



The **New** Remeha Quinta Pro Range

Condensing Boilers



HIGH EFFICIENCY
110% NCV AT 40/30°C



FULLY MODULATING
BOILER CONTROL



PREMIX BURNER CLEAN
COMBUSTION



ULTRA LOW NOx
BREEAM EXCELLENT



100%
RECYCLABLE

High efficiency wall hung condensing boiler
with ultra low NOx emission

QUINTA PRO RANGE OUTPUTS

QP30: 8.0 - 31.4 kW

QP45: 8.0 - 43.0 kW

QP65: 12.0 - 65.0 kW

QP90: 14.1 - 89.5 kW

QP115: 16.6 - 114.0 kW

SEDBUK 'A' (QP30, QP45, QP65)



remeha
creating energy solutions

Introduction

Remeha Quinta Pro Range are compact high-efficiency wall hung condensing gas boilers. Lighter and more efficient, their small dimensions make them ideally suited for modular arrangements.

An optional optimising/ weather compensating control system is available to ensure maximum efficiency.

The boilers can be installed on both new and retrofit installations.

High efficiency heating (Production of domestic hot water can be ensured by a separate hot water calorifier).

Low pollutant emissions.

Very suitable for cascade systems with several boilers.

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Boiler description

The Remeha Quinta Pro Range are wall hung, condensing boilers which may also be installed free standing on a suitable frame (option). The one piece, cast aluminium heat exchanger and other major components are contained within a sealed air box. This forms the main boiler casing with a removable front section for maintenance purposes.

Electrical and electronic controls are contained within the instrument panel mounted in the drop-down lower front panel and also the electrical housing mounted on the inside right hand panel.

The combined flue gas outlet and combustion air inlet are mounted on the top of the boiler, with the flow, return, gas and condensate connections located at the bottom.

The boiler is suitable for room-sealed or open flue applications. It has been designed for central heating and indirect hot water production. It must be installed on a fully pumped system and is suitable for use on sealed systems (0.8 bar) and open vented installations (For use on open vented systems please contact our technical department).

The boiler's modulating control system limits the maximum difference in temperature between the heating flow and return and the maximum speed at which the flow temperature increases. For this reason the boiler is, so to speak, insensitive to a flow which is too low. In all cases, maintain a minimum water flow of 0.4 m³/h.

The pre-mix, down-firing gas burner (NG or LPG) with its gas/air ratio control system, ensures clean, trouble free operation with higher than average efficiencies (of 110% (NCV)) in the condensing mode, combined with ultra low NO_x and minimum CO emissions. The standard control package allows actual and set values to be read and adjusted on the built-in digital display which also provides normal operating and fault code indication. An intelligent, advanced boiler control continuously monitors the boiler conditions, varying the heat output to suit the system load. The control is able to react to external "negative" influences in the rest of the system (flow rates and air/gas supply problems) maintaining boiler output for as long as possible without resorting to a lock out condition. At worst the boiler will reduce its output and/or shut down (shut-off mode), awaiting the "negative" conditions to return to normal before re-starting.

The control cannot override the standard flame safety controls.

The boiler meets the requirements of the EC regulations and directives:

- 90/396/EEC Gas appliances directive
- 92/42/EEC Efficiency directive
- 73/23/EEC Electrical low voltage directive
- 89/336/EEC E.M.C. directive

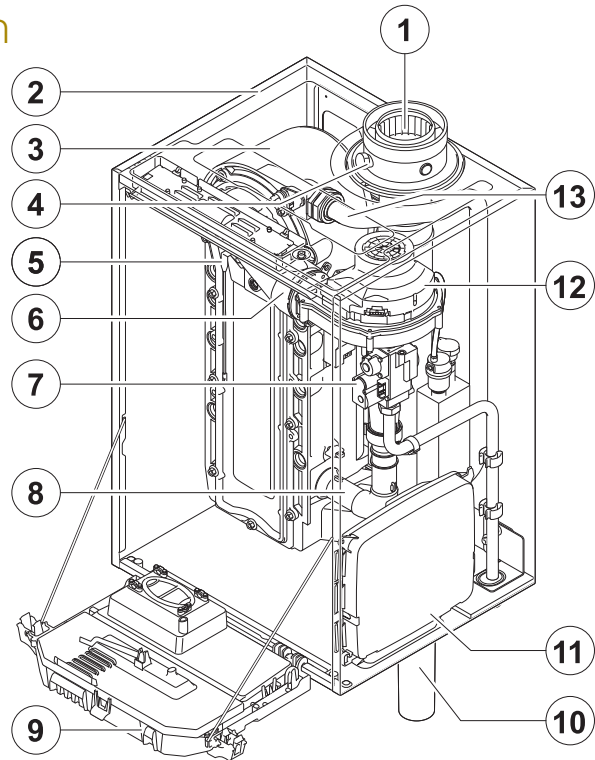
CE Certification



Remeha Quinta 30/45/65/90/115 - PIN: 0063CL3333

Typical boiler construction

1. Flue gas outlet / Air intake
2. Casing/air box
3. Heat exchanger (Central heating)
4. Outlet for measuring combustion gases
5. Ignition/ionization electrode
6. Mixer pipe
7. Combined venturi and gas valve unit
8. Air intake silencer
9. Instrument box
10. Siphon
11. Box for the control PCBs
12. Fan
13. Water flow pipe



Quinta Pro illustrated

Efficiency information

Annual efficiency

Up to 109% at Hi (98% at Hs) at an input of 30% and a return temperature of 30°C.

Heat to water efficiency

- a. Up to 99% at Hi (89% at Hs) at an average water temperature of 70°C (80/60°C) - Quinta Pro 30, 45 & 65.
- b. Up to 98% at Hi at an average water temperature of 70°C (80/60°C) - Quinta Pro 90 & 115.
- c. Up to 110% at Hi (99% at Hs) at an average water temperature of 35°C (40/30°C) - Quinta Pro 30, 45 & 65.
- d. Up to 106% at Hi at an average water temperature of 35°C (40/30°C) - Quinta Pro 90 & 115.

Note: NCV = Hi, GCV = Hs

Application information

The Quinta Pro Range can be used on all new and refurbishment projects in both single and multiple configurations. Conventional and room-sealed flue system capability means that the boiler can be sited almost anywhere within a building. The Remeha weather compensators (options) are able to communicate directly with the boiler controls (two wire) to make full use of its fully modulating feature, ensuring that the boiler closely matches the system demand at all times. External control systems (BMS) can be interfaced with the boiler to provide on/off or modulating (0-10v) control options.

The wall hung Quinta Pro from Remeha. More power in a smaller space.

Advantages at a glance

- High efficiency: 110% NCV at 40/30°C (99% GCV)
- Boiler control:
 - a) Modulating (18-100%)
 - b) On/off (18-100%)
- Premix burner for clean combustion
- Low NO_x < 25ppm (O₂=0%, dry)
- Quiet operation <52 dBA
- LED illuminated casing air box
- Digital display
- Data file for storing information
- Remote signalling options
- Cast aluminium heat exchanger
- Easy maintenance
- Built-in calorifier control
- Options for modular control and/or weather compensator
- Control 0-10V signal or volt free
- PC connection
- Advanced boiler control, for reliable heat delivery
- Conventional or "room-sealed" operation
- Cascade packages for up to 6 boilers
- Quick and easy installation
- Space saving
- For use with natural gas and L.P.G. (Some models require a conversion kit)
- Suitable for pressurised flue systems

Operating principle

Combustion air is drawn into the closed air box, by a variable speed fan, through the air inlet connection from the plant room (open flued) or from outside via the concentric flue system (room-sealed). On the inlet side of the fan is a specially designed venturi which is connected to the outlet side of the gas combi block.

Depending on the demand (under the dictates of flow/return sensor and other external/internal control inputs) the electronic control unit directly monitors the volume of gas and air being delivered to the premix burner. This mixture is initially ignited by the combined ignition/ionisation probe which then monitors the state of the flame. Should the flame not ignite or be unstable, within the pre-set safety time cycle, the controls will shut the boiler down (after 5 attempts) requiring manual intervention to reset the boiler. The digital display will also indicate a flashing fault code confirming the reason for the failure.

Dimensions

The complete range of Quinta Pro boilers have a compact design (h750 x w500 x d500) with 1 1/4" connections for heating flow and return and 3/4" gas connection.



Connection of the combustion gas exhaust pipe ;

Ø 80mm (≤ 45 kW)

Connection of the combustion gas exhaust pipe ;

Ø 100mm (≥ 65 kW)



Connection of the air intake pipe ; Ø 125 mm (≤ 45 kW)

Connection of the air intake pipe ; Ø 150 mm (≥ 65 kW)



Siphon connection bush



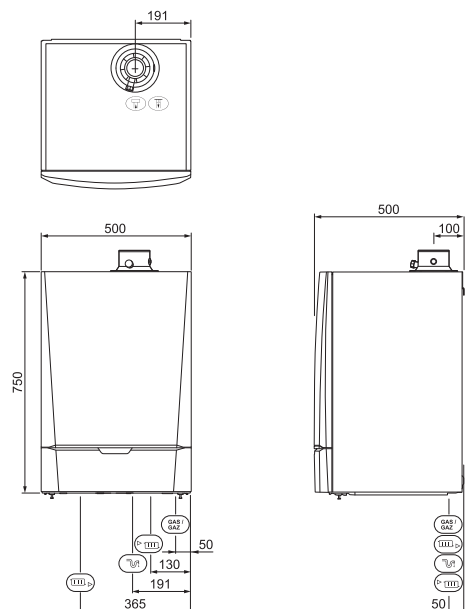
Heating circuit return ; 1 1/4" Male thread



Gas connection ; 3/4" Male thread



Heating circuit flow ; 1 1/4" Male thread



Technical data

BOILER TYPE	QUINTA PRO		30	45	65	90	115
GENERAL							
EC identification no.	PIN		0063CL3333				
Flow rate setting	Adjustable		Modulating, Start/Stop, 0 - 10 V				
Nominal output (Pn) Heating System (80/60°C)	Minimum maximum	kW	8.0-29.3	8.0-40.0	12.0-61.0	14.1-84.2	16.6-107
	Factory setting	kW	29.3	40.0	61.0	84.2	107.00
Nominal output (Pn) Heating System (50/30°C)	Minimum maximum	kW	8.9-31.4	8.9-43.0	13.3-65.0	15.8-89.5	18.4-114
	Factory setting	kW	31.4	43.0	65.0	89.5	114
Nominal input (Qn) Heating System (Hi)	Minimum maximum	kW	8.2-30.0	8.2-41.2	12.2-62.0	14.6-86.0	17.2-110.2
	Factory setting	kW	30.0	41.2	62.0	86.0	110.2
Nominal input (Qn) Heating System (Hs)	Minimum maximum	kW	9.1-33.3	9.1-45.7	13.6-68.8	16.2-95.5	19.1-122.4
	Factory setting	kW	33.3	45.7	68.8	95.5	122.4
Heating efficiency under full load (Hi) (80/60 °C)	-	%	97.5	97.2	98.3	97.9	96.6
Heating efficiency under full load (Hi) (50/30 °C)	-	%	102.9	102.9	104.6	104.1	102.5
Heating efficiency under partial load (Hi) (Return temperature 60°C)	-	%	97.5	97.5	98.3	96.6	96.5
Heating efficiency under partial load (EN 92/42) (Return temperature 30°C)	-	%	107.7	107.7	108.9	108.1	107.1
DATA ON THE GASES AND COMBUSTION GASES							
Device categories	-	-	II2H3P				
Gas inlet pressure G20 (Gas H)	Minimum maximum	mbar	17- 30				
Gas inlet pressure G31 (Propane)	Minimum maximum	mbar	37 - 50				
Gas consumption G20 (Gas H)	Minimum maximum	m3/h	0.9-3.3	0.9-4.4	1.3-6.6	1.5-9.1	1.8-11.7
Gas consumption G31 (Propane)	Minimum maximum	m3/h	0.3-1.3	0.3-1.7	0.5-2.5	0.6-3.5	0.6-4.7
NOx-Emission per year or (EN 483)	-	mg/kWh	<35	<37	<32	<39	<39
Mass flue gas flow rate	Minimum maximum	kg/h	14-50	14-69	21-104	28-138	36-178
Flue gas temperature	Minimum maximum	°C	30-65	30-67	30-68	30-67	30-72
Maximum counter pressure	-	Pa	70	150	100	160	220
CHARACTERISTICS OF THE HEATING CIRCUIT							
Water content	-	l	5.5	5.5	6.5	7.5	7.5
Water operating pressure	Minimum	bar	0.8				
Water operating pressure (Open vented)*	Minimum	bar	0.3	0.3	0.3	0.3	0.5
Water operating pressure (PMS)	Maximum	bar	4.0				
Water temperature	Maximum	°C	110				
Water temperature (Open vented)*	Maximum	°C	95				
Operating temperature	Maximum	°C	90				
Operating temperature (Open vented)*	Maximum	°C	80				
Water resistance (Δ = 20K)†	-	mbar	70	90	130	140	250
ELECTRICAL CHARACTERISTICS							
Power supply voltage	-	VAC/Hz	230/50				
Power consumption-Full load	Maximum	W	39	68	88	125	199
Power consumption -Part load	Maximum	W	18	18	23	20	45
Power consumption-Standby	Maximum	W	5	5	6	4	7
Electrical protection index	-	IP	X4D				
OTHER CHARACTERISTICS							
Weight (empty)	Total	kg	53	53	60	68	69
	Mounting(1)	kg	50	50	57	66	67
Acoustic level at 1 meter	-	dB(A)	38	45	45	52	51
(1) Front panel removed							

*Available on request, contact Remeha technical department.

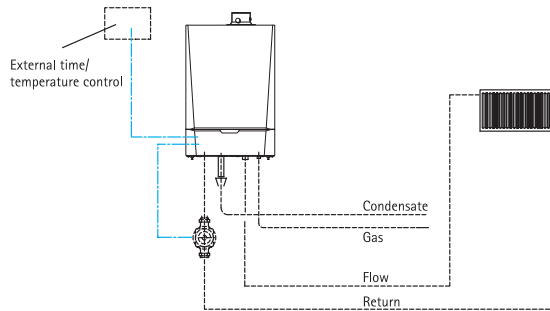
†Water resistance at 11 Δ = Mbar QP30 - 231, QP45 - 300, QP 65 - 430, QP90 - 460, QP115 - 826.

The products of combustion in the form of hot flue gases are forced through the heat exchanger, transferring their heat to the system water (the flue gas temperature is reduced to approximately 5°C above the temperature of the system return water) then discharged via the condensate collector, vertically through the 80/125 mm (Quinta Pro 30/45) or 100/150 mm (Quinta Pro 65/90/115) combined flue/air connection to atmosphere. Because of the low flue gas exit temperature there will be a vapour cloud formed at the flue gas terminal – this is not smoke, simply water vapour formed during the combustion process. If the controls allow the flow and therefore return temperature to fall below dew point (55°C) this water vapour will begin to condense out in the boiler transferring it's latent heat into the system water, increasing the output of the boiler without increasing gas consumption. Condensation formed within the boiler and flue system is discharged from the boiler to an external drain via the drain pan/siphon supplied.

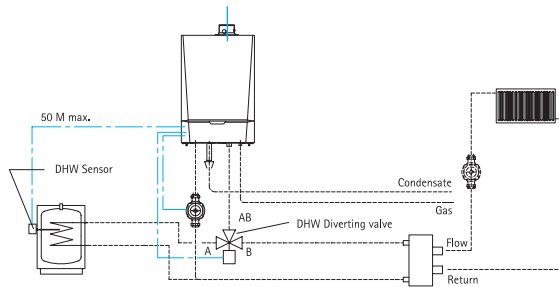
Typical installation

Showing Quinta Pro 45/65/90/115. Simple schematics below do not constitute system designs, please contact our technical department if you require any assistance.

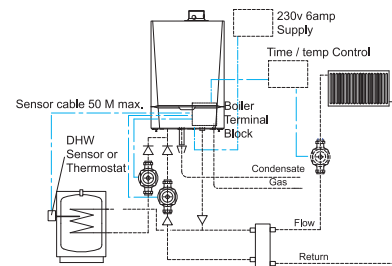
Single boiler



Single boiler with low loss header

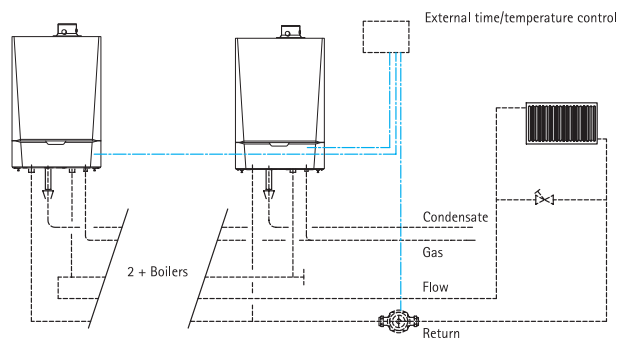


With DHW-Remeha priority
- Quinta Pro 30/45/65



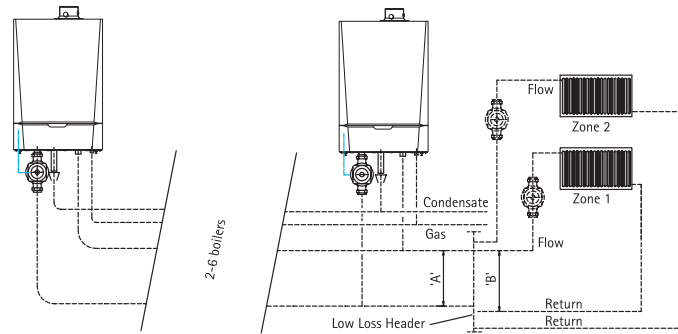
For Quinta Pro 90/115 use
a DHW primary pump

Multiboiler

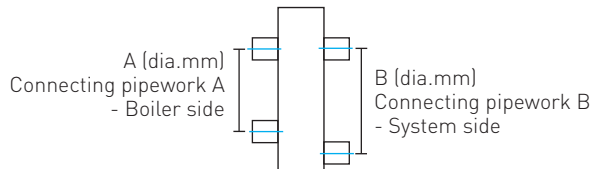


Multiboiler with low loss header

(open tube not supplied by Remeha)



Low loss header

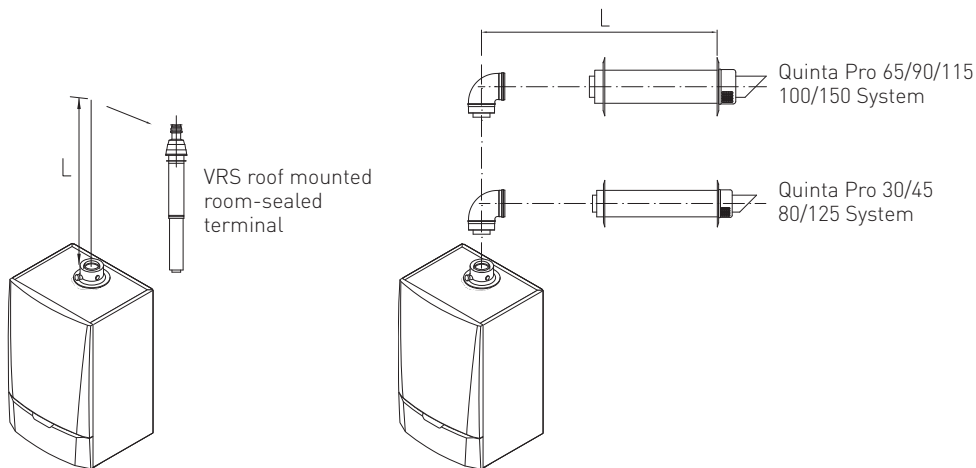


Based on 80°C/60°C Flow Boiler side 20°ΔT/System Side 11°ΔT	Quinta Pro 30/45					Quinta Pro 65/90					Quinta Pro 115				
No. of Boilers	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6
Low Loss Header Dia mm	100	125	150	150	200	150	200	225	250	250	150	200	250	250	300
Connecting Pipework "A" mm	42	42	50	50	50	50	65	80	80	100	50	65	80	100	100
Connecting Pipework "B" mm	50	50	65	80	80	65	80	100	125	125	80	100	125	125	125
Dimension "A" mm	300	375	450	450	600	450	600	675	750	750	450	600	750	750	900
Dimension "B" mm	350	425	500	500	650	500	650	725	800	800	500	650	800	800	950

Table above gives details for site fabricated low loss headers. Remeha can supply single, two, three and four boiler headers and up to six boilers when supplied with a cascade or skid. Please see our additional sales brochures.

Typical flue systems

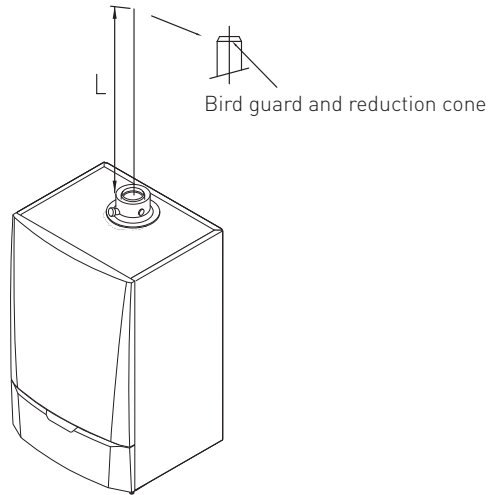
Concentric room-sealed applications



Calculation data – room-sealed applications

	Quinta Pro 30 80/125mm	Quinta Pro 45 80/125mm	Quinta Pro 65 100/150mm	Quinta Pro 90 100/150mm	Quinta Pro 115 100/150mm	
Max eq. Length	m	20	16	13	13	7
eq. Length bend 45°	m	1	1	1	1	1
eq. Length bend 90°	m	2	2	2	2	2

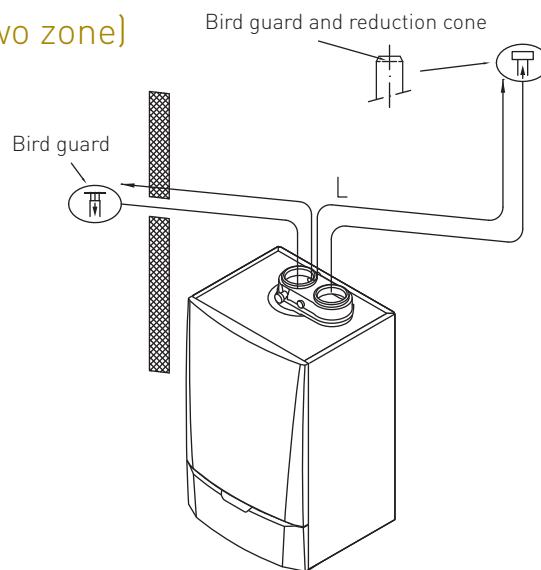
Conventional flue



Calculation data – conventional flue

		Quinta Pro 30 80mm	Quinta Pro 45 80mm	Quinta Pro 65 100mm	Quinta Pro 90 100mm	Quinta Pro 115 100mm
max eq. length	m	40	33	27	24	19
eq. length bend 45°	m	1.2	1.2	1.4	1.4	1.4
eq. length bend 90°	m	4	4	4.9	4.9	4.9

CLV system (twin pipe - two zone)



PLEASE NOTE: For calculation data in regards to CLV installations (different pressure zones) please contact our technical department - T: 0118 978 3434.

Electrical installation and controls

General

The Remeha Quinta Pro Range is supplied as standard with electronic control and flame ionisation safety controls, with a specially designed microprocessor at the heart of the control system.

Specifications

Electrical supply

The Remeha Quinta Pro Range must have a permanent 230V-50Hz single phase supply rated at 6.3 amps. The control unit is not phase/neutral sensitive.

Control box

- Manufacture: SIT
- Model: PCU S01
- Supply voltage: 230 V/50 Hz
- Electrical rating: 10 VA
- Pump run on (HTG): 1 - 98 minutes

Fuse specification

- The boiler is protected by fuses:
 - F1 rated at 6.3 amps (slow acting).
 - F2 230 volt, 2 amps (fast acting).
 - Fan 230v.

Boiler temperature control

The Remeha Quinta Pro Range has electronic temperature control with flow and return temperature sensors. The flow temperature can be adjusted between 20 and 90°C.

High limit temperature protection

The high limit, temperature protection device switches off and locks out the boiler when the flow temperature exceeds the high limit set point (set by boiler type). When the fault is corrected the boiler can be restarted by using the reset key on the control panel.

Low water protection (flow and content)

The Remeha Quinta Pro Range are supplied with a low water protection on the basis of a low water pressure switch and also by temperature measurement. By modulating back at the moment that the water flow threatens to fall too low, the boiler is kept operating for as long as possible.

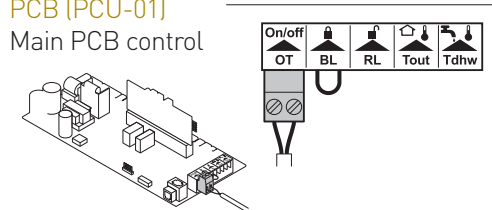
External connections

All external connections are made to any one of the standard supplied PCB's depending on the type of control and external components fitted.

Connecting a third party control unit

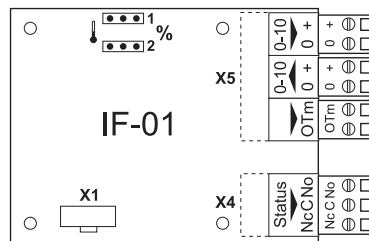
PCB (PCU-01)

Main PCB control

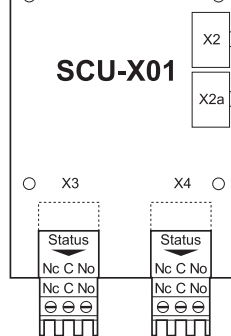


PCB (IF-01)

0-10v control



PCB (SCU-X01)

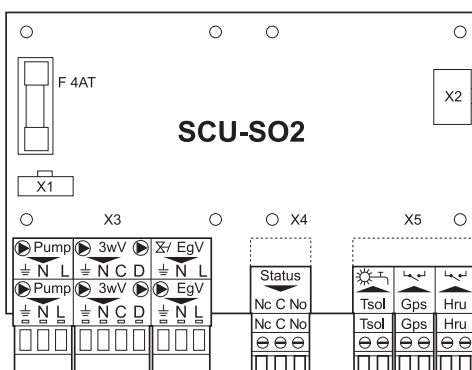


PCB (SCU-X01)

This has two volt free contacts, which can be set as required. Depending on the setting, a maximum of two messages about the status of the boiler can be transmitted.

PCB (SCU-S02)

For control of external central heating pump (Pump) and control of external three-way valve (3wV). Other features available.



Boiler control

The Remeha Quinta Pro Range can be controlled using a number of methods - examples of some are given below, please contact our technical or sales departments for further options.

Modulating (two wire control)

When using the optional Remeha compensating controllers the heat output modulates between the minimum and maximum value on the basis of the boiler flow temperature sensor. This applies to both single and multiple boiler installations, under the dictates of a room and/or outside temperature sensor.

iSense - The iSense is a high quality thermostat /controller with revolutionary intuitive controls. The iSense combines ease of use with an extensive range of options.

Remeha MC4 - In conjunction with the iSense controller can provide step control for multi boiler installation of up to four boilers.

Analogue control (0-10 volt d.c.)

The heat output modulates between the minimum and the maximum values on the basis of the voltage supplied by an external analogue (0-10V) input.

Analogue temperature-based control


The 0-10 V signal controls the boiler flow temperature between 0°C and 100°C. This control modulates on the basis of flow temperature, whereby the heat output varies between the minimum and maximum values on the basis of the flow temperature set point calculated by the controller.

A jumper (2) on the interface is used to select either temperature control or heat output control (%).

Analogue heat output-based control (%)

The 0-10V signal controls the boiler output between 0% and 100%.

The minimum and maximum values are limited. The minimum output is linked to the boiler's modulation depth. The output varies between the minimum and maximum value on the basis of the value determined by the controller.

Jumper 2	Input signal (V)	Temperature À	Description
	0-1.5	0-15	Boiler off
	1.5-1.8	15-18	Hysteresis
	1.8-10	18-100	Temp required

Jumper 2	Input signal (V)	Heat output (%)	Description
%	0-2.0 ⁽¹⁾	0-20	Boiler off
	2.0-2.2 ⁽¹⁾	20-22	Hysteresis
	2.0-10 ⁽¹⁾	20-100	Heat output requested

(1) Dependent on the minimum modulation depth (set speeds, standard 20%)

Priority DHW control

Temperature control

With a Remeha temperature sensor or with a standard (volt free) DHW thermostat.
Note: will only provide a setting plus read out facility with the sensor option.

Primary flow control:

- With a three-way diverting valve. (Not Q90/115)
- With a DHW pump.
- Untimed (available 24 hours a day).

System/shunt pump

A shunt pump can be connected to the boiler (maximum input 200w). If the pump requires more than this, terminals can only be used to switch a pump relay. The pump should be fitted on the heating return connection and be as close to the boiler as possible. A system pump can also be connected to the boiler via PCB SCU-S02 (maximum 400VA).

System water

Before operation the system should be cleaned and flushed (according to BS 7593 (2006)), and filled with mains cold water. Suitable chemicals and their use should be discussed with specialist water treatment companies in respect to aluminium heat exchangers. For further information a special document "Remeha Water Quality Regulations" is available from Remeha, the regulations in the document must be followed - www.remeha.co.uk

Frost protection

Install the boiler in a frost-free room. The built-in frost protection system is activated as follows: Below 7°C - system pump is switched on if connected to boiler. Below 3°C - boiler is switched on, when the flow temp reaches 10°C the boiler and pump switch off.

Note: This control is designed to protect the boiler - for full system protection use a frost thermostat or a weather compensator.

Remote alarm and boiler run indication

As standard the boiler is supplied with 2 x volt free indicators - Common alarm signal and boiler run signal. Maximum 230 volts, 1amp capacity each via PCB SCUX01.

Safety interlocks

As standard the boiler is supplied with shutdown (BL) and release (RL) inputs via the main PCB control.



TreadLightly

ON THE PLANET



The data published in this technical sales leaflet is based on the latest information (at date of publication) and may be subject to revisions. It should be read in conjunction with our full technical brochure (available on request). We reserve the right to continuous development in both design and manufacture, therefore any changes to the technology employed may not be retrospective, nor may we be obliged to adjust earlier supplies accordingly. Issue 2 date: 01/11/2010



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Remeha is committed to carbon offsetting