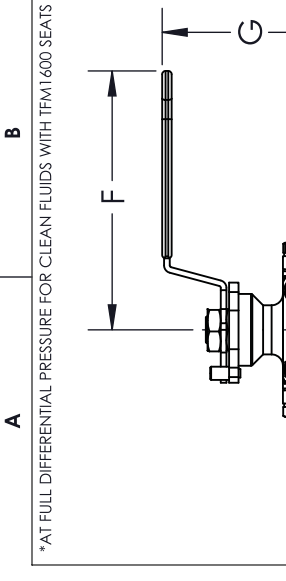


A		B		C		D		E		F		G						
SIZE	A	ad	E1	E2	E3	E4	F	G	J1 (SQ.)	ak1	ak2	al1	al2	W	ISO 5211	WEIGHT (lbs)	Cv	TORQUE* (in-lb)
1/2"	0.35 (9)	0.37 (10)	4.65 (118)	2.32 (59)	2.32 (59)	2.32 (59)	4.76 (121)	2.93 (75)	0.35 (9)	0.26 (6)	0.26 (6)	1.42 (36)	1.65 (42)	0.065 (1.7)	F03-F04	2	9	79
3/4"	0.35 (9)	0.62 (16)	5.00 (127)	5.00 (127)	2.52 (64)	2.52 (64)	4.76 (121)	3.21 (82)	0.35 (9)	0.26 (6)	0.26 (6)	1.42 (36)	1.65 (42)	0.065 (1.7)	F03-F04	3	26	85
1"	0.43 (11)	0.87 (22)	6.01 (153)	3.01 (77)	3.01 (77)	3.01 (77)	5.39 (137)	3.46 (88)	0.43 (11)	0.28 (7)	0.28 (7)	1.65 (42)	1.97 (50)	0.065 (1.7)	F04-F05	6	61	110
1-1/2"	0.55 (14)	1.38 (35)	6.89 (175)	3.46 (88)	3.46 (88)	3.46 (88)	7.17 (182)	4.07 (104)	0.55 (14)	0.30 (8)	0.37 (10)	1.97 (50)	2.76 (70)	0.065 (1.7)	F05-F07	11	193	290
2"	0.55 (14)	1.87 (48)	7.48 (190)	3.74 (95)	3.74 (95)	3.74 (95)	7.17 (182)	4.42 (112)	0.55 (14)	0.30 (8)	0.37 (10)	1.97 (50)	2.76 (70)	0.065 (1.7)	F05-F07	16	432	425
2-1/2"	0.67 (17)	2.37 (60)	8.98 (228)	4.49 (114)	4.49 (114)	4.49 (114)	14.57 (370)	4.15 (106)	0.67 (17)	0.37 (10)	0.43 (11)	2.76 (70)	4.02 (102)	0.065 (1.7)	F07-F10	21	728	1085
3"	0.91 (23)	2.87 (73)	10.26 (261)	5.13 (131)	5.13 (131)	5.13 (131)	15.75 (400)	5.08 (129)	0.87 (22)	0.43 (11)	0.55 (14)	4.02 (102)	4.92 (125)	0.065 (1.7)	F10-F12	40	1125	1597
4"	0.91 (23)	2.87 (73)	11.42 (290)	5.71 (145)	5.71 (145)	5.71 (145)	15.75 (400)	5.28 (134)	0.87 (22)	0.43 (11)	0.55 (14)	4.02 (102)	4.92 (125)	0.065 (1.7)	F10-F12	45	1986	1780

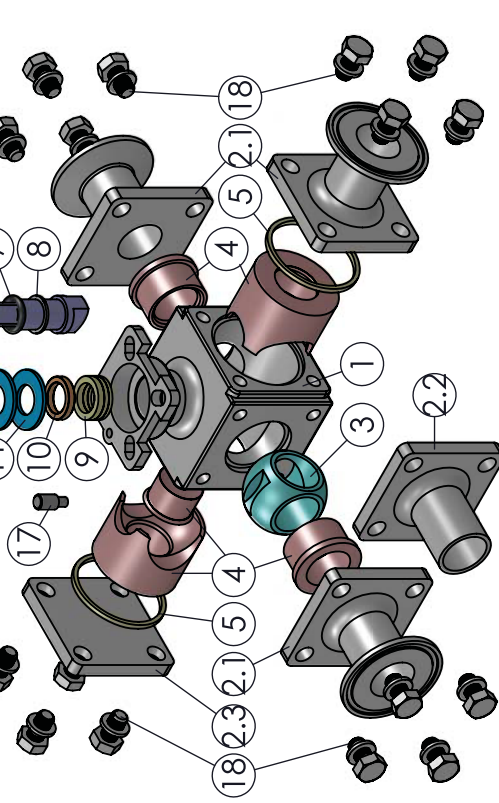
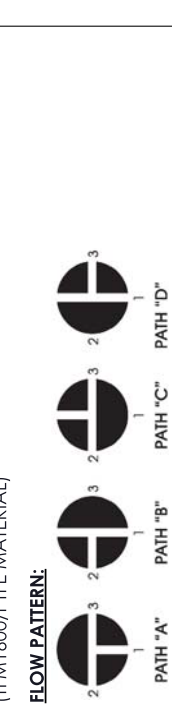


**PRODUCT INFORMATION:**

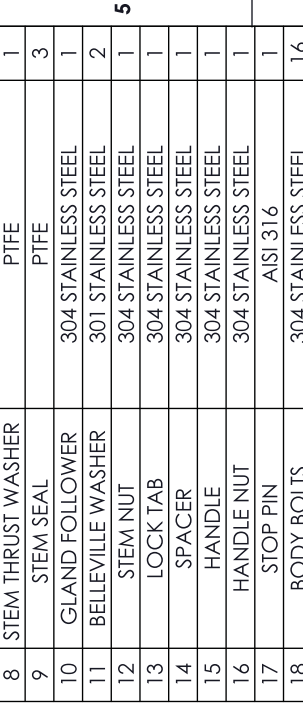
- POSITIVE SHUT-OFF ON ANY OF THE THREE PORTS
- BLOW OUT PROOF STEM
- LOCKING DEVICE
- FULL CAVITY FILLED SEATS
- INTERNAL SURFACE FINISH OF 20 Ra OR BETTER
- COMPLETE VALVE AUTOMATION

**APPLICABLE STANDARDS:**

- ASME B16.34: DESIGN REQUIREMENTS
- API 598: INSPECTION AND TESTING
- ISO 5211: MOUNTING
- USP CLASS VI: CONFIRMATION OF COMPLIANCE (TFM1600/PIPE MATERIAL)

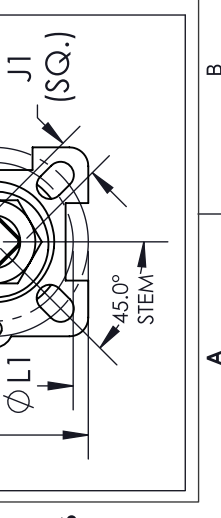


ITEM NO.	DESCRIPTION	MATERIALS	QTY.
1	BODY	A351-CF8M	1
2.1	END (TRI-CLAMP)	A351-CF8M	3
2.2	END (ETO)	A351-CF3M	3
2.3	BLIND END	A351-CF8M	1
3	BALL	A351-CF8M	1
4	SEAT	TFM1600	5
5	BODY SEAL	PTFE	2
6	STEM	AISI 316	1
7	O-RING	VITON	1
8	STEM THRUST WASHER	PTFE	1
9	STEM SEAL	PTFE	3
10	GLAND FOLLOWER	304 STAINLESS STEEL	1
11	BELLEVILLE WASHER	301 STAINLESS STEEL	2
12	STEM NUT	304 STAINLESS STEEL	1
13	LOCK TAB	304 STAINLESS STEEL	1
14	SPACER	304 STAINLESS STEEL	1
15	HANDLE	304 STAINLESS STEEL	1
16	HANDLE NUT	304 STAINLESS STEEL	1
17	STOP PIN	AISI 316	1
18	BODY BOLTS	304 STAINLESS STEEL	16

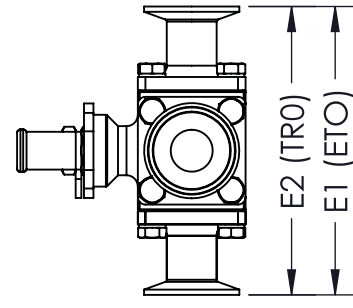
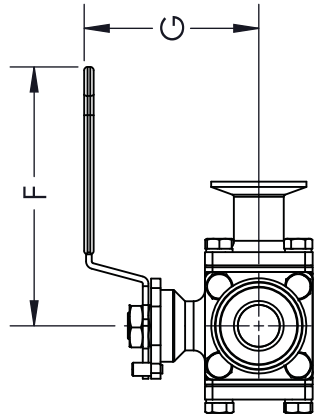


DRAWN BY	DATE	08/20/2018
CHECKED BY	DATE	08/20/2018
APPROVED BY	DATE	08/20/2018

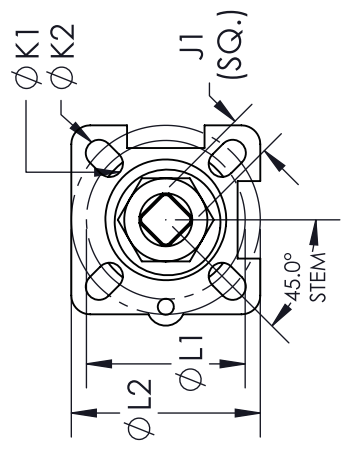
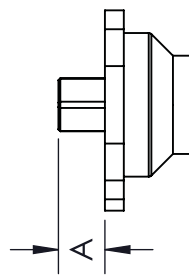
DESCRIPTION:  
1/2" - 4" SMC9 THREE-WAY MULTI-PORTED BALL VALVE,  
EXTENDED TUBE O.D. ENDS/ TRI-CLAMP ENDS, T PORT, S/S  
UNITS: INCH (MILLIMETERS) DATE: 08/20/2018 REV: A



\*AT FULL DIFFERENTIAL PRESSURE FOR CLEAN FLUIDS WITH TFM1600 SEATS



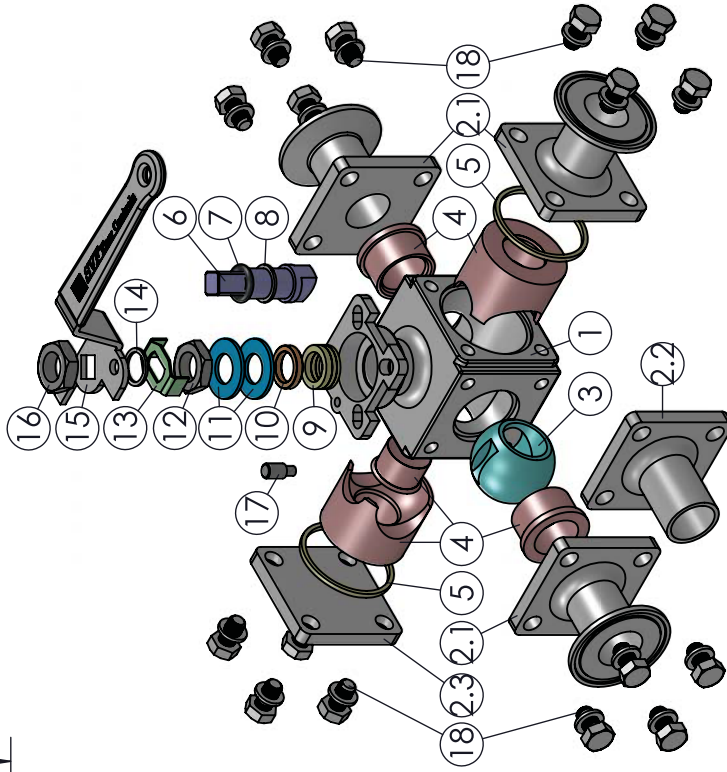
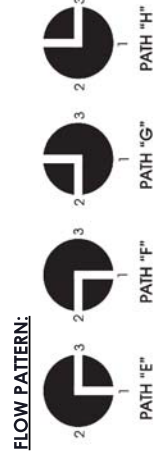
**TOPWORKS**



SIZE	A	ad	E1	E2	E3	E4	F	G	J1 (SQ.)	ak1	ak2	al1	al2	W	ISO 5211	WEIGHT (lbs)	Cv	TORQUE* (in-lb)
1/2"	0.35 (9)	0.37 (10)	4.65 (118)	2.32 (59)	2.32 (59)	4.76 (121)	4.76 (121)	2.93 (75)	0.35 (9)	0.26 (6)	0.26 (6)	1.42 (36)	1.65 (42)	0.065 (1.7)	F03-F04	2	9	79
3/4"	0.35 (9)	0.62 (16)	5.00 (127)	2.52 (64)	2.52 (64)	4.76 (121)	4.76 (121)	3.21 (82)	0.35 (9)	0.26 (6)	0.26 (6)	1.42 (36)	1.65 (42)	0.065 (1.7)	F03-F04	3	26	85
1"	0.43 (11)	0.87 (22)	6.01 (153)	3.01 (77)	3.01 (77)	5.39 (137)	5.39 (137)	3.46 (88)	0.43 (11)	0.28 (7)	0.28 (7)	1.65 (42)	1.97 (50)	0.065 (1.7)	F04-F05	6	61	110
1-1/2"	0.55 (14)	1.38 (35)	6.89 (175)	3.46 (88)	3.46 (88)	7.17 (182)	7.17 (182)	4.07 (104)	0.55 (14)	0.30 (8)	0.37 (10)	1.97 (50)	2.76 (70)	0.065 (1.7)	F05-F07	11	193	290
2"	0.55 (14)	1.87 (48)	7.48 (190)	3.74 (95)	3.74 (95)	7.17 (182)	7.17 (182)	4.42 (112)	0.55 (14)	0.30 (8)	0.37 (10)	1.97 (50)	2.76 (70)	0.065 (1.7)	F05-F07	16	432	425
2-1/2"	0.67 (17)	2.37 (60)	8.98 (228)	4.49 (114)	4.49 (114)	8.98 (228)	8.98 (228)	4.15 (106)	0.67 (17)	0.37 (10)	0.43 (11)	2.76 (70)	4.02 (102)	0.065 (1.7)	F07-F10	21	728	1085
3"	0.91 (23)	2.87 (73)	10.26 (261)	5.13 (131)	5.13 (131)	15.75 (400)	15.75 (400)	5.08 (129)	0.87 (22)	0.43 (11)	0.55 (14)	4.02 (102)	4.92 (125)	0.065 (1.7)	F10-F12	40	1125	1597
4"	0.91 (23)	2.87 (73)	11.42 (290)	5.71 (145)	5.71 (145)	15.75 (400)	15.75 (400)	5.28 (134)	0.87 (22)	0.43 (11)	0.55 (14)	4.02 (102)	4.92 (125)	0.065 (1.7)	F10-F12	45	1986	1780

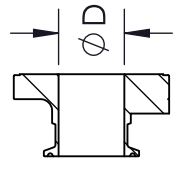
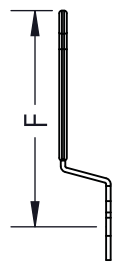
- PRODUCT INFORMATION:**
- POSITIVE SHUT-OFF ON ANY OF THE THREE PORTS
  - BLOW OUT PROOF STEM
  - LOCKING DEVICE
  - FULL CAVITY FILLED SEATS
  - INTERNAL SURFACE FINISH OF 20 Ra OR BETTER
  - COMPLETE VALVE AUTOMATION

- APPLICABLE STANDARDS:**
- ASME B16.34: DESIGN REQUIREMENTS
  - API 598: INSPECTION AND TESTING
  - ISO 5211: MOUNTING
  - USP CLASS VI: CONFIRMATION OF COMPLIANCE (TFM1600/PIPE MATERIAL)



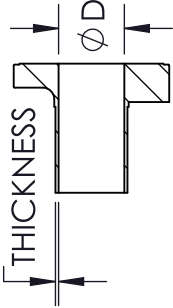
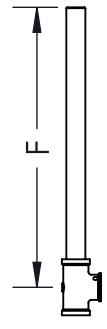
ITEM NO.	DESCRIPTION	MATERIALS	QTY.
1	BODY	A351-CF8M	1
2.1	END (TRI-CLAMP)	A351-CF8M	3
2.2	END (ETO)	A351-CF3M	3
2.3	BLIND END	A351-CF8M	1
3	BALL	A351-CF8M	1
4	SEAT	TFM1600	5
5	BODY SEAL	PTFE	2
6	STEM	AISI 316	1
7	O-RING	VITON	1
8	STEM THRUST WASHER	PTFE	1
9	STEM SEAL	PTFE	3
10	GLAND FOLLOWER	304 STAINLESS STEEL	1
11	BELLEVILLE WASHER	301 STAINLESS STEEL	2
12	STEM NUT	304 STAINLESS STEEL	1
13	LOCK TAB	304 STAINLESS STEEL	1
14	SPACER	304 STAINLESS STEEL	1
15	HANDLE	304 STAINLESS STEEL	1
16	HANDLE NUT	304 STAINLESS STEEL	1
17	STOP PIN	AISI 316	1
18	BODY BOLTS	304 STAINLESS STEEL	16

**SIZES 1/2" - 2" WITH LEVER HANDLE:**



TRI-CLAMP END

**SIZES 2-1/2" - 4" WITH PIPE HANDLE:**



EXTENDED TUBE-OD END

DRAWN BY	DATE
C.L.	08/20/2018
CHECKED BY	DATE
E.P.	08/20/2018
APPROVED BY	DATE
J.S.	08/20/2018

PROJECTION:  
1/2" - 4" SMC9 THREE-WAY MULTI-PORTED BALL VALVE,  
EXTENDED TUBE O.D. ENDS/ TRI-CLAMP ENDS; L PORT; S/S  
UNITS: INCH (MILLIMETERS) DATE: 08/20/2018 REV: A

