

In January 1972 the bulb and bellows filling temperature, and in some cases the filling fluids, for the bulb and bellows and ambient bellows were changed. The standard operating range now covers temperatures from 0°F to 150°F. Any application outside this range is considered special.

If a replacement bulb and bellows or ambient bellows is filled with the same material (Acetone or OS-59) as the unit to be replaced, the new part is interchangeable. However, if a bulb and bellows or ambient bellows filled with any of the discontinued filling fluids (Methyl Alcohol, Xylene, Acetone and Trichloroethylene, Freon, Toluene, or Dow Corning 550 Fluid) is being replaced in an ATC unit, it will be necessary to replace the calibrator, bulb and bellows, and ambient bellows. For an ATG, the bulb and bellows, and ambient bellows must be replaced. See the last page for conversion.

When ordering temperature compensator components, be sure to specify the information listed below:

1. Meter model and serial number.
2. Type of compensator, ATC or ATG.
3. If ATC, calibrator part number.
4. Type of mounting:
 - A. Directly on meter
 - B. Offset dual head adapter
 - C. Single head adapter
 - D. Ventilated extension

5. Average operating temperature.
6. Total operating temperature.
7. API gravity, specific gravity, or coefficient of expansion of product.
8. API tables used.

Chart Determination

For Models	Use Chart
C2, E3, F4, G6, H8, J10, K12, M16, SC13, T7, T11, T20, T40 with ATC Series	A-514340
Single head adapter with ATC Series	A-514340
All models with ATG Series	A-514340
B, AB, D, K, M, S, AS, W, T6, T10, T15, T30 with ATC Series	B-514343
Offset dual head adapter with ATC	See Note
Ventilated extension with ATC	See Note

Note: In some instances, visual identification is the only means of determining which style parts are required (see Charts A and B).

Chart A

ATC Calibrators

Standard ATC Calibrators:

44° API, Temperature Range 0°F to 139°F, Table 6
 39.9° API, Temperature Range 0°F to 139°F, Table 6A
 42.5° API, Temperature Range 0°F to 139°F, Table 6B
 500 Alpha, Temperature Range 0°F to 139°F, Table 6C
 C, E, F, G, H, J, K, M,
 and Oval Gear Meters.....512060-001
 DuraFlow and T-Meters.....519734-001

Specially-Drilled ATC Calibrators

C, E, F, G, H, J, K, M,
 and Oval Gear Meters.....516130-
 DuraFlow and T-Meters.....533926-

Dummy Calibrator

Other Than T-Meters.....516105-001

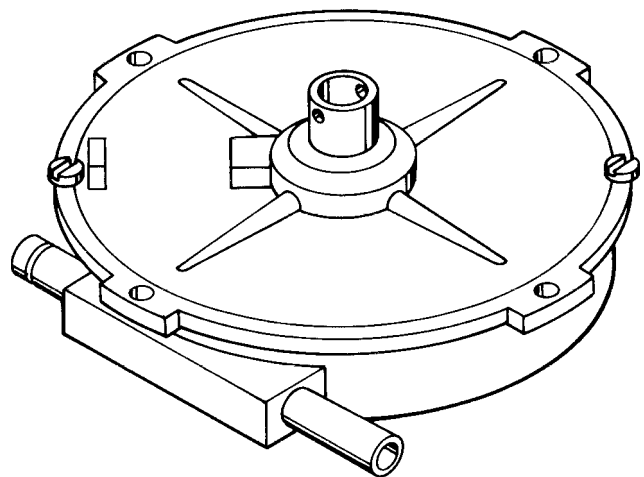
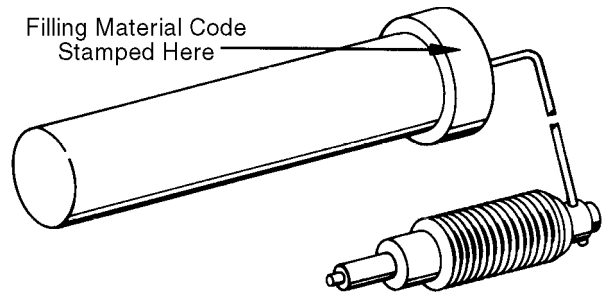


Chart A (continued)

Bulb and Bellows 514340 Series

Filling Material Code

Freon	F*
Acetone	S
Toluene	T*
Dow Corning.....	DW*
Methyl Alcohol	A*
Xylene.....	X*
Acetone and Trichloroethylene	AT*
OS-59	O

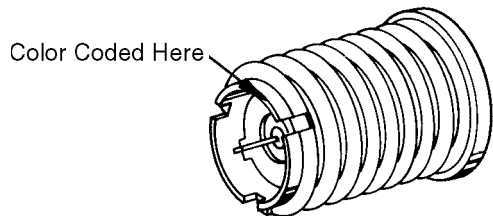


Ambient Bellows 516905 Series

Color Code

Freon	None*
Acetone	None
Toluene	Orange*
Dow Corning.....	Yellow*
OS-59	Red

* No Longer Available



Bulb and Bellows and Ambient Bellows Parts List

Total Operating Range (°F)	Average Operating Temp. (°F)	Bulb Filling Temp (°F)	Bulb and Bellows Part Number			Bulb ^R Marking	Ambient ^R Bellows
			26" ^{RR}	42" ^{@1R}	52" ^{RR}		
0 to 250+	—	75	514340-178	514340-198	514340-198	O-75	516905-004
-50 to 100	0 to 50	25	514340-070	514340-080	514340-090	S-25	516905-001
0 to 150	50 to 100	75*	514340-006	514340-002	514340-004	S	516905-001
50 to 200	100 to 150	125	514340-071	514340-081	514340-091	S-125	516905-001
125 to 225	150 to 200	175	514340-172	514340-192	514340-192	O-175	516905-004
175 to 275	200 to 250	225	514340-173	514340-193	514340-193	O-225	516905-004
175 to 375	250 to 300	275	514340-174	514340-194	514340-194	O-275	516905-004
225 to 425	300 to 350	325	514340-175	514340-195	514340-195	O-325	516905-004
275 to 475	350 to 400	375	514340-176	514340-196	514340-196	O-375	516905-004
325 to 525	400 to 450	425	514340-177	514340-197	514340-197	O-425	516905-004

* Standard.

+ Special, for use only with products with a C of E less than .00030/°F.

@ 1 42" Capillary length will not be available in OS-59 fillings. 52" length will be substituted.

Note: Freon and Acetone are interchangeable for use in standard operating range, however, Freon is no longer supplied from the factory.

Chart B

ATC Calibrators

- 44° API, Temperature Range 0°F to 139°F, Table 6
- 39.9° API, Temperature Range 0°F to 139°F, Table 6A
- 42.5° API, Temperature Range 0°F to 139°F, Table 6B
- 500 Alpha, Temperature Range 0°F to 139°F, Table 6C

Duty Type	For Meter	Part No.
Standard	T-Meters	009629-001
Standard	S, W, D, M, B	005816-001
Heavy Duty	T-Meters	502775-001
Heavy Duty	S, W, D, M, B	501756-001

Specially-Drilled ATC Calibrators

Duty Type	For Meter	Part No.
Standard	T-Meters	009825-
Standard	S, W, D, M, B	009214-
Heavy Duty	T-Meters	502776-
Heavy Duty	S, W, D, M, B	502560-

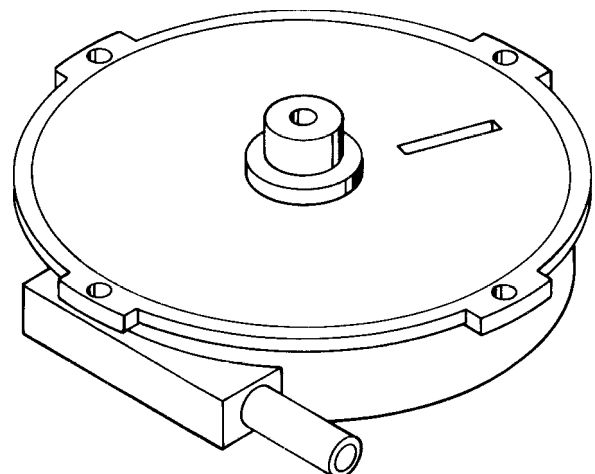


Chart B (continued)

Dummy Calibrator

Other Than T-Meters.....071885-001

Bulb and Bellows 514343 Series

Filling Material Code

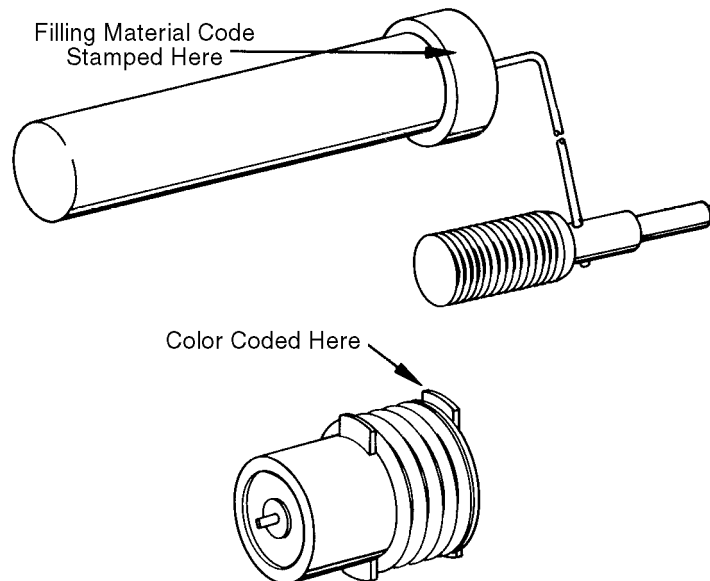
Freon F*
 Acetone S
 Toluene T*
 Dow Corning..... DW*
 Methyl Alcohol A*
 Xylene..... X*
 Acetone and Trichloroethylene AT*
 OS-59 O

Ambient Bellows 9331 Series

Color Code

Freon None*
 Acetone None
 Toluene..... Orange*
 Dow Corning..... Yellow*
 OS-59 Red

* No Longer Available



Bulb and Bellows and Ambient Bellows Parts List

Total Operating Range (°F)	Average Operating Temp. (°F)	Bulb Filling Temp. (°F)	Bulb and Bellows Part Number			Bulb Marking	Ambient Bellows
			26"	42"	60"		
-50 to 100	0 to 50	25	514343-070	514343-080	514343-090	S-25	009331-001
0 to 150	50 to 100	75*	514343-005	514343-001	514343-003	S	009331-001
50 to 200	100 to 150	125	514343-071	514343-081	514343-091	S-125	009331-001
125 to 225	150 to 200	175	514343-072	514343-082	514343-092	T-175	009331-002
175 to 275	200 to 250	225	514343-073	514343-083	514343-093	T-225	009331-002
175 to 375	250 to 300	275	514343-074	514343-084	514343-094	DW-275	009331-003
225 to 425	300 to 350	325	514343-075	514343-085	514343-095	DW-325	009331-003
275 to 475	350 to 400	375	514343-076	514343-086	514343-096	DW-375	009331-003
325 to 525	400 to 450	425	514343-077	514343-087	514343-097	DW-425	009331-003

*Standard.

Note: Freon and Acetone are interchangeable for use in standard operating range.

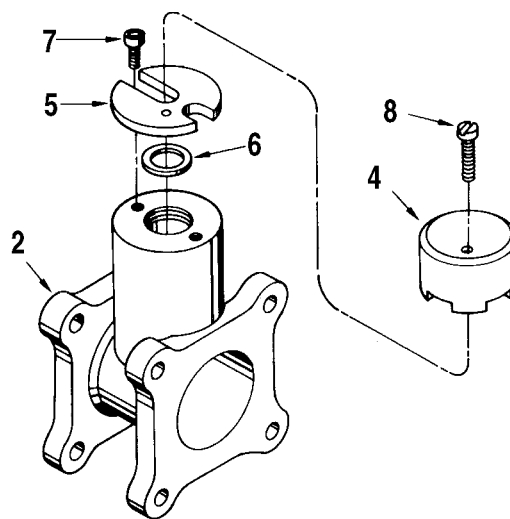
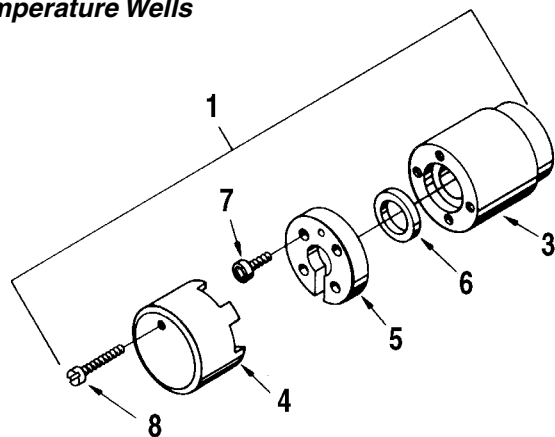
Recommended bulb and bellows length, ATC or ATG mounted directly on meter

If ATC or ATG is mounted other than directly on meter, capillary tube length may change.

26 Inch			26 Inch continued			52 or 60 Inch
T-6	D-28	E3-S1	SC-13	AB-60	F4-A3	B-875
T-7	M-28	E3-S3	B-13	S-100	G6-S1	W-875
T-10	S-42	E3-S5	D-13	AB-100	G6-S3	M16-S1
T-11	AS-42	E3-S6	M-13	C2-S1	G6-A1	M16-S3
T-15	AB-42	E3-S7	K-13	C2-S3	G6-A3	M16-S5
T-20	W-42	E3-A1	W-13	C2-S5		M16-S6
T-30	D-42	E3-A3	S-28	C2-S6		
T-40	M-42	F4-S1	W-28	C2-S7		
S-12	S-60	F4-S3				
S-13	AS-60	F4-A1				

@2 42" Capillary length will not be available in OS-59 fillings. 52" length will be substituted.

Temperature Wells



Item	Description	Qty.	External	
			Internal	External
1	Complete Assembly, Temperature Well.....	1	515618-001	.....
2	Body, External:			
	T-6.....	1	.....	515119-001
	T-10, T-11 (Illustrated)	1	.....	515120-001
	T-15, T-20	1	.....	515121-001
3	Body, Internal		504078-002	.....
4	Cover.....	1	514522-001	514522-001
5	Collar.....	1	012001-001	514521-001
6	Gasket.....	1	060341-001	060341-001
7	Screw, 5/16-18 x 3/4":			
	Internal	4	006409-002	.....
	External	2	.....	006409-002
8	Screw, #10-32 x 1-5/8".....	1	006479-002	006479-002

Bulb Filling and Temperature Reference

Old Filling	Conversion Required	New Filling	Old Filling	Conversion Required	Filling
Acetone		Acetone	Xylene		OS-59
50°F	No	25°F	220°F	Yes	225°F
60°F	No	75°F	240°F	Yes	275°F
70°F	No	75°F	260°F	Yes	275°F
80°F	No	75°F	280°F	Yes	275°F
90°F	No	75°F	300°F	Yes	275°F
100°F	No	75°F			
			Dow Corning 550		OS-59
		Acetone	275°F	Yes	275°F
Methyl Alcohol		125°F	325°F	Yes	325°F
110°F	Yes	125°F	350°F	Yes	325°F
120°F	Yes	125°F	375°F	Yes	375°F
130°F	Yes	125°F	400°F	Yes	375°F
140 F	Yes	125 F	425°F	Yes	425°F
150°F	Yes	125°F			
			Acetone and Trichlorethylene		Acetone
Toluene		OS-59	90°F	Yes	75°F
160°F	Yes	175°F	110°F	Yes	75°F
170°F	Yes	175°F	140°F	Yes	125°F
175°F	Yes	175°F	165°F	Yes	125°F
180°F	Yes	175°F			
190°F	Yes	175°F	Acetone and Trichlorethylene		OS-59
200°F	Yes	175°F	180°F	Yes	175°F
225°F	Yes	225°F			

Publication PO01030 has replaced P0208.03X which has been made obsolete. (5/2013)

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

Contact information is subject to change. For the most current contact information, visit our website at www.fmctechnologies.com/measurementsolutions and click on the "Contact Us" link in the left-hand column.

Headquarters:

500 North Sam Houston Parkway West, Suite 100, Houston, TX 77067 USA, Phone: +1 (281) 260 2190, Fax: +1 (281) 260 2191

Measurement Products and Equipment:

Erie, PA USA +1 (814) 898 5000

Ellerbek, Germany +49 (4101) 3040

Barcelona, Spain +34 (93) 201 0989

Beijing, China +86 (10) 6500 2251

Burnham, England +44 (1628) 603205

Dubai, United Arab Emirates +971 (4) 883 0303

Los Angeles, CA USA +1 (310) 328 1236

Melbourne, Australia +61 (3) 9807 2818

Moscow, Russia +7 (495) 5648705

Singapore +65 6861 3011

Integrated Measurement Systems:

Corpus Christi, TX USA +1 (361) 289 3400

Kongsberg, Norway +47 (32) 286700

Dubai, United Arab Emirates +971 (4) 883 0303

Visit our website at www.fmctechnologies.com/measurementsolutions