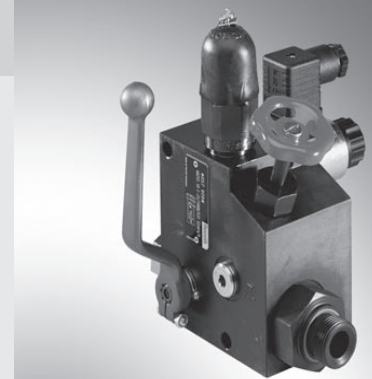


# Accumulator safety block

**RE 50131/11.06**  
 Replaces: 10.05

1/16

## Type ABZSS

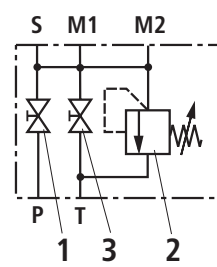
 Sizes DN 10; 20; 30  
 Component series 3X  
 Maximum operating pressure 330 bar [4800 psi]


ABZSS•

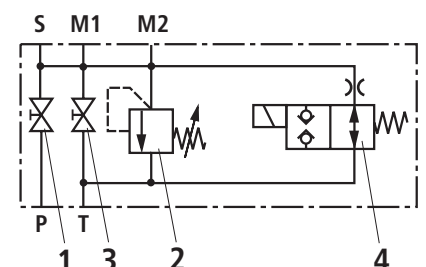
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## Symbole

**Version "M"**  
 (manual unloading)


- 1 System shut-off valve  
 2 Pressure relief valve  
 3 Manual unloading  
 4 Electromagnetic unloading, optional

**Version "E"**  
 (manual and electro-  
 magnetic unloading)


Port designations:

- M1; M2** – Test port  
**P** – Pump port  
**S** – Accumulator port  
**T** – Tank port

 Information on available spare parts:  
[www.boschrexroth.com/spc](http://www.boschrexroth.com/spc)



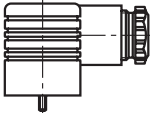
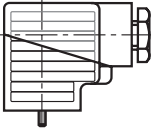
## Standard types

Accumulator type	Accumulator size in l [gal]	Pressure set on pressure relief valve in bar [psi]	Accumulator safety block size	Designation	Material no.
Diaphragm type accumulator	0.5 [0.13]	210 [3050]	10	ABZSS 10 M-3X/210E/S30V	R900711184
	0.7 [0.18]				
	1.0 [0.26]	200 [2900]		ABZSS 10 M-3X/200E/S30V	R904100849
	1.4 [0.37]	140 [2030]			
				250 [3630]	ABZSS 10 M-3X/140E/S30V
		100 [1450]		ABZSS 10 M-3X/250E/S30V	R901147802
	2.0 [0.53]	250 [3630]		ABZSS 10 M-3X/100E/S31V	R900711131
2.8 [0.74]	ABZSS 10 M-3X/250E/S31V		R901147799		
Bladder type accumulator	1.0 [0.26]	330 [4800]	10	ABZSS 10 M-3X/330E/S10V	R900711164
	2.5 [0.66]			ABZSS 10 M-3X/330E/S12V	R900711165
	4.0 [1.06]		20	ABZSS 20 M-3X/330E/S13V	R900711415
	10 [2.64]				
	20 [5.28]		30	ABZSS 30 M-3X/330E/S309V	R900713383
	32 [8.45]			ABZSS-P 30 M-3X/330E/S309V	R901146459
					ABZSS 30 M-3X/330E/S309V
	50 [13.2]			ABZSS-P 30 M-3X/330E/S309V	R901146459

Accumulator type	Accumulator size in l [gal]	Pressure set on pressure relief valve in bar [psi]	Accumulator safety block size	Designation	Material no.
Diaphragm type accumulator	0.5 [0.13]	210 [3050]	10	ABZSS 10 E-3X/210E/S30G24K4V	R900709596
	0.7 [0.18]				
	1.0 [0.26]	200 [2900]		ABZSS 10 E-3X/200E/S30G24K4V	R900709591
	1.4 [0.37]	140 [2030]			
				250 [3630]	ABZSS 10 E-3X/140E/S30G24K4V
		100 [1450]		ABZSS 10 E-3X/250E/S30G24K4V	R901147797
	2.0 [0.53]	250 [3630]		ABZSS 10 E-3X/100E/S31G24K4V	R900709586
2.8 [0.74]	ABZSS 10 E-3X/250E/S31G24K4V		R900709604		
Bladder type accumulator	1.0 [0.26]	330 [4800]	10	ABZSS 10 E-3X/330E/S10G24K4V	R900709606
	2.5 [0.66]			ABZSS 10 E-3X/330E/S12G24K4V	R900709607
	4.0 [1.06]		20	ABZSS 20 E-3X/330E/S13G24K4V	R900709636
	10 [2.64]				
	20 [5.28]		30	ABZSS 30 E-3X/330E/S309G24K4V	R900709657
	32 [8.45]			ABZSS-P 30 E-3X/330E/S309G24K4V	R901147879
					ABZSS 30 E-3X/330E/S309G24K4V
	50 [13.2]			ABZSS-P 30 E-3X/330E/S309G24K4V	R901147879

Further standard types and components can be found in the EPS (standard price list).

## Plug-in connectors to DIN EN 175301-803

For details and further plug-in connectors, see RE 08006					
Valve side	Colour	Material no.			
		Without circuitry	With indicator lamp 12 to 240 V	With rectifier 12 to 240 V	With indicator lamp and Zener-diode suppressor circuit 24 V
a	Grey	<b>R901017010</b>	–	–	–
b	Black	<b>R901017011</b>	–	–	–
a/b	Black	–	<b>R901017022</b>	<b>R901017025</b>	<b>R901017026</b>

### Technical data (for applications outside these parameters, please consult us!)

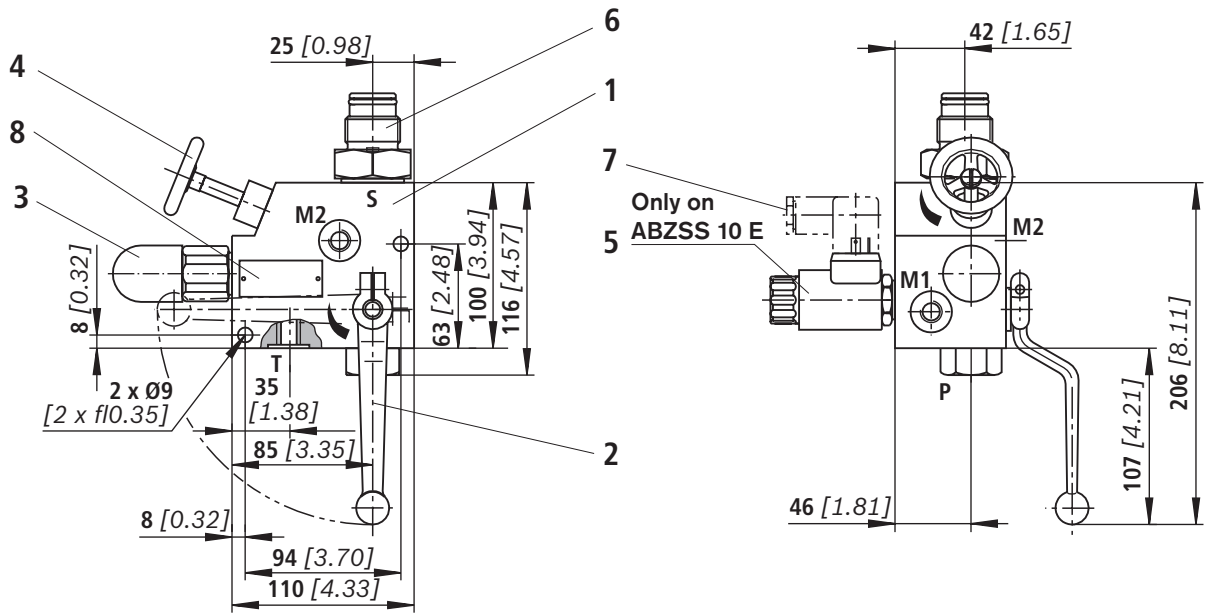
Seal material	FKM seals or NBR seals <sup>1)</sup>					
Operating temperature range	°C [°F]	–15 to +80 [–85 to +202]				
Maximum operating pressure	bar [psi]	330 [4800]				
Hydraulic fluid	Mineral oil (HL, HLP) to DIN 51524 <sup>3)</sup> Triglycerides (rape seed oil) HETG to VDMA 24568 <sup>3)</sup> Synthetic esters HEES to VDMA 24568 <sup>2)</sup> Polyglycol HEPG to VDMA 24568 <sup>2)</sup>					
Block material	Steel					
Direct operated pressure relief valve	Type	DBDS...K1X/...VB or DBDS...K1X/...E <sup>1)</sup> to data sheet RE 25402				
Cartridge poppet valve	Type	KSDER1PA/HN9V to data sheet RE 18136-02				
Size	DN	10	20	30	30...S030	
Weight	– Version "M"	kg [lbs]	5.2 [11.5]	8.5 [18.7]	20.5 [45.2]	26.5 [58.4]
	– Version "E"	kg [lbs]	5.5 [12.1]	8.8 [19.4]	20.8 [45.8]	26.8 [59.1]

<sup>1)</sup> Special version

<sup>2)</sup> Suitable for FKM seals

<sup>3)</sup> Suitable for FKM and NBR seals

**Unit dimensions: Type ABZSS 10...** (DN10, nominal dimensions in mm [inch])

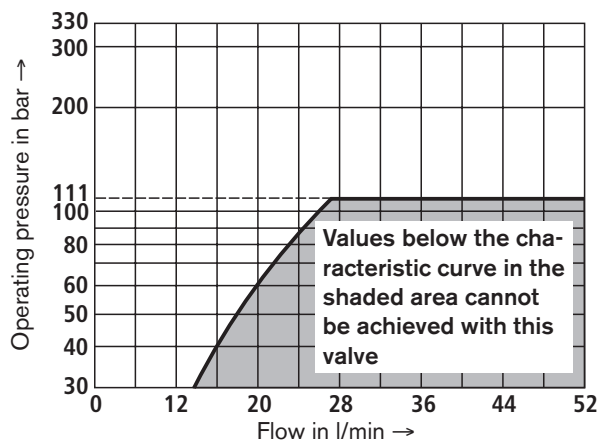


- 1 Block
- 2 System shut-off valve
- 3 Pressure relief valve
- 4 Manual unloading
- 5 Electromagnetic unloading, optional
- 6 Accumulator adapter, see Accessories on pages 10 to 12
- 7 Plug-in connector, separate order, see page 4
- 8 Nameplate

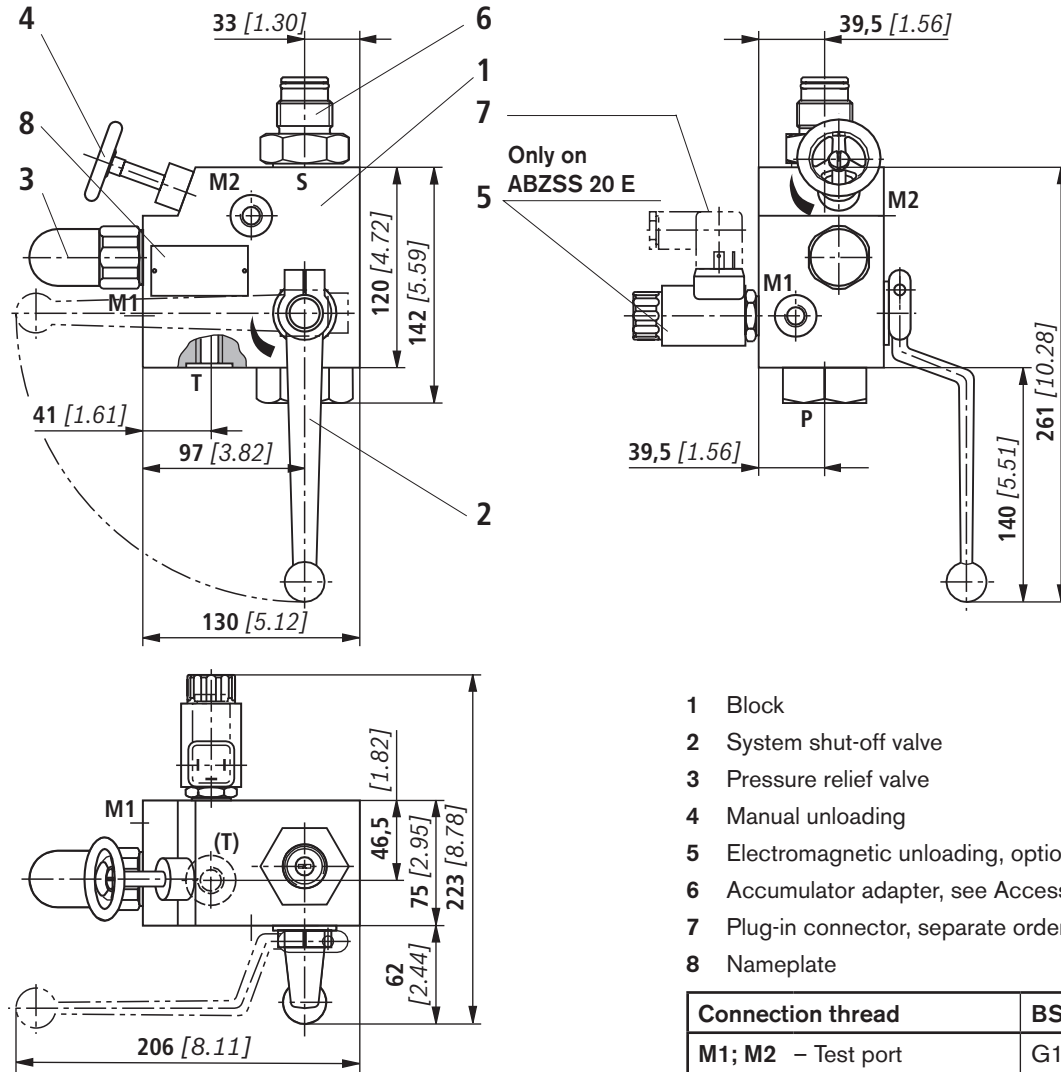
Connection thread	BSP	SAE
M1; M2 – Test port	G1/4	7/16 – 20 UNF
P – Pump port	G1/2	3/4 – 16 UNF
T – Tank port	G3/8	9/16 – 18 UNF
S – Accumulator port	M33 x 2	M33 x 2

**Type-tested pressure relief valves**

**Type DBD .../...E, size 6 – Directive 97/23/EC (Pressure Equipment Directive)**



**Unit dimensions: Type ABZSS 20...** (DN20, nominal dimensions in mm [inch])

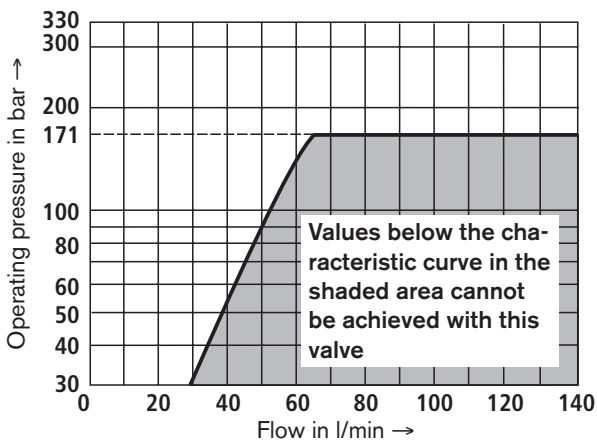


- 1 Block
- 2 System shut-off valve
- 3 Pressure relief valve
- 4 Manual unloading
- 5 Electromagnetic unloading, optional
- 6 Accumulator adapter, see Accessories on pages 10 to 12
- 7 Plug-in connector, separate order, see page 4
- 8 Nameplate

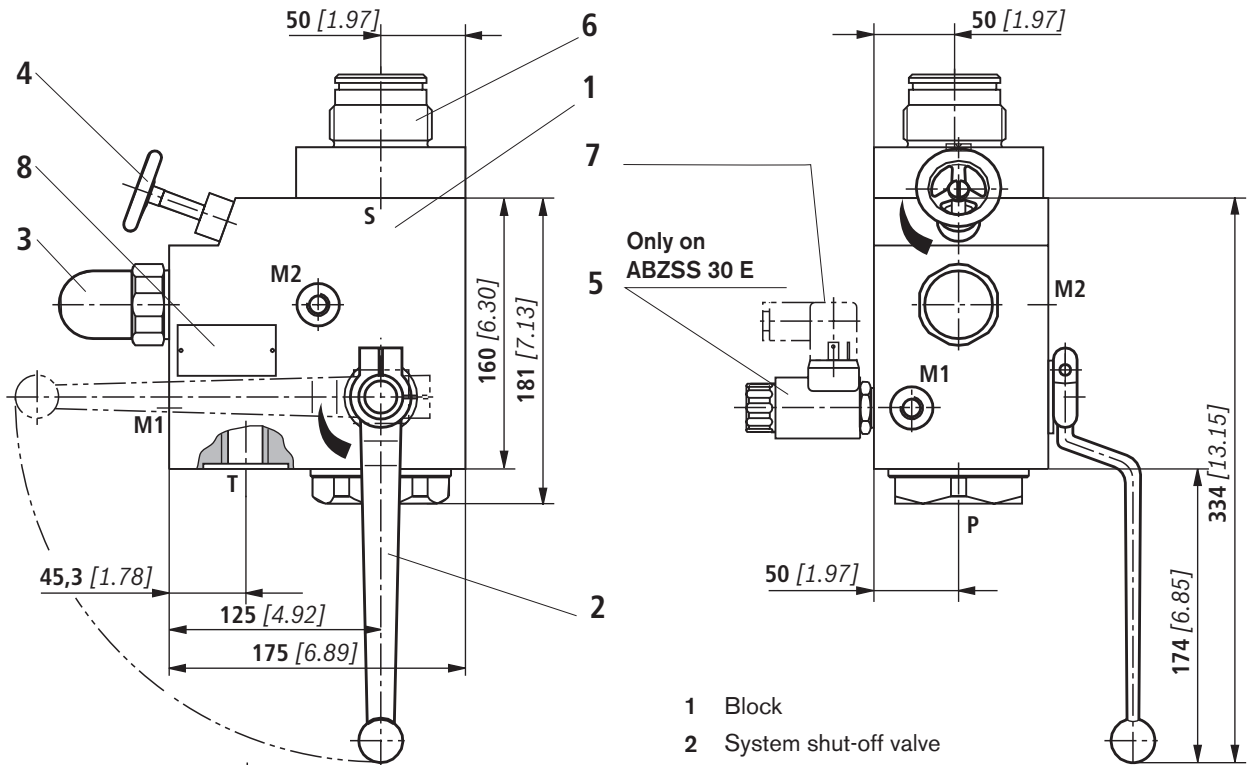
Connection thread	BSP	SAE
M1; M2 – Test port	G1/4	7/16 – 20 UNF
P – Pump port	G1	1 5/16 – 12 UN
T – Tank port	G1/2	3/4 – 16 UNF
S – Accumulator port	M33 x 2	M33 x 2

**Type-tested pressure relief valves**

**Type DBD .../...E, size 10 – Directive 97/23/EC (Pressure Equipment Directive)**



**Unit dimensions: Type ABZSS 30... (DN30, nominal dimensions in mm [inch])**

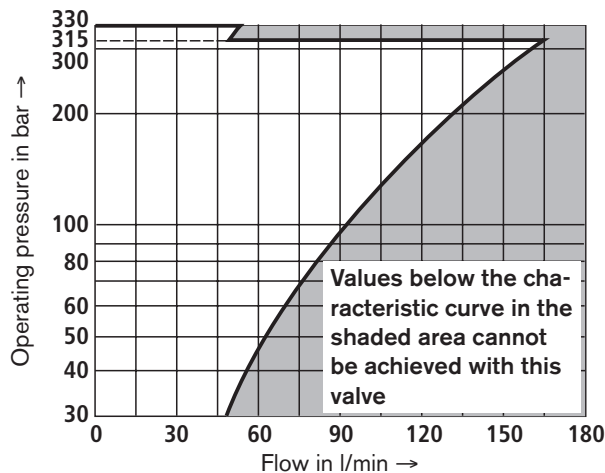


- 1 Block
- 2 System shut-off valve
- 3 Pressure relief valve
- 4 Manual unloading
- 5 Electromagnetic unloading, optional
- 6 Accumulator adapter, see Accessories on pages 10 to 12
- 7 Plug-in connector, separate order, see page 4
- 8 Nameplate

Connection thread	BSP	SAE
M1; M2 – Test port	G1/4	7/16 – 20 UNF
P – Pump port	G1 1/2	1 7/8 – 12 UN
T – Tank port	G1	1 5/16 – 12 UN
S – Accumulator port (flange)	Page 10	Page 12

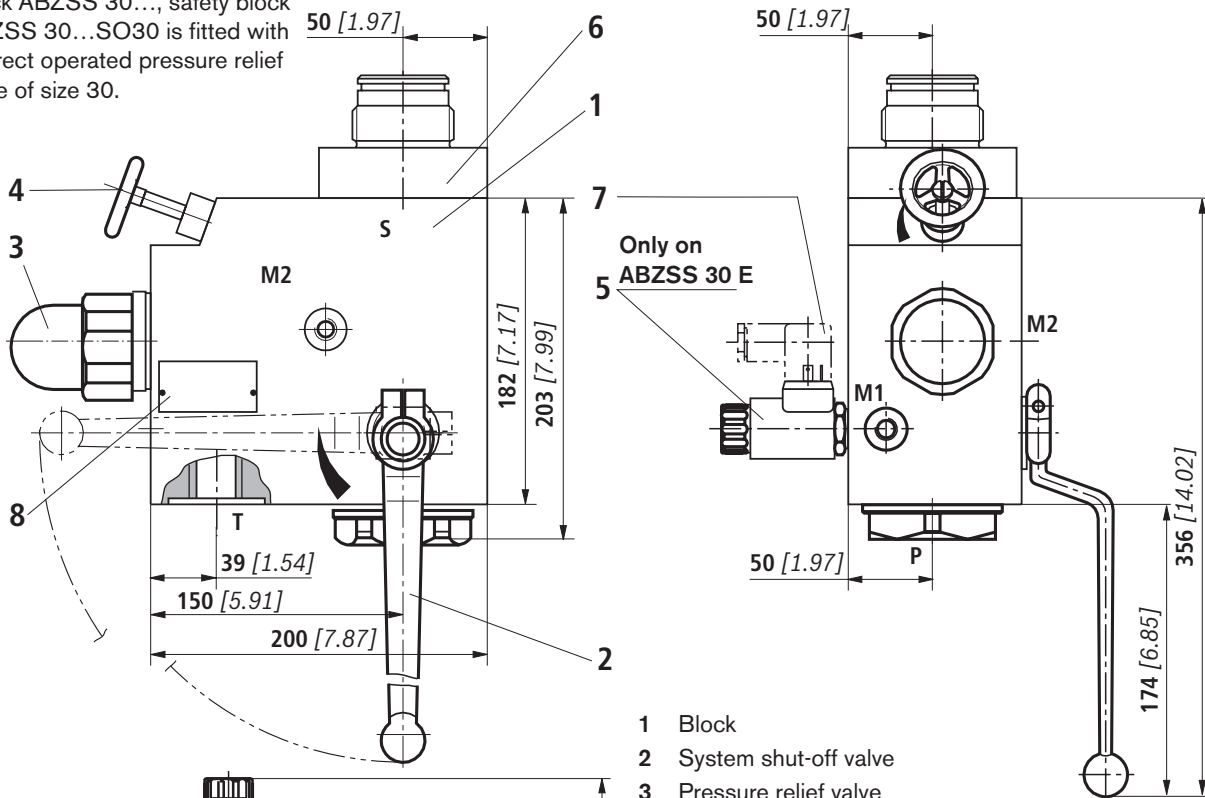
**Type tested pressure relief valves**

**Type DBD .../...E, size 20 – Directive 97/23/EC (Pressure Equipment Directive)**



**Unit dimensions: Type ABZSS 30...SO30 (DN30, nominal dimensions in mm [inch])**

In contrast to standard safety block ABZSS 30..., safety block ABZSS 30...SO30 is fitted with a direct operated pressure relief valve of size 30.

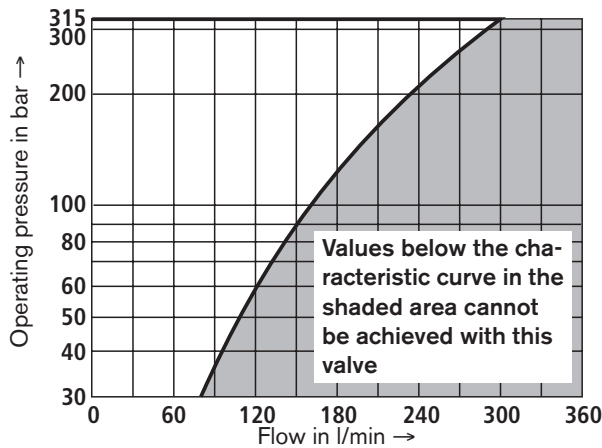


- 1 Block
- 2 System shut-off valve
- 3 Pressure relief valve
- 4 Manual unloading
- 5 Electromagnetic unloading, optional
- 6 Accumulator adapter, see Accessories on pages 10 to 12
- 7 Plug-in connector, separate order see page 4
- 8 Nameplate

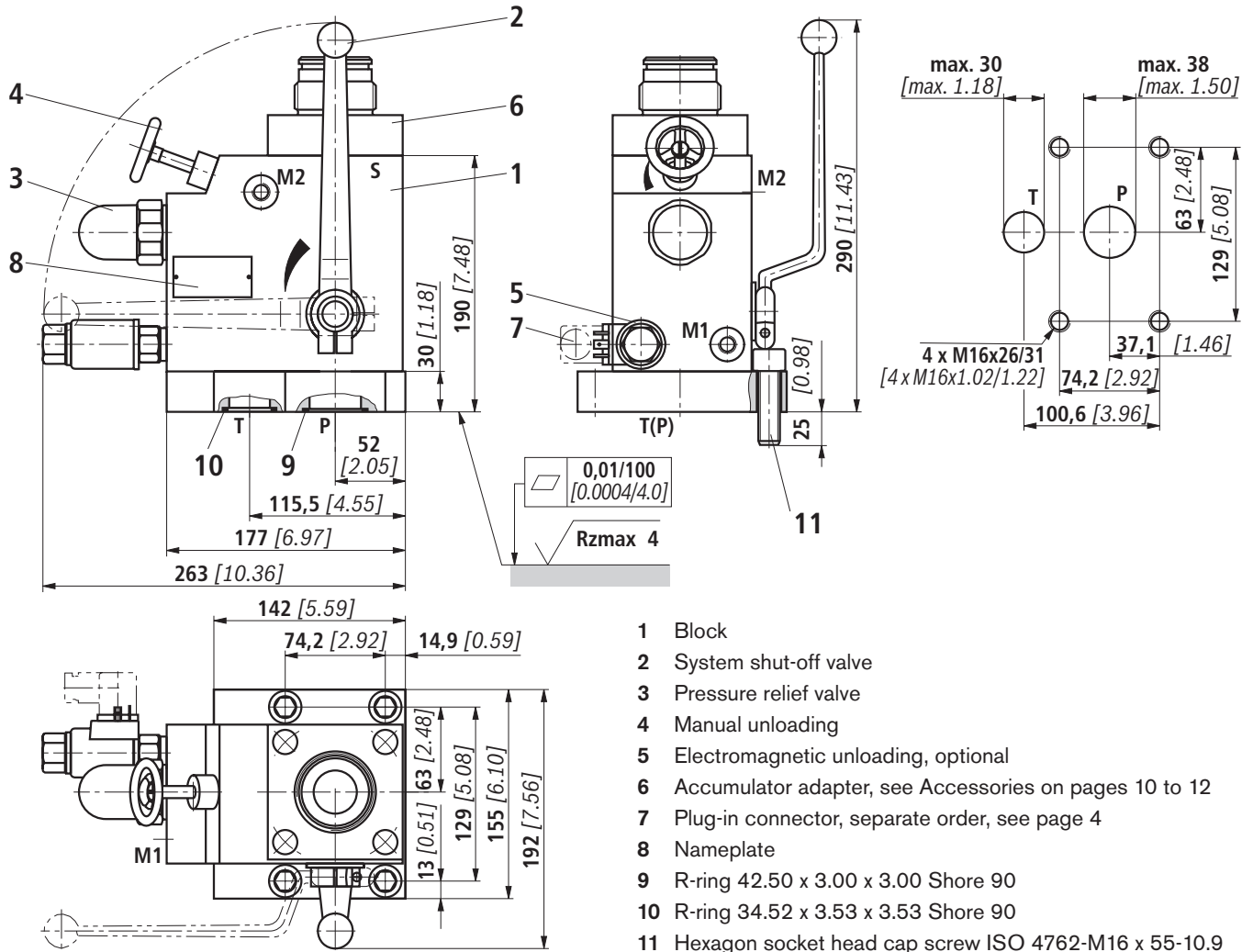
Connection thread	BSP	SAE
M1; M2 – Test port	G1/4	7/16 – 20 UNF
P – Pump port	G1 1/2	1 7/8 – 12 UN
T – Tank port	G1 1/2	1 7/8 – 12 UN
S – Accumulator port (flange)	Page 10	Page 12

**Type-tested pressure relief valves**

**Type DBD .../...E, size 30 – Directive 97/23/EC (Pressure Equipment Directive)**



**Unit dimensions: Type ABZSS-P30 (DN30, nominal dimensions in mm [inch])**

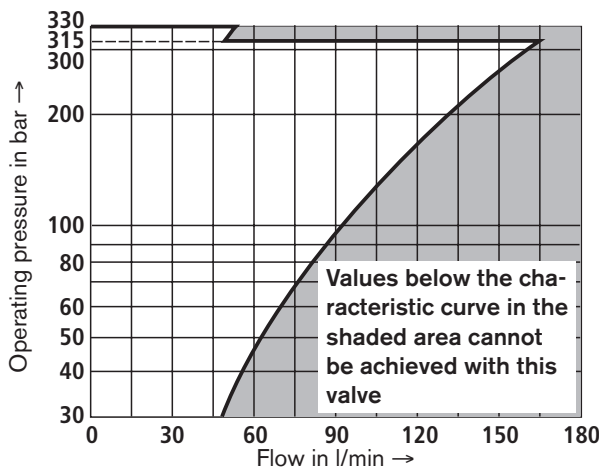


- 1 Block
- 2 System shut-off valve
- 3 Pressure relief valve
- 4 Manual unloading
- 5 Electromagnetic unloading, optional
- 6 Accumulator adapter, see Accessories on pages 10 to 12
- 7 Plug-in connector, separate order, see page 4
- 8 Nameplate
- 9 R-ring 42.50 x 3.00 x 3.00 Shore 90
- 10 R-ring 34.52 x 3.53 x 3.53 Shore 90
- 11 Hexagon socket head cap screw ISO 4762-M16 x 55-10.9

Connection thread	BSP	SAE
M1; M2 – Test port	G1/4	7/16 – 20 UNF
S – Accumulator port (flange)	Page 10	Page 12

**Type-tested pressure relief valves**

**Type DBD .../...E, size 20 – Directive 97/23/EC (Pressure Equipment Directive)**



Accessories: Accumulator adapter, max. operating pressure 330 bar [4800 psi], BSP thread (nominal dimensions in mm [inch])

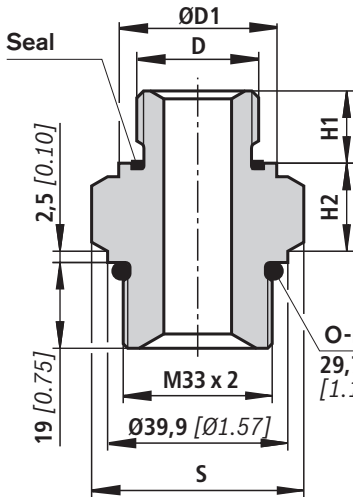


Fig. 1

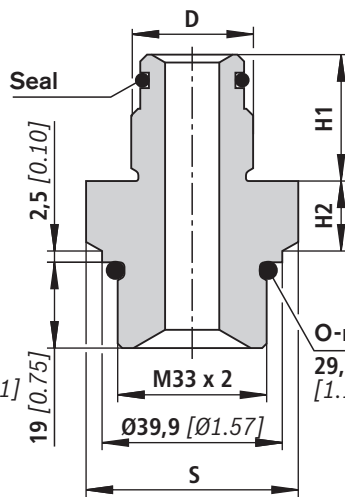


Fig. 2

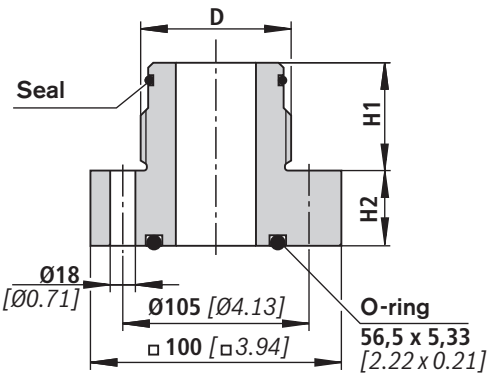


Fig. 3

Accumulator safety block	Accumulator type	Accumulator DN	Accumulator adapter	Fig.	S	H1	H2	D	ØD1	Seal							
ABZSS 10 ABZSS 20	Dia- phragm type accu- mulator	0.075	S30	1	41A/F [30A/F]	14 [0.55]	13.5 [0.53]	G1/2 A	26.9 [1.06]	Profiled seal ring G1/2 A to DIN 3869							
		0.16															
		0.32															
		0.5															
		0.6															
	0.7	S31	1.0		16 [0.63]	G3/4 A	32 [1.26]	Profiled seal ring G3/4 A to DIN 3869									
	0.75																
	1.0																
	1.4																
	2.0																
ABZSS 30	Bladder type accu- mulator	2.8	S10	2	41A/F [30A/F]	28 [1.10]	15.5 [0.61]	G3/4 A	-	18 x 2.5 [0.71 x 0.10]							
		3.5															
		2.5									S12	46A/F [34A/F]	37 [1.46]	16.5 [0.65]	G1 1/4 A	-	30 x 3 [1.18 x 0.12]
		4.0															
		5.0															
		6.0															
	10.0	S13	65A/F [48A/F]		43 [1.69]	20.5 [0.81]	G2 A	-	48 x 3 [1.89 x 0.12]								
	12.0																
	13.0																
ABZSS 30	Bladder type accu- mulator	20.0	S307	3	-	37 [1.46]	30 [1.18]	G1 1/4 A	-	30 x 3 [1.18 x 0.12]							
		24.0															
		32.0									S309	43 [1.69]	G2 A	-	48 x 3 [1.89 x 0.12]		
		50.0															
		50.0															

## Ordering code

Short code	Accumulator adapter	Material no. FKM	Accumulator adapter	Material no. NBR <sup>2)</sup>
S30	S30V/G1/2-M33 x 2.0	<b>R900545252</b>	S30 M/G1/2-M33 x 2.0	<b>R900862695</b>
S31	S31V/G3/4-M33 x 2.0	<b>R900545253</b>	S31 M/G3/4-M33 x 2.0	<b>R900862697</b>
S10	S10V/G3/4-M33 x 2.0	<b>R900545254</b>	S10 M/G3/4-M33 x 2.0	<b>R900862699</b>
S12	S12V/G1 1/4-M33 x 2.0	<b>R900545255</b>	S12 M/G1 1/4-M33 x 2.0	<b>R900862700</b>
S13	S13V/G2-M33 x 2.0	<b>R900545256</b>	S13 M/G2-M33 x 2.0	<b>R900862701</b>
S307	S307V/G1 1/4-DN32 <sup>1)</sup>	<b>R900085303</b>	S307M/G1 1/4-DN32 <sup>1)</sup>	<b>R900067050</b>
S309	S309V/G2-DN32 <sup>1)</sup>	<b>R900545858</b>	S309 M/G2-DN32 <sup>1)</sup>	<b>R900862702</b>

<sup>1)</sup> 4 off ISO 4762-M16 x 45-10.9 hexagon socket head cap screws are included in the scope of supply

<sup>2)</sup> Special version

Accessories: Accumulator adapter, max. operating pressure 330 bar [4800 psi], SAE thread (nominal dimensions in mm [inch])

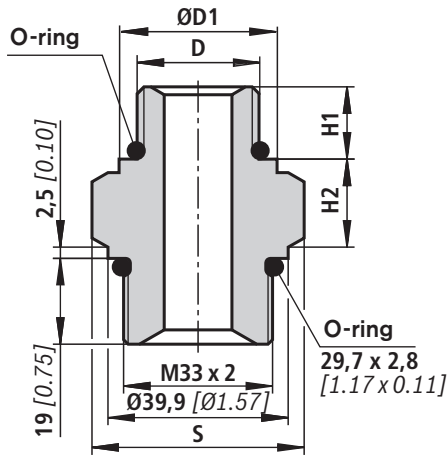


Fig.1

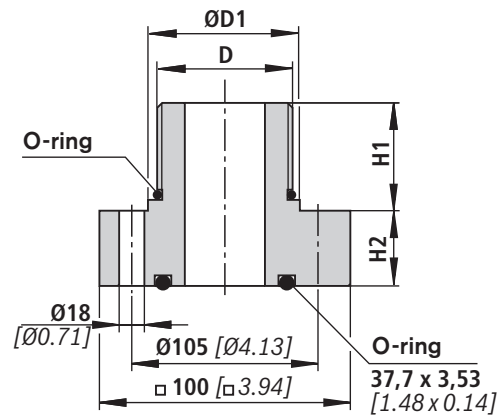


Fig. 2

Accumulator safety block	Accumulator type	Accumulator DN	Accumulator adapter	Fig.	S	H1	H2	D	ØD1	O-ring					
ABZSS 10 ABZSS 20	Diaphragm type accumulator	0.32	S64	1	41A/F [30A/F]	11.4 [0.45]	18.1 [0.71]	3/4-16UNF-2A	23 [0.91]	16.36 x 2.21 [0.64 x 0.87]					
		0.5													
		0.6													
	0.7	S60	15.2 [0.60]			18.3 [0.72]	1 1/16-12UN-2A	32 [1.26]	23.0 x 3.0 [0.91 x 0.12]						
	0.75														
	1.0														
1.4	S60	15.2 [0.60]	18.3 [0.72]	1 1/16-12UN-2A	32 [1.26]	23.0 x 3.0 [0.91 x 0.12]									
2.0															
2.8															
ABZSS 30	Bladder type accumulator	1.0	S60	1	41A/F [30A/F]	15.2 [0.60]	18.3 [0.72]	1 1/16-12UN-2A	32 [1.26]	23.0 x 3.0 [0.91 x 0.12]					
		4.0	S62								15.2 [0.60]	20.3 [0.80]	1 5/8-12UN-2A	48 [1.89]	38.0 x 3.0 [1.50 x 0.12]
		6.0													
		10.0	S63								15.2 [0.60]	20.3 [0.80]	1 7/8-12UN-2A	54 [2.13]	44.0 x 3.0 [1.73 x 0.12]
		20.0													
		32.0													
54.0	S620	15.2 [0.60]	33.8 [1.33]	1 5/8-12UN-2A	48 [1.89]	38.0 x 3.0 [1.50 x 0.12]									
1.0															
4.0															
ABZSS 30	Bladder type accumulator	6.0	S630	2	-	15.2 [0.60]	33.8 [1.33]	1 7/8-12UN-2A	54 [2.13]	44.0 x 3.0 [1.73 x 0.12]					
		10.0													
		20.0													
32.0															
54.0															

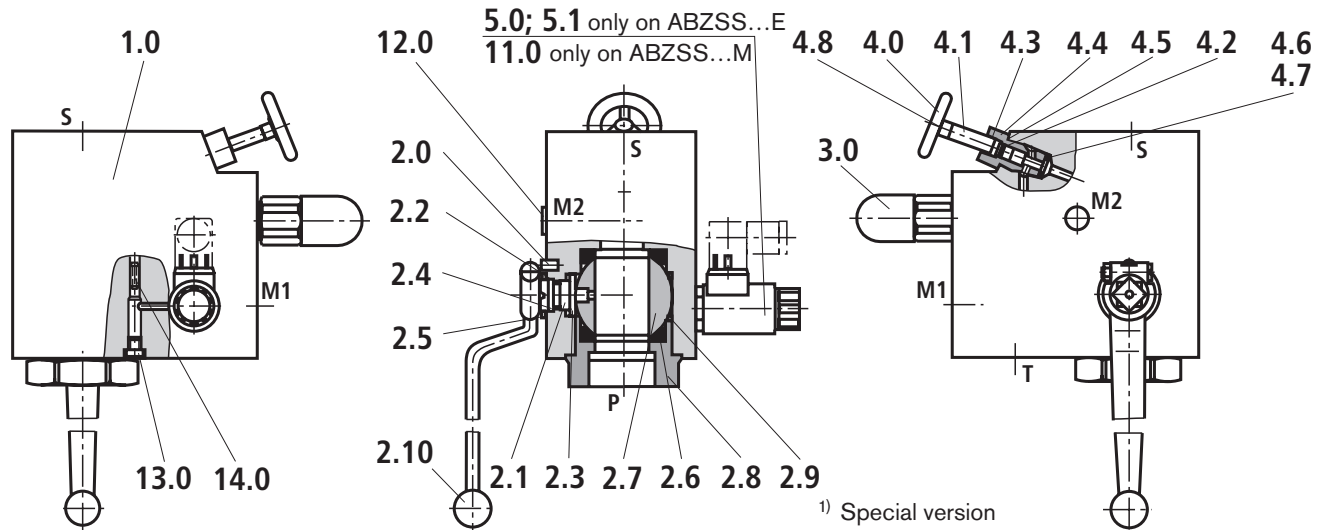
Ordering code

Short code	Accumulator adapter	Material no. FKM	Accumulator adapter	Material no. NBR <sup>2)</sup>
S64	S64V/ 3/4-16UNF-M33x2	R900618805	S64M/ 3/4-16UNF-M33x2	R900618806
S60	S60V/ 1 1/16-12UN-M33x2	R900618788	S60M/ 1 1/16-12UN-M33x2	R900618799
S62	S62V/ 1 5/8-12UN-M33x2	R900618800	S62M/ 1 5/8-12UN-M33x2	R900618801
S63	S63V/ 1 7/8-12UN-M33x2	R900618803	S63M/ 1 7/8-12UN-M33x2	R900618804
S620	S620V/ 1 5/8-12UN-DN32 <sup>1)</sup>	R900618813	S620M/ 1 5/8-12UN-DN32 <sup>1)</sup>	R900618814
S630	S630V/ 1 7/8-12UN-DN32 <sup>1)</sup>	R900618817	S630M/ 1 7/8-12UN-DN32 <sup>1)</sup>	R900618815

<sup>1)</sup> 4 off socket head cap screws ISO 4762 M16 x 45-10.9 are included in the scope of supply

<sup>2)</sup> Special version

Spare parts



Accumulator safety block		ABZSS...10M	ABZSS...10E	ABZSS...20M	ABZSS...20E	ABZSS...30M	ABZSS...30E
Designation	Item no.	Material no.					
Block	1.0						
Spare parts kit							
System shut-off valve							
Cylindrical pin	2.0						
Spindle	2.1	BSP:		BSP:		BSP:	
O-ring	2.2	<b>R900089456 (FKM)</b>		<b>R900089458 (FKM)</b>		<b>R900089459 (FKM)</b>	
Washer	2.3	<b>R900210290 (NBR) <sup>1)</sup></b>		<b>R900210291 (NBR) <sup>1)</sup></b>		<b>R900210292 (NBR) <sup>1)</sup></b>	
Circlip	2.4	SAE:		SAE:		SAE:	
Limiting washer	2.5	<b>R900618000 (FKM)</b>		<b>R900618002 (FKM)</b>		<b>R900618005 (FKM)</b>	
Seal shell	2.6	<b>R900618001 (NBR) <sup>1)</sup></b>		<b>R900618003 (NBR) <sup>1)</sup></b>		<b>R900618006 (NBR) <sup>1)</sup></b>	
Ball	2.7						
Connection piece	2.8						
O-ring	2.9						
Lever	2.10	<b>R900089461</b>		<b>R900089462</b>		<b>R900089463</b>	
Direct operated pressure relief valve	3.0			DBDS...K1X/...VE nach RE 25402 DBDS...K1X/...E nach RE 25402 <sup>1)</sup>			
Spare parts kit							
Manual unloading							
Hand wheel	4.0						
Spindle	4.1						
O-ring	4.2						
Circlip	4.3			<b>R900089468 (FKM)</b>			
Bush	4.4			<b>R900210324 (NBR) <sup>1)</sup></b>			
O-ring	4.5						
O-ring	4.6						
Backup ring	4.7						
Flat head screw	4.8						
Cartridge poppet valve	5.0			<b>R901069887 (FKM)</b>			
				<b>R900991121 (G24 V)</b>			
Coil	5.1			<b>R900704587 (G96 V)</b>			
				<b>R900704588 (G205 V)</b>			
Plug screw	11.0			<b>R900617084 (FKM)</b>	<b>R900617085 (NBR) <sup>1)</sup></b>		
Plug screw	12.0	BSP: G1/4	<b>R900012297 (FKM)</b>	<b>R900210325 (NBR) <sup>1)</sup></b>			
		SAE: 7/16-20UNF	<b>R900014410 (FKM)</b>	<b>R900014411 (NBR) <sup>1)</sup></b>			
Plug screw	13.0	BSP: G1/8	<b>R900012977 (FKM)</b>	<b>R900012419 (NBR) <sup>1)</sup></b>			
		SAE: 7/16-20UNF	<b>R900014410 (FKM)</b>	<b>R900014411 (NBR) <sup>1)</sup></b>			
Orifice	14.0			<b>R900897329</b>			

## Commissioning note

### Note in the sense of EC Machinery Directive 89/392 EEC, Annex II, Section B:

The assemblies are manufactured to comply with harmonized standards EN 982, EN 983, DIN EN ISO 12100 and DIN EN 60204-1.

Commissioning is prohibited until it was established that the machine, into which the assembly is to be integrated, complies with the regulations of the EC Directives.

### Safety note: Type-tested safety valves of type DBD, component series 1X according to Pressure Equipment Directive 97/23/EC

- Before ordering a type-tested safety valve, make sure that at the required **response pressure  $p$**  the permissible maximum flow  $q_{Vmax}$  of the safety valve is greater than the permissible maximum flow of the system / accumulator to be protected.

Observe applicable regulations!

- According to **PED 97/23/EC** the increase in system pressure caused by the flow must not exceed 10 % of the set response pressure (see component identification).

The permissible maximum flow  $q_{Vmax}$  given on the component identification must not be exceeded.

Return flow lines from safety valves must ensure flow without any risks to the outlet. **No** fluid may collect in the return flow system (see AD2000 - sheet A2).

#### **Strictly observe notes on the operation!**

- The response pressure given on the component identification is factory-set at a flow of 2 l/min.
- The permissible maximum flow given on the component identification is valid for applications without backpressure in the return line (port T).
- When the seal on the safety valve is removed, the approval according to the PED becomes void!
- Generally, the requirements laid down in the Pressure Equipment Directives and AD2000 - sheet A2 must be observed!
- It is recommended that type-tested safety valves be secured against unauthorized removal from the cartridge housing/ block by connecting it by means of wires and lead-sealing with the housing (bore provided in the adjustment element).

#### **Caution!**

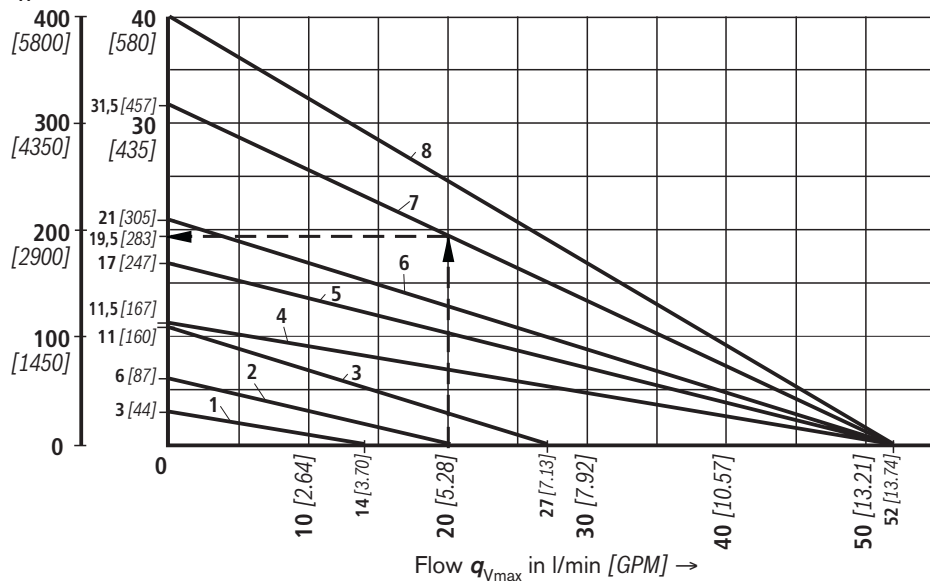
As the flow rises, the system pressure increases by the backpressure in the return line (port T). (Observe AD2000 – sheet A2, para. 6.3!)

In order that this increase in the system pressure caused by the flow will not exceed 10 % of the set response pressure, the permissible flow must be reduced in dependence upon the backpressure in the return line (port T) (see diagrams below and up to page 16).

Permissible maximum flow  $q_{Vmax}$  in dependence upon backpressure  $p_T$  in the return line

#### Type DBD. 6.1X/...E

$p_A$  in bar [psi]     $p_T$  in bar [psi]



Curves	Response pressure $p_A$ in bar [psi]
1	30 [435]
2	60 [870]
3	110 [1600]
4	115 [1670]
5	170 [2470]
6	210 [3050]
7	315 [4570]
8	400 [5800]

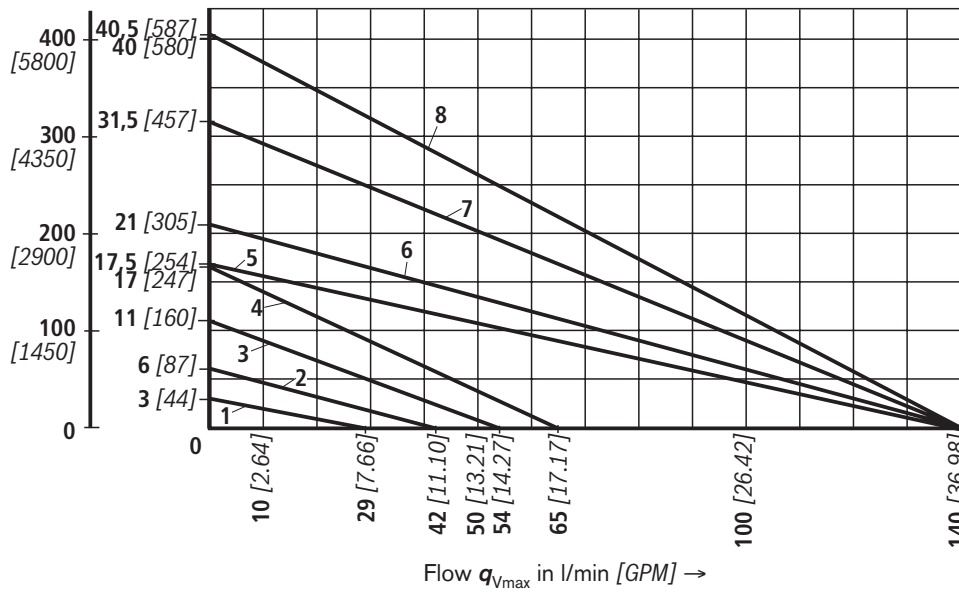
Characteristic curves for intermediate valves can be generated by means of interpolation. For explanations, see page 16.

**Safety notes:** Type-tested safety valves of type DBD, component series 1X according to Pressure Equipment Directive 97/23/EC

Permissible maximum flow  $q_{Vmax}$  in dependence upon backpressure  $p_T$  in the return line

**Type DBD. 10 .1X/...E**

$p_A$  in bar [psi]     $p_T$  in bar [psi]

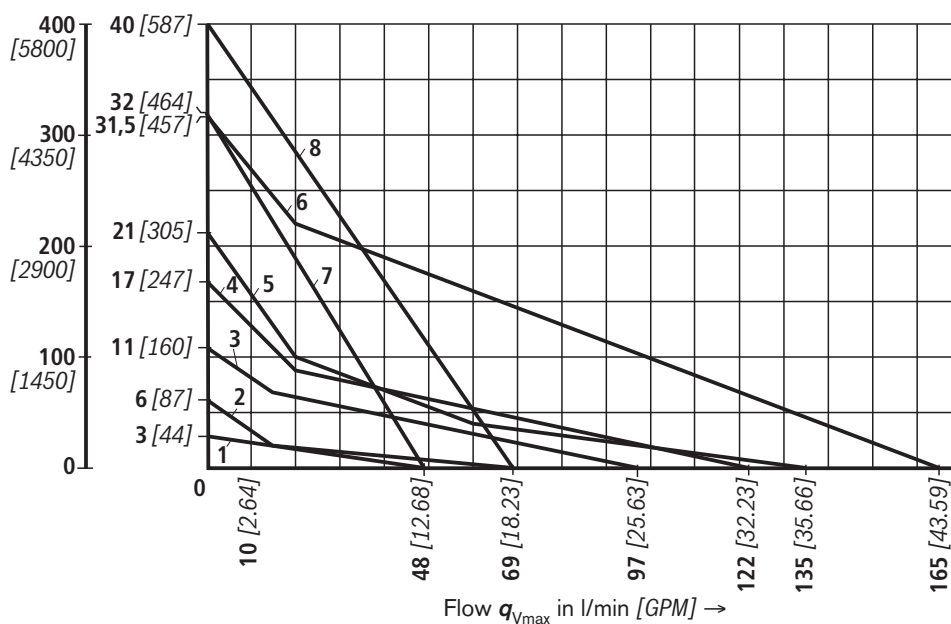


Curves	Response pressure $p_A$ in bar [psi]
1	30 [435]
2	60 [870]
3	110 [1600]
4	170 [2470]
5	175 [2540]
6	210 [3050]
7	315 [4570]
8	400 [5800]

Characteristic curves for intermediate valves can be generated by means of interpolation. For explanations, see page 16.

**Type DBD. 20 .1X/...E**

$p_A$  in bar [psi]     $p_T$  in bar [psi]



Curves	Response pressure $p_A$ in bar [psi]
1	30 [435]
2	60 [870]
3	110 [1600]
4	170 [2470]
5	210 [3050]
6	315 [4570]
7	320 [4640]
8	400 [5800]

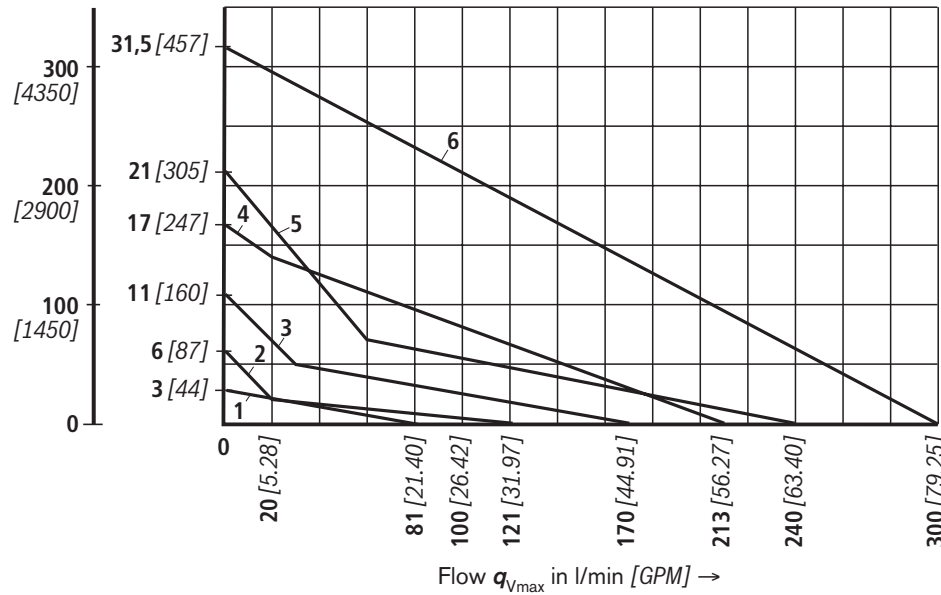
Characteristic curves for intermediate valves can be generated by means of interpolation. For explanations, see page 16.

**Safety notes:** Type-tested safety valves of type DBD, component series 1X according to Pressure Equipment Directive 97/23/EC

Permissible maximum flow  $q_{Vmax}$  in dependence upon backpressure  $p_T$  in the return line

**Type DBD. 30 .1X/...E**

$p_A$  in bar [psi]     $p_T$  in bar [psi]



Curves	Response pressure $p_A$ in bar [psi]
1	30 [435]
2	60 [870]
3	110 [1600]
4	170 [2470]
5	220 [3190]
6	315 [4570]

Characteristic curves for intermediate valves can be generated by means of interpolation. For explanations, see below.

$p_A$  = response pressure in bar

$p_T$  = permissible maximum backpressure in bar (sum of all tank pressures possible; see also AD2000 - sheet A2)

$q_{Vmax}$  = permissible maximum flow in l/min

**PED:**  $p_{Tmax} = 10\% \times p_A$  (at  $q_V = 0$ )

**Explanation of diagrams** (example: Type DBD 6 ...E, page 14):

- Given:
- Flow of the system/accumulator to be safeguarded  $q_{Vmax} = 20$  l/min [5.28 GMP]
  - Response pressure set on the safety valve  $p_A = 315$  bar [4570 psi]

Searched:  $p_{T \text{ permissible}}$

**Solution:** See arrows on the diagram on page 14 (type DBD 6 ...E)

$p_{T \text{ permissible}}$  (20 l/min; 315 bar) [5.28 GMP; 4570 psi] = 19.5 bar [283 psi]