



Kilns
for glass



Kilns for glass

Introduction	3
Company profile	4
Fusing, slumping, sagging – hood kilns	6
Fusing, slumping, sagging – continuous kilns	9
Bending – hood kilns	10
Bending – car-type kilns	12
Bending – tank kilns	13
Casting – chamber kilns, car-type kilns	14
Heat soak test – car-type kilns	16
Decoration firing – chamber kilns	17
Decoration firing – continuous kilns	18
Firing of low-temperature coatings	
– chamber kilns, continuous kilns	19
Polishing of glass beads – chamber kilns, continuous kilns	20
Annealing – chamber kilns, continuous kilns	21
Malleablizing of crucibles – chamber kilns	22
Particular applications	23



INTRODUCTION

Offer

Our company offers a wide range of kilns for both studio and industrial heat treatment of glass. Based on your inquiry we offer the best and convenient engineering solution. Once the kiln is manufactured we deliver it to your plant, we set it into operation and provide operator's training.

Operational temperatures

We develop and manufacture kilns for heat treatment of glass in the temperature field 20 – 1300 °C.

Standard and individual requests

In all categories we offer basic dimensional range, which can be modified and updated as per individual requests. A frequently used option is the "made-to-measure" kiln.

Heating systems

1. electrical heating
 - a) resistant heating wire or strip
 - b) resistant jacket heaters
2. gas heating
 - a) impulse burners with forced inlet of combustion air
 - b) injector middle pressure burners
 - c) radiant burners
 - d) monoblock automatic burners

Control systems

As a standard we offer a wide range of microprocessor programmable controllers from renowned manufacturers with many operational options, including connection and data transfer to PC. For the most complicated technologies we offer programmable logic controllers with process visualization, including software.

Optional features

- kiln furniture, inner bearing constructions
- stainless steel perforated plates
- ceramic moulds for glass bending
- controlled catalysts

company profile

The company was founded in 1990. It focuses itself on:

- production of industrial kilns and drying ovens
- production of industrial ceramics – kiln furniture, muffles and stones for kilns building
- repairs, reconstructions and renovations of kilns
- production and deliveries of spare parts

The company insists on high quality of all products and provided services and it has won a significant reputation. There is a team of experienced engineers who constantly work on the development and apply new technical knowledge. Half of the production is exported to both European and over-sea markets.

SEPARATE CATALOGUES AVAILABLE

■ Kilns for metal-working industry



*Roller gas-heated kiln
for hardening of knives*

- hardening plants
- forges
- press plants
- tool plants
- spring producing plants
- metal foundries
- pickling plants
- soldering
- galvanizing plants
- melting of metal scrap
- foundries of nonferrous metals
- low-temperature heating 100 – 500 °C

■ Kilns for glass industry



*Hood-type electric kiln
for fusing*

- glass annealing
- glass casting
- decoration on glass
- glass bending
- glass polishing
- heat soak test
- fusing
- glass hardening
- malleablizing

■ Kilns for ceramics



*Car-hearth electric kiln
for firing of stove tiles*

- biscuit firing
- glaze firing
- stoneware
- drying ovens



SEPARATE CATALOGUES AVAILABLE

■ Kilns for porcelain



*Chamber gas-heated kiln
for firing of porcelain*

- biscuit firing
- glaze firing
- decoration firing
- melting-in decoration firing
- drying ovens

■ Ovens for surface finishing Drying ovens and low-temperature heating for all industries



Conveyor gas-heated drying oven

- enamel hardening
- powder paints firing
- hardening
- artificial ageing
- heating
- forming

■ Industrial ceramics



- kiln furniture for firing of porcelain and ceramics
- muffles pro laboratory furnaces
- stones for kilns building



- PS 03
- manual flaps
- manual kiln opening



- PS 1-250
- manual flaps
- manual kiln opening

FUSING, SLUMPING, SAGGING – HOOD KILNS

Our offer includes a wide range of kilns, from small studio kilns to huge industrial aggregates with high automation level. The wide choice of optional features will satisfy the highest technical requirements, coming with new technologies.



- PS 2-400
- manual flaps
- locking device for top flaps
- manual kiln opening
- additional peripheral spiral in the hood



- PSV 5-400
- automatic top flaps control – electric motors
- electromechanical kiln opening
- recessed table
- additional peripheral spiral in the table sides
- forced ventilation and cooling



- PSV 6.2-400
- automatic flaps control – electric motors
- manual kiln opening
- additional peripheral spiral in the hood
- pull-out table

- PSR 8.4-250
- top lift system
- automatic flaps control
- automatic kiln opening
- forced ventilation
- two tables



Operational temperature up to 1000 °C

Basic dimensional range of hood kilns

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW	Tension V
	w.	l.	h.	w.	l.	h.		
PS 03	450	450	250	750	800	600	3	1 x 230
PS 1-250	1000	600	250	1300	900	1150	9	3 x 400
PS 1-400	1000	600	400	1300	900	1300	9	3 x 400
PS 1.1-250	1200	600	250	1500	900	1150	10,2	3 x 400
PS 1.1-400	1200	600	400	1500	900	1300	10,2	3 x 400
PS 1.2-250	1000	800	250	1300	1100	1150	10,2	3 x 400
PS 1.2-400	1000	800	400	1300	1100	1300	10,2	3 x 400
PS 2-250	1200	1000	250	1700	1500	1300	16	3 x 400
PS 2-400	1200	1000	400	1700	1500	1450	16	3 x 400
PS 3-250	1600	800	250	2100	1300	1300	16	3 x 400
PS 3-400	1600	800	400	2100	1300	1450	16	3 x 400
PS 3.1-250	1500	1000	250	2000	1500	1300	18	3 x 400
PS 3.1-400	1500	1000	400	2000	1500	1450	18	3 x 400
PS 3.2-250	1600	1000	250	2100	1500	1300	18	3 x 400
PS 3.2-400	1600	1000	400	2100	1500	1450	18	3 x 400
PS 3.3-250	1800	900	250	2300	1400	1300	18	3 x 400
PS 3.3-400	1800	900	400	2300	1400	1450	18	3 x 400
PS 4-250	1600	1200	250	2100	1700	1300	19	3 x 400
PS 4-400	1600	1200	400	2100	1700	1450	19	3 x 400
PS 4.1-250	1600	1500	250	2100	2000	1300	19	3 x 400
PS 4.1-400	1600	1500	400	2100	2000	1450	23	3 x 400
PS 4.2-250	1800	1200	250	2300	1700	1300	23	3 x 400
PS 4.2-400	1800	1200	400	2300	1700	1450	25	3 x 400
PS 5-250	2000	1000	250	2500	1500	1300	23	3 x 400
PS 5-400	2000	1000	400	2500	1500	1450	25	3 x 400
PS 5.1-250	2100	1100	250	2600	1600	1300	25	3 x 400
PS 5.1-400	2100	1100	400	2600	1600	1450	28	3 x 400
PS 6-250	2000	1200	250	2500	1700	1300	28	3 x 400
PS 6-400	2000	1200	400	2500	1700	1450	29	3 x 400
PS 6.1-250	2100	1200	250	2600	1700	1300	31	3 x 400
PS 6.1-400	2100	1200	400	2600	1700	1450	32	3 x 400
PS 6.2-250	2200	1100	250	2700	1600	1300	31	3 x 400
PS 6.2-400	2200	1100	400	2700	1600	1450	32	3 x 400
PS 6.4-250	2200	1200	250	2700	1700	1300	31	3 x 400
PS 6.4-400	2200	1200	400	2700	1700	1450	32	3 x 400
PS 6.5-250	2200	1500	250	2700	2000	1300	34	3 x 400
PS 6.5-400	2200	1500	400	2700	2000	1450	36	3 x 400
PS 6.6-250	2300	1300	250	2800	1800	1300	34	3 x 400
PS 6.6-400	2300	1300	400	2800	1800	1450	34	3 x 400
PS 7-250	2500	1500	250	3000	2000	1300	36	3 x 400
PS 7-400	2500	1500	400	3000	2000	1450	36	3 x 400
PS 7.1-250	2800	1500	250	3300	2000	1300	36	3 x 400
PS 7.1-400	2800	1500	400	3300	2000	1450	39	3 x 400
PS 7.2-250	3000	1500	250	3500	2000	1300	39	3 x 400
PS 7.2-400	3000	1500	400	3500	2000	1450	44	3 x 400
PS 7.3-250	3200	2000	250	3700	2500	1300	55	3 x 400
PS 7.3-400	3200	2000	400	3700	2500	1450	58	3 x 400
PS 8-250	3500	1800	250	4000	2300	1300	65	3 x 400
PS 8-400	3500	1800	400	4000	2300	1450	68	3 x 400
PS 8.1-250	4000	2000	250	4500	2500	1300	68	3 x 400
PS 8.1-400	4000	2000	400	4500	2500	1450	71	3 x 400
PS 8.2-250	4000	1800	250	4500	2300	1300	75	3 x 400
PS 8.2-400	4000	1800	400	4500	2300	1450	79	3 x 400
PS 8.3-250	5000	1800	250	5500	2300	1300	85	3 x 400
PS 8.3-400	5000	1800	400	5500	2300	1450	89	3 x 400
PS 8.4-250	5500	1800	250	6000	2300	1300	93	3 x 400
PS 8.4-400	5500	1800	400	6000	2300	1450	96	3 x 400

FUSING, SLUMPING, SAGGING – HOOD KILNS

Model designation

- PS – hood installed on the table (swivel hinges)
- PSV – hood installed on the supporting frame, pull-out table, rails
- PSR – "top lift system" hood suspended on the mobile frame, fixed table
- 1. digit defines inner dimensions of the model
- other digits define interior hood height in mm

Design and options

- models 03, 1 and 2 in PS design
- models 3 and 4 in PS and PSV designs
- models 4, 5, 6, 7, 8 in PS, PSV and PSR designs
- standard interior heights 250 and 400 mm, optionally other interior heights "made-to-measure"
- construction of the hood and peripheral table parts made of stainless steel
- electric control box on the kiln side – right or left as per your choice
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- brick lining of high thermal resistance, anti-dust finish
- models PS with adjustable feet
 - models PS with castors (instead of adjustable feet)
- observation holes in the sidewalls with manual flaps and two-position locking device
 - automatically controlled side flaps from controller, with electric motors, possibility to open them manually when looking inside the kiln
- air vents in the top with manual flaps and multi-position locking device (excluding models PS 03 and 1)
 - automatically controlled top flaps, with electric motors
- manual kiln opening – pneumatic struts
 - automatic kiln opening, with electric motor
- operational surface exceeding the level of the table steel construction
 - collecting strips to level glass separator on the table
 - recessed table – 75 mm deep
 - adaptation of the table for deep slumping
- electrical heating spirals
 - infra-red emitters
 - additional peripheral heating spiral in the hood, ON/OFF button
 - additional peripheral heating spiral in the recessed table, ON/OFF button
 - additional heating spirals for deep slumping, ON/OFF button
 - additional heating spirals for deep slumping, controlled automatically
 - independent control of both main and additional heating, possibility to preset different temperatures
- batch cooling by manual kiln opening
 - electromechanical kiln opening with push-button
 - automatic electromechanical kiln opening programmed on the controller
- glass annealing by natural temperature drop
 - controlled annealing as per programmed curve
- final cooling by natural temperature drop, using air vents
 - forced ventilation, ON/OFF button
 - forced ventilation controlled automatically
- controller installed as per kiln model, equipment and technological requirements
 - PID controllers for easy applications
 - sets of PID controllers in MASTER / SLAVE concept
 - programmable logic controllers including software
- dimensions "made-to-measure"

Other equipment

- additional table
- additional rings increasing the interior height
- additional peripheral heating spirals in the ring

Performance characteristics

- reliable technology of heating and annealing
- guaranteed temperature distribution in the kiln
- reliable repeatability of the process



- PSP 05.18.02-10
- continuous kiln for fusing
- gas heating
- conveying speed 100 – 300 mm/min
- capacity 4 m² glass /hour

FUSING, SLUMPING – CONTINUOUS KILNS

Our offer includes continuous kilns designed for industries and mass-production. The kilns provide fully automated operation in all process phases.

Operational temperature up to 1000 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSP 04.18.02-10	400	18000	200	1100	22000	1700	66
PSP 05.18.02-10	500	18000	200	1200	22000	1700	82
PSP 06.18.02-10	600	18000	200	1300	22000	1700	96
PSP 08.22.02-10	800	22000	200	1500	26000	1700	152
PSP 1,2.26.02-10	1200	26000	200	1900	30000	1700	196
PSP 1,2.30.02-10	1200	30000	200	1900	34000	1700	224
PSP 1.2.34.02-10	1200	34000	200	1900	38000	1700	254

Design

- conveyor belt of refractory material
- electrical or gas heating
- electric control box on the kiln side – right or left as per your choice
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- outer mantle of stainless steel sheets
- observation holes in the sidewalls with manual flaps and two-position locking device
- PID controller or programmable logic controllers including software
- continuous change of conveying speed
- dimensions "made-to-measure"

Performance characteristics

- extremely low energy consumption
- short start-up time
- both one-shift and continuous operation possible
- reliable technology of heating and annealing
- guaranteed temperature distribution in the kiln
- reliable repeatability of the process
- noiseless operation
- high output



- PSO 1-400
- electrical heating
- PID controller
- manual flaps
- controlled annealing



- PSOV 5-400
- electrical heating
- PID controllers
- 2 heating zones – top + bottom
- manual side flaps
- automatic top flaps control
- controlled annealing

BENDING – HOOD KILNS

We offer many kiln models: from small studio kilns to industrial aggregates with high automation level. Wide range of optional equipment will satisfy the most complicated demands on technical level.

- PSOV 7-800
- electrical heating
- PID controllers
- 3 heating zones – top + walls + table
- manual side flaps
- manual top flaps
- manual kiln opening
- controlled annealing



- PSOR 7-800
- electrical heating
- programmable logic controller
- 18 heating zones
- 2 rings increasing the interior height
- observation windows in the walls
- electromechanical kiln opening
- process visualization on PC
- full automation of the process



- **PSOV 7-600**
- electrical heating
- PID controllers
- 2 heating zones – top + walls
- automatic side flaps control
- automatic top flaps control
- electromechanical kiln opening
- controlled annealing
- forced final cooling



Model designation

- **PSO** – hood installed on the table (swivel hinges)
- **PSOV** – hood installed on the supporting frame, pull-out table, rails
- **PSOR** – "top lift system" hood suspended on the mobile frame, fixed table

Operational temperature up to 1000 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSO 1-400	1000	600	400	1300	900	1300	9
PSO 2-400	1200	1000	400	1700	1500	1450	15
PSO 3-400	1600	800	400	2100	1300	1450	16
PSO 4-400	1600	1200	400	2100	1700	1450	18
PSOV 5-400	2000	1000	400	2800	1500	1450	22
PSOV 6-400	2000	1200	400	2800	1700	1450	28
PSOV 6.6-400	2300	1300	400	3100	1800	1450	33
PSOR 7-400	2500	1500	400	3300	2000	2000	35
PSOR 7.1-400	2800	1500	400	3600	2000	2000	38
PSOR 7.2-400	3000	1500	400	3800	2000	2000	43
PSOR 8.2-400	4500	1800	400	5300	2300	2000	60
PSOR 8.4-400	5500	1800	400	6300	2300	2000	72

Design and options

- observation holes in the sidewalls with manual flaps and two-position locking device
 - observation holes in the sidewalls covered with glass ceramics (instead of flaps)
 - automatically controlled side flaps, with electric motors, possibility to open them manually
- air vents in the top with manual flaps and multi-position locking device
 - automatically controlled top flaps, with electric motors
- manual or automatic kiln opening
 - automatic kiln opening programmed in the controller for technological annealing
- models PSO equipped with adjustable feet or castors
- controlled final cooling by forced ventilation
- additional rings increasing the interior height
- electric control box on the kiln side – right or left as per your choice
- brick lining of high thermal resistance, anti-dust finish
- electrical heating spirals in the top
- additional heating spirals in the table
- additional peripheral heating spiral in the hood
- additional peripheral heating spiral in the recessed table
- additional peripheral heating spirals in the rings
- total number and layout of heating zones as per kiln model – dimension
- possibility to preset different temperatures in respective heating zones
- controller installed as per kiln model, equipment and technological requirements
- supporting bars carrying the moulds, built in the table
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- dimensions "made-to-measure"

Performance characteristics

- reliable technology of heating and annealing
- guaranteed temperature distribution in the kiln
- reliable repeatability of the process

- VSO 1,8.2,7.1-9
- electrical heating
- microprocessor controllers
- 9 heating zones
- additional heating spirals in the walls



BENDING – CAR-TYPE KILNS

Classic conception provides stationary chamber with a door in one or both fronts and a car, which moves in steel rails and carries moulds with glass.

Operational temperature up to 900 °C

Model	Inner dimensions in mm			Outer dimensions in mm		
	w.	l.	h.	w.	l.	h.
VSO 1,6.2,2.0,9-9	1600	2200	900	2000	2700	1900
VSO 1,6.2,6.0,9-9	1600	2600	900	2000	3100	1900
VSO 1,8.2,7.1-9	1800	2700	1000	2200	3200	2000
VSO 2,2.3,2.1-9	2200	3200	1000	2600	3700	2000

Design and options

- reliable door hinges – door opening to the right or to the left as per your choice
- reliable locking devices
- adjustable closing pressure of the door towards the kiln front
- two-position locking device for manual side flaps
 - observation holes in the sidewalls covered with glass ceramics (instead of flaps)
 - automatically controlled side flaps, possibility to open them manually
- automatically controlled top flaps, with electric motors
- forced ventilation
- electric control box on the kiln sidewall – right or left as per your choice
- brick lining of high thermal resistance, anti-dust finish
- electrical heating system - spirals in the top
- additional heating spirals in the side walls
- total number and layout of heating zones as per kiln model – dimension
- possibility to preset different temperatures in respective heating zones
- controller installed as per kiln model, equipment and technological requirements
- supporting bars carrying the moulds, built in the table
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- dimensions "made-to-measure"

Performance characteristics

- reliable technology of heating and annealing
- guaranteed temperature distribution in the kiln
- reliable repeatability of the process



- NSO 1,5.2,5.08-9
- one heating position, two annealing positions
- PC control

BENDING – TANK KILNS

The basic design consists of one heating position, one annealing position and one mobile tank equipped with openable front and mobile construction for moulds with glass. The kiln can be delivered with two annealing positions and more tanks with a complex rail system. The system can be designed to create a closed circuit. Heating spirals are installed in the top, above the heating position; the annealing positions are equipped with flaps for controlled annealing.

Operational temperature up to 900 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
NSO 1.1,5.05-9	1000	1500	500	2800	2100	1500	50
NSO 1.1,5.08-9	1000	1500	800	2800	2100	1800	60
NSO 1,2.2.05-9	1200	2000	500	3200	2600	1500	70
NSO 1,2.2.08-9	1200	2000	800	3200	2600	1800	90
NSO 1,5.2,5.05-9	1500	2500	500	3800	3100	1500	90
NSO 1,5.2,5.08-9	1500	2500	800	3800	3100	1800	140
NSO 2.3.05-9	2000	3000	500	4800	3600	1500	120
NSO 2.3.08-9	2000	3000	800	4800	3600	1800	180

Design and options

- observation holes in the sidewalls with manual flaps and two-position locking device
 - observation holes in the sidewalls covered with glass ceramics (instead of flaps)
- air vents in the top with manual flaps and multi-position locking device
 - automatically controlled top flaps, with electric motors
- brick lining of high thermal resistance, anti-dust finish
- electrical heating system - spirals in the top
- additional electrical heating spirals in the tank walls
- total number and layout of heating zones as per kiln model – dimension
- possibility to preset different temperatures in respective heating zones
- controller installed as per kiln model, equipment and technological requirements
- solid pedestal to pull out the mobile construction with moulds
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- dimensions "made-to-measure"

Performance characteristics

- reliable technology of heating and annealing
- guaranteed temperature distribution in the kiln
- reliable repeatability of the process



- **KSP 1900**
- electrical heating
- heating spirals in all kiln walls
- 2 heating zones
- programmable PID controllers
- controlled annealing

GLASS CASTING



- **KSP 1900 A**
- W. 1900, d. 1000, l. 1000 mm
- electrical heating
- heating spirals in all kiln walls
- 2 heating zones
- programmable PID controllers
- forced ventilation
- controlled annealing

Chamber kilns

Operational temperature up to 1100 °C

Model	Volume dm³	Inner dimensions in mm			Outer dimensions in mm			Power kW	Weight kg
		w.	l.	h.	w.	l.	h.		
KSP 60	52	370	350	400	730	840	1680	5,2	220
KSP 130	120	470	500	500	820	950	1680	9	270
KSP 180	175	530	550	600	920	1090	1680	12	375
KSP 250	245	680	530	680	1100	1090	1780	14	450
KSP 300	300	680	650	680	1100	1240	1780	17	510
KSP 400	395	780	650	780	1200	1240	1880	21	590
KSP 550	575	840	720	950	1300	1330	1980	27	790
KSP 750	740	840	800	1100	1300	1410	1980	30	950
KSP 1000	990	1040	830	1150	1500	1440	1980	39	1240
KSP 1100	1110	1040	930	1150	1500	1540	1980	42	1310
KSP 1400	1380	1290	930	1150	1750	1540	1980	48	1440
KSP 1600	1610	1290	1040	1200	1750	1650	1980	52	1520
KSP 1900	1920	1290	1240	1200	1750	1850	1980	58	1700
KSP 1900	2170	1290	1400	1200	1750	2000	1980	58	1780
KSP 2-1650	1660	1040	1600	1000	1500	2200	1980	58	1880
KSP 2-2000	1980	1040	1900	1000	1500	2500	1980	64	2100
KSP 2-2200	2180	1040	2100	1000	1500	2700	1980	68	2350

Car-type kilns

Operational temperature up to 1100 °C

Model	Volume dm³	Inner dimensions in mm			Outer dimensions in mm			Power kW	Weight kg
		w.	l.	h.	w.	l.	h.		
VSP 1100	1100	900	1400	900	1500	2200	1950	64	2100
VSP 1500	1500	900	1900	900	1500	2700	1950	75	2350
VSP 1900	1900	900	2400	900	1500	3200	1950	90	2600
VSP 2300	2300	900	2900	900	1500	3700	1950	104	3850

Design and options

- considerably short annealing time
- reliable door hinges – door opening to the right or to the left as per your choice
- reliable locking devices
- adjustable closing pressure of the door towards the kiln front
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- electric control box on the kiln sidewall – right or left as per your choice
- brick lining of high thermal resistance, anti-dust finish
- electrical heating, resistant spirals on ceramic tubes in all kiln walls
- two-zone-control: models from 300 to 1200 dm³, three-zone-control: models more than 1200 dm³
- manual or automatic control of air vents in the top and bottom
- controlled annealing
- controller installed as per kiln model, equipment and technological requirements
- door in both fronts: models KSP 2 and VSP 2
- dimensions "made-to-measure"

Performance characteristics

- guaranteed temperature distribution in the kiln
- noiseless operation



- VSH 1,3,2,6.1,5-4
- electrical heating
- programmable logic controller
- 4 radial ventilators for atmosphere circulation

HEAT SOAK TEST – CAR-TYPE KILNS

Operational temperature up to 400 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
VSH 1.2.1-4	1000	2000	1000	1500	2700	1960	64
VSH 1.2.1,5-4	1000	2000	1500	1500	2700	2500	84
VSH 1,3,2,6.1,5-4	1300	2600	1500	1800	3300	2500	120
VSH 1,3,3,2,2,2-4	1300	3200	2200	1800	3900	3200	180
VSH 1,7.4,2,2,2-4	1700	4200	2200	2200	4900	3200	220
VSH 1,7.5,2,2,2-4	1700	5200	2200	2200	5900	3200	260

Design and options

- reliable door hinges – door opening to the right or to the left as per your choice
- reliable locking devices
- adjustable closing pressure of the door towards the kiln front
- electromechanical door opening upwards, with horizontal closing towards the kiln front
- electric control box near the kiln
- brick lining of high thermal resistance, anti-dust finish
- electrical heating or automatic gas burners
- forced atmosphere circulation
- automatically controlled air vents
- controlled annealing
- final cooling by forced ventilation
- programmable logic controller
- temperature measurement checkpoints
- data transfer to PC
- tools for batch stowing
- manual or electromechanical car motion
- dimensions "made-to-measure"

Performance characteristics

- guaranteed temperature distribution in the kiln
- reliable repeatability of the process



- KSD 400
- electrical heating
- 2 heating zones
- programmable logic controller
- LCD touch-screen
- controlled catalyst
- controlled removal of combustion gases
- controlled annealing
- cycle length 6 – 8 hours

DECORATION FIRING – CHAMBER KILNS

Operational temperature up to 600 °C

Model	Volume dm ³	Inner dimensions in mm			Outer dimensions in mm			Power kW	Weight kg
		w.	l.	h.	w.	l.	h.		
KSD 60	55	390	350	400	730	840	1680	5,2	190
KSD 130	130	490	500	530	820	950	1680	9	230
KSD 180	180	550	550	600	920	1090	1680	12	320
KSD 250	250	700	530	680	1100	1090	1780	14	380
KSD 300	300	700	650	680	1100	1240	1780	17	440
KSD 400	400	800	650	780	1200	1240	1880	21	500
KSD 500	500	800	810	780	1200	1400	1880	24	600
KSD 650	670	900	750	1000	1300	1330	1980	27	690
KSD 850	860	900	830	1150	1300	1410	1980	30	840
KSD 1150	1130	1100	860	1200	1500	1440	1980	39	1120
KSD 1250	1270	1100	960	1200	1500	1540	1980	42	1180
KSD 1550	1550	1350	960	1200	1750	1540	1980	48	1300
KSD 1800	1800	1350	1070	1250	1750	1650	1980	52	1380
KSD 2150	2140	1350	1270	1250	1750	1850	1980	60	1550

Design and options

- reliable door hinges – door opening to the right or to the left as per your choice
- reliable locking devices
- adjustable closing pressure of the door towards the kiln front
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- outer mantle of stainless steel sheets with ground finish
- heating spirals with full radiation on ceramic tubes in all kiln walls, bottom and top
- brick lining of high thermal resistance, anti-dust finish
- two-zone-control: models from 300 to 1200 dm³, three-zone-control: models more than 1200 dm³
- controlled catalyst
- controlled ventilation in heating phase
- controlled annealing
- controller installed as per kiln model, equipment and technological requirements, incl. programmable logic controller
- data records, transfers and saves to PC
- dimensions "made-to-measure"
- kiln capacity optimized to the technology
- kiln furniture: inner bearing constructions, perforated plates /shelves
- volume loading with a manual trolley

Performance characteristics

- low energy consumption
- cycle length cold / cold 6 – 8 hours
- reliable technology of heating and annealing in automatic mode
- guaranteed temperature distribution in the kiln
- faultless products
- reliable repeatability of the process
- noiseless operation



- PSD 08.18.03-6
- electrical heating
- conveying speed 2 – 4 mm/s
- belt width 800 mm
- batch passage through the kiln 75 – 150 min
- output batch temperature 40 °C

DECORATION FIRING – CONTINUOUS KILNS

Operational temperature up to 600 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSD 03.18.03-6	300	18000	300	900	22000	1600	48
PSD 04.18.03-6	400	18000	300	1000	22000	1600	54
PSD 06.18.03-6	600	18000	300	1200	22000	1600	60
PSD 08.18.03-6	800	18000	300	1400	22000	1600	80
PSD 1,0.18.03-6	1000	18000	300	1600	22000	1600	80
PSD 1,2.18.03-6	1200	18000	300	1800	22000	1600	80

Design and options

- modular concept of the kilns, module length 2 m
- random length of the kiln as per technological and capacity requests
- electrical heating
- three heating zones
- three annealing zones
- an independent temperature control in each zone
- records of all operational and technological data
- conveyor belts made of refractory wire
- kiln furniture for multilayer loading
- adjustable slide gates on both ends (as per batch height)
- input and output table of 2 m in length
- continuous conveying speed control
- automatic belt tensioning

Performance characteristics

- low energy consumption
- short start-up time
- both single shift and continuous operation possible
- reliable heating and cooling in automatic mode
- faultless products
- noiseless operation
- long service life
- effective operation



- KSN 1500
- electrical heating
- PID controller
- forced ventilation
- controlled cooling
- volume loading with trolley
- cycle length 180 min

FIRING OF LOW-TEMPERATURE COATINGS

Chamber kilns

Operational temperature up to 250 °C

Model	Volume dm ³	Inner dimensions in mm			Outer dimensions in mm			Power kW
		w.	l.	h.	w.	l.	h.	
KSN 200	230	620	580	640	920	1090	1680	12
KSN 400	410	800	700	730	1100	1240	1780	17
KSN 600	630	900	840	830	1200	1400	1880	24
KSN 1000	1020	1000	840	1200	1300	1400	1980	30
KSN 1300	1350	1200	900	1250	1500	1440	1980	36
KSN 1500	1500	1200	1000	1250	1500	1540	1980	42
KSN 1800	1810	1450	1000	1250	1750	1540	1980	48
KSN 2000	1990	1450	1100	1250	1750	1650	1980	52
KSN 2300	2350	1450	1300	1250	1750	1850	1980	60

Continuous kilns

Operational temperature up to 250 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSN 03.6.01-2	300	6000	300	900	8000	1600	32
PSN 04.6.01-2	400	6000	300	1000	8000	1600	38
PSN 06.6.01-2	600	6000	300	1200	8000	1600	45
PSN 08.6.03-2	800	6000	300	1400	8000	1600	70

Design and options

- electrical heating
- forced atmosphere circulation
- thermal insulation of composite materials
- forced ventilation in heating phase
- controlled cooling
- PID microprocessor programmable controller
- dimensions "made-to-measure"
- kiln power optimized to the batch weight
- kiln furniture: inner bearing constructions, perforated plates /shelves
- volume loading with a manual trolley
- random conveying speed

Performance characteristics

- low energy consumption
- cycle length cold / cold 3 hours
- faultless products
- noiseless operation

- PSL 03.8.01-8
- electrical heating
- three-zone-control
- controlled forced cooling
- random conveying speed



POLISHING OF GLASS BEADS

Continuous kilns

Operational temperature up to 800 °C

Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSL 02.7.01-8	200	7000	100	750	9000	1600	28
PSL 03.8.01-8	300	8000	100	900	10000	1600	53
PSL 04.8.01-8	400	8000	100	1000	10000	1600	66

Design and options

- modular concept
- brick lining of high thermal resistance, anti-dust finish
- electrical heating, spirals divided into three independent zones
- controlled forced cooling
- random conveying speed
- controller installed as per kiln model, equipment and technological requirements
- kiln furniture – steel plates for glass

Performance characteristics

- low energy consumption
- faultless products
- noiseless operation

Chamber kilns

Operational temperature up to 800 °C

Model	Volume dm³	Inner dimensions in mm			Outer dimensions in mm			Power kW
		w.	l.	h.	w.	l.	h.	
KSL 180	180	550	550	600	920	1100	1680	12
KSL 300	310	700	650	680	1100	1250	1780	17
KSL 400	405	800	650	780	1200	1250	1880	21
KSL 600	650	900	750	1000	1300	1350	1980	27
KSL 800	840	900	830	1150	1300	1450	1980	30
KSL 1000	1120	1100	860	1200	1500	1500	1980	39
KSL 1200	1270	1100	960	1200	1500	1600	1980	42

Design and options

- reliable door hinges – door opening to the right or to the left as per your choice
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- electric control box on the kiln sidewall – right or left as per your choice
- brick lining of high thermal resistance, anti-dust finish
- electrical heating – resistant spirals
- forced atmosphere circulation
- controlled cooling
- controller installed as per kiln model, equipment and technological requirements
- kiln furniture: inner bearing constructions, perforated plates /shelves
- volume loading with manual trolley

Performance characteristics

- guaranteed temperature distribution in the kiln
- faultless products
- noiseless operation



ANNEALING

- KSC 2000
- electrical heating; two-zone-control
- forced cooling
- automatic control
- inner construction for shelves of refractory steel
- adjustable shelves (plates)

Chamber kilns

Operational temperature up to 550 °C

Model	Volume dm ³	Inner dimensions in mm			Outer dimensions in mm			Power kW
		w.	l.	h.	w.	l.	h.	
KSC 500	570	700	820	1000	1200	1400	1960	14
KSC 700	720	800	820	1100	1300	1400	1960	17
KSC 1000	1050	800	1200	1100	1300	1800	1960	21
KSC 1600	1580	1200	1200	1100	1700	1800	1960	24
KSC 2-1600	1580	1650	800	1200	2150	1400	1960	24
KSC 2000	2160	1200	1500	1200	1700	2100	1960	30
KSC 2-2500	2400	1650	1200	1200	2150	1800	1960	34
KSC 2-3700	3700	1650	1900	1200	2150	2500	1960	38

Design and options

- reliable door hinges – door opening to the right or to the left as per your choice
- vertically divided door (models KSC 2-xxxx)
- number and size of the small input doors layout corresponding to the inner bearing construction
- manual or pneumatic control of small input doors
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- electric control box on the kiln sidewall – right or left as per your choice
- electrical heating or automatic gas burners
- forced atmosphere circulation
- automatic control of air vents
- controlled annealing
- final cooling by forced ventilation
- controller installed as per kiln model, equipment and technological requirements
- kiln furniture: inner bearing constructions, perforated plates / shelves
- layout of the inner bearing construction, number of shelves as per request

Continuous kilns

Operational temperature up to 550 °C

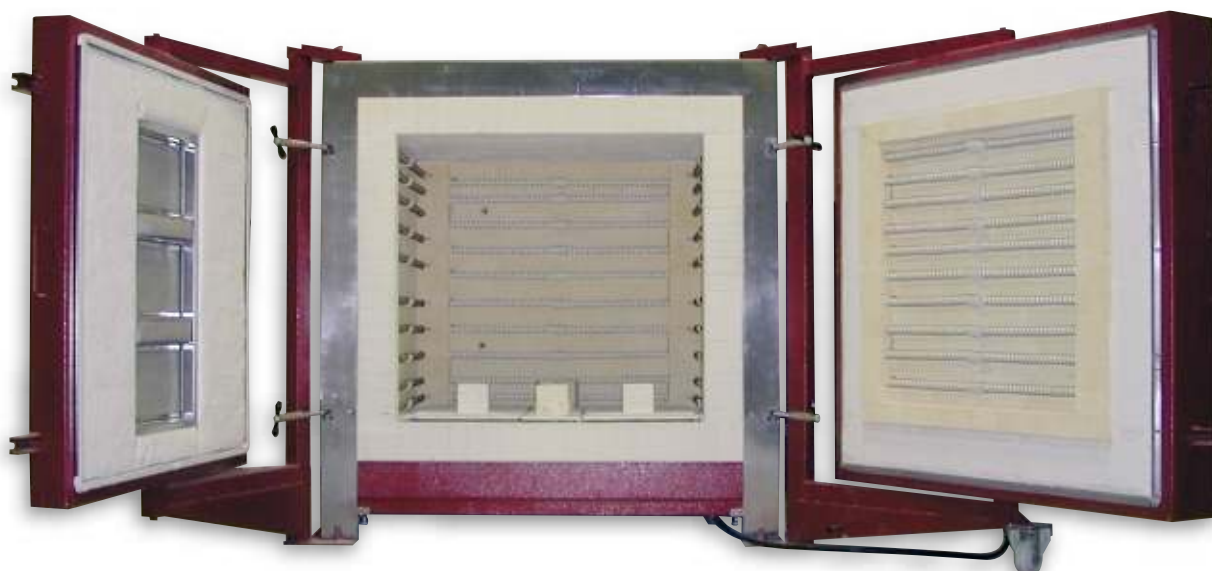
Model	Inner dimensions in mm			Outer dimensions in mm			Power kW
	w.	l.	h.	w.	l.	h.	
PSCG 1,2.16.04-5	1200	16000	400	2000	22000	1700	240
PSCG 1,4.16.04-5	1400	16000	400	2200	22000	1700	240
PSCG 1,6.16.04-5	1600	16000	400	2400	22000	1700	300
PSCG 2.20.04-5	2000	20000	400	2800	26000	1700	360

Design

- gas heating (automatic gas burners) or electrical heating
- heating and annealing in independently controlled zones
- random conveying speed

Performance characteristics

- low energy consumption
- reliable control in automatic mode
- faultless products
- noiseless operation



- **KST-C 1500**
- multi-purpose kiln for malleablizing and annealing
- electrical heating – two-zone-control
- microprocessor controllers
- controlled annealing
- automatic control of air vents in bottom and top
- inner bearing construction of refractory steel with plates /shelves
- three small input doors with quick operating devices

MALLEABLIZING OF CRUCIBLES – CHAMBER KILNS

Operational temperature up to 1280 °C

Model	Crucible mm	Inner dimensions in mm			Outer dimensions in mm			Power kW
		w.	l.	h.	w.	l.	h.	
KST 1000 KST-C 1000	700	1000	1000	1100	1500	1600	1960	34
KST 1500 KST-C 1500	900	1200	1200	1100	1700	1800	1960	40
KST 2000 KST-C 2000	1100	1400	1400	1100	1900	2000	1960	48

KST – models for malleablizing of crucibles

KST-C – multi-purpose models for malleablizing of crucibles, annealing and decorations firing

Design and options

- multi-purpose models:
 - door for malleablizing
 - door for annealing with small input doors
 - kiln furniture: inner bearing constructions, perforated plates /shelves for annealing
- surface finishing of the steel frame: fired powder coating, shade as per your choice
- electric control box near the kiln or installed on the factory wall
- brick lining of high thermal resistance, anti-dust finish
- electrical heating, spirals in 5 walls, in annealing mode in 3 walls
- two-zone-control
- automatic air vents control
- controlled annealing
- controller installed as per kiln model, equipment and technological requirements
- forced ventilation for final batch cooling
- pneumatic opening of small input doors
- basic shelves covering the kiln bottom

Performance characteristics

- one kiln for two (three) technologies
- guaranteed temperature distribution in the kiln
- faultless products



- the biggest kiln for casting
- manufactured for a client from U.S.A.
- inner dimensions:
w. 2250, d. 2150, h. 4000 mm

PARTICULAR APPLICATIONS



- continuous kiln with suspended conveyor, designed for decorations firing and hardening of float glass
- max glass size 1500 x 1000 mm
- capacity: 30 pc / hour



GPS
50° 16' 8,76" N
12° 52' 35,78" E

Podlesí 103
360 01 Karlovy Vary
tel. +420 353 449 238
fax +420 353 449 237
bvd@bvd.cz
www.bvd.cz