

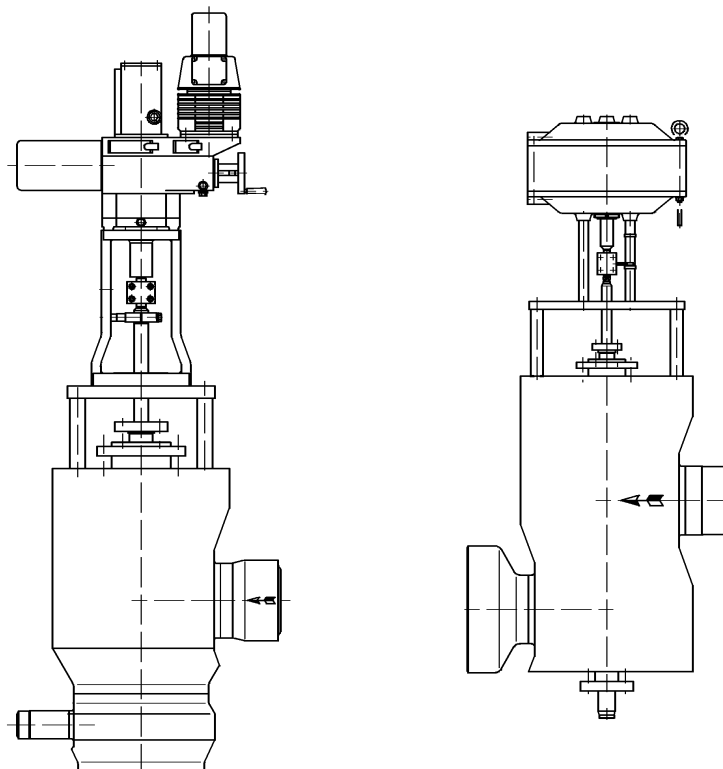


# Operating Instructions

Series 400.11 / 400.39

Series 400.82 / 400.83

Series 400.84



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# 1 General Information

## 1.1 Address of Manufacturer

Holter Regelarmaturen GmbH & Co. KG  
Helleforthstraße 58-60  
D - 33758 Schloß Holte-Stukenbrock

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Tel.: +49 – (0) – 5207 – 8903 – 0  
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e-Mail: [mail@hora.de](mailto:mail@hora.de)  
Internet: <http://www.hora.de>

## 1.2 Right to alteration and copyright

Any regulations, guidelines, norms etc. stated in these operating instructions correspond to the state of information during preparation and are not subject to alteration services. It is the responsibility of the operator to ensure that the latest version is used at all times.

The company reserves the right to carry out technical alterations and improvements in connection with any technical data, statements and images in these operating instructions at any time. Claims for alterations or improvements on already delivered valves will be excluded.

Copyrights for these operating instructions as well as any rights referring to the possible grant of a patent, or utility-patented articles, shall remain the property of the manufacturer.

## 1.3 Validity of operating instructions

These operating instructions only apply to the valves Series 400.11, Series 400.39, Series 400.82, Series 400.83 and Series 400.84.



Please check that type designation and nameplate of valves match **before** any measures are taken, especially when ordering any accessories or spare parts!

The regulations, guidelines and notes referred to in these operating instructions apply to the European Union. Operators outside the EU are responsible for the observation of the rules as a practical basis for the handling of the fittings and have to adapt these to the regional / national regulations applicable for the installation site.

For any additional information, or if you should encounter any special problems which are not dealt with sufficiently in these operating instructions, please contact the supplier / manufacturer directly.

### 1.4 Safety instructions and regulations

#### 1.4.1 Meaning of notes

-  **Hazard:** Signifies that there is a danger of death, severe bodily injury or considerable damage to property if adequate measures are not taken.
- Attention:** Signifies that there is a threat of damage to property or the environment through non-compliance.
-  **Note:** Signifies the hint of a possible advantage when recommendations are followed.

#### 1.4.2 General safety instructions

- It is the responsibility of the operator that current regulations for labour protection, the prevention of accidents and EU regulations are observed during the installation, operation and maintenance of any fittings (1.9 Accessories).
- Any persons put in charge of any measures described in these operating instructions must have read and comprehended these instructions.
- Installation, service and maintenance personnel have to practise safe working techniques during any measures taken and have to avoid any working practices which endanger the safety of persons or valves or would damage other property in any way.
- **Before** the start of any maintenance and / or repair work, any electric cables leading to any valve operating gear must be disconnected in accordance with EU regulations by competent personnel. Also ensure that the valves are free of pressure, cooled down and empty.

 **Hazard:**

The valves are pressurized and hot during operation.

**Non-compliance with warning signs could result in death, severe injury or damage to property.**

Only competent personnel (see 1.5.3) must be allowed to work on the valves.

These persons must have thorough knowledge of all warnings, the installation and the repair measures pointed out in these operating instructions.

The faultless and safe operation of the valves requires professional shipping, storage, installation and mounting as well as careful, safety-conscious operation and maintenance.

The notes above and the warnings below do not take into consideration any additional regional, local or in-house regulations of companies and might have to be supplemented by the operator at his own responsibility.

## 1 General Information

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### 1.4.3 Qualified personnel

According to these operating instructions a person is qualified if he/she is familiar with the installation, mounting, commissioning and operation or maintenance of valves and possesses the recommended qualifications for the work. The necessary and stipulated qualifications include among other things:

- Training / instruction or authorization to close and open circuits and devices / systems in accordance with EN 60204 (DIN VDE 0100 / 0113 - German Industrial Standards, Ass. of Electrical Engineers) and accordance the Standards of Safety Engineering.
- Training or instruction in accordance with the Standards of Safety Engineering with respect to maintenance and use of adequate safety and the safety of labour equipment.
- First aid training.

## 1.5 Warranty

For the extent and duration of any warranties please see "terms and conditions of delivery" supplied by the manufacturer. At any time the latest version at the date of delivery will apply.

No liabilities will be accepted for damages to valves which are the result of one or more of the following causes:

- **Ignorance of or non-compliance with these operating instructions.**
- Insufficiently qualified installation, operating or maintenance personnel.
- Common wear and tear.
- Faulty or careless treatment of the valves.
- Chemical, electrochemical and / or electrical influences.

In addition to this the manufacturer will not accept any liability for:

- Non-compliance with regulations for the safety of labour, prevention of accidents, EU and any other safety regulations.
- Improper changes or reconstructions of the valves without prior consent by the manufacturer.
- Faulty mounting, faulty commissioning or improper operation.
- Unsuitable or improper application, any other use than the use intended as well as the use under other than the agreed application conditions.

Any violations against the restrictions above are, in the case of injury to persons or damage to property, entirely at the operator's risk.

## 1.6 Sectional drawings

The sectional drawings below show examples of the basic construction of valves.

# 1 General Information

## 1.6.1 Sectional drawing example of Series 400.11

The Series 400.11 is mounted in a cast, corner type, 3 flange body. Series 400.11 is build in corner- and in Z-type. Two type from water injection are build: full cone nozzle (Image 1 a) and orifice tube (Image 1 b).

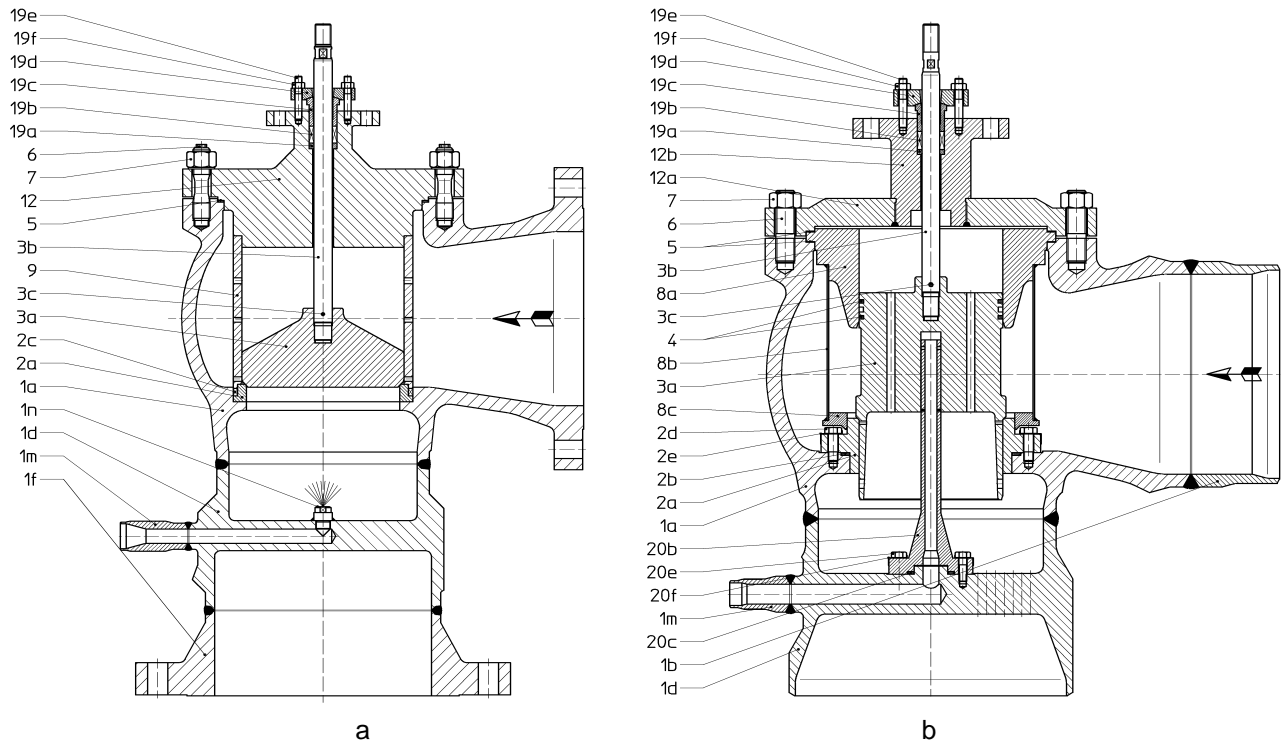


Image 1: Valve Series 300.11, model in corner type

Item	Designation	Item	Designation
1	Body consisting of:	8	Guide bush consisting of: *
1a	Body	8a	Guide bush
1b	Buttweld end	8b	Strainer
1d	Perforated disk	8c	Ring
1f	Welding neck flanges	9	Perforated cage
1m	Injection pipe	12	Bonnet consisting of:
1n	Full cone nozzle	12a	Cover
2	Valve seat consisting of: *	12b	Nave
2a	Valve seat	19	Stem packing consisting of:
2b	Gasket	19a	Bottom ring
2c	Gasket	19b	Stem packing *
2d	Hexagon head screw	19c	Stuffing bush
2e	Ring	19d	Stuffing bush flange
3	Plug with stem consisting of: *	19e	Stud bolt
3a	Plug	19f	Hexagon nut
3b	Valve stem	20	Orifice tube consisting of:
3c	Cylindrical pin	20b	Orifice tube
4	Piston sealing *	20c	Gasket *
5	Gasket *	20e	Hexagon head screw
6	Stud bolt	20f	Ring
7	Hexagon nut		

\* = spare parts

Table 1: Parts list for Image 1

1.6.2 Sectional drawing example of Series 400.39

Series 400.39 is mounted on a wrought iron, corner type body. Series 400.39 is build in corner- and in Z-type.

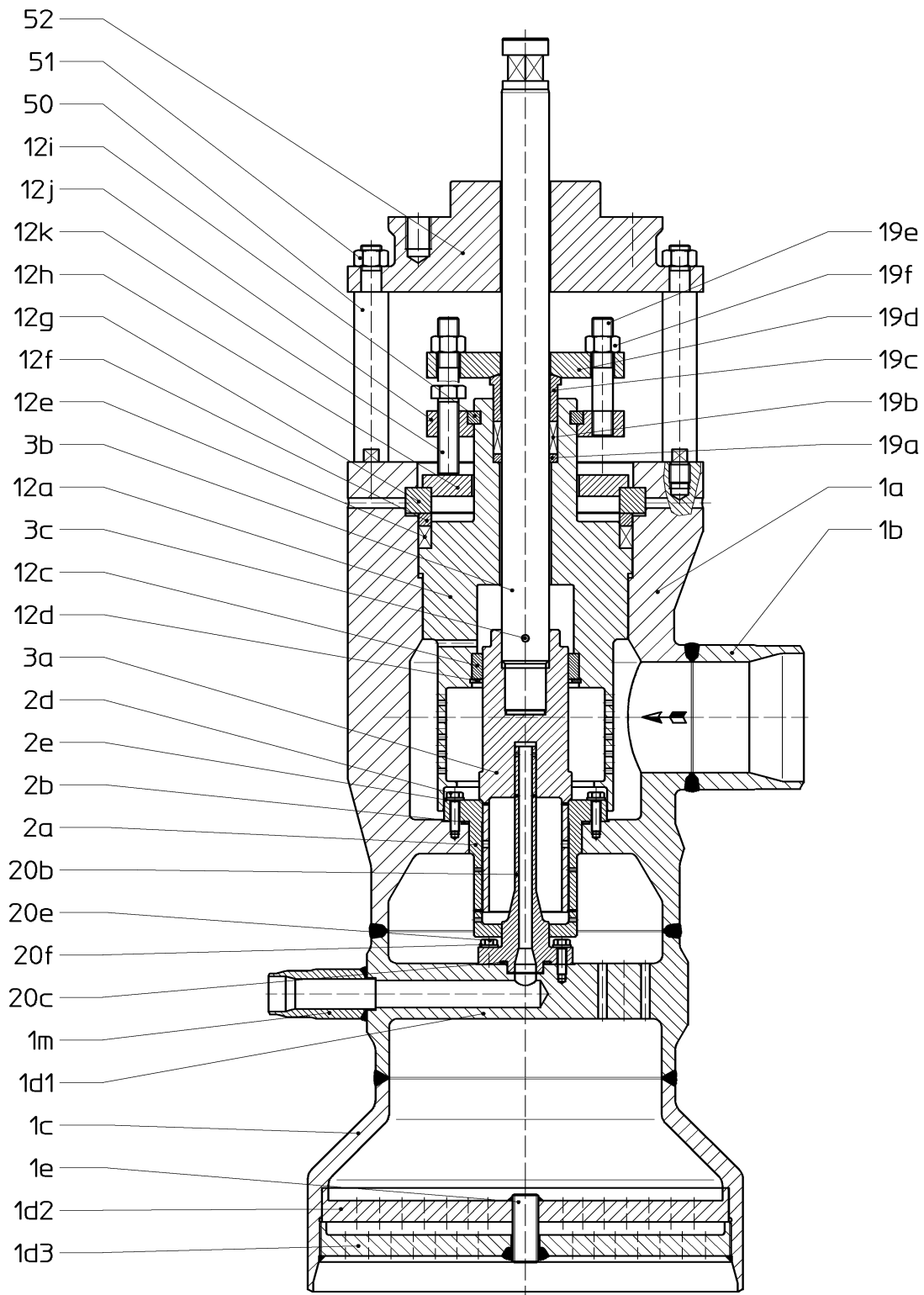


Image 2: Valve Series 400.39, model with orifice tube

## 1 General Information

Item	Designation	Item	Designation
1	Body consisting of:	12e	Gasket *
1a	Body	12f	Pressure ring
1b	Buttweld end	12g	Split ring (4)
1c	Funnel	12h	Pressure plate
1d1	Perforated disk 1	12i	Split ring (2)
1d2	Perforated disk 2	12j	Plate
1d3	Perforated disk 3	12k	Hexagon head screw
1e	Threaded bolt	19	Stem packing consisting of:
1m	Injection pipe	19a	Bottom ring
2	Valve seat consisting of: *	19b	Stem packing *
2a	Valve seat	19c	Stuffing bush
2b	Gasket	19d	Stuffing bush flange
2d	Hexagon head screw	19e	Stud bolt
2e	Ring	19f	Hexagon head screw
3	Plug with stem consisting of: *	20	Orifice tube consisting of:
3a	Plug	20b	Orifice tube
3b	Valve stem	20c	Gasket *
3c	Cylindrical pin	20e	Hexagon head screw
12	Bonnet consisting of:	20f	Ring
12a	Cover	50	Spacer plug
12c	Guide bush	51	Hexagon nut
12d	Retaining ring	52	Reception
* = spare parts			

Table 2: Parts list for Image 2

### 1.6.3 Sectional drawing example of Series 400.82 (Series 400.83)

Series 400.82 and series 400.83 are mounted on a wrought iron body. Series 400.82 is built in corner-type and Series 400.83 is built in Z-type. The especially is the jammed seat. Cooling water injection through full cone nozzle (Image 1 a), orifice tube (Image 1 b) or integrated atomizer unit (Image 4).



# 1 General Information

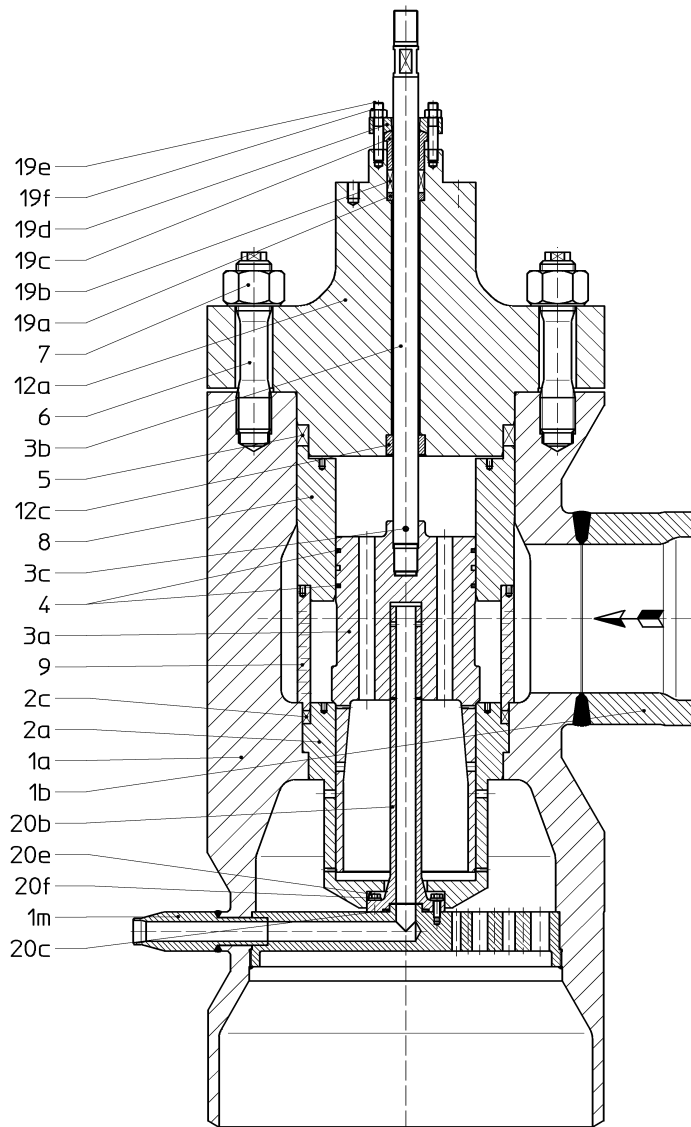


Image 3: Valve Series 400.82, model with a orifice tube

Item	Designation	Item	Designation
1	Body consisting of:	9	Perforated cage
1a	Body	12	Bonnet consisting of:
1b	Buttweld end	12a	Cover
1m	Injection pipe	12c	Guide bush
2	Valve seat consisting of: *	19	Stem packing consisting of:
2a	Valve seat	19a	Bottom ring
2c	Gasket	19b	Stem packing *
3	Plug with stem consisting of: *	19c	Stuffing bush
3a	Plug	19d	Stuffing bush flange
3b	Valve stem	19e	Stud bolt
3c	Cylindrical pin	19f	Hexagon nut
4	Piston sealing *	20	Orifice tube consisting of:
5	Gasket *	20b	Orifice tube
6	Stud bolt	20c	Gasket *
7	Hexagon nut	20e	Hexagon head screw
8	Guide bush *	20f	Ring

\* = spare parts

Table 3: Parts list for Image 3

# 1 General Information

## 1.6.4 Sectional drawing example of Series 400.84

The series 400.84 are mounted in the above explained types. These series is build with an integrated atomizer unit for the cooling water injection.

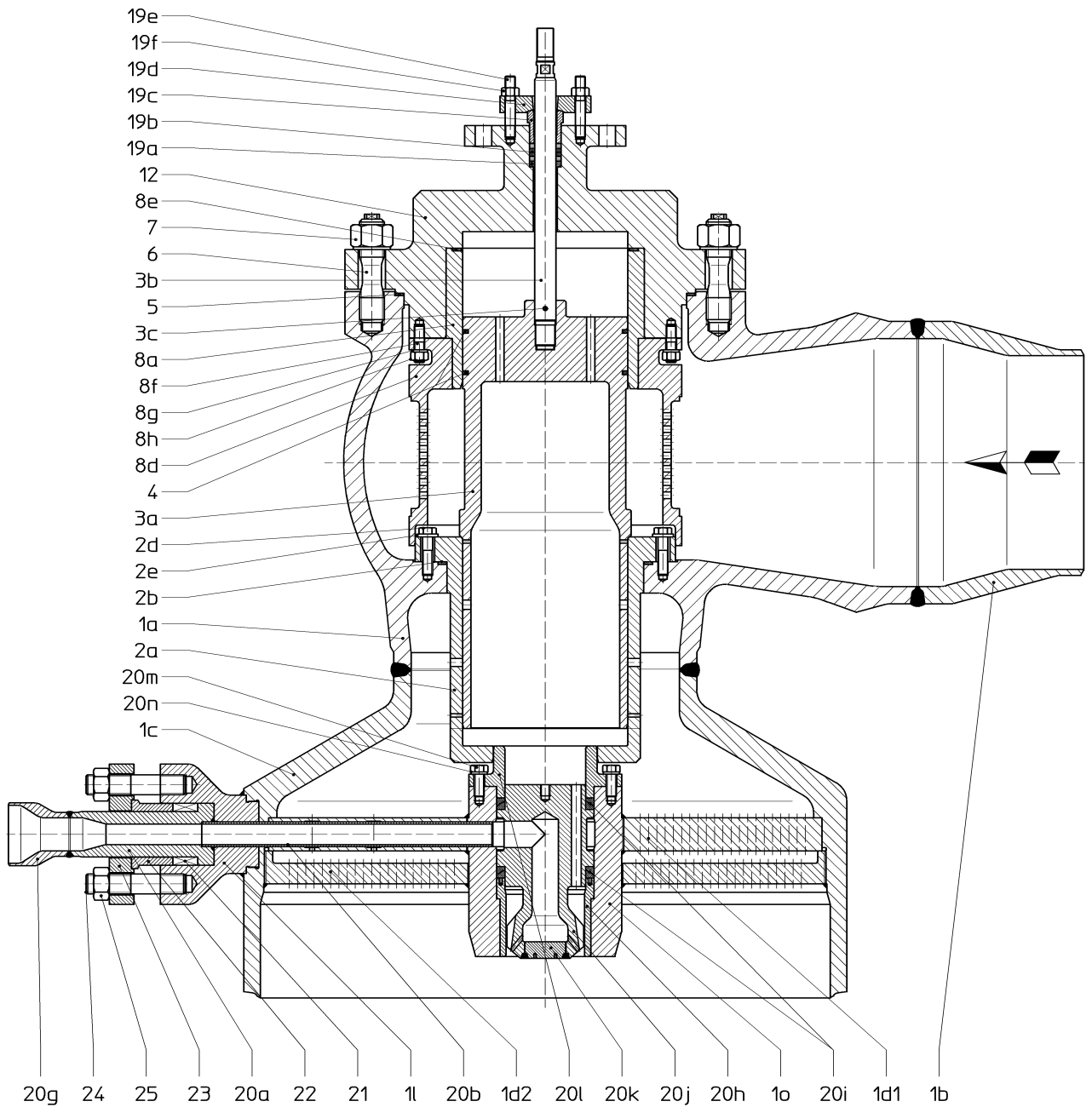


Image 4: Valve Series 400.84, model in corner, cast iron type (Series 400.11)

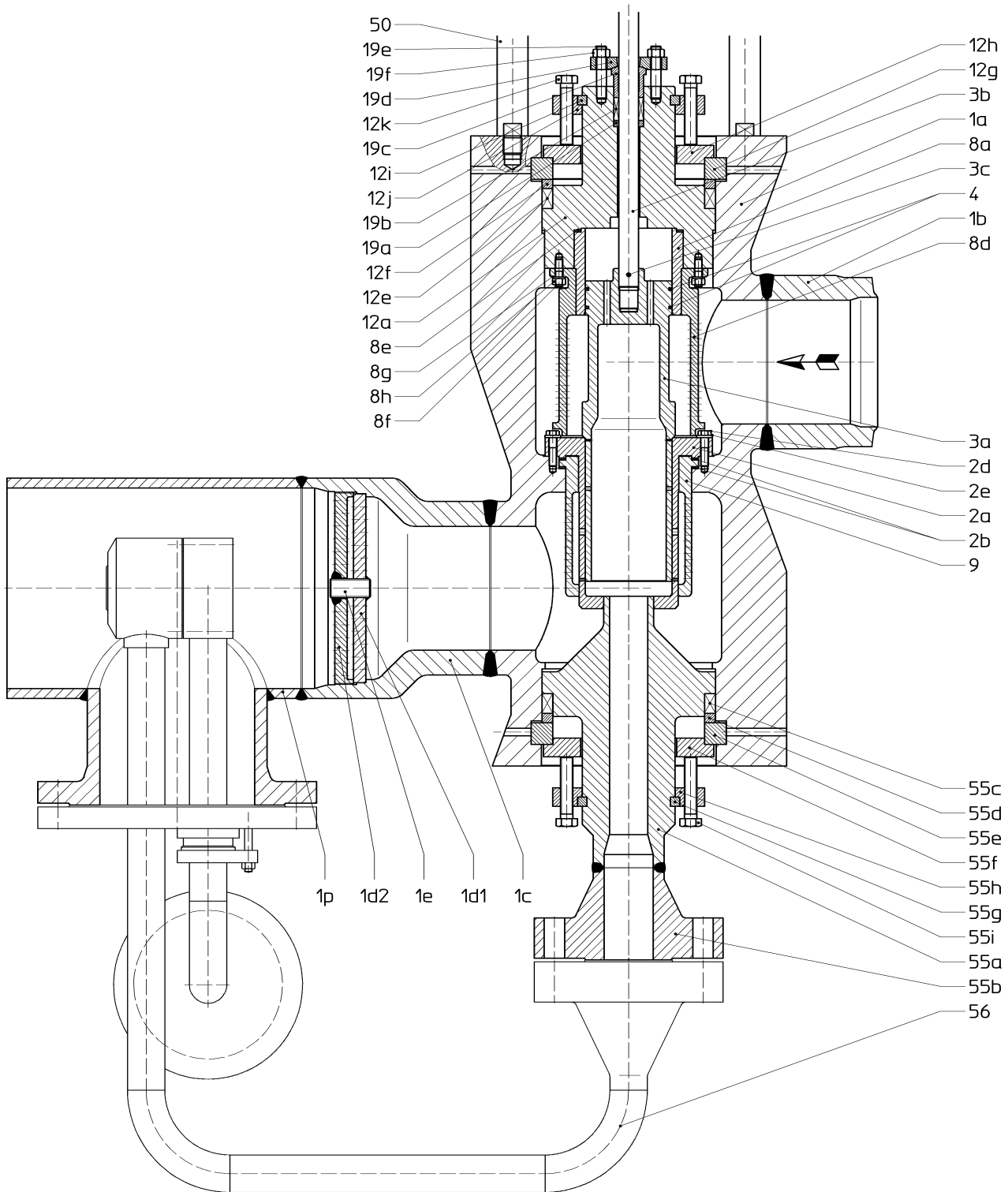


Image 5: Valve Series 400.84, model in Z- wrought iron type (BR 400.39)

## 1 General Information

Item	Designation	Item	Designation
1	Body consisting of:	12j	Plate
1a	Body	12k	Hexagon head screw
1b	Buttweld end	19	Stem packing consisting of:
1c	Funnel	19a	Bottom ring
1d1	Perforated disk 1	19b	Stem packing *
1d2	Perforated disk 2	19c	Stuffing bush
1e	Threaded bolt	19d	Stuffing bush flange
1l	Bonnet	19e	Stud bolt
1o	Operating steam body	19f	Hexagon nut
1p	Pipe with connection	20	Orifice tube consisting of:
2	Valve seat consisting of: *	20a	Injection pipe
2a	Valve seat	20b	Orifice tube
2b	Gasket	20g	Buttweld end
2d	Hexagon head screw	20h	Bushing outlet
2e	Ring	20i	Gasket *
3	Plug with stem consisting of: *	20j	Nozzle
3a	Plug	20k	Threaded ring
3b	Valve stem	20l	Bushing inlet
3c	Cylindrical pin	20m	Hexagon head screw
4	Piston sealing *	20n	Ring
5	Gasket *	21	Packing *
6	Stud bolt	22	Stuffing bush
7	Hexagon nut	23	Stuffing bush flange
8	Guide bush consisting of:	24	Stud bolt
8a	Guide bush *	25	Hexagon nut
8d	Perforated disk	50	Spacer plug
8e	Gasket *	55	High pressure bonnet cons. of:
8f	Stud bolt	55a	High pressure cover
8g	Ring	55b	Welding neck flanges
8h	Hexagon nut	55c	Gasket *
9	Perforated disk	55d	Pressure ring
12	Bonnet consisting of:	55e	Split ring (4)
12a	Cover	55f	Pressure plate
12e	Gasket *	55g	Split ring (2)
12f	Pressure ring	55h	Plate
12g	Split ring (4)	55i	Hexagon head screw
12h	Pressure plate	56	Steam assisted desuperheater
12i	Split ring (2)		

\* = spare parts

Table 4: Parts list for Image 4 and Image 5

## 1.7 Identification of valves

On the body or upper part of the valves you will find the following identifications:

- nominal width
- PN / class identification with or without the permissible maximum temperature (TS) or permissible maximum temperature and permissible maximum pressure as a pair of variates
- material of body
- name of manufacturer (HORA)
- cast number
- product name (Series and/or manufacturer-no.)
- flow direction arrow, if required
- ring joint number, if required
- CE identification (for valves from category I in accordance with 97/23/EU onwards only)

The PN / Class identification in accordance with EN 1092 and EN 12516-1 sets the minimum and maximum pressure/temperature limits for the body material.

If the valve has no definite PN or class identification the permissible maximum temperature (TS) and maximum pressure (PS) are stated as a pair of variates.

The identifications are supplied:

- in integrated form (cast, engraved or stamped on the body or upper part of the valves)
- on a nameplate that is fitted to the body with grooved drive studs
- on note plates (flow arrow, safety notes which definitely have to be observed) which are connected to the valves in a way that prevents their accidental loss.

### 1.7.1 Notes on the nameplate

The nameplates provided are made of CrNi steel. Image 6 shows the print (blue / RAL 5010) of the plates. The additional details are engraved in the nameplates:

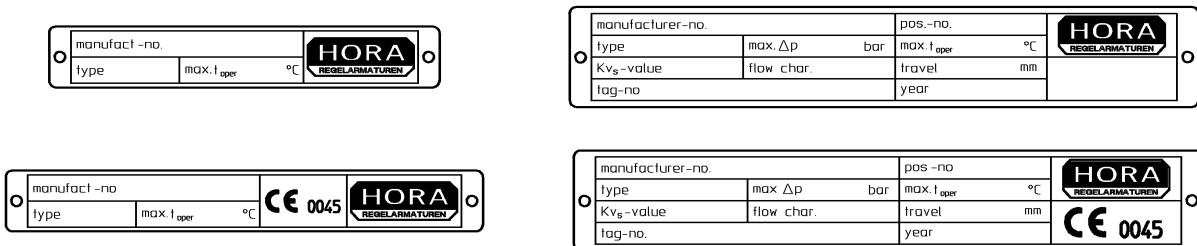


Image 6: Nameplates without and with CE identification

## 1 General Information

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The terms have the following meaning:

- manufacturer-no.: Shows the allocation to a certain order. The engraved number consists of a number with at least 8 digits. The first two digits show the last two digits of the valves' year of manufacture. Example: 02210330 would be a valve from the year 2002 (as on control valve data sheet)
- type: Shows the model of valve. (as on control valve data sheet)
- max.  $t_{oper}$ : Shows the maximum operating temperature. (as on control valve data sheet)
- CE <sub>0045</sub>: CE identification with code of the stated place 0045 (TÜV Hannover/Sachsen-Anhalt)
- pos.-no.: Shows the item no. of the valve. (as on control valve data sheet)
- max.  $\Delta p$ : Maximum permissible pressure difference reduction in valve during operation. (as on control valve data sheet)
- $Kv_S$ -value:  $Kv_S$  value (as on control valve data sheet)
- Flow char.: Shows the steady state characteristic (as on control valve data sheet)
- travel: Shows the nominal stroke (as on control valve data sheet)
- tag-no.: Shows the item number of the valve in the system (as on control valve data sheet)
- year: Shows the year of manufacture of the valve

### 1.8 Test pressure

For bodies made of cast iron or steel casting with flange connections the maximum permissible pressure is determined by the appropriate pressure level (EN 1092, EN 12516-1). The test pressure would therefore be the 1.5-fold of the permissible pressure at room temperature.

If in addition to this the customer has stated outlay values for pressure and temperature, or if no other values exist, the formula below would be relevant:

- $PT = 1.5 * PS_{/t} * R_{p0.2} / R_{p0.2/t}$

For this applies:

- PT Test pressure
- $PS_{/t}$  permissible maximum pressure (outlay pressure supplied by customer)
- $R_{p0.2}$  0.2% expansion limit at 20°C
- $R_{p0.2/t}$  0.2% expansion limit at temperature TS in °C (outlay temperature supplied by customer)

If the generated test pressure deviates from the previously stated, the body will additionally show the generated test pressure (PT).

### 1.9 Accessories

Possible accessories might be:

- Electrical linear actuator
- Pneumatic linear actuator
- Multiturn actuators with yoke fitting (threaded bush A or tip jack B1)
- Manual adjustment
- Positioner
- Positioner feedback
- Limit switch
- Filter regulator
- 3/2-directional solinoid valve
- 3/2-directional pneumatic valve
- Interlock valve
- Booster

For instructions on installation and control please refer to the respective operating instructions of the accessory.

## 2 Transport, Storage and Handling

Please observe the following rules when transporting or storing the valves:

- Store the valves in a dry place until installation.
- The transport and storage temperature should be kept between  $-20\text{ }^{\circ}\text{C}$  und  $+65\text{ }^{\circ}\text{C}$ .
- Protect the valves against force (impact, shock, vibrations etc.), especially around the valve spindle.
- Any damages to corrosion protection (paintwork, oiled surfaces etc.) are to be remedied immediately.
- Do not store more than 6 months.
- The drain plugs fitted in the interior of the valves for the protection of the flanges must not be removed before reaching the installation site.

For valves over 25 kg make sure that mounting rings for chain hoists are fitted at an adequate height above the installation site. It would be even better if sliding rails or swivel arms with a hoist were available at the installation site.

Image 7 shows examples of handling methods during the fitting of valves.

In image 7 a the straps have to be wound round the spacer plug. To keep the valves in the position shown and to prevent vertical tipping, the straps have to set every  $120\text{ }^{\circ}$ .

In image 7 b the straps have to be wound round the body. Strap 3 is used to keep the valves horizontal. It is important that no strap is fastened to the stem.

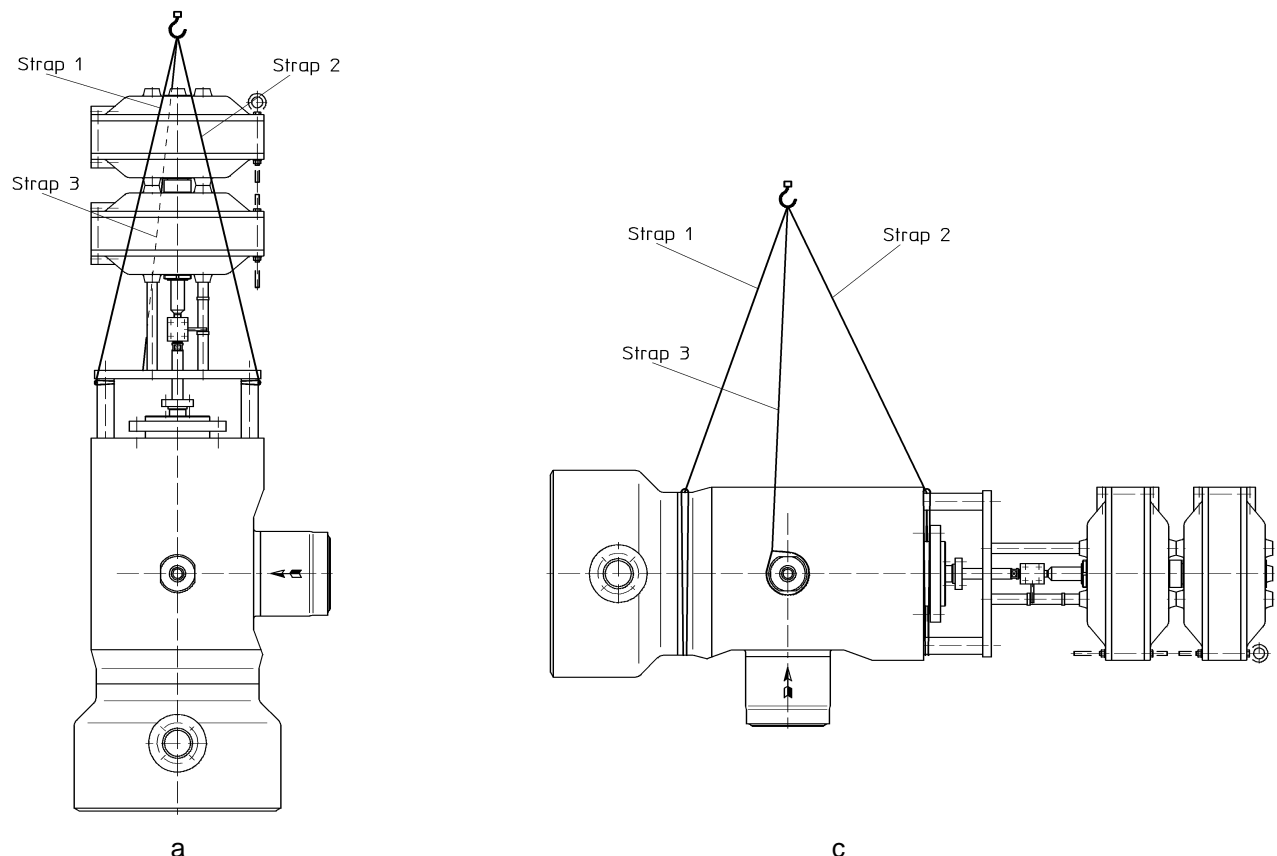


Image 7: Hoisting of valves for installation in pipeline

**⚠ Hazard:**

The eyes at the pneumatic activator attachment should only be used for lifting the activator off the valves. They must not be used as hoisting eyes for the entire valves.



### 3 Description, Technical Data

#### 3.1 Function and mode of working

The valves provide processes for the flow or shut it up.

The valves consist of the valve itself and the valve operating gear which changes the position of the flow restrictor (plug) to the seat in accordance with the control unit.

Possible means of actuation are pneumatic and electric linear activator attachments which cause an axial shift of the cone. Also suitable are multiturn actuators which transform the slewing motion into axial motion and manual adjustments.

#### 3.2 Intended use

Valves of the line of products described here are used for the regulation or controlling of substance currents consisting of steam. To reduce the temperature of the steam, water is injected. This is achieved in single stage or several stage models. These models can be unloaded or loaded.

The valves must only be used within the pre-stated pressure and temperature range (see also chapter 1.7).

Any other use than the intended use described above as well as the operation outside than the permissible pressure or temperature conditions, will be classified as different to the intended use. The risk for persons and devices as well as other property will be the sole responsibility of the operator.

The use intended also includes the compliance with regulations for the prevention of accidents and EU regulations as well as safety-conscious working practices during any measures described in these operating instructions while observing generally accepted rules of engineering.

The control valve data sheet is part of these operating instructions. If it is not enclosed please apply for it before commissioning and compare it with the system identifications. Deviations from the system and specification identification need to be clarified with the manufacturer before commissioning.

#### 3.3 Limitations on use and constructional design of valves

##### Hazard

These state-of-the-art valves will be operative for the use intended and for operation in accordance with the agreed, and the data stated on the nameplate. Operability might be impaired and result in hazards to persons and property if:

- installation, setting and / or commissioning is not professionally carried out in accordance with these operating instructions.
- the valve is operated at pressures and temperatures outside the values shown on the nameplate.
- the valve is operated under environmental conditions with higher or lower than usual values (atmospheric temperature, air humidity, dampness etc.).
- unsuitable or faulty accessories or spare parts are used.

Only use original accessories and spare parts!

### 4 Installing the valve in the system

 **Hazard**

Safe operation of the valve requires proper installation and commissioning by competent persons in accordance with the warnings of these operating instructions.

Special attention needs to be paid to general installation and safety regulations for heating, ventilation, air condition and pipe systems as well as the proper use of tools, welding devices and personal as well as other safety equipment.

**Non-compliance might result in death, severe physical injury or substantial damage to property!**

#### 4.1 Steps to take before installing the valve in the system!

To remove scale, welding residue and other impurities, the system is usually rinsed and a caustic agent applied before running a service trial.

Before taking these measures pay attention to the following points:

- If possible, the valve should be replaced by a matching piece during rinsing and use of the caustic agent.
- If this is not possible, the customer / planner has to arrange for the valve material to be tested for resistance to caustic agents. If necessary we supply a sectional drawing with parts list and details on materials.
- The valve has to be kept in 100% off-position during cleaning; do not use it for control purposes of any kind.  
Special inserts for control purposes are available for delivery after details of cleaning operation data have been supplied.
- Rinsing and operations using caustic agents might result in danger to the interior of the valve through foreign matter and excessive differential pressures. In addition to this, acidic residues in the packing between the guides and hollow spaces might lead to damage in the course of time.  
Damages arising from rinsing and the use of caustic agents can lead to enforced idleness of the system and will prove very costly. For this reason take the following steps after completing the service trial (to ensure uninterrupted operation in the interest of the operator): all valves must be
  - a) opened and checked for damages. (see separate installation instruction)
  - b) repaired and parts renewed, as necessary. (see separate installation instructions)
  - c) properly installed and the packing of valves treated with caustic agents, renewed. (see separate installation instructions)

 **Hazard! Valves are pressurized! Improper dismantling of the valve operating gear or valve might result in a health hazard!**

## 4 Installing the valve in the system

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In addition to this check the following before installing the valve:

- Do nominal and operating data shown on the nameplate match the operating data of the system?  
The manufacturer will not be liable to the substantial damage to the valve that can result from differing data.
- Is there enough space for installation or disassembly (chain hoists for installation etc.) at the installation site?
- Has the pipeline been rinsed and cleaned before installation? If this is not the case the manufacturer will not be liable for any resulting damages.
- Does the distance between the pipe ends correspond to the valve construction length?
- If the optimal installation position of the valve, i.e. with vertically placed valve spindle, is not given, please contact the manufacturer to discuss possible measures to be taken with respect to actuation forces.
- Is the pipeline set up in a way that mechanical stresses (e. g. forces and torques from pipeline expansion during operation, vibrations etc.) during installation and operation will not affect the valve body? (possible availability of compensators).
- Does the piping allow the continuous draining of condensate to avoid water hammer.
- ☞ Note: A straight pipe or damping section with length approx. 10 x DN before and after the valve will warranty control performance.
- ☞ Note: To carry out installations during operation of the valve, fit leak proof fittings and a bypass at an appropriate distance before and after the valve. The valved-off section of pipe must be drained.

### 4.2 Installing the valve

Please pay attention to the following details during installation:

- Remove the safety flaps directly before installation.
- Ensure that the flow arrow on the body matches the flow direction of the pipeline. Reversed flow direction will impair the function!
- Ensure that the pipelines are connected free of stress, without offset, mismatch or longitudinal shifting.
- Ensure that only matching seals, screws and nuts (not included in delivery) are used for the flange fittings.
- For welded-in valves, ensure that any work is carried out in accordance with the current regulations for welding work. Do not attach polarization to the valve as the flow of current might damage important sliding pieces. After welding is completed the pipeline will once again require cleaning. The valve will have to be opened and any foreign matter removed. (see separate installation instructions)
- Ensure that the draining muff, if supplied, is properly connected and that the condensate is continuously drained off.
- Ensure the proper attachment of any other connections to the valve.

Once the valve has been installed in the pipeline, this will be followed by the installation and connection of the actuator and accessories (if supplied separately). For this, please see operating instructions of actuator or accessories.

Is the valve welded into the pipe, a random test to the welding seams must be made, because the welding factor is set to 0.85. Contact the supplier / manufacturer if the test isn't possible.

Valves and pipelines operated at high (> 50 °C) or low (< 0°C) temperatures must be safeguarded against touch with insulation, and appropriate warnings have to be attached to point out the hazards caused by touch. The insulation will also absorb sounds.

### 5 Commissioning



**Hazard!** Before commissioning a new system, after alterations and repairs check that:

- all installation and mounting work has been finished properly!
- safe operation of the valve without hazards to persons or devices or the system is ensured!
- additional warnings stated in the operating instructions of the driving mechanism and the accessories are observed!



**Hazard!** Any handling between the yoke fitting / supports (of the operating assembly) is prohibited during operation due to health hazard.

The system is exposed to extreme stresses during commissioning. The pipeline and valve will be exposed to varying pressures and temperatures.

Make sure that the valve interior is neither exposed to excess differential pressure nor to any medium rendered impure by scale, welding residue, sand etc.

Depending on the period of storage, the stem packing will have lost elasticity and might be sticking to the gliding surfaces.

Please note the following:

- Move the piston several times at commissioning (when product flow starts going through valve).
- Observe the valve.  
Possible leaks around the stem packing have to be repaired as described in "7 Error search list". Should this prove insufficient, please contact the supplier / manufacturer.

Leaking gaskets have to be replaced with new gaskets. For this you will need the installation instructions for the assembly and dismantling of valves supplied by the supplier / manufacturer.

### 6 Maintenance

HORA valves are almost maintenance-free. A condition for reliable operation is proper commissioning.

To ensure faultless operation we recommend the inspection of all bolted connections for tight fit, followed by tightening, as necessary, approximately 6 month after commissioning, followed by annual inspections thereafter.

The stem packing needs to be checked regularly and tightened or replaced - as necessary – as described in the error search list.

The spindle nut of valves with multiturn actuators must be inspected (at least every 3 months) for sufficient lubrication and greased, as necessary.

Lubricant change is recommended after the following operating periods:

- For rare use after 10 – 12 years
- For frequent use after 6 – 8 years
- For regular use after 4 – 6 years

The stem/nut set is greased by HORA using the lubricator KLÜBERPLEX BE 31-502 by KLÜBER/LUBRICATION. If different but comparable lubrication is used (e. g.: Oest EP by Oest) the set has to be cleaned thoroughly before lubrication as to exclude mixing, and possible reaction, of the two different lubricants. **Attention: The manufacturer will not accept any liability for consequential damage caused by the use of different or mixed lubricants.**

For topping up and changing of lubricants see details in the operating instructions of the yoke fitting or the actuator. Both are available from the supplier / manufacturer.

## 7 Error search list

 **Hazard!**

Before starting any work take the following steps:

- **Disconnect the lift drive and other electrical components and safeguard against unintentional reclosing!**
- **Work properly in accordance with EU safety regulations as well as the warnings and notes shown in these operating instructions.**
- **Lock the pipeline on both sides of the valve (valving-off of inlet/outlet of pipe section).**
- **Depressurize the pipe section (even if only dismantling the actuator).**
- **Allow the valve to cool down to room temperature.**
- **Seek information e. g. on the safety data sheet (EU directive 91/155/EWG) about the pipe content and in all cases of hazardous material (EU directive 67/548/EWG) empty the pipe section. Observe regulations on personal safety equipment stated on the safety data sheet.**
- **Wipe up leakages, e. g. on the valve stem immediately and / or collect substantial amounts or residue of medium in a suitable container.**
- **Dispose of medium residue in accordance with EU directive 75/442/EWG.**

Error	No.	Possible causes	Measures
Stem not moving	1.1	<ul style="list-style-type: none"> <li>• No auxiliary energy (pressurized air or electrical power) for actuator and accessories available.</li> </ul>	<ul style="list-style-type: none"> <li>• Pneumatic drive: check for leaks and pressure (normally 6 bar)</li> <li>• Electric drive: Check power supply (connections, fuses, voltage)</li> </ul>
	1.2	<ul style="list-style-type: none"> <li>• Mounted accessories not working.</li> </ul>	<ul style="list-style-type: none"> <li>• See maintenance and operating instructions of accessories.</li> </ul>
	1.3	<ul style="list-style-type: none"> <li>• Actuator not working.</li> </ul>	<ul style="list-style-type: none"> <li>• See maintenance and operating instructions of actuators.</li> </ul>
	1.4	<ul style="list-style-type: none"> <li>• Stem packing screwed on too tightly.</li> </ul>	<ul style="list-style-type: none"> <li>• Loosen stem packing until valve can be used again. <b>Attention: Leakages must not occur!</b></li> </ul>
	1.5	<ul style="list-style-type: none"> <li>• Interior fittings rubbed off, stuck.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform supplier / manufacturer.</li> </ul>

## 7 Error search list

<b>Error</b>	<b>No.</b>	<b>Possible causes</b>	<b>Measures</b>
Stem moving jerkily	2.1	<ul style="list-style-type: none"> <li>Stem is dirty</li> </ul>	<ul style="list-style-type: none"> <li>Clean stem using appropriate cleaning agent</li> </ul>
	2.2	<ul style="list-style-type: none"> <li>Stem is damaged</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
	2.3	<ul style="list-style-type: none"> <li>Driving force too small</li> </ul>	<ul style="list-style-type: none"> <li>Compare actuation data of nameplate with operating data of system - inform supplier / manufacturer about deviations</li> </ul>
	2.4	<ul style="list-style-type: none"> <li>Stem packing screwed on too tightly</li> </ul>	<ul style="list-style-type: none"> <li>See 1.4</li> </ul>
Stem does not move across entire lifting area (0 to 100% lifting)	3.1	<ul style="list-style-type: none"> <li>Pneumatic drive: Air inlet pressure too low</li> </ul>	<ul style="list-style-type: none"> <li>Read required air inlet pressure on nameplate and adjust</li> </ul>
	3.2	<ul style="list-style-type: none"> <li>Pneumatic drive with manual adjustment: Hand wheel wrongly set</li> </ul>	<ul style="list-style-type: none"> <li>Put hand wheel to off-position (see operating instructions: Actuator)</li> </ul>
	3.3	<ul style="list-style-type: none"> <li>Electric drive: Displaced Limit switch</li> </ul>	<ul style="list-style-type: none"> <li>Re-adjust limit switch according settings stated by driving-mechanism manufacturer</li> </ul>
	3.4	<ul style="list-style-type: none"> <li>Displaced or defect positioner</li> </ul>	<ul style="list-style-type: none"> <li>Re-adjust positioner according to settings stated by positioner manufacturer</li> </ul>
	3.5	<ul style="list-style-type: none"> <li>Foreign matter in valve seat, damaged interior parts</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
Leakage of valve seat too great	4.1	<ul style="list-style-type: none"> <li>Damaged seal edges of valve seat or control cone</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
	4.2	<ul style="list-style-type: none"> <li>Foreign matter in seat area</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
	4.3	<ul style="list-style-type: none"> <li>Cone does not close completely</li> </ul>	<ul style="list-style-type: none"> <li>See 3.1 to 3.5</li> </ul>
	4.4	<ul style="list-style-type: none"> <li>Driving force too small</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>

## 7 Error search list

Error	No.	Possible causes	Measures
Leakage of stem packing system	5.1	<ul style="list-style-type: none"> <li>Pressure force on packing too low</li> </ul>	<ul style="list-style-type: none"> <li>Tighten stem packing slightly or replace (inform supplier / manufacturer if replacing)</li> <li><b>Attention: The valve stem must remain movable!</b></li> </ul>
	5.2	<ul style="list-style-type: none"> <li>Packing is worn</li> </ul>	<ul style="list-style-type: none"> <li>Tighten stem packing slightly or replace (inform supplier / manufacturer if replacing)</li> <li><b>Attention: The valve stem must remain movable!</b></li> </ul>
	5.3	<ul style="list-style-type: none"> <li>Stem is dirty</li> </ul>	<ul style="list-style-type: none"> <li>Clean stem using appropriate cleaning agent</li> </ul>
	5.4	<ul style="list-style-type: none"> <li>Stem is damaged</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
Leaking gasket	6.1	<ul style="list-style-type: none"> <li>Pressure force on gasket(s) too low</li> </ul>	<ul style="list-style-type: none"> <li>Tighten nuts of cover crosswise</li> </ul>
	6.2	<ul style="list-style-type: none"> <li>Gasket(s) defective</li> <li>Pressure force on gasket(s) unequal</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> <li>Adjust equal split</li> </ul>
Leaking body	7.1	<ul style="list-style-type: none"> <li>Medium/flow-related damage</li> </ul>	<ul style="list-style-type: none"> <li>Inform supplier / manufacturer</li> </ul>
No signal from limit switch	8.1	<ul style="list-style-type: none"> <li>Power supply from limit switch interrupted</li> </ul>	<ul style="list-style-type: none"> <li>Check power supply (connection, fuses, voltage)</li> </ul>
	8.2	<ul style="list-style-type: none"> <li>Displaced limit switch</li> </ul>	<ul style="list-style-type: none"> <li>Adjust limit switch, for distance to limit switch see type sheet</li> </ul>
Positioner vibrating	9.1	<ul style="list-style-type: none"> <li>Defective positioner</li> </ul>	<ul style="list-style-type: none"> <li>See maintenance and operating instructions of positioner manufacturer</li> </ul>
	9.2	<ul style="list-style-type: none"> <li>Control of system too sluggish or too fast</li> </ul>	<ul style="list-style-type: none"> <li>Check system control</li> </ul>

Should the above stated measures fail to produce a satisfactory solution inform the supplier / manufacturer.



## 8 Certificate Modul H1



**ANLAGENTECHNIK**

# ZERTIFIKAT

**Qualitätssicherungs-System  
nach Richtlinie 97/23/EG**

**Zertifikat-Nr.: 07 202 5635 Z 0019/2/H**

**Name und Anschrift des  
Herstellers:**

**Holter Regelarmaturen GmbH & Co. KG  
Helleforthstraße 58 - 60  
33758 Schloß Holte - Stukenbrock**

Hiermit wird bescheinigt, dass der Hersteller ein QS-System gemäß der Richtlinie 97/23/EG eingeführt hat und anwendet. Der Hersteller ist berechtigt, die von ihm im Rahmen des Geltungsbereichs dieses QS-Systems beschriebenen und hergestellten Druckgeräte mit dem abgebildeten Zeichen zu kennzeichnen:

**CE 0045**

Geprüft nach Richtlinie 97/23/EG:

**Umfassende Qualitätssicherung mit Entwurfsprüfung  
und besonderer Überwachung der Abnahme (Modul H1)**

Prüfbericht-Nr.:

**5635P0019/2/H**

Geltungsbereich:

**Armaturen**

Fertigungsstätte:

**Holter Regelarmaturen GmbH & Co. KG  
Helleforthstraße 58 - 60  
33758 Schloß Holte - Stukenbrock**

**Osnabrück, den 21. Mai 2002**

**TÜV CERT-Zertifizierungsstelle  
für Druckgeräte  
der TÜV NORD GRUPPE**

  
**Böwer**

Benannte Stelle, Kennnummer 0045

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Mitglied der



CONFÉDÉRATION EUROPÉENNE D'ORGANISMES DE CONTRÔLE



**ANLAGENTECHNIK**

# CERTIFICATE

**Quality- Assurance System**  
according to directive 97/23/EC

**Certificate No.: 07 202 5635 Z 0019/2/H**

**Name and address of bearer:** **Holter Regelarmaturen GmbH & Co. KG**  
**Helleforthstraße 58 - 60**  
**33758 Schloß Holte - Stukenbrock**

We hereby certify, that the manufacturer has established a quality system for the manufacturing of pressure equipment according to directive 97/23/EC. The manufacturer is entitled to mark the pressure equipment produced within the range of the quality system with the following mark:

**CE 0045**

**Tested according to 97/23/EC:** **full quality assurance with design examination and special surveillance of the final assessment (modul H1)**

**Test report No.:** **5635P0019/2/H**

**Range of products:** **valves**

**Place of manufacture:** **Holter Regelarmaturen GmbH & Co. KG**  
**Helleforthstraße 58 - 60**  
**33758 Schloß Holte - Stukenbrock**

**Osnabrück, 23 May 2002**

TÜV CERT-Certification Body for  
Pressure Equipment  
of TÜV NORD GRUPPE

**Böwer**

Certification Body EC-Reg.No. 0045

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CONFÉDÉRATION EUROPÉENNE D'ORGANISMES DE CONTRÔLE