



Seccer Attività Economiche
SPOLLO D'ORO 1974



WOOD-BURNING BOILERS

WOODCHIPS BOILERS

PRESSURED BOILERS

HALF-PRESSURED BOILERS

MIXED COMBUSTION BOILER

PELLETS BOILERS WITH BLOW BURNER

WARM AIR GENERATORS

BARBECUE OVENS



il calore che conviene.

WOODCHIPS BOILER

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Technical specification



Faci boilers for production of hot water up to 203°F (95°C) have been constructed with a self-bearing structure of thick steel plate with a high mechanical strength and a high-volume, wet-wall combustion chamber with refractory lining of a high alumina content. It has a manhole door for manual loading of bulky material and for periodic cleaning of the brazier.

The horizontal heat exchanger with steel pipes (BOLLITORE - SS) immersed in water has three smoke recovery stages for passes for maximum thermal efficiency, connected at the ends to smoke boxes that may be opened and inspected for the removal of combustion residue and for periodic maintenance.

The metal base is covered with a refractory rammed lining for high temperatures, thus allowing high temperatures to be reached for optimum combustion. The metal base houses the chrome cast iron grate, in the case of operation with manual loading, or the brazier in the case where the operation is automatic, using the screw feed device.

Faci boilers are provided with a support plate for applying the diesel and gas burner with an internal protection made of mobile refractory material, thermostatic apparatus for controlling temperature and for safety insulated with high-density insulating material, protected by stove-enamelled casing.

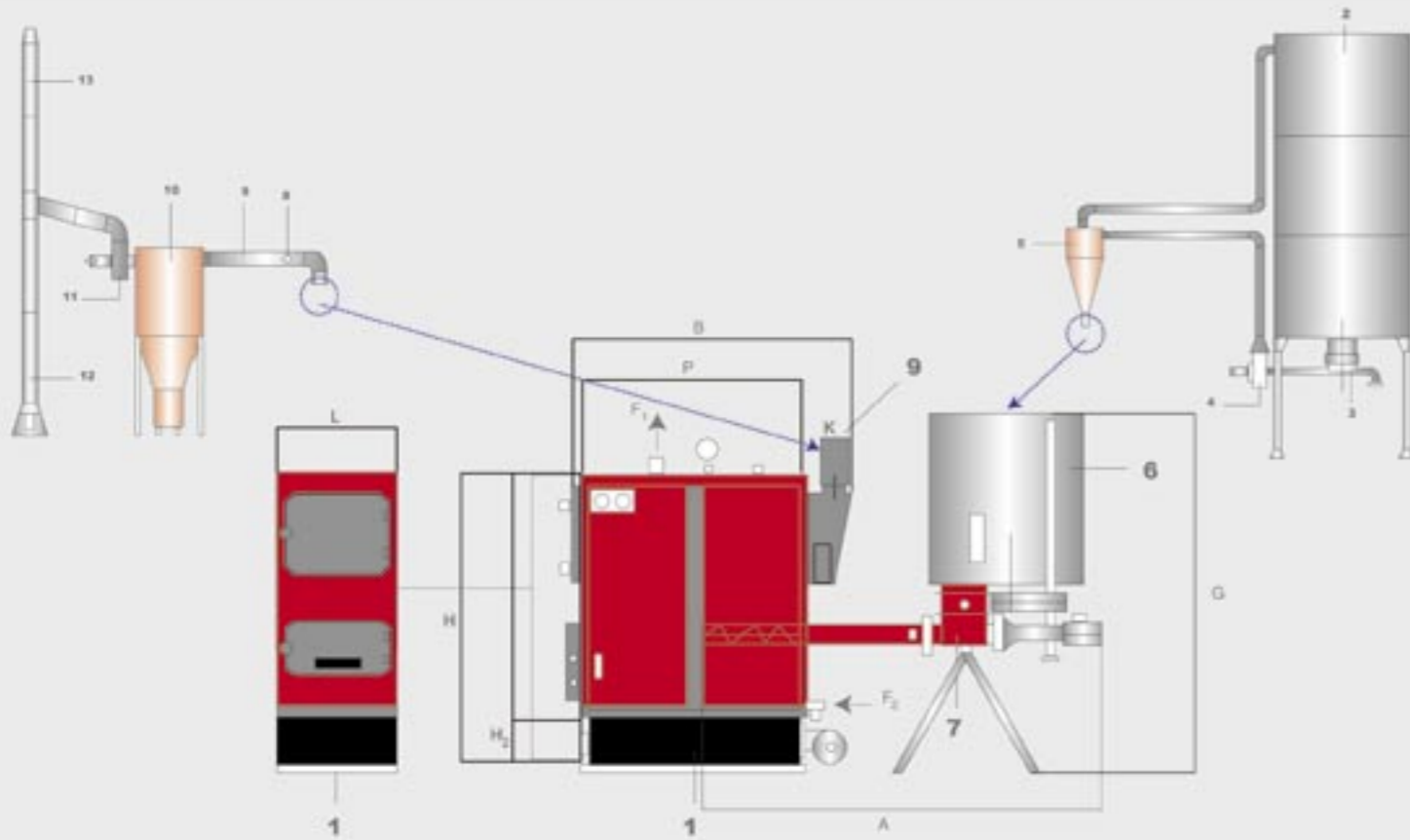
Special attention is paid to the finish of the FACI boilers, with constant inspection of all the components and the mechanical operational test as laid down by standards CEE.

Work and assembly carried out by trained personnel, with constant checks on the various operations, ensure that construction is correct, without any defects.

In recent years, industrial and domestic heating plants using wood off-cuts with automatic supply feeding have undergone a considerable increase in numbers, caused by the possibility of using boilers with automated supply systems and fitted with very reliable apparatus that allow automatic control of the plant with a constant monitoring of the combustion values, thus ensuring operation to conform to the regulations brought out under the Italian laws.



Functional diagram



- 1)Boiler 2)Fuel storage silo 3)Batcher extractor 4)Pneumatic or screw conveyor 5)Feeding cyclone 6)Feeder container 7)Burner
8)Gas analysis sampling 9-10-11-12-13)Gas duct 14)Open expansion tank 15)Feed pump 16)Primary circulation pump 17)Delivery pumps
18)Recirculation pump 19)Delivery header 20)Return header 21)Discharge unit 22)Block pressure switch 23)Safety thermostat 24)Service thermostat 25)Pressure gauge 26)Thermometer

Boiler room and installation sizing

Particular attention must be devoted to the installation sizing, considering that the wood boilers unlike those on gas or diesel, should work as far as possible continuously and without interruptions. Accordingly, the over-sizing of the boiler must be avoided, because it would have important negative consequences: an useless increase of the costs of the installation and an non optimal operation of the boiler, because of the frequent interruptions of the combustion to which it would inevitably be subject. The forced interruptions of the combustion, gotten with the brutal arrest of the flow of combustive air produce in fact a greater smokiness, that causes dirtiness of the fireplace and the boiler and a smaller average seasonal output of the installation.

The sizing of the boiler must be performed therefore after a careful evaluation of the characteristics of the building and the climatic band in which the building is placed. For the final part of this work we can indicatively esteem a requirement of power between 20 and 40 W/m³s according to the climate and of the characteristics of the heating installation and the isolation of the building. The requested power is smaller in well isolated buildings and in those endowed with high efficiency heating systems as the floor or radiant wall heating system.

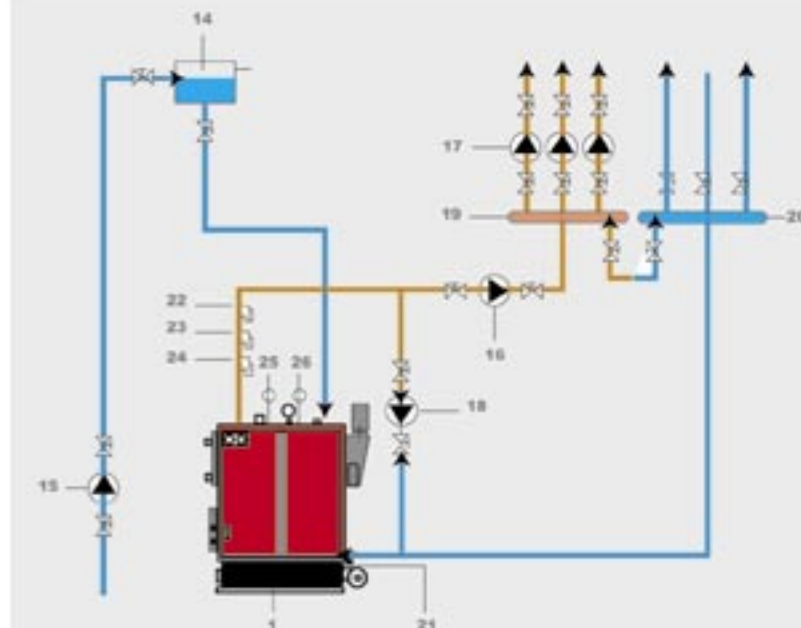
		TECHNICAL DATA														
MOD.		5	7	10	13	16	20	25	30	40	50	60	70	80	90	100
Power yield	Kcal/h	58.000	78.000	106.000	138.000	168.000	206.000	258.000	306.000	406.000	506.000	606.000	706.000	806.000	906.000	1.006.000
	Kw	57	80	115	150	185	231	291	349	444	580	698	814	929	1.044	1.163
Burning power	Kcal/h	48.000	84.000	132.000	168.000	204.000	264.000	312.000	360.000	480.000	600.000	720.000	840.000	960.000	1.080.000	1.200.000
	Kw	78	98	152	194	234	307	361	419	557	698	834	977	1.115	1.254	1.394
Installed electric power	Kw	1,44	1,44	1,44	1,75	1,75	1,75	2,23	2,23	3,2	3,2	4,11	4,11	5,4	6,15	6,15
Working pressure	Bar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Smoke flow 250°C (482°F)	M ³ /h	420	530	650	855	1.130	1.370	1.710	2.040	2.740	3.420	4.100	4.800	5.500	6.150	6.800
Water content	Lt	480	500	520	630	740	945	1.130	1.340	1.550	1.870	2.520	3.110	3.700	4.410	5.060

DIMENSIONS

SUP MQ	KCAL/H	KCAL/H	KW	KW	H2	H	R	L	G	P	B	K	F1	F2
5	50.000	66.000	57	77	300	1.330	1.800	630	1.600	950	1.250	200	1 ^h	"
7	70.000	90.000	80	105	300	1.450	1.800	700	1.600	900	1.300	220	2	"
10	100.000	132.000	115	152	300	1.550	2.950	830	1.800	1.100	1.500	300	2 ^h	"
13	130.000	168.000	150	194	300	1.550	2.950	830	1.800	1.300	1.700	300	2 ^h	"
16	160.000	204.000	185	236	300	1.650	2.950	860	1.800	1.840	2.240	300	2 ^h	"
20	200.000	264.000	231	307	300	2.000	2.950	1.000	1.800	1.400	1.900	380	2 ^h	"
25	250.000	312.000	291	361	300	2.000	3.000	1.000	1.800	1.780	2.280	400	3	"
30	300.000	360.000	349	419	300	2.000	3.000	1.000	2.000	2.060	2.540	400	3	"
40	400.000	480.000	464	557	300	2.200	3.200	1.200	2.000	1.780	2.380	430	4	"
50	500.000	600.000	580	698	300	2.200	3.200	1.200	2.000	2.080	2.680	460	4	"
60	600.000	720.000	698	836	300	2.260	3.500	1.380	2.200	2.100	2.700	560	4	"
70	700.000	840.000	814	977	300	2.260	3.500	1.380	2.200	2.300	2.900	560	4	"
80	800.000	960.000	929	1115	300	2.260	3.600	1.380	2.200	2.500	3.100	640	4	"
90	900.000	1.080.000	1044	1256	300	2.260	3.600	1.380	2.200	2.700	3.300	700	4	"
100	1.000.000	1.200.000	1163	1394	300	2.500	3.650	1.500	2.500	2.660	3.240	750	4	"

The above-mentioned dimensions aren't binding and they may vary without any notice.

Water layout diagram



Another important aspect to be considered is the availability of space for the thermal plant and for the fuel storage, which has to be situated in the immediate proximities of the first one. The boiler room has to be spacious and well ventilated. Besides the boiler itself, the thermal plant should be able to contain the inertial accumulator, the sanitary boiler, the electric panel and the whole hydraulic installation.

Considering that a decent norm is to leave a free space of at least 60 cm around the boiler, we can conclude that the minimum surface is of 8-10 mq (m 2-2,5 x 4). For the installations over 35 kW the norm predicts a room with independent access doors from outside. For those installations it is also necessary to present the project of the thermal plant to the fire protection department and to send a communication to the Work Safety Institute.

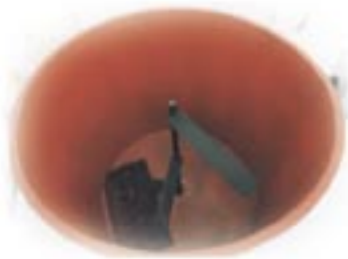
General characteristics



The woodchip boilers FACI use virgin wood reduced in small pieces of the dimension of some cm, loaded automatically. The used fuel of can be constituted from material of different origin, like minced pruning, discards minced of wood of sawmill or biomasses resulted from forestry activities (cut of the wood, conversion cuts, etc.). The woodchip-based installations are totally automatic and don't have dimension limits, could also reach powers of different thermal MW. The woodchip-based installations are suitable for civil-private residences, but in particular for the heating of buildings of middle or great dimensions, like hotels, schools, blocks of flats, hospitals and commercial areas.



Accessories



The automatic supply is provided by the burner system composed of container for feeding with wood off-cuts, provided with an internal feeding device and an orthogonal reduction gear, variable-speed geared motor for the flow of wood, spiral screw feeder, fan or sprinkling fire protection device with thermostatic control.



Combustion chamber with refractory lining, furnace with chrome cast iron and diesel fuel burner.



Spring door also allowing inspection of the smoke box.



Header for conveying primary and secondary combustion air with manual regulating shutters.



The firm Facci is born in Spoltore (Pescara) in the 1961 thanks to the spirit of initiative of Rocco Matriccioni that with tenacity began his handicraft adventure in the sector of the construction of boilers getting from the Office of the Industry, Commerce and Craftsmanship the "Brevet for Industrial Invention". After some years they obtained the first certificates of merit as, for instance, the Oscar of the economic Activities "gold Apollo" and the spaces of the shop start to be narrow to the point that activity moves to a new shed placed in the Industrial Area of Chieti Scalo able to entertain the increased demands of production. In 1998 the fatherly traditions are handed down by father to son, who widens the horizons with strong entrepreneurial character both commercial and of production of Facci. New technologies become integral part of the system of production that uses high professionalisms for the laser cut, folding, robot welding and the traditional system of the electrode. The typology of the boilers mostly become diversified and to them ovens, heaters and thermo fireplaces are added and thanks to the created commercial net not only distributed constantly on the Italian territory but also foreign. In December 2004 the firm received the last "Diploma of merit with gold medal" achieved by the Chamber of Commerce of Pescara with the tall Patronage of the President of the Italian Republic.

