



**OR broag - remeha**



*Advanced boiler technology*

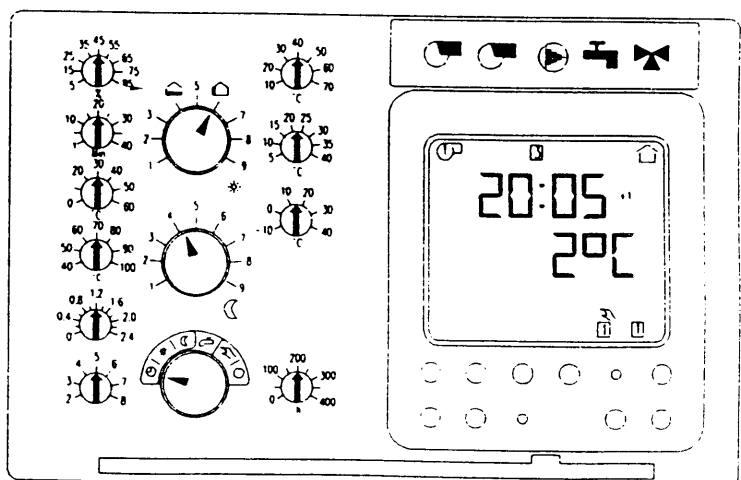
# REMATIC WEATHER COMPENSATORS

## Technical Information

*Energy  
Efficiency*

### 2935 Series Controllers

Models: WK14PP Master Controller  
FR58P Slave Controller



- **Brief overview of controller functions**

The 2935 series weather compensator is the latest in control technology which will guarantee optimal comfort levels with minimal energy consumption. The controller is very simple to use, in spite of many technical capabilities.

There are two models available in the 2935 series; the first is the WK14PP master controller which will control up to four stages (2 boilers high/low). The FR slave controller can be added to work in conjunction with the master to control up to an additional four steps (4 boilers high/low).

The W40/60 range of boilers has the controller factory fitted into a wiring module which interfaces the sensor and mains voltage connections. Wiring details can be found on pages 8 and 9 of the W40/60 supplementary information booklet.

Two sensors are supplied as standard; the ZAF 200 outside sensor which should be located on a north facing wall and the ZVF 210 strap on sensor which should be installed on the flow pipework of the heating circuit to be compensated.

The master controller is supplied with a comprehensive ZUD 132 digital 7 day time clock which is capable of displaying the active functions of the heating circuit as well as giving the measured temperatures of the connected sensors.

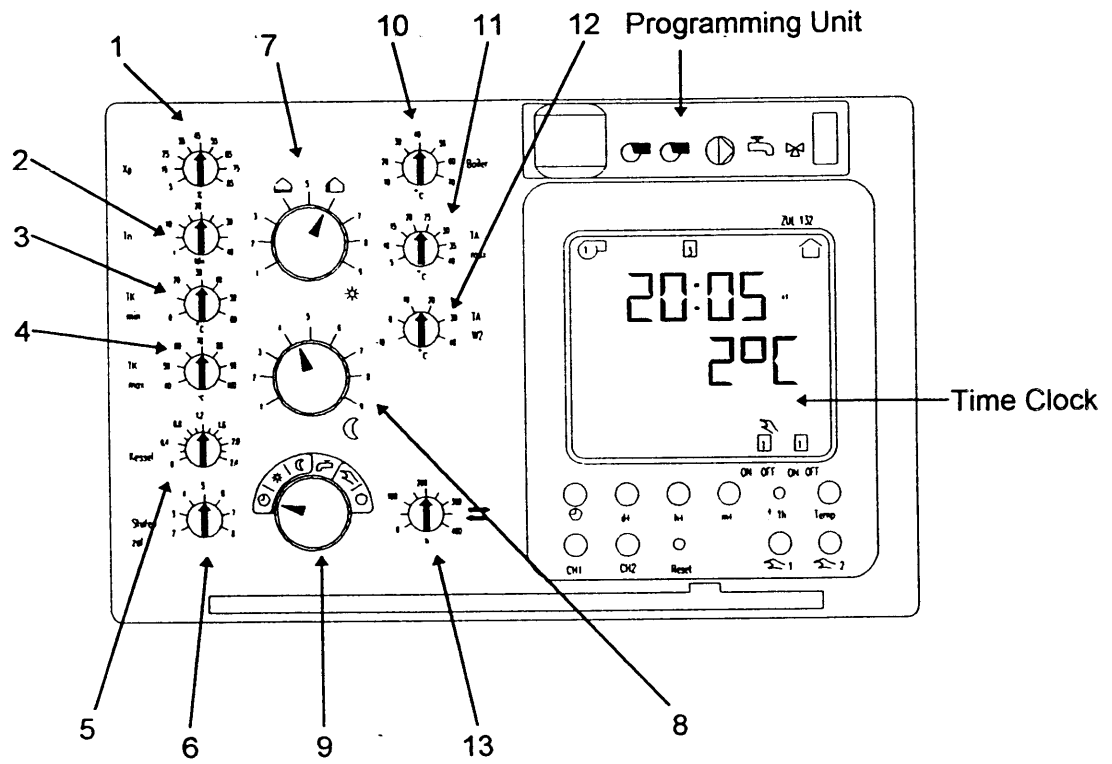
The time clock has an 8 hour battery backup facility when fully charged. To fully charge the battery ensure a 24 hour uninterrupted supply to the unit. The rematic controller is fitted with a two channel time clock, however, heating times should only be entered into channel one.

The night set back function is factory set to the off position. If you require this function to be permanently active; remove the programming unit which is located on the top right hand side of the controller and move the dip switch S2 to the on position, replace the programming unit.

The master controller has an automatic frost protection which will be activated at 2°C and will switch on the boiler and heating pumps. The boiler will operate to give an approximate flow temperature of 30°C. These conditions will remain active until the outside temperature rises above 4°C or the time clock switches to an on period.

• Rematic WK14PP Weather Compensator





Fig. 1




Please refer to Fig.2 and Fig.3 for settings

## COMPENSATOR ADJUSTMENTS

NO.	LABEL	DETAIL
1.	Xp	Marked in percentage terms controls the speed of reaction between stages, the lower the percentage the faster the function or settings (25% for one boiler plus 10% per stage for each additional boiler).
2.	Tn	Time in minutes for calculated inside temperature to be achieved (standard setting 20 minutes).
3.	TK min	This is the minimum flow temperature from the boiler. Used to prevent the compensator depressing flow temperature below a set level (can be useful when used for fan convection circuits that require a minimum flow temperature or to provide back end protection for the boiler).
4.	TK max	Set point for flow temperature at design conditions (i.e. 81° flow at -2°C outside).
5.	Kessel	Compensation slope with a base of 30° flow at 15° outside temperature, (setting 5 on control 7) slope to be selected to suit normal winter conditions and system type i.e. radiators/under floor system.
6.	Stufen zahl	Number of stages in operation (i.e. single boiler high/low operation equals 2 stages).
7.	✱	This adjusts the compensation slope in parallel. Raising or lowering the base design set point (30° flow @ 15°C outside).
8.	☾	This control when enabled depresses the calculated inside temperature by one degree per unit (i.e. 5 = 5° below set point). When time clock is in the off position night set back can be enabled to provide depressed flow temperature during off time cycle. To enable night set back dip switch S2 on the programming unit must be set to the on position.
9.	Selector Switch  🕒  ✱  ☾	In a clockwise direction control provides:  <i>Timed compensation</i> - During timed on period control will provide weather compensated flow from boiler and during timed off period will provide night set back conditions if enabled.  <i>Day compensated</i> - <b>This will provide 24 hours a day weather compensated flow from the boiler .</b>  <i>Night set back</i> - <b>This will provide 24 hours a day night set back conditions.</b>

9. Cont.		<i>DHW -</i>	This will provide continuous domestic hot water primary pump under the dictates of the ZTF 222 sensor (this function will not operate unless the correct sensor is wired to the module).
		<i>Hand -</i>	Overrides all time temperature controls – (Off) in this position unit provides frost control only.
		<i>Off -</i>	<i>All functions are off except frost protection.</i>
10.	Boiler	The boiler domestic hot water temperature set point.	
11.	TA max	Set outside temperature at which the heating control will be held off if being called for by the time cycle.	
12	TA W2	Set outside temperature at which the 2 <sup>nd</sup> half of the cascade steps will be held off during the heating timed on cycle (i.e. 4 stage controls, stages 3 + 4 would be held off)	
13.	Lead Lag 	Set number of hours between changeover times (i.e. stages 1/2 – 3/4 will changeover to 3/4 – 1/2).	

#### PROGRAMMING UNIT DIP SWITCH SETTINGS

S2	Off	No night set back
	On	Night set back enabled
S3	On	When channel 2 calls for DHW if channel 1 is also calling heating pump will be disabled until domestic hot water is satisfied.
	off 	Both heating and hot water pumps will run in parallel.
S4	On	Domestic hot water 24 hours a day
	Off	Domestic hot water timed on channel 2.
S5	Off	Allows all stages to provide domestic hot water
	On	Holds the boiler to low fire only or 50% of available stages.

**NOTE** Dip switches are factory set to the off position.

Changing settings on compensating controls do not always provide an instant response, they require a short time to re-set the parameters required. We would recommend only 1 setting at a time to be changed and an accurate record of settings and changes with corresponding results to be maintained. failure to do so can produce confusing information

See compensator curve (Fig. 12) for setting slope and parallel shift.

- Chart for radiator heating circuits

(82 °C Boiler flow temperature @ -2°C outside temperature).

Fig. 2

Adjuster	Description	1Boiler Hi/Lo	2 Boilers Hi/Lo	3 Boilers Hi/Lo	4 Boilers Hi/lo
	WK14PP	1 Master Controller		1Master Controller	
	FR58P			1Slave Controller	
1	Xp (Adjusts speed of various stages)	15-20	30-35	45-60	60-80
2	Tn (Tme of last stage to achieve set point)	10-15		25-30	
3	TK Min (Boiler min temp °C)	0°C (W40/60 boilers only)			
4	TK Max (Max flow temp °C)	90			
5	Kessel (Heating Curve parallel shift)	2.4			
6	Stufen Zal (Number of stages)	2	4	6	8
7	Heating Curve (Slope adjustment of heating curve)	7			
8	Night Set back (Factory set to off)	*1 **1-9			
9	Selector Switch (Operates according to clock settings)	⊙			
10	Boiler (Not used)	10			
11	TA Max (Summer/Winter switch °C)	18-20			
12	TA W2 (Limits stages according to outside temp °C)	10-12			
13	Lead/Lag (Changeover time in hours)	200-300			


\* No night setback required

\*\* User defined night setback

- Chart for Underfloor Heating Circuits

(55°C Boiler flow temperature @ -2°C outside temperature).

Fig. 3

Adjuster	Description	1Boiler Hi/Lo	2 Boilers Hi/Lo	3 Boilers Hi/Lo	4 Boilers Hi/lo
	WK14PP	1 Master Controller		1Master Controller	
	FR58P			1Slave Controller	
1	Xp (Adjusts speed of various stages)	15-20	25-35	35-45	45-65
2	Tn (Adjusts time of last stage to achieve setpoint )	10-15		20-30	
3	TK Min (Boiler min temp °C)	0°C (W40/60 boilers only)			
4	TK Max (Max flow temp °C)	60			
5	Kessel (Heating Curve parallel shift)	2.0			
6	Stufen Zal (Number of stages)	2	4	6	8
7	Heating Curve (Slope adjustment of heating curve)	4			
8	Night Set back (Factory set to off)	* 1 ** 1-9			
9	Selector Switch (Operates according to clock settings)				
10	Boiler (Not used)	10			
11	TA Max (Summer/Winter switch °C)	18-20			
12	TA W2 (Limits stages according to outside temp °C)	10-12			
13	Lead/Lag (Changeover time in hours)	200-300			

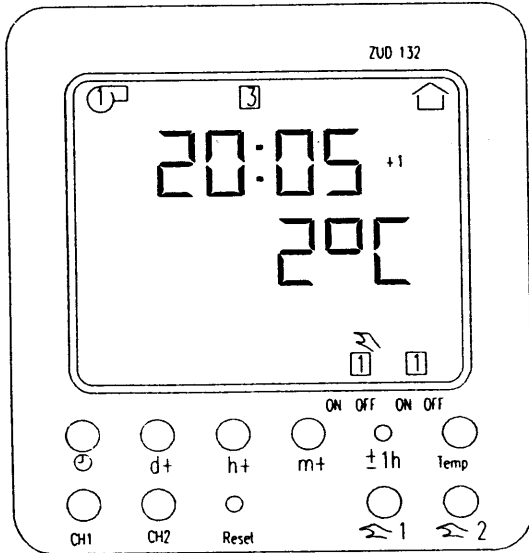
\* No night setback required

\*\* User defined night setback



- Time Clock Settings

Fig. 4



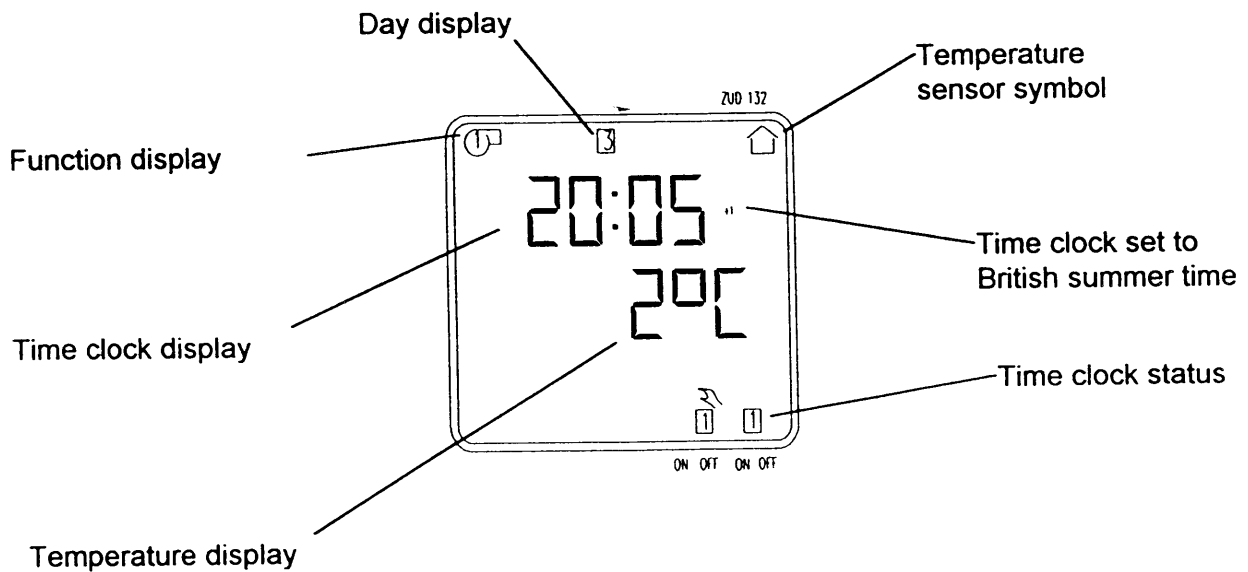
Setting clock, day and time

1. Press reset to clear any previously stored times.
2. Press and hold the time clock symbol whilst making day and time adjustments.
3. Press *d+* until the correct day(s) is showing.
4. Press *h+* and *m+* until the correct times are shown.
5. Release time clock symbol.
6. Press the time clock symbol once to return to the normal status condition of the clock.

- Summer/Winter time changes

When setting the time clock always ensure that the winter time is set first; then if required press the *+/-1h* button to advance the clock by one hour to British summer time, pressing the *+/-1h* button again will return the clock to winter time clock settings.

Fig. 5



- Temperature displays

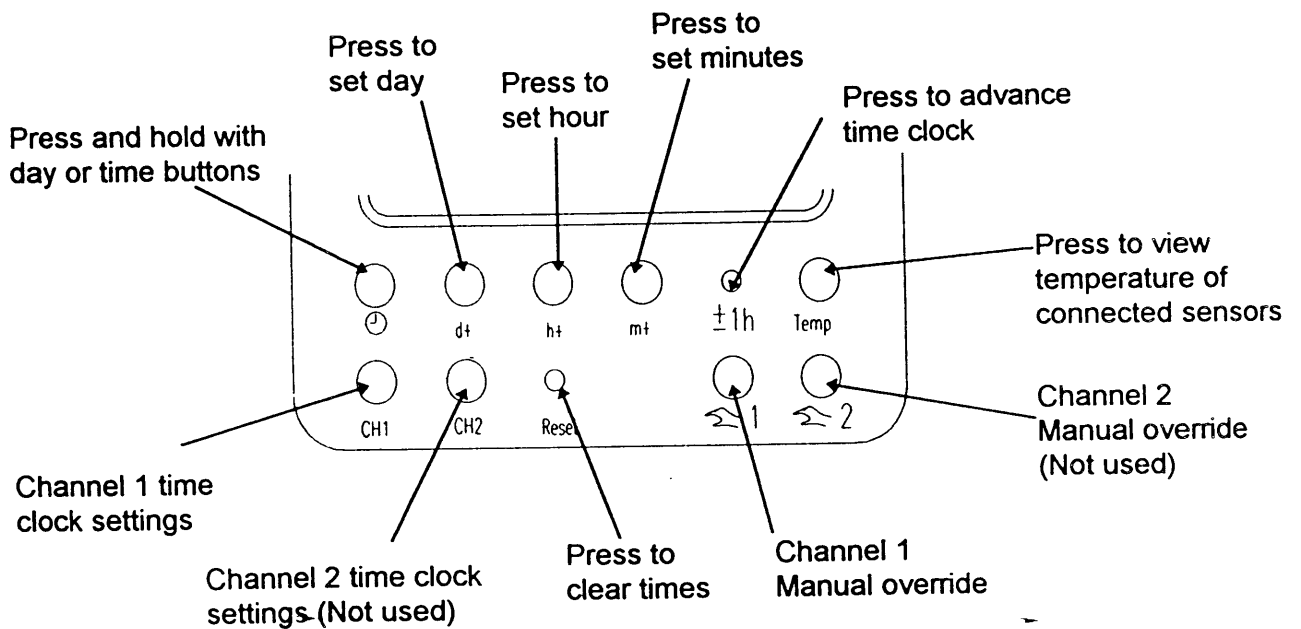
All measured temperatures can be read on the time clock display by successively pressing the *Temp* key.

- Time clock factory settings

The following switching programmes are factory set into the time clock

- |                      |            |              |
|----------------------|------------|--------------|
| 1. Monday - Friday   | ON 6.00 am | OFF 22.00 pm |
| 2. Saturday - Sunday | ON 7.00 am | OFF 23.00 pm |

Fig. 6





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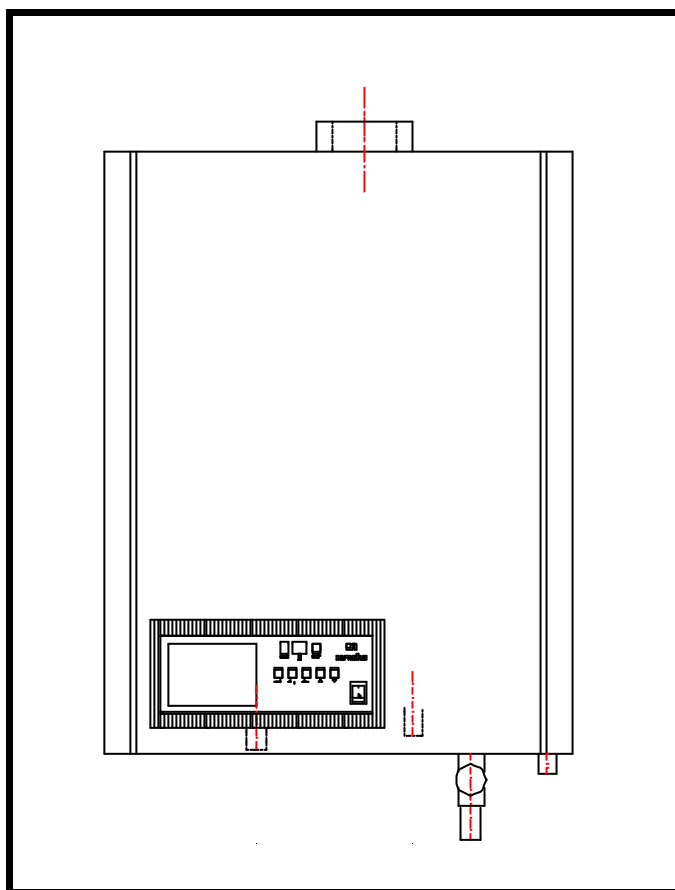
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# Supplementary Information

Control Options and System Schematics



remeha W40 / 60 m



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## Typical Hydraulic Layouts (Single boiler installations)

The W40/60m series of boilers are supplied c/w a shunt circulation pump and low loss header, the supplied header MUST only be used on single boiler installations. Multiple units use a common header. The pump is controlled by the boiler and provides nominal flow rate and run on timing independent of the main system controls.

### Heating Only (Fig. 1)

Simple schematic showing the low loss header in circuit.  
Connections to the system are made directly to the low loss header as shown.  
Boiler and shunt circuit resistance can be ignored when calculating the main system pump duty.

### Heating and DHW using the Broag priority system with diverting valve option (Fig. 2)(with or without the Rematic WK14 installed)

The boilers have a built in control package to provide DHW primary flow at elevated temperatures which overrides the heating flow temperature from internal (WK14) or external control.

This option can only be used in conjunction with the Broag three port diverting valve, Broag DHW sensor and HR series high recovery calorifier sited within 3M of the boiler and is not time controlled, DHW is available 24 hours a day.

### Heating and DHW using the Broag priority system with primary pump option (Fig. 3) (with or without the Rematic WK14m installed)

This option enables the Broag HR calorifier to be sited more than 3M from the boiler or the use of non Broag calorifiers (with a higher resistance primary coil etc).

Using the Broag priority control the boiler provides a switch signal (taken from the No.1 Europlug connection on the control panel) under the dictates of a Broag DHW sensor to control the DHW primary pump (not Broag supply) with DHW available 24hrs/day.

## Typical Hydraulic Layouts (Multi-boiler installations)

The W40/60m series of boilers when used in a modular format MUST be installed using a common low loss header (not Broag supply). The individual primary pumps will be controlled by the boiler and provide nominal flow rate and run on timing independent of the main system controls.

### Heating Only (Fig. 4)

Simple schematic showing the common low loss header in the system, boiler and primary circuit resistance can be ignored when calculating the main system pump.

### Heating and Broag Priority DHW (Fig. 5)

Simple schematic showing the position of the diverting valve or primary pump when using the boiler's DHW priority control option.

### Heating and DHW Controlled by WK14 Controller (Fig 11)

Simple schematic showing the common low loss header and the position of the Htg and DHW pumps in the system.

For single boiler option use the low loss header supplier by Broag in place of the common header, provide a branch tapping on the to create two flows.

## Mains Fill Kits (Fig. 2B)

Kits are available to mains pressurise the heating system and come complete with an expansion vessel sized to suit the kW rating of each boiler size and must be installed as shown.

If the kit is being used on an older heating system with a large distribution pipework layout it may be necessary to check the total volume of the system to ensure that the expansion vessel will be large enough.

## DHW Un Vented Kits (Fig. 2A)

Kits are available to mains pressurise the DHW system. The standard kit for each model of the HR series comes complete with an expansion vessel sized to suit the kW rating of the calorifier. They must be used in conjunction with an HR Series or other suitable calorifier designed for pressurised operation and installed as shown.

If the un vented kit is being used on an older DHW system with a large distribution pipework layout it may be necessary to check the total volume of the system to ensure that the expansion vessel will be large enough.

## Domestic Hot Water Priority Option

The W series of boilers are packaged as standard with the option to override control over the flow temperature when in the DHW mode and provide boosted flow temperature water (up to 90 C) to the DHW primary circuit. This will provide a supply of DHW 24 hrs a day, 7 days a week independent of the heating demand.

This is achieved with the use of a 3 way diverting valve or a separate DHW primary pump, both of which are controlled directly by the boiler under the dictates of either a Broag sensor (Part No 43946) which is the preferred option, or a thermostat both of which must be installed in the calorifier by others on site.

The recommended valve is the Honeywell V4044C1494 which is to be installed between the boiler and the low loss header (either single or common) and connected as follows :

- 1 Port AB Common (Boiler Flow)
- 2 Port A DHW Primary Flow (To Calorifier)
- 3 Port B HTG Flow (To header)

When using the diverting valve option, to ensure that the pump supplied with the boiler is able to provide primary circulation to the calorifier, it is recommended that the Broag HR Series of Calorifiers are used and sited less than 3M from the boiler.

If this design is not possible then the separate DHW pump option (see fig.5) should be used and the DHW pump sized to suit the design conditions.

The priority DHW option control logic is as follows :

- ◆ DHW sensor or thermostat calls for heat
- ◆ Boiler signals 3 port valve to divert to port A, or If set to pump option (see page 13 of the Installation booklet - section 6.4.3 "Code J.") the boiler switches off the boiler pump and switches on the DHW pump
- ◆ Boiler flow temperature is boosted to 90 C
- ◆ DHW sensor or thermostat is satisfied
- ◆ Boiler switches off (boosted temp is dissipated through the low loss header)
- ◆ 3 port valve returns to port B (spring return), or DHW pump switched off and boiler pump switched back on
- ◆ Boiler remains off if no HTG demand. If there is a HTG demand the boiler switches back on and runs up to heating demand temperature (compensated or fixed temp dependant on boiler control setting)

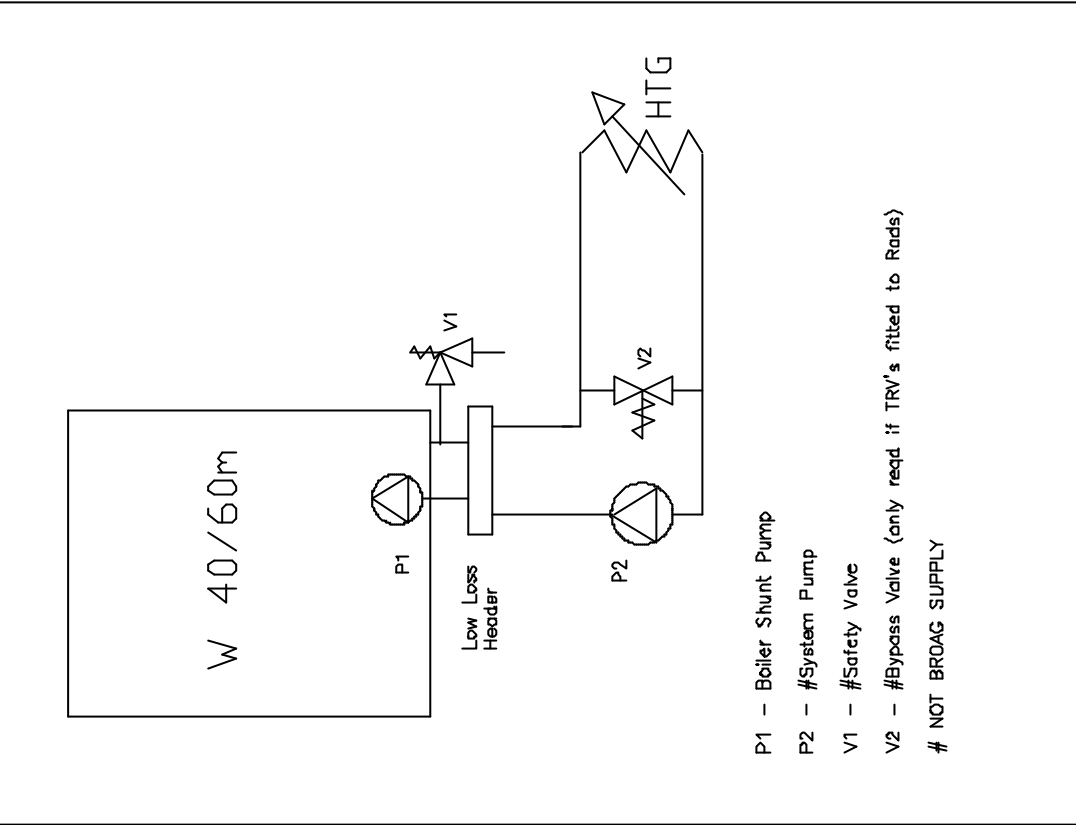
## Domestic Hot Water control using the Rematic Wk14 Unit

This option provides both temperature and time control (using channel 2 on the time clock) over the DHW under the dictates of the Rematic controller. Control No 10 (Boiler) should be set to the DHW temp required and a ZTF 222 sensor part No 801501 be installed in the calorifier.

On demand the control will boost the flow temperature to the setting on control knob No 4 (TK Max) turn the heating pump off (if dip switch No S3 is set to on) and turn on the DHW pump.

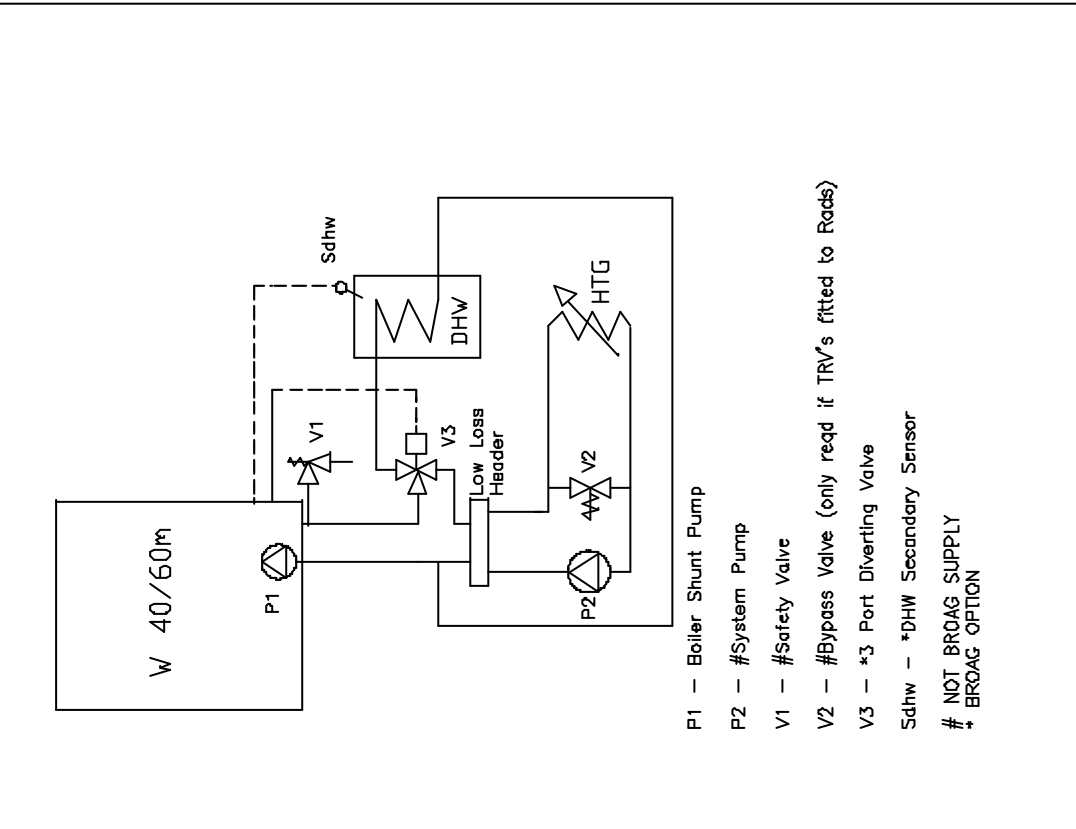
When DHW is satisfied the control will revert to heating mode at the pre-determined flow temp dependant on the weather conditions and compensator settings.

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Name	Quantity	Qty/Name, subpart, unit, make, dimension etc.	Ref No./Reference
Drawn by	Checked by	Approved by - date	Date
<b>BROAG Ltd</b>			
<b>REMEHA House</b>			
Molly millars Lane			
Wokingham			
Berkshire RG41 2QP			
Fig 1		#HTG	
SIMPLE HYDRAULIC SCHEMATIC--SINGLE BOILER--HEATING ONLY		#HTG	

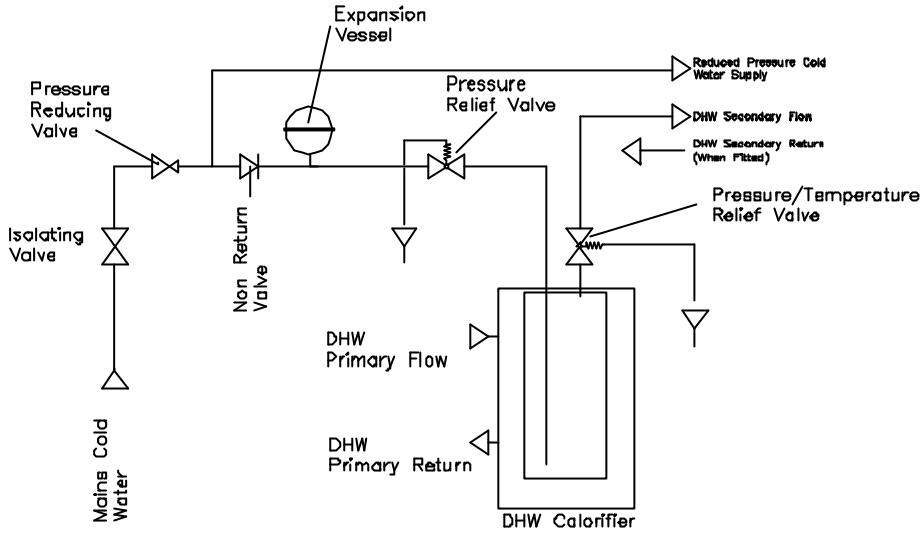
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Name	Quantity	Qty/Name, subpart, unit, make, dimension etc.	Ref No./Reference
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<b>BROAG Ltd</b>			
<b>REMEHA House</b>			
Molly millars Lane			
Wokingham			
Berkshire RG41 2QP			
Fig 2		#HTG	
SIMPLE HYDRAULIC SCHEMATIC--SINGLE BOILER--HEATING AND DHW(Diverting Valve)		#HTG	



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**Un-Vented Kit Components**

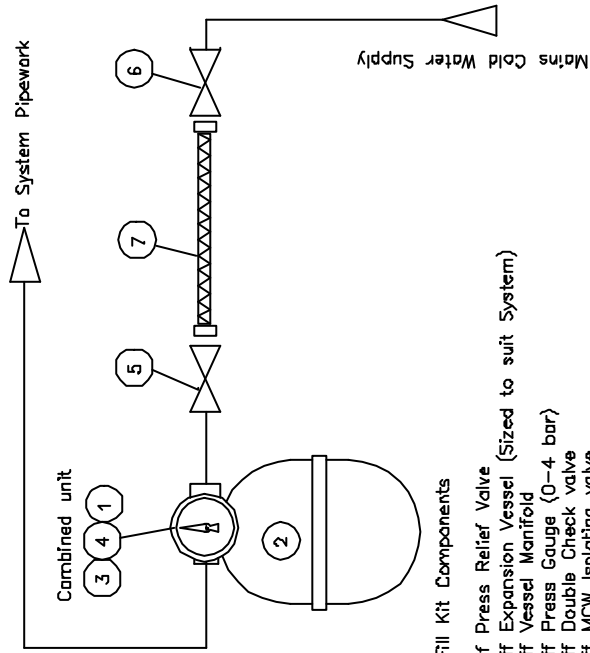
- 1 off Temp and Press Relief Valve
  - 1 off Press Relief Valve
  - 2 off Tundishes
  - 1 off Expansion Vessel (Sized for System Rating)
  - 1 off Non Return Valve
  - 1 off Press Reducing Valve
- Pipework and other valves etc not Broag Supply

Described by	Checked by	Approved by - date	Scale
Quantity	Approved by - date	Scale	Scale
<b>Broag Ltd</b> REMEHA House Moly millars Lane Wokingham Berkshire RG41 2QP		<b>Standard DHW Un-Vented Kit Layout</b> Drawing number <b>Fig 2A</b>	

File location: c:\programdata\broag\dep\W4000m\Fig2A

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**NOTE:**  
 Safety Valve if supplied separately to be fitted into system flow pipework as close as possible to the boiler with no isolating device between it and the boiler.  
 Valve should be discharged to ground level.



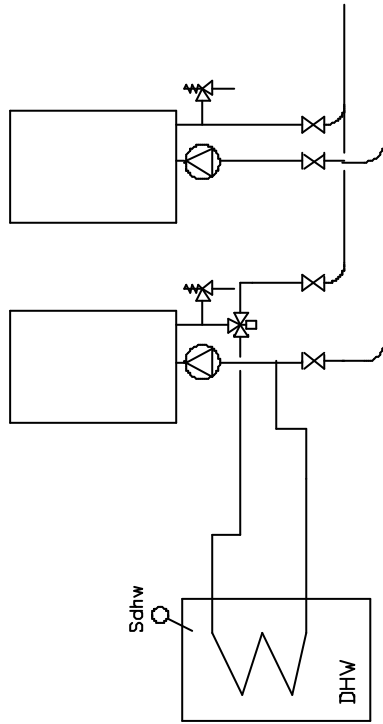
**Mains Fill Kit Components**

- 1. 1 off Press Relief Valve
  - 2. 1 off Expansion Vessel (Sized to suit System)
  - 3. 1 off Vessel Manifold
  - 4. 1 off Press Gauge (0-4 bar)
  - 5. 1 off Double Check valve
  - 6. 1 off MCW Isolating valve
  - 7. 1 off Flexible Hose c/w Blanking Caps
- Note: After pressurising the system to the correct pressure the flexible connection must be disconnected.

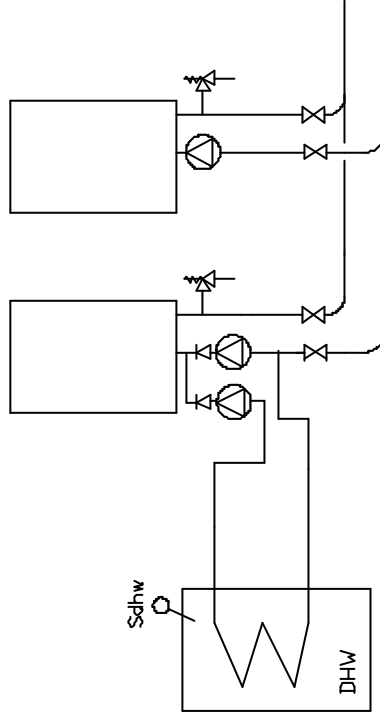
Described by	Checked by	Approved by - date	Scale
Quantity	Approved by - date	Scale	Scale
<b>Broag Ltd</b> REMEHA House Moly millars Lane Wokingham Berkshire RG41 2QP		<b>Standard W Series Mains Fill Kit</b> Drawing number <b>Fig 2B</b>	

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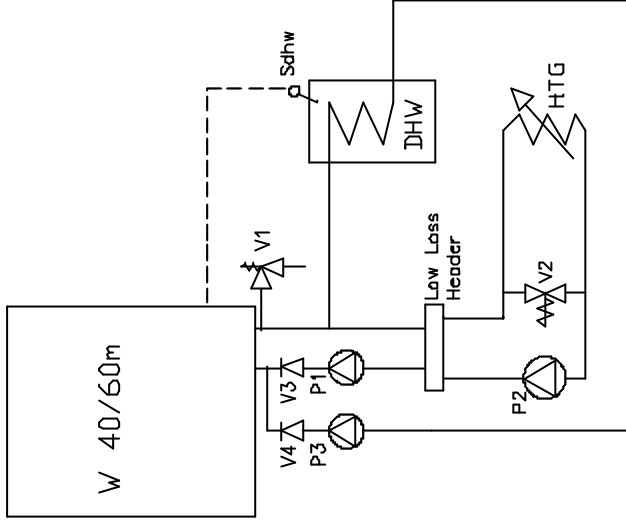
USING THE DIVERTING VALVE OPTION



USING THE PRIMARY PUMP OPTION

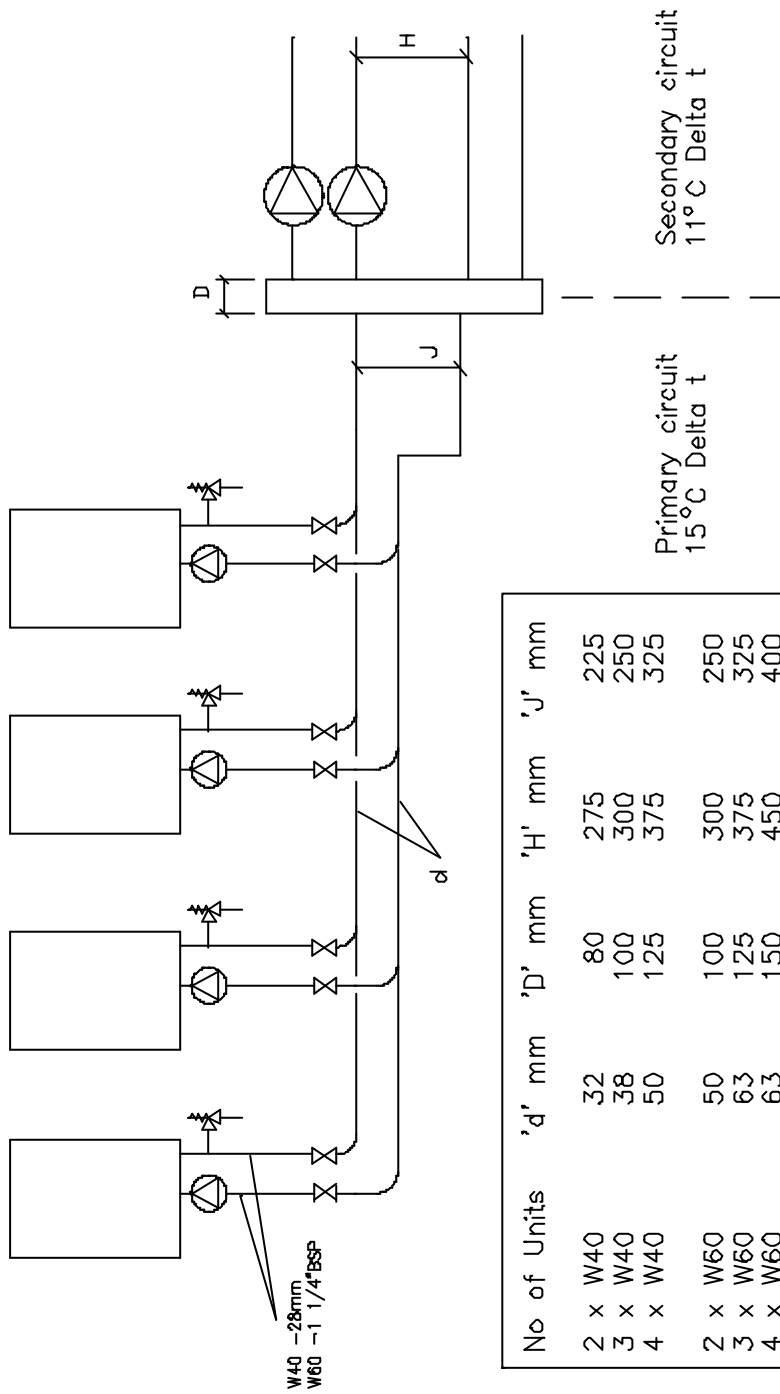
Rev/No	Revision note	Date	Signature	Checked
Client	BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP	Drawn by	Checked by	Approved by - date
Project	REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP	Drawn by	Checked by	Approved by - date
Sheet	Fig 5	Sheet	Sheet	Sheet

Rev/No	Revision note	Date	Signature	Checked
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- P1 - Boiler Shunt Pump (Repositioned on the W40 to allow NRV to be fitted)
- P2 - #System Pump
- P3 - #DHW Primary Pump
- V1 - #Safety Valve
- V2 - #Bypass Valve (only reqd if TRV's fitted to Rads)
- V3/4 - #Non Return Valves
- Sdhw - \*DHW Secondary Sensor
- ≠ NOT BROAG SUPPLY
- \* BROAG OPTION

Rev/No	Revision note	Date	Signature	Checked
Client	BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP	Drawn by	Checked by	Approved by - date
Project	REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP	Drawn by	Checked by	Approved by - date
Sheet	Fig 3	Sheet	Sheet	Sheet



No of Units	'd' mm	'D' mm	'H' mm	'J' mm
2 x W40	32	80	275	225
3 x W40	38	100	300	250
4 x W40	50	125	375	325
2 x W60	50	100	300	250
3 x W60	63	125	375	325
4 x W60	63	150	450	400

Item no	Quantity	Title/Name, designation, material, dimensions etc			Article No./Reference		
Designed by	Checked by	Approved by - date		Fluorena	Date	Scale	
Owner BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP		Title/Name SIMPLE HAUDRAULIC SCHEMATIC-MULTIPLE BOILER- HEATING ONLY				Drawing number Fig 4	Edition Sheet

File location: C:\GeneralData\Autocad\Broag\Dtp\W4060m\Fig4

## Electrical Supply & EXTERNAL CONTROLS (Fig. 6)

A permanent 230 volt single phase supply rated at 4 amps is required to power the boiler and its ancillaries. This supply is connected to the 3 core flying lead supplied and plugged into socket No 3. Interruption to this supply for control purposes will prevent some of the boiler's protection features and cause a Lock Out condition which will need to be re-set manually at the control panel.

All external time and temperature control functions should be connected to the boiler using the 16 way terminal strip located on the top right hand side of the main control panel (accessed from inside the front casing ).

This terminal strip is low voltage and should mains voltage be applied to any of the terminals permanent damage will occur to the boiler's control system.

## External Interlocks (Fig. 7)

If an external interlock is required to monitor the operation of a pressure set, flue fan etc. and in the event of the failure of the monitored item shut the boiler down in a lock out condition, remove link 1/2 and connect an interlock across 1/2 as shown.

## Internal Controls

### REMATIC Weather Compensator (Fig. 8)

The Rematic WK14 ® Compensator is the latest in control technology which guarantees comfort heating levels with minimum energy consumption. The WK14 offers full weather compensation using a flow sensor in conjunction with an outside sensor to calculate the optimum flow temperature required to maintain design conditions within the building.

Other facilities include:

- ⇒ Night set back (Factory set to off)
- ⇒ Frost protection
- ⇒ Compensation ramp adjustment
- ⇒ Flow/Outside/DHW temperature display (only if relevant sensors are attached)
- ⇒ Heating system pump time control on channel No. 1
- ⇒ DHW time control on DHW pump, using separate time channel No. 2
- ⇒ 8 hour battery back up.

When installing multiple units for high/low operation a slave controller is required for boilers 3 & 4. The master control under the dictates of its time clock, outside and flow sensor will directly compensate and sequence all boilers. If required the lead/lag can be reversed after an adjustable period of run time.

DHW time and temperature can also be controlled by the Rematic unit (channel 2) which provides a switch signal for the DHW primary pump operation.

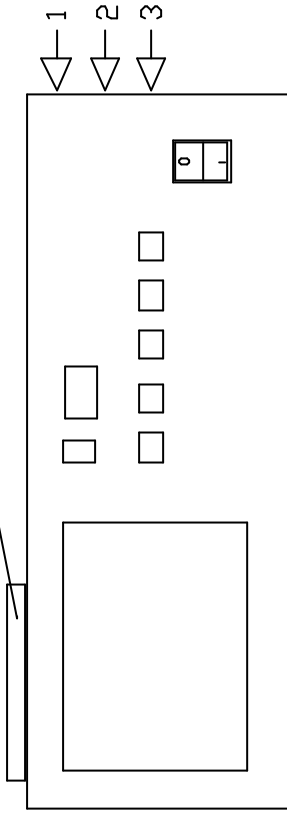
When using this option it is advisable that the dip switch No. S3 be set to On - This ensures that when DHW is called for and the flow temperature boosted to the TK Max setting the heating pump will be turned off to avoid overheating the building.

This control can be supplied as an optional extra for the W series of boilers and is normally factory fitted into the control panel using a wiring adaptor plate which communicates with the sensors.

**WITH THE WK CONTROL FITTED MASTER OR SLAVE THE 16 WAY BOILER TERMINAL CONNECTOR MUST NOT BE USED FOR ANY EXTERNAL CONTROLS OTHER THAN DETAILED IN THE WIRING DIAGRAM**

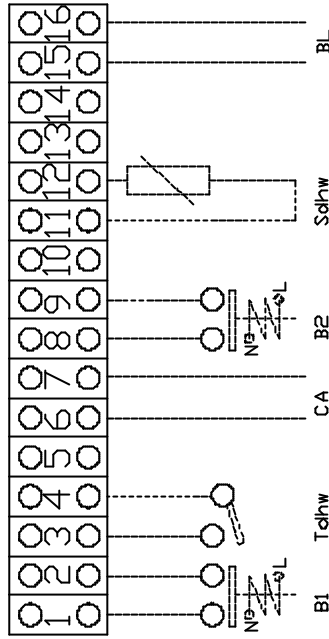
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Boiler Main Control Panel



- 1 Diverting valve/DHW pump supply socket
- 2 Boiler shunt pump supply socket
- 3 230v single phase 5 amp supply to boiler

16 Way Terminal Strip on Top of Boiler Control Panel

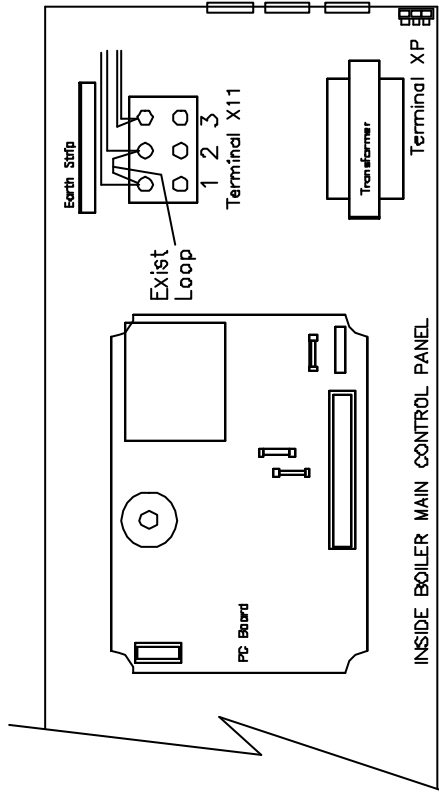


- B1 - Heating control time control on/off or low fire
  - B2 - Heating control high fire (boiler programmed to H/L option)
  - Tdhw - #DHW Thermostat
  - Sdhw - #DHW Sensor
  - CA - Common alarm signal output 24v AC 4va (de-energises on fault)
  - BL - Boiler run indication output 24v AC 4va (energises on run)
- NOTE : Relays, time clocks and wiring not by Broag  
#Cannot use both methods of control

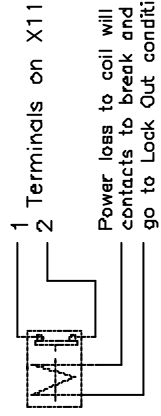
Drawn	Quantity	Title/Name, description, material, dimensions etc	Approved by - date	AS228 No./Reference
Checked	By	By	By	By
<p>Drawn: BROAG Ltd          Remeha House          Molly Millars Lane          Wokingham          Berkshire RG41 2QP</p> <p>Fig 6</p>				

File location: G:\GeneralData\Autocad\Broag\Dep\W4080m\Fig6

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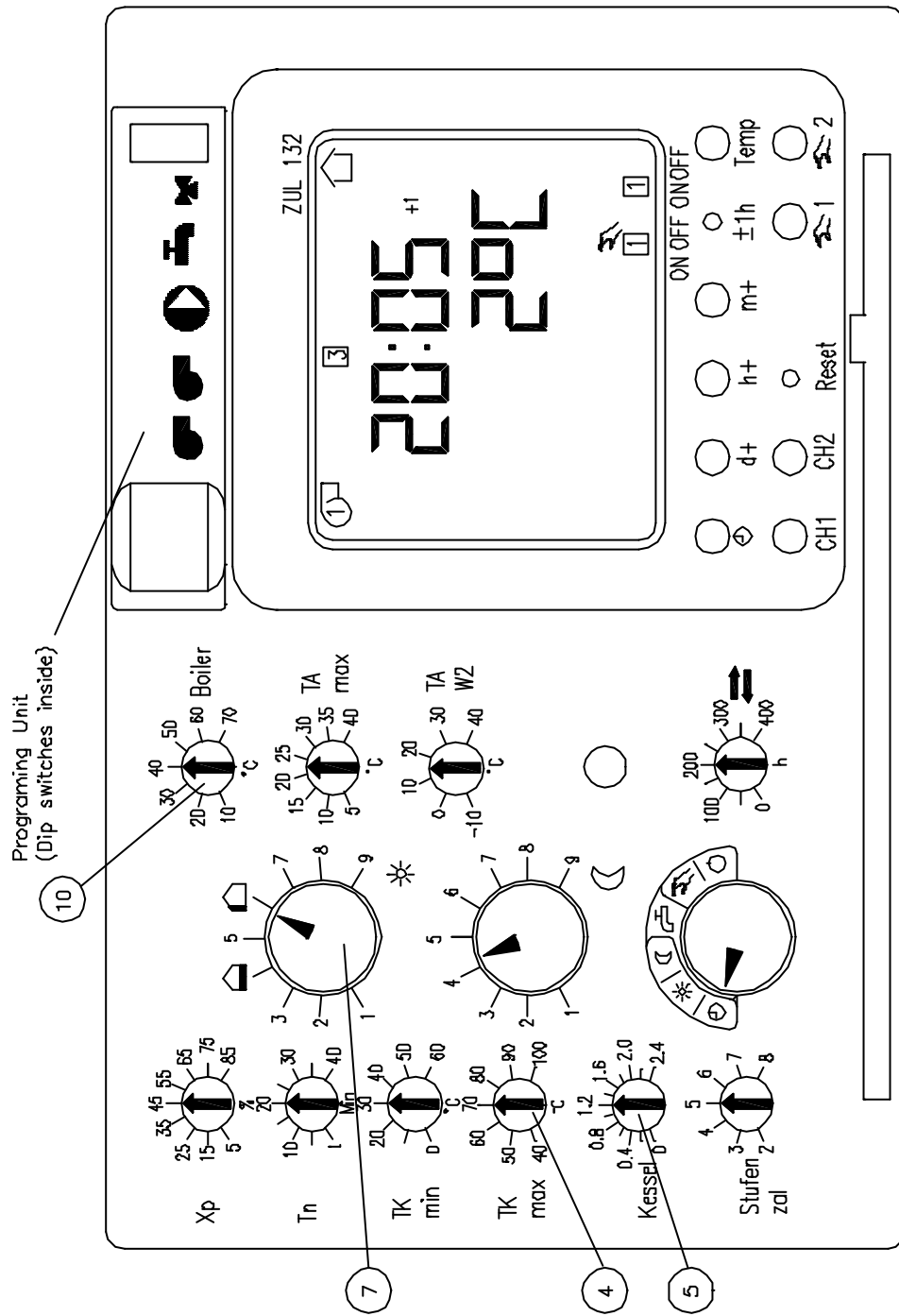
TYPICAL INTERLOCK USING VOLT FREE RELAY n/c CONTACTS



Power loss to coil will cause contacts to break and boiler to go to Lock Out condition.

Drawn	Quantity	Title/Name, description, material, dimensions etc	Approved by - date	AS228 No./Reference
Checked	By	By	By	By
<p>Drawn: Broag Ltd          Remeha House          Molly Millars Lane, Wokingham          Berkshire RG41 2QP          Tel: 01189 783434 Fax: 01189 788877</p> <p>Fig 7</p>				





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
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Designed by	Checked by	Approved by - date		Filename	Date	Scale
Owner Broag Ltd Remeha House Molly Millars Lane, Wokingham Berkshire RG41 2QP Tel :01189 783434 Fax: 01189 786977				Title/Name REMATIC WK14 Weather Compensator		
				Drawing number Fig 8	EdiZion	Sheet

File Location - G:\General Data\Autocad\Broag\Dtp\W4060\Fig8



9. Cont.		<b>DHW -</b>	This will provide continuous domestic hot water primary pump under the dictates of the ZTF 222 sensor (this function will not operate unless the correct sensor is wired to the module).
		<b>Hand -</b>	Overrides all time temperature controls – (Off) in this position unit provides frost control only.
		<b>Off -</b>	<i>All functions are off except frost protection.</i>
10.	Boiler	The boiler domestic hot water temperature set point.	
11.	TA max	Set outside temperature at which the heating control will be held off if being called for by the time cycle.	
12	TA W2	Set outside temperature at which the 2 <sup>nd</sup> half of the cascade steps will be held off during the heating timed on cycle (i.e. 4 stage controls, stages 3 + 4 would be held off)	
13.	Lead Lag 	Set number of hours between changeover times (i.e. stages 1/2 – 3/4 will changeover to 3/4 – 1/2).	

#### PROGRAMMING UNIT DIP SWITCH SETTINGS

S2	Off	No night set back
	On	Night set back enabled
S3	On	When channel 2 calls for DHW if channel 1 is also calling heating pump will be disabled until domestic hot water is satisfied. Both heating and hot water pumps will run in parallel.
	Off 	
S4	On	Domestic hot water 24 hours a day
	Off	Domestic hot water timed on channel 2.
S5	Off	Allows all stages to provide domestic hot water
	On	Holds the boiler to low fire only or 50% of available stages.

**NOTE** Dip switches are factory set to the off position.

Changing settings on compensating controls do not always provide an instant response, they require a short time to re-set the parameters required. We would recommend only 1 setting at a time to be changed and an accurate record of settings and changes with corresponding results to be maintained. Failure to do so can produce confusing information

See compensator curve (Fig. 12) for setting slope and parallel shift. Standard settings are shown in the separate controller booklet.



## **Boiler Installation with WK14 Control fitted for Heating control only (Fig. 9)**

(High/Low operation)

### **Legend:**

- Ba Outside Sensor ZAF 200
- Bk Flow Sensor ZVF 210
- R1 System pump relay
- P1 System pump
- ..... All interconnecting and sensor wiring not by Broag

NOTE: Wiring diagram shows connections for up to 4 boilers operating in the high/low mode. (If you have only one boiler, connect as Boiler 1 diagram ignoring the links to the slave unit). Link across 13/14 (on master) may be used to provide an extension timer facility – open contacts across this link will force the heating system to operate on the Rematic's normal day heating curve, close the contacts and the heating will return to the timed cycle operation.

Sensors to be wired using 0.75mm screened cable if run with power carrying cables, otherwise unscreened cable can be used to a max length of 100M.

For Broag DHW priority system with the diverting valve or pump control the sensor to be wired to 11-12 on the boiler terminal block. Common alarm and run lamp for each boiler to be connected to 6-7 and 15-16 (same as external wiring arrangement).

## **Boiler Installation with WK14 Control fitted for Heating control only (Fig. 10)**

(On/Off operation)

For single boiler operation plug C7 on the module should be connected to plug C7A in the boiler. For two or more boilers use, C7 should be connected to C7B. (This also applies to the slave unit if installed).

### **Legend:**

- Ba Outside Sensor ZAF 200
- Bk Flow Sensor ZVF 210
- R1 System Pump Relay
- P1 System Pump
- ..... All interconnecting and sensor wiring not by Broag

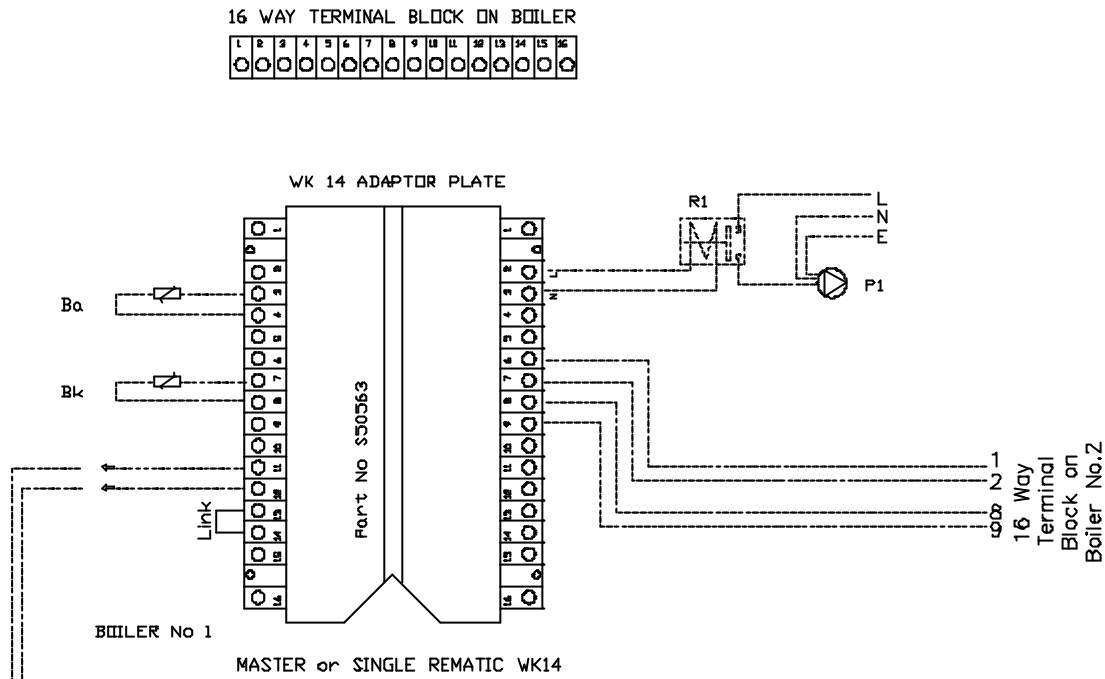
NOTE: Wiring diagram shows connections for up to 4 boilers operating in the ON/OFF mode. (If you have only one boiler connection as Boiler 1 diagram).

Link across 13/14 may be used to provide an extension timer facility – open contacts across this link will force the heating system to operate on the Rematic's normal day heating curve, close the contacts and the heating will return to the timed cycle operation.

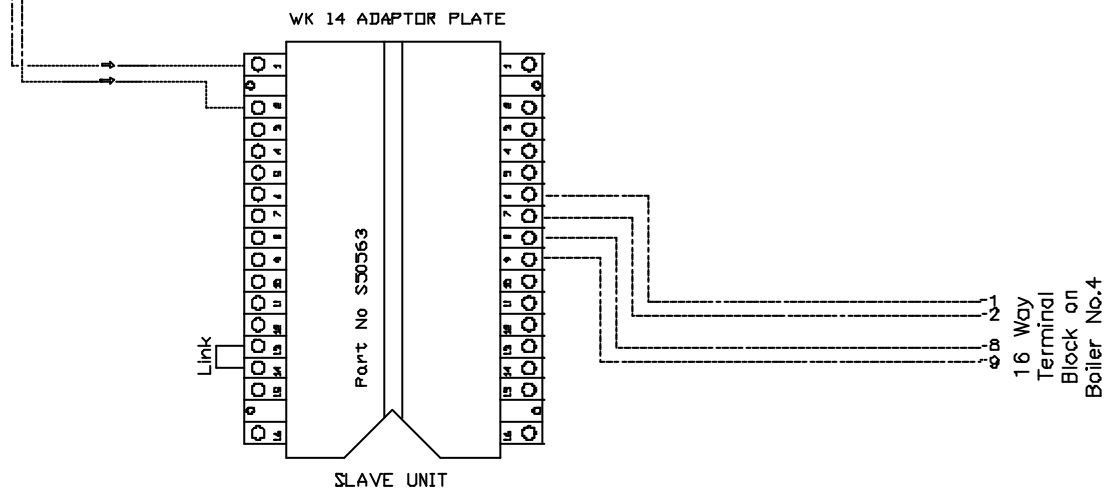
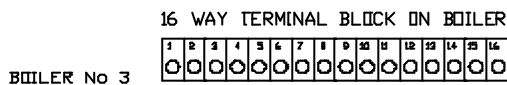
Sensors to be wired using 0.75mm screened cable if run with power carrying cables, otherwise unscreened cable can be used to a max length of 100M.

For Broag DHW priority system with the diverting valve or pump control the sensor to be wired to 11-12 on the boiler terminal block. Common alarm and run lamp for each boiler to be connected to 6-7 and 15-16 (same as external wiring arrangement).

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NOTE: With the WK 14 Master or Slave fitted in the boiler  
 Only use 16 way boiler terminal strip for  
 1. DHW sensor or thermostat connection  
 2. Common alarm signal  
 3. Boiler run signal

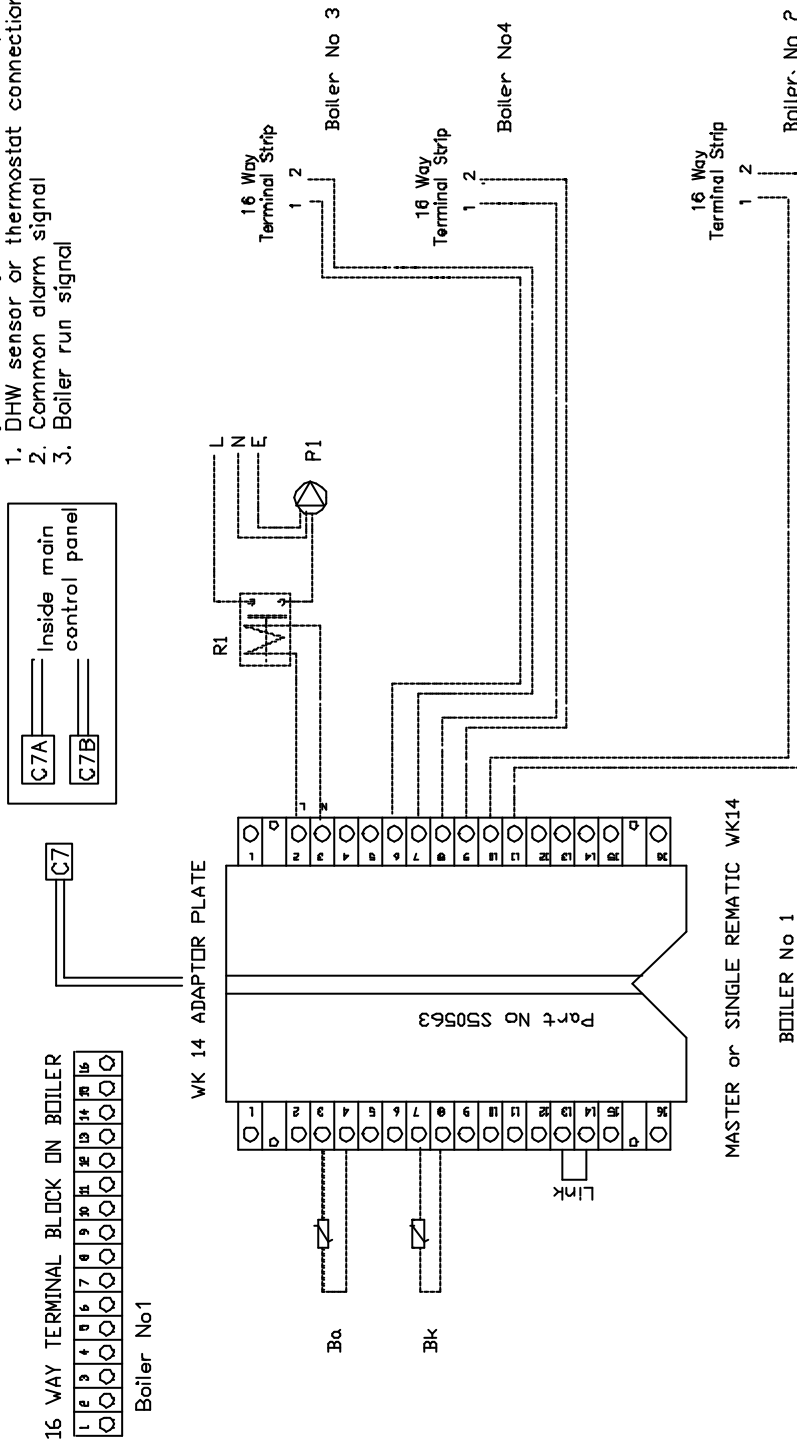


Header	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference
Designed by	Checked by	Approved by - date		Filename	Date
Order	BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP			Title/Name WK14 control over HTG only – single and multiple installations High/Low control	
		Drawing number		Ediffon	Sheet

Fig 9

RevNo	Revision note	Date	Signature	Checked
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NOTE: With the WK14 Master or Slave fitted  
 Only use 16 way boiler terminal strip for  
 1. DHW sensor or thermostat connection  
 2. Common alarm signal  
 3. Boiler run signal



Item ref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by		Checked by	Approved by - date	Filename	Date	Scale
Owner	BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP			Title/Name WK14 control over HTG only – single and multiple installations ON/Off control		
				Drawing number	Edition	Sheet
				Fig 10		

File location: G:\GeneralData\Autocad\Broag\Dtp\W4060m\Fig10

## Single or Multiple Boiler Installation with WK14 Controlling Heating and DHW (Fig. 11)

### High/Low (Fig. 11a)

### On/Off (Fig. 11b)

For single boiler operation plug C7 on the module should be connected to plug C7A in the boiler. For two or more boilers use C7 should be connected to C7B. (This also applies to the slave unit if installed).

#### Legend:

- Ba Outside Sensor ZAF 200
- Bk Flow Sensor ZVF 210
- Bb DHW Sensor ZTF 222 (Broag Option)
- R1 System pump relay
- R2 DHW pump relay
- P1 System pump
- P2 DHW pump
- ..... All interconnecting and sensor wiring not by Broag

NOTE: Wiring diagram shows connections for up to 4 boilers operating in the high low mode. (If you have only one boiler connection as Boiler 1 diagram ignoring the link to the slave unit).

Link across 13/14 (on master) may be used to provide an extension timer facility – open contacts across this link will force the heating system to operate on the Rematic's normal day heating curve, close the contacts and the heating will return to the timed cycle operation.

Sensors to be wired using 0.75mm screened cable if run with power carrying cables, otherwise unscreened cable can be used to a max length of 100M.

These arrangements provide compensated heating with boosted DHW primary flow on demand from the DHW sensor. Both systems can be independently time controlled (time zone 1 heating and zone 2 DHW). To prevent higher than required heating flow temperature during the DHW boost period DIP switch S3 should be set to On, this will turn the heating pump off during boosted DHW period. DHW secondary temperature is set on the WK14. Control No. 10 with the max. boiler flow temperature required set on No. 4. Full details can be taken from the WK14 Tech. booklet.

Common alarm and run lamp for each boiler to be connected to 6-7 and 15-16 (same as external wiring arrangement on page 4).

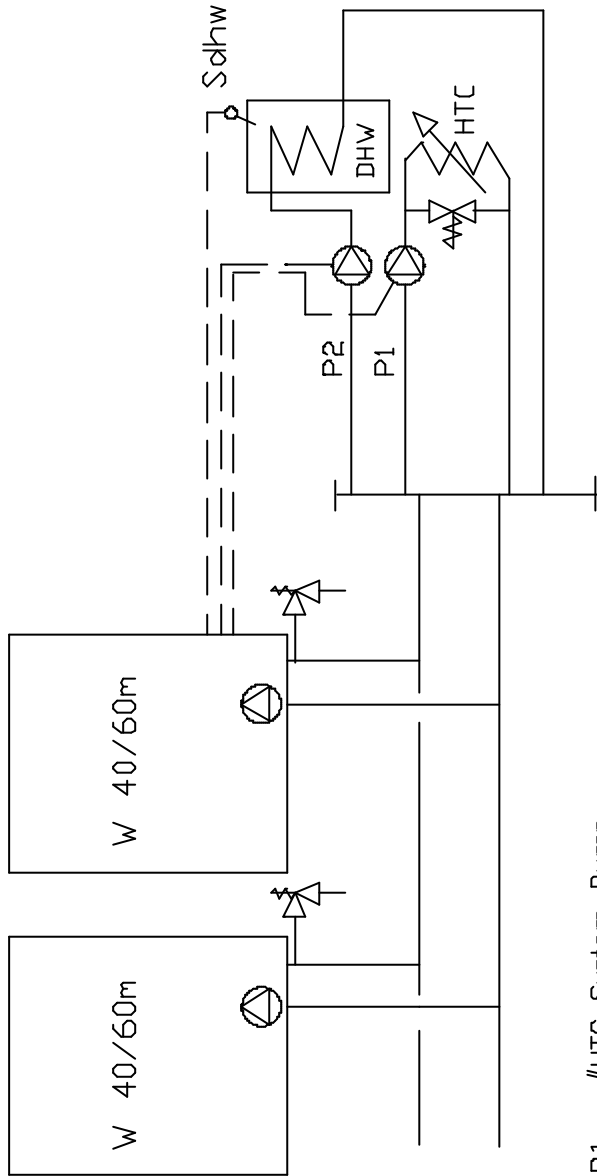
### Flue Dilution

Flue dilution can be used with these boilers, but recommend that the Design Engineer consults with Broag for fan and duct size calculations and advice on layouts.

### Room Sealed

The W series of boilers can be installed room sealed by using one of the terminals supplied by Broag as detailed below.

RevNo	Revision note	Date	Signature	Checked
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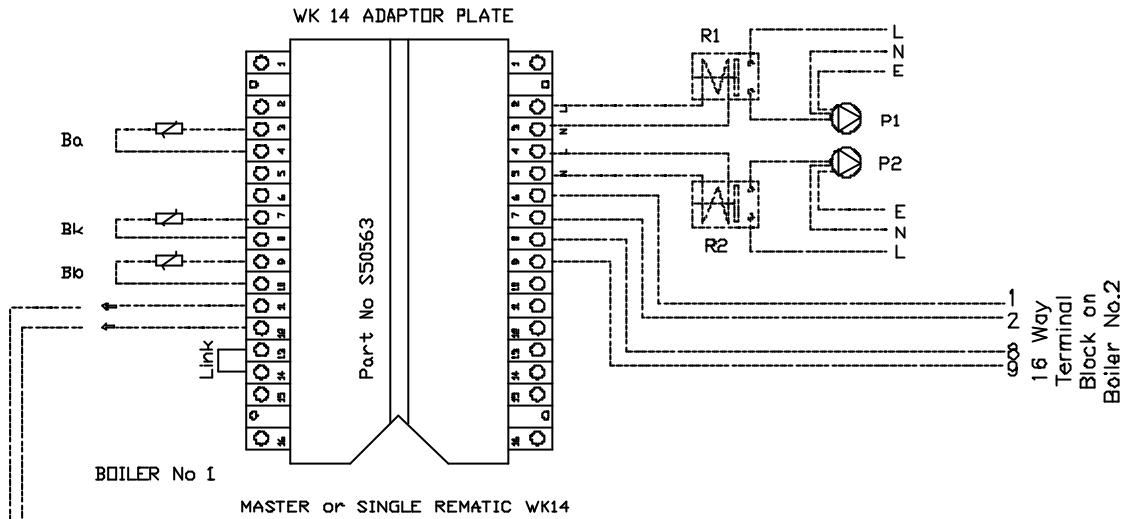
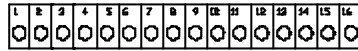
P1 - #HTG System Pump  
 P2 - #DHW Primary Pump  
 Sdhw - \*DHW Secondary Sensor ZTF 222  
 # NOT BROAG SUPPLY  
 \* BROAG OPTION

Referr	Quantity	Title/Name, designation, material, dimension etc			File No./Reference	
Designed by	Checked by	Approved by - date		File name	Date	Scale
Owner	BROAG Ltd REMEHA House Mally millars Lane Wokingham Berkshire RG41 2QP			Title/Name Multiple boiler installation for heating and DHW control by WK14 Compensator		
		Drawing number			Edition	
		Fig 11			Sheet	

File location: G:\GeneralData\Autocad\Broag\Dtp\W4060m\Fig11

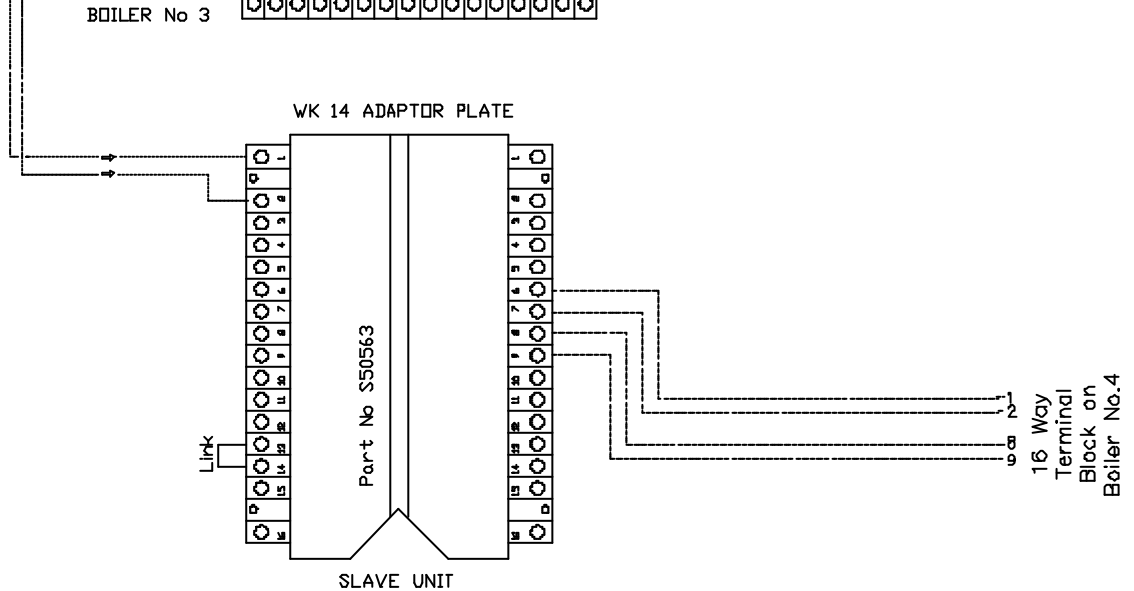
RevNo	Revision note	Date	Signature	Checked
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16 WAY TERMINAL BLOCK ON BOILER



NOTE : With the WK14 Master or Slave fitted in the boiler  
 Only use the 16 way boiler terminal strip for  
 1. Common alarm signal  
 2. Boiler run signal

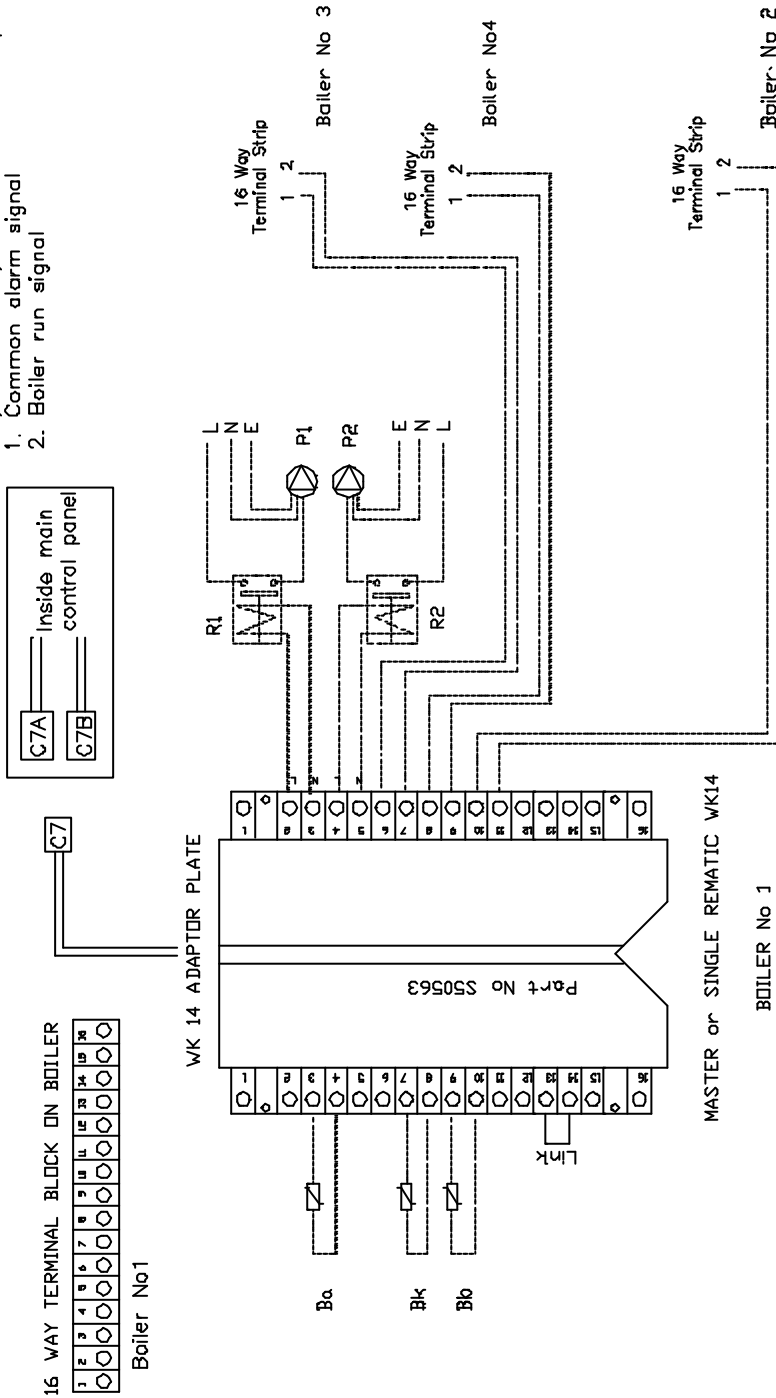
16 WAY TERMINAL BLOCK ON BOILER



Header	Quantity	Title/Name, designation, material, dimensions etc			Article No./Reference	
Designed by	Checked by	Approved by - date		Filename	Date	Scale
Order BROAG Ltd REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP				Title/Name WK14 control over HTG and DHW - single and multiple installations High/Low control		
				Drawing number	Fig 11A	Sheet

RevNo	Revision note	Date	Signature	Checked
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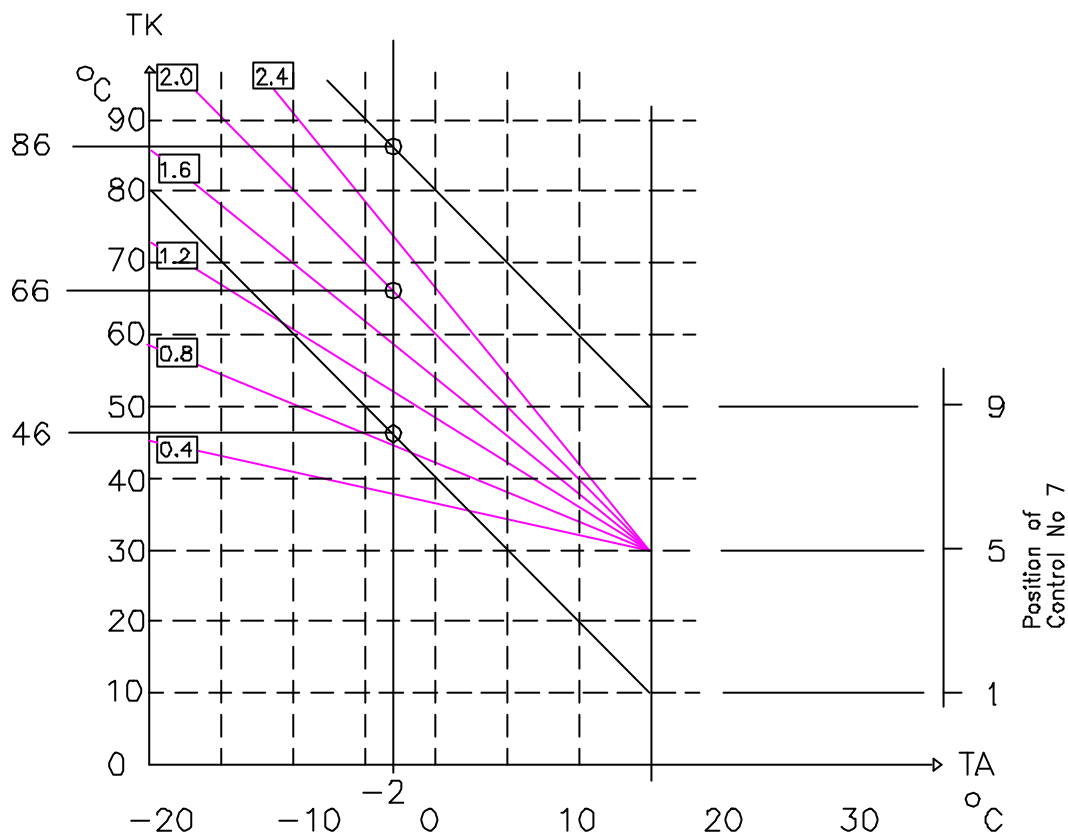
NOTE: With the WK14 Master or Slave fitted  
 Only use 16 way boiler terminal strip for  
 1. Common alarm signal  
 2. Boiler run signal



Item ref	Quantity	Title/Name, designation, material, dimensions etc.	Article No./Reference
Designed by	Checked by	Approved by - date	Filename Date Scale
Designer <b>BROAG Ltd</b> REMEHA House Molly millars Lane Wokingham Berkshire RG41 2QP		Title/Name <b>WK14 control over HTG and DHW – single and multiple installations ON/Off control</b>	Drawing number <b>Fig 11B</b>
		Edition	Sheet

File location: G:\GeneralData\Autocad\Broag\Dtp\W406Dm\Fig11B

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Graph showing the effect of control No 7 on the compensation slope

Control No. 5 changes the angle of the slope and control No. 7 will give a fine adjustment providing a parallel shift to raise or lower the set point

Example: Using slope 2.0 with outside temp of  $-2^{\circ}\text{C}$  position 5 will give a flow temp of  $66^{\circ}\text{C}$  in position 9 a flow temp of  $86^{\circ}\text{C}$  and in position 1 a flow temp of  $46^{\circ}\text{C}$

Item	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by		Checked by	Approved by - date	Filename	Date	Scale
Owner: Broag Ltd Remeha House Molly Millars Lane, Wokingham Berkshire RG41 2QP Tel :01189 783434 Fax: 01189 786977				Title/Name WK14 (Tem 2935) Control Compensation Slope		
				Drawing number Fig 12		Sheet

File Location - G:\General Data\Autocad\Broag\Dtp\W4060m\Fig12



# FLUE OPTIONS

## Conventional vertical flue

The W series boiler can be connected to a conventional flue using the 100mm I/D flue outlet terminal  
 The flue must be constructed in a material suitable for a condensing boiler and be both gas and water tight with a slight run back to the boiler to drain condensation. (recommend stainless steel)  
 Combustion air to be provided by means of natural or mechanical ventilation to the boiler compartment direct to atmosphere in accordance with BS 664 and BS 5440 Part 2..

## Flue Dilution

Flue dilution can be used with these boilers, but must be installed with a draft break. We recommend that the Design Engineer consults with Broag for fan and duct size calculations and advice on layouts.

## Room Sealed

The W series of boilers can be installed room sealed by using one of the purpose designed terminals supplied by Broag as detailed below.

- ⇒ The HRS terminal c/w adapter can be used to discharge horizontally through the mounting wall above the boiler or left/right as shown on Fig 14
- ⇒ The VRS terminal c/w adapter can be used to discharge vertically through the roof.

The connecting flue system between boiler and terminal can be supplied by Broag as required, in accordance with the site layout and within the distance limits shown in Fig 15.

Two pipe system is available for use where extended flue lengths (beyond the capability of the concentric system see Fig 15) are required.

For all options particular care should be taken when siting the terminal as a vapour plume will be visible for most of the heating season. With multiple outlets they should not be positioned one above another and a min of 1M apart horizontally to prevent re-circulation between terminals.

Rev/No/Revision note	Date	Signature	Checked
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### New M & G 100/150 Concentric Flue System

The diagram illustrates two types of concentric flue systems. The first shows a horizontal discharge through a wall using an HRS Terminal and a Horizontal Adapter, with dimension L1 indicated. The second shows a vertical discharge through a roof using a VRS Terminal and a Vertical Adapter, with dimension L2 indicated. A table below provides the maximum lengths for these adapters.

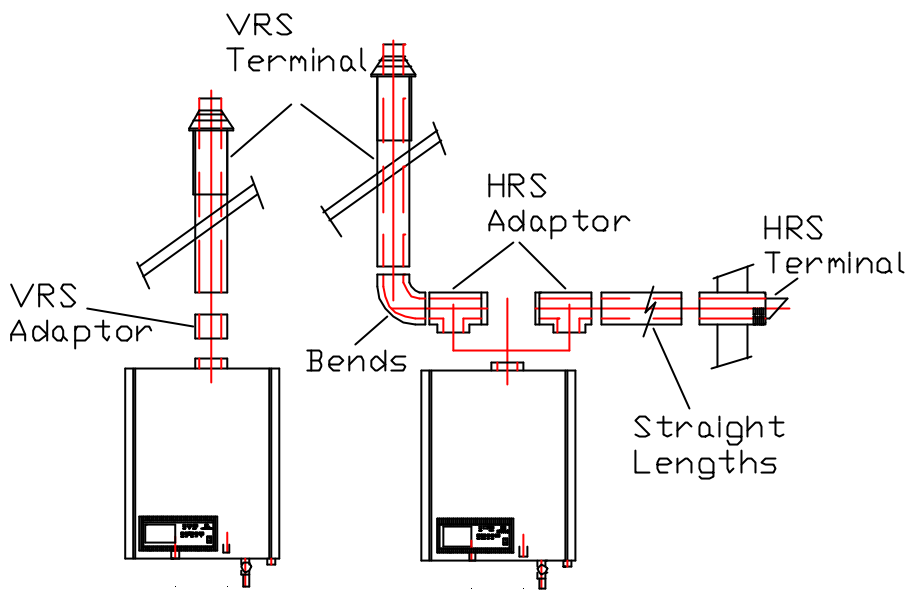
	L1	L2
W40mm	30	40
W60mm	8	15

Maximum length of flue system including the adapter (in each case vertical or horizontal)  
 Add 5 Meters for each 90 bend and 4 Meters for each 45 bend

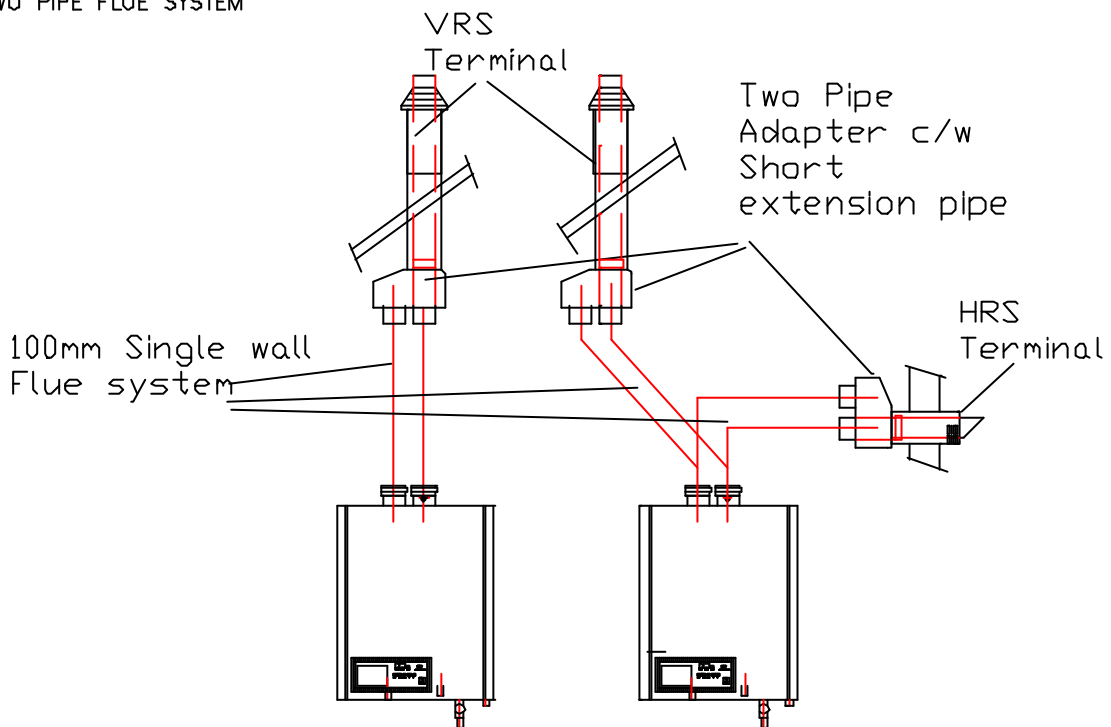
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Date: Broag Ltd Remeha House Molly Millers Lane, Wokingham Berkshire RG41 2AP Tel: 01189 763434 Fax: 01189 766977 File Location - G:\General Data\Autocad\Broag\Dtp\W4060m\Fig15			
Max flue lengths for 100/150mm Concentric Flue System Drawing number: Fig 15		Issue	Sheet

RevNo	Revision note	Date	Signature	Checked
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CONCENTRIC FLUE SYSTEM



TWO PIPE FLUE SYSTEM



WARNING : To be sure that the flue will function correctly. Please contact BROAG to confirm MAX distances (both horizontal and vertical) allowed when using either of the flue system options

RevNo	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
Designed by	Checked by	Approved by - date	File name
Date	Scale		
Owner	Broag Ltd Remeha House Molly Millars Lane, Wokingham Berkshire RG41 2QP Tel :01189 783434 Fax: 01189 786977		Title/Name Concentric and Two Pipe flue options Drawing number Fig 14
			Edition Sheet

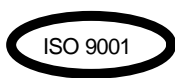
File Location - G:\General Data\Autocad\Broag\Dtp\W4060m\Fig14

remeha W40 / 60 m

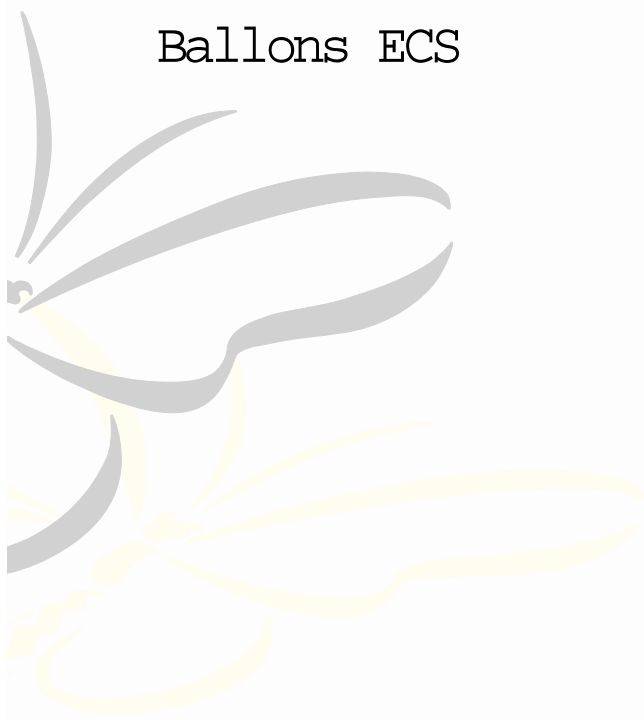


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Fax : 0115 944 0588



Boilers  
Calorifiers  
Ballons ECS



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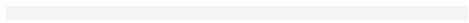
Technische  
informatie  
Technical information  
Notice technique  
Technische Daten

• HSL • CSN • HSRN



 remeha





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## 1. ALGEMEEN

### 1.1 Opbouw en beschrijving

Remeha boilers zijn ontworpen voor de verwarming van sanitairwater. De verwarming vindt indirect plaats door middel van een verwarmingsketel.

De verschillende constructies van zowel het reservoir, als ook de warmtewisselaar, maken het mogelijk om voor elke toepassing de juiste boiler aan te schaffen.

### 1.2 Reservoirs

De reservoirs van alle typen boilers zijn van S235JRG2 vervaardigd. De volgens de regels geëmailleerde constructies in combinatie met beproefde lasprocedures, vormen de basis voor dit kwaliteitsproduct.

Een dubbele laag email op de gehele binnenwand, evenals op de stevig ingelaste buis-warmtewisselaar, zorgen voor een duurzame bescherming tegen corrosie in zowel zure als in basische omgeving. De overeenkomstig DIN 4753 T.6 ingebouwde opofferingsanode zorgt voor extra corrosiebescherming.

### 1.3 Warmtewisselaars/verwarmingselementen

De boilers zijn voorzien van spiraalvormige buizen die als verwarmingselement zijn ingelast.

### 1.4 Thermische isolatie

Alle reservoirs worden met een warmte-isolerend, CFK-vrij PUR-schuim geïsoleerd. Hierbij wordt een productiemethode toegepast die het ontstaan van holle ruimtes verhindert, welke een schoorsteeneffect bij het reservoir zouden veroorzaken.

De voetconstructie is geïntegreerd in de isolatie, waardoor warmtebruggen worden vermeden. De boilers zijn afgewerkt met een gekleurde plaatstalen bemanteling (HSL) of PVC-folie (CSN en HSRN).

### 1.5 Regeling

De **rematic**<sup>®</sup>-regelaar neemt naar keuze de boiler voorrangsschakeling over of zorgt voor een parallelbedrijf. De boiler temperatuurvoeler wordt in de dompelbuis van de boiler gemonteerd en elektrisch met de ketelautomaat of op de klemmenstrook van de inbouwadapter van de **rematic**<sup>®</sup>-regelaar aangesloten. Afwijkende schakelingen zijn mogelijk.

### 1.6 Kwaliteitsgarantie

Een constante kwaliteit op hoog niveau wordt door regelmatige fabricagecontrole gewaarborgd.

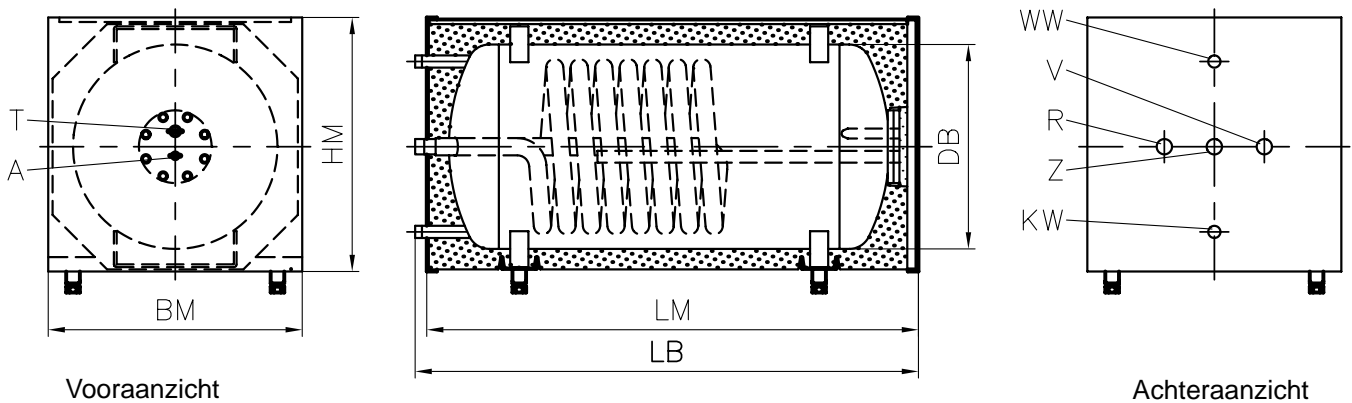
### 1.7 Toepassing

Maximale bedrijfstemperaturen c.q. bedrijfsdrukken:

- c.v.-zijdig            110°C/12 bar
- sanitair-zijdig        95°C/10 bar



## 2. HSL140



### 2.1 Beschrijving en technische gegevens

Boiler in liggende uitvoering voor combinatie met verwarmingsketel.

Reservoir van staalplaat S235JRG2.

Corrosiebescherming door middel van een dubbele laag email en beschermingsanode.

Vast ingebouwd spiraalvormig verwarmingselement.

Rechtstreeks opgebrachte PUR-hardschuimisolatie omhult met een gekleurde plaatstalen bemanteling.

Thermometer voor boilerwatertemperatuur.

### 2.2 Bestekomschrijving

Boiler in liggende uitvoering uit staalplaat met ingelast spiraalvormig verwarmingselement.

Corrosiebescherming door middel van een dubbele laag email en beschermingsanode.

Warmte-isolatie met PUR-hardschuim en omhult met een gekleurde plaatstalen bemanteling.

Thermometer voor boilerwatertemperatuur.

### 2.3 Leveringsomvang

Boiler met rechtstreeks opgebrachte PUR-hardschuimisolatie en omhult met een gekleurde plaatstalen bemanteling. Ingelaste dompelbuis voor de montage van de temperatuurvoeler voor de **rematic**<sup>®</sup>-regelaar.

Aansluitingen voor sanitair- en c.v.-water aan de achterkant.

Ingebouwde afstandsthermometer voor de boilerwatertemperatuur.

### 2.4 Accessoires

Boiler-aansluitset, bestaande uit 2 verbindingsslangen en boilerpomp.

### 2.5 Verzending

In stevige transportverpakking op een pallet.

Fabrikaat:	Remeha
Type:	HSL
Inhoud:	140 l
Hoogte:	550 mm
Breedte:	550 mm
Diepte:	1076 mm
NL-factor volgens DIN 4708:	
Continu tapvermogen bij:	
V (aanvoer) = 80°C	
KW (koud water) = 10°C	
WW (warm water) = 45°C:	780 l/h
Maximale werkdruk:	
C.v.-zijdig	12 bar
Sanitair-zijdig	10 bar
Maximale bedrijfstemperatuur:	
C.v.-zijdig	110°C
Sanitair-zijdig	95°C

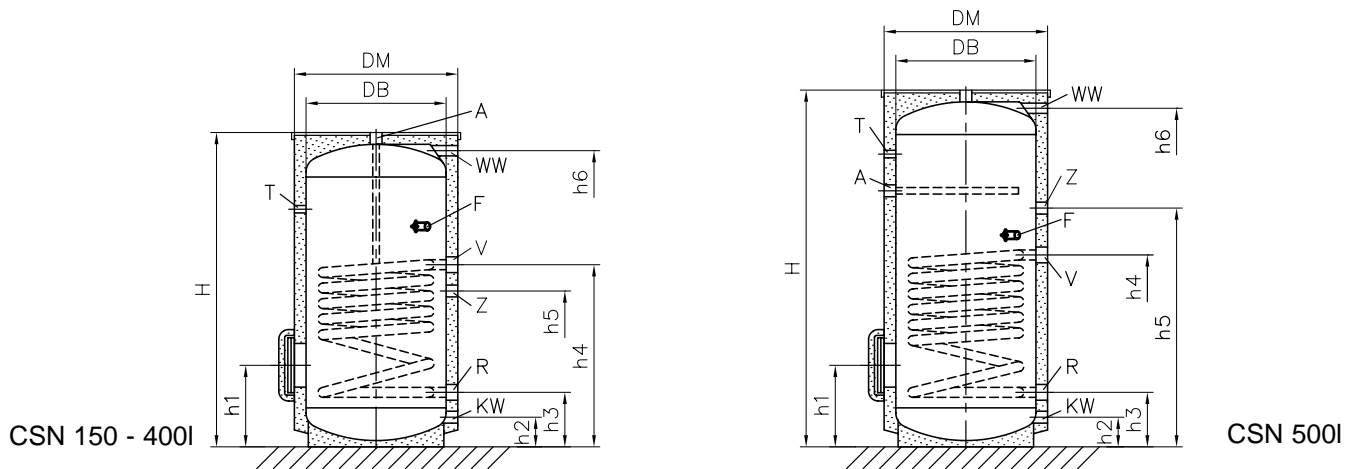
## 2.6 Technische informatie en afmetingen

Nominale inhoud	l	140
Hoogte HM	mm	550
Breedte BM	mm	550
Diepte LM	mm	1076
LB	mm	1104
Ø Reservoir DB	mm	450
Gewicht	kg	110
Aansluitingen		
KW		
Koudwater	bu.dr.	R 3/4"
WW		
Warmwater	bu.dr.	R 3/4"
Z		
Circulatie	bi.dr.	Rp 3/4"
V		
Aanvoer c.v.	bu.dr.	R 1"
R		
Retour c.v.	bu.dr.	R 1"
T		
Dompelbuis	mm	Ø17-Ø6
A		
Beschermingsanode	bi.dr.	M8

## 2.7 Prestatiegegevens

Type	Inhoud boiler	TV	NL-factor volgens DIN 4753		Continu tapvermogen van sanitairwater Koudwatertemperatuur 10°C				C.v.-zijdige waterdoorstroming	C.v.-zijdige weerstand								
					45°C*		60°C*											
					l/h	kW	l/h	kW			m <sup>3</sup> /h	mbar						
HSL 140	140	70	0,5	2	577	24	301	18	2,3	71								
		80									0,5	2	780	32	462	27	2,3	71
		90																

## 3. CSN 150-500



### 3.1 Beschrijving en technische gegevens

Boiler in staande uitvoering. Verwarming door middel van verwarmingsketel.

Reservoir van staal S235JRG2.

Corrosiebescherming door een dubbele laag email en beschermingsanode.

Vast ingebouwd spiraalvormig verwarmingselement.

Rechtstreeks opgebrachte PUR-hardschuimisolatie afgewerkt met gekleurd PVC-folie.

### 3.2 Bestekomschrijving

Boiler in staande uitvoering uit staalplaat met ingelast spiraalvormig verwarmingselement.

Corrosiebescherming door een dubbele laag email en een extra beschermingsanode.

Warmte-isolatie met PUR-hardschuim, afgewerkt met gekleurd PVC-folie.

Thermometer voor boilerwatertemperatuur.

Fabrikaat:	Remeha
Type:	CSN
Inhoud:	l
Hoogte:	mm
Diameter:	mm
NL-factor volgens DIN 4708:	
Continuvermogen bij V (aanvoer) = 80°C	
KW (koud water) = 10°C	
WW (warm water) = 45°C:	l/h
Maximale werkdruk:	
C.v.-zijdig	12 bar
Sanitair-zijdig	10 bar
Maximale bedrijfstemperatuur:	
C.v.-zijdig	110 °C

### 3.3 Leveringsomvang

Boiler met rechtstreeks opgebrachte PUR-hardschuimisolatie, afgewerkt met gekleurd PVC-folie. Ingelaste dompelbuis voor de montage van de temperatuurvoeler van de **rematic**®-regelaar.

De aansluitingen zijn voorzien van afdichtdoppen.

Thermometer voor boilerwatertemperatuur.

### 3.4 Verzending

In stevige transportverpakking op een pallet.

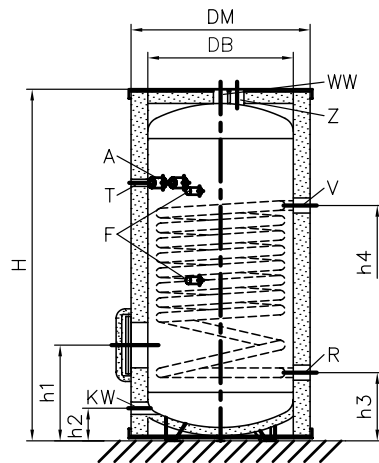
### 3.5 Technische informatie en afmetingen

Type		CSN	CSN	CSN	CSN	CSN
Inhoud	l	150	200	300	400	500
DB	mm	500	500	600	600	600
DM	mm	600	600	700	700	700
H	mm	975	1235	1260	1590	1910
h1	mm	294	294	305	305	305
h2	mm	95	95	94	94	94
h3	mm	180	180	191	191	191
h4	mm	534	643	689	797	797
h5	mm	457	511	585	1055	1145
h6	mm	876	1136	1161	1491	1811
Flens	mm	Ø180	Ø180	Ø180	Ø180	Ø180
WW						
Warmwater	bi.dr.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
KW						
Koudwater	bi.dr.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
V						
Aanvoer CV	bi.dr.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
R						
Retour CV	bi.dr.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
Z						
Circulatie	bi.dr.	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"
A						
Beschermingsanode	bi.dr.	M8	M8	M8	M8	Rp 1 1/4"
T - F						
Dompelbuis	mm	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6
Gewicht	kg	92	116	134	167	207

Type	Inhoud boiler	Aanvoer - tempe-	NL-factor volgens DIN 4708		Continu tapvermogen van sanitairwater				c.v.-zijdige waterdoorstroming		c.v.-zijdige weerstand	
					Koudwatertemperatuur 10°C				m <sup>3</sup> /h		mbar	
					45°C *		60°C *		45°C *	60°C *	45°C *	60°C *
l	°C	45°C *	60°C *	l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *	
CSN 150	150	70	1	0,8	320	13	130	7	1,39	0,64	9	2
		80	1	2	470	19	240	14	2,04	1,18	18	7
		90	1	2,4	630	26	350	21	2,78	1,77	32	14
CSN 200	200	70	2	3	480	19	230	13	1,52	1,13	16	9
		80	2	4	630	26	370	22	1,47	1,56	15	17
		90	2	4,5	870	35	560	33	2,03	2,34	27	35
CSN 300	300	70	5	8	750	30	360	21	2,38	1,82	52	32
		80	5	10	1000	41	600	35	2,34	2,49	50	56
		90	5	10	1380	56	880	51	3,22	3,68	90	115
CSN 400	400	70	9	12	1040	42	510	30	3,32	2,54	121	74
		80	9	15	1390	57	830	48	3,25	3,45	117	130
		90	9	15,5	1910	78	1230	71	4,45	5,11	207	267
CSN 500	500	70	12	13	1040	42	510	30	3,32	2,54	121	74
		80	12	18	1390	57	830	48	3,25	3,45	117	130
		90	12,5	18,5	1910	78	1230	71	4,45	5,11	207	267

\* Boilertemperatuur

## 4. HSRN 800-1000



### 4.1 Beschrijving en technische gegevens

Boiler in staande uitvoering. Verwarming door middel van verwarmingsketel.  
 Reservoir van staalplaat S235JRG2.  
 Corrosiebescherming door een dubbele laag email en beschermingsanode.  
 Vast ingebouwde spiraalvormig verwarmingselement.  
 Op het werk aan te brengen PUR-zachtschuimisolatie, afgewerkt met gekleurd PVC-folie.

### 4.2 Bestekomschrijving

Boiler in staande uitvoering uit staalplaat met ingelast spiraalvormig verwarmingselement.  
 Corrosiebescherming door een dubbele laag email en een extra beschermingsanode.  
 Warmte-isolatie met PUR-zachtschuim, afgewerkt met gekleurd PVC-folie.  
 Thermometer voor boilerwatertemperatuur.

### 4.3 Leveringsomvang

Boiler met rechtstreeks opgebrachte PUR-zachtschuimisolatie, afgewerkt met gekleurd PVC-folie.  
 Ingelaste dompelbuis voor de montage van de temperatuurvoeler van de **rematic**<sup>®</sup>-regelaar.  
 De aansluitingen zijn voorzien van afdichtdoppen.  
 Thermometer voor boilerwatertemperatuur.

### 4.4 Verzending

In stevige transportverpakking op een pallet.

Fabrikaat:	Remeha
Type:	HSRN
Inhoud:	l
Hoogte:	mm
Diameter:	mm
NL-factor volgens DIN 4708:	
Continuvermogen bij V (aanvoer) = 80°C	
KW (koud water) = 10°C	
WW (warm water) = 45°C:	l/h
Maximale werkdruk:	
C.v.-zijdig	12 bar
Sanitair-zijdig	10 bar
Maximale bedrijfstemperatuur:	
C.v.-zijdig	110 °C
Sanitair-zijdig	95 °C

#### 4.5 Technische informatie en afmetingen

Type		HSRN	HSRN
Inhoud	l	800	1000
DB	mm	780	875
DM	mm	960	1055
H	mm	1980	2005
h1	mm	455	460
h2	mm	130	130
h3	mm	305	310
h4	mm	1248	1401
Flens	mm	Ø308	Ø308
WW			
Warmwater	bi.dr.	Rp 1 1/4"	Rp 1 1/4"
KW			
Koudwater	bi.dr.	Rp 1 1/4"	Rp 1 1/4"
V			
Aanvoer CV	bi.dr.	Rp 1 1/2"	Rp 1 1/2"
R			
Retour CV	bi.dr.	Rp 1 1/2"	Rp 1 1/2"
Z			
Circulatie	bi.dr.	Rp 1"	Rp 1"
A			
Beschermingsanode	bi.dr.	Rp 1 1/4"	Rp 1 1/4"
T - F			
Dompelbuis	mm	Ø17 - Ø6	Ø17 - Ø6
Gewicht	kg	355	

Type	Inhoud boiler	Aanvoer - tempe- °C	NL-factor volgens DIN 4708		Continu tapvermogen van sanitairwater Koudwatertemperatuur 10°C				c.v.-zijdige waterdoor- stroming		c.v.-zijdige weer- stand	
					45°C *		60°C *		m³/h		mbar	
					l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *
HSRN 800	800	60	18		1110	45			5,54		204	
		70	22	24	1610	66	850	49	5,13	5,29	176	187
		80	22	31	2150	88	1290	75	5,02	5,37	169	192
		90	22	31	2730	111	1700	99	5,02	4,99	169	167
HSRN 1000	1000	60	23		1330	54			5,16		217	
		70	27	30	1910	78	1020	59	4,78	5,11	188	213
		80	27	40	2590	105	1540	89	5,04	5,13	207	214
		90	27	40	3250	132	2010	117	4,95	4,79	200	188

\* Boilertemperatuur

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## 1. GENERAL REMARKS

### 1.1 Structure and description

Remeha calorifiers have been developed for commercial hot water production. The water is heated indirectly by means of a heating boiler.

The different designs both of the tanks and of the heat exchangers ensure that requirement levels are covered safely in all applications.

### 1.2 Tanks

All the storage tank models are made from S235JRG2 steel. Designs which facilitate enamelling combined with tried and testing welding techniques form the basis for the quality product. A double layer of enamel is applied to the entire inner surface and to the heat exchanger-coils, which are securely welded to the tank. This gives the components constant protection from any risk of corrosion caused by acidic or alkaline liquids. The protective anode, according to DIN 4753 T.6, completes the anti-corrosion protection.

### 1.3 Heat exchangers/heating surfaces

The storage tanks are fitted with heating surfaces made from coiled tubing, which is securely welded.

### 1.4 Heat insulating

All tanks are encased in PU foam thermal insulating. This foam does not contain any CFCs. The casing technique used prevents hollow cavities forming on the tank which cause poor thermal insulation. The base structure is integrated into the thermal insulating, thereby preventing thermal bridges forming. The insulating foam is cased with a coloured metal sheeting (HSL) or PVC cover (CSN and HSRN), giving the boiler an attractive finish.

### 1.5 Control

The *rematic*<sup>®</sup>-controller (if need) provides hot water production as a priority or in parallel with the heating system. The secondary hot water sensor is installed in the tank's thermostat pocket and connected to the terminal strip of the boiler or to the control wiring module.

### 1.6 Seal of quality

Production checks ensure that the high quality standards are maintained.

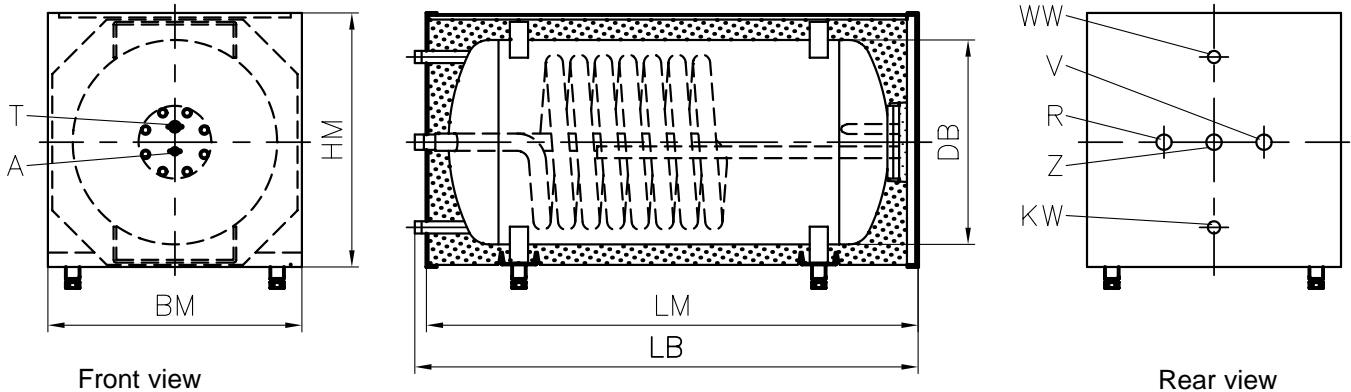
### 1.7 Application

Maximum operating temperatures/pressures:

- Primary water 110°C/12 bar
- Secondary water 95°C/10 bar



## 2. HSL 140



### 2.1 Description and technical data

Horizontal indirect calorifier to be combined with a heating boiler.

Tank made from S235JRG2 steel.

Protected against corrosion by a double layer of enamel and a protective anode.

Securely installed, coil shaped heating surface.

Directly applied PU hard foam insulation cased with coloured metal sheeting. Thermometer to measure the temperature of the secondary hot water.

### 2.2 Suggested tender text

Horizontal indirect calorifier made from sheet steel complete with a coil shaped heating surface securely welded to the tank.

Protected against corrosion by a double layer of enamel and a protective anode. Thermally insulated with PU hard foam, cased with coloured metal sheeting.

Thermometer to measure the temperature of the secondary hot water.

Make:	Remeha
Model:	HSL
Capacity:	140 l
Height:	550 mm
Width:	550 mm
Depth:	1076 mm

Power factor in accordance with DIN 4708:

Permanent output at

V (primary flow) = 80°C

KW (cold water) = 10°C

WW (warm water) = 45°C: 780 l/h

Maximum operating pressure:

Primary water 12 bar

Secondary water 10 bar

Maximum operating temperatures:

Primary water 110°C

Secondary water 95°C

### 2.3 Scope of delivery

Storage water heater with a directly applied PU hard foam insulation casing and coloured metal sheeting. Welded on immersion sleeve for mounting the *rematic*<sup>®</sup> control temperature sensor. Connections on the back for secondary water and heating. In-built remote thermometer to measure the temperature of the secondary hot water.

### 2.4 Accessories

Boiler charging set, comprising 2 connecting hoses and a charging pump.

### 2.5 Transported

On a pallet in sturdy transport packaging.

## 2.6 Technical data and dimensions

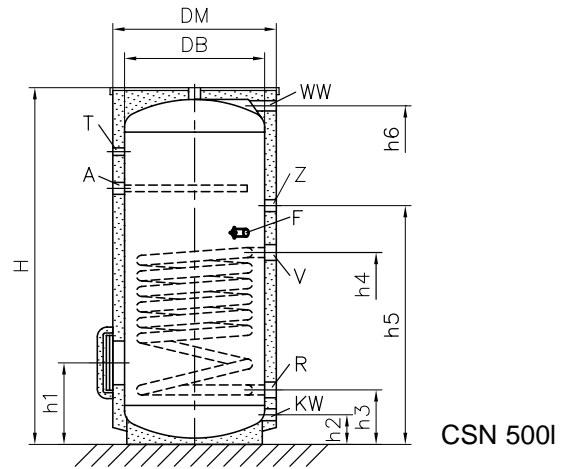
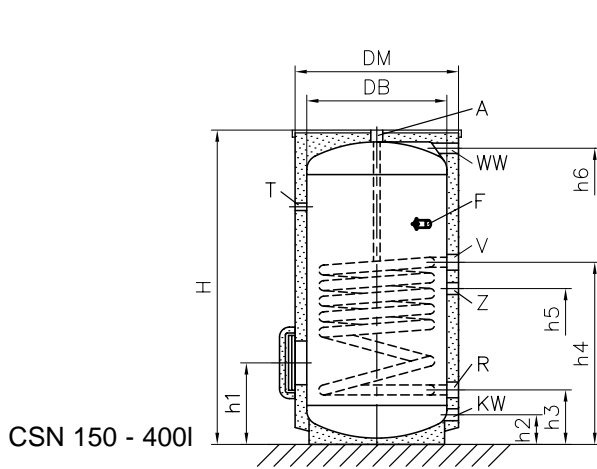
Nominal capacity	l	140
Height HM	mm	550
Width BM	mm	550
Depth LM	mm	1076
	mm	1104
Ø Tank DB	mm	450
Weight	kg	110
Connections		
KW		
Cold water	ext.	R 3/4"
WW		
Secondary hot water	ext.	R 3/4"
Z		
Circulation	int	Rp 3/4"
V		
Primary flow	ext.	R 1"
R		
Primary return	ext.	R 1"
F		
Immersion sensor pocket	mm	Ø17-Ø6
A		
Protection anode	int.	M8

## 2.7 Performance data

Type	Storage tank capacity	Primary flow	Power factor (NL) in accordance with DIN 4708		Constant secondary hot water power				Primary flow	Primary pressure drop	
					Cold water temperature 10°C						
			l	°C	45°C*	60°C*	45°C*				60°C*
						l/h	kW	l/h	kW		
HSL 140	140	70	0,5	2	577	24	301	18	2,3	71	
		80	0,5	2	780	32	462	27	2,3	71	
		90			1009	41	627	36	2,3	71	

\* Secondary hot water temperature

## 3. CSN 150-500



### 3.1 Description and technical data

Vertical indirect calorifier. Heated via a heating boiler.  
Tank made from S235JRG2 steel.  
Protected against corrosion by a double layer of enamel and a protective anode. Securely installed, coil shaped heating surface. Directly applied PU hard foam insulation cased with a coloured PVC cover.

### 3.2 Suggested tender text

Vertical indirect calorifier made from sheet steel and a securely welded on, coil shaped heating surface.  
Protected against corrosion by a double layer of enamel and an additional protective anode. Thermally insulated with PU hard foam, lined with a coloured PVC cover.  
Thermometer to measure the temperature of the secondary hot water.

Make:	Remeha
Model:	CSN
Capacity:	l
Height:	mm
Width:	mm
Diameter:	mm
Power factor in accordance with DIN 4708:	
Permanent output at	
V (primary flow) = 80°C	
KW (cold water) = 10°C	
WW (secondary hot water) = 45°C:	l/h
Maximum operating pressure:	
Primary water	12 bar
Secondary water	10 bar
Maximum operating temperatures:	
Primary water	110°C
Secondary water	95°C

### 3.3 Scope of delivery

Storage water heater with a directly applied PU hard foam insulation casing and lined with a coloured PVC cover. Welded on immersion sleeve for mounting the **rematic**® control temperature sensor. Connections for secondary water and heating covered with rosettes. Thermometer to measure the temperature of the secondary hot water.

### 3.4 Transported

On a pallet in sturdy transport packaging.

### 3.5 Technical data and dimensions

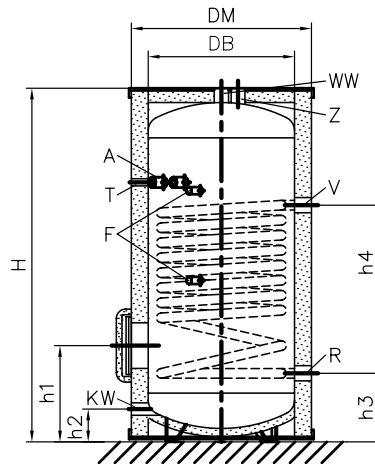
Type		CSN	CSN	CSN	CSN	CSN
Capacity	l	150	200	300	400	500
DB	mm	500	500	600	600	600
DM	mm	600	600	700	700	700
H	mm	975	1235	1260	1590	1910
h1	mm	294	294	305	305	305
h2	mm	95	95	94	94	94
h3	mm	180	180	191	191	191
h4	mm	534	643	689	797	797
h5	mm	457	511	585	1055	1145
h6	mm	876	1136	1161	1491	1811
Flange	mm	Ø180	Ø180	Ø180	Ø180	Ø180
WW						
Secondary hot water	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
KW						
Cold water	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
V						
Primary flow	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
R						
Primary return	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
Z						
Circulation	int.	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"
A						
Protection anode	int.	M8	M8	M8	M8	Rp 1 1/4"
T - F						
Pocket	mm	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6
Weight	kg	92	116	134	167	207

### 3.6 Performance data

Type	Storage tank capacity	Primary flow	Power factor (NL) in accordance with DIN 4708		Constant secondary hot water power				Primary flow		Primary pressure drop	
					Cold water temperature 10°C				m³/h		mbar	
					45°C *		60°C *		45°C *	60°C *	45°C *	60°C *
l	°C	45°C *	60°C *	l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *	
CSN 150	150	70	1	0,8	320	13	130	7	1,39	0,64	9	2
		80	1	2	470	19	240	14	2,04	1,18	18	7
		90	1	2,4	630	26	350	21	2,78	1,77	32	14
CSN 200	200	70	2	3	480	19	230	13	1,52	1,13	16	9
		80	2	4	630	26	370	22	1,47	1,56	15	17
		90	2	4,5	870	35	560	33	2,03	2,34	27	35
CSN 300	300	70	5	8	750	30	360	21	2,38	1,82	52	32
		80	5	10	1000	41	600	35	2,34	2,49	50	56
		90	5	10	1380	56	880	51	3,22	3,68	90	115
CSN 400	400	70	9	12	1040	42	510	30	3,32	2,54	121	74
		80	9	15	1390	57	830	48	3,25	3,45	117	130
		90	9	15,5	1910	78	1230	71	4,45	5,11	207	267
CSN 500	500	70	12	13	1040	42	510	30	3,32	2,54	121	74
		80	12	18	1390	57	830	48	3,25	3,45	117	130
		90	12,5	18,5	1910	78	1230	71	4,45	5,11	207	267

\* Secondary hot water temperature

## 4. HSRN 800-1000



### 4.1 Description and technical data

Vertical indirect calorifier. Heated via a heating boiler.  
 Tank made from S235JRG2 steel.  
 Protected against corrosion by a double layer of enamel and a protective anode. Securely installed, coil shaped heating surface.  
 PU soft foam insulation to be mounted on site, cased with a coloured PVC cover.

### 4.2 Suggested tender text

Vertical indirect calorifier made from sheet steel and a securely welded on, coil shaped heating surface.  
 Protected against corrosion by a double layer of enamel and an additional protective anode. Thermally insulated with PU soft foam, lined with a coloured PVC cover.  
 Thermometer to measure the temperature of the secondary hot water.

### 4.3 Scope of delivery

Storage water heater with a directly applied PU soft foam insulation casing and lined with a coloured PVC cover.  
 Welded on immersion sleeve for mounting the **rematic**® control temperature sensor. Connections for secondary water and heating covered with rosettes. Thermometer to measure the temperature of the secondary hot water.

### 4.4 Transported

On a pallet in sturdy transport packaging.

Make:	Remeha
Model:	HSRN
Capacity:	l
Height:	mm
Width:	mm
Diameter:	mm
Power factor in accordance with DIN 4708:	
Permanent output at	
V (primary flow) = 80°C	
KW (cold water) = 10°C	
WW (secondary hot water) = 45°C:	l/h
Maximum operating pressure:	
Primary water	12 bar
Secondary water	10 bar
Maximum operating temperatures:	
Primary water	110°C
Secondary water	95°C

#### 4.5 Technical data and dimensions

Type		HSRN	HSRN
Capacity	l	800	1000
DB	mm	780	875
DM	mm	960	1055
H	mm	1980	2005
h1	mm	455	460
h2	mm	130	130
h3	mm	305	310
h4	mm	1248	1401
Flange	mm	Ø308	Ø308
WW			
Secondary hot water	int.	Rp 1 1/4"	Rp 1 1/4"
KW			
Cold water	int.	Rp 1 1/4"	Rp 1 1/4"
V			
Primary flow	int.	Rp 1 1/2"	Rp 1 1/2"
R			
Primary return	int.	Rp 1 1/2"	Rp 1 1/2"
Z			
Circulation	int.	Rp 1"	Rp 1"
A			
Protection anode	int.	Rp 1 1/4"	Rp 1 1/4"
T - F			
Pocket	mm	Ø17 - Ø6	Ø17 - Ø6
Weight	kg	355	395

#### 4.6 Performance data

Type	Storage tank capacity	Primary flow	Power factor (NL) in accordance with DIN 4708		Constant secondary hot water power				Primary flow		Primary pressure drop	
					Cold water temperature 10°C				m³/h		mbar	
					45°C *		60°C *		45°C *	60°C *	45°C *	60°C *
	l	°C	45°C *	60°C *	l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *
HSRN 800	800	60	18		1110	45			5,54		204	
		70	22	24	1610	66	850	49	5,13	5,29	176	187
		80	22	31	2150	88	1290	75	5,02	5,37	169	192
		90	22	31	2730	111	1700	99	5,02	4,99	169	167
HSRN 1000	1000	60	23		1330	54			5,16		217	
		70	27	30	1910	78	1020	59	4,78	5,11	188	213
		80	27	40	2590	105	1540	89	5,04	5,13	207	214
		90	27	40	3250	132	2010	117	4,95	4,79	200	188

\* Secondary hot water temperature

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## 1. GÉNÉRALITÉS

### 1.1 Montage et descriptif

Les ballons ECS Remeha sont conçus pour le réchauffage de l'eau sanitaire. Le chauffage se fait indirectement au moyen d'une chaudière.

Les divers types de ballons et d'échangeurs thermiques permettent de couvrir des besoins dans tous les cas de figure.

### 1.2 Ballons

Le ballon de tous les types à accumulation sont en acier S235JRG2. Le double émaillage et les techniques de soudure utilisées sont la garantie d'un produit de qualité. La double couche d'émail sur tout l'intérieur de la chemise ainsi qu'au niveau des tubulures d'échange thermique fixés par soudure garantissent une protection éprouvée contre la corrosion, en milieu acide comme en milieu alcalin.

L'anode de protection, conforme à la norme DIN 4753 T.6, garantit elle aussi la protection contre la corrosion.

### 1.3 Echangeurs thermiques/Surfaces de chauffe

Les accumulateurs sont pourvus de surfaces de chauffe fixées par soudures et composées de spirales tubulaires.

### 1.4 Isolation thermique

Tous les ballons sont enrobés de mousse en Polyuréthane isotherme sans CFC. Pour leur fabrication, il est recouru à un procédé empêchant la formation de cavités avec effet de cheminée au niveau du ballon. Le piétement est intégré à l'isolation isotherme ce qui prévient la formation de ponts thermiques. Une jaquette en tôle (HSL) ou une feuille en PVC (CSN et HSRN) de couleur, assure la protection de l'isolant, ainsi qu'une esthétique soignée de l'appareil.

### 1.5 Régulation

Le système de régulation *rematic*<sup>®</sup> assure au choix soit la commutation prioritaire de l'ECS, soit la commande d'une charge parallèle.

Le capteur pour ECS est monté dans un doigt de gant de l'accumulateur et relié électriquement au coffret de sécurité de la chaudière ou au bornier de l'adaptateur du système de régulation *rematic*<sup>®</sup>. Il est possible de prévoir des circuits de montage spéciaux.

### 1.6 Label de qualité

La constance de la qualité supérieure est garantie par des inspections régulières de la fabrication.

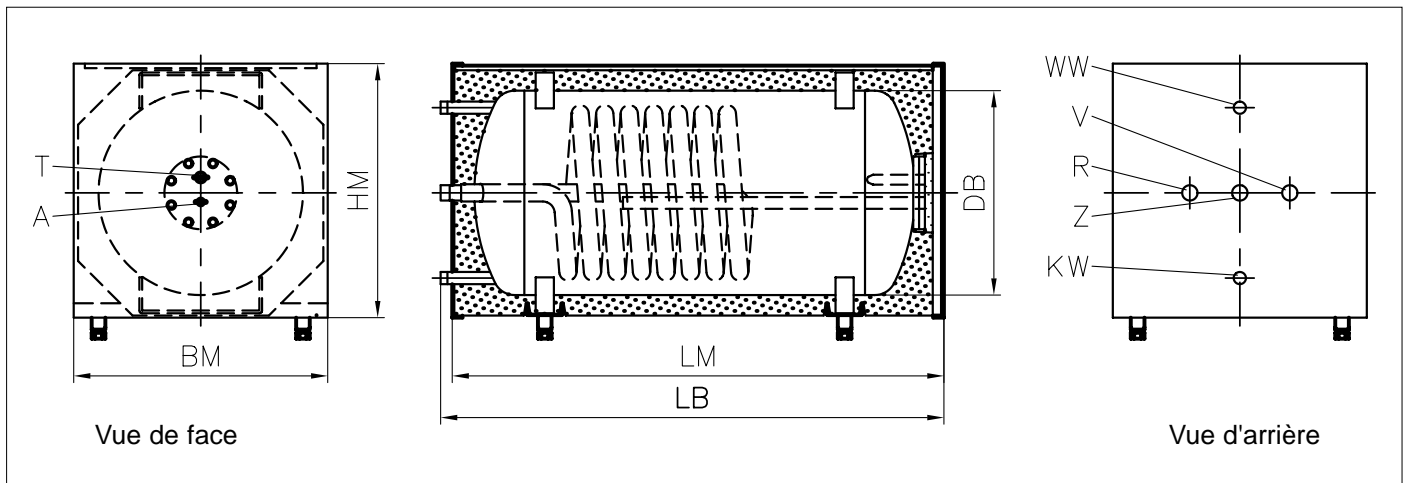
### 1.7 Utilisation

Température de service maxi/pression de service maxi:

- |             |              |
|-------------|--------------|
| - Chauffage | 110°C/12 bar |
| - ECS       | 95°C/10 bar  |



## 2. HSL 140



### 2.1 Descriptif et fiche technique

Chauffe-eau à accumulation, pose à l'horizontale, combiné à une chaudière.

Ballon en tôle d'acier S235JRG2.

Protection anticorrosion par double émaillage et anode de protection.

Surfaces de chauffe fixes en forme de spirale.

Isolation en mousse rigide de polyuréthane directement formée sur l'appareil avec jaquette en tôle de couleur.

Thermomètre indiquant la température de l'eau chaude.

### 2.2 Texte pour appel d'offres

Chauffe-eau à accumulation, pose à l'horizontale, en tôle d'acier et surfaces de chauffe fixées par soudure en forme de spirale.

Protection anticorrosion par double émaillage et anode de protection.

Isolation thermique par mousse de polyuréthane rigide avec jaquette en tôle de couleur.

Thermomètre indiquant la température de l'eau chaude.

### 2.3 Eléments compris dans la livraison

Chauffe-eau à accumulation avec isolation en mousse de polyuréthane rigide directement formée sur l'appareil et jaquette en tôle de couleur. Doigt de gant fixé par soudure pour la pose du capteur thermique du système de régulation **rematic**®.

Douilles de raccordement au réseau d'eau potable et au chauffage au dos de l'appareil.

Thermomètre à distance intégré pour la température de l'eau chaude.

### 2.4 Accessoires

Kit d'alimentation du chauffe-eau se composant de deux flexibles de raccordement et d'une pompe de charge.

### 2.5 Expédition

En emballage solide sur palette.

Fabricant:	Remeha
Type:	HSL
Contenance:	140 l
Hauteur:	550 mm
Largeur:	550 mm
Profondeur:	1076 mm
Facteur NL d'après norme DIN 4708:	
Débit continu avec	
Température de départ = 80°C	
Température d'eau froide = 10°C	
Température d'eau chaude = 45°C:	780 l/h
Pression de service maxi:	
Chauffage	12 bar
Eau chaude	10 bar
Température de service maxi:	
Chauffage	110 °C
Eau chaude	95 °C

## 2.6 Fiche technique

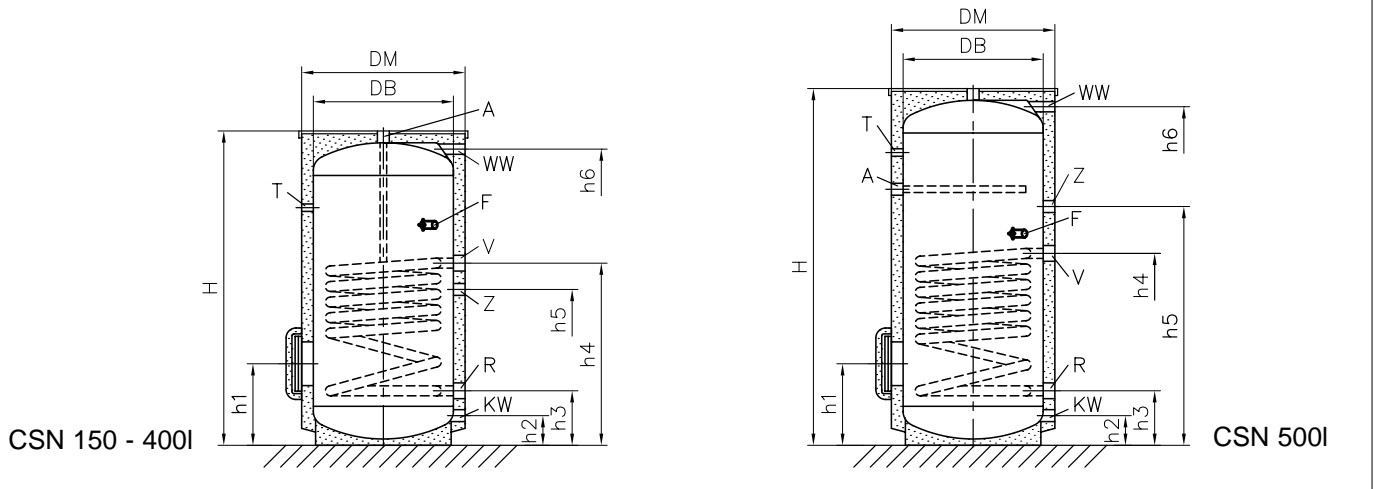
Contenance nominale	I	140
Hauteur HM	mm	550
Largeur BM	mm	550
Profondeur	LM	mm 1076
	LB	mm 1104
Ø Ballon DB	mm	450
Poids	kg	110
Raccords		
KW		
Eau froide	ext.	R 3/4"
WW		
Eau chaude	ext.	R 3/4"
Z		
Circulation	int.	Rp 3/4"
V		
Départ chauffage	ext.	R 1"
R		
Retour chauffage	ext.	R 1"
T		
Doit de gant pour capteur	mm	Ø17-Ø6
A		
Anode de protection	int.	M8

## 2.7 Données relatives à la puissance

Type	Contenance du ballon	Température de départ	Puissance nominale (NL) selon la norme DIN 4708		Débit continu				Débit d'eau de chauffage	Perte de charge coté chauffage
					Température eau froide = 10°C					
					45°C*		60°C*			
I	°C	45°C*	60°C*	l/h	kW	l/h	kW	m <sup>3</sup> /h	mbar	
HSL 140	140	70	0,5	2	577	24	301	18	2,3	71
		80	0,5	2	780	32	462	27	2,3	71
		90			1009	41	627	36	2,3	71

\* Température d'eau chaude

## 3. CSN 150-500



### 3.1 Descriptif et fiche technique

Chauffe-eau à accumulation, pose à la verticale.  
 Chauffage par chaudière.  
 Ballon en tôle d'acier S235JRG2.  
 Protection anticorrosion par double émaillage et anode de protection.  
 Surfaces de chauffe fixes en forme de spirale.  
 Isolation en mousse rigide de polyuréthane directement formée sur l'appareil avec jaquette en PVC de couleur.

### 3.2 Texte pour appel d'offres

Chauffe-eau à accumulation, pose à la verticale, en tôle d'acier et surfaces de chauffe fixées par soudure en forme de spirale.  
 Protection anticorrosion par double émaillage et anode de protection supplémentaire.  
 Isolation thermique par mousse de polyuréthane rigide avec jaquette en PVC de couleur.  
 Thermomètre indiquant la température de l'eau chaude.

Fabricant:	Remeha
Type:	CSN
Contenance:	l
Hauteur:	mm
Largeur:	mm
Diamètre:	mm
Facteur NL d'après norme DIN 4708:	
Débit continu à	
Température de départ = 80°C	
Température de retour = 10°C	
Température d'eau chaude = 45°C:	l/h
Pression de service maxi:	
Chauffage	12 bar
Eau chaude	10 bar
Température de service maxi:	
Chauffage	110 °C
Eau chaude	95 °C

### 3.3 Eléments compris dans la livraison

Chauffe-eau à accumulation avec isolation en mousse de polyuréthane rigide directement formée sur l'appareil et jaquette en PVC de couleur. Doigt de gant fixé par soudure pour la pose du capteur thermique du système de régulation **rematic®**.  
 Douilles de raccordement au réseau d'eau sanitaire et au chauffage avec plaquettes d'ancrage rondes.  
 Thermomètre indiquant la température de l'eau chaude.

### 3.4 Expédition

En emballage solide sur palette.

### 3.5 Fiche technique

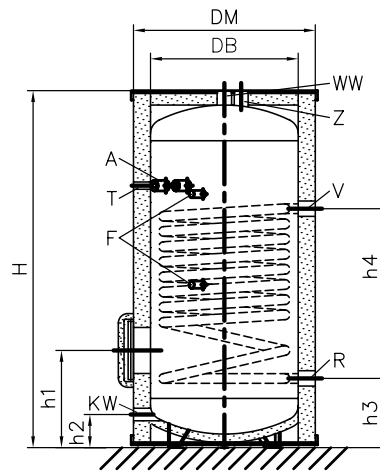
Type		CSN	CSN	CSN	CSN	CSN
Contenance	l	150	200	300	400	500
DB	mm	500	500	600	600	600
DM	mm	600	600	700	700	700
H	mm	975	1235	1260	1590	1910
h1	mm	294	294	305	305	305
h2	mm	95	95	94	94	94
h3	mm	180	180	191	191	191
h4	mm	534	643	689	797	797
h5	mm	457	511	585	1055	1145
h6	mm	876	1136	1161	1491	1811
Bride	mm	Ø180	Ø180	Ø180	Ø180	Ø180
WW						
Eau chaude	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
KW						
Eau froide	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
V						
Départ chauffage	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
R						
Retour chauffage	int.	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
Z						
Circulation	int.	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"
A						
Anode	int.	M8	M8	M8	M8	Rp 1 1/4"
T - F						
Doigt de gant	mm	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6
Poids	kg	92	116	134	167	207

### 3.6 Données relatives à la puissance

Type	Contenance du ballon	Température de départ	Puissance nominale selon la norme DIN 4708		Débit continu				Débit d'eau de chauffage		Perte de charge coté chauffage	
					Température eau froide = 10°C				m <sup>3</sup> /h		mbar	
					45°C *		60°C *		45°C *	60°C *	45°C *	60°C *
l	°C	45°C *	60°C *	l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *	
CSN 150	150	70	1	0,8	320	13	130	7	1,39	0,64	9	2
		80	1	2	470	19	240	14	2,04	1,18	18	7
		90	1	2,4	630	26	350	21	2,78	1,77	32	14
CSN 200	200	70	2	3	480	19	230	13	1,52	1,13	16	9
		80	2	4	630	26	370	22	1,47	1,56	15	17
		90	2	4,5	870	35	560	33	2,03	2,34	27	35
CSN 300	300	70	5	8	750	30	360	21	2,38	1,82	52	32
		80	5	10	1000	41	600	35	2,34	2,49	50	56
		90	5	10	1380	56	880	51	3,22	3,68	90	115
CSN 400	400	70	9	12	1040	42	510	30	3,32	2,54	121	74
		80	9	15	1390	57	830	48	3,25	3,45	117	130
		90	9	15,5	1910	78	1230	71	4,45	5,11	207	267
CSN 500	500	70	12	13	1040	42	510	30	3,32	2,54	121	74
		80	12	18	1390	57	830	48	3,25	3,45	117	130
		90	12,5	18,5	1910	78	1230	71	4,45	5,11	207	267

\* Température d'eau chaude

## 4. HSRN 800-1000



### 4.1 Descriptif et fiche technique

Chauffe-eau à accumulation, pose à la verticale.  
 Chauffage par chaudière.  
 Ballon en tôle d'acier S235JRG2.  
 Protection anticorrosion par double émaillage et anode de protection.  
 Surfaces de chauffe fixes en forme de spirale.  
 Isolation en mousse souple de polyuréthane pour montage dans le chaufferie avec jaquette en PVC de couleur.

### 4.2 Texte pour appel d'offres

Chauffe-eau à accumulation, pose à la verticale, en tôle d'acier et surfaces de chauffe fixées par soudure en forme de spirale.  
 Protection anticorrosion par double émaillage et anode de protection supplémentaire.  
 Isolation thermique par mousse de polyuréthane souple avec jaquette en PVC de couleur.  
 Thermomètre indiquant la température de l'eau chaude.

Fabricant:	Remeha
Type:	HSRN
Contenance:	l
Hauteur:	mm
Largeur:	mm
Diamètre:	mm
Facteur NL d'après norme DIN 4708:	
Débit continu à	
Température de départ = 80°C	
Température d'eau froide = 10°C	
Température d'eau chaude = 45°C:	l/h
Pression de service maxi:	
Chauffage	12 bar
Eau chaude	10 bar
Température de service maxi:	
Chauffage	110 °C
Eau chaude	95 °C

### 4.3 Eléments compris dans la livraison

Chauffe-eau à accumulation avec isolation en mousse de polyuréthane souple directement formée sur l'appareil et jaquette en PVC de couleur. Doigt de gant fixé par soudure pour la pose du capteur thermique du système de régulation **rematic**®.  
 Douilles de raccordement au réseau d'eau sanitaire et au chauffage recouverts de plaquettes d'ancrage rondes.  
 Thermomètre indiquant la température de l'eau chaude.

### 4.4 Expédition

En emballage solide sur palette.

#### 4.5 Fiche technique

Type		HSRN	HSRN
Contenance	l	800	1000
DB	mm	780	875
DM	mm	960	1055
H	mm	1980	2005
h1	mm	455	460
h2	mm	130	130
h3	mm	305	310
h4	mm	1248	1401
Bride	mm	Ø308	Ø308
WW			
Eau chaude	int.	Rp 1 1/4"	Rp 1 1/4"
KW			
Eau froide	int.	Rp 1 1/4"	Rp 1 1/4"
V			
Départ chauffage	int.	Rp 1 1/2"	Rp 1 1/2"
R			
Retour chauffage	int.	Rp 1 1/2"	Rp 1 1/2"
Z			
Circulation	int.	Rp 1"	Rp 1"
A			
Anode	int.	Rp 1 1/4"	Rp 1 1/4"
T - F			
Doigt de gant	mm	Ø17 - Ø6	Ø17 - Ø6
Poids	kg	355	395

#### 4.6 Données relatives à la puissance

Type	Contenance du ballon	Température de départ	Puissance nominale selon la norme DIN 4708		Débit continu				Débit d'eau de chauffage		Perte de charge coté chauffage	
					Température eau froide = 10°C				m³/h		mbar	
					45°C *		60°C *		m³/h		mbar	
l	°C	45°C *	60°C *	l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *	
HSRN 800	800	60	18		1110	45			5,54		204	
		70	22	24	1610	66	850	49	5,13	5,29	176	187
		80	22	31	2150	88	1290	75	5,02	5,37	169	192
		90	22	31	2730	111	1700	99	5,02	4,99	169	167
HSRN 1000	1000	60	23		1330	54			5,16		217	
		70	27	30	1910	78	1020	59	4,78	5,11	188	213
		80	27	40	2590	105	1540	89	5,04	5,13	207	214
		90	27	40	3250	132	2010	117	4,95	4,79	200	188

\* Température d'eau chaude

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## 1. ALLGEMEIN

### 1.1 Aufbau und Beschreibung

Remeha Speicher Wassererwärmer wurden zur Erwärmung von Trinkwasser entwickelt. Die Beheizung erfolgt indirekt mittels Heizkessel. Die unterschiedlichen Konstruktionen sowohl der Behälter, als auch der Wärmetauscher ermöglichen eine sichere Bedarfsdeckung bei allen Anwendungsfällen.

### 1.2 Behälter

Die Behälter aller Speichertypen sind aus S235JRG2 mit Gütenachweis gefertigt. Emailliergerechte Konstruktionen in Verbindung mit erprobten Schweißverfahren sind die Basis für das Qualitätsprodukt.

Eine Zweischicht-Emaillierung auf der gesamten Innenfläche, wie auf den fest eingeschweissten Rohrwärmetauschern, sorgen für einen beständigen Korrosionsschutz im sauren wie im alkalischen Bereich. Die nach DIN 4753 Teil 6 eingebaute Schutzanode bietet einen zusätzlichen Korrosionsschutz.

### 1.3 Wärmetauscher/Heizflächen

Die Speicher sind mit fest eingeschweissten, spiralförmig angeordneten Rohrheizflächen ausgestattet.

### 1.4 Wärmeschutzisolierung

Alle Behälter sind mit einem wärmedämmenden FCKW freien PU-schaum isoliert. Dabei wird ein Fertigungsverfahren angewandt, welches die Entstehung von Hohlräumen mit Kaminwirkung am Behälter unterbindet. Die Fusskonstruktion ist in die Wärmeschutzisolierung integriert, dadurch werden Wärmebrücken vermieden. Ein farbigem Blechmantel (HSL) oder eine farbige PVC-Folie (CSN und HSRN) kaschiert den Isolierschaum und sorgt für eine ansprechende Optik.

### 1.5 Regelung

Die **rematic**<sup>®</sup>-Regelung übernimmt wahlweise die Trinkwasservorrangsschaltung oder steuert eine Parallelladung. Der Trinkwasserfühler wird in der Tauchhülse des Speichers montiert und elektrisch am Kesselautomaten oder auf der Klemmleiste am Einbauadapter der **rematic**<sup>®</sup> Regelung angeschlossen. Sonderschaltungen sind möglich.

### 1.6 Gütenachweis

Eine gleichbleibende Qualität auf hohem Niveau ist durch regelmässige Überprüfung der Fertigung seitens des TÜV sichergestellt.

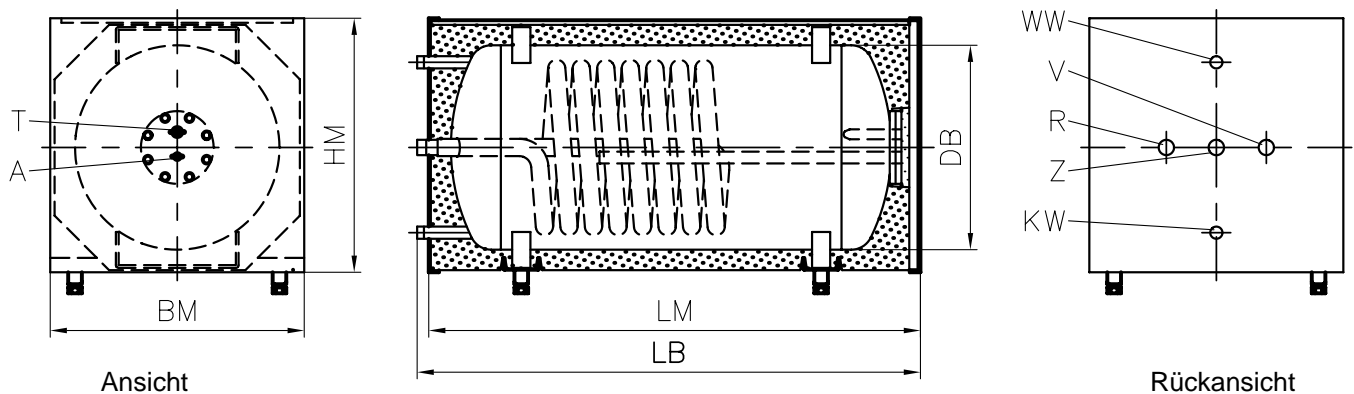
### 1.7 Anwendung

Zulässige Betriebstemperaturen bzw. -drücke:

- Heizung 110°C/12 bar
- Trinkwasser 95°C/10 bar



## 2. HSL 140



### 2.1 Beschreibung und technische Daten

Speicher-Wassererwärmer in liegender Ausführung zur Kombination mit Heizkessel.

Behälter aus Stahlblech S235JRG2 mit Gütenachweis. Korrosionsschutz durch Zweischicht-Emaillierung und Schutzanode.

Fest eingebaute, spiralförmige Heizfläche. Direkt aufgeschäumte PU-Hartschaumisolierung mit farbigem Blechmantel verkleidet.

Thermometer für Trinkwassertemperatur.

### 2.2 Ausschreibungstext

Speicher-Wassererwärmer in liegender Ausführung aus Stahlblech mit Gütenachweis und eingeschweisster Spiralheizfläche.

Korrosionsschutz durch Zweischicht-Emaillierung und Schutzanode.

Wärmedämmung aus PU-Hartschaum mit farbigem Blechmantel verkleidet.

Thermometer für Trinkwassertemperatur

Fabrikat:	Remeha
Typ:	HSL
Inhalt:	140 l
Höhe:	550 mm
Breite:	550 mm
Tiefe:	1076 mm

Leistungskennzahl nach DIN 4708:

Dauerleistung bei  
V (Vorlauf) = 80°C

KW (Kaltwasser) = 10°C

WW (Warmwasser) = 45°C: 780 l/h

Zulässiger Betriebsdruck:

Heizung 12 bar

Trinkwasser 10 bar

Zulässige Betriebstemperatur:

Heizung 110°C

Trinkwasser 95°C

### 2.3 Lieferumfang

Speicher-Wassererwärmer mit direkt aufgeschäumter PU-Hartschaumisolierung und farbigem Blechmantel.

Eingeschweisste Tauchhülse zur Montage des Temperatursensors der **rematic**-Regelung.

Anschlüsse für Trinkwasser und Heizung an der Rückseite.

Eingebautes Fernthermometer für Trinkwassertemperatur.

### 2.4 Zubehör

Boilerladeset, bestehend aus 2 Verbindungsschläuchen und Ladepumpe.

### 2.5 Versand

In stabiler Transportverpackung auf Palette.

## 2.6 Technische Daten und Abmessungen

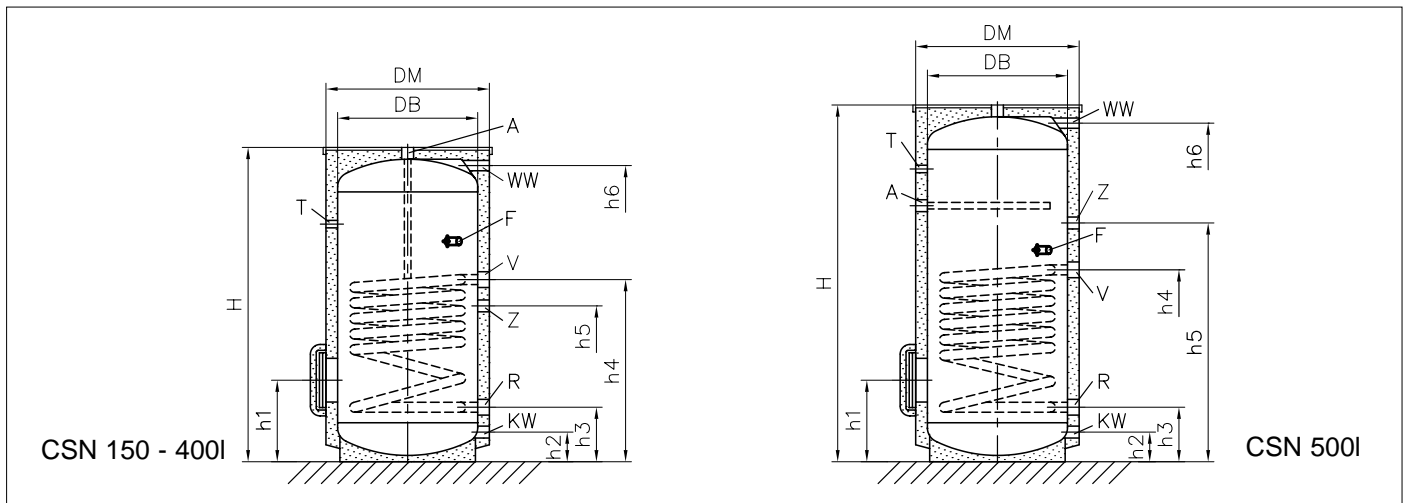
Nenninhalt	I	140
Höhe HM	mm	550
Breite BM	mm	550
Tiefe	LM	1076
	LB	1104
Gewicht	kg	110
Ø Behälter DB	mm	450
Anschlüsse		
KW Kaltwasser	Aussen- gewinde	R 3/4"
WW Warmwasser	Aussen- gewinde	R 3/4"
Z Zirkulation	Innen- gewinde	Rp 3/4"
V Vorlauf Heizung	Aussen- gewinde	R 1"
R Rücklauf Heizung	Aussen- gewinde	R 1"
T Tauchhülse-Regelfühler	mm	Ø17-Ø6
A Schutzanode	Innen- gewinde	M8

## 2.7 Leistungsdaten

Type	Speicher- inhalt	Temp. Vor- lauf	Leistungskennzahl NL nach DIN 4708		Trinkwasserdauerleistung Kaltwassertemperatur 10°C				Heiz- wasser bedarf	Druck- verlust
			45°C*	60°C*	45°C*		60°C*			
	I	°C			l/h	kW	l/h	kW	m³/h	mbar
HSL 140	140	70	0,5	2	577	24	301	18	2,3	71
		80	0,5	2	780	32	462	27	2,3	71
		90	0,5	2	1009	41	627	36	2,3	71

\* Speichertemperatur

## 3. CSN 150-500



### 3.1 Beschreibung und technische Daten

Speicher-Wassererwärmer in stehender Ausführung.  
 Beheizung über Heizkessel.  
 Behälter aus Stahl S235JRG2 mit Gütenachweis.  
 Korrosionsschutz durch Zweischicht-Emaillierung und Schutzanode.  
 Fest eingebaute, spiralförmige Heizfläche. Direkt aufgeschäumte PU-Hartschaumisolierung mit farbiger PVC-Folie kaschiert.

### 3.2 Ausschreibungstext

Speicher-Wassererwärmer in stehender Ausführung aus Stahlblech mit Gütenachweis und eingeschweisster Spiralheizfläche. Korrosionsschutz durch Zweischicht-Emaillierung und zusätzlicher Schutzanode.  
 Wärmedämmung aus PU-Hartschaumisolierung mit farbiger PVC-Folie kaschiert.  
 Thermometer für Trinkwassertemperatur.

Fabrikat:	Remeha
Typ:	CSN
Inhalt:	l
Höhe:	mm
Durchmesser:	mm
Leistungskennzahl nach DIN 4708:	
Dauerleistung bei V (Vorlauf) = 80°C	
KW (Kaltwasser) = 10°C	
WW (Warmwasser) = 45°C:	l/h
Zulässiger Betriebsdruck:	
Heizung	12 bar
Trinkwasser	10 bar
Zulässige Betriebstemperatur:	
Heizung	110°C
Trinkwasser	95°C

### 3.3 Lieferumfang

Speicher-Wassererwärmer mit PU-Weichschaumisolierung und farbiger PVC-Folie kaschiert.  
 Eingeschweisste Tauchhülse zur Montage des Temperaturfühlers der **rematic**-Regelung.  
 Anschlüsse für Trinkwasser und Heizung mit Rosetten abgedeckt.  
 Thermometer für Trinkwassertemperatur.

### 3.4 Versand

In stabiler Transportverpackung auf Palette.

### 3.5 Technische Daten und Abmessungen

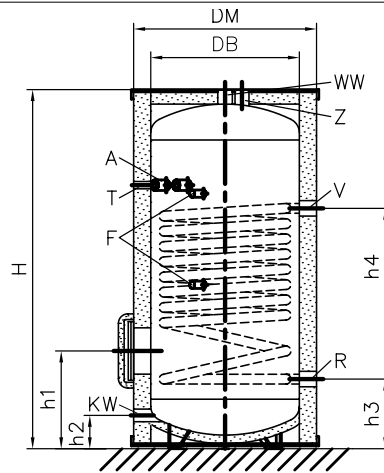
Type		CSN	CSN	CSN	CSN	CSN
Inhalt	l	150	200	300	400	500
DB	mm	500	500	600	600	600
DM	mm	600	600	700	700	700
H	mm	975	1235	1260	1590	1910
h1	mm	294	294	305	305	305
h2	mm	95	95	94	94	94
h3	mm	180	180	191	191	191
h4	mm	534	643	689	797	797
h5	mm	457	511	585	1055	1145
h6	mm	876	1136	1161	1491	1811
Flansch	mm	Ø180	Ø180	Ø180	Ø180	Ø180
WW						
Warmwasser	IG	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
KW						
Kaltwasser	IG	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
V						
Vorlauf Heizung	IG	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
R						
Rücklauf Heizung	IG	Rp 1"	Rp 1"	Rp 1"	Rp 1"	Rp 1"
Z						
Zirkulation	IG	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"	Rp 3/4"
A						
Schutzanode	IG	M8	M8	M8	M8	Rp 1 1/4"
T - F						
Tauchhülse	mm	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6	Ø17 - Ø6
Gewicht	kg	92	116	134	167	207

### 3.6 Leistungsdaten

Type	Speicherinhalt	Temp. Vorlauf	Leistungskennzahl nach DIN 4708		Trinkwasserdauerleistung Kaltwassertemperatur = 10°C				Heizwasserbedarf		Druckverlust	
					45°C *		60°C *		m³/h		mbar	
					l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *
CSN 150	150	70	1	0,8	320	13	130	7	1,39	0,64	9	2
		80	1	2	470	19	240	14	2,04	1,18	18	7
		90	1	2,4	630	26	350	21	2,78	1,77	32	14
CSN 200	200	70	2	3	480	19	230	13	1,52	1,13	16	9
		80	2	4	630	26	370	22	1,47	1,56	15	17
		90	2	4,5	870	35	560	33	2,03	2,34	27	35
CSN 300	300	70	5	8	750	30	360	21	2,38	1,82	52	32
		80	5	10	1000	41	600	35	2,34	2,49	50	56
		90	5	10	1380	56	880	51	3,22	3,68	90	115
CSN 400	400	70	9	12	1040	42	510	30	3,32	2,54	121	74
		80	9	15	1390	57	830	48	3,25	3,45	117	130
		90	9	15,5	1910	78	1230	71	4,45	5,11	207	267
CSN 500	500	70	12	13	1040	42	510	30	3,32	2,54	121	74
		80	12	18	1390	57	830	48	3,25	3,45	117	130
		90	12,5	18,5	1910	78	1230	71	4,45	5,11	207	267

\*Speichertemperatur

## 4. HSRN 800-1000



### 4.1 Beschreibung und technische Daten

Speicher-Wassererwärmer in stehender Ausführung.  
Beheizung über Heizkessel.  
Behälter aus Stahlblech S235JRG2 mit Gütenachweis.  
Korrosionsschutz durch Zweischicht-Emallierung und Schutzanode.  
Fest eingebaute, spiralförmige Heizfläche.  
PU-Weichschaumisolierung mit farbiger PVC-Folie kaschiert (im Aufstellraum zu montieren).

### 4.2 Ausschreibungstext

Speicher-Wassererwärmer in stehender Ausführung aus Stahlblech mit Gütenachweis und eingeschweisster Spiralheizfläche.  
Korrosionsschutz durch Zweischicht-Emallierung und zusätzlicher Schutzanode.  
Wärmedämmung aus PU-Weichschaum mit farbiger PVC-Folie kaschiert.  
Thermometer für Trinkwassertemperatur.

### 4.3 Lieferumfang

Speicher-Wassererwärmer mit PU-Weichschaumisolierung und farbiger PVC-Folie kaschiert.  
Eingeschweisste Tauchhülse zur Montage des Temperaturfühlers der **rematic**<sup>®</sup>-Regelung.  
Anschlüsse für Trinkwasser und Heizung mit Rosetten abgedeckt.  
Thermometer für Trinkwassertemperatur.

### 4.4 Versand

In stabiler Transportverpackung auf Palette.

Fabrikat:	Remeha
Typ:	HSRN
Inhalt:	1
Höhe:	mm
Durchmesser:	mm
Leistungskennzahl nach DIN 4708:	
Dauerleistung bei	
V (Vorlauf) = 80°C	
KW (Kaltwasser) = 10°C	
WW (Warmwasser) = 45°C:	l/h
Zulässiger Betriebsdruck:	
Heizung	12 bar
Trinkwasser	10 bar
Zulässige Betriebstemperatur:	
Heizung	110°C
Trinkwasser	95°C

#### 4.5 Technische Daten und Abmessungen

Type		HSRN	HSRN
Inhalt	l	800	1000
DB	mm	780	875
DM	mm	960	1055
H	mm	1980	2005
h1	mm	455	460
h2	mm	130	130
h3	mm	305	310
h4	mm	1248	1401
h5	mm	-	-
h6	mm	-	-
Flansch	mm	Ø308	Ø308
WW			
Warmwasser	IG	Rp 1 1/4"	Rp 1 1/4"
KW			
Kaltwasser	IG	Rp 1 1/4"	Rp 1 1/4"
V			
Vorlauf Heizung	IG	Rp 1 1/2"	Rp 1 1/2"
R			
Rücklauf Heizung	IG	Rp 1 1/2"	Rp 1 1/2"
Z			
Zirkulation	IG	Rp 1"	Rp 1"
A			
Schutzanode	IG	Rp 1 1/4"	Rp 1 1/4"
T - F			
Tauchhülse	mm	Ø17 - Ø6	Ø17 - Ø6
Gewicht	kg	355	395

#### 4.6 Leistungsdaten

Type	Speicherinhalt	Temp. Vorlauf	Leistungskennzahl nach DIN 4708		Trinkwasserdauerleistung Kaltwassertemperatur = 10°C				Heizwasserbedarf		Druckverlust	
					45°C *		60°C *		m³/h		mbar	
					l/h	kW	l/h	kW	45°C *	60°C *	45°C *	60°C *
HSRN 800	800	60	18		1110	45			5,54		204	
		70	22	24	1610	66	850	49	5,13	5,29	176	187
		80	22	31	2150	88	1290	75	5,02	5,37	169	192
		90	22	31	2730	111	1700	99	5,02	4,99	169	167
HSRN 1000	1000	60	23		1330	54			5,16		217	
		70	27	30	1910	78	1020	59	4,78	5,11	188	213
		80	27	40	2590	105	1540	89	5,04	5,13	207	214
		90	27	40	3250	132	2010	117	4,95	4,79	200	188

\* Speichertemperatur

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