



**Commercial / HVAC / Plumbing**  
**Specification Guide**

**For**

**Pressure & Temperature Instruments  
& Related Accessories**

**Prepared for  
Consultant, Design & Specification Engineers**



## Gauges

### Contractor Gauge (PCT, PCT-LF)\*

1. The pressure gauge shall have a 4.5" (115mm) dial and constructed of a 304 stainless steel case and ring. The dial shall be a white aluminum dish dial with black and red markings.
2. The wetted parts shall be made of a brass socket, silver solder welds and a phosphor bronze bourdon tube. The movement is made of brass.
  - a. Lead free wetted parts (socket, solder, tube and restrictor screw) to be specified as required. (PCT-LF)
3. The process connection is 1/4" NPT bottom mount with a removable restrictor screw in the orifice.
4. The lens is acrylic and the pointer is made of anodized black aluminum.
5. Pressure gauge accuracy to be  $\pm 1\%$  of full scale (ASME grade 1A); a zero-adjustment screw is available on the dial.
6. The ambient or process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $200^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $93^{\circ}\text{C}$ ) and the enclosure rating is IP52.
7. Manufacturer's Series or Model number to be marked on each dial and the socket to be stamped with the manufacturer's batch code.
  - a. Lead Free products to also be marked LF where applicable. (PCT-LF)
8. Must be ASME B40.100 compliant.
9. The manufacturer is to provide a 5 year product warranty.
10. Pressure gauges to be Winters PCT or PCT-LF Series or approved equivalent.

### Light Duty Economy Gauge (PEM, PEM-LF)\*

1. The pressure gauge shall have a 1.5" (40mm), 2" (50mm), 2.5" (63mm) or 4" (100mm) dial and constructed of a black steel case and steel ring. The dial shall be white aluminum with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a phosphor bronze bourdon tube. The movement is made of brass.
  - a. Lead free wetted parts (socket, solder & tube) to be specified as required. (PEM-LF)
3. The process connection is either 1/8" or 1/4" NPT bottom or centre back mount.
4. The lens is acrylic for 1.5" (40mm), 2" (50mm) and 2.5" (63mm) dials or glass for 4" (100mm) dials and the pointer is made of black aluminum.
5. Pressure gauge accuracy to be  $\pm 3-2-3\%$  of full scale (ASME grade B).
6. The ambient or process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $150^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ ) and the enclosure rating is IP52.
7. Manufacturer's Series or Model number to be marked on each dial and the socket to be stamped with the manufacturer's batch code.
  - a. Lead Free products to also be marked LF where applicable. (PEM-LF)
8. Must be ASME B40.100 compliant.
9. The manufacturer is to provide a 5 year product warranty.
10. Pressure gauges to be Winters PEM or PEM-LF Series or approved equivalent.

**WinAIR Differential Gauge (PFD, WinAIR)\***

1. The pressure gauge shall be a 4.4" (112mm) case and constructed of black die-case aluminum.
2. The dial shall be 4" (103mm) in size and made of aluminum with black and white markings. The dial shall include 2 pointer stops, to safe guard from over and under travel. The pointer is painted black and made of aluminum.
3. The gauge shall measure positive, negative or differential pressure for air and non-corrosive gases.
4. Standard pressure scale to be single scale "H<sub>2</sub>O with mmH<sub>2</sub>O, PSI or Pa as alternate single or dual scale options.
5. The wetted parts shall be made of die-cast aluminum, copper and silicon.
6. The gauge movement is a resistance-free magnetic linkage which is displaced when media makes contact with the pressure diaphragm.
7. There are 2 sets of process connections which are 1/8" NPT; 2 connections are rated 'high' and 2 connections are rated 'low', they are located on the side and back of the case.
8. Over-pressure to be a maximum of 14.5 psi (100 kPa).
9. The window is polycarbonate and held in-place with a painted black threaded ring.
10. Pressure gauge accuracy to be +/- 2.0%, +/- 3.0% or +/- 4.0% of full scale.
11. Re-Zero screw to be accessible from the lens.
12. The ambient temperature tolerance of the gauge shall be -40°F to 140°F (-40°C to 60°C). The process temperature tolerance of the gauge shall be 14°F to 140°F (-10°C to 60°C).
13. The enclosure rating is IP67.
14. The manufacturer's Series and Brand to be marked on the dial and the back of the case to include the manufacturer's batch code.
15. The manufacturer to provide a 5 year product warranty
16. Pressure gauges to be Winters PFD Series or approved equivalent.

**All Purpose Sprinkler Gauge (PFE)\***

1. The pressure gauge shall have a 3.5" (90mm) dial and constructed of a black plastic. The dial shall be white aluminum with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a phosphor bronze bourdon tube. The movement is made of brass.
3. The process connection is 1/4" NPT bottom mount.
4. The lens is a threaded polycarbonate and the pointer is made of black aluminum.
5. The gauge will have an internal pointer and over-stop to guard against overpressure.
6. Pressure gauge accuracy to be ±3-2-3% of full scale (ASME grade B).
7. The gauge will be UL/cUL listed and FM approved with respective logos on the dial.
8. The ambient or process temperature tolerance of the gauge shall be -40°F to 150°F (-40°C to 65°C) and the enclosure rating is IP52.
9. The gauge will come in 0/80/retard/250 psi (psi/kPa) range for Air or 0/300 psi (psi/kPa) range for Air and Water.
10. Manufacturer's Series or Model number to be marked on the dial and the socket to be stamped with the manufacturer's batch code.
11. A blank installation date label shall be provided with each gauge, but not attached to it.
12. Must be ASME B40.100 compliant.
13. The manufacturer is to provide a 5 year product warranty.
14. Sprinkler pressure gauges to be Winters PFE Series or approved equivalent.



## **General Purpose, Liquid Filled Gauge with Brass Internals (PFQ, PFQ-LF)\***

1. The pressure gauge shall have a 1.5" (40mm), 2" (50mm), 2.5" (63mm) or 4" (100mm) dial. Case and crimped ring to be constructed of 304 stainless steel. The dial shall be a white aluminum dial with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a phosphor bronze bourdon tube. The movement is made of brass.
  - a. Lead free wetted parts (socket, solder, tube and restrictor screw) to be specified as required. (PFQ-LF)
3. The process connection is 1/8", 1/4" or 1/2" NPT bottom or centre back mount with a removable restrictor screw in the orifice.
4. The lens is polycarbonate and the pointer is made of anodized black aluminum.
5. The gauge will have a Buna-N fill plug.
6. Pressure gauge accuracy to be  $\pm 2.5\%$  of full scale value for 1.5" (40mm) and 2" (50mm) dials or  $\pm 1.5\%$  of full scale value for 2.5" (63mm) or 4" (100mm) dials.
7. The ambient or process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $200^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $93^{\circ}\text{C}$ ) if dry or  $-4^{\circ}\text{F}$  to  $150^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ ) if glycerin filled. The enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on each dial and the socket to be stamped with the manufacturer's batch code.
  - a. Lead Free products to also be marked LF where applicable. (PFQ-LF)
9. Must be ASME B40.100 and EN837-1 compliant.
10. The manufacturer is to provide a 5 year product warranty.
11. Pressure gauges to be Winters PFQ or PFQ-LF Series or approved equivalent.

## **General Purpose, Dampened Movement Gauge with Brass Internals (PFQ-ZR)\***

1. The pressure gauge shall have a 2.5" (63mm) dial. Case and crimped ring to be constructed of 304 stainless steel. The dial shall be white aluminum with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a bronze bourdon tube. The movement is made of bronze.
3. The gauge movement shall be dampened; extended pointer shaft with paddles enclosed by a cap filled with an inorganic compound.
4. The process connection is 1/4" NPT bottom or centre back mount with a removable restrictor screw in the orifice.
5. The pressure lens is polycarbonate with a stainless steel crimp on ring and the pointer is made of black aluminum.
6. Pressure gauge accuracy to be  $\pm 1.5\%$  of full scale.
7. The ambient or process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $200^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $93^{\circ}\text{C}$ ) and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial and the socket to be stamped with the manufacturer's batch code.
9. Must be ASME B40.100 and EN837-1 compliant.
10. The manufacturer is to provide a 5 year product warranty.
11. Pressure gauges to be Winters PFQ-ZR Series or approved equivalent.

**Heavy Duty, Phenolic Gauge with Brass Internals (PPC)\***

1. The pressure gauge shall have a 4.5" (115mm) dial and a black phenolic case with pressure relief back, solid front and integral back flange. The dial shall be a white aluminum dial with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a phosphor bronze bourdon tube. The movement is made of 304 stainless steel with under and overload stops.
3. The process connection is 1/4" or 1/2" NPT bottom mount or lower back mount. The socket is to have 4 wrench flats.
4. The window is polycarbonate with a phenolic bayonet ring and the pointer is made of black aluminum and is micrometer adjustable.
5. The pressure gauge shall be glycerin fillable in the field.
6. Pressure gauge accuracy to be  $\pm 0.5\%$  of full scale (ASME Grade 2A).
7. The ambient temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $250^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ ) dry or  $-4^{\circ}\text{F}$  to  $150^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ ) glycerin filled. The process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $250^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ ) for stainless steel wetted parts and  $-40^{\circ}\text{F}$  to  $150^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ ) for brass wetted parts and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial and the socket to be stamped with the manufacturer's batch code.
9. Must be ASME B40.100 compliant.
10. The manufacturer is to provide a 5 year product warranty.
11. Pressure gauges to be Winters PPC Series or approved equivalent.

**Heavy Duty Phenolic Gauge with Dampened Movement (PPC-ZR)\***

1. The pressure gauge shall have a 4.5" (115mm) dial and be constructed of black phenolic with a safety pressure relief back, solid front and integral back flange. The dial shall be white aluminum with black and red markings.
2. The wetted parts shall be made of a brass socket, silver alloy welds and a phosphor bronze bourdon tube. The movement is made of 304 stainless steel with under and overload stops.
3. The gauge movement shall be dampened; extended pointer shaft with paddles enclosed by a cap filled with an inorganic compound.
4. The process connection is 1/4" or 1/2" NPT bottom mount or lower back mount.
5. The window is polycarbonate with a phenolic ring and the pointer is made of black aluminum.
6. Pressure gauge accuracy to be  $\pm 0.5\%$  of full scale (ASME Grade 2A).
7. The ambient temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $250^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ ). The process temperature tolerance of the gauge shall be  $-40^{\circ}\text{F}$  to  $250^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ ) for stainless steel wetted parts and  $-40^{\circ}\text{F}$  to  $150^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ ) for brass wetted parts and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial and the socket to be stamped with the manufacturer's batch code.
9. Must be ASME B40.100 compliant.
10. The manufacturer is to provide a 5 year product warranty.
11. Pressure gauges to be Winters PPC-ZR Series or approved equivalent.



## Thermometers

### Direct Reading Bi-Metal Dial Thermometer (TBM)

1. The thermometer case shall have a 2" (50mm), 3" (75mm), 4" (100mm), 5" (125mm) or 6" (150mm) dial and be anti-parallax dish-shaped, non-reflective silver colour with black markings. It will come with an external recalibration screw on the back of the dial. The stem shall be 2.5" (63mm) or greater with a 1/4" or 1/2" NPT connection.
2. Thermometer stem shall be bottom mount, centre back mount or fully adjustable.
3. The stem will be able to withstand 125 psi of pressure without a thermowell.
4. Accuracy to be  $\pm 1\%$  of full scale.
5. The thermometer enclosure rating to be rated as IP68 and hermetically sealed.
6. Manufacturer's Series or Model number to be marked on the dial and the socket to be stamped with the manufacturer's batch code.
7. Must be ASME B40.200 compliant.
8. The manufacturer is to provide a 5 year product warranty.
9. Bi-metal thermometer to be Winters TBM Series or approved equivalent.

### Direct Reading Liquid-in-glass Scale Thermometer (TIM, TIM-LF)\*

1. The thermometer case shall be 9" (230mm) high and be constructed of black painted aluminum or Valox®. It shall be dual scale ( $^{\circ}\text{F}$  &  $^{\circ}\text{C}$ ) with a tapered cast aluminum graphite filled bulb chamber. The tube shall have magnifying properties and have a green organic fill fluid.
2. The stem shall be either 3.5" (90mm) or 6" (150mm) in length with a 1 1/4" – 18 UNEF adjustable swivel nut and a separable 3/4" NPT threaded brass or lead free brass thermowell. Thermowells to be stamped by the manufacturer with a batch code.
  - a. Lead Free thermowells to also be stamped LF where applicable. (TIM-LF)
3. Thermometer shall be fully adjustable and provide a full 360-degree positioning on a vertical axis and lock in any position along its arc.
4. The scale to be constructed of white painted aluminum with permanently painted black markings. The scale is non-reflective and the lens is to be glass.
5. Accuracy to be  $\pm 1\%$  of full scale.
6. The socket to be stamped with the manufacturer's batch code.
7. The thermometer enclosure rating to be rated as IP54.
8. Must be ASME B40.200 and CAN/CGSB-14.4-M88 compliant.
9. The manufacturer is to provide a 5 year product warranty.
10. Direct Reading liquid-in-glass thermometer to be Winters TIM or TIM-LF Series or approved equivalent.



**Mini Ball Valve (SMV, SMV-LF)\***

1. The mini ball valve shall be made of #59-1 forged brass or lead free forged brass body with a stainless steel ball and Teflon® gasket.
2. The handle will be plated steel with a plastic cover.
3. Must be ASME B1.20.1 compliant.
4. The manufacturer is to provide a 5 year product warranty.
5. Mini ball valve to be Winters SMV or SMV-LF Series or approved equivalent.

**Needle Valve (SNV, SNV-LF)\***


1. The needle valve shall be made of #59-1 forged brass body shaft and nut or lead free brass shaft and nut with a rubber o-ring
2. The handle will be ABS plastic dyed red.
3. Must be ASME B1.20.1 compliant.
4. The manufacturer is to provide a 5 year product warranty.
5. Needle valve to be Winters SNV or SNV-LF Series or approved equivalent.

**Pressure Snubber (SSN, SSN-LF)\***

1. The snubber shall be made of brass with a stainless steel snubbing element.
  - a. Lead free brass to be specified as required. (SSN-LF)
2. The process connection will be 1/4" or 1/2" NPT.
3. Operating pressure will be a maximum of 10,000 psi (68,950 kPa) with a burst pressure of 30,000 psi (206,850 kPa).
4. Operating temperature will be -65°F to 650°F (-53°C to 343°C).
5. Must be ASME B40.100 compliant.
6. The manufacturer is to provide a 5 year product warranty.
7. Pressure snubber to be Winters SSN or SSN-LF Series or approved equivalent.

**Syphon (SSP)**

1. The syphon shall be made of brass\*, steel or carbon steel with 1/4" or 1/2" NPT male connections. The syphon shall be schedule 40, 80 or 160 seamless.
2. The syphon shall be in a 180° coil.
3. The manufacturer is to provide a 5 year product warranty.
4. Syphon to be Winters SSP Series or approved equivalent.

\*  **WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# WINTERS INSTRUMENTS

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