

**Double valve control system, inherently fail-safe without residual pressure**

**Dynamic self monitoring**

**With the appropriate application, performance level „e” (cat. 4) of DIN EN ISO 13849-1 is achieved for the safety function “Pressure building up from ‘1’ to ‘2’ and pressure dropping from ‘2’ to ‘3’”. DGVV, OSHA, CSA and other approvals**

**For use with pneumatic clutch and brake systems and other 3-way safety functions**

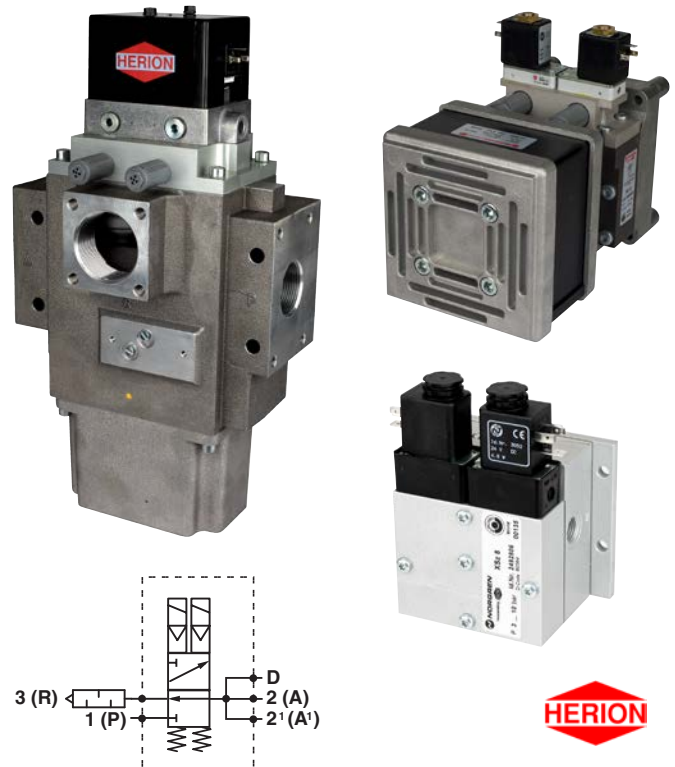
**Fast exhaust capability**

**Improves safety and reduces downtime**

**Quick and easy adjustment of ‘overlap’ on mechanical presses**

**No additional electrical monitoring required**

**XSz safety valves are also available as 5/2 valves (DN8 & 10) and pneumatically operated (DN10)**



### Technical features

**Medium:**

Compressed air, filtered  $\leq 50 \mu\text{m}$ , lubricated or non-lubricated Shell Hydrol DO 32, Esso Febis K 32 (as of July 1992) or comparable oil with DVI values  $< 8$  (DIN 53521) and ISO viscosity class 32-46 (DIN 51519)

**Operating Pressure:**

2 to 10 bar  
For more details please see table overleaf.

**Temperature range:**

-10 to +60°C  
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

**Mounting position:**

Preferably vertically

**Additional equipment:**

Soft clutch module  
- documentation no 5.14.320  
Soft brake module  
- documentation no 5.14.350  
Safety silencer  
- documentation no 5.14.525 and 5.14.550  
Failure indication elements  
- documentation no 5.14.420

**Materials:**

Body: aluminium  
Seals: polyurethane (AU), NBR

## Technical data

Series	Voltage	Pressure range (bar)	Flow 1 (P) > 2 (A) (m3/h)	2 (A) > 3 (R) (m3/h)	Port sizes				Weight (kg)	Model * G-thread	Model * NPT-thread
					1 (P)	2 (A)	2-1 (A-1)	3 (R)			
XSz 8 *1)	d.c./a.c.	3 to 10	70	89	1/4"	1/4"	—	1/4"	1,1	24928063052	24928053052
XSz 8 *1)	d.c./a.c.	3 to 10	70	89	1/4"	1/4"	—	3/8"	1,1	24928083052	24928073052
XSz 10 *2)	d.c./a.c.	2 to 10	152	305	1/2"	1/2"	(1/2")	3/4"	2,5	24929323052	24929333052
XSz 10 *4)	d.c./a.c.	2 to 10	152	305	1/2"	1/2"	(1/2")	3/4"	2,5	24929303052	24929313052
XSz 20 *2)	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	1"	1"	4,7	24930320200	-
XSz 20 *2)	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	—	1"	4,7	-	24930330200
XSz 20 *4)	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	1"	1"	4,7	24930300200	-
XSz 20 *4)	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	—	1"	4,7	-	24930310200
XSz 32 *2)	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5	24931050800	24931070800
XSz 32 *2)	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5	24931060800 *3)	24931180800 *3)
XSz 32 *4)	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5	24931300800	24931200800
XSz 32 *4)	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5	24931310800 *3)	-
XSz 50 *4)	d.c./a.c.	2 to 8	1078	3300	1 1/2"	2"	—	2"	15	24932300800	24932200800
XSz 50 *4)	d.c./a.c.	2 to 8	1078	3300	1 1/2"	2"	—	2"	15	24932310800 *3)	24932180800 *3)

Port sizes in brackets are plugged.

\* To order please insert voltage requested for each valve. All solenoids are delivered without plugs.

\*1) XSz 8 valves are delivered with silencer.

\*2) Valves delivered with integrated silencer and without flange (R ports).

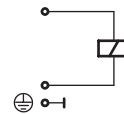
\*3) With pressure balance Model 1028100.

\*4) Valves delivered without silencer and with flange.






## Technical data – solenoids

Model	0200, 0800, and 3052			
Standard voltages	24 V d.c. and 230 V a.c., other on request			
Duty cycle	100% ED			
Protection class	IP65			
Model	Power consumption V d.c.	Current V a.c. Inrush	Hold	Electrical connection DIN EN 175301-803 (DIN 43650)
0200	11 W	22 VA	15 VA	Form A
0800	16 W	50 VA	27 VA	Form A
3052	4,8 W	12 VA	8,5 VA	Form B


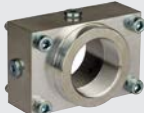
## Circuit diagrams



## Accessories

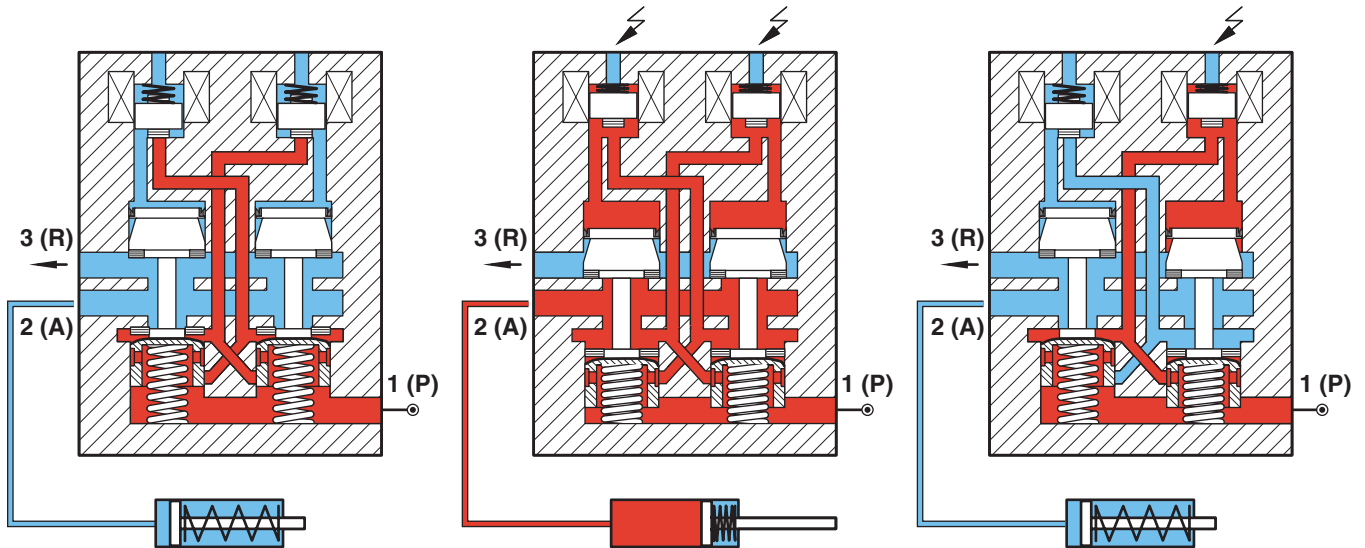
Series	Plug	Silencer	Integrated silencer	Integrated silencer	High efficiency silencer
XSz 8					
XSz 8	0680003	MB002B (G 1/4), MB003B (G 3/8)	—	—	—
XSz 10	0680003	MB002A (1/4 NPT), MB003A (3/8 NPT)	—	—	—
XSz 10	0680003	—	0016422	—	0016420
XSz 20	0570275	—	—	0016622	0016520
XSz 32	0570275	—	—	0016622	0016620
XSz 50	0570275	—	—	—	0016720

Caution: the safety is related to the quality of the silencer, use only Norgren Herion original silencers

Series	Flange	
		
XSz 50	0547365 (port P, G1 1/2, and pressure switches port G1/4)	0545005 (port A, G2, and pressure switches port G1/4)

**Spare Parts**

Series	Model (G-thread)	Model (NPT-thread)	Spare parts kits	Spare valve without base
XSz 8	24928063053	24928053053	0101534	2493805
XSz 10	24929323053	24929333053	0110641	2493930
XSz 20	24930320201	—	0110649	2494030
XSz 20	—	24930330201	0110649	2494030
XSz 32	24931050801	24931070801	0558631	2494130
XSz 32	24931060801	24931180801	0558631	2494131
XSz 50	24932300801	24932200801	0542576	—
XSz 50	24932310801	24932180801	0542576	—


**Solenoids de-energized:**

A port is exhausted. P port is closed, no connection from P to A. No residual pressure on port A as port A is freely exhausted through port R. No acting pressure on port A.

**Solenoids energized:**

Pilots are synchronously energised. Connection from port P to A. Working pressure on A. No passage from P to R. Dynamic self monitoring of both pilot systems, checking each other at each cycle for proper functioning.

**Malfunction:**

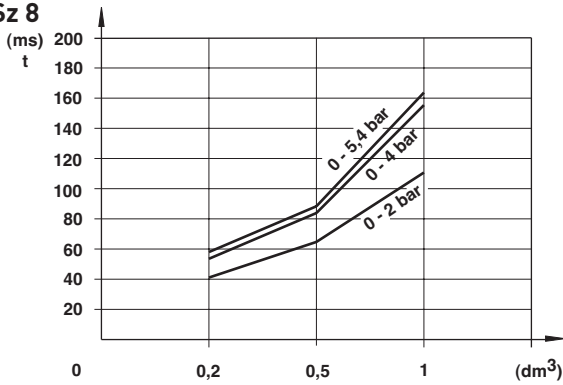
Pilots non-synchronously energised. Dynamic monitor notices failure operation and prevents the pistons from giving connection from P to A. Synchronously port A exhausts through R. No residual pressure remains in the system since P and A are not connected. The pilot line has lost the pressure and is locked.

1 (P) = Air pressure port / 2 (A) = Power port [clutch / brake] / 3 (R) = Exhaust

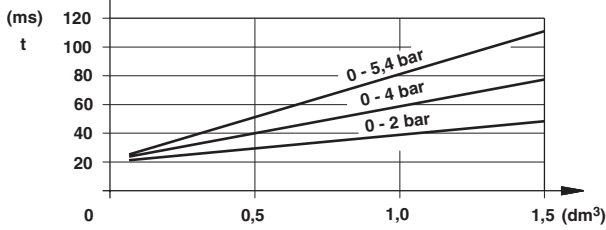
Norgren Herion XSz Safety valves comply with the Category IV of DIN EN ISO 13849-1, if the operating system has been designed and realised according to Category IV.

**Pressurisation**

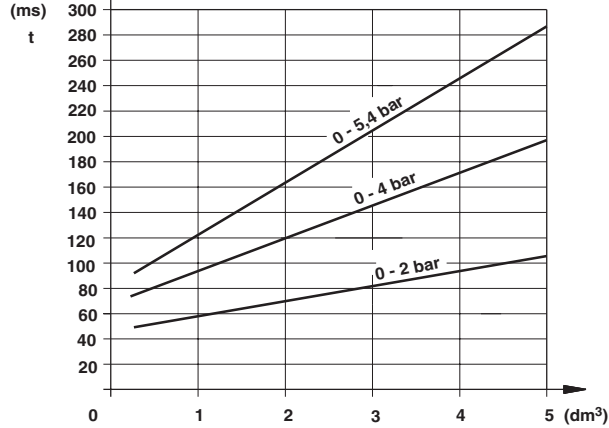
**XSz 8**



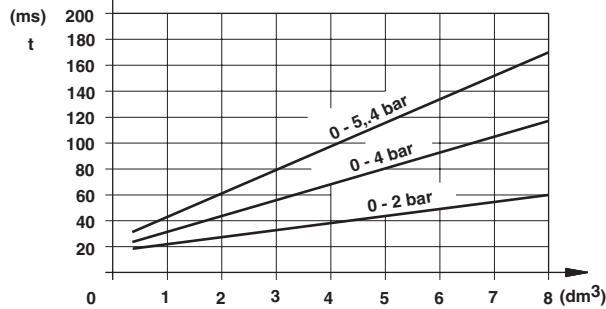
**XSz 10**



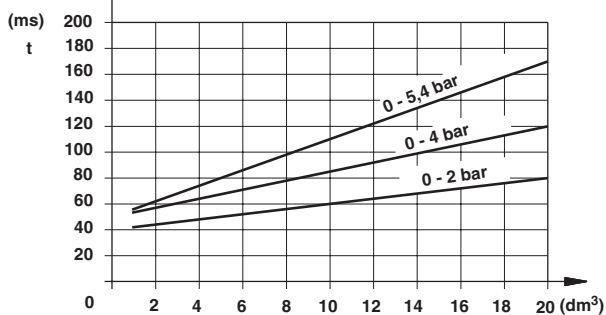
**XSz 20**



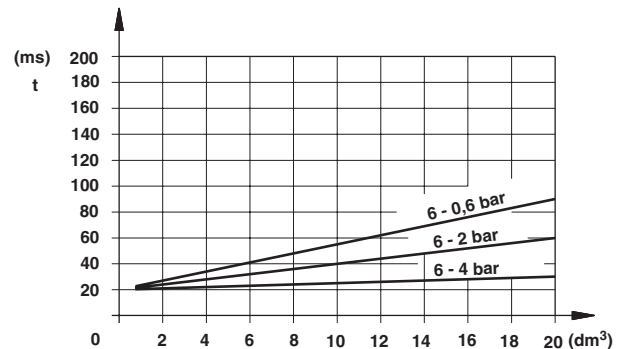
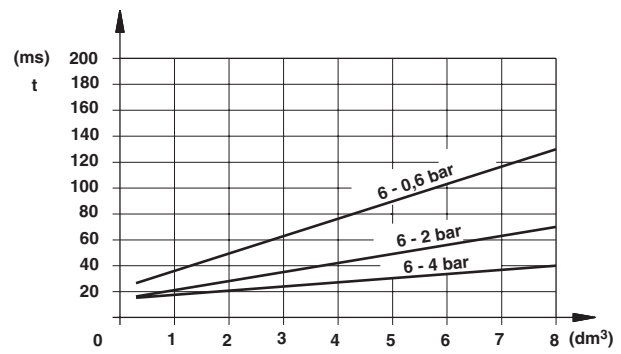
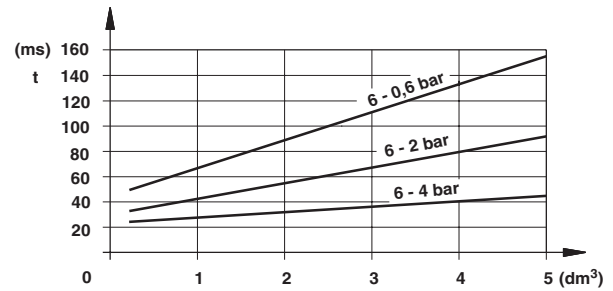
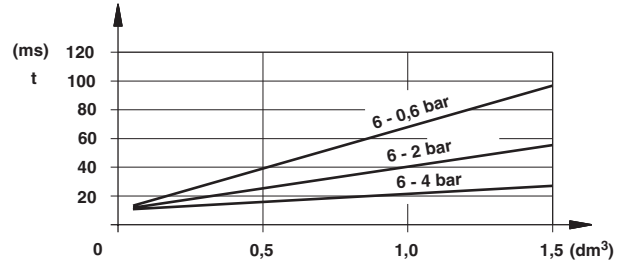
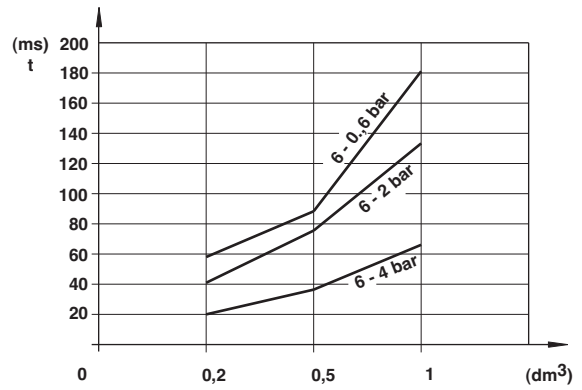
**XSz 32**

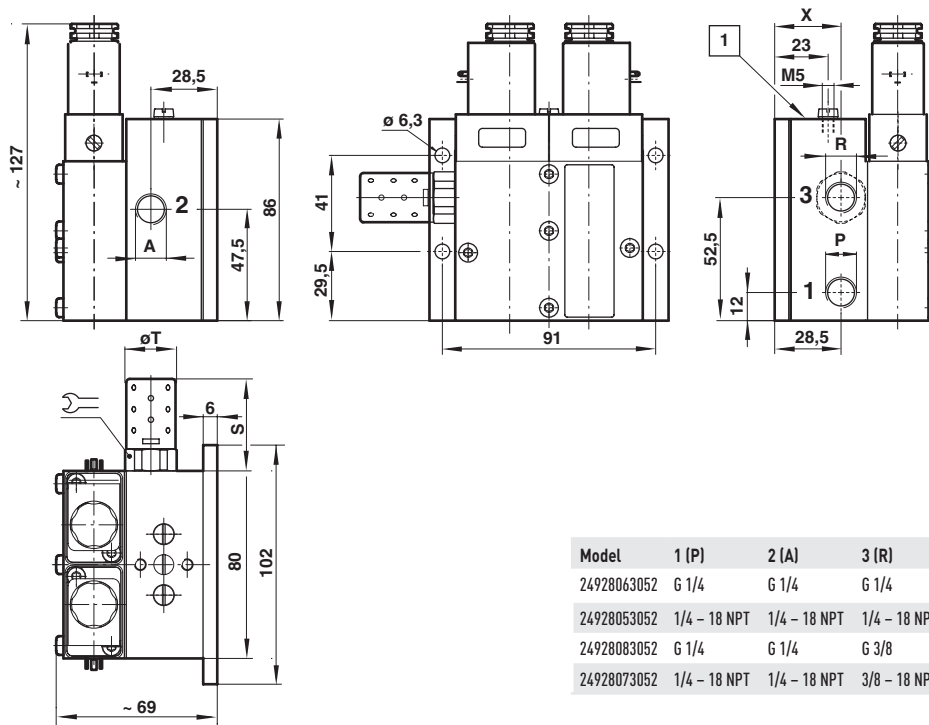


**XSz 50**



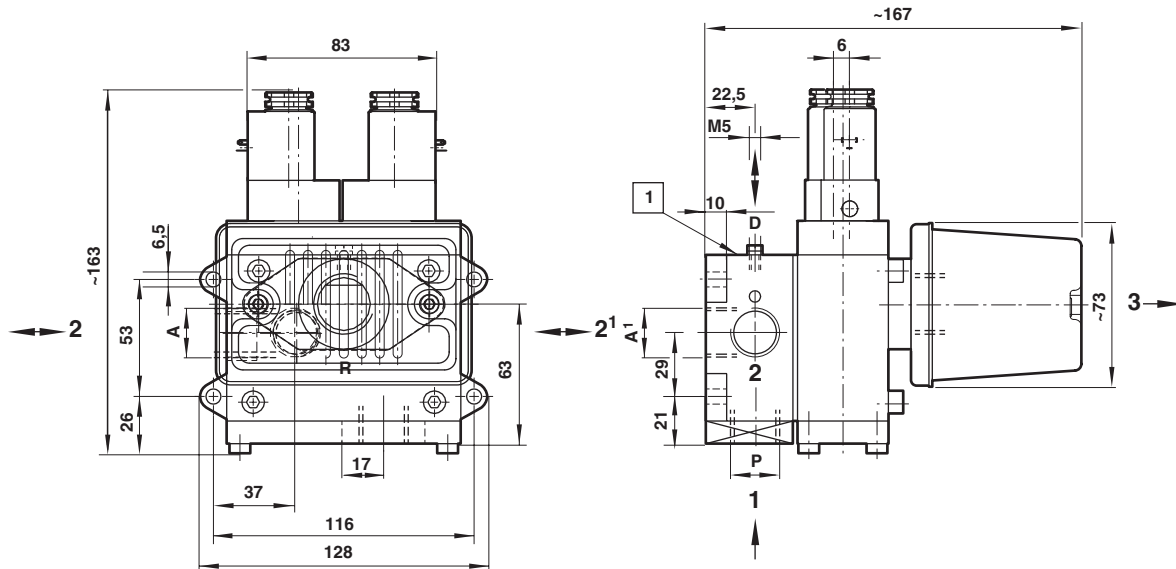
**Depressurisation without silencer**



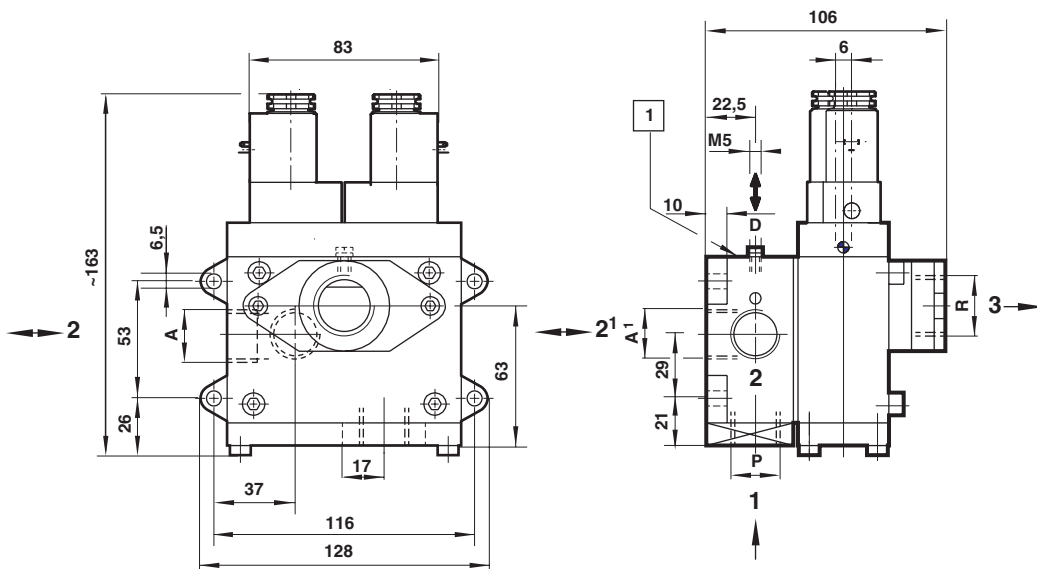
**XSz 8 - with silencer**


1 Flange surface for pressure switch and failure indicator unit

XSz 10 - with silencer



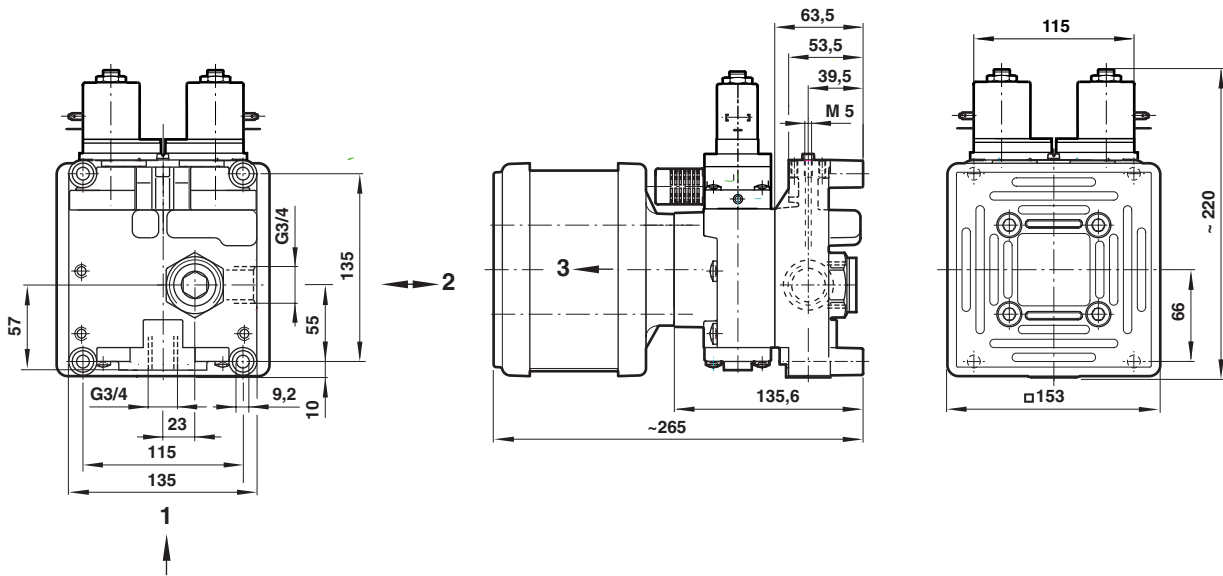
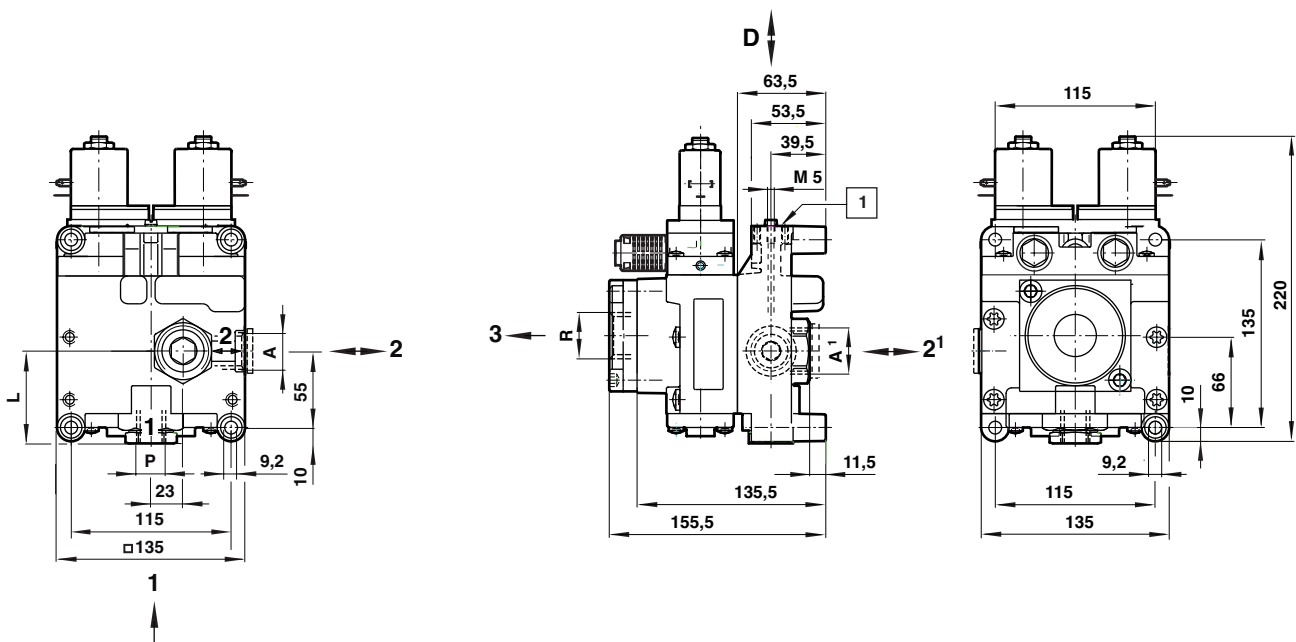
XSz 10 - without silencer



1 Flange surface for pressure switch and failure indicator unit

Model	1 (P)	2 (A)	2' (A')	3 (R)
24929323052	G 1/2	G 1/2	G 1/2 *	—
24929333052	1/2 NPT	1/2 NPT	—	—
24929303052	G 1/2	G 1/2	G 1/2 *	G 3/4
24929313052	1/2 NPT	1/2 NPT	—	3/4 NPT

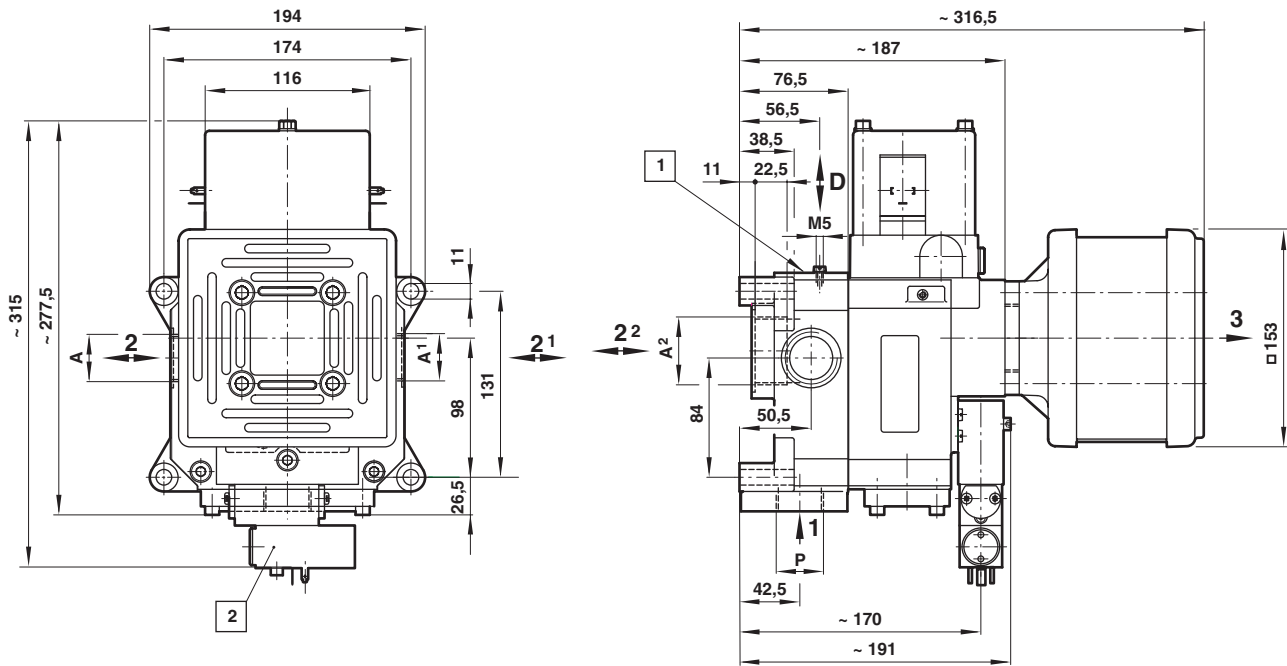
\* closed

**XSz 20 - with silencer**

**XSz 20 - without silencer**


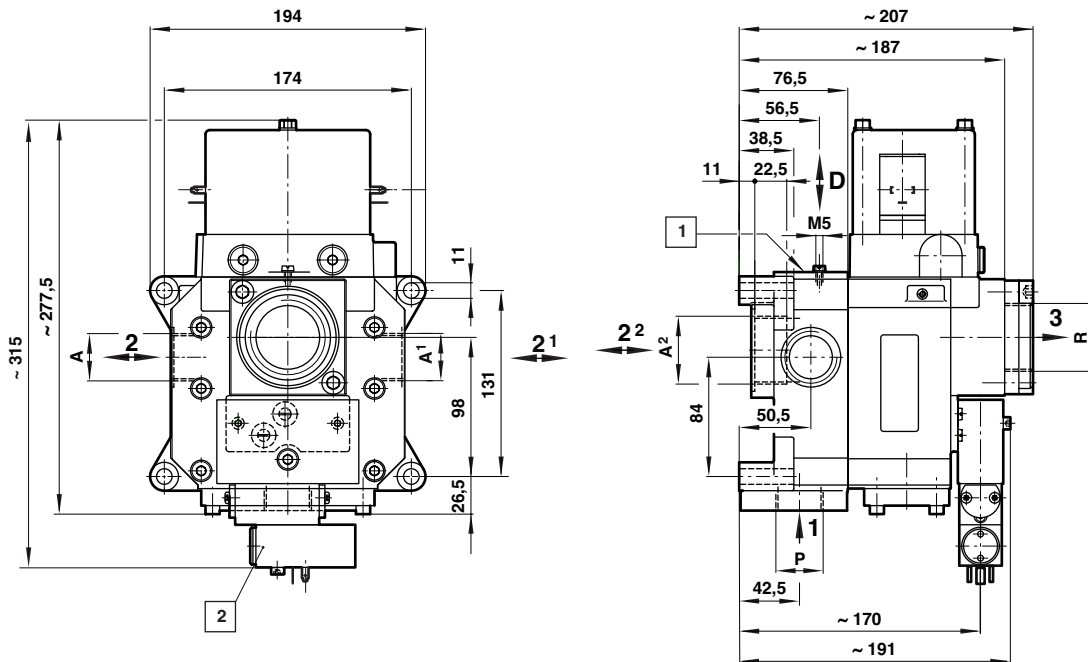
1 Flange surface for pressure switch and failure indicator unit

Model	1 (P)	2 (A)	2' (A')	3 (R)	L
24930320200	G 1/2 (G 3/4)	G 3/4	G 1	—	66,5 (57)
24930330200	1/2 (3/4) NPT	3/4 NPT	—	—	77 (57)
24930300200	G 1/2 (G 3/4)	G 3/4	G 1	G 1	66,5 (57)
24930310200	1/2 (3/4) NPT	3/4 NPT	—	1 NPT	77 (57)

**XSz 32 - with silencer and pressure balance**



**XSz 32 - without silencer, with pressure balance**

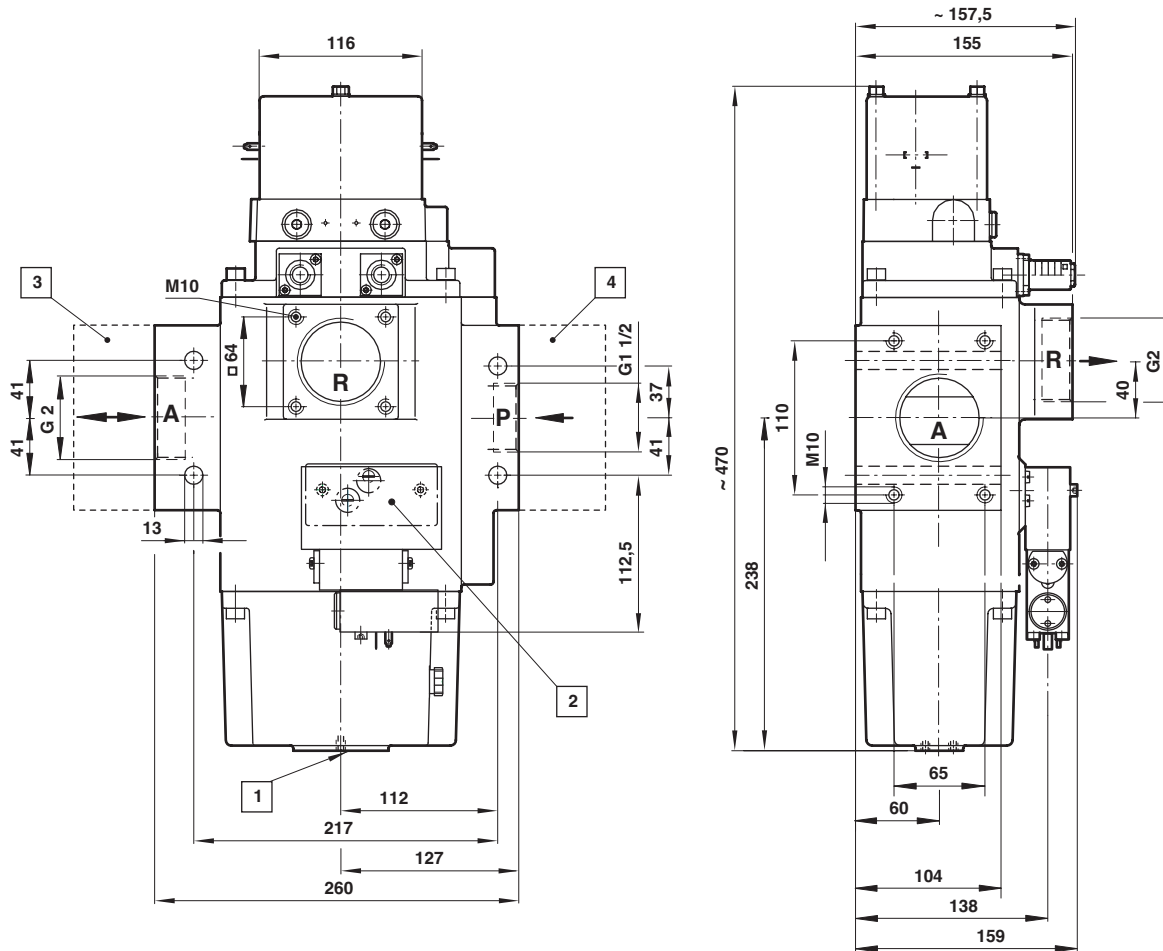


1 Flange surface for pressure switch and failure indicator unit

2 Pressure balance

Model	1 (P) / 2 (A)	2' (A')	2 <sup>2</sup> (A <sup>2</sup> )	3 (R)
24931060800	G 1	G 1	G 1 1/2	—
24931180800	1 - 11.5 NPT	—	—	—
24931310800	G 1	G 1	G 1 1/2	G 1 1/2



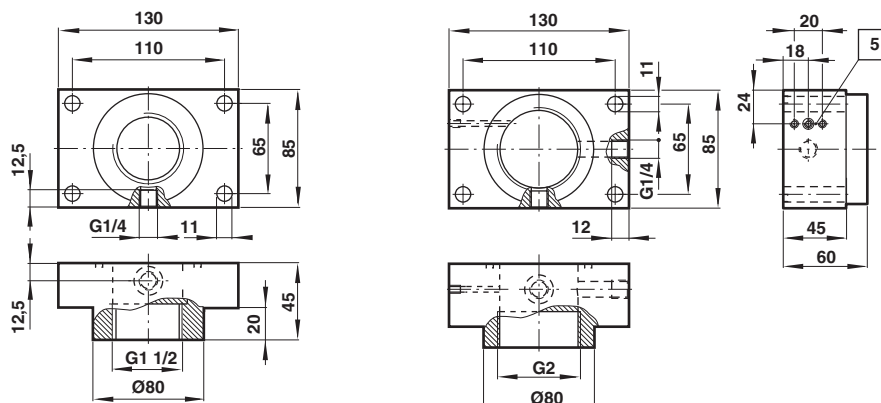
**XSz 50 - without silencer, with pressure balance**


- 1 Flange surface for failure indication element
- 2 Pressure balance
- 5 Flange surface for 18D pressure switch

**Flange**

0547365 (for position 4)

0545005 (for position 3)



For external indication (e.g. visual, electrical or acoustic signal) of a malfunction, the installation of a failure indication element is recommended. Such an element is not necessary to fulfil the safety function of the valve. (For further information please see the corresponding data sheet no. 5.14.420). A suitable air treatment unit (dehydration, filtration, lubrication) must be connected upstream of pressure port 1(P). Lubrication can only be omitted if the connected consuming device and all additional equipment is suited for oil-free operation. Degree of filtration: 25 µm. The lubrication should be adjusted to supply only enough oil to form a film on the valve spool and bore. Excessive lubrication may cause a build-up of oil in the pilot lines and cause sluggish operation of the valves. The size of pressure regulator, lubricator and filter must be consistent with the inlet port size. An accumulator tank is recommended between the pressure regulator and safety valve. The operating pressure must not drop below 2 bar and the use of a pressure switch is suggested. Safety valves must be installed as close as possible to the clutch and brake.

Caution: Non controllable elements such as quick exhaust valves,

nozzles, non return valves, etc. must not be mounted between safety valve and clutch brake. It is the responsibility of the purchaser and/or installer of the Norgren Herion safety valves to make sure that the valve and all other components comply with all relevant national regulations and the specifications of the local safety associations. The valves should be checked at intervals depending on the loads to which they are subjected, at least, however, once a year. The relevant tests must be carried out according to the corresponding operation and maintenance instructions of the unit and the local safety regulations. In case of malfunctions the unit has to be tested and/or replaced immediately. Repairs and maintenance must only be carried out by the after-sales service of the valve manufacturer or by a qualified engineer trained by the valve manufacturer. Important for use at presses: The combination with the electrical press control must meet the DIN EN ISO 13849-1 requirements. If two separate valves are used to control the clutch and brake, please observe data sheet no. 5.14.420.

All liability is denied for unauthorised modification of the units, installation or usage not in accordance with the manual, the local safety requirements and the principles of DIN EN ISO 13849-1.

## Warning

These products are intended for use in industrial compressed air only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical features'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.