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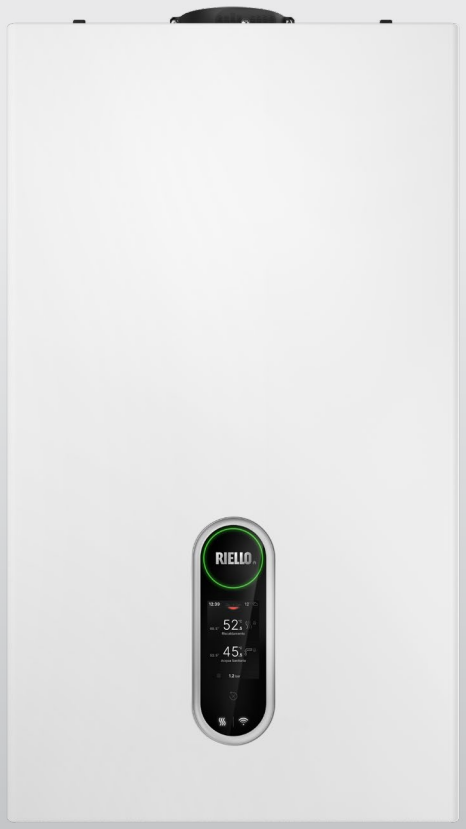
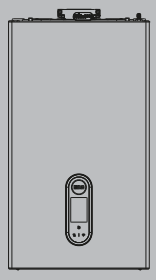


Family HM Connect - Family HM

Wall-hung condensing boilers

Wide modulation 1:13, high efficiency and low consumption
High efficiency due to new adaptive combustion control, wide modulation and renovated exchangers
New advanced fully touch, full-color interface with guided user tour
DHW comfort excellent speed of reaching set-point and temperature stability
Very operating silence up to 45 dB
Elegant and compact design for easy integration into domestic environments
Standard connectivity (HM Connect)
A+ Class (HM Connect)
Native hybrid boiler ready to be integrated into Riello multi-energy systems (HM Connect)



A Carrier Company

RIELLO
Energy For Life

INDEX

FAMILY HM - FAMILY HM CONNECT

PRODUCT DESCRIPTION

FAMILY HM CONNECT

The new range of FAMILY HM CONNECT condensing boilers offers the user a combination of comfort and savings. Riello offers a multi energy boiler designed for current and future needs with a view to reducing electricity, gas and emissions consumption, with the possibility of remote control. FAMILY HM CONNECT, equipped with standard connectivity, reaches class A+ and is ready to be integrated into Riello multi-energy systems.

- Increased high efficiency DHW exchanger developed by Riello.
- ACC (Active Combustion Control) new self-adaptive electronic combustion control.
- Modern and linear design with lower under-boiler fitting cover available as an accessory for excellent aesthetic integration.
- Specific DHW electronic functions: DHW delay, anti-swing functions and smart fan.
- 7 m digital modulating circulator with low consumption prevalence (EEI 0,20) as standard. 7,5 m very high head circulator available as an accessory.
- DIN standard sequence hydraulic unit.
- Low noise up to 45 dB.
- Seasonal efficiency 94%.
- Modern and intuitive touchscreen HMI, with representative icons and capacitive keys.
- 3,5" full touch display with icons and multilingual texts.
- 9 liter expansion vessel.
- Easy installation and wide choice of accessories available as options.
- IPX5D degree of protection.
- Gas transformation (Propaned Air, LPG) selectable with electronic parameter.
- Fixing crossbar and power cable supplied.
- Thermoregulation as standard, in combination with outdoor probe (available as accessory).
- Flue flange with dedicated flue gas system.

FAMILY HM

The new range of FAMILY HM condensing boilers offers the user a combination of comfort and savings. Riello offers a multi energy boiler designed for current and future needs with a view to reducing electricity, gas and emissions consumption, with the possibility of remote control.

- Increased high efficiency DHW exchanger developed by Riello.
- ACC (Active Combustion Control) new self-adaptive electronic combustion control.
- Modern and linear design with lower under-boiler fitting cover available as an accessory for excellent aesthetic integration.
- Specific DHW electronic functions: DHW delay, anti-swing functions and smart fan.
- 7 m digital modulating circulator with low consumption prevalence (EEI 0,20) as standard. 7,5 m very high head circulator available as an accessory.
- DIN standard sequence hydraulic unit.
- Low noise up to 45 dB.
- Seasonal efficiency 94%.
- Modern and intuitive touchscreen HMI, with representative icons and capacitive keys.
- 3,5" full touch display with icons and multilingual texts.
- 9 liter expansion vessel.
- Easy installation and wide choice of accessories available as options.
- IPX5D degree of protection.
- Gas transformation (Propaned Air, LPG) selectable with electronic parameter.
- Fixing crossbar and power cable supplied.
- Thermoregulation as standard, in combination with outdoor probe (available as accessory).
- Flue flange with dedicated flue gas system.

TECHNICAL DATA

DESCRIPTION	U.o.M.	FAMILY HM - HM CONNECT			FAMILY HM			FAMILY HM - HM CONNECT		
		25 KIS			30 KIS			35 KIS		
Gas category		II2HY20M3P			II2HY20M3P			II2HY20M3P		
Destination country		IT			IT			IT		
Installation type flue gas systems		B23P; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x			B23P; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x			B23P; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x		
HEATING		G20	G230	G31	G20	G230	G31	G20	G230	G31
Nominal heat flow rate (Hi)	kW	20,00			25,00			32,00		
Nominal heat output (80-60°C)	kW	19,53			24,42			31,19		
Nominal heat output (50-30°C)	kW	21,31			26,51			33,70		
Reduced heat flow rate (Hi)	kW	1,90	3,50	2,50	2,70	4,20	3,50	2,70	4,20	3,50
Reduced heat output (80-60°C)	kW	1,77		2,36	2,57		3,30	2,57		3,35
Reduced heat output (50-30°C)	kW	1,96		2,63	2,84		3,65	2,84		3,69
DOMESTIC WATER										
Nominal heat flow rate (Hi)	kW	25,00			30,00			34,90	32,00	
Nominal heat output (*)	kW	25,00			30,00			34,90		
Reduced heat flow rate (Hi)	kW	1,90	3,50	2,50	2,70	4,20	3,50	2,70	4,20	3,50
Reduced heat output (*)	kW	1,90		2,50	2,70		3,50	2,70		3,50
Modulating ratio		1:13			1:11			1:13		
EFFICIENCY										
Useful efficiency at max Output (80-60°C)	%	97,7			97,7			97,5		
Useful efficiency at min Output (80-60°C)	%	92,9			95,3			95,3		
Useful efficiency at max Output (50-30°C)	%	106,5			106,0			105,3		
Useful efficiency at min Output (50-30°C)	%	103,4			105,3			105,3		
Useful efficiency 30% (return 30°C)	%	109,7			109,6			109,7		
Efficiency at medium Output Range Rated (80-60°C)(***)	%	-			-			-		
Efficiency at medium Output Range Rated 30% (30°C return)(***)	%	-			-			-		
Chimney losses with burner on (max nominal Output)	%	2,04			2,07			2,30		
Chimney losses with burner off	%	0,09			0,08			0,07		
Shell losses with burner on (max nominal Output)	%	0,26			0,23			0,20		
FLUE GAS SYSTEMS										
NOx class - UNI EN 15502		6			6			6		
Residual head of concentric flues 0,85 m Ø60-100 mm	Pa	60			60			60		
Residual head of separate flues 0,5 m Ø80 mm	Pa	180			195			195		
Residual head boiler without flues Max output	Pa	186			199			199		
Residual head boiler without flues Min output	Pa	50			50			50		
ELECTRICAL CHARACTERISTICS										
Electrical power (max electrical power Heating-DHW)	W	79-93			80-93			104-116		
Burner electrical power at max output	W	44			44			67		
Max circulator electric power	W	49			49			49		
Min circulator electrical power	W	4			4			4		
Power supply	V - Hz	230-50			230-50			230-50		
Electrical protection level	IP	X5D			X5D			X5D		
HEATING OPERATION										
Maximum pressure	bar	3			3			3		
Minimum pressure for standard operation	bar	0,25÷0,45			0,25÷0,45			0,25÷0,45		
Maximum temperature:	°C	90			90			90		
H_2O heating temperature selection field	°C	20/45 - 40/80			20/45 - 40/80			20/45 - 40/80		
Pump: max head available to the system	mbar	450			450			450		
at flow rate of	l/h	1000			1000			1000		
Membrane expansion vessel	l	9			9			9		
Preload expansion tank	bar	1			1			1		
DHW OPERATION - INSTANTANEOUS VERSION										
Maximum pressure	bar	8			8			8		
Minimum pressure	bar	0,5			0,5			0,5		
Quantity of hot water with Dt 25°C	l/min	14,3			17,2			20,0		
with Dt 30°C	l/min	11,9			14,3			16,7		
with Dt 35°C	l/min	10,2			12,3			14,3		
Minimum domestic water flow rate	l/min	2			2			2		
Domestic hot water H_2O temperature selection field	°C	37/60			37/60			37/60		
Flow Regulator	l/min	10			12			14		
AIR AND FLUES FLOW RATES										
Heating		G20	G230	G31	G20	G230	G31	G20	G230	G31
Air flow	Nm^3/h	24,8	24,1	24,8	31,0	29,3	31,3	39,7	37,5	40,1
Flues flow rate	Nm^3/h	26,8	26,5	26,4	33,5	32,2	33,3	42,9	41,2	42,6
Flue gas mass flow rate (max-min)	g/s	9,267-0,880	9,327-0,886	9,297-1,162	11,584-1,251	11,355-1,226	11,726-1,627	14,827-1,251	14,534-1,226	15,010-1,627
DHW		G20	G230	G31	G20	G230	G31	G20	G230	G31
Air flow rate	Nm^3/h	31,0	30,2	31,0	37,2	35,2	37,6	43,3	40,9	43,7
Flues flow rate	Nm^3/h	33,513	33,068	32,963	40,216	38,622	39,908	46,784	44,976	46,426
Flue gas mass flow rate (max-min)	g/s	11,584-0,880	11,658-0,886	11,621-1,162	13,900-1,251	13,625-1,226	14,072-1,627	16,171-1,251	15,851-1,226	16,370-1,627
EMISSION VALUES AT MAX - MIN FLOW WITH GAS (**)		G20	G230	G31	G20	G230	G31	G20	G230	G31
Maximum										
CO s.a. less than	p.p.m	230	200	250	200	230	250	240	230	240
CO_2	%	8,8	10,0	10,0	8,8	10,3	9,9	8,8	10,3	9,9
NOx s.a. less than	p.p.m	40	25	50	30	30	40	30	30	40
Flues temperature	°C	79	75	78	71	71	70	82	71	70
Minimum										
CO s.a. less than	p.p.m	15	20	20	15	25	20	15	25	20
CO_2	%	8,8	10,0	10,0	8,8	10,3	10,0	8,8	10,3	10
NOx s.a. less than	p.p.m	30	25	50	30	30	40	30	30	40
Flues temperature	°C	58	66	60	60	63	57	60	63	57

* Average value between the various DHW operating conditions.
** Test performed with concentric tube Ø60-100 mm-long. 0,85 m - water temperature 80-60°C.
*** Values certified by a third party for Range Rated models.

The data in the boxes marked in gray are to be used for telematic submission to ENEA for tax deduction purposes (for Italian Market only).

DESCRIPTION	U.o.M.	FAMILY HM			FAMILY HM - HM CONNECT		
		25 IS			35 IS		
Gas category		II2HY20M3P			II2HY20M3P		
Destination country		IT			IT		
Installation type flue gas systems		B23P; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x			B23P; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x		
HEATING		G20	G230	G31	G20	G230	G31
Nominal heat flow rate (Hi)	kW	20,00			32,00		
Nominal heat output (80-60°C)	kW	19,53			31,19		
Nominal heat output (50-30°C)	kW	21,31			33,70		
Reduced heat flow rate (Hi)	kW	1,90	3,50	2,50	2,70	4,20	3,50
Reduced heat output (80-60°C)	kW	1,77		2,36	2,57		3,35
Reduced heat output (50-30°C)	kW	1,96		2,63	2,84		3,69
DOMESTIC WATER							
Nominal heat flow rate (Hi)	kW	25,00			34,90	32,00	
Nominal heat output (*)	kW	25,00			34,90		
Reduced heat flow rate (Hi)	kW	1,90	3,50	2,50	2,70	4,20	3,50
Reduced heat output (*)	kW	1,90		2,50	2,70		3,50
Modulating ratio		1:13			1:13		
EFFICIENCY							
Useful efficiency at max Output (80-60°C)	%	97,7			97,5		
Useful efficiency at min Output (80-60°C)	%	92,9			95,3		
Useful efficiency at max Output (50-30°C)	%	106,5			105,3		
Useful efficiency at min Output (50-30°C)	%	103,4			105,3		
Useful efficiency 30% (return 30°C)	%	109,7			109,7		
Efficiency at medium Output Range Rated (80-60°C)(***)	%	-			-		
Efficiency at medium Output Range Rated 30% (30°C return)(***)	%	-			-		
Chimney losses with burner on (max nominal Output)	%	2,04			2,30		
Chimney losses with burner off	%	0,09			0,07		
Shell losses with burner on (max nominal Output)	%	0,26			0,20		
FLUE GAS SYSTEMS							
NOx class - UNI EN 15502		6			6		
Residual head of concentric flues 0,85 m Ø60-100 mm	Pa	60			60		
Residual head of separate flues 0,5 m Ø80 mm	Pa	180			195		
Residual head boiler without flues Max output	Pa	186			199		
Residual head boiler without flues Min output	Pa	50			50		
ELECTRICAL CHARACTERISTICS							
Electrical power (max electrical power Heating-DHW)	W	79-93			104-116		
Burner electrical power at max output	W	44			67		
Max. circulator electric power	W	49			49		
Min. circulator electrical power	W	4			4		
Power supply	V - Hz	230-50			230-50		
Electrical protection level	IP	X5D			X5D		
HEATING OPERATION							
Maximum pressure	bar	3			3		
Minimum pressure for standard operation	bar	0,25÷0,45			0,25÷0,45		
Maximum temperature:	°C	90			90		
H_2O heating temperature selection field	°C	20/45 - 40/80			20/45 - 40/80		
Pump: max head available to the system	mbar	450			450		
at flow rate of	l/h	1000			1000		
Membrane expansion vessel	l	9			9		
Preload expansion tank	bar	1			1		
AIR AND FLUES FLOW RATES							
Heating		G20	G230	G31	G20	G230	G31
Air flow	Nm^3/h	24,8	24,1	24,8	39,7	37,5	40,1
Flues flow rate	Nm^3/h	26,8	26,5	26,4	42,9	41,2	42,6
Flue gas mass flow rate (max-min)	g/s	9,267-0,880	9,327-0,886	9,297-1,162	14,827-1,251	14,534-1,226	15,010-1,627
DHW		G20	G230	G31	G20	G230	G31
Air flow rate	Nm^3/h	31,0	30,2	31,0	43,3	40,9	43,7
Flues flow rate	Nm^3/h	33,513	33,068	32,963	46,784	44,976	46,426
Flue gas mass flow rate (max-min)	g/s	11,584-0,880	11,658-0,886	11,621-1,162	16,171-1,251	15,851-1,226	16,370-1,627
EMISSION VALUES AT MAX - MIN FLOW WITH GAS (**)		G20	G230	G31	G20	G230	G31
Maximum							
CO s.a. less than	p.p.m	230	200	250	240	230	240
CO_2	%	8,8	10,0	10,0	8,8	10,3	9,9
NOx s.a. less than	p.p.m	40	25	50	30	30	40
Flues temperature	°C	79	75	78	82	71	70
Minimum							
CO s.a. less than	p.p.m	15	20	20	15	25	20
CO_2	%	8,8	10,0	10,0	8,8	10,3	10,0
NOx s.a. less than	p.p.m	30	25	50	30	30	40
Flues temperature	°C	58	66	60	60	63	57

* Average value between the various DHW operating conditions
** Test performed with concentric tube Ø60-100 mm-long. 0,85 m - water temperature 80-60°C
*** Values certified by a third party for Range Rated models

The data in the boxes marked in gray are to be used for telematic submission to ENEA for tax deduction purposes (for Italian Market only).

ERP TECHNICAL DATA

PARAMETER DESCRIPTION	SYMBOL	U.o.M.	FAMILY HM – HM CONNECT	FAMILY HM	FAMILY HM – HM CONNECT
			25 KIS	30 KIS	35 KIS
Seasonal space heating efficiency class			A	A	A
Seasonal efficiency class in water heating			A	A	A
Useful (rated) heat output	Nominal Output	kW	20	24	31
Seasonal efficiency class in central heating mode	ηs	%	94	94	94
USEFUL HEAT OUTPUT					
At useful heat output and at high temperature capacity (*)	P4	kW	19,5	24,4	31,2
At 30% of useful heat output and at low temperature capacity (**)	P1	kW	6,6	8,2	10,5
EFFICIENCY					
At useful heat output and at high temperature capacity (*)	η4	%	87,9	87,9	87,8
At 30% of useful heat output and at low temperature capacity (**)	η1	%	98,8	98,7	98,8
AUXILIARY ELECTRICAL CONSUMPTION					
At full load	elmax	W	30,0	31,1	54,9
At partial load	elmin	W	12,2	13,3	13,6
In standby mode	PSB	W	3,0	3,0	3,0
OTHER PARAMETERS					
Thermal losses in Stand-by mode	Pstby	W	30,0	35,0	35,0
Pilot flame energy consumption	Pign	W	-	-	-
Yearly energy consumption	QHE	GJ	60	75	96
Noise level, indoor (sound power)	LWA	dB	47	45	48
Nitrogen oxide emissions (NOx)	NOx	mg/kWh	22	20	31
FOR COMBI BOILERS					
Declared load profile			XL	XL	XXL
Water heating energy efficiency	ηwh	%	85	86	87
Daily electrical energy consumption	Qelec	kWh	0,142	0,089	0,130
Daily fuel consumption	Qfuel	kWh	22,88	22,73	27,95
Annual electrical energy consumption	AEC	kWh	31	19	28
Annual fuel consumption	AFC	GJ	17	17	22

(*) High temperature regime: 60°C on the return and 80°C on the boiler flow
(**)Low temperature regime: for condensing boilers 30°C, for low temperature boilers 37°C, for other heating appliances 50°C return temperature

The data in the boxes marked in gray are to be used for telematic submission to ENEA for tax deduction purposes (for Italian Market only).

PARAMETER DESCRIPTION	SYMBOL	U.o.M.	FAMILY HM	FAMILY HM – HM CONNECT
			25 IS	35 IS
Seasonal space heating efficiency class			A	A
Seasonal efficiency class in water heating			-	-
Useful heat output	Nominal Output	kW	20	31
Seasonal efficiency class in central heating mode	ηs	%	94	94
USEFUL HEAT OUTPUT				
At useful heat output and at high temperature capacity (*)	P4	kW	19,5	31,2
At 30% of useful heat output and at low temperature capacity (**)	P1	kW	6,6	10,5
EFFICIENCY				
At useful heat output and at high temperature capacity (*)	η4	%	87,9	87,8
At 30% of useful heat output and at low temperature capacity (**)	η1	%	98,8	98,8
AUXILIARY ELECTRICAL CONSUMPTION				
At full load	elmax	W	30,0	54,9
At partial load	elmin	W	12,2	13,6
In standby mode	PSB	W	3,0	3,0
OTHER PARAMETERS				
Thermal losses in Stand-by mode	Pstby	W	30,0	35,0
Pilot flame energy consumption	Pign	W	-	-
Yearly energy consumption	QHE	GJ	60	96
Noise level, indoor (sound power)	LWA	dB	47	48
Nitrogen oxide emissions (NOx)	NOx	mg/kWh	22	31
FOR COMBI BOILERS				
Declared load profile			-	-
Water heating energy efficiency	ηwh	%	-	-
Daily electrical energy consumption	Qelec	kWh	-	-
Daily fuel consumption	Qfuel	kWh	-	-
Annual electrical energy consumption	AEC	kWh	-	-
Annual fuel consumption	AFC	GJ	-	-

(*) High temperature regime: 60°C on the return and 80°C on the boiler flow
(**)Low temperature regime: for condensing boilers 30°C, for low temperature boilers 37°C, for other heating appliances 50°C return temperature

The data in the boxes marked in gray are to be used for telematic submission to ENEA for tax deduction purposes (for Italian Market only).

TABLE LAW 10

PARAMETER DESCRIPTION	U.o.M.	FAMILY HM - HM CONNECT			FAMILY HM			FAMILY HM - HM CONNECT		
		25 KIS			30 KIS			35 KIS		
MAXIMUM HEAT OUTPUT										
Useful (80-60°C)	kW	19,53			24,42			31,19		
Useful (50-30°C)	kW	21,31			26,51			33,70		
Furnace	kW	20,00			25,00			32,00		
MINIMUM HEAT OUTPUT										
Useful (80-60°C)	kW	1,77			2,57			2,57		
Useful (50-30°C)	kW	1,96			2,84			2,84		
Furnace	kW	1,90			2,70			2,70		
EFFICIENCY										
Useful efficiency at max-min nominal Output (80-60°C)	%	97,7			97,7			97,5		
Useful efficiency max-min nominal Output (50-30°C)	%	106,5			106			105,3		
Useful efficiency 30% (return 30°C)	%	109,7			109,6			109,7		
Chimney losses with burner on (max nominal Output)	%	2,04			2,07			2,3		
Chimney losses with burner off		0,09			0,08			0,07		
Shell losses with burner on (max nominal Output)	%	0,26			0,23			0,2		
EFFICIENCY		G20	G230	G31	G20	G230	G31	G20	G230	G31
Maximum										
CO s.a. less than	p.p.m	230	200	250	200	230	250	240	230	240
CO_2	%	8,8	10	10	8,8	10,3	9,9	8,8	10,3	9,9
NOx s.a. less than	p.p.m	40	25	50	30	30	40	30	30	40
Flues temperature	°C	79	75	78	71	71	70	82	71	70
Minimum										
CO s.a. less than	p.p.m	15	20	20	15	25	20	15	25	20
CO_2	%	8,8	10	10	8,8	10,3	10	8,8	10,3	10
NOx s.a. less than	p.p.m	30	25	50	30	30	40	30	30	40
Flues temperature	°C	58	66	60	60	63	57	60	63	57
NOx class		6			6			6		
Electrical power (max electrical power Heating-max electrical power DHW)	W	79-93			80-93			104-116		

* Test performed with Ø60-100 mm-long concentric flue 0,85 m - water temperature 80-60°C

PARAMETER DESCRIPTION	U.o.M.	FAMILY HM			FAMILY HM - HM CONNECT		
		25 IS			35 IS		
MAXIMUM HEAT OUTPUT							
Useful (80-60°C)	kW	19,53			31,19		
Useful (50-30°C)	kW	21,31			33,70		
Furnace	kW	20,00			32,00		
MINIMUM HEAT OUTPUT							
Useful (80-60°C)	kW	1,77			2,57		
Useful (50-30°C)	kW	1,96			2,84		
Furnace	kW	1,90			2,70		
EFFICIENCY							
Useful efficiency at max-min nominal Output (80-60°C)	%	97,7			97,5		
Useful efficiency max-min nominal Output (50-30°C)	%	106,5			105,3		
Useful efficiency 30% (return 30°C)	%	109,7			109,7		
Chimney losses with burner on (max nominal Output)	%	2,04			2,3		
Chimney losses with burner off		0,09			0,07		
Shell losses with burner on (max nominal Output)	%	0,26			0,2		
EFFICIENCY		G20	G230	G31	G20	G230	G31
Maximum							
CO s.a. less than	p.p.m	230	200	250	240	230	240
CO_2	%	8,8	10	10	8,8	10,3	9,9
NOx s.a. less than	p.p.m	40	25	50	30	30	40
Flues temperature	°C	79	75	78	82	71	70
Minimum							
CO s.a. less than	p.p.m	15	20	20	15	25	20
CO_2	%	8,8	10	10	8,8	10,3	10
NOx s.a. less than	p.p.m	30	25	50	30	30	40
Flues temperature	°C	58	66	60	60	63	57
NOx class		6			6		
Electrical power (max electrical power Heating- DHW)	W	79-93			104-116		

(*) Test performed with Ø60-100 mm-long concentric flues 0,85 m - water temperature 80-60°C

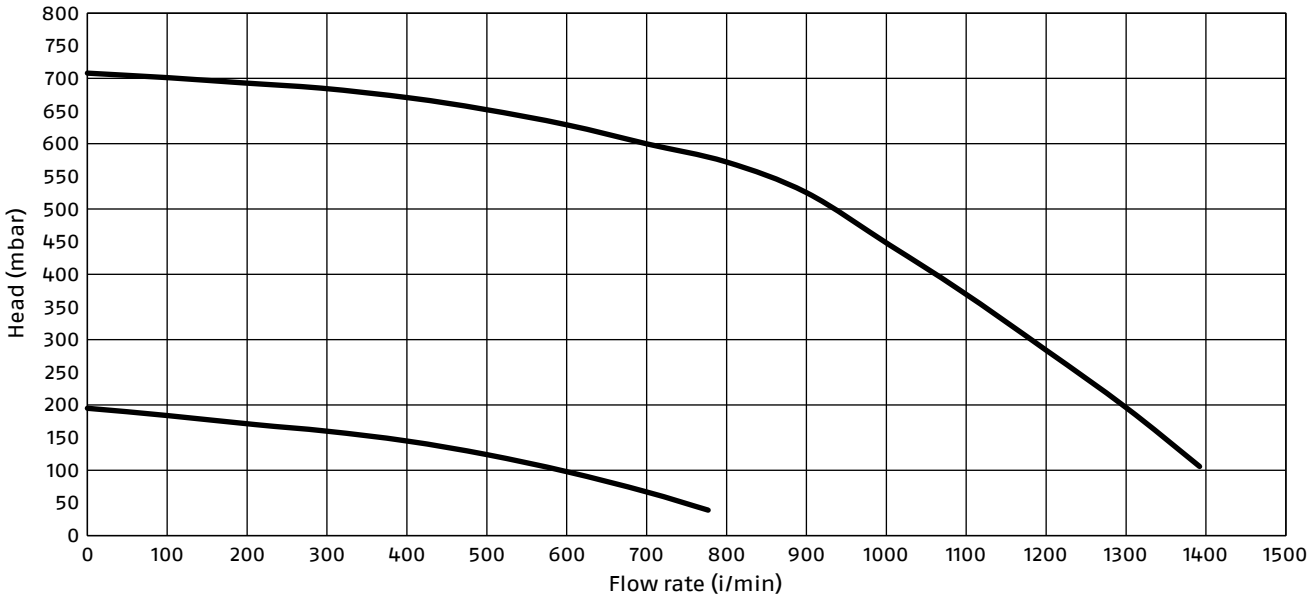
DATA 11300-2 - DETERMINATION OF GENERATION LOSSES - CALCULATION METHOD EEC DIRECTIVE 92/42

PARAMETER DESCRIPTION	SYMBOL	U.o.M.	FAMILY HM - HM CONNECT	FAMILY HM	FAMILY HM - HM CONNECT
			25 KIS	30 KIS	35 KIS
Nominal heat output	Fgn, Pn	kW	19,53	24,42	31,19
Efficiency at nominal power	hgn, pn	--	97,7	97,7	97,5
Average temperature at Pn	qgn,test,pn	°C	70	70	70
Useful heat output at 30%	Fint	kW	1,90	2,70	2,70
Efficiency at 30% heat output	hgn,Pint	--	109,7	109,6	109,7
Average temperature at intermediate P	qgn,test,Pint	°C	40	40	40
Power lost at zero load with Dqgn, test	Fgn,1,P0	W	30	35	35
Auxiliary power absorbed at nominal load	Wgn,aux,Pn	W	30	31,1	54,9
Auxiliary power input at intermediate load	Wgn,aux,Pint	W	12,2	13,3	13,6
Auxiliary power input at zero load	Wgn,aux,P0	W	3	3	3
Minimum generator return temperature	qgn,min	°C	20	20	20

PARAMETER DESCRIPTION	SYMBOL	U.o.M.	FAMILY HM	FAMILY HM - HM CONNECT
			25 IS	35 IS
Nominal heat output	Fgn, Pn	kW	19,53	31,19
Efficiency at nominal power	hgn, pn	--	97,7	97,5
Average temperature at Pn	qgn,test,pn	°C	70	70
Useful heat output at 30%	Fint	kW	1,90	2,70
Efficiency at 30% heat output	hgn,Pint	--	109,7	109,7
Average temperature at intermediate P	qgn,test,Pint	°C	40	40
Power lost at zero load with Dqgn,test	Fgn,1,P0	W	30	35
Auxiliary power absorbed at nominal load	Wgn,aux,Pn	W	30	54,9
Auxiliary power input at intermediate load	Wgn,aux,Pint	W	12,2	13,6
Auxiliary power input at zero load	Wgn,aux,P0	W	3	3
Minimum generator return temperature	qgn,min	°C	20	20

RESIDUAL HEAD OF THE CIRCULATOR

The boiler is equipped with a high efficiency circulator already connected hydraulically and electrically, whose available useful performances are indicated in the graph.

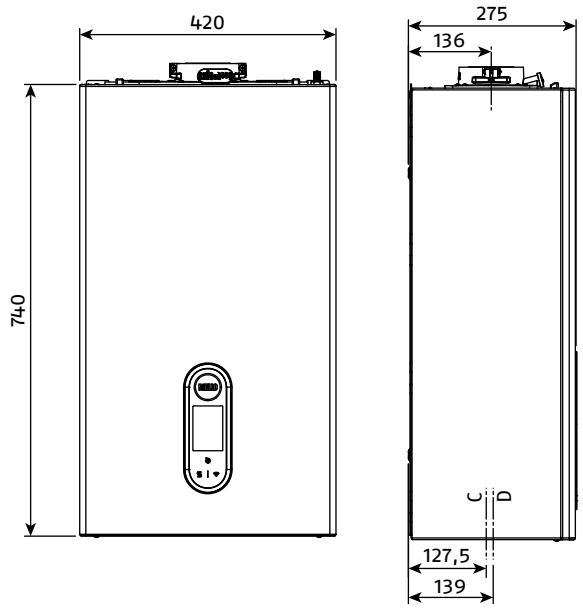


WATER CHARACTERISTICS

In case of new installation or replacement of the boiler it is necessary to carry out a preventive cleaning of the heating system. In order to guarantee the correct functioning of the product, after each cleaning operation, addition of additives and/or chemical treatments (for example antifreeze liquids, filming agents, etc.), check that the parameters in the table are within the indicated values.

Parameters	U.o.M.	HEATING SYSTEM WATER	WATER FILLING
PH value		7-8	-
Hardness	°F	-	<15
appearance		-	clear
Fe	mg/kg	<0,5	-
Cu	mg/kg	<0,1	-

DIMENSIONS



	Weight
25 KIS	29 kg
30 KIS	30 kg
35 KIS	30 kg

	Net weight
25 IS	28 kg
35 IS	29 kg

C	Water
D	GAS

PLACE OF INSTALLATION

The appliance can be installed indoors (**fig. A**) or outdoors in a partially protected place (**fig. B**), i.e. in a place where it is not exposed to the direct action and infiltration of rain, snow or hail. The temperature range in which it can operate is: from >0°C to +60°C.
The **KIS** boiler can also be installed outdoors in the specific built-in unit (**fig. C** - for dedicated instructions refer to what is indicated in the specific kit).

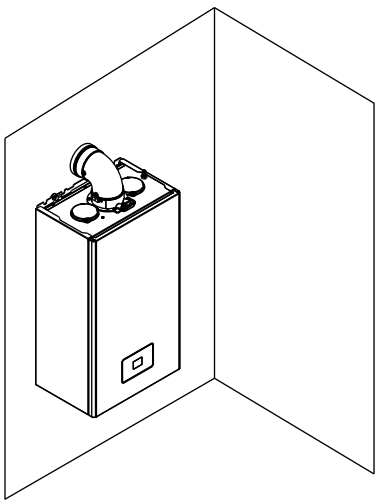


Fig. A

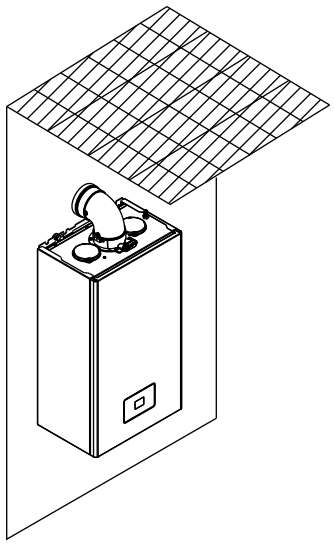


Fig. B

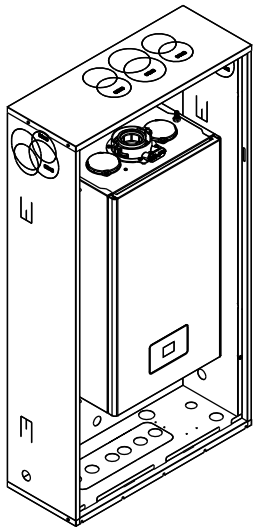


Fig. C

ANTI-FREEZE SYSTEM

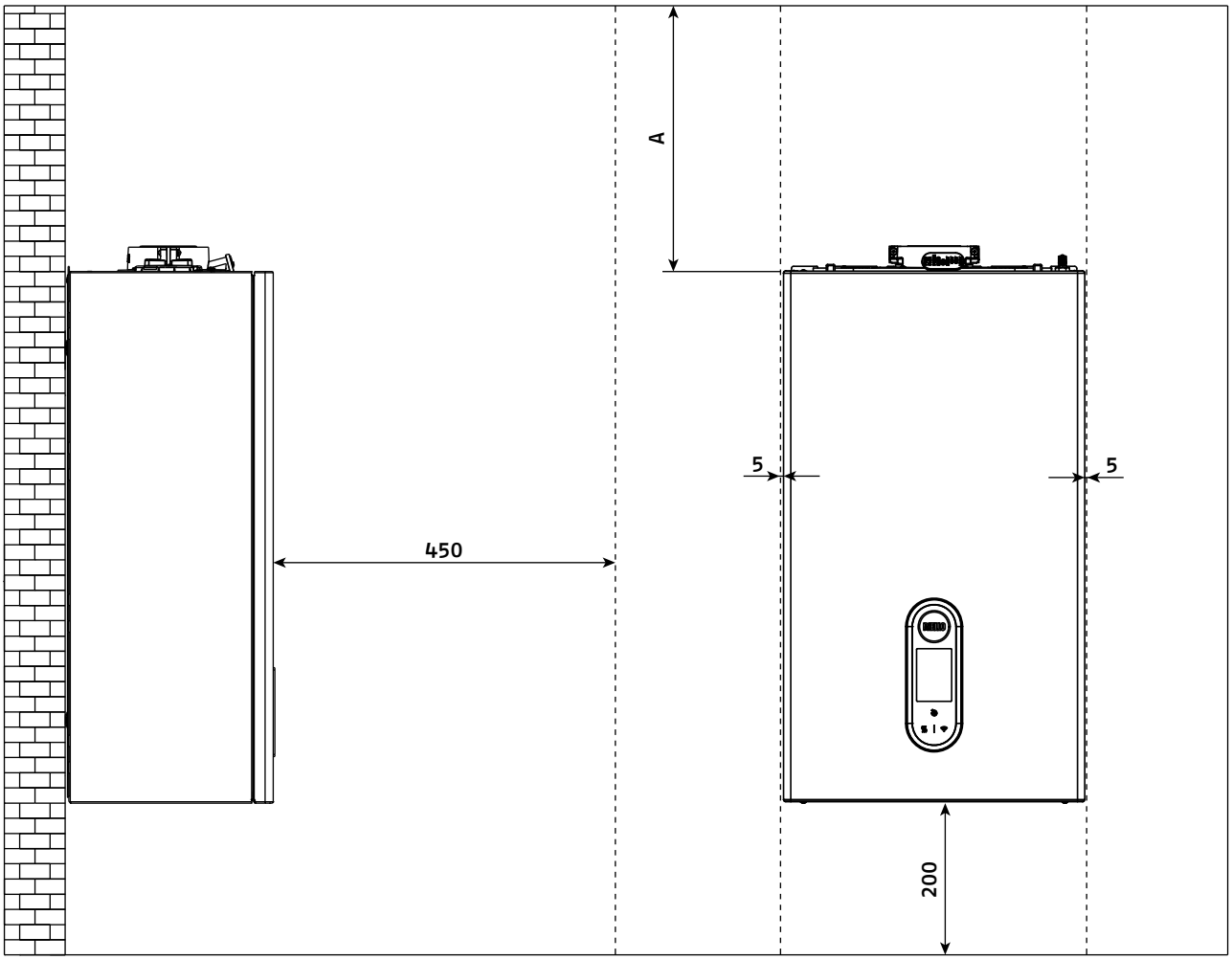
The boiler is equipped as standard with an automatic antifreeze system, which activates when the primary circuit water temperature drops below 5°C. This system is always active and guarantees protection of the boiler up to an air temperature in the installation site of >0°C.

Note: For further information, refer to the installation manual.

MINIMUM DISTANCES

Access the inside of the boiler for normal maintenance operations, respecting the minimum spaces required for installation. Position the appliance, keeping in mind that:

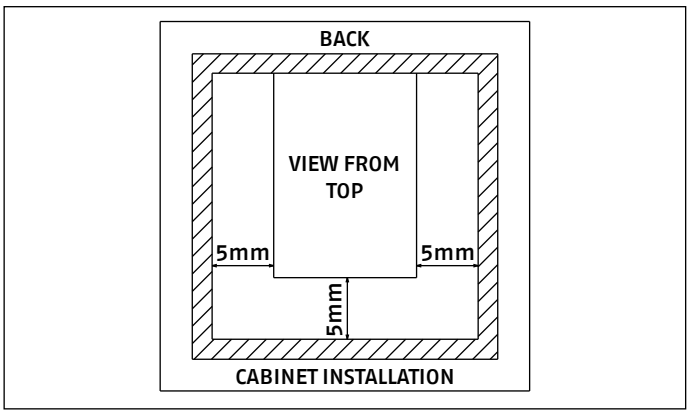
- it must be installed on a wall suitable to support its weight
- should not be placed on top of a range or other cooking appliance
- It is forbidden to leave flammable substances in the room where the boiler is installed.



(A) See the "Flue gas configuration" section
measurements in mm

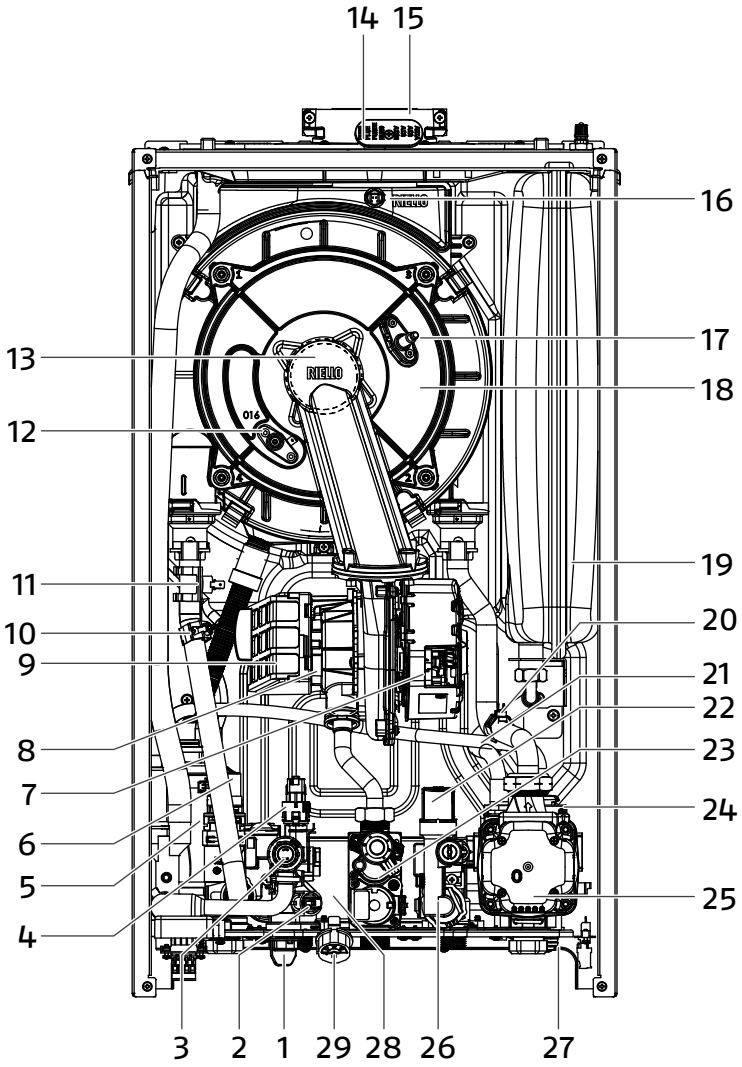
MINIMUM DISTANCES FOR CABINET INSTALLATION

Respect a safety distance between the wall on which the boiler is installed and the hot parts outside it.



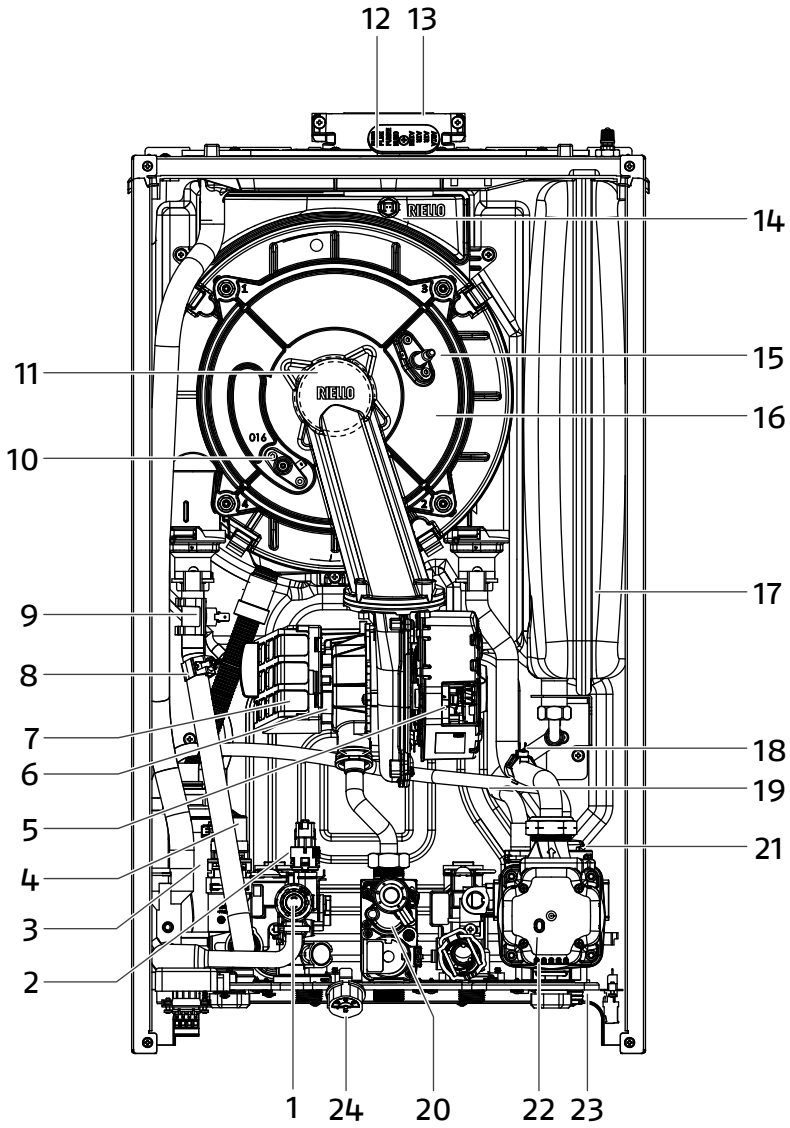
SYSTEM LAYOUT

KIS MODELS



1. Filling tap
2. DHW NTC probe
3. Safety valve
4. Pressure transducer
5. Siphon
6. Three-way valve
7. Fan
8. Mixer
9. Air filter
10. NTC flow probe
11. Limit thermostat
12. Flame detection electrode/ionization sensor
13. BURNER
14. Combustion analysis socket cap
15. Flue gas discharge
16. Flue gas probe
17. Flame ignition electrode
18. Heat exchanger
19. Expansion vessel
20. NTC return probe
21. Degasser tube
22. Filling solenoid valve
23. Gas valve
24. Air vent valve
25. Pump
26. Flow meter
27. System drain cock
28. DHW exchanger
29. Hydrometer

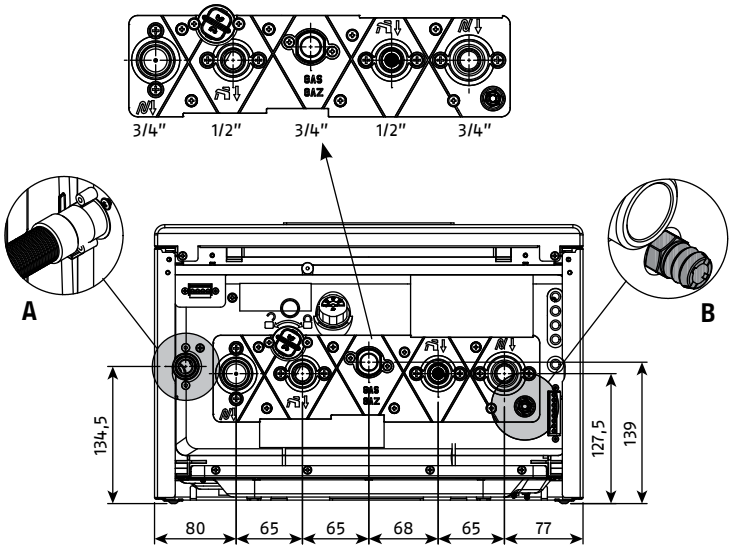
IS MODELS

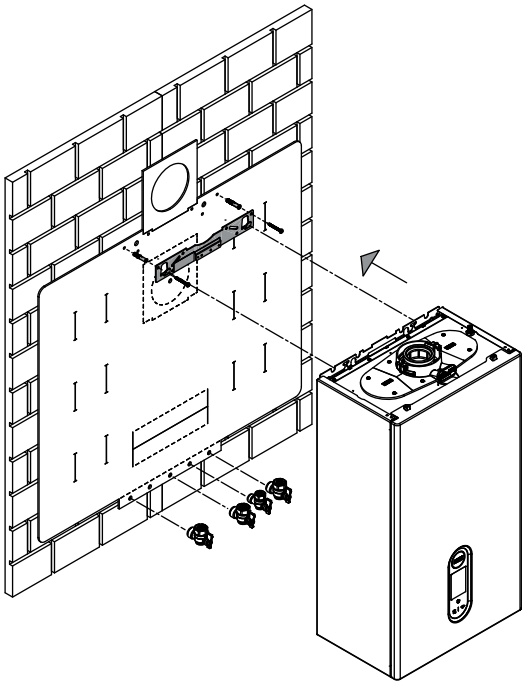


1. Safety valve
2. Pressure transducer
3. Siphon
4. Three-way valve
5. Fan
6. Mixer
7. Air filter
8. NTC flow probe
9. Limit thermostat
10. Flame detection electrode/ionization sensor
11. Burner
12. Combustion analysis socket cap
13. Flue gas discharge
14. Flue gas probe
15. Flame ignition electrode
16. Heat exchanger
17. Expansion vessel
18. NTC return probe
19. Degasser tube
20. Gas valve
21. Air vent valve
22. Pump
23. System drain cock
24. Hydrometer

INSTALLATION TEMPLATE AND HYDRAULIC CONNECTIONS

KIS MODELS



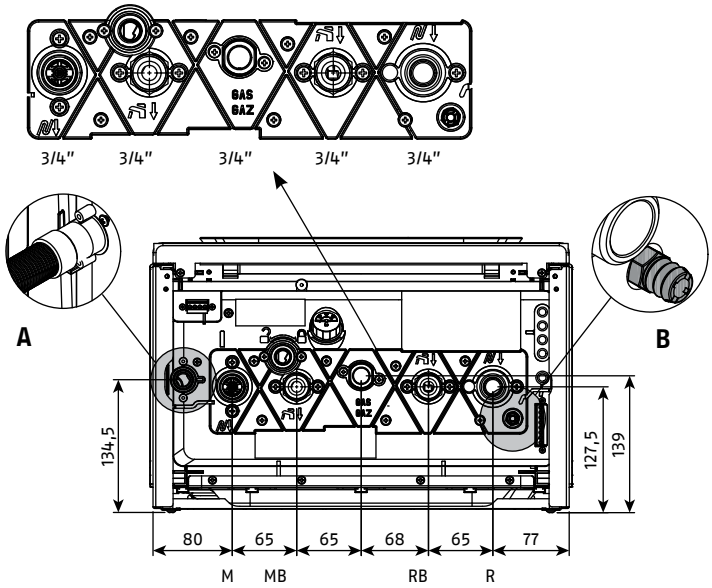


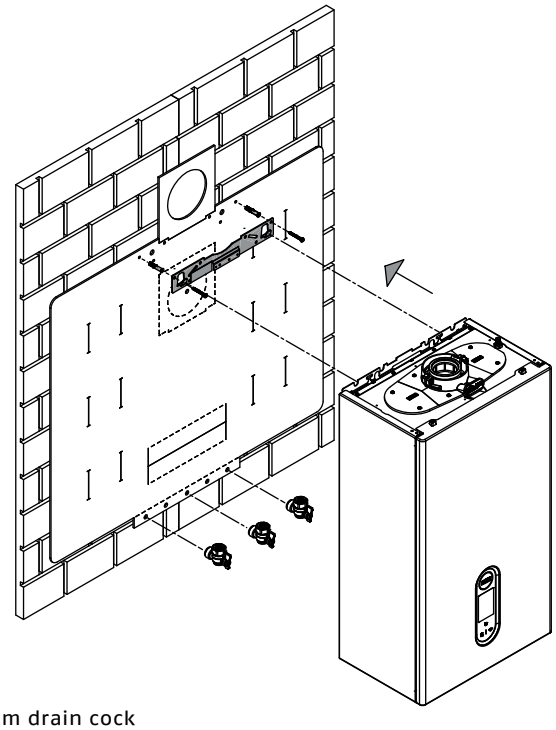
A) siphon drain and safety valve

B) system drain cock

Parameters	Gasket	Torque wrench
Tightening torque	Ø 3/4"	35Nm
	Ø 1/2"	25Nm

IS MODELS





A) siphon drain and safety valve

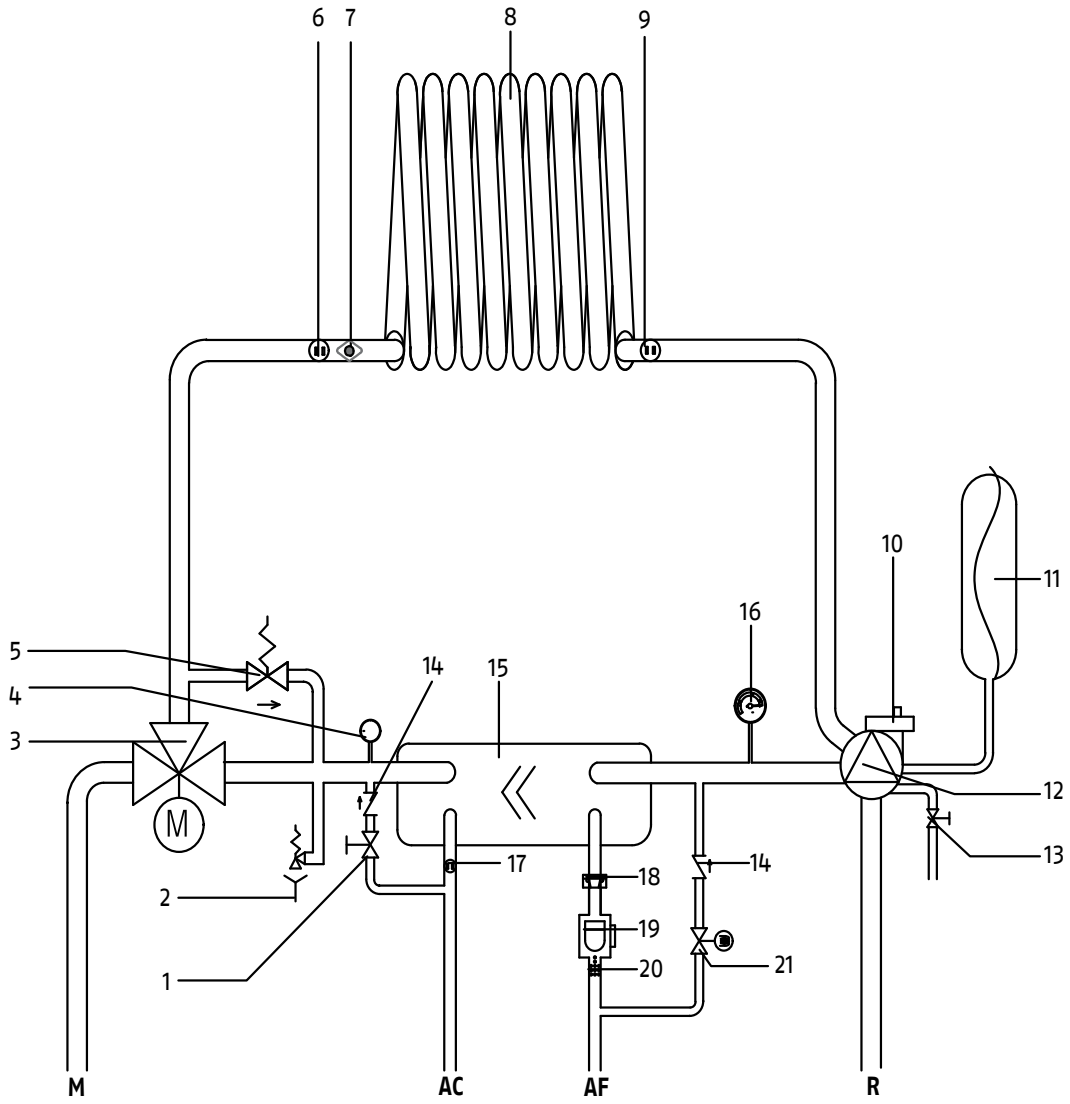
B) system drain cock

Parameters	Gasket	Torque wrench
Tightening torque	Ø 3/4"	35Nm
	Ø 1/2"	25Nm

ATTENTION - If no boiler is connected, it is MANDATORY to connect the flow and return of the boiler to each other using a suitable fitting/pipe.

HYDRAULIC CIRCUIT

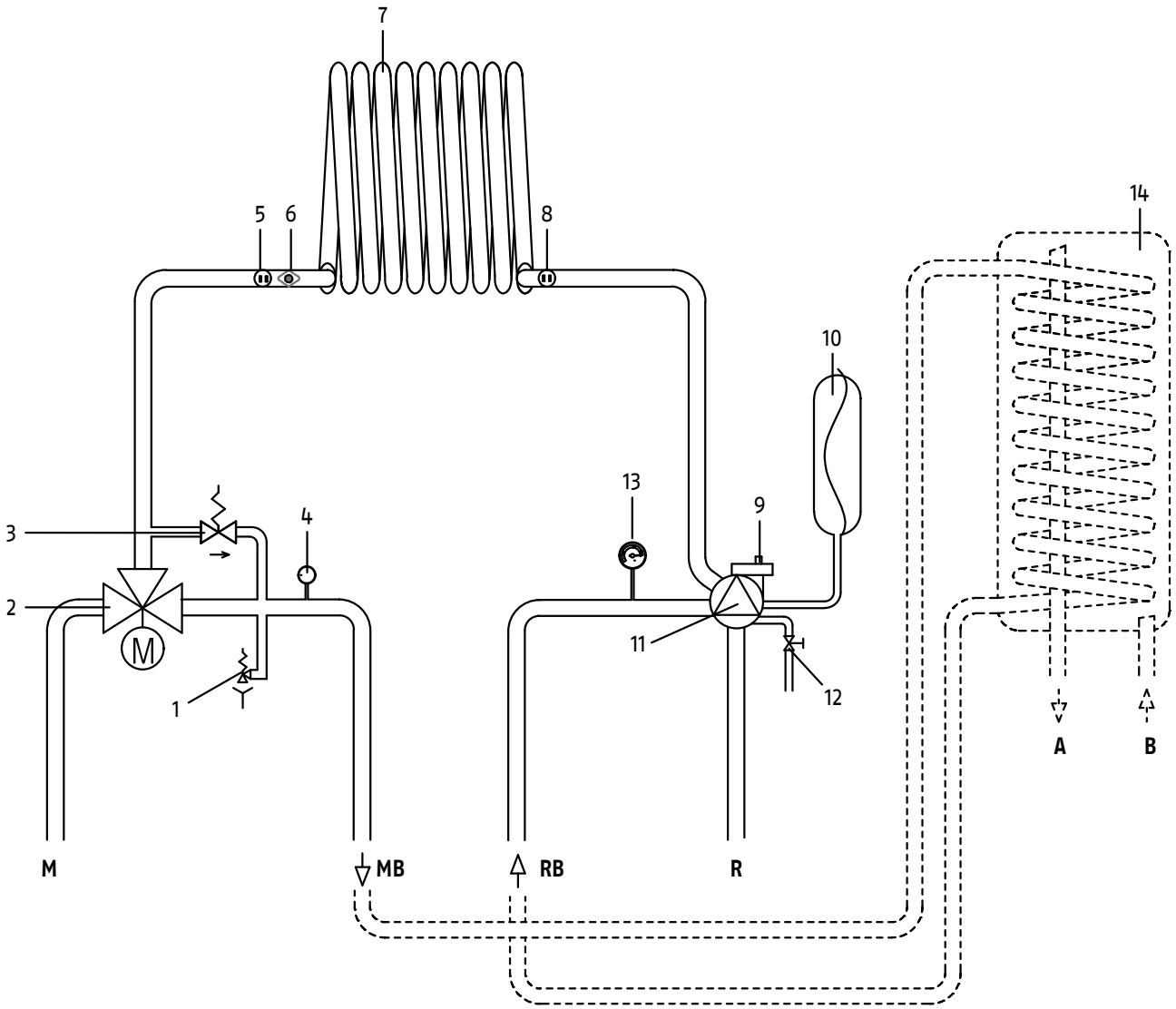
KIS MODELS



1. Filling tap
2. Safety valve
3. Hydraulic three-way valve
4. Pressure transducer
5. Automatic by-pass
6. Flow probe
7. Limit thermostat
8. Primary exchanger
9. Return probe
10. Lower air vent valve
11. Expansion vessel
12. Pump
13. System drain cock
14. Non-return valve
15. DHW exchanger
16. Hydrometer
17. DHW probe
18. Flow limiter
19. Flow meter
20. DHW filter
21. Filling solenoid valve

AC) Hot water
AF) Cold water
M) Heating flow
R) Heating return

IS MODELS



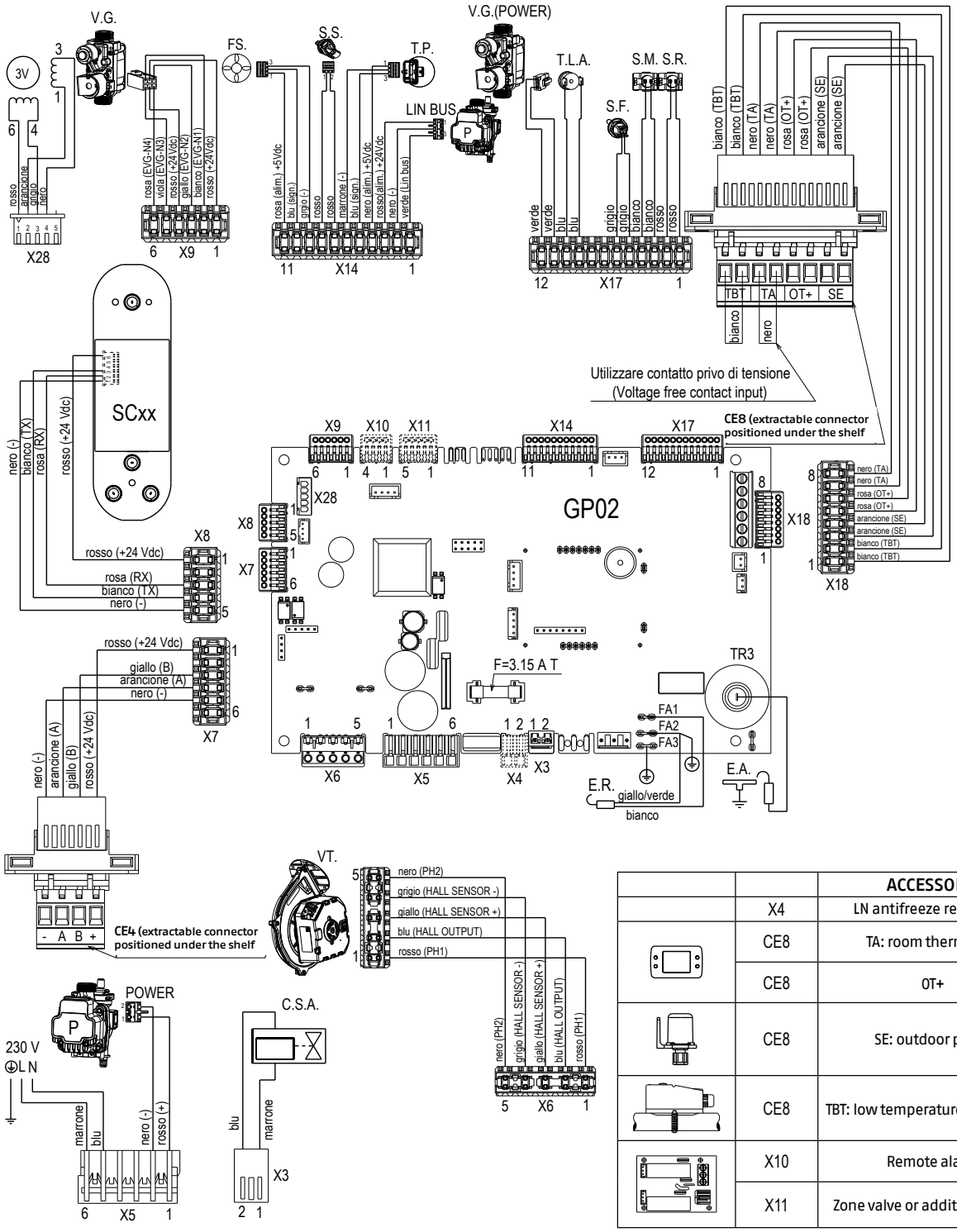
1. Safety valve
2. Hydraulic three-way valve
3. Automatic by-pass
4. Pressure transducer
5. Flow probe
6. Limit thermostat
7. Primary exchanger
8. Return probe
9. Lower air vent valve
10. Expansion vessel
11. Pump
12. System drain cock
13. Hydrometer
14. Cylinder (accessory available on request)

M) Heating flow
R) Heating return
MB) External cylinder flow
RB) External cylinder return
A) Hot water outlet
B) Cold water inlet

WIRING DIAGRAM

KIS MODELS

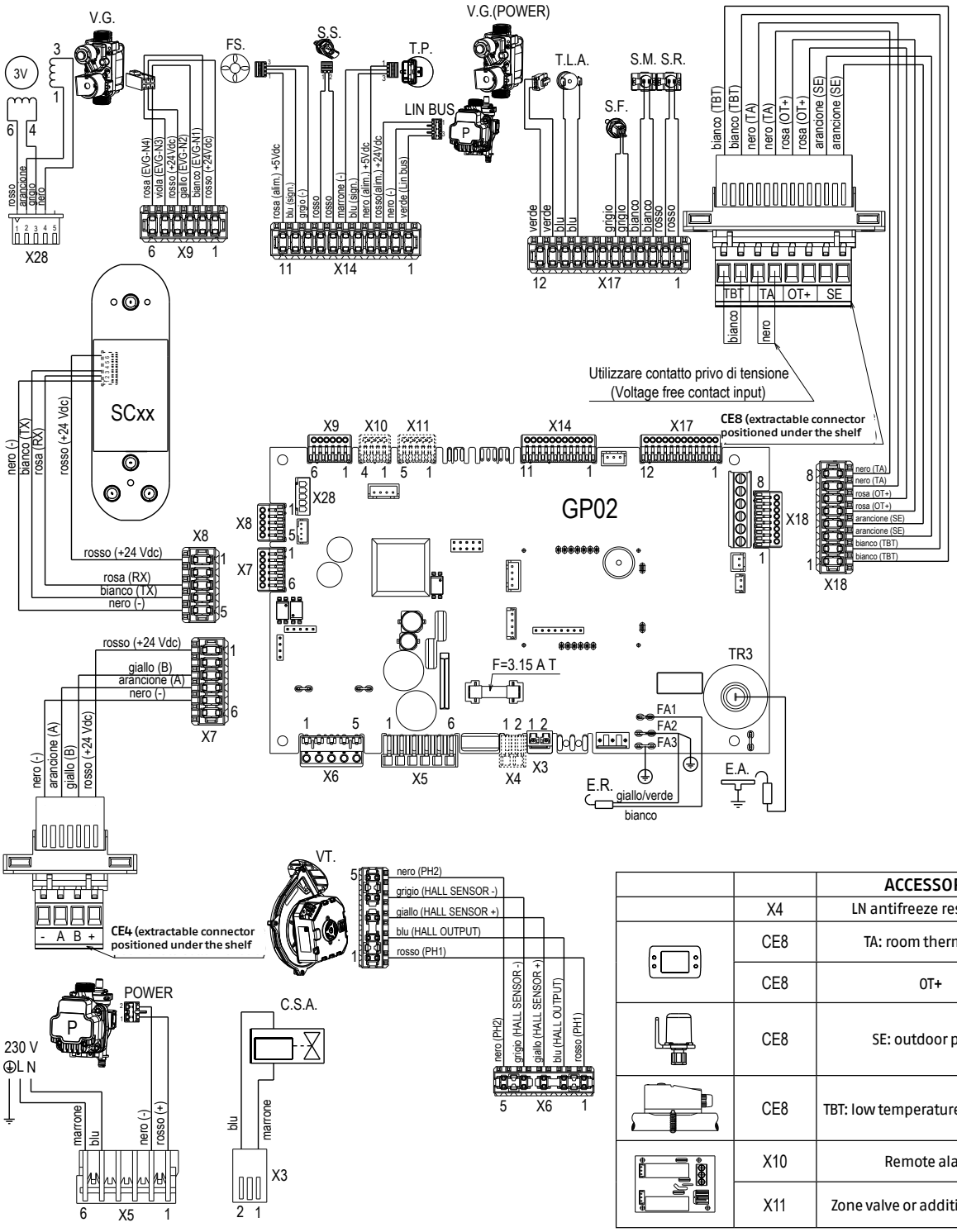
NOTE: LN POLARIZATION IS RECOMMENDED



		ACCESSORIES
	X4	LN antifreeze resistance
	CE8	TA: room thermostat
	CE8	OT+
	CE8	SE: outdoor probe
	CE8	TBT: low temperature thermostat
	X10	Remote alarm
	X11	Zone valve or additional pump

IS MODELS

NOTE: LN POLARIZATION IS RECOMMENDED



		ACCESSORIES
	X4	LN antifreeze resistance
	CE8	TA: room thermostat
	CE8	OT+
	CE8	SE: outdoor probe
	CE8	TBT: low temperature thermostat
	X10	Remote alarm
	X11	Zone valve or additional pump

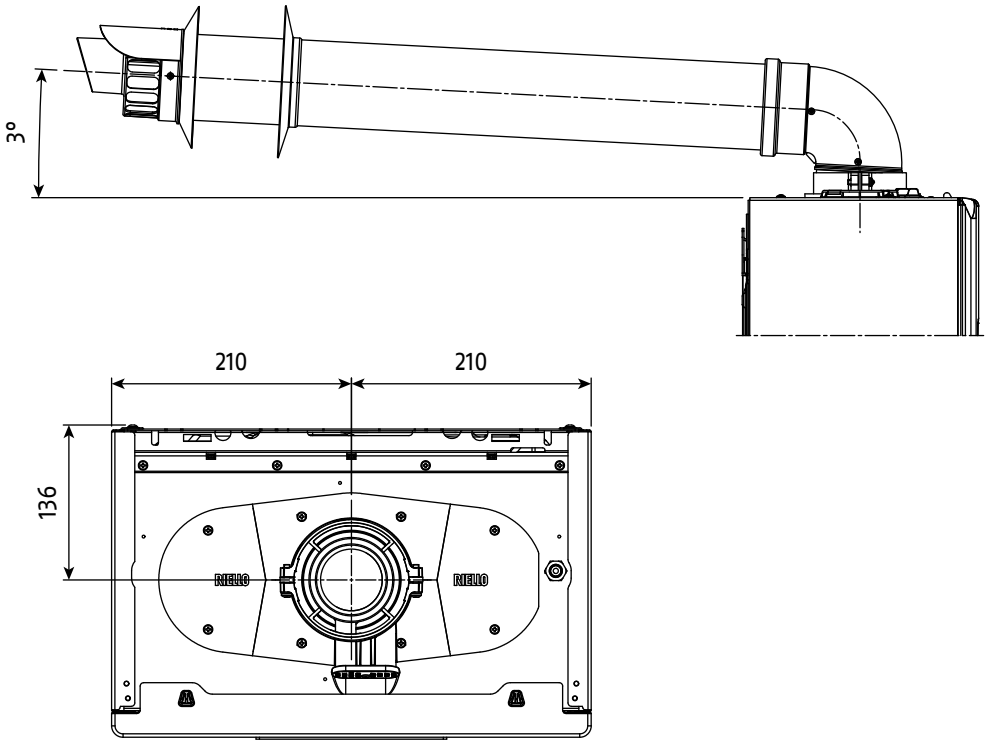
CONTROL PANEL

The **FAMILY HM** touch screen display allows the user to interact quickly and easily with the interface which, depending on the levels of use, presents itself with graphic symbols or descriptive texts.
When the display is at rest, the stand-by screen is displayed, simply press in the central part of the display to activate the operating mode.
The button allows you to reset an anomaly in progress.
The button instead it allows a quick transition from summer mode to winter mode and vice versa.
The **FAMILY HM** touch screen features colors that help the SMART use of our interface even more:

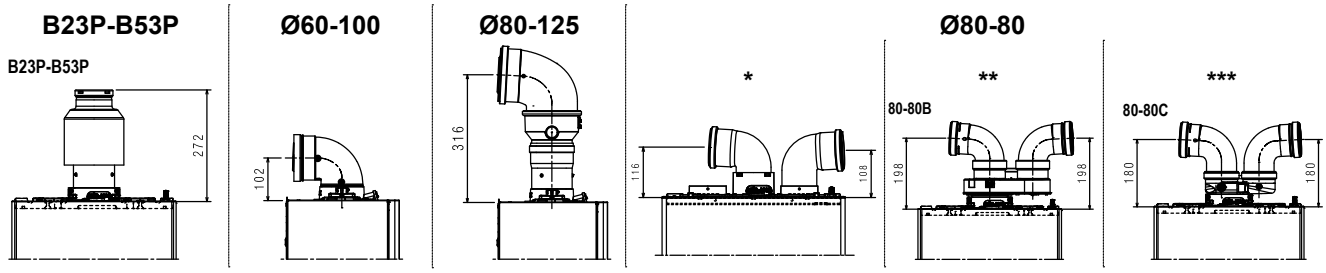
grey	white	green	red	orange
Typically the color "grey" is associated with a parameter or function that cannot be modified.	Typically the color "white" is associated with a parameter or function that can be modified.	Indicates regular operation of the appliance.	Associated with the symbol ⚠ indicates the presence of an anomaly that blocks boiler operation.	Indicates the presence of a transient anomaly.

FLUE GAS DISCHARGE AND COMBUSTION AIR INTAKE

For the evacuation of burnt products, refer to the UNI7129-7131 standard. Furthermore, you must always comply with the local regulations of the Fire Brigade, the Gas Company and any municipal provisions.
It is essential for the extraction of fumes and the supply of combustion air to the boiler that only original pipes are used except type C6 (provided they are certified) and that the connection is carried out correctly as indicated in the instructions supplied with the flue accessories. Multiple appliances can be connected to a single flue provided that they are all of the condensing type.



FLUE GAS DISCHARGE CONFIGURATION



* Twin flue gas
** Twin flue gas from Ø60-100 to Ø80-80
*** Compact twin flue gas from Ø60-100 to Ø80-80

Maximum flue gas length Ø80mm

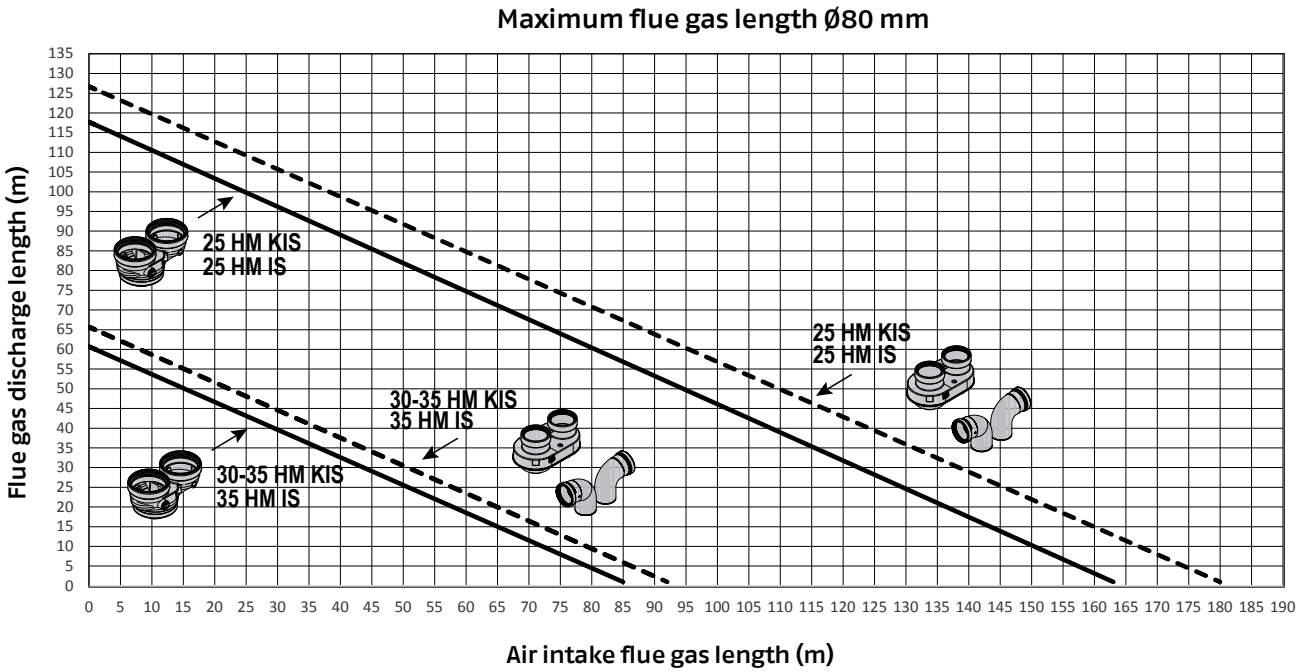
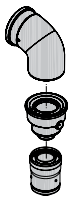


IMAGE	DESCRIPTION
	twin flue gas from Ø60-100 to Ø80-80
	Twin flue gas with use of the Ø80 Twin flue gas connection kit (accessory)
	compact twin flue gas from Ø60-100 to Ø80-80

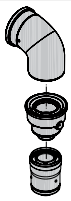
FLUE GAS DISCHARGE CONFIGURATION TABLE

For discharge lengths, refer to what is indicated below.

KIS MODELS

Type of flue gas		Diameter (Ø - mm)	25 KIS		30 KIS		35 KIS		Pressure drop (m)		Wall crossing hole (Ø - mm)
			Maximum length (m)	Maximum length (m)	Maximum length (m)	Maximum length (m)	Maximum length (m)	Maximum length (m)	45° bend	90° bend	
	vertical connection from Ø60-100 a Ø80	80	120	0,50	60	0,50	60	0,50	1	1,5	-
	90° bend Ø60-100	60-100	horizontal 10 vertical 11	horizontal 0,85 vertical 2	horizontal 8 vertical 9	horizontal 0,85 vertical 2	horizontal 8 vertical 9	horizontal 0,85 vertical 2	1,3	1,6	105
	90° bend Ø80-125 adapter from Ø60-100 to Ø80-125 vertical attachment adapter Ø60-100	80-125	25	0,85	20	0,85	20	0,85	1	1,5	130
	twin flue gas from Ø60-100 to Ø80-80	80-80	75+75	0,50	39+39	0,50	39+39	0,50	1	1,5	-
	Twin flue gas with use of the Ø80 Twin flue gas connection kit (accessory)										
	compact twin flue pipe from Ø60-100 to Ø80-80	80-80	69+69	0,50	36+36	0,50	36+36	0,50	1	1,5	-

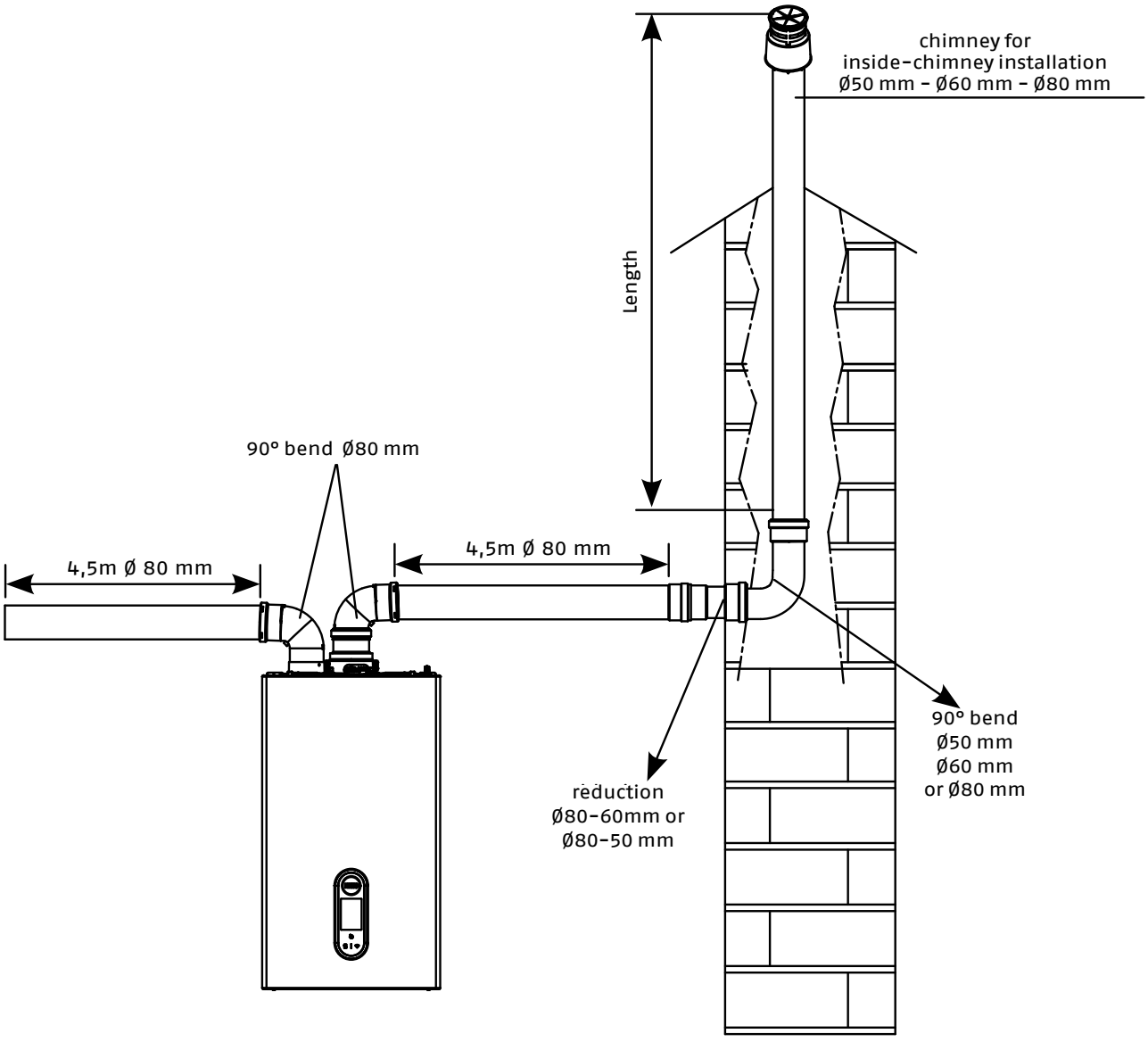
IS MODELS

Type of flue gas		Diameter (Ø - mm)	25 IS		35 IS		Pressure drop (m)		Wall crossing hole (Ø - mm)
			Maximum length (m)	Maximum length (m)	Maximum length (m)	Maximum length (m)	45° bend	90° bend	
	vertical connection from Ø60-100 a Ø80	80	120	0,50	60	0,50	1	1,5	-
	90° bend Ø60-100	60-100	horizontal 10 vertical 11	horizontal 0,85 vertical 2	horizontal 8 vertical 9	horizontal 0,85 vertical 2	1,3	1,6	105
	90° bend Ø80-125 adapter from Ø60-100 to Ø80-125 vertical attachment adapter Ø60-100	80-125	25	0,85	20	0,85	1	1,5	130
	twin flue gas from Ø60-100 to Ø80-80	80-80	75+75	0,50	39+39	0,50	1	1,5	-
	Twin flue gas with use of the Ø80 Twin flue gas connection kit (accessory)								
	compact twin flue pipe from Ø60-100 to Ø80-80	80-80	69+69	0,50	36+36	0,50	1	1,5	-

TWIN FLUE GAS Ø80 WITH INSIDE-CHIMNEY Ø50 - Ø60 - Ø80

The boiler characteristics allow the connection of the Ø80 flue gas discharge to the Ø50 - Ø60 - Ø80 inside-chimney installation ranges.
The table shows the basic configurations of the ducts allowed.

Air intake	1 90° bend Ø80
	4,5m flue gas Ø80
Flue gas discharge	1 90° bend Ø80
	4,5m flue gas Ø80
	Reduction from Ø80 to Ø50 from Ø80 to Ø60
	Basic chimney bend 90°, Ø50 or Ø60 or Ø80
	For inside-chimney lengths see table



INSIDE-CHIMNEY FLUES ADJUSTMENT TABLES

Splitter						
DESCRIPTION	Fan revolutions rpm		Flue gas Ø50	Flue gas Ø60	Flue gas Ø80	ΔP boiler outlet (Pa)
	Heating	DHW	max length m			
25 KIS	6.300	7.900	7	23	116	180
	6.400	8.000	9*	29*	144*	210*
	6.500	8.100	11*	34*	172*	257*
	6.600	8.200	14*	40*	201*	285*
	6.700	8.300	16*	46*	229*	330*
	6.800	8.400	18*	51*	257*	355*
	6.900	8.500	21*	57*	285*	385*
	7.000	8.600	23*	63*	314*	425*
	7.100	8.700	25*	68*	342*	465*
	7.200	8.800	28*	74*	370*	497*
30 KIS	6.200	7.400	2	12	62	195
	6.300	7.500	4*	18*	92*	242*
	6.400	7.600	6*	24*	119*	289*
	6.500	7.700	9*	29*	145*	337*
	6.600	7.800	11*	34*	172*	384*
35 KIS	7.400	8.600	2	12	62	195
	7.500	8.700	4*	18*	92*	242*
	7.600	8.800	6*	24*	119*	289*
	7.700	8.900	9*	29*	145*	337*
	7.800	9.000	11*	34*	172*	384*

(*) Maximum installable length ONLY with class H1 flue gas discharge.

compact twin flue gas						
DESCRIPTION	Fan revolutions rpm		Flue gas Ø50	Flue gas Ø60	Flue gas Ø80	ΔP boiler outlet (Pa)
	Heating	DHW	max length m			
25 KIS	6.300	7.900	6	20	98	170
	6.400	8.000	8*	25*	124*	203*
	6.500	8.100	10*	30*	150*	235*
	6.600	8.200	13*	35*	176*	268*
	6.700	8.300	15*	40*	202*	300*
	6.800	8.400	17*	46*	228*	333*
	6.900	8.500	19*	51*	253*	365*
	7.000	8.600	21*	56*	279*	398*
	7.100	8.700	23*	61*	305*	430*
	7.200	8.800	25*	66*	331*	463*
30 KIS	6.200	7.400	1	11	57	180
	6.300	7.500	3*	17*	84*	227*
	6.400	7.600	6*	22*	111*	274*
	6.500	7.700	8*	28*	138*	322*
	6.600	7.800	10*	33*	165*	369*
35 KIS	7.400	8.600	1	11	57	180
	7.500	8.700	3*	17*	84*	227*
	7.600	8.800	6*	22*	111*	274*
	7.700	8.900	8*	28*	138*	322*
	7.800	9.000	10*	33*	165*	369*

(*) Maximum installable length ONLY with class H1 flue gas discharge.

Splitter						
DESCRIPTION	Fan revolutions rpm		Flue gas Ø50	Flue gas Ø60	Flue gas Ø80	ΔP boiler outlet (Pa)
	Heating	DHW	max length m			
25 IS	6.300	7.900	7	23	116	180
	6.400	8.000	9*	29*	144*	210*
	6.500	8.100	11*	34*	172*	257*
	6.600	8.200	14*	40*	201*	285*
	6.700	8.300	16*	46*	229*	330*
	6.800	8.400	18*	51*	257*	355*
	6.900	8.500	21*	57*	285*	385*
	7.000	8.600	23*	63*	314*	425*
	7.100	8.700	25*	68*	342*	465*
	7.200	8.800	28*	74*	370*	497*
35 IS	7.400	8.600	2	12	62	195
	7.500	8.700	4*	18*	92*	242*
	7.600	8.800	6*	24*	119*	289*
	7.700	8.900	9*	29*	145*	337*
	7.800	9.000	11*	34*	172*	384*

(*) Maximum installable length ONLY with class H1 flue gas discharge.

Compact twin flue gas						
DESCRIPTION	Fan revolutions rpm		Flue gas Ø50	Flue gas Ø60	Flue gas Ø80	ΔP boiler outlet (Pa)
	Heating	DHW	max length m			
25 IS	6.300	7.900	6	20	98	170
	6.400	8.000	8*	25*	124*	203*
	6.500	8.100	10*	30*	150*	235*
	6.600	8.200	13*	35*	176*	268*
	6.700	8.300	15*	40*	202*	300*
	6.800	8.400	17*	46*	228*	333*
	6.900	8.500	19*	51*	253*	365*
	7.000	8.600	21*	56*	279*	398*
	7.100	8.700	23*	61*	305*	430*
	7.200	8.800	25*	66*	331*	463*
35 IS	7.400	8.600	1	11	57	180
	7.500	8.700	3*	17*	84*	227*
	7.600	8.800	6*	22*	111*	274*
	7.700	8.900	8*	28*	138*	322*
	7.800	9.000	10*	33*	165*	369*

(*) Maximum installable length ONLY with class H1 flue gas discharge.

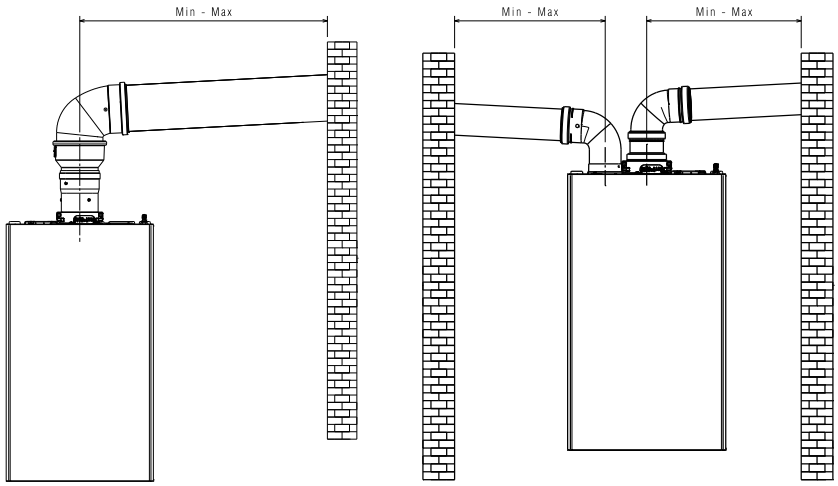
The Ø50 or Ø60 or Ø80 configurations report experimental data verified in the laboratory. In case of installations different from those indicated in the "basic configurations" and "adjustments" tables, refer to the equivalent linear lengths shown below.
ATTENTION - In any case, the maximum lengths declared in the booklet are guaranteed and it is essential not to exceed.

COMPONENT	Linear equivalent in meters Ø80 (m)	
	Ø50	Ø60
45° bend	12,3	5
90° bend	19,6	8
Extension 0,5 m	6,1	2,5
Extension 1,0 m	13,5	5,5
Extension 2,0 m	29,5	12

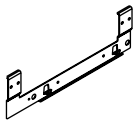
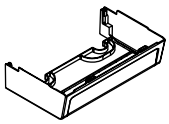
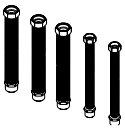
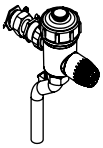
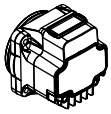
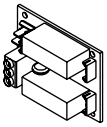
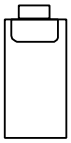
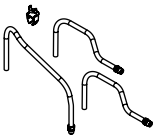
INSTALLATION ON COLLECTIVE FLUES IN POSITIVE PRESSURE

The collective flue is a flue gas discharge system suitable for collecting and expelling the combustion products of multiple appliances installed on multiple floors of a building. Positive pressure collective flues can only be used for type C condensing appliances. Consequently, the B53P/B23P configuration is prohibited. The installation of boilers on pressurized collective flues is permitted exclusively for G20. The boiler is sized to function correctly up to a maximum internal pressure of the flue not exceeding 25 Pa. Check that the number of fan revolutions complies with what is reported in the "technical data" table. Make sure that the air intake and combustion product exhaust ducts are watertight.

	maximum length	minimum length	U.o.M.
Ø80-80	4,5+4,5	0,5	m
Ø80/125	4,5	0,5	m



ACCESSORIES

Description	Image	QR Code
Crosspiece for built-in installation		
Bottom fitting cover		
DIN vs. RIELLO replacement ramp kit		
Compact magnetic filter		
Compact water softener		
7 m high head circulator		
BE09 board with double multifunction relay		
Hi, Comfort T300 - Hi, Comfort K100 Key		
Antifreeze resistance -15°C		

CONSTRUCTION DESCRIPTION FOR SPECIFICATION

FAMILY HM – HM CONNECT KIS

FAMILY HM – HM CONNECT is a wall-hung condensing boiler to be used for heating and the production of instant domestic hot water: according to the smoke exhaust accessory used it is classified in the B23P categories; B53P; C(10); C13,C13x; C33,C33x; C43,C43x; C53,C53x; C63,C63x; C83,C83x; C93,C93x. Wall-hung condensing boilers, with oversized AISI 441 stainless steel primary exchanger and ACC (Active Combustion Control) self-adaptive combustion control system, which guarantees functionality, maximum efficiency and low emissions in all circumstances. Power modulation up to 1:13.
Sound power up to 45 dB for the 30 model.
The FAMILY HM CONNECT models are supplied as standard with the Hi, Comfort T300 advanced thermostat, forming a class A+ system, without the addition of further options. The FAMILY HM models, in combination with the Hi, Comfort T100 thermostat or with the T300 advanced thermostat (available as accessories), reach system class A+.
Water heating energy efficiency class for size 35KIS A, with XXL profile.
FAMILY HM – HM CONNECT can be installed indoors or outdoors in a partially protected place, i.e. in a place where the boiler is not exposed to the direct action and infiltration of rain, snow or hail. The boiler can operate in a temperature range from 0 to 60°C (from -15°C to 60°C with resistor kit).
FAMILY HM – HM CONNECT stands out for its compactness, application flexibility and wide availability of accessories that guarantee compatibility in Riello boxes.
FAMILY HM CONNECT is equipped with Riello Hybrid Ready technology, designed to integrate and manage the different energy sources (gas/electricity and renewables). Thanks to the BUS communication system, the boiler is able to integrate into Riello multi-energy systems through the T300 (Energy Manager) remote control panel. FSC-certified totally PLASTIC FREE packaging with internal films made of 100% compostable and biodegradable material.

They are equipped with:

- ACC (Active Combustion Control) self-adaptive combustion system. This innovative control system, developed by Riello, guarantees functionality, efficiency and low emissions in all circumstances. The ACC system uses an ionization sensor immersed in the burner flame which, through its information, allows the control board to act on the gas valve that regulates the fuel. This sophisticated control system allows self-regulation of combustion, eliminating the need for initial calibration. Designed to run on methane, LPG and propane air; transformation from one gas to another through GAC programming alone, without the need for nozzle kits or diaphragms. FAMILY HM can also work with mixtures of natural gas and up to 20% hydrogen; it has been designed to operate in the future with 100% hydrogen combustion via a conversion kit.
- High efficiency modulating circulator already connected hydraulically and electrically, which is factory set with a 7 m head curve; available as a 7,5 m circulator accessory. Modulation occurs proportionally to the power supplied by the burner.
- Anti-locking system that starts an operating cycle every 24 hours of parking with function selector in any position.
- Circular oversized main exchanger in AISI 441 stainless steel.
- DHW exchanger with brazed plates designed and made in RIELLO with high efficiency which allows the production of domestic hot water in condensation mode and with maximum stability.
- Premix burner with low polluting emissions Class 6 NOx, according to UNI EN 15502-1, fan, high modulation mixer and gas diaphragm. Available as an accessory kit with non-return valve (clapet) for connection to positive pressure flue systems.
- Air filter integrated in the boiler as standard in elastic and break-resistant polyolefin fibres.
- Hydraulic connections with sequence of DIN type connections and specific accessories in case of replacement with old boilers and built-in boxes.
- Semi-automatic filling function via solenoid valve unit and non-return valve.
- Filling cock, deaeration cock.
- Siphon with safety ball inside the boiler footprint.
- Drain valve.
- Pressure transducer.
- Safety valve.
- Return probe, flue gas probe, and Flow probe.
- Automatic antifreeze system, which activates when the primary circuit water temperature drops below 5°C. This system is always active and guarantees protection of the boiler up to an air temperature in the installation site of 0°C (from -15°C to 60°C with resistor kit).
- Limit thermostat.
- Double electrode, one for ignition and the other for flame/ionization detection.
- Ignition transformer.
- Prepared with flue gas analysis socket cap.
- 9 liter expansion vessel.
- Hydraulic three-way valve (stepper).
- Hydrometer.
- Lower air vent valve.
- Control panel with modern FULL TOUCH color machine interface function. Vertical orientation. Preparation of tutorials. Displays system-related settings and makes it possible to access parameters. The main screen shows, in the central position, the temperature of the DHW probe unless a heat request is in progress, in this case the boiler delivery temperature, the water pressure in the system, and the information relating to the current date and time, and, if available, the value of the external temperature detected.
- OT+ input as standard.
- FAMILY HM – HM CONNECT is compatible with all Hi, Comfort products.
- FAMILY HM – HM CONNECT is compatible with Smart Key.

COMPLIANCE

The FAMILY HM – HM CONNECT boiler complies with:

- Regulation (EU) 2016/426.
- Efficiency Directive: Article 7(2) and Annex III of 92/42/EEC.
- Electromagnetic Compatibility Directive 2014/30/EU.
- Low Voltage Directive 2014/35/EU.
- Directive 2009/125/EC Eco-design of energy-related products.
- Regulation (EU) 2017/1369 Energy Labeling.
- Delegated Regulation (EU) No. 811/2013.
- Delegated Regulation (EU) No. 813/2013.
- UNI/TS 11854 standard.

FAMILY HM - HM CONNECT IS

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- Directive 2009/125/EC Eco-design of energy-related products
- Regulation (EU) 2017/1369 Energy labelling
- Delegated Regulation (EU) No. 811/2013
- Delegated Regulation (EU) No. 813/2013
- UNI/TS 11854 standard

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