



## AZ - CUPTOARE TUBULARE CU OPT ZONE

**The AZ is an eight zone tube furnace for controlled temperature profiles. These zones can be used to generate temperature profiles along the heated length of the furnace.**

With eight zones, thick insulation, and highly symmetrical winding of the heating elements throughout the entire AZ furnace, a uniformity of better than  $\pm 5$  °C is achieved. A key advantage of the eight individually controlled zones is the extension of the uniform length inside the furnace. Additionally, the temperature profile can be precisely controlled for linear increases, peaks, or other user defined profiles.

One process well suited for the AZ tube furnace is chemical vapour deposition as a temperature gradient can be established in the furnace for evaporation of precursor material at the high temperature end zone and sublimation of the vapour onto the substrate at the cooler temperature end zone. All zones are individually controlled and monitored with thermocouples.

## CARACTERISTICI STANDARD

- | Similar construction to FHA / FHC tube furnaces
- | Eight-zone control for variable heating profiles
- | Gradients, linear increase/decrease etc. of temperature along the heated length
- | Extended uniform temperature distribution
- | Short heating and cooling rates
- | Automatic operation
- | Data recording for quality management
- | Retransmission of setpoint

## OPȚIUNI (*SPECIFICAȚI OPȚIUNILE ÎN MOMENTUL EFECTUĂRII COMENZII*)

- | Sisteme de control variate cu programare multi-segment și achiziție de date. Acestea pot fi echipate cu protocoale de comunicație RS232, RS485 sau Ethernet - mai multe informații
- | Protecție la supra-temperatură (recomandată pentru protejarea conținutului de valoare și pentru funcționarea nesupravegheată)
- | Wide choice of tube diameters and materials is available: eg quartz, ceramic, metal
- | 'L' stand for vertical usage
- | prize de izolație și protecții de radiație sunt recomandate pentru a preveni pierderea de căldură și a îmbunătăți uniformitatea (sunt esențiale pentru funcționare verticală)
- | ansamblele de vidare și atmosferă modificată sunt disponibile - Mai multe informații
- | Vacuum packages with a choice of rotary vane pump or turbomolecular pump are available for furnaces with tube inner diameters of 60 mm and above
- | Complete automation by Siemens SPS control with touch panel and mass flow controller for the gases on request
- | Other diameters and heated lengths on request

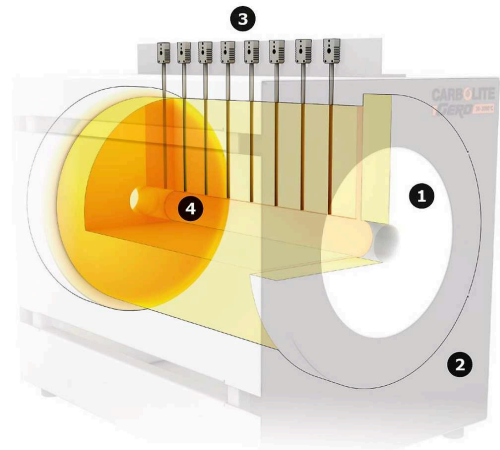
### View inside

1. ceramic fibre insulation
2. outer frame
3. eight thermocouples for control
4. usable volume

The ceramic fibre insulation is constructed in multiple layers and assembled with great care to ensure no gaps are present between each of the layers. The insulation layers are arranged with a specific overlap to provide excellent temperature uniformity inside the furnace.

The control module is very compact and built into the support frame of the furnace. A touch panel interface provides user-friendly and intuitive control of the furnace operating parameters.

No water cooling is necessary as the housing is spaced from the insulation such that it is cooled by convective cooling. The only instances that require water cooling are for use with cooled work tube flanges, i. e. to assemble a vacuum pumping unit.



View inside

## DETALII TEHNICE (MODELE)

	<b>AZ 13/32/360</b>	<b>AZ 13/50/430</b>
<b>Temp. max. (°C)</b>	1350	1350
<b>Dimensiuni: Externe H x W x D (mm)</b>	990 x 1800 x 500	990 x 1800 x 500
<b>Diameter accessory tube (mm)</b>	32	50
<b>Lungime încălzită (mm)</b>	360	430
<b>Transport weight (kg)</b>	500	550
<b>Putere (kW)</b>	1.5	2.9
<b>Voltage (V)</b>	400 (3P)	400 (3P)
<b>Current (A)</b>	3 x 4	3 x 9
<b>Series fuse (A)</b>	3 x 16	3 x 16

	<b>AZ 13/80/810</b>	<b>AZ 13/110/1000</b>
<b>Temp. max. (°C)</b>	1350	1350
<b>Dimensiuni: Externe H x W x D (mm)</b>	990 x 1800 x 500	1200 x 1800 x 520
<b>Diameter accessory tube (mm)</b>	80	110
<b>Lungime încălzită (mm)</b>	810	1000
<b>Transport weight (kg)</b>	600	650
<b>Putere (kW)</b>	7.3	11.3
<b>Voltage (V)</b>	400 (3P)	400 (3P)
<b>Current (A)</b>	3 x 12	3 x 19
<b>Series fuse (A)</b>	3 x 16	3 x 25

[www.carbolite.com/az](http://www.carbolite.com/az)