

	Palmer	Palmer	Rototherm	Rototherm	DeWit	DeWit	DeWit	DeWit	Saginomiya	TechCal	Stiko	Stiko
Model		P Models	RTO	Clearscan	1888ss	1892SS	1870SS	1828	AKM		RTC	RTF
Available Case Sizes	8 in. and 12 in.	6 in.	9 in. and 12 in.	12 in.	8" (217mm x 271mm)	6" (204mm x 222mm)	12" (350mm x 450mm)	8" (260mm, Round Housing)	162mm x 183.7mm	8" and 12"	9" and 12"	9" and 12"
Case Material	Heavy Die Cast Aluminum	Pelican Brand Case	Glass filled polyester resin	Zinc coated Steel, Finished in Epoxy Powder Paint	Stainless Steel AISI 316	Stainless Steel AISI 316	Stainless Steel AISI 316	Light metal, Blue Finish		Pelican Brand Case	AISI316L Stainless Steel	Peli Brand Case
Case Protection Rating	IP55	IP67 (Solid Door Only)	IP55		Weatherproof and Corrosion Resistant	Weatherproof	Weatherproof	Weatherproof		IP57, IP66 or IP67	Models with Spring-Wound clocks are ATEX with Safety Glass Window and Blow-Out option. Gas: II 2Gc and Dust: II 2Dc. 12 inch cases are IP65	IP67
Window Materials	Glass or Plexiglass	Plexiglass	Acrylic	Acrylic	Laminated Safety Glass	Laminated Safety Glass	Laminated Safety Glass: Scratchproof, 3mm uniform thickness	Laminated Safety Glass			Plexiglass	Plexiglass
Available Mounting Styles	Wall, Pedestal, Flush, Portable, or Pipe/stand	Portable	Surface, Panel, Pipe, or Portable	Wall, Panel, Portable, or Pipe	Surface, Panel, or Portable	Surface, Panel, or Portable	Surface, Panel, Portable, or Yoke	Surface, Panel, or Portable	Portable	Panel, Pipe, Stand, or Portable	Panel, Surface, or Portable	Portable
Weight	8 in. 1 Pen: 5.49 kg (12.1 lbs) 2 Pen: 6.12 kg (13.5 lbs) 3 Pen: 6.76 kg (14.9 lbs) 12 in. 1 Pen: 7.30 kg (16.1 lbs) 2 Pen: 7.94 kg (17.5 lbs) 3 Pen: 8.57 kg (18.9 lbs)		Single Pen: 6.5 kg (14.25 lbs) Two Pen: 7.0 kg (15.5 lbs) Three Pen: 7.5 kg (16.75 lbs) Portable single pen: 8.6 kg (19 lbs)								9" Model: 14.1 pounds 12" Model: 23.4 pounds	9" Model: 14.1 pounds 12" Model: 23.4 pounds
Chart Drive Options	PC-11 Multi Speed Battery Driven Clock, PC-12 Multi Speed Battery Driven Clock, Mechanical Spring Wound (24 Hour, 48 Hour, 7 Day, or 31 day), 120V Electrical, or 220V Electrical	PC-11 Multi Speed Battery Driven Clock, PC-12 Multi Speed Battery Driven Clock, Mechanical Spring Wound (24 Hours or 7 Days. 15 Minute and 1 hour available.)	Synchrous Electric, Battery, or Mechanical Spring Wound (24 Hour or 7 Day)	Mains powered, mains powered with battery back-up, mechanical spring-wound, and battery operated.	Mechanical Spring Wound Clock (24 Hour) Standard. Mechanical spring wound clock with single revolution time of 1 hour, 4 hours, 8 hours, 12 hours, or 7 days clockwise rotation. Counterclockwise rotation available. Switchable clockworks 1 hour / 15 minutes, 1 hour / 4 hours, 2 hours / 8 hours, 24 hours / 7 days (clockwise). Multiprogrammable battery-operated chart drive (counterclockwise) available.	Mechanical Spring Wound clock (24 Hour) Standard. Mechanical spring wound clock with single revolution time of 1 hour, 4 hours, 8 hours, 12 hours, or 7 days clockwise rotation. Counterclockwise rotation available. Switchable clockworks 1 hour / 15 minutes, 1 hour / 4 hours, 2 hours / 8 hours, 24 hours / 7 days (clockwise). Multiprogrammable battery-operated chart drive (counterclockwise) available.	Mechanical Spring Wound Clock (24 Hour) Standard. Mechanical spring wound clock with single revolution time of 1 hour, 4 hours, 8 hours, 12 hours, or 7 days clockwise rotation. Counterclockwise rotation available. Electric Clock available.	Mechanical Spring Wound Clock (24 Hour) Standard. Mechanical spring wound clock with single revolution time of 1 hour, 4 hours, 8 hours, 12 hours, or 7 days clockwise rotation. Counterclockwise rotation available. Electric Clock available.	Battery Driven Motor, 1.5V DC, C Type Battery	Battery operated clock with rotations of 60 min, 96 min, 12 hours, 1 day, 2 days, 7 days, 8 days, 14 days, 16 days, 31 days, and 32 days. Mechanical spring wound clock with single revolution time of 1 hour / 15 minutes, 1 hour / 4 hours, 2 hours / 8 hours, 24 hours / 7 days, 24 hours / 8 days, 96 minutes / 24 hours, or 4 hours.	Spring wound clock with rotations of 1 hour, 4 hours, 8 hours, and 12 hours. Switchable spring wound clocks with rotations of 1 hour/15 minutes, 2 hours/30 minutes, 1 hour/4 hours, 2 hours/8 hours, 8 hours/24 hours, 24 hours/7 days. Battery operated clock with 30 minute, 60 minute, 1 hour, 2 hour, 4 hour, 6 hours/7 days. Battery operated clock with 30 minute, 60 minute, 96 minute, 1 hour, 2 hour, 4 hour, 6 hour, 8 hour, 12 hour, 1 day, 2 days, 3 days, 4 days, 7 days, 8 days, 14 days, 16 days, 31 days, or 32 days.	Spring wound clock with rotations of 1 hour, 4 hours, 8 hours, and 12 hours. Switchable spring wound clocks with rotations of 1 hour/15 minutes, 2 hours/30 minutes, 1 hour/4 hours, 2 hours/8 hours, 8 hours/24 hours, 24 hours/7 days. Battery operated clock with 30 minute, 60 minute, 96 minute, 1 hour, 2 hour, 4 hour, 6 hour, 8 hour, 12 hour, 1 day, 2 days, 3 days, 4 days, 7 days, 8 days, 14 days, 16 days, 31 days, or 32 days.
Charts	8in. or 12in. With 6-3/8" Arc Line. 100 Charts included with purchase of recorder.	8in. Charts with 6-3/8" Arc Line. 100 Charts included with purchase of recorder.	Dis 240mm (9.5 in.) diameter. Standard dividing 40, 50, 60, 70, or 80 linear divisions.	12" Diameter charts. 24 hours or 7 days is standard. 100 Charts included with recorder.					Recording paper feeding speed: 3.3mm per hour		Ø223 mm for 280 x 280 mm, or Ø300 mm for 380 x 380 mm	Ø223 mm for 280 x 280 mm, or Ø300 mm for 380 x 380 mm
Power Supply			200 to 250 volts, 50 Hz (60 Hz available); 100 to 110 volts, 50 Hz (60 Hz available)						100 to 120V AC or 200 to 240V, AC.	Battery Operated	Battery Operated	Battery Operated
Number of Pens	1, 2, or 3	1, 2, or 3	1, 2, or 3	1, 2, or 3	1 or 2	1 or 2	1 or 2	1		1, 2, 3, or 4	1 or 2	1 or 2
Pen Type	Felt Tip	Felt Tip	Disposable Fibre Tipped Pens	Disposable Fibre Tipped Pens	Disposable Felt Tip	Disposable Felt Tip	Disposable Felt Tip	Disposable Felt Tip		Fine Point Felt Disposable Pens	Long-life fibre pens	Long-life fibre pens
Pen Color(s)	Red, Blue, and Green Standard. Black and Violet optional.	Red, Blue, and Green Standard. Black and Violet optional.	Red, Blue, and Green	Red, Blue, and Green	Disposable Felt Tip	Disposable Felt Tip	Disposable Felt Tip	Disposable Felt Tip		Black, Red, or Blue	Black, Red, or Blue	Black, Red, or Blue
Accuracy	± 1 Chart Graduation	± 1 Chart Graduation	± 1% FSD	± 1% FSD	± 1% of Full Scale (Accuracy Class 1.0)	Accuracy Class 1.0	Accuracy Class 1.0	Accuracy Class 1.0	Indicating Accuracy: ±2°C. Recording Accuracy: ± 0.5°C plus Indicating Accuracy.	± 0.5% of Span	±1.0% of Full Scale (Class 1.0)	±1.0% of Full Scale (Class 1.0)
Ambient Temperature			-20°C to +50°C	-20°C to +50°C								
Temperature Range	-30 to 70°F 60 to 90°F 0 to 100°F -40 to 110°F -30 to 120°F 0 to 120°F 0 to 150°F -40 to 160°F 60 to 160°F 30 to 240°F 0 to 250°F 100 to 250°F 0 to 300°F 0 to 375°F 0 to 400°F 50 to 400°F 0 to 500°F 0 to 600°F 100 to 600°F 0 to 750°F 0 to 800°F 0 to 1000°F 200 to 1000°F	-30 to 70°F 60 to 90°F 0 to 100°F -40 to 110°F -30 to 120°F 0 to 120°F 0 to 150°F -40 to 160°F 60 to 160°F 30 to 240°F 0 to 250°F 100 to 250°F 0 to 300°F 0 to 375°F 0 to 400°F 50 to 400°F 0 to 500°F 0 to 600°F 100 to 600°F 0 to 750°F 0 to 800°F 0 to 1000°F 200 to 1000°F	-40 to +40°C -30 to +30°C 0 to 50°C 0 to 60°C 0 to 70°C 0 to 80°C 0 to 100°C 0 to 120°C 0 to 150°C 0 to 160°C 0 to 200°C 0 to 300°C 0 to 400°C 20 to 120°C 50 to 250°C 100 to 400°C 100 to 500°C	-30 to +70°C -30 to +50°C -25 to +25°C -20 to +50°C -10 to +50°C -10 to +90°C 0 to 40°C 0 to 50°C 0 to 60°C 0 to 70°C 0 to 80°C 0 to 100°C 0 to 120°C 0 to 150°C 0 to 160°C 0 to 200°C 0 to 300°C 0 to 400°C 0 to 500°C 20 to 120°C 50 to 250°C 100 to 400°C 100 to 500°C	-170°C to +600°C. Minimum temperature span of 60°C.	-170°C to + 600°C. Minimum temperature span of 60°C	-170°C to + 600°C. Minimum temperature span of 60°C	-170°C to + 600°C. Minimum temperature span of 60°C	-40°C to +14°C 0°C to 54°C -10°C to 44°C	0 - 100°F 0 - 120°F 0 - 150°F 0 - 200°F 0 - 300°F 0 - 500°F	Ranges between -200°C and 800°C Available. Minimum span is 80°C.	Ranges between -200°C and 800°C Available. Minimum span is 80°C.
Measuring Element	All Mercury Filled systems are completely welded and conform to ASME.	All Mercury Filled systems are completely welded and conform to ASME.	Thermal Bourdon Tube temperature compensated	Thermal Bourdon Tube temperature compensated	Wetted Parts for AISI 316 Stainless Steel in ranges of up to 0 to 1,600 bar	Wetted Parts for AISI 316 Stainless Steel in ranges of up to 0 to 1,600 bar	Wetted Parts for AISI 316 Stainless Steel in ranges of up to 0 to 1,600 bar	Wetted Parts for AISI 316 Stainless Steel in ranges of up to 0 to 1,600 bar		Helical Bourdon Class V Mercury Filled System	'Brass, Nickel Plated Movement.	'Brass, Nickel Plated Movement.
Capillary	Stainless Steel Flex Armour, 5 ft standard. PVC Covered and Stainless Steel Bendable stiff flex armor are available. Lengths up to 25 feet available	Stainless Steel Flex Armour, 5 ft standard. PVC Covered and Stainless Steel Bendable stiff flex armor are available. Lengths up to 25 feet available	Microbore stainless steel tube with 3mm diameter stainless steel cover (Type C1) as standard. Other capillary types are available.	Microbore stainless steel tube with 3mm diameter stainless steel cover (Type C1) as standard. Other capillary types are available.					Standard capillary length of 2 meters. Plastic covering available.	Stainless Steel, 10 feet long	CAPILLARY: Stainless Steel AISI321 / 1.4541 or Stainless Steel AISI321 / 1.4541 + PVC. CAPILLARY COVERINGS: Flexible Stainless Steel AISI304/1.4301, Flexible Stainless Steel AISI304/1.4301 + PVC, Flexible Stainless Steel AISI316/1.4401, Flexible Stainless Steel AISI316/1.4401 + PVC, or Plumb (Pb)	CAPILLARY: Stainless Steel AISI321 / 1.4541 or Stainless Steel AISI321 / 1.4541 + PVC. CAPILLARY COVERINGS: Flexible Stainless Steel AISI304/1.4301, Flexible Stainless Steel AISI304/1.4301 + PVC, Flexible Stainless Steel AISI316/1.4401, Flexible Stainless Steel AISI316/1.4401 + PVC, or Plumb (Pb)
Bulb and Stem	300 Series Stainless Steel Bulb.		Stainless Steel B5970 316. Standard diameter is 12.7mm	Stainless Steel B5970 316. Standard diameter is 12.7mm						12" Probe with 11/16" Bulb. Custom Lengths available.	Plain Stem with Bulb Diameters between 6 mm and 20 mm available.	Plain Stem with Bulb Diameters between 6 mm and 20 mm available.
Fittings	5/8" Stainless Steel coupling, 1.25" - 18 Swivel Nut, 7/8" - 22 Swivel Nut for well or union connection, or Compression Fitting		Compression Gland (adjustable). Stainless steel B5970 316 (1/2" BSP is standard). Other BSP, NPT, and API are available on request (suitable for pressures up to 3.5 bar). Suitable for surface or panel mounting. (Pipe mounting and portable options available).	Compression gland (adjustable). Stainless steel (1/2" BSP is standard). Other BSP, NPT, and API are available on request, suitable for pressures up to 3.5 bar.						1/2" NPT Gland	Coupling Nut: Standard (1/4" BSP, 3/8" BSP, 1/2" BSP, 3/4" BSP, 1" BSP, M 18x1.5, M 20 x 1.5, or M 24x1.5). Coupling Nut: Long. Turning Nipple: Standard. Turning Nipple: Long. Coupling Nut + Double Nipple. Adjustable connection, Sliding on Extension Tube. Adjustable connection, sliding on stem. Surface Bulb. Helical Air Bulb. Sanitary Connections: Acc. to DIN 11851. Tri-Clamp Acc. to ISO 2852. Varivent (R) In-Line.	Coupling Nut: Standard (1/4" BSP, 3/8" BSP, 1/2" BSP, 3/4" BSP, 1" BSP, M 18x1.5, M 20 x 1.5, or M 24x1.5). Coupling Nut: Long. Turning Nipple: Standard. Turning Nipple: Long. Coupling Nut + Double Nipple. Adjustable connection, Sliding on Extension Tube. Adjustable connection, sliding on stem. Surface Bulb. Helical Air Bulb. Sanitary Connections: Acc. to DIN 11851. Tri-Clamp Acc. to ISO 2852. Varivent (R) In-Line.
Bulb Types	Type 45-5: Plain bulb of stainless steel. 6" probe is standard; other lengths available on request. Type 45-11: Bendable stiff armor between plain bulb and flexible armor. Type 45-12: Bendable stiff armor between plain bulb and flexible armor. Type 45-13: Bulb for well or union connections. Type 45-14: Standard bulb construction permits instruments to be Type 45-29: Plain air temperature bulb with rings for suspending in air stream. Type 45-30: Air temperature bulb design for union connections. Standard outside diameter of 5/16" and 3/8".	Type 45-5: Plain bulb of stainless steel. 6" probe is standard; other lengths available on request. Type 45-11: Bendable stiff armor between plain bulb and flexible armor. Type 45-12: Bendable stiff armor between plain bulb and flexible armor. Type 45-13: Bulb for well or union connections. Type 45-14: Standard bulb construction permits instruments to be Type 45-29: Plain air temperature bulb with rings for suspending in air stream. Type 45-30: Air temperature bulb design for union connections. Standard outside diameter of 5/16" and 3/8".	Type 301: Used when no compression fitting is required. This bulb may be held in place by a bracket or clip (not supplied by manufacturer) or may be inserted directly into the process. Type 302: This bulb has a compression gland fitting that slides along the capillary and is tightened into the required position. This bulb type is only available with plain stainless steel capillary (Type C1). Armoured capillaries are not available as it is not possible to move the fitting along the armoured capillary. Bulb length cannot be specified. Type 303: Compression gland fittings tighten on the bulb to provide liquid and gas tight seal. Once fitted the position of the gland fitting can only be altered by cutting off the olive and replacing it with a new one. If required, this bulb type may be specified with a compression gland fitting; in this instance, please confirm the required overall length of the bulb.	Type 301: Used when no compression fitting is required. This bulb may be held in place by a bracket or clip (not supplied by manufacturer) or may be inserted directly into the process. Type 302: This bulb has a compression gland fitting that slides along the capillary and is tightened into the required position. This bulb type is only available with plain stainless steel capillary (Type C1). Armoured capillaries are not available as it is not possible to move the fitting along the armoured capillary. Bulb length cannot be specified. Type 303: Compression gland fittings tighten on the bulb to provide liquid and gas tight seal. Once fitted the position of the gland fitting can only be altered by cutting off the olive and replacing it with a new one. If required, this bulb type may be specified with a compression gland fitting; in this instance, please confirm the required overall length of the bulb.							Plain Stem with Bulb Diameters between 6 mm and 20 mm available. Available Options: AISI316/1.4401, Polished (Mechanical), PTFE * Lining (Max 250°C), HALAR * Coated (Max 120°C)	Plain Stem with Bulb Diameters between 6 mm and 20 mm available. Available Options: AISI316/1.4401, Polished (Mechanical), PTFE * Lining (Max 250°C), HALAR * Coated (Max 120°C)
Alarms	No	No	No	No	No	No	No	No	Settable high and low alarm points within temperature range. Alarm Accuracy is ± 2°C.			
Other											ATEX Models available, requires spring wound clock, safety glass and blow out protection	ATEX Models available, requires spring wound clock, safety glass and blow out protection