



**APRAGAZ**

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Vilvoordsesteenweg, 156 B-1120 Brussels  
Chaussée de Vilvorde, 156 - B- 1120 Bruxelles  
Tel. 32/2/264.03.60 - Fax. 32/2/268.89.58  
B.T.W. BE 407.199.070

BELVEN N.V.  
Blokhuisstraat, 24

B-2800 MECHELEN

Date : 26.11.2013  
Y/Ref: : Mrs S. Daneels  
O/Ref: L1311/6281/THT

Dear Mrs Daneels,

Please find enclosed our amended report number L 47.849-a.

Yours Sincerely,

The General Manager,

  
Ch. LEPLAT, ir.



REPORT n° L.47.849-a  
20.11.2013  
Operator Mr T. Tielemans

Chée de Vilvorde, 156 - B 1120 Bruxelles  
Tel. 32/2/264.03.60 - Fax. 32/2/268.89.58

-BELVEN n.v. 2800 Mechelen  Apragaz	Reference Mrs. S. Daneels  L 1311/6281/THT	
General description of the work: Wafer type Butterfly valves – Model BV10NPA. Report concerning: Homologation tests according to EN 14432. Place of control: our laboratory Date: November 02, 2013		

At the request of Mrs S. Daneels from the company BELVEN n.v. located Blokhuisstraat, 24 at 2800 Mechelen (Belgium), we have carried out prototype homologation tests on wafer type butterfly valve – Model BV10NPA 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 butterfly valves – Model BV10NPA-2366V-BS – for a maximum working equal to 2,5 bar (for DN 50, 80, 125, 200, 250 and 300) with the next characteristics:

Manufacturer:	BELVEN (Belgium)
Distributor:	BELVEN (Belgium)
Mark:	BELVEN (Belgium)
Type:	BV10NPA-2366V-BS
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. +160°C.
Diameter approval request:	From DN 50, 65, 80, 100, 125, 150, 200, 250 and 300.
Material:	Body - A126-B, Disc - A351 CF8M, Seat FKM, Busch – Delrin and RPTFE+ A240 30+, O-ring – NBR.
Max. working pressure :	2,5 bar.



This model of valve can be used with failsafe manually lever or with double acting and single acting pneumatic actuators - Models BV-BPA (see documents in annex 1.

### **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 and metal plate fixed on the valve body.,
- Month and year of the manufacture (Letter + number code – eg. P08),
- Serial number,
- Temperature range



### 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 guaranties 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
6281-01	50	5,6	No cracks or permanent deformation occurs
6281-02	80	5,6	No cracks or permanent deformation occurs
6281-03	125	5,6	No cracks or permanent deformation occurs
6281-04	200	5,6	No cracks or permanent deformation occurs
6281-05	250	5,6	No cracks or permanent deformation occurs
6281-06	300	5,6	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 4,0 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 (bar)	Leakage test (cm <sup>3</sup> /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
6281-01	50	4,0r	No leak detected	No leak detected	Satisfactory results
6281-02	80	4,0	No leak detected	No leak detected	Satisfactory results
6281-03	125	4,0	No leak detected	No leak detected	Satisfactory results
6281-04	200	4,0	No leak detected	No leak detected	Satisfactory results
6281-05	250	4,0	No leak detected	No leak detected	Satisfactory results
6281-06	300	4,0	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 0,25 / 4,0 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 (bar)	Leakage test in received conditions (cm <sup>3</sup> /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
6281-01	50	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-02	80	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-03	125	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-04	200	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-05	250	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-06	300	0,25 / 4,0	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 cycles ("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 0,25 bar and 4,0 bar under helium gas during a minimum of 5 min, in the following configurations:

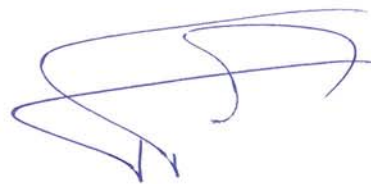
- with the valve in close position and the outlet open to test for leakage from the seats;
- with the valve in open position and the outlet closed off to test for leakage from gland seals or body joints.


Valve #	Nominal size DN	Test pressure (bar)	Leakage test after cyclic test (cm <sup>3</sup> /h)		Results
			Valve in close position and the outlet open	valve in open position and the outlet closed off	
6281-01	50	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-02	80	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-03	125	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-04	200	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-05	250	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results
6281-06	300	0,25 / 4,0	No leak detected	No leak detected	Satisfactory results

**5. Conclusion:**

- 5.1. The Wafer type Butterfly valves – Model Model BV10NPA – for a maximum working pressure equal to 2,5 bar , a nominal diameter DN 50, 65, 80, 100, 125, 150, 200, 250, 300 and a working temperature range from -20°C to +160°C, 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. Each modification must be reported to us in order to examine if this report remains valid.

The General Manager,



 Ch. LEPLAT, ir.

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