

ENERGY TOP

Condensing boiler solutions









THE ENERGY TOP SYSTEM

The increasing need for families to be able to manage their central heating system freely and independently has in recent years led to the expansion of independent systems, gaining ground over the traditional centralised approached to heating.

Independent systems have been and continue to be preferred by users, mainly due to:

- independent management
- costs relating to own consumption only;
- less possibility of controversies between residents.

Nonetheless, centralised systems, albeit less appreciated by users, are making somewhat of a comeback:- less overall capacity installed; less environmental impact due to the use of just one flue or stack, and installation of the boiler in a boiler room.

The development of centralised systems with independent billing, using so-called submeters, allows all the advantages mentioned above, in complete compliance with the safety and efficiency standards required by recent legislation.

For this reason, the new series of **ENERGY TOP** modular heat generators, installed in the boiler room, represent a modern and complete solution to the latest needs, which require a balance between centralised production of heat and independent and individual management of consumption. The wide range of models and possible cascading configurations means systems can be developed with outstanding flexibility and modularity, and extremely compact dimensions, fully in line with the latest heating technology design criteria.



ENERGY TOP B 160 **ENERGY TOP B 250**



ENERGY TOP B 80 ENERGY TOP B 125



ENERGY TOP W 80 ENERGY TOP W 125



ENERGY TOP B "in line'



ENERGY TOP B opposing



"in line"





DADO submeter modules for centralised heating and domestic hot water



FURNACE

The **HEART** of **ENERGY TOP** is an innovative heating unit that ensures the product excellent characteristics in terms of efficiency and flexible modulation. The new total premixed air-gas combustion unit with variable speed fan, pneumatic gas valve and cylindrical metal fibre burner allows a range of modulation that, depending on the model, can extend as far as from 11 to 100% of rated output, with efficiency exceeding 107%.

Heat exchange takes place in the spiral corrugated pipe heat exchanger, featuring **low pressure drop** that, despite the high heat exchange surface, is sturdy and compact.

The quality of the materials used ensures the exchanger a high level of resistance to corrosion and thermal dilations, supporting a **max** Δ **T of 40°C**.

The very low polluting emissions - NOX and CO - as well as minimising the environmental impact of these heat generators (class 5 according to EN 297/A5), also ensure the heat exchanger remains clean over time, reducing maintenance work to a minimum.

Ignition is electronic, with flame control by ionisation.



The heating units have been designed with two different heat input ratings:

75 and 116 kW, and based on the total output, the various models of **ENERGY TOP** can house one or two units, always within the same structure.

The models with two heating units are also managed by the same electronic controller.



ELECTRONIC CONTROL

The **ENERGY TOP** series generators feature evolved electronics that can control the heating units making up the module in complete safety and autonomy.



A large backlit LCD is fitted to make it easier to read the boiler data and set the configuration parameters.

The electronics on each module can manage multiple types of system, including in combination with storage cylinders for the production of domestic hot water.

Key 1 Display

- 2 Central heating temperature setting
- 3 Domestic hot water temperature setting (with optional storage cylinder)
- 4 Summer/Winter mode
- 5 On/Off
- 6 Reset parameters
- 7 Economy/Comfort mode

The evolved electronics on **ENERGY TOP** can perfectly manage situations in which multiple heat generators are used in cascading, minimising the configuration and commissioning operations.

The **MASTER/SLAVE** function allows operation of a series of cascaded boilers, without requiring an additional control unit; with just a simple connection (two wires) between the electronics on the various heat generators, the entire system acts as a single unit. The safety circuit reduces boiler lockout and system shutdown, automatically attempting to ignite the module three times in the event of temporary shutdown (natural gas versions). If the shutdown occurs repeatedly, the system goes into permanent lockout mode, guaranteeing safety. In addition, a series of input and output signals, both analogue and digital (on/off), are available for controlling or setting the operation of the heat generator or the entire cascaded system via a remote connection. Below are some examples:



Combined management of the signals allows the operating status of the heat generator to be checked and set via a remote connection.



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ELECTRONIC CONTROL ENERGY TOP

In particular, the 0-10 Volt input signal on the electronics for each furnace means the heat generators can interface to any generic external control unit featuring a 0-10 Volt output. In this way, the **ENERGY TOP** series generators can be very easily installed in existing systems with electronic control.

Below are some examples using the 0-10 Volt signal.

0-10 Volt EQUIVALENT GENERATOR CONTROL



0-10 Volt EQUIVALENT GENERATOR CONTROL





The **ENERGY TOP W** series boilers are wall-hung heat generators for inside or outside installation, central heating only, featuring a premix burner, condensing operation with very high efficiency and very low polluting emissions.

They consequently ensure high energy savings and are environmentally-friendly (4 star energy rating according to Directive 92/42 EEC, pollution Class 5 as per EN 297/A5).

Wall-hung structure with removable casing made from three parts for easy access to the inside components. They can also be installed as standard outside in partially protected places, with temperatures down to -5°C, without using the additional frost protection kit.



The cascaded connection of multiple generators can be performed using special flue gas and water circuit accessories. The models are factory configured for operation on natural gas and can be converted to LPG using a special conversion kit.

The wall-hung range features two sizes:

ENERGY TOP W 80

Wall-hung model, single furnace, with heat input from 17 to 75 kW (NHV)

ENERGY TOP W 125

Wall-hung model mono-furnace with heat input from 25 to 116 kW (NHV)









Key

1 cent. heating flow outlet 1" 1/2 2 cent. heating return inlet 1" 1/2 3 gas inlet 3/4"



ENERGY TOP		W 80	W 125
Output and Efficiency			
Heat input, central heating max	kW	75,0	116,0
min	kW	17,0	25,0
Heat output, central heating max	(80-60°C) kW	73,5	113,7
min (80-60°C) kW	16,7	24,6
max	(50-30°C) kW	79,5	123,0
min (50-30°C) kW	18,3	26,9
Efficiency Pma	x (80-60°C) %	98,0	98,0
Pmin	(80-60°C) %	98,5	98,5
Pma	x (50-30°C) %	106,0	106,0
Pmin	(50-30°C) %	107,5	107,5
30%	(30°C) %	109,0	109,0
Efficiency class Directive 92/42 EEC		****	****
NOx class		5	5
Central heating operating pressure max-	min bar	6-0,8	6-0,8
Central heating temperature max	°C	95	95
Max exchanger Δ t	°C	40	40
Water content	litres	5	7
Electrical specifications			
Index of protection	IP	X5D	X5D
Power supply voltage	V/Hz	230/50	230/50
Power input (not including the pump) max	W	95	200
Structural characteristics			
Weight	kg	46	51
Height	mm	900	900
Width	mm	445	445
Depth	mm	430	430
Water circuit			
Outlet/return fittings	inches	1" 1/2	1" 1/2
Gas fitting	inches	3/4"	1"
Combustion data			
Losses through the stack with burner ON at Pmax	-Pmin %	2,2-1,3	1,8-1,3
Losses through the casing with burner ON at Pma	x-Pmin %	0,2-0,2	0,2-0,2
Losses through the stack with burner OFF	%	0,03	0,02
Losses through the casing with burner OFF	%	0,4	0,4
Flue gas temperature at Pmax-Pmin (80/6	60) °C	65-60	67-60
(50/3	30) °C	43-33	45-34
Flue gas flow-rate at Pmax-Pmin	kg/h	126,2-30,1	195,2-44,3
Condensate flow-rate at Pmax-Pmin	kg/h	8,7-2,0	13,5-3,2
CO ₂ at Pmax-Pmin (G20)	%	9,0-8,5	9,0-8,5
CO ₂ at Pmax-Pmin (G31)	%	10-9,2	10-9,2
CO weighted	mg/kWh	35,0	35,0
NOx weighted	mg/kWh	29,0	29,0





The water circuit is simple, rational and allows easy access to the inside components.

Key

- 7 Gas inlet 10 Central heating flow outlet
- 11 Central heating return inlet
- 16 Fan
- 22 Main burner
- 29 Flue gas outlet manifold
- 36 Automatic air vent
- 44 Gas valve

- 82 Detection electrode
- 114 Water pressure switch
- 154 Condensate drain hose
- 186 Return sensor 188 Ignition electrode
- 193 Drain trap
- 196 Condensate basin
- 278 Outlet sensor

The central heating pump is available in a special optional kit complete with on-off valves, non-return valves and safety valve.

The low water pressure drop in the exchanger coil and the use of a central heating pump with 8 m head means high net head in the system.





WATER PUMP KIT FLOW-RATE-DEAD DIAGRAM



code 042021X0 **High head PUMP KIT**

m3/h

Α



BOILER PRESSURE DROP DIAGRAMS

ENERGY TOP W 125



A series of water circuit accessories and self-supporting frames is available for the **ENERGY TOP W** wall-hung modules, used to create different cascading configurations.

The structure is self-supporting and does not need to be anchored to the walls.

This means the boilers do not necessarily need to be installed on the walls, but also in the centre of the boiler room.



Various solutions are available for the air intake and flue gas outlet on the **ENERGY TOP W** wall-hung modules, for both installation on individual and multiple modules.

The low flue gas temperature means special polypropylene accessories can be used.

As regards the single discharge system, both 80 mm separate and 80/125 mm coaxial flue gas outlet configurations are available, with combustion intake either from the room or the outside.

All the starter accessories are fitted with test fittings for combustion analysis.

SINGLE DISCHARGE SYSTEM

	PPs stub, dia. 80 mm, with test fittings for analysis	1KWMA70W
P	PPs 90° bend, dia. 80 mm, with test fittings for analysis	041000X0
	Attachment kit for vertical coaxial discharge, 80/125, with test fittings for combustion analysis	041007X0

TECHNICAL SPECIFICATIONS

v	ENERGY TOP		W 80	W 125
	Stack			
	Maximum stack pressure head at Pmax	pascal	200	250
-	Maximum length 80/125	m	4	2
	Maximum separate length	meq	20	10

As regards the cascading systems, flue gas manifolds are available for total output of around 500 kW. If these manifolds are used, the combustion air intake is directly from the boiler room, through the intake grills included in the manifold kit.



MANIFOLD DISCHARGE SYSTEM

Condensate drain trap kit for flue gas manifolds complete with fastening brackets Ø 200 mm N.B. Use one between each cascaded unit	041026X0
Grey PPs flue gas manifold kit (L=600mm) for "in line " cascading configurations complete with backflow preventer valves, stubs, gaskets and brackets N.B. Use on each flue gas outlet	041028X0

H	leat nput	Total output 80/60°C	no.	ENE	RGY T	OP moi	dels	Flue gas manifold diameters
	kW	kW	modules	1	2	3	4	mm
	150	147,0	2	80	80	-	-	200
	191	187,2	2	125	80	—	—	200
4	225	220,5	3	80	80	80	—	200
4	232	227,4	2	125	125	—	—	200
4	266	260,7	3	125	80	80	—	200
	300	294,0	4	80	80	80	80	200
	307	300,9	3	125	125	80	—	200
	341	334,2	4	125	80	80	80	200
	348	341,1	3	125	125	125	—	200
	382	374,4	4	125	125	80	80	200
4	423	414,6	4	125	125	125	80	200
4	464	454,8	4	125	125	125	125	200



The **ENERGY TOP W** series modules are fitted with evolved electronics that as standard can manage up to two system zones (direct outlet) or an optional storage cylinder with one direct zone, without requiring further control boards.



MIXED DIAGRAM WITH PRIORITY TO THE STORAGE CYLINDER

Each module or series of modules can be connected to an outside temperature probe for temperature compensation operation.

Master-Slave interconnection between the modules means multiple unit configurations can be created without requiring additional control units.

MIXED DIAGRAM WITH PRIORITY OR SIMULTANEOUS OPERATION OF THE STORAGE CYLINDER



In the case of combined systems (without selector valve) the operation of the domestic hot water storage cylinder can be managed at the same time as the central heating circuit or with priority, depending on the characteristics of the system.

The Legionella protection function, after a programmable time interval, ensures the temperature inside the storage cylinder remains at 65°C for 15 minutes.

When Legionella protection is active, the boiler's electronics send an output signal (voltage-free contact) that can be used to control a recirculating pump.

This ensures the entire water content in the **cir-cuit is protected**.



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CENTRAL HEATING ONLY DIAGRAM WITH DIRECT OUTLET



Control units can be added to directly manage up to two circuits, with direct outlet.

MIXED DIAGRAM WITH STORAGE CYLINDER AND DIRECT OR MIXED CENTRAL HEATING CIRCUITS



More complex system diagrams, on the other hand, can be managed by using zone control units that can "dialogue" directly with the boiler's electronics and thus achieve maximum efficiency by adapting the operation of the boilers based on actual system load requirements.

In this case too the operation of the domestic hot water circuit can be managed with priority or together with the central heating circuits.



LIST OF COMPONENTS FOR CREATING CASCADING SYSTEMS

The tables list the components that can be used to create cascading configurations.

"additional" components that may be used to configure the type of system (e.g.: water flow separation device, evolved control unit for zone They are sub-divided into "basic" components, required to create the basic structure, as well as water circuit and flue gas components, and management, etc.)

ENERGY TOP B

The **ENERGY TOP B** cabinet modules are floor-standing heat generators for inside or outside installation, central heating only, featuring a premix burner, condensing operation with very high efficiency and very low polluting emissions. They consequently ensure high energy savings and are environmentallyfriendly (**4 star energy rating according to Directive 92/42 EEC**, pollution **Class 5 as per EN 297/A5**). The painted steel insulated cabinet, with reversible door (left-right), be installed as standard outside in completely open places **with temperatures of down to -10°C**, without using the additional frost protection kit. Each module comes complete with insulated central heating outlet and return manifolds, DN 100, and gas manifold, DN 65.

The **cascaded connection** of multiple generators can be performed using special flue gas and water circuit accessories.

The models are factory configured for operation on natural gas and can be converted to LPG using a special conversion kit.

The range features four sizes, two with single furnace and two with double furnace.



ENERGY TOP B 80

Cabinet model, single furnace with heat input from 17 to 75 kW (NHV)

ENERGY TOP B 125

Cabinet model, single furnace with heat input from 25 to 116 kW (NHV)





Double furnace

ENERGY TOP B 160 Cabinet model,

double furnace with heat input from 17 to 150 kW (NHV)

ENERGY TOP B 250

Cabinet model, double furnace with heat input from 25 to 232 kW (NHV)







ENERGY TOP			B 80	B 125	B 160	B 250
Output and Efficiency						
Heat input, central heating	max	kW	75,0	116,0	150,0	232,0
	min	kW	17,0	25,0	17,0	25,0
Heat output, central heating	max (80-60	°C) kW	73,5	113,7	147,0	227,4
	min (80-60'	°C) kW	16,7	24,6	16,7	24,6
	max (50-30	P°C) kW	79,5	123,0	159,0	246,0
	min (50-30'	°C) kW	18,3	26,9	18,3	26,9
Efficiency	Pmax (80-6	60°C) %	98,0	98,0	98,0	98,0
	Pmin (80-6	D°C) %	98,5	98,5	98,5	98,5
	Pmax (50-3	80°C) %	106,0	106,0	106,0	106,0
	Pmin (50-3	D°C) %	107,5	107,5	107,5	107,5
	30% (30°C)	%	109,0	109,0	109,0	109,0
Efficiency class Directive 92/42 EEC			****	****	****	****
NOx class			5	5	5	5
Central heating operating pressure max-mir	١	bar	6-0,8	6-0,8	6-0,8	6-0,8
Max central heating temperature		°C	95	95	95	95
Max exchanger Δ t		°C	40	40	40	40
Water content		litres	13	15	26	30
Electrical specifications		litres 13 15 26 IP X5D X5D X5D V/Hz 230/50 230/50 230/50				
Index of protection		IP	X5D	X5D	X5D	X5D
Power supply voltage		V/Hz	230/50	230/50	230/50	230/50
Max power input (not including the pump)		W	285	390	570	780
Structural characteristics						
Weight		kg	110	115	190	210
Height		mm	1700	1700	1700	1700
Width		mm	500	500	1000	1000
Depth		mm	450	450	450	450
Water circuit						
Outlet/return fittings		inches	DN100	DN100	DN100	DN100
Gas fitting		inches	DN65	DN65	DN65	DN65
Combustion data, single furnace						
Type of appliance			B23	B23	B23	B23
Losses through the stack with burner ON a	t Pmax-Pmin	%	2,2-1,3	1,8-1,3	2,2-1,3	1,8-1,3
Losses through the casing with burner ON	at Pmax-Pmir	1 %	0,2-0,2	0,2-0,2	0,2-0,2	0,2-0,2
Losses through the stack with burner OFF		%	0,03	0,02	0,03	0,02
Losses through the casing with burner OFF	(0.0.(0.0))	%	0,4	0,4	0,4	0,4
Flue gas temperature at Pmax-Pmin	(80/60)	<u> </u>	65-60	67-60	65-60	67-60
Flue gas temperature at Pmax-Pmin	(50/30)	<u> </u>	43-33	45-34	43-33	45-34
Flue gas flow-rate at Pmax-Pmin		kg/h	126,2-30,1	195,2-44,3	126,2-30,1	195,2-44,3
Condensate flow-rate at Pmax-Pmin		kg/h	8,7-2,0	13,5-3,2	8,7-2,0	13,5-3,2
CO_2 at Pmax-Pmin (G20)		%	9,0-8,5	9,0-8,5	9,0-8,5	9,0-8,5
CO_2 at Pmax-Pmin (G31)		%	10-9,2	10-9,2	10-9,2	10,-9,2
CO weighted		mg/kWh	35,0	35,0	35,0	35,0
NOx weighted		mg/kWh	29,0	29,0	29,0	29,0



The water circuit in cabinet modules, compared to the wall-hung versions, is already included as standard with all the components required for complete and correct installation in the boiler room. Each furnace is connected to the central heating outlet and return water manifolds via 3-way on-off valves with atmospheric discharge and fixed speed pump.

ENERGY TOP B 80-125





Key

- 7 Gas inlet
- 10 Central heating flow outlet
- 11 Central heating return inlet
- 16 Fan
- 22 Main burner
- 29 Flue gas outlet manifold36 Automatic air vent
- 44 Gas valve
- 82 Detection electrode
- 114 Water pressure switch
- 154 Condensate drain hose
- 186 Return sensor
- 188 Ignition electrode
- 193 Drain trap
- 196 Condensate basin
- 278 Outlet sensor









Various solutions are available for the air intake and flue gas outlet on the **ENERGY TOP B** cabinet modules, for both installation on individual and multiple modules.

The low flue gas temperature means special polypropylene accessories can be used.

As regards the single discharge system, 80 mm separate flue gas outlet configurations are available using special kits, with combustion intake from the boiler room (type B23).

80 mm TERMINALS FOR DIRECT CONNECTION



		Separate flue gas outlet terminal kit with gasket and nut dia. 80 mm	041013X0
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Each individual module, even when connected in series, can be connected directly to the 80 mm diameter flue gas outlet using a special terminal kit complete with pipe, wind-protection grill and gasket. One kit must be used for each flue gas outlet.

TECHNICAL SPECIFICATIONS

ENERGY TOP	B 80	B 125	B 160	B 25 0	
For individual flue gas outlet					
Maximum stack pressure head at Pmax	pascal	200	250	200	250
Maximum separate length	meq	20	10	20	10

CONNECTION WITH FLUE GAS MANIFOLD







OPPOSING

Different types of flue gas manifolds are available, depending on the type of cascading configuration chosen: in "line" or "opposing". The diameters of the manifolds depend on the total output of the series of modules.





EXAMPLE OF "IN LINE" CONFIGURATION

The table shows some "in line" cascading combinations and the corresponding maximum overall dimensions.

The corresponding diameter of the flue gas outlet manifold is also shown for each combination.

Heat input	Heat output 80/60°C	no.			Layou	t of in	line r	nodule	S		Dimens in I	ions of ine	Flue gas manifolo diamete
kW	kW	Modules									Width	Depth	mm
150	147,0	1	16	60	-	-	-	-	-	-	1000	450	200
191	187,2	2	80	125	-	-	-	-	-	-	1000	450	200
232	227,4	1	25	50	-	-	-	-	-	-	1000	450	200
266	260,7	2	125	1	60	-	-	-	-	-	1500	450	200
307	300,9	2	80	2	50	-	-	-	-	-	1500	450	200
348	341,1	2	125	2	50	-	-	-	-	-	1500	450	200
382	374,4	2	16	60	2	50	-	-	-	-	2000	450	200
416	407,7	3	125	1	60	16	0	-	-	-	2500	450	200
464	454,8	2	25	50	2	50	-	-	-	-	2000	450	200
498	488,1	3	125	1	60	25	i0	-	-	-	2500	450	300
539	528,3	3	80	2	50	25	i0	-	-	-	2500	450	300
580	568,5	3	125	2	50	25	i0	-	-	-	2500	450	300
614	601,8	3	16	60	2	50	2	50	-	-	3000	450	300
696	682,2	3	25	50	2	50	2	50	-	-	3000	450	300
730	715,5	4	125	10	60	25	i0	2	50	-	3500	450	300
771	755,7	4	80	2	50	25	i0	2	50	-	3500	450	300
812	795,9	4	125	2	50	25	iO	2	50	-	3500	450	300
846	829,2	4	16	60	2	50	25	50	25	50	4000	450	300
928	909,6	4	25	50	2	50	28	50	28	50	4000	450	300



In addition, a wide range of accessories is available to complete the configuration.



EXAMPLE OF "OPPOSING" CONFIGURATION

The table shows some "opposing" cascading combinations and the corresponding maximum overall dimensions.

The corresponding diameter of the flue gas outlet manifold is also shown for each combination.

Heat input	Heat output 80/60°C	no.	Dimen: the Op mod	sions of posing dules	Dimer m Oppo	Dimensions max Opposing				
kW	kW	Modules			Width	Depth	mm			
191	187,2	2	80 125		500	900	200			
266	260,7	2	125 160	1	1000	900	200			
307	300,9	2	80 250	1	1000	900	200			
348	341,1	2	125 250	1	1000	900	200			
382	374,4	2	160 250		1000	900	200			
416	407,7	3	160 160	125	1500	900	200			
464	454,8	2	250 250	-	1000	900	200			
498	488,1	3	160 250	125	1500	900	300			
539	528,3	3	250 250	80	1500	900	300			
580	568,5	3	250 250	125	1500	900	300			
614	601,8	3	160 250	250	2000	900	300			
696	682,2	3	250 250	250	2000	900	300			
730	715,5	4	160 250	125 250	2000	900	300			
771	755,7	4	250 250	80 250	2000	900	300			
812	795,9	4	250 250	125 250	2000	900	300			
846	829,2	4	160 250	250 250	2000	900	900			
928	909,6	4	250 250	250 250	2000	900	300			



042027X0

FLANGE KIT FOR OPPOSING MODULES





ACCESSORIES

	ACCES	SORIES			
	_Ħ	MF 90° hand kit PPs	Ø 200 mm	041016X0	
		Wi Ju bola kit, 113	Ø 300 mm	041035X0	MANIFOLDS
		1m MF manifold extension kit PPs	Ø 200 mm	041019X0	Flue gas manifold kit, grey PPs (L=600mm) for "opposing" cascading configurations compl. with curve, Ø 200 mm 041030X0
		THE WE HANDLE CAUSISION ALL, IT'S	Ø 300 mm	041036X0	backflow preventer valves, studis, gasikets and brackets NB. To be used per each flue gas outet Ø 300 mm 041031X0
ISPESL AF	PPROVE mplete with water fil satety devices (equal put up to 1000 kW	ED CABINET ow separation device cluding safety valve) 0M600MX0			Decimation Condensate drain trap kit for flue gas Ø 200 mm Ø41026X0 Manifolds complete with fastening brackets Ø 300 mm Ø41027X0



The **ENERGY TOP B** series modules, both in individual and multiple configurations, can as standard manage up to two system zones with direct outlet, or one direct zone with an optional storage cylinder, without requiring further control boards.

MIXED DIAGRAM WITH PRIORITY TO THE STORAGE CYLINDER



Master-Slave interconnection between the modules means multiple unit configurations can be created without requiring additional control units. The central heating and domestic hot water circuits can be managed simultaneously or with priority to the domestic hot water.

MIXED DIAGRAM WITH PRIORITY OR SIMULTANEOUS OPERATION OF THE STORAGE CYLINDER



The **Legionella protection** function, after a programmable time interval, ensures the temperature inside the storage cylinder remains at 65°C for 15 minutes.

• Recirculation When Legionella protection is active, the boiler's electronics send an output signal (voltage-free contact) that can be used to control a recirculating pump.

This ensures the entire water content in the **cir-cuit is protected**.





CENTRAL HEATING ONLY DIAGRAM WITH DIRECT OUTLET

Control units can be added to directly manage up to two circuits, with direct outlet.

MIXED DIAGRAM WITH STORAGE CYLINDER AND DIRECT OR MIXED CENTRAL HEATING CIRCUITS



More complex system diagrams, on the other hand, can be managed by using zone control units that can "dialogue" directly with the boiler's electronics and thus achieve maximum efficiency by adapting the operation of the boilers based on actual system load requirements. In this case too the operation of the domestic hot water circuit can be managed with priority or together with the central heating circuits.



mm 00c da, 9Ps, da, 300 mm	Ð	041035X0	at										×	Х	Х	×	Х	×	×	×	×	×	
mm 00° bend kit, PPs, dia. 200 mm	Ð	041016X0	đ	×	×	×	×	×	×	×	×	×								1	1		
, PFR, maintaine extension kit, PFR, mit mm 005. Jain		041036X0	đ							1			×	х	X	×	×	Х	×	×	×	×	
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of to management the time of the management of a optional domeatic hot water storage cylinde (5 m cable)	Ò	043005X0	at		-	-	-		-	-	~	<i>۲</i>	~		-	-		Ļ		~		-	VAL COMPON
edorq arutereqmat ebiztu.O	0,	1KWMA62U	at		-	-	-	-	-	-	~	-	-	-	-	<i>~</i>		Ļ		-		-	NAL ADDITION
mengelo notielleteni enoscituM (Sento 1: bine beskim S)	1	013013X0	đ		.	. 	<i>.</i>					,			.	<i>.</i>		.	, —	<u></u>		.	OPTIO
Cabinet complete with water flow separation device and ISPESL safety devices (excluding safety valve) for total output up to 1.000 KW		OM600MX0	qt		-	-	~	~			<i>~</i>	1		1	1	<i>.</i>	1	1	-		<i>~</i>	~	
ecres tativo woit gritisari latiras lanoitbbb tor cascading configuration with a cubic water flow capication device (5 m cable)	Ò	043005X0	at	-	-	-			-	-	<i>~</i>	<i>.</i>	-	-	-	<i>.</i>	-	-		-	-		
mm 305 , 200 mm Piue gara manifold kit, grey PPS, dia with bend backdow prevenier valves, studis gaskets and backets V.B Use for each flue gas outlet		041029X0	at										ы	Ð	2	Q	9	7	7	7	~	~~~	
Plue gas manifold kit, da. 200 mm, grey PP fue gas manifold kit, da. 200 mm, adultation with bend backdow prevenier valves, studis gaskets and brackets V.B Use for each itue gas outiet		041028X0	at	2	2	2	e	e	e	4	ß	4								I			MPONENTS
Condensate drain trap kit for flue gas manifolds, dia. 300 mm complete Mit fastering brackets V.B Use one between each cascaded uni		041027X0	đ											-	. 		-	~	-		<i>~</i>		BASIC COI

LIST OF COMPONENTS FOR CREATING "IN LINE" CASCADING SYSTEMS



Condensate drain trap kit for flue gas manifolds, dia, **200** mm complete with fastering brackets V.B. - Use one between each cascaded unit

3 perforated flanges, gaskets Pange kit, containing: 3 blind flanges, 00,000

line modules

Layout of in line modules

Ю.

output 80/60°C Total

Heat nput

Dimensions of

450

450 450 450 450 450 450

8

"additional" components that may be used to configure the type of system (e.g.: water flow separation device, evolved control unit for zone They are sub-divided into "basic" components, required to create the basic structure, as well as water circuit and flue gas components, and The tables list the components that can be used to create cascading configurations, as well as the corresponding quantities. management, etc.).

450

160 250

Ferroli 22

mm 00c. sila, 299, bend kit, PP,5, dia. 300 mm	E	041035X0	qt		I						×	×	×	×	×	×	×	×	×	×	
mm 005. sta, PPs, dia. 200 mm	E	041016X0	qt	×	×	×	×	×	×	×											
mm 006. sib ,299 ,fidi noiznative blotinism 7M m f	Ĩ	041036X0	qt								×	×	×	×	×	×	×	×	×	×	
mm 005. silə, 299. jiti) noiznativa bilotinism 9M mit		041019X0	qt	×	×	×	×	х	×	×						_					NTS
Isnotiqo na to transegenem entr or toe inotitobA (e) (e) (e) (e) (e) (e) (e) (e) (e) (e)	Ç	043005X0	đ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	~	~		AL COMPONE
edorq erutereqmet ebiztuO		1KWMA62U	qt		-	<i>~</i>	<i>~</i>	-				-		-	-	. 	~		~	~	IAL ADDITION
(2) Mutitone installation diagram (2 mixed and 1 direct)	1	013013X0	qt		-			1	-	. 	-	-			-	-	-		-		OPTION
Cabinet complete with weiter flow separation device and 1976SL safety devices (excluding safety valve) for total 1970 to 1000 KW		OM600MK0	đ		. 			-	~			. 				-		, -			
Aditional central heating flow outlet sensor for cascading configurations with or without water flow separation device (5 m cable)	Ç	043005X0	qt				. 	-		. 				-				~	~	~	
Flue gas manifold kit, grey PPs, dia. 300 mm with double addrement for vippendy configurations, stubs, gaskets and bradkets 24bs, gaskets and bradkets. V.B Use for each par of opposing flue gas outlets	Q ₁₁	041031X0	dt		I		I				°	3	e	4	4	4	4	4	4	4	
Flue gas manifold kit, grey PPs, dia. 200 mm with double alardorment for 'Orgensing' configurationes, contriplete with benck backflow preventer valves, stubs, gaskets and braidvets V.B Usa for each par of opposing the gas outlets	Q ₁₁	041030X0	đ	-	2	2	2	2	e	5		I									VTS
Contereste disin trap kit for flue gas manifolds, dis. 300 mm complete with fastening brackets. N.B Use one between each cascaded unit		e 041027X0	qt		I		I				~ -	. 	. 	~			. 		~	~	IC COMPONEI
Contereste drein trap kit for flue gas manifolds, dia. 200 mm complete with fastening brackets. VLB Use one between each cascatad unit	~_	641026X0	qt		-	-	. 	Ļ				I	I								BAS
Pange kit for cascading configuration with "opposing" boilers	en e	042026X0	đ	. 		. 	. 	-	~	. 	~ -		. 	~ -		<u></u>	. 	. 	~		
,zegnish brild 3: grinishnon, ki gene ztexiseg, zegnish balandeg 5	00	042027X0	đ	-	1	Ļ	-	1	-		-	1	-	-	-	Ļ	-	~	-		
	s (max)	ת	Depth	900	900	006	006	006	006	006	006	900	006	006	006	006	006	006	006	006	
	Dimension oppos	poddo	Width	500	1000	1000	1000	1000	1500	1000	1500	1500	1500	2000	2000	2000	2000	2000	2000	2000	
	the Ig	. 22							22		25	0	55	250	250	25 250	250	25 250	250 250	250 250	
	Layout of	module		80 125	125 160	80 250	125 250	160 250	160 12 160	250 250	160 11 250	250 8	250 13	160 250	250 250	160 11 250	250 8	250 11	160 250	250	
	Ê	è	Modules	2	2	N	2	2	ę	0	3	3	en	e	3	4	4	4	4	4	
	Heat	80/60°C	kW	187,2	260,7	300,9	341,1	374,4	407,7	454,8	488,1	528,3	568,5	601,8	682,2	715,5	755,7	795,9	829,2	908,6	
	leat	i	<td>191</td> <td>266</td> <td>307</td> <td>348</td> <td>382</td> <td>116</td> <td>164</td> <td>198</td> <td>539</td> <td>580</td> <td>514</td> <td>396</td> <td>730</td> <td>171</td> <td>312</td> <td>346</td> <td>328</td> <td></td>	191	266	307	348	382	116	164	198	539	580	514	396	730	171	312	346	328	

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LIST OF COMPONENTS FOR CREATING "OPPOSING" CASCADING SYSTEMS





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