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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 lower 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°F to 200°F (-40°C to 93°C) and the enclosure rating is IP52.
7. Manufacturer's Series or Model number to be marked on each dial (above the pointer) 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. The manufacturer is to provide a 5 year product warranty.
9. 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 lower or centre back mount.
4. The lens is polycarbonate 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 $\pm 3-2-2\%$ of full scale (ASME grade B).
6. 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.
7. Manufacturer's Series or Model number to be marked on each dial (above the pointer) 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. The manufacturer is to provide a 5 year product warranty.
9. Pressure gauges to be Winters PEM or PEM-LF 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 lower mount.
4. The pressure lens is a threaded polycarbonate and the pointer is made of black aluminum.
5. The gauge will have an internal pointer over-stop to guard against overpressure.
6. Pressure gauge accuracy to be $\pm 3-2-3\%$ 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 (above the pointer) 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. The manufacturer is to provide a 5 year product warranty.
13. 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 lower 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°F to 200°F (-40°C to 93°C) if dry or -4°F to 150°F (-20°C to 65°C) if glycerin filled. The enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on each dial (above the pointer) 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. The manufacturer is to provide a 5 year product warranty.
10. Pressure gauges to be Winters PFQ or PFQ-LF Series or approved equivalent.



Gauges

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 lower 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°F to 200°F (-40°C to 93°C) and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial (above the pointer) and the socket to be stamped with the manufacturer's batch code.
9. The manufacturer is to provide a 5 year product warranty.
10. 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 safety blowout 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 over/under stops.
3. The process connection is 1/4" or 1/2" NPT lower mount or lower back mount. The socket is to have 4 wrench flats.
4. The pressure lens 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 or process temperature tolerance of the gauge shall be -40°F to 200°F (-40°C to 93°C) dry or -4°F to 150°F (-20°C to 65°C) glycerin filled and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial (above the pointer) and the socket to be stamped with the manufacturer's batch code.
9. The manufacturer is to provide a 5 year product warranty.
10. 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" (15mm) dial and be constructed of black phenolic with a safety blowout 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 over/under 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 lower mount or lower back mount.
5. The pressure lens 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 or process temperature tolerance of the gauge shall be -40°F to 200°F (-40°C to 93°C) and the enclosure rating is IP65.
8. Manufacturer's Series or Model number to be marked on the dial (above the pointer) and the socket to be stamped with the manufacturer's batch code.
9. The manufacturer is to provide a 5 year product warranty.
10. 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 lower 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 (above the pointer) and the socket to be stamped with the manufacturer's batch code.
7. The manufacturer is to provide a 5 year product warranty.
8. 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 (F & C) with a tapered cast aluminum graphite filled bulb chamber. The tube shall have a green organic (non-mercury) fill fluid.
2. The stem shall be either 3.5" (90mm) or 6" (160mm) 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 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. The manufacturer is to provide a 5 year product warranty.
9. Direct Reading liquid-in-glass thermometer to be Winters TIM or TIM-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) or 20,000 psi (137,900 kPa) with a burst pressure of 30,000 psi (206,850 kPa) or 60,000 psi (413,700 kPa).
4. Operating temperature will be -65°F to 650°F (-53°C to 343°C) or -320°F to 1,500°F (-195°C to 815°C).
5. The manufacturer is to provide a 1 year product warranty.
6. 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 welded or seamless.
2. The syphon shall be in a 180° coil.
3. The manufacturer is to provide a 1 year product warranty.
4. Syphon to be Winters SSP Series or approved equivalent.

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