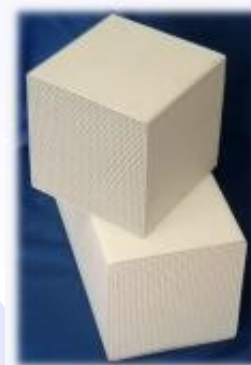


Heat exchangers



Our ceramic heat exchangers have been employed successfully in regenerative thermal oxidation, acting as an alternative to conventional fillings with ceramic bulk fill materials.

The most significant advantage over conventional ceramic saddles consists in maximum heat recovery with minimum loss of pressure.

Because of the high-quality materials used and their careful processing, our heat exchangers offer outstanding resistance to chemical, thermal and mechanical influences.

Our heat exchangers consist basically of three types of materials.

Materials for the production of our ceramic heat exchangers

Composition	Characteristics	Application
Aluminous porcelain	Dense, insulating, abrasion resistant, chemically consistent	heat exchangers up to 900°C
Cordierite	Porous, high thermal endurance, thermally and chemically consistent	heat exchangers up to 1000°C
Special ceramic (chemical resistant)	nearly dense, high thermal endurance, heat resistant, highly chemical resistant	heat exchangers up to 900°C



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Physical properties

Material	specific heat 100°C	open porosity	bulk density	thermal conduc- tivity	thermal expansion	thermal shock	softe- ning tempe- rature
	[J/kgK]	[%]	[g/cm ³]	[W/mK]	[*10 ⁻⁶ /K]	[K]	[°C]
Aluminous porcelain (dense)	877	0	2,7	2,1	6,2	200	>1.200
Cordierite (porous)	810	20	2,0	1,9	2,8	350	>1.300
Special ceramic (chemical resistant)	880	15	2,6	1,9	6,8	180	>1.200

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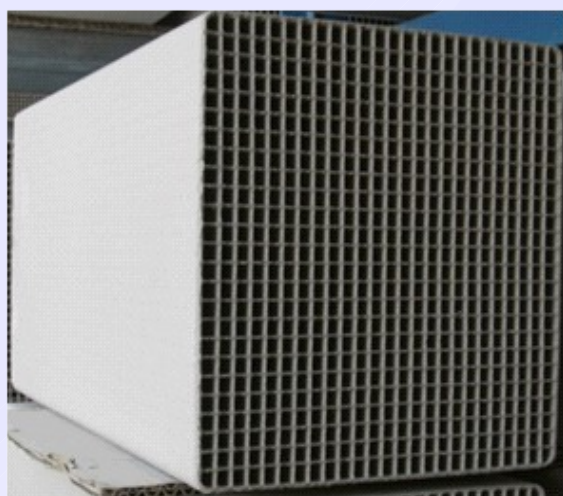
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Heat exchangers



Clearly defined, straight flows prevent the accumulation of particles as well as chemical attacks.

Due to their large free cross section of 60 to 70%, monolithic hollow bodies ideally combine a large geometrical surface with minimum loss of pressure of the flowing gas.

Even though the loss of pressure largely depends on the duct's width, it is in any case not higher than one tenth of the pressure loss with bulk fill materials. Moreover, the monolithic character guarantees minimum susceptibility to congestion by flue ashes.

In the table below you find some of the heat exchanger geometries manufactured by us.

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Technical information

Standard dimensions / weight

Material	cells cross section	cells per block	measure- ment LxBxH	opening size of cell	free cross- section	cell wall thick- ness	surface area	average weight
	150x150 mm		[mm]	[mm]	%	[mm]	[m²/m³]	[kg]
Aluminous porcelain (dense)	25	625	150x150 x300	4,9	68	0,9	580	5,6
	32	1024		3,8	66	0,8	660	6,1
	40	1600		2,9	63	0,7	880	6,6
	43	1849		2,9	71	0,5	979	5,3
	50	2500		2,4	64	0,55	1.090	6,6
	60	3600		2,0	64	0,45	1.305	6,5

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Material	cells cross section	cells per block	measurement LxBxH	opening size of cell	free cross-section	cell wall thickness	surface area	average weight
	150x150 mm		[mm]	[mm]	%	[mm]	[m²/m³]	[kg]
Cordierite (porous)	25	625	150x150 x300	4,9	68	0,9	580	4,4
	32	1024		3,8	66	0,8	660	4,8
	40	1600		2,9	63	0,7	880	5,2
	43	1849		2,9	71	0,5	979	4,2
	50	2500		2,4	64	0,55	1.090	5,0
	60	3600		2,0	64	0,45	1.305	5,0
Special ceramic (chemical resistant)	25	625	150x150 x300	4,9	68	0,9	580	5,6
	32	1024		3,8	66	0,8	660	6,1
	40	1600		2,9	63	0,7	880	6,6
	43	1849		2,9	71	0,5	979	5,3
	50	2500		2,4	64	0,55	1.090	6,6
	60	3600		2,0	64	0,45	1.305	6,5

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