

DIRECT HEATING WITH OIL

HOT AIR GENERATOR TYPE VD

TECHNICAL DATA

Direct heating of the drying air for a Cimbria Continuous Flow Dryer using oil, requires a Cimbria VD furnace in combination with an oil burner.

Design

The Cimbria VD furnace consists of a combustion chamber with turbo cone, hot air pipes, mixing bend and outer cover as shown in figure 1. The furnace can be installed horizontally or vertically.

Function

The flame of an oil burner burns in the combustion chamber. The heated air and the flue gas is sucked through the hot air pipes and is mixed with the cold air in the mixing bend. When adjusting the spiral openings in the hot air pipes correctly a homogeneous drying air temperature is achieved.

Material

The combustion chamber, turbo cone and hot air pipes are 3 mm stainless steel. The adjustable hot air pipes are manufactured from 3 mm corten steel. Where the burner is mounted the combustion chamber is clad with ceramic fibre. The cover of the furnace is manufactured from 3 mm steel and painted green with RAL 6005.

Accessories

Cimbria accessories to the VD furnace include hot air ducts suitable for all types of VD furnaces, a fire shutter and adapter pieces from hot air duct to dryer.

Capacity

Cimbria VD furnaces are available in models suitable for heat and air requirements for all Cimbria dryers. Every type can be extended with one or more sections so that the combustion chamber and the heat capacity is extended. Air volume and heat capacity for each type of furnace are listed in table 1.

Horizontal or vertical installation

When installed horizontally the VD furnace is placed at the foot piece. A rain cover is available for outdoor installation of the furnace.

When mounted vertically the furnace is extended with two sections of outer cover, which forms a support, and extension of the furnace for vertical installation. The mixing bend is supplied with rain cover to protect the furnace from rain entering at the adjustment handles.

Figure 1: VD furnace principle sketch

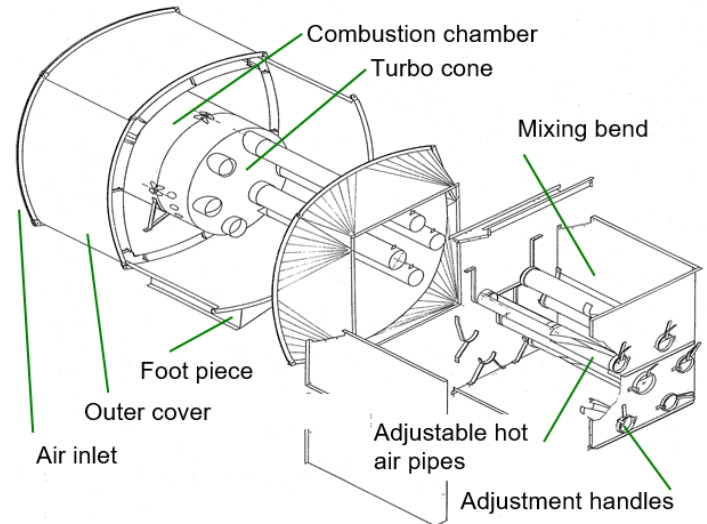


Table 1: Air volume and heat capacity

Type	Air flow		Capacity		
	Mn. m ³ /h	Max. m ³ /h	Max. oil kg/h	kW	°C
VD 3	15 000	33 000	63	478	66
VD3A	15 000	33 000	97	1 152	101
VD3AA	15 000	33 000	131	1 556	136
VD 4	35 000	54 000	90	1 069	57
VD 4A	35 000	54 000	132	1 567	84
VD 4AA	35 000	54 000	174	2 066	111
VD 5	50 000	80 000	120	1 425	52
VD 5A	50 000	80 000	170	2 019	73
VD 5AA	50 000	80 000	220	2 612	94