

# Ecocondens Crystal Plus-50

## Technical Data

Parameter	Unit	SYSTEM BOILR		COMBI BOILER	
		ECOCONDENS CRYSTAL PLUS-50		ECOCONDENS CRYSTAL PLUS-50	
Size					
<b>Energetic parameters</b>					
<b>Central heating circuit</b>					
Boiler thermal power at 80/60°C (modulated)	kW	5,5 ÷ 45,0		5,5 ÷ 45,0	
Boiler thermal power at 50/30°C (modulated)	kW	6,1 ÷ 49,6		6,1 ÷ 49,6	
Heat load	kW	5,7 ÷ 46,2		5,7 ÷ 46,2	
The efficiency of the boiler at nominal load and average boiler water temperature 70 °C	%	97,4		97,4	
The efficiency of the boiler at partial load and return water temperature 30 °C	%	107,7		107,7	
Modulation range	%	11 - 100			
Seasonal space heating energy efficiency $\eta_{s}$	%	91		91	
Seasonal space heating energy efficiency class		A			
Useful heat output :					
- at rated heat output $P_4$	kW	45,0		45,0	
- at 30% of rated heat output $P_1$	kW	13,5		13,5	
Useful efficiency :					
- $\eta_4$	%	88		88	
- $\eta_1$	%	97,5		97,5	
Natural gas <sup>1)</sup> consumption:					
2H-G20 – 20mbar	m <sup>3</sup> / h	0,60-4,86		0,60-4,86	
liquefied gas:					
3B/P-G30 - 30mbar	kg / h	0,50-3,59		0,50-3,59	
Nominal kinetic pressure in front of the boiler for gas:					
2H-G20	Pa (mbar)	2000 (20)		3000 (30)	
3B/P-G30					
Maximum water pressure	MPa (bar)	0,3 (3)			
Max temperature (central heating)	°C	95			
Standard adjustable temperature	°C	20 ÷ 80			
Lift of the pump at flow 0	kPa (bar)	70 (0,7)		70 (0,7)	
<b>Domestic hot water circuit</b>					
Nominal heat output of the boiler at temp. 80/60°C	kW	-----		5,5 ÷ 45,0	
Nominal heat load	kW	-----		5,7 ÷ 46,2	
The efficiency of the boiler at nominal load and average boiler water temperature of 70°C	%	-----		97,4	
Natural gas <sup>1)</sup> consumption:					
2H-G20 – 20mbar	m <sup>3</sup> /h	-----		0,60-4,86	
liquefied gas:					
3B/P-G30 – 30mbar	kg/h	-----		0,50-3,59	
Water heating energy efficiency class		-----		B	
Load profile		-----		XXL	
Water pressure	MPa (bar)	-----		0,01 (0,1) ÷ 0,6(6)	
Max water flow(flow limiter)	dm <sup>3</sup> /min	-----		-----	
Range of water temperature regulation	°C	30 - 60			
Flow of domestic water for $\Delta t=30K$	dm <sup>3</sup> /min			21,5	
<b>Environmental protection</b>					
Emissions of nitrogen oxides	mg/kWh	50		50	
Emission of NO <sub>x</sub> (natural gas)	class	6			
The pH of the condensate		natural gas - 5			
Max. amount of condensate (natural gas)	l/h	4,7		4,7	
Sound power level $L_{WA}$	dB	69		69	
<b>Hydraulic parameters</b>					
Expansion vessel capacity	dm <sup>3</sup>	8			
Water pressure in expansion vessel	MPa (bar)	0,08-0,02 (0.8-0.2)			
<b>Electric parameters</b>					
Type and supply voltage	V	~ 230 ±10%/ 50Hz			
Degree of protection		IPX4D			
Power consumption	W	200			
Standby mode power consumption $P_{SB}$	kW	0,005			
Electricity consumption :					
- at full load $e_{lmax}$	kW	0,11		0,11	
- at part load $e_{lmin}$	kW	0,06		0,06	
Maximum nominal current value of output terminals	A	2			
Type of flame sensor		ionization			
<b>The parameters of flue gas</b>					
Characteristics of the fan		see section 4.5 of this instruction			
Flue gas mass flow at full load	kg/h	78,5		78,5	
Flue gas mass flow at partial load	kg/h	11,7		11,7	
The minimum flue gas temperature at minimum thermal power	°C	46,6		46,6	
The maximum flue gas temperature at maximum thermal power	°C	70,4		70,4	

Time parameters		
Time of central heating pump rundown	minutes	3
Time preventing the anti-cyclical startup of the boiler (Anti-cycling time)	minutes	1
Time of domestic hot water pump rundown	sec	1
„24 hour clock” function	h /sec	the pump and 3-way valve turn on for 60 seconds every 24 hours

Mounting dimensions		
Connection to the chimney duct (see section 3.8. and table 7.1.)	mm	Concentric $\varnothing 80/\varnothing 125$ , concentric $\varnothing 60/\varnothing 100$ or 2 single $\varnothing 80 \times \varnothing 80$
Connection of heating water (CH) and gas	cale	G3/4
Connection of domestic water	cale	-- G1/2
Dimensions	mm	730x400x 440 730x400x 440
Boiler weight	kg	38 40