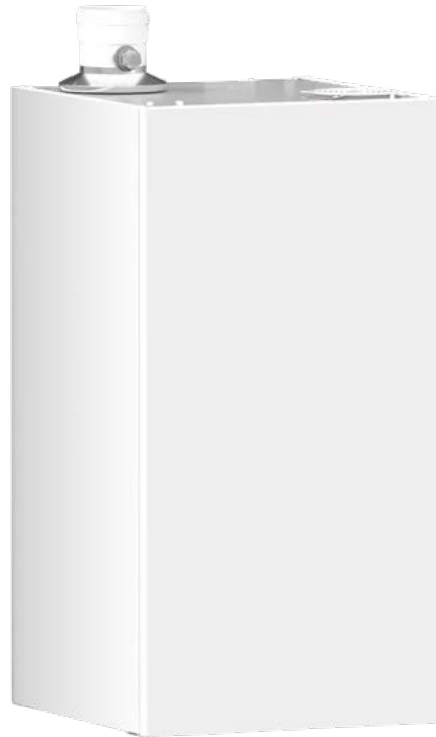


## KON SWP (for swimming pool)



KON SWP 50-70



KON SWP 100-115


KON SWP 50-70



KON SWP 100-115



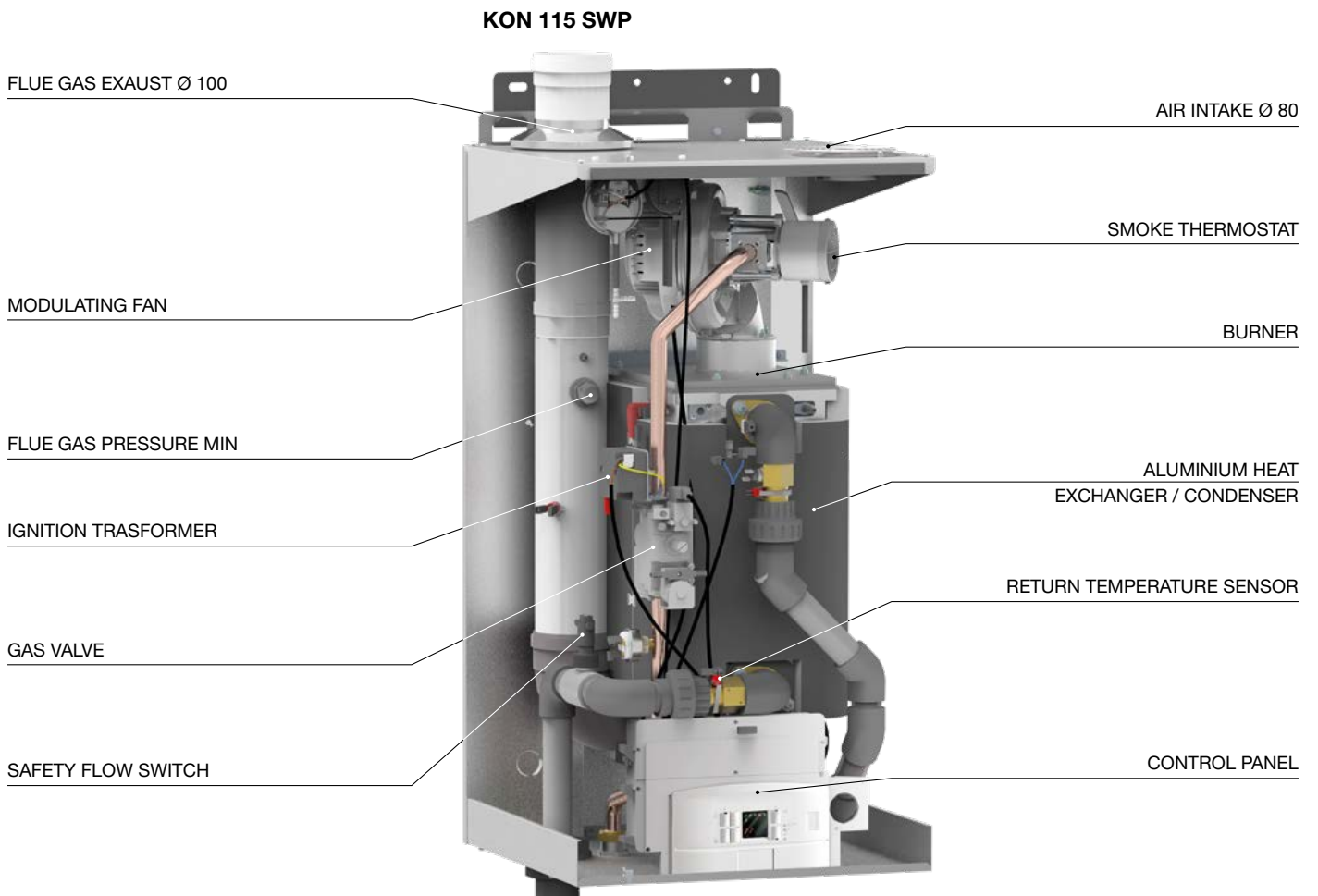
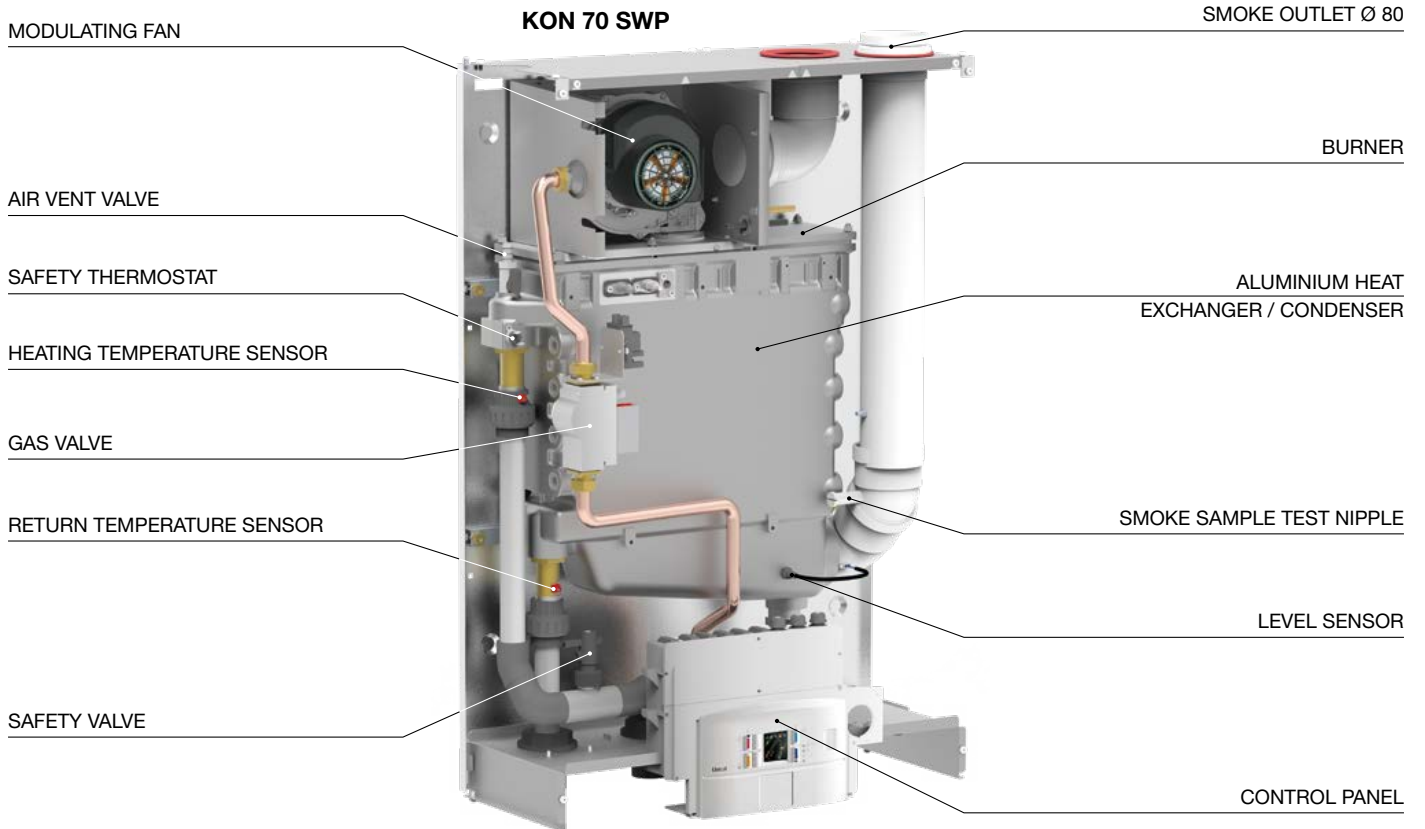
CONDENSING, MODULATING, WALL HUNG BOILERS, LOW NO<sub>x</sub>, CLASS 6, SUITABLE FOR DIRECTEXCHANGE HEATING, BOTH WITH CHLORINATED AND SALTED WATER.

OUTPUT RANGE	from 50 to 920 kW (in battery)			
SUPPLY	gas naturale o GPL			
MODELS	50 SWP	70 SWP	100 SWP	115 SWP
SEASONAL EFFICIENCY	 A			
SWIMMING POOL VOLUME (*)	from 115 to 1280 m <sup>3</sup>			
TEMPERATURA ACQUA	up to 40 °C			

it can be installed in battery (up to 8 for a total of 920 kW)  
supporting frame (optional) for mod. 100-115 SWP

(\*) Data referred to partially protected swimming pool - Δt 15° - 36h

MAIN COMPONENTS



## PRODUCT PLUS VALUES

### ■ EASY CONNECTION

it is possible to install KON SWP directly on an existing plant without changing anything.

### ■ USE OF THE SWIMMING POOL RECIRCULATION PUMP

no extra pump needed for the circulation; thanks to a manual by-pass the circulating pump of the swimming pool water is also used for the heating system in order to calibrate the flow rate of the heating installation.

### ■ THE TITANIUM PLATE HEAT EXCHANGER IS NOT REQUIRED

the swimming pool water (chlorinated or salted) enters directly into KON SWP without further components.

### ■ LOW TEMPERATURE FUNCTIONING

KON SWP works directly at the swimming pool temperature 28-30 °C, maximizing the efficiency thanks to the condensation technology.

### ■ SUITABLE COMPONENTS FOR BOTH CHLORINATED AND SALTED WATER

the KON SWP exchanger is coated with a special nano-technological treatment,  $10^{-9}$ , for the water side protection.

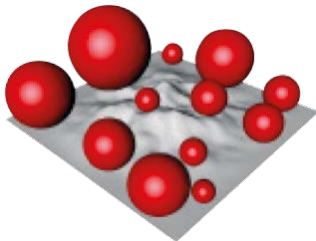
### ■ GREAT COST SAVINGS

both for the construction and the maintenance of the plant, in addition to reduced energy consumption, thanks to the high efficiency of KON SWP.

## NANOTECHNOLOGY $10^{-9}$ (high corrosion resistance)



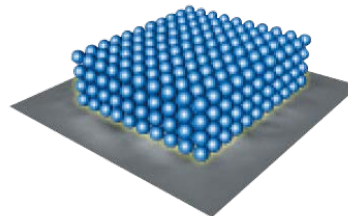
Unical has submitted its exchangers to a **special treatment**, using a siliceous material reduced with nano technologies. The most innovative of the technologies available today compared to the traditional ones. Thanks to the **intelligent self-organizing arrangement**, the optimal coating can be produced in a targeted manner.



### Traditional coating:

the individual coating particles are randomly arranged.

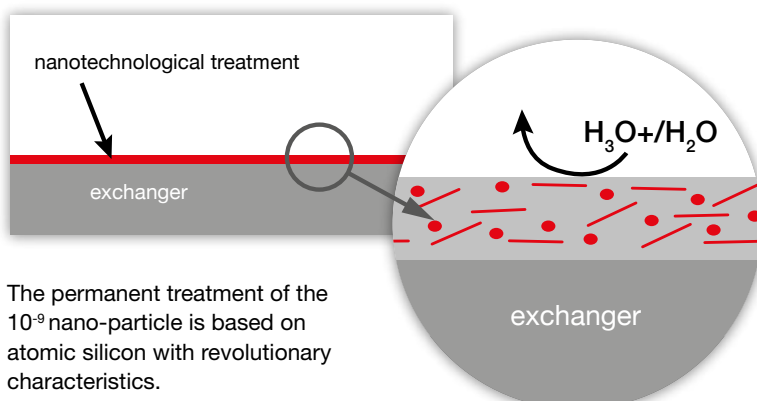
The coating is unstable and the surface is not completely protected.



### Coating $10^{-9}$ :

the particles are arranged in multiple self-organizing thin layers, providing a complete and highly stable protection.

### ADVANTAGES on the water side:

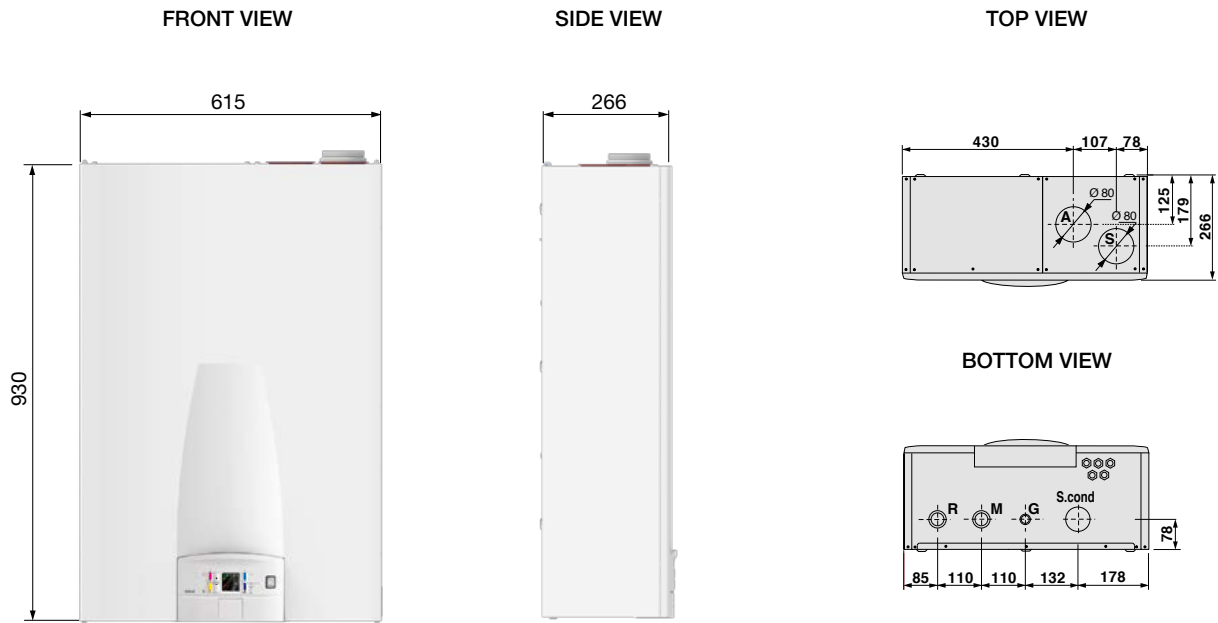


- High resistance to:
  - abrasion
  - high temperature
  - chemical aggression
- Very high thermal conductivity
- Easy cleaning

The permanent treatment of the  $10^{-9}$  nano-particle is based on atomic silicon with revolutionary characteristics.

DIMENSIONS KON SWP

KON 50-70 SWP



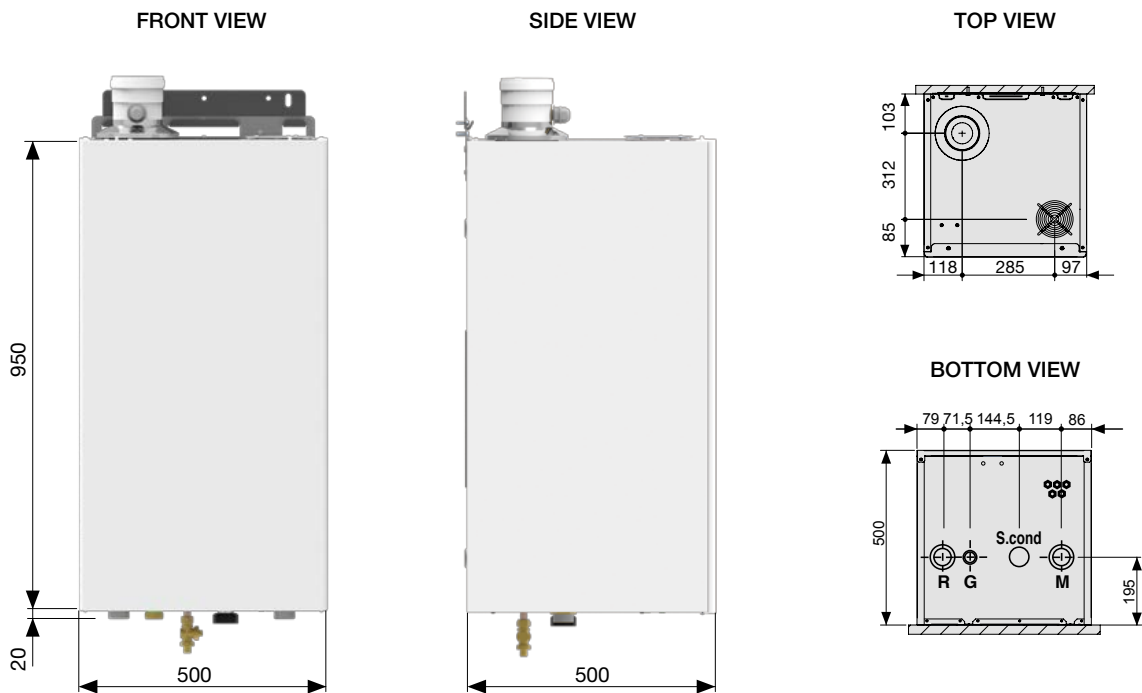
Caption:

- M** - Heating system flow (G1" for mod. 50, G1¼" for mod. 70)
- R** - Heating system return (G1" for mod. 50, G1¼" for mod. 70)

- Scond** - Condensation drain
- A** - Air suction
- S** - Exhaust smoke

KON SWP	Net Weight kg	Gross Weight (with packaging) kg
50-70	50	55

KON 100-115 SWP



Caption:

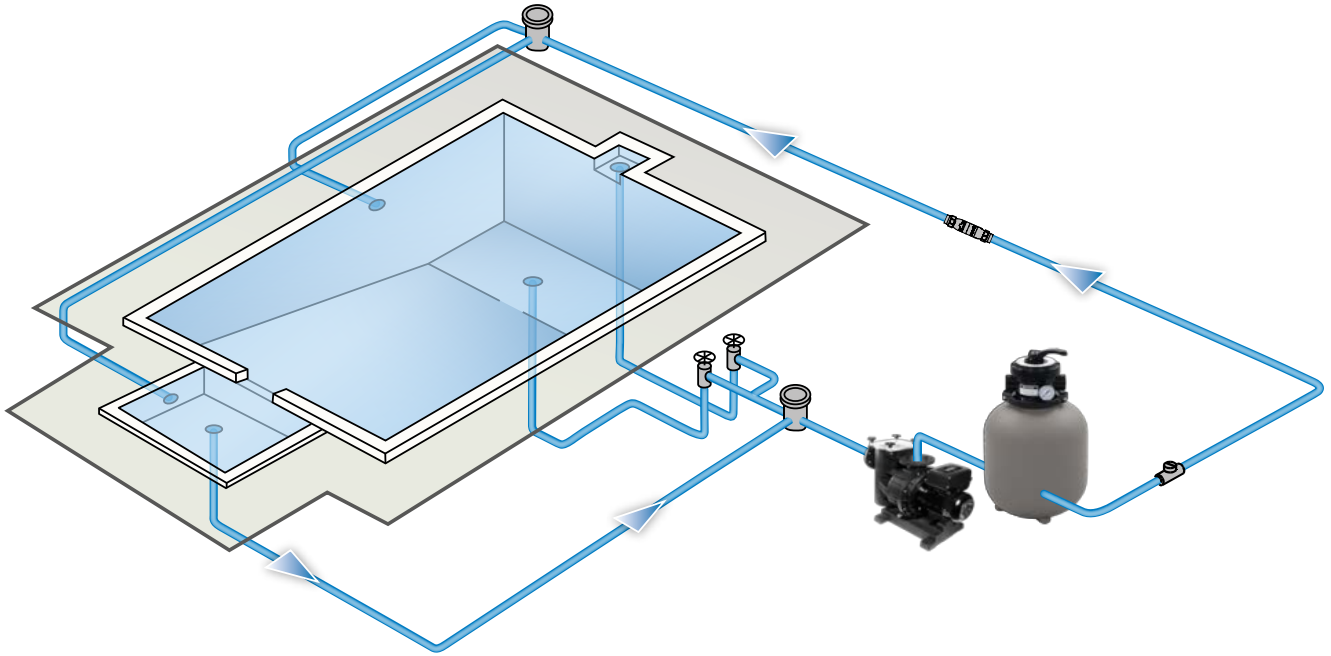
- G** - G1" Gas inlet
- M** - Heating system flow G1 ¼"
- R** - Heating system return G1 ¼"
- Rs** - Drain cock

- Scond** - Condensation drain Ø 32
- S** - Exhaust smoke Ø 100
- A** - Air suction Ø 80-100

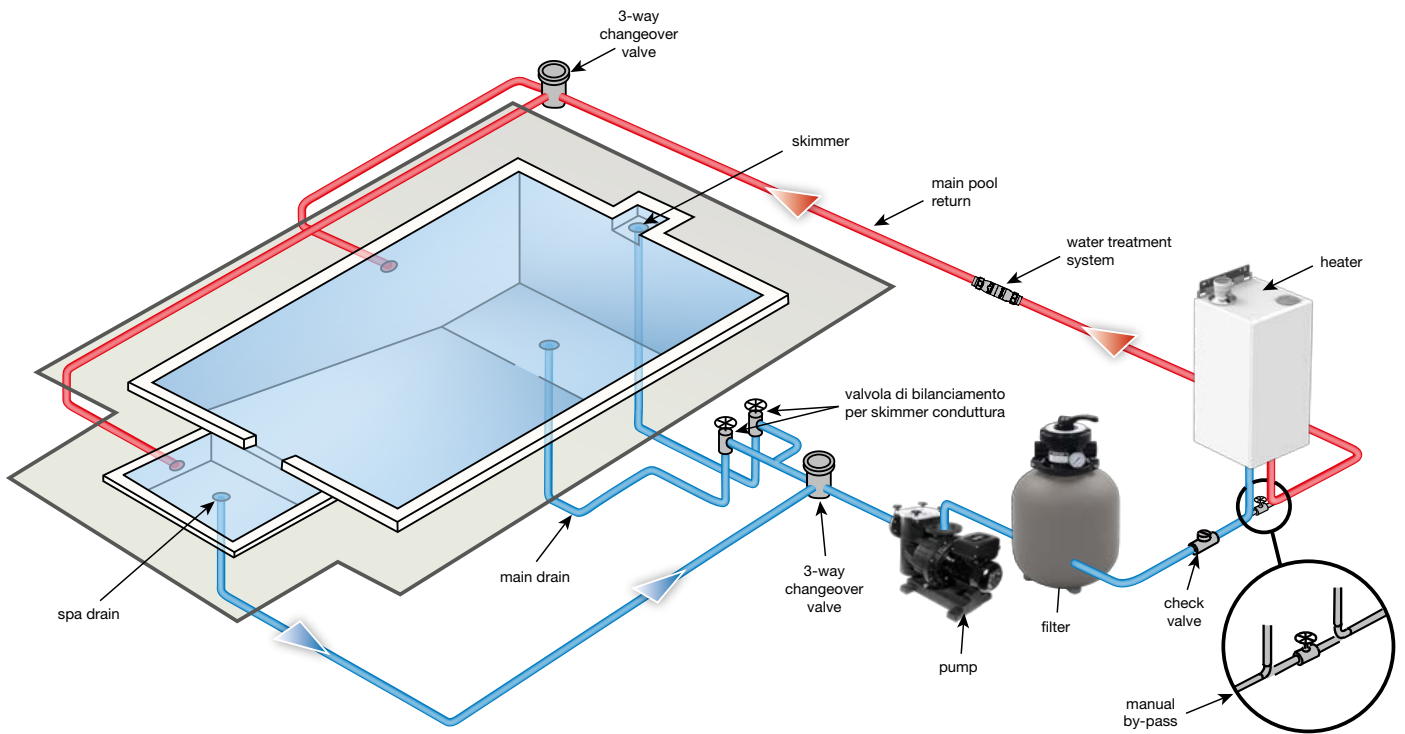
KON SWP	Net Weight kg	Gross Weight (with packaging) kg
100-115	81	96

ASSEMBLY DIAGRAMS

PLANT WITHOUT SWIMMING POOL HEATER



SWIMMING POOL PLANT HEATED WITH KON SWP



## TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site [www.unical.eu](http://www.unical.eu) at the page of the product

KON SWP		50	70	100	115
Appliance category		II <sub>2H3P</sub>	II <sub>2H3P</sub>	II <sub>2H3P</sub>	II <sub>2H3P</sub>
Modulation Ratio		1:3.5	1:5	1:4.4	1:5.1
Nominal Heat Input on P.C.I. Q <sub>n</sub>	kW	48.5	69.5	100	115
Minimum Heat Input on P.C.I. Q <sub>min</sub>	kW	14	14	22.5	22.5
Nominal Output (Tr 30 / Tm 50 °C) P <sub>cond</sub>	kW	49.4	70.7	105	120.3
Minimum Output (Tr 30 / Tm 50 °C) P <sub>cond min</sub>	kW	14.6	15.1	24.5	24.5
Efficiency at nom. output (Tr 30 / Tm 50°C)	%	101.82	101.72	105.0	105.0
Efficiency at min. output (Tr 30 / Tm 50°C)	%	104.55	107.58	108.8	108.8
Combustion efficiency with nominal load	%	98.5	98.5	98.5	98.5
Combustion efficiency with minimum load	%	99.1	99.1	99.1	99.1
Flue gas temperature tf-ta (min) (*)	°C	18	18	18	18
Flue gas temperature tf-ta (max) (*)	°C	30	30	30	30
Maximum allowable temperature	°C	50	50	50	50
Maximum operating temperature	°C	40	40	40	40
Flue gas mass flow rate (min)	kg/h	6.4	6.4	10.3	10.3
Flue gas mass flow rate (max)	kg/h	22.0	31.6	46.7	53.8
Air excess	%	25.53	25.53	29.5	29.5
Flue losses with burner in operation (min)	%	0.9	0.91	0.91	0.91
Flue losses with burner in operation (max)	%	1.5	1.5	1.54	1.54
Minimum heating circuit pressure	bar (kPa)	0.5 (50)	0.5 (50)	0.5 (50)	0.5 (50)
Maximum heating circuit pressure	bar (kPa)	3 (300)	3 (300)	3 (300)	3 (300)
Water content	l	3.9	3.9	9	9
Gas Consumption Natural (20 mbar) gas G 20 a Q <sub>n</sub>	m <sup>3</sup> /h	5.13	7.35	10.57	12.16
Gas Consumption Natural gas (20 mbar) G 20 a Q <sub>min</sub>	m <sup>3</sup> /h	1.48	1.48	2.31	2.38
Gas Consumption G25 (supply pressure 25 mbar) Q <sub>n</sub>	m <sup>3</sup> /h	5.96	8.55	12.3	14.14
Gas Consumption G25 (supply pressure 25 mbar) Q <sub>min</sub>	m <sup>3</sup> /h	1.72	1.72	2.77	2.77
Gas Consumption G31 (supply pressure 37/50 mbar) Q <sub>n</sub>	kg/h	3.76	5.39	7.76	8.93
Gas Consumption G31 (supply pressure 37/50 mbar) Q <sub>min</sub>	kg/h	1.09	1.09	1.75	1.75
Max. available pressure at the chimney base	Pa	40	40	100	100
Condensate production max	kg/h	8	11	9	12
<b>Emissions</b>					
CO at Maximum Heat Input with 0% of O <sub>2</sub>	mg/kWh	71.3	82	140	141
NO <sub>x</sub> at Nominal Heat Input with 0% of O <sub>2</sub>	mg/kWh	49	49	31	41
NO <sub>x</sub> Class		6	6	6	6
<b>Electrical Data</b>					
Voltage/Frequency electric power supply	V/Hz	230/50	230/50	230/50	230/50
Fuse on main supply	A (R)	6	6	4AF 250V	4AF 250V
Insulation degree	IP	X4D	X4D	X5D	X5D

Room Temperature = 20°C

(\*) Temperatures detected with the unit in operation Tr 50 / Tm 20°C)

Seasonal Efficiency  $\eta_s$  according to Directive 2009/125/EC for Outputs < = 400 kW.