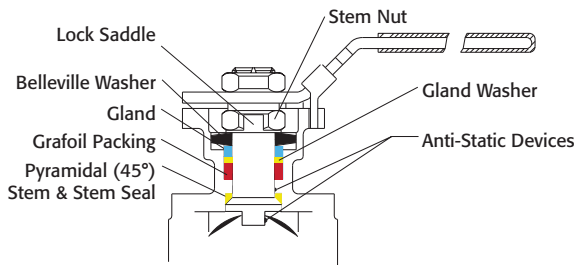


**API 607 - 6th Edition
CERTIFIED**



The F83 Series Firesafe 3-piece ball valves are the finest quality 3-piece valves on the market. The high quality investment castings feature a fully machined bore. The superior live-loaded packing system is accomplished with Belleville washers, Grafoil packing and a unique primary pyramidal stem seal. This advanced sealing system provides protection against stem leaks experienced by ordinary ball valves.

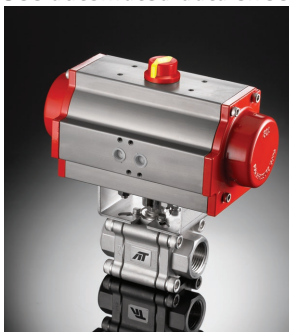


VALVE SIZE	VALVE Cv
1/4"	7
3/8"	8
1/2"	15
3/4"	40
1"	70
1-1/4"	110
1-1/2"	250
2"	430

RTFE seats are standard, but various options are available for seat materials. The 50/50 STFE seat option is excellent for services that call for higher temperatures and more difficult applications including steam. Call us for details.

Easy to Automate!

See automated data sheets for pre-sized assemblies



Pneumatic



Electric



Series F83

FIRESAFE

3-Piece Design

Sizes 1/4" - 2"

Full Port Design

Conforms to ASME B16.34 (2020)

Classes up to 600

1000 to 2000 psi (BPVC) by size

316SS or WCB

Threaded, Socket Weld, or Butt Weld Ends

Superior Live Loaded Packing System

ISO 5211 Actuator Mounting Pad

Blowout Proof Stem w/ Dual Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

Lockable Manual Handle

STANDARDS

DESIGN	ASME B16.34 (fully conforms)
END CONNECTIONS	ASME B16.25, B1.20.1, B16.11
PRESSURE TESTING	API 598
SULFIDE STRESS PROTECTION	NACE MR0175
FIRE TESTING	API 607-6th Edition
MOUNTING	ISO 5211
CE APPROVAL	2014/68/EU Module H
MARKING SYSTEM FOR VALVES	MSS SP-25, ISO 5209
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2015

HOW TO ORDER MANUAL VALVES

SAMPLE PART #

F83C-TH-0200-XXX-_-_-



See part number matrix for itemized options

SERIES F83 3-Piece

Firesafe



9955 International Blvd.
Cincinnati, Ohio 45246
www.atcontrols.com

PHONE (513) 247-5465
FAX (513) 247-5462
sales@atcontrols.com

Series F83

High Performance, Full Port
3-Piece Ball Valve
ISO 5211 Mounting Pad

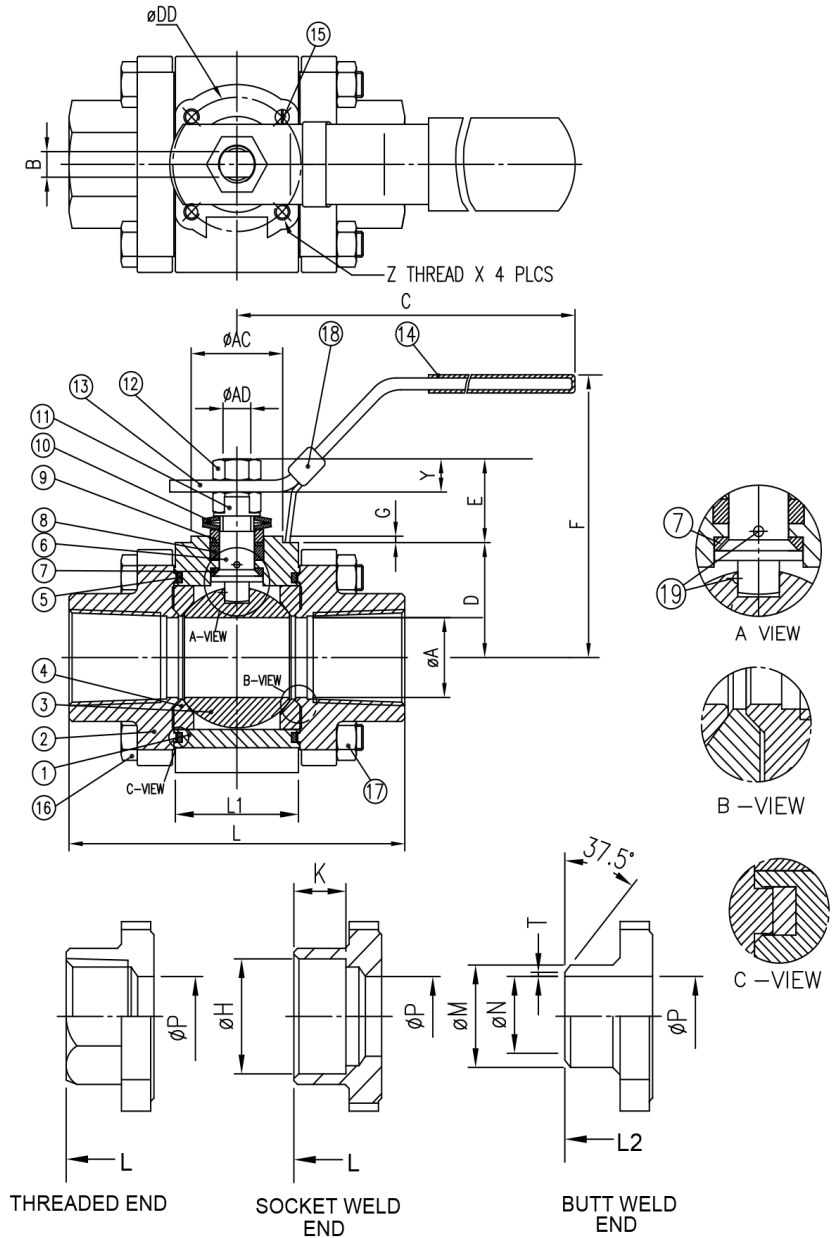
Class 400 to 600
960 to 1480 psi (by size)
1/4" to 2"

API 607 - 6th Edition
CERTIFIED

MATERIALS LIST

NO.	PART NAME	QTY	STAINLESS STEEL	CARBON STEEL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	TH END CAP	2	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	BW/SW END CAP	2	ASTM A351 GRADE CF3M	ASTM A216 GRADE WCB	
3	BALL	1	1/4" THRU 3/8" ASTM A276 SS316	1/4" THRU 3/8" ASTM A276 SS316	
3	BALL	1	1/2" THRU 4" ASTM A351 GRADE CF8M	1/2" THRU 4" ASTM A351 GRADE CF8M	
4	SEAT	2	RTFE	RTFE	✓
5	JOINT GASKET	2	GRAPHITE	GRAPHITE	✓
6	STEM	1	ASTM A276 SS316	ASTM A276 SS316	
7	STEM SEAL	1	GRAPHITE	GRAPHITE	✓
8	STEM PACKING	1	MG1241	MG1241	✓
9	GLAND BUSHING	1	GRAPHITE	GRAPHITE	
10	BELLEVILLE WASHER	2	AISI 301	AISI 301	
11	LOCK SADDLE	1	AISI 304	AISI 304	
12	STEM NUT	2	AISI 304	AISI 304	
13	HANDLE	1	AISI 304	AISI 304	
14	HANDLE SLEEVE	1	VINYL	VINYL	
15	STOP BOLT	1	AISI 304	AISI 304	
16	BODY BOLT	*	ASTM A193 GRADE B8	ASTM A193 GRADE B8	
17	BODY NUT	*	ASTM A194 GRADE 8	ASTM A194 GRADE 8	
18	HANDLE LOCK	1	AISI 304	AISI 304	
19	ANTI-STATIC DEVICE	2	AISI 316	AISI 316	
20	GLAND WASHER	1	RTFE	RTFE	✓

* 1/4" THRU 2" QTY = 4 PCS
* 2-1/2" QTY = 6 PCS



DIMENSIONS (IN)

SIZE	A	AC	AD	B	C	D	DD	E	F	G	H	K	L	L1	L2	M	N	P	T	Y	Z	ISO 5211	LBS
1/4"	0.39	0.98	0.37	0.256	5.28	1.17	1.417	0.29	2.53	0.02	0.56	0.39	2.55	0.81	2.55	0.56	0.36	0.39	0.06	0.24	M5	F03	1.5
3/8"	0.39	0.98	0.37	0.256	5.28	1.17	1.417	0.29	2.53	0.02	0.69	0.39	2.55	0.81	2.55	0.69	0.49	0.39	0.06	0.24	M5	F03	1.5
1/2"	0.59	0.98	0.37	0.256	5.28	1.14	1.417	0.63	2.81	0.08	1.86	0.39	2.85	0.81	2.95	1.85	0.59	0.59	0.06	0.29	M5	F03	1.5
3/4"	0.79	0.98	0.37	0.256	5.28	1.30	1.417	0.71	2.99	0.08	1.07	0.51	3.36	0.96	3.54	1.07	0.79	0.79	0.06	0.35	M5	F03	1.9
1"	0.98	1.18	0.44	0.315	6.69	1.56	1.654	0.97	3.39	0.08	1.33	0.51	4.15	1.24	4.33	1.34	0.98	0.98	0.06	0.43	M5	F04	3.2
1-1/4"	1.26	1.18	0.44	0.315	6.69	1.79	1.654	1.00	3.65	0.08	1.69	0.51	4.37	1.63	4.53	1.68	1.26	1.26	0.06	0.43	M5	F04	4.0
1-1/2"	1.50	1.38	0.56	0.382	8.15	2.09	1.969	1.19	4.30	0.07	1.93	0.51	5.01	1.91	5.12	1.91	1.50	1.50	0.06	0.48	M6	F05	5.7
2"	1.97	1.38	0.56	0.382	8.15	2.74	1.969	1.02	4.79	0.06	2.41	0.63	5.62	2.22	5.12	2.38	1.97	1.97	0.06	0.50	M6	F05	8.1

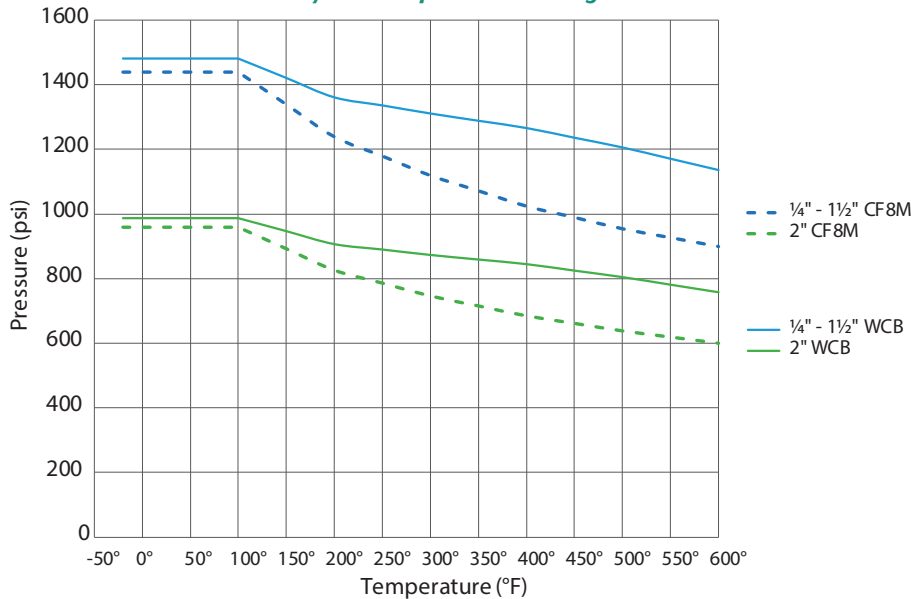
**High Performance, Full Port
3-Piece Ball Valve
ISO 5211 Mounting Pad**

**Classes up to 600
1500 - 2000 psi
(by size)**

Series F83

**API 607 - 6th Edition
CERTIFIED**

Pressure vs. Temperature | Series F83 Body & End Cap Pressure Ratings



Pressure Class B16.34 (2020)				
Size	CF8M		WCB	
	Class	Rating (psi)	Class	Rating (psi)
1/4"	600	1440	600	1480
3/8"	600	1440	600	1480
1/2"	600	1440	600	1480
3/4"	600	1440	600	1480
1"	600	1440	600	1480
1-1/4"	600	1440	600	1480
1-1/2"	600	1440	600	1480
2"	400	960	400	986

Pressure Class/Rating		
SIZE	ASME B16.34-2020 PRESSURE CLASS	BPVC*-2019 PRESSURE RATING (psig)
1/4" - 1"	600	2000
1-1/4" - 1-1/2"	600	1500
2"	400	1500

*ASME Boiler Pressure Vessel Code

Break Away Torque for RTFE Seats	
SIZE	IN-LBS.
1/2"	58
3/8"	58
1/2"	58
3/4"	83
1"	120
1-1/4"	171
1-1/2"	235
2"	398

Cv	
SIZE	Cv
1/4"	7
3/8"	8
1/2"	15
3/4"	40
1"	70
1 1/4"	110
1 1/2"	250
2"	430

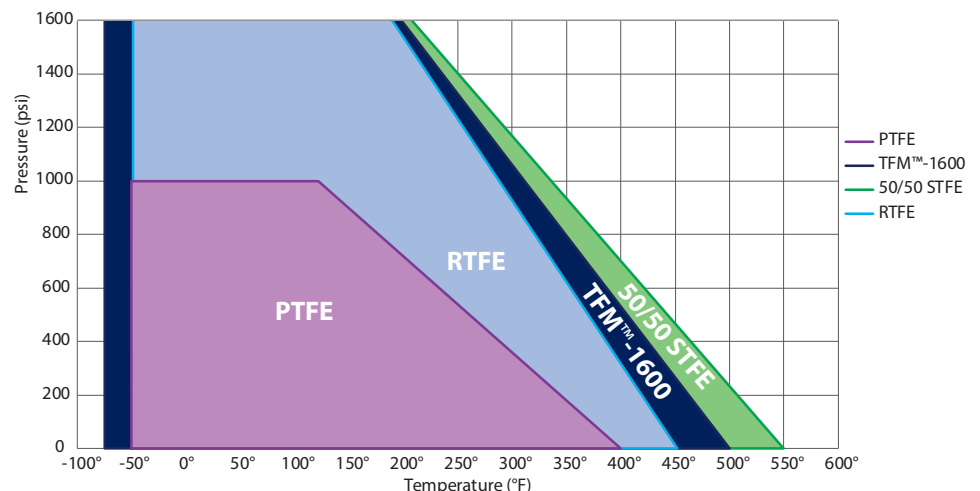
Published torques are based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

F83 Component Temperature Ratings		
COMPONENT	MATERIAL	TEMPERATURE
Packing	Graphite	-100°F to 1000°F
Stem Seal	TFM™-1600	-75°F to 500°F
Gaskets	Graphite	-100°F to 1000°F
Seats (Other Materials Available)	PTFE	-50°F to 400°F
	RTFE (standard)	-50°F to 450°F
	TFM™-1600	-75°F to 500°F
	50/50 STFE	-50°F to 550°F

NOTE:
At temperature, valves are limited by either the valve body/end cap pressure ratings, seat pressure ratings, or packing/stem seal/gaskets; whichever is lower.

Temp	Pressure - Seat Material			
	RTFE	STFE	PTFE	TFM-1600
-75°				2000
-50°	2000	2000	1000	2000
100°	2000	2000	1000	2000
122°	2000	2000	1000	2000
150°	1829	1869	899	1852
200°	1524	1636	719	1587
250°	1220	1402	540	1323
300°	915	1168	360	1058
350°	610	935	180	794
400°	305	701	0	529
450°	0	467		265
500°		234		0
550°		0		

Pressure vs. Temperature | Series F83 Seat Pressure Ratings



Pneumatic Double Acting Automated Ball Valve Package

Series F83 3-Piece Ball Valve

Firesafe

Sizes 1/4" - 2"

Full Port Design

Conforms to ASME B16.34 (2020)

Classes up to 600
1000 to 2000 psi (BPVC) by size

316SST or WCB

TH, SW, or BW Ends

Superior Live Loaded Packing System

Blowout Proof Stem w/ Dual Anti-Static Devices

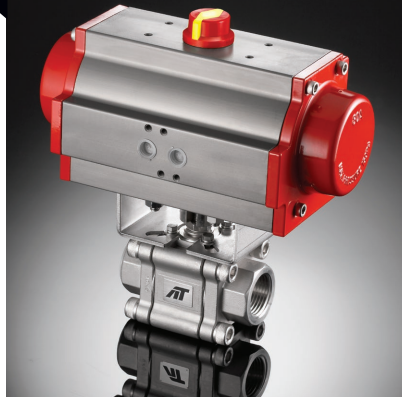
RTFE Seats Standard

Pyramidal Stem Seal Design

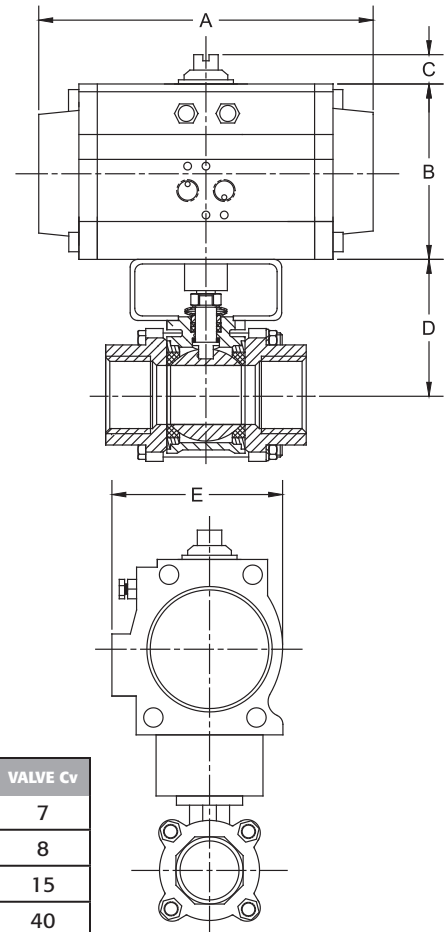
STANDARDS

DESIGN	ASME B16.34 (fully conforms)
END CONNECTIONS	ASME B16.25, B1.20.1, B16.11
PRESSURE TESTING	API 598
SULFIDE STRESS PROTECTION	NACE MR0175
FIRE TESTING	API 607-6th Edition
MOUNTING	ISO 5211
CE APPROVAL	2014/68/EU Module H
MARKING SYSTEM FOR VALVES	MSS SP-25, ISO 5209
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2015

API 607 - 6th Edition CERTIFIED



Firesafe tested to API-607 (valve only)



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	6.50	2.84	0.787	2.65	2.82	7
3/8"	6.50	2.84	0.787	2.65	2.82	8
1/2"	6.50	2.84	0.787	2.62	2.82	15
3/4"	6.50	2.84	0.787	2.78	2.82	40
1"	6.50	2.84	0.787	2.99	2.82	70
1-1/4"	6.50	2.84	0.787	3.14	2.82	110
1-1/2"	7.60	3.47	0.787	4.03	3.35	250
2"	9.30	4.30	0.787	4.91	4.18	430

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES F83 3-Piece

Firesafe

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F83-TX-025/3RDD-XX
3/8"	F83-TX-038/3RDD-XX
1/2"	F83-TX-050/3RDD-XX
3/4"	F83-TX-075/3RDD-XX
1"	F83-TX-100/3RDD-XX
1-1/4"	F83-TX-125/3RDD-XX
1-1/2"	F83-TX-150/3RED-XX
2"	F83-TX-200/3RFD-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F83-TX-025/3RDD-XX
3/8"	F83-TX-038/3RDD-XX
1/2"	F83-TX-050/3RDD-XX
3/4"	F83-TX-075/3RDD-XX
1"	F83-TX-100/3RDD-XX
1-1/4"	F83-TX-125/3RED-XX
1-1/2"	F83-TX-150/3RED-XX
2"	F83-TX-200/3RFD-XX

OPTIONS		
SUFFIX 1	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVCG-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC	TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC	TVCG-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC	TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC	TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC	TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC	TVSS-X411-7N-D24
P	Pneumatic Positioner	PPR-1200
E	Electro-Pneumatic Positioner	EPR-1000
SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S

Other options available - call for details
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

SAMPLE PART #

F83C-TX-100/3RDD-XX

Firesafe
Valve Series
Carbon Steel
End Connection
Seat Material
Valve Size
TRIAC Actuator Series
Actuator Size
Double Acting

See automated part number matrix on back cover for complete part number and options.

SUFFIX 1: Solenoids
SUFFIX 2: Limit Switch

Pneumatic Spring Return Automated Ball Valve Package

Series F83 3-Piece Ball Valve

Firesafe

Sizes 1/4" - 2"

Full Port Design

Conforms to ASME B16.34 (2020)

Classes up to 600
1000 to 2000 psi (BPVC) by size

316SST or WCB

TH, SW, or BW Ends

Superior Live Loaded Packing System

Blowout Proof Stem w/ Dual Anti-Static Devices

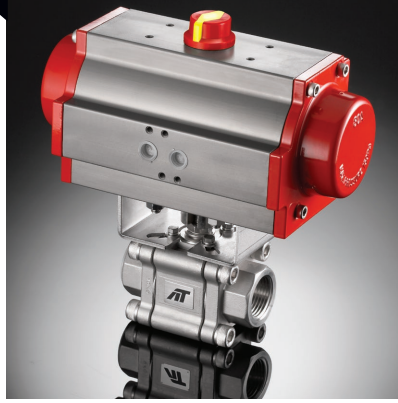
RTFE Seats Standard

Pyramidal Stem Seal Design

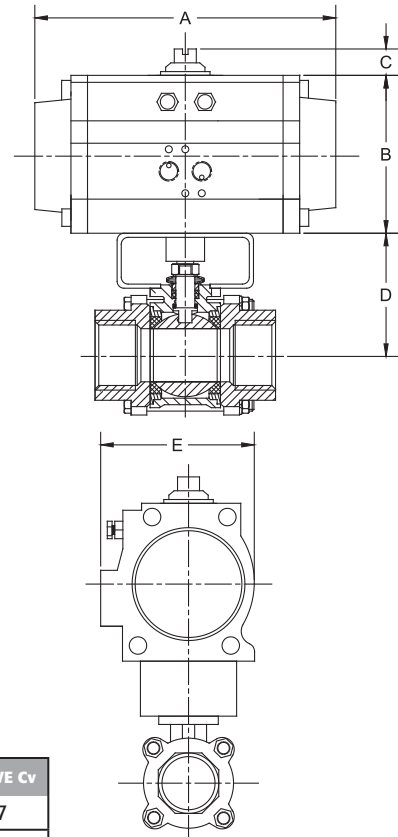
STANDARDS

DESIGN	ASME B16.34 (fully conforms)
END CONNECTIONS	ASME B16.25, B1.20.1, B16.11
PRESSURE TESTING	API 598
SULFIDE STRESS PROTECTION	NACE MR0175
FIRE TESTING	API 607-6th Edition
MOUNTING	ISO 5211
CE APPROVAL	2014/68/EU Module H
MARKING SYSTEM FOR VALVES	MSS SP-25, ISO 5209
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2015

**API 607 - 6th Edition
CERTIFIED**



Firesafe tested to API-607 (valve only)



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/4"	6.50	2.84	0.787	2.65	1.93	7
3/8"	6.50	2.84	0.787	2.65	1.93	8
1/2"	6.50	2.84	0.787	2.62	1.93	15
3/4"	7.60	3.47	0.787	2.78	3.35	40
1"	9.29	4.30	0.787	2.98	4.18	70
1-1/4"	9.29	4.30	0.787	3.13	4.18	110
1-1/2"	9.29	4.30	0.787	4.03	4.18	250
2"	11.02	4.61	0.787	4.91	4.27	430

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES F83 3-Piece

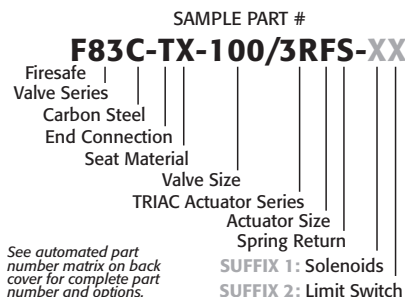
Firesafe

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F83-TX-025/3RDS-XX
3/8"	F83-TX-038/3RDS-XX
1/2"	F83-TX-050/3RDS-XX
3/4"	F83-TX-075/3RES-XX
1"	F83-TX-100/3RFS-XX
1-1/4"	F83-TX-125/3RFS-XX
1-1/2"	F83-TX-150/3RFS-XX
2"	F83-TX-200/3RGS-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F83-TX-025/3RD4-XX
3/8"	F83-TX-038/3RD4-XX
1/2"	F83-TX-050/3RD4-XX
3/4"	F83-TX-075/3RE4-XX
1"	F83-TX-100/3RF4-XX
1-1/4"	F83-TX-125/3RF4-XX
1-1/2"	F83-TX-150/3RG4-XX
2"	F83-TX-200/3RH4-XX

OPTIONS		
SUFFIX 1	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVCS-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC	TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC	TVCS-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC	TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC	TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC	TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC	TVSS-X411-7N-D24
P	Pneumatic Positioner	PPR-1200
E	Electro-Pneumatic Positioner	EPR-1000
SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S

Other options available - call for details
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.



Electric

Automated Ball Valve Package Series F83 3-Piece Ball Valve

Firesafe

Sizes 1/4" - 2"

Full Port Design

Conforms to ASME B16.34 (2020)

Classes up to 600
1000 to 2000 psi (BPVC) by size

316SST or WCB

TH, SW, or BW Ends

Superior Live Loaded Packing System

Blowout Proof Stem w/ Dual
Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

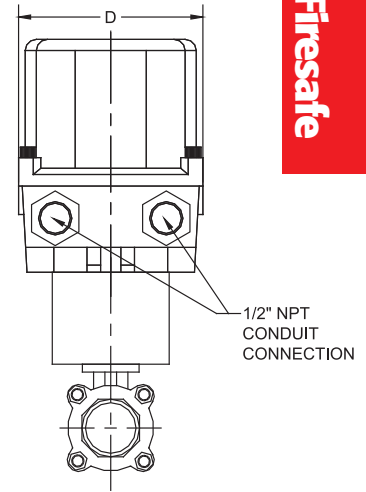
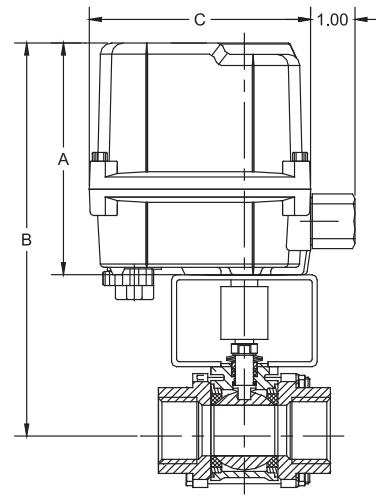
STANDARDS

DESIGN	ASME B16.34 (fully conforms)
END CONNECTIONS	ASME B16.25, B1.20.1, B16.11
PRESSURE TESTING	API 598
SULFIDE STRESS PROTECTION	NACE MR0175
FIRE TESTING	API 607-6th Edition
MOUNTING	ISO 5211
CE APPROVAL	2014/68/EU Module H
MARKING SYSTEM FOR VALVES	MSS 5P-25, ISO 5209
MATERIAL CERTIFICATION	EN 10204-3.1 MTR
QUALITY ASSURANCE	ISO 9001:2015

**API 607 - 6th Edition
CERTIFIED**



Firesafe tested to API-607
(valve only)



**SERIES F83
3-Piece**

Firesafe

DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	VALVE Cv
1/4"	5.24	7.89	4.94	4.08	7
3/8"	5.24	7.89	4.94	4.08	8
1/2"	5.24	7.89	4.94	4.08	15
3/4"	5.24	7.89	4.94	4.08	40
1"	5.24	8.02	4.94	4.08	70
1-1/4"	5.24	8.14	4.94	4.08	110
1-1/2"	5.24	8.29	4.94	4.08	250
2"	5.24	8.66	4.94	4.08	430

ON-OFF	
SIZE	MODEL
1/4"	F83-TX-025/WEA1-XX
3/8"	F83-TX-038/WEA1-XX
1/2"	F83-TX-050/WEA1-XX
3/4"	F83-TX-075/WEA1-XX
1"	F83-TX-100/WEA1-XX
1-1/4"	F83-TX-125/WEA1-XX
1-1/2"	F83-TX-150/WEA1-XX
2"	F83-TX-200/WEA1-XX

MODULATING	
SIZE	MODEL
1/4"	F83-TX-025/WEA2-XX
3/8"	F83-TX-038/WEA2-XX
1/2"	F83-TX-050/WEA2-XX
3/4"	F83-TX-075/WEA2-XX
1"	F83-TX-100/WEA2-XX
1-1/4"	F83-TX-125/WEA2-XX
1-1/2"	F83-TX-150/WEA2-XX
2"	F83-TX-200/WEA2-XX

OPTIONS

Suffix 1 Voltage / Accessory Model No.

X	No Specials
R	24VDC Electric Actuator
S	220VAC Electric Actuator
T	Other Voltage Electric Actuator
W	12VDC Electric Actuator
Y	24VAC Electric Actuator

* No voltage specified on electric assemblies denotes 120VAC

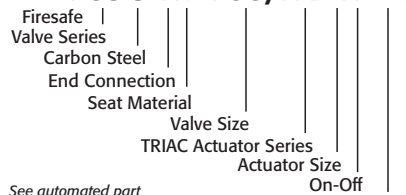
Suffix 2 Accessories

X	No Specials
1	HS1 High Speed Electric
2	HS2 High Speed Electric

Other options available - call for details
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

SAMPLE PART #

F83C-TX-100/WEA1-XX



See automated part number matrix on back cover for complete part number and options.

SUFFIX 1: Voltage
SUFFIX 2: Options

HOW TO ORDER: Manual Valves w/ Options

Series F83

API 607 - 6th Edition
CERTIFIED

1	Prefix
F	Firesafe Tested

3	Body/Ball/Stem Material
Blank	Valve Series Standard (316SST)
C	Carbon Steel Body

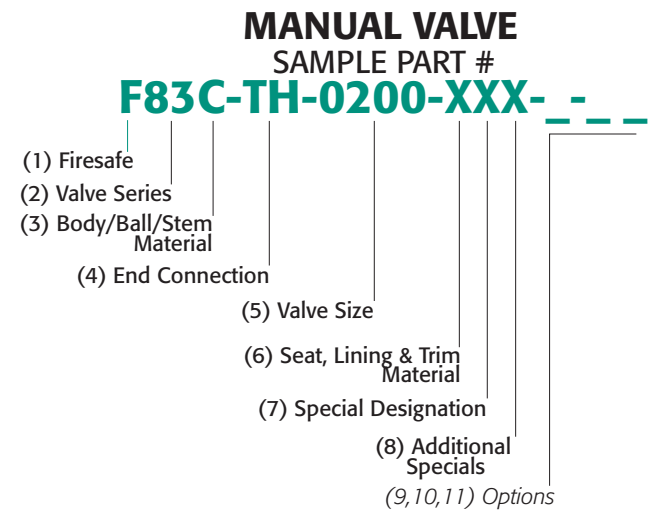
2	Valve Series
83	3 pc. 2000 psi max, Full Port

4	End Connection
TH	NPT Ends
SW	Socket Weld Ends
BW	Butt Weld Ends
EW	Extended Butt Weld Ends
TE	NPT x Extended Butt Weld
TS	NPT x Socket Weld
TB	NPT x Butt Weld
XX	Configurable End Connection

5	Valve Size
0025	1/4" 0125 1-1/4"
0038	3/8" 0150 1-1/2"
0050	1/2" 0200 2"
0075	3/4"
0100	1"

6	Seat, Lining & Trim Materials
X	Reinforced TFE Seats (RTFE)
P	Virgin TFE Seats (PTFE)
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600 Seats
A	50% SS Powder/50% TFM™-1600 Seats (STFM)

7	Special Designation
X	No Specials/Series Standard
G	Gear Operator
H	Gear Operator w/ Lockout Plate
O	Oval Handle (available on some)
S	Spring Return (Direct Mount Only)
4	4" Lockable Stem Extension



8	Additional Specials
X	No Specials, Series Standard
O	Oxygen Cleaned
V	Vented Ball
E	Bonnet Extension Lockable Handle
F	Fugitive Emissions Bonnet
D	Degreased & Bagged
A	Vented Ball, Degreased & Bagged
B	Vented Ball, Oxygen Cleaned

TFM™ is a trademark of Dyneon™, a 3M Company.

OPTIONS:

9	Special Designation
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
H	Hard Coated (HMF) Ball

10	O-Ring
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation

11	Additional Specials
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
B	B7M Bolting
E	CE/PED Certified
M	Marine Epoxy Coating

