

Certificate



968/TA 1653.00/25

Product tested

Ball valves, needle valves, regulating valves, valve bonnets and compression ring fitting types (metric, imperial of Hy-Lok tube fitting) and male / female NPT

Certificate holder

Hy-Lok Corp., Korea
97 Noksansandan 27-ro
Gangseo-gu, Busan
Rep. of Korea

Type designation

Valve series:
110, 105, 105 (live loaded), NV, NV (live loaded), M & GV, 112, 112S (live loaded), GB, GB (TPED), NSNV (TPED), SO

Codes and standards

TA Luft:2021
DIN EN ISO 15848-1:2017-07

VDI 2440:2021

Intended application

See page 2

Specific requirements

The instructions of the associated Installation, Operating Manual shall be considered. Assemblers and installers must be appropriately trained and qualified. Maintenance and replacement of sealing materials may only be carried out using original spare parts in accordance with the manufacturer's instructions.

The components comply with the relevant aspects of the stated standards and fulfill the listed performance categories.

Pages 2 and 3 of the certificate must be observed.

Valid until 2030-04-03

The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/TA 1653.00/25 dated 2025-03-24.

This certificate is valid only for products which are identical with the product tested.

TÜV Rheinland Industrie Service GmbH
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Köln, 2025-04-03

TÜV Rheinland Industrie Service GmbH



Dipl.-Ing. (FH) Wolf Rückwart

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Results of the evaluation

The ball valves can be used in accordance with TA Luft in conjunction with the standards on page 1 within the following specifications and restrictions:

Series type	stem diameter range	ISO 15848-1 nomenclature
110	3 mm to 12 mm	ISO FE BH - CO1 - SSA0 - t(RT; 232 °C) - CL 1250 - ISO 15848-1
105	5.98 mm to 23.9 mm	ISO FE BH - CO1 - SSA0 - t(-30 °C; 232 °C) - CL 2500 - ISO 15848-1
105 - live loaded	5.98 mm to 23.9 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
NV	3.18 mm to 12.7 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
NV - live loaded	3.18 mm to 12.7 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
M & GV	3.25 mm to 13 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
112	3.95 mm to 15.8 mm	ISO FE BH - CO1 - SSA0 - t(RT; 65 °C) - CL 1250 - ISO 15848-1
112S - live loaded	3.95 mm to 15.8 mm	ISO FE BH - CO1 - SSA0 - t(-20 °C; 149 °C) - CL 1250 - ISO 15848-1
GB	4.15 mm to 16.6 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
GB (TPED)	4.15 mm to 16.6 mm	ISO FE BH - CO1 - SSA0 - t(-54 °C; 232 °C) - CL 2500 - ISO 15848-1
NSNV (TPED)	1.97 mm to 7.88 mm	ISO FE BH - CO1 - SSA0 - t(-29 °C; 121 °C) - CL 1250 - ISO 15848-1
SO	4.15 mm to 16.6 mm	ISO FE BH - CO1 - SSA0 - t(-29 °C; 232 °C) - CL 917 - ISO 15848-1

Note: for temperatures higher +200°C and/or pressures higher 40 bar class CH is sufficient for reaching the requirements of TA-Luft. Discrete leakage rates can be found in the corresponding report.

Compression ring fittings (diameter ranges)

metric	3 mm to 25 mm
imperial	1/8" to 1"
NPT	1/8" to 3/4"
Hy-Lok tube	1/8" to 1"

Notes on parameters acc. to EN ISO 15848-1:2015 & AMD1:2017:

Mechanical class:	CO1 (205 cycles)		
Chapter 6.2.1 Tightness classes:	Class BH/CH (Stem seal):		
	$p \leq 40 \text{ bar and } T \leq 200 \text{ °C:}$	$\leq 10^{-4} \text{ [mg*s-1*m-1 stem perimeter]}$	
	$p > 40 \text{ bar and/or } T > 200 \text{ °C:}$	$\leq 10^{-2} \text{ [mg*s-1*m-1 stem perimeter]}$	
body seal, end connections:	$\leq 50 \text{ ppmv}$		
Criteria transferability to untested diameters:		$D_o/2 \leq D_o \leq 2 D_o$	
(Note: Leak rate conversion acc. EN ISO 15848-1, Annex C)			

Origin of values

The data given are the result of leakage tests previously carried out in accordance with DIN EN ISO 15848-1, as described in the corresponding report.

The data given do not release the end user from observing the manufacturer's instructions / conditions of use. The results are only valid for the tested products (including listed materials, stem roughnesses, body / end seal dimensions) and subjected to the limitations as described in the corresponding report.

Periodic tests and maintenance

The specified values require periodic maintenance as described in the installation, operating and maintenance instructions of the manufacturer.

The operator is responsible for taking into account specific external conditions (e.g. ensuring the required media quality, max. temperature, max. number of cycles) and an operating time / maintenance intervall as specified by the manufacturer.

Series / Type name	Type of valve	p _{test} @ neg. Temp.	p _{test} @ RT	p _{test} @ pos. Temp.	body material	stem roughness	seal tested	material	material end seal	Tested Diameter Range acc. EN ISO 15848-1, chapter 8	
110	ball valve	-	3,000 psig / 206.8 bar	709 psig / 48.9 bar	ASTM A493 316/316L	0.8 µm	O.D. 10.98 x I.D. 6.00 x 1.0 T	PTFE	PTFE	3 mm	12 mm
105	ball valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	500 psig / 34.5 bar	ASTM A493 316/316L	0.8 µm	O.D. 15.45 x I.D. 12.00 x 1.2 T	PTFE	PTFE	5.98 mm	23.9 mm
105 - live loaded	ball valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	500 psig / 34.5 bar	ASTM A493 316/316L	0.8 µm	O.D. 15.45 x I.D. 12.00 x 1.2 T	PTFE	PTFE	5.98 mm	23.9 mm
NV	needle valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	4,130 psig / 284.8 bar	ASTM A182 F316/316L	0.15 µm	O.D. 12.70 x I.D. 6.35 x 2.5 T	PTFE	-	3.18 mm	12.7 mm
NV - live loaded	needle valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	4,130 psig / 284.8 bar	ASTM A182 F316/316L	0.15 µm	O.D. 12.70 x I.D. 6.35 x 2.5 T	PTFE	-	3.18 mm	12.7 mm
M(GV)	needle valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	4,130 psig / 284.8 bar	ASTM A479 316/316L	0.15 µm	O.D. 11.15 x I.D. 6.5 x 2.4 T	PTFE	-	3.25 mm	13 mm
112	ball valve	-	3,000 psig / 206.8 bar	3,000 psig / 206.8 bar	ASTM A182 F316/316L	0.1 µm	O.D. 14.38 x I.D. 7.9 x 11.2 T	PTFE	-	3.95 mm	15.8 mm
112S - live loaded	ball valve	3,000 psig / 206.8 bar	3,000 psig / 206.8 bar	2,500 psig / 172.4 bar	ASTM A182 F316/316L	0.1 µm	O.D. 14.38 x I.D. 7.9 x 11.2 T	TFM	-	3.95 mm	15.8 mm
GB	needle valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	4,130 psig / 284.8 bar	ASTM A182 F316/316L	0.15 µm	O.D. 12.65 x I.D. 8.3 x 6.5 T	PTFE	-	4.15 mm	16.6 mm
GB (TPED)	needle valve	6,000 psig / 413.7 bar	6,000 psig / 413.7 bar	4,130 psig / 284.8 bar	ASTM A182 F316/316L	0.15 µm	O.D. 12.65 x I.D. 8.35 x 3.6 T	PEEK	-	4.15 mm	16.6 mm
NSNV	needle valve	3,000 psig / 206.8 bar	3,000 psig / 206.8 bar	2,455 psig / 169.3 bar	ASTM A182 F316/316L	0.15 µm	PTFE: O.D. 6.72 x I.D. 4.04 x 3.2 T EPDM: I.D. 3.68 x 1.78 T	EPDM / PTFE	-	1.97 mm	7.88 mm
SO	ball valve	2,200 psig / 151.7 bar	2,200 psig / 151.7 bar	100 psig / 6.9 bar	ASTM A351 / CF8M	0.8 µm	O.D. 13.75 x I.D. 8.55 x 4.15 T	RTFE	PTFE	4.15 mm	16.6 mm

Compression ring fittings:

Max. pressure resistance at -54 °C: 413.7 bar (6,000 psig)
 at RT: 413.7 bar (6,000 psig)
 at +232 °C: 284.8 bar (4,130 psig)
 Temperature range: -54 to +232 °C (-65 to +450 °F)
 Diameter ranges: 3 mm to 25 mm (metric)
 1/8" to 1"
 1/8" Hy-Lok to 1" Hy-Lok
 1/8" NPT to 3/4" NPT
 8.0 mm for valve size 1"
 Material: ASTM grades A479 / A182 / A351
 Other grades: 316 / 316L F316 / 316L, CF8M