



# **Installation, Operating and Maintenance Instructions:**

ETG-F-2/16

2-Pce Full Bore Flanged PN16 Ball Valve  
Lever Operated

# Contents

---

**3**

Valve Information

---

**4**

Introduction

Transport and Storage Conditions

---

**5**

Installation Instructions

Operating Instructions

---

**6**

Maintenance and Reparation Instructions

---

**7**

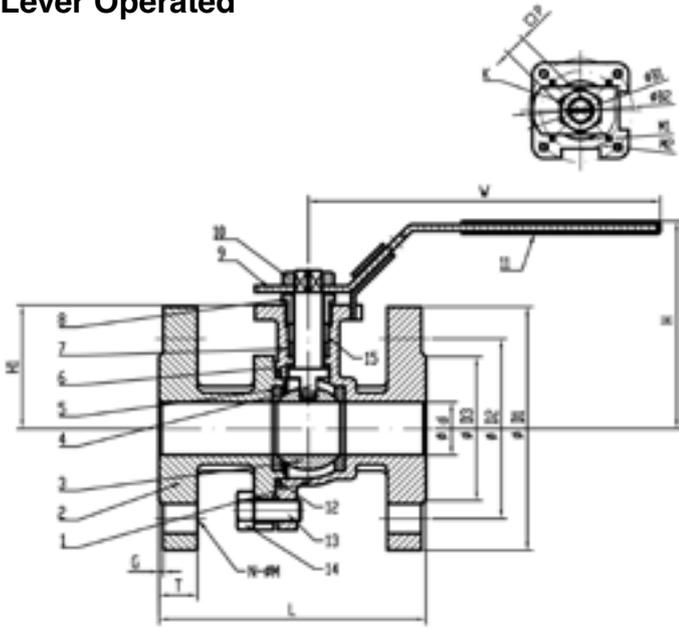
Tightening Torque

Hygiene and Safety

# Valve Information

## ETG F-2/16

2-Pce Full Bore Flanged PN16 Ball Valve  
Lever Operated



Item	Part	Material	Qty.
1	Body	CF8M 316	1
2	Cap	CF8M 316	1
3	Ball	316	1
4	Stem	316	1
5	Ball Seat	R-PTFE 15% Glass	2
6	Stem Packing	PTFE	1
7	Stem Packing	PTFE	1
8	Gland Nut	304	1
9	Handle	304	1
10	Stem Nut	304	1
11	Plastic Cover	PLASTIC	1
12	Body Gasket	PTFE	1
13	Bolt	304	4-6
14	Nut	304	4-6
15	Gland Ring	304	1

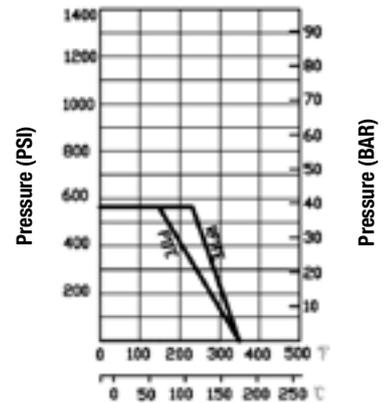
- ASTM A351 CF8M 316 Stainless Steel construction, 316 Trim.
- R-PTFE Seats and PTFE Seals. Adjustable gland. Lever operated with Slide Type Locking Device (1/2" - 4").
- ISO 5211 Mounting Pad (non-direct mount).
- 1/2" - 2" 40 Bar/g pressure rated, 2.5" - 6" 16 Bar/g pressure rated.
- -20 / + 180 Deg C Temperature rated.
- Pressure balancing hole drilled into ball/stem slot
- CE marked (sizes 1.1/4" upward) in accordance with the PED 2014/68/EU

Full material Test Certificates available.

DIN 3202 F-4 Face to Face dimension (DIN 3202 F-5 on 6" size).

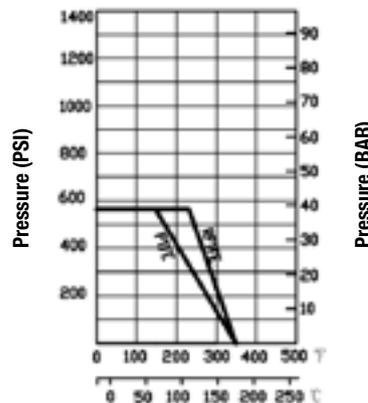
Available size range: 1/2" - 6"

Pressure-Temp. Rating



Temperature  
DN15 -DN50

Pressure-Temp. Rating



Temperature  
DN65 -DN150

SIZE/ ITEM	d	P	K	H1	H	W	L	D3	D2	D1	T	G	M	N	B1	B2	M1	M2	
DN15	15	9	M12X1.5	49	90	160	115	45	65	95	16	2	14	4	-	42	-	M5	PN16 PN40
DN20	20	9	M12X1.5	54	95	160	120	58	75	105	18	2	14	4	-	42	-	M5	PN16 PN40
DN25	25	11	M14X1.5	59	103	160	125	68	85	115	18	2	14	4	-	50	-	M6	PN16 PN40
DN32	32	11	M14X1.5	72	116	160	130	78	100	140	18	2	18	4	-	50	-	M6	PN16 PN40
DN40	38	14	M18X1.5	77	126	220	140	88	110	150	18	2	18	4	-	70	-	M8	PN16 PN40
DN50	50	14	M18X1.5	85	134	220	150	102	125	165	20	3	18	4	-	70	-	M8	PN16 PN40
DN65	64	14	M18X1.5	105	154	220	170	122	145	185	20	3	18	8	-	70	-	M8	PN16
DN80	76	17	M22X1.5	112	168	320	180	138	160	200	20	3	18	8	70	102	M8	M10	PN16
DN100	96	17	M22X1.5	141	197	320	190	158	180	220	20	3	18	8	70	102	M8	M10	PN16
DN150	150	27	N/A	230	265	450	350	212	240	285	22	3	22	8	102	125	N/A	N/A	PN16

# Introduction

G.C. Supplies offers a wide range of valves, designed and assembled to handle and drive fluids in industrial procedures.

The compatibility of materials used to build the valves (see technical specifications) and the application of valves to the different industrial processes is at the user's risk. Valves will have an optimal behaviour when working conditions do not exceed the recommended pressure and temperature limits for which they have been designed.

# Transport and Storage Conditions

## Visual Inspection

It is important to conduct a visual inspection to check for any damage on the product that could have occurred during transport, unloading or placement. If you notice any kind of anomaly upon receiving the goods, please contact GC Supplies in order to resolve the issue.

## Storage

During storage it is recommended to keep valves in a dry and clean environment within the included protective wrapping to avoid damage or dirt accumulation. The protective wrap should not be removed until the valve is ready to be installed.

**Before installing and/or manipulating these elements, read these instructions carefully. If you fail to understand any of their content, please contact G.C. Supplies.**

# Installation Instructions

- Preparation** To prevent seat damage, the pipeline must be flushed, free of dirt, burrs, welding residues etc., and flange gasket seal faces cleaned, BEFORE installing the valve. If the valves contain silicone based lubricants from the assembly at the factory, and if silicone is unacceptable in your application, the valve should be stripped and degreased (solvent washed) before use.
- Assembling** The nature of the valve allows it to be fitted in any orientation. These valves are heavy and adequate and, where required, safe lifting arrangements should be made prior to lifting the valve into the pipeline. Lift the valve into position and install properly into the pipework. System pressure tests (normally 1.5 times max working pressure) must be carried out with the valve in the OPEN position to prevent compression damage to the seats.

# Operating Instructions

- Usage** Life of the valve can be maximised if the valve is used properly in accordance with the recommended pressure and temperature values (found in Valve Information section) and used with compatible liquids.
- Operation** To open or close the valve, turn the lever 1/4 turn (90 degrees) until it hits the stops. In OPEN position, the valve lever is in line with the valve. In CLOSED position, the lever is across the valve. Please follow the torque operating values.

SIZE	Activating torque (Nm)
1/2"	5
3/4"	7
1"	10
1-1/4"	12
1-1/2"	20
2"	32
2-1/2"	60
3"	90
4"	100

# Maintenance and Reparation Instructions

**SAFETY** – Use sound engineering practice and common sense when removing valves from pipelines – ensure the line is isolated and labelled as such with high visibility attached to the closed valves supplying the line, and drain the line before removing any flange bolts.

Remove flange bolts and nuts and lift the valve from the line taking great care to avoid scratching, scoring or damaging the flange gasket seal faces. These valves are heavy so safe lifting arrangements should always be made prior to lifting the valve out of the line.

Remove the lever securing nut and remove the lever and stop plate if fitted.

Remove the body bolts using a correctly sized wrench. Separate and lift off the flanged end adapter. Remove the body seal.

Lift out the ball, it is released by turning the valve to the closed position and extracting it in the direction of the removed flanged end adapter.

Take great care not to scratch the surface of the ball as this may prevent correct sealing when the valve is reassembled.

Using a soft headed hammer, tap the stem into the body cavity from where the ball was removed – the stem is blow-out proof and has to be removed from inside the body.

Once the stem has been extracted, the stem O rings can easily be removed. Remove the downstream seat.

Clean and inspect all the metal parts and housing. It is not necessary to replace the ball and stem unless they show signs of abrasion or scoring. If they are scratched, scored or damaged, replace with new

Reassemble in reverse order, fitting new seats, seals and packing. Light lubricating solvent, compatible with the intended media, will aid in reassembly.

## Testing after Reassembly

Secure a test fixture by means of a single mating flange with full bolting and a suitable gasket. Orient so that the seat being tested is facing upwards, and the added flange is facing downwards.

Ensure the valve is in a closed position. Wearing eye and ear protectors, use 50 to 100psi of compressed air to partially open the valve then close, to ensure the cavity is pressurised. Check the stem seal is not leaking air, if a small leak can be heard, isolate then relieve the air pressure from the cavity by cracking the valve open, tighten the stem nut in 1/4 turn increments and re-test until the leak has stopped.

Be careful not to over-tighten the stem nut as this affects the torque, and over-tightening is likely to cause problems with automatic operation.

Pour water into the upper end to cover the ball and visually check for bubbles. If you see bubbles, the seat is leaking – pour the water off, operate the valve from open to closed several times, then redo the test. If the seat fails, relieve the air pressure completely, strip the valve to check:

- (a) the parts were correctly installed
- (b) that there is no damage to any of the parts.

Correctly re-install parts if (a) or replace damaged parts if (b). Re-test. When this seat has passed (no bubbles), test the other seat. To check the other seat, switch the test flange to the opposite and, and test as above.

# Tightening Torque

## Bolt Tightening

SIZE	Torque (Nm)
1/2"	5-6
3/4"	12-15
1"	12-15
1-1/4"	15-20
1-1/2"	25-27
2"	66-70
2-1/2"	80-90
3"	80-90
4"	80-90

## Gland Tightening

SIZE	Torque (Nm)
1/2"	15
3/4"	25
1"	25
1-1/4"	50
1-1/2"	50
2"	60
2-1/2"	75
3"	75
4"	85

# Hygiene and Safety

The fluids that go through the valve can be corrosive, toxic, flammable or pollutant. They can also be found at very high or low temperatures. When operating valves, you must follow the operation instructions.

It is recommended that you:

- Protect your eyes.
- Wear gloves and appropriate working clothes.
- Wear safety footwear.
- Wear a helmet.
- Have running water to hand.
- Have an extinguisher to hand when work with flammable fluids.

Before removing a valve from a pipe, check always if the line is completely cold, drained and depressurised.

Any type of repair or maintenance should be performed in a well ventilated area.