

**Inherently fail-safe without residual pressure**

**Dynamic self monitoring**

**Double valve control system**

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

**Poppet design with feedback signal ports**

**Fast exhaust capability**

**Conforms to DIN-EN-ISO 13849-1 (performance  
level e, category IV), BG, OSHA, CSA and other  
approvals**

**Improves safety and reduces downtime**

**Quick and easy adjustment of 'overlap'  
on mechanical presses**

**No additional electrical monitoring required**

**Easily fitted into existing systems**

**Norgren-Herion XSz safety valves are also  
available as 5/2-way-valves**



### Technical data

Medium:

Compressed air, filtered, lubricated  
or non-lubricated \*1)

Operating Pressure:  
2 to 10 bar \*2)

Temperature range:  
-10 to 60°C \*3)

Mounting position:  
Preferably vertically

Additional equipment:

Soft clutch module - documentation No 7501250

Soft brake module - documentation No 7500717

Safety silencer - documentation No 7500266

Failure indication  
elements - documentation No N/5.4.317

Nozzle for overlap adjustment  
(exclusively XSz32 and 50)  
- documentation No N/5.4.317

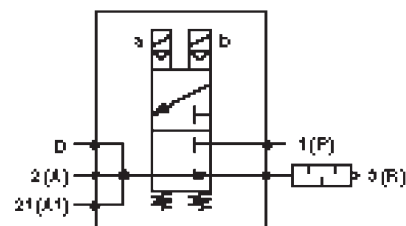
### Materials

Body: aluminium

Seals: polyurethane (AU), NBR

### Ordering information

See page 2



\*1) 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), Filtration 25 - 50 µm

\*2) For more details please see table overleaf.

\*3) To secure the safety function of the valve at subzero temperatures it is  
important that the air is dry enough to prevent an icing of valve and  
silencer.

**General information**

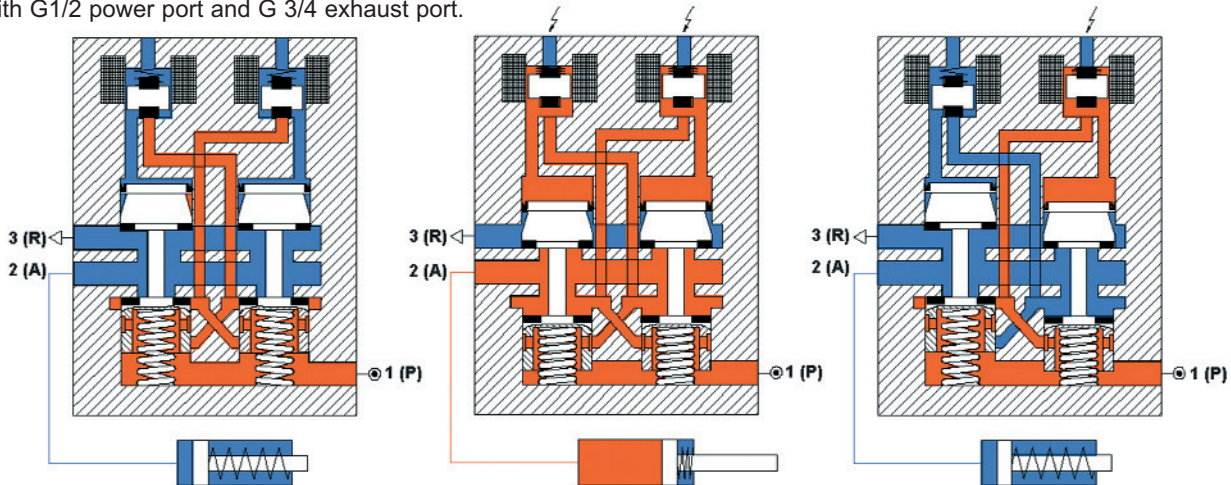
Series	Type G-thread	Type NPT-thread	Voltage	Pressure range (bar)	Flow		Port sizes				Weight (kg)
					1 (P) > 2 (A) (m <sup>3</sup> /h)	2 (A) > 3 (R) (m <sup>3</sup> /h)	1 (P)	2 (A)	2-1 (A-1)	3 (R)	
XSz 8 *1)	24928063053	24928053053	d.c./a.c.	3 to 10	70	89	1/4"	1/4"	-	1/4"	1,1
XSz 8 *1)	24928083053	24928073053	d.c./a.c.	3 to 10	70	89	1/4"	1/4"	-	3/4"	1,1
XSz 10 *2)	24929323053	24929333053	d.c./a.c.	2 to 10	152	305	1/2"	1/2"	(1/2")	3/4"	2,5
XSz 10 *4)	24929303053	24929313053	d.c./a.c.	2 to 10	152	305	1/2"	1/2"	(1/2")	3/4"	2,5
XSz 20 *2)	24930320201	-	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	1"	1"	4,7
XSz 20 *2)	-	24930330201	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	-	1"	4,7
XSz 20 *4)	24930300201	-	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	1"	1"	4,7
XSz 20 *4)	-	24930310201	d.c./a.c.	2 to 8	279	695	1/2" (3/4")	3/4"	-	1"	4,7
XSz 32 *2)	24931050801	24931070801	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5
XSz 32 *2)	24931060801 *3)	24931180801 *3)	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5
XSz 32 *4)	24931300801	24931200801	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5
XSz 32 *4)	24931310801 *3)	-	d.c./a.c.	2 to 8	640	1230	1"	1"	1 1/2"	1 1/2"	7,5
XSz 50 *4)	24932300801	24932200801	d.c./a.c.	2 to 8	1078	3300	1 1/2"	2"	-	2"	15
XSz 50 *4)	24932310801 *3)	24932180801 *3)	d.c./a.c.	2 to 8	1078	3300	1 1/2"	2"	-	2"	15

Port sizes in brackets are plugged. To order please insert voltage requested for each valve. All solenoids are delivered with plugs.

- \*1) XSz 8 valves are delivered with silencer.
- \*2) Valves delivered with integrated silencer and without flange (R ports).
- \*3) With pressure balance Type 1028100.
- \*4) Valves delivered without silencer and with flange.

**Ordering example**

To order, quote model number from table overleaf, e.g. **2492932.3053.02400** for a valve in 24 VDC, with G 1/2 power port and G 3/4 exhaust port.



**Solenoids de-energised:** 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 energised:** 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 standard 13849-1, performance level e, if the operating system has been designed and realised according to category IV.

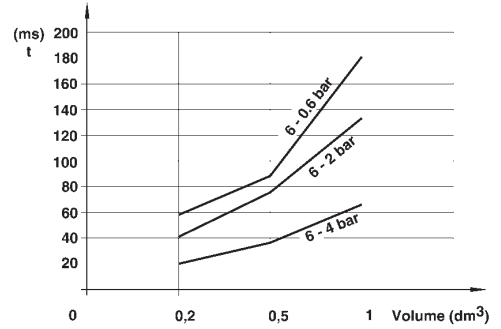
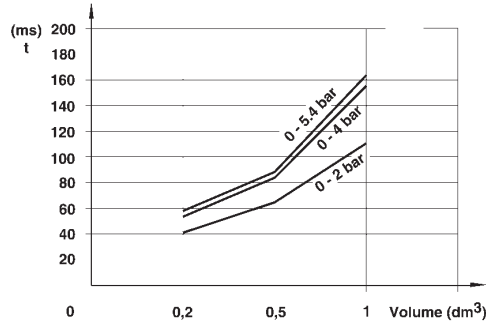
Series	Plug	Silencer	Integrated silencer	Integrated silencer	High efficiency silencer with prechamber
XSz 8	0680003	MB002B (G 1/4), MB003B (G 3/8)	-	-	
XSz 8	0680003	MB002A (1/4 inch), MB003A (3/8 inch)	-	-	
XSz 10	0680003	-	0016422	-	0016420+0016410
XSz 20	0570275	-	-	0016622	0016520+0016510
XSz 32	0570275	-	-	0016622	0016620+0016610
XSz 50	0570275	-	-	-	0016720+0016710

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

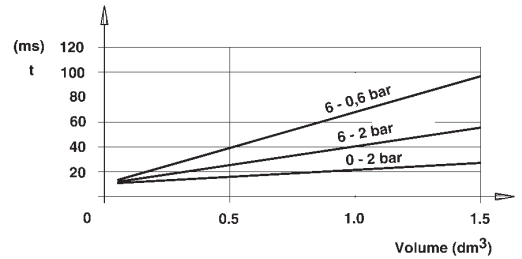
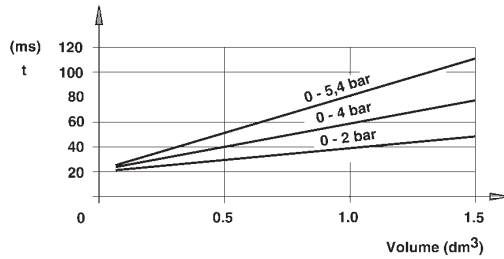
**Pressurisation**

**Depressurisation without silencer**

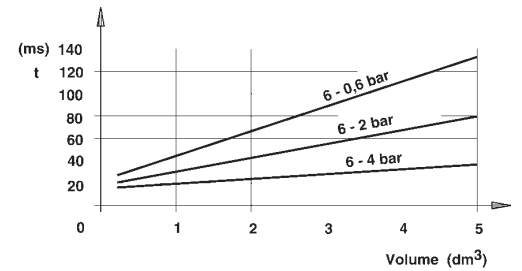
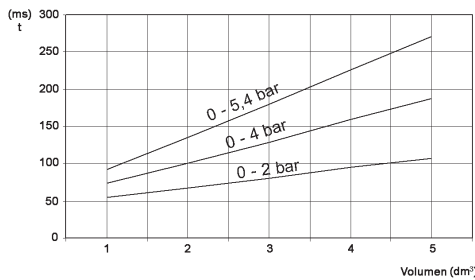
**XSz 8**



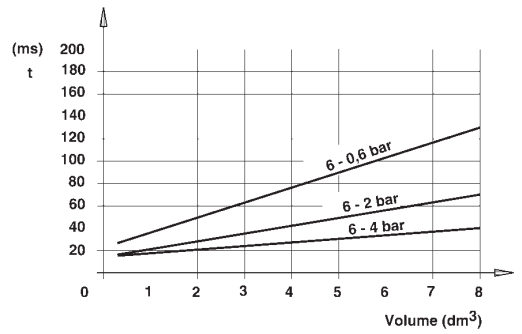
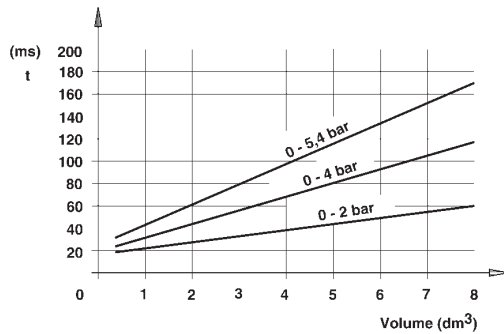
**XSz 10**



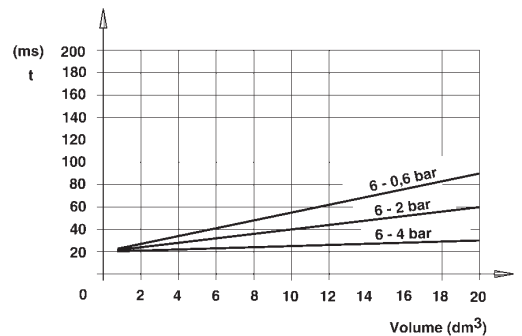
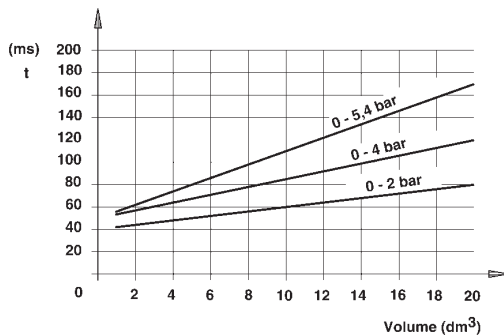
**XSz 20**



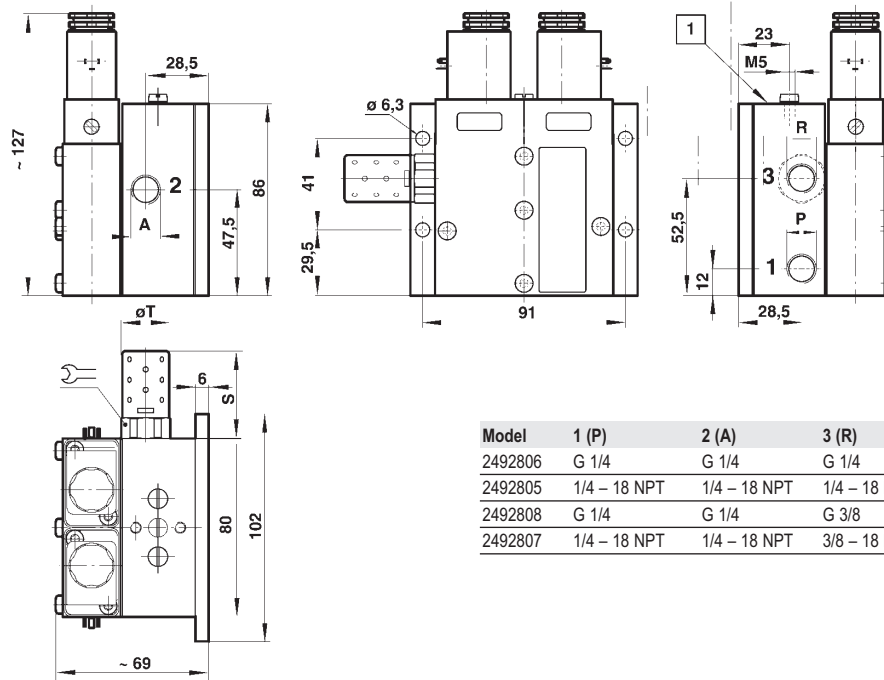
**XSz 32**



**XSz 50**

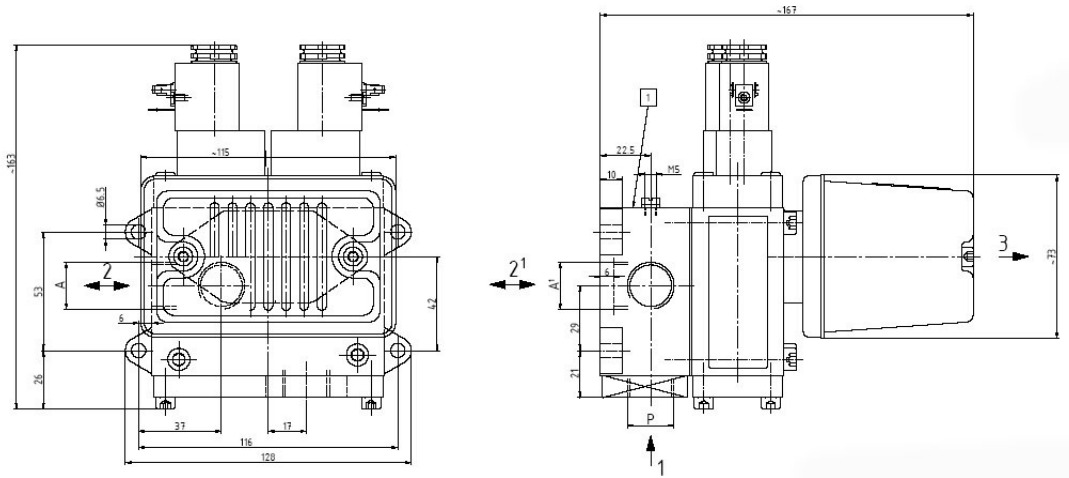


**Basic dimensions XSz 8 - with silencer**

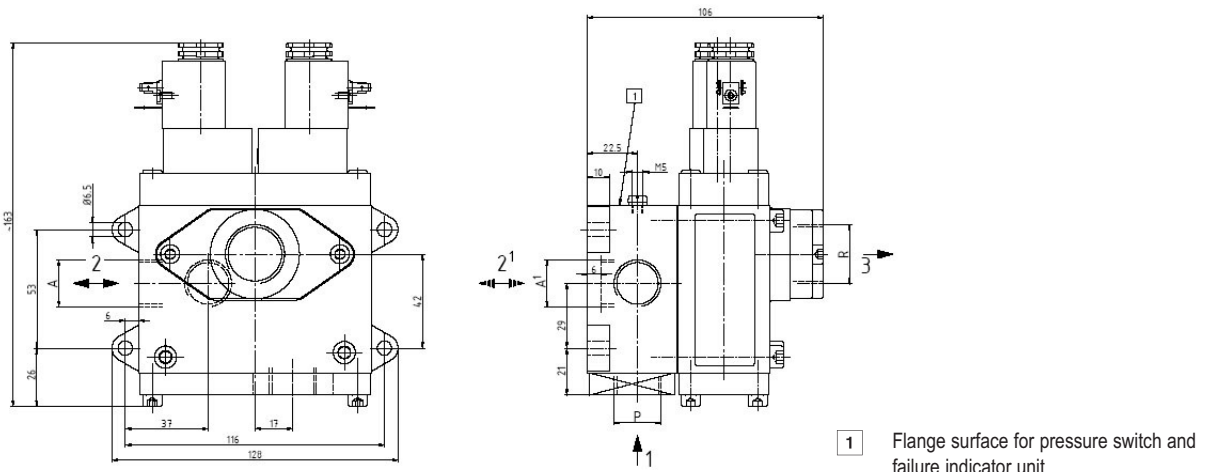


Model	1 (P)	2 (A)	3 (R)	S	øT	∅
2492806	G 1/4	G 1/4	G 1/4	42	21	21
2492805	1/4 - 18 NPT	1/4 - 18 NPT	1/4 - 18 NPT	42	21	21
2492808	G 1/4	G 1/4	G 3/8	75	32	32
2492807	1/4 - 18 NPT	1/4 - 18 NPT	3/8 - 18 NPT	75	32	32

**Basic dimensions XSz 10 - with silencer**

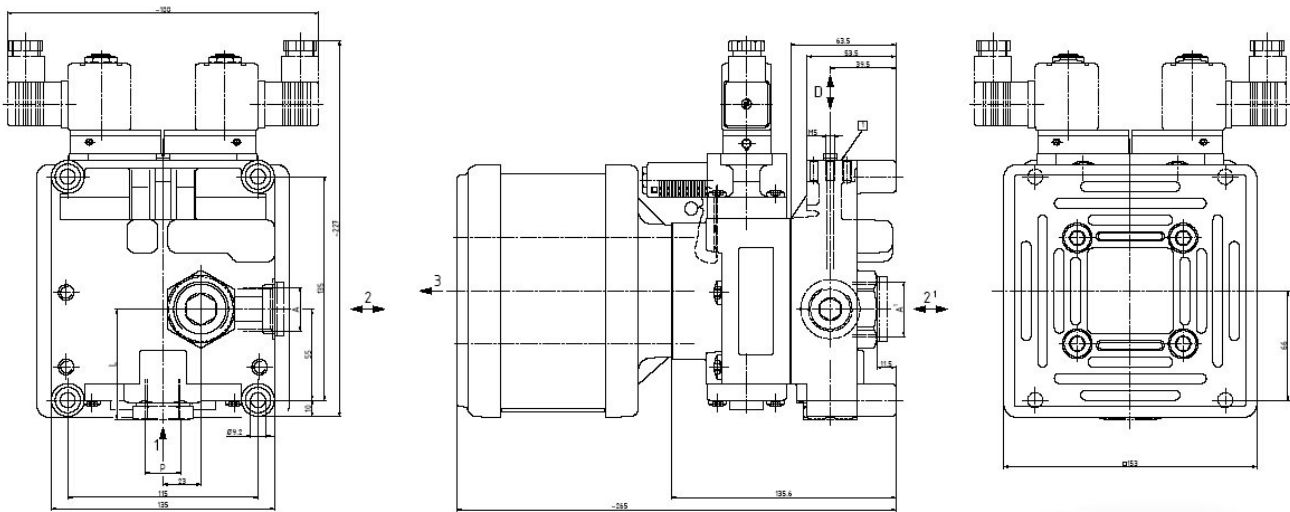


**Basic dimensions XSz 10 - without silencer**

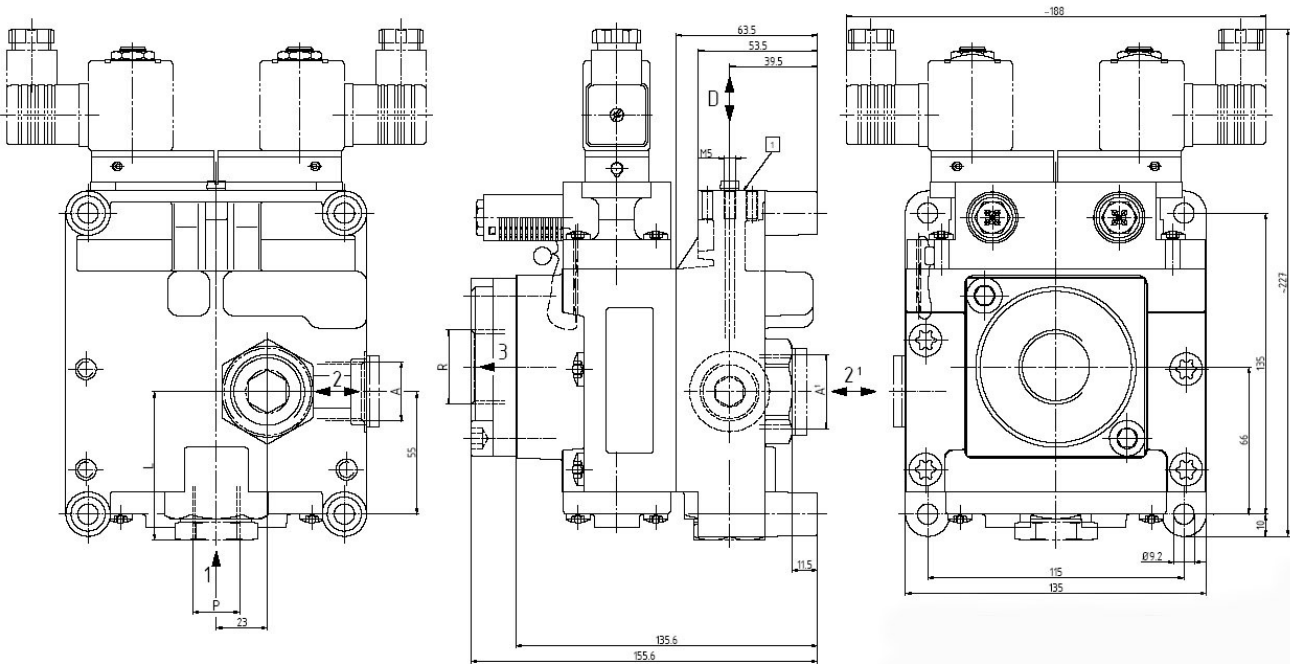


1 Flange surface for pressure switch and failure indicator unit

**Basic dimensions XSz 20 - with silencer**



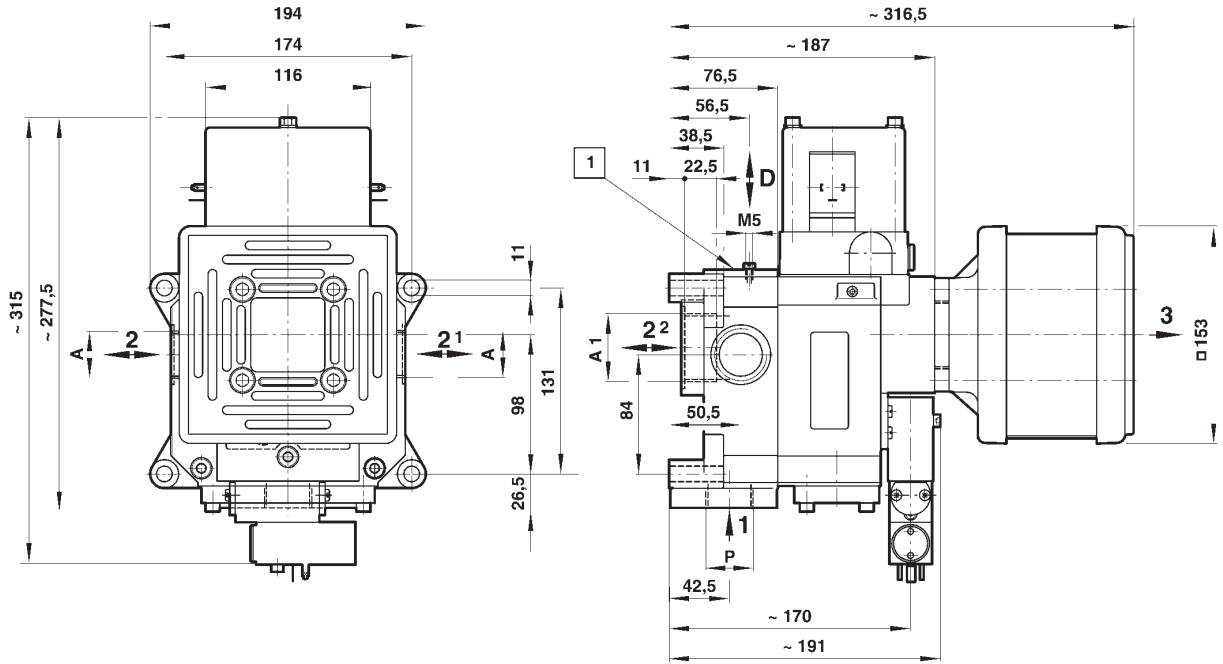
**Basic dimensions XSz 20 - without silencer**



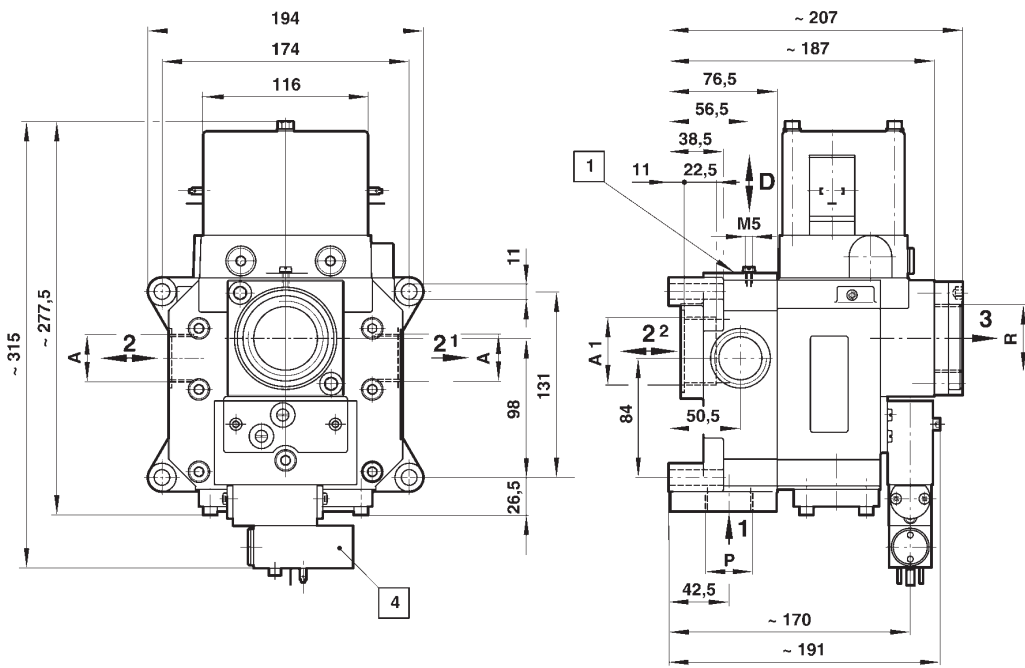
Model	1 (P)	2 (A)	2' (A1)
2493032	G 1/2 (G 3/4)	G 3/4	G 1
2493033	1/2 (3/4) - 14 NPT	3/4 - 14 NPT	-

**1** Flange surface for pressure switch and failure indicator unit

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

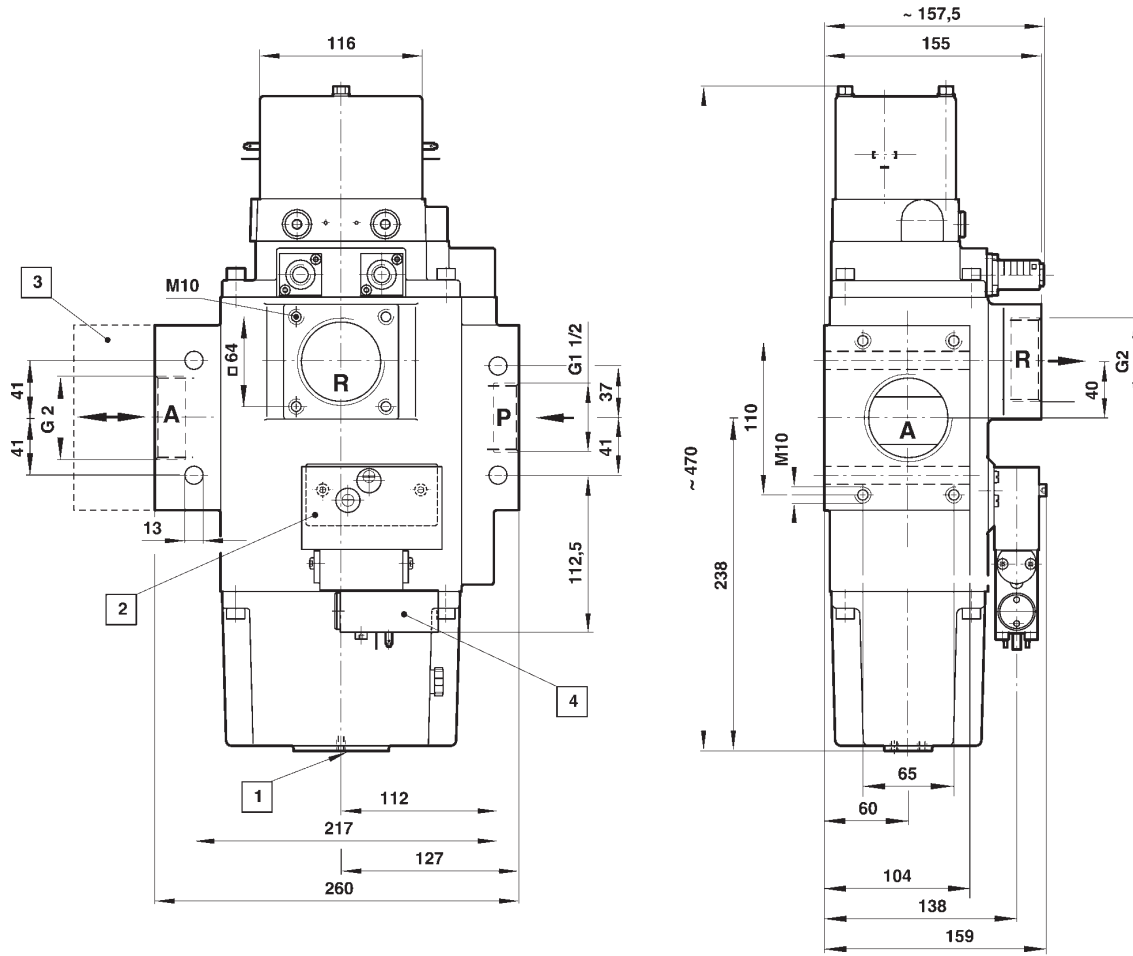


**Basic dimensions XSz 32 - without silencer, with pressure balance**



- 1 Flange surface for pressure switch and failure indicator unit
- 4 Pressure balance

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



- 1 Flange surface for failure indication element
- 2 Flange surface for pressure balance
- 3 Flange surface for 18D pressure switch. Adapter flange type 0545005
- 4 Pressure balance

**Spare parts**

Series	Type (G-thread)	Type (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	-

**Related documentation**

Documentation	Ref. No.
Soft clutch module	7501250
Soft brake module	7500717
Safety silencer	7500266
Failure indication elements	N/5.4.317
XSz 8V 5/2-way valves with dynamic monitoring	N/D 5.4.368
XSz 10V 5/2-way valves with dynamic monitoring	N/D 5.4.310
XSz safety valves with rotary union, sizes 20 and 32	N/** 5.4.316

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. 5.4.317).

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.

**Warning**

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **‘Technical data’**.

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-HERION.

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

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. Necessary repairs on safety valves should be carried out by the Norgren-Herion after-sales service. It is also possible to replace the defective valves by substitute valves.

For further information please see the operation instructions manual. 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. 5.4.317.

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.

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.