

HIGH POWER PREMIX CONDENSING BOILER

1. GENERAL FEATURES



The High Power heating units series is available in the following two outputs 50 and 100 kW, with Ø28 mm stainless steel heat exchanger, to satisfy the power increase requests in an extremely limited space. Boilers are designed to suit individual or cascade installations, one independent of each other.

The A1K 50 model is a boiler equipped with one heat exchanger, while the A1K 100 model is boiler equipped with two heat exchangers made by a Ø28 mm stainless steel spiral single pipe, fitted in a single casing. This boiler, in addition to a size advantage, 70 cm wide (100 kW), also offers advantages in terms of power. It can be set up as a 100 kW (50 + 50 kW), by offering a great flexibility for the installation of high power cascade systems. It also offers advantages in terms of performances such as a 1:20 (100 kW) modulation, the possibility of excluding one boiler and, in case of one boiler failure, the ability to never leave the system shut down with the other boiler functioning.

The system also provides for the possibility of supplying a remote storage cylinder (RS version) by means of a 3-way valve.

2. TECHNICAL DATA

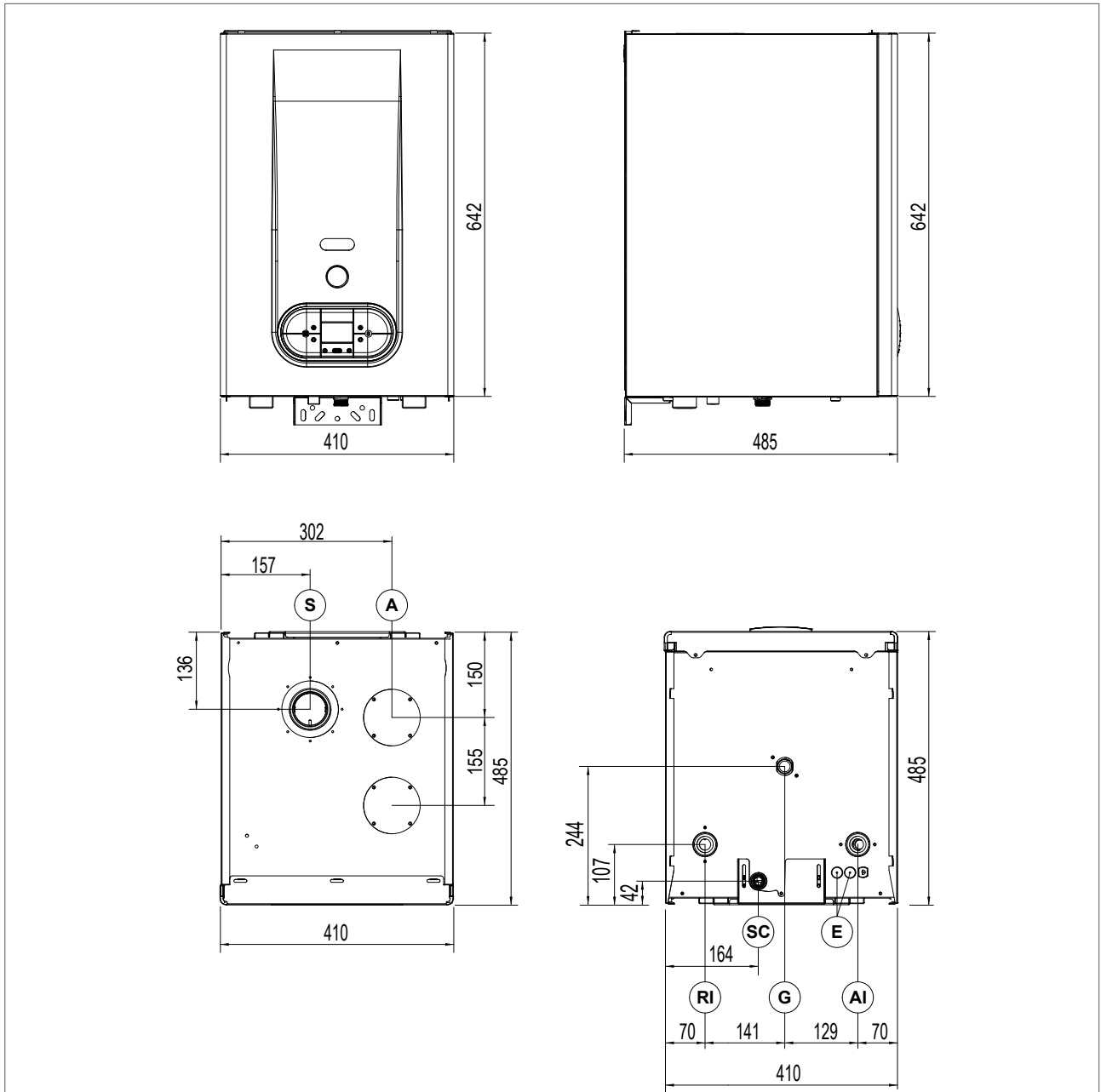
Model		A1K 50	A1K 100
Compositions	kW	1x50	2x50
Heat Input max. (C.H.)	MJ/h	198	396
Heat Input min. (C.H.)	MJ/h	5	20
Heat Output max. - 60/80°C	kW	49.19	98.37
Heat Output min. - 60/80°C	kW	4.83	4.83
Heat Output max. - 30/50°C	kW	53.40	106.80
Heat Output min. - 30/50°C	kW	5.29	5.29
Heat Output max at 30% Heat Input average - return 30°C	kW	8.98	17.14
Efficiency at 100% Heat Input - 60/80°C	%	98.37	98.37
Heat Input average efficiency - 60/80°C	%	97.88	97.88
Efficiency Heat Output min. - 60/80°C	%	96.51	96.51
Efficiency at 100% Heat Input - 30/50°C	%	106.80	106.80
Efficiency Heat Output min. - 30/50°C	%	105.70	105.70
Efficiency at 30% Heat Input average - return 47°C	%	102.80	102.80
Efficiency at 30% Heat Input average - return 30°C	%	108.83	108.83
Combustion data			
Maximum combustion efficiency	%	97.90	97.90
Minimum combustion efficiency	%	98.0	98.0
Flue efficiency losses with burner on (Heat Input max.)	%	2.10	2.10
Flue efficiency losses with burner on (Heat Input min.)	%	2.0	2.0
Flue efficiency losses with burner off	%	0.02	0.02
Casing efficiency losses (Heat Input max.)	%	-0.47	-0.47
Casing efficiency losses (Heat Input min.)	%	1.49	1.49
Casing efficiency losses with burner off	%	0.03	0.03
Fumes temperature - Heat Input max.	°C	66.4	66.4
Fumes temperature - Heat Input min.	°C	56.8	56.8
Fumes mass - Heat Input max.	g/s	22.19	22.32 ⁽¹⁾
Fumes mass - Heat Input min.	g/s	2.28	2.31
CO ₂ Heat Input max. - G20	%	9.3-9.0	9.3-9.0
CO ₂ Heat Input min. - G20	%	9.0-8.8	9.0-8.8
CO ₂ Heat Input max. - G30	%	11.3-11.1	11.3-11.1
CO ₂ Heat Input min. - G30	%	10.9-10.7	10.9-10.7
CO ₂ Heat Input max. - G31	%	10.3-10.1	10.3-10.1
CO ₂ Heat Input min. - G31	%	9.8-9.6	9.8-9.6
CO Heat Input max	ppm	68	68
CO Heat Input min.	ppm	1	1
Weighted CO [0% O ₂]	ppm	9	12
NO _x class	class	6	6
Weighted NO _x [0% O ₂]	mg/kWh	51	52
Central heating circuit			
Temperature setting - Central heating	°C	30-80/25-45	30-80/25-45
Max. operating temperature - Central heating	°C	80	80

Max. operating pressure - Central heating	kPa		300	300
Min. operating pressure - Central heating	kPa		30	30
Primary circuit water content	litres		8.90	17.70
Dimensions				
Width	mm		410	670
Depth	mm		485	485
Height	mm		642	642
Gross weight	kg		41	74
Hydraulic Connections				
C.H. Flow	Ø		1"1/4	1"1/2
Gas	Ø		3/4"	1"
C.H. Return	Ø		1"1/4	1"1/2
Flue systems				
Fan - Max. available pressure	Pa		100	100 ⁽¹⁾
Fan - Min. available pressure	Pa		30	30 ⁽¹⁾
Max. Flue length Ø80 - Horiz. / Vertical single pipe	m		25	25 ⁽¹⁾
Max. Flue length Ø100 - Horizontal pipe	m		-	30
Max. Flue length Ø80/125 - Horiz. / Vert. Concentric	m		10	10 ⁽¹⁾
Electrical specifications				
Voltage-frequency	V/Hz		230/50	220-230/50
Max Power consumption	W		108	216
Max Power consumption - boiler pump (100%)	W		55	110
Electric power with boiler OFF	W		3.5	7
Protection rating	IP		X5D	X5D
Gas supply				
Nominal supply pressure - Natural Gas	kPa		1.13	1.13
Heating Max. fan speed - Natural Gas	Hz		247	247 ⁽¹⁾
Heating Min. fan speed - Natural Gas	Hz		53	53 ⁽¹⁾
Fuel consumption - Natural Gas	MJ/h		198	396
Nominal Supply pressure - Universal LPG	kPa		2.75	2.75
Heating Max. fan speed - Natural Gas	Hz		240	240 ⁽¹⁾
Heating Min. fan speed - Natural Gas	Hz		53	53 ⁽¹⁾
Fuel consumption - Universal LPG	MJ/h		198	396

⁽¹⁾ Single thermal unit

3. DIMENSIONS

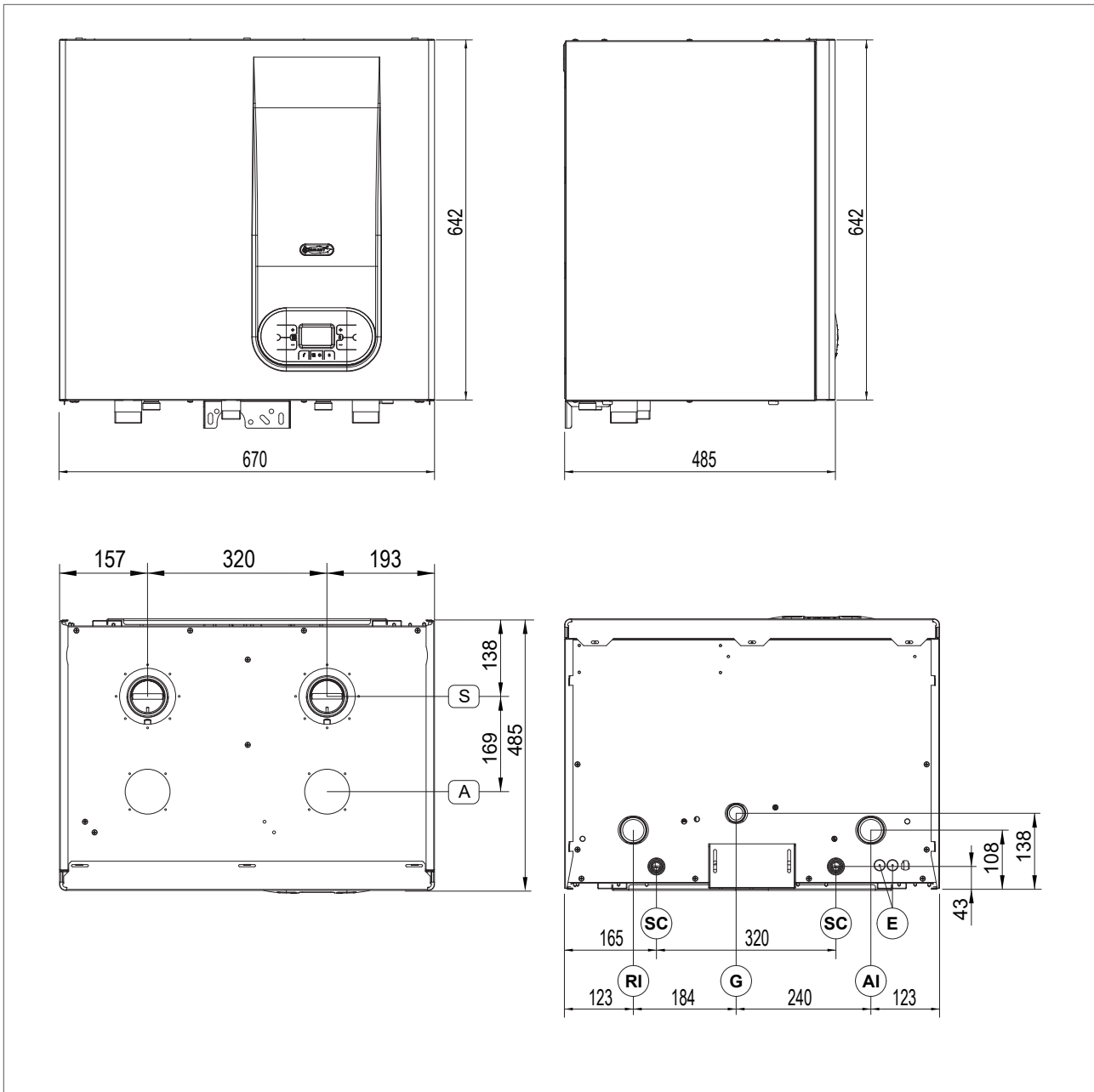
A1K 50



KEY

AI	C.H. FLOW	Ø1"1/4
RI	C.H. RETURN	Ø1"1/4
G	GAS	Ø3/4"
SC	CONDENSATE DRAIN	Ø25
E	CABLE GLANDS	Ø20
A	AIR INTAKE	Ø80
S	FLUE OUTLET	Ø80

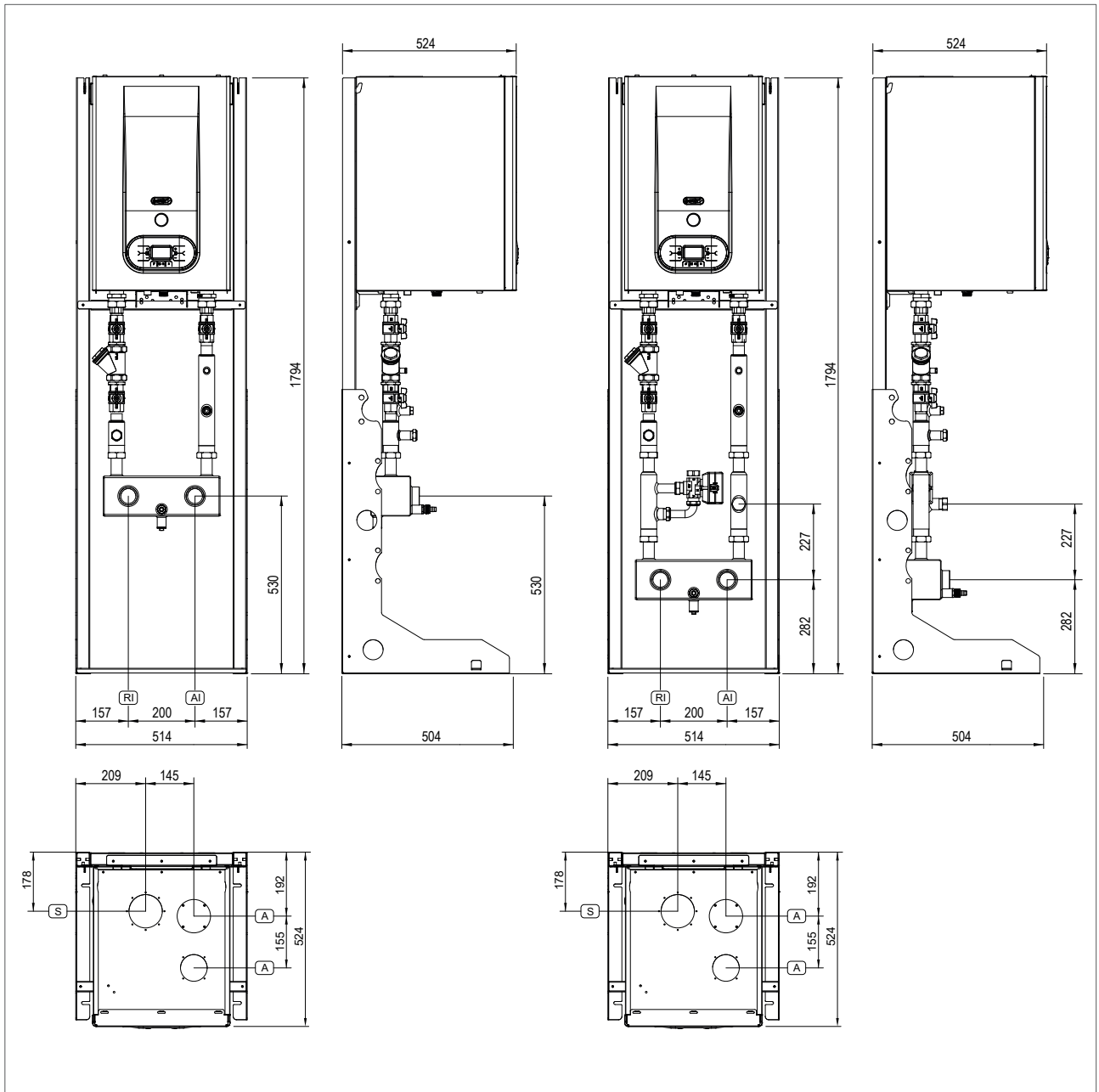
A1K 100



KEY

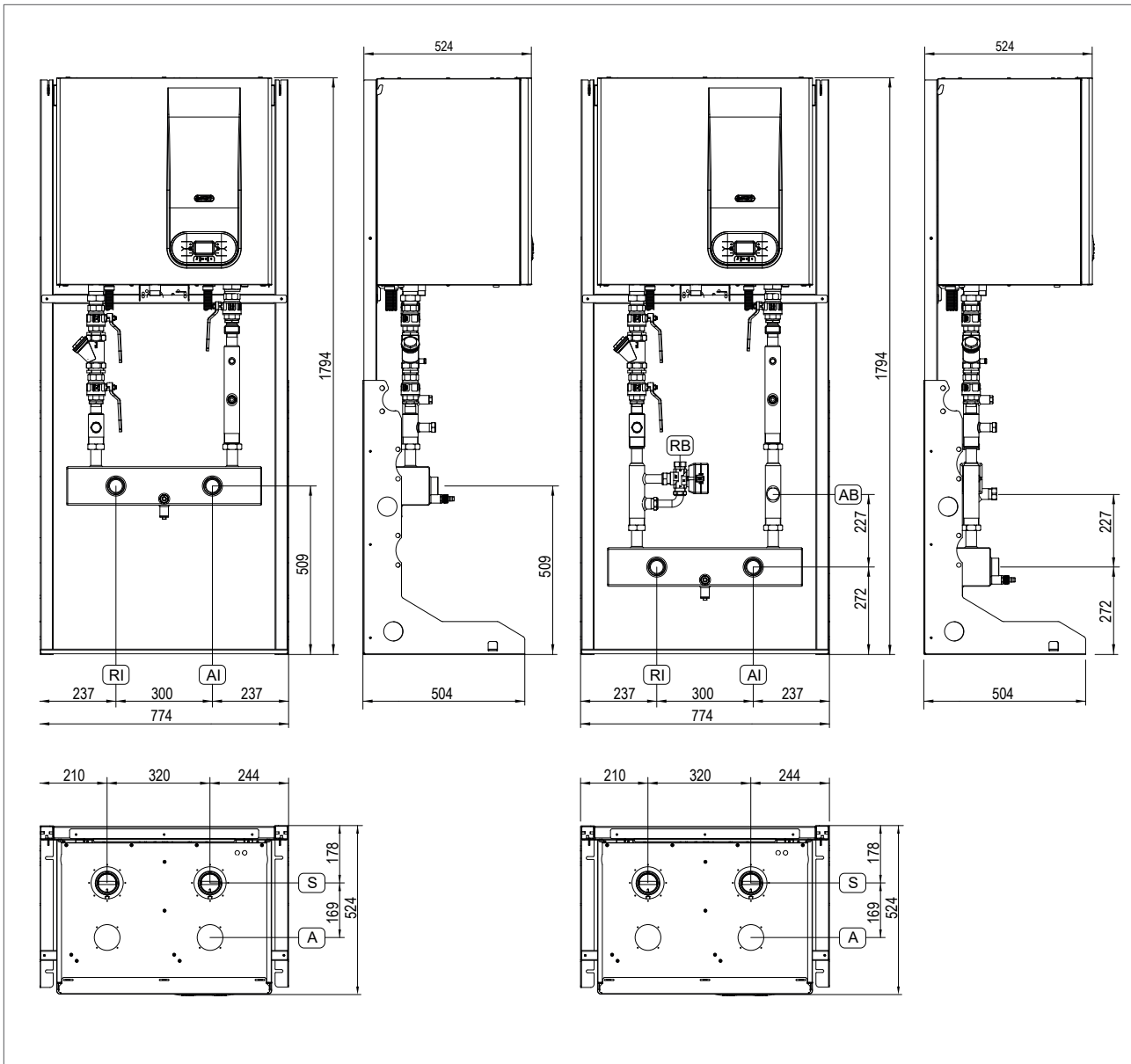
AI	C.H. FLOW	Ø1"1/2
RI	C.H. RETURN	Ø1"1/2
G	GAS	Ø1"
SC	CONDENSATE DRAIN	Ø25
E	CABLE GLANDS	Ø20
A	AIR INTAKE	Ø80
S	FLUE OUTLET	Ø80

A1K 50 - BOILER + FRAME + ACCESSORIES



AI	C.H. FLOW	Ø1"1/2
RI	C.H. RETURN	Ø1"1/2
G	GAS	Ø1"
AB	CENTRAL HEATING FLOW CONNECTION TO DHW STORAGE TANK	Ø1"
RB	CENTRAL HEATING RETURN CONNECTION FROM DHW STORAGE TANK	Ø1"
A	AIR INTAKE	Ø80
S	FLUE OUTLET	Ø80

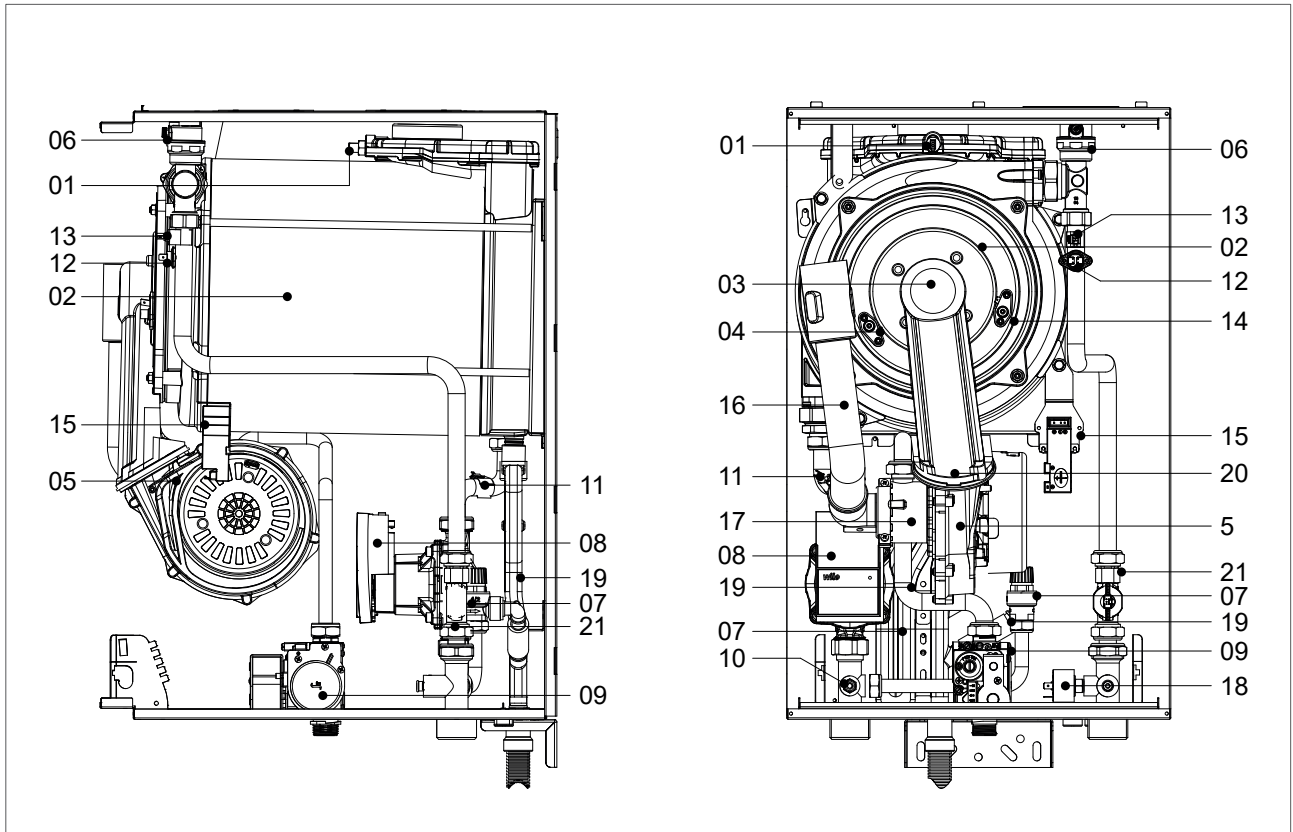
A1K 100 - BOILER + FRAME + ACCESSORIES



AI	C.H. FLOW	Ø1"1/2
RI	C.H. RETURN	Ø1"1/2
G	GAS	Ø1"
AB	CENTRAL HEATING FLOW CONNECTION TO DHW STORAGE TANK	Ø1"
RB	CENTRAL HEATING RETURN CONNECTION FROM DHW STORAGE TANK	Ø1"
A	AIR INTAKE	Ø80
S	FLUE OUTLET	Ø80

4. TECHNICAL ASSEMBLY

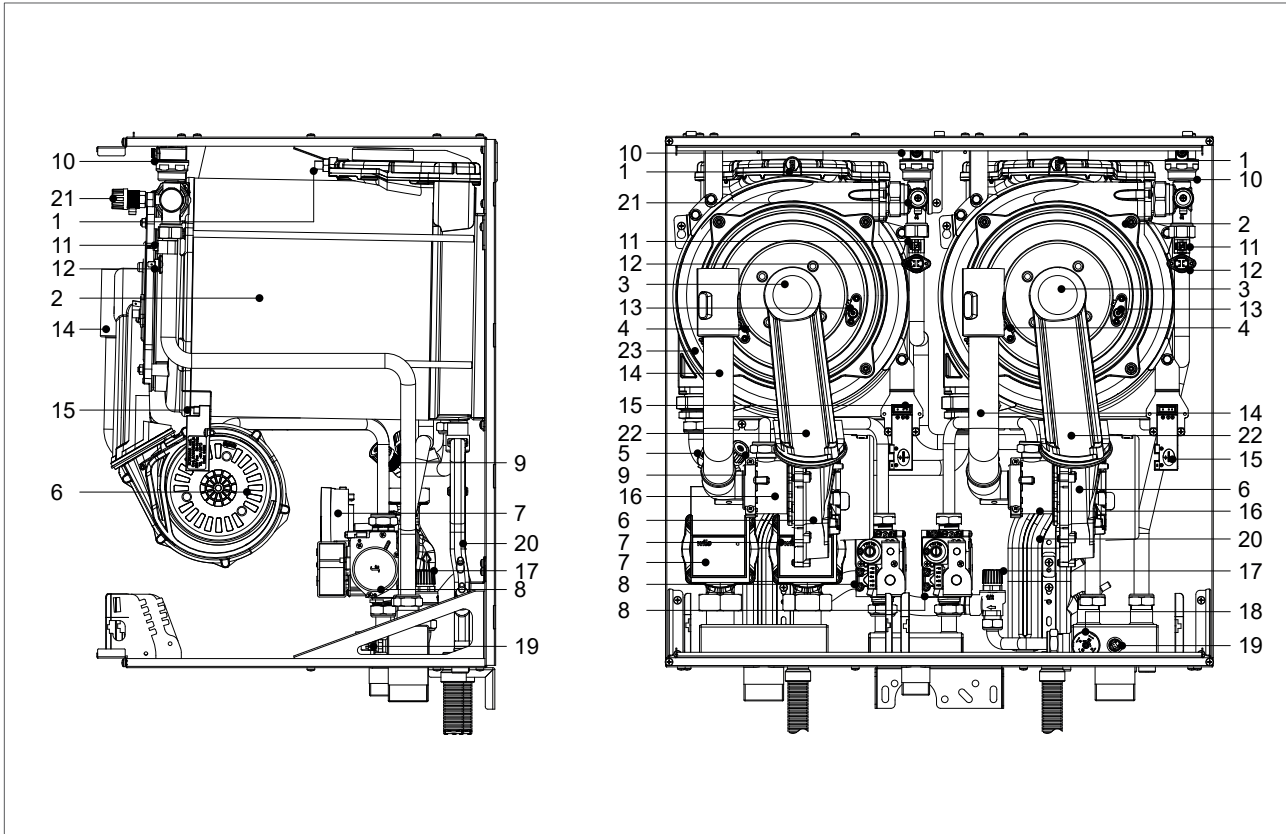
A1K 50



KEY

- | | |
|----------------------------------|---------------------------------|
| 1. FUMES SAFETY THERMOFUSE | 20. INTEGRATED NON-RETURN VALVE |
| 2. INTEGRATED HEAT EXCHANGER | 21. FLUXMETER |
| 3. BURNER UNIT | |
| 4. DETECTION ELECTRODE | |
| 5. ELECTRIC FAN | |
| 6. AIR RELIEF VALVE | |
| 7. SAFETY VALVE 3 bar | |
| 8. CIRCULATOR | |
| 9. GAS VALVE | |
| 10. SYSTEM DRAINING TAP | |
| 11. HEATING RETURN PROBE | |
| 12. SAFETY THERMOSTAT | |
| 13. HEATING PROBE | |
| 14. LIGHT UP ELECTRODE | |
| 15. START-UP TRANSFORMER | |
| 16. AIR SUCTION TUBE | |
| 17. PROPORTIONAL VENTURI | |
| 18. WATER PRESSURE GAUGE | |
| 19. CONDENSATE COLLECTION SIPHON | |

A1K 100

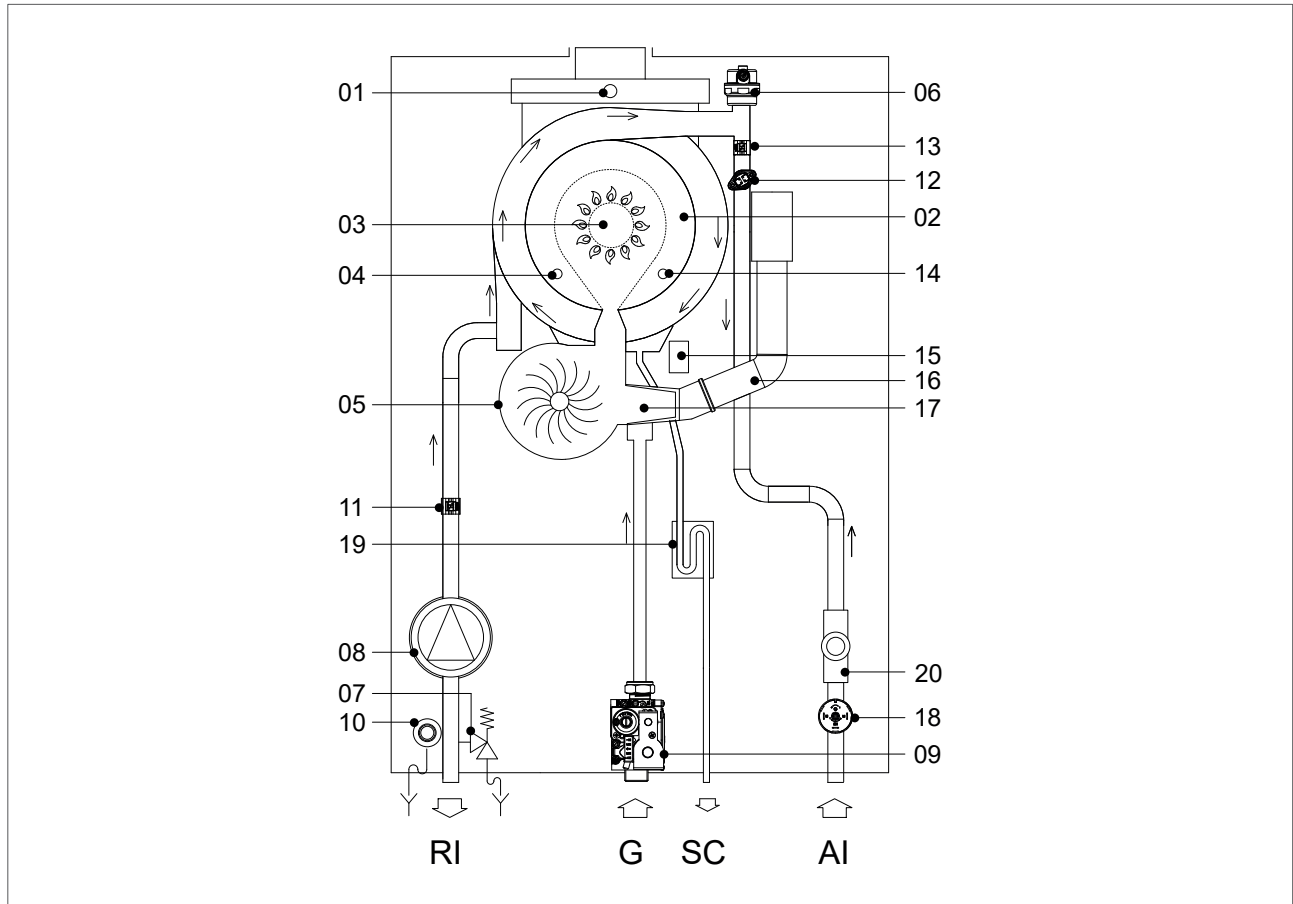


KEY

- | | |
|---|-------------------------------------|
| 1. FUMES SAFETY THERMOFUSE | 20. CONDENSATE COLLECTION SIPHON |
| 2. MASTER UNIT HEAT EXCHANGER-50 kW | 21. MANUAL AIR RELIEF VALVE |
| 3. BURNER UNIT | 22. INTEGRATED NON-RETURN VALVE |
| 4. DETECTION ELECTRODE | 23. SLAVE UNIT HEAT EXCHANGER-50 kW |
| 5. RETURN PROBE | |
| 6. ELECTRIC FAN | |
| 7. CIRCULATOR | |
| 8. GAS VALVE | |
| 9. MANUAL AIR RELIEF VALVE /SYSTEM DRAINING TAP | |
| 10. AUTOMATIC AIR RELIEF VALVE | |
| 11. HEATING PROBE | |
| 12. SAFETY THERMOSTAT | |
| 13. LIGHT UP ELECTRODE | |
| 14. AIR SUCTION TUBE | |
| 15. START-UP TRANSFORMER | |
| 16. PROPORTIONAL VENTURI | |
| 17. SAFETY VALVE 3 bar | |
| 18. WATER PRESSURE SWITCH | |
| 19. COLLECTOR PROBE | |

5. WATER CIRCUIT

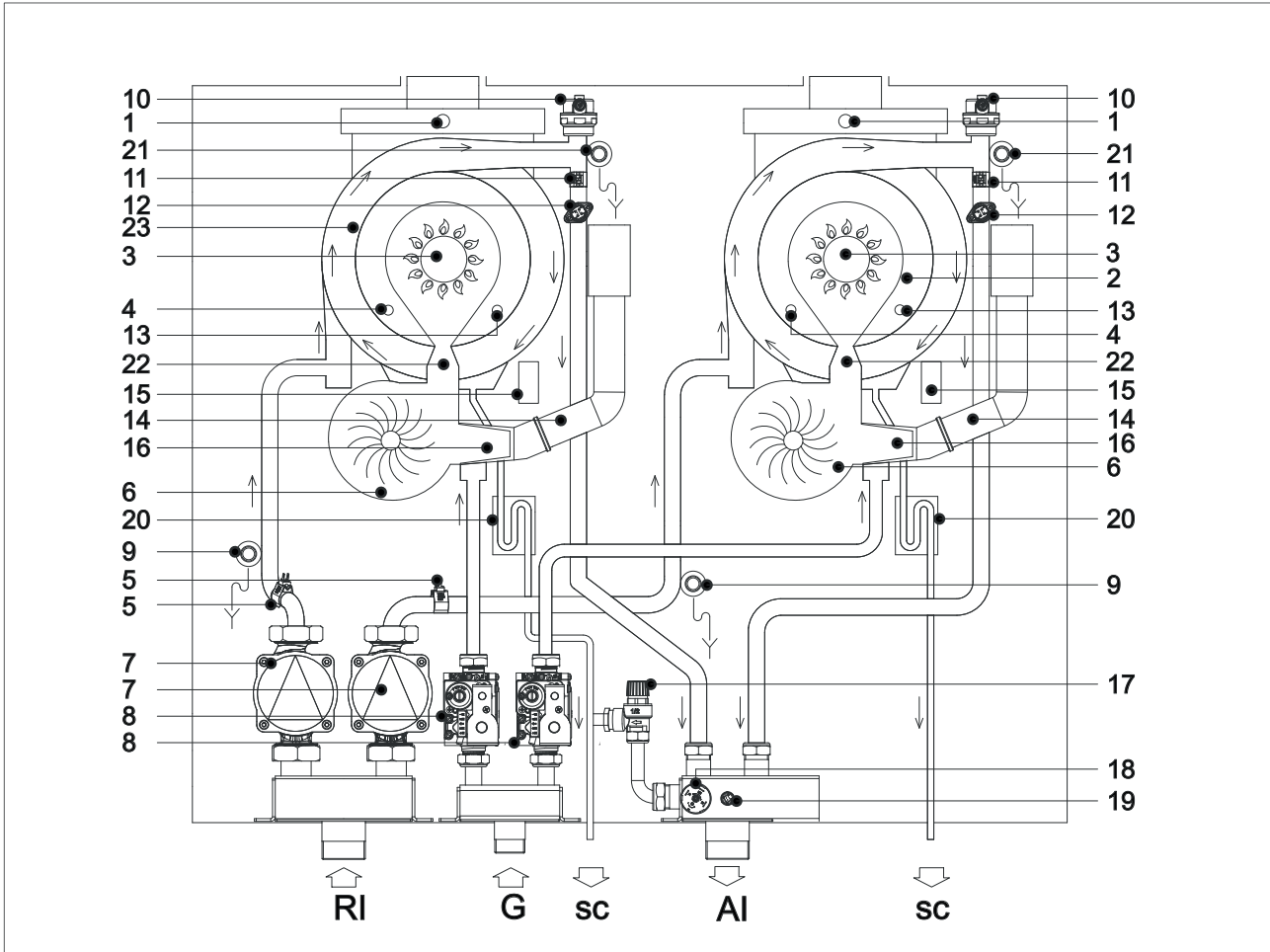
A1K 50



KEY

- | | | | |
|-----|----------------------------|-----|------------------------------|
| RI. | C.H. RETURN | 12. | SAFETY THERMOSTAT |
| G. | GAS | 13. | HEATING PROBE |
| SC. | CONDENSATE DRAIN | 14. | LIGHT UP ELECTRODE |
| AI. | C.H. FLOW | 15. | START-UP TRANSFORMER |
| 1. | FUMES SAFETY THERMOFUSE | 16. | AIR SUCTION TUBE |
| 2. | INTEGRATED HEAT EXCHANGER | 17. | PROPORTIONAL VENTURI |
| 3. | BURNER UNIT | 18. | WATER PRESSURE GAUGE |
| 4. | DETECTION ELECTRODE | 19. | CONDENSATE COLLECTION SIPHON |
| 5. | ELECTRIC FAN | 20. | FLUXMETER |
| 6. | AUTOMATIC AIR RELIEF VALVE | | |
| 7. | SAFETY VALVE 3 bar | | |
| 8. | CIRCULATOR | | |
| 9. | GAS VALVE | | |
| 10. | SYSTEM DRAINING TAP | | |
| 11. | HEATING RETURN PROBE | | |

A1K 100

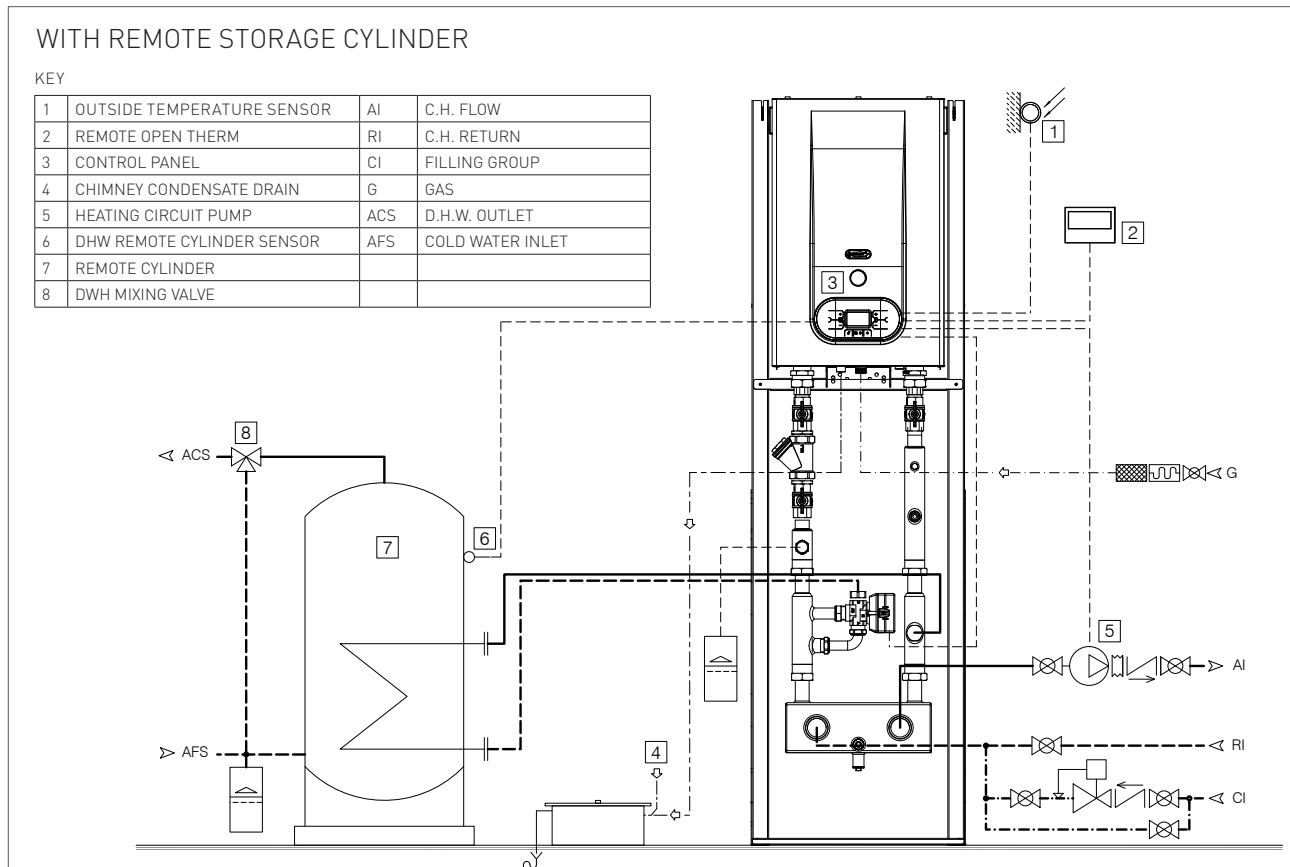
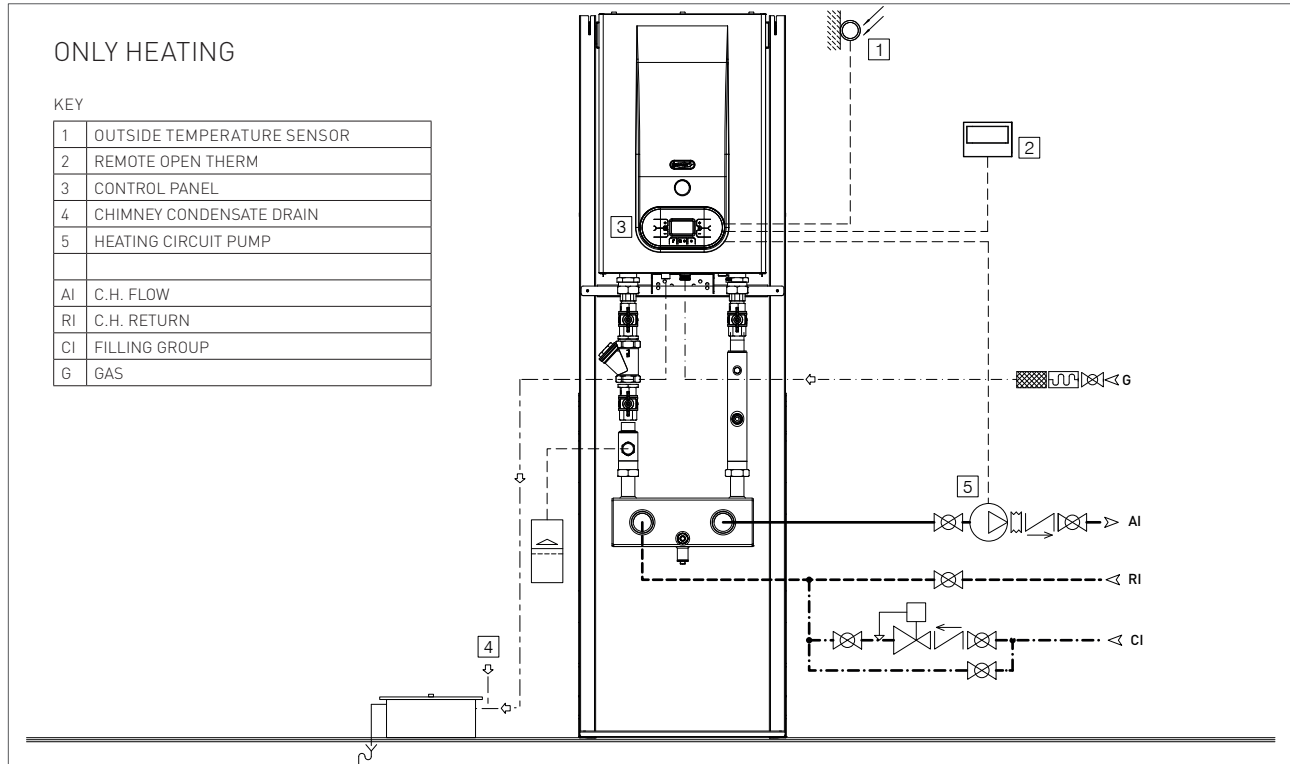


KEY

- | | | | |
|-----|--|-----|------------------------------|
| RI. | C.H. RETURN | 11. | HEATING PROBE |
| G. | GAS | 12. | SAFETY THERMOSTAT |
| SC. | CONDENSATE DRAIN | 13. | LIGHT UP ELECTRODE |
| AI. | C.H. FLOW | 14. | AIR SUCTION TUBE |
| 1. | FUMES SAFETY THERMOFUSE | 15. | START-UP TRANSFORMER |
| 2. | SLAVE UNIT HEAT EXCHANGER | 16. | PROPORTIONAL VENTURI |
| 3. | BURNER UNIT | 17. | SAFETY VALVE 3 bar |
| 4. | DETECTION ELECTRODE | 18. | WATER PRESSURE SWITCH |
| 5. | RETURN PROBE | 19. | COLLECTOR PROBE |
| 6. | ELECTRIC FAN | 20. | CONDENSATE COLLECTION SIPHON |
| 7. | CIRCULATOR | 21. | MANUAL AIR RELIEF VALVE |
| 8. | GAS VALVE | 22. | MASTER UNIT HEAT EXCHANGER |
| 9. | MANUAL AIR RELIEF VALVE /SYSTEM DRAINING TAP | | |
| 10. | AUTOMATIC AIR RELIEF VALVE | | |

6. SYSTEM MECHANICAL CIRCUIT

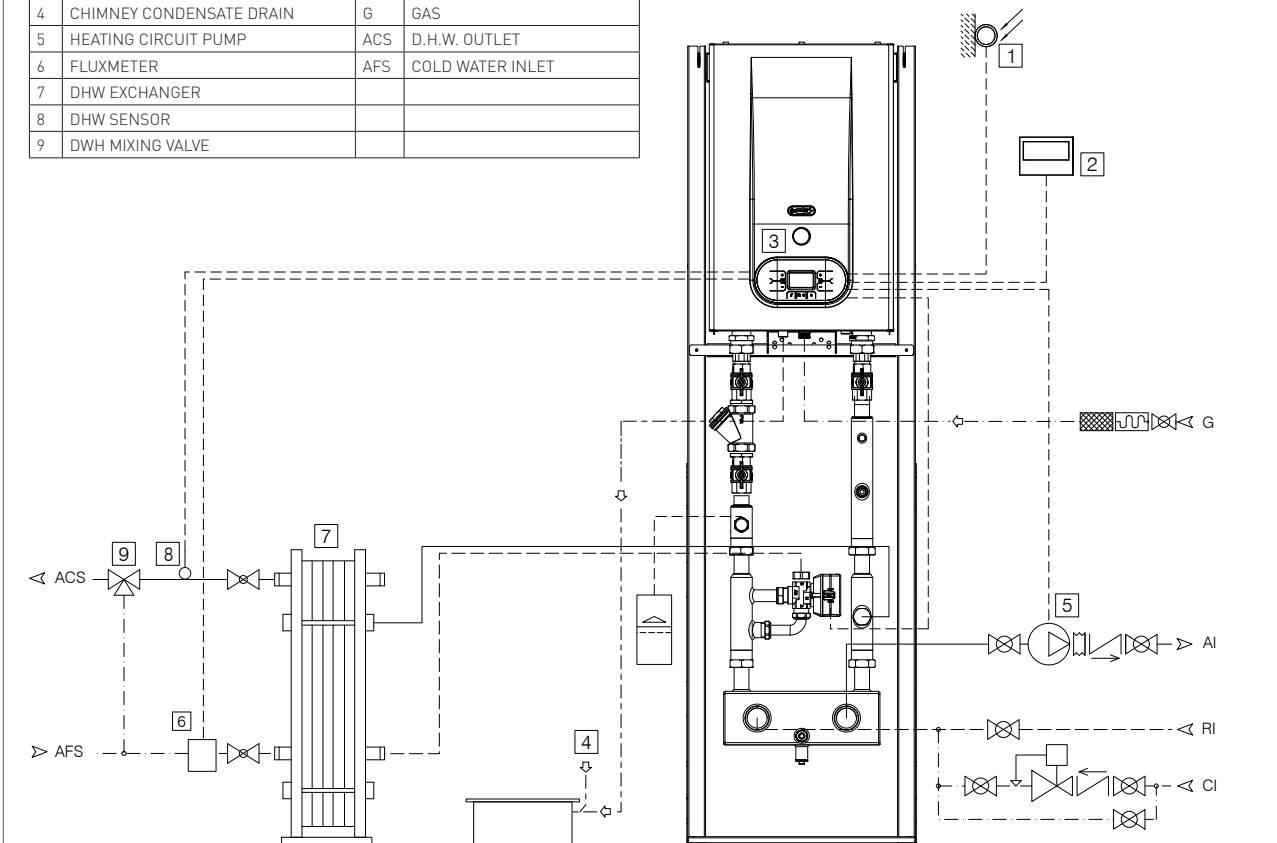
A1K 50



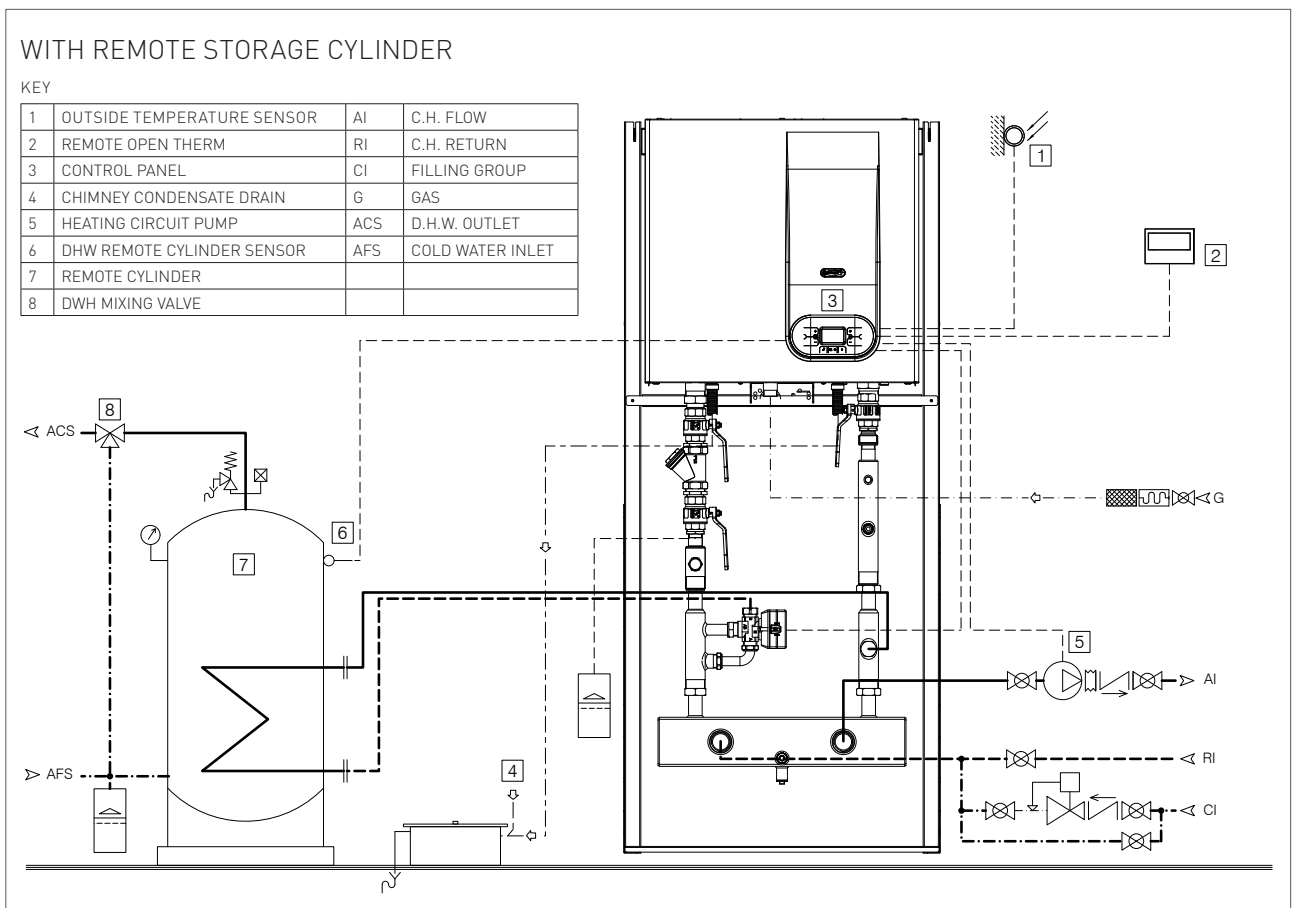
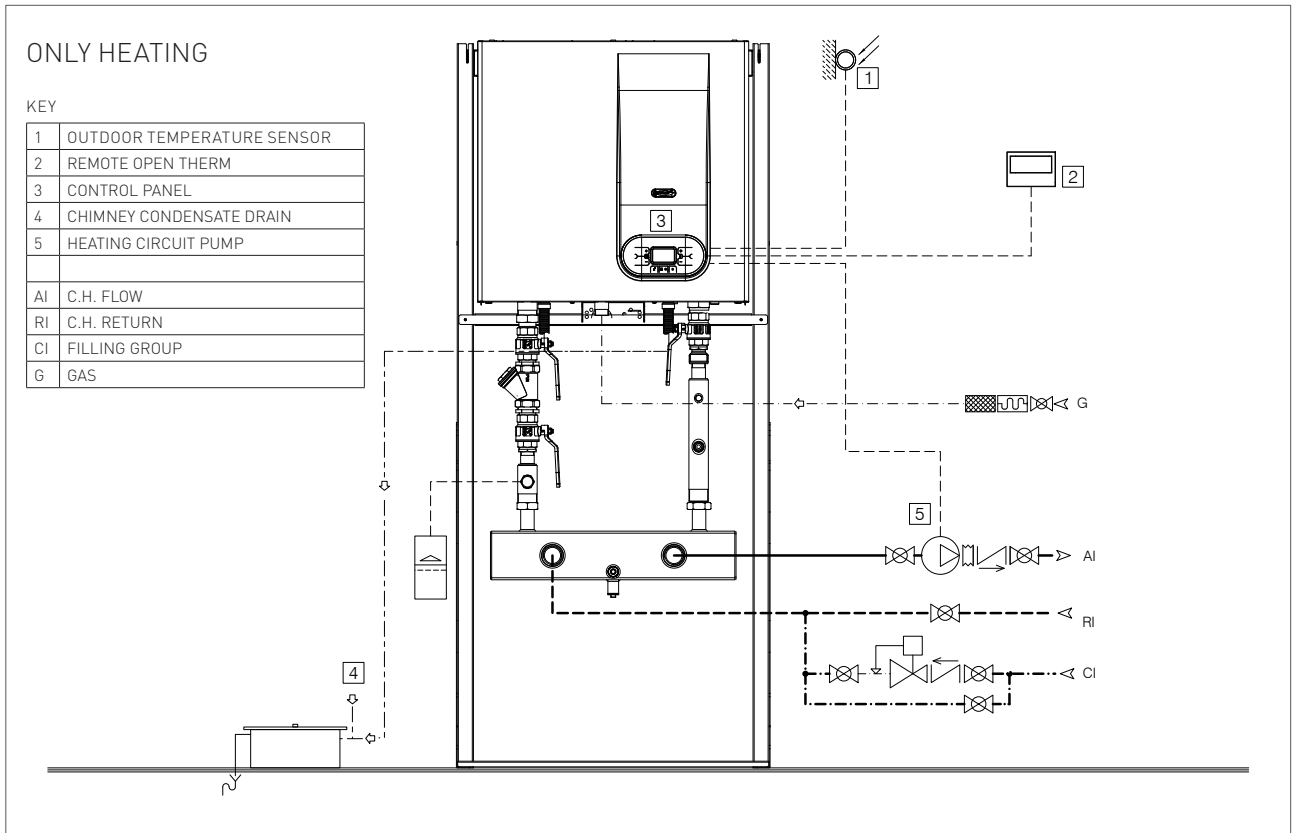
WITH REMOTE DHW EXCHANGER

KEY

1	OUTSIDE TEMPERATURE SENSOR	AI	C.H. FLOW
2	REMOTE OPEN THERM	RI	C.H. RETURN
3	CONTROL PANEL	CI	FILLING GROUP
4	CHIMNEY CONDENSATE DRAIN	G	GAS
5	HEATING CIRCUIT PUMP	ACS	D.H.W. OUTLET
6	FLUXMETER	AFS	COLD WATER INLET
7	DHW EXCHANGER		
8	DHW SENSOR		
9	DWH MIXING VALVE		



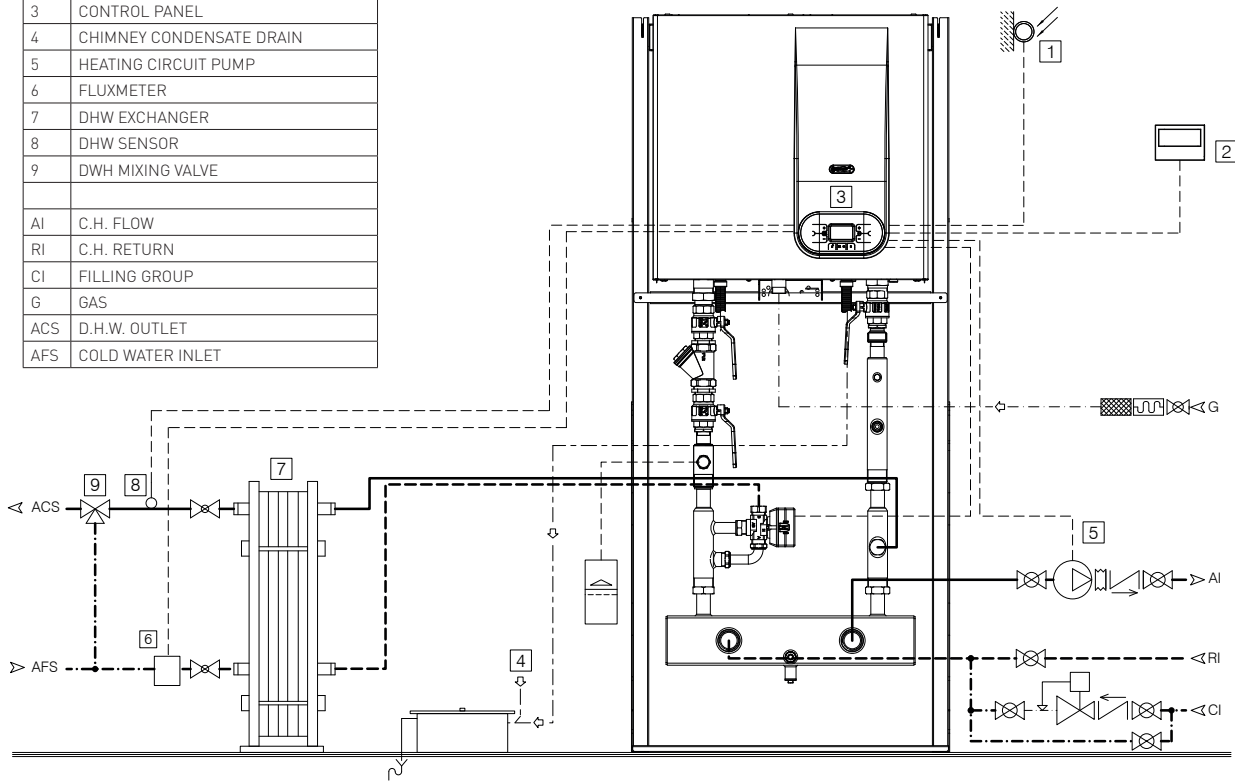
A1K 100



WITH REMOTE DHW EXCHANGER

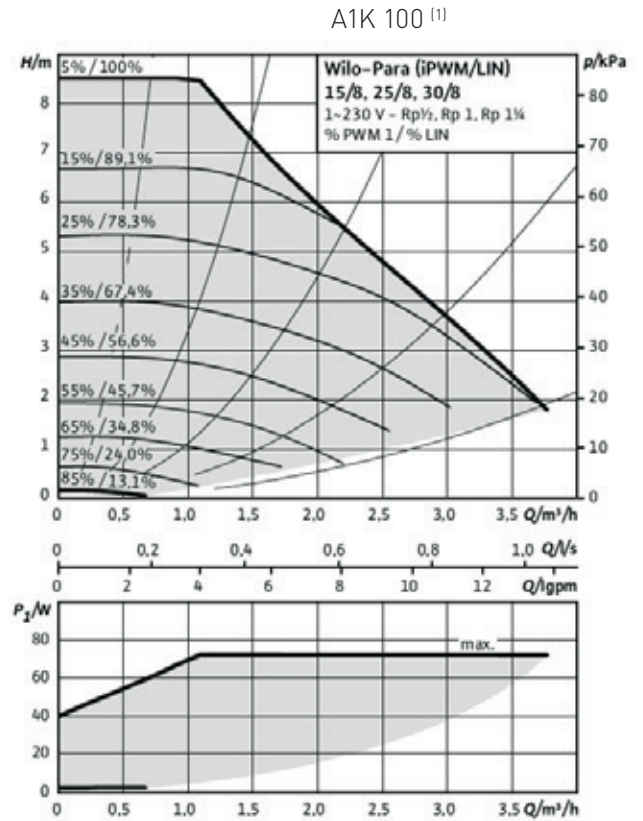
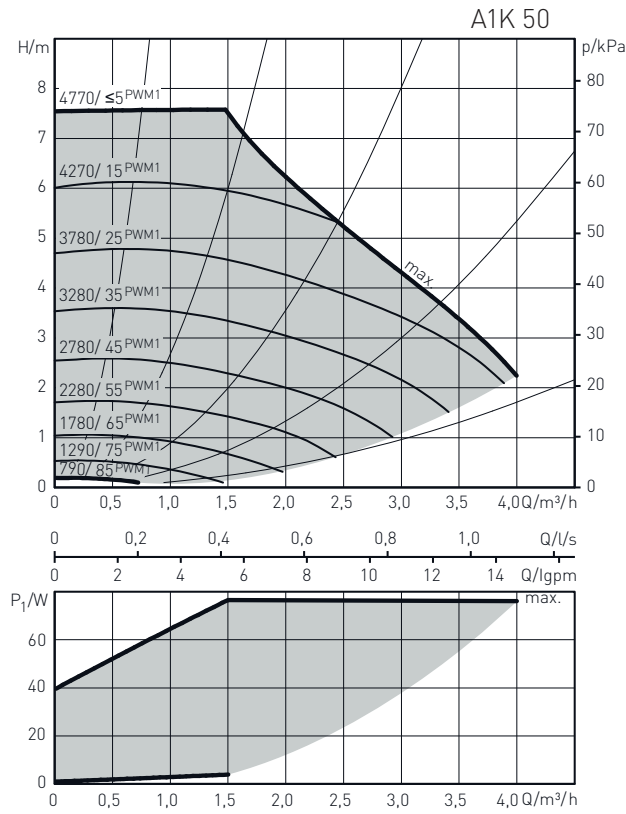
KEY

1	OUTSIDE TEMPERATURE SENSOR
2	REMOTE OPEN THERM
3	CONTROL PANEL
4	CHIMNEY CONDENSATE DRAIN
5	HEATING CIRCUIT PUMP
6	FLUXMETER
7	DHW EXCHANGER
8	DHW SENSOR
9	DWH MIXING VALVE
AI	C.H. FLOW
RI	C.H. RETURN
CI	FILLING GROUP
G	GAS
ACS	D.H.W. OUTLET
AFS	COLD WATER INLET

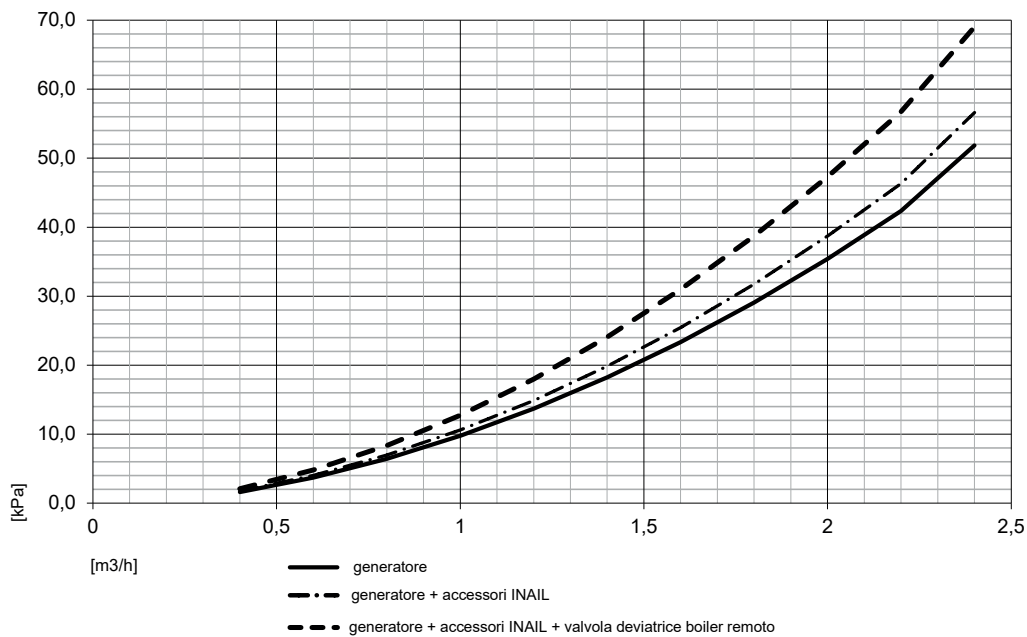


7. HEAD/FLOW DIAGRAM

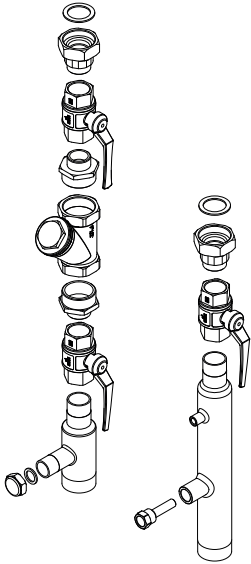
CIRCULATOR



INDIVIDUAL BOILER ⁽¹⁾



8. ACCESSORIES

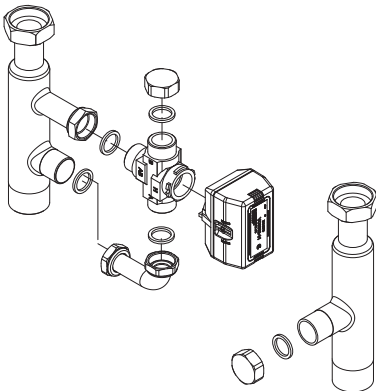


HYDRAULIC VERTICAL CONNECTION Ø1"1/2 KIT
Ø1"1/2 FOR A1K 50 BOILER - code 26110LP
Ø1"1/2 FOR A1K 100 BOILER - code 65-00053

- For a direct connection to the boiler.
- On the return connection a strainer has been included to protect the boiler from any dirty or impurity that may cause obstructions.

The Kit includes:

- strainer
- isolating valve
- expansion vessel connection
- water pressure gauge connection socket
- filling loop connection

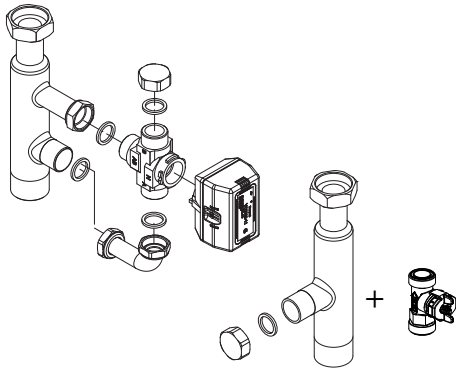


3-WAY VALVE KIT FOR DHW STORAGE CYLINDER
CONNECTION
Ø1"1/2 FOR PER A1K 50-100 BOILER - code 26097LP

It is possible to connect the boiler to a storage cylinder for the domestic hot water production by installing the 3-Way valve Kit.

The installation of the 3-way valve kit (on the heating return) requires the use of a D.H.Water temperature sensor for the boiler control, excluding the use of a cascade regulator.

The kit includes a 3- Way valve that will be connected to the main PCB, a cylinder D.H. Water temperature sensor (8 metres length) that will be connected to the boiler main PCB to enable the correct setting and data display (D.H.Water temperature)

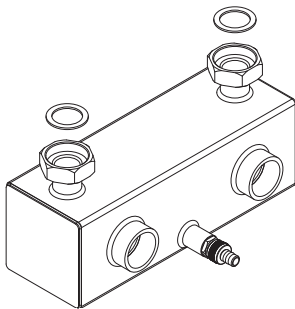


INSTANTANEOUS D.H.W. PRODUCTION KIT

Ø1"1/2 - A1K 100 - code 65-00819

The kit allows instantaneous D.H.W. production management through a remote heat exchanger.

The kit includes a 3- Way valve that will be connected to the main PCB, a cylinder D.H. Water temperature sensor (8 metres length) that will be connected to the main PCB to enable the correct setting and data display (D.H.Water temperature) and a flow-meter to be installed at cold water inlet.



HYDRAULIC COMPENSATOR DN100 (Ø4") KIT FOR A1K 50 BOILER

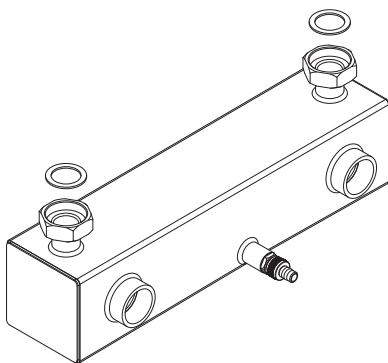
code 26205LA

The use of a compensator is recommended when there is a primary circuit with its own circulating pump and a secondary circuit with one or more circulating pumps. The compensator will negate situations whereby the different pumps of the circuit will interact one with another creating abnormal flow variations.

The compensator will create a low pressure loss zone so that the primary circuit (of the boiler) will become independent from the secondary circuit to guarantee flexibility of installation and on systems with several pumps, high flow rates and high pump heads

The Kit includes:

- washer (x2) Ø1"1/2;
- hydraulic compensator DN100"



HYDRAULIC COMPENSATOR DN100 (Ø4") KIT FOR A1K 100 BOILER

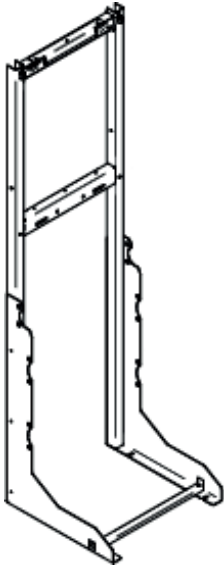
code 12-01735

The use of a compensator is recommended when there is a primary circuit with its own circulating pump and a secondary circuit with one or more circulating pumps. The compensator will negate situations whereby the different pumps of the circuit will interact one with another creating abnormal flow variations.

The compensator will create a low pressure loss zone so that the primary circuit (of the boiler) will become independent from the secondary circuit to guarantee flexibility of installation and on systems with several pumps, high flow rates and high pump heads

The Kit includes:

- washer (x2) Ø1"1/2;
- hydraulic compensator DN100"



FREESTANDING FRAME

Freestanding frame for an individual boiler installation

DN65 MANIFOLD FOR A1K 50 BOILER - code 12-01614

DN65 MANIFOLD FOR A1K 100 BOILER - code 12-01713

DN100 MANIFOLD FOR A1K 50 BOILER - code 12-01912

DN100 MANIFOLD FOR A1K 100 BOILER - code 12-1932

PLATE HEAT EXCHANGER

HEAT EXCHANGER TABLE

In case of a standard boiler's replacement in an old system with impurities and in case of problems during the system flushing, the installation of a heat exchanger is recommended to prevent boiler's obstructions that might compromise its functioning. The heat exchanger, interface between the primary circuit which includes the boiler and the secondary circuit, guarantees a real separation of thermal carriers flows and the consequently boiler safeguard.

Boiler version	Primary				Secondary				Plate heat exchanger			
	Q	T _{IN}	T _{OUT}	H _{max}	Q	T _{IN}	T _{OUT}	H _{max}	code	model	plate	type
	litres/h	°C	°C	kPa	litres/h	°C	°C	kPa				
A1K 50	2150	80	59.9	3.48	2867	55.0	70	5.99	25-00267	Z3	13	inspected
				3.10				5.34				
A1K 100	4300	80	59.9	4.84	5733	55.1	70	8.34	20091LA	Z3	21	inspected
				4.68				8.06				

DWH EXCHANGER TABLE

In case it is necessary to produce instant domestic hot water, it is possible to combine a plate exchanger with the boiler.

Boiler version	Primary				Secondary				Plate heat exchanger			
	T _{IN}	T _{OUT}	Q	H _{max}	T _{IN}	T _{OUT}	Q	H _{max}	code	model	plate	type
	°C	°C	litres/h	kPa	°C	°C	litres/h	kPa				
A1K 50	80	59,6	2150	8.72	15	40	1701	6.64	25-00920	ZB207	34	brazed
					15	45	1419	4.73				
					15	50	1217	3.54				
A1K 100	80	59.9	4300	10,92	15	40	3402	8.31	25-00812	ZB250	50	brazed
					15	45	2837	5.92				
					15	50	2434	4.43				

NOTES: The dimensions shown in the table must be understood as purely indicative and are therefore subject to design verification by the designer who draws up the project.

9. TYPES OF FUME EXHAUST SYSTEMS

A1K 50

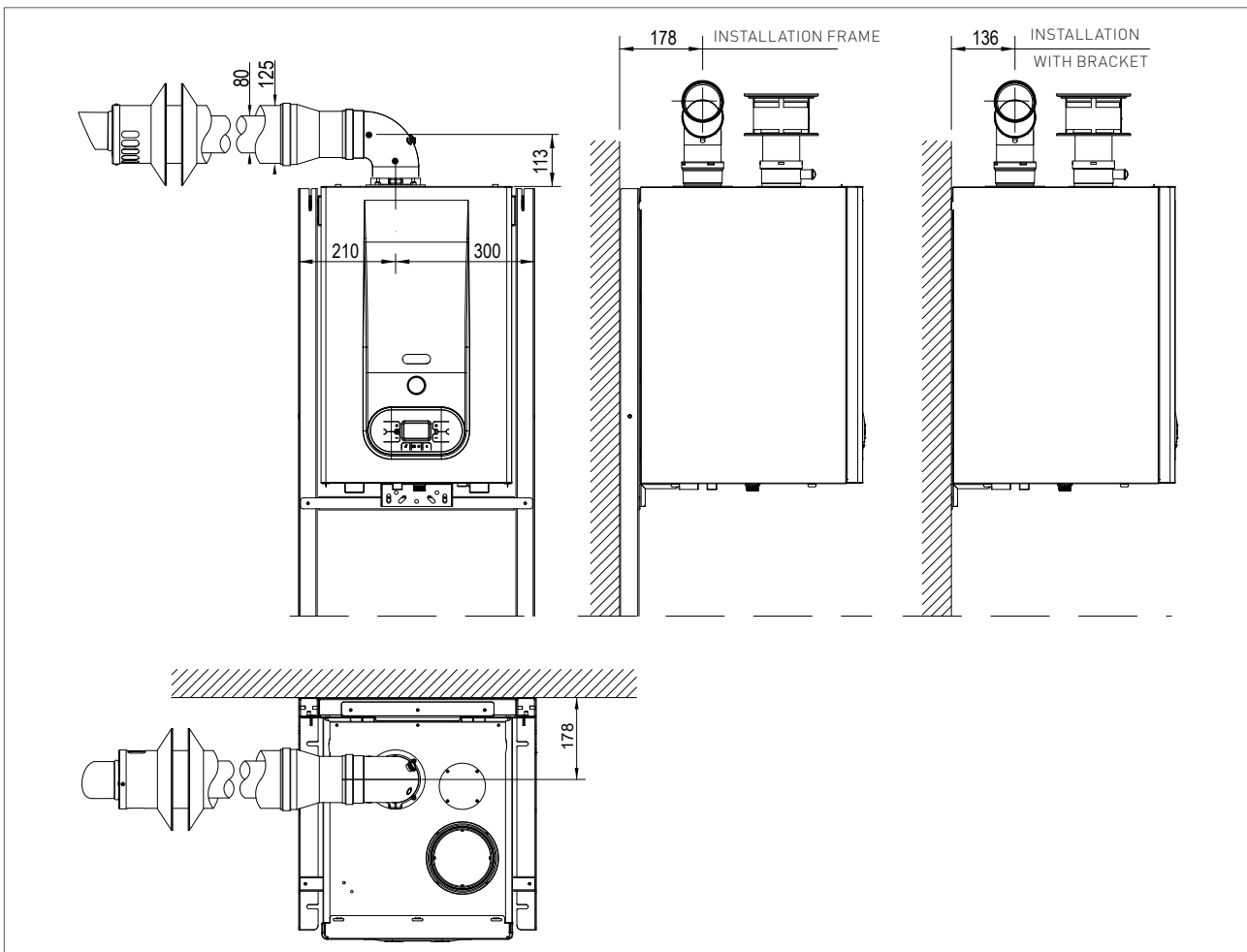
FLUE TYPE KIT AK 50 - cod. 82109LP - HORIZONTAL CONCENTRIC FLUE KIT Ø80/125 MM POLYPROPYLENE INNER PIPE ADJUSTABLE THROUGH 360°

It allows fuel gas discharge and air intake for combustion through concentric ducts, the external one for air intake, the plastic internal one for fumes discharge.

Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80/125	0.8
Flue bend 45° MF Ø80/125	0.5

FLUE TYPE - KIT CK50 - cod.82112LP - VERTICAL CONCENTRIC FLUE KIT Ø80/125 MM POLYPROPYLENE INNER PIPE

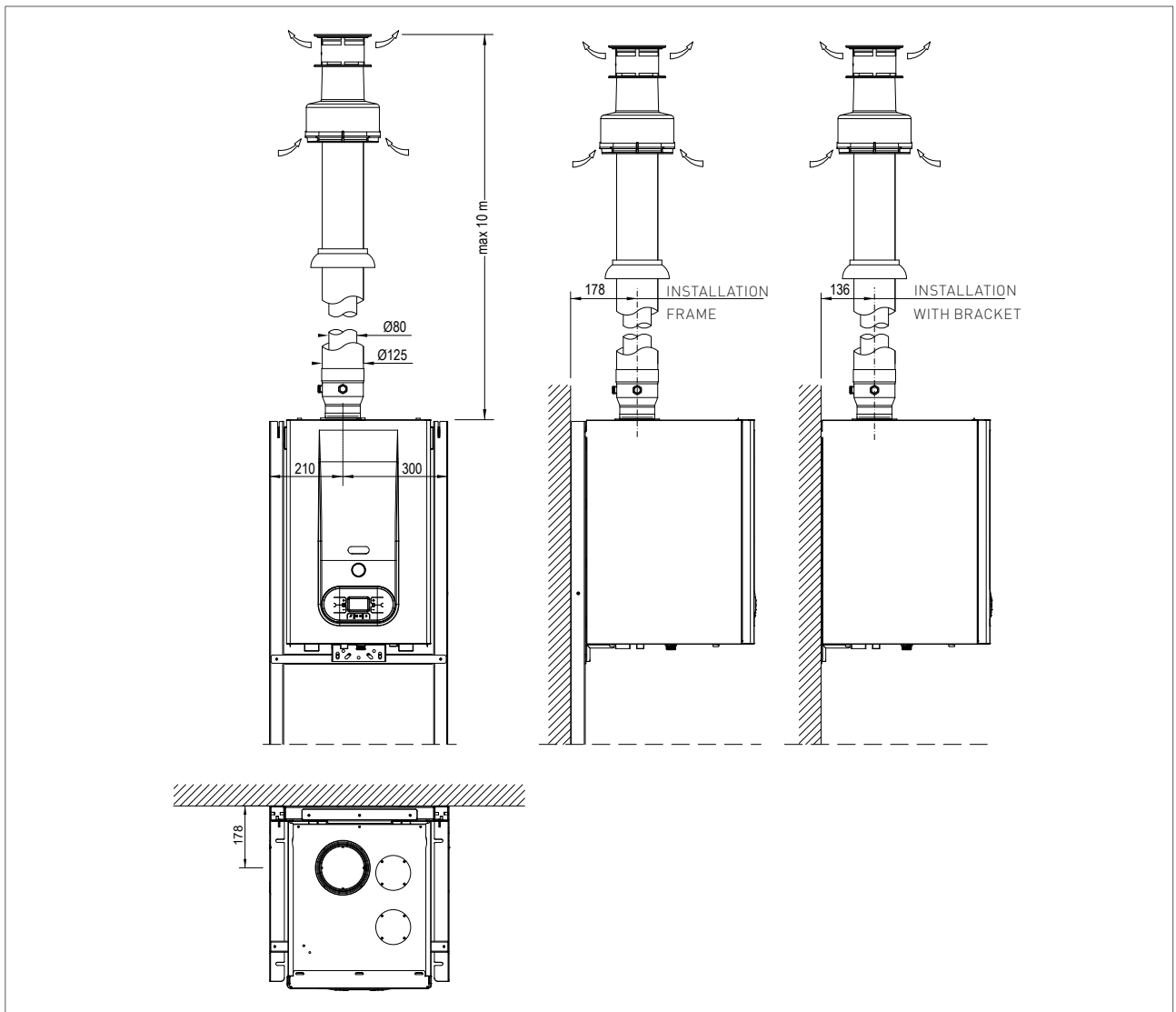
It allows fumes discharge and air intake directly from roof.

Suitable only for condensing boilers.

It allows fuel gas discharge and air intake for combustion through concentric ducts, the external one for air intake, the plastic internal one for fumes discharge.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent lenght [m] lenght
Flue bend 90° MF Ø80/125	0.8
Flue bend 45° MF Ø80/125	0.5

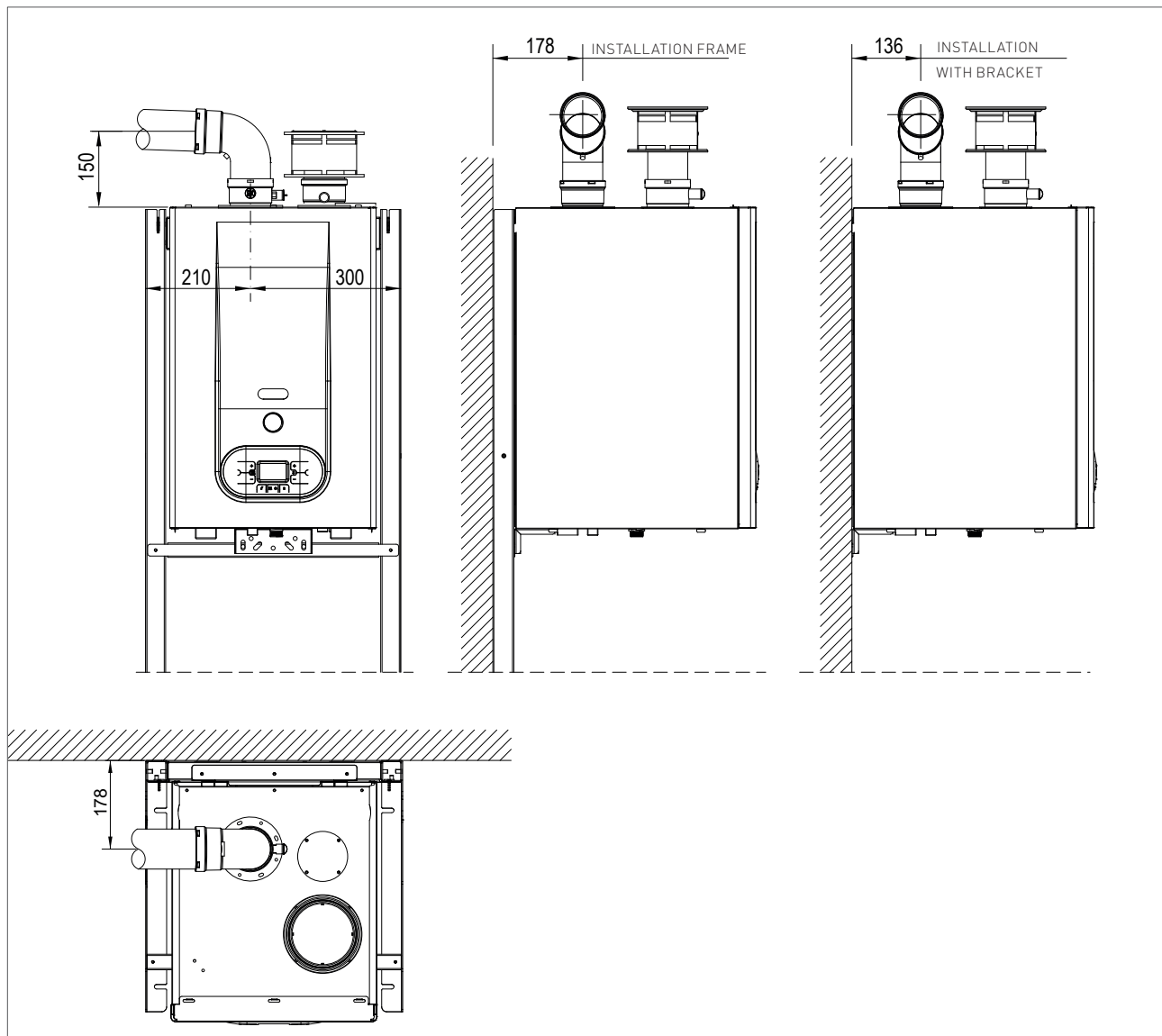
FLUE TYPE - KIT EK 50 – cod. 82107LP: HORIZONTAL FLUE KIT Ø80 MM IN POLYPROPYLENE, ADJUSTABLE AT 360°.

It allows fumes discharge and draws air from atmosphere.

The tube system allows fumes discharge through the fumes exhaust duct and draws air from atmosphere Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80	1.5
Flue bend 45° MF Ø80	0.8

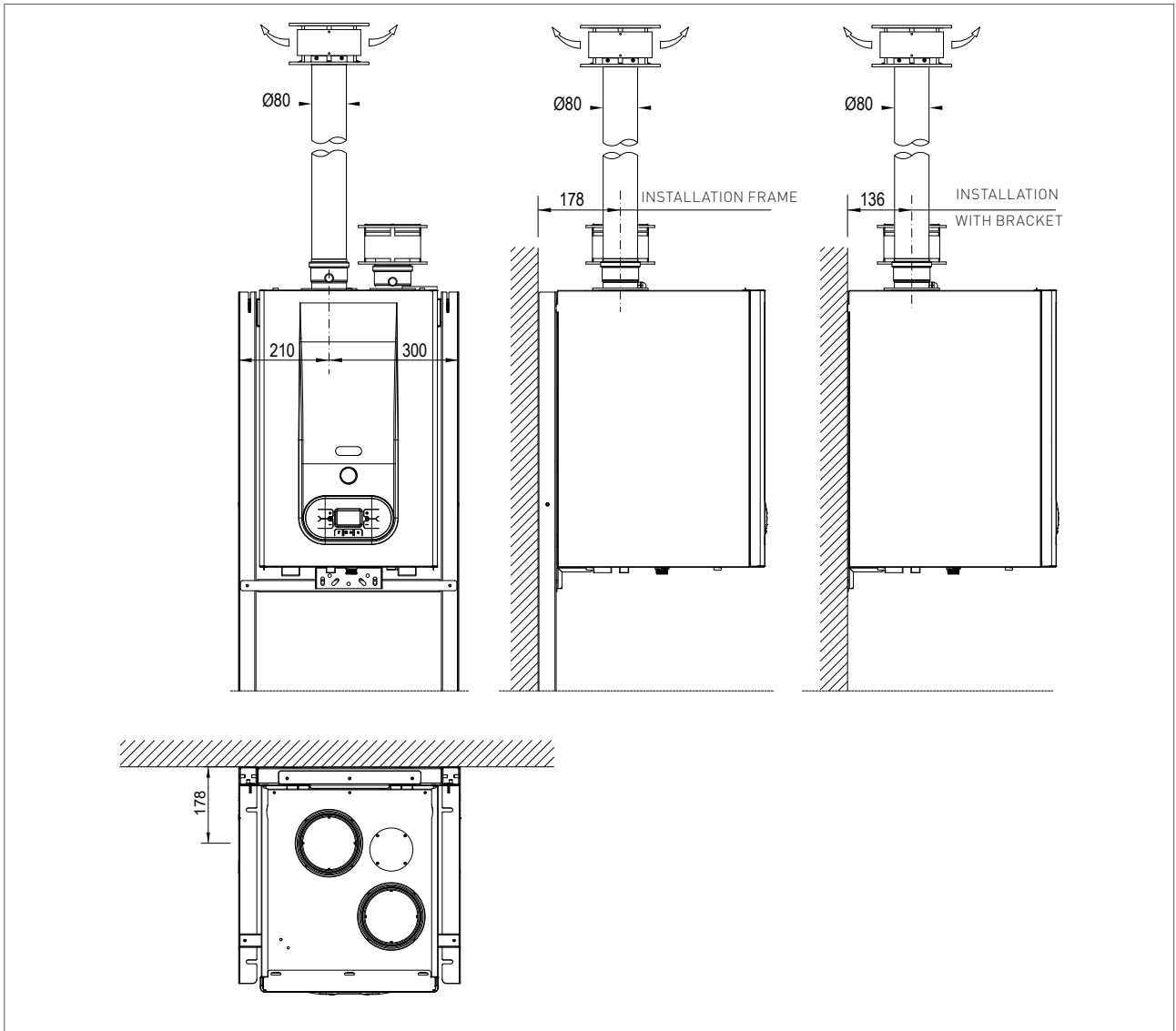
FLUE TYPE - KIT FK 50 - cod. 82106LP - VERTICAL FLUE KIT Ø80 MM IN POLYPROPYLENE

It allows fumes discharge directly from roof and draws air from atmosphere

Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter "TECHNICAL DATA".

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80	1.5
Flue bend 45° MF Ø80	0.8

A1K 100

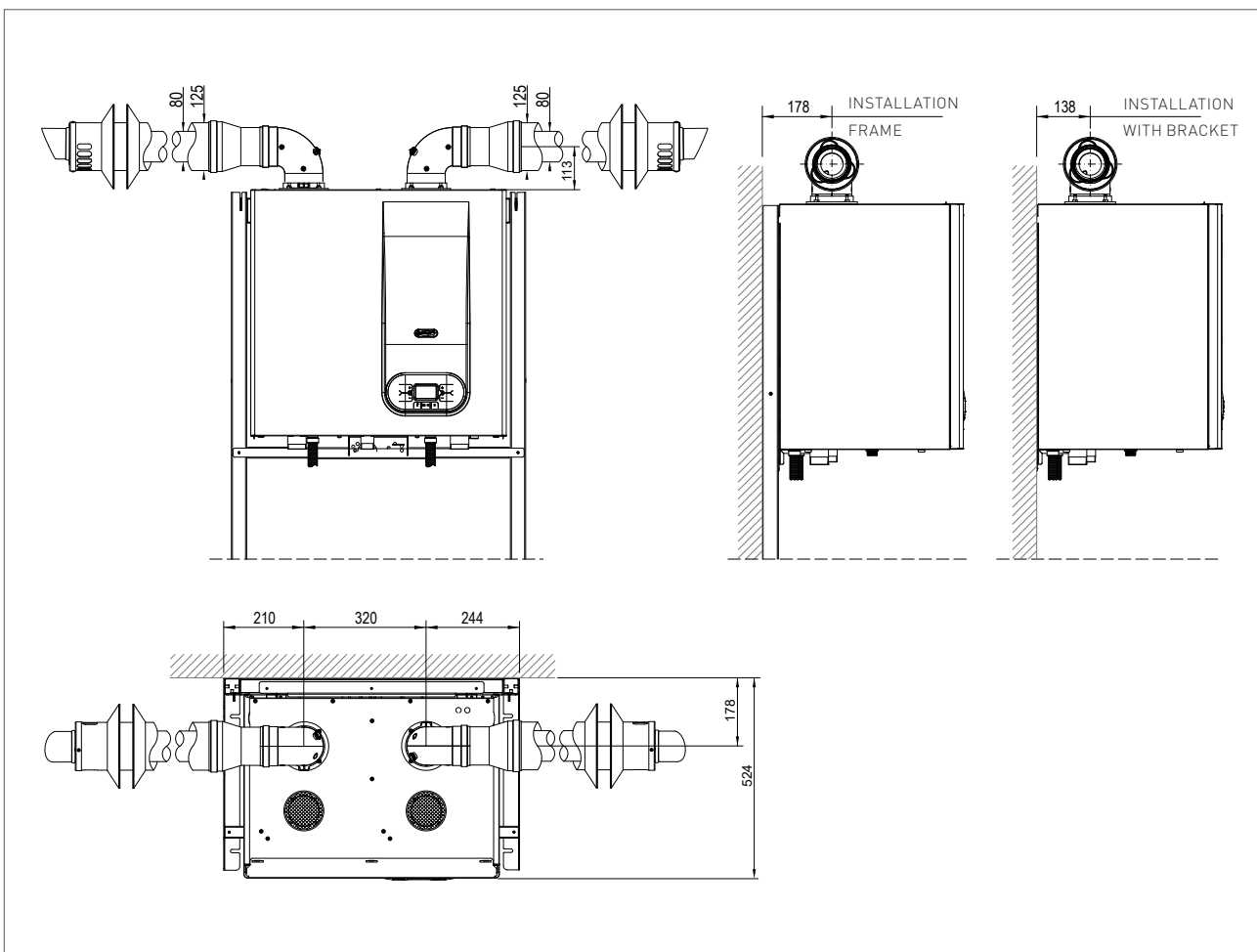
FLUE TYPE KIT AK 50 x 2 - cod. 82109LP - HORIZONTAL CONCENTRIC FLUE KIT Ø80/125 MM POLYPROPYLENE INNER PIPE ADJUSTABLE THROUGH 360°

It allows fuel gas discharge and air intake for combustion through concentric ducts, the external one for air intake, the plastic internal one for fumes discharge.

Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80/125	0.8
Flue bend 45° MF Ø80/125	0.5

FLUE TYPE - KIT CK 50 x 2 - cod.82112LP - VERTICAL CONCENTRIC FLUE KIT Ø80/125 MM POLYPROPYLENE INNER PIPE

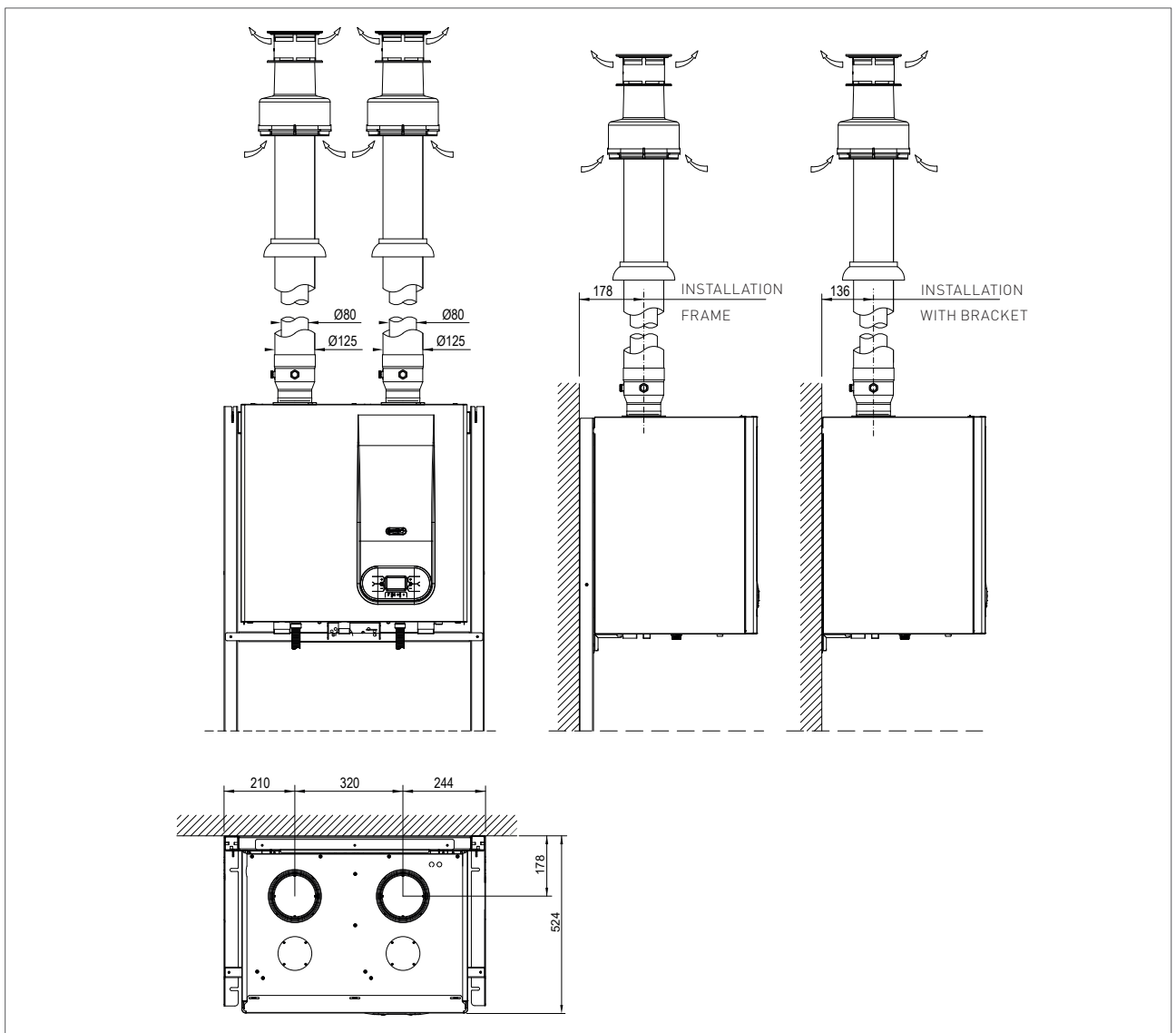
It allows fumes discharge and air intake directly from roof.

Suitable only for condensing boilers.

It allows fuel gas discharge and air intake for combustion through concentric ducts, the external one for air intake, the plastic internal one for fumes discharge.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first. linear tube and that.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

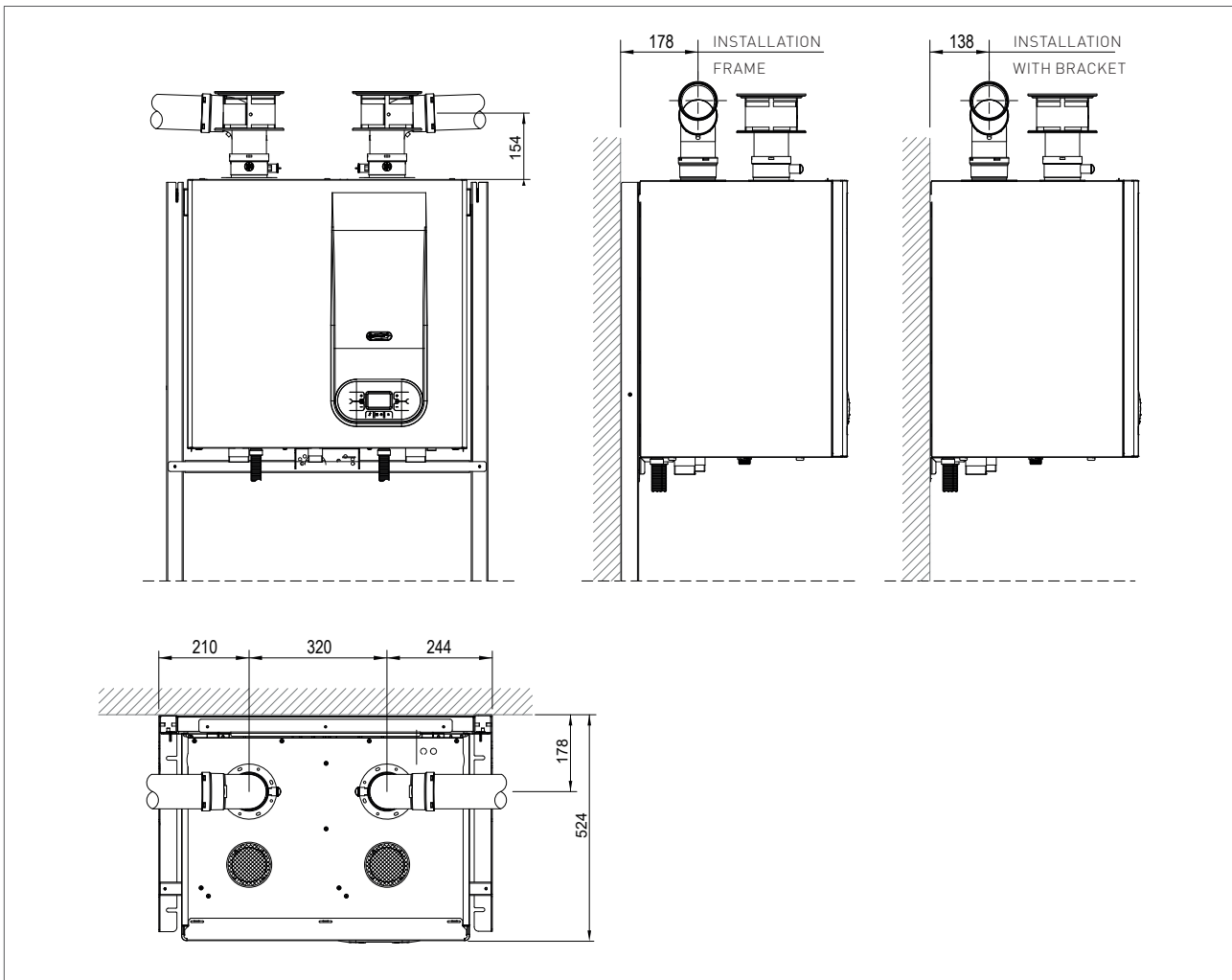
Description	Equivalent length [m] length
Flue bend 90° MF Ø80/125	0.8
Flue bend 45° MF Ø80/125	0.5

FLUE TYPE - KIT EK 50 x 2 - cod. 82107LP - HORIZONTAL FLUE KIT Ø80 MM IN POLYPROPYLENE, ADJUSTABLE AT 360°.

The tube system allows fumes discharge through the fumes exhaust duct and draws air from atmosphere Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80	1.5
Flue bend 45° MF Ø80	0.8

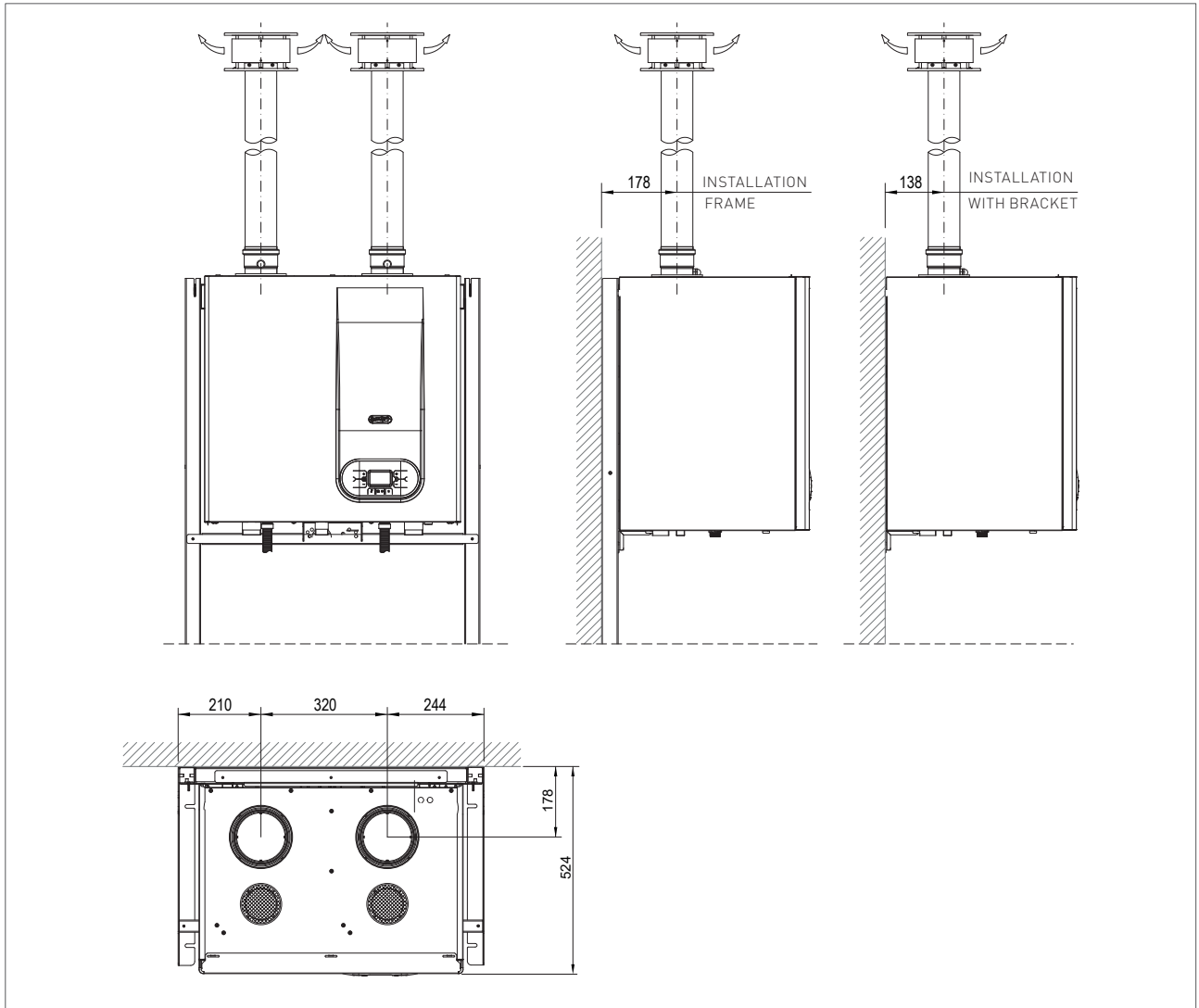
FLUE TYPE - KIT FK 50 x 2 – cod. 82109LP - VERTICAL FLUE KIT Ø80 MM IN POLYPROPYLENE

It allows fumes discharge directly from roof and draws air from atmosphere

Suitable only for condensing boilers.

Please see the maximum discharge length in the table in chapter “TECHNICAL DATA”.

The maximum discharge length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.

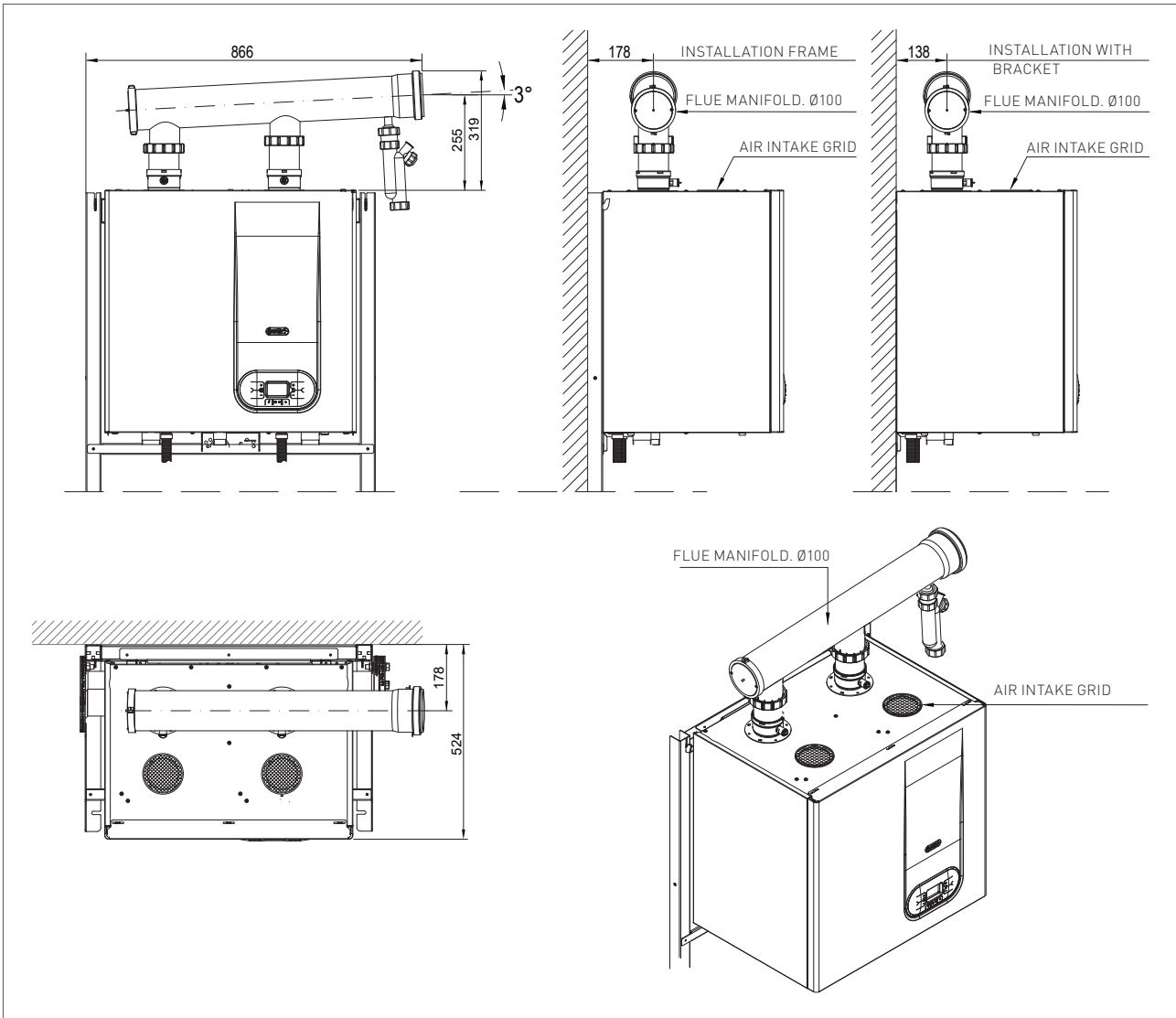


Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] length
Flue bend 90° MF Ø80	1.5
Flue bend 45° MF Ø80	0.8

cod. 50-00180 - FLUE MANIFOLD D.100 KIT IN POLYPROPYLENE

It allows fumes discharge in chimney and draws air from atmosphere.



Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

Description	Equivalent length [m] lenght
Flue bend 90° MF Ø100	1.5
Flue bend 45° MF Ø100	0.8

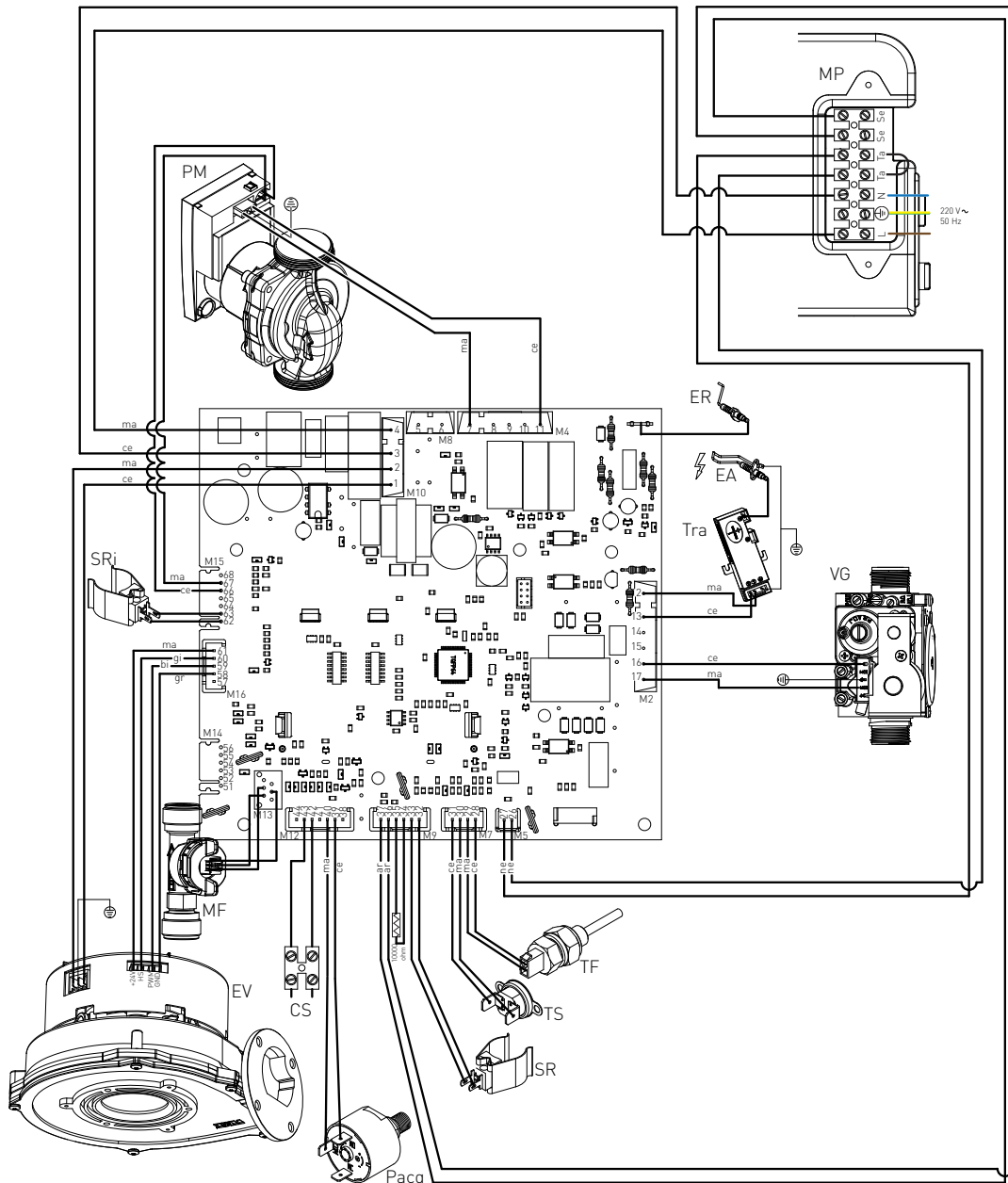
NB: the air intake manifold is also available

10. ACCESSORIES

Model		A1K 50	A1K 100
CLOUDWARM WIFI APPLICATION Recessed installation (wired) NB: If you do not have a Wi-Fi network, you can access it via a GSM modem, purchased separately	code 40-00292	√	√
EASY REMOTE – Remote boiler controller, it performs a dual function, thermostat and remote control of the boiler.	code 40-00017	√	√
WEEK – Digital Chrono thermostat – Weekly settings it manages weekly programs and controls 2 temperature levels: day-night.	code 86047LA	√	√
DAY – Chrono thermostat analogic – Daily settings It manages daily programs and controls 2 temperature levels: day-night.	code 86046LA	√	√
ZONE VALVE MANAGEMENT KIT – to control multiple temperature zones combined with the remote boiler controller.	code 65-00030	√	√
OUTSIDE TEMPERATURE SENSOR - It allows the generator to operate with sliding temperature	code 73518LA	√	√
CONDENSATE DISCHARGE PUMP SI-82	code 82156LA	√	√
INSTANTANEOUS DHW PRODUCTION KIT	code 65-00819	-	√
KIT EK50 -HORIZONTAL SINGLE PIPE FLUE KIT Ø80 PP.	code 82107LP	√	√
KIT FK50 -VERTICAL SINGLE PIPE FLUE KIT Ø80 PP.	code 82106LP	√	√
FLUE MANIFOLD Ø100 KIT	code 50-00180	-	√
KIT AK50 -HORIZ. CONCENT. FLUE KIT Ø80/125 PP INNER P.	code 82109LP	√	√
KIT CK50 -VERT. CONCENT. FLUE KIT Ø80/125 PP INNER P.	code 82112LP	√	√

11. WIRING DIAGRAMS

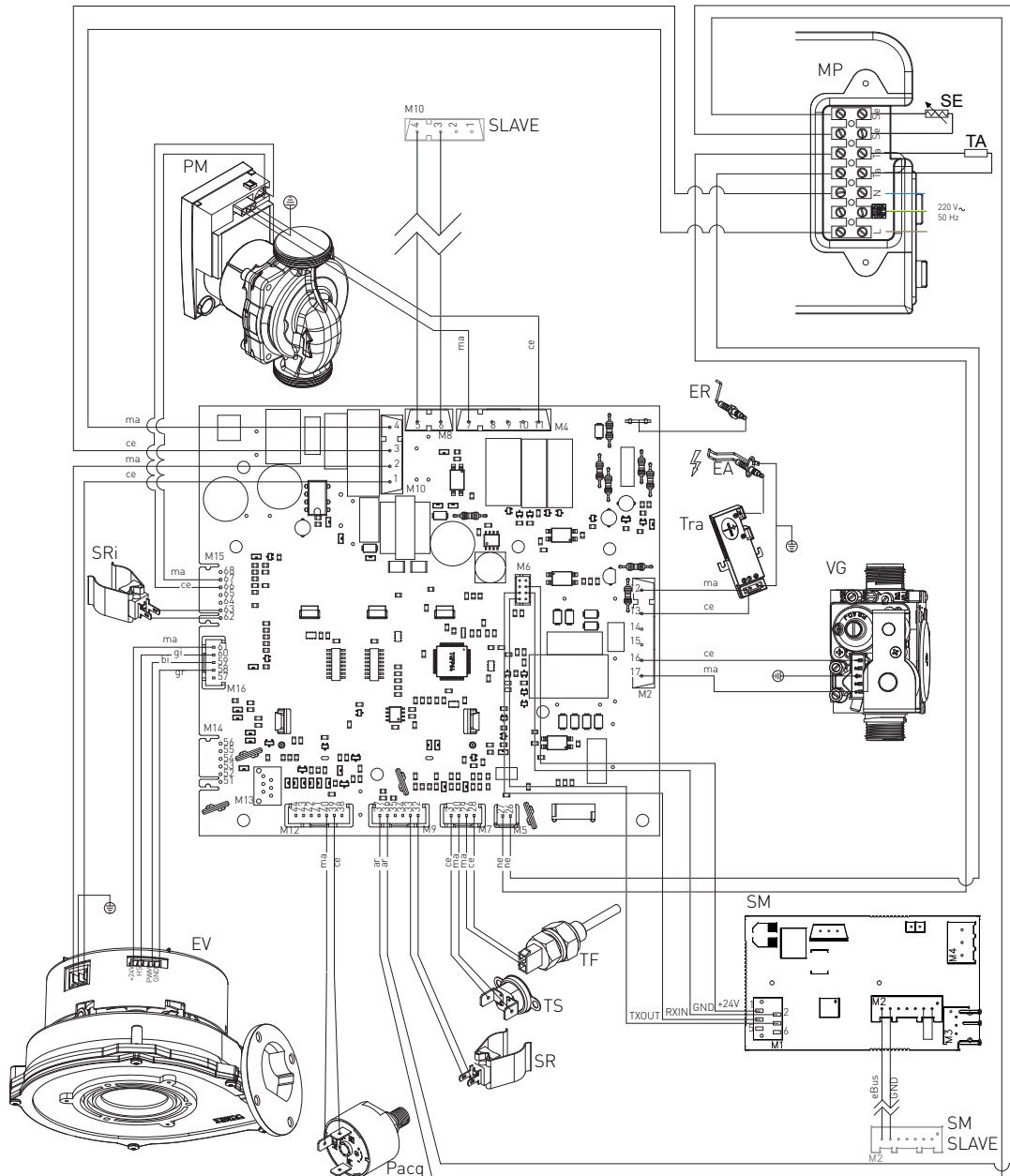
A1K 50 ⁽¹⁾



ER: DETECTION ELECTRODE	TS: SAFETY THERMOSTAT	MP: PANEL TERMINAL	CE: BLUE
EA: START-UP ELECTRODE	PACQ: WATER PRESSURE SWITCH	SE: EXTERNAL PROBE	MA: BROWN
PM: CIRCULATOR MODULATING	TF: FUMES THERMOFUSE (102°C)	TA: ENVIRONMENT THERMOSTAT	AR: ORANGE
VG: GAS VALVE	SR: HEATING PROBE	L: LINE	GI: YELLOW
TRA: START-UP TRANSFORMER	EV: ELECTRIC FAN	N: NEUTRAL	BI: WHITE
SRi: HEATING RETURN PROBE	MF: FLUXMETER	NE: BLACK	GR: GREY

⁽¹⁾ For the wiring diagram of the RS version, consult the boiler instruction manual.

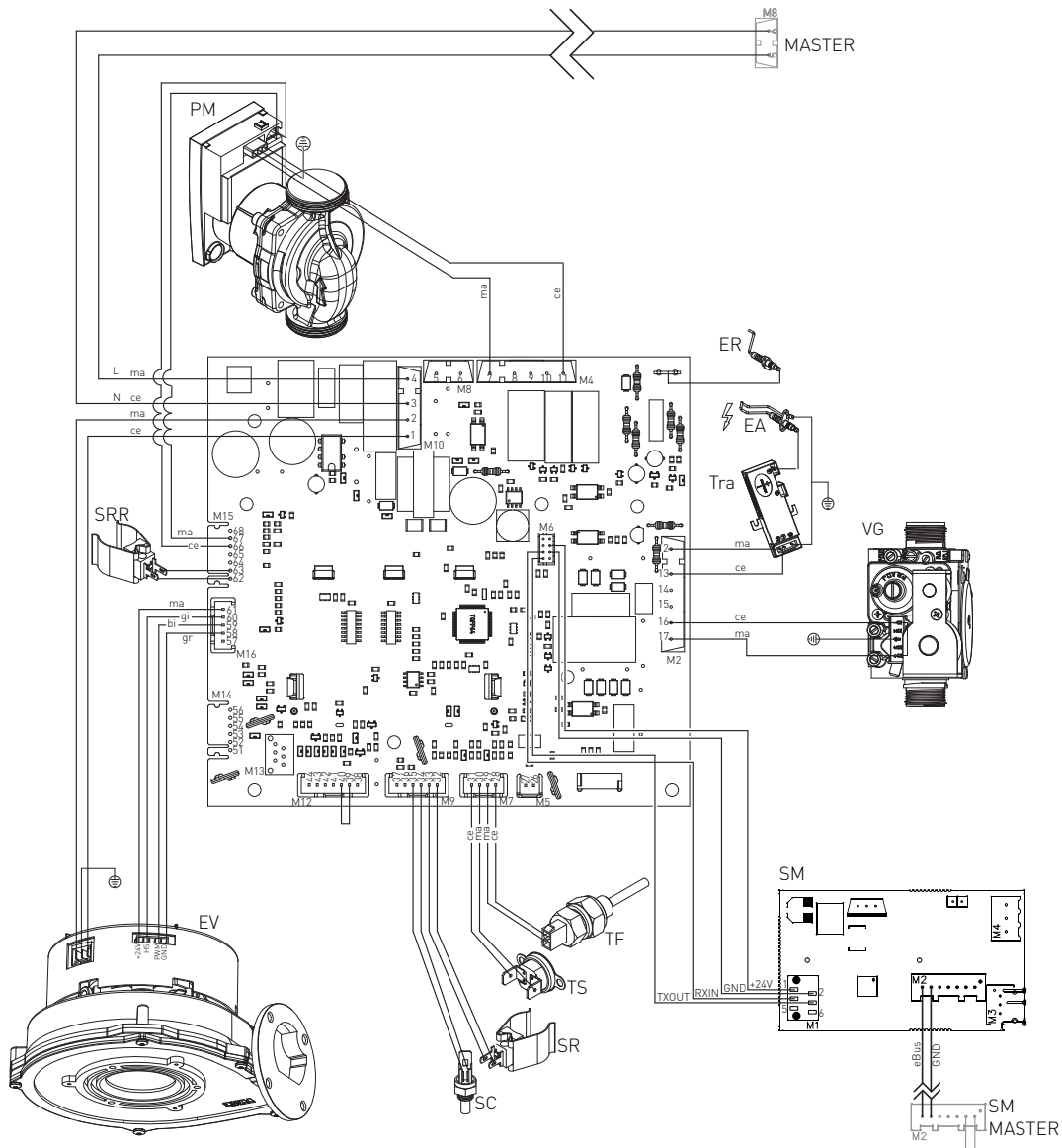
A1K 100 - MASTER ⁽¹⁾



- | | | | |
|---------------------------|------------------------------|----------------------------|------------|
| ER: DETECTION ELECTRODE | TS: SAFETY THERMOSTAT | MP: PANEL TERMINAL | CE: BLUE |
| EA: START-UP ELECTRODE | PACQ: WATER PRESSURE SWITCH | SE: EXTERNAL PROBE | MA: BROWN |
| PM: MODULATING CIRCULATOR | SR: HEATING PROBE | TA: ENVIRONMENT THERMOSTAT | AR: ORANGE |
| VG: GAS VALVE | EV: ELECTRIC FAN | L: LINE | GI: YELLOW |
| TRA: START-UP TRANSFORMER | TF: FUMES THERMOFUSE (102°C) | N: NEUTRAL | BI: WHITE |
| SM: MODBUS BOARD | SRI: SYSTEM RETURN PROBE | NE: BLACK | GR: GREY |

⁽¹⁾ For the wiring diagram of the RS version, consult the boiler instruction manual.

A1K 100 - SLAVE



ER: DETECTION ELECTRODE	TS: SAFETY THERMOSTAT	SM: MODBUS BOARD	CE: BLUE
EA: START-UP ELECTRODE	MP: PANEL TERMINAL	L: LINE	MA: BROWN
PM: MODULATING CIRCULATOR	SR: HEATING PROBE	N: NEUTRAL	AR: ORANGE
VG: GAS VALVE	EV: ELECTRIC FAN	NE: BLACK	GI: YELLOW
TRA: START-UP TRANSFORMER	TF: FUMES THERMOFUSE (102°C)		BI: WHITE
SC: COLLECTOR PROBE	SRI: SYSTEM RETURN PROBE		GR: GREY

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