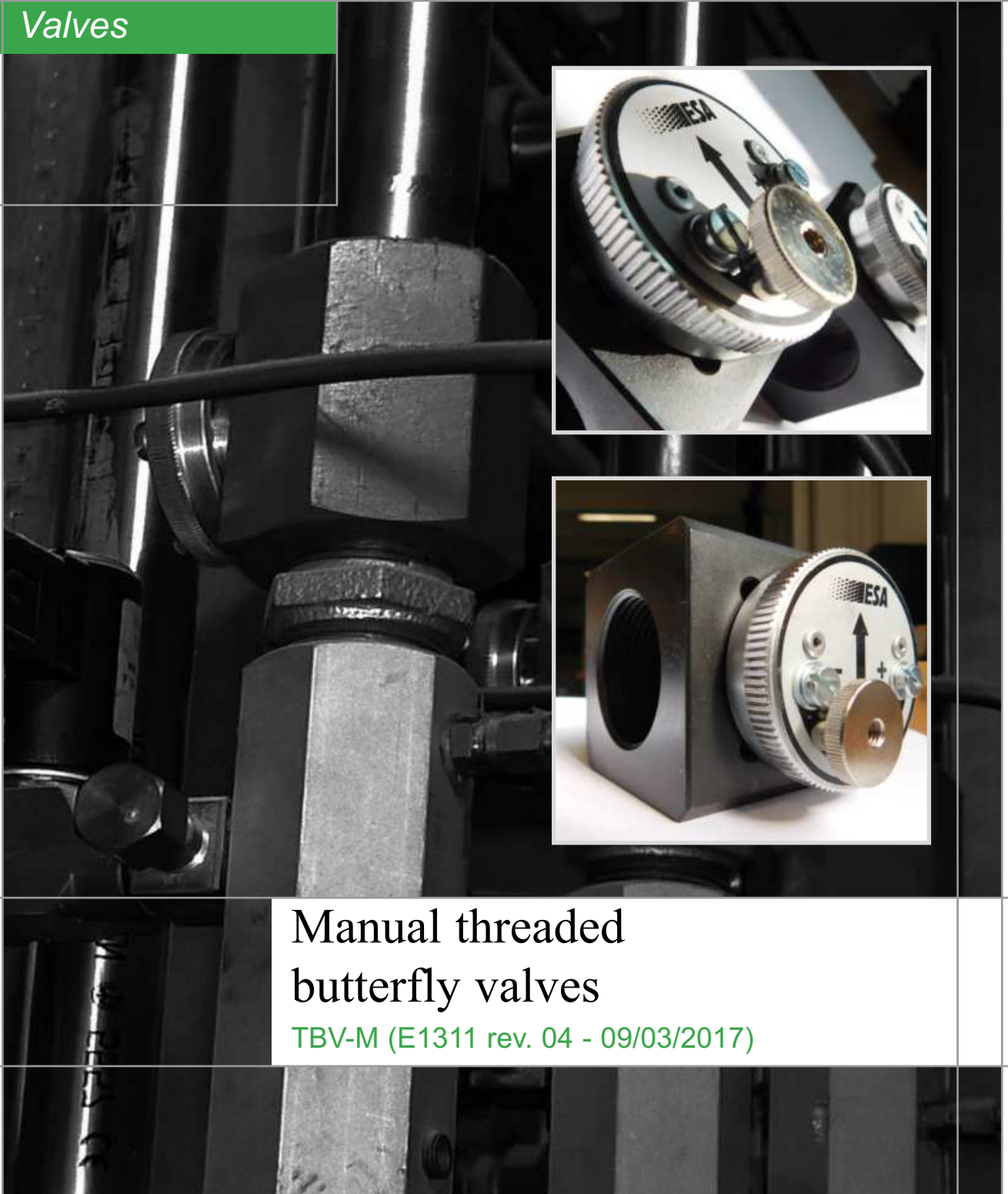


Valves



Manual threaded butterfly valves

TBV-M (E1311 rev. 04 - 09/03/2017)

GENERAL WARNINGS:



■ All installation, maintenance, ignition and setting must be performed by qualified staff, respecting the norms present at the time and place of installation.

■ To avoid damage to people and objects, it is essential to observe all the points indicated in this handbook. The reported indications do not exonerate the Client/User from observing general or specific laws concerning accidents and environmental safeguarding.

■ The operator must wear proper DPI clothing (shoes, helmets ...) and respect the general safety, prevention and precaution norms.

■ To avoid the risks of burns or high voltage electrocution, the operator must avoid all contact with the burner and its control devices during the ignition phase and while it is running at high temperatures.

■ All ordinary and extraordinary maintenance must be performed when the system is off.

■ To assure correct and safe use of the combustion plant, it is of extreme importance that the contents of this document be brought to the attention of and be meticulously observed by all personnel in charge of controlling and working the devices.

■ The functioning of a combustion plant can be dangerous and cause injuries to persons or damage to equipment. Every burner must be provided with certified combustion safety and supervision devices.

■ The burner must be installed correctly to prevent any type of accidental/undesired heat transmission from the flame to the operator or the equipment.

■ The performances indicated in this technical document regarding the range of products are a result of experimental tests carried out at ESA-PYRONICS. The tests have been performed using ignition systems, flame detectors and supervisors developed by ESA-PYRONICS. The respect of the above mentioned functioning conditions cannot be guaranteed if equipment, which is not present in the ESA-PYRONICS catalogue, is used.

DISPOSAL:



To dispose of the product, abide by the local legislations regarding it.

GENERAL NOTES:



■ In accordance to the internal policy of constant quality improvement, ESA-PYRONICS reserves the right to modify the technical characteristics of the present document at any time and without warning.

■ It is possible to download technical sheets which have been updated to the latest revision from the **www.esapyronics.com** website.

■ The products manufactured by ESA-PYRONICS have been created in conformity to the **UNI EN 746-2:2010** Norms: Equipment for industrial thermal process - Part 2: Safety requirements for combustion and the movement and treatment of combustible elements. This norm is in harmony with the Machine Directive **2006/42/CE**. It is certified that the products in question respect all the requirements prescribed by the above mentioned Norms and Directives.

■ Certified in conformity with the **UNI EN ISO 9001** Norm by DNV GL.

CERTIFICATIONS:



The products conform to the requests for the Euroasia market (Russia, Belarus and Kazakhstan).

ASSISTANCE/CONTACTS:



Headquarters:

Esa S.p.A.
Via Enrico Fermi 40
24035 Curno (BG) - Italy
Tel +39.035.6227411
Fax +39.035.6227499
esa@esacombustion.it

International Sales:

Pyronics International s.a.
Zoning Industriel, 4ème rue
B-6040 Jumet - Belgium
Tel +32.71.256970
Fax +32.71.256979
marketing@pyronics.be

www.esapyronics.com

The TVB-M series identifies a particular modulating butterfly valve model suitable for regulating air and gasflow in high pressure pipes.

APPLICATIONS

- Manual valve for gas and air flow regulation..
- Adjustment butterfly valve not sealed.

CHARACTERISTICS

GENERAL:

- Available sizes: from DN20 to DN50
- Maximum working pressure: 0,5 bar
- Maximum fluid temperature: -20°C +100°C
- Flow direction and mounting position: any

MATERIAL COMPOSITION:

- Valve body: AVP
- Closing discs: AISI304
- Lens holder shaft: OT58
- Handwheel: aluminium
- "O" ring seal: "O" ring towards the outside

DESCRIPTION

Flow regulation is done by acting on the front wheel to which a graduated index identifying the position of the valve disc: + (open) - (closed) is applied. Two mechanical stops allow the minimum and maximum calibration and an O-ring to prevent leakage around the shaft.

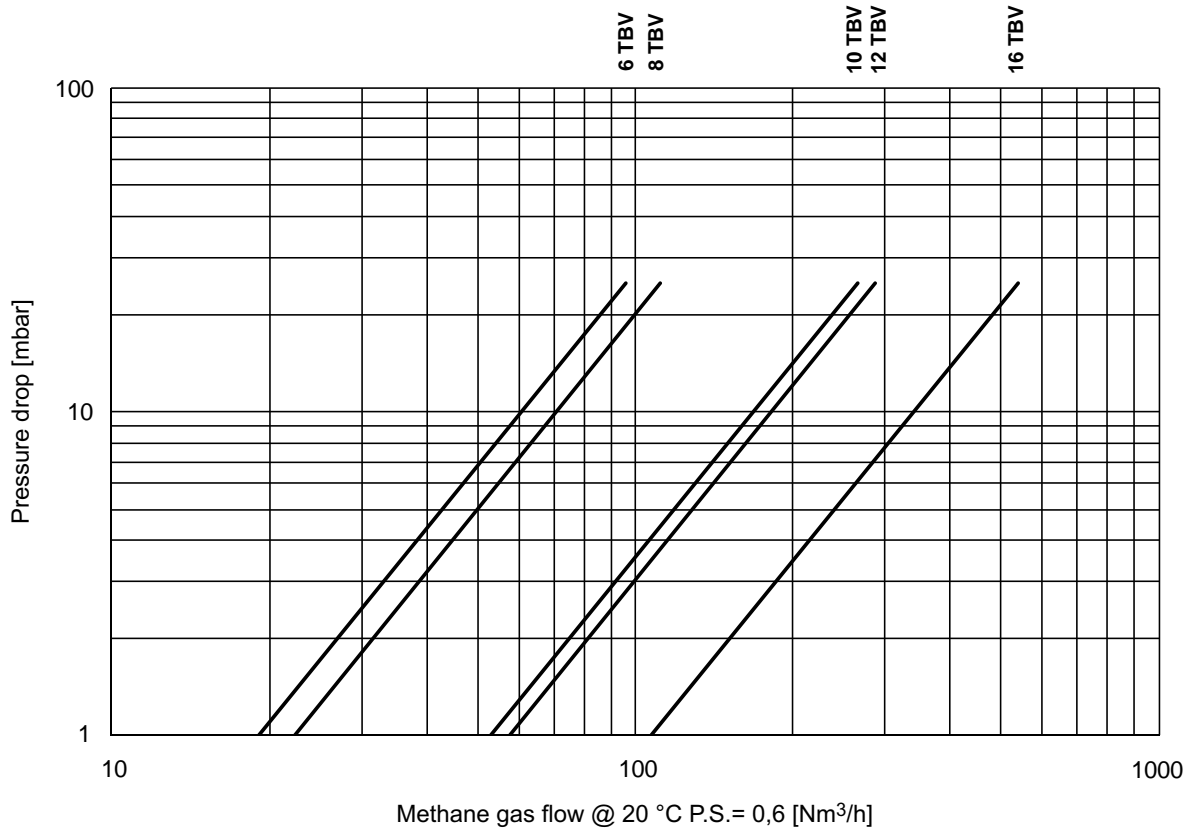


F1311I03

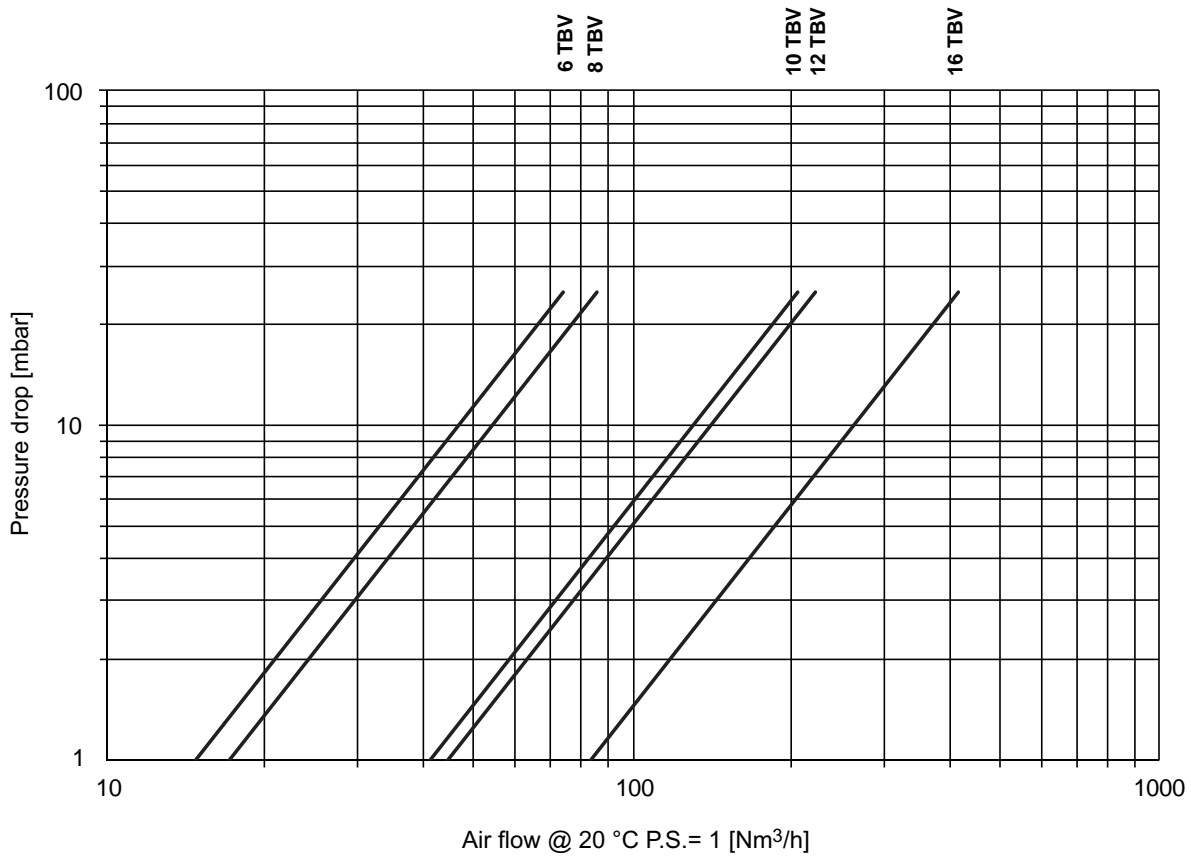


F1311I04

FLOWCHARTS



G1311I01



G1311I02

WARNINGS

- Make sure the operating pressure and the fluid temperature are below the maximum permissible.
- Check the correct installation of the valve before starting the flow in the pipeline.
- If the valve is malfunctioning, follow the directions in

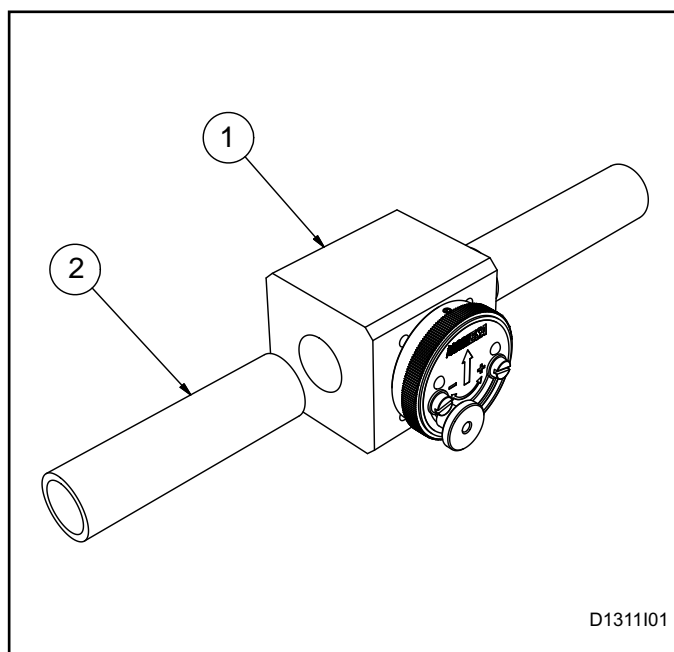
this manual in the "MAINTENANCE" chapter or contact ESA-PYRONICS.

- Any modification or repair by third parties may compromise the safety of the application and automatically invalidate the general warranty terms.

INSTALLATION

Arrange the throttle valve in such a condition that it is not exposed to direct irradiation from heat sources, or combustion products, liquids, solvents or corrosive gases

- 1 - Check that the line pressure is below the maximum operating pressure allowed.
- 2 - The valve can be installed in any position.
- 3 - Ensure that no foreign body has entered the valve before performing the assembly, if necessary blow it with compressed air.
- 4 - Check the correct alignment of the connecting pipes. Observe a distance from the walls allowing for free movement of the air and the correct movement of the lever.
- 5 - Make sure that the threads conform to those of the valve to be installed (**pos 1**) in accordance with UNI ISO 7/1.
- 6- Use seal seals or the like on the male thread threads (**pos. 2**).



REGULATION

TBV-M series throttle flow regulation is performed by acting on the front wheel to which a graduated index identifying the position of the valve disc: + (open) - (closed) is applied. Two mechanical stops allow the minimum and maximum

calibration and an O-ring seal prevents leakage around the shaft. Rotating the handwheel counterclockwise, the valve opens; Turning it clockwise, the valve closes.



GENERAL MAINTENANCE PLAN

Maintenance and installation must be carried out by qualified personnel, in accordance with the applicable regulations, always performing a thread tightness test.

Operation	Type (*)	Advised time	Notes
Thread integrity	O	annual	Check that there is no leakage to the outside
Butterfly valve maintenance	S	annual	Check valve status and correct opening and closing.

NOTES:

Key: O = ordinary / E = extraordinary

(*) It is recommended to replace the gaskets after each valve disassembly operation.

ORDINARY MAINTENANCE

For proper maintenance of TBV-M valves, follow the instructions carefully. Before operating with the system running, make sure the process and operator safety is not compromised, and if necessary, perform the checks at the plant switched off

INTEGRITY CHECK

- The integrity of the threads can be checked visually. If necessary, use liquid leak detectors.

EXTRAORDINARY MAINTENANCE

For proper maintenance of the TBV-M valves, carefully follow the instructions below with the system switched off.

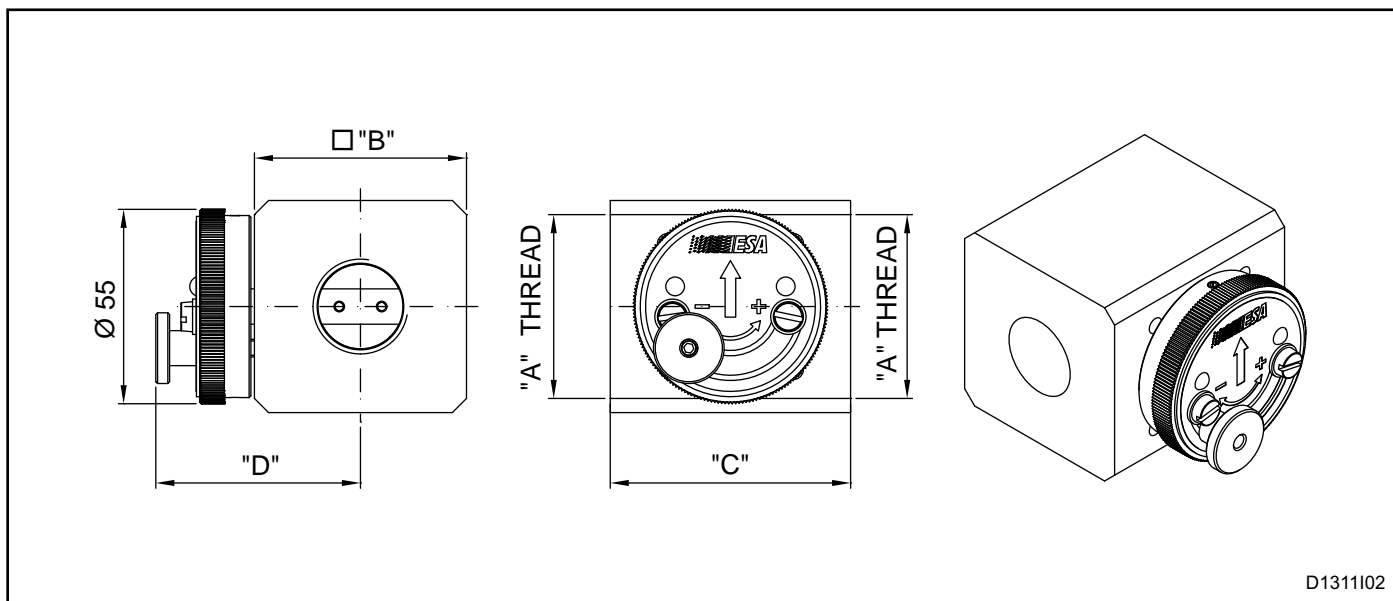
MAINTENANCE OF THE BUTTERFLY VALVE

- 1 - Unscrew and remove the valve from the pipe and check the status of the internal components.
- 2 - Clean the inside of the valve body and the butterfly

assembly with a clean cloth and compressed air. Do not use tools that could damage the internal parts.

- 3 - Check that the valve moves without friction.
- 4 - Reinstall the valve in its seat according to the steps in the "INSTALLATION" section.
- 5 - Finally check that the valve moves freely without hindrance.

OVERALL DIMENSIONS - TBV-M



Model	Rp "A"	DN	"B" [mm]	"C" [mm]	"D" [mm]	Mass [Kg]
6 TBV-M	G - 3/4"	20	60	68	58	1,8
8 TBV-M	G - 1"	25	60	68	58	1,7
10 TBV-M	G - 1.1/4"	32	65	61	68	1,7
12 TBV-M	G - 1.1/2"	40	65	61	68	1,6
16 TBV-M	G - 2"	50	75	66	76	2

ORDERING CODE

TBV-M-
01 02

Model		01
3/4" Rp. (DN20)	6	
1" Rp. (DN25)	8	
1.1/4" Rp. (DN32)	10	
1.1/2" Rp. (DN40)	12	
2" Rp. (DN50)	16	

Model		02
Low temperature		LT
High temperature		HT