

**Fire tested one piece ball valve.
Designated to international and European standards.**

These products have been designed, manufactured and tested under the supervision of an ISO 9001-2000 certified Quality Assurance system complying with:

- module H (categories I, II and III) of annex 3 of European Directive 97/23/EC concerning pressure equipment,
- module H (categories 1, 2) of European Directive 1999/36/EC concerning transportable pressure equipment;

and ensuring the products meet the safety and health essential requirements for the design and manufacturing of equipment intended for use in potentially explosive atmospheres according to the ATEX Directive 94/9/EC.

Features

- One piece ball valve which offers Gachot quality for servicing of utilities.
- Fire tested to BS 6755 (1/4" to 2") and to ELF RG. TUYF02 (1/4" to 1 1/2").
- Stainless steel valve to BS5351 class 800.
- Body material:
 - forged stainless steel
 - forged carbon steel.
- Identical internal parts for all versions.
- Guided blow out proof stem.
- Fully adjustable packing gland.
- Antistatic device to ISO 7121 and BS-5351.
- Can be equipped with pneumatic or electric actuators, double or single acting
- Mounting kits are available.
- Integral ISO top plate for DN 32 to 50.
- Standard DIN 50049-3.1.B certificate available.
- Tightness to ISO 5208: Cat.A, bubble tight.
- Options:
 - operating extension
 - cryogenic extension
 - handwheel
 - locking device (open/close)
 - special design for venting valve
 - welded-on ISO top plate for DN 8 to DN 25.



Applications

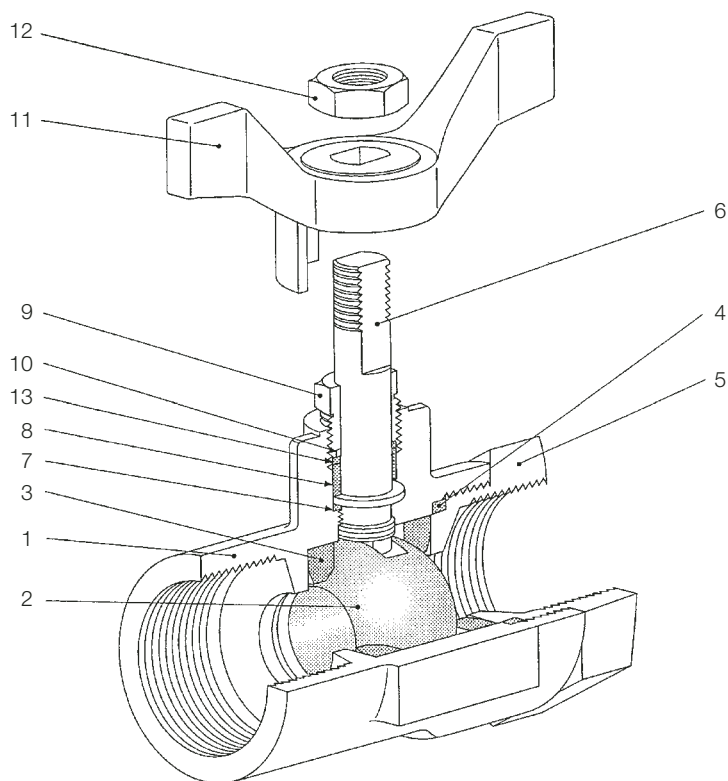
- Process and utilities services, sampling and gauge valve, for all chemical and petrochemical fluids, whenever fire safe feature is requested.
- V9 is particularly appreciated by the instrument departments.
- Stainless steel: all corrosive chemical products (acids, alkaline, solvents).
- Carbon steel: steam, hot or cold water, compressed air and steam.

Technical data

Sizes (mm)	: 8 - 50
Temperature (°C)	: -50 to +225
Pressure (bar)	: PN100
Body materials	: forged SS, CS
Connections	: threaded ends BSPP and NPT.
	Upon request:
	- pipe extensions with butt weld or socket weld ends.
	- other connections such as BSPP Male.

Ball Valve Type V9

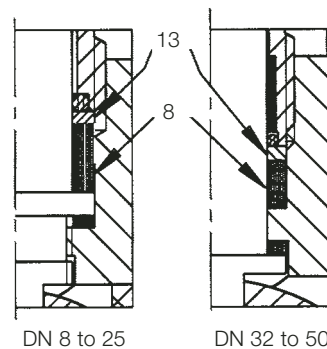
materials fire tested version



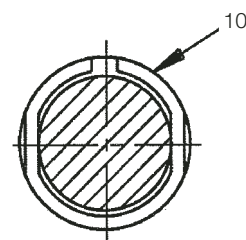
Parts list

Item	Qty	Description	Material	
			Stainless steel	Carbon steel
1	1	Body (forging)	ASTM A 182-F 316L	ASTM A 105
2	1	Ball DN 8 to 25	AISI 316L	AISI 316L
		DN 32 to 50	AISI 316L	AISI 410
3	2	Seat	TFE	TFE
4	1	Body seal	Graphite	Graphite
5	1	Body end DN 8 to 25	AISI 316L	ASTM A 105 Gr. 2
	2	DN 32 to 50	AISI 316 L	ASTM A 105 Gr. 2
6	1	Stem	AISI 316L	AISI 316L
7	1	Friction washer DN 8 to 25	AISI 316L	AISI 316L
		DN 32 to 50	Graphite	Graphite
8	1	Gland Packing	Graphite	Graphite
9	1	Gland DN 8 to 25	AISI 316L	AISI 316L
		DN 32 to 50	AISI 316L	Carbon steel
10	1	Antistatic spring	AISI 316	AISI 316
11	1	Lever (or handwheel)	ASTM A47 Gr 32510	ASTM A47 Gr. 32510
12	1	Handwheel nut	AISI 304	AISI 304
13	1	Metalic washer	AISI 316L	AISI 316L
14	1	Gland ring	TFE	TFE
15	1	Stop screw DN 32 to 50	AISI 304	AISI 304
16	1	ISO top plate DN 8 to 25	AISI 316 L	ASTM A 306 Gr. 55

Packing and anti blow-out stem

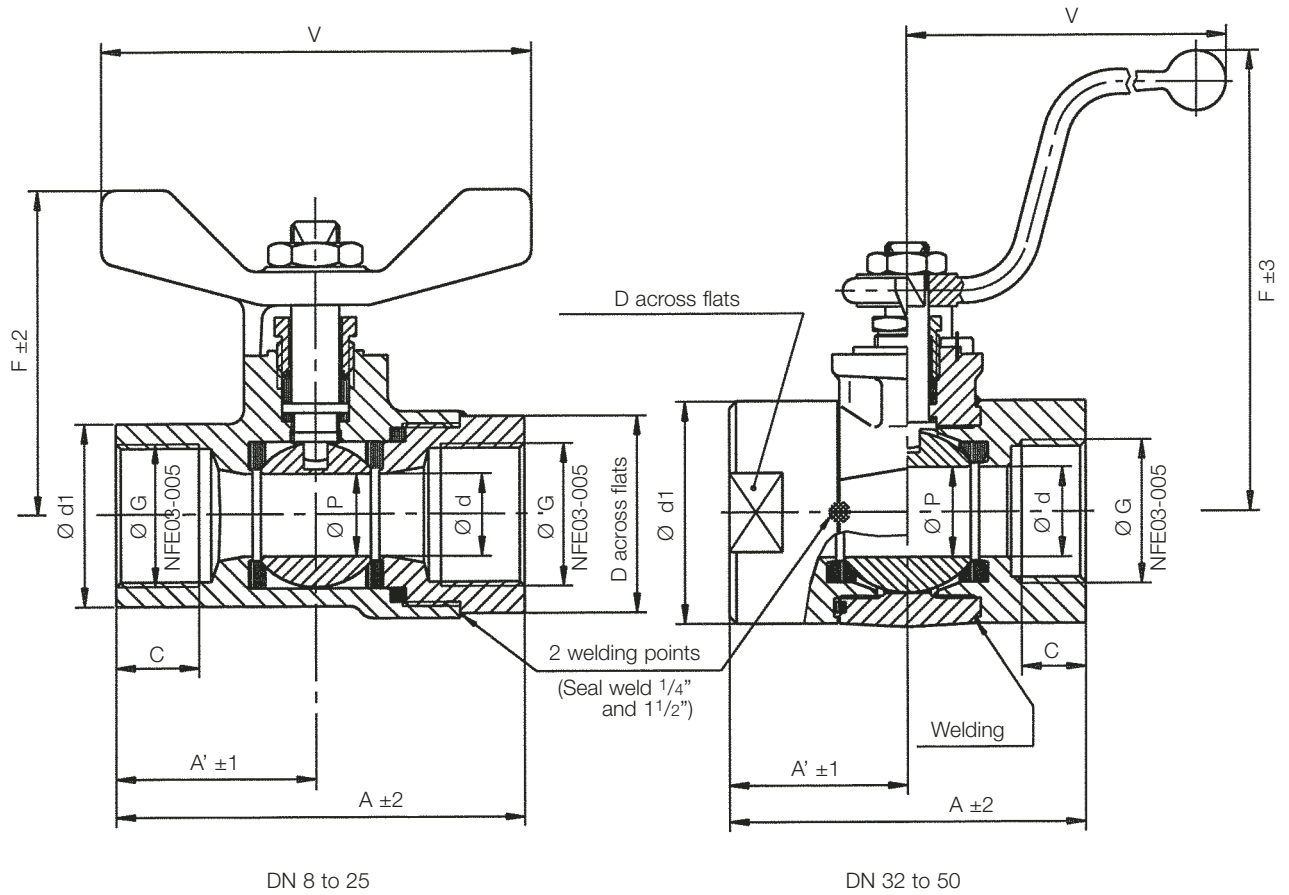


Antistatic device to BS 5351



Ball Valve Type V9

dimensions fire tested version

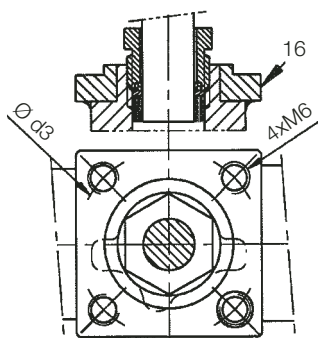


Valve dimensions (mm)

DN	ISO Top plate	P	A	A'	D	F	d	d3	V	BSPP		NPT		d1		Weight kg
										G	C	G	C	St. steel	C. steel	
08	F03*	11	65	32	27	64	11	36	90	1/4"	11	1/4"	10.5	29	29	0.47
12	F03*	11	65	32	27	64	11	36	90	3/8"	11.5	3/8"	10.5	29	29	0.45
15	F03*	11	65	32	27	64	11	36	90	1/2"	15	1/2"	13.5	29	29	0.42
20	F03*	14	70	35.5	35	66	14	36	90	3/4"	16.5	3/4"	14	31	31	0.58
25	F03*	17	85	42	41	68	17	36	90	1"	19	1"	17.5	38	38	0.68
32	F04	25	100	50	58	127	25	42	210	1 1/4"	18	1 1/4"	18	62	62	2.8
40	F05	30	110	55	60	132	30	50	210	1 1/2"	18.5	1 1/2"	18.5	68	70	3
50	F05	40	125	62.5	75	140	40	50	260	2"	19.5	2"	19	83	86	5

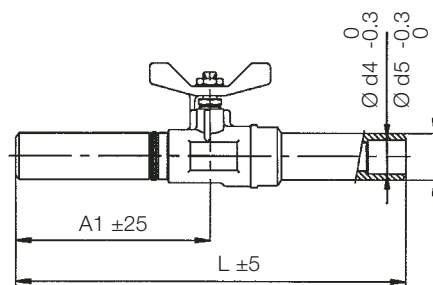
* Welded-on ISO top plate

Welded-on ISO top plate option



DN 8 to DN 25

Pipe extension with BW ends



Dimensions

DN	L	A1	d4	d5
15*	269	132	13.9	21.3
20*	274	136.5	18.8	26.7
25*	287	142	24.3	33.4
40*	315	157.5	38.1	48.3
50**	317	158.5	52.5	60.3

* Butt welding ends Sch. 80S

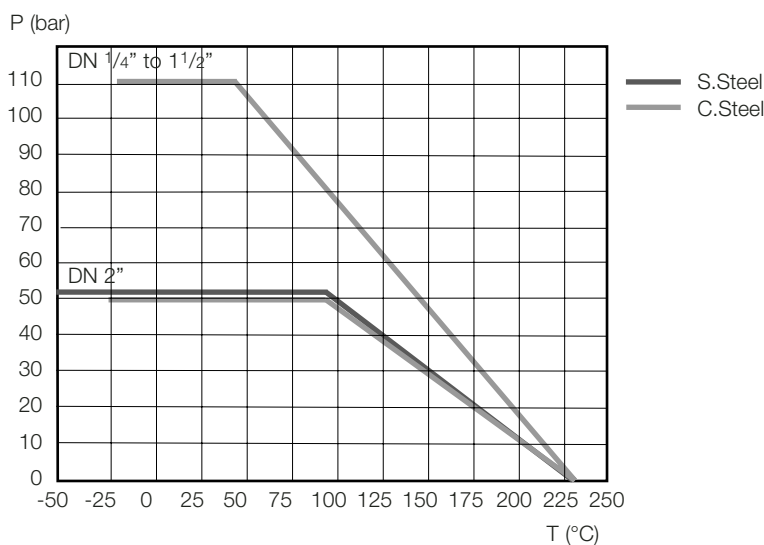
** Butt welding ends Sch. 40S

Other dimensions upon request.

Ball Valve Type V9

actuator selection fire safe version

Pressure - temperature rating



Torque values (Nm)

DN	ΔP				
	7	16	20	25	50
10	-	-	-	-	-
15	10	12	13	15	18
20	11	13	15	17	22
25	12	14	16	19	25
32	14	17	18	22	27
40	20	25	28	32	35
50	35	40	43	45	60

Flow coefficient Cv/Kv

Flow coefficient (to NFE 29-312)

DN	1/4-1/2"	3/4"	1	1 1/4"	1 1/2"	2"
Cv	9	15	23	52	81	166
Kv	7.7	13	20	45	70	143

Testing

- 100% of our valves are standard tested according to the Gachot quality assurance manual: acceptance criteria according to: NFE-29311 - ISO 5208 - DIN 3230.
- Hydrostatic shell test: 1.5x pressure rating (ambient temperature). No visible leakage.
- Air seat test: pressure 6 bar air, (air in the valve body). No bubbles accepted.

Actuation and control

Actuation

- Pneumatic double acting and single acting actuators.
- Electric actuators.
- Electric actuators for special applications.

Control

- Various control devices (spool valves, limit switch box).
- Pneumatic, electro-pneumatic and intelligent positioners.

Selection of pneumatic actuators series 79/D for standard seats

DN	Air supply (bar)	Double Acting Actuator ΔP (bar)				Single Acting Actuator ΔP (bar)			
		7	16	25	50	7	16	25	50
Application I									
10	4	003	003	003	003	006S-2.7	006S-2.7	006S-2.7	012S-2.7
	6	003	003	003	003	003S-5.5	003S-3.4	006S-3.4	006S-5.5
	8	003	003	003	003	003S-5.5	003S-5.5	003S-6.9	006S-5.5
15	4	003	003	003	003	006S-2.7	006S-2.7	006S-2.7	012S-2.7
	6	003	003	003	003	003S-5.5	003S-5.5	006S-3.4	006S-5.5
	8	003	003	003	003	003S-5.5	003S-5.5	003S-6.9	006S-5.5
20	4	003	003	003	006	006S-2.7	006S-2.7	012S-2.7	012S-2.7
	6	003	003	003	003	003S-5.5	003S-5.5	006S-5.5	006S-5.5
	8	003	003	003	003	003S-5.5	003S-5.5	006S-5.5	006S-5.5
25	4	003	003	003	006	006S-2.7	006S-2.7	012S-2.7	012S-3.4
	6	003	003	003	003	003S-5.5	006S-3.4	006S-5.5	012S-3.4
	8	003	003	003	003	003S-5.5	003S-6.9	006S-5.5	006S-6.9
32	4	003	003	006	006	012S-2.7	012S-2.7	012S-3.4	024S-2.7
	6	003	003	003	003	006S-3.4	006S-5.5	006S-5.5	012S-4.1
	8	003	003	003	003	006S-3.4	006S-5.5	006S-5.5	012S-4.1
40	4	006	006	006	012	012S-3.4	012S-2.7	024S-2.7	024S-2.7
	6	003	003	006	006	006S-5.5	012S-2.7	012S-4.1	012S-5.5
	8	003	003	003	006	006S-5.5	006S-6.9	012S-4.1	012S-5.5
50	4	006	012	012	012	024S-2.7	024S-2.7	024S-3.4	036S-3.4
	6	006	006	006	012	012S-5.5	012S-5.5	024S-3.4	024S-4.1
	8	003	006	006	006	012S-5.5	012S-5.5	012S-6.9	024S-4.1

Notes

Application I: Water and low viscosity liquids, temperature 20°C to 120°C standard service.