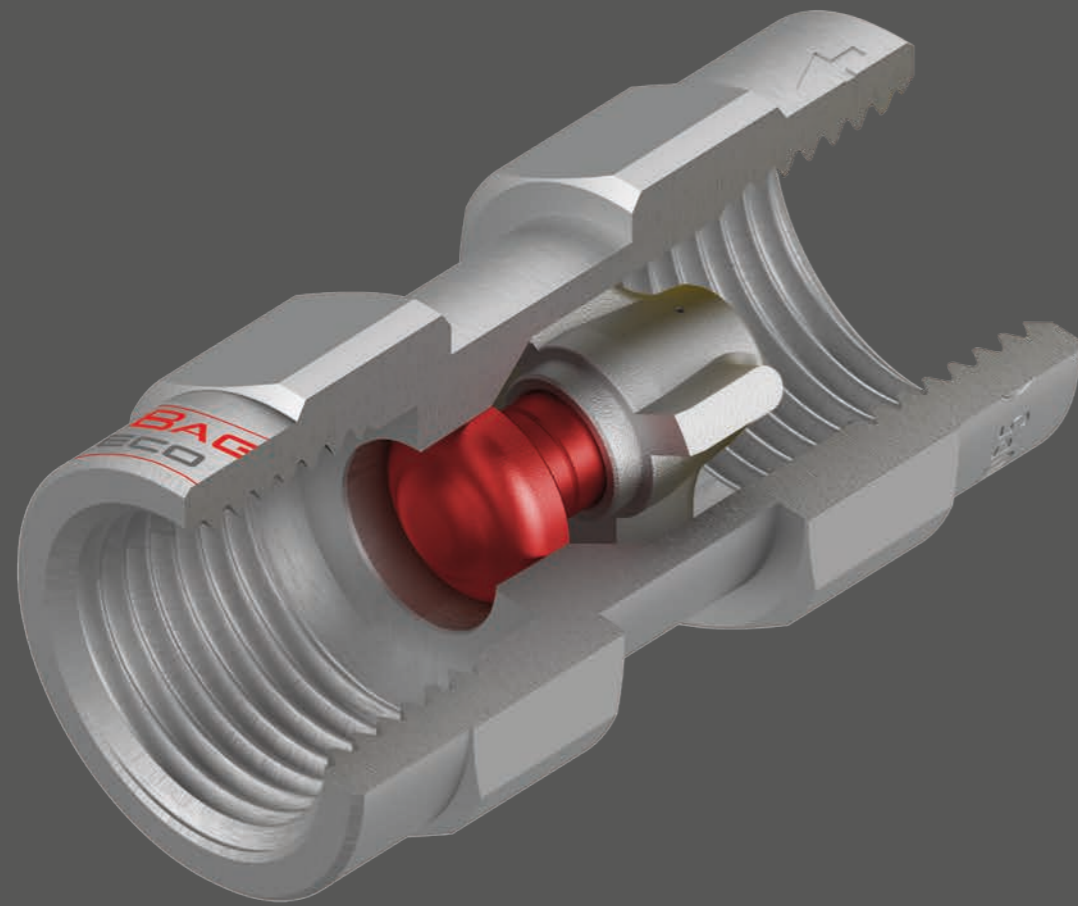


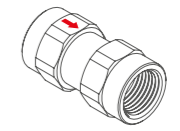
# FIREBAG®

## THERMALLY ACTIVATED SAFETY DEVICE FOR GAS SYSTEMS



### FIREBAG®

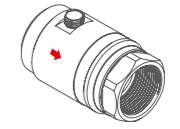
FIREBAG® DN 15-20-25 threaded fitting



232

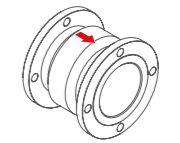
242

FIREBAG® DN 32-40-50 threaded fitting



242

FIREBAG® DN 25-200 flanged fitting



243

## THERMALLY ACTIVATED SAFETY DEVICE

FIREBAG® is a thermally activated passive safety device, which cuts off the gas flow. It is designed to activate in the range from 95 °C to 100 °C, and is guaranteed to function at 925 °C for 60' at a maximum pressure of 5 BAR (16 bar for the flanged version).

### FULL RANGE

Threaded version from DN15 to DN50  
Flanged version from DN25 to DN200



**TAE**

FIREBAG® is TECO's commercial name for the thermally activated safety device, defined as **TAE** in the German standard (thermisch auslösende Absperreinrichtung).



CERTIFICATIONS AND TECHNICAL SPECIFICATIONS	
Reference standards	DIN 3586 DIN EN 1092-1 2014/68/EU directive EU Regulation 2016/426
Pressure	MOP 5 (5 bar)
Working temperature	-20 °C + 60 °C
FIREBAG® trip temperature	100 °C - 5K
High temperature resistance	HTB 925 °C for 60' (GT5 DIN 3586)
Application	For all types of gas as specified in EN 437 and DVGW G260/1 (Methane, Butane, Propane)

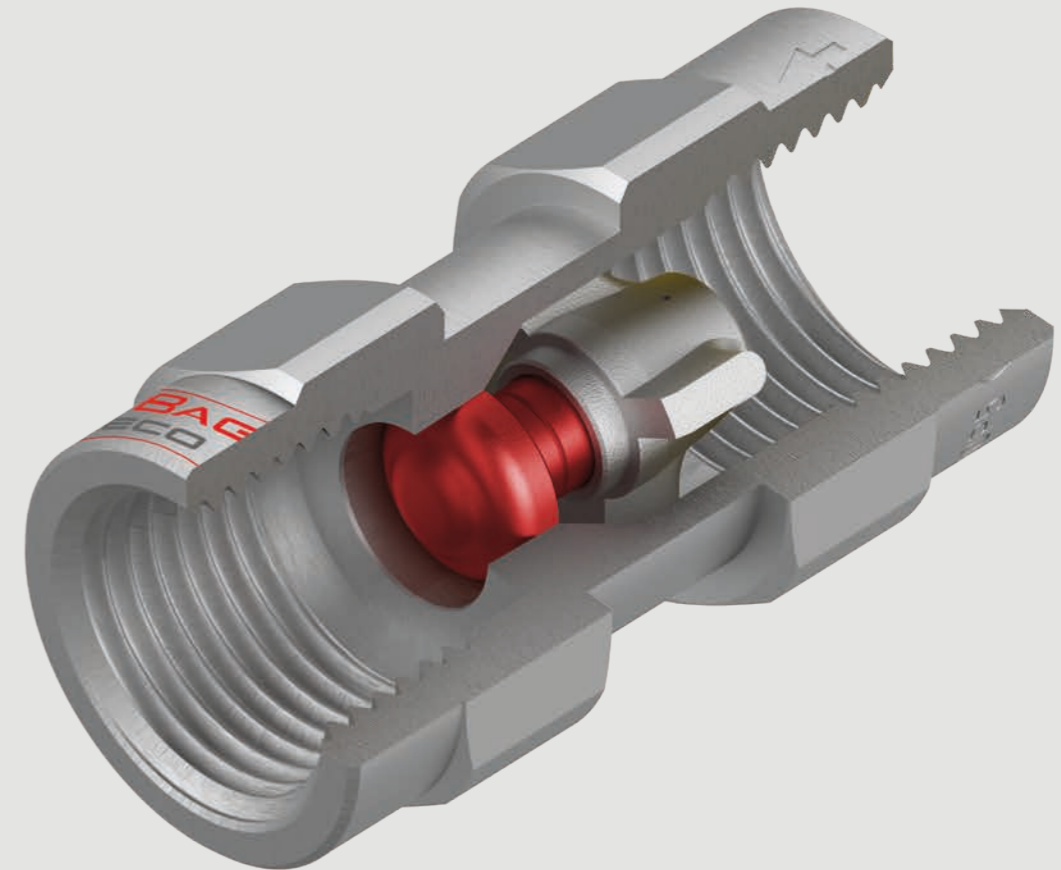


### DESIGN PLUS

Design and technology award in 1995.

### COMPACT INSTALLATION

Because of its small size, it is built into most TECO gas valves.



### SAFETY

Installing FIREBAG® raises the safety level in gas systems.



### NO MAINTENANCE

FIREBAG® does not require any kind of maintenance over time.



### AUTOMATIC

It is not powered by an energy source or external signals.

### SINCE 1995

TECO developed and manufactures the FIREBAG® since 1995, when the German technical standards for design and installation of gas systems covered this device.

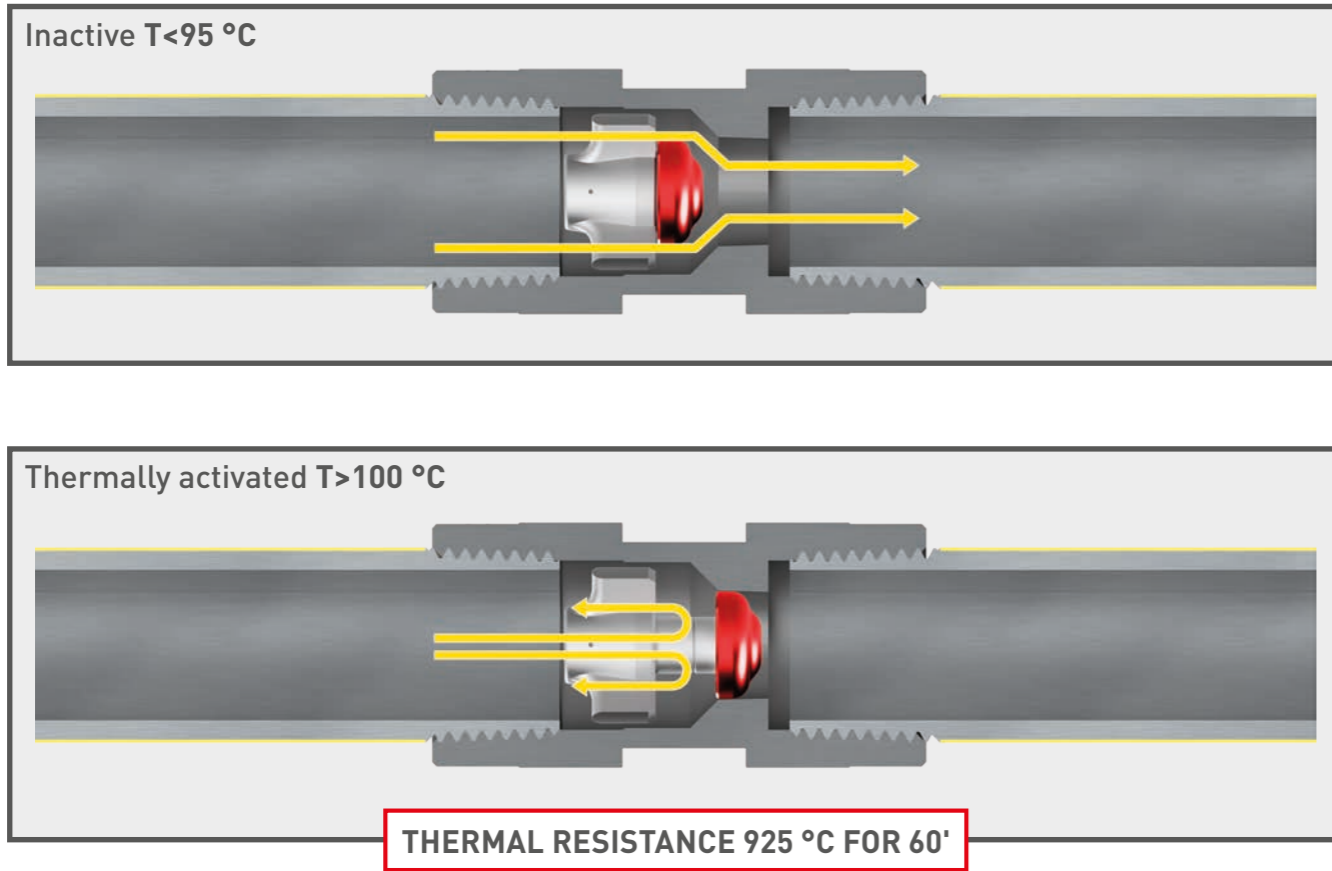
Over 10 million installed FIREBAG® devices manufactured by TECO are a guarantee of the effectiveness and quality of the product.



## OPERATION

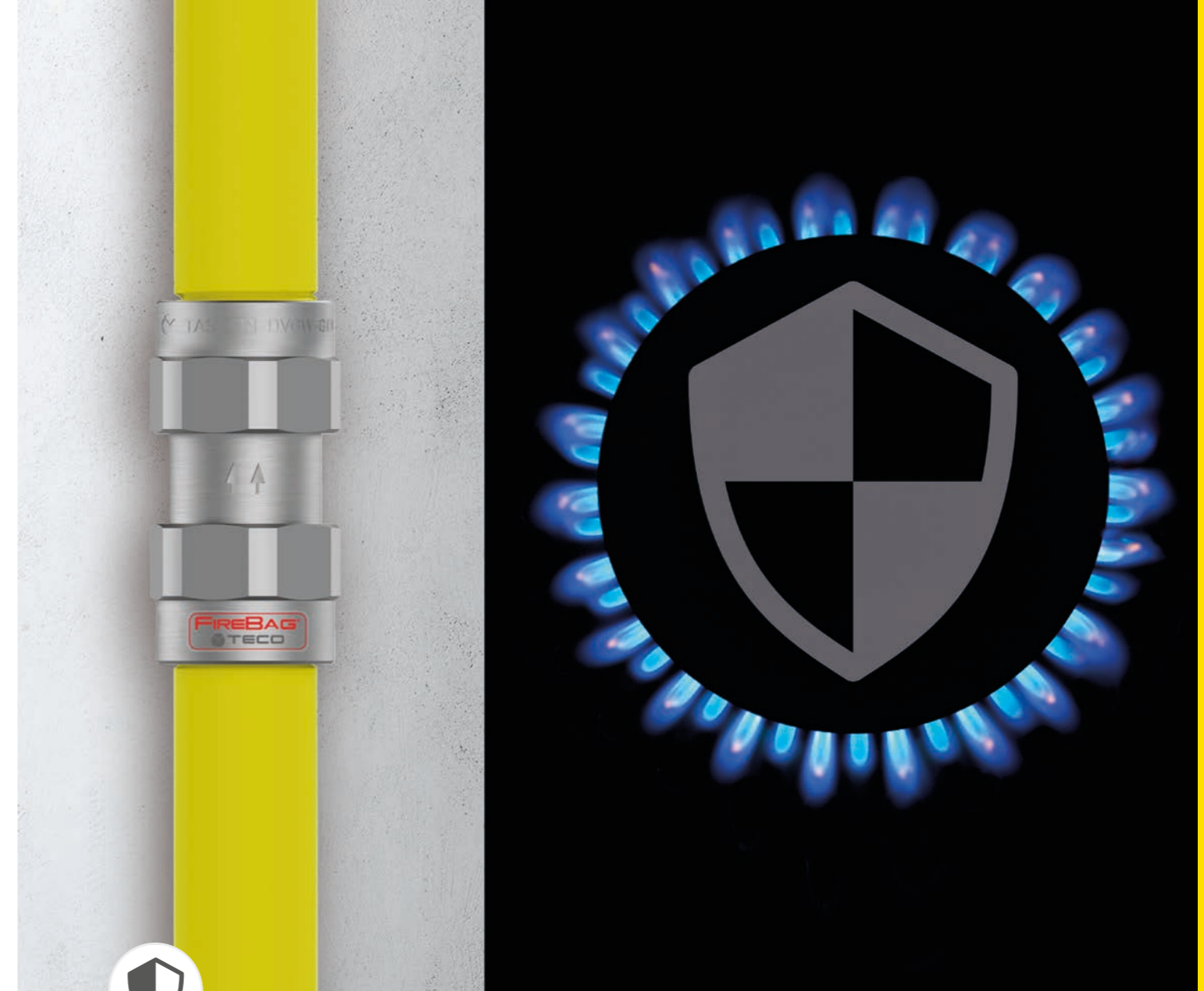
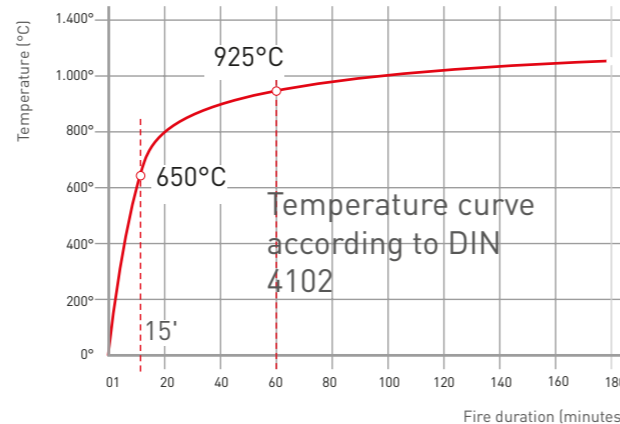
FIREBAG® is composed of an external steel body and an internal thermosensitive device.

When the external temperature reaches 100 °C - 5K, the metal alloy that holds the cut-off to the cartridge melts, and the compression force of the spring pushes the cut-off against the gas flow orifice, closing it completely.



FIREBAG® can withstand a temperature of 925 °C for 60'. Laboratory tests simulating a fire show that the temperature already exceeds 650 °C after 15' (see picture), which is the minimum limit specified in the DIN 3586 standard.

FIREBAG® performance is significantly higher than required by the standard.



## SAFETY

FIREBAG® prevents gas from leaking out of the distribution network in the event of fire, thereby limiting its spread.

Installing FIREBAG® in a gas distribution system raises the safety level because it intervenes even when the cause of the fire is not related to the system itself (passive safety).

Moreover:

- it is maintenance free;
- it does not require the periodic checks needed to ensure correct operation of components with active activation;
- it cannot be disabled by an external action.

It remains functional even while the FIREBAG® is undergoing maintenance.

That is why for over 20 years the German technical regulations (TRGI) prescribe the use of FIREBAG® upstream from the gas appliances.





## RELIABILITY

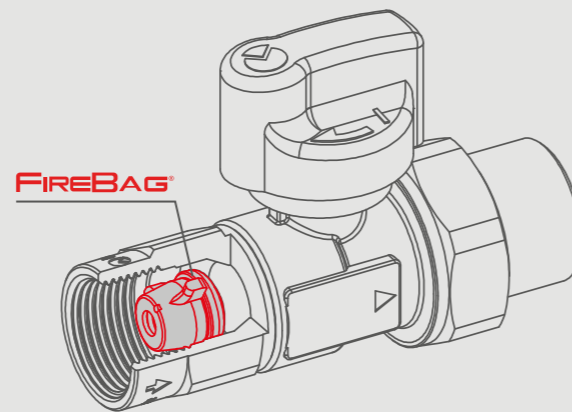
The FIREBAG® safety device must guarantee long-term operational reliability in accordance with the prescribed parameters.

Failure to operate or unwanted closure could create very hazardous critical conditions; for this reason, despite its simple construction, the FIREBAG® undergoes strict checks during the manufacturing process.

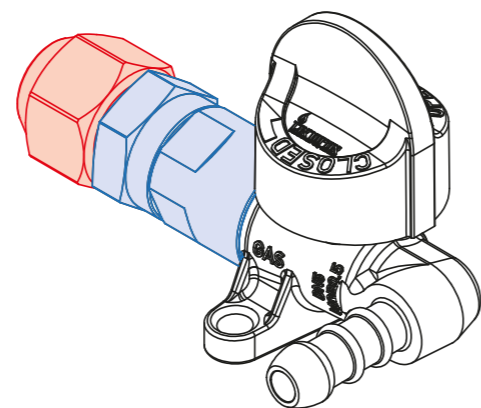


## COMPACT INSTALLATION

FIREBAG® is very compact. For this reason, it is built into most TECO gas valves. In addition to the technical benefits, this gives an economic saving without any additional cost to the installer.



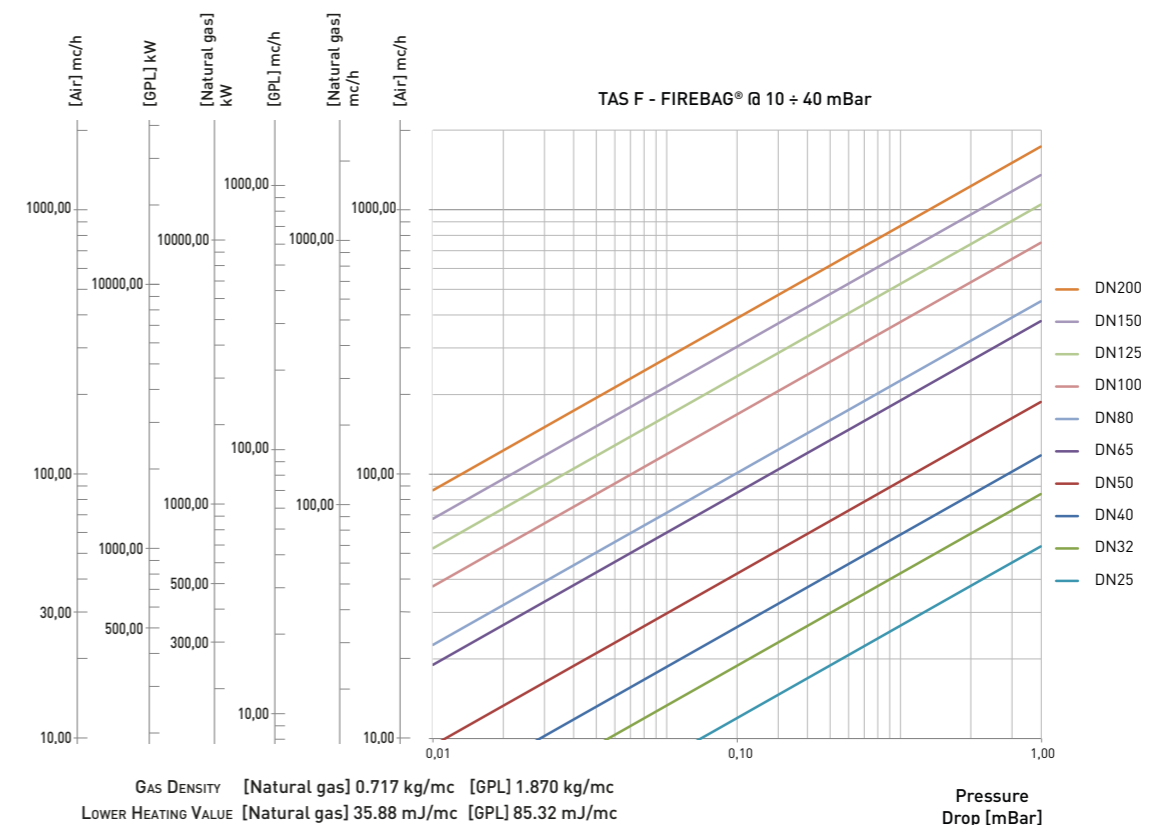
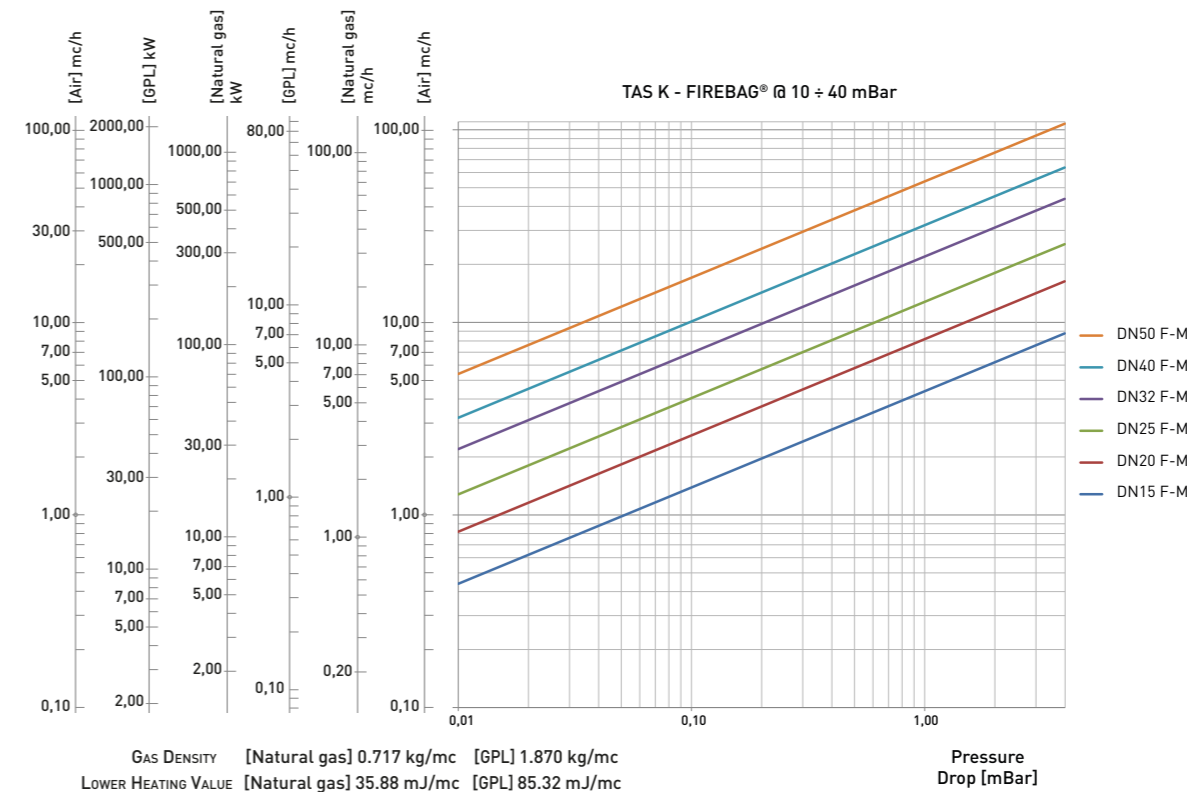
Over the years, numerous "tailor made" versions have joined the catalogue range of products. Our research and development department, TECO R&D, has developed customised constructional or technical features for products, supporting customer requests and the system engineering needs of the market through mutual cooperation.



## CHOOSING THE FIREBAG®

The FIREBAG® must be chosen according to the following parameters:

- According to the working pressure:  
Max. 5 BAR  
Max. 16 BAR for the flanged version with the special assembly KIT
- According to the application:  
Natural Gas  
LPG
- According to the installed power of the individual appliances in kW and the relative pressure drop.



## STANDARDS



In Germany, the reference standards for applying thermally activated devices was issued by the *Muster-Feuerungsverordnung (FeuVo of 02/95 - edition 09/97)*, in which point 4, paragraph 6 specifies that the upstream pipes in points subject to fire outbreak must be equipped with a device:

- that automatically cuts off the flow of gas when the external temperature exceeds 100 °C (DIN 3586 product standard).
- that it withstands a temperature up to 650 °C for at least 30 minutes (permitting gas seepage measured in air of no more than 30 l/h).

The *DVGW-TRGI 05/2008* technical regulation for gas installation and the *DVGW-G 616-617-618* worksheet specify that all gas appliances for environmental heating, water heating and domestic kitchens must have thermal closure device immediately before the appliances, unless the appliances are already autonomously fitted with such devices.



In Europe, the *EN 2007-10* standard on functional recommendations for gas pipes inside buildings, prescribes that the circuit must be designed, built and protected to ensure that the consequences of a fire cannot lead to an explosion or to the fire spreading rapidly.

As an alternative to fire compartmentation in the system, or the need to build it with components that have certified fire resistance, the standard prescribes inserting a manual or automatic shut-off device that can be operated when a fire outbreak is detected.

In addition to having certified fire resistance, **FIREBAG®** can automatically shut off the gas

flow, activating itself without the aid of a flame or temperature detection system.



The Italian *UNI 7129* standard ed. 2015, referring to the *EN 1775* standard, acknowledges the fire prevention and high-temperature resistance criteria of components used in gas distribution systems.



Regarding installation direction on gas appliances, the *EU Regulation 2016/426* contains the following provisions (Annex 1 Essential Requirements):

- §3.1.3 Appliances must be designed and manufactured in such a way as to minimise the risk of explosion in the event of an external fire.
- §3.1.9. All pressurized parts of an appliance must withstand the mechanical and thermal stresses to which they are subjected without any deformation affecting safety.
- §3.1.11. If an appliance is equipped with safety and controlling devices, the functioning of the safety devices must not be overruled by that of the controlling devices .
- §3.2.1. Appliances must be designed and manufactured in such a way that the gas leakage rate is not hazardous.

When built into the gas supply valve, the **FIREBAG®** device contributes to meeting the aforementioned provisions.



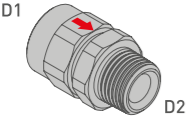
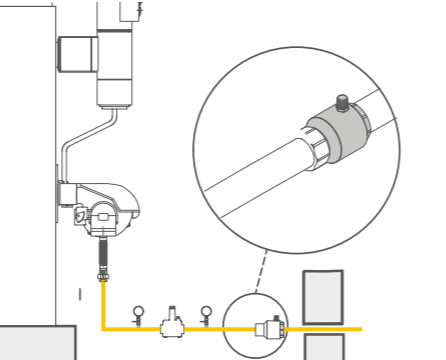
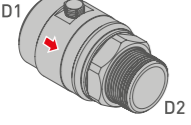
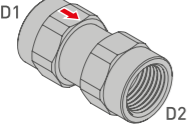
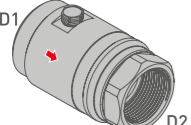
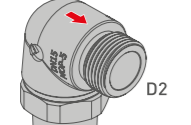
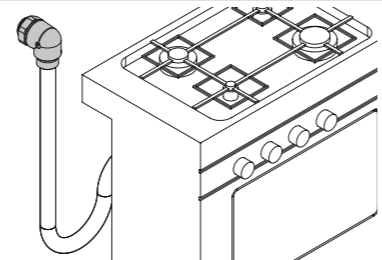
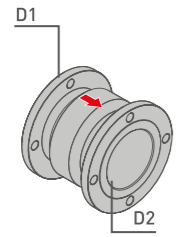
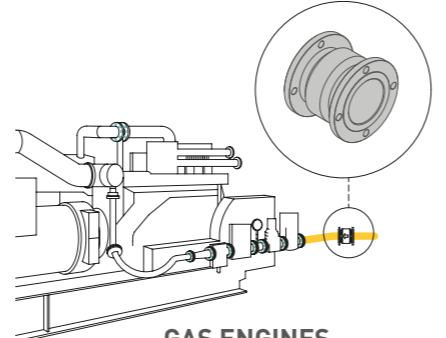
### **BIOGAS FIREBAG®**

Specific versions for use with biogas are available on request (DVGW G262 - 2.1.10)

## LABORATORY TESTS AT HIGH TEMPERATURE



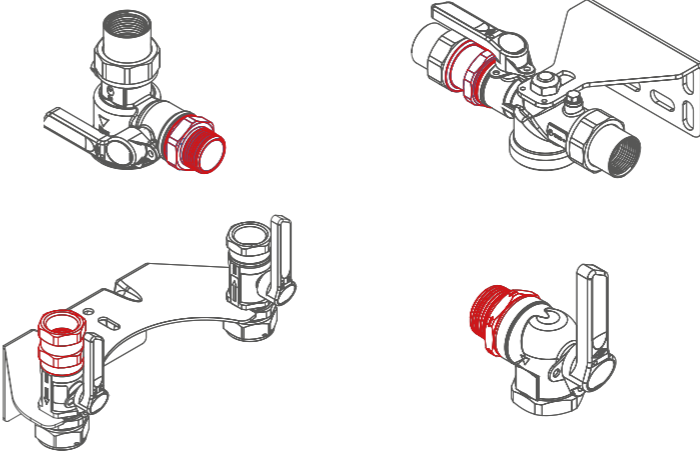
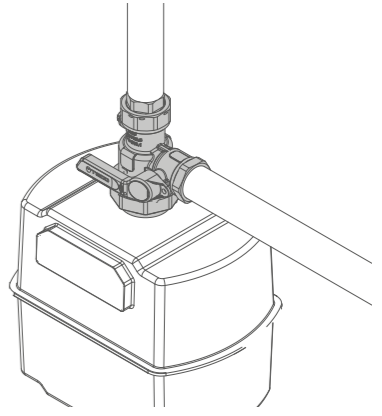
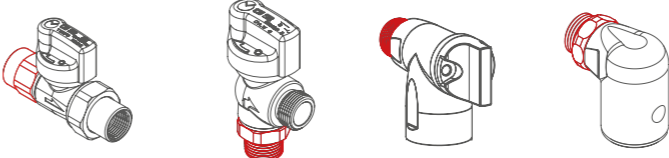
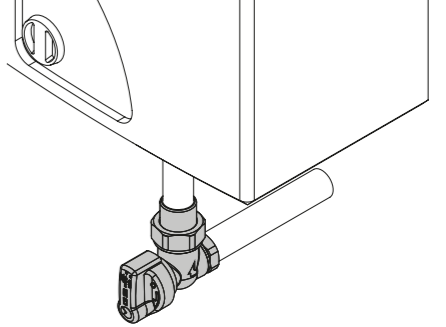
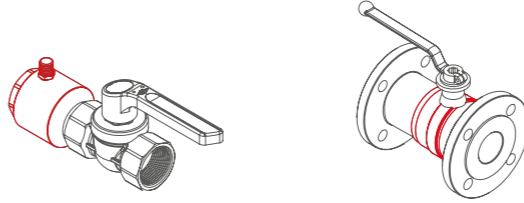
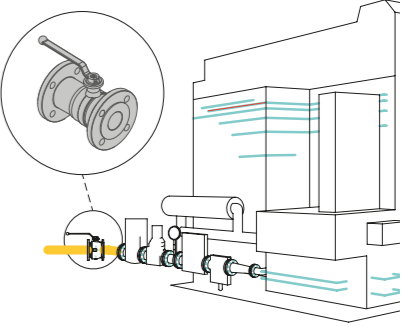


FIREBAG® FITTING				APPLICATION EXAMPLES
<b>FIREBAG® FEMALE/ MALE FITTING</b> DN15 / DN20 / DN 25 	<b>DN</b>	<b>D1</b> EN 10226-1	<b>D2</b> EN 10226-1	<b>HEATING PLANT</b> 
	15	Rp1/2"	R1/2"	
	20	Rp3/4"	R3/4"	
25	Rp1"	R1"		
<b>FIREBAG® FEMALE/ MALE FITTING</b> DN32 / DN40 / DN 50 	<b>DN</b>	<b>D1</b> EN 10226-1	<b>D2</b> EN 10226-1	
	32	Rp1"1/4	R1"1/4	
	40	Rp1"1/2	R1"1/2	
<b>FIREBAG® FEMALE/ FEMALE FITTING</b> DN15 / DN20 / DN 25 	<b>DN</b>	<b>D1</b> EN 10226-1	<b>D2</b> EN 10226-1	
	15	Rp1/2"	Rp1/2"	
	20	Rp3/4"	Rp3/4"	
<b>FIREBAG® FEMALE/ FEMALE FITTING</b> DN32 / DN40 / DN 50 	<b>DN</b>	<b>D1</b> EN 10226-1	<b>D2</b> EN 10226-1	
	32	Rp1"1/4	Rp1"1/4	
	40	Rp1"1/2	Rp1"1/2	
<b>FIREBAG® 90° MALE/ MALE FITTING</b> 	<b>DN</b>	<b>D1</b> EN 10226-1	<b>D2</b> ISO 228-1	
	15	R1/2"	G1/2"	
<b>FIREBAG® FLANGED FITTING</b> 	<b>DN</b>	<b>D1</b> DIN EN 1092-1	<b>D2</b> DIN EN 1092-1	<b>GAS ENGINES</b> 
	25	115	68	
	32	140	80	
	40	150	90	
	50	165	105	
	65	185	125	
	80	200	140	
	100	220	160	
	125	250	190	
	150	285	216	
200	340	271		



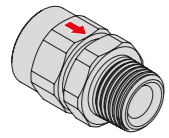
**BIOGAS FIREBAG®**

Specific versions for use with biogas are available on request (DVGW G262 - 2.1.10)

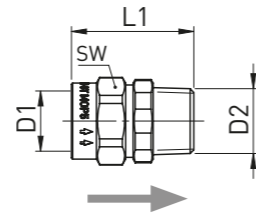
VALVES WITH BUILT-IN FIREBAG® THERMAL DEVICE	APPLICATION EXAMPLES
Valves for gas meters (see page 177) 	
Valves for gas appliances (see page 215) 	
Threaded and flanged valves for gas systems (see page 207) 	<b>INDUSTRIAL FURNACE</b> 

**FIREBAG® THERMALLY ACTIVATED SAFETY DEVICE FOR GAS SYSTEMS**

**FIREBAG® FITTING - FEMALE/MALE THREADED VERSION DN15 / DN20 / DN25**

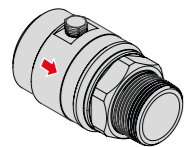


- MOP 5
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 650 °C per 30' (GT5 DIN 3586)

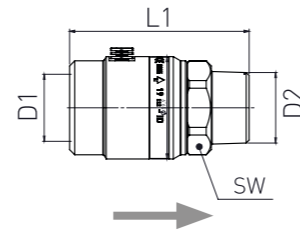


Code	DN	FIREBAG® TAE	D1	D2	L1	SW	Pack
TASK100FM1	15	•	Rp1/2"	R1/2"	46	27	60
TASK200FM1	20	•	Rp3/4"	R3/4"	49	32	50
TASK300FM1	25	•	Rp1"	R1"	56	41	25

**FIREBAG® FITTING - FEMALE/MALE THREADED VERSION DN32 / DN40 / DN50**

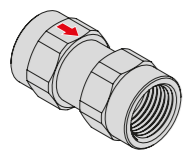


- MOP 5
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 650 °C per 30' (GT5 DIN 3586)

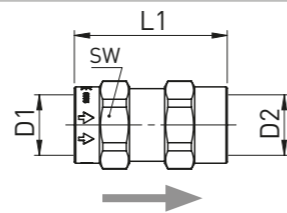


Code	DN	FIREBAG® TAE	D1	D2	L1	SW	Pack
TASK400FM1	32	•	Rp1"1/4	R1"1/4	100	50	6
TASK500FM1	40	•	Rp1"1/2	R1"1/2	100	60	6
TASK600FM1	50	•	Rp2"	R2"	125	70	6

**FIREBAG® FITTING - FEMALE/FEMALE THREADED VERSION DN15 / DN20 / DN25**

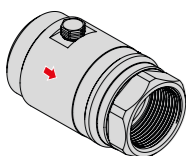


- MOP 5
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 650 °C per 30' (GT5 DIN 3586)

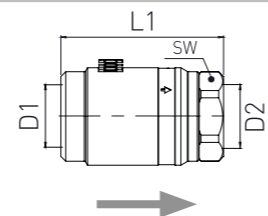


Code	DN	FIREBAG® TAE	D1	D2	L1	SW	Pack
TASK100FF1	15	•	Rp1/2"	Rp1/2"	55	27	60
TASK200FF1	20	•	Rp3/4"	Rp3/4"	61	32	30
TASK300FF1	25	•	Rp1"	Rp1"	69	41	20

**FIREBAG® FITTING - FEMALE/FEMALE THREADED VERSION DN32 / DN40 / DN50**



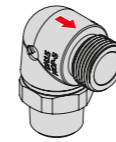
- MOP 5
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 650 °C per 30' (GT5 DIN 3586)



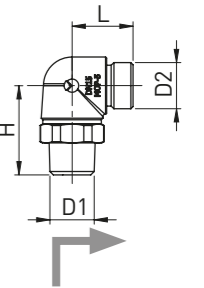
Code	DN	TAE	D1	D2	L1	SW	Pack
TASK400FF1	32	•	Rp1"1/4	Rp1"1/4	100	50	6
TASK500FF1	40	•	Rp1"1/2	Rp1"1/2	100	60	6
TASK600FF1	50	•	Rp2"	Rp2"	118	70	6

**FIREBAG® THERMALLY ACTIVATED SAFETY DEVICE FOR GAS SYSTEMS**

**FIREBAG® FITTING - 90° MALE/MALE THREADED VERSION**

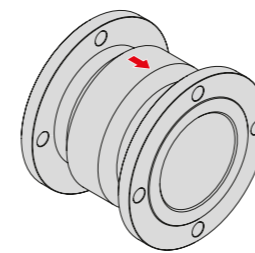


- MOP 5
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 925 °C per 60' (GT5 DIN 3586)



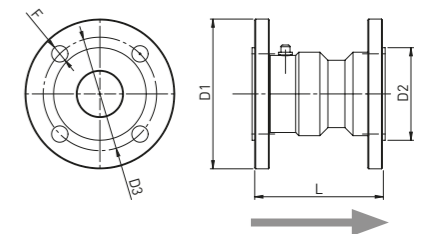
Code	DN	FIREBAG® TAE	D1	D2	L	H	SW	Pack
RT406C00	15	•	R1/2"	G1/2"	40	28	27	10

**FIREBAG® FITTING FLANGED VERSION DIN EN 1092-1**



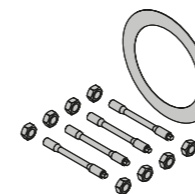
- MOP 16\*
- -20 °C +60 °C
- Trip temp. 100 °C - 5K
- HTB 650 °C per 30' (GT16 DIN EN 13774)

The HTB GT16 650°C seal is only guaranteed for 30' if the MS2 assembly kit is used.

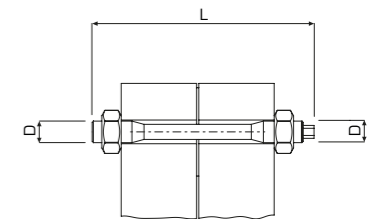


Code	DN	FIREBAG® TAE	D1	D2	D3	F	L	HOLES	Pack
TASF02500	25	•	115	68	85	14	80	4	1
TASF03200	32	•	140	80	100	18	90	4	1
TASF04000	40	•	150	90	110	18	90	4	1
TASF05000	50	•	165	105	125	18	110	4	1
TASF06500	65	•	185	125	145	18	125	4	1
TASF08000	80	•	200	140	160	18	125	8	1
TASF10000	100	•	220	160	180	18	175	8	1
TASF12500	125	•	250	190	210	18	175	8	1
TASF15000	150	•	285	216	240	22	200	8	1
TASF20000	200	•	340	271	295	22	200	12	1

**MS2 FLANGE ASSEMBLY KIT**



- HTB 650 °C per 30' (GT16)



Code	DN
MS2025	25
MS2032	32
MS2040	40
MS2050	50
MS2065	65

Code	DN
MS2080	80
MS2100	100
MS2125	125
MS2150	150