CI/SfB (56.1)

STOKVIS
ENERGY SYSTEMS

STOKVIS R40

High Efficiency Fully Condensing Ultra Low NOx Wall Mounted Gas Fired Boilers

STOKVIS ENERGY SYSTEMS

R40 SERIES

High Efficiency - Fully Condensing - Ultra Low NO_X

Wall Mounted Gas Fired Boilers

The Range

The new R40 wall mounted boiler incorporates the latest high quality gas heating technology providing maximum efficiencies and minimum environmental impact. With five models ranging from 65 kW to 145 kW, all small commercial requirements can be accommodated, along with larger commercial properties when modules are combined to form the "Modupak", where outputs up to 1,140 kW are achievable.

The Modupak is a frame mounted combination of up to 8 boiler modules in a back-to-back configuration, or up to 6 boiler modules as an in line formation, supplied as a complete package including boilers, pumps, pipe work and valves, header, dirt and air separator, manifolds, insulation, flues and control system.

Reliability

- Corrosion-resistant stainless steel heat exchanger: minimal wear and significantly longer lifespan

Ground breaking Efficiency

- Consistently high efficiency is maintained due to the double-helix heat exchanger: lower hydraulic resistance, turbulent flow and therefore much less susceptible to lime scale.
  Annual Efficiency (NNG40/30˚C) of >110% net efficiency.
  Modulation turndown ratio of around 6:1

Environmentally Friendly

- CO_2 levels between 8.5% and 8.7%
  NO_X Emissions less than 39mg/kWh @ 0% O_2
  Which exceeds requirements for BREEAM credits

The Greatest Flexibility

- 5 capacities of up to 145 kW and complete and variable "Modupak" boiler packages with full and variable mechanical and control options with outputs up to 1,140kW

The new standard of reliability:
Stainless steel heat exchanger with spiral finned tubing

The R40 combines the highest degree of material quality with intelligent technology. The double-helix heat exchanger made of stainless steel with an internal spiral, giving the boiler a permanently turbulent flow.

This allows for a substantially optimised transfer of heat. As a result, the innovative gas condensing boiler is setting new standards of efficiency. Another benefit is its lower hydraulic resistance, which enables the use of smaller, more economical circulation pumps.

Equipped for a long life of heating, the use of stainless steel also guarantees extreme reliability. This is because the high quality of the material makes the heat exchanger much less susceptible to lime scale and pH values and therefore provides heat at a consistently high efficiency.

Heat exchangers of some conventional boilers are made of aluminium; the disadvantage is that the faster material-related wear and scaling, negatively impacts on the flow of water, as well as creating surface changes (patina) on the exhaust gas side, which impairs the transfer of heat to the water and thus decreases the efficiency.

With the R40, however, corrosion-resistant stainless steel guarantees much less wear and tear and thus offers consistently high efficiency over its entire life span.

The R40 is equipped with a double-helix heat exchanger. This construction provides for a split volume flow rate, minimises the loss of water pressure and thus enables the use of smaller pumps. The result is significantly lower electricity consumption and less wear on the heat exchanger.

STOKVIS
ENERGY SYSTEMS

The Modupak multi boiler package for custom-made performance

The Stokvis Modupak can be installed in a very short time and comes complete with boilers, pumps, header, manifolds, dirt and air separator, valves, insulation, flue and control system.

Almost unlimited configurations of boiler size and number are possible as well as the type of Modupak, whether it be located against a wall free-standing, or back to-back.

The Modupak can be made up from a selection of any of the five R40 boiler models available in the capacity options 65 kW, 85 kW, 100 kW, 120 kW and 145 kW.

Up to eight boilers can be combined with one another in a cascade operation. In practice, the Modupak solution allows for high-precision adjustment of the output capacity to match the seasonal load.

The R40 is light and compact and due to the modular format of the Modupak the units can be assembled and installed in the tightest of plantrooms and also sections can be transported to the plantroom that have the narrowest of access routes.

With the modular format, boilers with a total capacity of up to 1,140 kW can easily be located into the smallest areas.

For full details of the Modupak options please see the full technical manual.

Back to Back

Wall Mounted

Free Standing

Controls – features

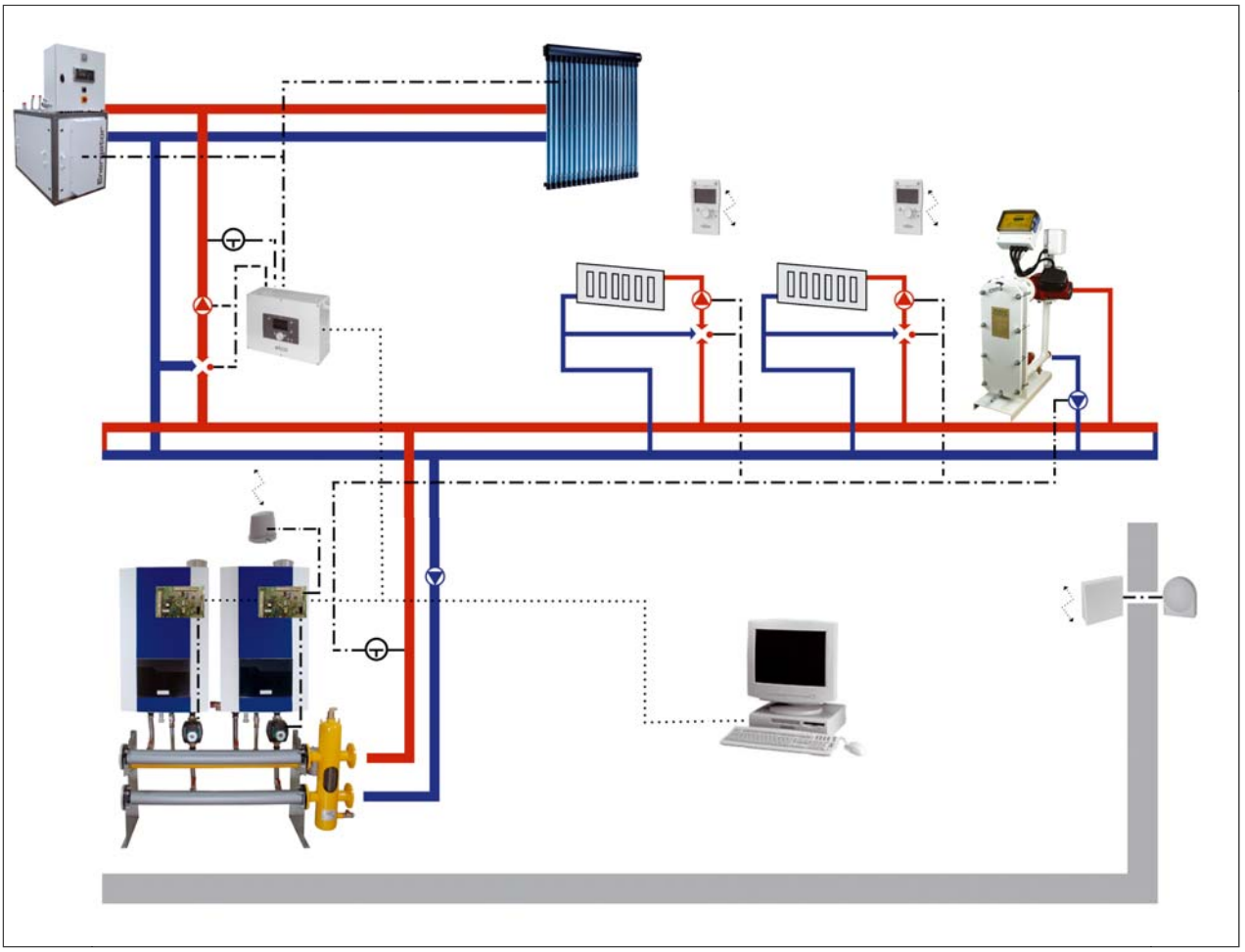
Standard boiler:

- LCD text display in different languages
- Burner control
- Weather compensation (optional sensor required)
- DHW control (optional sensor required)
- Clock program for heating and DHW
- 0-10V external set point control (temperature/load)
- OK/Alarm contacts

Optional Controls which can be added:

- Control of up to 2 heating zones / boiler (up to a maximum of 8 zones.)
- MASTER/SLAVE cascade control - maximum 8 boilers
- 2 additional heating zones via LOGON B controller in wall hung box
- Room unit QAA75 for each heating zone
- Outdoor sensor / DHW sensor / low loss header sensor for cascade
- Heating zone sensor
- 0-10V control of speed controlled pump

R40 MODUPAK SYSTEM IN CONJUNCTION WITH STOKVIS ECONOPLATE, SOLAR PANELS AND CHP.



The mechanical and electrical systems indicated in the above diagram are intended to highlight the scope of possibilities, when combining heating, hot water, chp and renewable technologies. The details should not be utilsed as, or incorporated in, any working/installation drawing.

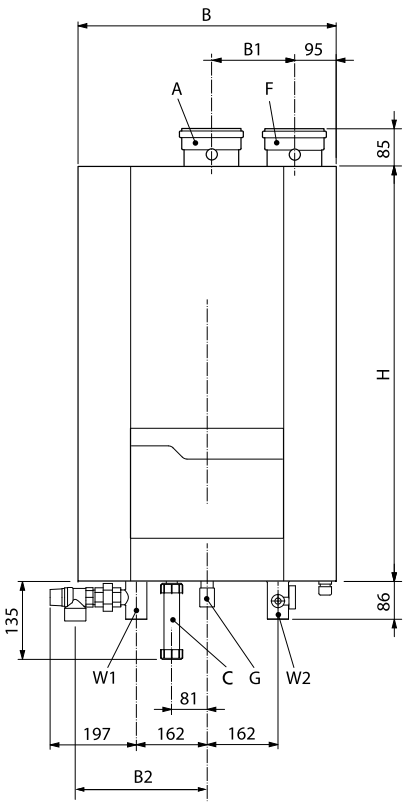
STOKVIS ENERGY SYSTEMS

Technical data

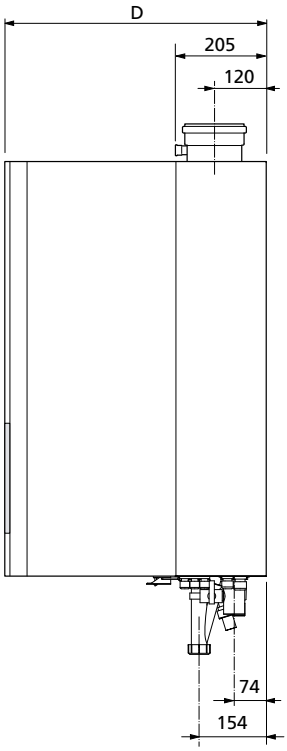
		R40/65	R40/85	R40/100	R40/120	R40/150
Nominal heat output at 80-60ºC max/min	kW	60.8/10.1	81.1/13.4	92.9/15.6	111.6/18.7	132.2/23.3
Nominal heat output at 75-60ºC max/min	kW	60.9/10.1	81.3/13.4	93.1/15.6	111.8/18.7	132.5/23.3
Nominal heat output at 40/30ºC max/min	kW	63.9/11.1	85.3/14.8	100.0/17.2	120.0/20.6	142.3/25.6
Nominal heat input Hi max/min	kW	62.4/10.4	83.3/13.8	95.2/16.0	114.3/19.2	135.5/23.9
Efficiency at 80/60ºC	%	97.4	97.4	97.6	97.6	97.6
Efficiency at 40/30ºC	%	102.4	102.4	105.0	105.0	105.0
Annual efficiency (NNG 75/60ºC)	%	106.2	106.2	106.2	106.2	106.2
Annual efficiency (NNG 40/30ºC)	%	>110	>110	>110	>110	>110
Standstill losses (T_{water} = 70ºC)	%	0.20	0.20	0.20	0.20	0.20
Max. condensate flow	l/h	3.5	4.8	6.4	7.7	9.1
Gas consumption G20 max/min (10,9 kWh/m^3)	m^3/h	5.7/1.0	7.6/1.3	8.7/1.5	10.5/1.8	12.4/2.2
Gas consumption G25 max/min (8,34 kWh/m^3)	m^3/h	7.5/1.2	10.0/1.7	11.4/1.9	13.7/2.3	16.3/2.9
Gas consumption G31 max/min (12,8 kWh/kg)	kg/h	4.9/0.8	6.5/1.1	7.4/1.3	8.9/1.5	10.6/1.9
Gas pressure G20	mbar	20	20	20	20	20
Gas pressure G25	mbar	25	25	25	25	25
Gas pressure G31	mbar	30/50	30/50	30/50	30/50	30/50
Maximum gas pressure	mbar	50	50	50	50	50
Flue gas temperature at 80/60ºC max/min	ºC	76/63	76/63	76/63	76/63	76/63
Flue gas temperature at 40/30ºC max/min	ºC	55/39	55/39	55/39	55/39	55/39
Flue gas quantity max/min	m^3/h	119/19	159/25	178/29	213/35	253/44
CO_2 level G20/G25 max/min	%	8.5/8.5	8.5/8.5	8.7/8.5	8.7/8.5	8.7/8.5
CO_2 level G31 max/min	%	-/-	-/-	-/-	-/-	-/-
NOx level	mg/kWh	39	39	39	39	39
CO level max/min	mg/kWh	98/7	98/7	98/7	98/7	98/7
Max. permissible flue resistance max/min	Pa	150/15	150/15	150/15	200/15	200/15
Water volume	l	4.0	4.7	6.5	8.0	9.4
Water pressure max/min	bar	6/1	6/1	6/1	6/1	6/1
Max. water temperature (High limit thermostat)	ºC	100	100	100	100	100
Maximum temperature setpoint	ºC	90	90	90	90	90
Nominal water flow at dT=20K	m^3/h	2.6	3.4	4.0	4.8	5.6
Hydraulic resistance at nominal water flow	kPa	16	29	15	22	34
Electrical connection	V	230	230	230	230	230
Frequency	Hz	50	50	50	50	50
Mains connection fuse	A	10	10	10	10	10
IP class	-	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D
Power consumption boiler max/min (excl. pump)	W	98/26	167/38	195/30	228/36	248/44
Power consumption 3-step pump (optional)	W	150	205	150	210	385
Power consumption speed controlled pump (opt)	W	124	124	130	130	130
Weight (empty)	kg	60	68	80	90	97
Noise level at 1 meter distance	dB(A)	-	-	-	-	-
Ionisation current minimum	µA	3	3	3	3	3
PH value condensate	-	3.2	3.2	3.2	3.2	3.2
CE certification code	-	CE-0063CM3576				
Water connections	-	R1.1/4"	R1.1/4"	R1.1/2"	R1.1/2"	R1.1/2"
Gas connection	-	R3/4"	R3/4"	R1"	R1"	R1"
Flue gas connection	mm	100	100	100	100	130
Air intake connection (for room sealed use)	mm	100	100	100	100	130
Condensate connection	mm	22	22	22	22	22

Dimensions

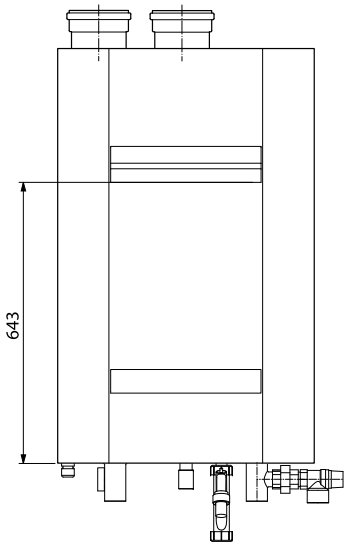
Front View



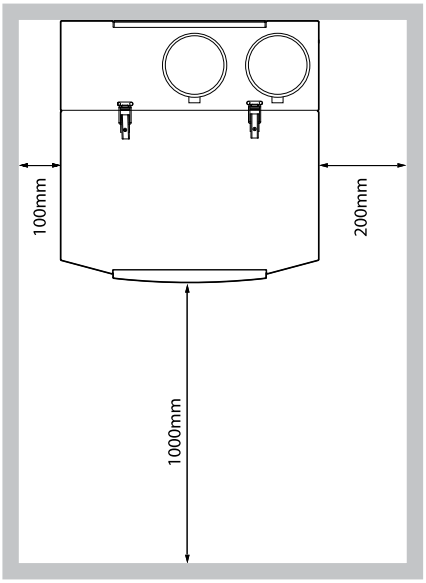
Side View



Rear View



Top View / Clearances



Dimensions		R40/65	R40/85	R40/100	R40/120	R40/150
B	mm	490	490	590	590	590
B1	mm	140	140	140	140	190
B2	mm	245	245	295	295	295
D	mm	500	500	600	600	600
H	mm	810	810	950	950	950
W1 (Flow)	mm	R 1 1/4"	R 1 1/4"	R 1 1/2"	R 1 1/2"	R 1 1/2"
W2 (Return)	mm	R 1 1/4"	R 1 1/4"	R 1 1/2"	R 1 1/2"	R 1 1/2"
G (Gas)	mm	R 3/4"	R 3/4"	R 1"	R 1"	R 1"
F (Flue Outlet)	mm	100	100	100	100	130
A (Air Inlet)	mm	100	100	100	100	130
C (Condense)	mm	22				

STOKVIS ENERGY SYSTEMS

STOKVIS ENERGY SYSTEMS

STOKVIS INDUSTRIAL BOILERS
(INTERNATIONAL) LIMITED
96R Walton Road East Molesey Surrey KT8 0DL
TELEPHONE 020 8783 3050 • FACSIMILE 020 8783 3051
Email: info@stokvisboilers.com • Website: http://www.stokvisboilers.com