



中国船级社
CHINA CLASSIFICATION SOCIETY

证书格式号/Form: T01.02-
SH000354

型式认可证书 CERTIFICATE OF TYPE APPROVAL

证书编号/Certificate No. HB16T00024

兹证明本证书所述制造厂生产的下列产品能够满足下面列明认可标准的要求。

This is to certify that the following products produced by the manufacturer stated in the certificate can meet the requirements of the approval standards listed below.

认可产品/ Product Approved

低温阀
Cryogenic Valves

制造厂/ Manufacturer

HEROSE GMBH ARMATUREN UND METALLE

Elly-Heuss-Knapp-Str. 12, 23843, Bad Oldesloe

附加标志/ Notations

无/Nil.

认可标准/ Approval Standard

1. Chapter 2, Part 3 of China Classification Society Rules for the Classification of Sea-going Steel Ships (2015) and its amendments.
2. Chapter 5 of China Classification Society Rules for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (2006) and its amendments.
3. International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, IMO (by MSC.5(48)) and its amendments.
4. IACS/UR - G3 (REV. 5): Liquefied Gas Cargo and Process Pinping.

证书有效期至/ This Certificate is valid until 2020年6月20日 / Jun. 20, 2020

发证机构 中国船级社汉堡分社
Issued by CCS Hamburg Branch

签发日期 2016年6月21日
Date Jun. 21, 2016

本证书根据中国船级社《钢质海船入级规范》及有关规定签发。关于证书的有关规定见本证书封面背面的说明。当本证书包括多页纸张时，则所有证书页为一个整体，必须同时使用。每一页证书均须由本社盖章方为有效。证书复印件无本社盖章时，不得作为有效证书使用。本证书不得复制或节选本证书的部分内容。本认可证书不代表本社对个体产品质量的检验。有关各方对所持证书的真实性有疑问时，可以向本社检验机构咨询。

This Certificate is issued pursuant to the Rules for Classification of Sea-going Steel Ships and related procedures of the Society. Refer to the back of the certificate for detailed requirements of the certificate. When the certificate consists of more than one page, all pages of the certificate are taken as a whole and are used simultaneously. No certificate page is valid without bearing the stamp of the Society and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. This approval certificate does not constitute the inspection of the Society about the quality of the unit/batch product. Related parties who are



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HB38205158

第 1 页 共 3 页 / Page 1 of 3

Nº 16081680

产品明细/ Product Description

低温阀/Cryogenic Valves	
型号/Model	: 01341; 01741 (Globe Valve) 01343; 01743 (Actuated Globe Valve) 01641; 01841 (Globe Valve, Fire Safe) 01643; 01843 (Actuated Globe Valve, Fire Safe) 05414 (Check Valve) 08417 (Strainer)
公称压力/Nominal pressure	: up to 50.0 bar (DN100 = PN40; DN150 = PN25)
公称通径/Nominal diameter	: DN 10 up to DN 150
适用温度/Suitable temperature	: -196°C up to +120°C for 1.4308 -255°C up to +120°C for 1.4409
阀体材料/Material of valve body	: DIN EN 1.4308 or 1.4409

批准的图纸和设计计算书/ Approved Drawings and Design Calculations

图纸批准号/ Drawings Approval No. : NP14A01532, NP15A03130

产品认可试验报告/ Approval Test Report

试验报告编号/Test Report No. : HPC1461042
试验报告日期/Test Report Date : 2015-02-28
试验单位/ Laboratory : HEROS GMBH Armaturen und Metalle
试验单位地址/ Test Address : Elly-Heuss-Knapp-Strasse 12, 23843, Bad Oldesloe, Germany

产品适用范围/ Application of the Product

船用/Marine Application

Globe valves intended to be used for air gases, vapours and cryogenic liquefied gases including LNG; in cargo handling systems of oil tankers and liquefied gas tankers and in piping systems onboard ships and offshore units.

Only fire safe design to be used for emergency shut down or terminal (end of pipe) applications for flammable fluids.

认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective action in a prompt and effective manner.

4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 如果属于获得型式认可B 模式证书, 且无需颁发船用产品证书/等效证明文件的情况, 证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作可在周年日的前后三个月内进行。

If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

认可后的产品检验方式/ Method of Product Inspection after Approval

按照规范逐件检验的产品/The product inspected one by one in term of the rules:

认可后的产品检验应由本社验船师根据本社规范规定逐件按批准的产品检验计划进行检验, 经检验合格后由本社颁发船用产品证书。

After approval, product inspection should be carried out one by one by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

对于原材料和零部件的检验要求/ Inspection Requirements for Materials and Components

产品如下原材料和零部件应由本社认可的制造厂生产/The following materials and components of the product should be manufactured by the factory approved by the Society:

无/Nil.

产品如下原材料和零部件应经本社检验/The following materials and components of the product should be inspected by the Society:

无/Nil.

产品如下原材料和零部件的制造厂清单, 经本社批准方可变更/The list of manufacturer for the following materials and components of the product should not be changed without the Society's approval:

无/Nil.

责任声明/ Statement of Responsibility

本社的认可不影响、替代与本社授权或检验无关的各方对上述工厂的认可和发证, 并且不对与本社授权或检验无关的各方负责, 不承担其未经应允而承认、接受本社认可所导致的法律和经济责任。

The approval of the Society does not affect and replace any approval and certification of the manufacturer by any parties that bear no relation with this Society's authorization or survey and therefore takes no responsibility for these parties. The Society does not undertake any legal and economic liabilities arising from accepting this Society's certificate without prior permission from this Society.

其他/Others

1. 本社已审核了产品厂无石棉声明, 但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。
The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society.
However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.
2. The manufacturer's operating and maintenance instructions are to be sought.
3. This approval does not include any operating gears or actuators for remote control of the valves.
4. Marking of Products:
Each valve is at least to be marked with:
 - Manufacturer's name or logo
 - Type designation
 - Size
 - Design Pressure and Temperature range
 - Society's Brand as relevant

中国船级社汉堡分社

CCS Hamburg Branch



*****本证书正文完/ End of Text*****

Globe Valves

Type 01252 - Bellow Sealed Globe Valve

Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01252.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01252.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

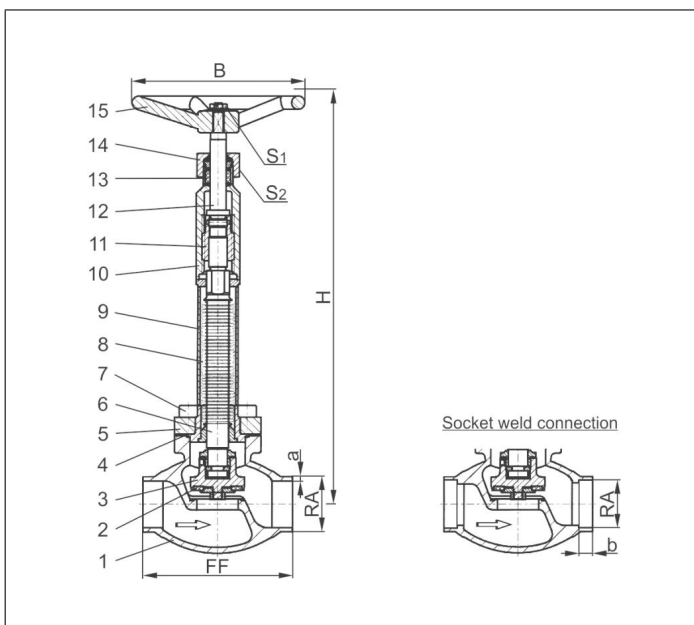
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Leak rate: 10⁻⁶ mbar ltr / sec outside

10⁻⁴ mbar ltr / sec seat



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 276 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 276 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	Aluminium alloy	



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01252 - Standard design		Technical data								
Nominal size	DN	10	15	15	20	25	32	40	40	50
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155
Height	H	380	380	380	380	380	380	380	380	380
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	6	10	10	13	13	-	13	13	16
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	26.3	26.3	43.2

Dimensions in mm.

Fire Safe Valves

Type 01262 - Bellow Sealed Globe Valve

"Fire Safe"-design without fire type-testing according to EN ISO 10497

Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01262.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01262.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm

Applications:

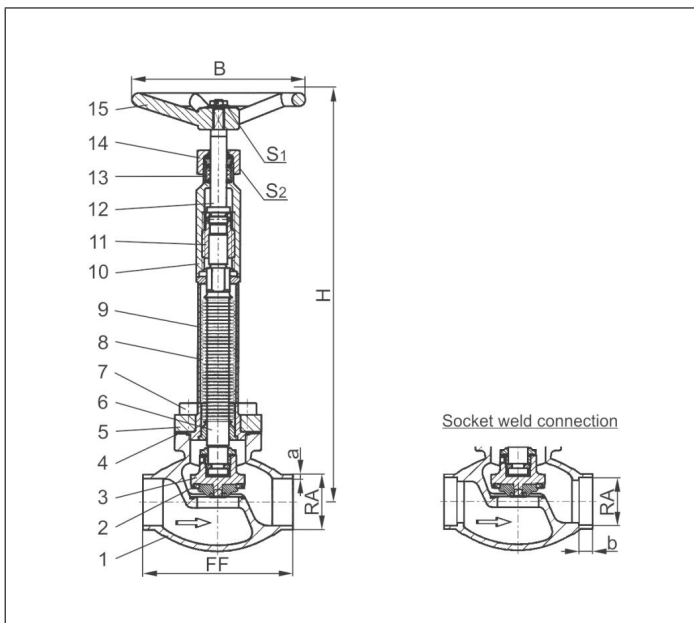
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Leak rate: 10⁻⁶ mbar ltr / sec outside, 10⁻⁴ mbar ltr / sec seat



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 313 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 313 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	1.4409	A 351 CF3M



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01262 - Standard design		Technical data								
Nominal size	DN	10	15	15	20	25	32	40	40	50
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155
Height	H	380	380	380	380	380	380	380	380	380
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	6	10	10	13	13	-	13	13	16
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	26.3	26.3	43.2

Dimensions in mm.

Offshore Valves

Type 01272 - Bellow Sealed Globe Valve

Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01272.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01272.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

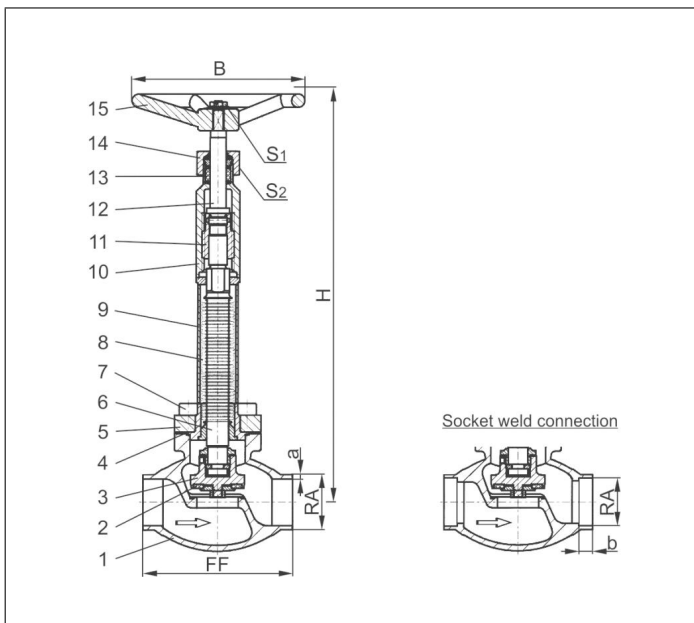
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Leak rate:: 10-6 mbar ltr / sec outside, 10-4 mbar ltr / sec seat

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bellow stem	1.4571	A 313 Grade 316Ti
7 Bolts	1.4401/A4	A 194 B8M
8 Bellow	1.4571	A 313 Grade 316Ti
9 Elongation tube	1.4571	A 313 Grade 316Ti
10 Headpiece	1.4404	A 276 Grade 316L
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4404	A 276 Grade 316L
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4404	A 276 Grade 316L
15 Handwheel	1.4409	A 351 CF3M

Standard marking acc. to Pressure Equipment
Directive 2014/68/EU (PED).



Type 01272 - Standard design	Technical data									
Nominal size	DN	10	15	15	20	25	32	40	40	50
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155
Height	H	380	380	380	380	380	380	380	380	380
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	6	10	10	13	13	-	13	13	16
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	26.3	26.3	43.2

Dimensions in mm.

Fire Safe and Offshore Valves

Type 01282 - Bellow Sealed Globe Valve

"Fire Safe"-design without fire type-testing according to EN ISO 10497

Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01282.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01282.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm

Applications:

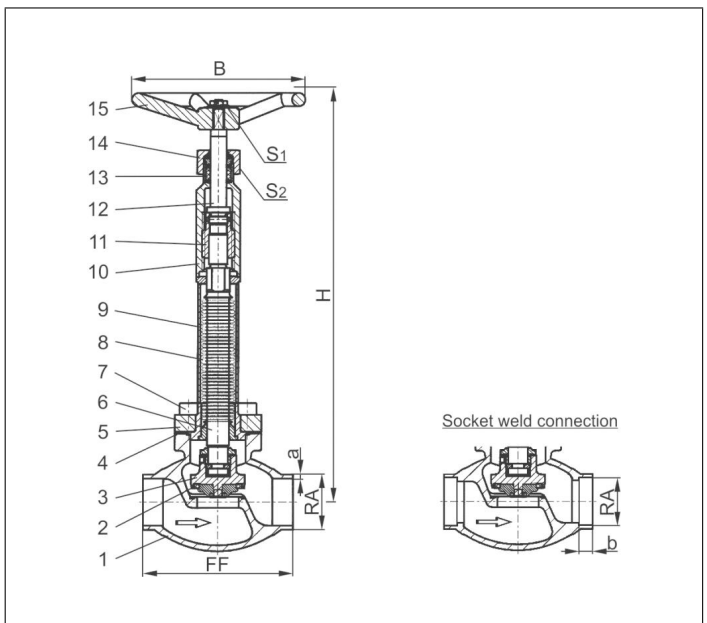
Suitable for hydrogen, approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Leak rate: 10^{-6} mbar ltr / sec outside, 10^{-4} mbar ltr / sec seat



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bellow stem	1.4571	A 313 Grade 316Ti
7 Bolts	1.4571/A4	similar A 194 B8T
8 Bellow	1.4571	A 313 Grade 316Ti
9 Elongation tube	1.4571	A 313 Grade 316Ti
10 Headpiece	1.4404	A 276 Grade 316L
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4404	A 276 Grade 316L
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4404	A 276 Grade 316L
15 Handwheel	1.4409	A 351 CF3M



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01282 - Standard design	Technical data									
Nominal size	DN	10	15	15	20	25	32	40	40	50
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155
Height	H	380	380	380	380	380	380	380	380	380
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	6	10	10	13	13	-	13	13	16
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	26.3	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01301 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

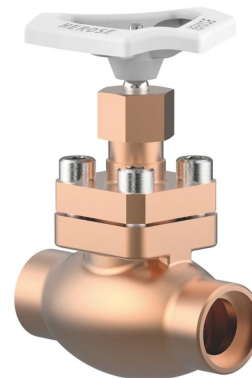
Part No. 01301.X.0001

Part No. 01301.X.5001 Globe/Check Valve

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Socket end for stainless steel pipes acc. to ISO 1127
- Valve with control disc (tapered design)



Applications:

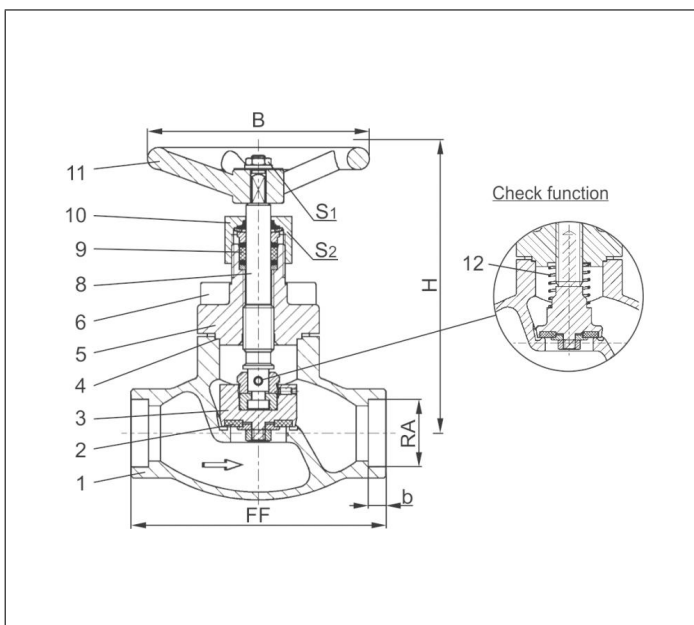
Approved for air gases, vapours and cryogenic liquified gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01301 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA, Example: valve DN10 for copper pipe RA ₀ 12mm, X=1012						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	140	140	140	140	170	175	200
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Handwheel-Ø	B	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	2.0	2.8	4.2	6.7
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01301 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

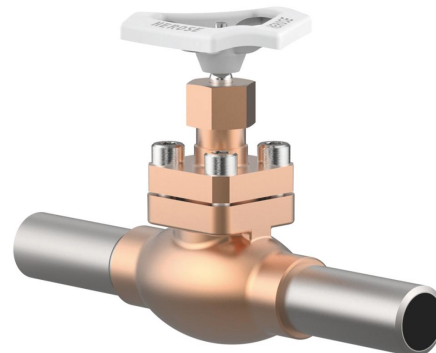
Part No. 01301.X.0007

Part No. 01301.X.5007 Globe/Check Valve

Complete with brazed stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Further pipe wall thicknesses



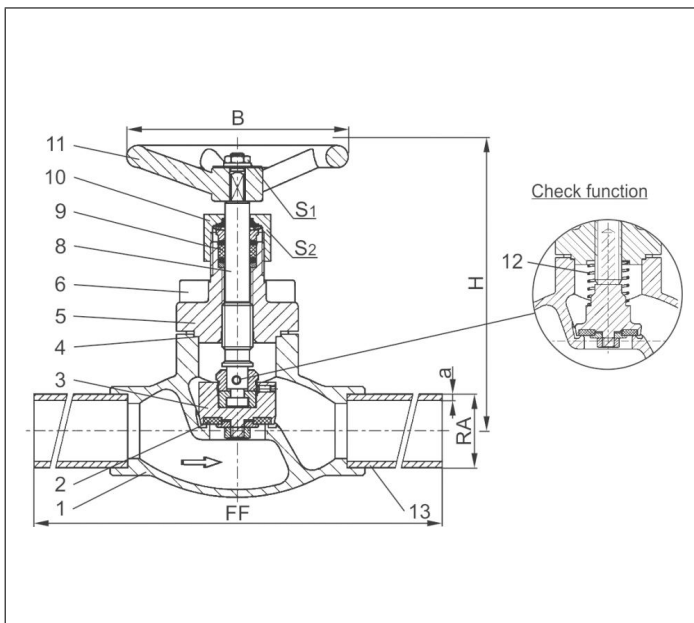
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Stainless steel stubs	1.4306	A 312 TP304L



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01301 - Standard design		Technical data							
Nominal size	DN	10	10	15	20	25	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	210	210	235	235	265	265	290	310
Height	H	140	140	140	140	140	170	175	200
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.4	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.05	1.15	1.5	1.8	2.4	3.2	4.8	7.5
Kvs-Value	m ³ /h	2.2	2.2	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	2.6	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01305 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01305.X.0001

Part No. 01305.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

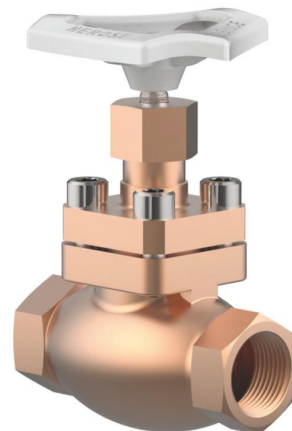
Part No. 01305.X.0006

Part No. 01305.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



Applications:

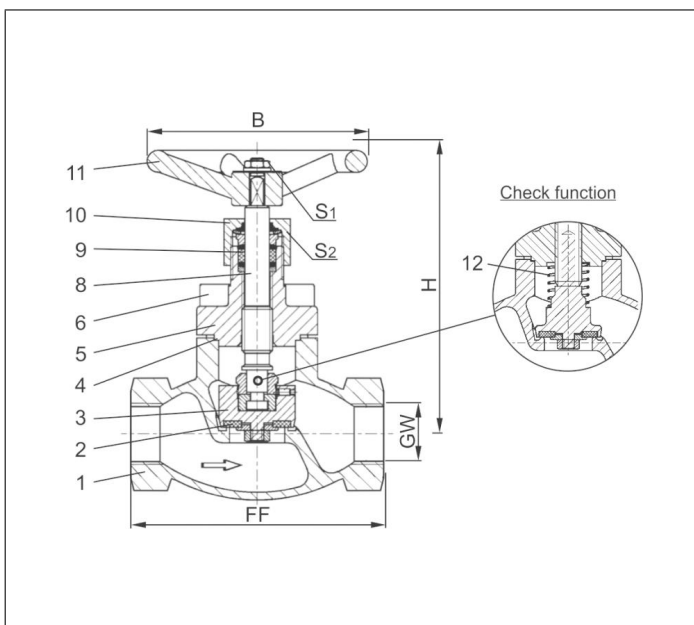
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01305 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	140	140	140	140	140	170	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	2.8	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01311 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01311.X.0010 (H=270mm)

Part No. 01311.X.0020 (H=370mm)

Part No. 01311.X.5010 (H=270mm) Globe/Check Valve

Part No. 01311.X.5020 (H=370mm) Globe/Check Valve

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Socket end for stainless steel stubs acc. to ISO 1127
- Extension H up to 900mm
- Valve with control disc (tapered design)

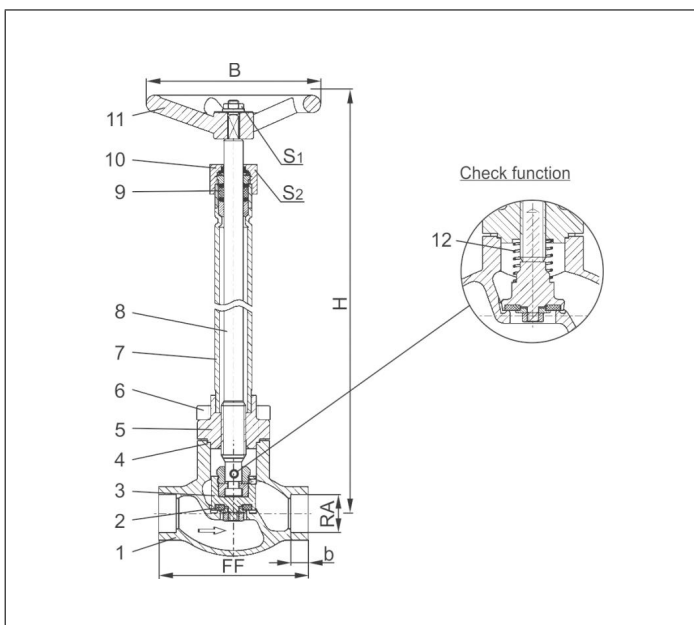


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01311 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA. Example: valve DN15 for copper stub RA _Ø 18mm. X=1518						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	270mm or 370mm						
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Handwheel-Ø	B	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.7	2.1	2.4	3.3	4.7	7.2
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01315 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01315.X.0011 (H=270mm)

Part No. 01315.X.0021 (H=370mm)

Part No. 01315.X.5011 (H=270mm) Globe/Check Valve

Part No. 01315.X.5021 (H=370mm) Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01315.X.0016 (H=270mm)

Part No. 01315.X.0026 (H=370mm)

Part No. 01315.X.5016 (H=270mm) Globe/Check Valve

Part No. 01315.X.5026 (H=370mm) Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

· Female thread connection (R) acc. to ISO 7-Rc

· Extension H up to 900mm

· Valve with control disc (tapered design)

Applications:

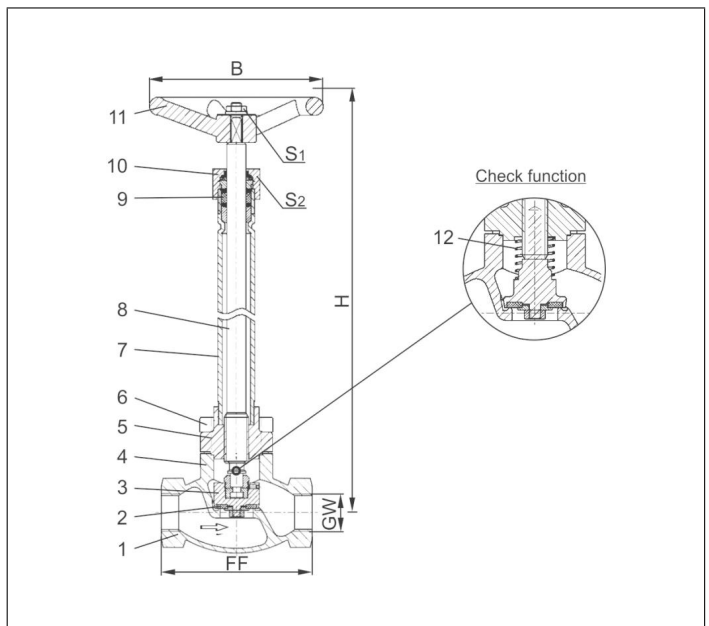
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01315 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	3.3	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01321 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50 (DN150=PN40)

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01321.X.001* (H = 270mm)

Part No. 01321.X.002* (H = 370mm)

Part No. 01321.X.501* (H = 270mm) Globe/Check Valve

Part No. 01321.X.502* (H = 370mm) Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01321.X.0014 (H = 270mm)

Part No. 01321.X.0024 (H = 370mm)

Part No. 01321.X.5014 (H = 270mm) Globe/Check Valve

Part No. 01321.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

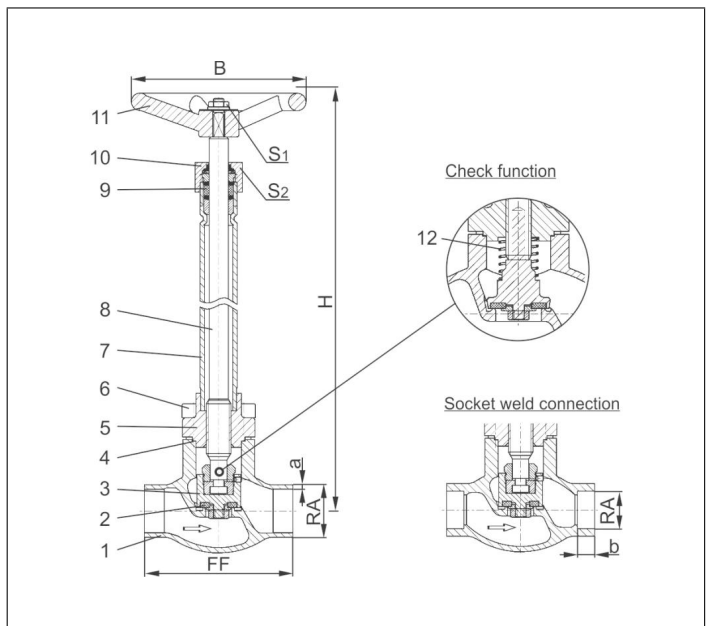
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01321 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	270mm or 370mm										320	320	420
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.32	73.02	88.90	114.30	168.27
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	5.7	12.7	17.0	24.5	54.0
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.7	120.9	195.2	401.8

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01325 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01325.X.0011 (H = 270mm)

Part No. 01325.X.0021 (H = 370mm)

Part No. 01325.X.5011 (H = 270mm) Globe/Check Valve

Part No. 01325.X.5021 (H = 370mm) Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01325.X.0016 (H = 270mm)

Part No. 01325.X.0026 (H = 370mm)

Part No. 01325.X.5016 (H = 270mm) Globe/Check Valve

Part No. 01325.X.5026 (H = 370mm) Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

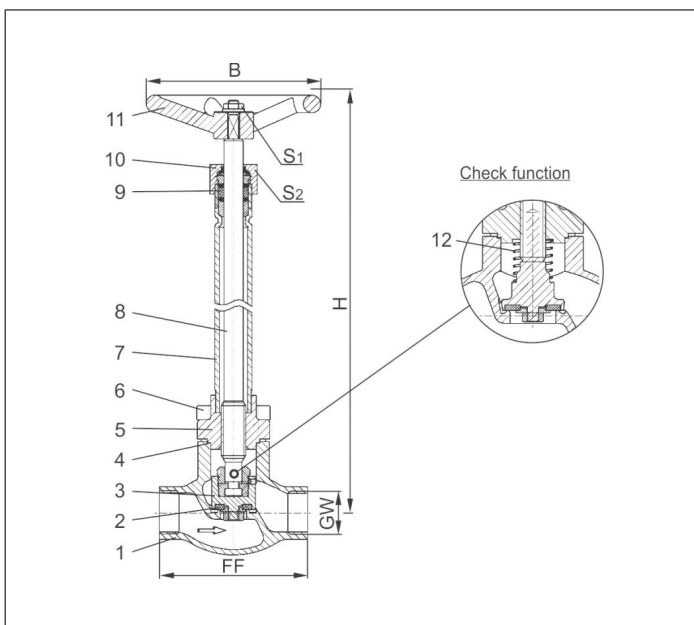
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01325 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Angle Valves

Type 01332 - Globe Valve Angle Type

Cryogenic-Globe Valves Angle Type, PN50

Stainless steel body and bronze topwork,
 "live loaded" Stainless steel body and bronze topwork,
 "cleaned and degreased for oxygen service"

Part No. 01332.X.000*

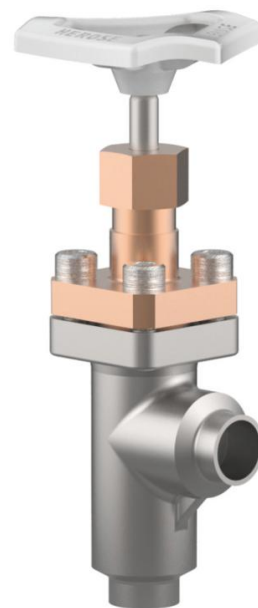
* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01332.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses



Applications:

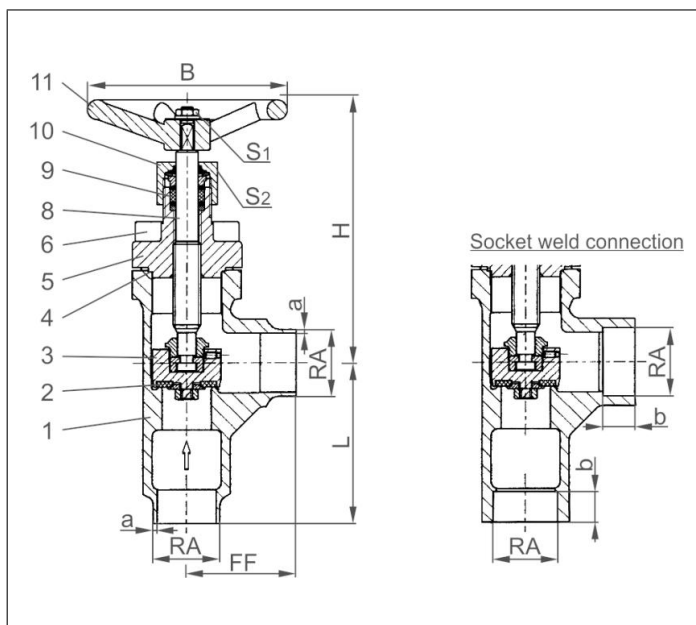
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N B 283 UNS C38500	
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K B 505 UNS C93200	
6 Bolts	1.4301/A2 A 194 B8	
7 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N B 283 UNS C38500	
11 Handwheel	Aluminium alloy	

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01332 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	140	140	140	170	175	200
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	3.1	3.3	6.0
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Globe Valves

Type 01335 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01335.X.0001

Part No. 01335.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

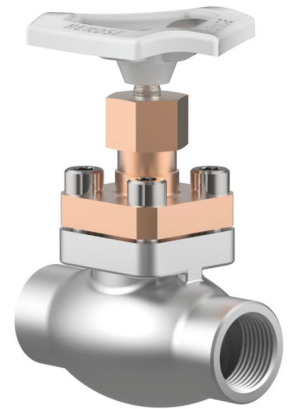
Part No. 01335.X.0006

Part No. 01335.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



Applications:

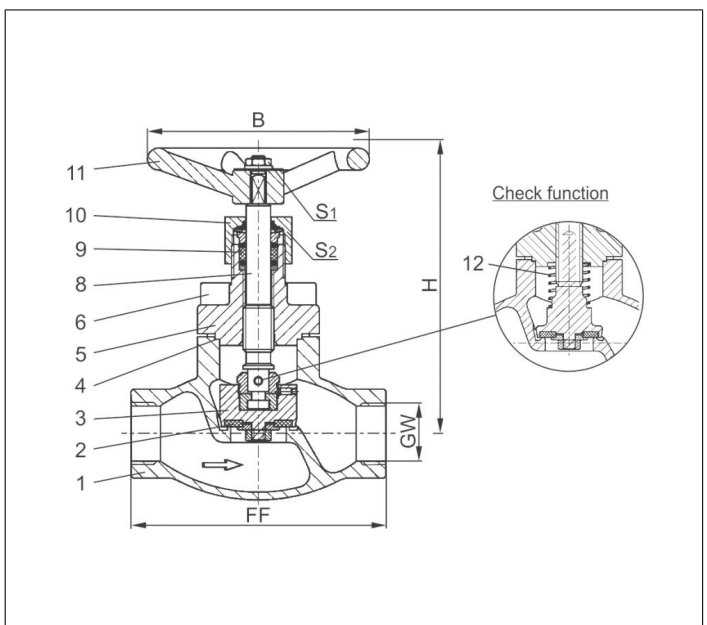
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01335 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01341 - Globe Valve

Cryogenic Globe Valves, PN25

Stainless steel body and topwork
"live loaded" gland packing

Part No. 01341.0219.001* (H=560)

Part No. 01341.0219.006* (H=1000)

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01341.0219.00*4

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use.
This standard can also be used for the tightness class of other cryogenic gases.

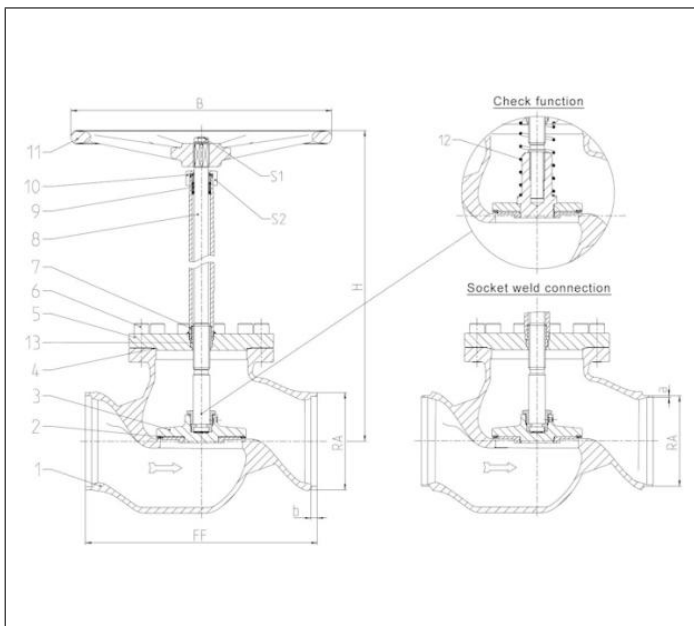
Available options - on request only

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01341 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	560
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	786

Dimensions in mm.

Globe Valves

Type 01341 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50 (DN150=PN40)

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01341.X.001* (H = 270mm)

Part No. 01341.X.002* (H = 370mm)

Part No. 01341.X.501* (H = 270mm) Globe/Check Valve

Part No. 01341.X.502* (H = 370mm) Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01341.X.0014 (H = 270mm)

Part No. 01341.X.0024 (H = 370mm)

Part No. 01341.X.5014 (H = 270mm) Globe/Check Valve

Part No. 01341.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

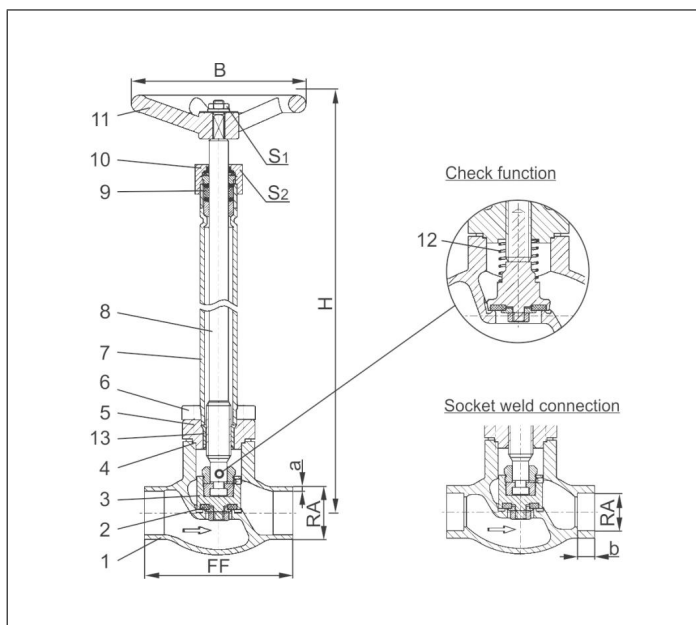
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01341 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	270mm or 370mm												
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	7.2	12.7	17.0	24.5	54.0
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.7	120.9	195.2	401.8

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.

Angle Valves

Type 01342 - Globe Valve Angle Type

Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01342.X.001* (H = 270mm)

Part No. 01342.X.002* (H = 370mm)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01342.X.0014 (H = 270 mm)

Part No. 01342.X.0024 (H = 370 mm)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses

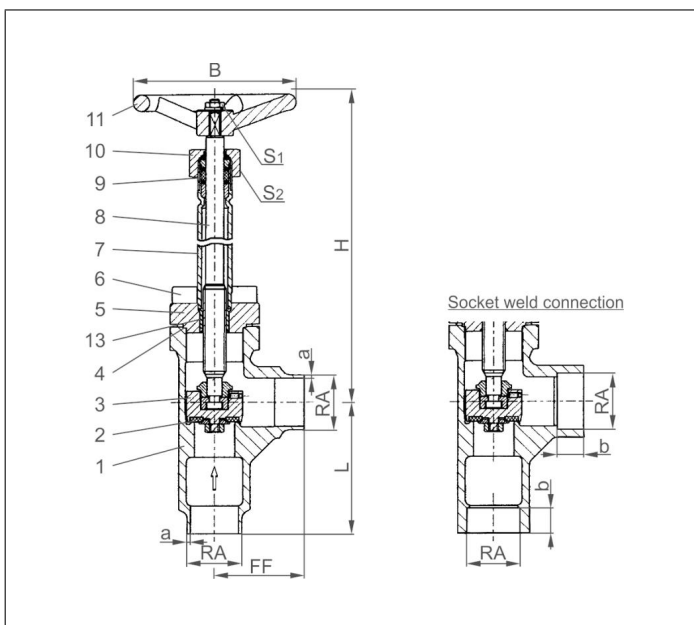
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01342 - Standard design		Technical data					
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	270 mm or 370 mm					
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.4	1.6	2.2	4.0	4.3	6.5
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN25

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 01343.0219.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01343.0219.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class

L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use.

This standard can also be used for the tightness class of other cryogenic gases.

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312
- Actuator "cleaned and degreased for oxygen service"
- Valve with check or control disc (tapered design)

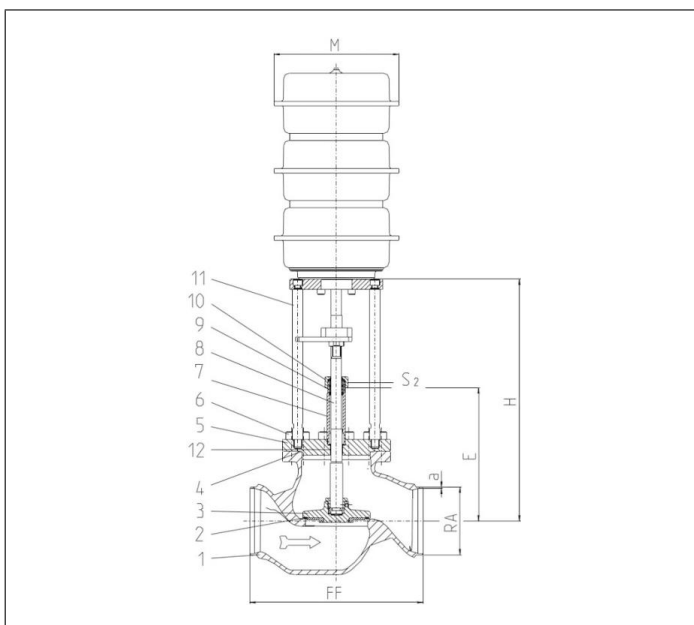
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01343 - Standard design	Technical data	
Nominal size	DN	200
Face-to-face dimension	FF	560
Height	H	785
Length	E	410
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Actuator-Ø	M	depend on actuator
Wrench size across flats	S ₂	65
Weight w/o actuator	ca. kg	165.0
Kvs-Value	m ³ /h	680.0
Cv-Value	gal/min	786.0
Stroke	mm	60

Dimensions in mm.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN150=PN40)

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the standard actuator is not cleaned and degreased for oxygen

Part No. 01343.X.0010

possible connections:

- Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Female thread connection (G) acc. to ISO 228/1 or NPT acc. to ANSI B 1.20.1

Please specify the required connection when ordering!

Available options - on request only:

- Solenoid valves · Electropneumatic positioner
- Inductive Proximity Switches · Position and Limit Switches · Air control sets
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service" · Electric actuator
- Valve with check disc · valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

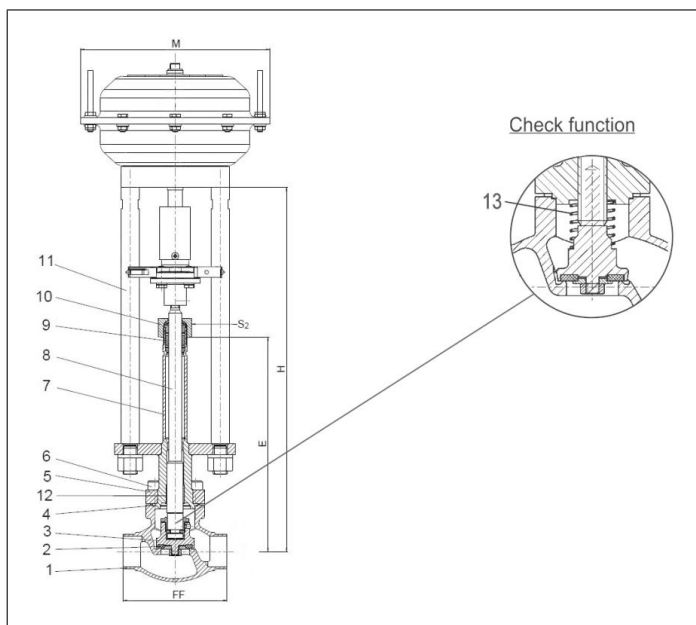
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet Gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900
13 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



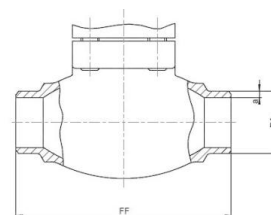
Type 01343 - Standard design	Technical Data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Face-to-face dimension	FF	70	85	100	115	115	130	155	205	245	280	400
Height	H	370	370	370	375	405	420	425	510	575	635	685
Length	E	195	195	200	200	230	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator										
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.4	3.1	3.8	6.5	9.0	15.2	20.0	28.0	60.9
Stroke	mm	10	10	7	9	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve

Connection types



Butt weld connection acc. to
· ISO 1127

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Kvs-value [m³/h]	Cv-value [gal/min]	Weight w.a.* [kg]	Order reference
10	70	13.5	1.0	1.6	1.9	1.9	BW 13.5x1.0
15	85	17.2	1.6	3.8	4.4	2.2	BW 17.2x1.6
15	85	21.3	2.0	4.3	5.0	2.2	BW 21.3x2.0
20	100	26.9	2.0	6.7	7.8	2.4	BW 26.9x2.0
25	115	33.7	2.0	11.5	13.4	3.1	BW 33.7x2.0
32	115	38.0	2.0	14.0	16.2	3.8	BW 38.0x2.0
40	130	42.4	2.0	20.6	23.9	6.5	BW 42.4x2.0
40	130	48.3	2.0	22.6	26.3	6.5	BW 48.3x2.0
50	155	60.3	2.0	37.1	43.2	9.0	BW 60.3x2.0
65	205	76.1	2.6	71.1	82.7	15.2	BW 76.1x2.6
80	245	88.9	3.2	104.0	120.9	20.0	BW 88.9x3.2
100	280	114.3	6.0	170.0	195.2	28.0	BW 114.3x6.0
150	400	168.3	7.1	350.0	401.8	60.9	BW 168.3x7.1

Butt weld connection acc. to
· ASTM A312

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [inch / mm]	Wall thickness pipe ASTM (a) [mm]	Kvs-value [m³/h]	Cv-value [gal/min]	Weight w.a.* [kg]	Order reference
10	70	1/4" / 13.72	1.65	1.6	1.9	1.9	BW 13.72x1.65
15	85	1/2" / 17.15	1.65	3.8	4.4	2.2	BW 17.15x1.65
15	85	1/2" / 21.34	2.11	4.3	5.0	2.2	BW 21.34x2.11
20	100	3/4" / 26.67	2.11	6.7	7.8	2.4	BW 26.67x2.11
25	115	1" / 33.40	2.77	11.5	13.4	3.1	BW 33.40x2.77
40	130	1-1/2" / 42.16	2.77	20.6	23.9	6.5	BW 42.16x2.77
40	130	1-1/2" / 48.26	2.77	22.6	26.3	6.5	BW 48.26x2.77
50	155	2" / 60.32	2.77	37.1	43.2	9.0	BW 60.32x2.77
65	205	2-1/2" / 73.02	3.05	71.1	82.7	15.2	BW 73.02x3.05
80	245	3" / 88.90	3.05	104.0	120.9	20.0	BW 88.90x3.05
100	280	4" / 114.30	3.05	170.0	195.2	28.0	BW 114.30x3.05
150	400	6" / 168.27	3.40	350.0	401.8	60.9	BW 168.27x3.40
10	70	1/4" / 13.72	2.24	1.6	1.9	1.9	BW 13.72x2.24
15	85	1/2" / 17.15	2.31	3.8	4.4	2.2	BW 17.15x2.31
15	85	1/2" / 21.34	2.77	4.3	5.0	2.2	BW 21.34x2.77
20	100	3/4" / 26.67	2.87	6.7	7.8	2.4	BW 26.67x2.87
25	115	1" / 33.40	3.38	11.5	13.4	3.1	BW 33.40x3.38
40	130	1-1/2" / 42.16	3.56	20.6	23.9	6.5	BW 42.16x3.56
40	130	1-1/2" / 48.26	3.68	22.6	26.3	6.5	BW 48.26x3.68
50	155	2" / 60.32	3.91	37.1	43.2	9.0	BW 60.32x3.91
65	205	2-1/2" / 73.02	5.16	71.1	82.7	15.2	BW 73.02x5.16
80	245	3" / 88.90	5.49	104.0	120.9	20.0	BW 88.90x5.49
100	280	4" / 114.30	6.02	170.0	195.2	28.0	BW 114.30x6.02
150	400	6" / 168.27	7.11	350.0	401.8	60.9	BW 168.27x7.11

w.a.* = without actuator

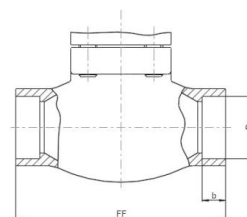
Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve

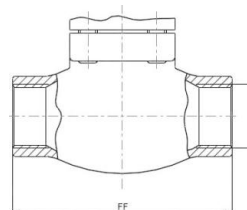
Connection types

Socket weld connection acc. to

- ISO 1127
- ASTM A312



DN	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (B) [mm]	Kvs-value [m ³ /h]	Cv-value [gal/min]	Weight, w.a.* [kg]	order reference [ØISO / ØASTM]
10	70	6	14.1	1.6	1.9	1.9	SW 13.5 / 13.72
15	85	10	17.5	3.8	4.4	2.2	SW 17.2 / 17.15
15	85	10	21.5	4.3	5.0	2.2	SW 21.3 / 21.34
20	100	13	27.5	6.7	7.8	2.4	SW 26.9 / 26.67
25	115	13	34.1	11.5	13.4	3.1	SW 33.7 / 33.4
40	130	13	42.8	20.6	23.9	6.5	SW 42.4 / 42.16
40	130	13	48.6	22.6	26.3	6.5	SW 48.3 / 48.26
50	155	16	61.1	37.1	43.2	9.0	SW 60.3 / 60.32
65	205	16	74.0	71.1	82.7	15.1	SW 73.02
65	205	16	76.8	71.1	82.7	15.2	SW 76.1
80	245	16	90.0	104.0	120.9	20.0	SW 88.9
100	280	20	114.8	170.0	195.2	28.0	SW 114.3
150	400	20	168.2	350.0	401.8	60.9	SW 168.3 / 168.27



Female thread connection acc. to

- ISO 228/1 (G)
- NPT acc. to ANSI B 1.20.1 (NPT)

DN	Face-to-face dim. (FF) [mm]	Thread size (GW)	Kvs-value [m ³ /h]	Cv-value [gal/min]	Weight, w.a.* [kg]	order reference G-Thread	order reference NPT-Thread
10	70	1/4"	1.6	1.9	1.9	1/4 BSPP	1/4" NPT
10	70	3/8"	2.2	2.6	1.9	3/8 BSPP	3/8" NPT
15	85	1/2"	4.3	5.0	2.2	1/2 BSPP	1/2" NPT
20	100	3/4"	6.7	7.8	2.4	3/4 BSPP	3/4" NPT
25	115	1"	11.5	13.4	3.1	1 BSPP	1" NPT
40	130	1-1/4"	20.6	23.9	6.5	1-1/4 BSPP	1-1/4" NPT
40	130	1-1/2"	22.6	26.3	6.5	1-1/2 BSPP	1-1/2" NPT
50	155	2"	37.1	43.2	9.0	2 BSPP	2" NPT

w.a.* = without actuator

Globe Valves

Type 01345 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01345.X.0011 (H = 270mm)

Part No. 01345.X.0021 (H = 370mm)

Part No. 01345.X.5011 (H = 270mm) Globe/Check Valve

Part No. 01345.X.5021 (H = 370mm) Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01345.X.0016 (H = 270mm)

Part No. 01345.X.0026 (H = 370mm)

Part No. 01345.X.5016 (H = 270mm) Globe/Check Valve

Part No. 01345.X.5026 (H = 370mm) Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

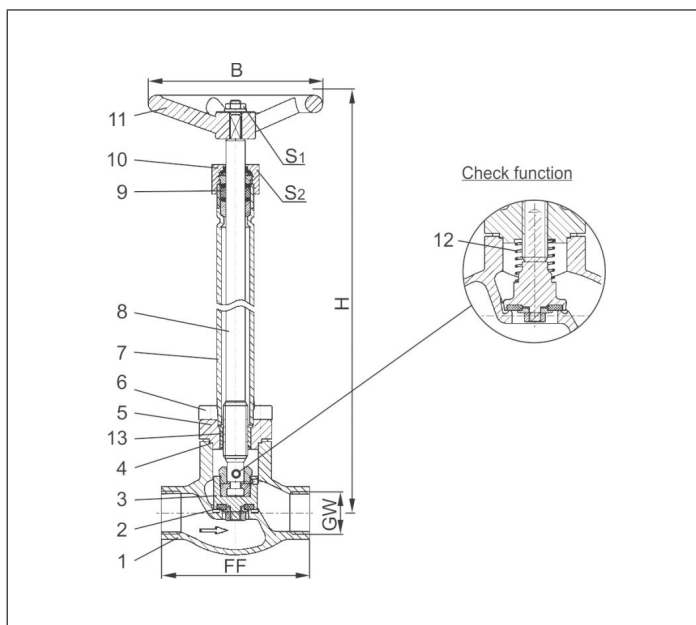
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01345 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Angle Valves

Type 01352 - Globe Valve Angle Type

Cryogenic-Globe Valves Angle Type, PN50

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01352.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01352.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses



Applications:

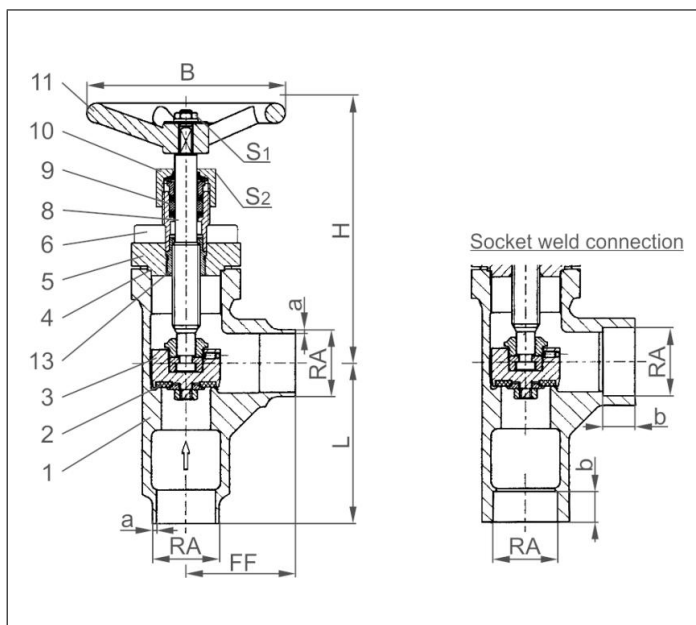
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01352 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	140	140	140	170	175	200
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	3.1	3.3	6.0
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Actuated Valves and Actuators

Type 01423 - Actuated Top-Entry-Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN100=PN40)

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01423.X.3081

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

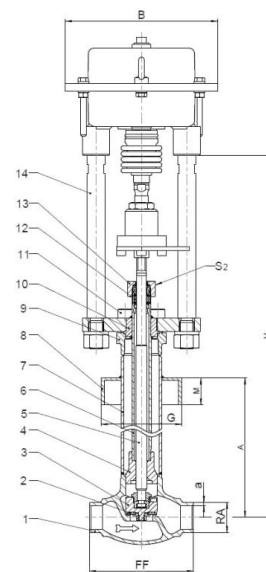
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	CC493K	B 505 UNS C93200
5 Stem	1.4301	A 276 Grade 304
6 Elongation tube	1.4541	A 213 TP 321
7 Elongation tube	1.4541	A 213 TP 321
8 Cold box feature	1.4301	A 276 Grade 304
9 Headpiece flange	1.4301	A 276 Grade 304
10 Headpiece	1.4301	A 276 Grade 304
11 Bolts	1.4301/A2	A 193 B8
12 Gland packing	Graphite / PTFE	
13 Gland nut	1.4404	A276 Grade 316L
14 Pillars	1.4404	A276 Grade 316L

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01423 - Standard design		Technical data								
Nominal size	DN	10	15	20	25	40	50	65	80	100
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280
Height	H	770	785	790	790	820	910	1105	1110	1290
Actuator-Ø	B	dependent on actuator								
Outside pipe-Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.00	89.00	114.30
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Length	A	540	540	540	540	540	610	610	640	750
Length	G	acc. to customer specification								
Length	M	acc. to customer specification								
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41
Stroke	mm	10	10	7	9	11	15	23	23	30
Weight without actuator	ca. kg	5.7	5.5	6.0	7.0	10.0	11.5	28.3	34.3	49.2
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	20.6	37.1	71.1	104.0	168.0
Cv-Value	gal/min	1.9	5.0	7.8	13.4	26.3	43.2	83.2	121.7	196.6

Dimensions in mm.

Offshore Valves

Type 01473 - Actuated Top-Entry-Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN100=PN40)

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01473.X.3081

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

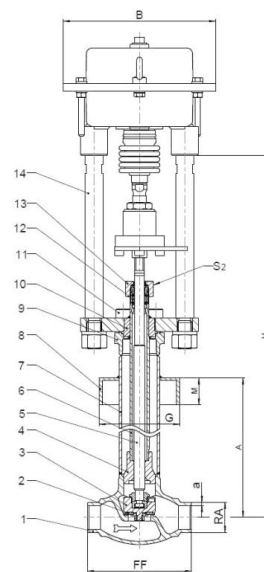
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Guide bush	1.4571	A 276TP 316Ti
5 Stem	1.4404	A 276 Grade 316L
6 Elongation tube	1.4571	A 213TP 316Ti
7 Elongation tube	1.4571	A 213TP 316Ti
8 Cold box feature	1.4571	A 213TP 316Ti
9 Headpiece flange	1.4404	A 276 Grade 316L
10 Headpiece	1.4404	A 276 Grade 316L
11 Bolts	1.4571/A4	similar A 193 B8T
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4404	A 276 Grade 316L
14 Pillars	1.4404	A 276 Grade 316L

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01473 - Standard design		Technical data								
Nominal size	DN	10	15	20	25	40	50	65	80	100
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280
Height	H	770	785	790	790	820	910	1105	1110	1290
Actuator-Ø	B	dependent on actuator								
Outside pipe-Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.00	89.00	114.30
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Length	A	540	540	540	540	540	610	610	640	750
Length	G	acc. to customer specification								
Length	M	acc. to customer specification								
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41
Stroke	mm	10	10	7	9	11	15	23	23	30
Weight without actuator	ca. kg	5.7	5.5	6.0	7.0	10.0	11.5	28.3	34.3	49.2
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	20.6	37.1	71.1	104.0	168.0
Cv-Value	gal/min	1.9	5.0	7.8	13.4	26.3	43.2	83.2	121.7	196.6

Dimensions in mm.

Fire Safe Valves

Type 01643 - Actuated Globe Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN150=PN40)

"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the standard actuator is not cleaned and degreased for oxygen

Part No. 01643.X.0010

possible connections:

- Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Female thread connection (G) acc. to ISO 228/1 or NPT acc. to ANSI B 1.20.1

Please specify the required connection when ordering!

Available options - on request only:

- Solenoid valves · Electropneumatic positioner · Inductive Proximity Switches
- Position and Limit Switches · Air control sets · Electric actuator
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service" · Further pipe wall thicknesses
- Valve with check disc · valve with control disc (tapered design)

Applications:

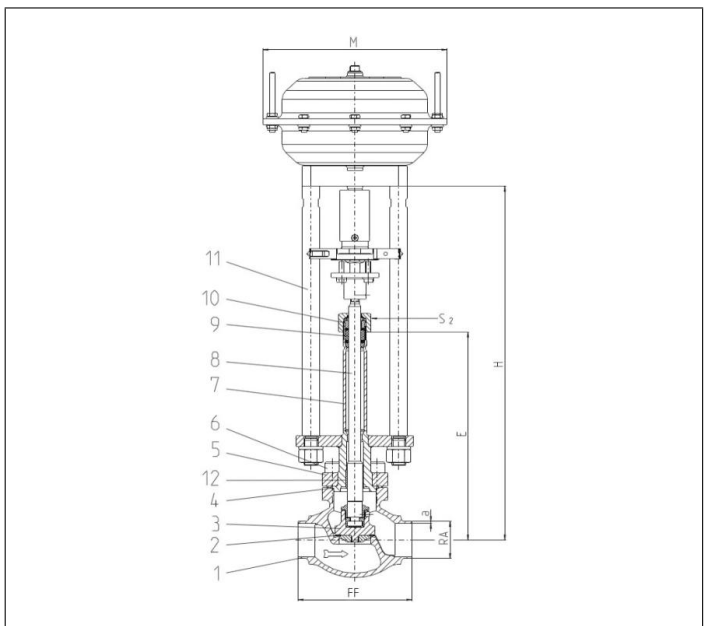
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet Gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



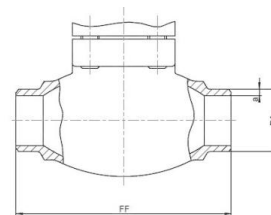
Type 01643 - Standard design	Technical Data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Face-to-face dimension	FF	70	85	100	115	115	130	155	205	245	280	400
Height	H	370	370	370	375	405	420	425	510	575	635	685
Length	E	195	195	200	200	230	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator										
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.4	3.1	3.8	6.5	9.0	15.2	20.0	28.0	60.9
Stroke	mm	10	10	7	9	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.

Fire Safe Valves

Type 01643 - Actuated Globe Valve

Connection types



Butt weld connection acc. to

• ISO 1127

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Kvs-value [m³/h]	Cv-value [gal/min]	Weight w.a.* [kg]	Order reference
10	70	13.5	1.0	1.6	1.9	1.9	BW 13.5x1.0
15	85	17.2	1.6	3.8	4.4	2.2	BW 17.2x1.6
15	85	21.3	2.0	4.3	5.0	2.2	BW 21.3x2.0
20	100	26.9	2.0	6.7	7.8	2.4	BW 26.9x2.0
25	115	33.7	2.0	11.5	13.4	3.1	BW 33.7x2.0
32	115	38.0	2.0	14.0	16.2	3.8	BW 38.0x2.0
40	130	42.4	2.0	20.6	23.9	6.5	BW 42.4x2.0
40	130	48.3	2.0	22.6	26.3	6.5	BW 48.3x2.0
50	155	60.3	2.0	37.1	43.2	9.0	BW 60.3x2.0
65	205	76.1	2.6	71.1	82.7	15.2	BW 76.1x2.6
80	245	88.9	3.2	104.0	120.9	20.0	BW 88.9x3.2
100	280	114.3	6.0	170.0	195.2	28.0	BW 114.3x6.0
150	400	168.3	7.1	350.0	401.8	60.9	BW 168.3x7.1

Butt weld connection acc. to

• ASTM A312

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [inch / mm]	Wall thickness pipe ASTM (a) [mm]	Kvs-value [m³/h]	Cv-value [gal/min]	Weight w.a.* [kg]	Order reference
10	70	1/4" / 13.72	1.65	1.6	1.9	1.9	BW 13.72x1.65
15	85	1/2" / 17.15	1.65	3.8	4.4	2.2	BW 17.15x1.65
15	85	1/2" / 21.34	2.11	4.3	5.0	2.2	BW 21.34x2.11
20	100	3/4" / 26.67	2.11	6.7	7.8	2.4	BW 26.67x2.11
25	115	1" / 33.40	2.77	11.5	13.4	3.1	BW 33.40x2.77
40	130	1-1/2" / 42.16	2.77	20.6	23.9	6.5	BW 42.16x2.77
40	130	1-1/2" / 48.26	2.77	22.6	26.3	6.5	BW 48.26x2.77
50	155	2" / 60.32	2.77	37.1	43.2	9.0	BW 60.32x2.77
65	205	2-1/2" / 73.02	3.05	71.1	82.7	15.2	BW 73.02x3.05
80	245	3" / 88.90	3.05	104.0	120.9	20.0	BW 88.90x3.05
100	280	4" / 114.30	3.05	170.0	195.2	28.0	BW 114.30x3.05
150	400	6" / 168.27	3.40	350.0	401.8	60.9	BW 168.27x3.40
10	70	1/4" / 13.72	2.24	1.6	1.9	1.9	BW 13.72x2.24
15	85	1/2" / 17.15	2.31	3.8	4.4	2.2	BW 17.15x2.31
15	85	1/2" / 21.34	2.77	4.3	5.0	2.2	BW 21.34x2.77
20	100	3/4" / 26.67	2.87	6.7	7.8	2.4	BW 26.67x2.87
25	115	1" / 33.40	3.38	11.5	13.4	3.1	BW 33.40x3.38
40	130	1-1/2" / 42.16	3.56	20.6	23.9	6.5	BW 42.16x3.56
40	130	1-1/2" / 48.26	3.68	22.6	26.3	6.5	BW 48.26x3.68
50	155	2" / 60.32	3.91	37.1	43.2	9.0	BW 60.32x3.91
65	205	2-1/2" / 73.02	5.16	71.1	82.7	15.2	BW 73.02x5.16
80	245	3" / 88.90	5.49	104.0	120.9	20.0	BW 88.90x5.49
100	280	4" / 114.30	6.02	170.0	195.2	28.0	BW 114.30x6.02
150	400	6" / 168.27	7.11	350.0	401.8	60.9	BW 168.27x7.11

w.a.* = without actuator

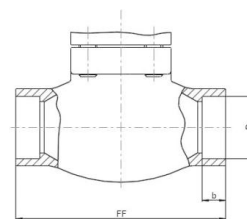
Fire Safe Valves

Type 01643 - Actuated Globe Valve

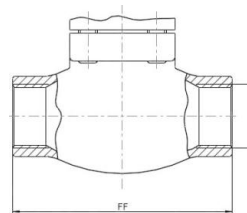
Connection types

Socket weld connection acc. to

- ISO 1127
- ASTM A312



DN	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (B) [mm]	Kvs-value [m³/h]	Cv-value [gal/min]	Weight, w.a.* [kg]	order reference [ØISO / ØASTM]
10	70	6	14.1	1.6	1.9	1.9	SW 13.5 / 13.72
15	85	10	17.5	3.8	4.4	2.2	SW 17.2 / 17.15
15	85	10	21.5	4.3	5.0	2.2	SW 21.3 / 21.34
20	100	13	27.5	6.7	7.8	2.4	SW 26.9 / 26.67
25	115	13	34.1	11.5	13.4	3.1	SW 33.7 / 33.4
40	130	13	42.8	20.6	23.9	6.5	SW 42.4 / 42.16
40	130	13	48.6	22.6	26.3	6.5	SW 48.3 / 48.26
50	155	16	61.1	37.1	43.2	9.0	SW 60.3 / 60.32
65	205	16	74.0	71.1	82.7	15.1	SW 73.02
65	205	16	76.8	71.1	82.7	15.2	SW 76.1
80	245	16	90.0	104.0	120.9	20.0	SW 88.9
100	280	20	114.8	170.0	195.2	28.0	SW 114.3
150	400	20	168.2	350.0	401.8	60.9	SW 168.3 / 168.27



Female thread connection acc. to

- ISO 228/1 (G)
- NPT acc. to ANSI B 1.20.1 (NPT)

DN	Face-to-face dim. (FF) [mm]	Thread size (GW)	Kvs-value [m³/h]	Cv-value [gal/min]	Weight, w.a.* [kg]	order reference G-Thread	order reference NPT-Thread
10	70	1/4"	1.6	1.9	1.9	1/4 BSPP	1/4" NPT
10	70	3/8"	2.2	2.6	1.9	3/8 BSPP	3/8" NPT
15	85	1/2"	4.3	5.0	2.2	1/2 BSPP	1/2" NPT
20	100	3/4"	6.7	7.8	2.4	3/4 BSPP	3/4" NPT
25	115	1"	11.5	13.4	3.1	1 BSPP	1" NPT
40	130	1-1/4"	20.6	23.9	6.5	1-1/4 BSPP	1-1/4" NPT
40	130	1-1/2"	22.6	26.3	6.5	1-1/2 BSPP	1-1/2" NPT
50	155	2"	37.1	43.2	9.0	2 BSPP	2" NPT

w.a.* = without actuator

Fire Safe Valves

Type 01643 - Actuated Globe Valve

Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN150=PN40)

“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork

Actuator - air opens, spring closes

“live loaded” gland packing

“cleaned and degreased for oxygen service” - the actuator is not cleaned and degreased for oxygen

Part No. 01643.X.*01*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01643.X.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator “cleaned and degreased for oxygen service”

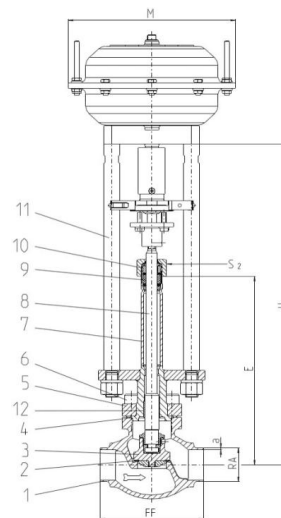
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01643 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	370	370	370	370	375	405	420	420	425	510	575	635	685
Length	E	195	195	195	200	200	230	230	230	235	300	300	300	300
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20
Actuator-Ø	M	dependent on actuator												
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	60.9
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.7	120.9	195.2	401.8
Stroke	mm	10	10	10	7	9	9	11	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.

Gate Valves

Type 09340 - Gate Valve

Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
one way tightening (in flow direction),
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 09340.X.001* (Height H for size DN25, DN40 und DN100)

Part No. 09340.X.002* (Height H for size DN50, DN65 und DN80)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 09340.X.0014 (Height H for size DN25, DN40 und DN100)

Part No. 09340.X.0024 (Height H for size DN50, DN65 und DN80)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Further pipe wall thicknesses



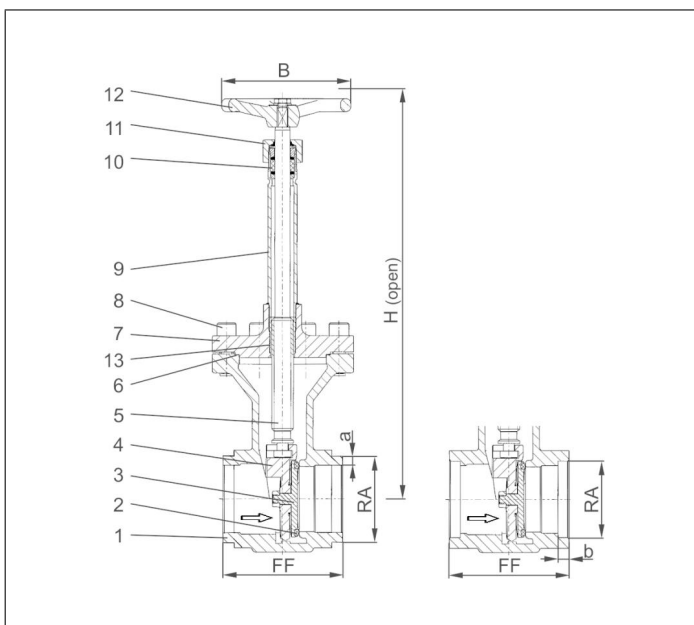
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4308	A 351 CF8
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment
Directive 2014/68/EU (PED).



Type 09340 - Standard design	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	2533	4048	5060	657x	8088	0114
Face-to-face dimension	FF	133	133	110	110	110	130
Height	H	330	360	410	440	450	570
Outside pipe-Ø ISO 1127	RA	33.7	48.3	60.3	76.1	88.9	114.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.6	3.2	3.2
Outside pipe-Ø ASTM A312	RA	33.40	48.26	60.33	73.03	88.90	114.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	8	13	16	16	16	20
Handwheel-Ø	B	125	125	150	150	150	200
Weight	ca. kg	3.3	4.8	7.5	8.6	11.4	21.8
Kvs - Value	m ³ /h	43	93	125	283	310	792
Cv - Value	gal/min	51	111	149	337	369	943

Dimensions in mm.

Gate Valves

Type 09345 - Gate valve

Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
one way tightening (in flow direction),
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 09345.X.0011*

Female thread connection (G) acc. to ISO 228/1

Part No. 09345.X.0015

Female thread connection (R) acc. to ISO 7-Rc

Part No. 09345.X.0016

Female thread connection (NPT) acc. to ANSI 1.20.1

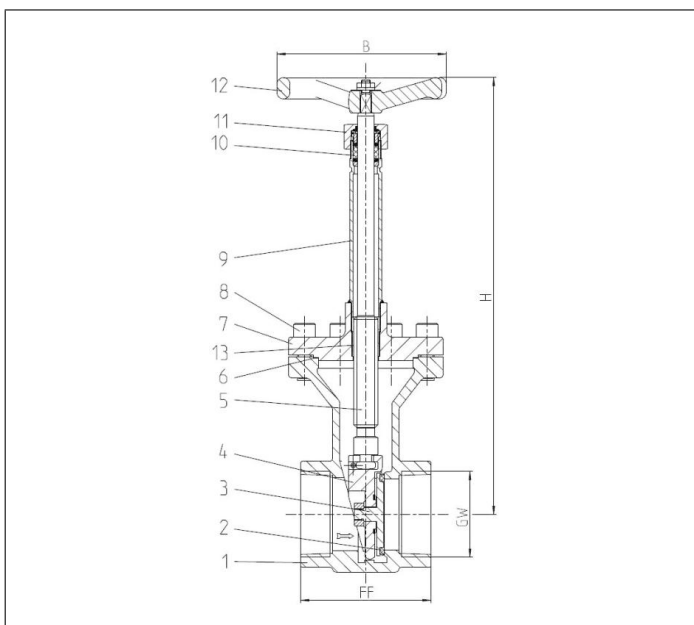


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4308	A 351 CF8
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment
Directive 2014/68/EU (PED).



Type 09345 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Thread size	GW	1	1-1/2	2	2-1/2
Dimension code	.X.	1000	1400	2000	2400
Face-to-face dimension	FF	133	133	110	110
Height	H	330	360	410	440
Handwheel-Ø	B	125	125	150	150
Weight	ca. kg	3.3	4.8	7.5	8.6
Kvs - Value	m³/h	43	93	125	283
Cv - Value	gal/min	51	111	149	337

Dimensions in mm.

Gate Valves

Type 09440 - Gate valve

Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
one way tightening (in flow direction),
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 09440.X.002*

Completed with union type butt weld fittings for stainless steel pipes
acc.to ISO 1127 or ASTM A312

Available options - on request only:

- Further pipe wall thicknesses

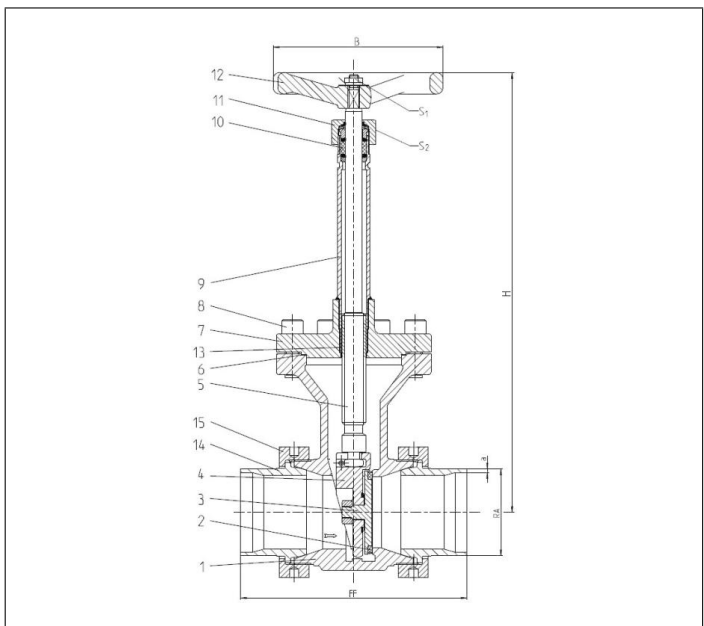


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 159 UNS C51900
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4301	A 276 Grade 304
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900
14 Weld fitting	1.4301	A 276 Grade 304
15 Union nut	1.4301	A 276 Grade 304



Standard marking acc. to Pressure Equipment
Directive 2014/68/EU (PED).



Type 09440 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Dimension code	.X.	2533	4048	5060	657x
Face-to-face dimension	FF	193	193	170	160
Height	H	330	360	410	440
Outsid pipe-Ø ISO 1127	RA	33.7	48.3	60.3	76.1
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.6
Outsid pipe-Ø ASTM A312	RA	33.40	48.26	60.33	73.03
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40			
Handwheel-Ø	B	125	125	150	150
Weight	ca. kg	3.5	5.1	7.8	9.0
Kvs - Value	m ³ /h	43	93	125	283
Cv - Value	gal/min	51	111	149	337

Dimensions in mm.

Actuated Valves and Actuators

Type 09443 - Actuated Gate Valve

Cryogenic-Gate Valves with Pneumatic Actuator, PN50

air pressure for operation 4.0 bar g (maximal 10.0 bar g),

Stainless steel body and topwork,

Actuator - air opens, spring closes

one way tightening (in flow direction),

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Test pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266

Test pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09443.X.T021

Male thread for union connection

Available options - on request only:

· Weather protection hood

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

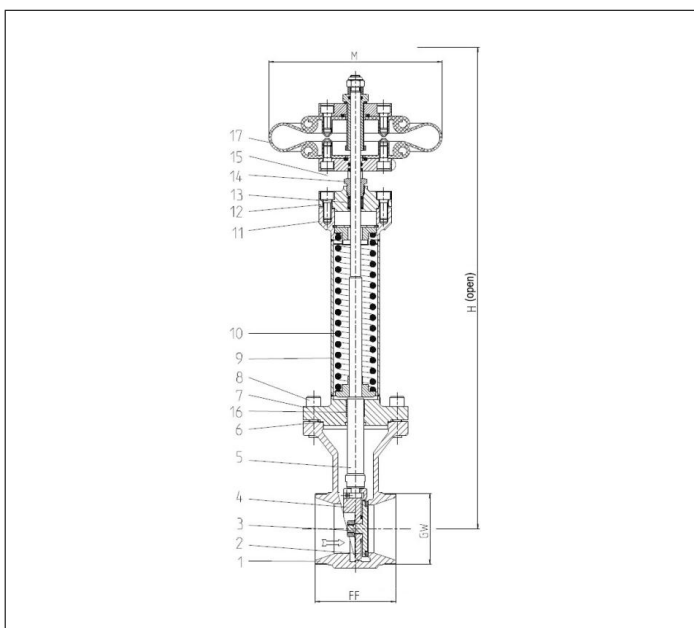
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 159 UNS C51900
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4301	A 276 Grade 304
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Spring	1.4571	A 313 Grade 316Ti
11 Flange	1.4301	A 276 Grade 304
12 Headpiece	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE	
14 Gland nut	1.4305	A 276 Grade 303
15 Pillars	1.4301	A 276 Grade 304
16 Bush	CW452K	B 159 UNS C51900
17 Actuator	Rubberchuk	

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 09443 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Dimension code	.X.	0250	0400	0500	0650
Thread (G- / M-thread)	GW	- / M40x2	G2 / M65x2	G2-1/2 / M78x2	G3 / M88x2
Face-to-face dimension	FF	133	133	110	110
Height	H	500	560	590	630
Actuator-Ø	M	229	229	229	229
Weight	ca. kg	9.9	11.1	13.5	14.9
Kvs-Value	m³/h	43	93	125	283
Cv-Value	gal/min	51	111	149	337

Dimensions in mm.

Ball Valves and Spare Parts

Type 15C01 - Ball Valve full bore

Cryogenic Ball Valve, PN50

Unidirectional ball valve to be installed in flow direction with upstream pressure relief hole.

Socket weld connection for stainless steel pipes acc. to ISO 1127

Butt weld connection for stainless steel pipes acc. to ISO 1127

Female thread type NPT acc. to ANSI 1.20.1

Female thread type G (BSPP) acc. to ISO 228/1

Marking acc. to EN 1626

Available accessories:

· Lock for locking device type 55394.0019.0302



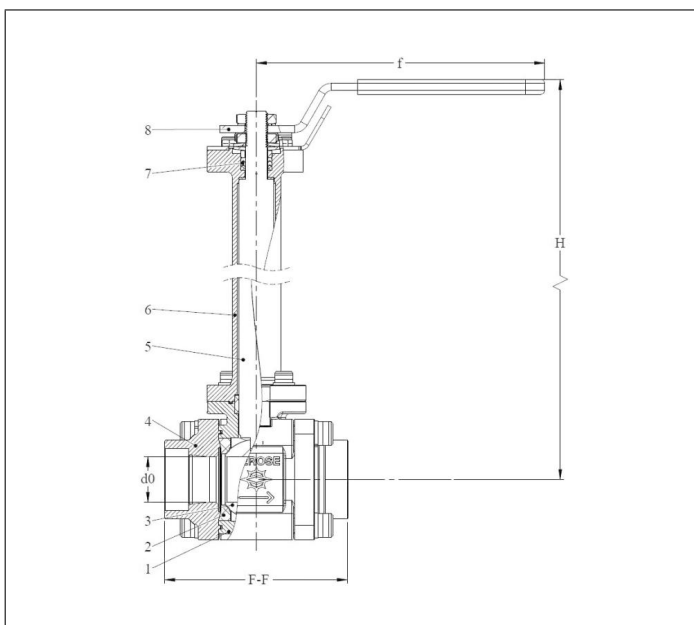
Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Side connection	1.4409	A 351 CF3M
3 Ball seal	PCTFE	
4 Ball	1.4404	A 479 Grade 316
5 Stem	1.4404	A 479 Grade 316
6 Bonnet extension	1.4409	A 351 CF3M
7 Gland packing	PTFE / Carbon filled (25%)	
8 Lever	1.4301	A 240 Grade 304

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



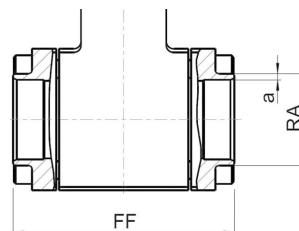
Technical data - Standard design						
Nominal size [DN]	Height (H) [mm]	Orifice [D ₀]	Weight [kg]	Kvs-value [m ³ /h]	Cv-value [gal/min]	Length (f) [mm]
15	291	14.5	1.3	10.7	12.5	127
25	304	25.0	3.3	32.1	37.6	157
50	400	50.0	12.0	193.8	226.8	420

Dimensions in mm.

Ball Valves and Spare Parts

Type 15C01 - Ball Valve full bore

Connection types



Butt weld connection acc. to

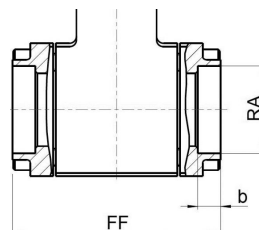
· ISO 1127

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Part No.
15	70	21.3	2.0	15C01.A001.000002
25	100	33.7	2.0	15C01.A001.000006
50	150	60.3	2.9	15C01.A001.000010

Butt weld connection acc. to

· ASTM A312

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [mm]	Wall thickness pipe ASTM (a) [mm]	Part No.
15	70	21.34	2.11	15C01.A001.000013
15	70	21.34	2.77	15C01.A001.000014
25	100	33.40	2.77	15C01.A001.000015
25	100	33.40	3.38	15C01.A001.000016
50	150	60.33	2.77	15C01.A001.000017
50	150	60.33	3.91	15C01.A001.000018



Socket weld connection acc. to

· ISO 1127

· ASTM A312

DN	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (B) [mm]	Part No.
15	70	10.0	21.3	15C01.A001.000001
25	100	13.0	33.7	15C01.A001.000005
50	150	16.0	60.3	15C01.A001.000009

Female thread type

· NPT acc. to ANSI 1.20.1

· G (BSPP) acc. to ISO 228/1

DN	Face-to-face dim. (FF) [mm]	Thread size (GW) [mm]	Part No.
15	70	G 1/2	15C01.A001.000003
25	100	G 1	15C01.A001.000007
50	150	G 2	15C01.A001.000011
15	70	NPT 1/2	15C01.A001.000004
25	100	NPT 1	15C01.A001.000008
50	150	NPT 2	15C01.A001.000012

Fill Cluster

Type 07017 - Fill cluster

Cryogenic-Fill cluster, PN50

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 07017.X.0000

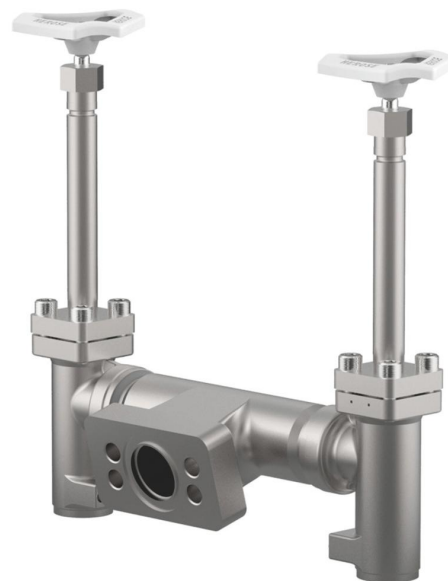
Fill connection: Air Liquide specified flange

Socket weld connection for stainless steel pipes

acc. to ISO 1127 or ASTM A312

Available options - on request only:

- other fill connections
- integrable strainer

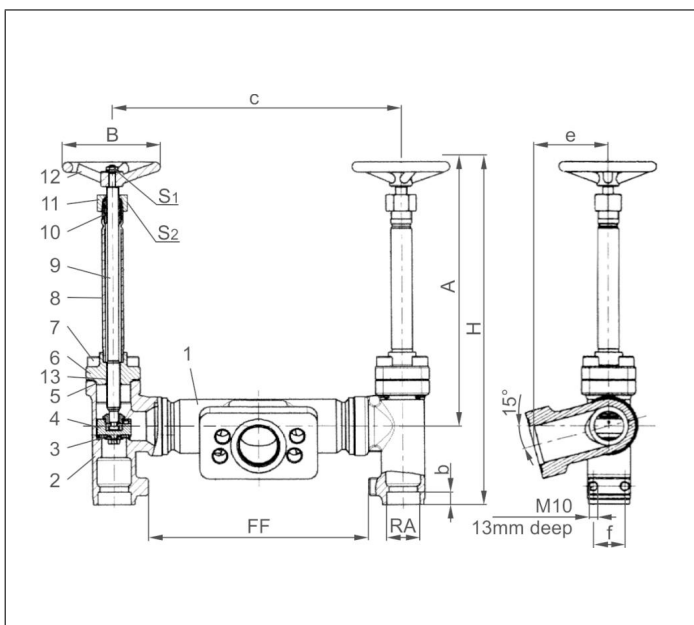


Applications:

Applications: Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	1.4301	A 276 Grade 304
5 Bonnet gasket	PTFE	
6 Headpiece	1.4308	A 351 CF8
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 07017 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	8.4	11.2

Dimensions in mm.

Globe Valves

Type 02401 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

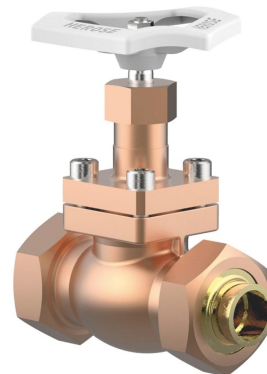
Part No. 02401.X.0008

Part No. 02401.X.5008 Globe/Check Valve

Completed with union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Valve with control disc (tapered design)



Applications:

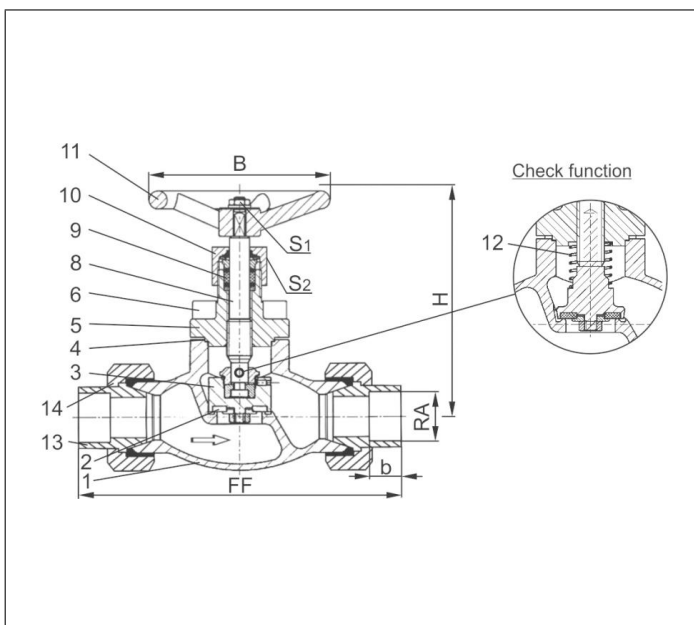
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Braze fitting	CC493K	B 505 UNS C93200
14 Union nut	CC493K	B 505 UNS C93200

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 02401 - Standard design	Technical data								
Nominal size	DN	10	10	20	20	32	32	40	50
Dimension code	.X.	1012	1015	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	98	98	132	132	171	171	230	230
Height	H	140	140	140	140	170	170	175	200
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Socket depth	b	11	11	14	14	17	17	17	17
Handwheel-Ø	B	100	100	100	100	125	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36
Weight	ca. kg	1.2	1.2	2.4	2.4	4.0	4.0	6.3	9.5
Kvs-Value	m ³ /h	1.6	2.2	6.0	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	2.6	7.1	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01301 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50 (DN10-25), PN40 (DN32), PN35 (DN40-50)

Bronze body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

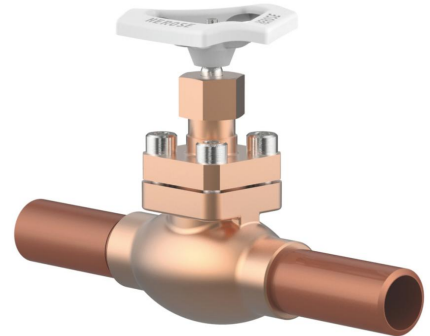
Part No. 01301.X.0008

Part No. 01301.X.5008 Globe/Check Valve

Complete with brazed copper stubs acc. to DIN EN 12449

Available options - on request only:

- Valve with control disc (tapered design)



Applications:

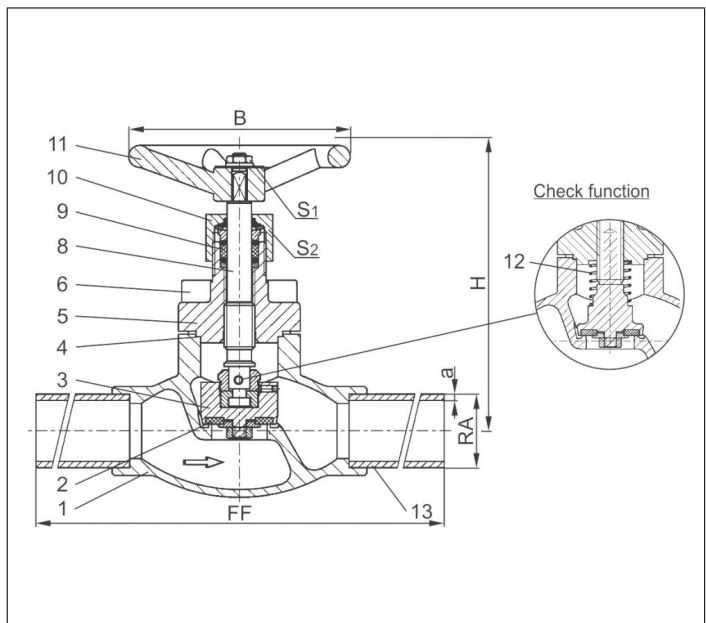
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: - 196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Copper stubs	CW024A	B 152 UNS C12200

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01301 - Standard design	Technical data								
Nominal size	DN	10	15	15	20	25	32	40	50
Dimension code	.X.	1012	1515	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	360	385	385	385	415	415	420	460
Height	H	140	140	140	140	140	170	175	200
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Wall thickness pipe	a	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.1	1.4	1.4	1.8	2.4	3.2	4.8	7.5
Kvs-Value	m ³ /h	2.2	4.3	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	5.0	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Angle Valves

Type 01322 - Globe Valve Angle Type

Cryogenic-Globe Valves Angle Type, PN50

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01322.X.001* (H = 270mm)

Part No. 01322.X.002* (H = 370mm)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01322.X.0014 (H = 270mm)

Part No. 01322.X.0024 (H = 370mm)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses

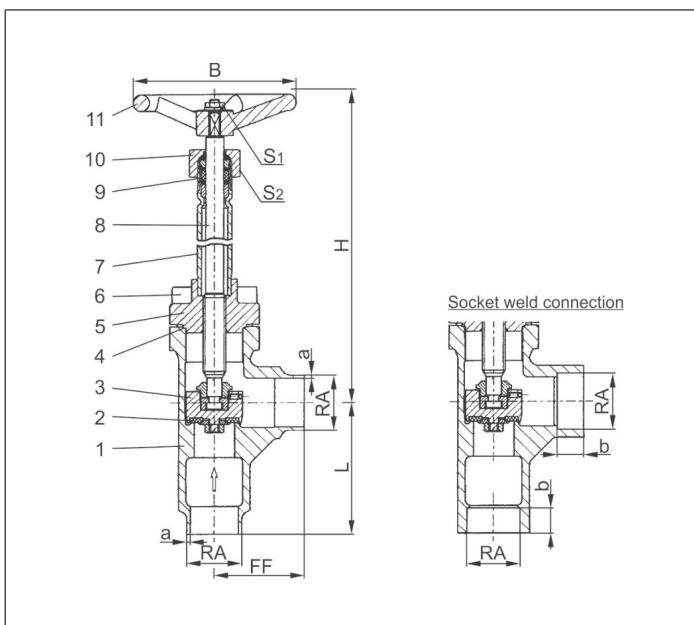
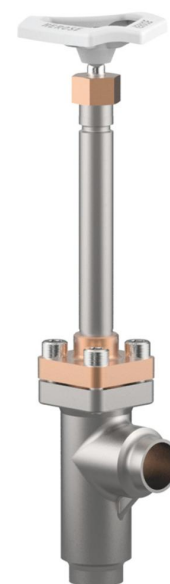
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpieceflansch	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01322 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	270mm or 370mm					
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.4	1.6	2.2	4.0	4.3	6.5
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Globe Valves

Type 01331 - Globe Valve

Cryogenic-Globe and Globe/Check Valves, PN50 (DN150=PN40)

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01331.X.000*

Part No. 01331.X.500* Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

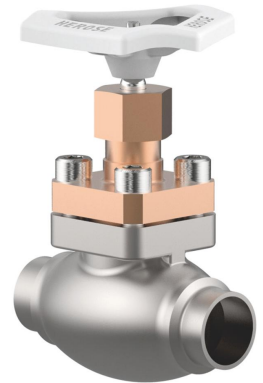
Part No. 01331.X.0004

Part No. 01331.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses



Applications:

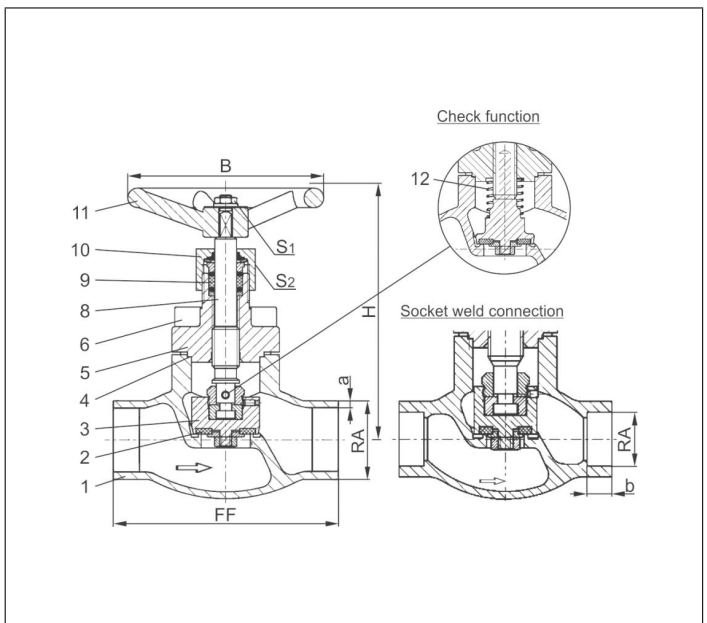
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).



Type 01331 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	420	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.32	73.02	88.90	114.30	168.27	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	22.0	54.1	
Kvs-Value	m³/h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.7	120.9	195.2	401.8	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml (1 bar, 20°C [68°F]) are reached.