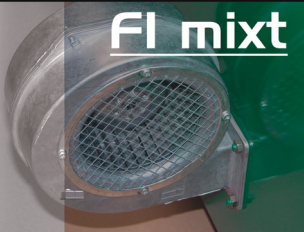




COMBINED THERMAL POWER PLANT

FI mixt





Steel pipe element structure with large furnace



Boiler turn and stack inlet



The furnace doors are covered with refractory material and equipped with sight glass



Door position adjustment system and sealing gasket adjustment system



Thermal insulating handle and sealing gasket in ceramic non-asbestos heat resistant material



Interchangeable door for adjusting the burner or automatic sawdust heating equipment



Mineral wool insulation



Ash collection drawer



Fire iron and ash removal brush



Clamping system for transport handling



Euro pallet delivery



Expansion tank open according to ISCR provisions (additional cost)



Safety heat valve (additional cost)



Draught governor



Cooling coil



Thermostat controlled fan for high powers



Control and safety thermostats



Thermo manometer

GENERAL

The thermal power plant operates with:

- solid fuel (wood, coal, sawdust briquettes, wood chips);
- sawdust by the purchase of automatic sawdust supply - burning system manufactured by Termofarc;
- liquid fuel (black oil, diesel oil);
- low consumption, high efficiency - 78% on wood (measured on 15% moisture wood), 82% on coal, 87% on sawdust, 92% on liquid fuel;
- the FI mixed type boiler consists of steel pipe elements with walls of 3.6 mm, coated in 1 mm steel plate and mineral wool insulation;
- on solid fuel, controlled operation through the draught governor for low power range (FI 30 - FI 70); for higher powers (FI 100 - FI 800), fan controlled by safety and control thermostats;
- for safety during operation, depending on the type of water supply an open or closed expansion tank system can be used and a heat valve installed at the safety coil;
- the cooling coil, the turn - return counter flange, the thermometer, the fire iron and ash removal brush are included in the standard package for the whole range of powers;
- the standard equipment of the boiler, for the range of powers FI 30 - FI 70, encloses the draught governor, while for FI 100 - FI 800 control and safety thermostats, the fans and interchangeable door for subsequent adjustment of an automatic sawdust supply - burning system.

ADVANTAGES

- multifunctional thermal power plant equipped with cooling coil, easily adjustable for operation on several types of fuels;
- good quality price ratio, easiness and safety in operation, product quality proven in time;
- long service intervals, easy to maintain and repair (can be reconditioned by welding as a difference from cast iron boilers whose elements are irremediably deteriorated);
- in case of power failure, where there is a great difference between turn and return, the structure and the material of FI-Mixt boiler does not allow its cracking, which often happens with cast-iron boilers;
- it can be assembled in a gravity thermo siphon heat exchangers) or forced circulation through circulation pump;
- large furnace and large loading opening allowing the use of large size logs in the case of wood operation (systems equipped with fan controlled by thermostat reaching high efficiency, safety by the controlled burning and autonomy similar to wood gasification burning boilers);
- due to efficient burning, the amount of ash resulted from burning is minimum; there is no need for frequent emptying of ash drawers;
- possibility of subsequent integration of the thermal plant into an automatic sawdust heating system (starting with model FI 100);
- large savings using sawdust (if equipped with the automatic sawdust burning system) a cheap fuel considered waste;
- operating safety regardless the conditions:
 - in the case of mains water there can be installed the closed expansion tank version, safety valve and heating valve connected to the cooling coil;
 - the use of an independent water supply involves the mandatory assembly of an open expansion tank and safety valve;
- standard, the plant is provided with the return inlet on the front right side, and the turn on the central-rear side; other configurations can be made upon request;
- for the range FI 30 - FI 70 the boilers are delivered packed on euro pallets; for the range FI 100 - FI 800 the boilers are delivered with clamping system for transport handling.

POSSIBLE CONNECTION DIAGRAMS

In the case of no mains water (even a house water supply plant is used), the assembly will require a mandatory open expansion tank.

The open expansion tank is provided at the height of minimum 1-5 m above the last radiator.

The expansion tank is of open type according to ISCR standards, the solid fuel boilers not having a prompt control over the burning.

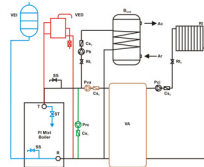
The open expansion tank version is recommended to be used in case the system operates on thermo siphon principle as well.

In order to extend the life service of the boiler by avoiding condensing and for a more efficient operation, it is recommended to assemble between flow and return a thermostat controlled recirculation pump.

For operating safety and increased operating time is recommended to assemble an accumulation tank in the power plant circuit.

In order to obtain household hot water, an ACM boiler manufactured by Termofarc is connected to the installation.

It is also recommended the use of a 3-way mixing valve between flow and return.



VEI - closed expansion tank
VED - open expansion tank
T - turn inlet
R - return inlet
SS - safety valve
ST - safety heating valve
RT, Rt - passing valves
PRC - anti-condensate recirculation pump
Pva - accumulator tank pump
Pb - ACM boiler pump
PC - heating circuit pump
Cv, Cv, Cv, Cv - direction valve
BACHM - household hot water boiler
RI - radiator
VA - accumulation tank
Ar - hot water
Ar - cold water

TECHNICAL CHARACTERISTICS

FI mixed thermal power plant can operate on:

- liquid fuel by attaching a burner;
- sawdust by attaching an automatic sawdust supply-burning system.

This is a product manufactured by **Termofarc** and can be purchased and attached later on.



Liquid fuel burner compatible with FI mixed boiler



FI mixed thermal plant integrated in an automatic heating system operating with sawdust.



Sawdust bunker with sifting grate, mixer and neck for sawdust dosing in the drying-burning chamber



Drying - burning chamber

Thermal power plant	Type	FI 30 Mixt	FI 35 Mixt	FI 45 Mixt	FI 50 Mixt	FI 60 Mixt	FI 70 Mixt	FI 100 Mixt	FI 120 Mixt
Number of elements	pcs	7	8	9	10	11	12	12	15
Rated thermal power	kcal/h kW	25000 29	30000 34.8	38000 44.1	43000 49.9	51000 59.2	60000 69.6	80000 93	105000 122
Load loss on burn gas circuit	mbar	0.2	0.22	0.24	0.26	0.28	0.3	0.26	0.3
Water content in the boiler	liters	76	85	95	104	114	123	143	207
Maximum operating temperature	°C	95	95	95	95	95	98	95	95
Maximum operating pressure	bar	3	3	3	3	3	3	3	3
Test pressure	bar	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Height x width	mm	1380 x 720	1380 x 720	1380 x 720	1380 x 720	1380 x 720	1380 x 720	1530 x 820	1660 x 940
Total length with stack and return inlet	mm	1080	1180	1280	1380	1480	1580	1580	1860
Weight	Kg	360	400	430	466	500	535	665	920
Turn /return inlet	mm	76	76	76	76	76	76	76	76
Stack inlet diameter	mm	150	150	180	180	180	180	210	240
Stack inlet height	mm	925	925	925	925	925	925	1075	1125
Consumption per hour at nominal power (wood)	Kg/hour	9.25	11.1	14	15.9	18.9	22.2	29.3	38.5
Number of fans	pcs	-	-	-	-	-	-	1	2

Thermal power plant	Type	FI 160 Mixt	FI 200 Mixt	FI 250 Mixt	FI 350 Mixt	FI 460 Mixt	FI 580 Mixt	FI 700 Mixt	FI 800 Mixt
Number of elements	pcs	18	21	24	24	18	21	21	24
Rated thermal power	kcal/h kW	140000 62.8	175000 62.8	220000 62.8	300000 65.2	400000 85.2	500000 85.2	600000 85.2	700000 85.2
Load loss on burn gas circuit	mbar	0.32	0.36	0.4	0.4	0.36	0.4	0.4	0.42
Water content in the boiler	liters	244	281	318	353	570	654	759	856
Maximum operating temperature	°C	95	95	95	95	95	95	95	95
Maximum operating pressure	bar	3	3	3	3	3	3	3	3
Test pressure	bar	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Height x width	mm	1660 x 940	1660 x 940	1660 x 940	1840 x 1040	2460 x 1100	2460 x 1100	2410 x 1320	2410 x 1320
Total length with stack and return inlet	mm	2120	2390	2660	2660	2760	3000	3040	3400
Weight	Kg	1080	1230	1385	1618	1883	2145	2460	2742
Turn /return inlet	mm	76	76	76	89	114	114	114	133
Stack inlet diameter	mm	240	280	300	320	360	400	420	450
Stack inlet height	mm	1125	1125	1125	1300	1785	1785	1785	1785
Consumption per hour at nominal power (wood)	Kg/hour	51.3	64.1	80.6	109.9	146.5	183	219	252
Number of fans	pcs	2	3	3	3	2	3	2	3

Range of powers means:

- small power: FI 30 Mixt - FI 70 Mixt (29 - 70 kW)
- high power: FI 100 Mixt - FI 800 Mixt (93 - 800 kW)

Local representative:

For inlet flange turn - return:

- for FI 30 Mixt - FI 250 Mixt: 145 mm
- for FI 350 Mixt: 170 mm
- for FI 460 Mixt, FI 700 Mixt: 200 mm
- for FI 800 Mixt: 220 mm