



REPORT n° L.44.195
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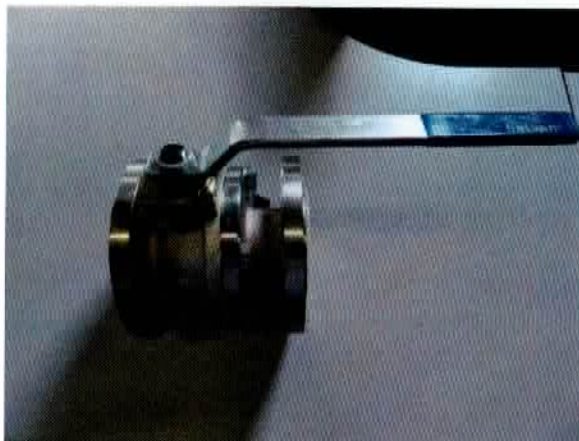
-BELVEN n.v. 2800 Mechelen Apragaz	Reference Mr M. J Van den Brande L 1110/5761/THT	
General description of the work: Manual ball valves – Model BV4. Report concerning: Homologation tests according to EN 14432. Place of control: our laboratory Date: October 28 th , 2011		

At the request of Mr J. Van den Brande from the company BELVEN n.v. located Blokhuisstraat, 24 at 2800 Mechelen (Belgium), we have carried out prototype homologation tests according to the requirements of the European standard EN 14432 (Tanks for the transport of dangerous goods – Tank equipment for the transport of liquid chemicals – Product discharge and air inlet valves), manufactured by BELVEN company.

1. Description of equipment tested.

One piece of each model size of two-part split body ball valves – Model BV4-4466T-FS – from PN 16 (for DN 65, 80, 100, 125, 150 and 200) and PN 40 (from DN 15, 20, 25, 32, 40, 50 and 65) carbon steel with the next characteristics:

Manufacturer:	BELVEN (Belgium)
Distributor:	BELVEN (Belgium)
Mark:	BELVEN (Belgium)
Type:	BV4 – 4466T/Fs
Drawing:	See copy in annex 1.
Fluids:	Any non corrosive fluid compatible with the internal parts of the valves
Temperature range:	From -20°C to max. +170°C.
Diameter approval request:	From DN 15 to DN 200.
Material:	Body 1.0619, ball A182-F316/A351-CF8M, ball seats PTFE, Seat PTFE, Seat Grafoil, Ring Viton, Packing gland AISI F 316/DIN 1.4401, Thrust washer PTFE.
Max. working pressure :	from PN 16 to PN 40 according to the temperature and diameter.



3. Tests and establishments in accordance to the European standard EN 14432.

The samples were submitted to the tests and controls according to the prescriptions of the European standard EN 14432.

The samples were tested as received.

3.1. Valve identifications

3.1.1. The valves were identified on the flange with an identification label with following markings:

- Manufacturer symbol, BELVEN.
- The DN and material of the valve casing is notified on the valve body,
- Month and year of the manufacture,
- Serial number,
- Temperature range



3.1.2. Remarks :

The following marking is missing:

1. The reference of the standard EN 14432 is missing

3.2. Design and materials conformity (§ 5. – EN 14432)

- 3.2.1. The operating mechanism of the manual version is protected from inadvertent operation in transit by locating within an enclosure.
- 3.2.2. Each manual valve is marked with the direction of opening of the operating mechanism.
- 3.2.3. The material specification provided by the manufacturer is referred in annex 1. The manufacturer guarantees the conformity with the standard requirements.

3.3. Test type (§ 7. – EN 14432)

3.3.1. Valve casing hydraulic pressure test (§ 7.2. – EN 14432)

Each model of valve casing was hydraulic tested under a test pressure equal to 2.25 times the MWP under water fluid during a minimum of 5 min.

Valve #	Nominal size DN	Hydraulic Test pressure	Results
5761-01	15	90	No cracks or permanent deformation occurs
5761-02	25	90	No cracks or permanent deformation occurs
5761-03	40	90	No cracks or permanent deformation occurs
5761-04	65	40	No cracks or permanent deformation occurs
5761-05	100	40	No cracks or permanent deformation occurs
5761-06	150	40	No cracks or permanent deformation occurs

3.3.2. Valve assembly pressure test (§ 7.3 – EN 14432)

The valve assembly was hydraulically tested under a test pressure equal to 40 bar and 52 bar under helium gas during a minimum of 5 min. The test was carried out:

- with the valve in close position and the outlet open to test for leakage from the seats;
- with the valve in open position and the outlet closed off to test for leakage from gland seals or body joints.

Valve #	Nominal size DN	Test pressure	Leakage test (cm ³ /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
5761-01	15	52	No leak detected	No leak detected	Satisfactory results
5761-02	25	52	No leak detected	No leak detected	Satisfactory results
5761-03	40	52	No leak detected	No leak detected	Satisfactory results
5761-04	65	40	No leak detected	No leak detected	Satisfactory results
5761-05	100	40	No leak detected	No leak detected	Satisfactory results
5761-06	150	40	No leak detected	No leak detected	Satisfactory results

3.3.3. Valve assembly pneumatic tightness test (§ 7.4 – EN 14432)

The valve assembly was pneumatically tested under a test pressure equal to 0.2 / 40 (or 16) bar under helium gas during a minimum of 5 min. The test was carried out:

- with the valve in close position and the outlet open to test for leakage from the seats;
- with the valve in open position and the outlet closed off to test for leakage from gland seals or body joints.

Valve #	Nominal size DN	Test pressure	Leakage test in received conditions (cm ³ /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
5761-01	15	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-02	25	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-03	40	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-04	65	0.2 / 16	No leak detected	No leak detected	Satisfactory results
5761-05	100	0.2 / 16	No leak detected	No leak detected	Satisfactory results
5761-06	150	0.2 / 16	No leak detected	No leak detected	Satisfactory results

3.3.4. Cyclic test (§ 7.5 – EN 14432)

The valve assembly was subjected to a mechanical cycle test to a minimum of 1000 full cycle ("open" to "closed") without pressure being applied. After completion of the cyclic test, the valve was submitted to a leakage test, under a test pressure equal to 0,2 bar and 40 (or 16) bar under helium gas during a minimum of 5 min, in the following configurations:

- with the valve in close position and the outlet open to test for leakage from the seats;
- with the valve in open position and the outlet closed off to test for leakage from gland seals or body joints.

Valve #	Nominal size DN	Test pressure	Leakage test after cyclic test (cm ³ /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
5761-01	15	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-02	25	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-03	40	0.2 / 40	No leak detected	No leak detected	Satisfactory results
5761-04	65	0.2 / 16	No leak detected	No leak detected	Satisfactory results
5761-05	100	0.2 / 16	No leak detected	No leak detected	Satisfactory results
5761-06	150	0.2 / 16	No leak detected	No leak detected	Satisfactory results

5. Conclusion:

- 5.1. The flanged two-part split body ball valves – Model BV4-4466T-FS – from PN 16 (for DN 65, 80, 100, 125, 150 and 200) and PN 40 (from DN 15, 20, 25, 32, 40, 50 and 65) carbon steel - manufactured by the company BELVEN company (Belgium), described under § 1 here above, satisfy to the European standard EN 14432 requirements.
- 5.2. The product requirements mentioned into § 8. of the standard EN 14432 cannot be guaranteed at this stage of the evaluation by APRAGAZ.
- 5.3. The remark mentioned into the paragraph 3.1.2. needs to be taken into account before starting the production.**
- 5.4. Each modification must be reported to us in order to examine if this report remains valid.

The General Manager,



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