

CERTIFICATE

No. 30465301E/SW/30.09.2022

The valve with the brand name

**LCV cryogenic ball valve
DN25/PN40**

of the manufacturer

**m-tech gmbh
DE – 74670 Forchtenberg**

was tested according to DIN EN ISO 15848-1 (dated July 2017). The following sealing systems were used:

Dynamic sealings at the shaft:

- 1 pc. Spring; material: stainless steel,
- 4 pcs. Chevron seals; material: PTFE,
- 1 pc. Compression ring; material: PTFE.

Static sealings:

Body:

- 2 pcs. Sealing body; material: PTFE,
- 1 pc. Sealing extension; material: PTFE.

End connection:

- 2 pcs. Conical nipple; material: stainless steel,
- 2 pcs. Union nut; material: stainless steel.

In the laboratory of amtec a test with the test no. 22-524 was conducted under the following test conditions:

endurance class:	CO3	isolating valve
test temperatures:	RT / -196	°C
test pressures:	40 / 40	bar
medium:	He	
tightness class:	BH	
mechanical cycles:	2500	pcs.
shaft movement:	90	°
shaft diameter D_0 :	14	mm
number of shaft seal adjustments (SSA):	0	pcs.


The maximal leak rate measured with the helium leak detector during the test with 2500 mechanical cycles and 4 thermal cycles was $7.5 \cdot 10^{-5} \text{ mg/(s}\cdot\text{m)}$ for the shaft sealing (dynamic). The concentration for the static sealing was less than 50 ppmv (8 ppmv).

The performance class of the tested valve is:

ISO FE BH – CO3 – SSA 0 – t-196 °C – (40/40 bar) – ISO 15848-1

This qualification may be transferred to untested valves with a shaft diameter of $D_0 / 2 \leq D \leq 2 \cdot D_0$, provided that the criteria listed in Chapter 8 of DIN EN ISO 15848-1 are met. This certificate is valid only in connection with the test report 3046531/- and the boundary conditions listed therein.

amtec Advanced Measurement Messtechnischer Service GmbH Lauffen, September 30th, 2022


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