



## PRODUCT FEATURES

- GS -C25, Steel mono-block body and flange.
- Stainless steel sphere.
- 25% Carbon PTFE sphere sealing ring and stem ring.
- Additional sealing quality is achieved by mounting the stem internally, supported by PTFE and viton O-ring system.
- Valve mounting dimensions conform to DIN 3202 F1 + F4
- Flanges according to ISO 7005-1
- Longer Service life.
- Actuator flange dimensions conform to: ISO 5211

## APPLICATIONS

Natural gas, steam, cold, hot and pressurized hot water systems, any fluid without acidity or alkalinity.

## OPERATING TEMPERATURE

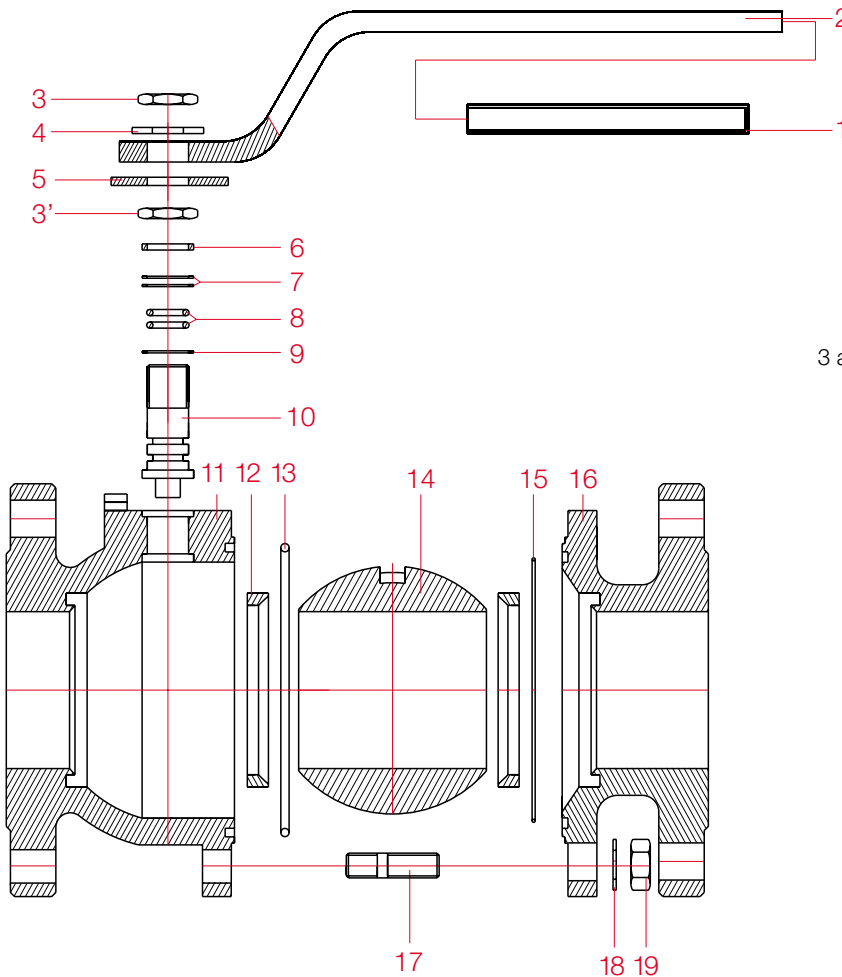
Max +200°C 392°F



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# PN 40 FLANGED BALL VALVE (FAF 1500)

## TECHNICAL DRAWING AND MATERIALS



### ITEMS AND MATERIALS

1. Handle coat / Plastic
2. Handle / St 37 steel
- 3 and 3' Nut / EN ISO 4035
4. Washer/ Steel
5. Rivet / Steel
6. Compression Ring / Steel
7. PTFE Ring / PTFE
8. O-Ring / Viton
9. PTFE Ring / PTFE
10. Stem / Stainless steel SAE-304
11. Mono-block Flange / GS-C 25 Steel
12. PTFE Ring / 25% Carbon PTFE
13. O-Ring / Viton
14. Sphere / Stainless steel SAE-304 or DIN 1-4086
15. Sealing Ring / PTFE
16. Flange / GS-C 25 Steel
17. Stud / Steel
18. Washer / DIN 127
19. Nut / DIN 934

### MATERIAL PROPERTIES

MATERIAL TYPE	MATERIAL PROPERTY
GG 25 Cast Iron	Tensile strength = 250-350 N/mm <sup>2</sup> Hardness = Max. 250 Brinell (BHN)
GGG 40 Ductile Iron	Tensile strength = 400-550 N/mm <sup>2</sup> Hardness = 135 - 185 Brinell (BHN)
GS-C 25 Steel Iron	C = 0.18 - 0.23 Si = 0.30 - 0.50 Mn = 0.50 - 0.80 Cr Max. = 0.30 S Max. = 0.050 P Max. = 0.050
Stainless Steel DIN 1-4086	C = 0.9 - 1.3 Si Max = 2 Mn Max. = 1 Cr = 27 - 30
Stainless Steel SAE-304	C max = 0.08 Si Max. = 1 Mn Max. = 2 Cr = 18-20 Ni = 8 - 10.5
Stainless Steel SAE-316	C max = 0.08 Si Max. = 1 Mn Max. = 2 Cr = 16-18 Ni = 10 - 14
PTFE	Density = 2.13-2.23 gr/cm <sup>3</sup> Tensile strength = 250-300 kg/cm <sup>2</sup> Operating Temperature = -85°C / +200°C 392° F
PTFE (25 % Carbon)	Density = 2.1-2.2 gr/cm <sup>3</sup> Tensile strength = 165-170 kg/cm <sup>2</sup>
Graphitic Ring	Graphite purity = %98 Density = min. 1.6 gr/cm <sup>3</sup>
St 37	C = <= 0.2 P Max. = 0.06 S Max. = 0.05 Tensile strength = 360-440 N/mm <sup>2</sup>
St 50	C = 0.30 P Max. = 0.06 S Max. = 0.06 Tensile strength = 490 N/mm <sup>2</sup>

### BOLT DIMENSIONS

DN	BOLT		NUT QUANTITY	TIGHTENING TORQUE (Kgm)	WRENCH OPENING (mm)
	DIMENSIONS	QUANTITY			
25	M 12 X 50	4 x 2	4 x 2	7	18
32	M 16 X 55	4 x 2	4 x 2	16	24
40	M 16 X 55	4 x 2	4 x 2	16	24
50	M 16 X 55	4 x 2	4 x 2	16	24
65	M 16 X 60	8 x 2	8 x 2	16	24
80	M 16 X 65	8 x 2	8 x 2	16	24
100	M 20 X 70	8 x 2	8 x 2	22.5	30
125	M 24 X 75	8 x 2	8 x 2	38	36
150	M 24 X 80	8 x 2	8 x 2	38	36

Note: Dimensions according to standard flanges

# PN 40 FLANGED 2 - PIECE BALL VALVE MAINTENANCE INSTRUCTIONS

Follow the instructions below to perform maintenance and cleaning of PN 40 Flanged Ball Valves.

## DISMOUNTING :

- Make sure that there is no fluid supply on the line where the valve is detached.
- Unscrewing the connection bolts and nuts in opposite pairs detach the valve from the line.
- PN 40 Steel ball valves consist of flange (16) and mono-block flange (11). Unscrewing the nuts (19) on the flange side remove the nuts and the washers (18) than remove the flange.
- Turn the handle (2) to closed position; Remove the sphere (14) from the mono-block body by slightly pulling it.
- Unscrew the nut (3) on the handle. Remove the washer (4), handle (2), limiting flange (5), compression ring (3'), PTFE Rings (7) from the stem, respectively. To remove the stem (10) press on it to drop inside mono-block body (11).
- Remove sealing ring (15) and viton O-ring (13) from the flange and mono-block body.
- Remove viton O-Rings (8) on the stem

## INSPECTION AND CLEANING:

- Replace the sphere if excessive scratches and nicks are noted. If lime stains are observed on the sphere, clean the sphere in water with wet sandpaper (400). While maintenance processes, avoid damaging the sphere processed in 0.01 mm sensitive CNC machines.
- If any crack, tear or cut observed on PTFE rings (12) or if the Belleville spring and rings are deformed, request a new packing set from our company.
- You may request a new sealing ring (15) from our company or you may have 1,5 mm Klingirit gasket material cut according to the gasket seat.
- PTFE ring and viton O-Rings on the stem, viton O-ring on mono-block body must be replaced with new ones.
- Epoxy coultar priming coat is applied on the inner surfaces of the body and the flanges, however, if there exists oxidations, these regions must be cleaned and repainted with similar coatings. (Do not paint the stem hole and the flange-packing set compression surface).
- Inspect stud threads and nuts. Replace deformed or rusty parts.
- Clean all materials carefully and proceed to mounting.

## MOUNTING:

- Place PTFE Ring and viton O-Rings of the stem. Lightly grease the surfaces of the O-Rings. Mount the PTFE ring the mono-block body as its surface will face the sphere. Mount the stem through body cavity without damaging O-Rings.
- On the upper side, mount the PTFE Ring, compression ring and the nut, respectively.. Place limiting flange, handle, washer and the nut and tighten the nut to finish the mounting of the stem.
- Turn the handle to close position, place the sphere inside the body as the canal on the sphere will be parallel to the stem key. Check if the sphere can freely move forward, back, up and down inside the body cavity
- Mount the PTFE ring on the flange as the ring will face the sphere. Mount the viton O-ring to the mono-block body and mount the sealing ring to the flange. Position the mounted mono-block body facing the flange, place washers, nuts and tighten the nuts in opposite pairs to eliminate the gaps.

**Note: It is highly recommended to open and close our valves once in 15 days for a longer service life after installation.**

PRESSURE / TEMPERATURE RATINGS FOR CAST STEEL (GS-C 25)

Pressure ISO PN	Material Group	TEMPERATURE °C					
		0 to 120	150	200	250	300	350
		Maximum operating pressure (bar)					
10	3E0	10	9,8	9,5	9	8	7
16	3E0	16	15,7	15,2	14,4	12,8	11,2
25	3E0	25	24,5	23,8	22,5	20	17,5
40	3E0	40	39,2	38	36	32	28

PRESSURE / TEMPERATURE RATINGS FOR CAST IRON (GG 25)

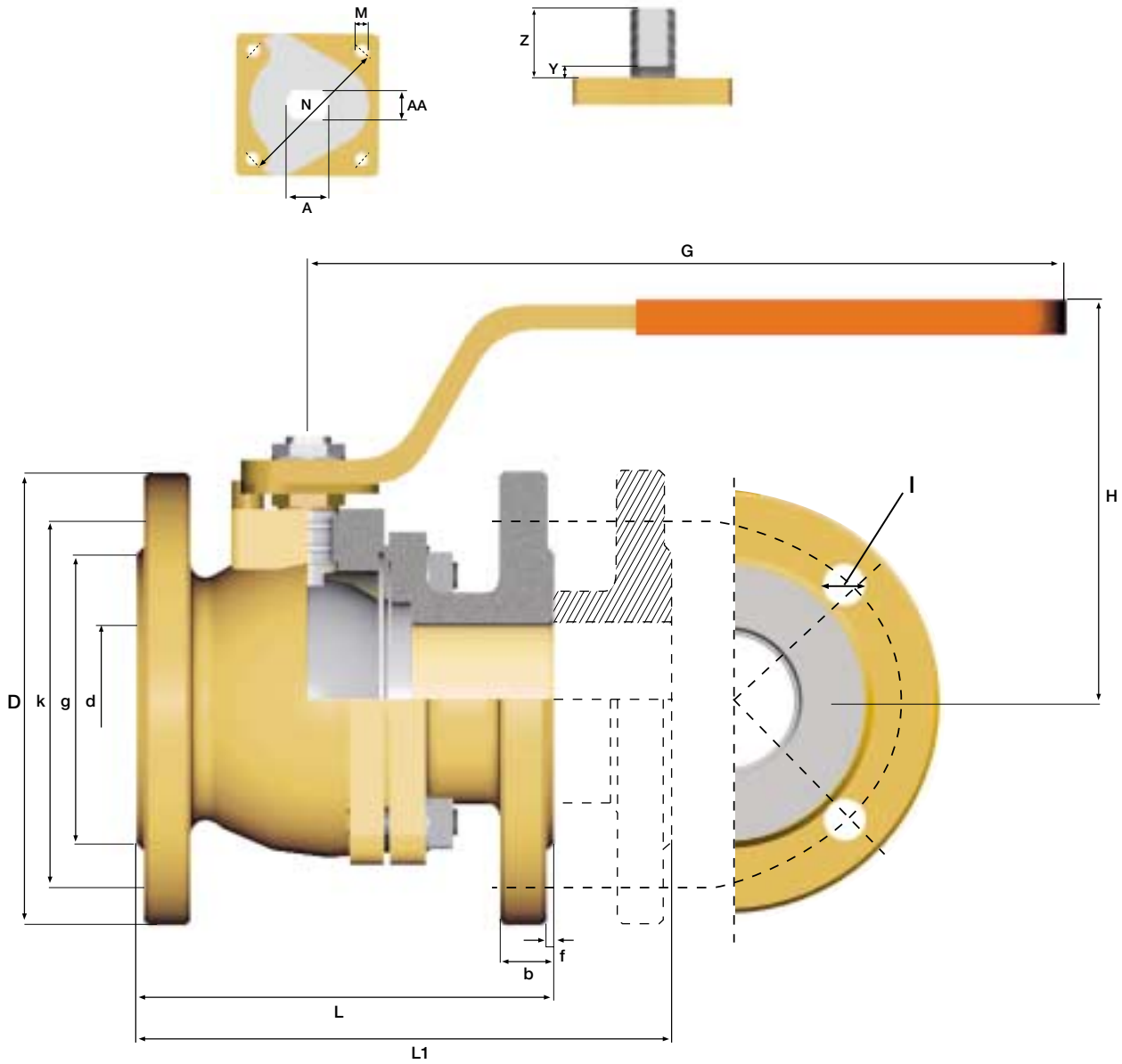
Pressure ISO PN	TEMPERATURE °C					
	-10 to 120	150	200	250	300	350
	Maximum operating pressure (bar)					
10	10	9,5	9	8	7	5,5
16	16	15,2	14,4	12,8	11,2	8,8
20	15,5	14,8	13,9	12,1	10,2	8,6
25	25	23,8	22,5	20	17,5	13,8
40	40	38	36	32	28	22
50	40,2	39	36	35	33	31

PRESSURE / TEMPERATURE RATINGS FOR DUCTILE IRON (GGG 40)

Pressure ISO PN	TEMPERATURE °C						
	-10 to 40	120	150	200	250	300	350
	Maximum operating pressure (bar)						
10	10	10	9,7	9,2	8,7	8	7
16	16	16	15,5	14,7	13,9	12,8	11,2
20	17,5	15,5	14,8	13,9	12,1	10,2	8,6
25	25	25	24,3	23	21,8	20	17,5
40	40	40	38,8	36,8	34,8	32	28
50	44	40,2	39	36	35	33	31

# PN 40 FLANGED BALL VALVE (FAF 1500)

## DIMENSIONS AND PRODUCT DATA



### FAF 1500

### PN 40 FLANGED 2 - PIECE BALL VALVE

DN	DIMENSIONS			FLANGE ACC. TO										PRODUCT DATA							
	DIN 3202 F4	DIN 3202		ISO 7005 - 1						ISO 5211		Stem Dimensions		KV m <sup>3</sup> /h	Torque Nm	Weight Kg					
Ømm	L	L1	H	G	d	g	k	D	I	b	f	Number of Holes	M				N	A	AA	Y	Z
40	140	200	135	300	38	84	110	150	18	18	2	4	M6	F05	16	10	4	24	190	24	10.99
50	150	230	145	300	47	99	125	165	18	20	2	4	M6	F05	16	10	4	24	310	30	12.81
65	170	290	155	300	62	118	145	185	18	22	2	8	M8	F07	20	14	3	27	600	60	15.85
80	180	310	175	300	76	132	160	200	18	24	2	8	M8	F07	20	14	3	27	950	90	22.75
100	190	350	220	500	95	156	190	235	22	24	2	8	M8	F07	28	20	6	41	1630	150	39.54