

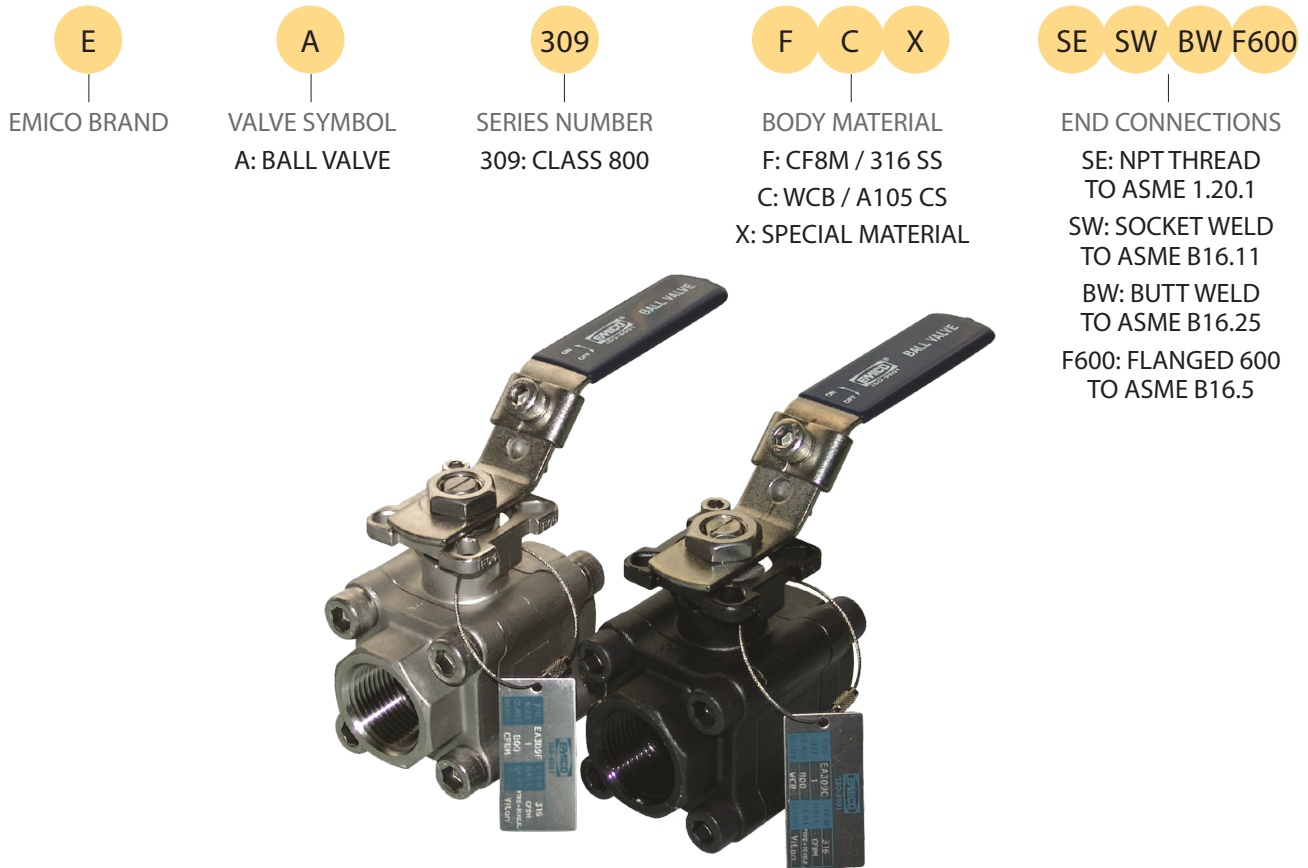
# EMICO

## EA-309 3-PIECE CLASS 800 FIRE-SAFE BALL VALVES



**AGA-APPROVED MANUAL & AUTOMATIC**

## CLASS 800 BALL VALVE FIGURE NUMBERING SYSTEM



### DESIGN & INSPECTION STANDARDS

- Pressure /Temperature Ratings:  
Body – ASME B16.34 (Class 800)  
Seat – As per EMICO charts
- General Valve Design: EN 12516 / ASME B16.34
- Shell Wall Thickness: ASME B16.34
- Construction: Cast 3-Piece
- Face to Face Dimensions: Manufacturer's Standard, per EMICO Drawings
- End Connections: NPT to ASME B1.20.1, SW to ASME B16.11, Flanged to ASME B16.5
- Pressure Test: API 598 (Sealing – Bubble Tight Bi-Directional)
- Fire Safe Test: API 607 Ed. 4
- Materials & Test Certification: EN 10204-2004 3.1

### MATERIALS SELECTION

#### BODY:

Carbon Steel, Low Temperature Carbon Steel, Special Alloy, Duplex and Super Duplex, Monel, Inconel, Hastelloy, Titanium, etc.

#### BALL:

Stainless Steel, Special Alloy, Duplex and Super Duplex, Monel, Inconel, Hastelloy, Titanium, etc.

### EXTERNAL COATING

Carbon Steel valves are usually protected with manufacturer's standard paint finish or phosphating. Valves can also be supplied with special paint finish.

### ACCESSORIES

BW, pup and/or transition pieces etc. on request.

### AGA APPROVALS



#### EA-309 Series (EA-309C, EA-309C-F600, EA-309F, EA-309F-F600)

Size Range: 15mm, 20mm, 25mm, 32mm, 40mm & 50mm

- (i) **Manual Shut-off Valves, Class 1**  
AS 4617 - 2018 (Incl. Amdt 1)  
Certificate No. 9005
- (ii) **Automatic Shut-off & Vent Valves, Class 1**  
AS 4629 - 2005 (Incl. Amdt 2)  
Certificate No. 9004

**TECHNICAL FEATURES**

**EMICO 3-piece bolted body ball valves in Carbon Steel and Stainless Steel - Classes 800, NPT, BSP, SW + Flanged ends**

CAST BODY & ENDS	Full compliance with EN 12516 & ASME/ANSI B16.34
REPAIR KITS	Comprising seats, body seals, O-ring, gland packing and thrust washer
FIRE SAFE	Certified to API 607 Ed. 4
ENCLOSED BOLTING	Maximum resistance to fire conditions. Improved appearance and maximum body compression
NACE MR-01-75	Suitable for sour service
BODY CLOSURE / STEM SEAL	Perfect sealing is guaranteed by a double barrier at stem seal for Class 800 (EA 309)
FULL PORT FOR CLASS 800	No pressure drop
ANTI-STATIC PLUNGER	Positive earthing of ball and stem to valve body prevents static electricity build-up in ball
BLOWOUT-PROOF STEM	Internally fitted back-seated stem provides anti-blowout function under pressure
BELLEVILLE WASHERS ON STEM	Live loaded gland packing for long cycle life
END CONNECTION OPTIONS	Butt weld or pup extensions
HEAT NUMBERED	Fully certified and traceable
SIZE RANGE	15mm through 50mm
PRESSURE RELIEF	Internal pressure equalising vent (ball drilled with upstream pressure relief vent hole) can be supplied for certain applications (ammonia, chlorine, etc.) Heating of trapped media in body cavity can cause pressure rise, permanently distorting seats or ball
LOCKING MECHANISM	Lock open / Lock closed positions
ACTUATION OPTIONS	Spring-close and double-acting actuated valves on request



# EA-309 CLASS 800 BALL VALVE FEATURES

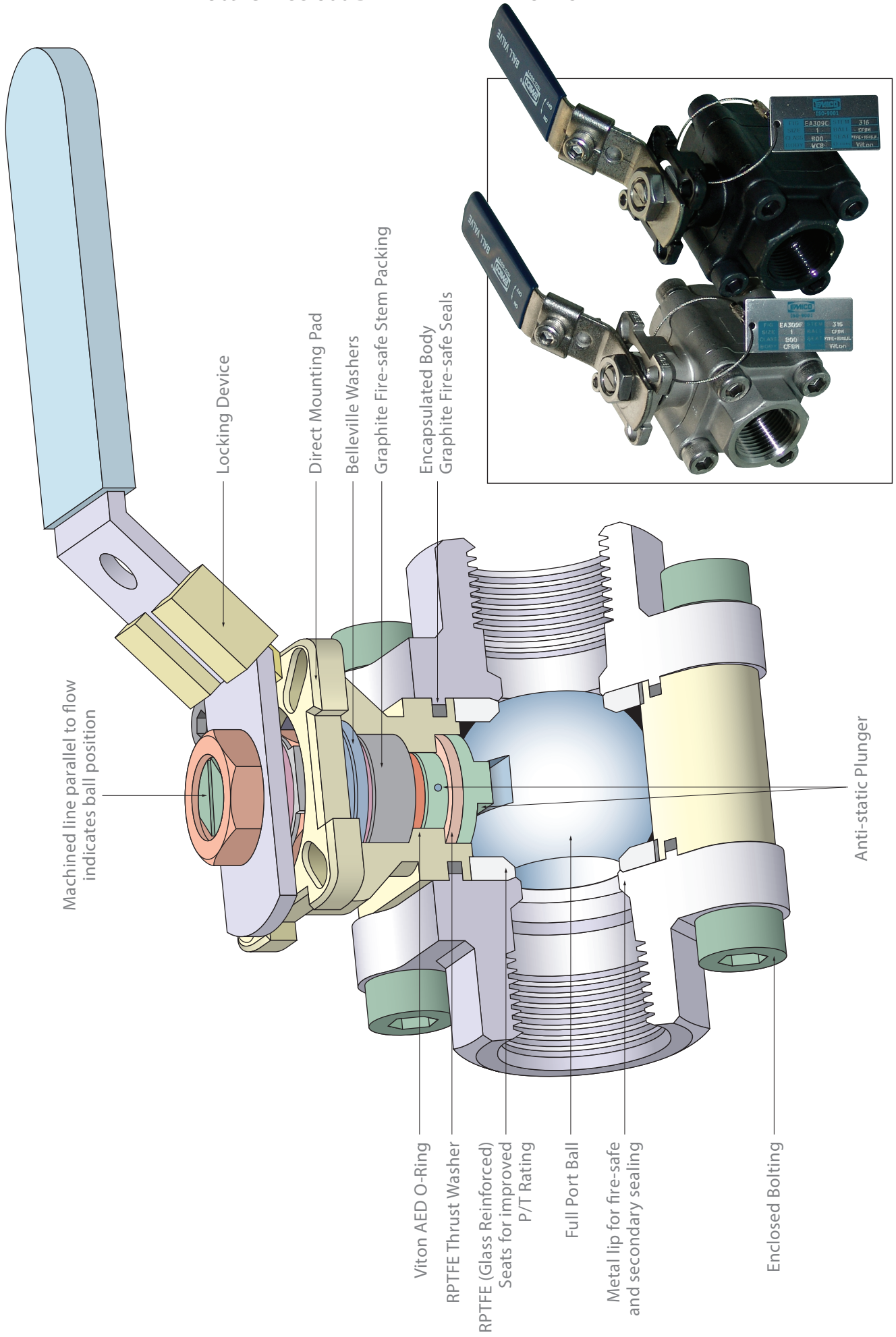
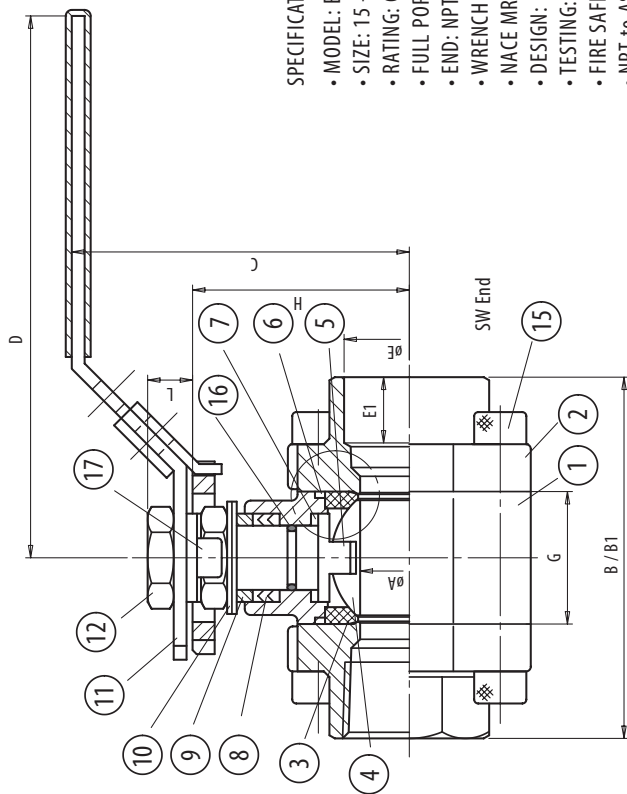
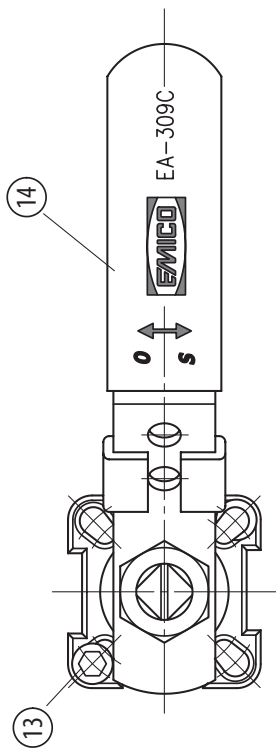
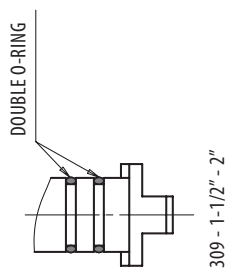
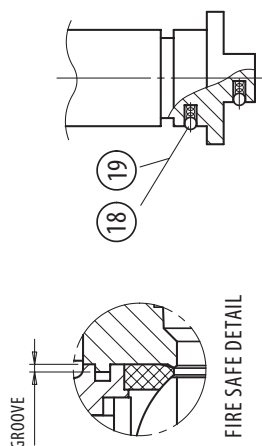
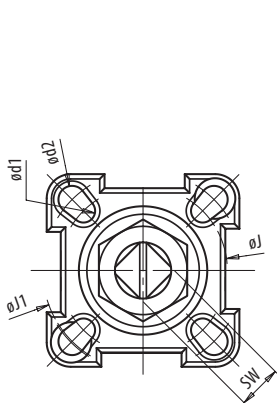


FIG. EA-309 BALL VALVE DIMENSIONS



ITEM	PART NAME	MATERIAL		QTY
		EA309F	EA309C	
19	SPRING	SUS316		2
18	STATIC DEVICE	SUS316		2
17	LOCKING TAB	SUS304		1
16	O RING	VITON AED		1
15	BOLTS	ISO 3506 A2-70	ISO 898 12.9	8/12
14	PLASTIC COATING	VINYL		1
13	STOP SCREW	SUS 304		1
12	LEVER NUT	SUS 304		1
11	HANDLE	SUS 304		1
10	BELLEVILLE SPRING WASHER	SUS 301		2
9	GLAND RING	SUS 304		2
8	GLAND PACKING	GRAPHITE		1
7	THRUST WASHER	PTFE+15%G.F.		1
6	BODY SEAL	GRAPHITE		2
5	STEM	SS316/S31803/17-4PH		1
4	BALL	CF8M		1
3	SEATS	PTFE+15%G.F. /TFM 4215		2
2	END CAPS	CF8M	WCB	2
1	BODY	CF8M	WCB	1



SPECIFICATION:

- MODEL: EA-309F / 309C
- SIZE: 15 - 50mm
- RATING: CLASS 800
- FULL PORT
- END: NPT, SW or BSP
- WRENCH OPERATOR
- NACE MR-0175
- DESIGN: EN 12516
- TESTING: API 598
- FIRE SAFE API 607 ED.4
- NPT to ASME B1.20.1
- SW to ASME B16.11
- SHELL WALL THICKNESS: ANSI B16.34

EMICO FIG EA309 CLASS 800 FIRE-SAFE BALL VALVE

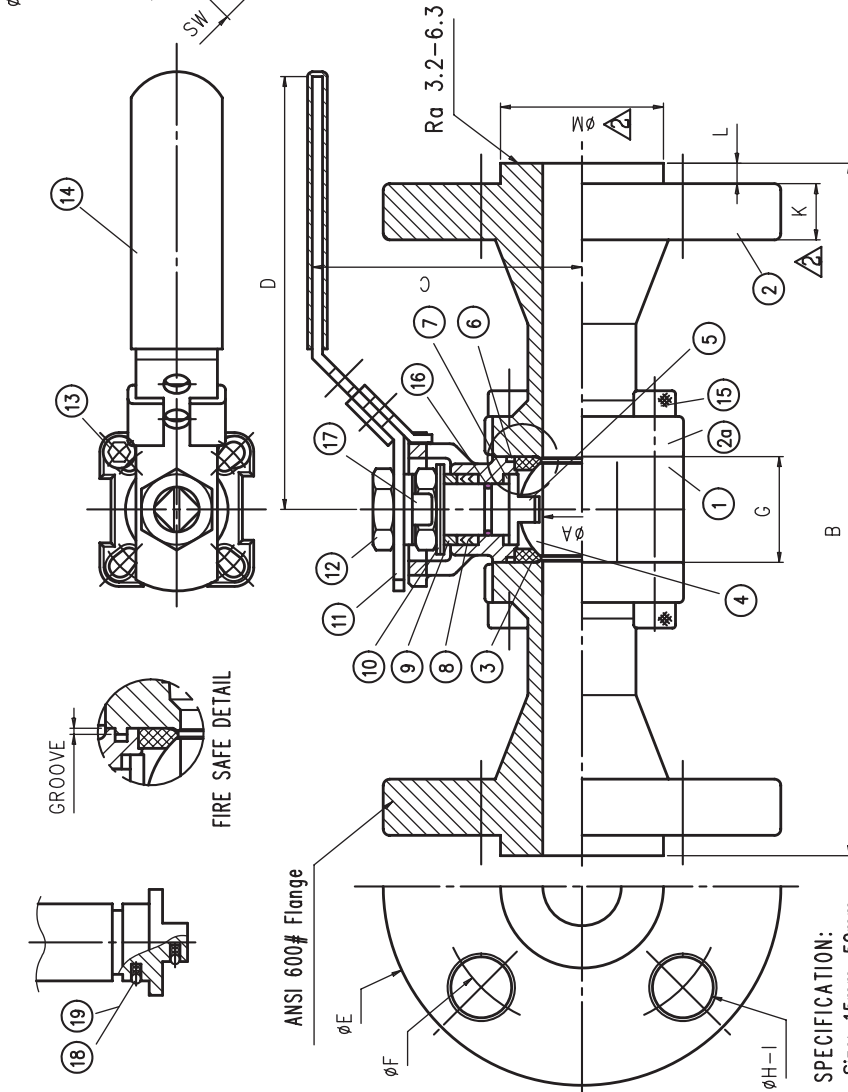
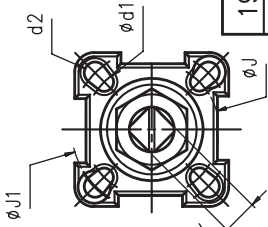
DN	SIZE	A	B	B1	C	D	E	E1	F	F1	G	J	J1	SW	d1	d2	H	L
15	1/2"	16	75	75	70.9	110	21.8	11.2	17	21.3	25.2	36	42	9	6	6	42.3	8
20	3/4"	20	80	90	73.4	110	27.2	14.3	22	26.9	27.7	36	42	9	6	6	44.8	8
25	1"	24.5	90	100	84.1	135	33.9	15.8	28	33.7	33	42	50	11	6	7	54	10
32	1-1/4"	32	110	110	89.3	135	42.7	17.5	37	42.4	41.2	42	50	11	6	7	59.2	10
40	1-1/2"	38	120	125	109.5	165	48.8	19.1	43	48.3	49.3	50	70	14	7	9	73.5	14.8
50	2"	50	140	150	118.9	165	61.2	21.3	54	60.3	63.6	50	70	14	7	9	82.9	14.8



**FIG. EA-309-F600 VALVE DIMENSIONS**



**EMICO FIG EA-309-F600 FIRE-SAFE BALL VALVE**



**SPECIFICATION:**

- Size: 15mm-50mm
- Rating: Class600
- Full Port, 3-Pce bolted body, Anti-Static
- Lockable Lever
- ISO 5211 Actuator Direct Mounting Pad
- NACE MR-01-75
- Design: EN 12516
- End flange: ASME B16.5
- Face to Face: ASME B16.10
- Wall Thickness: ASME B16.34
- Wrench operator

- Fire Safe: API 607 Ed. 4
- Testing: API 598
- Shell Hydrostatic - 15MPa (2175 psig)
- Seat Air - 0.59MPa (80 psig)
- All valve 100% air test

19	SPRING	SUS 316	2
18	STATIC DEVICE	SUS 316	2
17	LOCKING TAB	SUS 304	1
16	O RING	VITON	1
15	BOLTS	ISO 3506 A2-70	ISO 898 12.9
14	PLASTIC COATING	VINYL	1
13	STOP SCREW	SUS 304	1
12	LEVER NUT	SUS 304	1
11	HANDLE	SUS 304	1
10	BELLEVILLE SPRING WASHER	SUS 301	2
9	GLAND RING	SUS 304	2
8	SEAL	GRAPHITE	1
7	GASKET	PIFE+15%G.F.	1
6	BODY SEAL	GRAPHITE	2
5	STEM	SS316/S31803	SS316/17-4PH
4	BALL	CF8M/316	1
3	SEATS	Reinforced PIFE Modified PIFE TFM4215	2
2a	END CAPS	A351-CF8M	A216-WCB
1	BODY	A351-CF8M	A216-WCB
ITEM	PART NAME	EA309F	EA309C
		MATERIAL	QTY

DN	SIZE	A	B	C	D	E	F	G	H	I	J	J1	SW	d1	d2	K	L	M
15	1/2"	16	165	70.9	110	95	66.5	25.2	16.4	36	42	9	6	6	14.2	6.4	35.1	
20	3/4"	20	190	73.4	110	115	82.6	27.7	19.1	4	36	42	9	6	15.7	6.4	42.9	
25	1"	24.5	216	84.1	135	124	88.9	33	19.1	4	42	50	11	6	17.5	6.4	50.8	
32	1-1/4"	32	229	89.3	135	133	98.6	41.2	19.1	4	42	50	11	6	20.6	6.4	63.5	
40	1-1/2"	38	241	109.5	165	155	114.3	49.3	22.4	4	50	70	14	7	22.4	6.4	73.0	
50	2"	50	292	118.9	165	165	127	63.6	19.1	8	50	70	14	7	25.4	6.4	91.9	



**AGA CERTIFIED PRODUCT**

**Certificate Holder:** EAYUAN METAL INDUSTRIAL CO., LTD  
**ABN/ACN No. (if applicable):** N/A  
**Manufacturer:** Eayuan Metal Industrial Co., Ltd  
**Agent (if applicable):** N/A  
**Type of Component:** Class 1 Manual Shut-Off Valves

**Model No. & Description:**  
*(Refer [www.aga.org.au](http://www.aga.org.au) for more details)*  
**Emico EA-309 Series**  
 EA-309C NPT, BSPT/BSPP, SW ends  
 EA-309C - F600 Flanged ASME 600# ends  
 EA-309F NPT, BSPT/BSPP, SW ends  
 EA-309F - F600 Flanged ASME 600# ends

**Sizes:** 15mm, 20mm, 25mm, 32mm, 40mm & 50mm

**Maximum Working Pressure:** 10,000 kPa  
**Working Temperature Range:** 0°C to 60°C  
**Notes:**  
 C = Carbon steel & F = Stainless steel

**Relevant Standard(s):** AS 4617 - 2018 (Inc Amdt 1)

This is to certify that the particular **COMPONENT** specifically described herein and supplied to The Australian Gas Association (hereafter called the AGA) by the Certificate Holder named above has been subject to "type-testing" and assessed by the AGA to comply with the requirements of the AGA's Product Certification Scheme for Type Tested Gas Products.

**This Certificate is issued on the express conditions that:**

- The Certificate Holder undertakes to comply with the Rules Governing The AGA's Product Certification Scheme (hereafter called the Rules Governing);
- This Certificate remains the property of the AGA; and
- The AGA reserves the right to cancel this Certificate in accordance with the Rules Governing, and in such an event the Certificate Holder undertakes to surrender the Certificate to the AGA upon request.

**Client Manager:** [Signature] **Certificate Authorised:** [Signature]

**Certificate first issued:** 26 October 2022 **Certificate No:** 9005  
**This copy valid from:** 26 October 2022 **Refer specification issue:** 01

QF714/11 This Certificate issued by The Australian Gas Association ABN 98 004 236 044

**AGA Certificate No:** AGA 9005 G (10,000kpa@0~60°C)  
**Fig. EA-309C**

**AGA Certificate No:** AGA 9005 G (10,000kpa@0~60°C)  
**Fig. EA-309F**

Manual Valve Lever Handle Data

Automatic Shut-off and Vent Valve Name Plate Data

**Australian Standard AS 4629-2005 (Amdt 1 & 2)**  
**AGA Certificate No. AGA 9004 G**

Automatic Shut-off Valves, Class 1  
 Automatic Vent Valves, Class 1

**EMICO Valve Model:** EA-309  C  F

**Ends:**  NPT  SW  BSPT  Flanged Class 600

**Serial No:** M/Y: P/T:  10000kPa / 0~6°C

**Emico Actuator:** EA-SR  AFR  ARV  
 6519  ESV  LSV7000  GP  EX

**Solenoid:**  6519  ESV  LSV7000  GP  EX

**Limit Switch:** ALS- 400M2  500M2  200M2  LLSB- 3000  7000

Supplied by: **HAZYVALVE PACIFIC** 03 9764 1149 **EMICO VALVES**

**AGA CERTIFIED PRODUCT**

**Certificate Holder:** EAYUAN METAL INDUSTRIAL CO., LTD  
**ABN/ACN No. (if applicable):** N/A  
**Manufacturer:** Eayuan Metal Industrial Co., Ltd  
**Agent (if applicable):** N/A  
**Type of Component:** Class 1 Automatic Shut-Off & Vent Valves

**Model No. & Description:**  
*(Refer [www.aga.org.au](http://www.aga.org.au) for more details)*  
**Emico EA-309 Series**  
 EA-309C NPT, BSPT/BSPP, SW ends  
 EA-309C-F600 Flanged ASME 600# ends  
 EA-309F NPT, BSPT/BSPP, SW ends  
 EA-309F-F600 Flanged ASME 600# ends

**Sizes:** 15mm, 20mm, 25mm, 32mm, 40mm & 50mm  
 C=Carbon steel  
 F=Stainless steel  
 x=Special materials

**Working Temperature Range:** 0°C - 60°C  
**Maximum Working Pressure:** 10,000 kPa  
**Solenoid options:**  
 Ballast 6519 or Power-Genex ESV 5 / LSV 7000

**Limit Switch**  
 ALS-400M2, ALS-500M2, ALS-200M2PP, ALS-200M2 or Power-Genex LSV-3000/LSV-7000 (with integral solenoid valve)

**Relevant Standard(s):** AS 4629 - 2005 (Inc Amdt 2)

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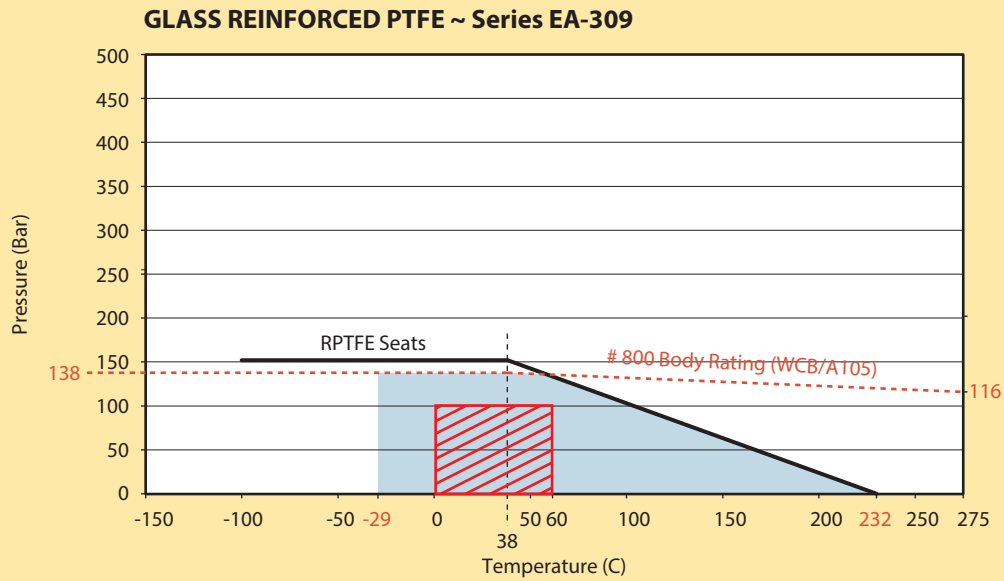
**Client Manager:** [Signature] **Certificate Authorised:** [Signature]

**Certificate first issued:** 9 November 2022 **Certificate No:** 9004  
**This copy valid from:** 9 November 2022 **Refer specification issue:** 01

QF714/11 This Certificate issued by The Australian Gas Association ABN 98 004 236 044

# SERIES EA-309 P/T + FIRE-SAFE DETAILS

## PRESSURE TEMPERATURE CHART



- Notes:
1. Shaded area for Carbon Steel WCB valves. For F316 Stainless Steel valves suitable for lower temperatures – refer EMICO
  2. CF8M/316 Stainless Steel body valves have P/T rating lower than WCB/A105 at temperature below 400 °C. Refer ASME/ANSI B16.34 Table 2.2.2 (Ratings for Group 2.2 materials)
  3. Class 800 ratings from ASME/ANSI B16.34, Group 1.1 materials (Carbon Steel WCB/A105)

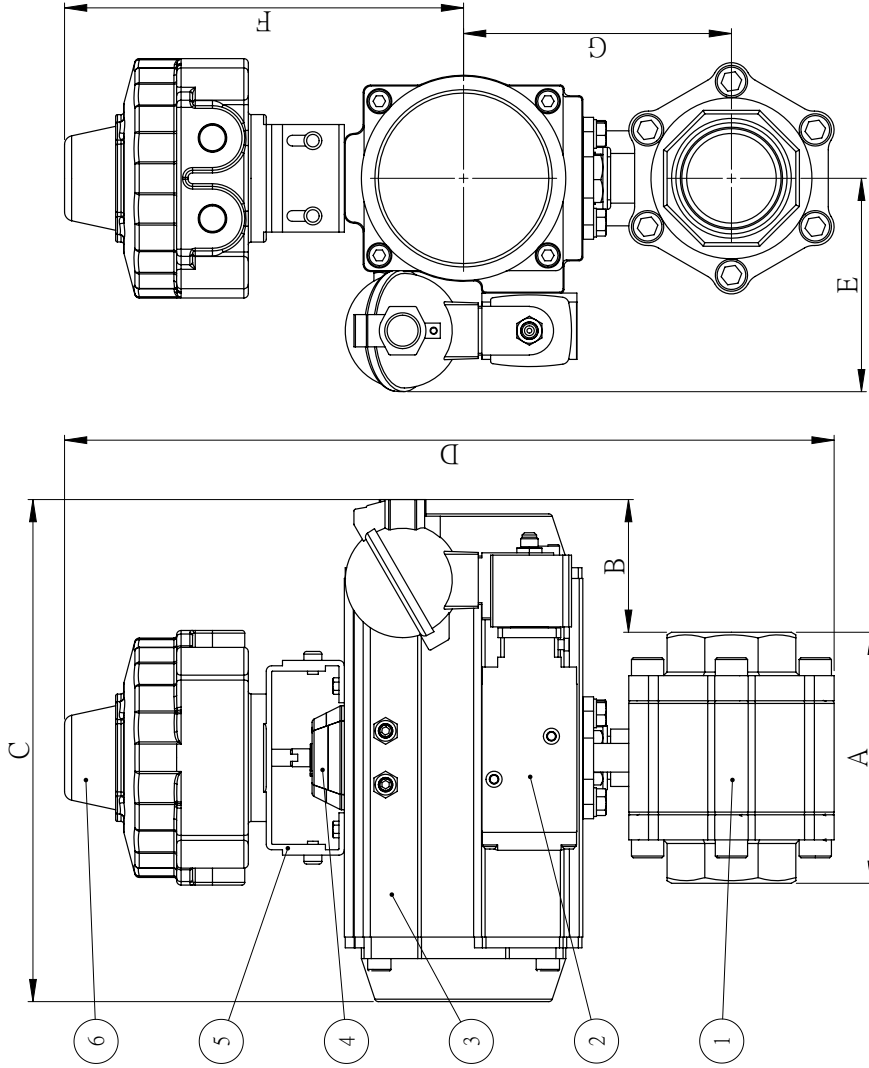
The area in the chart with the red shade diagonal lines signifies AGA product testing of the EA-309 Series ball valves - 10,000kPa @ 0~60 °C



## Fire-Safe Test Reports To API 607 Ed.4







NOTES	
AUTOMATIC SHUT-OFF VALVES HAVE NO MANUAL OVER-RIDE BUTTON ON SOLENOID VALVE. ACTUATOR IS FAIL-CLOSED	
VENT VALVES HAVE NO MANUAL OVER-RIDE BUTTON ON SOLENOID VALVE. ACTUATOR IS FAIL-OPEN	

AS4629-2005(Amd.1&2) AUTOMATIC SHUT-OFF / VENT VALVE / CLASS 1	
6	LIMIT SWITCH AL.ALLOY OR S/STEEL
5	MOUNTING BRACKET (LIMIT SWITCH / ACTUATOR) STEEL+POWDER COATING OR S/STEEL
4	VISUAL POSITION INDICATOR ABS
3	SPRING RETURN PNEUMATIC ACTUATOR AL.ALLOY
2	3/2 WAY SOLENOID VALVE POLYAMIDE/ALUMINIUM OR S/STEEL
1	BALL VALVE FULL BORE WCB/CF8M/OTHER
ITEM	DESCRIPTION MATERIAL
EMICO THREE-PIECE FULL BORE, FIRE SAFE, FLOATING BALL VALVE WITH EMICO SPRING RTN PNEUM. ACTUATORS	

Refer to Technical Bulletin / Drawing for AGA Automatic Shut-off & Vent Valve, Class 1 details

## OTHER AVAILABLE VALVES



### EMICO Fig EA 39C Cryogenic Ball Valve

- Full Port
- Rated 1500 WOG
- Fire-safe Certified API 607
- BS6364 Compliant
- Suitable for -196°C
- Single Piece Vapour Column Extension (no welding)  
Cast in CF8M Stainless Steel  
Sizes: 15mm ~ 50mm

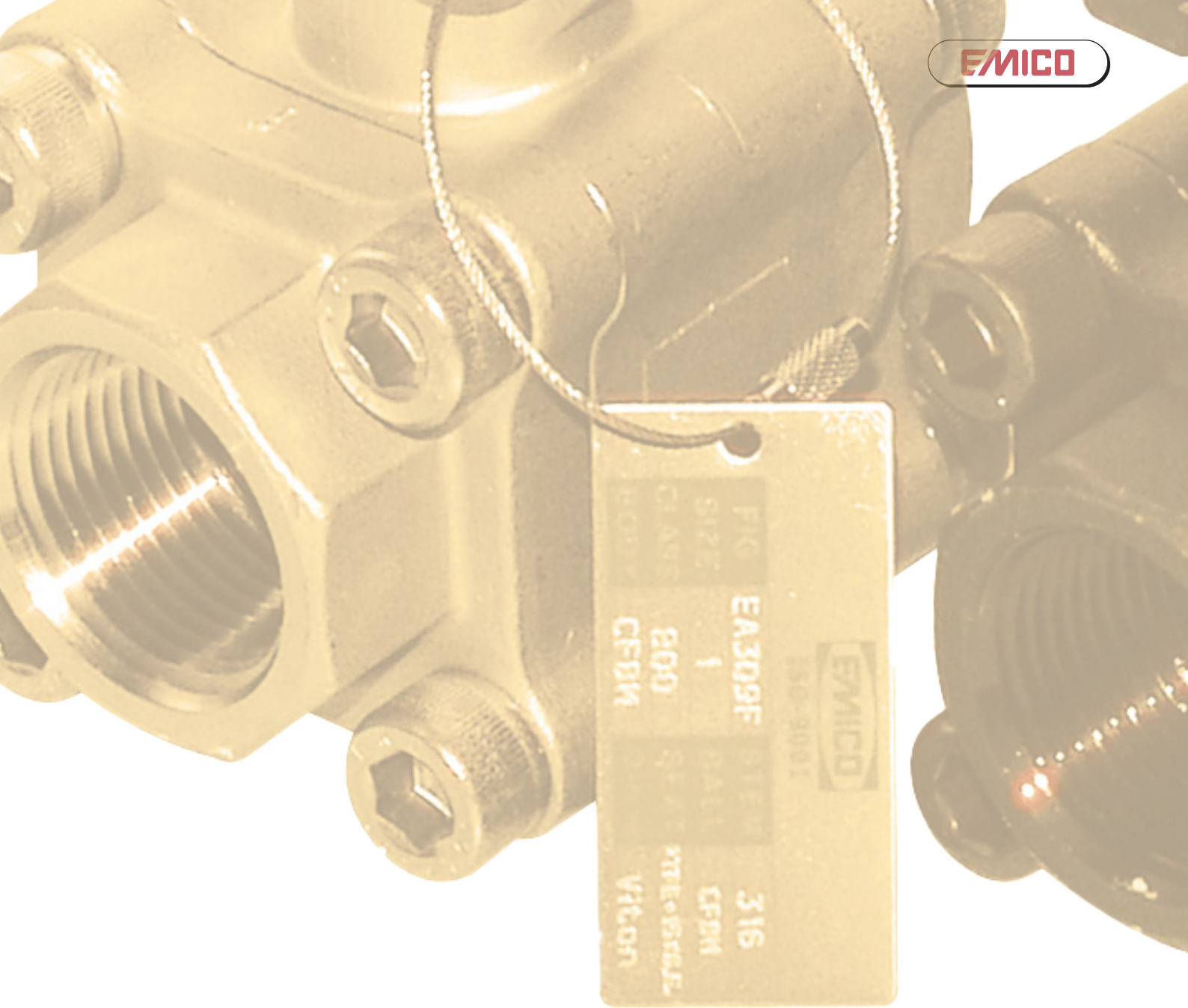
### EMICO Fig P134 (Reduced Port) & Fig P135 (Full Port) Ball Valve

- Class 800, Class 1500 & Class 2500 Rated
- Full Port & Reduced Port
- Fire-safe Certified API 607
- NPT, SW or Pup / Transition Ends  
Forged in A105N, F316 & LF2  
Sizes: 15mm ~ 50mm



### EMICO Fig EA 311 Metal Seated Ball Valve

- Class 900 Rated
- Specially Coated Ball & Seats
- Butt Weld Ends
- Inherently Fire-safe  
Forged in A105N, F316 & LF2  
Sizes: 15mm ~ 50mm



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