

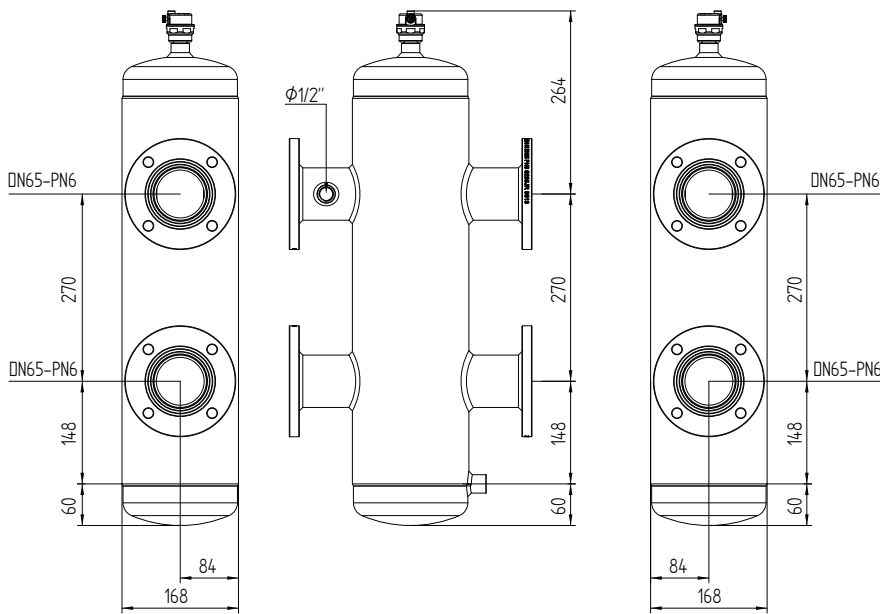


## 8. ACCESSORIES

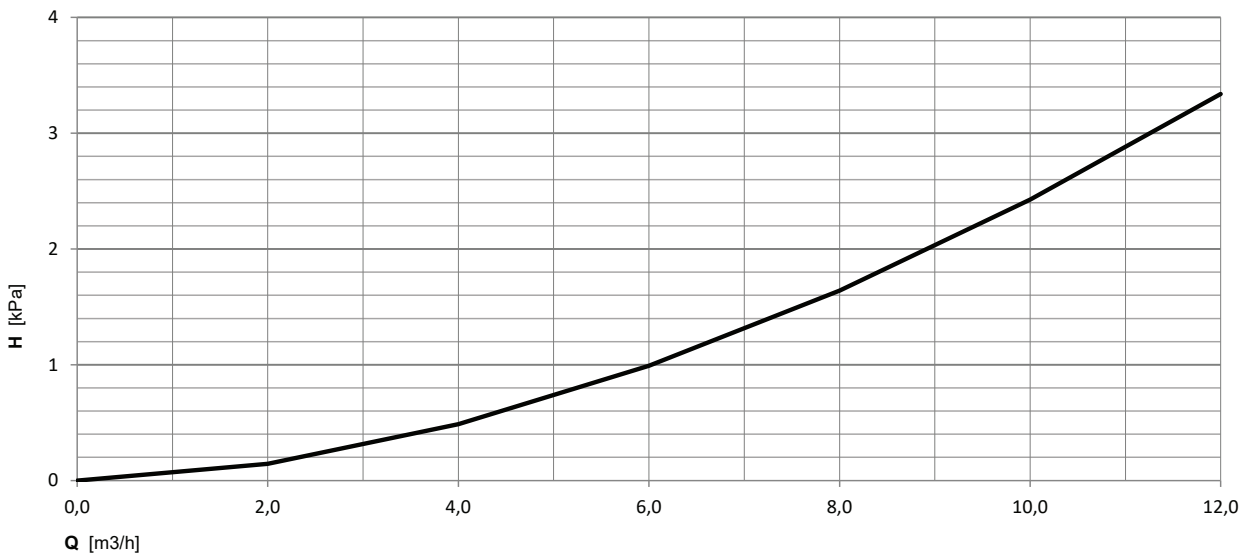
### HYDRAULIC SEPARATOR

We highly recommend the installation of the hydraulic separator aimed to guarantee the balanced operation in all conditions, like for instance in case of variations of the sanitary flow rates.

code 26116LP **DN 150 - DN65-PN6** connections  
for single or cascade installation with power up to 350 kW

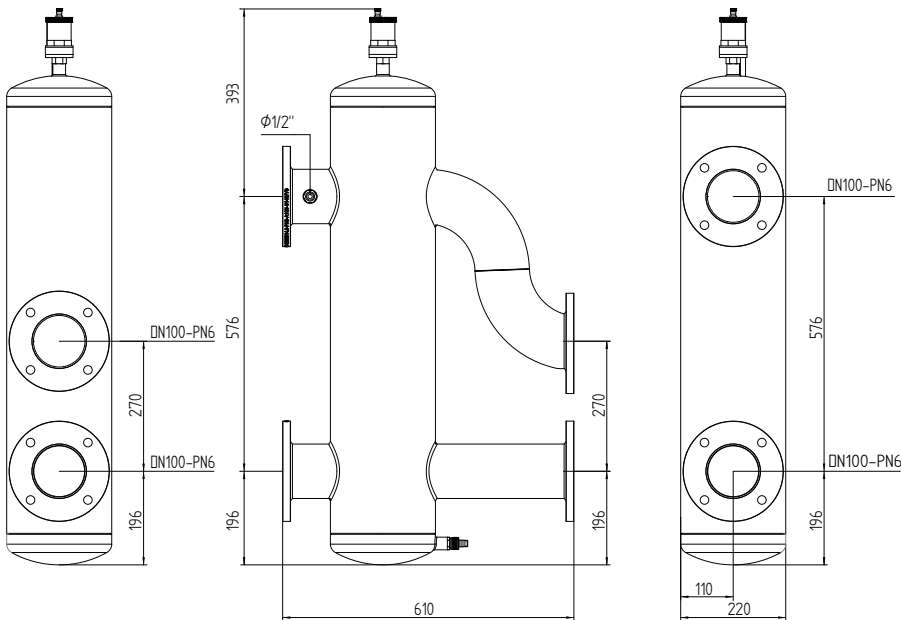


Flow rate	Speed	Head loss
m <sup>3</sup> /h	m/s	kPa
0	0,000	0,000
2	0,031	0,145
4	0,063	0,487
6	0,094	0,992
8	0,126	1,641
10	0,157	2,426
12	0,189	3,340
14	0,204	3,842
16	0,220	4,375

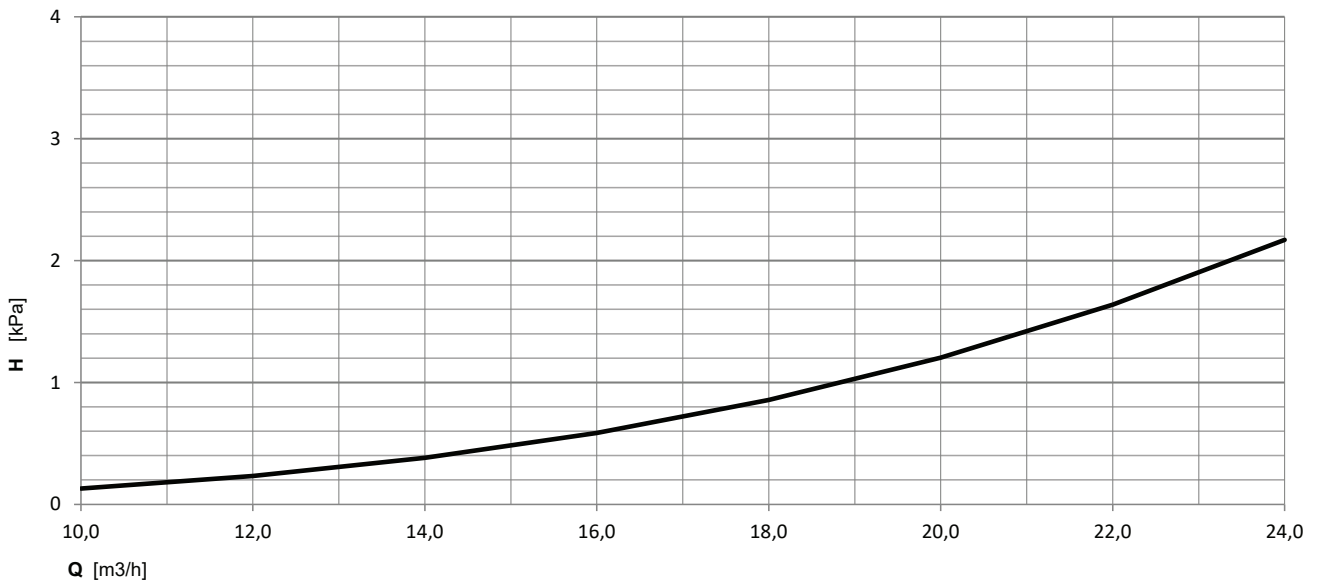


## POWER-TECH R1KG - High Power

code 26212LP **DN 200 - DN100-PN6** connections  
for cascade installation with power up 350 to 600 kW

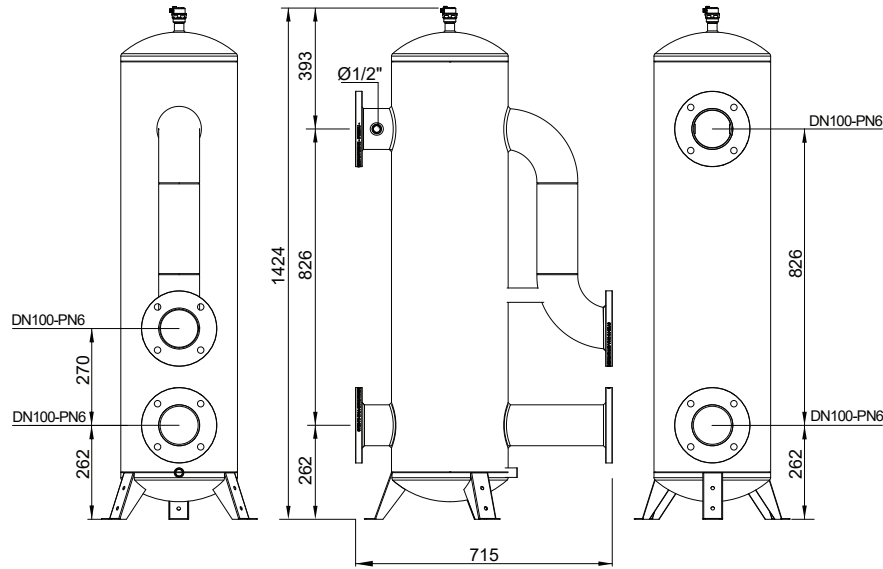


Flow rate	Speed	Head loss
m <sup>3</sup> /h	m/s	kPa
0	0,000	0,000
2	0,018	0,001
4	0,035	0,007
6	0,053	0,026
8	0,071	0,064
10	0,088	0,130
12	0,106	0,232
14	0,124	0,381
16	0,142	0,586
18	0,159	0,857
20	0,177	1,204
22	0,195	1,638
24	0,212	2,170
26	0,230	2,811

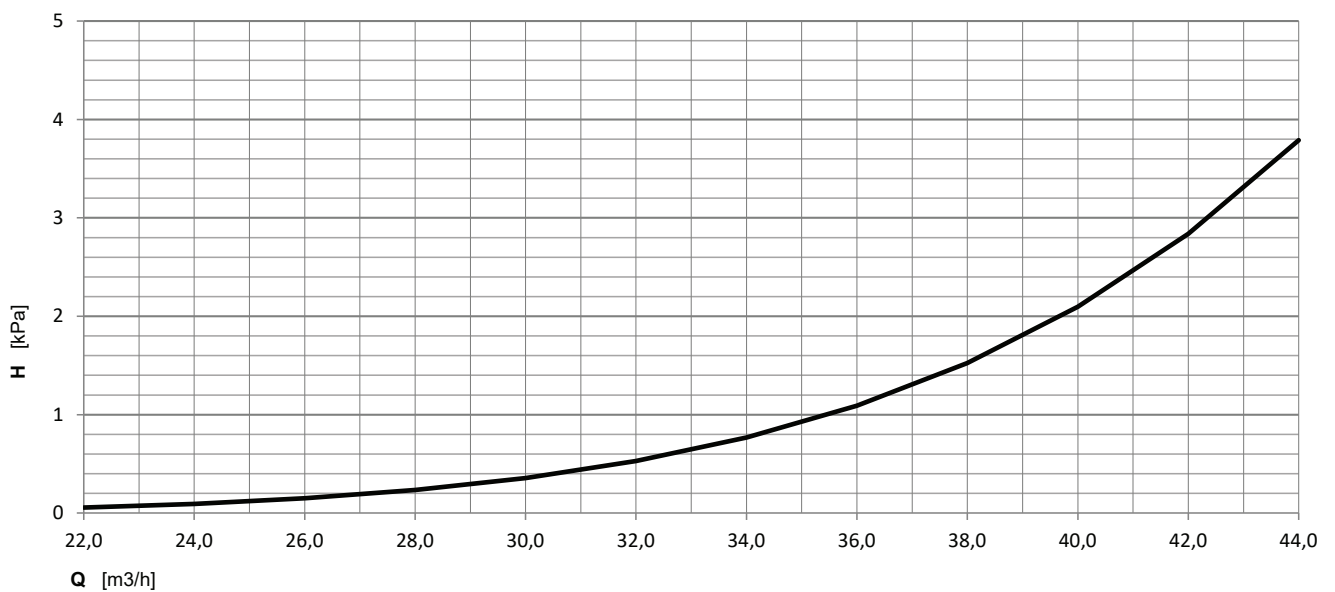


## POWER-TECH R1KG - High Power

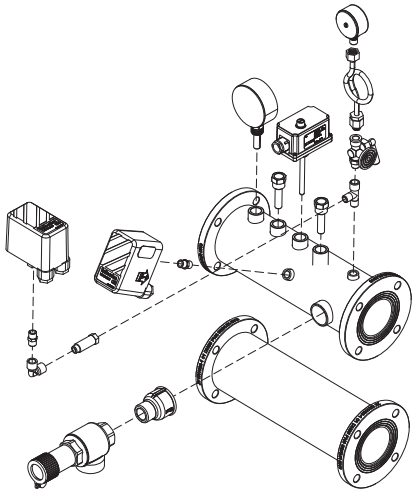
code 12-00659 **DN 300 - DN100-PN6** connections  
for cascade installation with power up 600 kW



Flow rate	Speed	Head loss
m <sup>3</sup> /h	m/s	kPa
22	0,086	0,056
24	0,094	0,093
26	0,102	0,150
28	0,110	0,234
30	0,118	0,356
32	0,126	0,529
34	0,134	0,768
36	0,142	1,092
38	0,149	1,526
40	0,157	2,097
42	0,165	2,838
44	0,173	3,790
46	0,173	3,790
48	0,181	4,973
50	0,189	6,486
52	0,197	8,370
54	0,204	10,693
56	0,212	13,536
58	0,228	21,154



HYDRAULIC MANIFOLDS



HORIZONTAL HYDRAULIC MANIFOLDS KIT - w/SAFETY DEVICE

code 65-00408 - DN 65 [2"1/2] -PN6 (for individual installation)  
code 65-00653 - DN 100 [4"] -PN6 (for cascade installation)

This kit is aimed to protect the product, either for individual or cascade installations, and it is supplied ex-factory complete with all the safety, protection and control devices. The expansion vessel and the pressure relief valve are not included within the standard supply.

The kit includes:

Flow/return stainless steel manifolds, complete with insulation and PN6 flanged connections.

Safety group complete with:

No. 1 pressure switch, manual reset, complete with cockpit

No. 1 low pressure switch, manual reset, complete with cockpit

No. 1 lock thermostat, manual reset, complete with cockpit

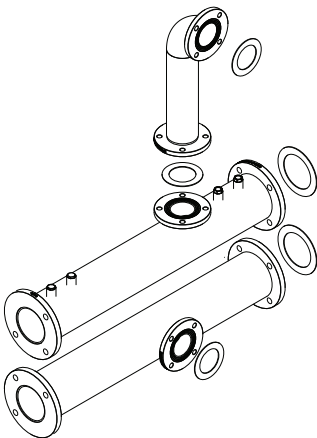
No. 1 inspection cockpit, inclined or vertical axis, internal diameter of 10 mm. at least, aimed for the fitting of the thermometer

No. 1 three-ways tap, manometer holder complete with additional flanged connection, no. 1 manometer diameter 80 mm. x 3/8"

No. 1 thermometer with full scale 120° C. diameter 80 mm. x 3/8"

3 bar pressure relief valve (upon demand

No.1 Safety valve (optional)



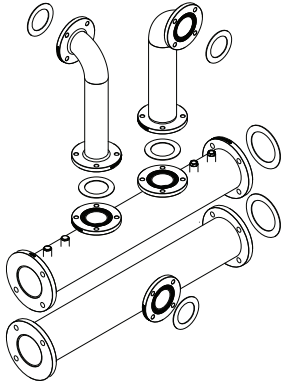
HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 [4"] -PN6 - FOR R1KG HP

code 65-01128

THE FACTORY SUPPLY INCLUDES DN100 FLOW/RETURN HYDRAULIC COLLECTORS C/W INSULATED PN6 FLANGED CONNECTIONS

## POWER-TECH R1KG - High Power

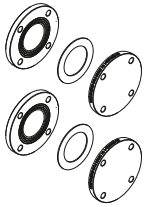
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HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - FOR R1KG HP BACK TO BACK

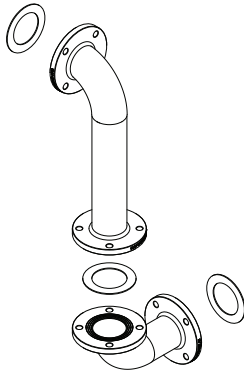
code 65-01139

THE FACTORY SUPPLY INCLUDES DN100 FLOW/RETURN HYDRAULIC COLLECTORS C/W INSULATED PN6 FLANGED CONNECTIONS



FLANGES KIT DN100 (4") -PN6 - FOR R1KG HP

code 65-01140



90° FLANGED FLUE BENDS KIT - DN65 (2"1/2) -PN6

code 65-01144

## PLATE HEAT EXCHANGER

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.

### EXCHANGER TABLE

Individual installazion [Heat Input max - kW] [composition]	Primary circuit				Secondary circuit				Plate heat exchanger			
	T <sub>IN</sub>	T <sub>OUT</sub>	H <sub>MAX</sub>	Q	T <sub>IN</sub>	T <sub>OUT</sub>	H <sub>MAX</sub>	Q	code	model	fittings	plates
	°C	°C	kPa	m3/h	°C	°C	kPa	m3/h				
177 n°1 x R1KG 180	80	60	9.17	7.78	55	70	15.70	10.34	25-01228	S160+	DN50	25
236 n°1 x R1KG 240	80	60	10.06	10.37	55	70	17.24	13.78	25-01229	S160+	DN50	31

Cascade installation [Heat Input max - kW] [composition]	Primary circuit				Secondary circuit				Plate heat exchanger			
	T <sub>IN</sub>	T <sub>OUT</sub>	H <sub>MAX</sub>	Q	T <sub>IN</sub>	T <sub>OUT</sub>	H <sub>MAX</sub>	Q	code	model	fittings	plates
	°C	°C	kPa	m3/h	°C	°C	kPa	m3/h				
354 n°1 x R1KG 180 + n°1 x R1KG 180 A	80	60	10.28	15.55	55	70	17.69	20.67	25-01232	S160+	DN50	47
413 n°1 x R1KG 180 + n°1 x R1KG 240 A	80	60	10.94	18.15	55	70	18.86	24.12	25-01234	S160+	DN50	55
472 n°1 x R1KG 240 + n°1 x R1KG 240 A	80	60	11.19	20.74	55	70	19.33	27.56	25-01236	S160+	DN50	65
531 n°2 x R1KG 180 + n°1 x R1KG 180 A	80	60	9.91	23.33	55	70	17.16	31.01	25-01241	S210+	DN65	57
590 n°1 x R1KG 180 + n°1 x R1KG 180 A + n°1 x R1KG 240	80	60	10.35	25.92	55	70	17.95	34.45	25-01238	S210+	DN65	65
649 n°1 x R1KG 180 + n°1 x R1KG 240 + n°1 x R1KG 240 A	80	60	11.35	28.52	55	70	19.71	37.90	25-01242	S210+	DN65	69
708 n°2 x R1KG 240 + n°1 x R1KG 240 A	80	60	11.42	31.11	55	70	19.86	41.34	25-01239	S210+	DN65	79
826 n°2 x R1KG 180 + n°2 x R1KG 240 A	80	60	10.93	36.29	55	70	19.1	48.23	25-01243	S210+	DN65	101
885 n°1 x R1KG 180 + n°1 x R1KG 240 n°2 x R1KG 240 A	80	60	9.61	38.88	55	70	16.48	51.68	25-01244	S270+	DN80	75
944 n°2 x R1KG 240 + n°2 x R1KG 240 A	80	60	10.19	41.48	55	70	17.5	55.12	25-01245	S270+	DN80	79

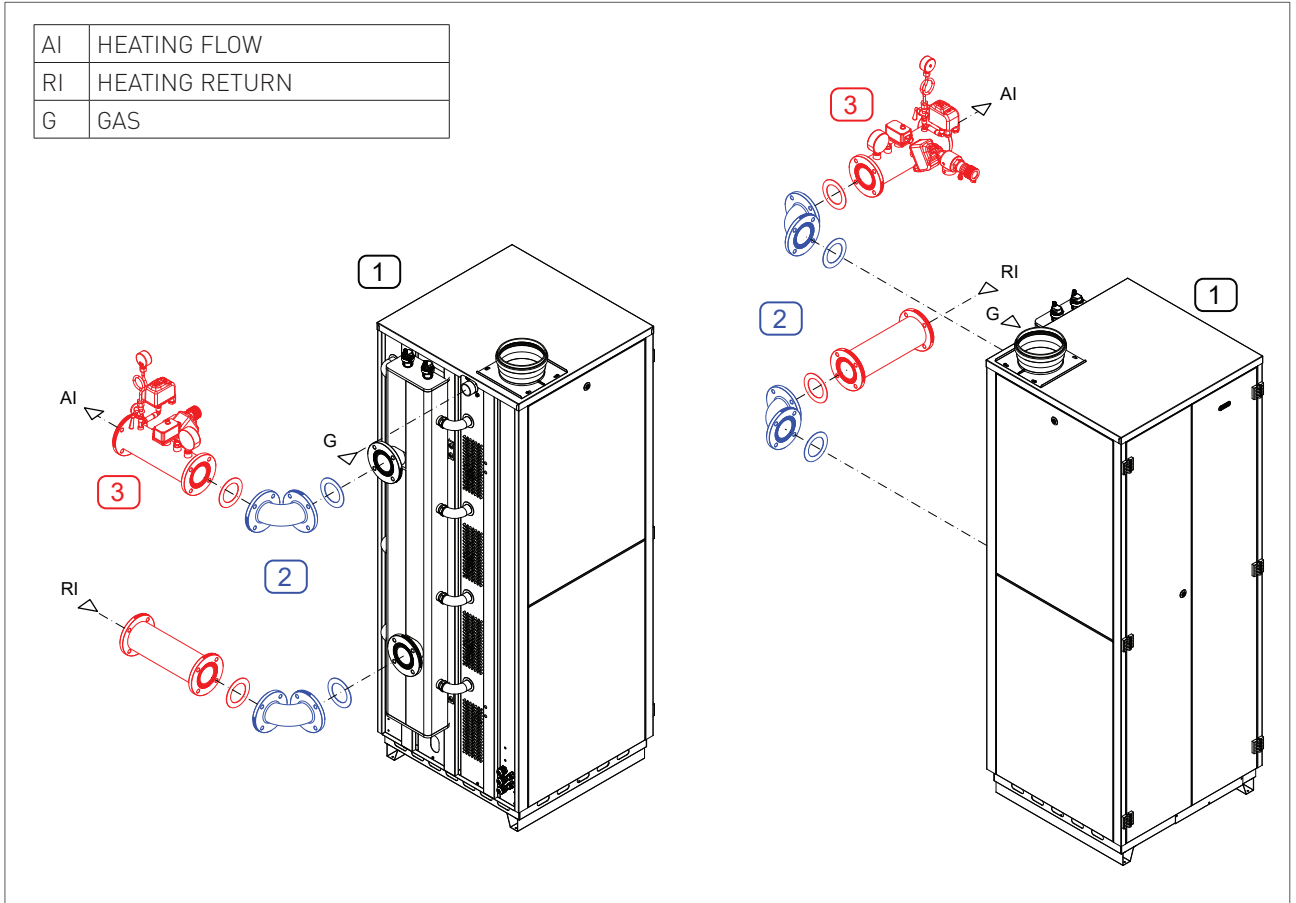
**NOTE:**

The dimensions shown in the table must be considered as purely indicative and are therefore subject to design verification by the professional who draws up the project and are to be considered rough.

In order to use a heat exchanger combined with a different solution, contact the technical department.

## 9. INSTALLATION TECHNICAL ASSEMBLY

### SINGLE INSTALLATION WITH ACCESSORIES AND MANIFOLD WITH APPROVED SAFETY GROUP (Optional)



single unit model	1 composition	2 code accessory	3 code accessory				
R1KG 180	1 x R1KG 180	1 x 65-01144	1 x 65-00408	-	-	-	-
R1KG 240	1 x R1KG 240	1 x 65-01144	1 x 65-00408	-	-	-	-

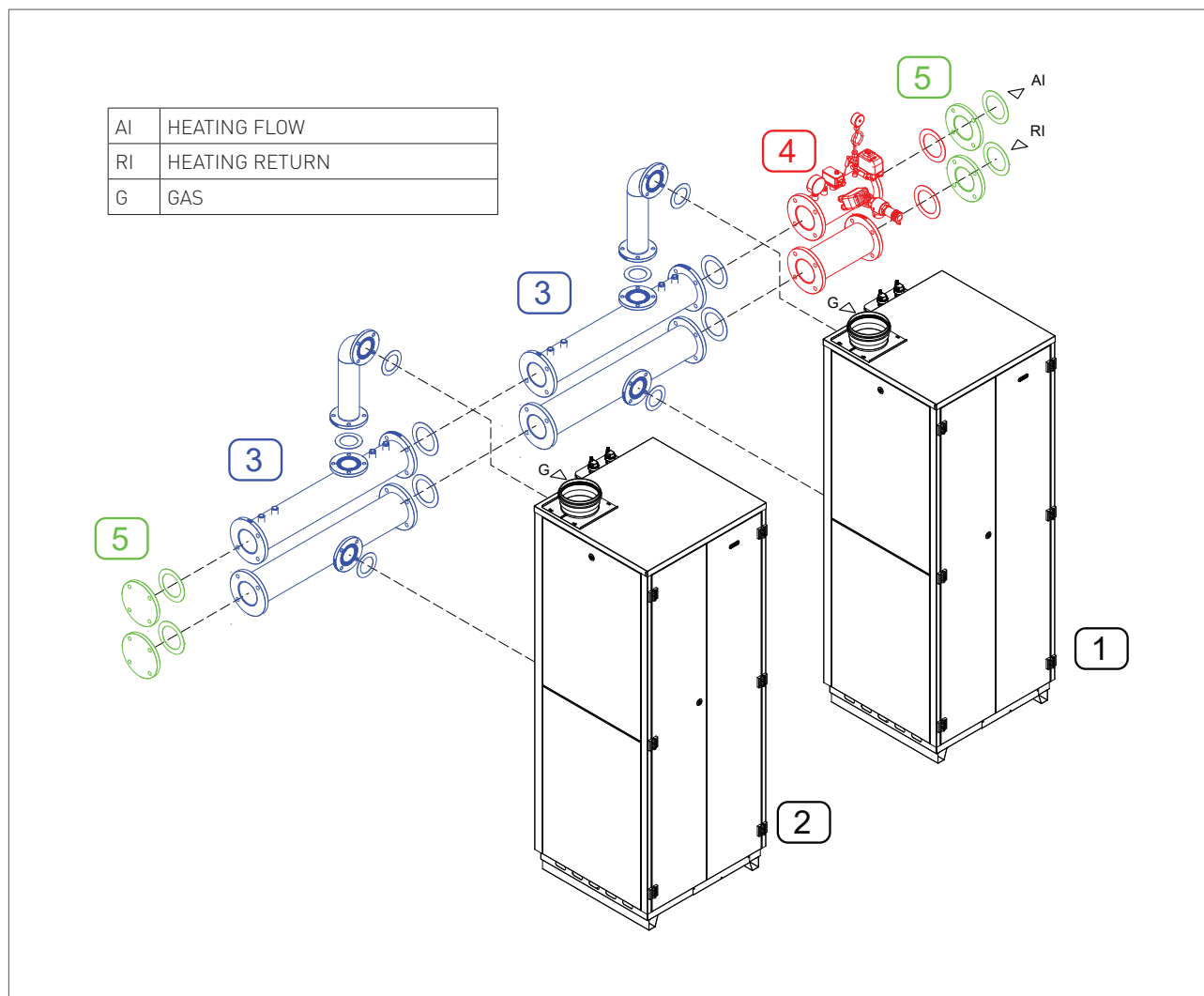
code	description
65-01144	90° FLANGED FLUE BENDS KIT - DN65 (2"1/2) -PN6
65-00408	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN65 (2"1/2) -PN6 - w/SAFETY DEVICE

**NOTE:**

The installation with safety group is not crucial for the boiler proper functioning: it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW.

NO. 2 x R1KG CASCADE INSTALLATION WITH MANIFOLD WITH APPROVED SAFETY GROUP (Optional)



cascade installation [kW]	1 composition	2 composition	3 code accessory	4 code accessory	5 code accessory		
354	1 x R1KG 180	1 x R1KG 180 A	2 x 65-01128	1 x 65-00653	1 x 65-01140		
413	1 x R1KG 180	1 x R1KG 240 A	2 x 65-01128	1 x 65-00653	1 x 65-01140		
472	1 x R1KG 240	1 x R1KG 240 A	2 x 65-01128	1 x 65-00653	1 x 65-01140		

code	description
65-01140	FLANGES KIT DN100 (4") -PN6 - FOR R1KG HP
65-00653	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - w/SAFETY DEVICE
65-01128	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - FOR R1KG HP

NOTE:

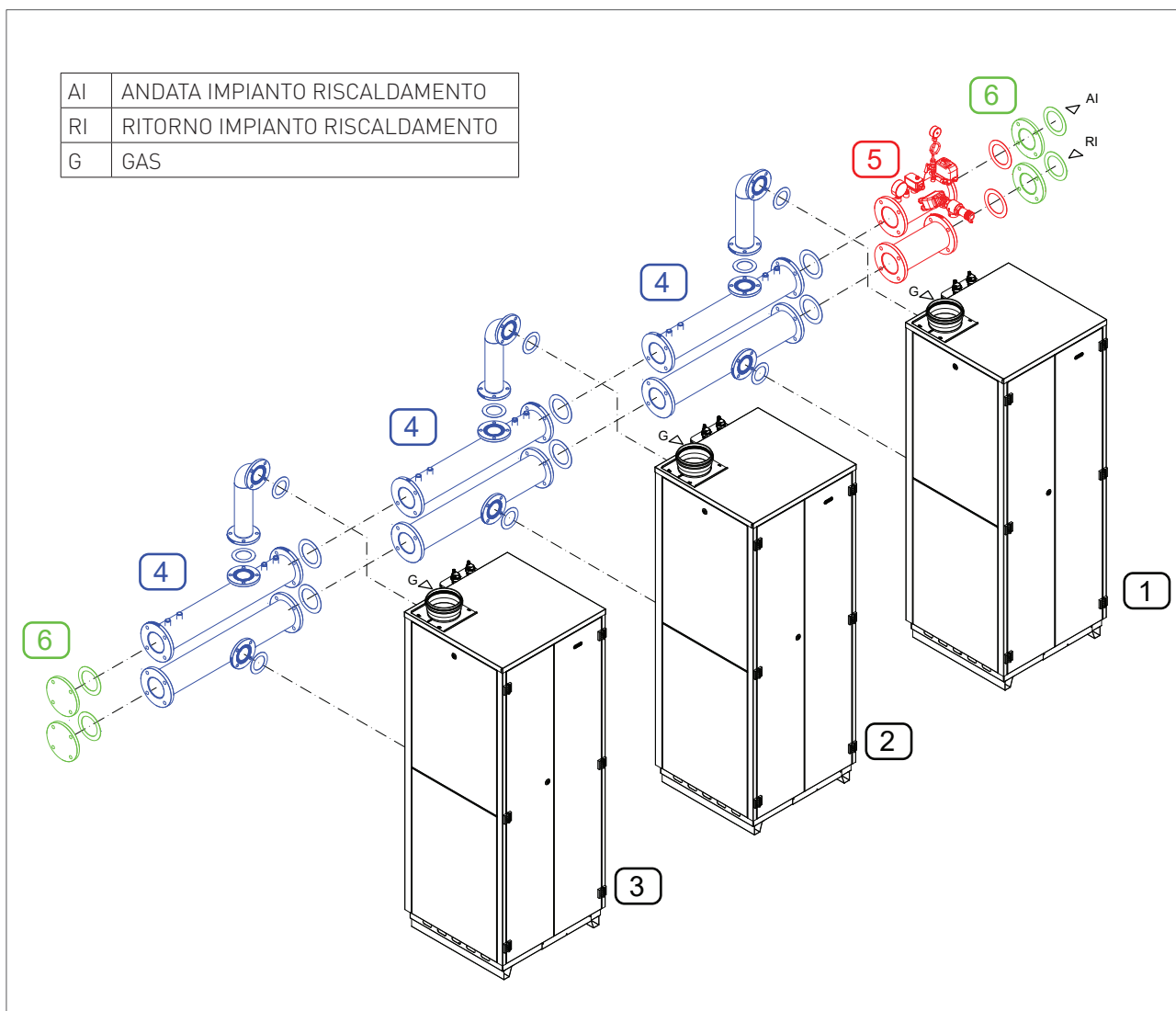
The installation with safety group is not crucial for the boiler proper functioning; it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW.

Hydraulic separators available DN 220-att DN100 code 26212LP and DN 300-att DN100 code 12-00659 - See pages 27-29.



NO. 3 x R1KG CASCADE INSTALLATION WITH MANIFOLD WITH APPROVED SAFETY GROUP (Optional)



Installazione in cascata [kW]	1 composizione	2 composizione	3 composizione	4 codice accessorio	5 codice accessorio	6 codice accessorio	
531	1 x R1KG 180	1 x R1KG 180	1 x R1KG 180 A	3 x 65-01128	1 x 65-00653	1 x 65-01140	
590	1 x R1KG 180	1 x R1KG 240	1 x R1KG 180 A	3 x 65-01128	1 x 65-00653	1 x 65-01140	
649	1 x R1KG 180	1 x R1KG 240	1 x R1KG 240 A	3 x 65-01128	1 x 65-00653	1 x 65-01140	
708	1 x R1KG 240	1 x R1KG 240	1 x R1KG 240 A	3 x 65-01128	1 x 65-00653	1 x 65-01140	

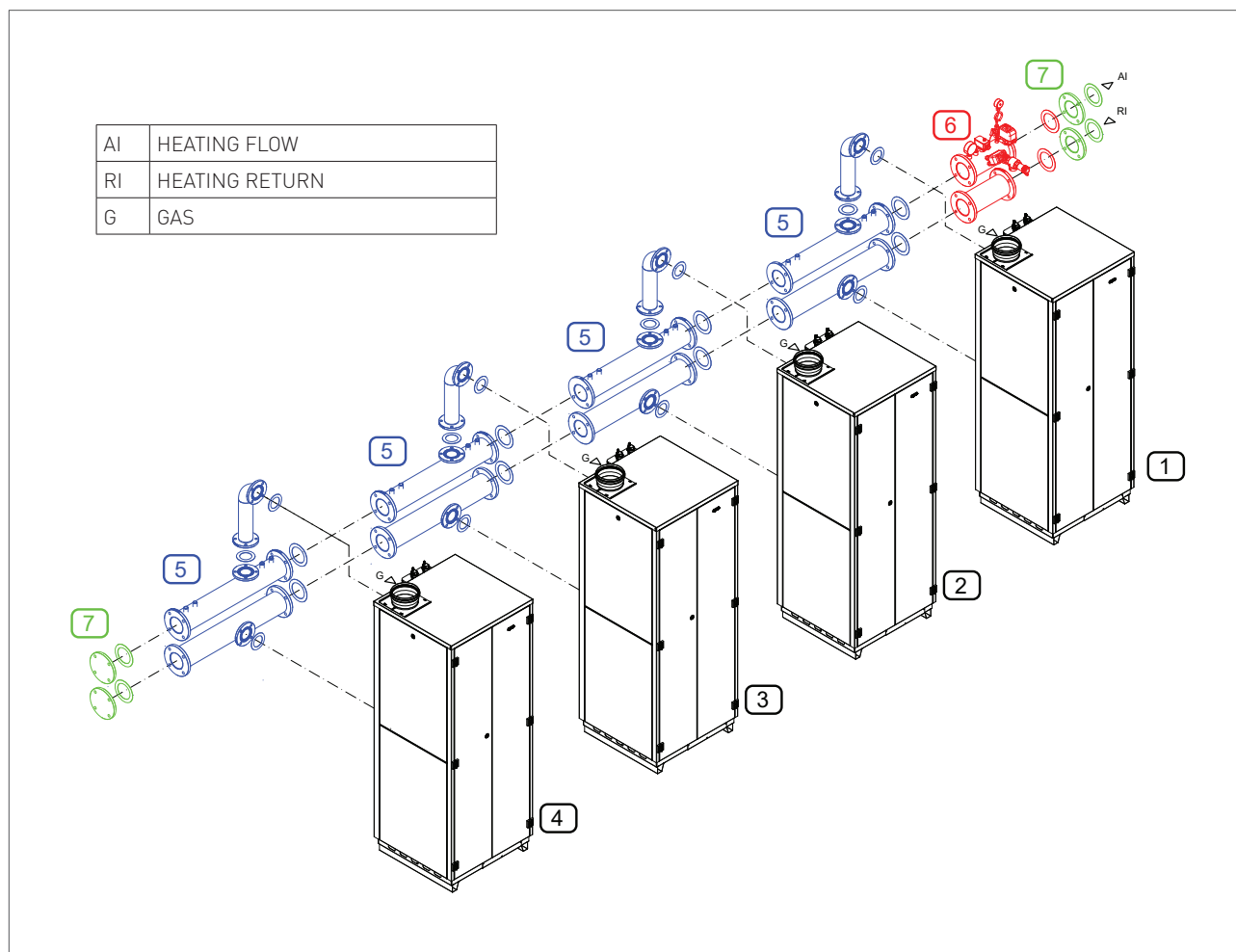
codice	descrizione
65-01140	KIT FLANGE DN100 (4") -PN6 PER R1KG AP
65-00653	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - w/SAFETY DEVICE
65-01128	KIT COLLETTORI ORIZZONTALI DN 100 (4") -PN6 PER R1KG AP

NOTE:

The installation with safety group is not crucial for the boiler proper functioning: it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW. Hydraulic separators available DN 220-att DN100 code 26212LP and DN 300-att DN100 code 12-00659 - See pages 27-29.

**NO. 4 x R1KG CASCADE INSTALLATION WITH MANIFOLD WITH APPROVED SAFETY GROUP (Optional)**



cascade installation [kW]	1 composition	2 composition	3 composition	4 composition	5 code accessory	6 code accessory	7 code accessory
826	1 x R1KG 180	1 x R1KG 180	1 x R1KG 240 A	1 x R1KG 240 A	4 x 65-01128	1 x 65-00653	1 x 65-01140
885	1 x R1KG 180	1 x R1KG 240	1 x R1KG 240 A	1 x R1KG 240 A	4 x 65-01128	1 x 65-00653	1 x 65-01140
944	1 x R1KG 240	1 x R1KG 240	1 x R1KG 240 A	1 x R1KG 240 A	4 x 65-01128	1 x 65-00653	1 x 65-01140

code	description
65-01140	FLANGES KIT DN100 (4") PN6 - FOR R1KG HP
65-01128	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - FOR R1KG HP
65-00653	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - w/SAFETY DEVICE

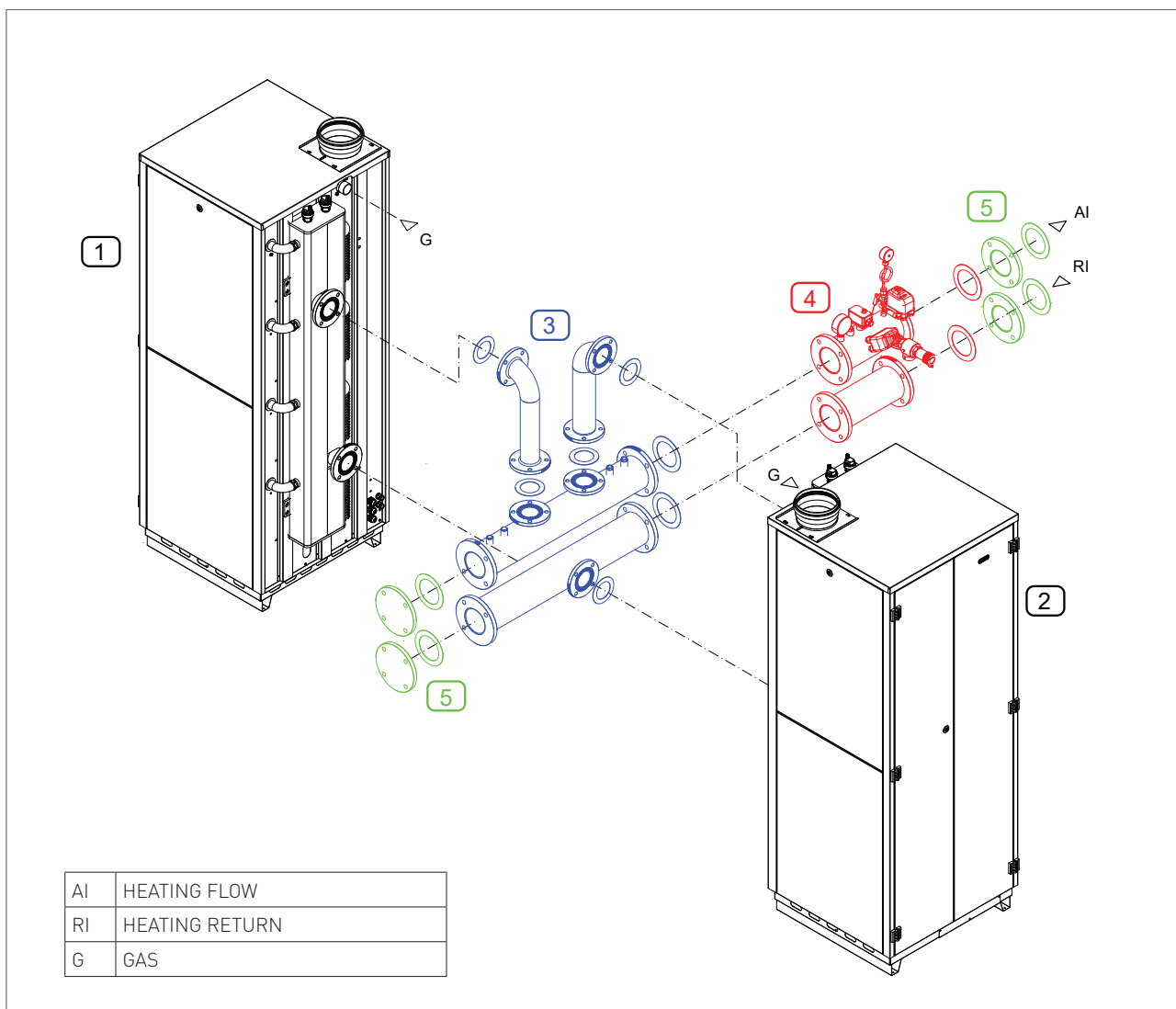
**NOTE:**

The installation with safety group is not crucial for the boiler proper functioning: it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW.

Hydraulic separators available DN 220-att DN100 code 26212LP and DN 300-att DN100 code 12-00659 - See pages 27-29.

NO. 2 x R1KG BACK-TO-BACK CASCADE INSTALLATION WITH MANIFOLD WITH APPROVED SAFETY GROUP (Optional)



cascade installation [kW]	1 composition	2 composition	3 code accessory	4 code accessory	5 code accessory		
354	1 x R1KG 180	1 x R1KG 180 A	1 x 65-01139	1 x 65-00653	1 x 65-01140		
413	1 x R1KG 180	1 x R1KG 240 A	1 x 65-01139	1 x 65-00653	1 x 65-01140		
472	1 x R1KG 240	1 x R1KG 240 A	1 x 65-01139	1 x 65-00653	1 x 65-01140		

code	description
65-01140	FLANGES KIT DN100 (4") PN6 - FOR R1KG HP
65-00653	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - w/SAFETY DEVICE
65-01139	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") PN6 - FOR R1KG HP BACK TO BACK

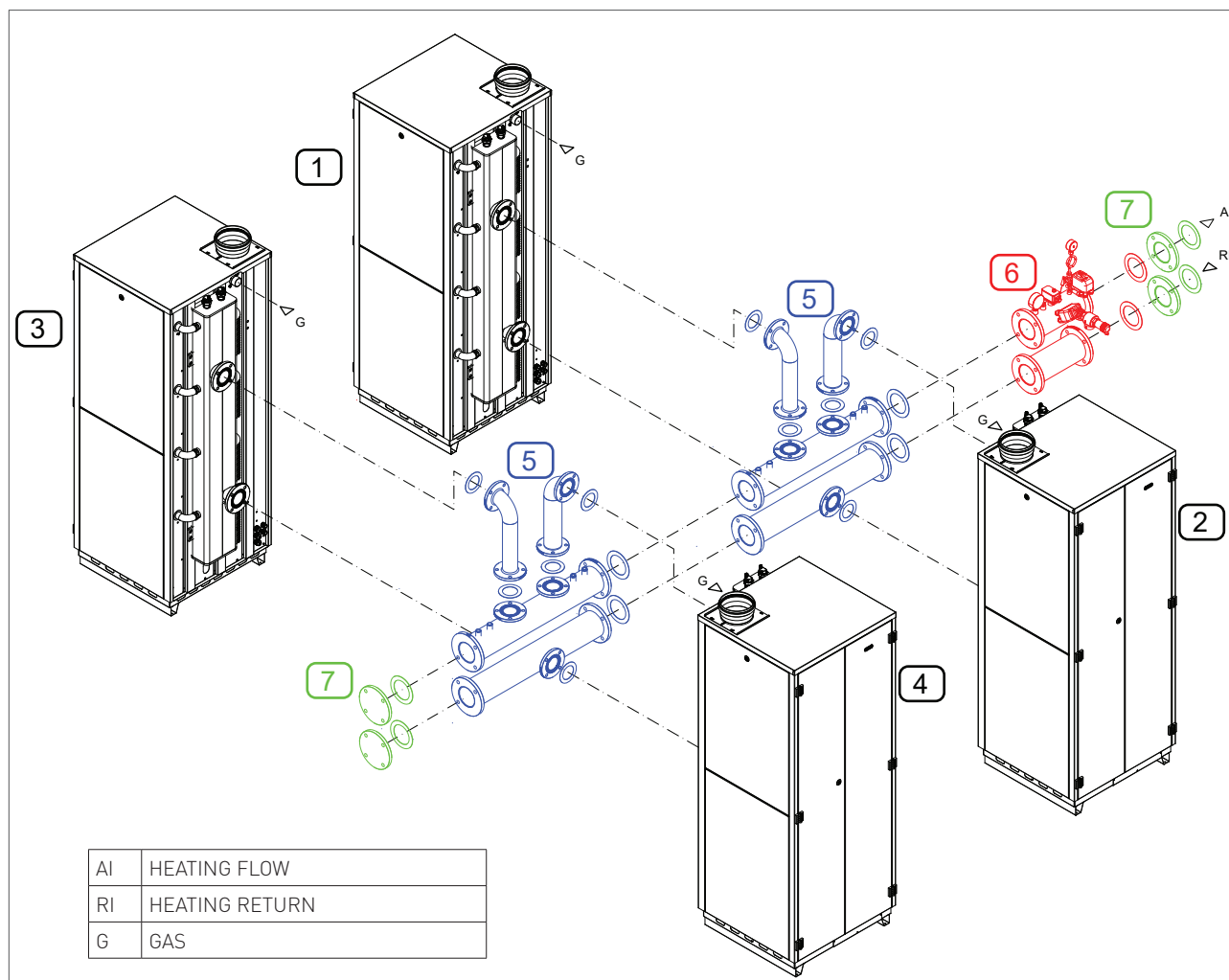
NOTE:

The installation with safety group is not crucial for the boiler proper functioning: it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW.

Hydraulic separators available DN 220-att DN100 code 26212LP and DN 300-att DN100 code 12-00659 - See pages 27-29.

NO. 4x R1KG BACK-TO-BACK CASCADE INSTALLATION WITH MANIFOLD WITH APPROVED SAFETY GROUP (Optional)



cascade installation [kW]	1 composition	2 composition	3 composition	4 composition	5 code accessory	6 code accessory	7 code accessory
531	1 x R1KG 180	1 x R1KG 180	1 x R1KG 180 A	-	2 x 65-01139	1 x 65-00653	1 x 65-01140
590	1 x R1KG 180	1 x R1KG 240	1 x R1KG 180 A	-	2 x 65-01139	1 x 65-00653	1 x 65-01140
649	1 x R1KG 180	1 x R1KG 240	1 x R1KG 240 A	-	2 x 65-01139	1 x 65-00653	1 x 65-01140
708	1 x R1KG 240	1 x R1KG 240	1 x R1KG 240 A	-	2 x 65-01139	1 x 65-00653	1 x 65-01140
826	1 x R1KG 180	1 x R1KG 180	1 x R1KG 240 A	1 x R1KG 240 A	2 x 65-01139	1 x 65-00653	1 x 65-01140
885	1 x R1KG 180	1 x R1KG 240	1 x R1KG 240 A	1 x R1KG 240 A	2 x 65-01139	1 x 65-00653	1 x 65-01140
944	1 x R1KG 240	1 x R1KG 240	1 x R1KG 240 A	1 x R1KG 240 A	2 x 65-01139	1 x 65-00653	1 x 65-01140

code	description
65-01140	FLANGES KIT DN100 (4") -PN6 - FOR R1KG HP
65-00653	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - w/SAFETY DEVICE
65-01139	HORIZONTAL HYDRAULIC MANIFOLDS KIT DN100 (4") -PN6 - FOR R1KG HP BACK TO BACK

NOTE:

The installation with safety group is not crucial for the boiler proper functioning: it protects the boiler from possible systems overpressure and/or overheating.

The combinations are not to be considered definitive. The composition of the cascade system provides for free combination of the individual boilers, in combination with hydraulic manifolds for the gas flow and return of the system, up to a maximum of 944 kW.

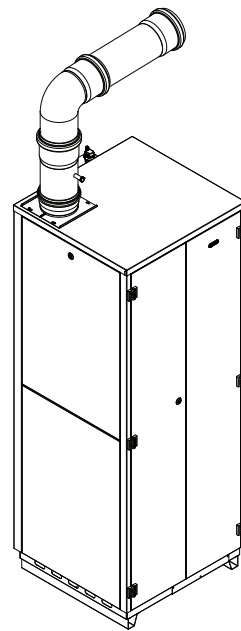
## 10. TYPES OF FLUE EXHAUST SYSTEMS

		R1KG 180 - R1KG 240 R1KG 180 A - R1KG 240 A
MAXIMUM FAN GAS PRESSURE HEAD AVAILABLE	Pa	100 <sup>(1)</sup>
MINIMUM FAN GAS PRESSURE HEAD AVAILABLE	Pa	21.5 <sup>(1)</sup>

### FOR SINGLE UNIT INSTALLATION

The tube system allows fumes discharge through the fumes exhaust duct and draws air from atmosphere

Suitable only for condensing boilers.

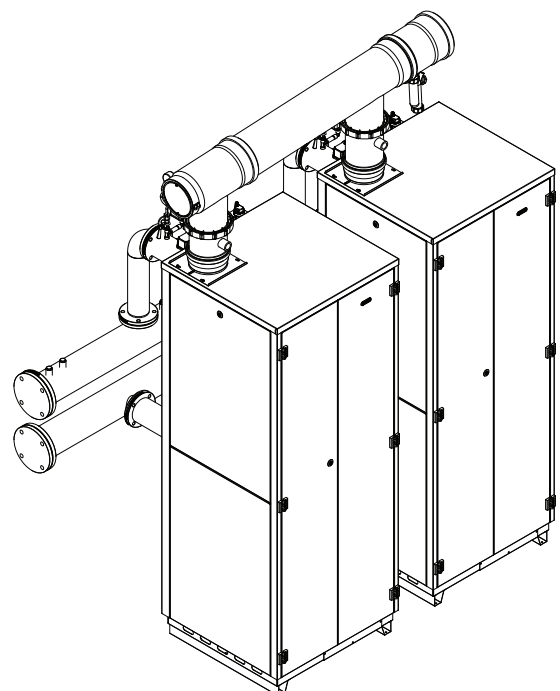


### FLUE MANIFOLDS FOR CASCADE INSTALLATION

With cascade installation systems it is possible to discharge combustion emissions in only one flue duct using flue manifold kit.

Flue manifold are in polypropylene material (PP) to guarantee the highest mechanical resistance to the chemical action of the condensate and an easy installation.

Each individual boiler can be connected to the main manifold through the appropriate connector.



**FOR SINGLE UNIT INSTALLATION**

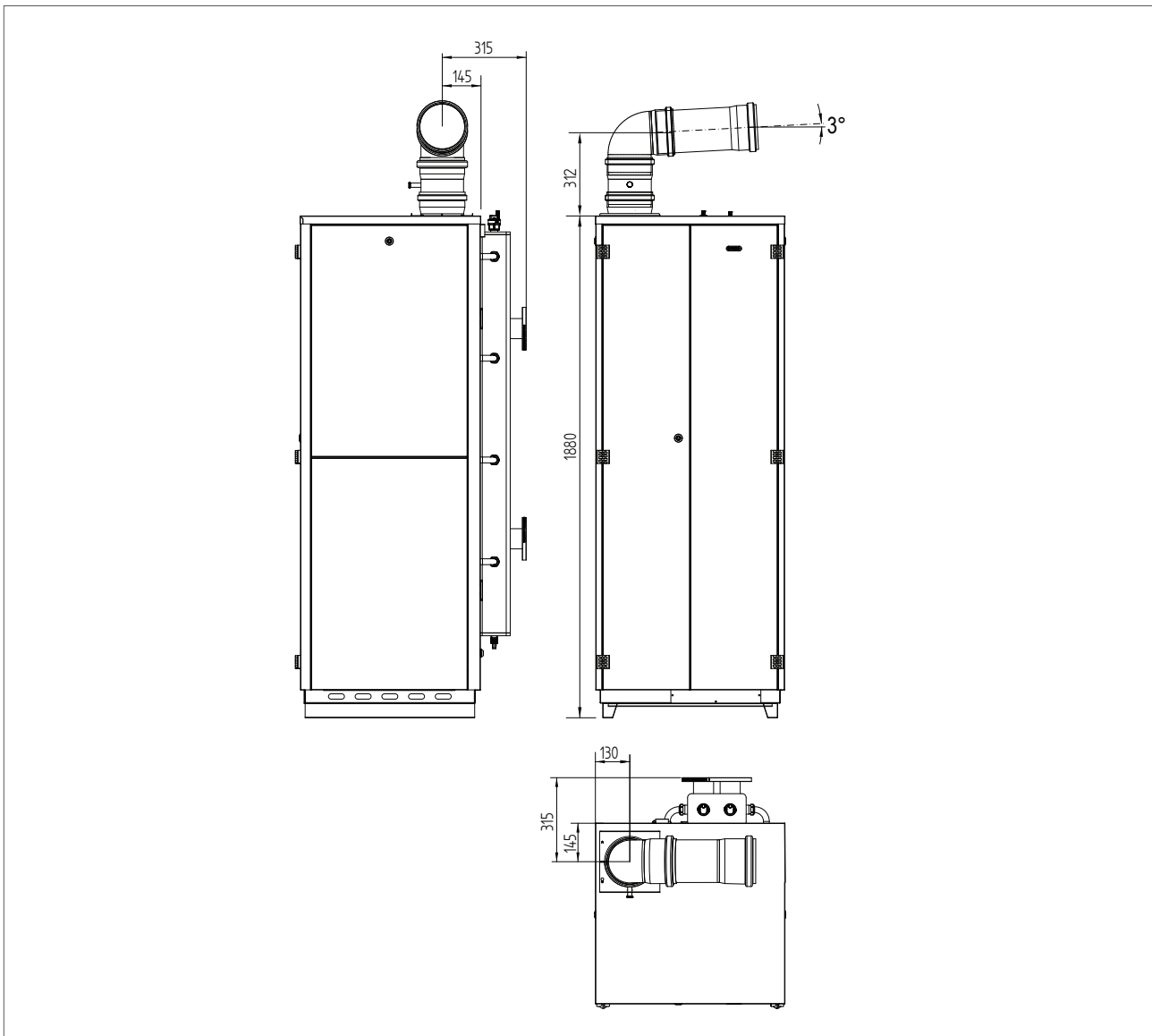
cod. 50-00496

HORIZONTAL FLUE KIT Ø160 IN BLACK PP, ADJUSTABLE AT 360° W/FLUE TERMINAL FOR R1KG (HIGH POWER VERSION)

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

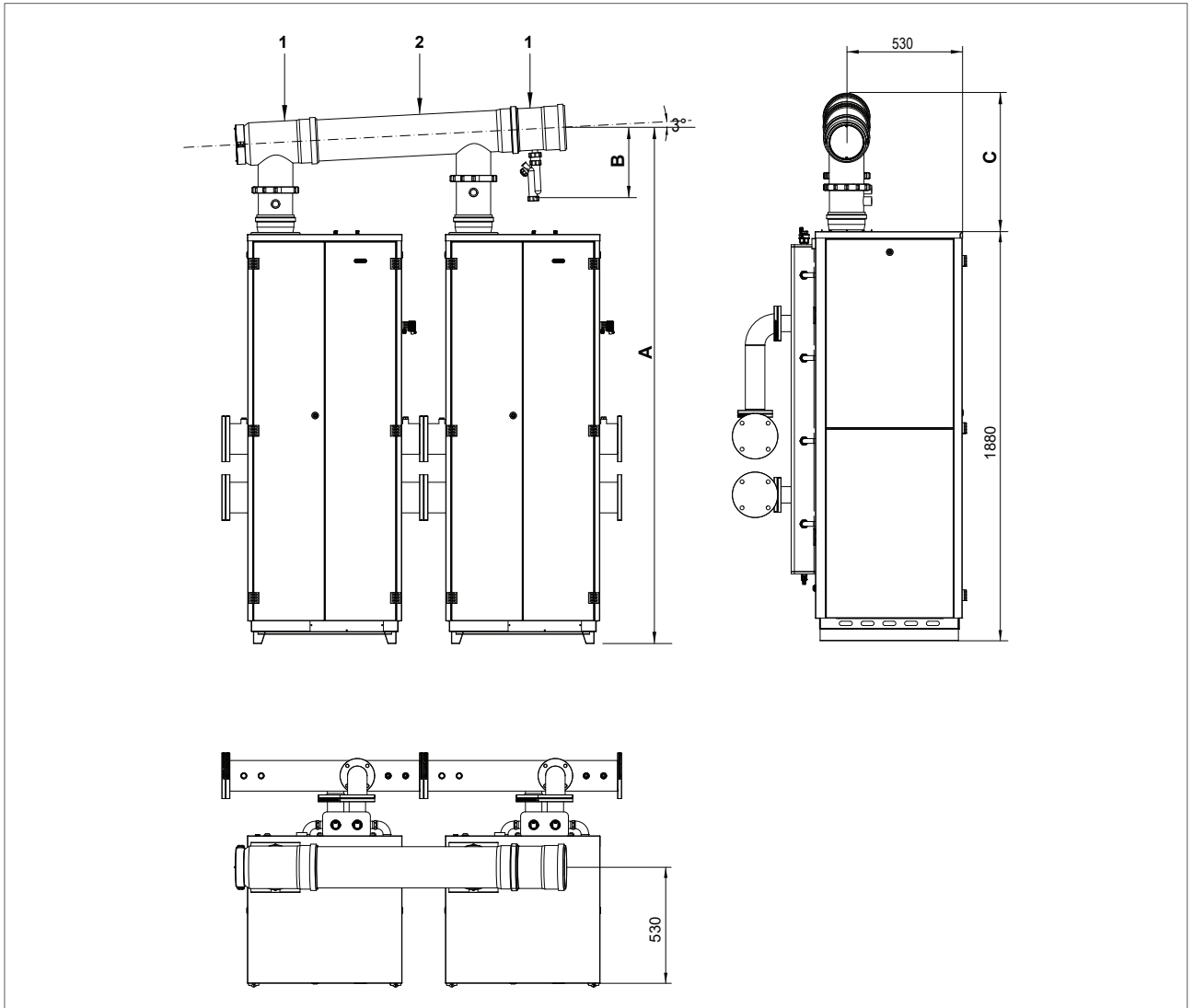
**Please see the maximum discharge length in the table in chapter “technical data”.**

The maximum discharge 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.



**FLUE MANIFOLDS FOR CASCADE INSTALLATION**

**NO. 2 x R1KG UNITS IN CASCADE INSTALLATION WITH FLUE MANIFOLD**

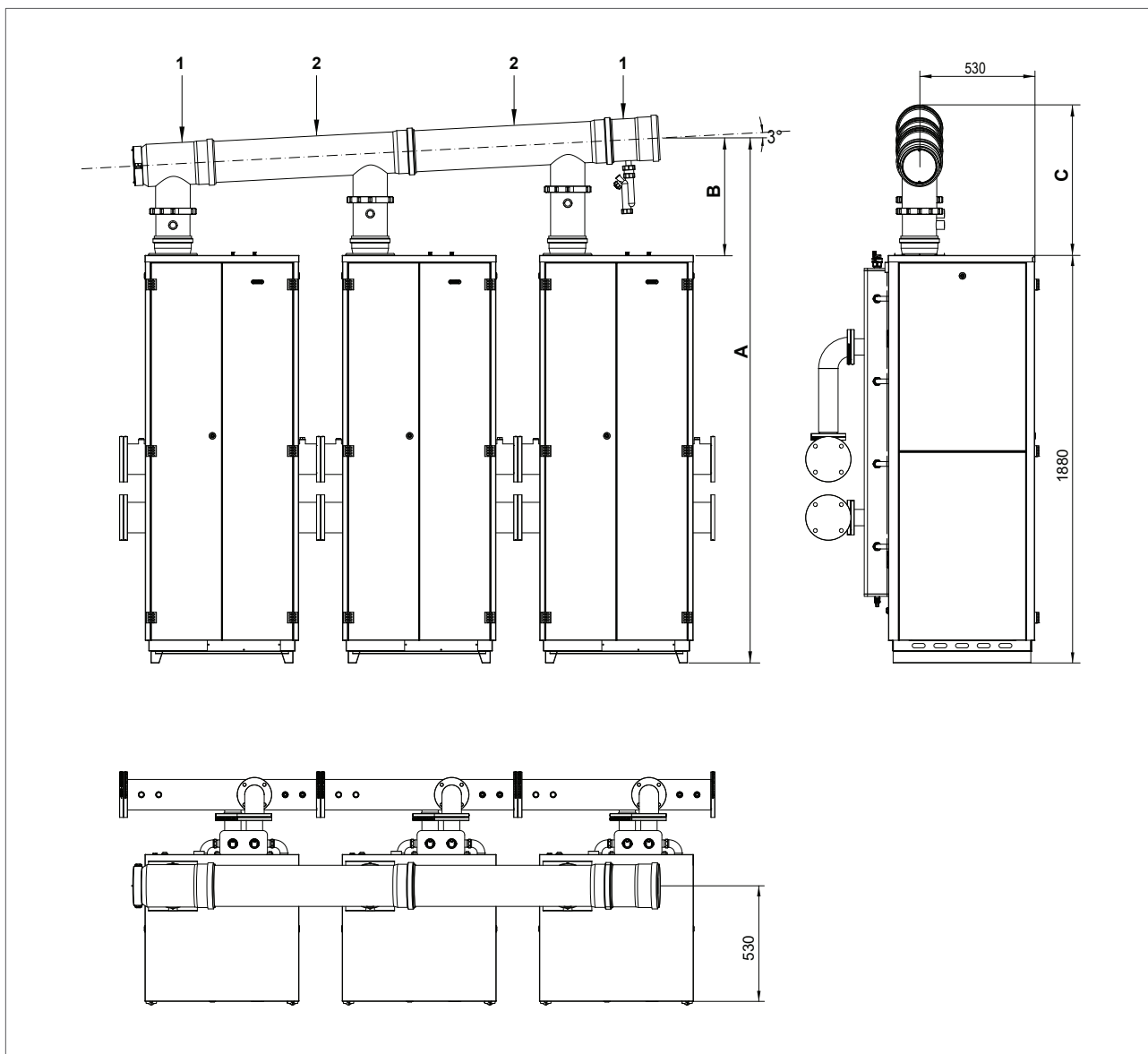


1	2	flue manifold Ø200			flue manifold Ø250			flue manifold Ø315		
code accessories	code accessories	A mm	B mm	C mm	A mm	B mm	C mm	A mm	B mm	C mm
1 x 50-00489	1 x 50-00490	2377	493	599	-	-	-	-	-	-
1 x 50-00491	1 x 50-00492	-	-	-	2407	523	659	-	-	-
1 x 50-00493	1 x 50-00494	-	-	-	-	-	-	2440	556	724

code	description
50-00489	FLUE MANIFOLD KIT BASE Ø200 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00491	FLUE MANIFOLD KIT BASE Ø250 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00493	FLUE MANIFOLD KIT BASE Ø315 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00490	FLUE MANIFOLD KIT Ø200 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00492	FLUE MANIFOLD KIT Ø250 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00494	FLUE MANIFOLD KIT Ø315 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

NOTE:  
50-00489, 50-00491 and 50-00493 are complete with condensate drain adapter

NO. 3 x R1KG UNITS IN CASCADE INSTALLATION WITH FLUE MANIFOLD



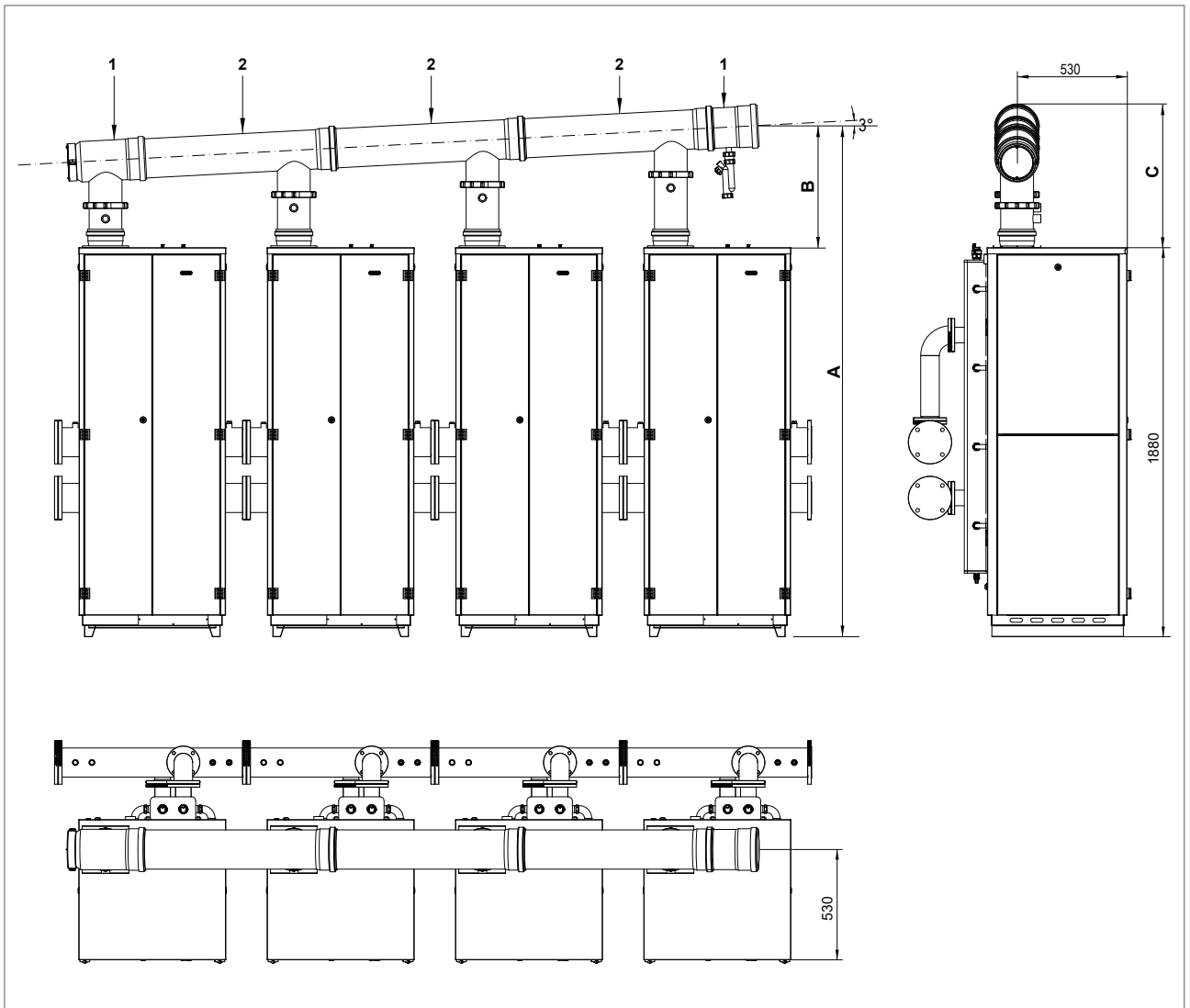
1	2	flue manifold Ø250			flue manifold Ø315		
		A mm	B mm	C mm	A mm	B mm	C mm
code accessories	code accessories						
1 x 50-00491	2 x 50-00492	2456	574	709	-	-	-
1 x 50-00493	2 x 50-00494	-	-	-	2488	606	774

code	description
50-00491	FLUE MANIFOLD KIT BASE Ø250 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00493	FLUE MANIFOLD KIT BASE Ø315 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00492	FLUE MANIFOLD KIT Ø250 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00494	FLUE MANIFOLD KIT Ø315 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

NOTE:  
50-00491 and 50-00493 are complete with condensate drain adapter



NO. 4 x R1KG UNITS IN CASCADE INSTALLATION WITH FLUE MANIFOLD



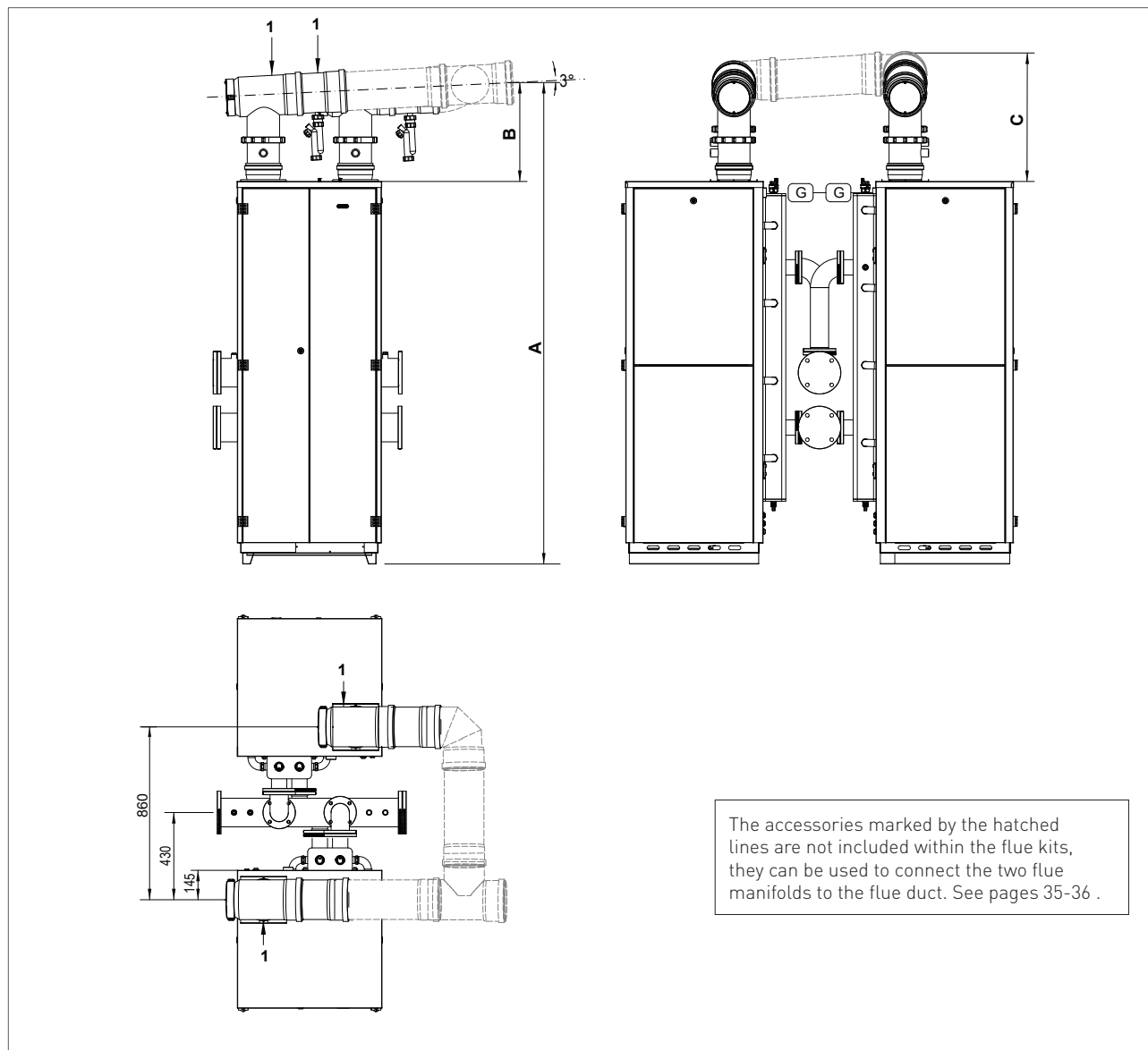
1	2	flue manifold Ø250			flue manifold Ø315		
		A mm	B mm	C mm	A mm	B mm	C mm
code accesories	code accesories						
1 x 50-00491	2 x 50-00492	2504	621	756	-	-	-
1 x 50-00493	2 x 50-00494	-	-	-	2536	654	821

code	description
50-00491	FLUE MANIFOLD KIT BASE Ø250 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00493	FLUE MANIFOLD KIT BASE Ø315 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00492	FLUE MANIFOLD KIT Ø250 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00494	FLUE MANIFOLD KIT Ø315 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

NOTE:

50-00491 and 50-00493 are complete with condensate drain adapter

NO. 2 x R1KG IN BACK-TO-BACK CASCADE INSTALLATION WITH FLUE MANIFOLD

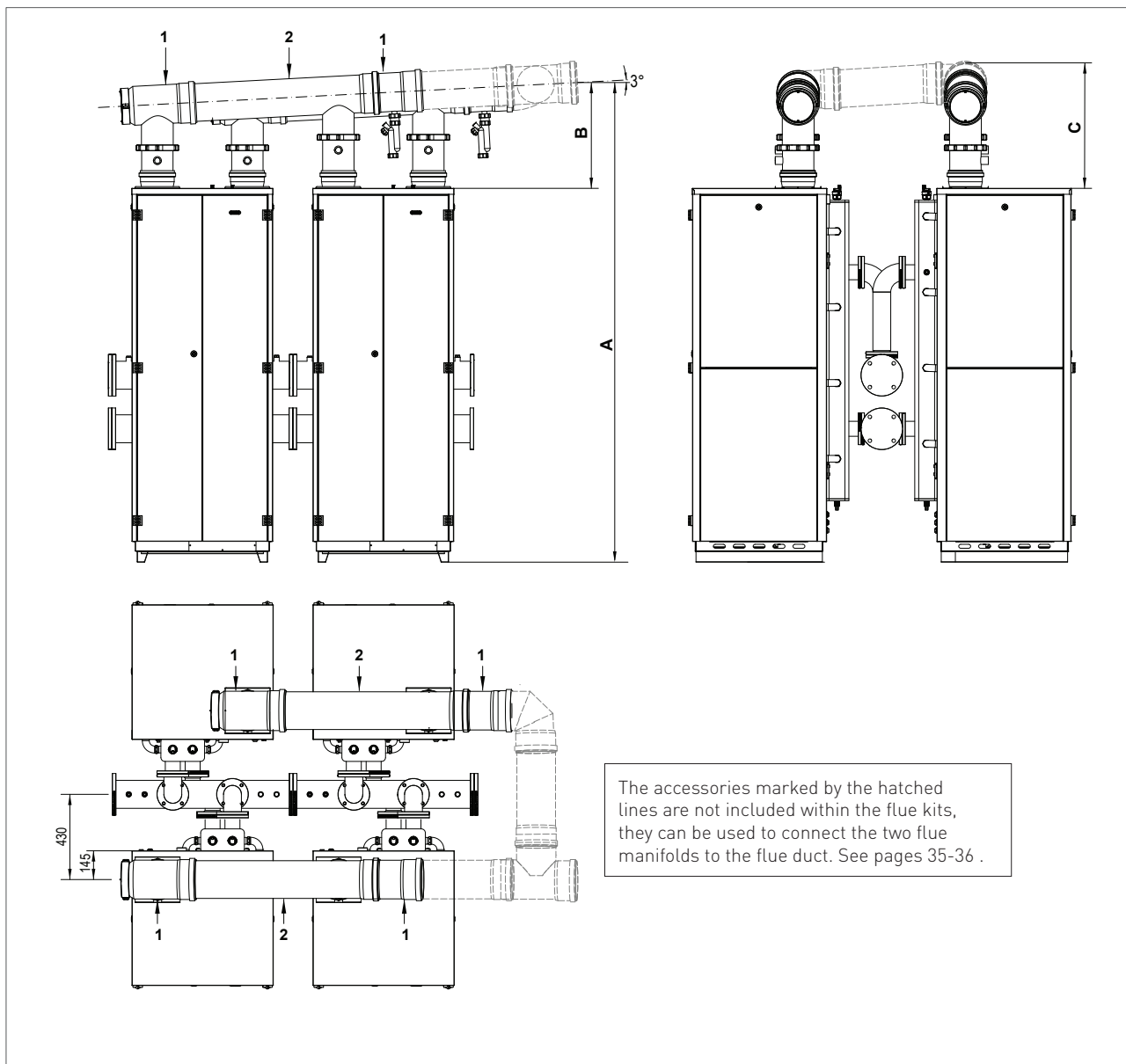


1	2	flue manifold Ø200			flue manifold Ø250			flue manifold Ø315		
code accesories	code accesories	A mm	B mm	C mm	A mm	B mm	C mm	A mm	B mm	C mm
1 x 50-00489	2 x 50-00490	2371	487	599	-	-	-	-	-	-
1 x 50-00491	2 x 50-00492	-	-	-	2396	512	624	-	-	-
1 x 50-00493	2 x 50-00494	-	-	-	-	-	-	2428	544	656

code	description
50-00489	FLUE MANIFOLD KIT BASE Ø200 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00491	FLUE MANIFOLD KIT BASE Ø250 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00493	FLUE MANIFOLD KIT BASE Ø315 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00490	FLUE MANIFOLD KIT Ø200 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00492	FLUE MANIFOLD KIT Ø250 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00494	FLUE MANIFOLD KIT Ø315 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

NOTE:  
50-00489, 50-00491 and 50-00493 are complete with condensate drain adapter

NO. 4 x R1KG IN BACK-TO-BACK CASCADE INSTALLATION WITH FLUE MANIFOLD



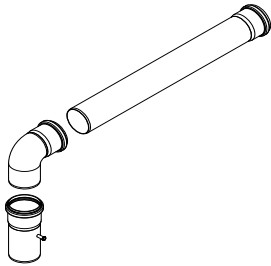
1	2	flue manifold Ø200			flue manifold Ø250			flue manifold Ø315		
code accessories	code accessories	A mm	B mm	C mm	A mm	B mm	C mm	A mm	B mm	C mm
1 x 50-00489	2 x 50-00490	2418	533	641	-	-	-	-	-	-
1 x 50-00491	2 x 50-00492	-	-	-	2443	558	666	-	-	-
1 x 50-00493	2 x 50-00494	-	-	-	-	-	-	2475	583	698

code	description
50-00489	FLUE MANIFOLD KIT BASE Ø200 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00491	FLUE MANIFOLD KIT BASE Ø250 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00493	FLUE MANIFOLD KIT BASE Ø315 BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION
50-00490	FLUE MANIFOLD KIT Ø200 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00492	FLUE MANIFOLD KIT Ø250 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION
50-00494	FLUE MANIFOLD KIT Ø315 BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

NOTE:

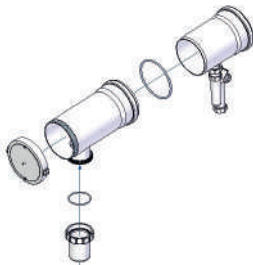
50-00489, 50-00491 and 50-00493 are complete with condensate drain adapter

TYPES OF FLUE EXHAUST SYSTEMS - ACCESSORIES



HORIZONTAL FLUE KIT Ø160 IN BLACK PP, ADJUSTABLE AT 360° W/FLUE TERMINAL FOR R1KG (HIGH POWER VERSION)

code 50-00496

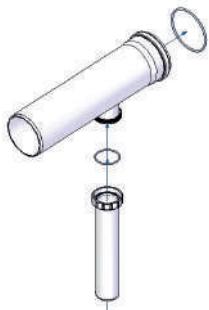


FLUE MANIFOLD KIT BASE BLACK PP FOR R1KG HP BOILER IN CASCADE INSTALLATION

Ø200 - code 50-00489

Ø250 - code 50-00491

Ø315 - code 50-00493



FLUE MANIFOLD KIT BLACK PP FOR R1KG HP ADDITIONAL BOILER IN CASCADE INSTALLATION

Ø200 - code 50-00490

Ø250 - code 50-00492

Ø315 - code 50-00494



45° FLUE BEND MF BLACK PP

Ø160 - code 50-00514

Ø200 - code 50-00515

Ø250 - code 50-00516

Ø315 - code 50-00517



87° FLUE BEND MF BLACK PP

Ø160 - code 50-00510

Ø200 - code 50-00511

Ø250 - code 50-00512

Ø315 - code 50-00513

## POWER-TECH R1KG - High Power

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### FLUE EXTENSION Ø160 MF BLACK PP

Ø160 L = 500 mm - code 50-00498

Ø160 L = 1000 mm - code 50-00499

Ø160 L = 2000 mm - code 50-00500

Ø200 L = 500 mm - code 50-00501

Ø200 L = 1000 mm - code 50-00502

Ø200 L = 2000 mm - code 50-00503

Ø250 L = 500 mm - code 50-00504

Ø250 L = 1000 mm - code 50-00505

Ø250 L = 2000 mm - code 50-00506

Ø315 L = 500 mm - code 50-00507

Ø315 L = 1000 mm - code 50-00508

Ø315 L = 2000 mm - code 50-00509

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### 87° T-CONNECTION MMF BLACK PP

Ø160 - code 50-00518

Ø200 - code 50-00519

Ø250 - code 50-00520

Ø315 - code 50-00521

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### FLUE ADAPTER - BLACK PP

Ø160M/200F - code 50-00522

Ø200M/250F - code 50-00533

Ø250M/315F - code 50-00524

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### CONDENSATE DRAIN ADAPTER MF W/CONDENSATE TRAP - Ø 160 MM. - BLACK PP

(it can be combined with our item 50-00496)

code 50-00525

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## 11. CASCADE REGULATION

This device is a climatic regulator and a digital cascade/sequence regulator. It manages cascade systems made by maximum 2 boilers and controls thermal systems made by different circuits such as two mixed circuits, a DHW circuit, a loop circuit and a solar circuit. The ModBus unit allows the regulator to control all functions and to guarantee a total electronic modulation of boilers according to the requested output.



code 40-00337

CASCAD REGULATOR MODBUS DDC-mPID4DSP2 (MASTER) -  
Already installed on the R1KG 180 - 240 model.



code 65-00691

SOLAR ELECTRONIC BOARD (SLAVE)



code 65-00544

CONTROL BOX OT/ModBus



code 40-00344

HEATING CIRCUIT ROOM TEMPERATURE CONTROLLER



code 73518LA

OUTDOOR TEMPERATURE SENSOR



code 40-00667

WEB VISOR - CASCADE SYSTEM REMOTE CONTROLLER

-

code 40-00351

MANIFOLD / MIXING CIRCUIT SENSOR

-

code 40-00346

D.H.W. STORAGE CYLINDER / SOLAR STORAGE CYLINDER  
SENSOR CABLE SBS - SBI2

-

code 40-00351

SOLAR STORAGE CYLINDER SENSOR CABLE SBI

-

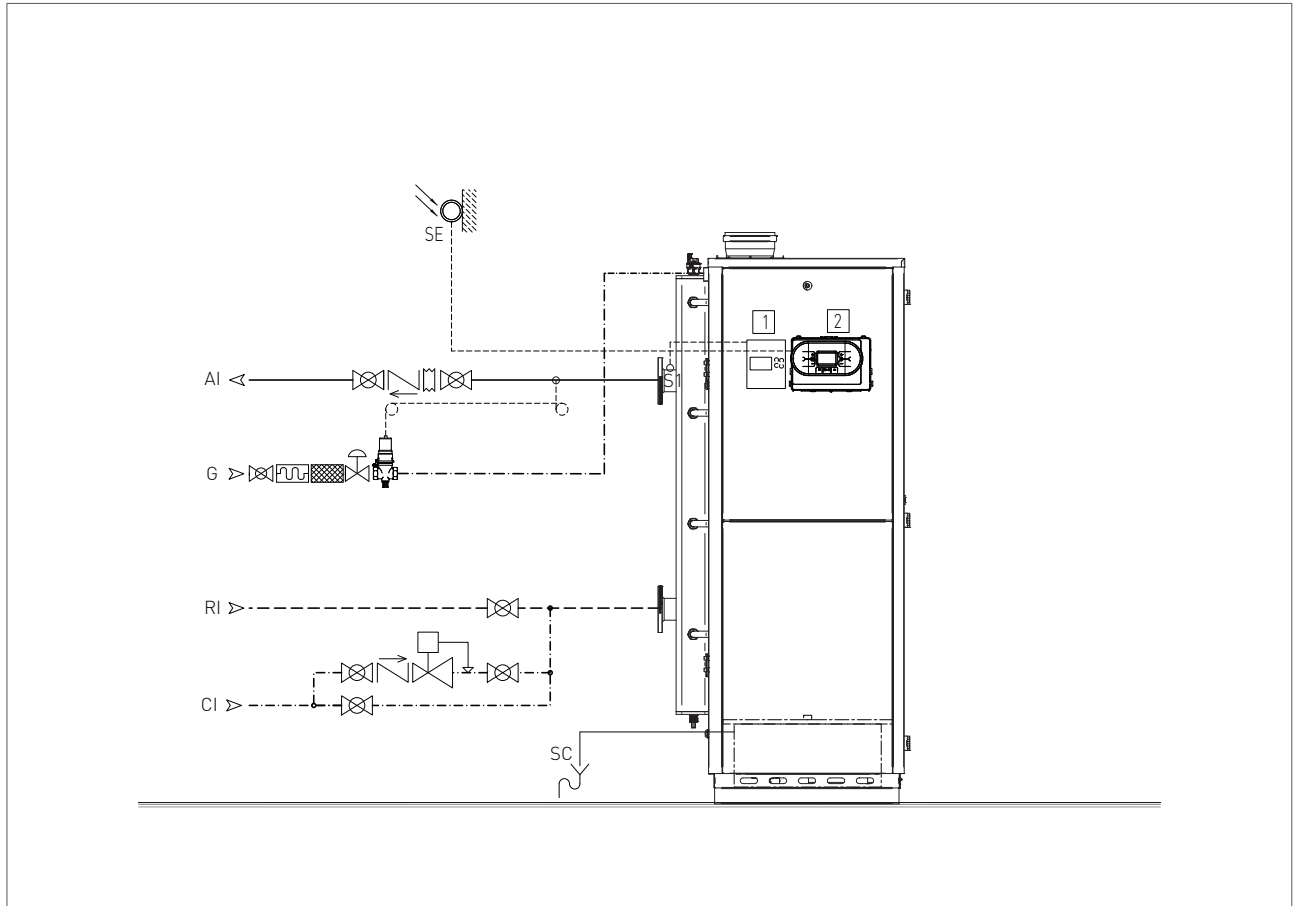
code 31409LA

SOLAR COLLECTOR SENSOR SBS

## 12. SYSTEM MECHANICAL CIRCUIT

### HEATING ONLY INSTALLATION

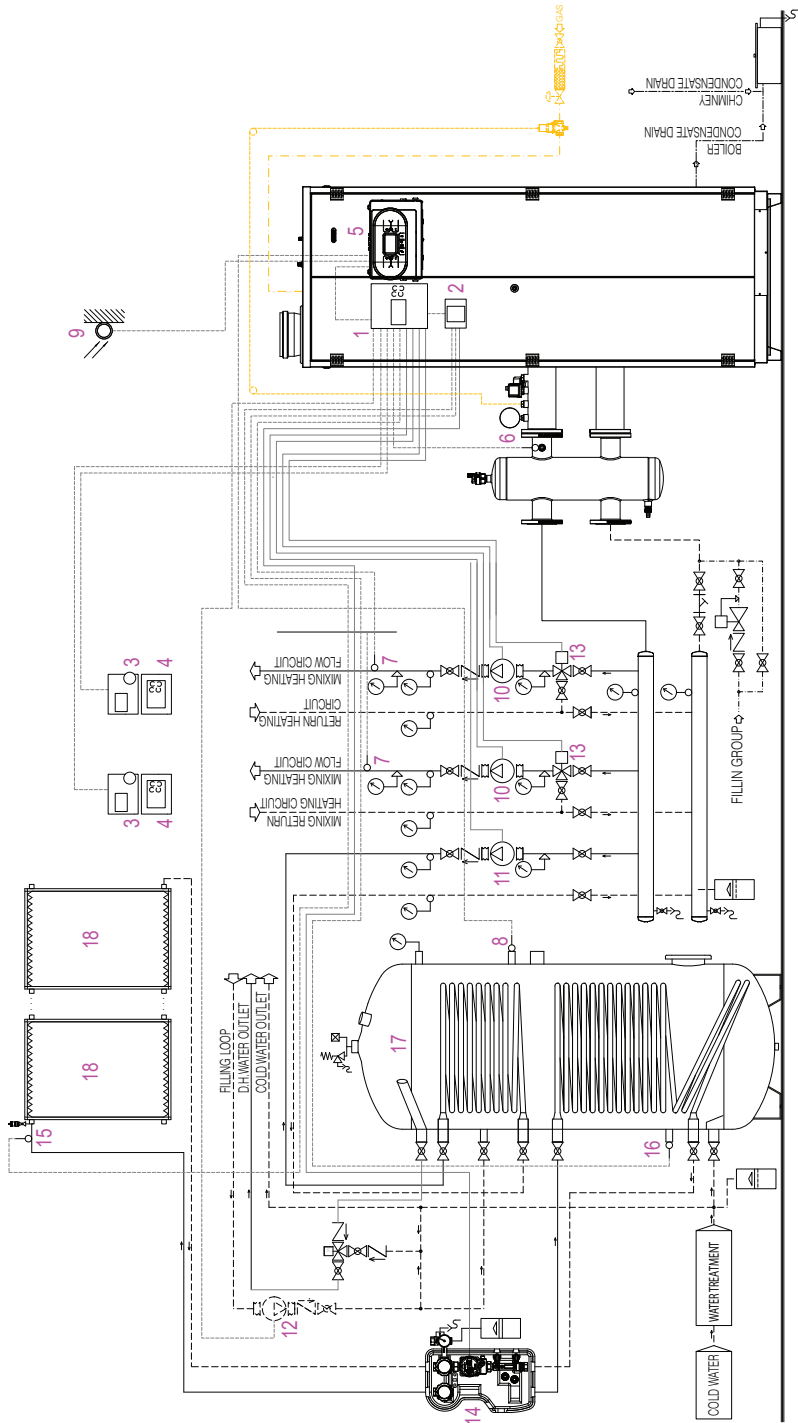
The boiler can manage a heating system at a fixed point delivery temperature or in climatic compensation with an external probe, managing the modulation according to the actually requested thermal load.



**Key**

- 1 OUTDOOR SENSOR
- 2 CONTROL PANEL NO.1
- AI HEATING FLOW
- RI HEATING RETURN
- CI SYSTEM LOADING
- G GAS
- SC CONDENSATE DRAIN CONNECTION

HEATING + DHW AND SOLAR MANAGEMENT - SINGLE INSTALLATION

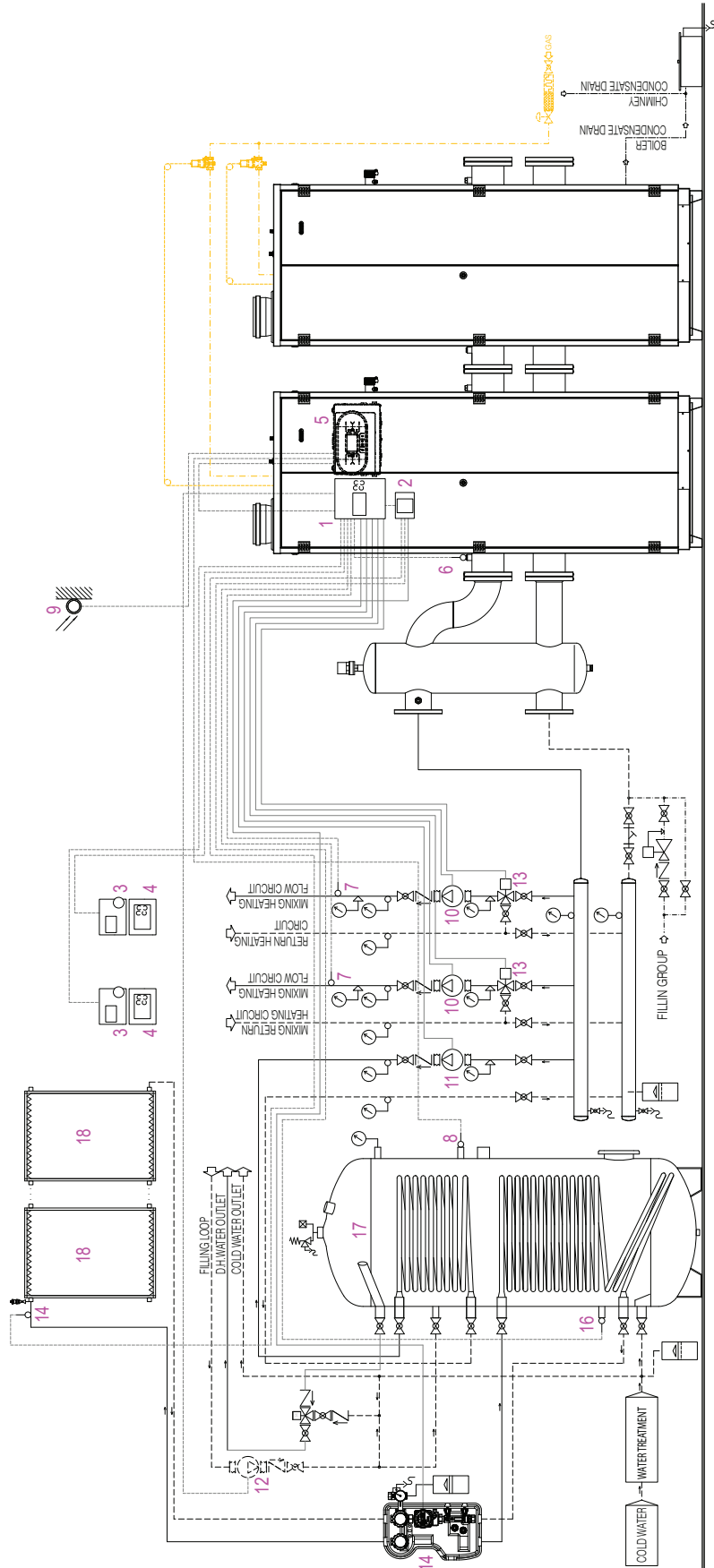


Key

- 1 SEQUENCE CONTROL AND SYSTEM MANAGEMENT CONTROL BOX (MASTER)
- 2 SOLAR PCB (SLAVE)
- 3 ROOM THERMOSTAT
- 4 ROOM TEMPERATURE CONTROL (ALTERNATIVE TO ROOM THERMOSTAT)
- 5 CONTROL PANEL NO.1
- 6 MANIFOLD SENSOR
- 7 MIXED CIRCUIT SENSOR
- 8 STORAGE TANK SENSOR
- 9 OUTDOOR SENSOR
- 10 MIXED CIRCUIT CIRCULATING PUMP
- 11 STORAGE TANK LOADING PUMP
- 12 RE-CIRCULATION LOOP PUMP
- 13 MIXED CIRCUIT MIXING VALVE
- 14 SOLAR CIRCUIT PUMP
- 15 SBS SOLAR PANEL SENSOR
- 16 SBI SOLAR TANK SENSOR
- 17 DHW STORAGE TANK
- 18 SOLAR PANEL



HEATING + DHW AND SOLAR MANAGEMENT - CASCADE INSTALLATION

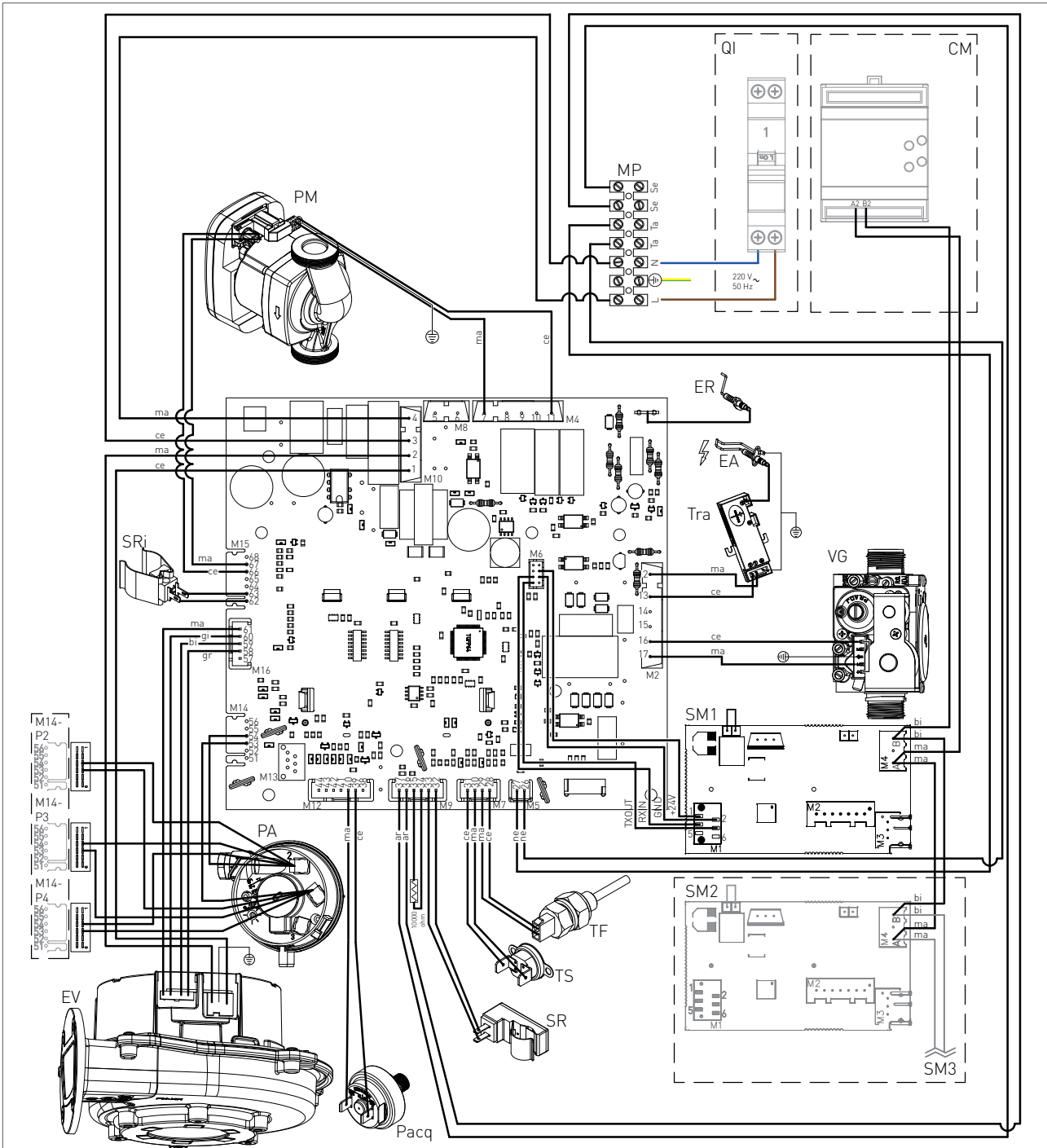


Key

- 1 SEQUENCE CONTROL AND SYSTEM MANAGEMENT CONTROL BOX (MASTER)
- 2 SOLAR PCB (SLAVE)
- 3 ROOM THERMOSTAT
- 4 ROOM TEMPERATURE CONTROL (ALTERNATIVE TO ROOM THERMOSTAT)
- 5 CONTROL PANEL NO.1
- 6 MANIFOLD SENSOR
- 7 MIXED CIRCUIT SENSOR
- 8 STORAGE TANK SENSOR
- 9 OUTDOOR SENSOR
- 10 MIXED CIRCUIT CIRCULATING PUMP
- 11 STORAGE TANK LOADING PUMP
- 12 RE-CIRCULATION LOOP PUMP
- 13 MIXED CIRCUIT MIXING VALVE
- 14 SOLAR CIRCUIT PUMP
- 15 SBS SOLAR PANEL SENSOR
- 16 SBI SOLAR TANK SENSOR
- 17 DHW STORAGE TANK
- 18 SOLAR PANEL

## 13. WIRING DIAGRAMS

### CONTROL PANEL NO.1 - ELECTRONIC PCB ELECTRICAL CONNECTIONS



ER: FLAME DETECTION ELECTRODE

EA: IGNITION ELECTRODE

PM: MODULATING PUMP

VG: GAS VALVE

TRA: IGNITION TRANSFORMER

SM1: MODBUS P.C.B. - CONTROL PANEL NO.1

SM2: MODBUS P.C.B. - CONTROL PANEL NO.2

SM3: MODBUS P.C.B. - CONTROL PANEL NO.3

TS: SAFETY THERMOSTAT

PACQ: WATER PRESSURE SWITCH

SR: HEATING SENSOR

EV: FAN

TF: FLUE SAFETY THERMOFUSE (102°C)

SRI: SYSTEM RETURN SENSOR

QI: SWITCHBOARD

PA: AIR PRESSURE SWITCH

MP: PANEL TERMINAL BLOCK

SE: OUTDOOR SENSOR

TA: ROOM THERMOSTAT

CM: MODBUS CONTROLLER

L: LINE

N: NEUTRAL

M14 TERMINAL (OF CONTROL PANEL

NE: BLACK

CE: BLUE

MA: BROWN

AR: ORANGE

GI: YELLOW

BI: WHITE

GR: GREY





**POWER-TECH R1KG - High Power**

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Document name					Series
R1KG HP_RAD-ING-SCH.PROD-2312.1					R1KG - Single and cascade installation
Rev	Date	Compiled	Status	Approved	Note
01	07-2023	N.V.	Completed	N.V.	First emission
02	09-2023	N.V.	Completed	N.V.	Update
03	12-2023	N.V.	Completed	N.V.	Update



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