schuster

BWA SWP (for swimming pool)

BWA SWP 50-70

BWA SWP 100-115

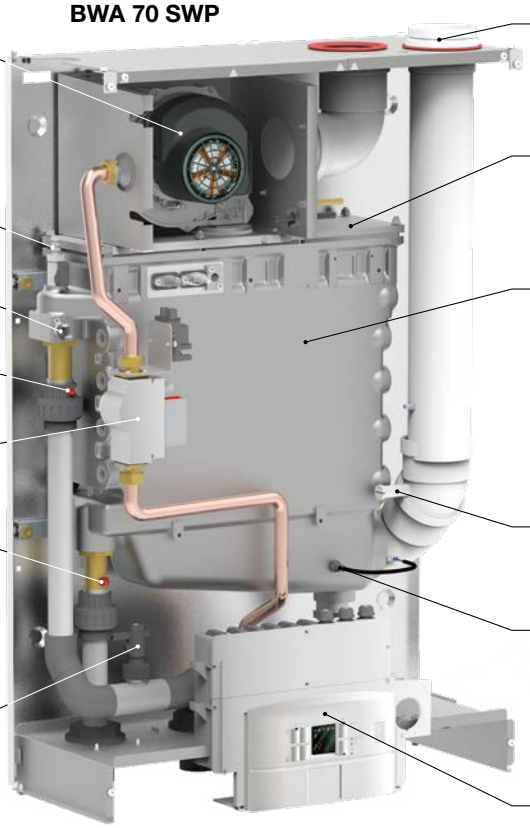
CONDENSING, MODULATING, WALL HUNG BOILERS, LOW NO_x, CLASS 6, SUITABLE FOR DIRECTEXCHANGE HEATING, BOTH WITH CHLORINATED AND SALTED WATER.				
OUTPUT RANGE	from 50 to 920 kW (in battery)			
SUPPLY	gas naturale o GPL			
MODELS	50 SWP	70 SWP	100 SWP	115 SWP
SEASONAL EFFICIENCY	A			
SWIMMING POOL VOLUME (*)	from 115 to 1280 m^3			
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

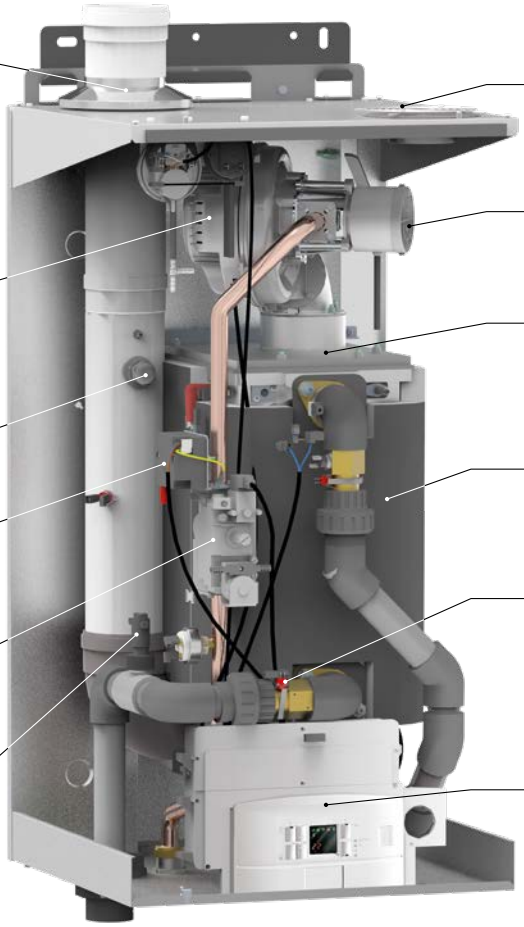
(*) Data referred to partially protected swimming pool - Δt 15° - 36h

MAIN COMPONENTS

BWA 70 SWP



BWA 115 SWP

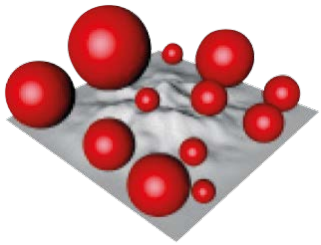


PRODUCT PLUS VALUES

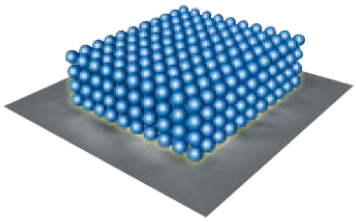
- **EASY CONNECTION**
  it is possible to install BWA SWP directly on an existing plant without changing anything.
- **USE OF THE SWIMMING POOL RECIRCULATION PUMP**
  no extra pump needed for the circulation; thanks to a manual by-pass the circulating pump of the swimming pool water is also used for 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 BWA SWP without further components.
- **LOW TEMPERATURE FUNCTIONING**
  BWA 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 BWA 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 BWA SWP.

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

Schuster 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.

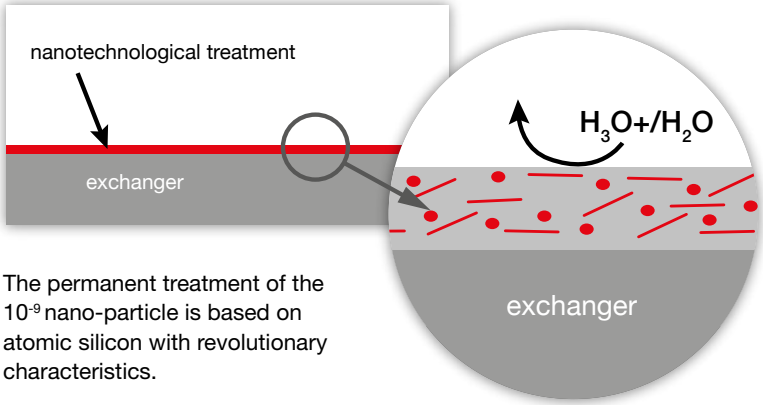


Traditional coating:
the individual coating particles are randomly arranged.
The coating is unstable and the surface is not completely protected.



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:



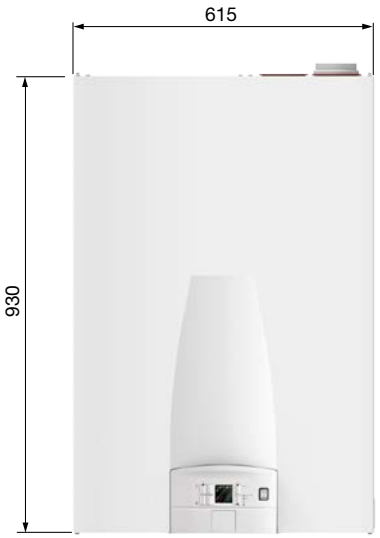
The permanent treatment of the 10^{-9} nano-particle is based on atomic silicon with revolutionary characteristics.

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

DIMENSIONS BWA SWP

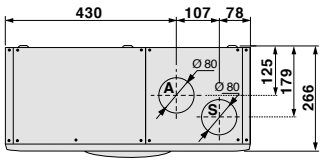
BWA 50-70 SWP

FRONT VIEW

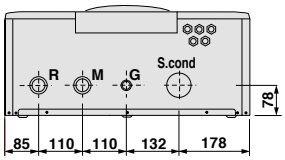


SIDE VIEW

TOP VIEW



BOTTOM VIEW



Caption:

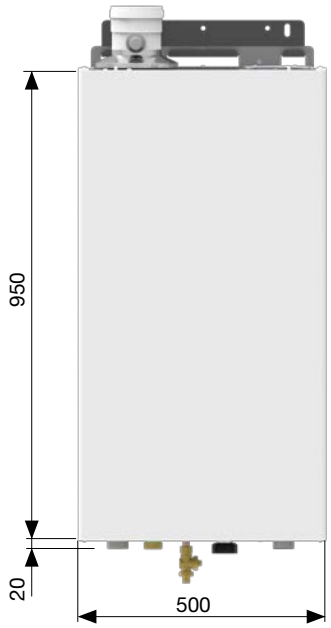
M - Heating system flow (G1" for mod. 50, G1¼" for mod. 70)
R - Heating system return (G1" for mod. 50, G1¼" for mod. 70)

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

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

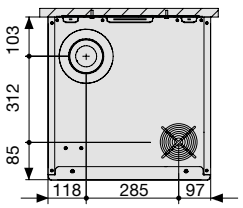
BWA 100-115 SWP

FRONT VIEW

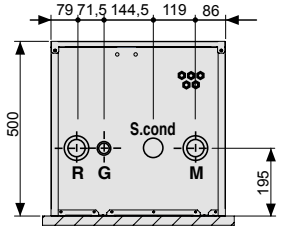


SIDE VIEW

TOP VIEW



BOTTOM VIEW



Caption:

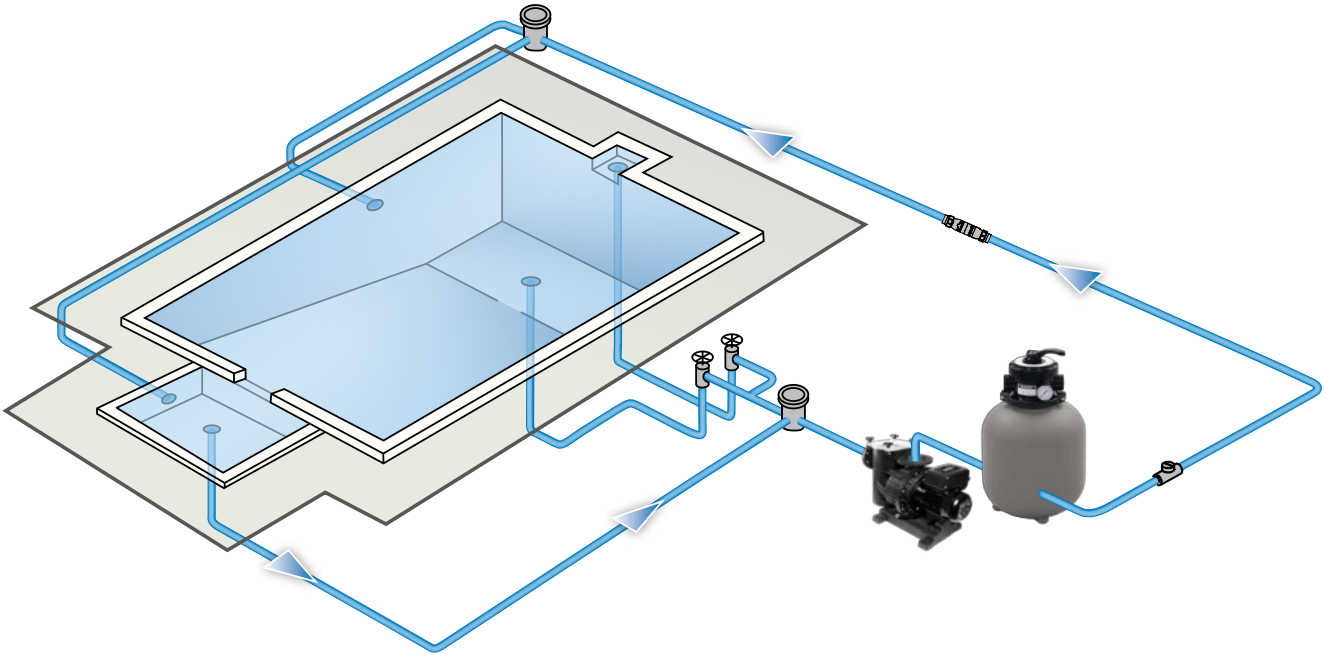
G - G1" Gas inlet
M - Heating system flow G1 ¼"
R - Heating system return G1 ¼"
Rs - Drain cock

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

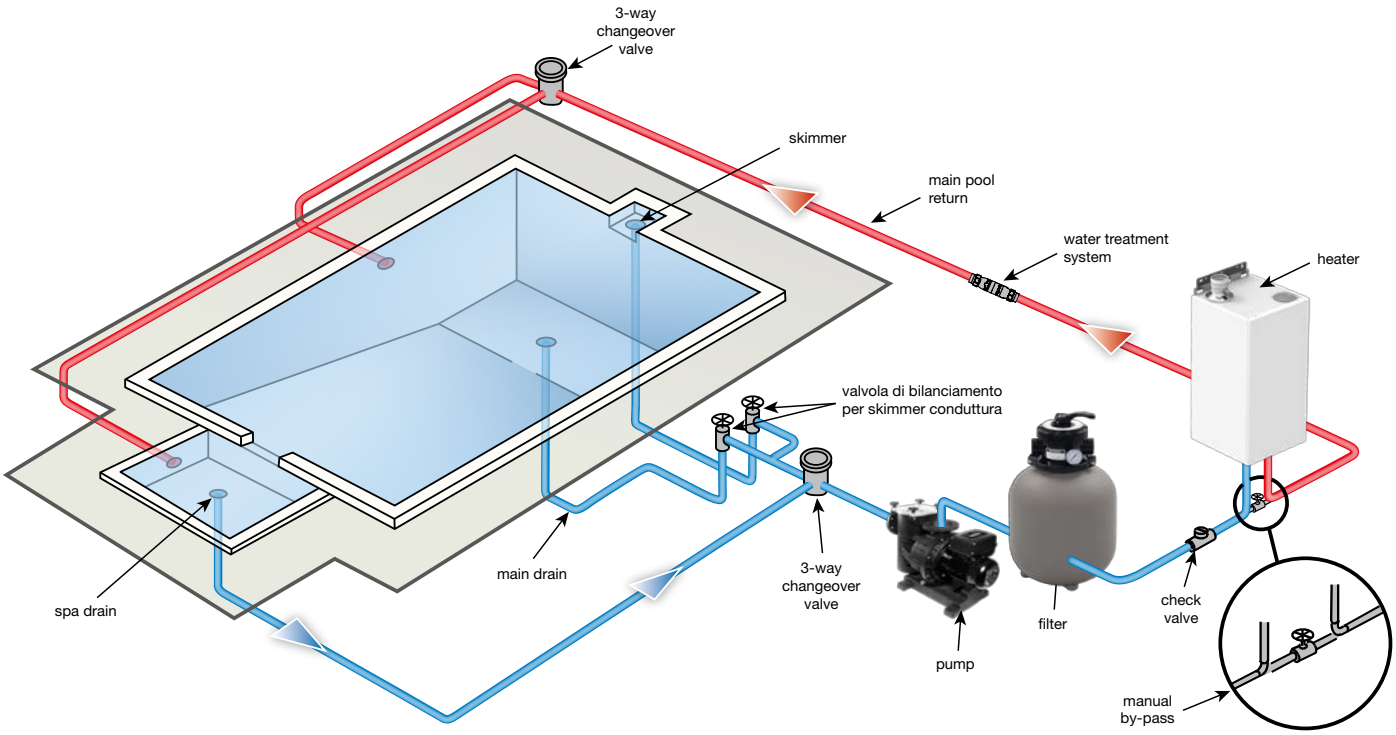
BWA SWP	Net Weight kg	Gross Weight (with packaging) kg
100-115	81	96

ASSEMBLY DIAGRAMS

PLANT WITHOUT SWIMMING POOL HEATER



SWIMMING POOL PLANT HEATED WITH BWA SWP



TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.schusterboilers.com at the page of the product

BWA SWP		50	70	100	115
Appliance category		II_{2H3P}	II_{2H3P}	II_{2H3P}	II_{2H3P}
Modulation Ratio		1:3.5	1:5	1:4.4	1:5.1
Nominal Heat Input on P.C.I. Qn	kW	48.5	69.5	100	115
Minimum Heat Input on P.C.I. Qmin	kW	14	14	22.5	22.5
Nominal Output (Tr 30 / Tm 50 °C) Pcond	kW	49.4	70.7	105	120.3
Minimum Output (Tr 30 / Tm 50 °C) Pcond min	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 Qn	m^3/h	5.13	7.35	10.57	12.16
Gas Consumption Natural gas (20 mbar) G 20 a Qmin	m^3/h	1.48	1.48	2.31	2.38
Gas Consumption G25 (supply pressure 25 mbar) Qn	m^3/h	5.96	8.55	12.3	14.14
Gas Consumption G25 (supply pressure 25 mbar) Qmin	m^3/h	1.72	1.72	2.77	2.77
Gas Consumption G31 (supply pressure 37/50 mbar) Qn	kg/h	3.76	5.39	7.76	8.93
Gas Consumption G31 (supply pressure 37/50 mbar) Qmin	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
Emissions					
CO at Maximum Heat Input with 0% of O_2	mg/kWh	71.3	82	140	141
NO_x at Nominal Heat Input with 0% of O_2	mg/kWh	49	49	31	41
NO_x Class		6	6	6	6
Electrical Data					
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 η_s according to Directive 2009/125/EC for Outputs < = 400 kW.