

schuster®



SWG



WALL HUNG CONVENTIONAL GAS BOILER
FROM 16 kW TO 32 kW

Technical features

16 wall hung gas boilers for heating only or for heating and DHW production, both, in room sealed or natural draught versions, with electronic ignition and conventional combustion.

- SWG can operate with **natural gas or LPG or Propane-Air mixture**
- **Electrical protection degree is IPX5D** (IPX4D for natural draught version)
- **Electronics developed together with Honeywell** and technology directed to:
 - rationalization of the assembly during production
 - maximum simplicity
 - maximum reliability
 - maximum installation speed
- **Completely metallic casing** in three pieces
- **Epoxy-polyester painting**
- **Sound and thermal insulation** with 8 mm thick material
- **Thermal reflecting layer**
- **Completely metallic hydraulic connections**
- **Panel board, including:**
 - two regulation knobs
 - a wide time-controlled back lighted display
 - water manometer



Model	Characteristics							
			NATURAL DRAUGHT	ROOM SEALED	BITHERMAL HEAT EXCHANGER	MONOTHERMAL HEAT EXCHANGER	3 WAY VALVE	PLATE HEAT EXCHANGER
SWG								
C 16	■	■		■	■			
C 18	■	■		■	■			
C 24	■	■		■	■			
C 28	■	■		■	■			
C 32	■	■		■	■			
C 24 P	■	■		■		■	■	■
C 28 P	■	■		■		■	■	■
C 32 P	■	■		■		■	■	■
A 23	■	■	■		■			
A 23 P	■	■	■			■	■	■
R 23	■		■			■		
R 18	■			■		■		
R 24	■			■		■		
R 28	■			■		■		
C 24 ec	■	■		■	■			
C 24 Pec	■	■		■		■	■	■

Components

Copper heat exchangers

According to the model, they have different types of fast connections, in order to speed up the maintenance.

■ SWG C 16, C18, C24, C28, C32, A 23, C 24 ec

Bi-thermal ultracompact heat exchanger

Large finned surface made of six copper pipes of oval section, where inside are inserted the pipes for sanitary water circulation (up to 17,8 l/min for C32, with a different temperature between inlet and outlet of 25K):

- Combustion efficiency up to 93,2% at full load
- High combustion quality with CO₂ up to 8.5% and CO at 58 ppm
- Effective air venting, thanks to the oversized manifolds
- Maximum thermal exchange speed
- Drastic reduction of the scaling deposits
- Fast hydraulic connections
- Immediate hot water production
- Quick answer to the temperature variations
- Sensible energy saving



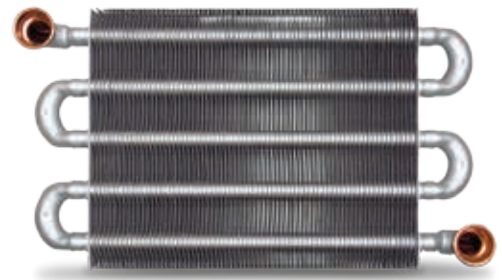
Bi-thermal heat exchanger

■ SWG C 24 P, C 28 P, C 32 P, A 23 P, R 23, R 18, R 24, R 28, C 24 P ec

Mono-thermal ultra-compact heat exchanger

with finned surface that winds five oval-shaped copper pipes

- Combustion efficiency of 94.6% at full load
- High combustion quality with CO₂ up to 8.4% and CO at 60 ppm
- Fast hydraulic connections



Mono-thermal heat exchanger

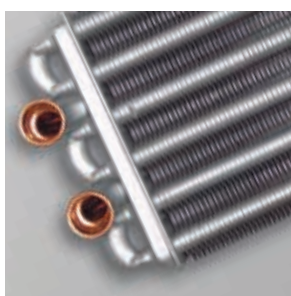
Combinations

- DHW stainless steel plate heat exchanger (12 plates for 16, 18, 23, 24, 24 ec - 14 for 28 kW - 16 for 32 kW) wider exchange surface: with the same water temperature and needed quantities, the boiler can produce more DHW obtaining up to 18,5 l/min with Δt 25 K.
- Mono-thermal primary heat exchanger (for A 23, R 23 and C 24-28-32, R 18-24-28-24 ec): it guarantees all the necessary capacity and the ideal efficiency at all load conditions.
- Motorized diverting valve (for all P models), of new conception, thanks to a powerful electric motor, allows the quick and safe diversion of the hot water, produced by the primary heat exchanger, to the plate heat exchanger or in loop to the heating circuit, optimizing the operation in temperature modulation. In addition, thanks to the HWS Hot Water Speed function (P versions), there is an increase of supply speed.

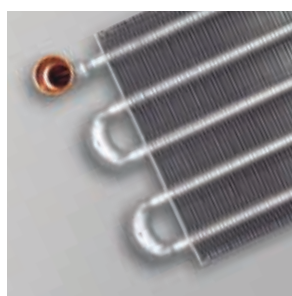


Standard equipment

- Wide stainless steel wide burner**
 11 ramps for 16, 18, 23 and 24 kW versions
 13 ramps for 28 kW versions
 15 ramps for 32 kW versions
 for a silent and well distributed combustion.
- Electronic digital ignition** with three flame ignition attempts.
- Continuous proportional/integral gas modulation**
 managed by the HONEYWELL driver PCB, through two temperature control sensors (for DHW and CH).
- Highly effective pump** with fast removable air vent.
- Anti-overheating post-circulation** of 15 seconds: controls the thermal equilibrium between flow and return; in CH mode, with a lasting of 5 min., allows to exploit all the residual heat.
- Anti-frost protection** intervenes at 5°C and is activated both, in DHW and in CH mode, increasing the boiler temperature up to 15°C. If there is lack of gas, the lockout of the boiler will be shown on the display.
- Anti-jamming function** sends an impulse to the pump for 5 seconds, every 24 h stop, thus avoiding the oxidation could block it.
- Technical service function** facilitates the combustion adjustment operations, by depressing the reset button.
- Air pressure switch** insensitive to the external climatic conditions that could make its function fruitless.
- HWS - Hot Water Speed:** performs the passage from CH function to DHW production, in real time, with burner and pump always in operation, avoiding the delay of approximately 6 sec., normally caused by valve switching that turns off pump and burner.
- Bypass** (except EC versions)



Bi-thermal heat exchanger



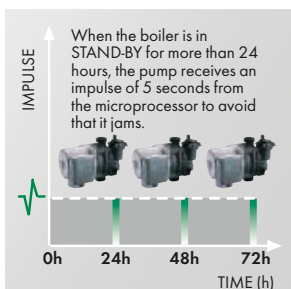
Mono-thermal heat exchanger



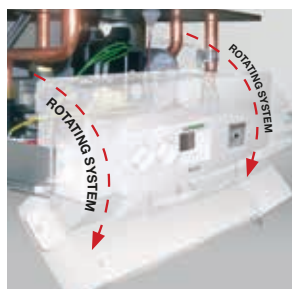
Panel board



Pump body with built-in air vent



Pump anti-jamming function timer



Frontward rotating panel board

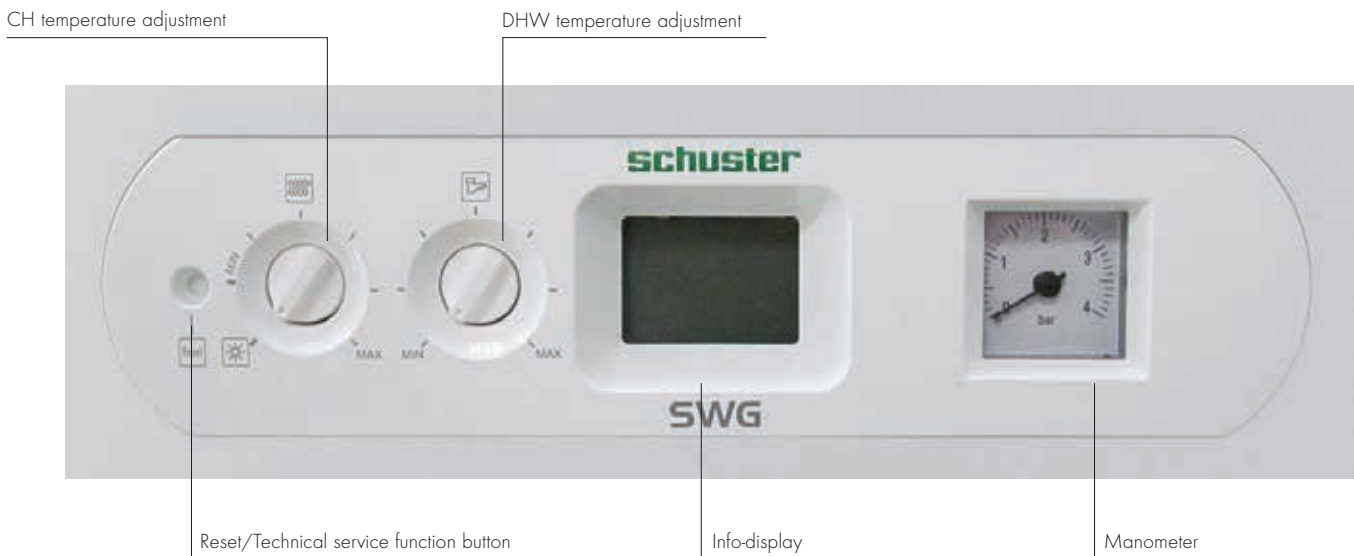


HONEYWELL electronic PCB



Built-in flow switch

Panel board



The electronic panel board is easy and intuitive. All the harness and intervention operations are easily made by the frontward rotation of the panel board.

The multifunction LCD display, with time controlled back lighting, allows:

- The reading of the CH and DHW temperatures
- The showing of the burner lockout due to lack of flame
- The operation/stand-by status
- The diagnostics with indication of 11 possible faults
- LH side knob: ON-OFF switch and CH temperature setting between 45 and 78°C
- RH side knob: DHW temperature setting between 35 and 57°C

ACCESSORIES (optional)



REMOTE CONTROL
REGOLAFACILE
Modulating,
weekly
Code 00361971



CHRONO-THERMOSTAT
REGOLAFACILE ON-OFF
Code 00262605



CHRONO-THERMOSTAT
GA 240
Code 00362968



REMOTE CONTROL
SIM-CRONO P
Modulating,
weekly
Code 00362904



REMOTE CONTROL
SIM-CRONO
Modulating,
weekly
Code 00361266



OUTER TEMPERATURE SENSOR
Code 00362077

COVERING FOR HYDRAULIC CONNECTIONS KIT
Code 00362673
(models 16-18-23-24)
Code 00362674
(models 28 and 32)

For further information regarding the accessories compatible with the series, consult the website www.schusterboilers.com

“EC” SERIES

The series “ec” of SWG satisfies specific market niches needs as **house building yards** and **“essential” installations**.

Strong and reliable, they guarantee comfort performance, above the standard, through the same components of SWG series:

- room thermostat: ON/OFF, modulating and outer temperature sensor
- the anti-overheating post-circulation
- the anti-frost protection
- the pump anti-jamming function
- the air pressure switch
- HWS – Hot Water Speed

Also, the extraordinary quality-price ratio has been reached thanks to the modification of some minor elements:

- CH and gas connections are optimized but not compatible with those of standard series
- the air sucking and smoke evacuation system can be used with twin adaptor (only central smoke evacuator and air sucking from right)

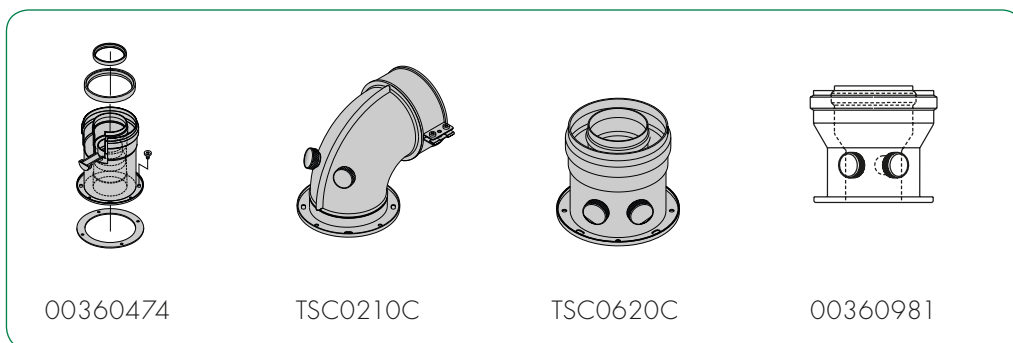


ACCESSORIES (optional)

COAXIAL EVACUATION SYSTEM Ø 60/100

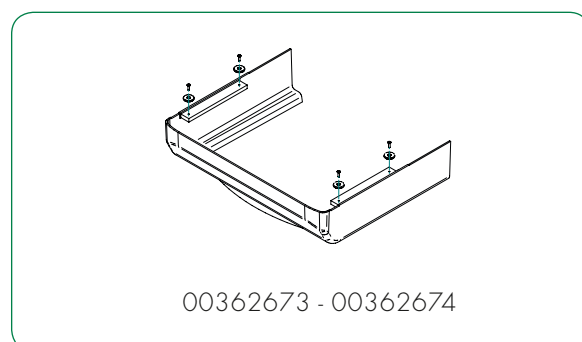
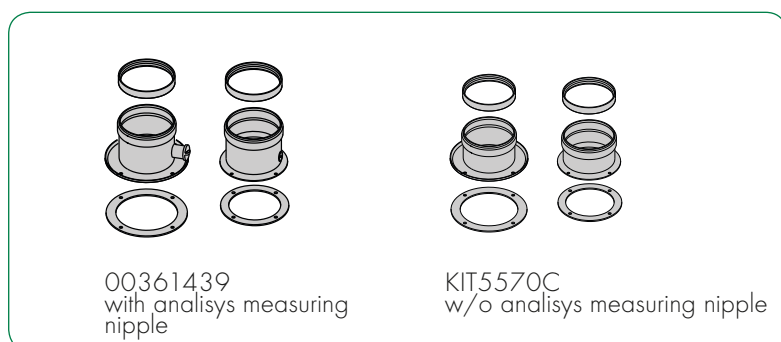
COAXIAL ADAPTOR Ø 80/125

DIVERTING VALVE KIT

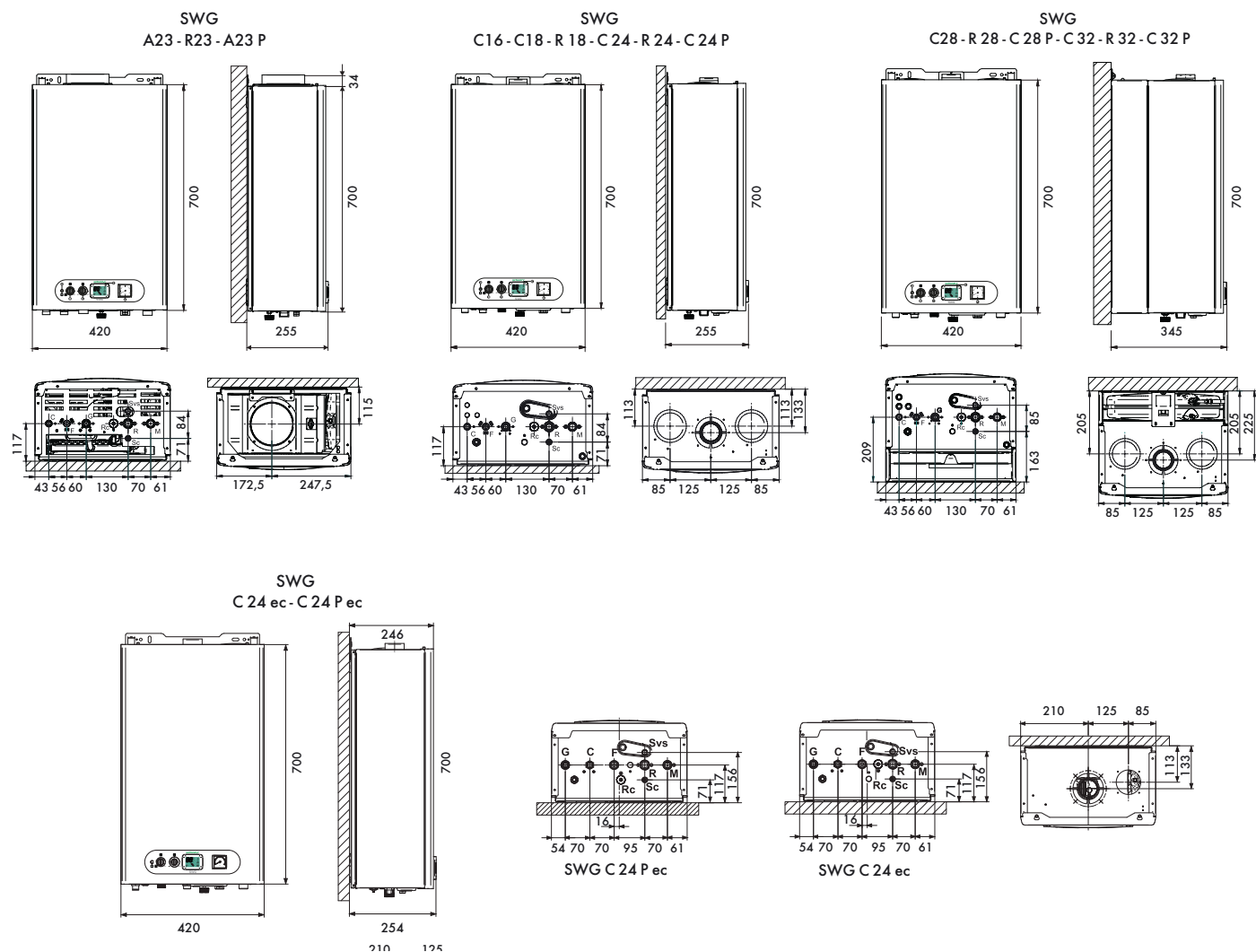


FORKED DRAIN SMOKES SYSTEM Ø 80/80

COVERING FOR HYDRAULIC CONNECTIONS KIT 16-24 and 28-32



Dimensions - Technical data



SWG		C16	C18	C24	C28	C32	C24 P	C28 P	C32 P	A23	A23 P	R18	R23	R24	R28	C24 ec	C24 Pec
NOMINAL OUTPUT	kW	14,6	18,5	24,6	28	31,6	24,7	28,1	32,3	22,9	22,9	18,5	22,9	24,6	28	24,6	24,7
NOMINAL INPUT (in DHW mode)	kW	$\frac{16}{(20,5)}$	20,5	26,5	30,1	34,5	26,5	30,1	34,5	25,5	25,5	20,5	25,5	26,5	30,1	26,5	26,5
MINIMUM OUTPUT	kW	10,1	7,8	10,1	10,2	11,6	10,1	10,2	12,2	9,9	9,9	7,8	9,9	10,1	10,2	10,1	10,1
EFFICIENCY AT PART LOAD	%	89,48	90,23	90,23	90,42	90,42	90,43	90,42	90,42	89,43	89,43	90,23	89,43	90,23	90,42	90,23	90,43
EFFICIENCY AT FULL LOAD	%	91,05	90,4	92,92	93,18	91,69	93,21	94,6	94,57	89,9	91,36	90,4	89,9	92,92	93,18	92,92	92,35
SMOKE TEMPERATURE max.	°C	92,3	121,5	109	103,5	120,9	119,3	96,3	101,4	107,5	95,5	121,5	107,5	109	103,5	109	119,3
EFFICIENCY CLASS (Directive 92/42/CE)		★★	★★	★★★	★★★★	★★	★★★★	★★★★	★★★★	★★	★★	★★	★★	★★★★	★★★★	★★★★	★★★★
WATER PRESSURE IN CH CIRCUIT min/max	bar	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3	0,5÷3
WATER PRESSURE IN DHW CIRCUIT min/max	bar	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	0,5÷6	-	-	-	-	0,5÷6	0,5÷6
DHW production in continuous, with Δt 25K	l/min	13,7	10,1	13,7	16,1	17,8	13,2	15,6	18,5	14,1	14,1	-	-	-	-	13,7	13,2
ELECTRICAL SUPPLY/power consumpt. V/Hz	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
MAX. ABSORBED POWER	W	138	138	138	138	150	138	138	150	85	85	138	85	138	138	138	138
PROTECTION DEGREE	IP	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X4D	X4D	X5D	X4D	X5D	X5D	X5D	X5D
EXPANSION VESSEL CAPACITY	l	6	6	6	8	10	6	8	10	6	6	6	6	6	8	6	6
NET WEIGHT	kg	29,6	29,6	29,6	34,7	35,7	30,1	35,2	36,2	24,6	28,6	28,1	24,6	28,1	33,2	29,6	30,1
GROSS WEIGHT	kg	32,5	32,5	32,5	38	39	33	38,2	39,2	30	31,5	31	27,6	31	36,2	32,5	33

Warning: whenever boilers are used for low temperature heating systems (i.g. floor H.C. systems) a mixing valve is needed in order to avoid condensating phenomena.

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