- FITTINGS FOR GASES,
- CRYOGENIC AND HIGH-PRESSURE ENGINEERING,
- AEROSPACE, MARINE AND ENERGY INDUSTRY

STÖHR
ARMATUREN

XXL sizes

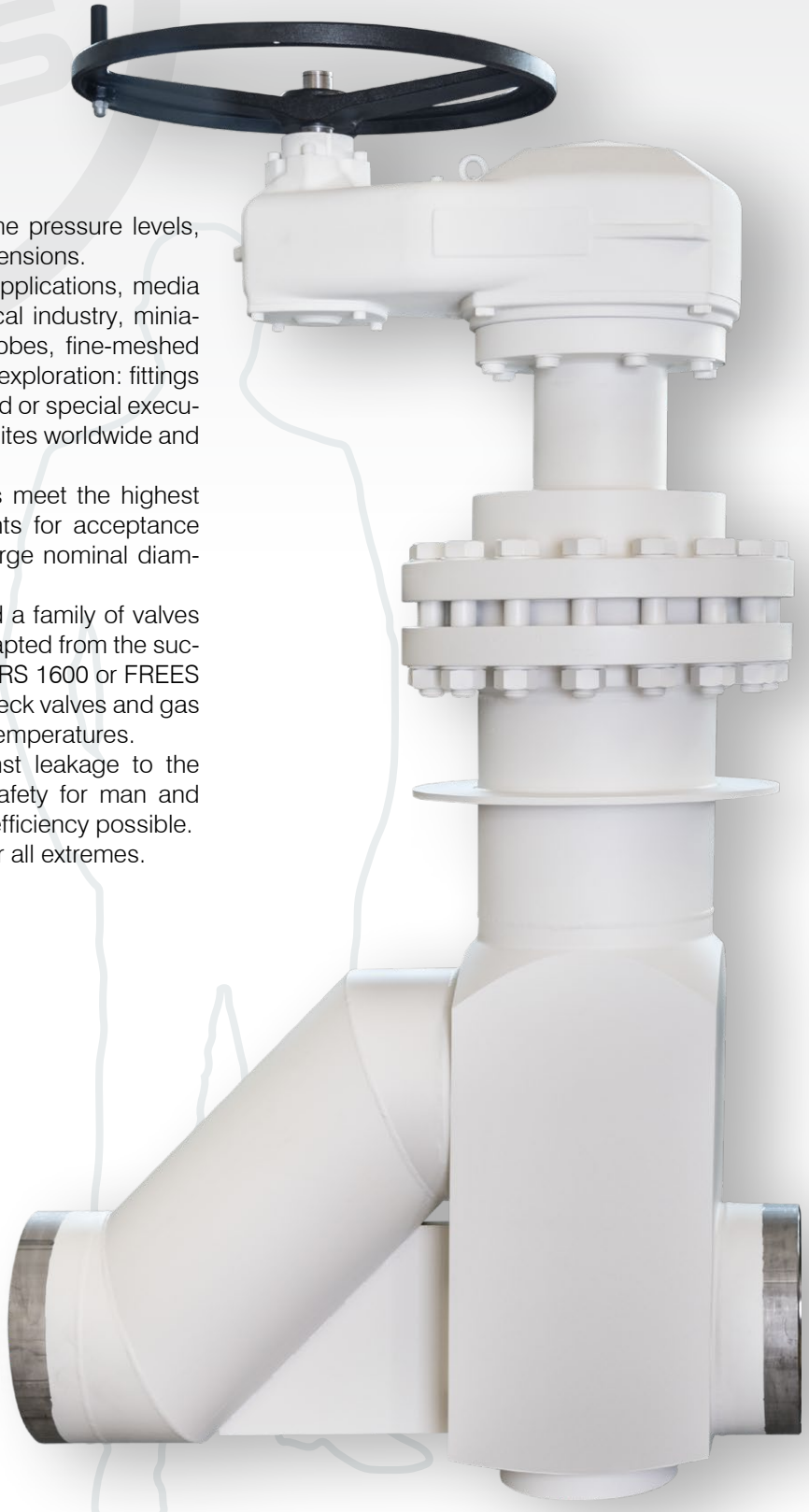
valve series for exxtra large dimensions

best for LH_2

meet the Extremes

From XXS to XXL

Extreme media temperatures, extreme pressure levels, extreme tightness and – extreme dimensions.
Precise control valves for scientific applications, media resistant globe valves for the chemical industry, miniaturised blow-off valves for space probes, fine-meshed gas strainers, gigantic valves for gas exploration: fittings from STÖHR ARMATUREN in standard or special execution are in operation at thousands of sites worldwide and reliably working at 24/7.
From "XXS" to "XXL" size, our valves meet the highest quality expectations and requirements for acceptance with our customers. Especially for large nominal diameters up to DN300.
STÖHR ARMATUREN has developed a family of valves with bellows sealing and strainers adapted from the successful series UNIVERS 1200, UNIVERS 1600 or FREES 1200: control valves, globe valves, check valves and gas filters both for cryogenic or ambient temperatures.
Sealing with bellows protects against leakage to the environment and offers additional safety for man and plant combined with highest energy efficiency possible.
Talk to us. We offer valve solutions for all extremes.



best for LH2

STÖHR ARMATUREN GmbH & Co KG
Dornierstraße 4
86343 Königsbrunn, Germany

fon: +49 8231 34 90 – 0
fax: +49 8231 34 90 – 45
sales@stoehr-valves.de

let's have a call
+49.8231.34900

STÖHR
VALVES FOR EXTREMES

Fittings in "XXL" size

For valves with nominal diameters up to DN300, STÖHR ARMATUREN has developed a family of valves with bellows sealing and strainers adapted from the successful series, UNIVERS 1200, UNIVERS 1600 and FREES 1200: control valves, globe valves, check valves and gas filters both for cryogenic or ambient temperatures.
Sealing with bellows protects against leakage to the environment and offers additional safety for man and plant combined with highest energy efficiency possible.

Technical Data	Technical Design
Service fluid	He, Ar, H_2, O_2, N_2 in gaseous or liquid condition, LNG
Available diameters (mm)	125, 150, 200, 250 and 300
Function	On-off, Control, Non-return, Strainer
Body sealing	Stem sealing with bellow made of stainless steel plus second sealing (O-ring or comparable). Tightness to environment: 1x10E-8 mbar*l/sec
Sealing at valve seat	Metal / PCTFE Tightness at valve seat: 1x10E-6 mbar*l/sec
Operating temp fluid	ambient: 243 K (-30°C) to 323 K (+50°C), cryogenic: 2 K (-271°C) to 243 K (-30°C)
Operating temp environment	-20° to +50° C optional: adjustment to environmental conditions (desert, sea water, humidity, …), outside painting
Nominal pressure (PN) in bar	10 / 16 / 20 / 25 / 32 / 40 / 50 (depending on valve size)
Actuator	Manual (optional: gear-box assisted), electro-pneumatic or hydraulic. For non-manual actuation: incl. suitable mounting parts for position control and positioning
Fail-safe position	Normally closed (NC) or normally open (NO)
Body type	straight-through, Z-type, angle type
Connections	Welding ends acc. to ISO, DIN, ASME or metric as standard; other end connections optional
Welding flange	In cryogenic execution, available as standard for installation in vacuum-jacketed pipes
Body material	Austenitic steel acc. to AD2000-W2/W10
Material certificates	Acc. to EN 10204 3.1 / 3.2. Other materials and certificates on request
Options	Detection chamber, Seawater-resistant design, increased pressure level up to PN50, optimised flow coefficient, short opening/closing time, manual override, manual spindle locking, gearbox for handwheel operation, outside coating, free installation position in horizontal or even upside-down direction, other options on request

Dimensions and sizes – Globe and Control Valves

XXL manual cryogenic globe valve

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	Ventilhub	KVS-Wert	Sitz ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	lift height	KVS value	seat ø	drawing no.
150	40	168,3 x 4,0	X = Y = 250	2200	1200	80	600	150	14-1611
200	40	219,1 x s	X = Y = 300	2500	1500	95	1000	200	14-1612
250	25	273,0 x s	X = Y = 400	2600	1500	120	1700	250	14-1613
300	25	323,9 x s	X = Y = 500	2700	1500	140	2400	300	14-1614
400	25	406,4 x s	X = Y = 600	2900	1800	155	3500	390	14-1615

XXL hydraulic cryogenic globe valve

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	Ventilhub	KVS-Wert	Sitz ø	Antrieb ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	lift height	KVS value	seat ø	actuator ø	drawing no.
150	40	168,3 x s	X = Y = 250	3200	1200	80	600	150	148	18-1611.9.1
200	25	219,1 x s	X = Y = 300	3500	1500	95	1000	200	173	18-1612.9.1
250	25	273,0 x s	X = Y = 400	3600	1500	120	1700	250	210	18-1613.9.1
300	25	323,9 x s	X = Y = 500	3700	1500	140	2400	300	280	18-1614.9.1

XXL Pneumatic cryogenic globe valve

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	Ventilhub	KVS-Wert	Sitz ø	Antrieb ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	lift height	KVS value	seat ø	actuator ø	drawing no.
150	40	168,3 x 4,0	X = Y = 250	3200	1200	80	550	150	770	R18-1611
200	25	219,1 x s	X = Y = 300	3500	1500	95	930	200	770	R18-1612
250	25/16*	273,0 x s	X = Y = 400	3600	1500	120	1550	250	770	R18-1613
300	25/10*	323,9 x s	X = Y = 500	3700	1500	140	2300	300	770	R18-1614

XXL cryogenic pneumatic control valve

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	Ventilhub	KVS-Wert	Sitz ø	Antrieb ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	lift height	KVS value	seat ø	actuator ø	drawing no.
150	40	168,3 x 4,0	X = Y = 250	3200	1200	80	550	150	770	R18-1611
200	25	219,1 x s	X = Y = 300	3500	1500	95	930	200	770	R18-1612
250	25/16*	273,0 x s	X = Y = 400	3600	1500	120	1550	250	770	R18-1613
300	25/10*	323,9 x s	X = Y = 500	3700	1500	140	2300	300	770	R18-1614

**only flow-to-close possible*

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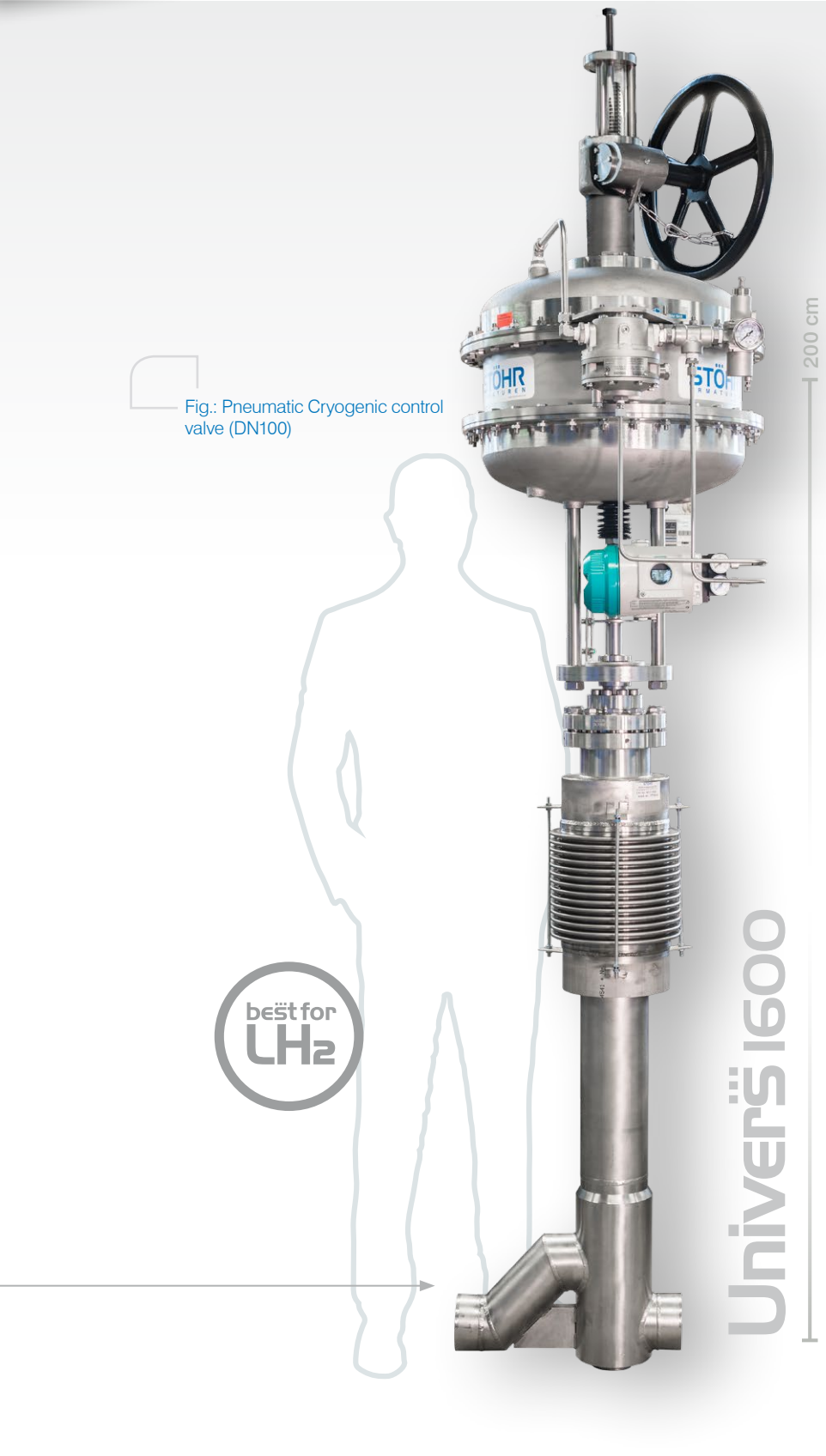
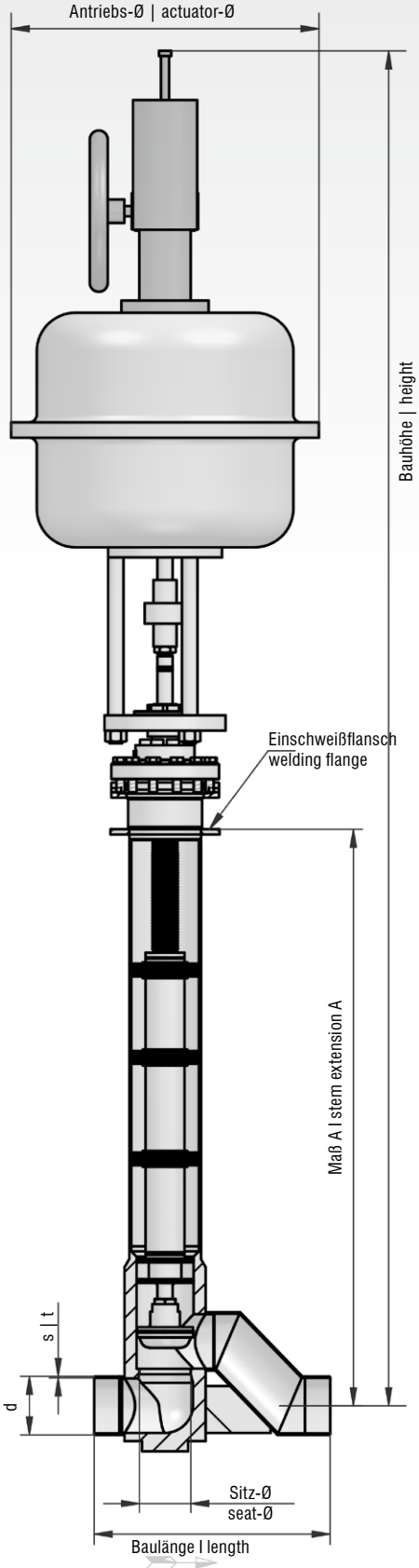
STÖHR
VALVES FOR EXTREMES

Fig.: Pneumatic Cryogenic control valve (DN100)





Important to know

- Below sealing for high tightness to the environment, especially when operating with flammable or combustible gases (H_2, O_2)
- Drawing approval by customer before production release, in particular with regards to the pipe routing in the plant and related position of end connections
- Designed and tested in accordance with PED 2014/68 / EU and AD 2000 leaflets
- Fittings up to Cat. III of the PED may be developed and tested by STÖHR under constant monitoring by TÜV SÜD. For valves of category IV of the PED, STÖHR undertake all necessary coordination work with the notified body (TÜV SÜD) from drawing approval to final acceptance test
- Issuing all necessary certificates acc. PED and AD 2000 leaflets
- Issuing the EU Declaration of Conformity including affixing the CE mark
- ATEX conformity
- Declaration of conformity SIL acc.IEC 61508
- STÖHR Standard Quality Control Plan:
  - – Vision test with control of weld DIN EN ISO 5817
  - – Functional test DIN EN 12266-2
  - – Hydraulic pressure test (at factor 1.5 time x PN) acc. to DIN EN 12266-1
  - – Leak tests for control of leackage to the environment (water bubble test, helium leak test DINB 1779)
- Optional QA services:
  - – LIN cold test
  - – Final Acceptance Test (FAT) in presence of customer representative and/or external auditor (TPI)
  - – PMI (Material Testing)

    Non-destructive tests:
    - – X-ray test for welds at pressure-bearing parts acc. to DIN EN ISO 17636
    - – Ultrasonic testing scc. to DIN ESO 22825
    - – Colour-penetration test acc. to DIN EN ISO 3452
- Optional QA services may be performed acc. to other rules & standards on request
- Transportation: due to heavy weight requirements, the valves are equipped with locating pads. Gearbox (manual drive) or pneumatic / hydraulic actuator must be dismantled after factory acceptance test and delivered separately packed. Delivery takes place in sturdy wooden boxes.

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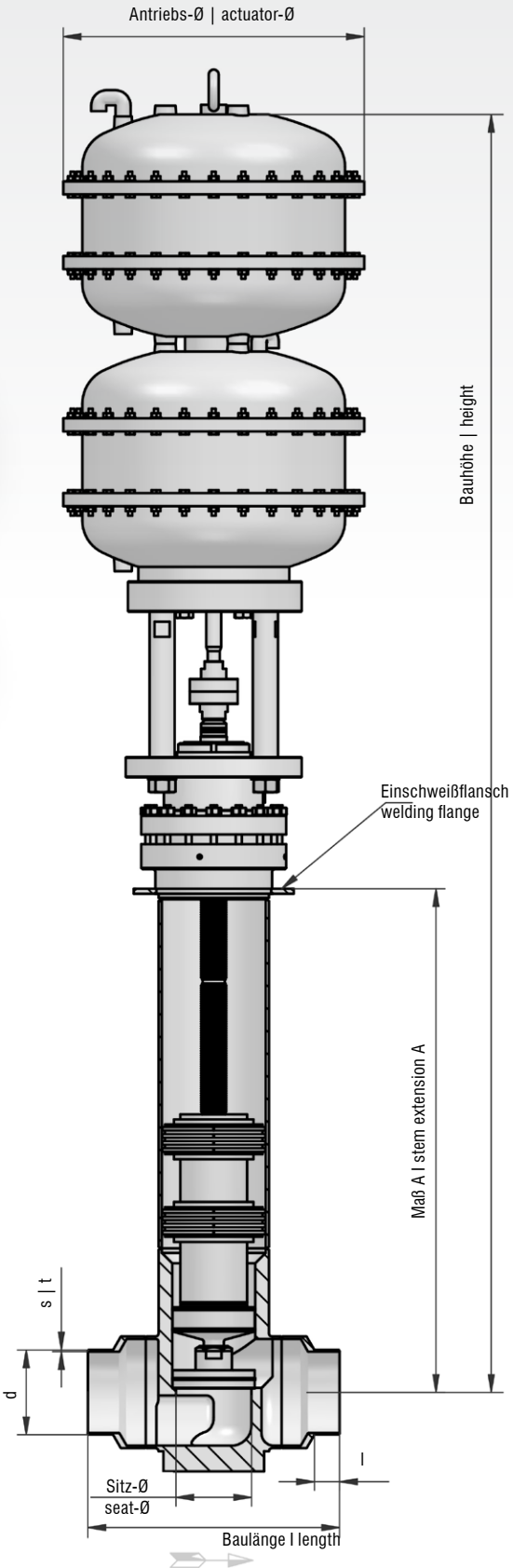
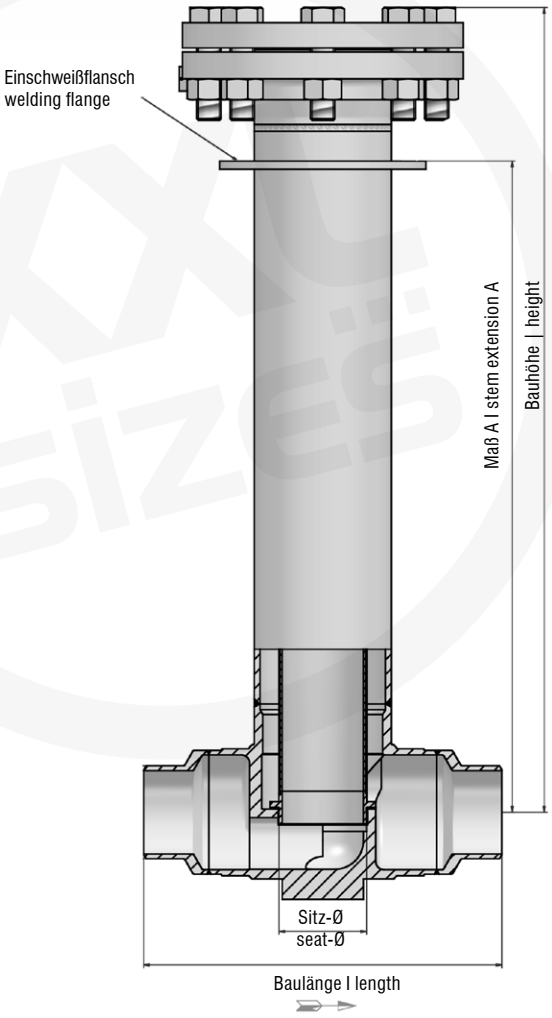
Fig.: Pneumatic cryogenic globe valve with twin pneumatic actuator



Dimensions and sizes – Strainer and Check Valve

Fig.: XXL cryogenic strainer (DN300)



XXL cryogenic strainer

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	Sitz ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	seat ø	drawing no.
150	25	168,3 x 2,6	X=Y=250	1100	1000	150	40-1611.12.1
200	25	219,1 x 2,9	X=Y=300	1250	1000	200	40-1612.12.1
250	25	273,0 x 5,0	X=Y=400	1400	1200	250	40-1613.12.1
300	25	323,9 x 5,6	X=Y=500	1500	1200	300	40-1614.12.1

Standard mesh size is 40 micron.
Availability of other mesh sizes on request.

XXL cryogenic check valve

DN	PN	"Anschluss d x s"	Baulänge	Bauhöhe	Maß A	KVS-Wert	Sitz ø	Zeichnungs-Nr.
DN	PN	"end connection d x t"	length	height	Extension A	KVS value	seat ø	drawing no.
150	25	168,3 x 2,6	X=Y=250	1100	1000	550	150	08-1611.12.1
200	25	219,1 x 2,9	X=Y=300	1250	1000	930	200	08-1612.12.1
250	25	273,0 x 5,0	X=Y=400	1400	1200	1550	250	08-1613.12.1
300	25	323,9 x 5,6	X=Y=500	1500	1200	2300	300	08-1614.12.1

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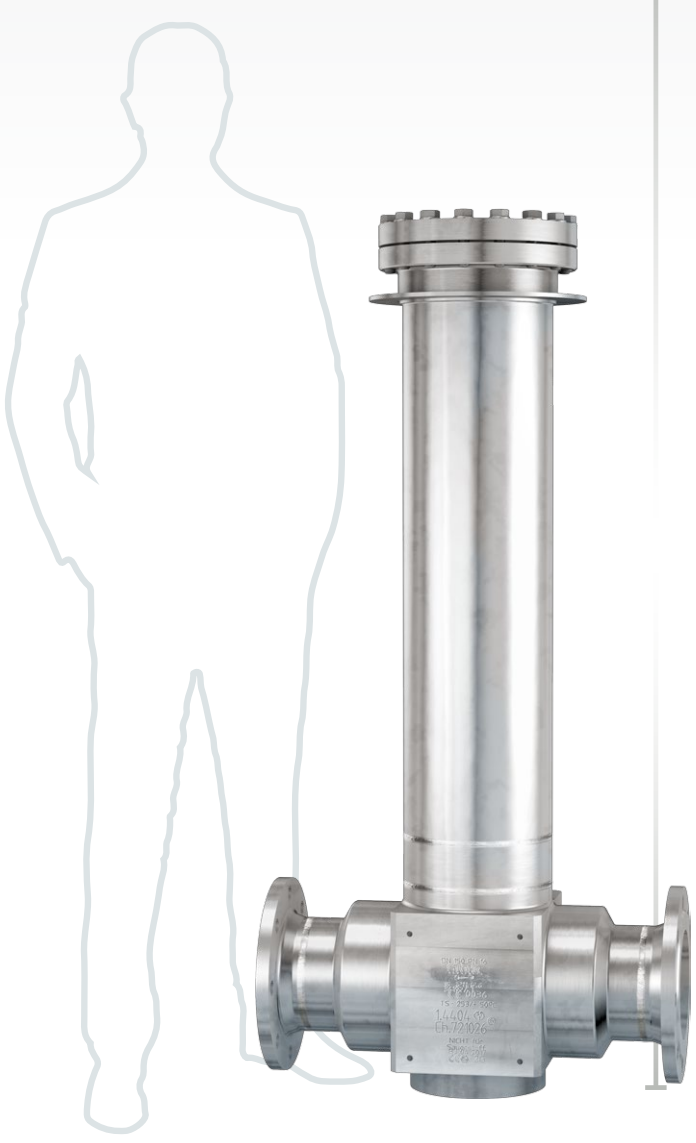
Fig.: XXL cryogenic check valve (DN300)



UniverS 1200

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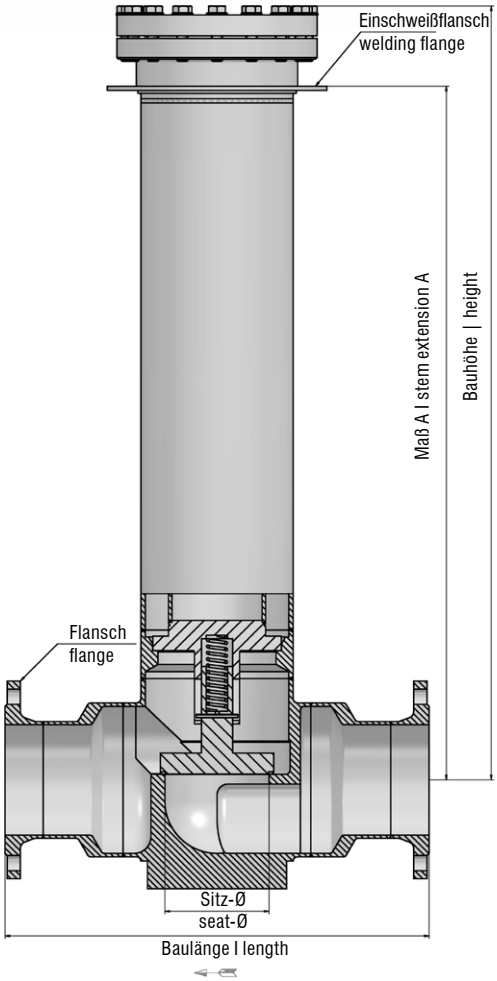

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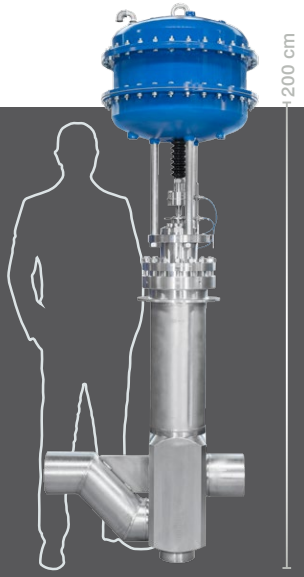
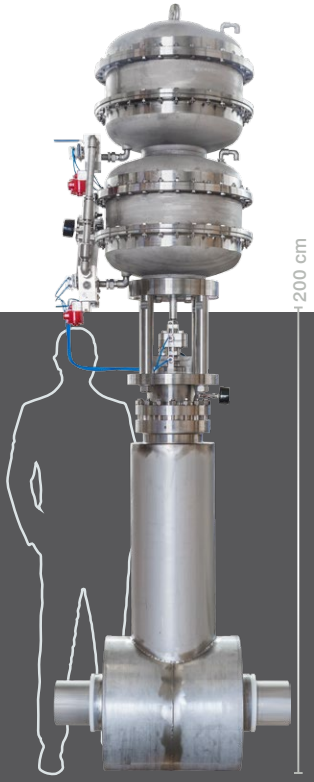
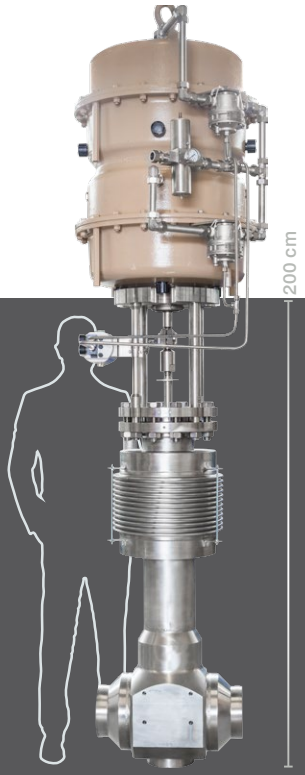


Pneumatic cryogenic globe valve (DN150) with optimised flow coefficient (KVS value).

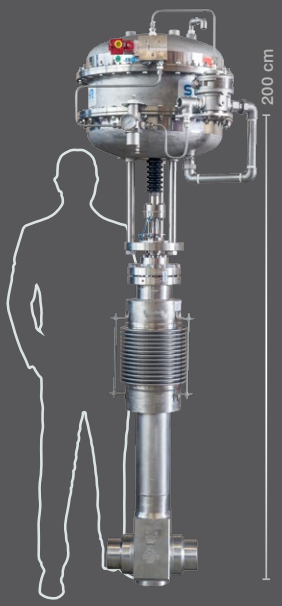


Pneumatic cryogenic globe valve (DN150) with vacuum jacket ex works.

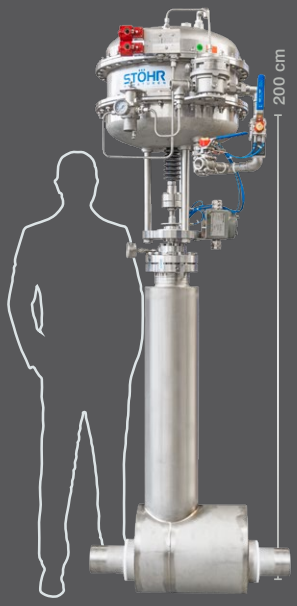


Pneumatic cryogenic globe valve (DN200) with tandem actuator and manual spindle locking.

XXL cryogenic check valve (DN300)



Pneumatic cryogenic globe valve (DN100) in marine execution equipped with compensator outside.



Pneumatic cryogenic control valve (DN100) with vacuum jacket ex works.

STÖHR ARMATUREN GmbH & Co KG
Dornierstraße 4
86343 Königsbrunn
Germany

phone +49.8231.3490-0
fax +49.8231.3490-40

info@stoehr-valves.de
www.stoehr-valves.de