

Operating and mounting manual

Safety shut off valve

solenoid valve

EVS-R / EVSO

Contents

- 1.0 General Remarks**
 - 1.1 Valve data
 - 1.2 Application
- 2.0 Danger Notices**
 - 2.1 Safety terms
 - 2.2 Safety notice
 - 2.3 Qualified staff
 - 2.4 Unauthorized modification and spare part production
 - 2.5 Unauthorized operation
 - 2.6 Safety information for the use in explosion-prone areas guideline 2014/34/EU
- 3.0 Handling**
 - 3.1 Transport
 - 3.2 Storage
 - 3.3 Handling before mounting
- 4.0 Product Description**
 - 4.1 Function
 - 4.2 Technical data
 - 4.3 Marking
- 5.0 Installation**
 - 5.1 Warning of dangers during installation, operation and maintenance
 - 5.2 Installation
- 6.0 Operation**
 - 6.1 Commissioning
 - 6.2 Shutting down
 - 6.3 Maintenance
 - 6.4 Putting back into operating
- 7.0 Troubleshooting**
 - 7.1 Detection of defects
 - 7.2 Troubleshooting plan
- 8.0 Dismantling of the Valve**
 - 8.1 Replacement of wear parts
- 9.0 Warranty**
- 10.0 Explanations on Codes and Directives**
- 11.0 Sectional Drawing**
 - 11.1 Sectional drawing
 - 11.2 List of parts
- 12.0 Declaration of Conformity**

1.0 General Remarks

This operating manual includes instructions to assemble and operate the valve in the prescribed and safe way. **Additionally, the adequate operating instructions of each special solenoid drive must be considered.**

Series MG...	220.000.038
Series MG...X	220.000.040
Series MG...Xme	220.000.039

If any difficulties appear that can not be solved by means of the operating manual, further information may be demanded from the manufacturer.

This operating manual is in accordance with the relevant valid EN safety standards and the valid prescriptions and rules of the Federal Republic of Germany.

If the solenoids are used abroad of the FRG, the operator and/or the person who is responsible for the plant concept must take care that the valid national rules are met.

The manufacturer reserves the right of any technical change and improvement.

The use of these operating instructions suppose the qualification of the user according to paragraph 2.3 "qualified staff".

The operating staff must be trained in accordance with the operating instructions. The operating manual must always be available at the location where used.

1.1 Valve data

Manufacturer:

UNI Geräte E. Mangelmann
Elektrotechnische Fabrik GmbH
Holtumsweg 13
D-47652 Weeze
Phone: +49 (0) 2837/9134-0
Fax: +49 (0) 2837/1444
E-Mail: info@uni-geraete.de
Homepage: www.uni-geraete.de

Designation

Directly functioning, currentless opened, spring safety shut off valve with solenoid drive.

Acceptance test certificate

EN 10204-3.2, 2014/68/EU

Test basis

DIN EN 161

DIN EN 16304, DIN EN 16678

Type	Working pressure	Ambient temperature	Medium	Medium temperature	Test pressure (*) PT
5/10-EV-S-R#	5/10bar	-20°C to + 60°C	Nitrogen, Natural gas	-20°C to + 60°C	15bar
25- EV-S-R	25bar	-20°C to + 60°C	Propan, Butan	-20°C to +120°C	38bar
25- EV-S..N.R.Xde	25bar	-20°C to + 60°C	Propan, Butan	-20°C to +120°C	38bar
40-EV-S-O	40bar	-20°C to + 60°C	Natural gas	-20°C to +100°C	60bar
40- EV-S-O	40bar	-20°C to + 50°C	Propan, Butan	-30°C to +120°C	60bar
40- EV-S-O	40bar	-20°C to + 60°C	Propan, Butan	-30°C to +140°C	60bar
50- EV-S-O	50bar	-20°C to + 60°C	Natural gas	-20°C to + 50°C	75bar
55- EV-S-O	55bar	-20°C to + 60°C	Natural gas	-20°C bis +230°C	83bar
140- EV-S-R	140bar	-20°C to + 80°C	Fuill oil Water	max.140°C	210bar
160- EV-S-R	160bar	-20°C to + 80°C	Deminerallized water	5°C to + 70°C	240bar
162- EV-S-R	162bar			5°C to +100°C	

(*) Test pressure to perform leakage test "No FUNCTION TEST"

Fitting position:

vertical drive $\pm 5^\circ$, with order supplement „W“ vertical or horizontal.

Fitting position:

with vertical or horizontal drive.

Switching cycles: see operating instructions solenoid drive

Threaded connection dimension at DIN ISO 228-1

Connection G	1/4 (2)	3/8 (3)	1/2 (5)	3/4 (7)	1 (10)	1 1/4 (12)	1 1/2 (15)	2 (20)
160-EVS-R	-	O	-	-	-	-	-	-
162-EVS-R	O	-	-	-	-	-	-	-

X Type test acc. to EU/2016/426, O Acceptance test certificate 3.2 possible, - not available,

Flange connection measures acc. to DIN EN 1092-1 /ANSI

Flange DN	PN / ANSI	Prod. Id. CE-0085	15 5N	20 7N	25 10N	32 12N	40 15N	50 20N	65 25N	80 30N	100
5-EVS-R	10-40	-	O	O	-	-	O	O	-	-	O
10-EVS-R	10-40	-	O	O	-	-	O	O	-	-	O
25-EVS-R	300lbs	-	-	-	O ^{1) 2)}	-	-	-	-	-	-
25-EVS..N.R.Xde	300lbs	-	-	-	O ³⁾	-	-	-	-	-	-
40-EVSO	63	AS0561	-	-	-	-	-	X	-	-	-
40-EVSO	40	AS0561	X	X	-	-	-	-	-	-	-
40-EVSO	300lbs	AS0561	X ¹⁾²⁾	-	-	-	-	-	-	-	-
50-EVSO	63	-	-	-	-	-	-	-	O	-	-
140-EVS-R	160	-	O	-	-	-	-	-	-	-	-

X Type test acc. to EU/2016/426, O Acceptance test certificate 3.2 possible, - not available

¹⁾ Valve chamber to ANSI 300lbs Table 2, row 15; ²⁾³⁾ Valve chamber to ANSI 300lbs Table 2, row 21

Flange connection measures acc. to DIN EN 1092-1

Flange DN	PN	Report no.	15 5N	20 7N	25 10N	32 12N	40 15N	50 20N	65 25N	80 30N	100
55-EVSO	100	V490 2015 B2	-	-	-	-	X ¹⁾	-	-	-	-

X¹⁾ Type test acc. to 97/23/EC, O Acceptance test certificate 3.2 possible, - not available

Voltage: VDC 12 – 440 (–15% to +10%)
VAC 24 – 500 (–15% to +10%)
Protection type: IP65
Frequency 40 – 60Hz
Power 10 – 4000W

Details to the electrical data can be found on the type sign and the adequate operating instructions of the solenoid valves.

1.2 Application

The UNI Geräte Gas – Solenoid valves EVS-R / EVSO are used as automatic safety shut-off valves for protection, limitation, shut-off and release of gas and air supply at main stops of in front of gas burners.

If used in other cases, the operator must carefully check if construction/design of valve, accessories and materials are suitable for the new application. The range of application is subject to the responsibility of the plant planner. The service life of the valve is 20 years.

2.0 Danger Notices

2.1 Safety terms

The signal terms DANGER, CAUTION und NOTICE are used in this operating manual in case of notices concerning special dangers, or for unusual information requiring a special marking.



DANGER! means that in case of non-observance there is danger to life and/or considerable damage.



CAUTION! means that in case of non-observance there is danger of injury and/or damage.



NOTICE! means that attention is drawn to technical correlations/connections.

Observance of other, not especially marked notices concerning transport, assembly, operation and maintenance and other data (in the operating manual, product documentation and at the unit itself) is also essential, in order to avoid disturbances that might affect direct or indirect damage to property or injury to persons.

2.2 Safety notice

Non observance of safety instructions can lead to loss of any claim for damages.

Non observance can lead to the following mentioned dangers:

- Failure of important functions of the valve/plant
- Endangering of persons by electrical or mechanical influences.
- Protection against accidental contact for moving parts may not be removed as long as the valve is in operation.
- Leakage of dangerous media (e.g. explosive, toxic, hot) must be removed in the way that there is no danger for persons or environment. Laws and regulations must be observed.

2.3 Qualified staff

These are persons who are familiar with erection, assembly, starting, operation and maintenance of the product and who have special qualifications acc. to their activities and functions, e.g.:

- Instruction and obligation to carry out and meet all regional and in-house orders and requirements.
- Education or instruction according to the safety engineering standards in use and maintenance of adequate safety and working protection equipment.
- Training in first aid etc.

2.4 Unauthorized modification and spare part production

Modification or changes of the valve are only allowed after agreement of the manufacturer. Original drawings and accessories authorized by the manufacturer are for safety purposes. The use of other parts or unauthorized changes at the valve by third persons may cancel and abolish the manufacturer's liability for resulting consequences.

2.5 Unauthorized operation

Operational reliability of the delivered valve is only guaranteed in case of determined use in accordance to paragraph 1 of the operating manual. **The application limits mentioned on the type sign may on no account be exceeded.**

2.6 Safety information for the use in explosion-prone areas guideline 2014/34/EU

- The temperature of the medium must not exceed the respective temperature class, and respectively, the respective maximum permitted medium temperature as per operation guideline.
- If the valve is heated (e.g. heating jacket), care must be taken, that the specified temperature class is kept in the time.
- The valve must be connected to the ground.
In the case most simple this can be realized via pipe screws by means of tooth disc.
Otherwise the connection to the ground must be implemented by other measures e.g. cable links.
- Control valves, electrical and electrical/mechanical drives as well as sensors must undergo a separate conformity check as per ATEX. In doing so the respective safety and explosion protection information in the operation instructions are to taken into special consideration.

- Any modifications whatsoever to the valve are not allowed. The ATEX approval is void with immediate effect if the valve is modified without prior authorisation (even including painting).
- UNI-Geräte GmbH must be consulted before any modifications are made.

Furthermore we point out the guideline ATEX 118a, which include the minimum regulations for the improvement of the health-related situation and the safety of the employees, who might be jeopardized by an explosive atmosphere.

3.0 Handling

3.1 Transport

For any transport works, the generally recognised technical rules and standards as well as rules for prevention of accidents must be observed.

In case of transport, storage and stopping, the flange protection caps must be mounted at both valve flanges.

The goods to be transported must be carefully treated. During transport, the valve must be protected against strokes, impacts or vibration. The coat of lacquer may not be damaged. Transport temperature is -20°C up to $+60^{\circ}\text{C}$.

Never transport the valve at screwed cable glands, appliance plugs or add-on units. The valve can be transported at ring nuts, flange borings or by means of a belt under the solenoid drive.

Transport the valve in a case or on a pallet with smooth base and put it softly on plain floor. **Never put the valve on limit switch box.**

The goods must be checked on completeness and transport damage. See also section 9.0

3.2 Storage

If the valve is not installed immediately after delivery, it must be stored properly.

- Storage temperature -20°C up to $+60^{\circ}\text{C}$, dry and clean.
- The lacquering protects against corrosion in neutral dry atmosphere. Do not damage colour.
- In humid rooms, a drying agent or a heating resp. is necessary because of condensation of water.

Requirements according to DIN 7716 (products made of caoutchouc and rubber) must be met.

3.3 Handling before mounting

- In case of valve with protection caps, they must be removed before being mounted!
- Protect against atmospheric influences such as humidity (otherwise use drying agent).
- Appropriate treatment protects against damage.

4.0 Product Description

The UNI-Geräte gas – solenoid valve EVS-R /EVSO is a directly controlled, currentless opened safety shut-off valve acc. to DIN EN 161, DIN EN 16304, DIN EN 16678 and AD2000 with solenoid drive.

Sectional drawing 11.1 Fig. 1 – Fig. 9 shows the valve construction.

4.1 Function

By switching on the solenoid drive, the solenoid core (207) is drawn against the upper part (106). The pressure spring (503) is pressed and the balance piston (220) (EVSO with valve disc (200)) releases the valve cross section. The valve is closed at 15% of nominal voltage.

The valve opened by switching off, interruption or failure of power energy to solenoid drive. Due to press of the pressure spring (503) the balance piston closes (220) (EVSO with valve disc (200)). The valve is open

4.2 Technical data

Opening times: 0,3 – 0,7s
Closing times: < 1s

Solenoid –drive types MG...

Connection G	1/4 (2)	3/8 (3)	1/2 (5)	3/4 (7)	1 (10)	1 1/4 (12)	1 1/2 (15)	2 (20)
160- EVS-R	-	018	-	-	-	-	-	-
162- EVS-R	018	-	-	-	-	-	-	-

Flange DN	15 5N	20 7N	25 10N	32 12N	40 15N	50 20N	65 25N	80 30N	100
5-EVS-R	010	010	-	-	014	016	-	-	019A1
10-EVS-R	010	010	-	-	016	019	-	-	019A1
25-EVS-R ^{1) 2)}	-	-	018	-	-	-	-	-	-
25-EVS..N.R.Xde ³⁾	-	-	018	-	-	-	-	-	-
40-EVSO	-	-	-	-	-	020.1	-	-	-
40-EVSO	018	018	-	-	-	-	-	-	-
40-EVSO ^{1) 2)}	018	-	-	-	-	-	-	-	-
50-EVSO	-	-	-	-	-	-	020.1	-	-
55-EVSO	-	-	-	-	020.1	-	-	-	-
140-EVS-R	018	-	-	-	-	-	-	-	-

Drive types with "A" consist of pickup and holding winding

Max. valve loading by pipe power according to DIN EN 13611

The indicated moments may not work longer than 10s.

DN	8	10	15	20	25	32	40	50	65	80	100	125	150
Torsion Nm	80	35	50	86	125	160	200	250 ¹⁾	325 ¹⁾	400 ¹⁾	-	-	-
Bending Nm	35	70	105	225	340	475	610	1100	1600	2400	5000	6000	7600

¹⁾ Not valid in case of valves with flanges

Starting torque, pipe screws greased

DN	8	10	15	20	25	32	40	50	65	80	100	125	150
Torque Nm	20	30	30	30	30	50	50	50	50	50	80	160	160

Starting torque, product screws and nuts greased

Screw	M6	M8	M10	M12	M16	M20	M24
Torque Nm	5	11	22	39	70	110	150

4.3 Marking

The type sign on the solenoid drive has the following information:

- Fabricator
- Valve type, nominal width, pressure and temperature indication, fitting position
- Year of construction/ production no.
- Product ID No. to EU/2016/426
- Valve class and valve group acc. to EN 161, EN 16304, EN 16678
- No. of relevant location to 2014/68/EU
- Fluid group and test pressure PT to 2014/68/EU
- Solenoid drive type
- Electr. performance
- Voltage
- Frequency
- Protection type

When using solenoid drives for ex-protection zone 1 refer to information in the valid operating instructions.

Refer also to section 10.0.

5.0 Installation

5.1 Warning of dangers during installation, operation and maintenance



DANGER!

Safe operation of the valve can only be guaranteed if it is installed, commissioned and maintained by qualified personnel (see point 2.3 “Qualified staff”) correctly and in observance of the warnings in this operating manual. Apart from that, the operation safety order and the qualified use of tools and protection equipment must be guaranteed. The operating instructions for the valve must be observed during all work on or with the valve. Failure to observe these instructions may result in injury or in damage to the valve or other installations.

When the valve is used as a final sealing element, a safety precaution e.g. blanking disc, blind flange, etc., in accordance with the code of practice of the German Technical and Scientific Association for Gas and Water (DVGW) is recommended during all repair work.

5.2 Installation

Apart from the general installation guidelines, the following points should be observed:



NOTICE!

- Remove the flange covers.
- The inside of the valve and the pipeline must be free from foreign particles.
- Observe the installation position in relation to the flow direction, see markings on the valve.
- Centre gaskets between the flanges.
- The connecting flanges must be aligned.
- Ensure that none of the components is strained during installation.
- The valve must not be used as a fixed point; it is supported by the pipework system.
- Protect valves from soiling, particularly during construction work.
- Thermal expansion of the pipework must be equalised using compensators.

The valve can be installed with upright but not suspended solenoid drive. Valves with order suffix “W” in the type designation can be installed with horizontal solenoid drive.



NOTICE!

Please observe the solenoid drive operating instructions (BTA).

6.0 Operation



DANGER!

Before commissioning a new installation or before starting up an installation again after repairs or modifications, ensure:

- The proper completion of all installation and assembly work!
- Commissioning only by “qualified staff” (see point 2.3).
- Installation or repair of existing guards and protection equipment.

6.1 Commissioning

- Before commissioning, check the data on material, pressure, temperature and flow direction with the layout plan of the pipework system.
- Depending on the field of application, the local regulations have to be observed, e.g. the operation safety order.
- Residues in the pipework and the valve (dirt, weld beads, etc.) will inevitably result in leaks.
- Leakage inspection of the installed valve.

6.2 Shutting down

- Depending on the field of application, the local regulations have to be observed, e.g. the operation safety order.

6.3 Maintenance

Solenoid valves have to be checked at regular intervals for proper function and internal leak tightness. The intervals for regular inspections have to be defined by the operator according to the operating conditions. UNI- Geräte recommends an internal visual inspection once a year and an overhaul of the valve after 2 years or after the following number of switching cycles at the latest:

Application temperature	DN ≤ 25	≤ DN 80	≤ DN 150	> DN 150
≤ 25°C	150 000	75 000	25 000	20 000
> 25°C	50 000	25 000	25 000	5 000

Repair or maintenance works at the manufacturing company (UNI- Geräte)

- Valves and fittings must be delivered clean and free from substances which are harmful to health or to the environment.

UNI-Geräte prescribes the following maintenance intervals for valves with SIL requirements:

The safety requirements with regard to the maintenance intervals to be adhered are described in the **SIL manual** of the type series and must be complied with.

6.4 Putting back into operation

When putting a valve back into operation, ensure that all the necessary steps described in section 5.2 (Installation) and section 6.1 (Commissioning) are repeated.

7.0 Troubleshooting

7.1 Detection of defects



DANGER!

Be sure to observe the safety instructions during troubleshooting.

If the malfunctions cannot be remedied using the following “**Troubleshooting plan (7.2)**” please contact the manufacturer.

In the event of faults in the function or operating behaviour of the valve, check whether the installation work was carried out and completed as described in this operating manual.

Depending on the field of application, the operation safety order must be observed.

Check the data on material, pressure, temperature, voltage and flow direction with the layout plan of the pipework system. In addition, check whether the operating conditions correspond to the technical data in the data sheet or on the rating plate.

7.2 Troubleshooting plan

Malfunction	Possible causes	Remedy
No flow	Valve does not open	Switch off solenoid drive (800)
	Flange covers were not removed	Remove flange covers
Low flow rate	Clogging in the pipework system	Check pipework system
Valve leaking at seat, no internal tightness	Valve seat gasket (400) or valve seat (100) damaged by external particles	See section 8 or replace valve
No external tightness	Gaskets damaged	See section 8 or replace valve
Valve does not close	Working pressure too high	Compare working pressure with the data on the rating plate
	Solenoid drive no voltage	Switch on solenoid drive (800) Check whether there is residual voltage, see section 4.1
Flange fracture (valve/ pipework)	Screws not tightened uniformly, mating flanges not aligned	Align pipework. Install new valve



NOTICE!

Observe section 9.0 before all installation and repair work!

Observe section 6.4 when putting the valve back into operation!

8.0 Dismantling of the Valve

In addition to the general installation guidelines and the operation safety order, the following points must also be observed:



DANGER!

- Depressurised pipework system
- Cooled medium
- Emptied installation
- Vent pipework systems containing corrosive, inflammable, aggressive or toxic media
- Have dismantling work carried out only by qualified staff (see point 2.3)

8.1 Replacement of Wear Parts

Shut down the valve as described in section 6.2.

Switch off and dismantle the solenoid drive as described in the operating manual of the solenoid drive.



DANGER!

After continuous operation, the solenoid drive may be hot! Danger of burns!

Flange version

Fig.1/2 5/10-EVS...N(H).R... DN15, DN20; DN40, DN50

Removal of solenoid actuator (800)

See operating instructions for solenoid actuator 220.100.038.

Removal of limit switch mounting (097)

Open the limit switch housing (120). De-energise limit switch (803) and disconnect. Undo grub screw (941) and remove together with limit switch actuators (513). Undo and remove hexagon nut (901/2). Remove limit switch mounting (097) from spindle guide (212).

Unscrew spindle guide (212#) all the way out of housing flange (108).

Removal of solenoid valve

Fig. 1 5/10-EVS..N(H).R...DN15, DN20

Unscrew upper section of housing (106) from piston guide (221). Release bolt connection (902, 912 or 949) and remove. Remove magnet core (207) complete with guiding rings (206), valve pin (214) compression spring (503), hexagon nut (901/1) and locking plate (908) from balancing piston (220) and place on a clean surface.

Undo Allen bolt (900) and remove with snap ring (905). Remove housing flange (108).

Remove balancing piston (220*) complete with valve disk (200*), limit switch spindle (243), limit switch connecting piece (246*) and valve disk seal (400*) from valve housing (100).

Fig. 2 5/10-EVS..N(H).R...DN40, DN50

Undo grub screw (941) at the upper section of housing (106). Unscrew upper section of housing (106) from piston guide (221). Release bolt connection (902, 912 or 949) and remove. Remove magnet core (207) complete with guide rings (206), valve pin (214) compression spring (503), hexagon nut (901/1) and locking plate (908) from balancing piston (220) and place on a clean surface.

Undo Allen bolt (900) and remove with spring ring (905). Remove housing flange (108).

The limit switch connecting piece (246) can be unscrewed from the valve spindle (205) by counterholding the balancing piston (220). Take balancing piston (220) out of valve housing (100) from above and remove. Undo grub screw (941) at the guide part (255) and unscrew piston guide (221) from guide part (255).



NOTE!

The spare parts in the spare parts kit must be installed when the electric solenoid valve is reconditioned.



CAUTION!

The wearing parts must be installed properly and not damaged during installation.

Assemble valve in reverse order.



NOTE!

(Fig.2 5/10-EV..N(H).R.. DN40, DN50)

The connection between the valve spindle (205) and the valve disk must be completely (200#) secured with Loctite 577.

Examine the valve for internal and external leaks in accordance with DIN EN 16678 and DIN EN 12266 and finally carry out a function test.

Flange version

Fig. 2 10-EVS 100H.R...

Fig. 3¹⁾ 25-EVS-R

Fig. 3²⁾ 25-EVS-R

Fig. 3³⁾ 25-EVS 10N.R.Xde..

Fig. 4 40-EVSO

Fig. 5¹⁾ 40-EVSO

Fig. 5²⁾ 40-EVSO

Fig. 6 50-EVSO

Fig. 7 55-EVSO

Fig. 8 140-EVS-R

Replace the complete solenoid valve

Thread version

Fig. 9 160/162-EVS-R

Replace the complete solenoid valve

9.0 Warranty

Scope and period of the warranty is specified in the edition of the "General Terms of Business of the UNI-Geräte E. Mangelmann Elektrotechnische Fabrik GmbH" valid at the time of delivery or else in the purchase agreement.

We warranty that the valve is free from faults in line with the state of the art and for the confirmed field of application.

No warranty claims will be accepted for damage resulting from improper use or failure to observe these operating and installation instructions, the statutory accident prevention regulations, the EN, DIN and VDE standards and other codes and regulations.

Warranty claims will also not be accepted for damage occurring during operation due to operating conditions deviating from those specified in the data sheet or in other agreements.

Justified complaints will be remedied by reworking by us or specialist companies authorized by us.

Claims going beyond the scope of the warranty will not be accepted. The customer shall have no right to the supply of a replacement valve.

Maintenance work, installation of parts from other manufacturers, any modifications to the design and natural wear are not covered by the warranty.

Transport damage must be reported not to us but **without delay** to your responsible goods handling company, the railway company or the shipping agent as otherwise all claims for damages against these companies will be voided.

10.0 Explanations on Codes and Directives

The Commission of the European Union has laid down common directives for the free trading of goods within the Union specifying minimum requirements for safety and health protection. The CE symbol confirms that products comply with the EU directives resp. Regulations, i.e. in conformity with the relevant, in particular harmonised standards. Regulation EU/2016/426 and Directive 2014/68/EU are of relevance for the gas solenoid valve (mechanical part).

Notes on Regulation EU/2016/426 (Gas Appliances Regulation GAR):

The valves have been developed, manufactured and tested in accordance with harmonised standard DIN EN 161 and DIN EN 16678 and comply with the relevant requirements of the Union Regulation EU2016/426. Unless otherwise stated separately, this has been confirmed by a type test.

Notes on Directive 2014/68/EU (Pressure Equipment Directive, DGRL):

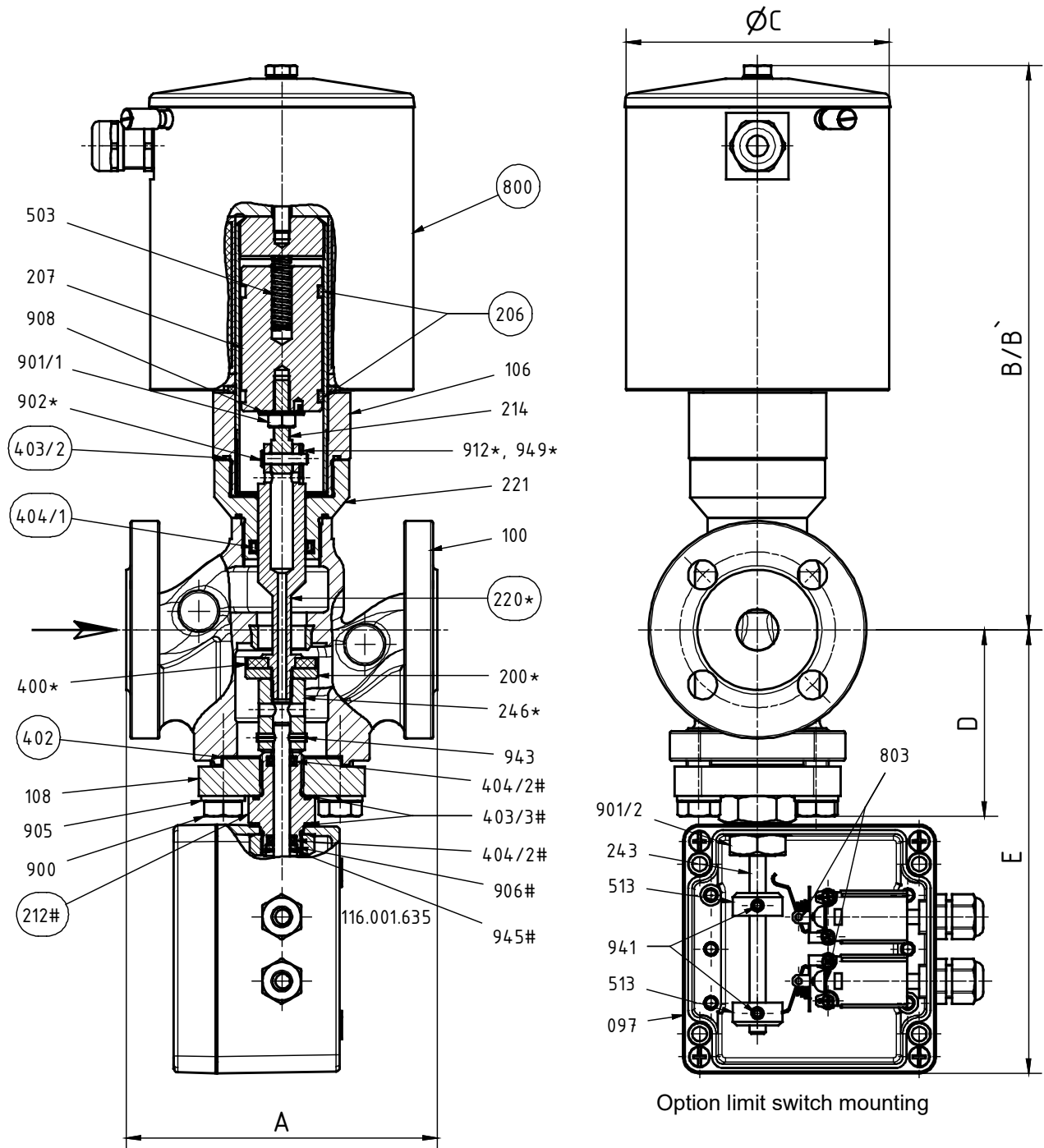
It has been confirmed that the quality assurance in design control, manufacture and final acceptance of the manufacturer, UNI-Geräte E. Mangelmann Elektrotechnische Fabrik GmbH, satisfy the requirements of 2014/68/EU Article 14 Module H. The gas solenoid valves comply with the fundamental requirements of Directive 2014/68/EU. Valves in according to Article 1 Paragraph 2,f,v or Article 4 paragraph 3 are not allowed to have the CE Mark in according to Article 18.

Note concerning ex-guideline 2014/34/EU (explosion guideline ATEX):

The product is not subject to guideline 2014/34/EU, since due to the loads occurring during practical operation, there is no effective source of ignition even in case of an error case to be assumed. This also applies to spring loaded components in gas-filled rooms. In case of electric drives, sensors or other electric components the application as per 2014/34/EU is to be checked separately.

11.0 Sectional drawing

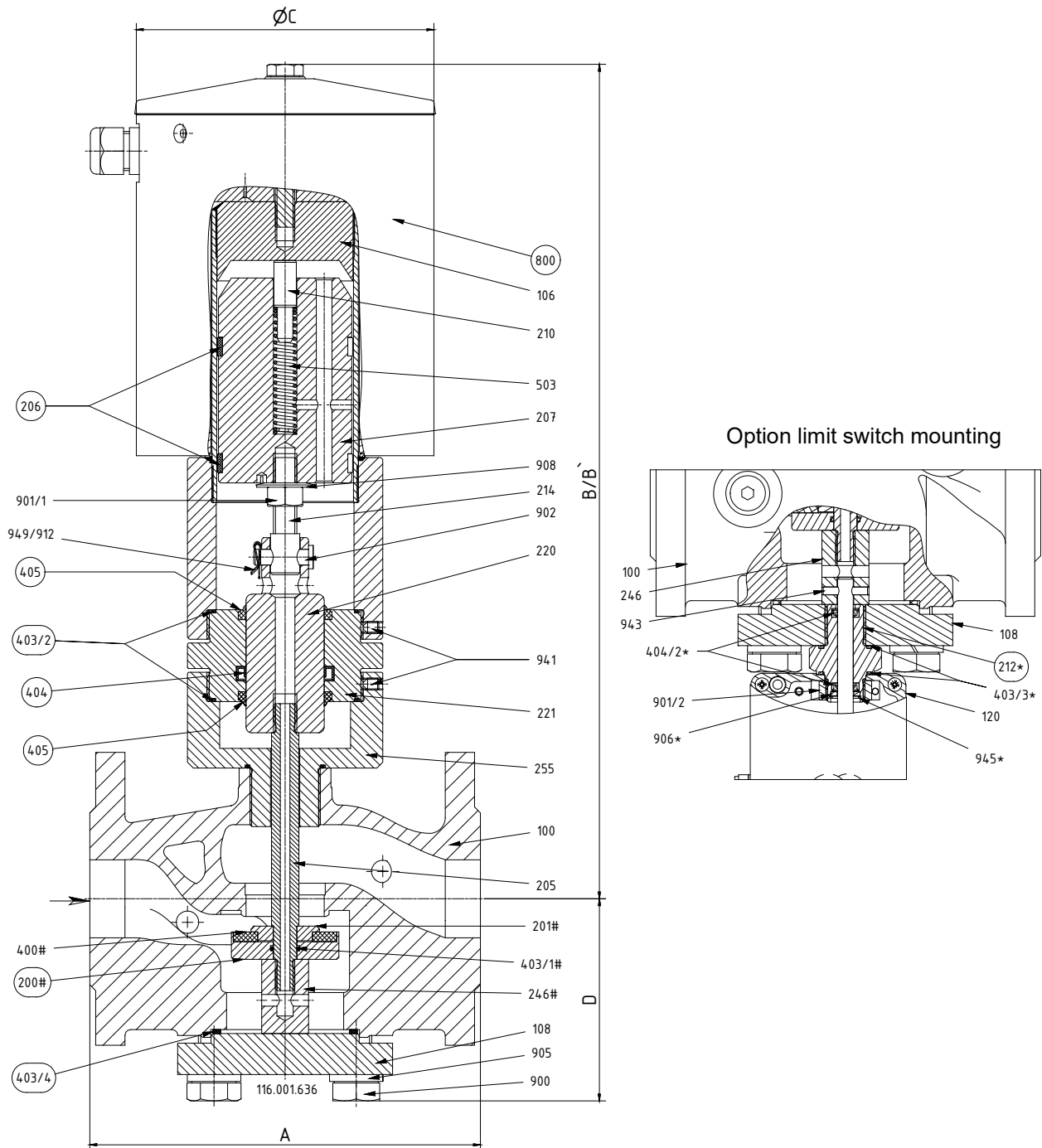
11.1 Fig.1 Flange version 5/10-EVS...NH.R... DN 15, DN 20



Type	DN	A	B	B'	ØC	D	E
5/10-EVS 5NH.R...(72)	15/20	130	273	360	127	90	214
5/10-EVS 7NH.R...(72)	15/20	150	273	360	127	90	214

..... = Spare part kit (...#), (...*) supplied as complete unit

Fig.2 Flange version 5/10-EVS...NH.R.. DN 40, DN 50, DN 100



Type	DN	A	B	B'	ØC	D
5-EVS 15NH.R...(72)	40	200	430	565	152	104
10-EVS 15NH.R...(72)	40	200	430	565	152	104
5-EVS 20NH.R...(72)	50	230	464	600	152	115
10-EVS 20NH.R...(72)	50	230	464	600	152	115
10-EVS 100H.R...	100	350	615	765	191	150

(.....) = Spare part kit (...#), (...*) supplied as complete unit

Fig.3¹⁾ Flange version 25-EV-S-R (Valve chamber to ANSI 300lbs Table 2, row 15)

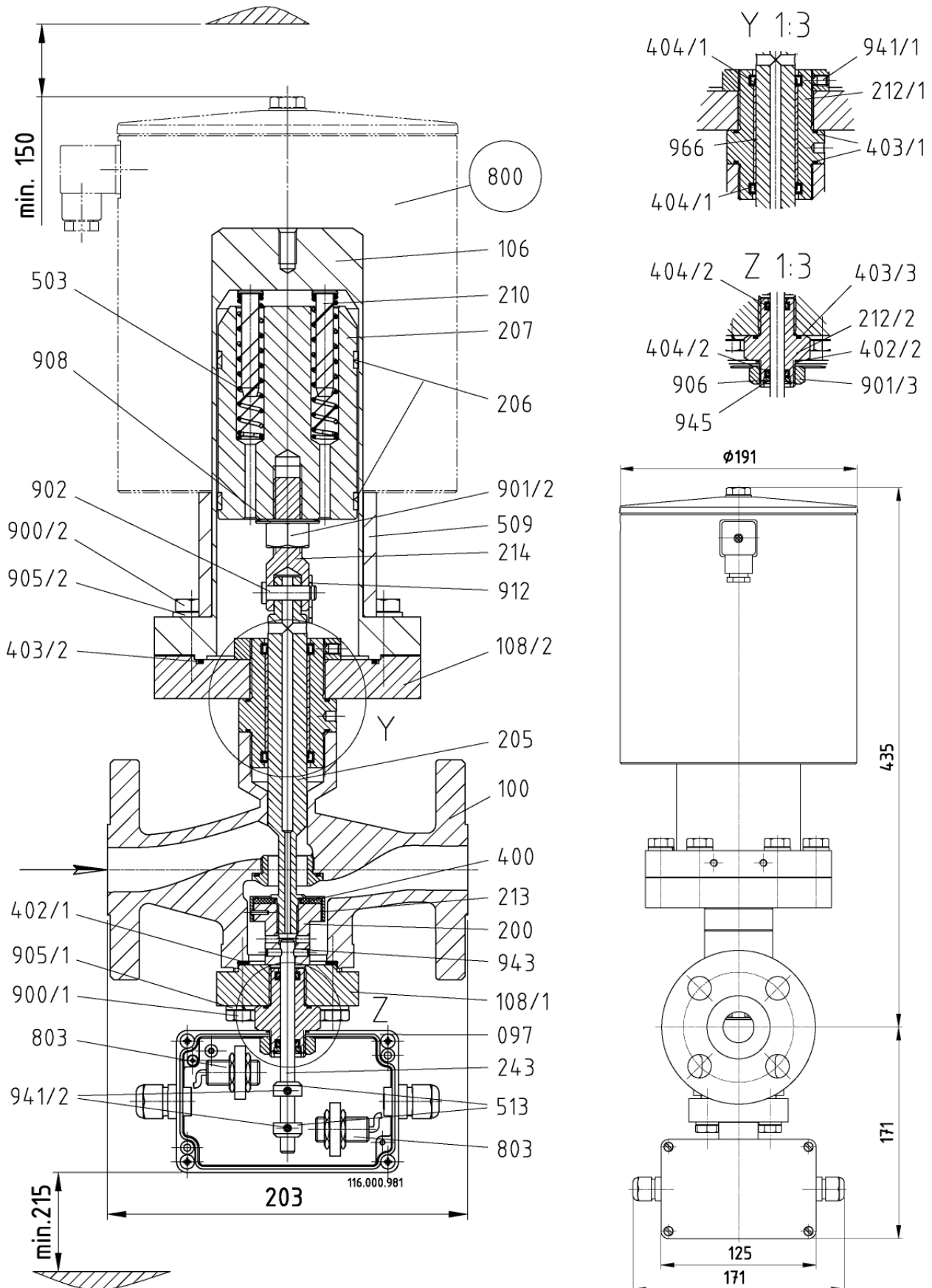


Fig.3²⁾ Flange version 25-EV5-R (Valve chamber to ANSI 300lbs Table 2, row 21)

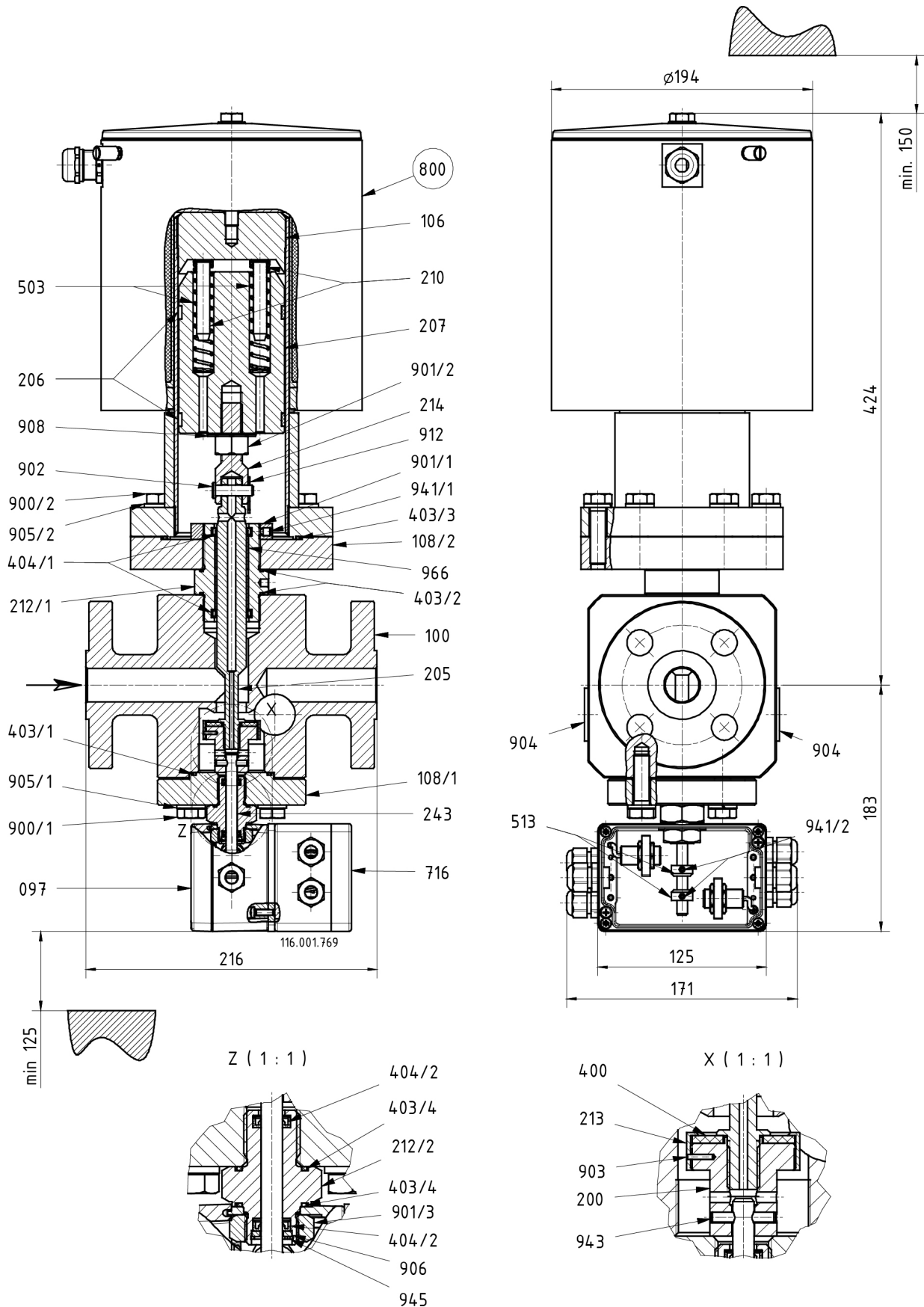


Fig.3³) Flange version 25-EVS 10N.R.Xde..(Valve chamber to ANSI 300lbs Table 2, row 21)

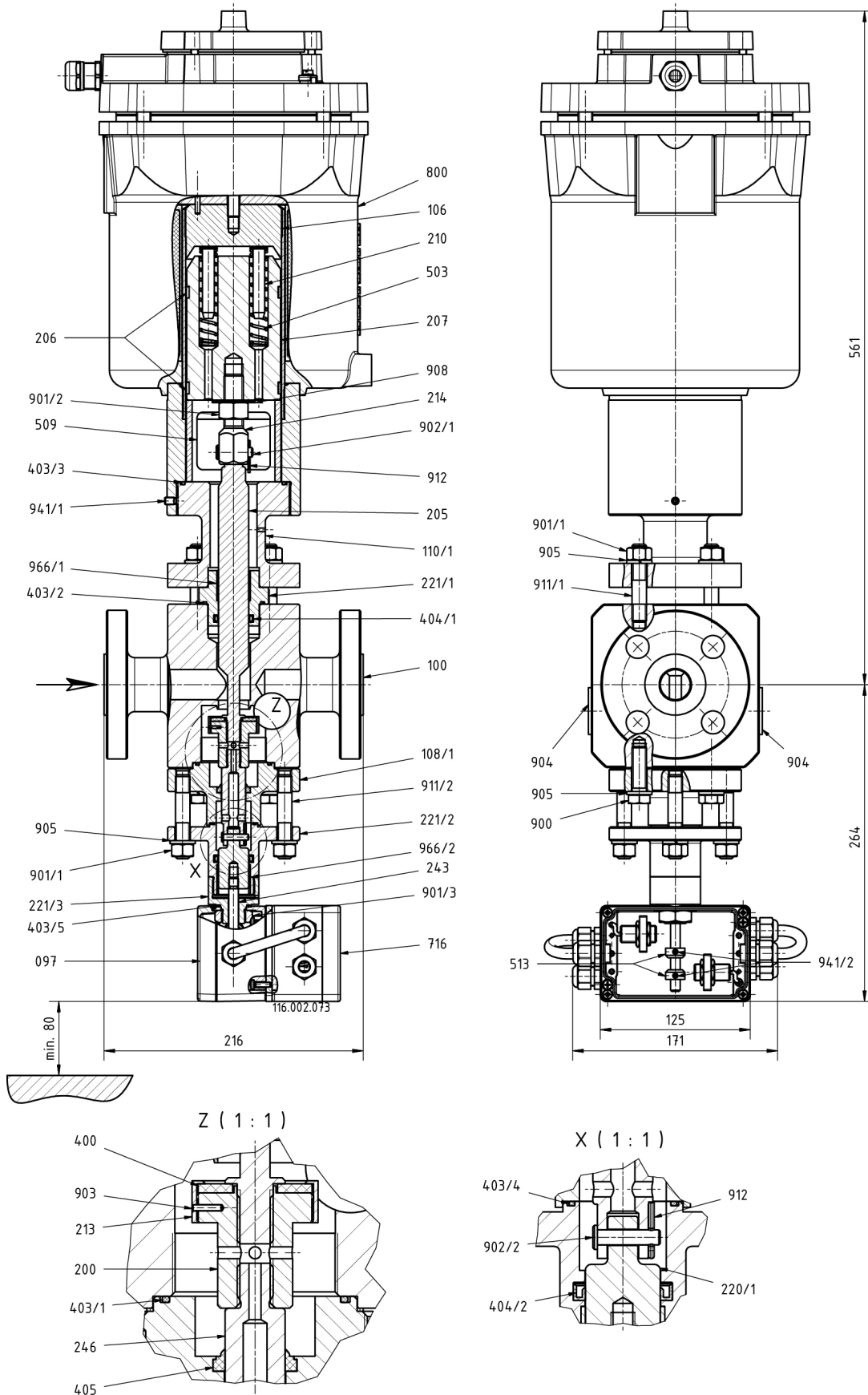


Fig.4 Flange version 40-EVSO 20NH...

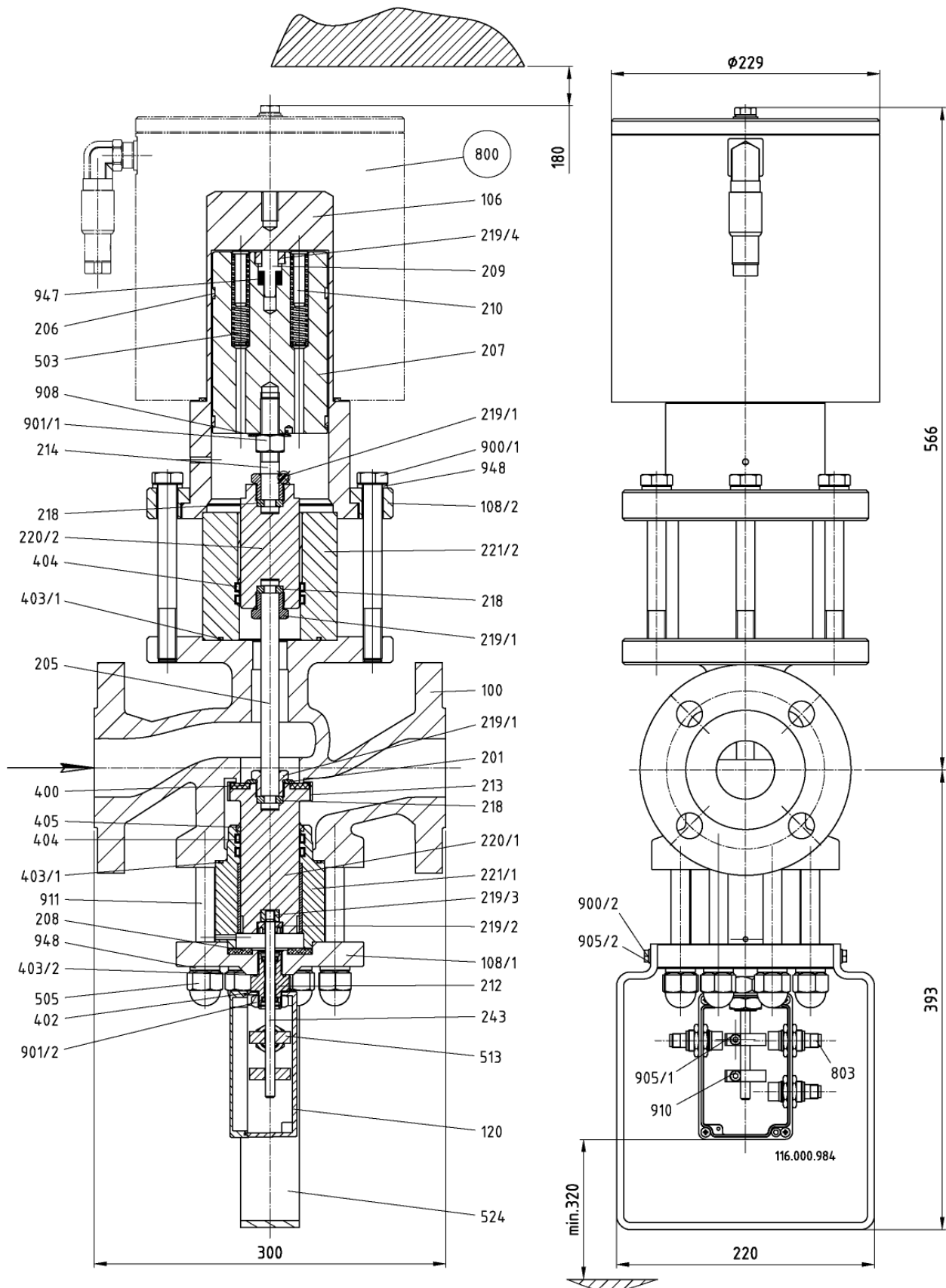


Fig.5¹⁾ Flange version 40-EV5O (Valve chamber to ANSI 300lbs Table 2, row 15)

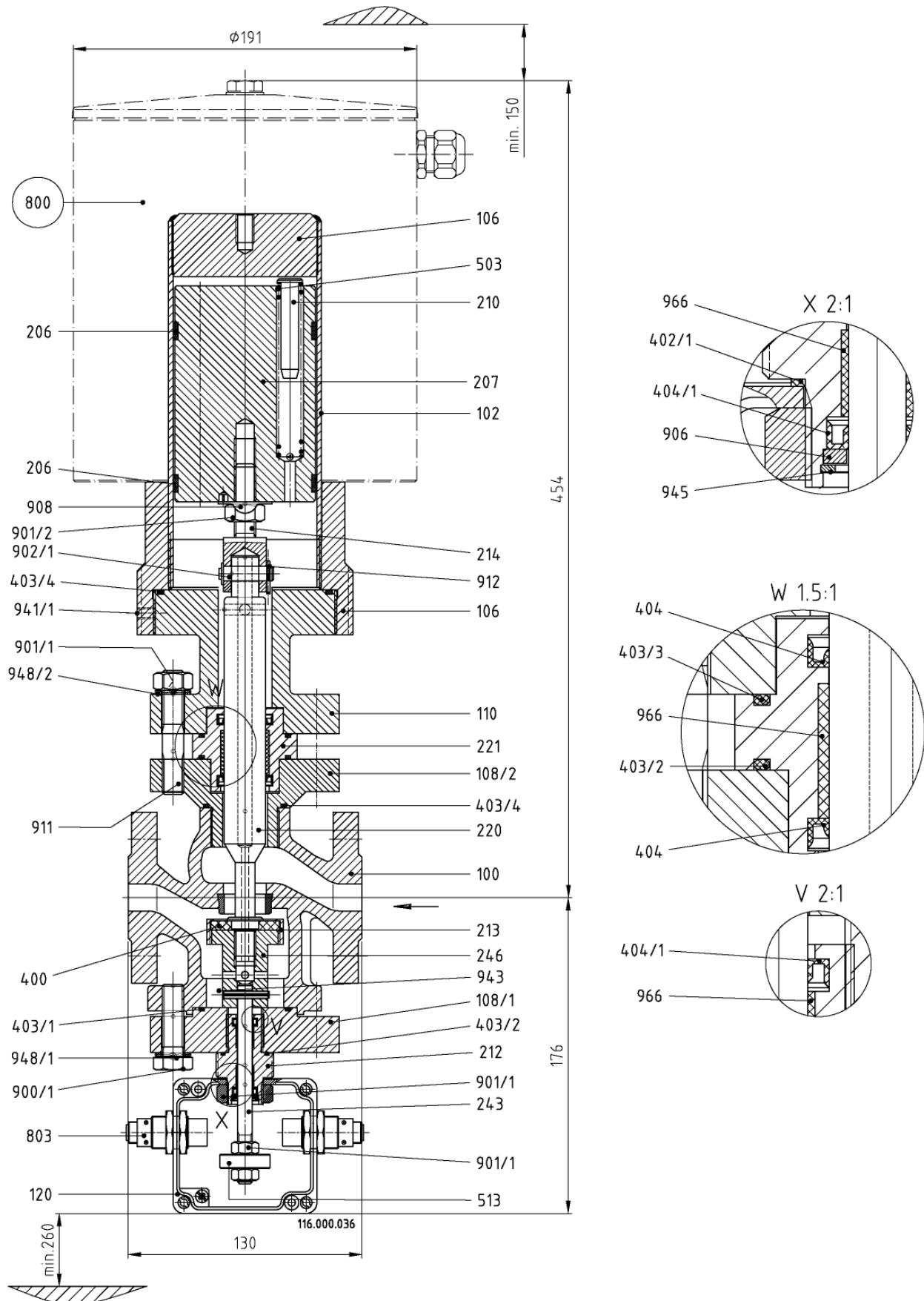


Fig.5²⁾ Flange version 40-EV5O (Valve chamber to ANSI 300lbs Table 2, row 21)

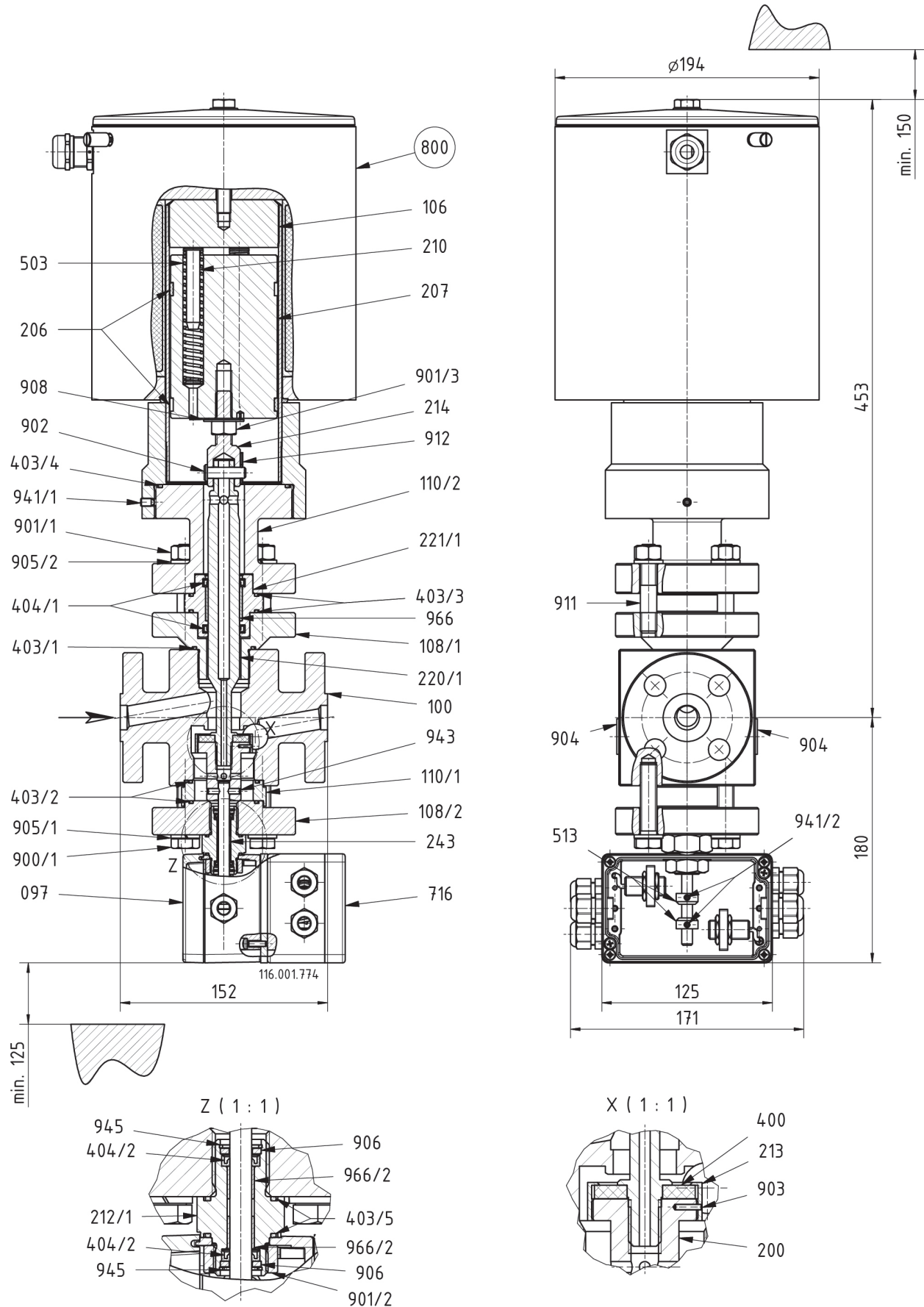


Fig.6 Flange version 50-EVSO

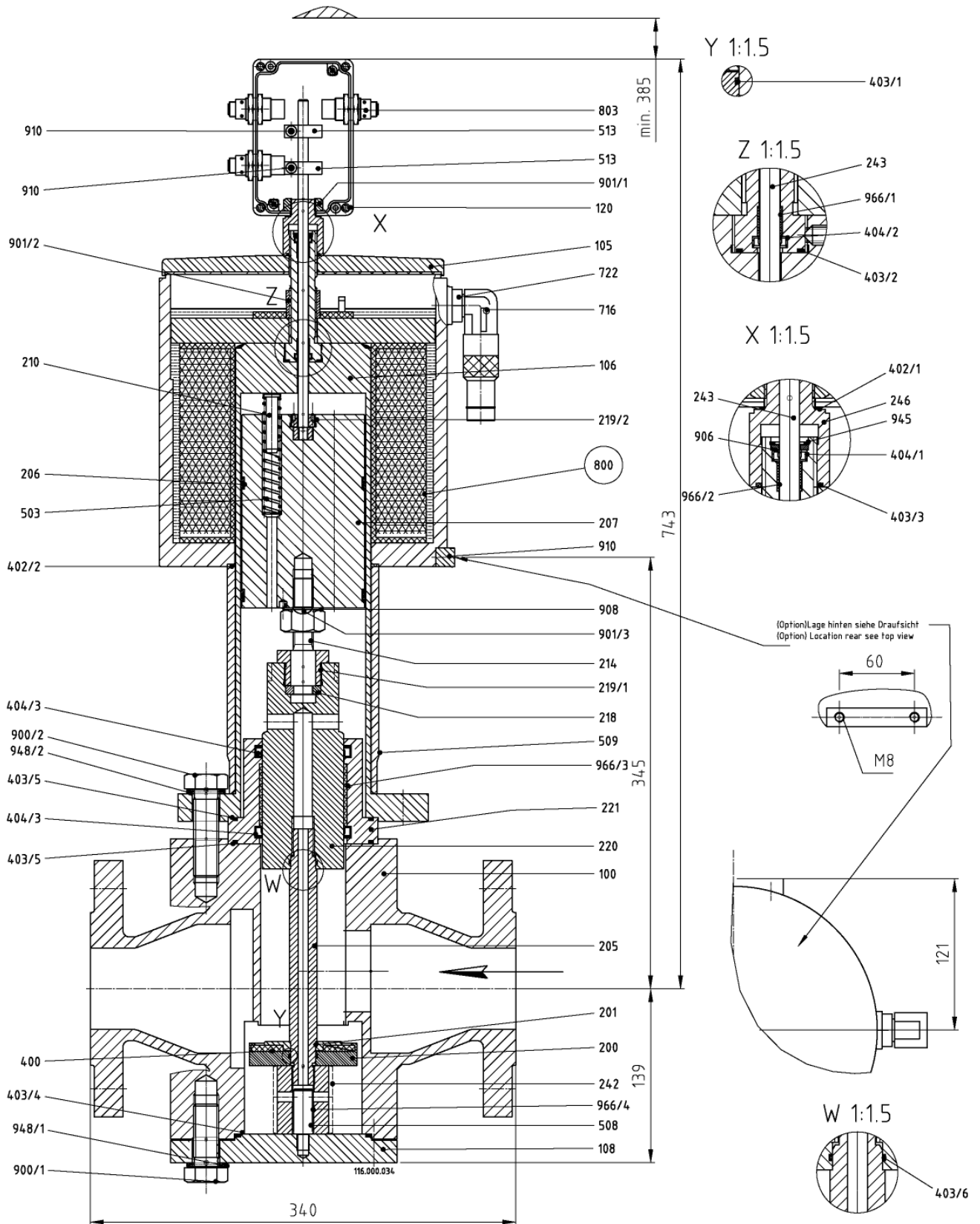


Fig.7 Flange version 55- EVSO 15NH-4R..

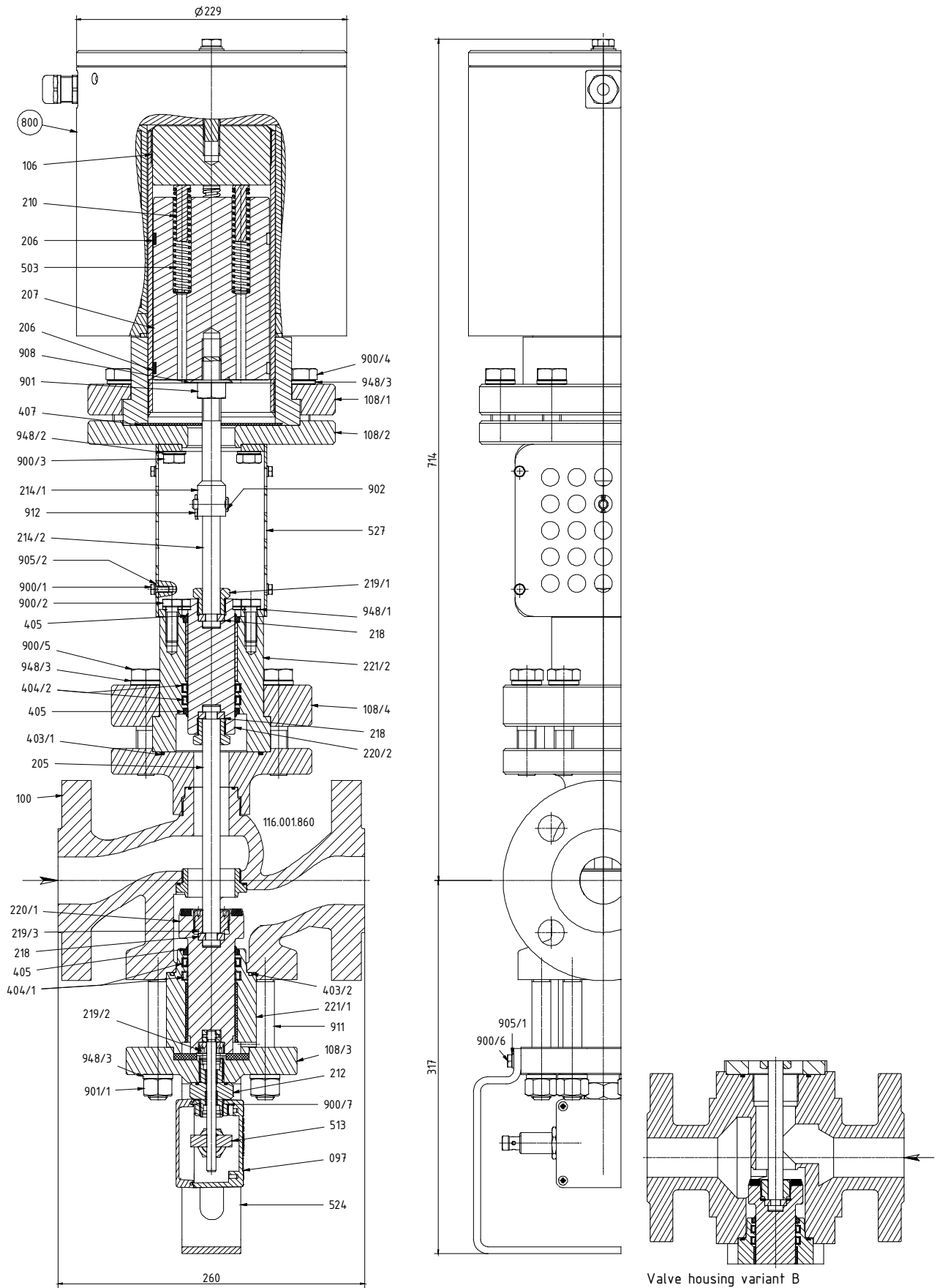


Fig.8 Flange version 140-EVS-R

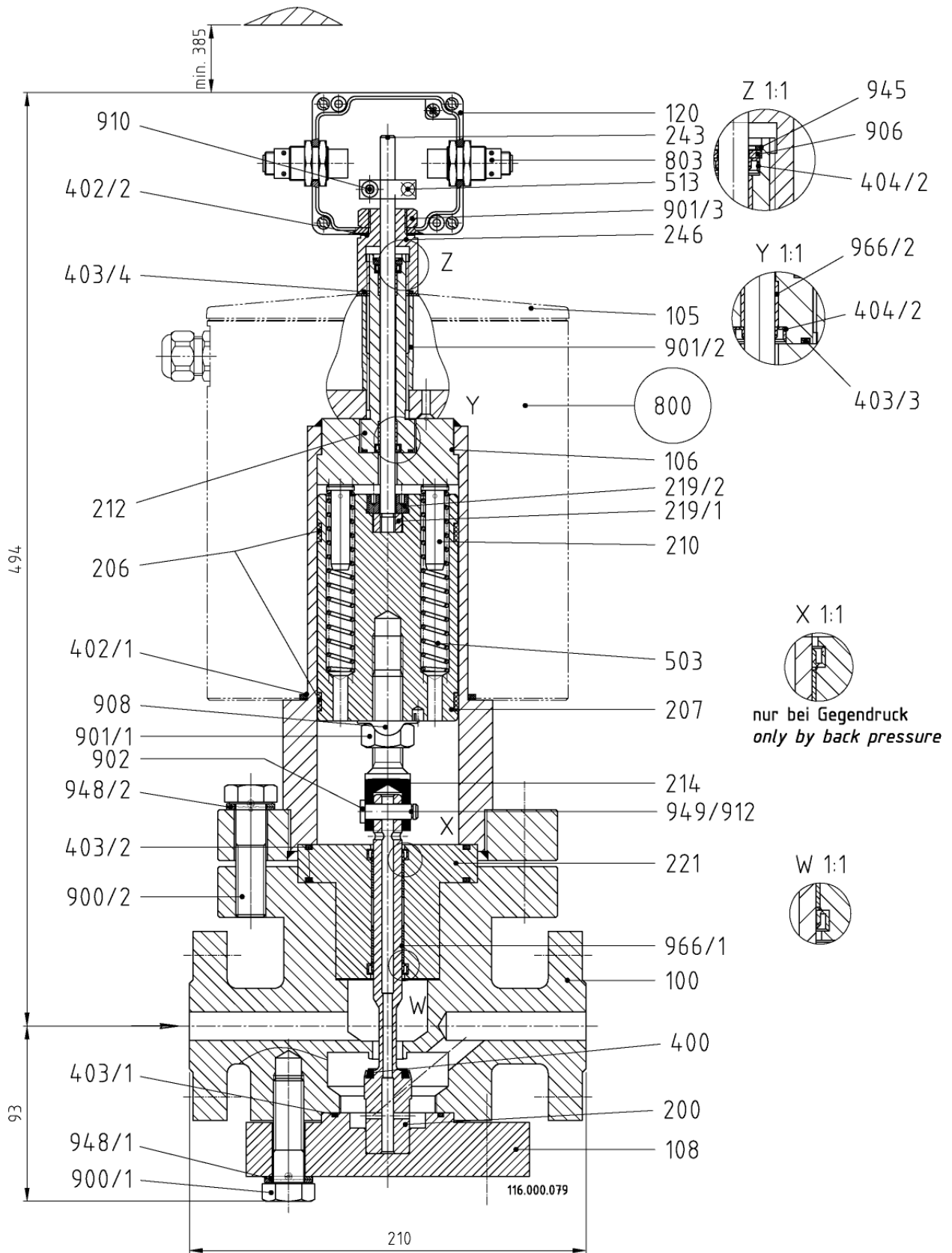
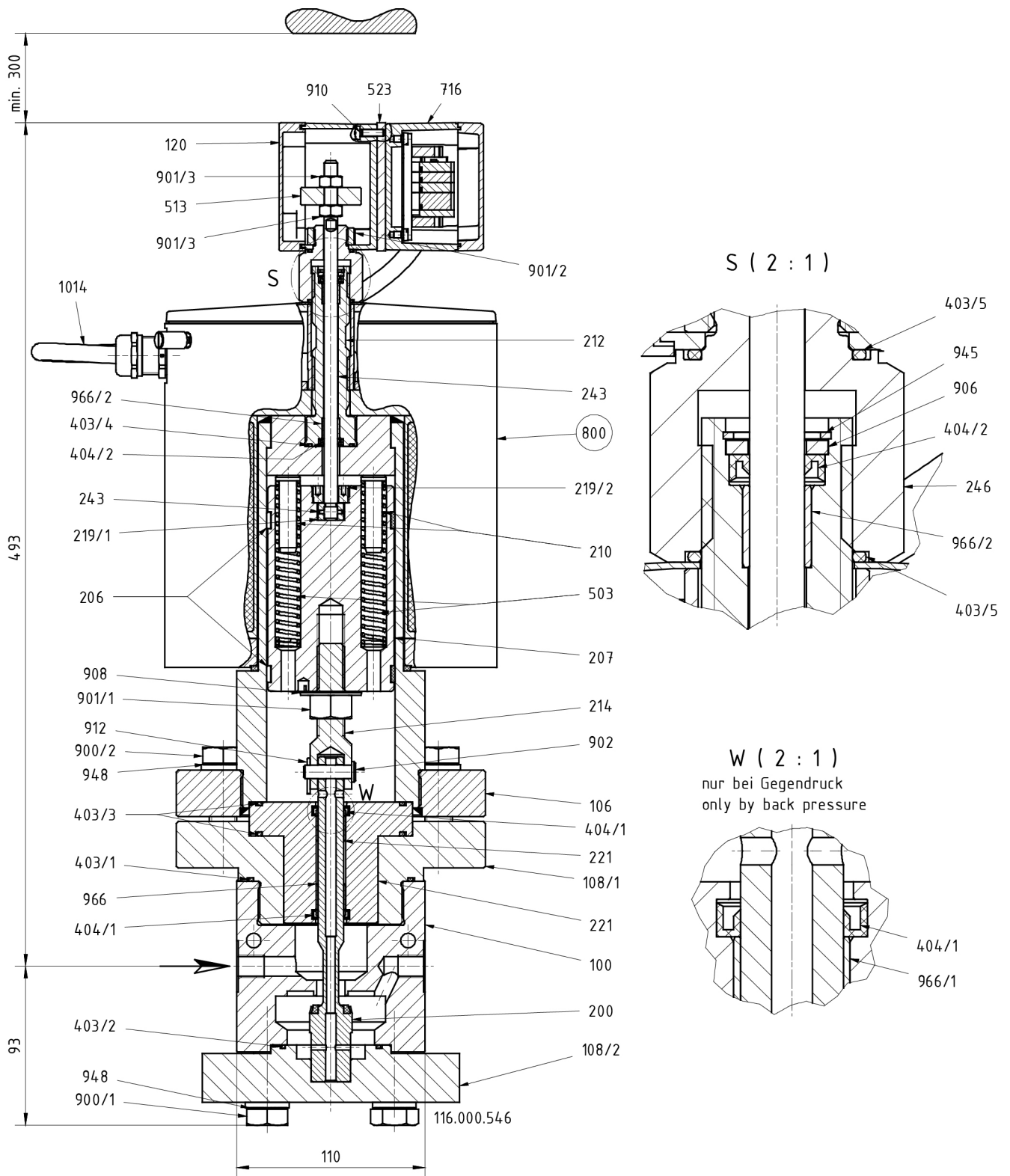


Fig.9 Thread version 160/162-EVS-R



11.2 List of parts

Pos./ Item	St./ Qty	Benennung	Description
097	1	Endschalteranbau	Limit switch mounting
100	1	Ventilgehäuse	Valve chamber
105	1	Magnetgehäusedeckel	Solenoid housing cover
106	1	Oberteil	Upper part
108/1	1	Gehäuseflansch	Housing flange
108/2	1	Gehäuseflansch	Housing flange
108/3	1	Gehäuseflansch	Housing flange
110/1	1	Distanzstück	Spacer
110/2	1	Distanzstück	Spacer
120	1	Endschaltergehäuse	Limit switch housing
200	1	Ventilteller	Valve disc
201	1	Tellerscheibe	Disc plate
205	1	Ventilspindel	Valve spindle
206	2	Führungsring	Guide ring
207	1	Magnetkern	Solenoid core
208	1	Schlagdämpfung	Sound insulation
209	1	Abwurfbolzen	Discharge bolt
210	1/2/3/4	Federbolzen	Spring bolt
212/1	1	Spindelführung	Spindle guide
212/2	1	Spindelführung	Spindle guide
213	1	Gewinding	Threaded ring
214/x	1	Ventilstift	Valve pin
218/x	1	Zweitteiliger Ring	Two-piece ring
219/1	1	Spindelmutter	Spindle nut
219/2	1	Spindelmutter	Spindle nut
219/3	1	Spindelmutter	Spindle nut
219/4	1	Spindelmutter	Spindle nut
220/1	1	Ausgleichskolben	Balance piston
220/2	1	Ausgleichskolben	Balance piston
221/1	1	Kolbenführung	Piston guide
221/2	1	Kolbenführung	Piston guide
221/3	1	Kolbenführung	Piston guide
242	1	Telleranschlag	Plate notice
243	1	Endschalterspindel	Limit switch spindle
246	1	Verbindungsstück	Connecting piece
400	1	Ventiltellerdichtung	Valve disc seal
402/1	1	Flachdichtung	Flat gasket
402/2	1	Flachdichtung	Flat gasket
403/1	1	O-Ring	O-ring
403/2	1	O-Ring	O-ring
403/3	1	O-Ring	O-ring
403/4	1	O-Ring	O-ring
403/5	1	O-Ring	O-ring
403/6	1	O-Ring	O-ring
404/1	1	Lippenring	Lip-ring
404/2	1	Lippenring	Lip-ring
404/3	1	Lippenring	Lip-ring
405/x	1	Abstreifring	Scraper ring
407	1	Staubschutzmembrane	Dust guard membrane
503	1/2/3/4	Druckfeder	Pressure spring
505	4/8	Schutzkappe	Protective cap
509	1	Distanzring	Distance ring
513	1/2	Endschalterbetätigung	Adjusting ring
524	1	Schutzbügel	Hoop guard
527	1	Schutzgitter	Guard
716	1	Klemmkasten	Terminal box

Pos./ Item	St./ Qty	Benennung	Description
722	1	Adapterstück (metr.-PG)	Adapter piece
800	1	Magnet-Antrieb	Solenoid drive
803	1/2	Endschalter	Limit switch
900/x	4/6/8	Sechskantschraube	Hex. head screw
901/1	4/6	Sechskantmutter	Hex. nut
901/2	8	Sechskantmutter	Hex. nut
901/3	1	Sechskantmutter	Hex. nut
902/1	1	Bolzen	Bolt
902/2	1	Bolzen	Bolt
903	1	Kerbstift	Grooved dowel pin
904	2	Verschlusschraube	Plug
905	4/6/8	Federring	Lock washer
905/1	4	Federring	Lock washer
905/2	4/8	Federring	Lock washer
906	1	Scheibe	Washer
908	1	Sicherungsblech	Safety plate
910	4	Zylinderschraube	Cylinder head screw+
911/1	4	Stiftschraube	Stud
911/2	6	Stiftschraube	Stud
912	2	Splint	Split pin
941/1	1	Gewindestift	Threaded pin
941/2	1	Gewindestift	Threaded pin
943	1	Schwerspannstift	Spring dowel pin
945	1	Sicherungsring	Safety ring
947	1	Tellerfedern	Disk spring
948/1	4/6/8	Nordlockscheibe	Safety disc
948/2	4	Nordlockscheibe	Safety disc
948/3	4	Nordlockscheibe	Safety disc
949	1	SL-Sicherung	SL-fuse
966/1	1	DU-Buchse	DU-bush
966/2	1	DU-Buchse	DU-bush
966/3	1	DU-Buchse	DU-bush
966/4	1	DU-Buchse	DU-bush

Wearing parts

Version	Fig.	Type	Spare parts
Flange version	Fig. 1	5/10-EVS 5NH.R.. 5/10-EVS 7NH.R..	Solenoid drive (800), Spare part kit
	Fig. 2	5/10-EVS 15NH.R.. 5/10-EVS 20NH.R..	Solenoid drive (800), Spare part kit
	Fig. 2	10-EVS 100H.R...	Solenoid drive (800)
	Fig. 3 ¹⁾	25-EVS 10N.R..	Solenoid drive (800)
	Fig. 3 ²⁾	25-EVS 10N.R..	Solenoid drive (800)
	Fig. 4	40- EVSO 20NHR...	Solenoid drive (800)
	Fig. 5 ¹⁾	40-EVSO 5NHR... 40-EVSO 7NHR...	Solenoid drive (800)
	Fig. 5 ²⁾	40-EVSO 5NHR...	Solenoid drive (800)
	Fig. 6	50-EVSO 25NHR...	Solenoid drive (800)
	Fig. 7	55-EVSO 15NHR...	Solenoid drive (800)
Thread version	Fig. 8	140-EVS 5NR...	Solenoid drive (800)
	Fig. 9	160-EVS 3R... 162-EVS 2R...	Solenoid drive (800)

12.0 Declaration of Conformity

UNI-Geräte E. Mangelmann
Elektrotechnische Fabrik GmbH
Holtumsweg 13
D – 47652 Weeze



EU

Konformitätserklärung Declaration of Conformity

Produkt / Product	Automatisches Absperrventil - stromlos offen / Automatic shut off valve - current less open
Handelsbezeichnung / Trade Mark	Magnetventil / Solenoid valve
Baureihe / Series	...EVS-R...
Nennweiten / Size	DN 8 / 10 / 15 / 20 / 25 / 40 / 50 / 100
Druckstufe / Pressure Stage	PN 10 / 16 / 25 / 40 / 160
Fluidgruppe / Fluid Group	Brennbare Gase, FL. Gr.1 / Flammable gases, FL. Gr.1
EU - Richtlinien / EU - Directives	2014/68/EU Druckgeräterichtlinie / Pressure Equipment Directive
Konformitätsbewertungsverfahren / Conformity Assessment Procedure	Modul H - 2014/68/EU
Angewandte technische Spezifikation / Applied Technical Specification	DIN EN 16668:2018-05; DIN EN 12266:2012-04
Überwachungsverfahren / Surveillance Procedure	CE-0062-PED-H-UGM 001-23-DEU 2014/68/EU Modul H Bureau Veritas Services SAS 8 Cours du Triangle 92800 PUTEAUX – LA DEFENSE Zertifizierungsstelle / Notified Body 0062
Kennzeichnung / Marking	CE - 0062

Das Unternehmen UNI Geräte E. Mangelmann Elektrotechnische Fabrik GmbH erklärt in alleiniger Verantwortung, dass die o.a. Baureihe die grundsätzlichen Anforderungen der aufgeführten Richtlinien und Normen erfüllt.

UNI Geräte E. Mangelmann Elektrotechnische Fabrik GmbH confirms under the sole responsibility of the manufacturer, that the basic requirements of the above specified directives and standards are fulfilled.

Weeze, 08.05.2023

Ort und Datum / place and date



Geschäftsführer / Managing Director
Norbert Schneider

Anwendung in Abhängigkeit von Nennweite und / oder Druckstufe: / Application depending on size and / or pressure stage:
DN ≤ 25 und / oder PS ≤ 0,5bar siehe Diagramm 6, fallen nicht in den Anwendungsbereich der 2014/68/EU
DN ≤ 25 and / or PS ≤ 0,5bar see diagram 6, are not covered by the scope of the EU- Directive 2014/68/EU

250.100.012-03

UNI-Geräte E. Mangelmann
Elektrotechnische Fabrik GmbH
Holtumsweg 13
D – 47652 Weeze

EU

Konformitätserklärung Declaration of Conformity

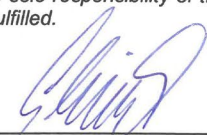
Produkt / Product	Automatisches Absperrventil - stromlos offen / Automatic shut off valve - current less open		
Handelsbezeichnung / Trade Mark	Magnetventil / Solenoid valve		
Baureihe / Series	...EV(S)O...		
Nennweiten / Size	DN 8^{a)} / 10^{a)} / 15^{a)} / 20^{a)} / 25^{a)} / 32^{a);b)} / 40^{a);b)} / 50^{a);b)} / 65^{b)} / 80^{b)} / 100^{b)} / 125^{b)} / 150^{b)} / 200^{b)} / 250^{b)} / 300^{b)} / 350^{b)} / 400^{b)}		
Druckstufe / Pressure Stage	PN 10^{a);b)} / 16^{a);b)} / 25^{a);b)} / 40^{a);b)} / 63^{b)} / 100^{b)} / 160^{b)}		
Fluidgruppe / Fluid Group	Brennbare Gase, FL. Gr.1 / Flammable gases, FL. Gr.1		
EU - Richtlinien / EU - Directives	EU/2016/426^{a)} Gasgeräteverordnung / Gas Appliance Regulation 2014/68/EU^{b)} Druckgeräterichtlinie / Pressure Equipment Directive		
Konformitätsbewertungsverfahren / Conformity Assessment Procedure	Modul B + D - EU/2016/426^{a)}; Modul H - 2014/68/EU^{b)}		
Angewandte technische Spezifikation / Applied Technical Specification	^{a)}DIN EN 161:2013-04; DIN EN 16678:2016-02; DIN EN 16304:2013-05; DIN EN 13611:2016-09; ^{b)}DIN EN 16668:2018-05; DIN EN 12266:2012-04		
Baumusterprüfung / Type Examination	CE-0085AS0561^{a)} DVGW CERT GmbH Josef-Winter-Str. 1-3 D-53123 Bonn Zertifizierungsstelle / Notified Body 0085	EU/2016/426	Modul B
Überwachungsverfahren / Surveillance Procedure	SE-0085BL7038^{a)} DVGW CERT GmbH Josef-Winter-Str. 1-3 D-53123 Bonn Zertifizierungsstelle / Notified Body 0085	EU/2016/426	Modul D
	CE-0062-PED-H-UGM 001-23-DEU^{b)} Bureau Veritas Services SAS 8 Cours du Triangle 92800 PUTEAUX – LA DEFENSE Zertifizierungsstelle / Notified Body 0062	2014/68/EU	Modul H
Kennzeichnung / Marking	CE - 0085^{a)} 0062^{b)} oder/oder CE- 0085^{a)} oder/oder CE - 0062^{b)}		

Das Unternehmen UNI Geräte E. Mangelmann Elektrotechnische Fabrik GmbH erklärt in alleiniger Verantwortung, dass die o.a. Baureihe die grundsätzlichen Anforderungen der aufgeführten Richtlinien und Normen erfüllt.

UNI Geräte E. Mangelmann Elektrotechnische Fabrik GmbH confirms under the sole responsibility of the manufacturer, that the basic requirements of the above specified directives and standards are fulfilled.

Weeze, 24.01.2023

Ort und Datum / place and date


Geschäftsführer / Managing Director
Norbert Schneider

^{a); b)} Anwendung in Abhängigkeit von Nennweite und / oder Druckstufe: / Application depending on size and / or pressure stage: DN ≤ 25 und / oder PS ≤ 0,5bar siehe Diagramm 6, oder Kat.1 + erfasst von EU/2016/426, fallen nicht in den Anwendungsbereich der 2014/68/EU
DN ≤ 25 and / or PS ≤ 0,5bar see diagram 6, or Kat.1 + under the scope of EU/2016/426, are not covered by the scope of the EU-Directive 2014/68/EU
250.100.003-04

UNI-Geräte E. Mangelmann
Elektrotechnische Fabrik GmbH
Holtumsweg 13
D – 47652 Weeze

UK Declaration of Conformity UK Konformitätserklärung

We / Wir:

UNI-Geräte E. Mangelmann
Elektronische Fabrik GMBH
Holtumsweg 13
D – 47652 Weeze

Declare that / Erklären hiermit:

Product / Produkt

Automatic vent valve – current less open
Automatisches Abblaseventil – stromlos geöffnet

Trade Mark / Handelsbezeichnung

Solenoid valve / Magnetventil

Series / Baureihe

...EVO... / ...EVSO...

Size / Nennweiten

DN 8 / 10 / 15 / 20 / 25 / 32 / 40 / 50

Pressure Stage / Druckstufe

PN 10 / 16 / 25 / 40

Fluid Group / Fluidgruppe

Gas type of the 1st, 2nd and 3rd family gases
Gasart der 1., 2. und 3. Gasfamilie

Satisfies the essential requirements of the Regulation 2016/426 on gas appliances as brought into UK law and amended and is manufactured in accordance with the UK designated standards:

Erfüllt die grundlegenden Anforderungen der Verordnung 2016/426 für Gasgeräte in der im Vereinigten Königreich geltenden und geänderten Fassung und wird in Übereinstimmung mit den im VK festgelegten Normen hergestellt:

Standards Numbers / Normen Nummern: BS EN 16304:2013, BS EN 16678:2015

BSI has performed the following conformity assessment procedures specified in the Regulation 2016/426 on gas appliances as brought into UK law and amended:

Das BSI hat die folgenden Konformitätsbewertungsverfahren durchgeführt, die in der Verordnung 2016/426 für Gasgeräte, wie sie in britisches Recht umgesetzt und geändert wurde, festgelegt sind:

Annex III Module B (Type Examination) and issued the Certificates below:

UKCA Module B certificate: (Certificate No.) UKCA 772964

Anhang III Modul B (Baumusterprüfung) geprüft und die nachstehenden Bescheinigungen ausgestellt:

UKCA-Modul-B-Zertifikat: (Zertifikats-Nr.) UKCA 772964

Annex III Module D (Conformity to Type based on Quality Assurance of the Production Process) and issued the Certificates below:

UKCA Module D certificate: (Certificate No.) UKCA 772905

Anhang III Modul D (Konformität mit der Bauart auf der Grundlage der Qualitätssicherung des Produktionsprozesses) und stellte die nachstehenden Zertifikate aus:

UKCA-Modul-D-Zertifikat: (Zertifikats-Nr.) UKCA 772905

Approved Body / Zugelassene Stelle:

BSI Assurance UK Limited (Approved Body No. 0086)

Address / Adresse:

**Kitemark Court, Davy Avenue,
Knowhill Milton Keynes MK5 8PP UK.**

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Diese Konformitätserklärung wird unter der alleinigen Verantwortung des Herstellers ausgestellt.

Name / Name:

Norbert Schneider

Title / Position / Funktion:

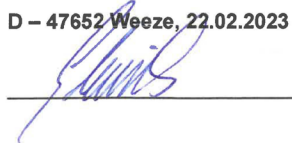
Dipl. Ing. / Managing Director / Geschäftsführer

Place & date of issue /

D – 47652 Weeze, 22.02.2023

Ort und Datum der Ausstellung:

Signature / Unterschrift:



250.100.577-00