

Can be installed in any orientation.

Dead storage minimized media space.

Low heat input.

High reliability in operation.

Please read and follow these safety instructions:

The STÖHR product catalogue, checklists, our sales personnel and our sales representatives will assist you in identifying and selecting your valve. The decision regarding a special valve type to choose as well as the proper installation, commissioning, operation and maintenance is, however, the responsibility of the system designer and user. The valve function, the type of sealing, material compatibility, operating pressure, operating temperature and the system environment must be taken into account.

STÖHR

# FREES

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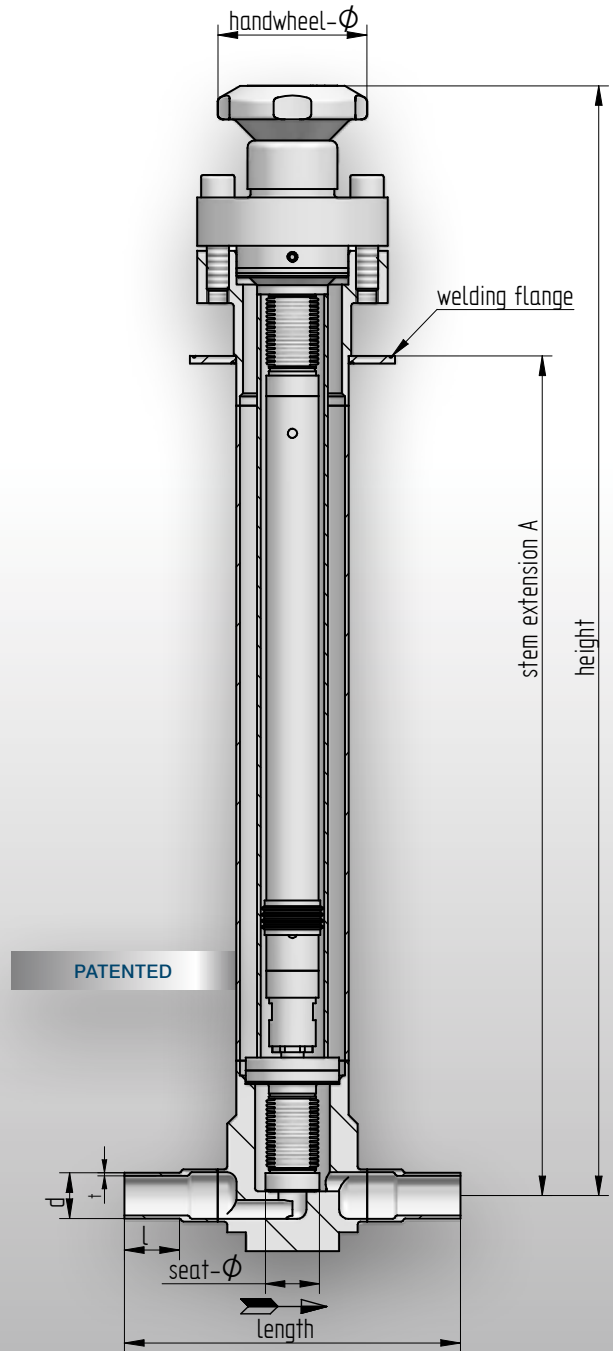
# Frees

## Manual Cryogenic Globe Valve

Unique cryogenic valve with minimized clearance volume for vacuum insulation and any installation position. Due to the minimized clearance volume also suitable for dangerous, toxic or acid fluids and with very low heat inlet. Straight valve or angle valve configuration with stainless steel bellow for long life and leak-tightness. The valve body is machined from one piece of solid stainless steel. End connections in butt-welded or according to customer specification. Smooth-running with ergonomic hand grip made from coated aluminium. Hand grip with integrated pin for open position of the valve.

Technical data	
Service fluids	N <sub>2</sub> , O <sub>2</sub> , Ar, H <sub>2</sub> , He, NG*
Operating temp. fluid	-196°C (-269° C) to + 50°C
Operating temp. environment	-30°C to + 50°C
Actuator	hand-wheel
Body shape	straight or angle
Seat sealing	metal/PCTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s
	metal/PTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s
	metal/metal seat leakage rate $1 \times 10^{-3}$ mbar l/s
Body sealing	metal seal ring He leakage rate to atmosphere $1 \times 10^{-8}$ mbar l/s
Stem sealing	stainless steel bellow physically tight
2. stem sealing	safety-O-Ring (Viton)
Surface treatment	machined, ground, electro-polished or passivated**
Installation position	optional
Body material	stainless steel
Material certificates	DIN EN 10204/3.1 AD2000-A4

\* All dangerous, toxic, acid fluids with material selection.  
 \*\* Execution of the surface treatment to customer specifications.



DN	PN	end connection d x t x l	length	height	Extension A	seat Ø	Kv- Value	drawing no.
10	25	12,0 x 1,0 x 25	180	595	450	15	1,5	14-1200.15.1
15	25	18,0 x 1,5 x 25	180	595	450	15	3,4	14-1201.15.1

Dimensions for straight valves, for angle valves on request. all lengths in [mm], Kv-Value in [m³/h]. Imperial and ISO dimensions possible.

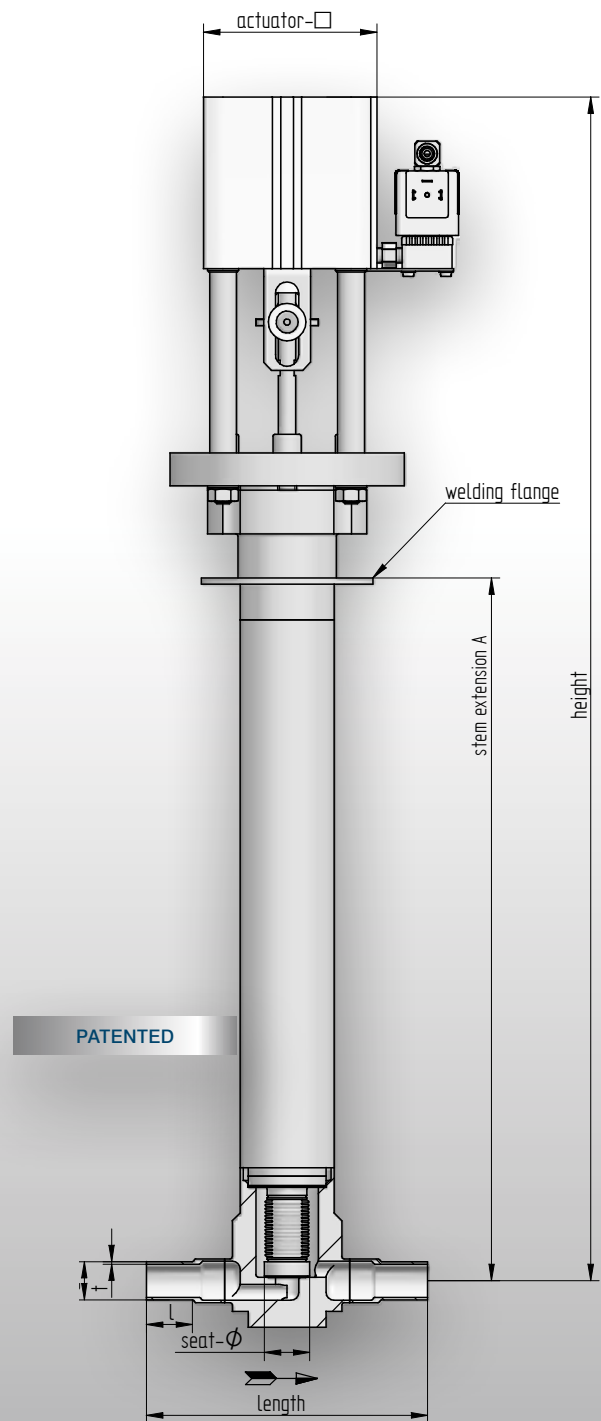
# FREES

## Pneumatic Cryogenic Globe Valve

Unique cryogenic valve with minimized clearance volume for vacuum insulation and any installation position. Due to the minimized clearance volume also suitable for dangerous, toxic or acid fluids and with very low heat inlet. Straight valve or angle valve configuration with stainless steel bellow for long life and leak-tightness. The valve body is machined from one piece of solid stainless steel. End connections in butt-welded end connections or according to customer specification. Compact pneumatic piston actuator with safety position for safe opening and closing. Limit switches, solenoid valves and further components on request.

Technical data	
Service fluids	N <sub>2</sub> , O <sub>2</sub> , Ar, H <sub>2</sub> , He, NG*
Operating temp. fluid	-196°C (-269°C) bis +50°C
Operating temp. environment	-30°C to + 50°C
Actuator	piston actuator, pneumatic single-acting
Body shape	straight or angle
Seat sealing	metal/PCTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s metal/PTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s metal/metal seat leakage rate $1 \times 10^{-3}$ mbar l/s
Body sealing	metal seal ring He leakage rate to atmosphere $1 \times 10^{-8}$ mbar l/s
Stem sealing	stainless steel bellow physically tight
2. stem sealing	safety-O-Ring (Viton)
Safety position	normally closed (NC) or normally open (NO)
Actuating pressure	6 + 0,5/-0,0 bar, dry compressed air or nitrogen
End connect. for actuating air	female thread G 1/8" G 1/4"
Surface treatment	machined, ground, electro-polished or passivated**
Installation position	optional
Body material	stainless steel
Material certificates	DIN EN 10204/3.1 AD2000-A4

\* All dangerous, toxic, acid fluids with material selection.  
\*\* Execution of the surface treatment to customer specifications.



DN	PN	end connection d x t x l	length	height	Extension A	seat Ø	Kv-Value	drawing no.
10	25	12,0 x 1,0 x 25	180	758	450	15	1,5	18-1200.15.1
15	25	18,0 x 1,5 x 25	180	758	450	15	3,4	18-1201.15.1

Dimensions for straight valves, for angle valves on request. all lengths in [mm], Kv-Value in [m³/h]. Imperial and ISO dimensions possible.

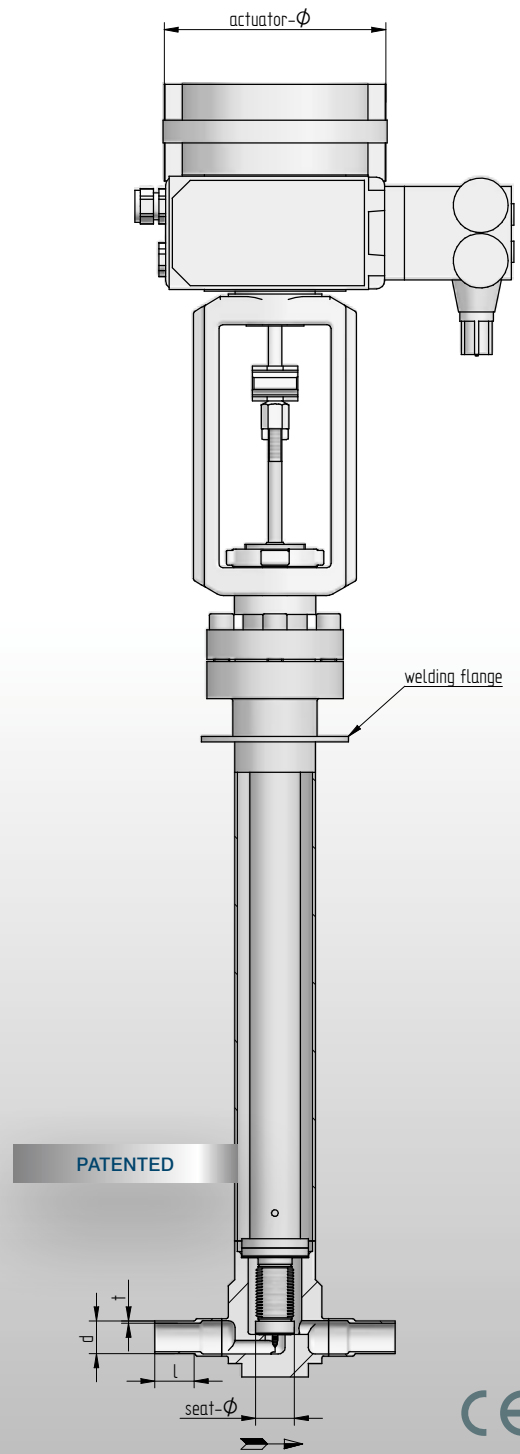
# Frees

## Pneumatic Cryogenic Regulation Valve

Unique cryogenic valve with minimized clearance volume for vacuum insulation and any installation position. Due to the minimized clearance volume also suitable for dangerous, toxic or acid fluids and with very low heat inlet. Straight valve or angle valve configuration with stainless steel bellow for long life and leak-tightness. The valve body is machined from one piece of solid stainless steel. End connections in butt-welded execution or according to customer specification. Exactly regulating diaphragm actuator, IP-positioner is optional.

Technical data	
Service fluids	N <sub>2</sub> , O <sub>2</sub> , Ar, H <sub>2</sub> , He, NG*
Operating temp. fluid	-196°C (-269° C) to + 50°C
Operating temp. environment	-30°C to + 50°C
Actuator	diaphragm actuator, pneumatic single-acting
Position regulation	optional
Body shape	straight or angle
Seat sealing	metal/PCTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s
	metal/PTFE seat leakage rate $1 \times 10^{-6}$ mbar l/s
	metal/metal seat leakage rate $1 \times 10^{-3}$ mbar l/s
Body sealing	v
Stem sealing	stainless steel bellow physically tight
2. stem sealing	safety-O-Ring/grooved ring (Viton)
Safety position	normally closed (NC) or normally open (NO)
Position indication	scale
Actuating pressure	6 + 0,5 bar, dry compressed air or nitrogen
End connect. for actuating air	female thread G 3/8"
Surface treatment	machined, ground, electro-polished or passivated**
Installation position	horizontal in flow direction, actuator on top, max. 30° vertical
Body material	stainless steel
Material certificates	DIN EN 10204/3.1 AD2000-A4

\* All dangerous, toxic, acid fluids with material selection.  
 \*\* Execution of the surface treatment to customer specifications.



DN	PN	end connection d x t x l	seat Ø	Kv- Value	drawing no.
10	25	12,0 x 1,0 x 25	15	1,5	R18-1200.15.10
15	25	18,0 x 1,5 x 25	15	3,4	R18-1201.15.10

Dimensions for straight valves, for angle valves on request. all lengths in [mm], Kv-Value in [m³/h]. Imperial and ISO dimensions possible.

# Certificates

## Key aspects of the Quality Programme

### Rules and standards:

STÖHR ARMATUREN standard is the Pressure Vessel Code (DruckGRL).

Optional are rules like ASME, KTA etc.

### Existing testing facilities:

- hydraulic pressure test up to 1600 bar
- helium leak test by He leak detector  
to  $\leq 1,0 \times 10^{-10}$  mbar l/sec. at room temp. and  $-196^{\circ}\text{C}$
- oxygen-compatible surface cleaning possible
- surface improvement by grinding and electro-polishing to  $R_a \leq 0,25\mu\text{m}$  possible
- clean room assembly to class 100 possible.
- welding with valid WPQ (Welding Procedure Qualifications) and welder's performance qualification
- 100% test record of the welding seams (acc. to DIN EN 473) by:
  - visual test
  - surface crack test
  - ultrasonic test
  - X-ray examination.

### Existing certifications:

- AD2000-HPO
- DIN 2303 - Q2 BK2
- DIN EN ISO 9001:2008
- Pressure Vessel Code - module H
- KTA 1401
- Qualification for transfer of identification acc. to AD2000-HPO

