



> STRENGTHS:

- **High power condensing thermal module**, designed for single installations or in sequence **up to 600 kW**
- Hydraulic, gas and flue gas accessories **for cascade installation**, with 2, 3 and 4 modules
- Pre-assembled **heat exchanger with elements in aluminum-silicon** alloy engineered for the maximum efficiency and minimum pressure drops on the water circuit
- **Total pre-mixing unit**, for a micro-flame combustion with very low polluting emissions (Class 6 according to EN 15502-1). The metal micro-fiber burner can run on Natural gas or LPG
- Generator protection systems:
 - * **Double sensor** (delivery and return) **system to operate at constant ΔT**
 - * **Exchanger overtemperature protection** sensor calibrated to 95°C
 - * Flue gas safety sensor
 - * Water pressure switch with minimum limit of 0,8 bar
- Hydraulic unit (supplied as accessory) with three-way valve for discharge into the atmosphere and a no-return valve. It's possible choosing between two circulators, standard and high head
- Sealed room air/flue gas circuit and check valve on the flue gas ejection duct to design the pressurised manifold

> ADVANTAGES OF FORCE W:

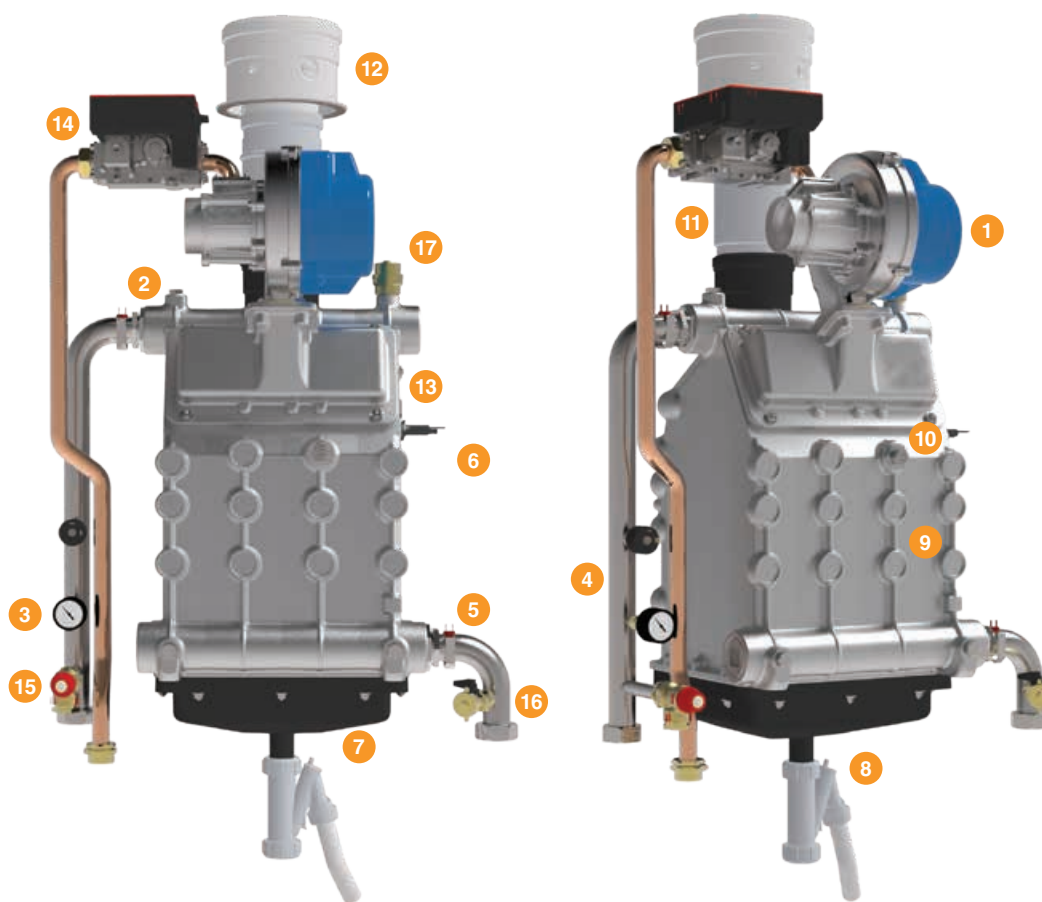
- **Master / Slave cascade** management with self-configuration system and possibility of setting the on/off sequence of the single generator.
- The electronic control on board is design to manage a double system zone and one DHW storage. In combination with the regulator FZ4 B the boiler can manage different temperature zone (direct and mixed)
- **Range Rated certified** generator to adjust the generated power to the system's needs by increasing the efficiency of the system and preserving the mechanics of the machine.
- The modules can be **controlled and conducted remotely**:
 - * Power or temperature adjustment with **0 - 10V signal**
 - * Blocking alarm signal for safety and to restart operation
 - * **Opentherm (OT) and Modbus** communication protocols with settable parameters



MODEL			W 60	W 80	W 99	W 120	W 150
ERP Class				-	-	-	-
Heating heat input	Max/Min	kW	58.0 / 15.0	74.4 / 15.0	96.6 / 19.0	113.0 / 19.0	143.0 / 24.0
Heating heat output 80°C-60°C	Max/Min	kW	57 / 14.7	72.9 / 14.7	94.7 / 18.7	110.5 / 18.7	139.8 / 23.6
Useful heating output 50°C-30°C	Max/Min	kW	60.8 / 16.3	77.0 / 16.3	100.0 / 20.5	117.0 / 20.5	148.0 / 25.9
Efficiency	80°C-60°C	Pmax %/Pmin %	98.3 / 98.3	98.0 / 98.3	98.0 / 98.3	97.8 / 98.3	97.8 / 98.3
	50°C-30°C	Pmax %/Pmin %	104.8 / 108.5	103.5 / 108.5	103.5 / 108.0	103.5 / 108.0	103.5 / 108.0
	30% partial load	Pmax %	108.6	108.6	108.1	108.1	108.1
NOx emissions class			6	6	6	6	6
NOx (O ₂ =0%) weighted		mg/kWh	50	54	39	38	40
CO (O ₂ =0%) weighted		mg/kWh	75	85	49	50	50
Heating operating pressure	Max/Min	bar	6 / 0.8	6 / 0.8	6 / 0.8	6 / 0.8	6 / 0.8
Water volume		lt	4.2	4.2	5.6	5.6	6.7
Empty weight		kg	67	67	76	76	86
No. of pieces/pallet		Nr.	6	6	6	6	6
Thermal module FORCE W			OMDSAAWA	OMDSCAWA	OMDSDAWA	OMDSEAWA	OMDSFAWA
System hydraulic kit			042072X0	042072X0	042072X0	042072X0	042072X0
High performance modulating pump (8 mt)			042070X0	042070X0	042070X0	042070X0	042070X0
High performance modulating pump (10 mt)			042071X0	042071X0	042071X0	042071X0	042071X0

* FORCE W modules are supply without hydraulic kit and circulator.

FORCE W COMPONENTS DESCRIPTION



- 1 Fan
- 2 C.H. flow temperature sensor
- 3 Manometer
- 4 Water pressure switch
- 5 C.H. return temperature sensor
- 6 Ignition/Ionisation electrode
- 7 Gas flue temperature thermostat
- 8 Condensate drain
- 9 Aluminium heat exchanger
- 10 Safety sensors
- 11 Anti return flue gas valves
- 12 Gas flue analysis
- 13 Low NOx burners
- 14 Flame electronic control - gas
- 15 Hydraulic safety valve - 6 bar
- 16 Boiler drain
- 17 Automatic air vent

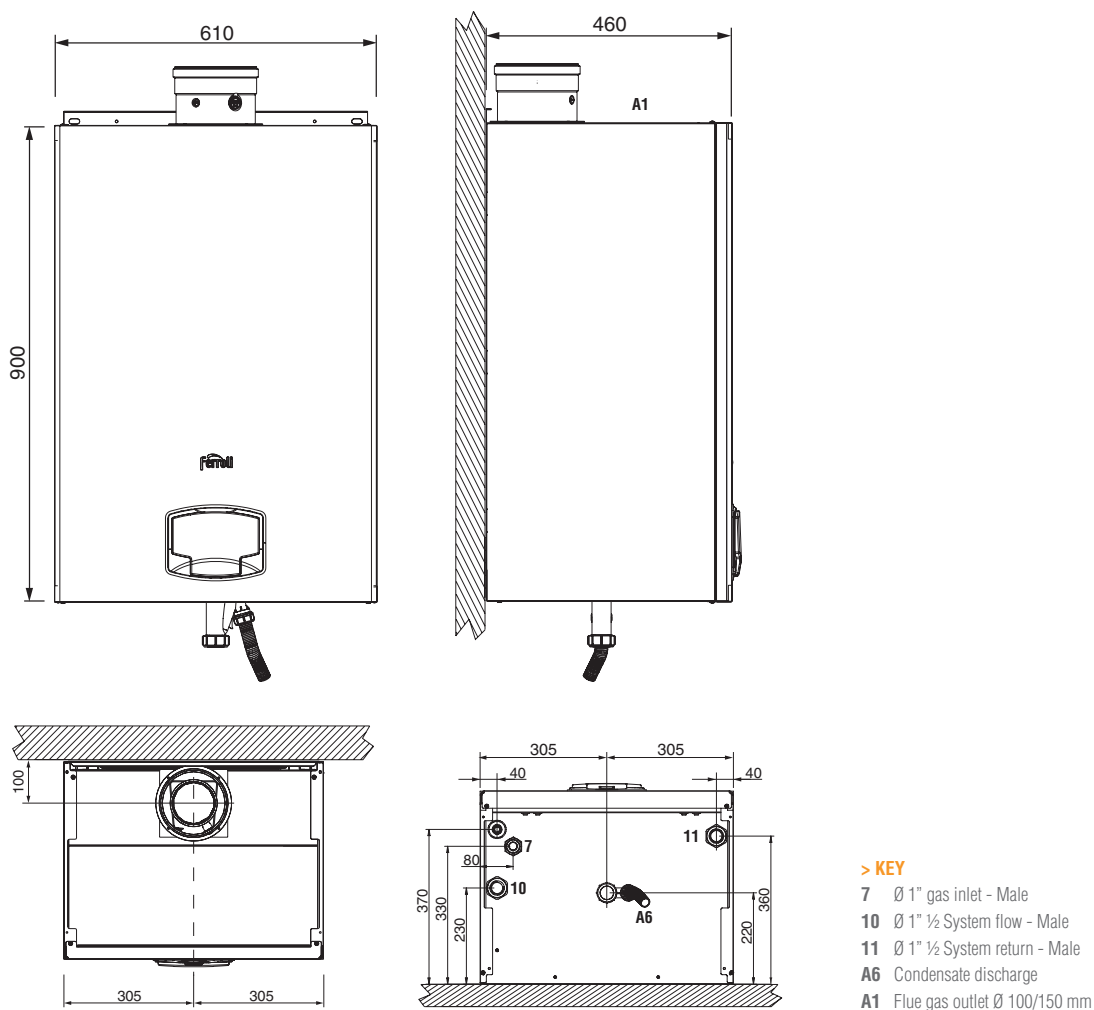
> HYDRAULIC AND CONTROL ACCESSORIES - STARTING FLUE ACCESSORIES

DESCRIPTION	CODICE	
	low-consumption modulating circulator Head 8 m	042070X0
	low-consumption modulating circulator Head 10 m	042071X0
	system hydraulic kit: 1 x MF 1"1/2 cock, 1 x 3-way T 1" 1/2 cock, 1 x 1" 1/2 check valve, 1 x MM	042072X0
	kit for management with thermostat (not supplied) of a dhw storage tank (for heating only boilers)	013017X0
	additional sensor for storage tank and/or system flow for cascade	cable 2 mt 1KWMA11W
		cable 5 mt 043005X0
	outdoor probe	013018X0
	ø 100 flue gas terminal	1KWMA29K
	Temperature controls in chapter on SYSTEM COMPONENTS	
	neutralisers (see chapter on condensation neutralisers for condensing boilers)	

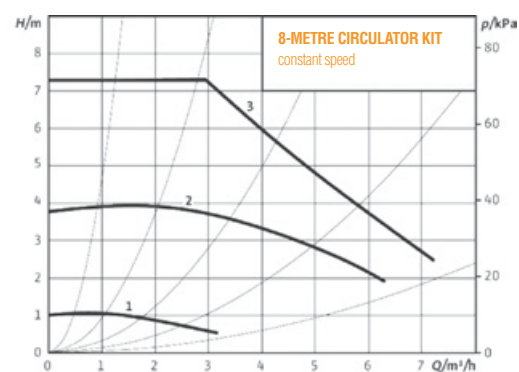
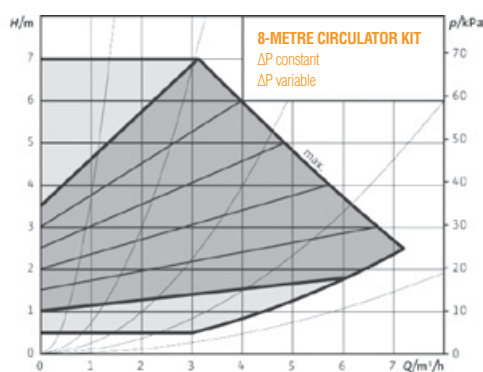
DESCRIPTION	CODE	
	90° coaxial bend, 360° swivel with 45° pitch ø 100/150 mm	041107X0
	1 mt concentric extension ø 100/150 mm	041108X0
	0,5 mt concentric extension ø 100/150 mm	041109X0
	1 mt concentric horizontal terminal pipe, ø 100/150 mm Included wall gasket ø 150 mm	041110X0
	1 mt concentric vertical terminal pipe, ø 100/150 mm	041111X0
	wall gasket ø 150 mm	041112X0
	90° bend kit in pps ø 100 mm	041077X0
	1 m PPS ø 100 mm MF flue gas duct kit	041073X0

FORCE W DIMENSIONS AND CONNECTIONS

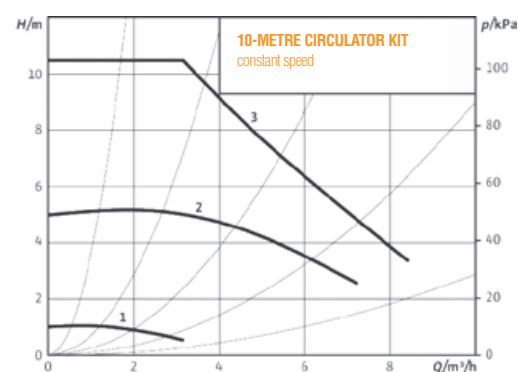
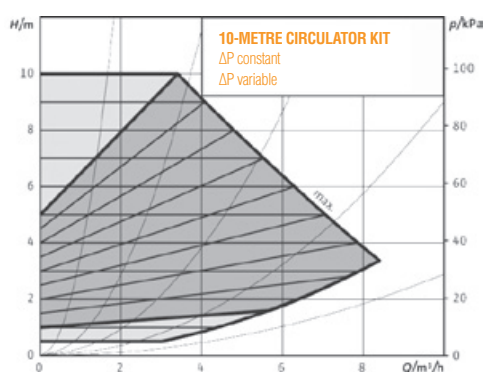
HEAD FLOW RATE CURVES



CIRCULATOR KIT 8 m



CIRCULATOR KIT 10 m



FORCE W CASCADE INSTALLATION



ACCESSORIES

NECESSARY TO CORRECTLY INSTALL FORCE W GENERATORS IN A BANK

						6	7	1		2	3	4	8	9
						Self-standing frame (start) *	Self-standing frame (extension)	8-m modulating circulator	10-m modulating circulator	hydraulic kit: 1 x MF 1"1/2 cock, 1 x 3-way T 1" 1/2 cock, 1 x 1" 1/2 check valve, 1 x MM	hydraulic (DN65 delivery and return), gas (DN40) manifolds kit for bank installation	Blind flange kit DN65	Flue gas manifold starter kit (Ø 200 mm) *	Flue gas manifold extension kit (Ø 200 mm) *
P _{ref} (50/30°C)	MODULES FORCE W													
	60	80	99	120	150									
62	1					1	1	-	1	1	1	1	-	-
77		1				1	1	-	1	1	1	1	-	-
98			1			1	1	-	1	1	1	1	-	-
117				1		1	1	-	1	1	1	1	-	-
148					1	1	1	-	1	1	1	1	-	-
124	2					2	1	1	2	2	2	2	1	2
139	1	1				2	1	1	2	2	2	2	1	2
154		2				2	1	1	2	2	2	2	1	2
179	1			1		2	1	1	2	2	2	2	1	2
194		1		1		2	1	1	2	2	2	2	1	2
215			1	1		2	1	1	2	2	2	2	1	2
234				2		2	1	1	2	2	2	2	1	2
265				1	1	2	1	1	2	2	2	2	1	2
296					2	2	1	1	2	2	2	2	1	2
332			1	2		3	1	2	3	3	3	3	1	3
351				3		3	1	2	3	3	3	3	1	3
373		1			2	3	1	2	3	3	3	3	1	3
394			1		2	3	1	2	3	3	3	3	1	3
413				1	2	3	1	2	3	3	3	3	1	3
444					3	3	1	2	3	3	3	3	1	3
468				4		4	1	3	4	4	4	4	1	4
530				2	2	4	1	3	4	4	4	4	1	4
561				1	3	4	1	3	4	4	4	4	1	4
592					4	4	1	3	4	4	4	4	1	4

* * Flue gas accessories certified for installation in a utility room or in a protected place

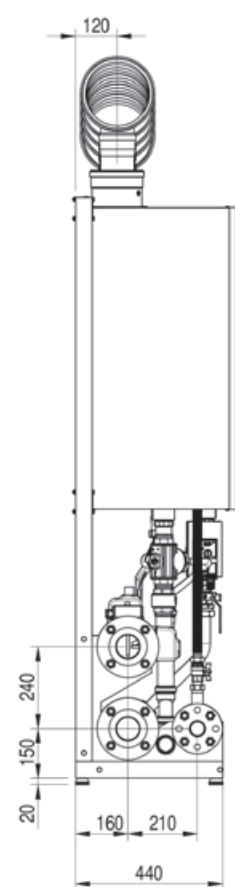
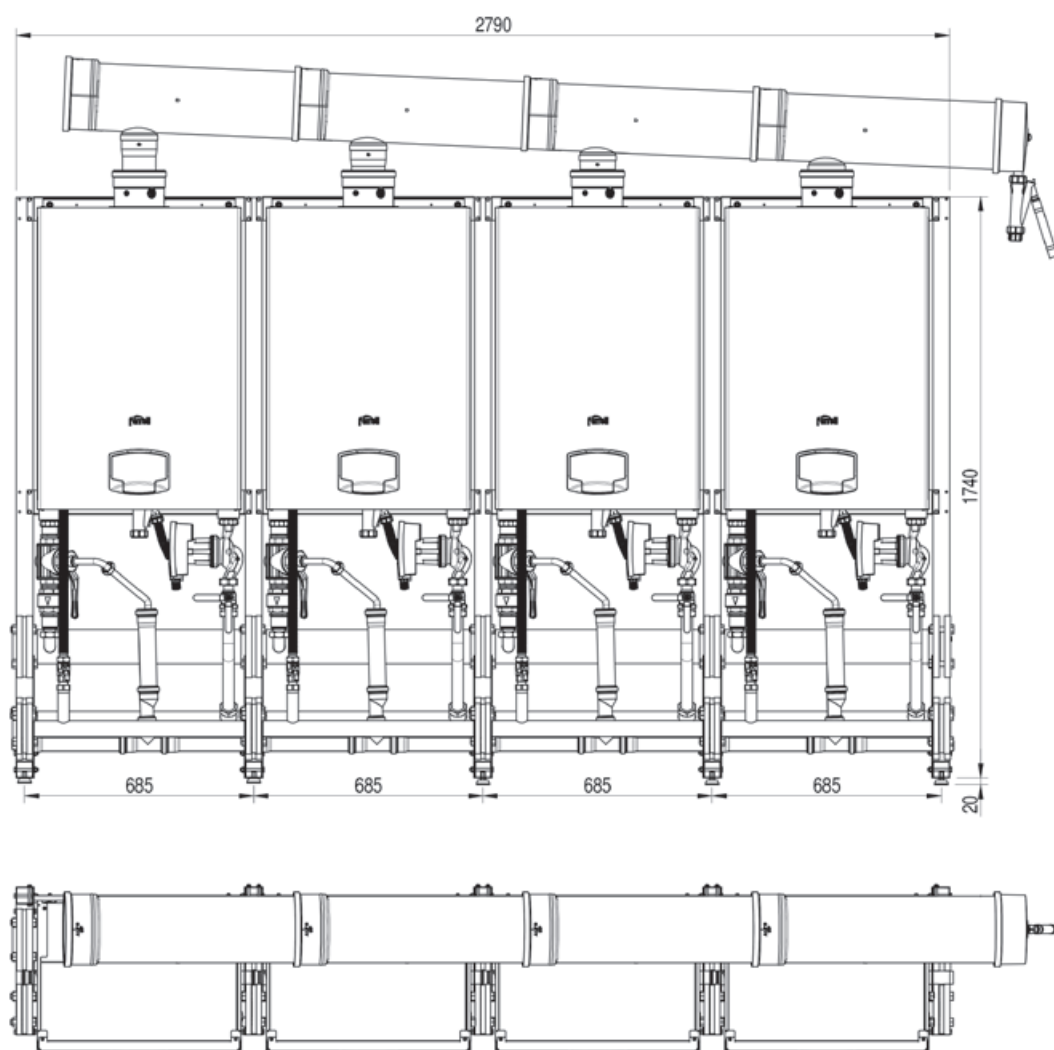
ACCESSORIES

UPON REQUEST FOR CONFIGURATION ACCORDING TO PROJECT SPECIFICATIONS

DESCRIPTION		CODE	
	additional sensor for storage tank and/or system flow for cascade	2 m cable	1KWMA11W
		5 m cable	043005X0
	outdoor probe		013018X0
	hydraulic separator DN 32 For installation until 150 kW. The installer is responsible for the connection with the generator		042086X0
	hydraulic separator DN 65 For installation from 151 kW to 300 kW		042078X0
	installation kit for hydraulic separator. For installation from 151 kW to 300 kW		042079X0
	hydraulic separator DN 65 For installation from 301 kW to 600 kW		042080X0
	installation kit for hydraulic separator. For installation from 301 kW to 600 kW		042081X0
	gasketed plates heat exchanger. The hydraulic connection between the generator and the exchanger is the responsibility of the installer.		
	Temperature controls in chapter on SYSTEM COMPONENTS		
	neutralisers (see chapter on condensation neutralisers for condensing boilers)		

FORCE W

DIMENSIONS AND CONNECTIONS



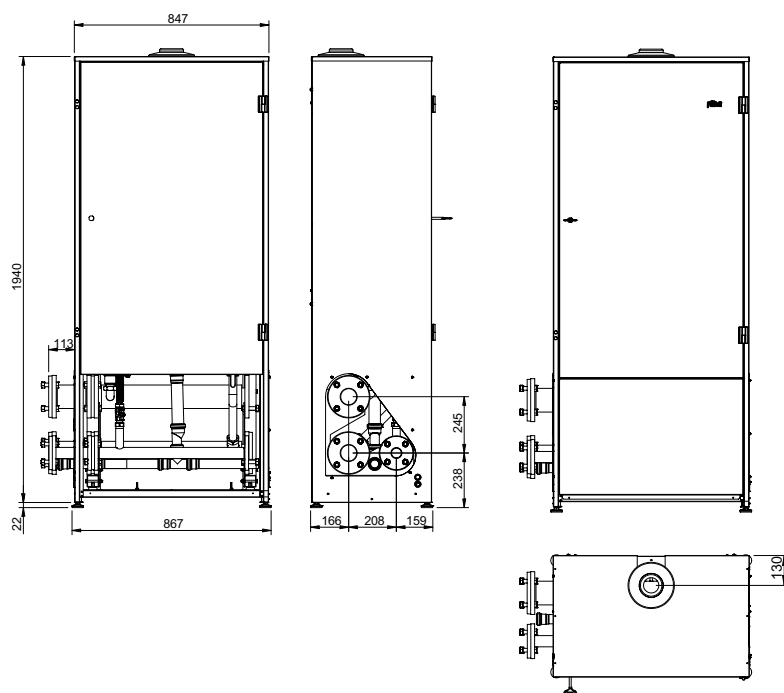
CASCADE KIT FITTINGS

- Delivery/return manifolds DN65 PN16
- Gas manifold DN40 PN16
- Condensation drain manifold Ø 40 mm
- Flue gas manifold Ø 200 mm

FORCE W OUTDOOR INSTALLATION KIT

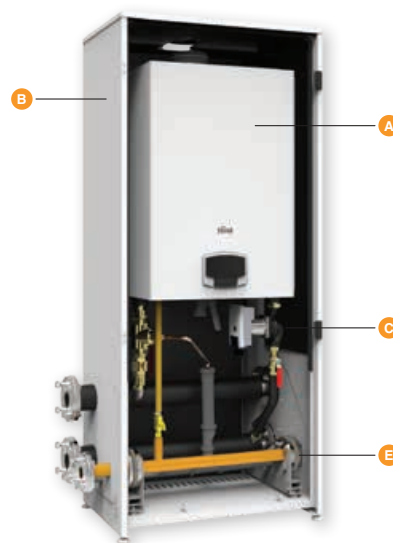
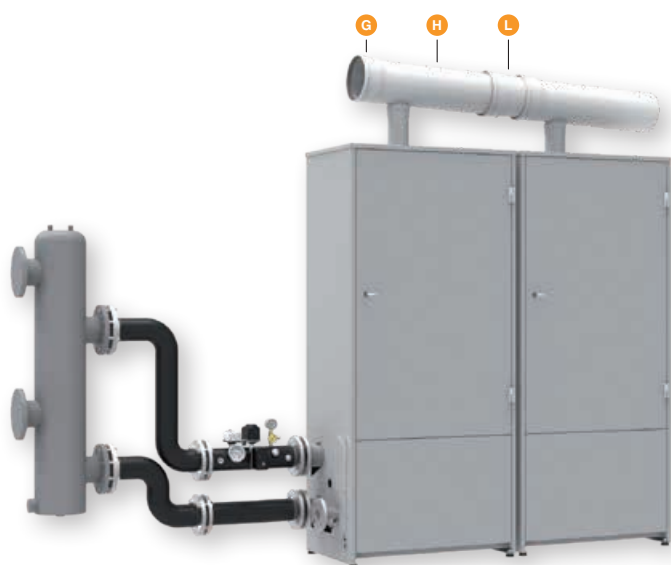


- Cabinet equipped for installing of the FORCE W boilers outdoors in a single or bank configuration up to 600 kW
- The cabinet can be combined with one of five models from the FORCE W range and one of the two circulators (8 m and 10 m head)
- Standard equipment includes:
 - * Support frame for the FORCE W thermal generator
 - * DN 65 system delivery and return manifolds
 - * DN 40 gas manifold
 - * Flanged system fittings kit
 - * Condensate collection and drain manifold
 - * Three-way shut-off valve with discharge into the atmosphere
 - * Two-way shut-off valve
 - * Check valve
 - * Gas connection pipe between boilers and manifold with shut-off valve
- All optional kits are available for single or bank installation up to four modules in line.
- The generator combined with the cabinet kit can be installed without any protection against bad weather (IPX5D) and down to temperatures of -5°C



MODEL			W60	W80	W99	W120	W150
ERP class			-	-	-	-	-
Nominal power input	Max/Min	kW	58.0 / 15.0	74.4 / 15.0	96.6 / 19.0	113.0 / 19.0	143.0 / 24.0
Nominal power output 80°C-60°C	Max/Min	kW	57 / 14.7	72.9 / 14.7	94.7 / 18.7	110.5 / 18.7	140.0 / 23.6
Nominal power output 50°C-30°C	Max/Min	kW	60.8 / 16.3	77.0 / 16.3	100.0 / 20.5	117.0 / 20.5	148.0 / 25.9
Thermal module FORCE W			OMDSAAWA	OMDSCAWA	OMSDAWA	OMDSEAWA	OMDSFAWA
Technical external cabinet			046058X0	046058X0	046058X0	046058X0	046058X0
High performance modulating pump (8 mt)			042070X0	-	042070X0	-	042070X0
High performance modulating pump (10 mt)			-	042071X0	-	042071X0	-

FORCE W CASCADE INSTALLATION FOR OUTDOORS



ACCESSORIES

NECESSARY TO CORRECTLY INSTALL FORCE W GENERATORS IN A BANK

ACCESSORIES

UPON REQUEST FOR CONFIGURATION ACCORDING TO PROJECT SPECIFICATIONS

	(A)						(B)	(C)		(E)	(G)	(H)	(L)	
														
P _{ref} (50/30°C)	MODULES FORCE W					Tot. modules								
	60	80	99	120	150		046058X0	042070X0	042071X0	042073X0	041091X0	041092X0	041093X0	041094X0
62	1					1	1	1	1	1	-	-	-	1
77		1				1	1	1	1	1	-	-	-	1
98			1			1	1	1	1	1	-	-	-	1
117				1		1	1	1	1	1	-	-	-	1
148					1	1	1	1	1	1	-	-	-	1
124	2					2	2	2	2	1	1	2	1	2
139	1	1				2	2	2	2	1	1	2	1	2
154		2				2	2	2	2	1	1	2	1	2
179	1			1		2	2	2	2	1	1	2	1	2
194		1		1		2	2	2	2	1	1	2	1	2
215			1	1		2	2	2	2	1	1	2	1	2
234				2		2	2	2	2	1	1	2	1	2
265				1	1	2	2	2	2	1	1	2	1	2
296					2	2	2	2	2	1	1	2	1	2
332			1	2		3	3	3	3	1	1	3	2	3
351				3		3	3	3	3	1	1	3	2	3
373		1			2	3	3	3	3	1	1	3	2	3
394			1		2	3	3	3	3	1	1	3	2	3
413				1	2	3	3	3	3	1	1	3	2	3
444					3	3	3	3	3	1	1	3	2	3
468				4		4	4	4	4	1	1	4	3	4
530				2	2	4	4	4	4	1	1	4	3	4
561				1	3	4	4	4	4	1	1	4	3	4
592					4	4	4	4	4	1	1	4	3	4

* Flue gas accessories certified for installation in a utility room or in a protected place

DESCRIPTION			CODE
	additional sensor for storage tank and/or system flow for cascade configurations with and without hydraulic separator	cabl 2 m	1KWMA11W
		cabl 5 m	043005X0
	outdoor probe		013018X0
	Single empty cabinet for outdoors		046060X0
	Double empty cabinet for outdoors		046061X0
	hydraulic separator DN 32. For installation until 150 kW. The installer is responsible for the connection with the generator		042086X0
	hydraulic separator DN 65 For installation from 151 kW to 300 kW		042078X0
	installation kit for hydraulic separator. For installation from 151 kW to 300 kW		042079X0
	hydraulic separator DN 65 For installation from 301 kW to 600 kW		042080X0
	installation kit for hydraulic separator. For installation from 301 kW to 600 kW		042081X0
	gasketed plates heat exchanger. The hydraulic connection between the generator and the exchanger is the responsibility of the installer.		
	Temperature controls in chapter on SYSTEM COMPONENTS		
	neutralisers (see chapter on condensation neutralisers for condensing boilers)		

FORCE W CHOICE HYDRAULIC SEPARATOR

The hydraulic separator guarantees the independence between the primary circuit (generator) and the secondary circuit (system) without any disturbance or interference between them. The separator is proposed complete with deaerator, sludge separator and is fully insulated.

CHARACTERISTICS:

Max operating pressure: 6 bar

Temperature range: 0 - 100°C

Fittings: DN 65 / DN 100

HYDRAULIC SEPARATOR FOR INSTALLATION UP TO 150 KW

	DESCRIPTION	CODE
	Hydraulic separator DN 32 The installer is responsible for the connection with the generator	042086X0

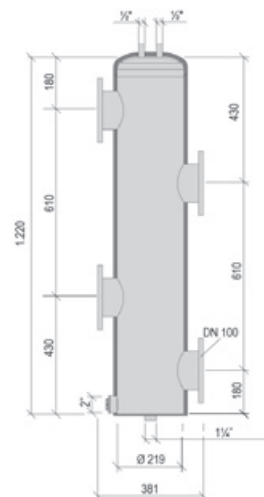
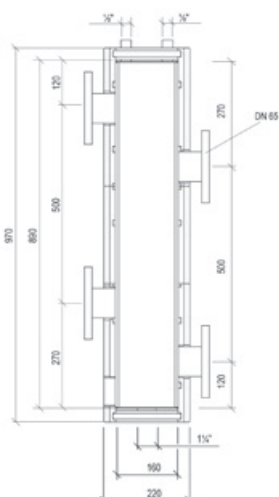
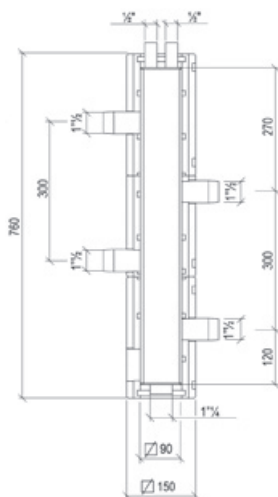
HYDRAULIC SEPARATOR FOR INSTALLATION FROM 151 TO 300 KW

	DESCRIPTION	CODE
	Hydraulic separator DN 65	042078X0
	Kit for hydraulic separator installation	042079X0

HYDRAULIC SEPARATOR FOR INSTALLATION FROM 301 TO 600 KW

	DESCRIPTION	CODE
	Hydraulic separator DN 100	042080X0
	Kit for hydraulic separator installation	042081X0

DIMENSION AND TECHNICAL DATA



MODEL		DN 32	DN 65	DN 100
Flow rate	m³/h	6.5	18	30
Water content	lt	4.8	21	46
Max temperature	°C	100	100	100
Max pressure	bar	6	6	6
Material	-	ST37.1 stainless	ST37.1 stainless	ST37.1 stainless
Insulation	-	Black EPP - 40 g/l	Black EPP - 40 g/l	Black EPP - 40 g/l