BOREL

Standard Furnaces & Ovens
since 1918

Products Catalogue

Furnaces, accessories
& components

borelswiss.com

Standard Furnaces & Ovens

About Borel

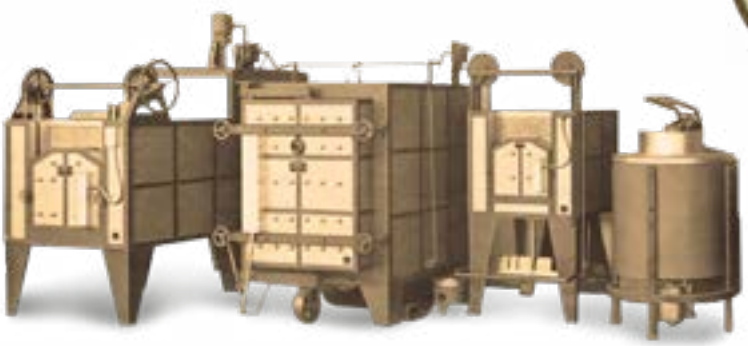
BOREL Swiss manufactures furnaces and ovens for all thermal processing applications. BOREL Swiss provides a wide range of standard furnaces, ovens, kilns and many others equipments since 1918.

With a team of 80 people, Borel manufactures its products in Europe. Borel furnaces are used all over the world in the industry, laboratories, research centers and universities for processes such as drying, preheating, heat processing, heat treatment, melting, ashing in the glass, ceramics, metal, plastic, medical, dental, aircraft industries and jeweller's art.

Borel equipments are manufactured according to the European quality and safety standards with CE marking.

BOREL Swiss is a division of **SOLO Swiss Group**
www.soloswiss.com

Borel was founded in 1918 by Dr. Charles Borel. It is one of the oldest furnaces manufacturers in Europe. Borel products are used by more than 20'000 customers worldwide.



Charles Borel

Ovens
Furnaces
Melting Furnaces
Other Equipments

ThermoNatural Ovens 350°C

TN 350

- Natural convection electrical oven for all applications.
- Mild or stainless steel for versions -I, several shelves.
- Rock wool insulation of all surfaces, including door.
- Battery of shielded electrical resistors.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with 2 shelves.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
TN 350-67	67 L	390 x 390 x 445	670 x 580 x 615	2.0 kW
TN 350-67-I	67 L	390 x 390 x 445	670 x 580 x 615	2.0 kW

ThermoDryer Ovens 250°C & 400°C

TR 350 & TR 400

- Forced convection electrical oven for all applications.
- Mild or stainless steel for versions I, several shelves.
- Rock wool insulation of all surfaces, including door.
- Stainless steel motor ventilator.
- Battery of shielded electrical resistors.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with 2 shelves (perforated plates).

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
TR 350-58 (I)	58 L	390 x 360 x 380	675 x 585 x 630	2.0 kW
TR 400-140 (I)	140 L	390 x 390 x 900	1140 x 1050 x 1700	8.0 kW
TR 400-180 (I)	180 L	555 x 605 x 555	1300 x 1150 x 950	6.0 kW
TR 400-400 (I)	400 L	700 x 800 x 700	1360 x 1400 x 1540	20 kW
TR 400-735 (I)	735 L	830 x 1490 x 750	1480 x 2400 x 1490	35 kW

Specifications subject to change. Photos for illustration purposes only

Industrial Ovens 150°C, 250°C & 350°C

IA 150 - IA 250 - IA 350

- Forced convection electric oven for all applications.
- Interior in aluminium and exterior in galvanised plate.
- Rock wool insulation of all surfaces, including door.
- Adjustable horizontal ventilation and adjustable exhaust.
- Battery of shielded electrical resistors.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power (150°C)	Power (250°C)	Power (350°C)
IA (*) 1000	1000 L	1000 x 1000 x 1000	1950 x 2100 x 1400	9 kW	15 kW	18 kW
IA (*) 1500-H	1500 L	1000 x 1500 x 1000	1950 x 2650 x 1400	15 kW	18 kW	30 kW
IA (*) 1500	1500 L	1000 x 1000 x 1500	1950 x 2150 x 1900	15 kW	18 kW	30 kW
IA (*) 2000	2250 L	1000 x 1500 x 1500	1950 x 2650 x 1900	15 kW	18 kW	30 kW
IA (*) 3000-H	3240 L	1200 x 1800 x 1500	2200 x 3000 x 1900	24 kW	30 kW	45 kW
IA (*) 3000	3240 L	1200 x 1500 x 1800	2200 x 2700 x 2200	24 kW	30 kW	45 kW
IA (*) 3500	3375 L	1500 x 1500 x 1500	2500 x 2700 x 1900	24 kW	30 kW	45 kW
IA (*) 4500-H	4500 L	1500 x 2000 x 1500	2500 x 3200 x 1900	30 kW	45 kW	54 kW
IA (*) 4500	4500 L	1500 x 1500 x 2000	2500 x 2700 x 2500	30 kW	45 kW	54 kW
IA (*) 6000	6000 L	1500 x 2000 x 2000	2500 x 3200 x 2500	30 kW	45 kW	60 kW
IA (*) 8000	8000 L	2000 x 2000 x 2000	3000 x 3200 x 2500	45 kW	45 kW	75 kW

** 150, 250 or 350*

ThermoLab Furnace 1100°C

TL 1100

- Electric chamber furnace, testing furnace.
- Constructed in folded sheet steel, horizontal opening door.
- Light fibres for all walls.
- Heating muffle. Heating interruption on door opening.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with removable ceramic sole.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
TL 1100-3	3 L	120 x 105 x 200 mm	345 x 430 x 470 mm	1.7 kW
TL 1100-8	8.2 L	195 x 135 x 310 mm	440 x 495 x 530 mm	1.8 kW

Bench-Top Furnaces 1100°C

RI 1100

- Compact electric chamber furnace for all applications.
- Horizontal swing door. One-piece muffle.
- Multilayer insulation. Interior in ceramic fibre and refractory bricks.
- Heating muffle. Heating interruption on door opening.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with exhaust plug, metal sole.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
RI 1100-10	9.5 L	210 x 145 x 320	500 x 650 x 650	3.5 kW

Opening Tube Furnaces 1100°C

TO 1100

- Opening electric tube furnace for all applications.
- Robust construction made of bent plate.
- Interior in ceramic fibre and refractory bricks.
- Working chamber surrounded by heating elements.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	**Heated length**	**Tube dim** (Ø x lenght)	**Ext. Dim.** (WxHxD)	**Power**
TO 1100-70-250	250 mm	70	400 x 510 x 500	1.6 kW
TO 1100-70-500	500 mm	70	650 x 510 x 500	2.4 kW
TO 1100-100-250	250 mm	100	400 x 510 x 500	2.4 kW
TO 1100-100-500	500 mm	100	650 x 510 x 500	3.0 kW
TO 1100-130-250	250 mm	130	400 x 510 x 500	3.0 kW
TO 1100-130-500	500 mm	130	650 x 510 x 500	3.5 kW
TO 1100-200-400	250 mm	160	400 x 510 x 500	3.0 kW
TO 1100 250-400	400 mm	200	555 x 710 x 740	6.0 kW

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Chamber Furnaces 1100°C - 1600°C

FP 1100°C / 1200°C / 1300°C / 1400°C / 1500°C / 1600°C

- Electric chamber furnace for all applications.
- Robust construction made of bent plate. Vertical lifting front door.
- Multilayer insulation. Interior in ceramic fibre and refractory bricks.
- Silicone carbide heating elements. Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with removable ceramic sole.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1100-6	7.0 L	200 x 140 x 250	550 x 650 x 580	2.0 kW
FP 1100-10	10 L	200 x 200 x 250	560 x 720 x 640	2.7 kW
FP 1100-15	15 L	220 x 230 x 300	560 x 720 x 640	3.6 kW
FP 1100-30	30 L	280 x 280 x 380	590 x 790 x 690	6.0 kW
FP 1100-45	45 L	300 x 300 x 500	660 x 820 x 810	7.5 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1200-10	10 L	200 x 200 x 250	560 x 720 x 640	3.6 kW
FP 1200-15	15 L	220 x 230 x 300	560 x 720 x 640	3.6 kW
FP 1200-30	30 L	280 x 280 x 380	590 x 790 x 690	6.0 kW
FP 1200-45	45 L	300 x 300 x 500	660 x 820 x 810	7.5 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1300-6	7.0 L	200 x 140 x 250	550 x 650 x 580	2.45 kW
FP 1300-10	10 L	200 x 200 x 250	560 x 720 x 640	3.6 kW
FP 1300-15	15 L	220 x 230 x 300	560 x 790 x 640	3.6 kW
FP 1300-30	30 L	280 x 280 x 380	590 x 790 x 690	6.0 kW
FP 1300-45	45 L	300 x 300 x 500	660 x 820 x 810	7.5 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1400-5	5.25 L	150 x 140 x 250	550 x 650 x 580	3.3 kW
FP 1400-9	9.0 L	200 x 180 x 250	560 x 720 x 640	4.4 kW
FP 1400-15	15 L	220 x 220 x 310	590 x 790 x 690	5.8 kW
FP 1400-30	29.7 L	250 x 270 x 440	660 x 800 x 730	11.5 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1500-5	5.25 L	150 x 140 x 250	550 x 650 x 580	4.9 kW
FP 1500-9	9.0 L	200 x 180 x 250	560 x 720 x 640	6.5 kW
FP 1500-15	15 L	220 x 220 x 310	590 x 790 x 690	5.8 kW
FP 1500-30	29.7 L	250 x 270 x 440	660 x 800 x 730	11.5 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
FP 1600-5	5.0 L	150 x 140 x 250	550 x 650 x 580	5.2 kW
FP 1600-9	8.6 L	200 x 180 x 250	560 x 720 x 640	5.9 kW
FP 1600-15	15 L	220 x 220 x 310	590 x 790 x 690	7.0 kW
FP 1600-30	29.7 L	250 x 270 x 440	660 x 800 x 730	11.5 kW

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Furnaces with Portable Ladle

FP 1100-1200 P

- A ladle is a mobile muffle in refractory steel provided with an inert gas inlet. The muffle is designed to be placed in a chamber furnace with the parts themselves arranged in the muffle. It is then possible to work with protective gas.
- The muffle is parallelepiped-shaped (with one hinged face closing by gravity), with a gas inlet (which also serves as a handle) and a mobile floor grid system on which the parts are placed. The mobile floor makes it easy to transfer the parts from the muffle to the quenching tank.
- The maximum temperature withstood by the muffles is 1100°C. Muffles available with chamber furnaces for 1100°C or 1200°C.
- Our packs are composed of a furnace able to receive a muffle, a ladle and protection for the heating element.
- Working with non-flammable gas (nitrogen, forming gas 95-5 etc.).
- Our muffles are fitted with a valve to regulate the gas supply. Type M16 connector.
- CE marking and operating instructions.

Model / Pack	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Furnaces used**
FP 1100-15-P Laddle S + furnace 1100°C	1.4 L	120 x 60 x 200	125 x 65 x 260	FP 1100-15
FP 1200-15-P Laddle S + furnace 1200°C	1.4 L	120 x 60 x 200	125 x 65 x 260	FP 1200-15
FP 1100-30-P Laddle M + furnace 1100°C	4.0 L	190 x 90 x 250	195 x 110 x 320	FP 1100-30
FP 1200-27-P Laddle M + furnace 1200°C	4.0 L	190 x 90 x 250	195 x 110 x 320	FP 1200-27
FP 1100-45-P Laddle L + furnace 1100°C	10 L	250 x 140 x 395	255 x 150 x 420	FP 1100-45
FP 1200-45-P Laddle L + furnace 1200°C	10 L	250 x 140 x 395	255 x 150 x 420	FP 1200-45

Top-Loading Furnaces 1100°C & 1280°C

TH 1100 & TH 1280

- Compact electric chamber furnace for all applications.
- Interior in ceramic fibre and refractory bricks.
- Exhaust vent on top.
- Coil resistors on ceramic tubes.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power 1100°C**	**Power 1280°C**
TH (*) 40	39 L	330 x 330 x 360	630 x 620 x 750	4.1 kW	4.1 kW
TH (*) 60	58 L	330 x 490 x 360	630 x 780 x 750	5.0 kW	5.0 kW

** 1100 or 1280*

Car-hearth Furnaces 1100°C & 1250°C

CH 1100 & 1250

- Chamber furnace with mobile sole (trolley on rails).
- Constructed in folded and profiled sheet steel.
- Axron Swiss temperature controller/programmer.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power
CH (*)1500	1500 L	1000 x 1000 x 1500	1500 x 1950 x 2200	56 kW
CH (*)2000	2000 L	1000 x 1000 x 2000	1500 x 1950 x 2700	75 kW
CH (*)2400	2400 L	1200 x 1000 x 2000	1700 x 1950 x 2700	110 kW
CH (*)2500	2500 L	1000 x 1000 x 2500	1500 x 1950 x 3200	120 kW
CH (*)3000	3000 L	1000 x 1000 x 3000	1500 x 1950 x 3700	172 kW
CH (*)3000-H	3000 L	1200 x 1000 x 2500	1700 x 1950 x 3200	172 kW
CH (*)3600	3600 L	1200 x 1000 x 3000	1700 x 1950 x 3700	185 kW

** 1100 or 1250*

ThermoConvect Furnaces 600°C

FT 600

- Air circulating furnace for all applications.
- Stainless steel interior.
- Insulation in ceramic fibre and refractory bricks.
- Fan with stainless steel turbine.
- Battery of shielded electrical resistors.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power
FT 600-30	30 L	300 x 250 x 450	1070 x 1150 x 960	6 kW
FT 600-73	73 L	450 x 250 x 650	1150 x 1600 x 1195	8 kW
FT 600-180	180 L	560 x 610 x 560	1300 x 1500 x 1110	10 kW
FT 600-290	290 L	600 x 600 x 800	1820 x 2200 x 1990	20 kW
FT 600-300	300 L	750 x 390 x 850	1355 x 1745 x 1400	20 kW
FT 600-970	970 L	900 x 1200 x 900	1730 x 2300 x 1420	25 kW
FT 600-1000	1000 L	1000 x 1000 x 1000	1970 x 2560 x 1600	25 kW
FT 600-1500	1500 L	1000 x 1000 x 1500	1820 x 2240 x 2050	30 kW
FT 600-2250	2250 L	1000 x 1500 x 1500	1830 x 2750 x 2100	45 kW

Industrial Furnaces 550°C

FI 550

- Electric chamber furnace for all applications.
- Interior in ceramic fibre and refractory bricks.
- Air intake and exhaust controlled by temperature controller.
- Shielded electrical resistors on 4 surfaces.
- Axron Swiss temperature controller/programmer, 30 programmes of 15 segments with delayed start time setting function.
- Main door includes 3 small doors.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power (kW)
FI 550-500	570 L	700 x 1000 x 820	1200 x 1960 x 1400	14 kW
FI 550-700	720 L	800 x 1100 x 820	1300 x 1960 x 1400	17 kW
FI 550-1000	1050 L	800 x 1100 x 1200	1300 x 1960 x 1800	21 kW
FI 550-1600	1580 L	1200 x 1100 x 1200	1700 x 1960 x 1800	24 kW
FI 550-2100	2160 L	1200 x 1200 x 1500	1700 x 1960 x 2100	30 kW
FI 550-2400	2400 L	1650 x 1200 x 1200	2150 x 1960 x 1800	34 kW
FI 550-3700	3700 L	1650 x 1200 x 1900	2150 x 1960 x 2500	38 kW

Specifications subject to change. Photos for illustration purposes only

Industrial Furnaces 600°C & 1100°C

FI 600 & FI 1100

- Electric chamber furnace for all applications.
- Mechanically welded frame.
- Interior in ceramic fibre and refractory bricks.
- Air intake and exhaust controlled by temperature controller.
- Electrical coil resistors on 4-6 sides of the furnace.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power** (kW)
FI 600-60	55 L	390 x 400 x 350	730 x 1680 x 840	5.2 kW
FI 600-130	130 L	490 x 530 x 500	820 x 1680 x 950	9.0 kW
FI 600-180	180 L	550 x 600 x 550	920 x 1680 x 1090	12 kW
FI 600-300	300 L	700 x 680 x 650	1100 x 1780 x 1240	17 kW
FI 600-500	500 L	800 x 780 x 810	1200 x 1880 x 1400	24 kW
FI 600-850	860 L	900 x 1150 x 830	1300 x 1980 x 1410	30 kW
FI 600-1550	1550 L	1350 x 1200 x 960	1750 x 1980 x 1540	48 kW

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power** (kW)
FI 1100-50	52 L	370 x 400 x 350	730 x 1680 x 840	5.2 kW
FI 1100-120	120 L	470 x 500 x 500	820 x 1680 x 950	9.0 kW
FI 1100-180	175 L	530 x 600 x 550	920 x 1680 x 1090	12 kW
FI 1100-250	245 L	680 x 680 x 530	1100 x 1780 x 1090	14 kW
FI 1100-400	395 L	780 x 780 x 650	1200 x 1880 x 1240	21 kW
FI 1100-740	740 L	840 x 1100 x 800	1300 x 1980 x 1410	30 kW
FI 1100-1100	1110 L	1040 x 1150 x 930	1500 x 1980 x 1540	42 kW
FI 1100-1600	1610 L	1290 x 1200 x 1040	1750 x 1980 x 1650	52 kW

Industrial Furnaces 1250°C

FI 1250

- Electric chamber furnace for all applications.
- Manually operated vertically-opening door, counterweighted for easy opening, avoids direct contact to the hot surface of the furnace.
- Interior in ceramic fibre and refractory bricks.
- Electrical coil resistors. Resistors mounted on ceramic tubes and/or in grooves depending on the models.
- Axron Swiss temperature controller/programmer, 30 programmes of 15 segments with delayed start time setting function.
- CE marking and operating instructions.
- Delivered with a removable ceramic sole.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power** (kW)
FI 1250-53	52.5 L	350 x 300 x 500	1050 x 1550 x 1600	12 kW
FI 1250-63	63 L	350 x 300 x 600	1050 x 1550 x 1700	14 kW
FI 1250-84	84 L	350 x 300 x 800	1050 x 1550 x 1900	21 kW
FI 1250-120	120 L	500 x 400 x 600	1250 x 1650 x 1850	21 kW
FI 1250-140	140 L	350 x 400 x 1000	1050 x 1650 x 2100	21 kW
FI 1250-160	160 L	500 x 400 x 800	1250 x 1650 x 2000	24 kW
FI 1250-200	200 L	500 x 400 x 1000	1250 x 1650 x 2200	30 kW
FI 1250-280	280 L	700 x 500 x 800	1450 x 1750 x 2050	33 kW
FI 1250-350	350 L	700 x 500 x 1000	1450 x 1700 x 2200	33 kW
FI 1250-420	420 L	700 x 500 x 1200	1450 x 1750 x 2400	37 kW
FI 1250-490	490 L	700 x 700 x 1000	1450 x 1950 x 2250	40 kW
FI 1250-640	640 L	800 x 800 x 1000	1550 x 1950 x 2300	52 kW

Specifications subject to change. Photos for illustration purposes only

Glass Furnaces 1000°C

FF 1000

- Electric furnace for glass work.
- Bell furnace has assisted opening by hydraulic cylinders.
- Interior in ceramic fibre and refractory bricks.
- Exhaust vent on top.
- Spiral wound resistors on the roof of the furnace.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	**Int. Vol**	**Int. Dim.** (WxHxD)	**Power**
FF 1000-100	100 L	500 x 400 x 500	8.0 kW
FF 1000-140	140 L	700 x 400 x 500	10 kW
FF 1000-180	180 L	900 x 400 x 500	10 kW
FF 1000-260	260 L	1100 x 400 x 600	12 kW
FF 1000-340	340 L	1200 x 400 x 700	15 kW
FF 1000-420	420 L	1500 x 400 x 700	18 kW
FF 1000-480	480 L	2000 x 400 x 600	18 kW
FF 1000-560	560 L	2000 x 400 x 700	22 kW

Salt Bath Furnaces 1000°C

SE 1000

- Salt bath furnace for quenching up to 1000°C.
- Access to crucible from top, manual cover closing.
- Interior in ceramic fibre and refractory bricks.
- Electrical coil resistors all around the crucible. Resistors mounted on ceramic tubes.
- Thermocouple outside of crucible.
- CE marking and operating instructions.
- Delivered without crucible, customised manufacturing.

Model	**Int. Vol.**	**Crucible Dim** (Ø x h)	**Ext. Dim.** (WxHxD)	**Power**
SE 1000-20	19 L	Ø250 x 400	900 x 800 x 900	14 kW
SE 1000-45	50 L	Ø400 x 400	950 x 800 x 950	21 kW
SE 1000-90	95 L	Ø520 x 450	1000 x 900 x 1000	27 kW
SE 1000-200	148 L	Ø520 x 700	1150 x 1050 x 1150	50 kW
SE 1000-300	172 L	Ø605 x 600	1250 x 1150 x 1250	60 kW
SE 1000-350	201 L	Ø605 x 700	1400 x 1950 x 1800	66 kW
SE 1000-500	366 L	Ø720 x 900	1600 x 2000 x 1950	74 kW
SE 1000-600	407 L	Ø720 x 1000	1450 x 1400 x 1450	84 kW

Specifications subject to change. Photos for illustration purposes only

Car-Hearth Furnaces 1200°C

FM 1200

- Chamber furnace with mobile hearth (trolley on rails).
- Vertical lifting front door.
- Interior in ceramic fibre and refractory bricks.
- Exhaust vent on top.
- Coil resistors on ceramic tubes.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with removable ceramic sole.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power
FM 1200-45	45 L	300 x 300 x 500	660 x 820 x 810	7.5 kW
FM 1200-60	60 L	400 x 300 x 500	760 x 800 x 840	9.6 kW

High Temperature Furnaces 1700°C & 1800°C

MO 1700 - MO 1800

- Electric chamber furnace for all applications, high temperature.
- Robust construction made of bent plate. Vertical lifting front door.
- Interior in ceramic fibre and refractory bricks.
- Heating elements type MoSi2.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	Int. Vol.	Int. Dim (WxHxD)	Ext. Dim. (WxHxD)	Power
MO 1700-2	2.5 L	120 x 140 x 150	510 x 770 x 510	3.3 kW
MO 1700-4	3.9 L	140 x 140 x 200	820 x 660 x 520	4.4 kW
MO 1700-8	8.1 L	180 x 180 x 250	920 x 700 x 520	7.2 kW
MO 1800-2	2.5 L	120 x 140 x 150	510 x 770 x 510	3.3 kW
MO 1800-4	3.9 L	140 x 140 x 200	820 x 660 x 520	4.4 kW
MO 1800-8	8.1 L	180 x 180 x 250	920 x 700 x 520	7.2 kW

Titling Furnace 1050°C

KN 1050

- Small furnace with metal chamber that tilts into a quenching tank. For quenching or annealing applications, work with inert or flammable (optional) gas.
- Transferring of the parts from the furnace into the quenching tank, without contact with air. Parts recovery basket.
- Metallic housing is insulated from quenching basket.
- Working chamber surrounded by heating elements. Stainless steel tank for quenching liquid.
- Axron Swiss PID temperature controller.
- Delivered with ladle.
- CE marking and operating instructions.

Model	Int. Vol.	Oil Tank Vol.	Int. Dim. (WxHxD)	Ext. Dim. (WxHxD)	Power
KN 1100-40	0.68 L	40 L	70 x 20 x 98 / 300	600 x 700 x 600	2.0 kW
KN 1050-320	2.7 L	320 L	150 x 60 x 160 / 490	1350 x 1700 x 1185	4.0 kW

Tube Furnaces 1200°C, 1400°C, 1500°C & 1600°C

TU 1200, TU 1400, TU 1500 & TU 1600

- Tubular electric furnace, for all applications.
- Robust construction made of bent plate.
- Interior in ceramic fibre and refractory bricks.
- Working chamber surrounded by heating elements.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	**Heated length**	**Tube dim** (Ø x lenght)	**Ext. Dim.** (WxHxD)	**Power**
TU 1200-20-250	250 mm	20 x 500	350 x 495 x 345	0.6 kW
TU 1200-40-250	250 mm	40 x 250	350 x 495 x 345	0.8 kW
TU 1200-50-250	250 mm	50 x 450	350 x 495 x 345	1.0 kW
TU 1200-20-400	400 mm	20 x 600	450 x 495 x 345	0.7 kW
TU 1200-40-450	450 mm	40 x 450	500 x 495 x 345	1.0 kW
TU 1200-50-450	450 mm	50 x 650	500 x 495 x 345	1.3 kW
TU 1200-75-600	600 mm	75 x 800	650 x 635 x 400	1.9 kW
TU 1200-105-750	750 mm	105 x 1000	800 x 675 x 400	3.1 kW
TU 1200-75-750	800 mm	75 x 1000	850 x 635 x 400	2.1 kW
TU 1200-105-900	900 mm	105 x 1200	950 x 675 x 400	3.1 kW

Model	**Heated length**	**Tube dim** (Ø x lenght)	**Ext. Dim.** (WxHxD)	**Power**
TU 1400-20-180	180 mm	26 x 600	600 x 520 x 350	1.5 kW
TU 1400-50-250	250 mm	50 x 800	665 x 675 x 400	3.0 kW
TU 1400-50-450	450 mm	50 x 1000	850 x 745 x 400	4.0 kW
TU 1400-75-450	450 mm	75 x 1000	850 x 745 x 400	5.5 kW
TU 1400-105-450	450 mm	100 x 1000	850 x 785 x 400	7.0 kW
TU 1400-105-610	610 mm	100 x 1300	1150 x 785 x 400	7.5 kW
TU 1400-50-610	610 mm	50 x 1300	1150 x 745 x 400	4.5 kW
TU 1400-75-610	610 mm	75 x 1300	1150 x 745 x 400	6.5 kW

Model	**Heated length**	**Tube dim** (Ø x lenght)	**Ext. Dim.** (WxHxD)	**Power**
TU 1500-50-250	250 mm	50 x 800	665 x 675 x 400	3.0 kW
TU 1500-50-450	450 mm	50 x 1000	850 x 745 x 400	4.0 kW
TU 1500-75-450	450 mm	75 x 1000	850 x 745 x 400	6.0 kW
TU 1500-50-610	610 mm	50 x 1300	1150 x 745 x 400	5.0 kW
TU 1500-75-610	610 mm	75 x 1300	1150 x 745 x 400	7.0 kW

Model	**Heated length**	**Tube dim** (Ø x lenght)	**Ext. Dim.** (WxHxD)	**Power**
TU 1600-50-250	250 mm	50 x 800	665 x 675 x 400	4.0 kW
TU 1600-50-450	450 mm	50 x 900	850 x 745 x 400	5.5 kW
TU 1600-75-450	450 mm	75 x 1000	850 x 745 x 400	6.5 kW
TU 1600-50-610	610 mm	50 x 1300	1150 x 745 x 400	6.0 kW
TU 1600-75-610	610 mm	75 x 1300	1150 x 745 x 400	7.5 kW

Specifications subject to change. Photos for illustration purposes only

Air Circulating Furnaces 650°C

PO 650-P1

- Air circulating furnace for all applications.
- Robust construction made of bent plate.
- Interior in ceramic fibre and refractory bricks.
- Air circulation by a turbine to improve homogeneity.
- Battery of shielded electrical resistors.
- PID Axron Swiss digital temperature controller. Timer.
- CE marking and operating instructions.
- Delivered with furnace basket.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
PO 650-S-P1	7.1 L	168 x 320	810 x 1020 x 650	3.5 kW
PO 650-M-P1	19.9 L	250 x 405	800 x 1093 x 700	6.0 kW

Retort Furnaces with inert gas 650°C

PO 650-P2

- For working with non flammable protective gas (nitrogen, argon etc.).
- Robust construction made of bent plate.
- Interior in ceramic fibre and refractory bricks.
- Air circulation by a turbine to improve homogeneity within furnace in M and L sizes.
- Battery of shielded electrical resistors.
- PID Axron Swiss digital temperature controller. Timer.
- CE marking and operating instructions.
- Delivered with furnace + retort + inert gas equipment + retort support.

Model	**Int. Vol.**	**Retort dim** (ØxH)	**Int. Dim.** (ØxH)	**Ext. Dim.** (WxHxD)	**Power**
PO 650-S-P2	2.8 L	110 x 296	168 x 320	1310 x 950 x 660	3.5 kW
PO 650-M-P2	8.8 L	185 x 295	250 x 405	1620 x 1093 x 700	6.0 kW

Retort Furnaces with flammable gas 650°C

PO 650-P3

- Furnace for work with flammable gas (hydrogen, cracked ammonia, forming gas etc.).
- Robust construction made of bent plate.
- Interior in ceramic fibre and refractory bricks.
- Air circulation by a turbine.
- Battery of shielded electrical resistors.
- PID Axron Swiss digital temperature controller. Timer.
- CE marking and operating instructions.
- Delivered with retort with burner + flammable gas equipment + retort support.

Model	**Int. Vol.**	**Retort dim** (ØxH)	**Int. Dim.** (ØxH)	**Ext. Dim.** (WxHxD)	**Power**
PO 650-S-P3	2.8 L	110 x 296	168 x 320	1310 x 950 x 660	3.5 kW
PO 650-M-P3	8.8 L	185 x 355	250 x 405	1620 x 1093 x 760	6.0 kW

Specifications subject to change. Photos for illustration purposes only

Elevator Furnaces 1100°C & 1400°C

LE 1100 & LE 1400

- Medium frequency fusion furnace with rising floor for rapid withdrawing.
- Mechanically welded frame.
- Interior in ceramic fibre and refractory bricks.
- Working chamber surrounded by heating elements.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.

Model	**Int. Vol.**	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Power**
LE 1100-8	7.5 L	180 x 200 x 210	630 x 1220 x 810	2.0 kW
LE 1400-8	7.4 L	180 x 180 x 230	630 x 1220 x 810	4.9 kW

Melting Furnaces 1100°C

KP 1100

- Removable crucible furnace for melting of non-ferrous metals.
- Access to crucible from top, manual cover closing.
- Interior in ceramic fibre and refractory bricks.
- Working chamber surrounded by heating elements.
- Digital PID temperature controller.
- CE marking and operating instructions.
- Delivered with 1 crucible handling tongs, 1 crucible with pouring lip.

Model	**Int. Vol.**	**Crucible dim** (ØxH)	**Ext. Dim.** (WxHxD)	**Power**
KP 1100-1	0.11 L	Ø41 x 110	230 x 340 x 220	0.7 kW
KP 1100-3	0.33 L	Ø52 x 150	270 x 420 x 275	1.4 kW

Melting Furnaces 1280°C

CA 1280

- Removable crucible furnace for melting or maintaining melted state of non-ferrous metals. Handling the crucible with 1 pair of tongs.
- Access to crucible from top, manual cover closing.
- Interior in ceramic fibre and refractory bricks.
- Axron Swiss PID temperature controller.
- CE marking and operating instructions.
- Delivered with 1 crucible, 1 pair of tongs and 1 crucible levelling sole.

Model	**Int. Vol.**	**Crucible dim** (ØxH)	**Ext. Dim.** (WxHxD)	**Power**
CA 1280-6	8 L	220 x 260	600 x 620 x 670	4.5 kW

Specifications subject to change. Photos for illustration purposes only

Fixed Crucible Melting Furnace 1200°C

CR 1200

- Fixed crucible furnace for melting.
- Access to crucible from top, manual cover closing.
- Interior in ceramic fibre and refractory bricks.
- Electrical coil resistors all around the crucible.
- Thermocouple outside of crucible. Axron Swiss PID temperature controller.
- CE marking and operating instruction.

Model	**Int. Vol.**	**Crucible Dim.** (Ø x h)	**Ext. Dim.** (WxHxD)	**Power**
CR 1200-65	9 L	Ø210 x 350	900 x 800 x 900	14 kW
CR 1200-150	23 L	Ø340 x 395	950 x 800 x 950	21 kW
CR 1200-300	46 L	Ø527 x 451	1000 x 900 x 1000	27 kW
CR 1200-650	80 L	Ø527 x 710	1150 x 1050 x 1150	50 kW
CR 1200-1000	127 L	Ø720 x 600	1250 x 1150 x 1250	60 kW
CR 1200-1150	145 L	Ø720 x 670	1400 x 1950 x 1800	66 kW
CR 1200-1600	167 L	Ø720 x 885	1600 x 2000 x 1950	74 kW
CR 1200-2000	222 L	Ø720 x 975	1450 x 1400 x 1450	84 kW

High Temperature Melting Furnaces 1350°C

RH 1350

- Removable crucible furnace for melting or maintaining in melted state of non-ferrous metals. Handling the crucible with 1 pair of tongs.
- Access to crucible from top, manual cover closing.
- Interior in ceramic fibre and refractory bricks.
- Electrical coil resistors on 4-6 sides of the furnace.
- Digital display PID Axron Swiss temperature controller.
- CE marking and operating instructions.
- Delivered with 1 crucible handling tongs, 1 crucible with pouring lip.

Model	**Int. Vol.**	**Crucible Dim. (Ø x h)**	**Ext. Dim.** (WxHxD)	**Power**
RH 1350-5	0.75 L	Ø114 x 141 mm	500 x 900 x 530	4.0 kW
RH 1350-10	1.2 L	Ø130 x 165 mm	500 x 950 x 560	5.5 kW

Specifications subject to change. Photos for illustration purposes only

Air Cooler

RE 100

- Rapid cooling for refractory steel ladle to cool items, treated with protective gas, avoiding contact with air.
- Metal construction. Ventilator within housing. Closing cover to conduct hot air towards rear.
- CE marking and operating instructions.

Model	**Int. Dim** (WxHxD)	**Ext. Dim.** (WxHxD)	**Max Flow**	**Power**
RE 100-1	220 x 150 x 350	505 x 1100 x 670	1500 m^3 / hour	1.1 kW

Flammable Gas Safety Kits for Muffle Furnaces

KG 100

- Flammable gas safety kit for muffle furnaces. Pack for protective gas piloting for metal muffle furnaces. Ideal for RetroFit and safety compliance of old furnaces.
- Built in 2 parts. The gas safety unit includes the control, the electrical and pneumatic equipment and the burner.
- CE marking and operating instructions.
- Nitrogen, hydrogen or gas mixture: forming gas, cracked ammonia.

Model	**SOLO Furnaces**	**Borel Furnaces**
KG 100-C - Kit for retort/muffle of 4.5 liters	-	Cube 400
KG 100-S - Kit for retort/muffle of 4.5 liters	221-15/25	4.5/650S
KG 100-M - Kit for retort/muffle of 12.5 liters	221-15/35	17/650M
KG 100-L - Kit for retort/muffle of 48 liters	221-15/50	48/650L

Quenching Tanks 90°C

BA 90

- Quenching tank for stirring oil quenching.
- Cover, removable basket with handles for quenching and draining of the parts.
- Metallic housing is insulated from quenching tank.
- 2 immersed heating elements. Stirring device for optimal homogeneity.
- CE marking and operating instructions.
- Delivered with furnace basket.

Model	**Int. Vol.**	**Int. Dim.** (ØxH)	**Ext. Dim.** (WxHxD)	**Power**
BA 90-90	90 L	255 x 300 x 320	525 x 1000 x 800	3.5 kW

Specifications subject to change. Photos for illustration purposes only

Heating tables 300°C

TC 200, TC 300

- Heating table for all applications.
- Welded chassis, aluminum tray.
- Rock wool insulation.
- Heating components distributed throughout the heating surface.
- Voltage 230 VAC, 50 Hz up to 4 kW and voltage 3x400 VAC frequency 50 Hz from 4 kW.
- Axron Swiss PID controller.

Model	**Plate Dim.** (WxH)	**Ext. Dim.** (WxHxD)	**Acceptable mass**	**Power**	**Weight**
TC 200-16	400 x 400 mm	500 x 800 x 500 mm	100 kg/m2	1.0 kW	65 kg
TC 200-26	650 x 400 mm	750 x 800 x 500 mm	100 kg/m2	1.6 kW	95 kg
TC 200-42	650 x 650 mm	750 x 800 x 750 mm	100 kg/m2	2.5 kW	150 kg
TC 200-58	900 x 650 mm	1150 x 800 x 950 mm	100 kg/m2	3.4 kW	200 kg
TC 200-81	900 x 900 mm	1150 x 800 x 1150 mm	100 kg/m2	4.9 kW	275 kg
TC 200-126	1400 x 900 mm	1650 x 800 x 1150 mm	100 kg/m2	7.6 kW	420 kg
TC 200-180	2000 x 900 mm	2250 x 800 x 1150 mm	100 kg/m2	10.9 kW	600 kg

Model	**Plate Dim.** (WxH)	**Ext. Dim.** (WxHxD)	**Acceptable mass**	**Power**	**Weight**
TC 300-16	400 x 400 mm	500 x 800 x 500 mm	100 kg/m2	1.9 kW	65 kg
TC 300-26	650 x 400 mm	750 x 800 x 500 mm	100 kg/m2	3.1 kW	95 kg
TC 300-42	650 x 650 mm	750 x 800 x 750 mm	100 kg/m2	4.9 kW	150 kg
TC 300-58	900 x 650 mm	1150 x 800 x 950 mm	100 kg/m2	7.0 kW	200 kg
TC 300-81	900 x 900 mm	1150 x 800 x 1150 mm	100 kg/m2	9.7 kW	275 kg
TC 300-126	1400 x 900 mm	1650 x 800 x 1150 mm	100 kg/m2	15.1 kW	420 kg
TC 300-180	2000 x 900 mm	2250 x 800 x 1150 mm	100 kg/m2	21.7 kW	600 kg

Ingots Moulds

- Ingot moulds for moulding ingots with manipulating handle and draught for easy release.

Model	Int. Vol.	Int. Dim. (LxL1xH)	Gold Capacity
Ingot moulds 0.15	0.15	120 x 45 x 35	1.5 kg
Ingot moulds 0.35	0.35	130 x 60 x 55	7 kg
Ingot moulds 0.45	0.45	195 x 60 x 60	10 kg
Ingot moulds 0.60	0.60	200 x 85 x 50	12 kg
Ingot moulds 1.0	1.0	195 x 100 x 70	20 kg
Ingot moulds 1.41	1.41	240 x 120 x 70	27 kg
Ingot moulds 1.65	1.65	295 x 95 x 75	30 kg
Ingot moulds 3.20	3.20	280 x 130 x 120	60 kg
Ingot moulds 5.80	5.80	340 x 205 x 110	90 kg

Ladles

- A ladle is a mobile muffle in refractory steel provided with an inert gas inlet.
- The muffle is designed to be placed in a chamber furnace with the parts themselves arranged in the muffle.
- It is then possible to work with protective gas.

Model	Int. Vol.	Int. Dim. (ØxH)	Ext. Dim. (WxHxD)	Weight
Ladle S	1.4 L	120 x 60 x 200	125 x 65 x 260	4.5 kg
Ladle M	4 L	190 x 90 x 250	195 x 110 x 320	7.5 kg
Ladle L	10 L	250 x 140 x 295	255 x 155 x 420	11.5 kg

Crucibles

- Crucibles for holding, melting or casting non-ferrous metals.
- Manipulation with tongs.
- Can be used in standard chamber furnaces.
- Various dimensions on demand.

Loading Baskets

- Wire mesh loading basket for holding parts in furnace.
- Numerous standard models.
- Can be stacked.

Protections

High temperature mittens

Head protection

Hide sleeves

Apron

Gloves

Axron Temperature Controllers

ECO300

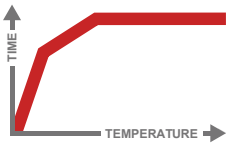
The controller is used to set the desired furnace (or oven) temperature. The furnace heats up to this temperature then heats intermittently to maintain it. With a programmable controller, the desired temperature can be associated with the time desired to reach it.

- Dual display, measured temperature in red, target temperature in green.
- Memorisation of set temperatures and programmes.
- The regulator can be removed from its housing from the front without dismantlement or tools.

Type	A	B	C	D	E
Function	Single-loop controller	Controller with ramp	Programmable controller	Programmable controller	Programmable controller
Definition	AXRON ECO 300Y-N	AXRON ECO 300Y-E	AXRON ECO 308H-P1	AXRON ECO 308H-P	AXRON ECO 304H-P
Number of programs	-	-	1	10	30
Available size	Several	Several	48x96	48x96	96x96

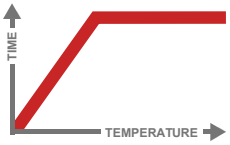
Type **A**

Controller : The AXRON ECO 300Y-N controller is simple to use. Temperature rise/fall by the action of incrementing/decrementing arrows. Once the temperature is entered, the furnace heats up to reach it and maintain it.
- Advanced PID



Type **B**

Controller with ramp : Temperature rise/fall by the action of incrementing/decrementing arrows. Once the temperature is entered, the furnace heats according to a ramp to reach it and maintain it.
- Advanced PID or standard PID
- Ramp function

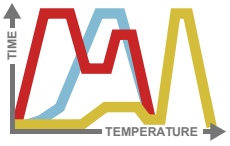


Type **C**

3 segments programmable controller : Programmable controller AXRON ECO 308H-P1, programming a waiting time, a ramp and a dwell.
- Advanced PID or standard PID
- Number of programs: 1
- Number of segments per program: 3
- A waiting time, a ramp and then a dwell

Type **D**

150 / 450 segments programmable controller : programmable controller with 20 / 30 recordable programs of 15 steps. The programs can generate ramps and dwells.
- Advanced PID
- Number of programs: 10 or 30
- Number of segments per program: 15
- Ramp or dwell function for each segment
- Delayed start



Axron Touchscreen Temperature Recorders

ECO3000 Series

Paperless Secure and Adaptable Data Recording.
To monitor and optimize energy consumption, monitoring and analysis of production performance (Manufacturing Execution System) and to manage predictive maintenance. Each instrument has an intuitive touch screen display to enable operators to clearly view process data.

Model	ECO-3057	ECO-3121
Screen type	5.7"	12,1"
Communication	Modbus RTU/TCP Siemens - S7 TCP	Modbus RTU/TCP Siemens S7/TCP
Inputs channels (min/max)	4/16	4/32
Equipments / Groups (max)	4 / -	8/32
Connection with ERP	Yes	Yes
Chassis support for desk		REC-TL-042
Kit for wall mounting		REC-TL-043

Features :
- Touchscreen LCD display, 5.7'' or 12.1''
- RS485, TCP/IP and USB
- Possible connection of bar-code readers
- Local and network printing
- Audit trail with time stamp (21CFR P11 and Nadcap)
- Modbus TCP and RTU master and slave
- TCP/IP communication with Siemens S7 (TCP/IP)
- FTP client and server
- Fanless & slim design
- Custom graphic display
- Adaptive recording
- Batch function: start-stop program function
- Concept of equipment, data groups
- Electronic signatures
- Time synchronization (SNTP)
- Event inputs
- Web server
- Totalizers, counters, timers
- Technology functions available (%C, kN, kO, ...)
- User functions easy to attach

Benefits :
- User-friendly and intuitive
- Extensible and modular hardware/software
- Open, easily integrated with ERP
- 100% secure data

Options :
- Back-up and remote data archiving
- Integration with ERP
- Remote visualization and data archive
- Specific screens for capturing production monitoring information
- Barcode reader

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