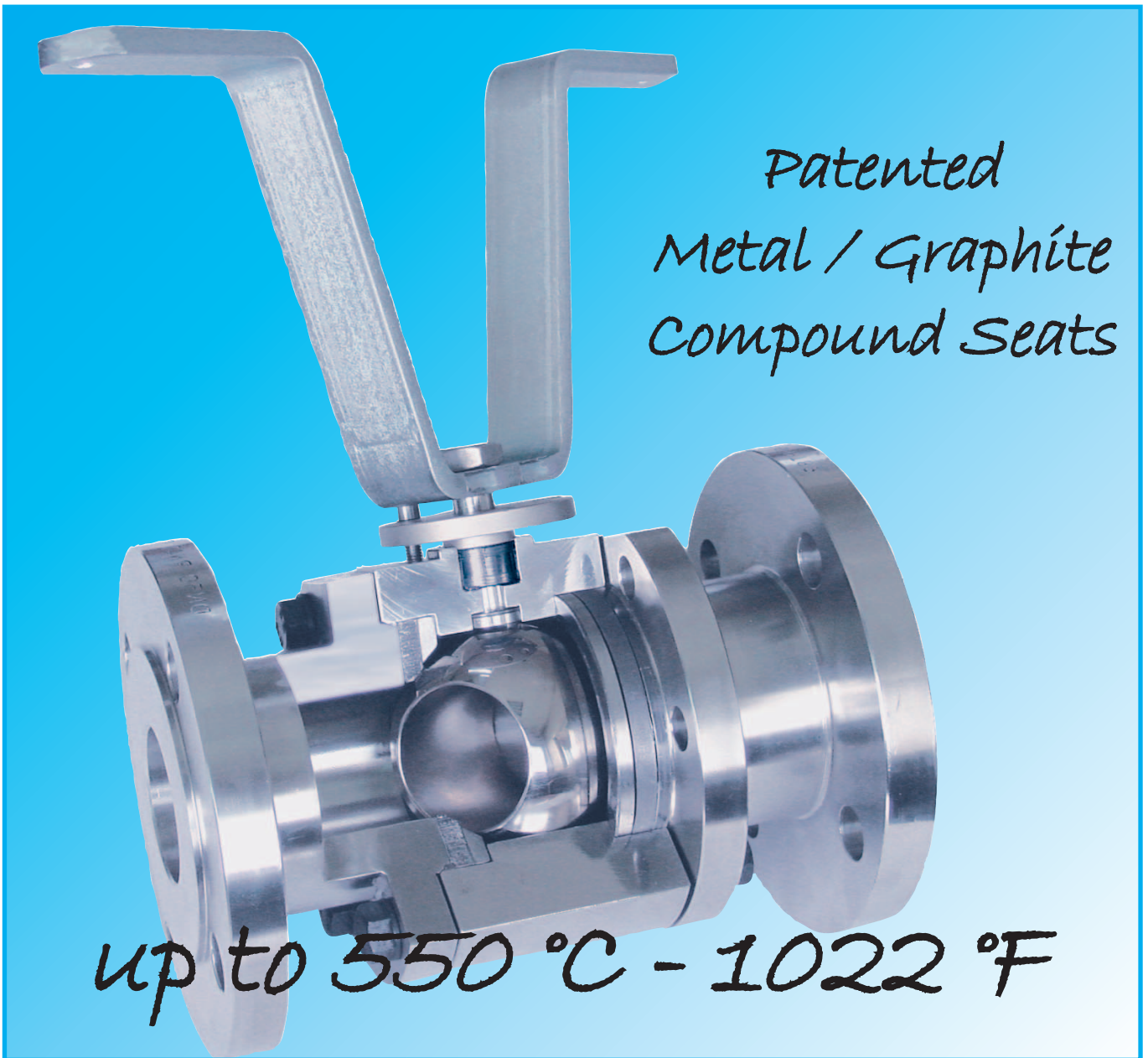




# **BONT<sup>®</sup> HTB Ball Valves**



*Patented  
Metal / Graphite  
Compound Seats*

*up to 550 °C - 1022 °F*

# BONT® Ball Valves - Forged Steel

**Carbon Steel – Stainless Steel**

**Type HT B, for High Temperature**

**Rating DIN 2401 PN 40, PN 63 and PN 100**

**Rating ASME B16.34 Class 300 and 600, full rated**

**Size DN 15 to DN 100 - 1/2" to 4"**

– This Valve is **ONE WAY** Valve. Do ensure that the flow direction is the same showed by the arrow on the body.

– Temperature for continuous service up to 550 °C (1022 °F).

– Size: 1/2" to 4"

– Design Standards: ASME B16-34, B16-5  
B16-11, B16-25  
MSS SP 72, BS 5351  
DIN 2401, DIN 3239

– Fire Safe: API 6FA and BS 6775 certified

– TA LUFT certified

– Split body, three piece

– Floating Ball

– Body Seat: Patented Metal / Graphite Compound

– Packing: Adjustable Graphite Long Life Packing

– Gland: Flanged Type - One Piece bushed

– Stem: Anti blow-out

– Antistatic Device: Design is intrinsically Antistatic

– Torque: Low Torque due to Special Packing, Material and Design

– Every valve can be completed, even if already installed, with an actuator. Valve actuator attachment according to ISO 5211

– Connections:  
– Threaded NPT to ANSI B1.20.1  
– SW to ANSI B16.11  
– BW to ANSI B16.25  
– BW to DIN 3239

– Flanged:  
According to European Standards (UNI, DIN, AFNOR, etc.) PN 40  
Flanges are supplied raised faced to UNI 2229, drilled, Face to face dimension (A) to DIN 3202-F1

According to European Standards (UNI, DIN, AFNOR, etc.) PN 63 and PN 100  
Flanges are supplied raised faced to UNI 2229, drilled, Face to face dimension (A) to DIN 3202-F2

According to American Standard ASME B16.34 Class 300  
Flanges are supplied R.F. drilled to ASME B16.5  
Face to face dimension (A) to ASME B16.10

According to American Standard ASME B16.34 Class 600  
Flanges are supplied R.F. drilled to ASME B16.5  
Face to face dimension (A) to ASME B16.10

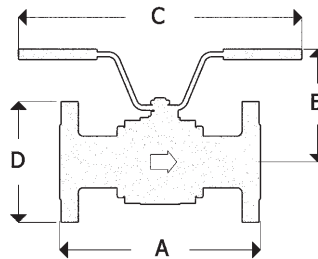


Fig. 941

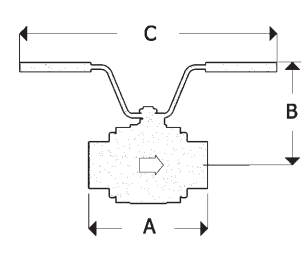


Fig. 942

## BONT® Ball Valves type HTB - Full Bore

DN	Dimension		Threaded or SW or BW		Flanged DIN PN 40			Flanged DIN PN 63			Flanged DIN PN 100			Flanged ASME 300			Flanged ASME 600		
	B	C	A	Weight	A	D	Weight	A	D	Weight	A	D	Weight	A	D	Weight	A	D	Weight
	mm	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg
1/2"	15	110 180	90	2,5	130 95	3,5	210 105	5	210 105	5	140 95	4,3	165 95	4,5					
3/4"	20	140 210	100	3,2	150 105	4,7	230 130	6,7	230 130	6,7	152 117	5,4	191 117	6					
1"	25	164 270	110	5,5	160 115	7	230 140	8,1	230 140	8,1	165 124	7	216 124	7,8					
1.1/4"	30	215 350	140	7,6	180 140	11,6	260 155	14,4	260 155	14,4	178 133	10,5	229 133	11,4					
1.1/2"	40	220 350	150	10,6	200 150	15,5	260 170	20,1	260 170	22,4	191 155	15,0	241 155	17,3					
2"	50	230 350	170	14,7	230 165	22,5	300 180	24,2	300 195	26,5	216 165	21,9	292 165	23,6					
2.1/2"	65	235 500	----	----	290 185	43,7	340 205	47,2	340 220	50,6	241 190	43,7	330 190	46,0					
3"	80	250 500	----	----	310 200	50,0	380 215	53,8	380 230	57,5	283 209	50,0	356 209	52,9					

ASME Class 150 may be supplied on request. Please note that FACE TO FACE (Dimension A) for ASME 150 are as per ASME 300

## BONT® Ball Valves type HTB - Reduced Bore

DN	Dimension		Threaded or SW or BW		Flanged DIN PN 40			Flanged DIN PN 63			Flanged DIN PN 100			Flanged ASME 300			Flanged ASME 600		
	B	C	A	Weight	A	D	Weight	A	D	Weight	A	D	Weight	A	D	Weight	A	D	Weight
	mm	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg	mm	mm	kg
3/4"	20	110 180	90	2,9	150 105	3,9	230 130	5,3	230 130	5,3	152 117	4,6	191 117	4,8					
1"	25	140 210	100	4	160 115	5,5	230 140	7,5	230 140	7,5	165 124	5,8	216 124	6,6					
1.1/4"	32	164 270	110	6	180 140	7,5	260 155	8,8	260 155	8,8	178 133	8,5	229 133	9,5					
1.1/2"	40	215 350	140	8,1	200 150	12	260 170	14,5	260 170	14,5	191 155	11,5	241 155	13,5					
2"	50	220 350	150	11,2	230 165	16	300 180	20,7	300 195	23,0	216 165	17,3	292 165	19,6					
2.1/2"	65	230 350	----	----	290 185	24	340 205	25,9	340 220	28,8	241 190	25,3	330 190	27,6					
3"	80	235 500	----	----	310 200	45	380 215	48,9	380 230	52,3	283 209	47,2	356 209	50,6					
4"	100	250 500	----	----	350 235	52	430 250	55,8	430 265	59,8	305 254	54,1	432 273	57,5					

ASME Class 150 may be supplied on request. Please note that FACE TO FACE (Dimension A) for ASME 150 are as per ASME 300

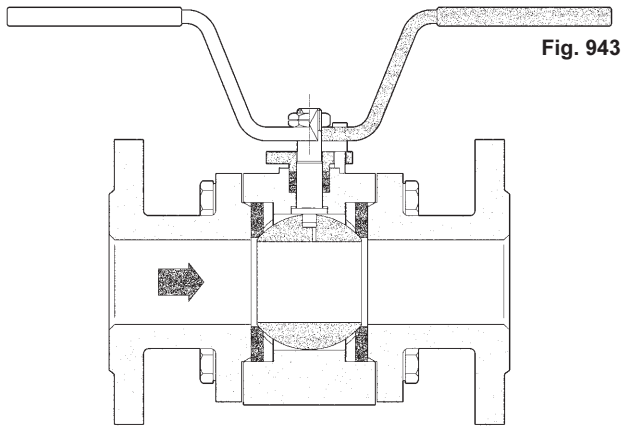


Fig. 943

**BONT® HTB Ball valve is a valve for high temperature. The primary innovation of this valve resides in the original seat design. It is not the usual metal seat but an original semi-soft seat.** The main characteristics of HTB are the following:

- suitable for any kind of fluid compatible with graphite. Particularly suitable for application on water/steam even with high pressure drop.
- Nearly indefinite bubble tight seat tightness throughout the full range of operations.
- High resistance to erosion.
- Very effective in the handling of abrasive containing fluid and any dirty media. The alternating metal-graphite layers of the seat sweep the ball surface cleaning it during every open-close operation.
- Packing characteristics avoids any measurable fugitive emission in the environment.
- Maintenance Free. However if, for any reason, maintenance is ever required, the seat replacement is simple and inexpensive thanks to the low cost of the seat rings and their ability to auto-adapt to the ball. Thus eliminating the need to replace the complete ball and seat assembly as it is normally done in metal seated ball valves.

**- FIRE TEST** - Certificate No. MLN9901225/1-2.  
It is important to remark that the breakaway torque difference before and after fire test is negligible.

**- TA LUFT TEST** - Certificate No. 86T409.  
To be remarked:  
- No need of packing retightening during tests, although allowed.  
- Checked leakages of some order of magnitude inferior to the admitted ones.  
- **Test has been performed at temperature of 427 °C (800 °F)**, limit imposed by the valve body material.  
Tests at temperature of 550 °C with different body material have been made, with satisfactory results.

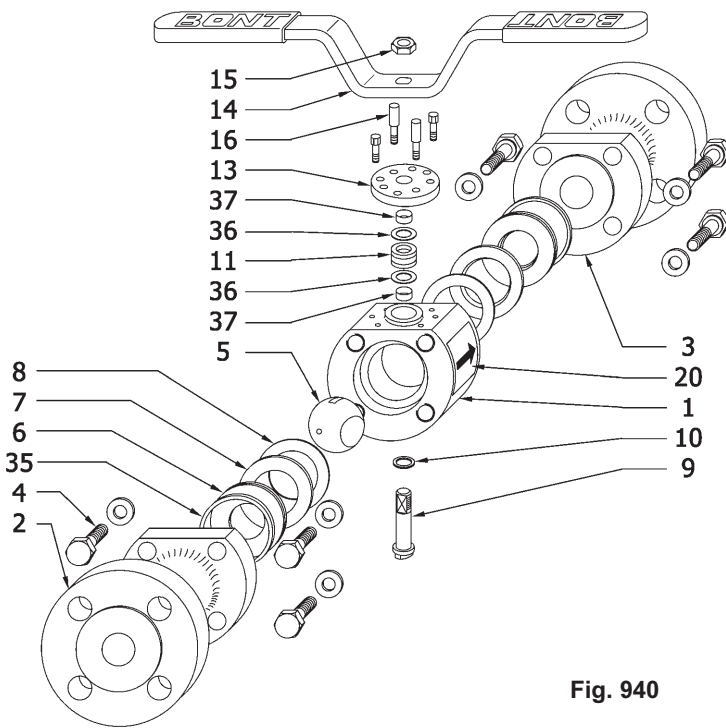


Fig. 940

Material Schedule	Material used for	
	Body and End connections	Ball and stem
52	ASTM A105	ASTM A182 F316 + S.H.
63	ASTM A182 F316	ASTM A182 F316 + S.H.

Item	Part	Item	Part
1	Body	11	Packing
2	End Connection Inlet	13	Gland Flange
3	End Connection Outlet	14	Handle
4	Bolt	15	Handle Nut
5	Ball	16	Gland Bolt and Stop Pin
6	Seat	20	Name Plate
7	Cushion Plate	35	Autoseal Ring ★
8	Cushion Joint	36	Spacer Ring ●
9	Stem	37	Stem Ring ●
10	Bottom Stem Joint		

★ only: on Full Bore  $\geq$  DN 32 and  $\geq$  1/4"  
on Reduced Bore  $\geq$  DN 40 and  $\geq$  1.1/2"  
● only: on Full Bore  $\geq$  DN 20 and  $\geq$  3/4"  
on Reduced Bore  $\geq$  DN 25 and  $\geq$  1"

**RATING for the Materials mentioned in this Bulletin**

Max operating TEMPERATURE to DIN	Max. Operating PRESSURE to DIN 2401					
	Class PN 40 Mater. Sched. 52	Class PN 40 Mater. Sched. 63	Class PN 63 Mater. Sched. 52	Class PN 63 Mater. Sched. 63	Class PN 100 Mater. Sched. 52	Class PN 100 Mater. Sched. 63
	bar	bar	bar	bar	bar	bar
- 10 ÷ 20	40	40	63	63	100	100
120	40	40	63	63	100	100
200	35	35	50	50	80	80
250	32	32	45	45	70	70
300	28	28	40	40	60	60
350	24	24	36	36	56	56
400	21	21	32	32	50	50
425	-	-	-	-	-	-
450	-	-	-	-	-	-
500	-	-	-	-	-	-
550	-	-	-	-	-	-

Max operating TEMPERATURE to ASME and API	Max. Operating PRESSURE to ASME					
	Class 150 Mater. Sched. 52	Class 150 Mater. Sched. 63	Class 300 Mater. Sched. 52	Class 300 Mater. Sched. 63	Class 600 Mater. Sched. 52	Class 600 Mater. Sched. 63
	bar	bar	bar	bar		
- 29 ÷ 38	19.6	19.0	51.1	49.6	102.1	99.3
100	17.7	16.2	46.4	42.2	92.8	84.5
200	14.0	13.7	43.8	35.7	90.5	71.2
250	12.1	12.1	41.7	33.4	83.4	66.7
300	10.2	10.2	38.7	31.6	77.5	63.1
350	8.4	8.4	37.0	30.4	73.9	63.1
400	6.5	6.5	34.5	29.3	69.0	58.9
425	5.6	5.6	28.8	29.0	57.5	58.3
450	4.7	4.6	20.0	29.0	40.1	57.7
500	2.8	2.8	8.8	27.3	17.6	54.8
550	-	1.6	-	23.8	-	47.8

## Attachment to Bracket for Actuator according to ISO 5211

Valve DN		Flange ISO 5211	Ød2 f8	Ød3	Ød4 x e	h	A	B	C	D
Full Bore	Red. Bore									
1/2"	3/4"	F03	25	36	M5X6.5	2	Ø9.8	6	4.5	10.5
3/4"	1"	F03	25	36	M5x8	3	M12	7.4	10	23.0
1"	1 1/4"	F04	30	42	M5x8	3	M12	7.4	14.5	30.5
1 1/4"	1 1/2"	F05	35	50	M6x8	3	M14	8.8	16	35
1 1/2"	2"	F05	35	50	M6x8	3	M14	8.8	16	35
2"	2 1/2"	F05	35	50	M6x8	3	M14	8.8	16	35
2 1/2"	3"	F07	55	70	M8x8	3	M24	18	27	61
3"	4"	F07	55	70	M8x8	3	M24	18	27	61

Relevant Break-away Torque will be communicated on request, based on the process condition.

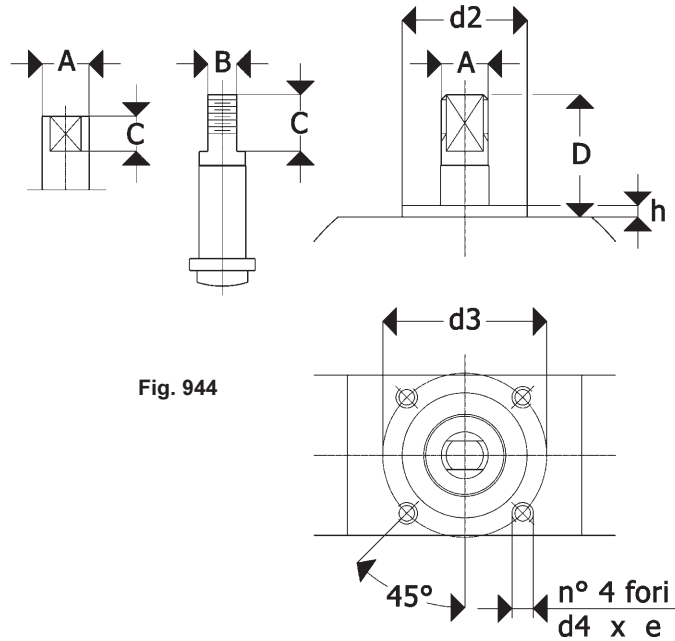


Fig. 944

## Option for insulating service

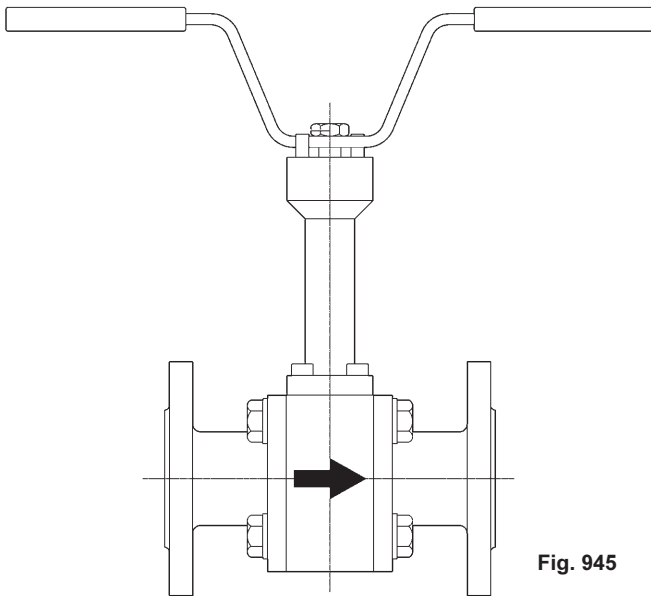


Fig. 945

This catalogue is exclusive property of Cesare Bonetti S.p.A. Any unauthorized reproduction, in total or in part, of this catalogue shall be prosecuted. Products and data sheets on this catalogue reflect current standard production. Cesare Bonetti S.p.A. reserves the right to carry out amendments to products and materials. Amendments or modifications to drawings and materials can be done also to comply with particular Customer's request or technical specifications.



# CESARE BONETTI S.p.A.

**I-20024 GARBAGNATE MILANESE (Italy)**  
Via Cesare Bonetti 17  
Telefono: +3902 990721  
Telefax: +3902 9952483  
Internet web site: <http://www.cesare-bonetti.it>  
E-mail: [bont.post@bont.it](mailto:bont.post@bont.it)

Vendite Italia: Telefono: 0299 072 333  
Telefax: 0299 072 300  
E-mail: [italia@bont.it](mailto:italia@bont.it)  
Export sales: Telephone: +3902 99 072 444  
Telefax: +3902 99 072 400  
E-mail: [export@bont.it](mailto:export@bont.it)

**Bonetti Armaturen Vertriebs GmbH**  
D-65549 Limburg an der Lanh (Germany)  
In den Fritzenstücker, 4

Sales Office Telephone: +49 06431 72041  
Telefax: +49 06431 72066  
E-mail: [bonetti-germany@t.online.de](mailto:bonetti-germany@t.online.de)

**Bonetti Australia Pty Ltd**  
715 Esplanade (P.O. Box 2041)  
MORNINGTON - Victoria - 3931 - Australia

Sales Office Phone & Fax: +61 3 5977 1966  
Mobile: +61 0412 318880  
E-mail: [dtsbont@hotmail.net.au](mailto:dtsbont@hotmail.net.au)