



# DOUBLE BLOCK & BLEED VALVES

DUAL-SAFE SERIES



# DOUBLE BLOCK & BLEED VALVES

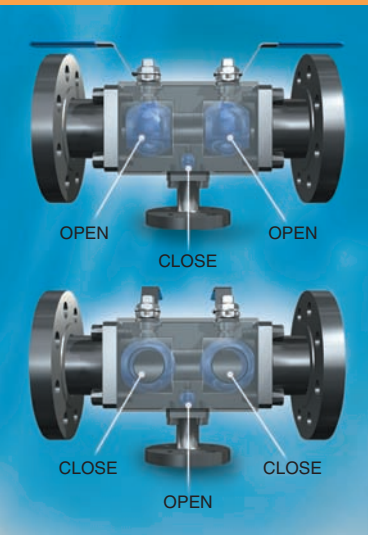
## Technical Summary

<b>Size Range:</b>	½" - 4"
<b>Design:</b>	Single Body Construction (SBC) with reduced number of body seals
<b>Service:</b>	Gas, Steam, Chemicals
<b>Pressure Range:</b>	ANSI Class 150 to 1500
<b>Temperature Range:</b>	-40°F to 480°F (-40°C to 250°C)
<b>Materials:</b>	Carbon Steel, Stainless Steel and Exotic Alloys
<b>End Connection:</b>	Screwed, Socket & Butt weld, Flanged & RTJ
<b>Standards:</b>	Firesafe to API 607 4 <sup>th</sup> Edt. and BS 6755 Pt 2
<b>Operation:</b>	Manual, Actuated and Coupled Actuation



## How Dual-Safe Works

The two main isolation valves are operated by one actuator with a coupled mechanical link system that ensures they rotate together. The bleed valve is actuated separately. This unit presents a simple concept that will assure zero flow to the furnace and maximum operational safety.



## Prevention of explosions in fuel, oil and natural gas furnaces

**Furnace explosions are caused by the ignition of an accumulated combustible mixture within the boiler furnace enclosure.**

- An interruption of the fuel or air supply or ignition energy to the burners, sufficient to result in momentary loss of flames, followed by restoration and delayed reigniting of an accumulation.
- Repeated unsuccessful attempts to light off without appropriate purging can result in an accumulation of an explosive mixture.
- Fuel leakage into an idle furnace and the ignition of the accumulation by a spark or other source of ignition.

Explosions, including "furnace puffs", are the result of improper equipment design, improper procedures by operating personnel or control system malfunctions.

## The Dual-Safe Solution

The Habonim Dual-Safe valve series presents an optimal design solution and guarantees isolation on critical applications and service when an emergency shut-down (ESD) valve is a necessity. The Dual-Safe unit incorporates two main isolation valves and one bleed valve in a single body construction. This special construction offers the lowest possible number of potential leakage points from a process connection and reduces the overall valve envelope size and weight by integrating valves, piping, and fittings into one compact design.

### Standard Operation

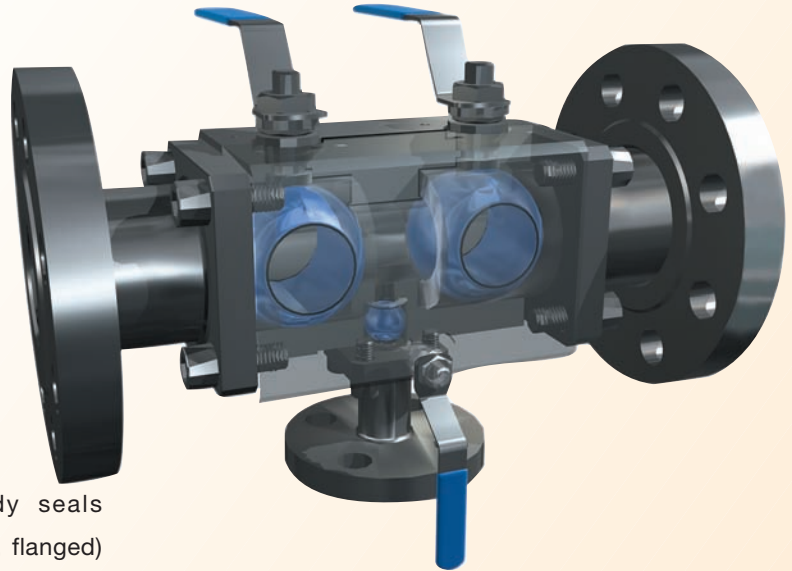
In a standard application, the primary line valves are set to the "fail to close" position, and the bleed valve is set to the "fail to open" position. During normal operation, the primary line valves are open; the bleed valve is closed, and gas flows to the furnace.

### Shutting down

When shutting down the system, the isolation valves are closed, while the bleed valve is switched to its open position. A pipeline connected to the bleed valve releases the trapped pressure between the two isolation valves out into the atmosphere. Any trace of leakage detected between the isolation valves triggers a sensor on the bleed line and sets off an alarm in the control room.

## Dual-Safe Advantages

- Minimizes the risk of furnace explosion
- Increases system reliability
- Saves space and reduces weight
- Reduces installation time
- Streamlines maintenance operations
- Reduces number of items in repair kits
- Rugged construction
- Bubble tight shutoff on all three valves
- Coupled operating mechanism reduces the number of actuators on the main line
- Tongue and groove design for all body seals
- Variety of end connections (welded, screwed, flanged)



## Optional configurations



Dual-Safe Basic version manually operated suitable mainly for sampling system and instrumentation.



In-house package solution that includes: valves and actuators. Assembled, calibrated, and factory tested.



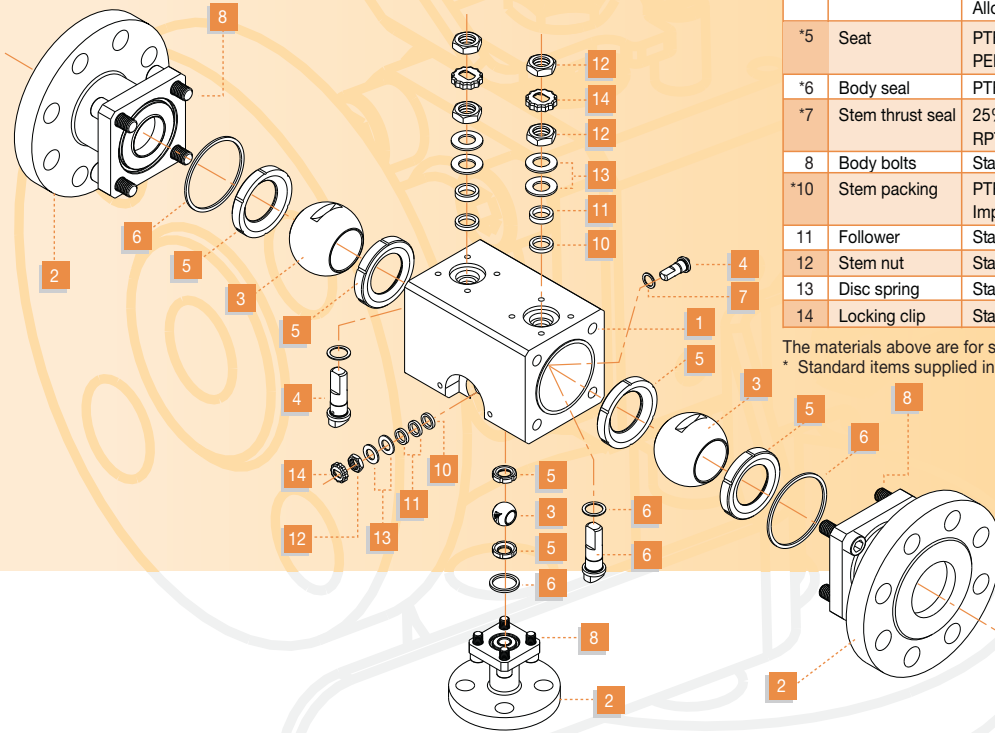
A complete in-house package solution that includes: valves, actuators, and accessories. Assembled, calibrated, and factory tested.

## Standards and Tests

- Fire-tested design in accordance with BS 6755 (part 2) and API 607 (4th edition).
- Designed in accordance with ASME VIII, ANSI B16.34, ANSI B31.3, and API 6D.
- For sour gas service, the material of construction for wet parts complies with NACE MR0175.
- All valves are 100% factory tested hydraulically at 1.5 times full-rated shell pressure and pneumatically seat tested in accordance with API 598, ISO 5208, BS EN 12266 (part 1&2).
- Test certificates, complete with full chemical and physical material certifications, available upon request.
- PED 97/23/EC, Module H
- ATEX Directive 94/9/EC

# DOUBLE BLOCK & BLEED VALVES

The primary valve port matches the pipeline size, while the bleed valve standard is 1/2" (up to 2" valve) and 3/4" (for 3" and 4" valves).



Item	Description	Material specification	Qty.	
			Main line	Bleed
1	Body	Stainless St. AISI 316L, Carbon Steel A105, Carbon Steel	1	-
2	End connector	A350 LF2, Duplex, Alloy C22, Alloy-20, Monel	2	1
3	Ball	Stainless Steel ASTM A276 316, Duplex, Alloy 20, Monel, Alloy C22	2	1
4	Stem	Stainless Steel ASTM A276 316, Stainless Steel 17-4PH Duplex, Alloy-20, Monel, Alloy C22	2	1
*5	Seat	PTFE, RPTFE, TFM, NRG, PEEK, DELRIN	4	2
*6	Body seal	PTFE, Graphite, Impregnated Graphite	2	1
*7	Stem thrust seal	25% Carbon filled PTFE, RPTFE, TFM, PEEK, NYLATRON	2	1
8	Body bolts	Stainless Steel ISO 4014 A2-70	8	4
*10	Stem packing	PTFE, RPTFE, TFM, Graphite or Impregnated Graphite	2	1
11	Follower	Stainless Steel ASTM B783 316L	2	1
12	Stem nut	Stainless Steel ASTM A194 316	4	2
13	Disc spring	Stainless Steel ASTM A693 17-7PH	4	2
14	Locking clip	Stainless Steel ASTM A164 304	2	1

The materials above are for standard applications. Other materials are available. \* Standard items supplied in repair kits.

## How to order The HABONIM DUAL-SAFE VALVE Identification Code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	A	F		4	7	P	-	4	4	6	6	A	I	/	3	0	0		-	D	S	0	5					
Size		Service			Series				Body/End		Ball/Stem		Seat/Seal			End Connection				Special Application									
		Antistatic Firesafe							Carbon steel ASTM A105		Stainless steel 316 ball valves stem		TFM seats Impregnated graphite body seals			Flange designed ANSI body seals				Dual safe design with 1/2" (05) bleed valve									

For the complete ordering code please refer to **BULLETIN P-111**

DELTRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont, KEL-F® is a registered trademark of 3M Company  
 NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, TFM™ is a trademark of Dyneon, PEEK® is a trademark of VICTREX  
 In accordance with our policy to strive for continuous improvement of the product, we reserve the right to alter the dimensions, technical data and information included in this catalogue when required.

Copyright © 2009 HABONIM Ltd. All rights reserved



**HABONIM USA**  
 Toll Free Phone: 1-866-261-8400  
 Toll Free Fax: 1-866-243-9959  
 sales\_usa@habonim.com

**HEADQUARTERS HABONIM ISRAEL**  
 Tel: +972-4-6914911  
 Fax: +972-4-6914902  
 sales\_international@habonim.com

[www.habonim.com](http://www.habonim.com)

CATDBBC-5101 10/09

maAmark  
 INDUSTRIAL VALVES