



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAP00000MM**  
Revision No:  
**2**

## This is to certify:

**That the Globe Valve**

with type designation(s)

**1114, 1116, 01341, 01342, 01343, 01345, 01351, 01352, 01353, 01355, 01420, 01423, 01641, 01643, 01645, 01651, 01655, 01741, 01743, 01745, 01751, 01753, 01755, 01841, 01843, 01845, 01851, 01853, 01855, 03341, 03343, 03351, 03641, 03643, 03651, 03741, 03743, 03751, 03841, 03843, 03851,**

Issued to

**HEROSE G.M.B.H. ARMATUREN UND METALLE**  
**Bad Oldesloe, Schleswig-Holstein, Germany**

is found to comply with

**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers**  
**DNV class programme DNV-CP-0186 – Type approval – Valves**  
**IMO IGC-Code**

## Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV.**

**Type:**

**1114, 1116, 01341, 01342, 01343, 01345, 01351, 01352, 01353, 01355, 01420, 01423, 01641, 01643, 01645, 01651, 01655, 01741, 01743, 01745, 01751, 01753, 01755, 01841, 01843, 01845, 01851, 01853, 01855, 03341, 03343, 03351, 03641, 03643, 03651, 03741, 03743, 03751, 03841, 03843, 03851**

**Temperature range:**

**See certificate**

**Max. working press.:**

**Sizes:**

Issued at **Hamburg** on **2022-11-28**

for **DNV**

This Certificate is valid until **2027-11-27**.

DNV local unit: **Essen**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

.....  
**Sven Klingner**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

**Type 1114** Extended Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312  
 Flange connection and female thread connection

### Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	CW.614N	ASTM C38500
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4308	ASTM A351 CF8
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No.CC493K	ASTM C93200
Handwheel	Aluminium -alloy	
Spring plate	Mat. No. 1.4571	ASTM A479 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50

**Type 1116** Extended Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312  
 Flange connection and female thread connection

### Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal for .x1 PCTFE		
Valve seal for .x0 PTFE/Carbon filled 25 %		
Disc	1.4301	ASTM A479 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4308	ASTM A351 CF8
Bolts:	Mat.No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat.No. 1.4301	ASTM A276 Grade 304
Gland packing:	Gra phite/PTFE	
Gland nut:	Mat.No.1.4305	ASTM A276 Grade 303
Handwheel	Aluminium -alloy	
Spring plate	Mat. No. 1.4571	ASTM A479 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50

**Type 01341** Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A479 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring plate	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01342** Globe valve angle type. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal:	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring plate	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 32, 40, 50

**Type 01343** Actuated Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01345** Actuated Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Handwheel	Aluminium alloy	
Spring plate	Mat. No. 1.4310	ASTM A276 Grade 302
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40 and 50

**Type 01351** Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN 50:	PTFE/Carbon filled 25 %	
Valve seal from DN 65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring	Mat. No. 1.4310	ASTM A276 Grade 301
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100 and 150

**Type 01352** Globe valve angle type. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal:	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 32, 40 and 50

**Type 01353** Actuated Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4306	ASTM A273 Grade 304L
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Spring	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 20, 25, 40, 50, 65 and 80

**Type 01355** Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4301	ASTM A276 Grade 304
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50

**Type 01420** Extended To- Entry Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Elongation tube	Mat. No. 1.4306	ASTM A273 Grade 304L
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat.No.1.4305	ASTM A276 Grade 303
Handwheel	Aluminium -alloy	
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CC493K	ASTM C93200

Size range: DN 10, 15, 20, 25, 40, 50, 65, 80 and 100

**Type 01423** Actuated Top-Entry Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CC493K	ASTM C93200

Size range: DN 10, 15, 20, 25, 40, 50, 65, 80 and 100

**Type 01641** Globe valve "fire safe"

Stainless steel body and top work, "live loaded" gland packing  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal:	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Bellow:	Mat. No. 1.4571	ASTM A276 Grade 321
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM 51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01643** Actuated Globe valve "fire-safe". Stainless steel body and top work.

Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01645** Extended Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite	
Handwheel	Mat. No. 1.4409	ASTM SA351 CF3M
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CC452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40, 50

**Type 01651** Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4308	ASTM A351 CF8
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4301	ASTM A276 Grade 304
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Spring plate	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80 and 100

**Type 01655** Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4308	ASTM A351 CF8
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4301	ASTM A276 Grade 304
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Spring plate	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50

**Type 01741** Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01743** Actuated Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01745** Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50



**Type 01751** Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80 and 100

**Type 01753** Actuated Globe valve. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A A276 Grade 316L
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 20, 25, 40, 50, 65 and 80

**Type 01755** Globe valve. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	Mat. No. 1.4409	SA351 CF3M
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40, 50

**Type 01841** Globe valve “fire-safe”. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4571/A4	ASTM A194 B8T
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4401	ASTM A276 Grade 316
Gland packing:	Graphite/PTFE/Mica	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65 1.4571	ASTM A276 Grade 316Ti	
Spring	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01843** Actuated Globe valve “fire-safe”. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE/ Carbon filled	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE/Mica	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bushing	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150 and 200

**Type 01845** Actuated Globe valve “fire-safe”. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4571/A4	ASTM A194 B8T
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316 L
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Spring	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 20, 25, 40 and 50

**Type 01851** Globe valve “fire-safe”. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4571/A4	ASTM A194 B8T
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4401	ASTM A276 Grade 316
Gland packing:	Graphite/PTFE/Mica	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L
Handwheel	up to DN 50 1.4409	ASTM 351 CF3M
From DN65	1.4571	ASTM A276 Grade 316Ti
Spring	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 10, 15, 20, 25, 32, 40, 50, 65, 80, 100

**Type 01853** Actuated trailer valve. “Fire safe”. Stainless steel body and top work.  
 Butt weld or socket weld connection or stainless-steel stubs according to DIN EN ISO 1127 or ASTM A312

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE Carbon filled	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Spring	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 20, 25, 40, 50, 65 and 80

**Type 01855** Actuated trailer valve. “Fire safe”. Stainless steel body and top work.  
 Female thread connection G acc. ISO 228/1, R acc. ISO 7-Rc or NPT ANSI B1.20.3

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE / Carbon filled	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite/PTFE	
Spring plate	Mat. No. 1.4571	ASTM A276 Grade 316Ti
Bush	CW452K	ASTM C51900

Size range: DN 10, 15, 25, 40, and 50

**Type 03341** Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16 and 40 or ANSI B16.5 Class150 and Class 300

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium alloy	
Spring	Mat. No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03343** Actuated Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16 and 40 or ANSI B16.5 Class150 and Class 300

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4541	ASTM A213 TP 321
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 125, 150 and 200

**Type 03351** Globe valve. Stainless steel body  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class150 /300

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat. No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat. No. 1.4301	ASTM A194 B8
Elongation tube	Mat. No. 1.4301	ASTM A276 Grade 304
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Aluminium-alloy	

Size range: DN 15, 25, 40, 50, 65, 80, 100 and 150

**Type 03641** Globe valve “fire safe”

Stainless steel body and top work, “live loaded” gland packing  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class150/300

Materials:

Body	Mat.No. 1.4308	ASTM A351 CF8
Valve seal:	PTFE/Carbon filled 25 %	
Disc	Mat.No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat.No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat.No. 1.4301/A2	ASTM A194 B8
Bellow:	Mat.No. 1.4571	ASTM A276 Grade 321
Elongation tube	Mat.No. 1.4541	ASTM A213 TP 321
Stem	Mat.No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE/MICA	
Gland nut:	Mat.No. 1.4305	ASTM A276 Grade 303
Handwheel	Mat.No. 1.4409	SA351 CF3M
Spring	Mat.No. 1.4310	ASTM A276 Grade 302
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03643** Actuated Globe valve “fire-safe”. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class150/300

Materials:

Body	Mat.No. 1.4308	ASTM A351 CF8
Valve seal up to DN50:	PTFE/Carbon filled 25 %	
Valve seal from DN65:	PTFE	
Disc	Mat.No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	PTFE	
Headpiece	Mat.No. 1.4301	ASTM A276 Grade 304
Bolts:	Mat.No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat.No. 1.4541	ASTM A213 TP 321
Stem	Mat.No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat.No. 1.4305	ASTM A276 Grade 303
Bush	CW452K	ASTM B103 Alloy A

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03651** Globe valve. Stainless steel body  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class150/300

Materials:

Body	Mat. No. 1.4308	ASTM A351 CF8
Valve seal:	PTFE/Carbon filled 25 %	
Disc	Mat. No. 1.4301	ASTM A276 Grade 304
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4308	ASTM A351 CF8
Bolts:	Mat. No. 1.4301/A2	ASTM A194 B8
Elongation tube	Mat. No. 1.4301	ASTM A276 Grade 304
Stem	Mat. No. 1.4301	ASTM A276 Grade 304
Gland packing:	Graphite/PTFE	
Gland nut:	Mat. No. 1.4305	ASTM A276 Grade 303
Handwheel	Mat. No. 1.4409	ASTM SA351 CF3M
Threaded bushing	CW452K	ASTM C51900

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100 and 150

**Type 03741** Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4409	ASTM A351 CF3M
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite	
Handwheel:	Mat. No. 1.4409	ASTM SA351 CF3M
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03743** Actuated Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4409	ASTM A351 CF3M
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03751** Globe valve. Stainless steel body.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4409	ASTM A351 CF3M
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Stem:	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite	
Handwheel:	Mat.No.1.4409	ASTM SA351 CF3M
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, and 150

**Type 03841** Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	Graphite	
Handwheel:	Mat. No. 1.4409	ASTM SA351 CF3M
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03843** Actuated Globe valve. Stainless steel body and top work.  
 Flanged connection acc. to DIN EN 1092-1 PN 16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4404	ASTM A276 Grade 316L
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Elongation tube	Mat. No. 1.4571	ASTM A213 TP 316Ti
Stem	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	PTFE / Graphite	
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100, 150 and 200

**Type 03851** Globe valve. Stainless steel body.  
 Flanged connection acc. to DIN EN 1092-1 PN16/40 or ANSI B16.5 Class 150/300

Materials:

Body	Mat. No. 1.4409	ASTM A351 CF3M
Valve seal:	PCTFE	
Disc	Mat. No. 1.4404	ASTM A276 Grade 316L
Bonnet gasket	Graphite	
Headpiece	Mat. No. 1.4409	ASTM A351 CF3M
Bolts:	Mat. No. 1.4401	ASTM A194 B8M
Stem:	Mat. No. 1.4404	ASTM A276 Grade 316L
Gland packing:	PTFE / Graphite	
Handwheel:	Mat. No. 1.4409	ASTM SA351 CF3M
Gland nut:	Mat. No. 1.4404	ASTM A276 Grade 316L

Size range: DN 15, 20, 25, 40, 50, 65, 80, 100 and 150

## Application/Limitation

May be used for compressed air, nitrogen and cryogenic liquified gases, LNG.

Pressure rating: PN 50, PN 40 (DN 100, DN 150) and PN 25 (DN 200)

Working temperature: -196°C to +120°C,  
-255°C to +120°C

Valve types:

01353, 01753, 01853

DN 20 / DN 25 50 bar

DN 40 / DN 50 16 bar

DN 65 10 bar

DN 80 4 bar

## Limitation

Valves may not be used for sour gas and media specified as toxic and/or dangerous fluids.

Valves with threaded connections are NOT permitted for installation in fuel pipes systems and cargo pipes systems on board of DNV classed liquefied gas tankers and in ship's LNG and gas fuel systems.

Valves with threaded connections shall only be used for accessory lines and instrumentation lines with external diameters of 25 mm or less.

For valves to be installed on board of ships other than liquefied gas tankers the following limitations apply:

Valves for installation in systems operating with flammable gases are to be classed within Pipe Class I, see DNV Rules Pt. 4 Ch. 6 - Piping systems.

Threaded joints may be used for outside diameters as stated below except for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.

Threaded joints in CO<sub>2</sub> systems shall be allowed only inside protected spaces and in CO<sub>2</sub> cylinder rooms

Threaded joints with tapered thread shall be allowed for pipe class I, outside diameter not more than 33,7 mm.

Pipe Class II and Class III outside diameter not more than 60,3 mm.

Threaded joints with parallel thread shall be allowed for Pipe class III, outside diameter not more than 60.3 mm.

## Installation

The following valve connections are permitted for installation in liquefied gas applications (including LNG):

But welded joints with full penetration welding

Flange connections in accordance with recognized standards

For all types of valves connections, the requirements in DNV Rules Pt. 5 Ch. 7 – Liquefied gas tankers, Section 5 shall be observed.

## Type Approval documentation

[Type Approval Application dated on 2022-08-02](#)

[Type Approval Assessment Report dated on 2022-10-19](#)

[Approval Letter \\_Approval of valve bodies with double walled valve ends Doc. Order: A1112823-1 dated on 2021-11-08](#)

[Table overview](#)

[Assemblies of actual 49 Drawings for the renewal and modification certificate dated 2022](#)

[Test report from TÜV Nord dated 2007-10-04 and 2005-02-25](#)

[Leaflet "Fire Safe Valves Type 01641 – Globe valve](#)

[Final assessment report for pressure equipment, TÜV Nord dated 2016-04-15 and 2016-08-01](#)

[HEROSE Test Plan for cryogenic valves, dated 2015-07-09](#)

## Tests carried out

Burst test, fire test

Pressure test,

tightness test



## Production testing

### I. Application for Liquefied gas tankers

#### 1. Certification of valves [ DN ≥ 100 or Working temperature < -55°C]

For all valves having a nominal diameter DN ≥ 100 or a working temperature below -55°C a Product Certificate (PC) shall be issued by DNV based on the following scope of tests and according to: DNV Rules Part 5, Chapter 7 – Liquefied gas tankers, Section 5, Item 13.1.1 and 13.1.2

<u>Type of test</u>	<u>Test pressure</u>
Shell strength	1,5 times the design pressure
Seat and stem tightness test	1,1 times the design pressure
Functional test	Design / work pressure

Pt. 5 Ch. 7, Section 1, Table 7 – Certification of components

<u>DN ≥ 100 or Working temperature &lt; -55°C</u>	<u>Type of certificate / Issued by</u>
	VL Certificate / DNV

#### 2. Additional cryogenic testing – 10 % of each type and size of valve

In addition, cryogenic testing consisting of valve operation and leakage verification for a minimum of 10% of each type and size of valve intended to be used at a working temperature below -55°C shall be carried out.

#### 3. Material certification of valves working temperature < -55°C

DNV Rules Part 5, Chapter 7 – Liquefied gas tankers

Pt. 5 Ch. 7, Section 1, Table 8 – Certification of material quality and testing

Material certificates of valve bodies

<u>Valve nominal diameter</u>	<u>Type of Certificate / Issued by</u>
DN > 100	VL Certificate / DNV
DN ≤ 100	W Works Certificate / Manufacturer

#### 4. Certification of valves [ Working temperature ≥ -55°C]

For all valves intended for use at a working temperature ≥ -55°C a works certificate has to be issued based on the tests listed above and according to DNV Rules Part 5, Chapter 7 – Liquefied gas tankers, Section 1

<u>Valve nominal size</u>	<u>Type of certificate / Issued by</u>
DN < 100 mm	W Works Certificate / Manufacturer

Material certificates (valve bodies)  
 W Works Certificate, issued by Manufacturer

### II. Application in machinery piping systems

Valves intended to be installed in piping system listed in DNV Rules Pt.4, Ch.6 – Section 1 shall be certified according to DNV Rules Pt.4 Ch.6 – Piping systems, Section 9

<u>Valve nominal size / Pressure rating</u>	<u>Type of certificate / Issued by</u>
DN > 100 mm / PN > 16 bar	VL Certificate / DNV
DN ≤ 100 mm / PN ≤ 16 bar	W Works Certificate / Manufacturer

Ship side valves DN > 100 mm regardless of pressure rating VL Certificate / DNV

Material certificates (valve bodies)

In accordance with DNV Rules Pt.4 Ch.6 – Piping systems, Section 2 – Table 3

Note:

Valves having a nominal diameter DN >100 and to be fabricated with a design temperature > 400°C shall provide VL material certificates for valve body and bolts.



Job Id: **262.1-022897-3**  
Certificate No: **TAP00000MM**  
Revision No: **2**

## Marking of product

For traceability to this type approval the products are to be marked with:

- Manufacturer's name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Arrow to indicate direction of flow on one way flow valves

## Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with.

Refer to DNV CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

**END OF CERTIFICATE**