



Batch Plant Service, LLC

P.O. Box 701787
 San Antonio, TX 78270
 (210) 262-9509

www.BPSTX.com
 info@bpstx.com

**Maintenance/Seal replacement Instructions for
 3-piece ball valve marked GEFA
 DN 8 – DN 100 full bore
 DN 15 – DN 150 reduced bore**

Maintenance

- This ball valve is maintenance-free.
- Should a leakage occur at the gland packing, re-tighten the gland nut (12).
Note: Do not over tighten the gland nut. Normally the leakage can be stopped by simply turning the gland nut CW by approx. 30° to 60°. [Remove security cap (28) and set wrench at 12 o'clock pos. and turn till 1 or 2 o'clock pos., place security cap back.]
 Needed tools: 17mm (11/16") deep socket and ratchet and a 14mm (9/16") wood dowel if necessary, to prevent ball movement.

Replacing seats and seals

- Needed tools: Two 13mm (1/2") wrenches, torque wrench 20-200 in-lbs. with 13mm socket, one approx. 2" brass wheel brush and one brass end brush 1" to use with a drill, a small adjustable wrench, safety goggles.
- Check that the pipeline is depressurized and empty.
- Remove handle or actuator (if used) and set ball valve in open position.
- Unscrew all 4 nuts (19), remove 3 bolts (18), swivel the center body (1) out to release remaining fluid and remove the last bolt (18).
- Use adjustable wrench and close ball valve, remove both seats (5) and the ball (3).
- Remove body seals (17) **Attention: Do not damage body seal groove.**
- Remove security cap (28), unscrew stem nut (12), remove two disc spring washers (11), one flat washer (26), one gland/bushing (10).
- Remove thrust washer (9) and stem packing (6) by pushing the stem into the body (1).
- Remove primary seal (8) and second thrust washer (7) from stem.
- Clean both valve pipe connector (2) surfaces with the brass wheel brush and remove all rust and debris.
- Clean body seal grooves with the brass wheel brush, and the body inside with the 1" brass end brush. Clean the packing area between the actuator mounting flanges with the 1" brass end brush.
- Clean and check the ball for marks and small grooves (common with well water use), and replace ball if necessary.
- Clean stem, the 4 hexagon bolts and nuts with brass wheel brush.
- Clean all seal seat areas, if necessary use a small brass stick (brass is softer and will not make any scratch marks), the 3 washers and the gland/bushing.

Assembly

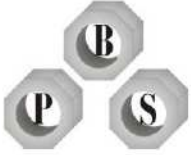
- Push at first the thicker thrust washer (7) [PTFE-carbon = 1mm thick and black] and then the primary seal (8) onto the stem (4).
- Push stem (4) from the inside back into the body (1), then push the stem packing (6) [3 PTFE-glass seals = white] from the outside onto the stem (4).
- Now push the thinner thrust washer (9) [PTFE-carbon = 0.5mm thick and black], the gland/bushing (10), the washer (26) and the 2 disc spring washers (11) – set like this (), onto the stem (4) and screw the stem nut back on (hand tighten).
- Use a torque wrench with the proper settings for your ball valve size and tighten the stem nut (15). Use a small wrench and hold the stem to prevent spinning if necessary.
- Mount body (1) with 1 hexagon bolt (18) between both valve pipe connectors (2) and loosely secure the nut (19). Now place the ball into the body (1) [open position] and push both seats (5) [PTFE-carbon = black] back in place, then set the body seals (17) [PTFE-glass = white] into the body seal grooves and swivel the body (1) back between the valve pipe connectors (2).
- Mount the remaining 3 hexagon bolts (18) with nuts (19) back in place, use a small drop of "I thread locker – medium" and tighten the nut according to the torque specs.
- Open and close ball for test run. Then mount security cap back, use a drop of "Thread Locker – medium" to hold the cap in place.
- **Caution: The rotating ball causes severe injury, never use your finger to hold the ball in position. Always use a wood or plastic dowel to prevent damage to the balls opening edge.**

Torque data for body screws

DN	8/10	15	20	25	32	40	50	65
Nm	7	15	15	15	35	35	60	80
in-lbs	62	132	132	132	310	310	531	708

Torque data for stem nut

DN	8/10	15	20	25	32	40	50	65
Nm	10	14	14	14	18	18	25	7
in-lbs	88	124	124	124	160	160	221	62

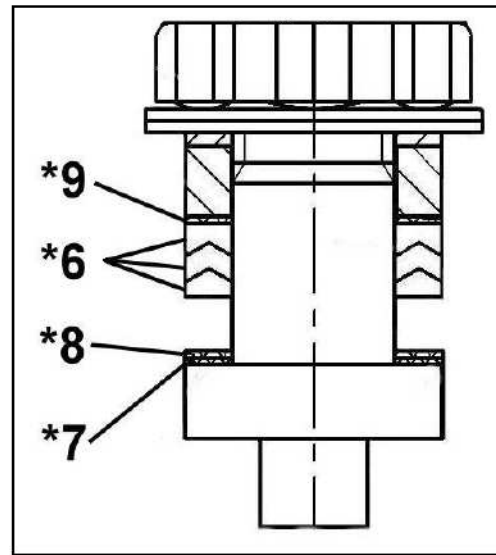
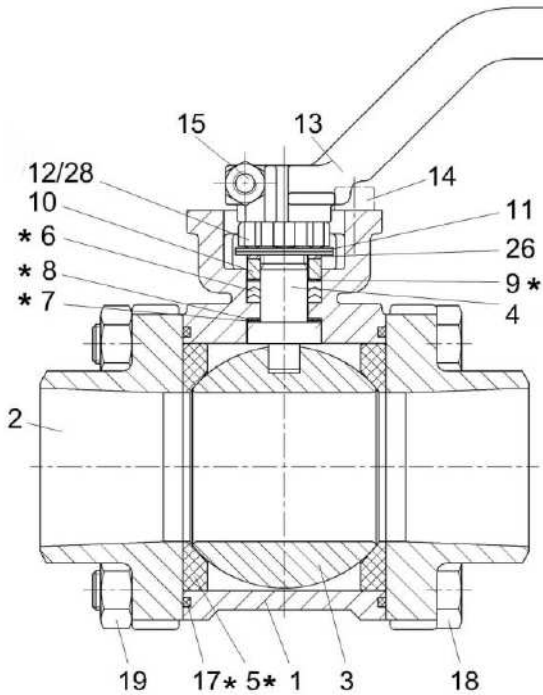


Batch Plant Service, LLC

P.O. Box 701787
 San Antonio, TX 78270
 (210) 262-9509

www.BPSTX.com
 info@bpstx.com

Maintenance/Seal replacement Instructions for
 3-piece ball valve marked GEFA
 DN 8 – DN 100 full bore
 DN 15 – DN 150 reduced bore



Pos. no.	Description	Size	Amount	Material
1	Body with mounting plate	Mounting DIN 3337 / ISO 5211	1	Stainless steel AISI – 316 DIN 1.4408
2	Valve pipe connectors	½" BSPP DIN2999 / ISO 228/1-G	2	Stainless steel AISI – 316 DIN 1.4408
3 ^{*2)}	Ball		1	Stainless steel AISI – 316 DIN 1.4401
4	Stem		1	Stainless steel AISI – 316 DIN 1.4401
5 ^{*1)*2)}	Seat		2	PTFE – carbon (color = black)
6 ^{*1)*2)}	Stem packing		3	PTFE – glass (color = white)
7 ^{*1)*2)}	Thrust washer	Thick = 1mm	1	PTFE – carbon (color = black)
8 ^{*1)*2)}	Primary seal		1	PTFE – glass (color = white)
9 ^{*1)*2)}	Thrust washer	Thin = 0.5mm	1	PTFE – carbon (color = black)
10	Gland / bushing		1	Stainless steel AISI – 304 DIN 1.4301
11	Disc spring washer	M10 DIN 2093A	2	Stainless steel AISI – 301 DIN 1.4310
12	Hexagon thin nut	M10 x 1.5 DIN 439	1	Stainless steel AISI – 304 A2 - 70
13	Hand lever		1	Stainless steel AISI – 304 DIN 1.4308
14	Hex-socket head screw with nut	M5 x 10 DIN 912 + M5 DIN 934	1+1	Stainless steel AISI – 304 A2 - 70
15	Hexagon thin nut	M10 x 1.5 DIN 439	1	Stainless steel AISI – 304 A2 - 70
17 ^{*1)*2)}	Body seal		2	PTFE – glass (color = white)
18	Hexagon bolt	M8 x 1.25 x 55 DIN 931	4	Stainless steel AISI – 304 A2 - 70
19	Hexagon nut	M8 DIN 934	4	Stainless steel AISI – 304 A2 - 70
26	Flat washer	M10 DIN 125	1	Stainless steel AISI – 304 DIN 1.4301
28	Security cap		1	Stainless steel AISI – 304 A2 - 70

BPS offers two different seal and repair sets:

- *1) - Set #1 contains seals 5, 6, 7, 8, 9 and 17
 - *2) - Set #2 contains seals 5, 6, 7, 8, 9, 17 and a new stain-less steel ball 3
- All other parts available with special order.