

# termet

CONDENSING BOILERS

CONDENSING BOILERS WITH  
INTEGRATED HOT WATER TANK

CONDENSING BOILERS  
HIGH-POWER

CASCADE SYSTEMS

INSTANTANEOUS GAS WATER  
HEATERS



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# 1. Condensing gas boiler ECOCONDENS SILVER PLUS -20, -25, -35

<p><b>ECOCONDENS SILVER PLUS 20</b></p> <p><b>ECOCONDENS SILVER PLUS 25</b></p> <p><b>ECOCONDENS SILVER PLUS 35</b></p>	Gas type	Index	Trade name	Thermal power [kW]	
	System Boiler				
	2H-G20 Natural gas	WKJ 4421 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 20</b>	3 – 20	
	3P-G31 Liquid gas	WKJ 4423 00 00 00/RO			
	2H-G20 Natural gas	WKJ 4381 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 25</b>	4 – 24	
	3P-G31 Liquid gas	WKJ 4383 00 00 00/RO			
	2H-G20 Natural gas	WKJ 4461 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 35</b>	4 – 35	
	3P-G31 Liquid gas	WKJ 4463 00 00 00/RO			
	Combi Boiler				
	2H-G20 Natural gas	WKD 4411 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 20</b>	3 – 20	
	3P-G31 Liquid gas	WKD 4413 00 00 00/RO			
	2H-G20 Natural gas	WKD 4371 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 25</b>	4 – 24	
3P-G31 Liquid gas	WKD 4373 00 00 00/RO				
2H-G20 Natural gas	WKD 4451 00 00 00/RO	<b>ECOCONDENS SILVER PLUS 35</b>	4 – 35		
3P-G31 Liquid gas	WKD 4453 00 00 00/RO				

## TECHNICAL FEATURES

- ✓ Energy class: A
- ✓ Efficiency up to 109%
- ✓ Modulating pump (PWM signal) with an automatic airvent
- ✓ Quiet operation ( L<sub>WA</sub> < 48 dB )
- ✓ Heat exchanger's coil made of stainless steel
- ✓ Electronically controlled modulating fan
- ✓ Wide range of modulation: 12-100%
- ✓ Weather regulation available
- ✓ Low level of NOx emission (NOx-6 class)
- ✓ Modern control panel with electronic display
- ✓ OPEN-THER system available
- ✓ Controller with 0-10V voltage signal
- ✓ LIN system: remote control by Service and for individual customers\*

## \*LIN SYSTEM



- ✓ Remote monitoring of the device
- ✓ Quick device configuration via mobile / tablet
- ✓ Full device diagnostics

## 1.1. TECHNICAL DATA

Parameter	Unit	ECOCONDENS SILVER PLUS					
		SYSTEM BOILER			COMBI BOILER		
		-20	-25	-35	-20	-25	-35
<b>Power</b>							
<b>Energy parameters</b>							
<b>Central heating circuit</b>							
Nominal heat output of the boiler at temperature 80/60°C (modulated)	kW	2.7 ÷ 20.0	3.9 ÷ 24.0	4.1 ÷ 34.7	2.7 ÷ 20.0	3.9 ÷ 24.0	4.1 ÷ 34.7
Nominal heat output of the boiler at temperature 50/30°C (modulated)	kW	3.0 ÷ 22.0	4.3 ÷ 26.5	4.5 ÷ 38.2	3.0 ÷ 22.0	4.3 ÷ 26.5	4.5 ÷ 38.2
Heat load	kW	2.8 ÷ 20.4	4.0 ÷ 24.6	4.2 ÷ 35.6	2.8 ÷ 20.4	4.0 ÷ 24.6	4.2 ÷ 35.6
Useful boiler efficiency at rated heat output and average boiler water temperature 70°C	%	97.6	98.0	98.0	97.6	98.0	98.0
Useful boiler efficiency at partial heat output and return water temperature 30°C	%	107.9	108.7	109.0	107.9	108.7	109.0
Max. heating temperature	°C	95					
<b>Domestic hot water circuit</b>							
Nominal heat output of the boiler at temperature 80/60°C	kW	-----			2.7 ÷ 25.0	3.9 ÷ 30.0	4.1 ÷ 40.0
Declared load profile					L	L	XL
Water pressure	MPa	-----			0.01(0.1) ÷ 0.6(6)		
Flow rate of domestic hot water for Δ=30K	dm <sup>3</sup> /min				12	14	19
<b>Mounting dimensions</b>							
Chimney duct connection	mm	Coaxial Φ80/Φ125, Coaxial Φ60/Φ100, 2 separate Φ80 x Φ80					
Dimensions	mm	785x400x334	785x400x334	785x400x334	785x400x334	785x400x334	785x400x334
Weight	kg	32.5	34.5	36.5	33.0	35.0	38.0

## 2. Condensing gas boiler with integrated hot water tank ECOCONDENS INTEGRA II PLUS 25

<p><b>ECOCONDENS INTEGRA II PLUS 25</b></p>	Gas type	Index	Trade name	Thermal power [kW]
	<b>Combi Boiler</b>			
	2H-G20 Natural gas	WKD 4791 00 00 00/RO	<b>ECOCONDENS INTEGRA II PLUS 25</b>	4 – 24
3P-G31 Liquid gas	WKD 4793 00 00 00/RO			

### TECHNICAL FEATURES

- ✓ Energy class: A
- ✓ Capacity of integrated water tank – 48l
- ✓ Tank and coil made of stainless steel
- ✓ Efficiency up to 109%
- ✓ Modulating pump (PWM signal) with an automatic airvent
- ✓ Quiet operation (  $L_{WA} < 46$  dB )
- ✓ Electronically controlled modulating fan
- ✓ Wide range of modulation: 13-100%
- ✓ Weather regulation available
- ✓ Low level of NOx emission (NOx-6 class)
- ✓ Modern control panel with electronic display
- ✓ OPEN-THERM system available
- ✓ Controller with 0-10V voltage signal
- ✓ LIN system: remote control by Service and for individual customers\*

### \*LIN SYSTEM








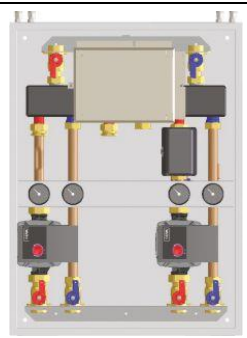









- ✓ Remote monitoring of the device
- ✓ Quick device configuration via mobile / tablet
- ✓ Full device diagnostics



















### 2.1. TECHNICAL DATA

Parameter	Unit	ECOCONDENS INTEGRA II PLUS	
		-25 Power	
<b>Energy parameters</b>			
<b>Central heating circuit</b>			
Nominal heat output of the boiler at temperature 80/60°C (modulated)	kW	3.9 ÷ 24.0	
Nominal heat output of the boiler at temperature 50/30°C (modulated)	kW	4.3 ÷ 26.5	
Heat load	kW	4.0 ÷ 24.6	
Useful boiler efficiency at rated heat output and average boiler water temperature 70°C	%	98.0	
Useful boiler efficiency at partial heat output and return water temperature 30°C	%	108.7	
Max. heating temperature	°C	95	
<b>Domestic hot water circuit</b>			
Nominal heat output of the boiler at temperature 80/60°C	kW	3.9 ÷ 30.0	
Declared load profile		L	
Water pressure	MPa (bar)	0.01(0.1) ÷ 0.6(6)	
Flow rate of domestic hot water for $\Delta=30$ K	dm <sup>3</sup> /min	13.1	
<b>Mounting dimensions</b>			
Chimney duct connection	mm	Coaxial $\Phi 80/\Phi 125$ , Coaxial $\Phi 60/\Phi 100$ , 2 separate $\Phi 80 \times \Phi 80$	
Dimensions	mm	937x690x410	
Weight	kg	66	
<b>Tank parameters</b>			
Coil power	kW	29	
Tank capacity	dm <sup>3</sup>	48	
Coil capacity	dm <sup>3</sup>	4	

### 3. Additional equipment for ECOCONDENS SILVER PLUS and INTEGRA II PLUS

Index	Trade name	Drawing
Z 0960 00 10 00	<b>NTC Sensor</b>	
WKC 0567 00 00 00	<b>Outdoor temperature sensor</b>	
T 9449 13 00 00	<b>Daily temperature regulator V1</b>	
T 9449 11 00 00	<b>Room temperature regulator TERMET ST-292 V3</b> Wire, weekly programmable	
T 9449 10 00 00	<b>Room temperature regulator TERMET ST-292 V2</b> Wireless, weekly programmable	
WKZ 4230 00 00 00/RO	<b>Connection set for system boilers: ECOCONDENS SILVER PLUS</b> (angular ball valves) Components: mounting bracket, 2 water valves, 2 water valves with filter, 1 gas valve	
WKZ 2200 00 00 00/RO	<b>Connection set for combi boilers: ECOCONDENS SILVER PLUS</b> (angular ball valves) Components: mounting bracket, 2 water valves, 2 water valves with filter, 1 gas valve	
T 9824 000 000	<b>Multi-zone hydraulic separator for heating system SIM 22</b> type 1LTE.1HT.YP with electronic A class pump	
T 9765 000 000	<b>Connection set for third heating circuit:</b>  with A class pump – high-temperature set type 1HT.YP	
T 9827 000 000	 with thermostatic valve and A class pump – low-temperature set type 1LTT.YP	
Z 9824 01 00 00	<b>Controller for heating circuits type MLC 16 with OPEN-THERM</b> Cooperates with <b>temperature regulators TERMET ST-292</b>	
T 9423 00 00 00	<b>Bottom cover for boilers: ECOCONDENS SILVER PLUS</b>	
T 9000 01 35 00	<b>Flue pipe Φ60/100 for boilers: ECOCONDENS SILVER PLUS ECOCONDENS INTEGRA II PLUS</b>	
WKR 0770 00 00 00	<b>Mixing valve with flexible hose for boilers: ECOCONDENS INTEGRA II PLUS</b>	
WKZ 1960 60 00 00/RO	<b>Connection set (valves) for boilers: ECOCONDENS INTEGRA II PLUS</b> Components: 1 gas valve, 2 water valves , 3 water valves with filter	

#### 4. Remote control via internet

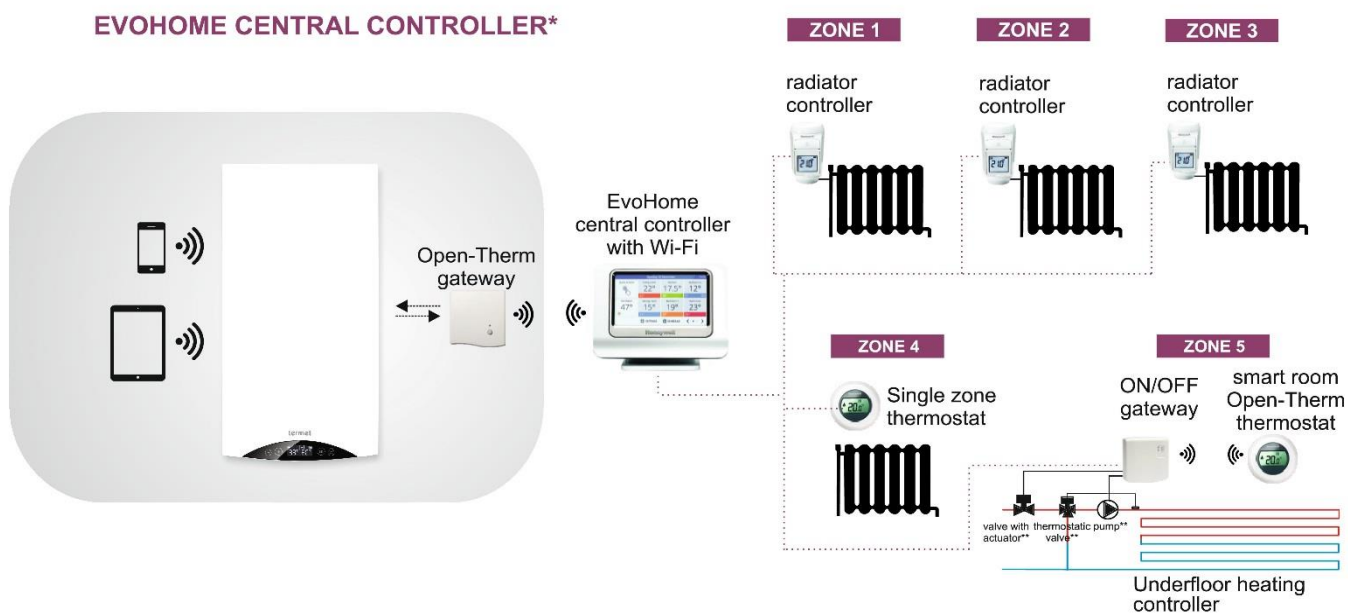
Drawing	Index	Trade name	Usage
<b>Accessories for Open-Therm communication</b>			
  	WST 9647 00 00 00/PL	<b>Control package ROUND with Wi-Fi (Open-Therm bridge)</b> 	Package includes: <ul style="list-style-type: none"> <li>• <b>ROUND regulator</b></li> <li>• <b>Open-Therm bridge</b></li> <li>• <b>Wi-Fi gateway</b></li> </ul> Features: <ul style="list-style-type: none"> <li>• allows for control of one heating zone</li> <li>• large backlit display</li> <li>• possibility to communicate via smartphone or tablet</li> </ul>
		<b>Open-Therm communication</b>	
 	WST 9648 00 00 00/PL	<b>Control package EvoHome with Wi-Fi (Open-Therm bridge)</b> 	Package includes: <ul style="list-style-type: none"> <li>• <b>EvoHome regulator with integrated Wi-Fi</b></li> <li>• <b>Open-Therm bridge</b></li> <li>• <b>rack for EvoHome module with power supply</b></li> </ul> Features: <ul style="list-style-type: none"> <li>• allows for control of few heating zone (max. 12 zones)</li> <li>• possibility to communicate via smartphone or tablet</li> </ul>
		<b>Open-Therm communication</b>	
	T 9643 00 00 00/PL	<b>Radiator controller</b>	Features: <ul style="list-style-type: none"> <li>• intended to EvoHome package</li> <li>• large backlit display</li> <li>• easy review of parameters</li> </ul>
<b>Accessories intended to floor heating – with EvoHome package</b>			
	T 9641 00 00 00/PL	<b>ROUND regulator</b>	Round regulator (control of floor heating zone with On/Off gateway)
	T 9640 00 00 00/PL	<b>On/Off gateway</b>	On/Off gateway (for control of the 230V valve actuator of floor heating zone)
<b>Accessories for On/Off communication</b>			
  	T 9642 00 00 00/PL	<b>Control package ROUND with Wi-Fi (On/Off gateway)</b> 	Package includes: <ul style="list-style-type: none"> <li>• <b>ROUND regulator</b></li> <li>• <b>On/Off gateway</b></li> <li>• <b>Wi-Fi gateway</b></li> </ul> Features: <ul style="list-style-type: none"> <li>• allows for control of one heating zone</li> <li>• large backlit display</li> <li>• possibility to communicate via smartphone or tablet</li> </ul>
		<b>On/Off communication</b>	
 	T 9644 00 00 00/PL	<b>Control package EvoHome with Wi-Fi (On/Off gateway)</b> 	Package includes: <ul style="list-style-type: none"> <li>• <b>EvoHome regulator with integrated Wi-Fi</b></li> <li>• <b>On/Off gateway</b></li> <li>• <b>rack for EvoHome module with power supply</b></li> </ul> Features: <ul style="list-style-type: none"> <li>• allows for control of few heating zone (max. 12 zones)</li> <li>• possibility to communicate via smartphone or tablet</li> </ul>
		<b>On/Off communication</b>	
	T 9643 00 00 00/PL	<b>Radiator controller</b>	Features: <ul style="list-style-type: none"> <li>• intended to EvoHome package</li> <li>• large backlit display</li> <li>• easy review of parameters</li> </ul>

### SMART OPEN-THERM THERMOSTAT\*



\*Set includes: smart room Open-Therm thermostat, Wi-Fi gateway and Open-Therm or ON/OFF gateway (depends on boiler model)

### EVOHOME CENTRAL CONTROLLER\*



\*Set includes: EvoHome central controller with Wi-Fi, Wi-Fi gateway and Open-Therm or ON/OFF gateway (depends on boiler model)

\*\*Not included with the set

## 5. Condensing gas boiler ECOCONDENS CRYSTAL PLUS 50

<p><b>ECOCONDENS CRYSTAL PLUS 50</b></p>	Gas type	Index	Trade name	Thermal power [kW]
	System Boiler			
	2H-G20 Natural gas	WKJ 5001 00 00 00/RO	<b>ECOCONDENS CRYSTAL PLUS 50</b>	5.5 - 45
	3P-G31 Liquid gas	WKJ 5003 00 00 00/RO		
	Combi Boiler			
	2H-G20 Natural gas	WKD 4991 00 00 00/RO	<b>ECOCONDENS CRYSTAL PLUS 50</b>	5.5 - 45
3P-G31 Liquid gas	WKD 4993 00 00 00/RO			

### TECHNICAL FEATURES

- ✓ Energy class: A
- ✓ Efficiency up to 107,7%
- ✓ Modulating pump (PWM signal) with an automatic airvent
- ✓ Acoustic power  $L_{WA} < 69$  dB
- ✓ Heat exchanger made of stainless steel
- ✓ Electronically controlled modulating fan
- ✓ New generation BLUEJET burner – wide range of modulation: 11-100%
- ✓ Weather regulation available
- ✓ OPEN-THERM system available
- ✓ Low level of NOx emission (NOx-6 class)
- ✓ Modern control panel with electronic display
- ✓ Cascade connection

### 5.1. TECHNICAL DATA

Parameter	Unit	ECOCONDENS CRYSTAL PLUS 50	
		SYSTEM BOILER	COMBI BOILER
<b>Energy parameters</b>			
<b>Central heating circuit</b>			
Nominal heat output of the boiler at temperature 80/60°C (modulated)	kW	5.5 ÷ 45.0	5.5 ÷ 45.0
Nominal heat output of the boiler at temperature 50/30°C (modulated)	kW	6.1 ÷ 49.6	6.1 ÷ 49.6
Heat load	kW	5.7 ÷ 46.2	5.7 ÷ 46.2
Useful boiler efficiency at rated heat output and average boiler water temperature 70°C	%	97.4	97.4
Useful boiler efficiency at partial heat output and return water temperature 30°C	%	107.7	107.7
Max. heating temperature	°C	95	
<b>Domestic hot water circuit</b>			
Nominal heat output of the boiler at temperature 80/60°C	kW	----	5.5 ÷ 45.0
Declared load profile		----	XXL
Water pressure	MPa	----	0.01 (0.1) ÷ 0.6(6)
Flow rate of domestic hot water for $\Delta=30$ K	dm <sup>3</sup> /min	----	21.5
<b>Mounting dimensions</b>			
Chimney duct connection	mm	Coaxial $\Phi 80/\Phi 125$ , Coaxial $\Phi 60/\Phi 100$ , 2 separate $\Phi 80 \times \Phi 80$	
Connection of heating water and gas	Inch	G ¾	
Dimensions	mm	730x400x440	
Weight	kg	38.0	40.0

### 5.2. Air-flue gas adapters for ECOCONDENS CRYSTAL PLUS 50

Index	Trade name	Catalog number	Drawing
T 9000 01 14 00	<b>Elbow 90° – adapter</b> with revision, measuring points and collar on the boiler	$\Phi 60/100$ KKR 425/60	
T 9000 01 15 00	<b>Elbow 90° – adapter</b> with revision, measuring points and collar on the boiler	$\Phi 80/125$ KKR 425/80	
T 9000 01 12 00	<b>Adapter</b> with measuring points and collar on the boiler	$\Phi 60/100$ ADK 512/60	
T 9000 01 13 00	<b>Adapter</b> with measuring points and collar on the boiler	$\Phi 80/125$ ADK 512/80	
T 9000 01 11 00	<b>Flue gas adapter</b> with measuring points and collar on the boiler	$\Phi 80$ ADS 512/80	
T 9000 00 54 00	<b>Air adapter</b> with measuring points and collar on the boiler	$\Phi 80$ ADP 503/80	



### 5.3. Additional equipment for ECOCONDENS CRYSTAL PLUS 50

Index	Trade name	Drawing
Z 0960 00 10 00	<b>NTC Sensor</b>	
WKC 0567 00 00 00	<b>Outdoor temperature sensor</b>	
T 9449 13 00 00	<b>Daily temperature regulator V1</b>	
T 9449 11 00 00	<b>Room temperature regulator TERMET ST-292 V3</b> Wire, weekly programmable	
T 9449 10 00 00	<b>Room temperature regulator TERMET ST-292 V2</b> Wireless, weekly programmable	
WKZ 0624 00 00 00	<b>OPEN-THERM regulator type CR 11011</b> Cooperates directly with <b>cascade manager AX 1203SQ</b>	
WKZ 2203 00 00 00/RO	<b>Connection set for system boilers ECOCONDENS CRYSTAL PLUS 50</b> (angular ball valves) Components: mounting bracket, 1 water valves, 1 water valves with filter, 1 gas valve	
WKZ 2202 00 00 00/RO	<b>Connection set for combi boilers ECOCONDENS CRYSTAL PLUS 50</b> (angular ball valves) Components: mounting bracket, 2 water valves, 2 water valves with filter, 1 gas valve	
T 9000 01 35 00	<b>Flue pipe <math>\Phi 60/100</math> for boilers: ECOCONDENS CRYSTAL PLUS 50</b>	

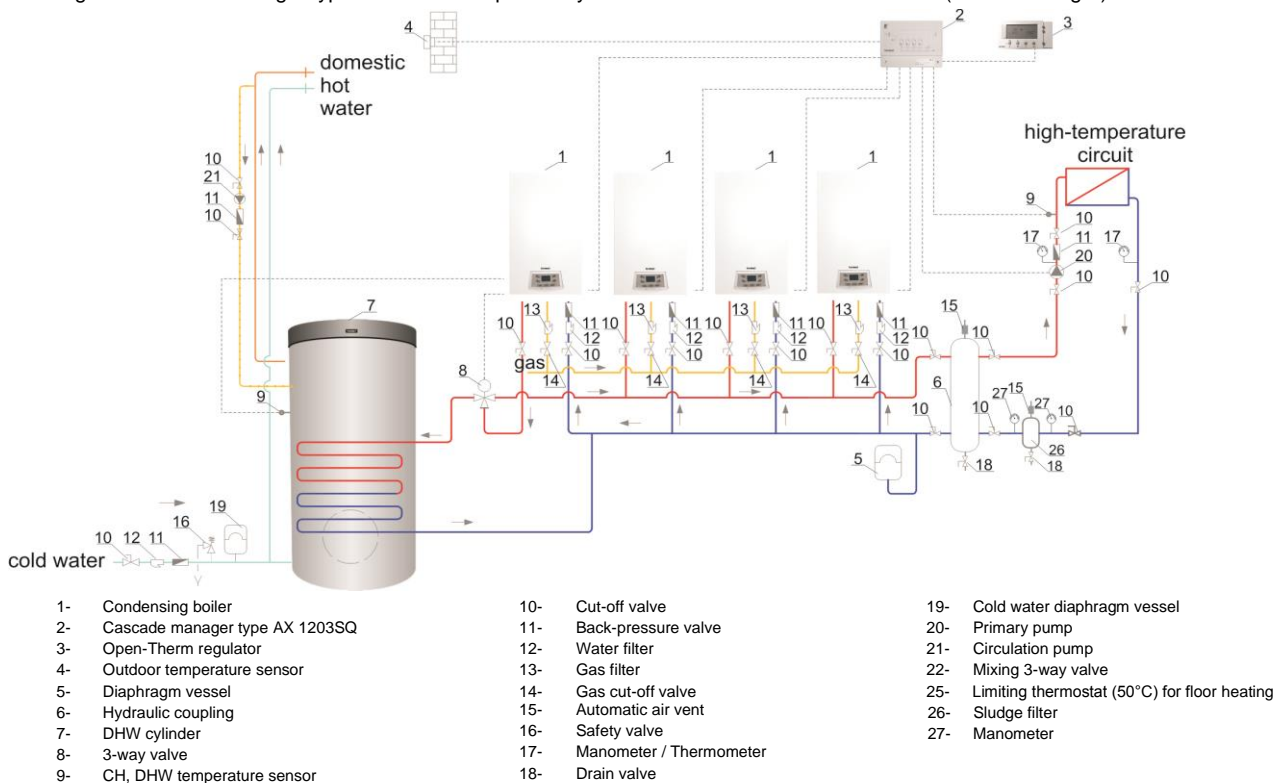
### 5.4. Cascade appliances of ECOCONDENS CRYSTAL PLUS 50

Index	Trade name	Drawing
WKZ 0624 00 00 00	<b>OPEN-THERM regulator type CR 11011</b> Cooperates directly with <b>cascade manager AX 1203SQ</b>	
WKM 0623 00 00 00	<b>Cascade manager Type AX 1203SQ (2 – 4 boilers)</b> - cooperates with <b>OPEN-THERM regulator</b> - equipped with outdoor temperature sensor and supply temperature sensor	

### 5.5. Hydraulic Cascade Schemes of ECOCONDENS CRYSTAL PLUS 50

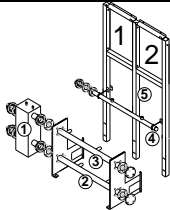
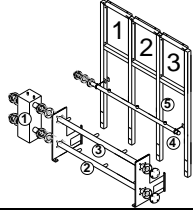


**One heating circuit (high-temperature), DHW circuit is operated by one boiler**

Working with cascade manager type AX 1203SQ – possibility to combine max 4 boilers in cascade (to one manager)



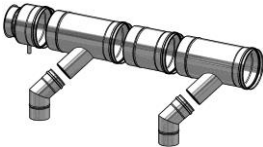
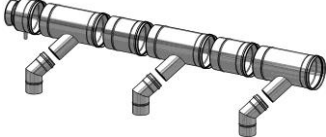
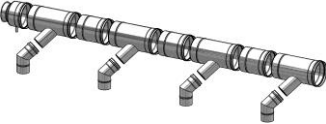


- |                                   |                             |  |
|-----------------------------------|-----------------------------|--|
| 1- Condensing boiler              | 10- Cut-off valve           | 19- Cold water diaphragm vessel                  |
| 2- Cascade manager type AX 1203SQ | 11- Back-pressure valve     | 20- Primary pump                                 |
| 3- Open-Therm regulator           | 12- Water filter            | 21- Circulation pump                             |
| 4- Outdoor temperature sensor     | 13- Gas filter              | 22- Mixing 3-way valve                           |
| 5- Diaphragm vessel               | 14- Gas cut-off valve       | 25- Limiting thermostat (50°C) for floor heating |
| 6- Hydraulic coupling             | 15- Automatic air vent      | 26- Sludge filter                                |
| 7- DHW cylinder                   | 16- Safety valve            | 27- Manometer                                    |
| 8- 3-way valve                    | 17- Manometer / Thermometer |  |
| 9- CH, DHW temperature sensor     | 18- Drain valve             |  |

### 5.6. Cascade elements for ECOCONDENS CRYSTAL PLUS 50

Index	Trade name	Drawing
T 9260 10 00 00	<b>Cascade racks E.02A for 2 boilers</b> Components: 1- hydraulic coupling 2- return collector 3- supply collector 4- gas collector 5- frame	
T 9260 11 00 00	<b>Cascade racks E.03A for 3 boilers</b> Components: 1- hydraulic coupling 2- return collector 3- supply collector 4- gas collector 5- frame	
T 9155 00 00 00	<b>Hydraulic coupling</b>	
T 9260 12 00 00	<b>Elbow Connector</b>	

### 5.7. Flue gas systems for cascade systems

Index	Trade name	Drawing
<b>Air and flue gas adapters</b>		
T 9000 01 11 00	$\Phi$ 80 <b>Flue gas adapter</b> with measuring points and collar on the boiler	
T 9000 00 54 00	$\Phi$ 80 <b>Air adapter</b> with measuring points and collar on the boiler	
<b>Flue gas set SP-N for 2 boilers working in cascade</b>		
T 9000 00 02 38	$\Phi$ 125	
T 9000 00 02 39	$\Phi$ 150	
T 9000 00 02 40	$\Phi$ 180	
T 9000 00 02 41	$\Phi$ 200	
<b>Flue gas set SP-N for 3 boilers working in cascade</b>		
T 9000 00 02 42	$\Phi$ 150	
T 9000 00 02 43	$\Phi$ 180	
T 9000 00 02 44	$\Phi$ 200	
T 9000 00 02 45	$\Phi$ 250	
T 9000 00 02 46	$\Phi$ 300	
<b>Flue gas set SP-N for 4 boilers working in cascade</b>		
T 9000 00 02 47	$\Phi$ 180	
T 9000 00 02 48	$\Phi$ 200	
T 9000 00 02 49	$\Phi$ 250	
T 9000 00 02 50	$\Phi$ 300	

## 6. Condensing gas boiler ECOCONDENS CRYSTAL -80, -100

<p><b>ECOCONDENS CRYSTAL 80</b> <b>ECOCONDENS CRYSTAL 100</b></p>	Gas type	Index	Trade name	Thermal power [kW]
	<b>System boiler</b>			
	2H-G20 Natural gas	WKJ 5191 00 00 00/RO	<b>ECOCONDENS CRYSTAL 80</b>	17 – 80
	3P-G31 Liquid gas	WKJ 5193 00 00 00/RO		
	<b>System boiler</b>			
	2H-G20 Natural gas	WKJ 5141 00 00 00/RO	<b>ECOCONDENS CRYSTAL 100</b>	17 – 100
3P-G31 Liquid gas	WKJ 5143 00 00 00/RO			

### TECHNICAL FEATURES

- ✓ Modern DUO heat exchanger made of stainless steel
- ✓ High-efficiency circulation pump (EE≤0,23) built-in
- ✓ Electronically controlled modulating fan
- ✓ Wide range of modulation: 17-100%
- ✓ Acoustic power  $L_{WA} < 56$  dB
- ✓ Weather regulation available
- ✓ OPEN-THERM system available
- ✓ Low level of NO<sub>x</sub> emission (NO<sub>x</sub>-6 class)
- ✓ Modern control panel with electronic display
- ✓ Complete system of safety measures
- ✓ Operating in cascade system (max 6 boilers) by integrated internal cascade manager


### 6.1. TECHNICAL DATA

Parameter	Unit	ECOCONDENS CRYSTAL 80	ECOCONDENS CRYSTAL 100
<b>Energy parameters</b>			
<b>Central heating circuit</b>			
Nominal heat output of the boiler at temperature 80/60°C (modulated)	kW	17 ÷ 80	17 ÷ 100
Nominal heat output of the boiler at temperature 50/30°C (modulated)	kW	19 ÷ 88	19 ÷ 110
Heat load	kW	18 ÷ 82	18 ÷ 103
Useful boiler efficiency at rated heat output and average boiler water temperature 70°C	%	97	97
Useful boiler efficiency at partial heat output and return water temperature 30°C	%	107	107
Modulation range	%	21 ÷ 100	17 ÷ 100
Max. heating temperature	°C	80	
Standard / reduced adjustable temperature	°C	20 ÷ 80	
Pump head (at flow = 0 m <sup>3</sup> /h)	kPa (bar)	80 (0,8)	
<b>Electric parameters</b>			
Type and supply voltage	V	~ 230 ±10%/ 50Hz	
Power consumption	W	350	
<b>Mounting dimensions</b>			
Chimney duct connection	mm	Φ100 (2 adapters included)	
Connection of heating water and gas	Inch	G5/4" and G1"	
Dimensions	mm	540x810x545	
Weight	kg	82	

### 6.2. Additional equipment for ECOCONDENS CRYSTAL -80, -100

Index	Trade name	Drawing
WKC 5140 00 00 91	<b>NTC Sensor (12kΩ) of tank</b>	
WKC 0567 00 00 00	<b>Outdoor temperature sensor</b>	
WKZ 5140 12 00 00	<b>3-way valve</b> G1" (230V)	
WKZ 0624 00 00 00	<b>OPEN-THERM regulator type CR 11011</b>	
T 9449 11 00 00	<b>Room temperature regulator</b> <b>TERMET ST-292 V3</b> Wire, weekly programmable	
T 9449 10 00 00	<b>Room temperature regulator</b> <b>TERMET ST-292 V2</b> Wireless, weekly programmable	


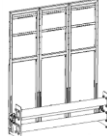





### 6.3. Cascade appliances of ECOCONDENS CRYSTAL -80, -100

Index	Trade name	Drawing
WKZ 0624 00 00 00	OPEN-THERM regulator type CR 11011	

### 6.4. Air-flue gas system (STAINLESS STEEL) – ECOCONDENS CRYSTAL -80, -100

Index	Trade name	Catalog number	Drawing	
T 9000 02 00 01	Extension pipe SP-N L=1000 mm	Φ 100	RU0010001A	
T 9000 02 00 02	Extension pipe SP-N L=500 mm	Φ 100	RU2010001A	
T 9000 02 00 03	Extension pipe SP-N L=250 mm	Φ 100	RU2510001A	
T 9000 02 00 04	Elbow SP-N 90°	Φ 100	KSU9010001A	
T 9000 02 00 05	Elbow SP-N 90° with support bracket	Φ 100	KPU9010001A	
T 9000 02 00 06	Elbow SP-N 45°	Φ 100	KSU4510001A	
T 9000 02 00 07	Inspection T-piece SP-N	Φ 100	WOU10001A	
T 9000 02 00 08	Roof plate + rain collar	Φ 100	DCK15010001/01AX	
T 9000 00 00 11	Rain collar	Φ 100	KPD312/100	
T 9000 02 00 09	Final pipe L=1000	Φ 100	RKP0010009B	
T 9000 02 00 11	Telescop	Φ 100	TU32045010001A	
T 9000 02 00 12	Umbrella	Φ 100	PAR10001A	
T 9000 00 60 00	Rosette	Φ 100	RD322/100	
T 9000 00 00 23	Gasket	Φ 100	USZ200/100	

### 6.6. Cascade elements for ECOCONDENS CRYSTAL -80, -100

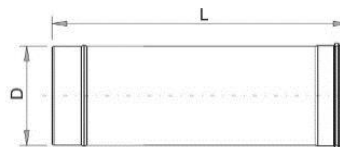
Index	Trade name	Drawing
T9.E.02.00.00.D	<b>Cascade racks E.02D for 2 boilers</b> with gas collector (T9.E.02.01.00.D)	
T9.E.03.00.00.D	<b>Cascade racks E.03D for 3 boilers</b> with gas collector (T9.E.03.01.00.D)	
T9.E.00.01.00.D	<b>Hydraulic coupling 300kW</b> recommended for cascades from 2 to 3 boilers	
T9.E.00.02.00.D	<b>Hydraulic coupling 600kW</b> recommended for cascades from 4 to 6 boilers	
T9.E.00.04.00.D	<b>Elbow connector DN 100</b>	
T9.E.00.03.00.D	<b>Elbow connector DN 65</b>	
T9.E.00.05.00.D	<b>Straight connector DN 65</b>	

### 6.7. Flue gas systems for cascade systems

Index	Trade name	Drawing
<b>Flue gas set SP-N for 2 boilers working in cascade</b>		
T 9000 02 01 10	Φ 150	<b>Set includes:</b> - Flue gas condenser SP-N with stopper (1 pc) - Flue gas T-piece SP-N 60° (2 pcs) - Flue gas pipe SP-N L=320mm (1 pc) - Flue gas elbow SP-N 50° Φ125 (2 pcs) - Flue gas reduction SP-N Φ100/125 (N/M) L=200mm (2 pcs) - Flue gas pipe SP-N Φ100 L=250mm (2 pcs)
T 9000 02 01 11	Φ 180	
<b>Flue gas set SP-N for 3 boilers working in cascade</b>		
T 9000 02 01 12	Φ 180	<b>Set includes:</b> - Flue gas condenser SP-N with stopper (1 pc) - Flue gas T-piece SP-N 60° (3 pcs) - Flue gas pipe SP-N L=320mm (2 pc) - Flue gas elbow SP-N 50° Φ125 (3 pcs) - Flue gas reduction SP-N Φ100/125 (N/M) L=200mm (3 pcs) - Flue gas pipe SP-N Φ100 L=250mm (3 pcs)
T 9000 02 01 13	Φ 200	
<b>Flue gas set SP-N for 4 boilers working in cascade</b>		
T 9000 02 01 14	Φ 200	<b>Set includes:</b> - Flue gas condenser SP-N with stopper (1 pc) - Flue gas T-piece SP-N 60° (4 pcs) - Flue gas pipe SP-N L=320mm (3 pc) - Flue gas elbow SP-N 50° Φ125 (4 pcs) - Flue gas reduction SP-N Φ100/125 (N/M) L=200mm (4 pcs) - Flue gas pipe SP-N Φ100 L=250mm (4 pcs)
T 9000 02 01 15	Φ 250	

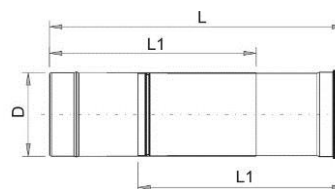
## 7. Components of the flue gas system for cascade solutions from ECOCONDENS CRYSTAL PLUS 50 and ECOCONDENS CRYSTAL -80, -100

### Exhaust pipe SP-N



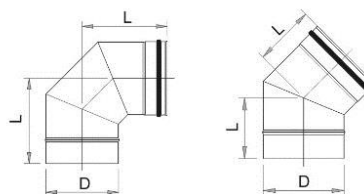
Dimensions	L=1000 mm	L=500 mm	L=250 mm
D[mm]	Index	Index	Index
Φ 125	T 9000 000 032	T 9000 000 033	T 9000 000 034
Φ 150	T 9000 000 035	T 9000 000 036	T 9000 000 037
Φ 180	T 9000 000 038	T 9000 000 039	T 9000 000 040
Φ 200	T 9000 000 041	T 9000 000 042	T 9000 000 043
Φ 250	T 9000 000 044	T 9000 000 045	T 9000 000 046
Φ 300	T 9000 000 047	T 9000 000 048	T 9000 000 049

### Exhaust telescope SP-N with regulation L = 270-350 mm



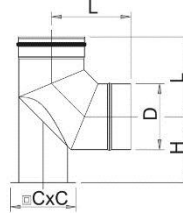
Dimensions	L=270-350	
D[mm]	Index	L1 [mm]
Φ 125	T 9000 000 050	200
Φ 150	T 9000 000 051	200
Φ 180	T 9000 000 052	200
Φ 200	T 9000 000 053	200
Φ 250	T 9000 000 054	200
Φ 300	T 9000 000 055	200

### Exhaust elbow SP-N 90° / 45°



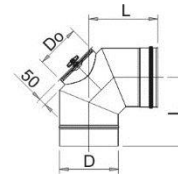
Dimensions	90°		45°	
	Index	L [mm]	Index	L [mm]
Φ 125	T 9000 000 056	180	T 9000 000 062	128
Φ 150	T 9000 000 057	210	T 9000 000 063	133
Φ 180	T 9000 000 058	237	T 9000 000 064	139
Φ 200	T 9000 000 059	247	T 9000 000 065	144
Φ 250	T 9000 000 060	273	T 9000 000 066	154
Φ 300	T 9000 000 061	297	T 9000 000 067	164

Exhaust elbow SP-N 90° with support bracket



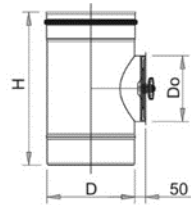
Dimensions				
D[mm]	Index	L [mm]	H [mm]	CxC [mm]
Φ 125	T 9000 000 068	180	100	125x125
Φ 150	T 9000 000 069	210	105	150x150
Φ 180	T 9000 000 070	237	120	180x180
Φ 200	T 9000 000 071	247	140	200x200
Φ 250	T 9000 000 072	273	160	250x250
Φ 300	T 9000 000 073	297	180	300x300

Exhaust elbow SP-N 90° with revision



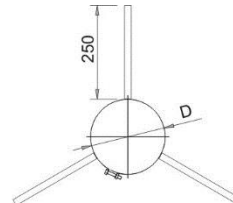
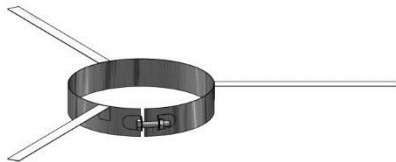
Dimensions		90°	
D[mm]	Index	L [mm]	Do [mm]
Φ 125	T 9000 000 074	180	100
Φ 150	T 9000 000 075	210	130
Φ 180	T 9000 000 076	237	150
Φ 200	T 9000 000 077	247	150
Φ 250	T 9000 000 078	273	150
Φ 300	T 9000 000 079	297	180

Exhaust revision SP-N



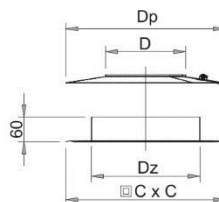
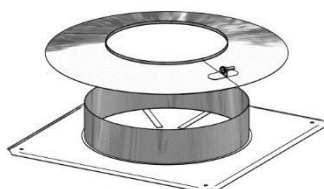
Dimensions		90°	
D[mm]	Index	L [mm]	Do [mm]
Φ 125	T 9000 000 080	330	100
Φ 150	T 9000 000 081	330	130
Φ 180	T 9000 000 082	350	150
Φ 200	T 9000 000 083	350	150
Φ 250	T 9000 000 084	400	180
Φ 300	T 9000 000 085	400	180

Location bracket



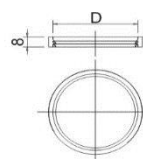
Dimensions	
D[mm]	Index
Φ 125	T 9000 000 086
Φ 150	T 9000 000 087
Φ 180	T 9000 000 088
Φ 200	T 9000 000 089
Φ 250	T 9000 000 090
Φ 300	T 9000 000 091

### Roof plate + rain collar



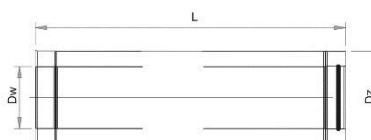
Dimensions				
D[mm]	Index	Dz[mm]	Dp[mm]	CxC[mm]
Φ 125	T 9000 000 092	180	290	330x330
Φ 150	T 9000 000 093	225	320	400x400
Φ 180	T 9000 000 094	250	370	450x450
Φ 200	T 9000 000 095	300	390	500x500
Φ 250	T 9000 000 096	350	440	550x550
Φ 300	T 9000 000 097	400	490	600x600

### Silicone gasket



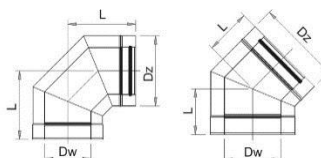
Dimensions	
D[mm]	Index
Φ 125	T 9000 000 098
Φ 150	T 9000 000 099
Φ 180	T 9000 000 101
Φ 200	T 9000 000 102
Φ 250	T 9000 000 103
Φ 300	T 9000 000 104

### Insulated pipe with gasket IZO SP-N



Dimensions Dw/Dz[mm]	L=1000mm	L=500mm	L=250mm
	Index	Index	Index
Φ 125/175	T 9000 000 105	T 9000 000 111	T 9000 000 117
Φ 150/200	T 9000 000 106	T 9000 000 112	T 9000 000 118
Φ 180/230	T 9000 000 107	T 9000 000 113	T 9000 000 119
Φ 200/250	T 9000 000 108	T 9000 000 114	T 9000 000 120
Φ 250/300	T 9000 000 109	T 9000 000 115	T 9000 000 121
Φ 300/350	T 9000 000 110	T 9000 000 116	T 9000 000 122

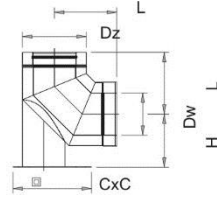
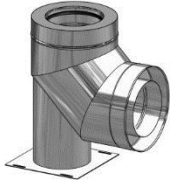
### Insulated elbow with gasket IZO SP-N 90° / 45°



Dimensions Dw/Dz[mm]	90°		45°	
	L[mm]	Index	L[mm]	Index
Φ 125/175	233	T 9000 000 123	138	T 9000 000 129
Φ 150/200	245	T 9000 000 124	143	T 9000 000 130
Φ 180/230	260	T 9000 000 125	149	T 9000 000 131
Φ 200/250	270	T 9000 000 126	153	T 9000 000 132
Φ 250/300	295	T 9000 000 127	164	T 9000 000 133
Φ 300/350	320	T 9000 000 128	174	T 9000 000 134

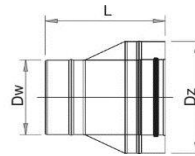


**Insulated elbow with gasket IZO SP-N 90° with support bracket**



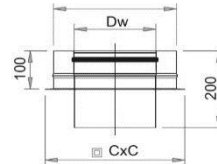
Dimensions		90°		
Dw/Dz[mm]	L[mm]	H[mm]	CxC [mm]	Index
Φ 125/175	233	138	215x215	T 9000 000 135
Φ 150/200	245	150	240x240	T 9000 000 136
Φ 180/230	260	165	270x270	T 9000 000 137
Φ 200/250	270	175	290x290	T 9000 000 138
Φ 250/300	295	200	340x340	T 9000 000 139
Φ 300/350	320	225	390x390	T 9000 000 140

**Insulation closure with seal IZO SP-N**



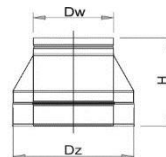
Dimensions			
Dw/Dz[mm]	Index	L [mm]	
Φ 125/175	T 9000 000 141	250	
Φ 150/200	T 9000 000 142	250	
Φ 180/230	T 9000 000 143	250	
Φ 200/250	T 9000 000 144	250	
Φ 250/300	T 9000 000 145	250	
Φ 300/350	T 9000 000 146	250	

**Insulated passage support with gasket IZO SP-N**



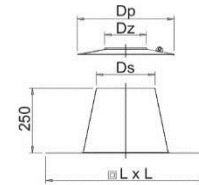
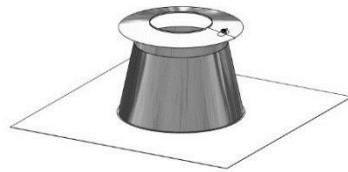
Dimensions			
Dw/Dz[mm]	Index	CxC [mm]	
Φ 125/175	T 9000 000 147	215x215	
Φ 150/200	T 9000 000 148	240x240	
Φ 180/230	T 9000 000 149	270x270	
Φ 200/250	T 9000 000 150	290x290	
Φ 250/300	T 9000 000 151	340x340	
Φ 300/350	T 9000 000 152	390x390	

**Mouthpiece under gasket IZO SP-N**



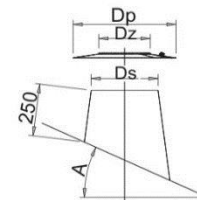
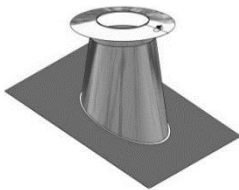
Dimensions			
Dw/Dz[mm]	Index	H[mm]	
Φ 125/175	T 9000 000 153	210	
Φ 150/200	T 9000 000 154	210	
Φ 180/230	T 9000 000 155	210	
Φ 200/250	T 9000 000 156	210	
Φ 250/300	T 9000 000 157	210	
Φ 300/350	T 9000 000 158	210	

### Roof plate 0° + rain collar



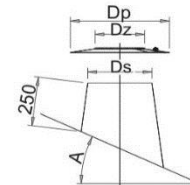
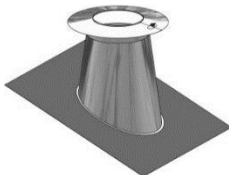
Dimensions				
Dw/Dz[mm]	Index	Ds[mm]	Dp[mm]	LxL[mm]
Φ 125/175	T 9000 000 159	250	365	750
Φ 150/200	T 9000 000 160	250	390	750
Φ 180/230	T 9000 000 161	300	420	800
Φ 200/250	T 9000 000 162	300	440	800
Φ 250/300	T 9000 000 163	370	490	870
Φ 300/350	T 9000 000 164	370	540	870

### Angular roof plate + rain collar



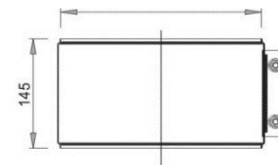
Dimensions		5-15°		15-25°		
Dw/Dz[mm]	Index	Ds[mm]	Dp[mm]	Index	Ds[mm]	Dp[mm]
Φ 125/175	T 9000 000 165	250	365	T 9000 000 171	250	365
Φ 150/200	T 9000 000 166	250	390	T 9000 000 172	250	390
Φ 180/230	T 9000 000 167	300	420	T 9000 000 173	300	420
Φ 200/250	T 9000 000 168	300	440	T 9000 000 174	300	440
Φ 250/300	T 9000 000 169	370	490	T 9000 000 175	370	490
Φ 300/350	T 9000 000 170	370	540	T 9000 000 176	370	540

### Angular roof plate + rain collar



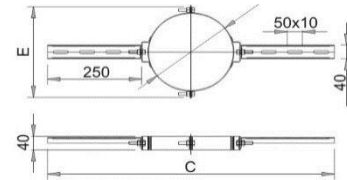
Dimensions		25-35°		35-45°		
Dw/Dz[mm]	Index	Ds[mm]	Dp[mm]	Index	Ds[mm]	Dp[mm]
Φ 125/175	T 9000 000 177	250	365	T 9000 000 183	250	365
Φ 150/200	T 9000 000 178	250	390	T 9000 000 184	250	390
Φ 180/230	T 9000 000 179	300	420	T 9000 000 185	300	420
Φ 200/250	T 9000 000 180	300	440	T 9000 000 186	300	440
Φ 250/300	T 9000 000 181	370	490	T 9000 000 187	370	490
Φ 300/350	T 9000 000 182	370	540	T 9000 000 188	370	540

### Clamping band wide



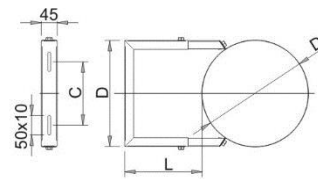
Dimensions	
D[mm]	Index
Φ 175	T 9000 000 189
Φ 200	T 9000 000 190
Φ 230	T 9000 000 191
Φ 250	T 9000 000 192
Φ 300	T 9000 000 193
Φ 350	T 9000 000 194

Roof bracket



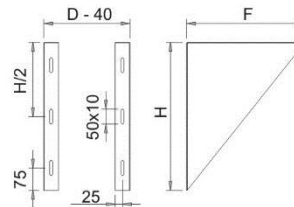
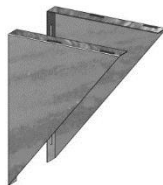
Dimensions			
D[mm]	Index	C[mm]	E[mm]
Φ 175	T 9000 000 195	715	215
Φ 200	T 9000 000 196	740	240
Φ 230	T 9000 000 197	770	270
Φ 250	T 9000 000 198	790	290
Φ 300	T 9000 000 199	840	340
Φ 350	T 9000 000 201	890	390

Bracket with adjustment range



Dimensions	L=50-100 mm		L=100-150 mm		L=150-250 mm	
	Index	C[mm]	Index	C[mm]	Index	C[mm]
Φ 175	T 9000 000 202	75	T 9000 000 208	75	T 9000 000 214	75
Φ 200	T 9000 000 203	100	T 9000 000 209	100	T 9000 000 215	100
Φ 230	T 9000 000 204	130	T 9000 000 210	130	T 9000 000 216	130
Φ 250	T 9000 000 205	150	T 9000 000 211	150	T 9000 000 217	150
Φ 300	T 9000 000 206	200	T 9000 000 212	200	T 9000 000 218	200
Φ 350	T 9000 000 207	250	T 9000 000 213	250	T 9000 000 219	250

Wall bracket with adjustment range



Dimensions	L=50-100 mm		L=100-150 mm		L=150-250 mm	
	Index	FxH[mm]	Index	FxH[mm]	Index	FxH[mm]
Φ 175	T 9000 000 220	295x395	T 9000 000 226	345x445	T 9000 000 232	395x495
Φ 200	T 9000 000 221	320x420	T 9000 000 227	370x470	T 9000 000 233	420x520
Φ 230	T 9000 000 222	350x450	T 9000 000 228	400x500	T 9000 000 234	450x550
Φ 250	T 9000 000 223	370x470	T 9000 000 229	420x520	T 9000 000 235	470x570
Φ 300	T 9000 000 224	420x520	T 9000 000 230	470x570	T 9000 000 236	520x620
Φ 350	T 9000 000 225	470x570	T 9000 000 231	520x620	T 9000 000 237	570x670

## 8. Instantaneous gas water heaters

### 8.1. Water heaters with open combustion chamber

	Gas type	Index	Type	Thermal power [kW]
	<b>TERMAQ ELECTRONIC ECO</b>			
	2H-G20 Natural gas	WGE 3723 00 00 00/RO	<b>GE-19-02</b>	7.7 – 19.2
3P-G31 Liquid gas	WGE 3724 00 00 00/RO			

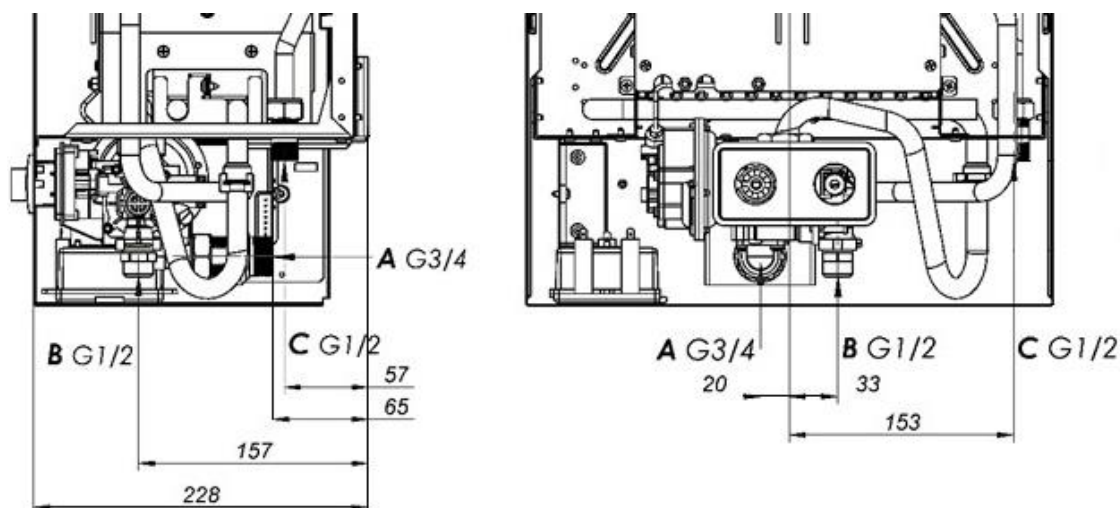
#### TECHNICAL FEATURES

- ✓ Electronic ignition from batteries
- ✓ Automatically regulated power lets user receive constant water temperature, independent of water flow
- ✓ Optional, manual power and water flow regulation
- ✓ New generation copper heat exchanger
- ✓ Ignition at very low water pressure – even as low as 20kPa
- ✓ Adopted to different types of gas
- ✓ Full system of safety measures
- ✓ Very quiet operation
- ✓ ECO burner with low NO<sub>x</sub> emission (class 6)

#### 8.1.1. TECHNICAL DATA







Parameter	Unit	TERMAQ ELECTRONIC ECO GE-19-02
Nominal heat output	kW	19.2
Minimal heat output	kW	7.7
Nominal heat load	kW	21.8
Minimal heat load	kW	8.8
Efficiency	%	88
Water operating pressure	kPa (bar)	20 ÷ 1000 (0.2÷10)
Hot water outflow ( $\Delta t \leq 50^{\circ}\text{C}$ )	dm <sup>3</sup> /min	3.2 ÷ 5.7
Hot water outflow ( $\Delta t \leq 25^{\circ}\text{C}$ )	dm <sup>3</sup> /min	5.7 ÷ 11.5
Maximal temperature of outflow water	°C	65
Flue connection (external diameter)	mm	Φ 117
Overall dimensions: height / width / depth	mm	590/360/230
Net weight	kg	9.5
Gas connection	inch	G ¾
Cold water connection	inch	G ½
Hot water connection	inch	G ½

#### 8.1.2. Installation dimensions



## 9. Chemicals for Installation

### 9.1. Preparations for protection the heating system




Drawing	Index	Trade name	Usage										
	<b>T 9000 09 00 01</b>	<b>PROTECTOR F1 500 ml</b>	Central heating protector										
	<ul style="list-style-type: none"> <li>✓ Protects against corrosion and scale in mixed metal central heating systems</li> <li>✓ When used in conjunction with Cleaner F3 gas savings of up to 15% can be achieved every time you heat your room</li> <li>✓ Carbon Footprint certified by the Carbon Trust</li> <li>✓ Stops frequent venting of radiators</li> <li>✓ Prevents sticking pumps and boiler noise</li> <li>✓ Reduces maintenance costs and saves on fuel bills</li> <li>✓ Prevents cold spots in radiators</li> <li>✓ Non toxic, environmentally friendly</li> </ul>												
	<b>T 9000 09 00 02</b>	<b>ALPHI-11 5 l</b>	Anti-freeze product										
	<ul style="list-style-type: none"> <li>✓ Protects against corrosion and limescale</li> <li>✓ Combined antifreeze and protector</li> <li>✓ Maintains efficiency so extending system life</li> <li>✓ Compatible with all metals and materials commonly used in heating systems</li> <li>✓ Non-toxic, environmentally friendly</li> <li>✓ Protects heating and chilled water</li> </ul>												
	<table border="1"> <tr> <td><b>Concentration</b></td> <td>25%</td> <td>30%</td> <td>35%</td> <td>40%</td> </tr> <tr> <td><b>Protection</b></td> <td>-11°C</td> <td>-15°C</td> <td>-18°C</td> <td>-22°C</td> </tr> </table>		<b>Concentration</b>	25%	30%	35%	40%	<b>Protection</b>	-11°C	-15°C	-18°C	-22°C	
<b>Concentration</b>	25%	30%	35%	40%									
<b>Protection</b>	-11°C	-15°C	-18°C	-22°C									
	<b>T 9000 09 00 03</b>	<b>AF-10 BIOCIDES 500 ml</b>	Biocidal product										
	<ul style="list-style-type: none"> <li>✓ Biocide for the prevention of bacterial contamination in domestic heating systems and chilled water systems</li> <li>✓ Prevents the reoccurrence of jelly-like deposits in feed and expansion cisterns</li> <li>✓ To be used in conjunction with Fernox Protectors F1</li> <li>✓ Fast, effective action</li> <li>✓ Simple application</li> </ul>												
	<b>T 9000 09 00 04</b>	<b>LEAK SEALER F4 500 ml</b>	Sealing product										
	<ul style="list-style-type: none"> <li>✓ Ideal for reducing pressure loss from sealed systems</li> <li>✓ Seals most weeps and small inaccessible leaks</li> <li>✓ Saves time and money on draining down and repairing</li> <li>✓ Does not cause blockages of pump, air vents etc.</li> <li>✓ Compatible with all metals and materials commonly used in central heating systems</li> </ul>												
	<b>T 9000 09 00 05</b>	<b>CLEANER F3 500 ml</b>	Cleaning agent										
	<ul style="list-style-type: none"> <li>✓ Removes sludge, limescale and other debris to restore heating efficiency of existing systems</li> <li>✓ When used in conjunction with Protector F1 gas savings of up to 15% can be achieved every time you heat your room</li> <li>✓ Carbon Footprint certified by the Carbon Trust</li> <li>✓ Compatible with all metals and materials commonly used in heating systems</li> <li>✓ Easy to use, system can be left running normally during cleaning</li> <li>✓ Suitable for use with all known powerflushing machines</li> <li>✓ pH Neutral, non-hazardous formula</li> </ul>												
	<b>T 9000 09 00 06</b>	<b>CLEANER F5 POWERFLUSHING 1 l</b>	Cleaning agent										
	<ul style="list-style-type: none"> <li>✓ Suitable for use with all known powerflushing machines</li> <li>✓ Removes sludge and scale and restores heating efficiency of existing systems</li> <li>✓ Removes flux residues and other debris</li> <li>✓ Compatible with all metals and materials commonly used in heating systems</li> <li>✓ Easy to use, system can be left running normally during cleaning</li> <li>✓ pH Neutral, non-hazardous formula</li> </ul>												

## 9.2. Magnetic-Hydrocyclonic filters















Drawing	Index	Trade name	Usage
	T 9000 09 00 07	<b>Set</b> <b>TF1 Total Filter 3/4", F1 Filter Fluid+ Protector</b>	<b>Set includes:</b> - filter: TF1 Total Filter 3/4" - liquid: F1 Filter Fluid + Protector 500ml  <b>TF1 Total Filter 3/4"</b> removes magnetic and non-magnetic contaminants, quick and easy to install.  <b>Filter Fluid+Protector 500ml –</b> an innovative inhibitor combined with an active dispersion agent that detects and transports contaminants to the filter.
	T 9000 09 00 08	<b>Set</b> <b>TF1 Total Filter 1", F1 Filter Fluid+ Protector</b>	<b>Set includes</b> - filter: TF1 Total Filter 1" - liquid: F1 Filter Fluid + Protector 500ml  <b>TF1 Total Filter 1"</b> removes magnetic and non-magnetic contaminants, quick and easy to install.  <b>F1 Filter Fluid+Protector 500ml –</b> an innovative inhibitor combined with an active dispersion agent that detects and transports contaminants to the filter.
  For installation in difficult to access spaces	T 9000 09 00 09	<b>Set</b> <b>TF1 Compact Filter 3/4", F1 Filter Fluid+ Protector</b>	<b>Set includes:</b> - filter: TF1 Compact Filter 3/4" - liquid: F1 Filter Fluid + Protector 500ml  <b>TF1 Compact Filter</b> removes magnetic and non-magnetic contaminants, quick and easy to install.  <b>F1 Filter Fluid+Protector 500ml –</b> an innovative inhibitor combined with an active dispersion agent that detects and transports contaminants to the filter
 <b>Attention! Strong magnetic field</b> Persons with implanted cardiovascular devices should always be careful while handling the TF1 filter, as with other magnetic products.			

## 10. Air-flue gas systems for condensing boilers










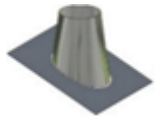










### 10.1. Adapters (STAINLESS STEEL) – ECOCONDENS CRYSTAL PLUS 50

Index	Trade name		Catalog number	Drawing
T 9000 01 14 00	<b>Elbow 90° – adapter</b> with revision, measuring points and collar on the boiler	Φ 60/100	KKR 425/60	
T 9000 01 15 00	<b>Elbow 90° – adapter</b> with revision, measuring points and collar on the boiler	Φ 80/125	KKR 425/80	
T 9000 01 12 00	<b>Adapter</b> with measuring points and collar on the boiler	Φ 60/100	ADK 512/60	
T 9000 01 13 00	<b>Adapter</b> with measuring points and collar on the boiler	Φ 80/125	ADK 512/80	
T 9000 01 11 00	<b>Flue gas adapter</b> with measuring points and collar on the boiler	Φ 80	ADS 512/80	
T 9000 00 54 00	<b>Air adapter</b> with measuring points and collar on the boiler	Φ 80	ADP 503/80	

### 10.2. Air-flue gas system (STAINLESS STEEL) – ECOCONDENS CRYSTAL -80, -100





















Index	Trade name		Catalog number	Drawing
T 9000 02 00 01	Extension pipe SP-N L=1000 mm	Φ 100	RU0010001A	
T 9000 02 00 02	Extension pipe SP-N L=500 mm	Φ 100	RU2010001A	
T 9000 02 00 03	Extension pipe SP-N L=250 mm	Φ 100	RU2510001A	
T 9000 02 00 04	Elbow SP-N 90°	Φ 100	KSU9010001A	
T 9000 02 00 05	Elbow SP-N 90° with support bracket	Φ 100	KPU9010001A	
T 9000 02 00 06	Elbow SP-N 45°	Φ 100	KSU4510001A	
T 9000 02 00 07	Inspection T-piece SP-N	Φ 100	WOU10001A	
T 9000 02 00 08	Roof plate + rain collar	Φ 100	DCK15010001/01AX	
T 9000 00 00 11	Rain collar	Φ 100	KPD312/100	
T 9000 02 00 09	Final pipe L=1000	Φ 100	RKP0010009B	
T 9000 02 00 11	Telescope	Φ 100	TU32045010001A	
T 9000 02 00 12	Umbrella	Φ 100	PAR10001A	
T 9000 00 60 00	Rosette	Φ 100	RD322/100	
T 9000 00 00 23	Gasket	Φ 100	USZ200/100	

**10.3. Air-flue gas system – coaxial (STAINLESS STEEL) - CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS**







Index	Trade name		Catalog number	Drawing	
<b>PACKAGE THROUGH THE WALL</b>					
T 9000 01 71 00	<b>Coaxial elbow 90°</b> with measuring points and collar on the boiler		ZS 455/60		
	<b>Coaxial horizontal mouthpiece</b> pipe L=920mm				
	<b>Rosette</b>				
<b>ELEMENTS</b>					
T 9000 00 19 00	Extension pipe L=1000 mm		Φ 60/100	RK201/60	
T 9000 00 20 00			Φ 80/125	RK201/80	
T 9000 00 21 00	Extension pipe L=500 mm		Φ 60/100	RK202/60	
T 9000 00 22 00			Φ 80/125	RK202/80	
T 9000 00 23 00	Extension pipe L=250 mm		Φ 60/100	RK203/60	
T 9000 00 24 00			Φ 80/125	RK203/80	
T 9000 00 11 00	Elbow 90°		Φ 60/100	KK221/60	
T 9000 00 12 00			Φ 80/125	KK221/80	
T 9000 00 09 00	Elbow 90° with support bracket		Φ 60/100	KKW121/60	
T 9000 00 10 00			Φ 80/125	KKW121/80	
T 9000 00 07 00	Elbow 45°		Φ 60/100	KK222/60	
T 9000 00 08 00			Φ 80/125	KK222/80	
T 9000 00 57 00	Roof plate + rain collar		Φ 60/100	DKD441/100	
T 9000 00 58 00			Φ 80/125	DKD441/125	
T 9000 00 00 11	Rain collar		Φ 60/100	KPD312/100	
T 9000 00 00 12			Φ 80/125	KPD312/125	
T 9000 00 00 15	Angular roof plate	0° - 25°	Passage Φ 130	PMD331/60	
T 9000 00 00 17		25° - 45°		PDD332/60	
T 9000 00 00 16		0° - 25°	Passage Φ 150	PMD331/80	
T 9000 00 00 18		25° - 45°		PDD332/80	
T 9000 00 13 00	T-piece with revision		Φ 60/100	TKR 220/60	
T 9000 00 14 00			Φ 80/125	TKR 220/80	
T 9000 00 17 00	Water trap -vertical		Φ 60/100	OKP241/60	
T 9000 00 18 00			Φ 80/125	OKP241/80	
T 9000 00 15 00	Water trap -horizontal		Φ 60/100	OKO242/60	
T 9000 00 16 00			Φ 80/125	OKO242/80	
T 9000 00 27 00	Vertical mouthpiece		Φ 60/100	UKP251/60	
T 9000 00 28 00			Φ 80/125	UKP251/80	
T 9000 00 29 00	Horizontal mouthpiece		Φ 60/100	UKO252/60	
T 9000 00 86 00			Φ 80/125	UKO252/80	
T 9000 00 72 00	Inspection T-piece		Φ 60/100	WKP241/60	
T 9000 00 73 00			Φ 80/125	WKP241/80	
T 9000 00 00 09	Bracket with adjustment range l = 50 +85 mm		Φ 100	OK 352/100	
T 9000 00 00 10			Φ 125	OK 352/125	
T 9000 00 02 51	Bracket with adjustment range l = 100 + 150 mm		Φ 100	OK 354/100	
T 9000 00 02 52			Φ 125	OK 354/125	
T 9000 00 60 00	Rosette		Φ 100	RD322/100	
T 9000 00 61 00			Φ 125	RD322/125	
T 9000 00 00 21	Gasket		Φ 60	USZ 200/60	
T 9000 00 00 22			Φ 80	USZ 200/80	
T 9000 00 00 23			Φ 100	USZ 200/100	
T 9000 00 00 24			Φ 125	USZ 200/125	






**10.4. Air-flue gas system – separate (STAINLESS STEEL) – CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS**

Index	Trade name		Catalog number	Drawing
<b>PACKAGE IN THE SHAFT</b>				
T 9000 00 64 00	Coaxial T-piece with revision	Φ 80/125	ZS 452/80	
	Extension pipe L=500 mm	Φ 80/125		
	Elbow 90° with support bracket	Φ 80		
	Rosette	Φ 125		
<b>ELEMENTS</b>				
T 9000 00 43 00	Extension pipe L=1000 mm	Φ 80	RS 101/80	
T 9000 00 45 00	Extension pipe L=500 mm	Φ 80	RS 102/80	
T 9000 00 47 00	Extension pipe L=250 mm	Φ 80	RS 103/80	
T 9000 00 41 00	Elbow 90°	Φ 80	KS 121/80	
T 9000 00 39 00	Elbow 90° with support bracket	Φ 80	KSW 122/80	
T 9000 00 37 00	Elbow 45°	Φ 80	KS 123/80	
T 9000 00 51 00	Inspection T-piece	Φ 80	WS141/80	
T 9000 00 35 00	Water trap -vertical	Φ 80	OSP151/80	
T 9000 00 33 00	Water trap -horizontal	Φ 80	OSO152/80	
T 9000 00 26 00	Roof plate + rain collar	Φ 80	DK 340/80	
T 9000 00 00 14	Rain collar	Φ 80	KPD 311/80	
T 9000 00 00 20	Final pipe L=1000	Φ 80	RPK 014/80	
T 9000 00 49 00	Telescope	Φ 80	TS 100/80	
T 9000 00 00 08	Umbrella	Φ 80	PS 411/80	
T 9000 00 59 00	Rosette	Φ 80	RM 321/80	
T 9000 00 00 22	Gasket	Φ 80	USZ 200/80	











**10.5. Air-flue gas system – coaxial (PLASTIC-ALUMINUM) – CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS**

Index	Trade name		Catalog number	Drawing
T 9000 01 35 00	Flue kit	Φ 60/100	71.TT7.02.46	
T 9000 01 21 00	Adapter	Φ 60/100	71.TT7.02.45	
T 9000 00 93 00	Elbow 90°	Φ 60/100	71.TT7.11.99	
T 9000 88 00 00	Elbow 45°	Φ 60/100	71.TT7.05.88	
T 9000 00 92 00	Tube L=1000mm	Φ 60/100	71.TT7.11.98	
T9000 01 28 00	Tube L=500mm	Φ 60/100	71.TT7.13.43	










**10.6. Air-flue gas system – coaxial (POLYPROPYLENE) - CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS**
**10.6.1. PACKAGES**

Index	Trade name		Catalog number	Drawing
<b>Air-flue gas system for condensing boilers in the shaft - <math>\Phi</math> 60/100</b>				
T 9000 01 40 10	Elbow 90° with revision	$\Phi$ 60/100	PP60/100RB	
	Extension pipe L = 250 mm	$\Phi$ 60/100	PP60/100R250	
	Rosette	$\Phi$ 100	830CG	
	Elbow 90°	$\Phi$ 60	10060B	
	Support bracket for elbows 90°	$\Phi$ 60	46060	
	Adapter PP for finishing plate	$\Phi$ 60/80	366080	
	Roof plate	$\Phi$ 80	ZB80SCHAPP	
	Extension pipe UV, L = 1000 mm	$\Phi$ 80	22080C	
<b>Air-flue gas system for condensing boilers in the shaft - <math>\Phi</math> 80/125</b>				
T 9000 01 41 10	Elbow 90° with revision	$\Phi$ 80/125	PP80/125RB	
	Extension pipe L = 250 mm	$\Phi$ 80/125	PP80/125R250	
	Rosette	$\Phi$ 125	830DG	
	Elbow 90°	$\Phi$ 80	10080B	
	Support bracket for elbows 90°	$\Phi$ 80	46080	
	Roof plate	$\Phi$ 80	ZB80SCHAPP	
	Extension pipe UV, L = 1000 mm	$\Phi$ 80	22080C	
<b>Air-flue gas system for condensing boilers through the wall - <math>\Phi</math> 60/100</b>				
T 9000 01 42 00	Elbow 90° with revision	$\Phi$ 60/100	PP60/100RB	
	Horizontal mouthpiece	$\Phi$ 60/100	PP60/100WD	
	Rosette 2 pcs.	$\Phi$ 100	830CG	















### 10.6.2. ELEMENTS

Index	Trade name		Catalog number	Drawing
T 9000 01 43 00	Extension pipe L = 1000 mm	Φ 60/100	PP60/100R1000	
T 9000 01 44 00		Φ 80/125	PP80/125R1000	
T 9000 01 45 00	Extension pipe L = 500 mm	Φ 60/100	PP60/100R500	
T 9000 01 46 00		Φ 80/125	PP80/125R500	
T 9000 01 47 00	Extension pipe L = 250 mm	Φ 60/100	PP60/100R250	
T 9000 01 48 00		Φ 80/125	PP80/125R250	
T 9000 01 49 00	Elbow 90°	Φ 60/100	PP60/100B90	
T 9000 01 50 00		Φ 80/125	PP80/125B90	
T 9000 01 51 00	Elbow 45°	Φ 60/100	PP60/100B45	
T 9000 01 52 00		Φ 80/125	PP80/125B45	
T 9000 01 53 00	Elbow 90° with revision	Φ 60/100	PP60/100RB	
T 9000 01 54 00		Φ 80/125	PP80/125RB	
T 9000 01 55 00	Extension pipe with revision	Φ 60/100	PP60/100RS	
T 9000 01 56 00		Φ 80/125	PP80/125RS	
T 9000 01 59 00	Vertical mouthpiece - BLACK Vertical mouthpiece - RED	Φ 60/100	PP60/PP100DDBS	
T 9000 01 60 00		Φ 80/125	PP80/PP125DDBS	
T 9000 01 61 00		Φ 60/100	PP60/PP100DDBR	
T 9000 01 62 00		Φ 80/125	PP80/PP125DDBR	
T 9000 01 63 00	Horizontal mouthpiece	Φ 60/100	PP60/100WD	
T 9000 01 64 00		Φ 80/125	PP80/125WD	
T 9000 01 67 00	Reduction	Φ 60/100 x Φ 80/125	3.012085	

### 10.7. Air-flue gas system – universal elements (POLYPROPYLENE) - CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS

Index	Trade name		Catalog number	Drawing
T 9000 01 88 00	Roof plate with air intake (for system Φ60 use adapter PP -T 9000 01 84 00)	Φ 80	ZB80SCHAPP	
T 9000 01 89 00	Angular roof plate 25° - 50°	Φ 125	ZB125UBPS	
T 9000 01 90 00	Roof plate (plastic)	Φ 80	ZB80SCHA	
T 9000 01 99 00	Roof plate (aluminum)	Φ 125	ZB125FDK	
T 9000 01 91 10	Location bracket	Φ 60	06071SWP	
T 9000 01 91 00		Φ 80	08071SWP	
T 9000 01 92 00	Rosette	Φ 80	830BG	
T 9000 01 93 00		Φ 100	830CG	
T 9000 01 94 00		Φ 125	830DG	
T 9000 01 95 00	Gasket	Φ 60	31060	
T 9000 01 96 00		Φ 80	31080	
T 9000 01 97 00		Φ 100	31100	
T 9000 01 98 00		Φ 125	31125	
T 9000 01 68 10	Flexible pipe	Φ 60	24060B	
T 9000 01 68 00		Φ 80	24080B	
T 9000 01 84 00	Adapter PP	Φ 60/80	366080	

**10.8. Air-flue gas system – separate (POLYPROPYLENE) - CRYSTAL PLUS 50, SILVER PLUS, INTEGRA II PLUS**

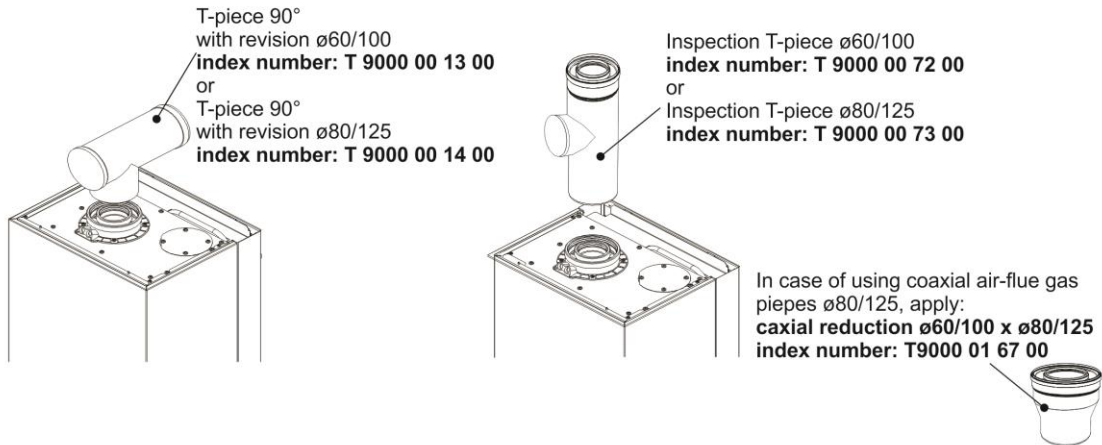
Index	Trade name		Catalog number	Drawing
T 9000 01 69 10	Extension pipe L = 2000 mm	Φ 60	19060B	
T 9000 01 69 00		Φ 80	19080B	
T 9000 01 70 10	Extension pipe L = 1000 mm	Φ 60	22060B	
T 9000 01 70 00		Φ 80	22080B	
T 9000 01 71 10	Extension pipe L = 500 mm	Φ 60	21060B	
T 9000 01 71 20		Φ 80	21080B	
T 9000 01 72 10	Extension pipe L = 250 mm	Φ 60	20060B	
T 9000 01 72 00		Φ 80	20080B	
T 9000 01 73 00	Extension pipe UV, L = 1000 mm	Φ 80	22080C	
T 9000 01 74 10	Elbow 90°	Φ 60	10060B	
T 9000 01 74 00		Φ 80	10080B	
T 9000 01 75 10	Elbow 45°	Φ 60	11060B	
T 9000 01 75 00		Φ 80	11080B	
T 9000 01 76 00	Elbow 90° with revision	Φ 80	12080B	
T 9000 01 77 00	Elbow 90° - with thread	Φ 80	10080BS	
T 9000 01 78 00	Reduced elbow DN 60 / DN 80	Φ 60/80	1006080B	
T 9000 01 79 10	Supporting bracket for elbow 90°	Φ 60	46060	
T 9000 01 79 00		Φ 80	46080	
T 9000 01 79 20		Φ 100	46100	
T 9000 01 79 30		Φ 125	46125	
T 9000 01 80 10	T-piece	Φ 60	25060B	
T 9000 01 80 00		Φ 80	25080B	
T 9000 01 82 00	Inspection T-piece	Φ 80	16080B	
T 9000 01 87 00	Cap	Φ 80	29080B	

# EXAMPLES OF CONNECTIONS OF AIR AND FLUE GAS SYSTEMS TO CONDENSING BOILERS

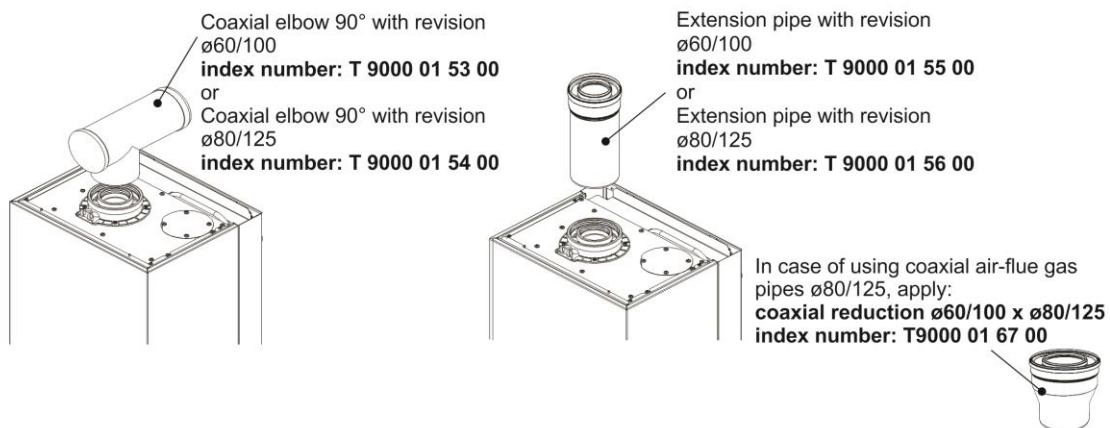
## FOR BOILERS WITH AN INTEGRATED ADAPTER:

- Boilers with factory installed adapter  $\varnothing 60/100$ :
- ECOCONDENS SILVER PLUS
  - ECOCONDENS INTEGRA II PLUS
  - ECOCONDENS SOLID PLUS

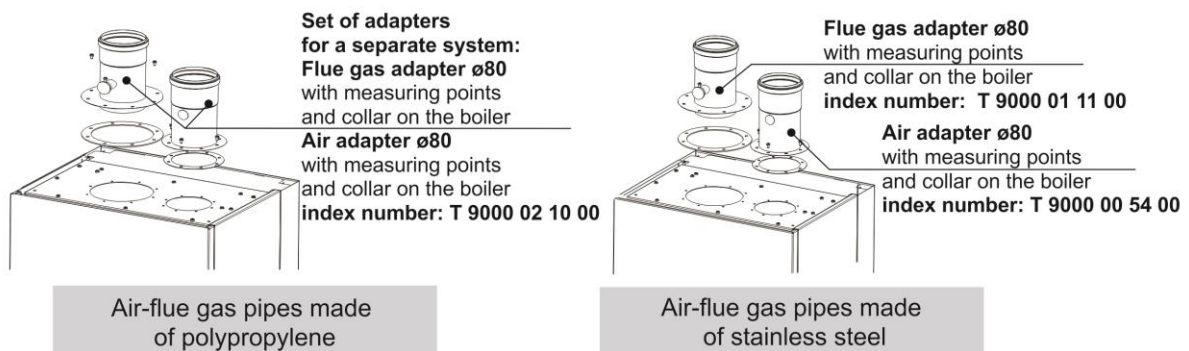
### COAXIAL SYSTEM – steel pipes



### COAXIAL SYSTEM – polypropylene pipes



### SEPARATE SYSTEM\*

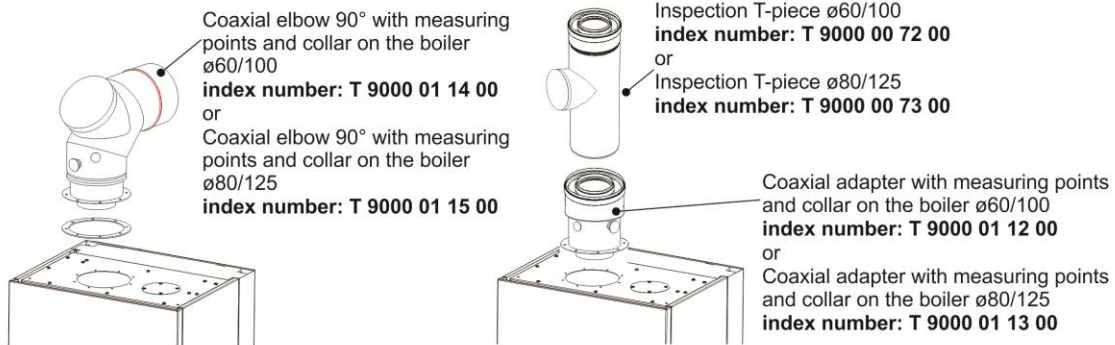


\*Not applicable for ECOCONDENS INTEGRA II PLUS boilers - if a separate system is used, Twin-type flue gas/air distributor (index number: T 9000 00 02 76) should be installed behind an integrated coaxial adapter  $\varnothing 60/100$  with measuring nipples

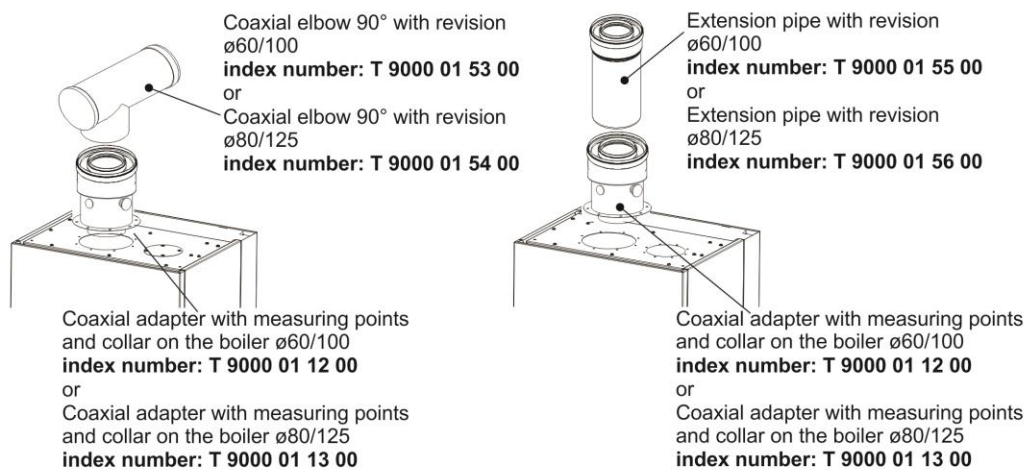
# EXAMPLES OF CONNECTIONS OF AIR AND FLUE GAS SYSTEMS TO CONDENSING BOILERS

## FOR BOILERS WITHOUT AN INTEGRATED ADAPTER:

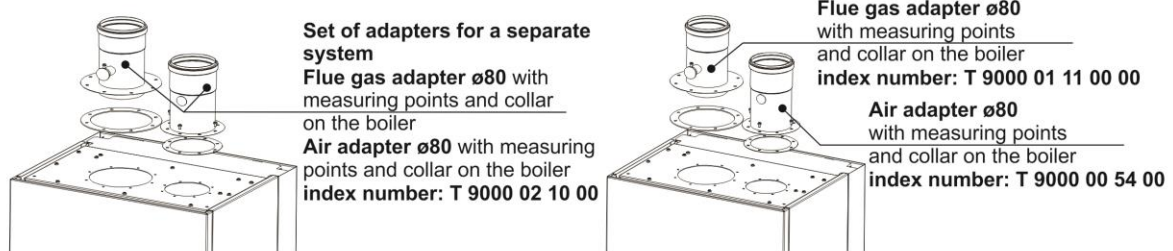
### COAXIAL SYSTEM – steel pipes



### COAXIAL SYSTEM – polypropylene pipes



### SEPARATE SYSTEM\*



Air-flue gas pipes made of polypropylene

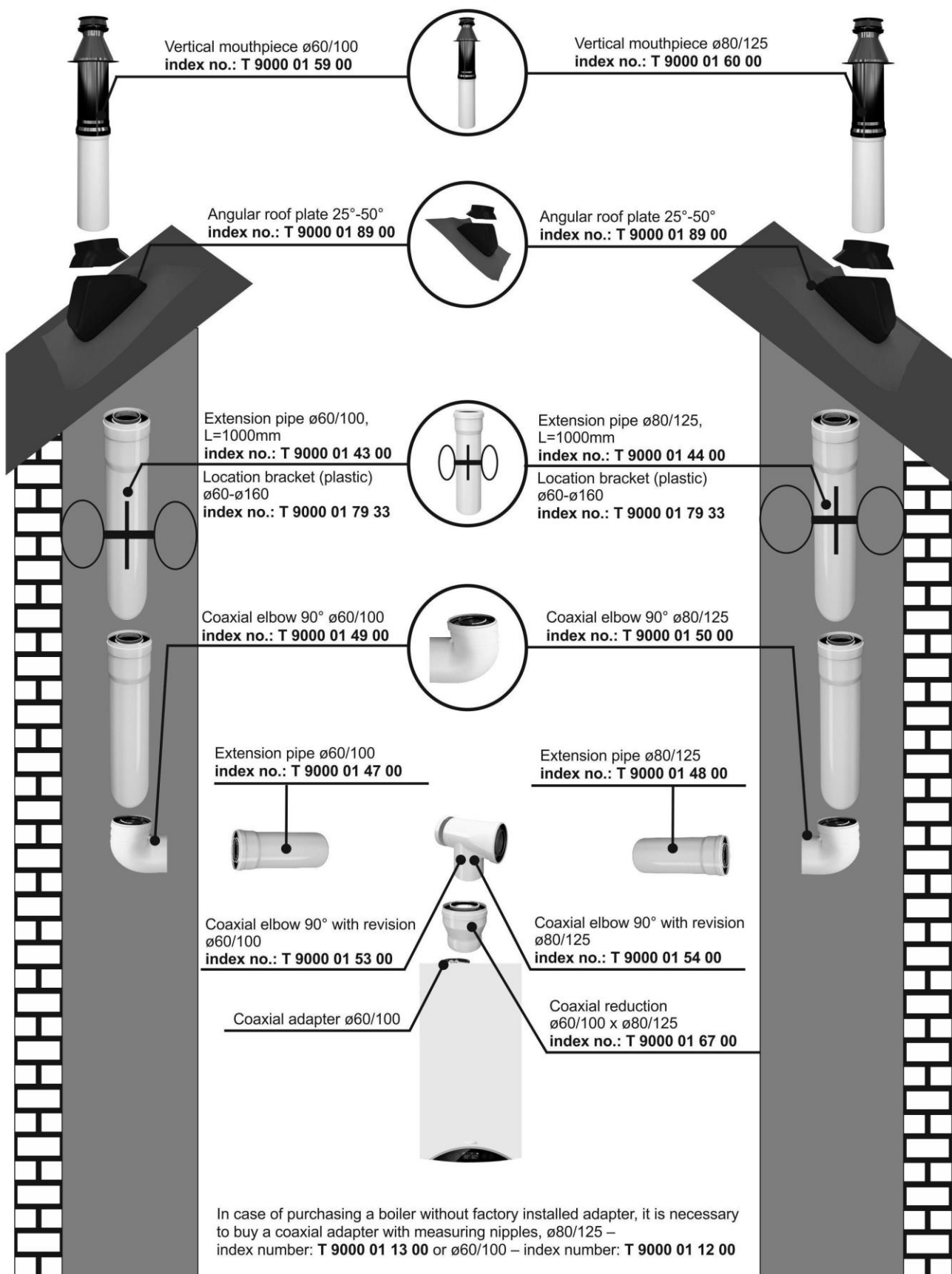
Air-flue gas pipes made of stainless steel

\*Not applicable for ECOCONDENS INTEGRA II PLUS boilers - if a separate system is used, Twin-type flue gas/air distributor (index number: T 9000 00 02 76) should be installed behind an integrated coaxial adapter  $\varnothing 60/100$  with measuring nipples



# EXAMPLE DIAGRAMS OF POLYPROPYLENE PIPES INSTALLATION

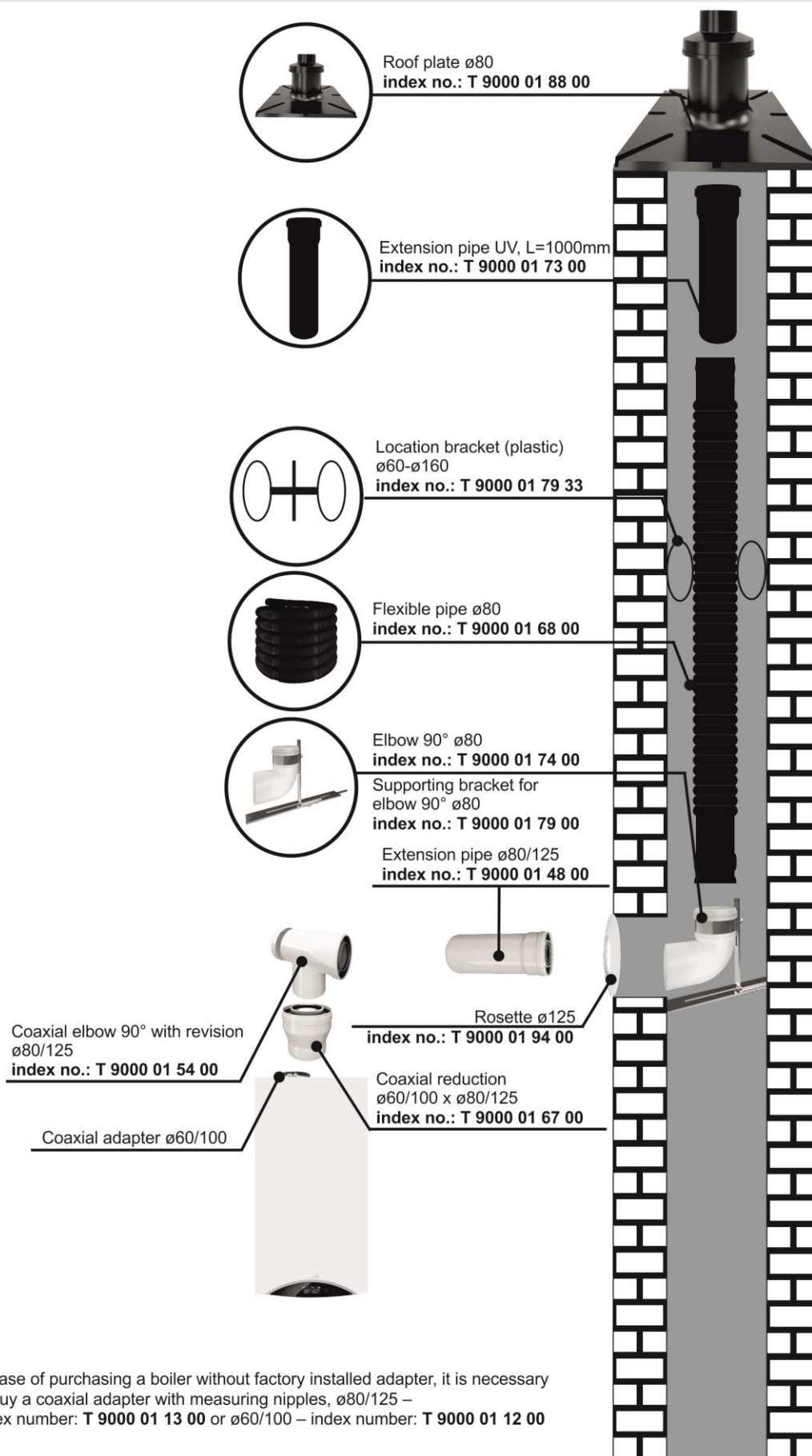
## Example diagrams of polypropylene pipes installation coaxial systems Ø60/100 or Ø80/125





## EXAMPLE DIAGRAMS OF POLYPROPYLENE PIPES INSTALLATION

### Example diagrams of polypropylene pipes installation with flexible pipe



In case of purchasing a boiler without factory installed adapter, it is necessary to buy a coaxial adapter with measuring nipples, ø80/125 – index number: T 9000 01 13 00 or ø60/100 – index number: T 9000 01 12 00



