

Temperature and Pressure Gauges

For HVAC Applications

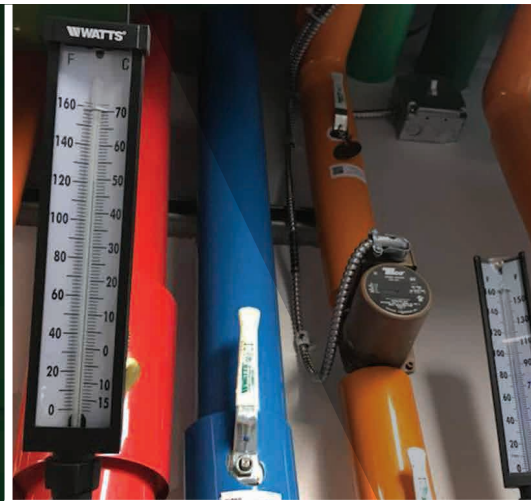


Table of Contents

Introduction	3
Pressure Gauges	
LFDPG1	4
LFDPG3	5
LFDPG5	5
Combination Pressure/Temperature Gauges	
LFDPTG1	6
LFDPTG3, LFDPTG-3A, LFDPTG-3L	6
Hose Connection Gauge	
276H300	7
IWTG	7
Air Test Assembly Gauges	
IWTG-Gas	7
IWTG-NYC	7
IWTG-HTX	8
Bimetal Thermometers	
LFTB	8
LFTBR	9
TBP	9
TBC	10
Liquid Fill Thermometers	
TA	10
TL	11

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

Introduction

Watts is pleased to introduce our full line of temperature, pressure, and combination pressure/temperature gauges and accessories for HVAC applications. This selection of gauges will provide contractors with instruments that span the pressure testing and monitoring needs required by plumbing, heating, ventilation, and air conditioning applications in the home and in commercial and institutional buildings.

Quality

These high quality, precision measurement instruments are certified by The Northern Certification Society of Italy (Det Norske Verita Italia S.r.l.) and are manufactured to conform to the ISO 9002 quality standard. These gauges conform for ASME B40.100.

Safety

Watts gauges with copper alloy sensing elements are not suitable for applications involving highly corrosive fluids and high viscosity fluids that tend to crystallize.

Please contact our technical service department if your applications involve interaction with oxygen or acetylene gases.

Specifications

When choosing a particular scale range, you need to consider the working pressure and the following criteria:

- steady or slow fluctuating pressure – pointer motion must not exceed 75% of the full scale value;
- pulsing or varying pressure – pointer motion must not exceed 65% of the full scale value;
- sudden pressure surges must never exceed the full scale value.

Gauges used in applications involving gaseous fluids over 362 psi (25 bars) and dry gauges of $3\frac{15}{16}$ " and $5\frac{7}{8}$ " (100 and 150mm) using a Bourdon tube mechanism should not be ordered without contacting our technical service group.

All specifications of these instruments are based on "normal" working conditions, based on ISO 1 standard. To function properly, all of these instruments must be mounted in an upright position, +/- 5%, and should not be exposed to outdoor weather conditions.



Pressure Gauges

Series LFDPG1

2", 2½", 3", 4" Bottom Entry Pressure Gauges

Dial Sizes: 2", 2½", 3", 4"

Type: Bottom Entry

Case: ABS polymer

Window: Kostil polymer

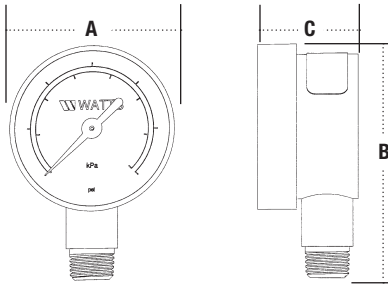
Connection: ¼" NPT

Accuracy: ASME Type "B"

Sensing Element: Copper Alloy Bourdon Tube

Welding: Tin Alloy

Working Temperature: -4°F to 176°F (-20°C to 80°C)



LFDPG1

Scale, Dimensions and Weights Table

MODEL	SCALE		ORDERING CODE	SIZE (DN)		DIMENSIONS						WEIGHT	
						A		B		C			
				in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
LFDPG1-2	0 – 15psi	103 kPa	0121630	1/4	8	2	50	2 13/16	72	1 1/16	28	0.2	0.09
LFDPG1-2	0 – 60psi	413 kPa	0121632	1/4	8	2	50	2 13/16	72	1 1/16	28	0.2	0.09
LFDPG1-2	0 – 100psi	689 kPa	0121633	1/4	8	2	50	2 13/16	72	1 1/16	28	0.2	0.09
LFDPG1-2	0 – 160psi	1103 kPa	0121634	1/4	8	2	50	2 13/16	72	1 1/16	28	0.2	0.09
LFDPG1-2	0 – 200psi	1379 kPa	0121635	1/4	8	2	50	2 13/16	72	1 1/16	28	0.2	0.09
LFDPG1-2 1/2	0 – 15psi	103 kPa	0121637	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 30psi	207 kPa	0121638	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 60psi	413 kPa	0121639	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 100psi	689 kPa	0121640	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 160psi	1103 kPa	0121641	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 200psi	1379 kPa	0121642	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-2 1/2	0 – 300psi	2069 kPa	0121643	1/4	8	2 1/2	63	3 5/16	85	1 1/8	28	0.3	0.14
LFDPG1-3	0 – 15psi	103 kPa	0121644	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 30psi	207 kPa	0121645	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 60psi	413 kPa	0121646	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 100psi	689 kPa	0121647	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 160psi	1103 kPa	0121648	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 200psi	1379 kPa	0121649	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-3	0 – 300psi	2069 kPa	0121650	1/4	8	3	80	3 7/8	99	1 1/8	29	0.4	0.18
LFDPG1-4	0 – 30psi	207 kPa	0121652	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 60psi	413 kPa	0121653	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 100psi	689 kPa	0121654	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 160psi	1103 kPa	0121655	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 200psi	1379 kPa	0121656	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 300psi	2069 kPa	0121657	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23
LFDPG1-4	0 – 600psi	4137 kPa	0121658	1/4	8	4	100	4 3/4	120	1 1/4	31	0.5	0.23

Pressure Gauges

Series LFDPG3

1½", 2", 2½", 3" Center Back Entry Pressure Gauges

Dial Sizes: 1½", 2", 2½", 3"

Type: Center Back Entry

Case: ABS polymer

Window: Kostil polymer

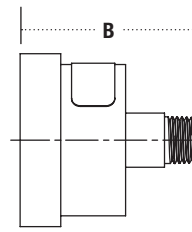
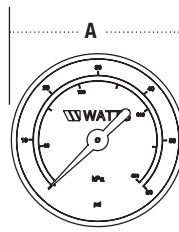
Connection: ⅛", ¼" NPT

Accuracy: ASME Type "B"

Sensing Element: Copper Alloy Bourdon Tube

Welding: Tin Alloy

Working Temperature: -4°F to 176°F (-20°C to 80°C)



LFDPG3

Scale, Dimensions and Weights Table

MODEL	SCALE		ORDERING CODE	SIZE (DN)		DIMENSIONS				WEIGHT	
						A		B			
						in.	mm	in.	mm		
LFDPG3-1 1/2	0 – 160psi	1103 kPa	0121712	1/8	3	1 1/2	38	1 9/16	40	0.1	0.05
LFDPG3-2	0 – 15psi	103 kPa	0615700	1/4	8	2	50	1 15/16	49	0.2	0.09
LFDPG3-2	0 – 60psi	413 kPa	0121697	1/4	8	2	50	1 15/16	49	0.2	0.09
LFDPG3-2	0 – 160psi	1103 kPa	0121699	1/4	8	2	50	1 15/16	49	0.2	0.09
LFDPG3-2	0 – 200psi	1379 kPa	0121700	1/4	8	2	50	1 15/16	49	0.2	0.09
LFDPG3-3	0 – 15psi	103 kPa	0615714	1/4	8	3	80	1 15/16	49	0.4	0.18

Pressure Gauges

Series LFDPG5

2", 2½", 3" Top Entry Pressure Gauges

Dial Sizes: 2", 2½", 3"

Type: Top Entry

Case: ABS polymer

Window: Kostil polymer

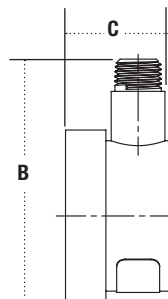
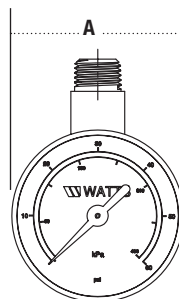
Connection: ⅛", ¼" NPT

Accuracy: ASME Type "B"

Sensing Element: Copper Alloy Bourdon Tube

Welding: Tin Alloy

Working Temperature: -4°F to 176°F (-20°C to 80°C)



LFDPG5

Scale, Dimensions and Weights Table

MODEL	SCALE		ORDERING CODE	SIZE (DN)		DIMENSIONS						WEIGHT	
						A		B		C			
						in.	mm	in.	mm	in.	mm		
LFDPG5-2	0 – 160psi	1103 kPa	0121713	1/8	3	2	50	2 11/16	68	1 1/16	27	0.15	0.07
LFDPG5-2	0 – 160psi	1103 kPa	0121691	1/4	8	2	50	2 13/16	71	1 1/16	27	0.2	0.09
DPG5-2 1/2	0 - 30psi	207 kPa	0615686	1/4	8	2 1/2	63	3 5/16	84	1 1/8	29	0.3	0.14

Combination Pressure/Temperature Gauges

Series LFDPTG1 – Series LFDPTG3 – LFDPTG3A – LFDPTG3L

2 1/2" and 3" Combination Pressure/Temperature Gauges

Dial Size: 2 1/2" and 3"

Type: LFDPTG1 – Bottom Entry

LFDPTG3 – Center Back Entry

LFDPTG3A – Center Back Entry with Extended Temperature Element

LFDPTG3L – Center Back Entry with Extended Mounting Nut

Case: Steel – Black Enamel

Window: Kostil Polymer

Connection: 1/2" NPT

Accuracy: ASME Type "B"

Pressure Element: Copper Alloy Bourdon Tube

Temperature Element: Bimetal Spiral Spring

Welding: Tin Alloy

Working Temperature: 40°F to 250°F

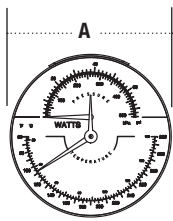
(4.4°C to 121°C)



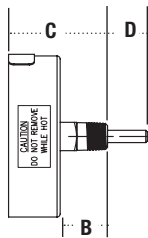
3" Dial

2 1/2" Dial

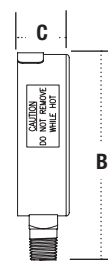
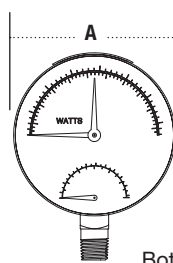
LFDPTG3



Center Back Mount
LFDPTG3



Bottom Entry
LFDPTG1



1/2" DPG-VR retaining
valve included with gauge
as indicated in table.

Scale, Dimensions and Weights Table

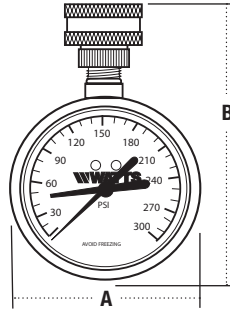
MODEL	SCALE		TEMP. RANGE	ORDERING CODE	INCL. VR RETAINING	SIZE (DN)		DIMENSIONS						WEIGHTS			
						in.	mm	A	B	C	D						
			°F					in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
LFDPTG1-3	0 – 50psi	345 kPa	32 – 248	0121663	N	1/2	15	3	76	4	101	1	25	–	–	.5	13
LFDPTG1-3	0 – 75psi	517 kPa	32 – 248	0121664	N	1/2	15	3	76	4	101	1	25	–	–	.5	13
LFDPTG1-3	0 – 200psi	1379 kPa	32 – 248	0121665	N	1/2	15	3	76	4	101	1	25	–	–	.5	13
LFDPTG3-2 1/2	0 – 50psi	340 kPa	60 – 320	0121685	Y	1/2	15	2 1/2	64	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-2 1/2	0 – 75psi	520 kPa	60 – 320	0121686	Y	1/2	15	2 1/2	64	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-2 1/2	0 – 200psi	1379 kPa	60 – 320	0121687	Y	1/2	15	2 1/2	64	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-2 1/2	0 – 75psi	520 kPa	60 – 320	0121722	N	1/4	8	2 1/2	64	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-3	0 – 50psi	340 kPa	60 – 320	0121660	Y	1/2	15	3	76	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-3	0 – 75psi	520 kPa	60 – 320	0212661	Y	1/2	15	3	76	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3-3	0 – 200psi	1379 kPa	60 – 320	0121662	Y	1/2	15	3	76	1	25	1 15/16	49	7/8	23	.5	13
LFDPTG3A-2 1/2	0 – 75psi	520 kPa	60 – 320	0121723	N	1/4	8	2 1/2	64	1	25	1 15/16	49	2	51	.5	13
LFDPTG3A-3	0 – 75psi	520 kPa	60 – 320	0121725	N	1/4	8	3	76	1	25	1 15/16	49	2	51	.5	13
LFDPTG3L-2 1/2	0 – 75psi	520 kPa	60 – 320	0121724	N	1/4	8	2 1/2	64	2	51	3 15/16	100	1	25	.5	13
LFDPTG3L-3	0 – 75psi	520 kPa	60 – 320	0121726	N	1/4	8	3	76	2	51	3 15/16	100	1	25	.5	13

Hose Connection Gauges

Series 276H300, IWTG

2 1/2" Hose Connection Gauges

Dial Size: 2 1/2"
 Type: Hose Connection
 Case: Steel - Black Enamel
 Window: Kostil Polymer
 Connection: 3/4" H.T. Hose Connection
 Accuracy: ASME Type "B"
 Sensing Element: Copper Alloy Bourdon Tube
 Welding: Tin Alloy
 Working Temperature: 40°F to 140°F (4.4°C to 60°C)



276H300

Scale, Dimensions and Weights Table

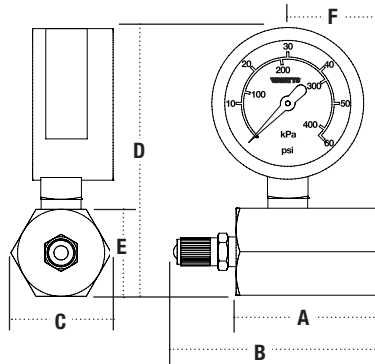
MODEL	SCALE	ORDERING CODE	SIZE (DN)	DIMENSIONS				WEIGHT	
				A		B		lbs.	kg.
				in.	mm	in.	mm		
DP IWTG	0 – 300psi 2069 kPa	0950200	3/4 (20mm) Hose Thread	2 1/2	64	4	10	0.3	0.14

Air Test Assembly Gauges

Series IWTG-Gas

2" Gauges

Dial Size: 2"
 Type: 3/4" FPT Chrome Plated Brass Manifold
 Case: Steel
 Window: Kostil Polymer
 Connection: 3/4" FPT x Schrader Type Air Valve w/Cap
 Accuracy: ASME Type "B"
 Sensing Element: Copper Alloy Bourdon Tube
 Welding: Tin Alloy
 Working Temperature: 14°F to 176°F (-10°C to 80°C)



IWTG-Gas

Scale, Dimensions and Weights Table

MODEL	SCALE	ORDERING CODE	SIZE (DN)	DIMENSIONS												WEIGHT	
				A		B		C		D		E		F		lbs.	kg.
				in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
IWTG-Gas 2	0 – 30psi 207 kPa	0069780	3/4 FPT	2	64	2 7/8	72	1 3/8	35	3 5/8	92	1 3/16	30	1 5/16	33	.82	37
IWTG-Gas 2	0 – 100psi 689 kPa	0069782	3/4 FPT	2	64	2 7/8	72	1 3/8	35	3 5/8	92	1 3/16	30	1 5/16	33	.82	37

Series IWTG-NYC and HTX

2 1/2", 4" Gauges

Dial Size: NYC – 2 1/2" HTX – 4"

Type: 3/4" FPT Chrome Plated Brass Manifold

Case: Steel, Chrome Plated

Window: Kostil Polymer

Connection: 3/4" FPT x Schrader Type Air Valve w/Cap

Accuracy: NYC - 2%, HTX - 1% Full Range

Sensing Element: Diaphragm

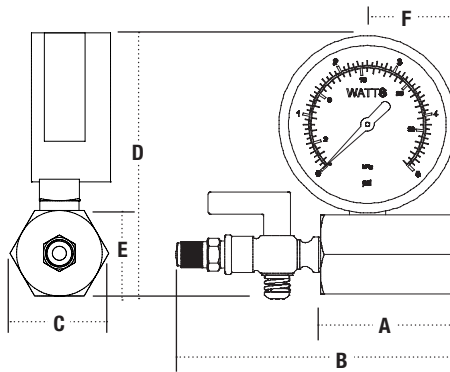
Welding: Tin Alloy

Working Temperature: 14°F to

176°F (-10°C to 80°C)

Shut-off Valve: Brass includes Calibration

Screw, HTX includes Set Hand



IWTG-HTX



IWTG-NYC

Scale, Dimensions and Weights Table

MODEL	SCALE		ORDERING CODE	SIZE (DN)	DIMENSIONS										WEIGHT			
					A		B		C		D		E				F	
					in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
IWTG-NYC	0 – 5psi	34 kPa	0069786	3/4 FPT	2	51	4	102	1 3/8	35	3 3/4	95	1 3/16	30	1 5/16	33	1	.45
IWTG-NYC	0 – 10psi	69 kPa	0069785	3/4 FPT	2	51	4	102	1 3/8	35	3 3/4	95	1 3/16	30	1 5/16	33	1	.45
IWTG-HTX	0 – 10psi	69 kPa	0069787	3/4 FPT	2	51	4	102	1 3/8	35	4 1/2	114	1 3/16	30	1 5/16	33	1.4	.62

Bimetal Thermometers

Series LFTB

1 1/2", 2", 3", 4" Center Back Entry Bimetal Thermometers

Dial Size: 1 1/2", 2", 3", 4"

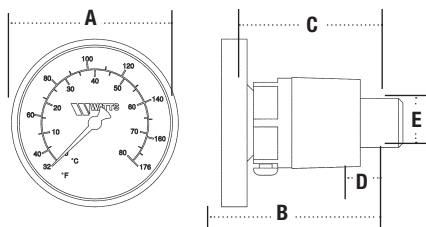
Type: Center Back Entry

Case: Zinc Plated Steel

Window: Kostil Polymer

Sensing Element: Bimetal Spiral Spring

Thermowell: 1/2" NPT Brass with Set Screw



Center Back Entry
LFTB



LFTB

Scale, Dimensions and Weights Table

SIZE		MODEL	SCALE	ORDERING CODE	PROBE SIZE	DIMENSIONS										WEIGHT		
in.	mm					A		B		C		D		E				
			°F		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kgs
1/2	15	LFTB-1 1/2-1	32 – 176	0121666	1	25	1 1/2	40	1 9/16	40	1 3/8	35	3/8	10	7/16	11	.4	.18
1/2	15	LFTB-2 1/2-2	32 – 140	0121667	2	51	2 1/2	63	2 3/8	60	1 15/16	49	1	25	7/16	11	.4	.18
1/2	15	LFTB-2 1/2-3	32 – 248	0121668	3	76	2 1/2	63	2 3/8	60	1 15/16	49	1	25	7/16	11	.4	.18
1/2	15	LFTB-2 1/2-4	32 – 248	0121669	4	102	2 1/2	63	4 3/8	111	3 15/16	100	2 15/16	75	7/16	11	.4	.18
1/2	15	LFTB-3-2	-22 – 122	0121670	2	51	3	80	2 5/8	67	1 15/16	49	1	25	7/16	11	.4	.18
1/2	15	LFTB-3-2	32 – 248	0121672	2	51	3	80	2 9/16	64	1 15/16	49	1	25	7/16	11	.4	.18
1/2	15	LFTB-3-4	32 – 140	0121673	4	102	3	80	4 9/16	126	3 15/16	100	2 15/16	75	7/16	11	.8	.36
1/2	15	LFTB-4-2	32 – 248	0121676	2	51	4	100	2 5/8	67	1 15/16	49	1	25	7/16	11	1.2	.54

Series LFTBR

3" Bottom Entry Bimetal Thermometers

Dial Size: 3"

Type: Bottom Entry

Case: Chromed Steel

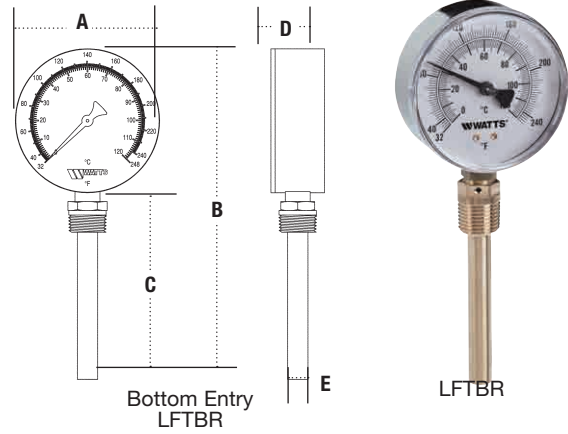
Window: Kostil Polymer

Stem: Brass

Sensing Element: Bimetal Spiral Spring

Amplifying Movement: Brass

Thermowell: 1/2" NPT Brass - snap-in



Scale, Dimensions and Weights Table

SIZE (DN)		MODEL	SCALE	ORDERING CODE	PROBE SIZE	DIMENSIONS						WEIGHT						
in.	mm		°F		in.	mm	A	B	C	D	E	lbs	kgs					
							in.	mm	in.	mm	in.	mm						
1/2	15	LFTBR-3-2	32 – 248	0121679	2	51	3	80	5 3/8	137	2	51	1 3/16	30	7/16	11	.4	.18
1/2	15	LFTBR-3-3	-22 – 122	0615735	3	76	3	80	6 5/16	160	2 15/16	75	1 3/16	30	7/16	11	1.2	.54
1/2	15	LFTBR-3-4	32 – 140	0121721	4	102	3	80	7 5/16	186	3 15/16	100	1 3/16	30	7/16	11	.8	.36

Bimetal Thermometers

Series TBP

2 1/2" Pipe Mount Bimetal Thermometers

Dial Size: 2 1/2"

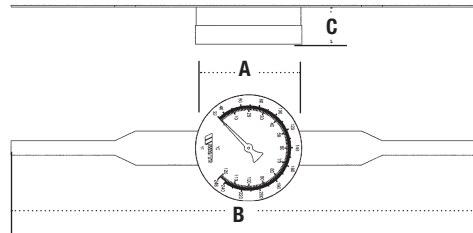
Type: Pipe Mount

Case: Steel, Black Enamel

Ring: Chromed Steel

Window: Kostil Polymer

Sensing Element: Bimetal Spiral Spring



Scale, Dimensions and Weights Table

SIZE (DN)		MODEL	SCALE	ORDERING CODE	FIXING PART	DIMENSIONS						WEIGHT	
in.	mm		°F			A		B		C		lbs	kgs
						in.	mm	in.	mm	in.	mm		
1/2	15	TBP-M-2 1/2	32 – 248	0615658	spring	2 1/2	63	–	–	7/8	22	0.4	0.18
1/2	15	TBP-F-2 1/2	32 – 248	0615659	strap	2 1/2	63	11	279	7/8	22	0.4	0.18

Series TBC

2 1/2" Center Back Entry Bimetal Thermometers

Dial Size: 2 1/2"

Type: Chimney Mount-Center Back Entry

Case: Steel, Zinc Plate

Ring: Chromed Steel

Window: Glass

Stem: Brass

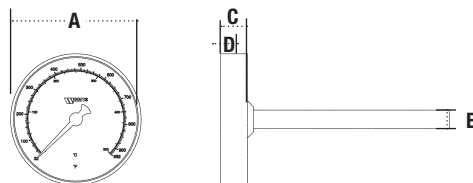
Sensing Element: Bimetal Spiral Spring

Stem: Zinc Plated Steel

Thermowell: None



TBC



Scale, Dimensions and Weights Table

MODEL	SCALE	ORDERING CODE	PROBE SIZE		DIMENSIONS						WEIGHT					
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kgs		
TBC-2 1/2-12	32 – 932	0615663	12	305	2 1/2	63	12 1/4	311	3 15/16	100	2 15/16	75	3/8	9	.5	.23

Liquid Fill Thermometers

Series TA

9" Adjustable Angle Thermometers

Scale Size: 9"

Type: Sealed Glass Tube

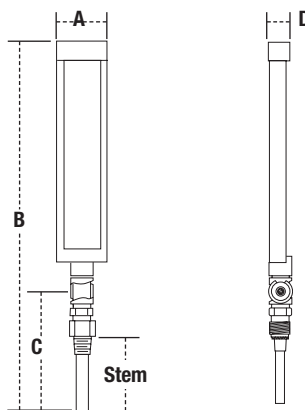
Case: Valox®

Lense: Glass

Sensing Fluid: Organic Fill

Accuracy: ±1% of Full Scale

Thermowell: Brass



Series TA

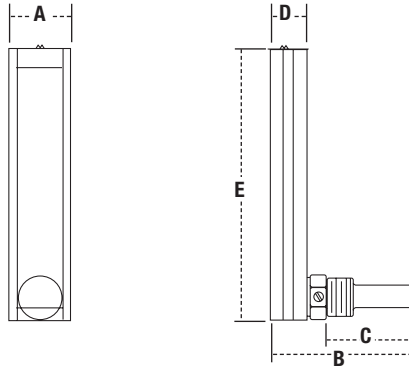
Scale, Dimensions and Weights Table

MODEL	TEMP. RANGE	ORDERING CODE	SIZE (DN)		STEM		DIMENSIONS				WEIGHT					
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.		
TA-9-3 1/2	0 – 120	0121727	3/4	20	3 1/2	89	2 3/8	60	17 3/8	442	5 5/8	144	1 1/16	26	1.65	.75
TA-9-3 1/2	0 – 160	0121728	3/4	20	3 1/2	89	2 3/8	60	17 3/8	442	5 5/8	144	1 1/16	26	1.65	.75
TA-9-3 1/2	30 – 240	0121729	3/4	20	3 1/2	89	2 3/8	60	17 3/8	442	5 5/8	144	1 1/16	26	1.65	.75

Series LFTL

5" Angle Thermometers

- Scale Size: 5"
- Type: Sealed Glass Tube
- Case: Polypropylene
- Lense: Glass
- Sensing Fluid: Bed (Non-Mercury)
- Accuracy: ±2% of Full Scale
- Thermowell: Brass



Series LFTL

Scale, Dimensions and Weights Table

MODEL	TEMP. RANGE	ORDERING CODE	SIZE (DN)		STEM		DIMENSIONS					WEIGHT						
			in.	mm	in.	mm	A		B		C		D		E		lbs.	kg.
LFTL-5-2	30 – 240	0121735	3/4	20	1 5/16	33	1 3/8	34	3 1/8	79	1 7/8	48	1 3/16	21	5 13/16	147	.52	.24



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