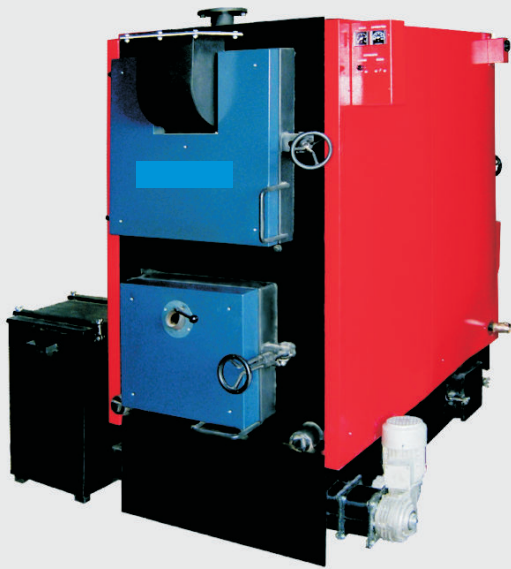


INDUSTRIAL CENTRAL HEATING BOILERS ON SOLID FUEL WITH MOVING GRATE AND AUTOMATED FUEL SUPPLY

**K-140M-1 ...
K-950M-1**



Industrial central heating boilers on solid fuel with moving grate and automated fuel supply are used to heat dwelling, manufacturing and other premises with installed central heating system, for preparation of hot water and heat for technologic purposes. The equipment may work automatically with minimum periodic supervision and maintenance. Saw dust or chips up to 50mm long and up to 50% moist content (see output diagram on page 5) are used for fuel.

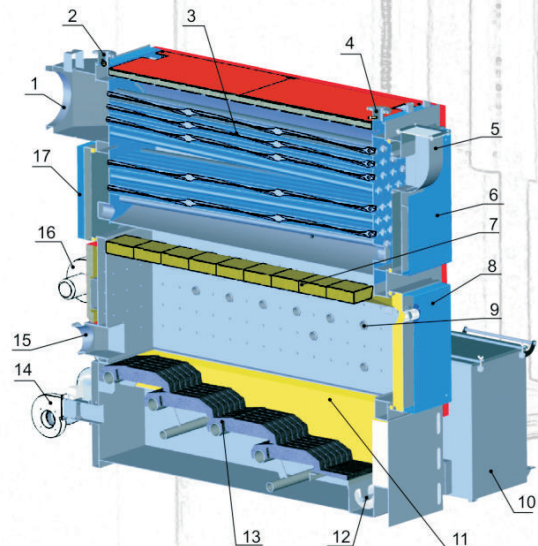
These are shell drum type boilers. On the front side of the double walls of combustion chamber there are servicing doors. Fuel is supplied onto moving grate through the hole in the rear of the boiler via hydraulic or auger delivery system. Combustion takes place on the grate. Bottom part of the walls is layered with heat resistant bricks and the bricks arch over the fire grate, which allows maintenance of the optimal combustion mode. Combustion air is supplied through the holes in the front side of the boiler. Air washes the walls of the combustion chamber, heats up and as a primary is supplied under the fire grate and as a secondary into the optimally chosen parts through the holes in the side walls of the combustion chamber. In the end of the fire grate there is a channel with an auger transporter used for automatic deashing.

Heat plant equipment is designed and manufactured according to individual customer's requirements depending on installation conditions on site.

Should the expected size of fuel be greater than the designated, measures, protecting the system from oversized fuel, may be installed. Such oversized fuel may then be manually fed into the combustion chamber via servicing door.

Features of the boiler:

- possibility to use different kind of fuel: saw dust, chips, peat and saw dust pellets, fined peat, grain, grain waste other fuel;
- fire wood may be stoked manually;
- high efficiency;
- 4 fume turns;
- moving fire grate;
- heat resistant arch ensures efficient combustion of fuel;
- automated deashing;
- 2 heat exchanger doors easy cleaning and maintenance;
- inspection glass in the combustion chamber door;
- automatic maintenance of draught in the combustion chamber;
- combustion chamber and heat exchanger are separate easy transportation and installation;
- excellent environmental performance.

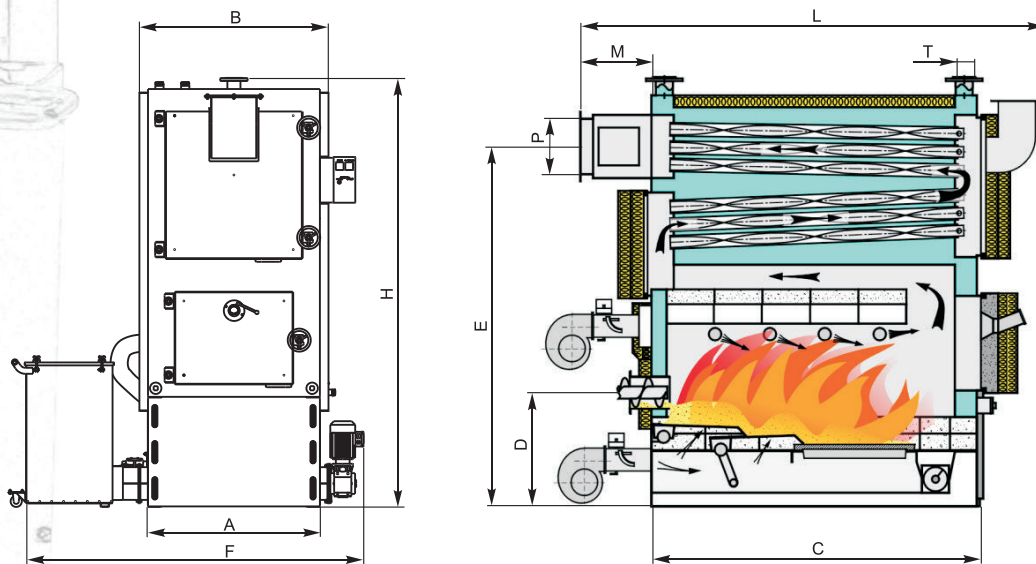


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|---------------------------------|-------------------------|
| 1. Smoke outlet | 10. Ash box |
| 2. Hot water pipe | 11. Combustion chamber |
| 3. Shell heat exchanger | 12. Automated deashing |
| 4. Return water pipe | 13. Moving fire grate |
| 5. Explosion valve | 14. Primary air fan |
| 6. Heat exchanger door | 15. Fuel supply auger |
| 7. Heat resistant concrete arch | 16. Secondary air fan |
| 8. Servicing door | 17. Heat exchanger door |
| 9. Secondary air supply holes | |

Model		K-140M-1	K-320M-1	K-500M-1	K-720M-1	K-950M-1	
Type		water heating, automatically stoked and deashed, shell, drum, 4 fume turns					
Nominal heat output	kW	140	320	500	720	950	
Output adjustment range	kW	70...150	150...450	160...550	240...800	320...1100	
Area heated	m ²	800...1600	1000...5000	1600...6000	2500...8500	3200...12000	
Fuel		saw dust, chips, sunflower and peat pellets, grain, grain waste					
Efficiency	%	no less than 85					
Boiler water temperature control range	°C	70...105					
Maximum water pressure in the boiler	MPa (kg/cm ²)	0,6 (6)					
Hydraulic resistance	mbar (MPa)	38 (0,0038)	42 (0,0042)	44 (0,0044)	48 (0,0048)	52 (0,0052)	
Loading chamber dimensions	mm	400x450	600x620	600x620	600x620	600x620	
Single fuel load volume	dm ³ (l)	260	960	1830	2600	2900	
Loading gap dimensions	mm	400x450	600x620	600x620	600x620	600x620	
Fuel consumption* chips 25% moist content, 3000ccal/kg	kg/h	35	80	130	195	260	
Water volume in the boiler	m ³	0,58	1,32	2,07	2,98	3,93	
Connection dimensions	pipes	mm	Ø76	Ø76	Ø89	Ø89	
	pipe flanges	mm	Ø130	Ø130	Ø150	Ø150	
	smoke outlet	mm	Ø240	Ø325	Ø380	Ø380	Ø480
Minimum draught in the combustion chamber**	Pa	20	25	35	40	50	
	mm H ₂ O	2	2,5	3,5	4	5	
Chimney recommended dimensions	diameter	mm	Ø240	Ø325	Ø380	Ø380	Ø480
	height	m	12	12	15	15	15
Debit of flue gas (moist content of fuel 30%)	m ³ /h (kg/s)	339 (0,09)	755 (0,11)	1210 (0,34)	1815 (0,4)	2444 (0,54)	
Aerodynamic resistance	Pa	160	200	220	200	230	
Weight	kg	1500	3500	3900	4700	5800	

* When calculating annual fuel need it is necessary to evaluate that boiler operates at nominal heat output 70% of the time (ignition, stopping and cleaning included). Heating season is 199 days per year.

** Use of exhauster is strongly recommended.



Boiler	HxBxL, mm	A, mm	C, mm	D, mm	E, mm	F, mm	M, mm	P, mm	T, mm
K140M-1	1850x900x2000	800	1400	486	1534	1500	304	Ø240	Ø76
K320M-1	2500x1100x2900	1000	2160	746	2154	1970	374	Ø325	Ø76
K500M-1	2500x1500x3360	1400	2620	846	2370	2400	400	Ø380	Ø89
K720M-1	2650x1500x3660	1400	2920	900	2520	2400	400	Ø380	Ø89
K950M-1	2650x1500x3960	1400	3220	900	2520	2400	400	Ø480	Ø89