

CURVEX OVEN LOGGERS AND ACCESSORIES

技术咨询与报价

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**Developers and manufacturers
of paint test equipment**



*TQC's production facility is
located in The Netherlands*



*TQC has distributors in more
than 60 countries*

TQC, DEVELOPERS AND MANUFACTURERS OF PAINT TEST EQUIPMENT

Dutch company TQC designs and produces field measuring instruments and lab equipment for testing paint and coatings and general surface treatment.

Production facility

TQC's objective is to create and offer solutions for every possible QC-application in surface technology. TQC products are known for their ergonomic features and user friendliness. The production facility is located in The Netherlands. In order to complete the TQC range the company works closely together with renowned manufacturers from all over the world.

Global distribution

TQC has offices in the Netherlands, Germany, Italy, United Kingdom, Norway and North America, and works closely together with a global network of distributors in more than 60 countries. The TQC product range focuses mainly on three different market sectors; Paint Research and Development Laboratories and Quality Control, Protective and Marine Coatings Applications, Surface Finishing Industry.

CURVEX 3 STANDARD OVEN LOGGER WITH IDEAL FINISH ANALYSIS (OEM)

The CurveX 3 Standard offers easy-to-use, high quality temperature data logging for paint curing ovens. Measurements, analysis levels and report options are fully customizable to provide you with tailor-made information on the quality of your curing processes. The data logger is fitted with a large full-colour touchscreen for easy menu-driven operation and quick display of measurement results. The logger has 6 channels and a memory of at least 8000 measuring points per channel.

TQC's Ideal Finish Analysis data analysis software allows you to analyze the logged data and create detailed reports. These advanced features, together with a wide range of display and printing options, makes CurveX 3 Standard the most flexible temperature data logging solution available, excellently suited for both field use and laboratory conditions.



FEATURES

- Easy-to-use
- Large full-colour touchscreen
- Menu-driven operation
- High quality temperature data-logging
- Measurements, analysis levels and report options fully customizable



TECHNICAL SPECIFICATIONS CURVEX 3 STANDARD OVEN LOGGER

Channels:	6x thermocouple K type input	Languages:	English, French, Spanish, Italian, Dutch, Korean, Japanese
Measuring range :	0 to 800 °C, 0 to 1472 °F	Display:	3.5 inch, 240 x 320 pixel, 262K colour TFT LCD with touch screen
Accuracy:	± 0.5 °C / 0.9 °F (static), ± 1 °C / 1.8 °F (dynamic)*	Power supply :	Lithium Polymer rechargeable battery
Resolution:	0.1 °C / 0.2 °F	Battery life:	continuous use 4 hours, standby or logging 11 hours
Memory:	10 blocks with 25000, or 1 block with 250000 readings.	Dimensions (HxWxD):	108 x 90 x 35 mm / 4.3 x 3.5x1.4 in.
Interface:	USB-A data transfer to memory stick USB-B data transfer to TQC Ideal Finish Analysis and battery charging	Weight:	425 g / 15 oz.
Sample interval time:	1 to 3600 s	Material:	Aluminum housing with protective sleeve

*dynamic specifies the accuracy when running through an oven and the instrument heats up gradually.

TQC IDEAL FINISH ANALYSIS SOFTWARE

Supported Operating Systems:	Windows Vista, Windows 7, Windows 8 and Windows 10	Memory:	32MB
Platform:	32b or 64b	Required Hard Disk space:	128 MB

ORDERING INFORMATION CURVEX 3 STANDARD OVEN LOGGER WITH IDEAL FINISH ANALYSIS (OEM)

Art. no		ACCESSORIES / SPARES	
CX3015	Curvex 3 Standard Oven logger with Ideal Finish Analysis Software	CM1105	USB cable
Scope of Supply: USB cable, USB charger, Ideal Finish Software License Key, USB stick with Ideal Finish Analysis Software, Probe ID-kit, Calibration certificate, Manual CurveX 3 Standard, Small protective case		CX2100	Probe Identification KIT (Tags numbered 1-6)

CURVEX 3 STANDARD OVEN LOGGER KIT

Profiling an industrial powder coating oven starts right here with the CurveX 3 Standard Oven Logger KIT. It contains all necessary items, just add the desired magnetic or clamp-type probes to make the oven logger KIT complete.

The heart of the KIT is the CurveX 3 Standard Oven datalogger which offers easy-to-use, high quality temperature data logging for paint curing ovens. Measurements, analysis levels and report options are fully customizable to provide you with tailor-made information on the quality of your curing processes. The data logger is fitted with a large full-colour touchscreen for easy menu-driven operation and quick display of measurement results. The logger has 6 channels and a total memory of 250000 measuring points.

TQC's Ideal Finish Analysis data analysis software allows you to analyze the logged data and create detailed reports. These advanced features, together with a wide range of display and printing options, makes CurveX 3 Standard the most flexible temperature data logging solution available, excellently suited for both field use and laboratory conditions.

FEATURES

- Easy-to-use
- Large full-colour touchscreen
- Menu-driven operation
- High quality temperature data-logging
- Measurements, analysis levels and report options fully customizable
- All necessary items, just add the desired probes



ORDERING INFORMATION CURVEX 3 STANDARD OVEN LOGGER KIT

Art. No	
CX3020	CurveX 3 Standard Oven Logger Kit
Scope of supply:	
CurveX 3 Standard Oven Logger Kit Comes complete with:	
CX3015	CurveX 3 Standard with Ideal Finish software and datacable
CX2005	Insulation box 300°C
CX2011	Energy absorber
CX2071	Silicone gasket
CX2100	Probe identification kit
CX3060	Carrying Case
CX3069	USB Charger
ACCESSORIES / SPARES	
CM1105	USB Cable
CX2100	CurveX probe identification kit (1-6)



TECHNICAL SPECIFICATIONS CURVEX 3 STANDARD OVEN LOGGER KIT

Channels:	6x thermocouple K type input	Languages:	English, French, Spanish, Italian, Dutch, Korean, Japanese
Measuring range :	0 to 800 °C, 0 to 1472 °F	Display:	3.5 inch, 240 x 320 pixel, 262K colour TFT LCD with touch screen
Accuracy:	± 0.5 °C / 0.9 °F (static), ± 1 °C / 1.8 °F (dynamic)*	Power supply :	Lithium Polymer rechargeable battery
Resolution:	0.1 °C / 0.2 °F	Battery life:	continuous use 4 hours, standby or logging 11 hours
Memory:	10 blocks with 25000, or 1 block with 250000 readings.	Dimensions (HxWxD):	108 x 90 x 35 mm / 4.3 x 3.5x1.4 in.
Interface:	USB-A data transfer to memory stick USB-B data transfer to TQC Ideal Finish Analysis and battery charging	Weight:	425 g / 15 oz.
Sample interval time:	1 to 3600 s	Material:	Aluminum housing with protective sleeve

*dynamic specifies the accuracy when running through an oven and the instrument heats up gradually.

TQC IDEAL FINISH ANALYSIS SOFTWARE

Supported Operating Systems:	Windows Vista, Windows 7, Windows 8 and Windows 10	Memory:	32MB
Platform:	32b or 64b	Required Hard Disk space:	128 MB

CURVEX 3 BASIC OVEN LOGGER KIT

Profiling an industrial powder coating oven starts right here with the CurveX 3 Basic oven logger KIT. It contains all necessary items, just add the desired magnetic or clamp-type probes to make the oven logger KIT complete. The CurveX 3 Basic oven data logger that offers easy-to-use, high quality temperature logging for industrial paint and powder coat cure ovens. The oven data tracker is fitted with three large buttons for easy operation and three LED giving power, paint type, logging and cure information.

The main component of the KIT is the CurveX 3 Basic an oven temperature data logger that allows the conditions in the oven to be monitored regularly for each substrate. The oven temperature data logger is placed in an insulated box and as it passes through the oven with the work piece and it can measure the temperature in several places on the surface of the product simultaneously. Several probes for measuring the ambient temperature and the temperature of the product can be connected to the data logger. These include magnet, clamp, ring-type and wire probes. In addition to the most common temperature probes, special infrared probes can also be used. The measurements are to a PC via the oven temperature data logger's USB port and analysed using the Ideal Finish software program.

The included Ideal Finish Analysis software allows you to analyse the logged temperature data and create detailed reports. Advanced oven profiling features like cure data analysis, ideal cure and tolerance bands, together with a wide range of display, report and printing options, make CurveX 3 Basic oven logger the most flexible temperature logging solution available.

Excellent suited for industrial oven and laboratory oven temperature profiling. Mandatory test in Qualicoat, QIB and GSB accredited laboratories.



ORDERING INFORMATION CURVEX 3 BASIC OVEN LOGGER KIT

Art. No	
CX3010	CurveX 3 Basic Oven Logger Kit

Scope of supply:

CX3005	CurveX 3 Basic Oven Logger with TQC Ideal Finish Analysis Software
CL0018	Factory calibrated, calibration certificate included
CX5010	Ideal Finish Analysis License Key
CX2005	CurveX Stainless Insulation Box
CX3050	Insulation Box Logger Bracket
CM1105	USB Cable
GL0103	USB Memory Stick
CX3060	Plastic Carrying Case

ACCESSORIES / SPARES

CX2077	Ideal Finish Analysis Software
CM1105	USB Cable
CX2100	CurveX probe identification kit (1-6)

FEATURES

- KIT configured to start oven temperature data logging in paint and powder coating curing oven applications, just add your probes to make it complete.
- Insulation box with degassed silicone materials suitable for powder coating applications.

- For absolutely silicone free or high temperature applications select your insulation box.
- Document and prove process quality following Qualicoat, GSB, ISO9000, QIB etc. and create outstanding quality reports with the included advanced analysis software.

CURVEX 3 BASIC OVEN LOGGER WITH IDEAL FINISH ANALYSIS (OEM)

The CurveX 3 Basic oven logger offers easy-to-use, high quality temperature data logging for paint curing ovens. The oven data tracker is fitted with three large buttons for easy operation and three LED giving power, paint type, logging and cure information.

The included Ideal Finish Analysis software allows you to analyse the logged temperature data and create detailed reports. Advanced oven profiling features like cure data analysis, ideal cure and tolerance bands, together with a wide range of display, report and printing options, make CurveX 3 Basic oven logger the most flexible temperature logging solution available.



FEATURES

- Operate through only 3 large buttons
- Meaningful feedback of multi coloured LED's
- Factory calibrated for immediate use
- Downloads data through a standard USB port
- Rechargeable battery pack through USB connector
- Large memory of max. 160.000 readings
- Memory for 10 different batches, automatically overwrites the oldest results
- Programmable "paint type" memory for immediate "pass / fail" result
- Flat design, only 16 mm, for use in low clearance ovens
- Compatible with Ideal Finish Analysis software

ORDERING INFORMATION CURVEX 3 BASIC OVEN LOGGER WITH IDEAL FINISH ANALYSIS (OEM)

Art. No	
CX3005	CurveX 3 Basic Oven Logger

Scope of supply: CurveX-3 USB Oven Logger with Ideal Finish Analysis Software, Factory calibrated, calibration certificate included, Ideal Finish Analysis License Key, USB cable, small protective case.

TECHNICAL SPECIFICATIONS CURVEX 3 BASIC OVEN LOGGER WITH IDEAL FINISH ANALYSIS (OEM)

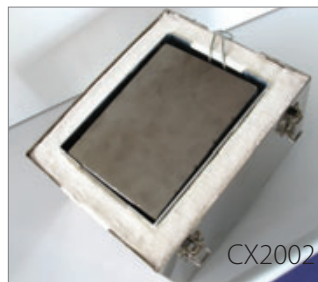
Measuring range	0°C to +500°C / -58°F to +932°F	Interface	USB
Operating temperature:	-20°C to 60°C / -4°F to 140°F	Housing material	Aluminium
Accuracy	+/-1°C / 1.8°F	Dimensions (D x W x H)	100x85x16 mm / 3.94x3.35x0.63 inch
Channels	4	Power supply	rechargeable battery
Sample interval time	1s to 60 min	Battery life time	1200 hour continuous use, 27 years in stand-by
Memory	10 batches with 16.000, or 1 batch with 160.000 readings	Weight	190 g / 6.7 oz
Display	Three multi-colour LED's		

TQC IDEAL FINISH ANALYSIS SOFTWARE

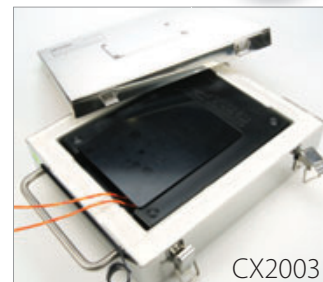
Supported Operating Systems	Windows Vista, Windows 7, Windows 8 and Windows 10	Memory	32MB
Platform	32b or 64b	Required Hard Disk space	128 MB

INSULATION BOXES FOR CURVEX

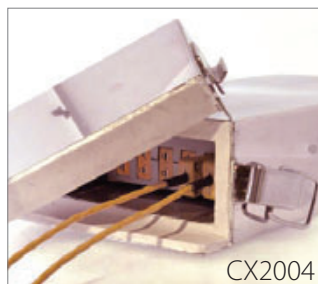
CurveX insulation boxes are specifically designed to protect the CurveX loggers against the harsh environment in industrial ovens. All insulation boxes are made of a polished stainless steel outer box filled with micro porous insulation material to prevent the oven heat to penetrate the aluminium inner box. Inside the aluminium inner box a high density media heat sink collects any excess of heat and keeps the CurveX logger at an acceptable operating temperature for a long period of time. The heat sink thermo energy collecting capacity can be restored by cooling it down after use. This physical process is endless and does not require exchange of the heat sink after a certain period of time.



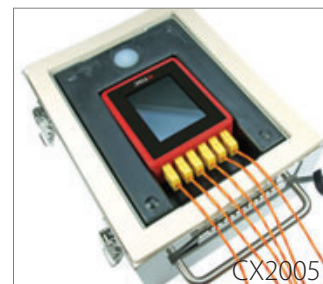
CX2002



CX2003



CX2004



CX2005

FEATURES

- Excellent logger protection against oven heat.
- Ferro plate for holding the magnet probes when not in use.
- Mounted cable hook allows the storage of surplus cable length.

Technical specifications ORDERING INFORMATION INSULATION BOXES

Outer box material	Polished Stainless steel
Insulation material	Micro porous silicon dioxide
Inner box material	Anodised aluminium



CX2009



CX2400

ORDERING INFORMATION INSULATION BOXES FOR CURVEX-STANDARD

Art. No	Dimensions Depth	Dimensions Width	Dimensions Height	Approximate Weight	Insulation Curve	Heat Sink	Max Temperature
CX2004***	240 mm / 9.45 inch	105 mm / 4.13 inch	50 mm / 1.97 inch	1600 g / 3.53 lbs	A	Included	300°C / 572°F
CX2009*	240 mm / 9.45 inch	105 mm / 4.13 inch	60 mm / 2.36 inch	1700 g / 3.75 lbs	B	Included	300°C / 572°F
CX2003***	255 mm / 10.04 inch	225 mm / 8.86 inch	70 mm / 2.76 inch	2650 g / 5.85 lbs	C	CX2014 **	300°C / 572°F
CX2005	255 mm / 10.04 inch	225 mm / 8.86 inch	140 mm / 5.51 inch	4200 g / 9.26 lbs	D	CX2011 **	300°C / 572°F

* Only suitable for CurveX 3 Basic ** to be ordered separately *** Not suitable for the CurveX 3 Standard

ORDERING INFORMATION INSULATION BOXES FOR CURVEX-ABSOLUTE SILICONE FREE INSULATION BOXES

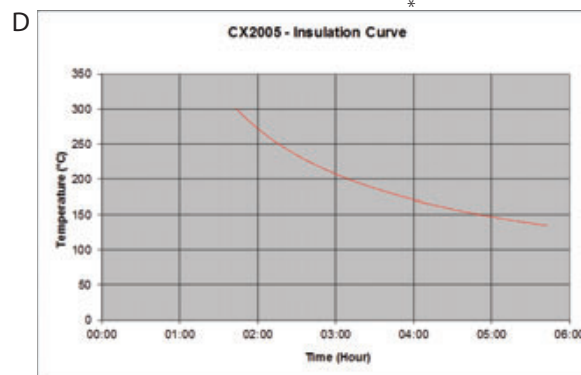
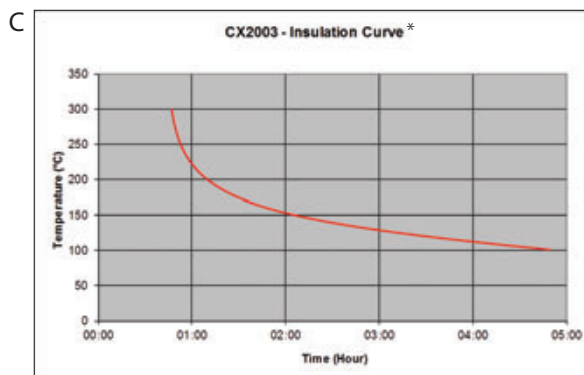
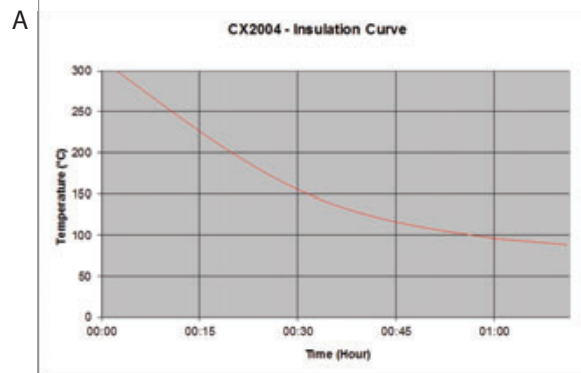
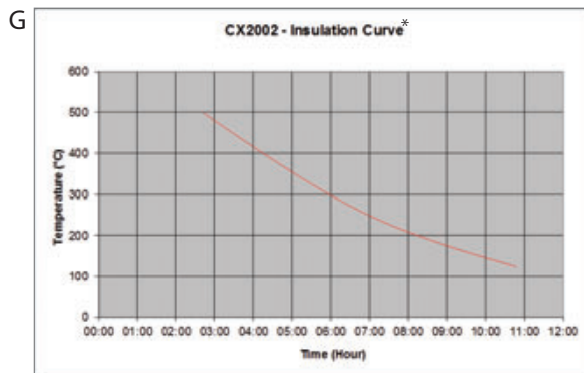
Art. No	Dimensions Depth	Dimensions Width	Dimensions Height	Approximate Weight	Insulation Curve	Heat Sink	Max Temperature
CX2300	240 mm / 9.45 inch	225 mm / 8.86 inch	140 mm / 5.51 inch	4200 g / 9,26 lbs	E	CX2011 *	180°C / 356°F
CX2017	240 mm / 9.45 inch	225 mm / 8.86 inch	140 mm / 5.51 inch	4200 g / 9,26 lbs	F	CX2011 *	500°C / 932°F
CX2002	280 mm / 11.02 inch	230 mm / 9.06 inch	180 mm / 7.09 inch	8000 g / 17,64 lbs	G	CX2011 * CX2012 *	500°C / 932°F
CX2400	540 mm / 21.3 inch	360 mm / 14.2 inch	250 mm / 9.8 inch	32 kg** / 70,55 lbs	H	Included	850°C / 1562°F

* to be ordered separately ** Incl. heatsink

ACCESSORIES / SPARES INSULATION BOXES FOR CURVEX-STANDARD / ABSOLUTE SILICONE FREE

CX2011	Heat sink LDPE for insulation box CX2002, CX2017 and CX2005	CX2013	Heat sink LDPE Add-on module for insulation box CX2002, CX2017 and 2005
CX2012	Extra heat sink for insulation box CX2002	CX2014	Heat sink U-shaped for insulation box CX2003

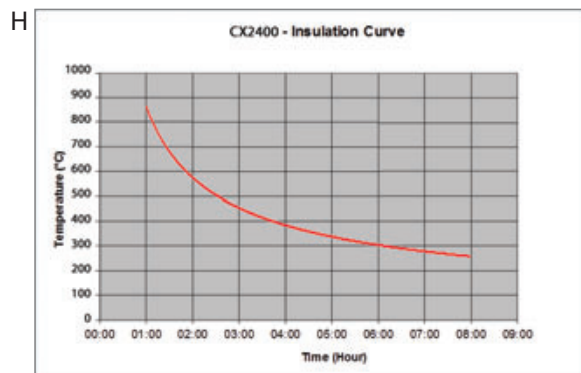
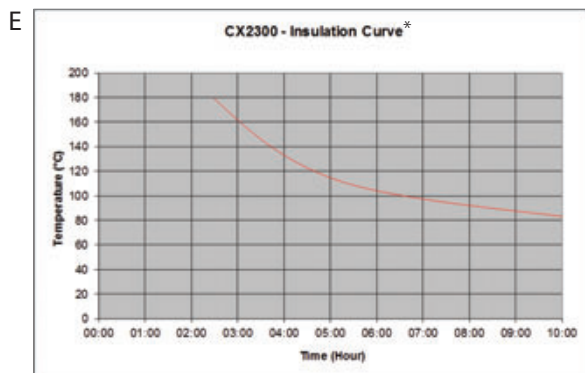
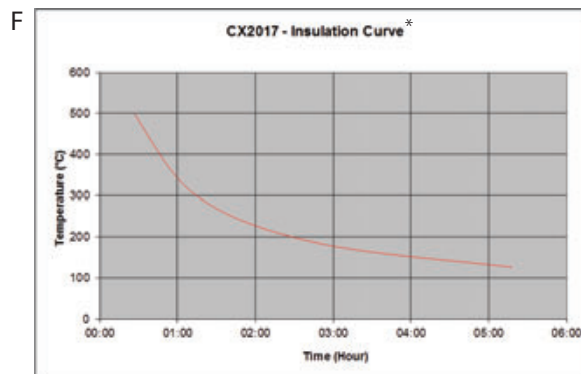
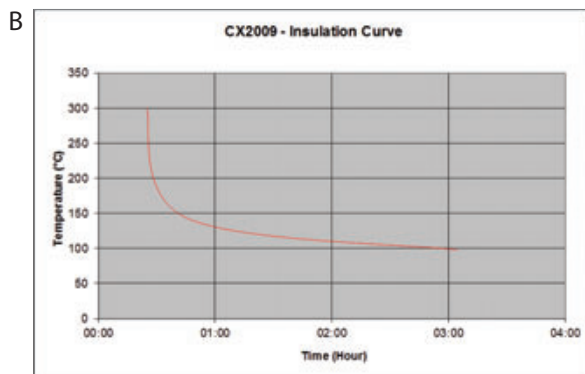
Insulation curves



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INSULATION CURVES

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* Tested in combination with the energy absorber CX2011 (a high density energycollecting media) with a start temperature of 20°C (68°F).

TQC ThermoKinetics

The TQC ThermoKinetics range is a new range within TQC's product line. The TQC ThermoKinetics range focuses on the effect of temperature on paint related chemistry.



CASE STUDY CURVEX SYSTEM

AGA Rangemaster is a leading international premium consumer which manufactures and distributes some of the best known and loved kitchen appliances and interiors furnishings in the world. Lately they experienced a problem with colour match on one of their enamels.

The Speedometer of the Oven

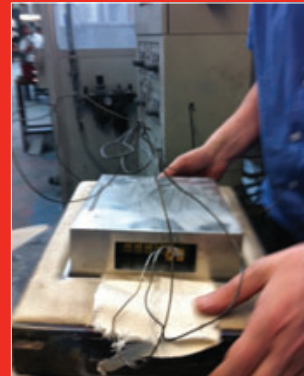
The CurveX system gives the necessary information on the activities inside the furnace. With the information gathered by the CurveX Datalogger combined with Ideal Finish Analysis software adjustments can be made and money saved.

"We have used it already 50 times to study and balance our furnace. We have before and after curves where we have adjusted a 20 degree difference between the top and bottom of our furnace to 6 degrees. but also evened out cure index and time at temperature, we have found the software very useful for comparing data. We made adjustment to the burners to change the flame lengths to overcome this problem."

Besides changing the temperature and time AGA Rangemaster found out that if the furnace was heavily loaded the temperature curve was affected. This problem was gone un-noticed until they used the CurveX system.

"We are now more self sufficient on setting the furnace burners and much better understanding of the things that can affect the furnace balance. Even to the point where we have calculated the Kg of enamel ware that the furnace can cope with from the Joules available in the gas input. We could reduce our track rate slightly to ensure we never had a net loss of energy input to load but have at the moment not made a decision, as it is only under certain circumstance now that the load can exceed the gas."

Now the issue is resolved they will use the datalogger once a week to check the furnace is not drifting back to where they had a problem.

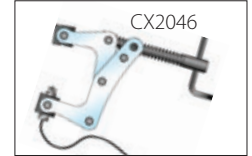


AGA RANGEmaster
Group



TEMPERATURE PROBES FOR CURVEX

CurveX temperature probes are specifically designed to measure oven air temperature and the part surface temperature in an oven. All probes are made of premium grade thermo couple K wire, which guarantees the highest accuracy available. High class magnet and springs are used that do not disintegrate or lose force at high temperatures. The various probe types allow measuring on every part regardless of its shape or size.



TECHNICAL SPECIFICATIONS TEMPERATURE PROBES FOR CURVEX

Probe type	Thermo couple K		
Connector	K type miniature plug		
Material	Nickel-Aluminium Nickel-Chromium		
Accuracy	Class I Premium grade		
Range	Accuracy	Range	Accuracy
-40°C to 375°C	+/-1.5°C	-40°F to 707°F	+/-0,8°F
375°C to 1000°C	+/-0.4%	707°F to 1832°F	0,4%

ORDERING INFORMATION TEMPERATURE PROBES FOR CURVEX - AIR TEMPERATURE

Art. No	Application	Probe Mounting	Cable Type	Cable Length	Max Temperature
CX2020	Air	Spring clamp	Coiled polyurethane	1500 mm / 4.9 ft	300°C / 572°F
CX2021	Air	Spring clamp	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2022	Air	Spring clamp	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F
CX2026	Air	Spring clamp	Coiled polyurethane	10500 mm / 34.45 ft	300°C / 572°F
CX2023	Air	Spring clamp	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2024	Air	Spring clamp	Stainless steel braided lead	3000 mm / 9.8 ft	480°C / 896°F
CX2069	Air	Magnet	Coiled polyurethane	1500 mm / 4.9 ft	300°C / 572°F
CX2068	Air	Magnet	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2073	Air	Magnet	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F

ORDERING INFORMATION PROBES TO MEASURE OBJECT SURFACE TEMPERATURE

Art. No	Application	Probe Mounting	Cable Type	Cable Length	Max Temperature
CX2030	Surface	Spring clamp	Coiled polyurethane sheath	1500 mm / 4.9 ft	300°C / 572°F
CX2040	Surface	Spring clamp	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2041	Surface	Spring clamp	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F
CX2045	Surface	Spring clamp	Coiled polyurethane	10500 mm / 34.4 ft	300°C / 572°F
CX2046	Surface	Vice clamp	Coiled polyurethane	10500 mm / 34.4 ft	300°C / 572°F
CX2048	Surface	Spring clamp	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2049	Surface	Spring clamp	Stainless steel braided lead	3000 mm / 9.8 ft	480°C / 896°F
CX2050	Surface	Magnet	Coiled polyurethane	1500 mm / 4.9 ft	300°C / 572°F
CX2060	Surface	Magnet	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2062	Surface	Magnet	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F
CX2061	Air	Magnet	Coiled polyurethane	10500 mm / 34.4 ft	300°C / 572°F
CX2055	Surface	Magnet	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2056	Surface	Magnet	Stainless steel braided lead	3000 mm / 9.8 ft	480°C / 896°F
CX2065	Universal	Ring	Coiled polyurethane	1500 mm / 4.9 ft	300°C / 572°F
CX2066	Universal	Ring	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2072	Universal	Ring	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F
CX2085	Universal	Ring	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2086	Universal	Ring	Stainless steel braided lead	3000 mm / 9.8 ft	480°C / 896°F
CX2090	Universal	Ring	Inconel tube	1500 mm / 4.9 ft	1000°C / 1832°F
CX2091	Universal	Ring	Inconel tube	3000 mm / 9.8 ft	1000°C / 1832°F
CX2092	Universal	Ring	Inconel tube	5000 mm / 16.4 ft	1000°C / 1832°F
CX2063	Air/Surface	Wire	Coiled polyurethane	1500 mm / 4.9 ft	300°C / 572°F
CX2064	Air/Surface	Wire	Coiled polyurethane	3000 mm / 9.8 ft	300°C / 572°F
CX2067	Air/Surface	Wire	Coiled polyurethane	5000 mm / 16.4 ft	300°C / 572°F
CX2087	Air/Surface	Wire	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2088	Air/Surface	Wire	Stainless steel braided lead	3000 mm / 9.8 ft	480°C / 896°F
CX2094	Air/Surface	Wire	Inconel tube	3000 mm / 9.8 ft	1000°C / 1832°F

ORDERING INFORMATION PROBES TO MEASURE OVEN INFRA-RED AIR TEMPERATURE

Art. No	Application	Probe Mounting	Cable Type	Cable Length	Max Temperature
CX2097	Air	Spring clamp	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2098	Air	Spring clamp	Stainless steel braided lead	5000 mm / 16.4 ft	480°C / 896°F

ORDERING INFORMATION PROBES TO MEASURE OVEN INFRA-RED SURFACE TEMPERATURE

Art. No	Application	Probe Mounting	Cable Type	Cable Length	Max Temperature
CX2095	Surface	Spring clamp	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2096	Surface	Magnet	Stainless steel braided lead	1500 mm / 4.9 ft	480°C / 896°F
CX2099	Surface	Magnet	Stainless steel braided lead	5000 mm / 16.4 ft	480°C / 896°F