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HANDLING SYSTEMS

NOW INCLUDES FASTflo PLUS Condensing Model

FASTflo

Continuous Flow Wall Hung range Balanced Flue Water Heaters

Working towards
a cleaner future

ANDREWS
WATER HEATERS

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FASTflo

Continuous Flow Wall Hung Balanced Flue Water Heaters, now including a condensing model

The FASTflo range is ideal for commercial or large domestic applications where an endless supply of hot water is required. Unlike old instantaneous type water heaters, the design measures the incoming water flow and temperature then modulates the burner up or down to meet the desired hot water demand with plus or minus one degree accuracy. This technology ensures a continuous flow of hot water, that is also very safe to operate. Supplied with a BS Gas Cock, Installation Manual and Owners Guide.

Further benefits

- Hot water on demand, with efficiency up to 103% (applies to Condensing Unit)
- Modulating burner and no stand-by heat losses
- Automatic ignition means no costs whilst unit is not in use
- Compact and light for easy location and installation
- Accurate temperature settings from 37ºC to 80ºC
- Condensing model available
- Internal room sealed and external models
- Factory fitted anti-frost protection on all models
- Safe and constant flow of endless hot water
- Reduced risk of harmful legionella bacteria forming
- Flue systems to suit most applications

Remote Controller

A remote controller, designed especially for the Andrews WH, WHX and WHC range of heaters, is required to operate the appliance*. This allows external adjustment of the required flow temperature and in addition provides a wide range of operation and fault diagnosis information. The remote controller is easily connected to the appliance by the low voltage cable supplied.

Please note that 1 remote controller is required per installation and must be purchased separately.

Unvented System Kits

If continuous flow water heaters are used on circulation systems an unvented system kit is required to allow for expansion of the hot water system. The kit includes the necessary safety devices required to confirm to the current building regulations.

Three sizes of kit can be supplied and each contains a combined strainer/pressure reducing valve set to 3.5 bar, check valve, expansion valve set to 6.0 bar, tundish, 5 litre expansion vessel, wall bracket and hose.

When the circulation system includes a storage cylinder/buffer vessel, a combined temperature/pressure relief valve must be sized to suit the total input of all the water heaters installed on the system (see table above right). This must be located on the storage unit. In addition the size of the expansion vessel must also be increased to suit both the storage cylinder plus the contents of the system pipework (see vessel table).

Unvented System Kit	
Part No	**Size**
B235	¾ inch dia.
B234	1 inch dia.
B276	1¼ inch dia.

Tundishes	
Part No	**Size**
C384	1 inch – 1¼ inch
E326	1½ inch – 2 inch
E497	2 inch – 2½ inch
E497	2 inch – 2½ inch
E497+C384	2 inch – 2½ inch + 1 inch – 1¼ inch

Expansion Vessel	
Part No	**Size**
C782	25 litre, 3.5 bar
C789	40 litre, 3.5 bar

Temperature and Pressure Relief Valves		
Part No	**Total Output**	**Quantity & Size of Valves**
C380	Up to 56kw	1 x 1 inch
E242	Up to 112kw	1 x 1½ inch
E242 + C456	Up to 126kw	1 x 1½ inch + 1 x ¾ inch
E291	Up to 168kw	1 x 2 inch E497
E291 + C380	Up to 224kw	1 x 2 inch + 1 x 1 inch

Stainless steel secondary heat exchanger

FASTflo – Internal

FASTflo – External

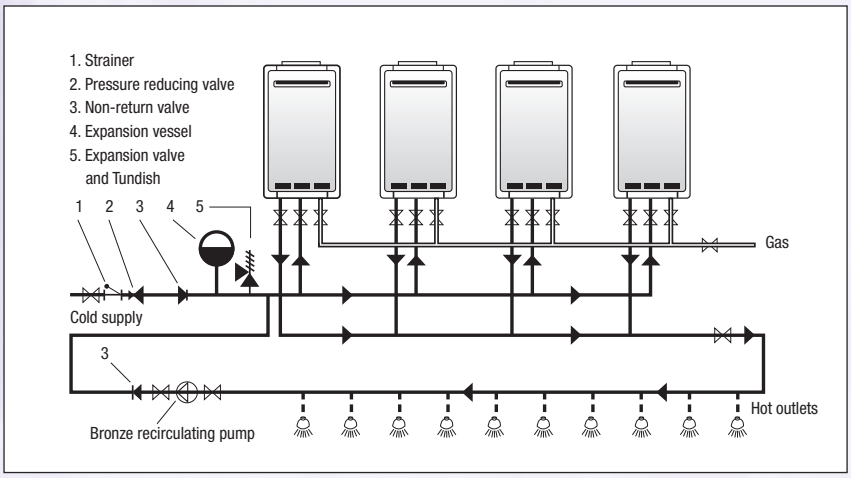
FASTflo – PLUS Condensing model
Internal view

Multiple Units

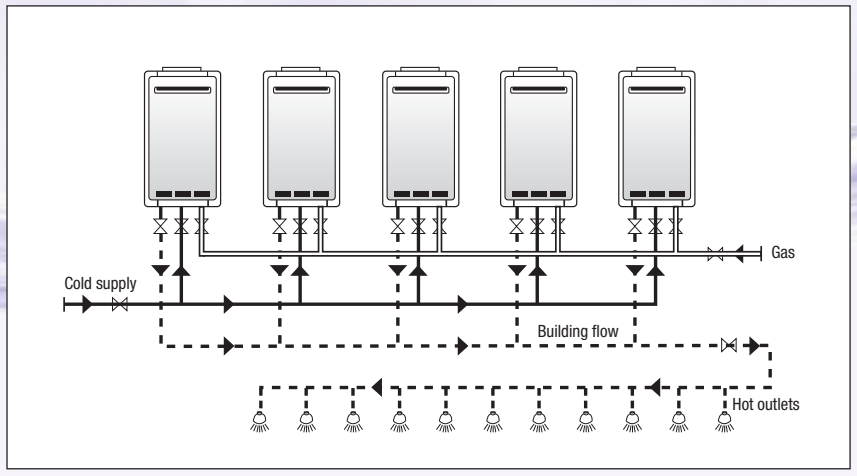
Andrews continuous flow water heaters can be combined in multiples of up to six units to provide a plentiful supply of hot water. With a temperature rise of 45ºC up to 1.8 litres/second (108 litres/minute) can be supplied constantly. Please refer to the water flow table. When installing two units in parallel, a Quick Connect Cord Kit can be installed which requires only one remote controller and a quick connect cord. For multiple installations of up to six units a System Controller is available (WH42, WH65, WHX56 and WHC56). This will ensure that when a small draw off

occurs all the flow will pass through the lead unit (priority changes) rather than dividing the flow through all of them.

As the flow rate increases additional units will fire thus maintaining the required system flow temperature. Other features of the System Controller includes BEMS fault indicator, remote 'power on' indicator, circulation pump connection and remote switching. The Quick Connect Cord Kit or System Controller is not required when the installation incorporates a storage cylinder/buffer vessel or if a constant large volume of hot water is required. Please contact our Sales Department for more details.



Manifolded units with primary flow and pumped secondary re-circulation pipework complete with suitably sized mains unvented systems kit.



Five units connected in parallel without secondary re-circulation.

Circulating pumps

When installing single or multiple units on a secondary pumped re-circulation system a minimum flow rate must be maintained to achieve optimum performance from the appliance, please refer to the pump selection table. When installing multiple units in conjunction with a storage cylinder the full heat output of all heaters is required to provide maximum recovery volume and thus reduced recovery times. In this case the pump must be sized to give a certain minimum flow rate through each heater. Selection data for the size of pump required is shown in the pump selection table overleaf.

Water Quality and Treatment

In hard water areas, scale formation can occur in hot water systems and water heaters. The higher the temperature and volume of water used, the more problematic the scale build-up can be. Water treatment is highly recommended when the hardness reaches 100-150ppm (7-10 degrees Clark) and above. This problem can be minimised by reducing the water flow temperature or by fitting suitable water pre-treatment equipment. Please contact our Sales Department for further details.

Pump Selection Table

Pump selection using single or multiple units on a secondary return system (pump required for first unit only) (B249)

Number of units	Flow rate required	Approximate head	Speed setting
1	8 ltrs/min (0.13 ltrs/sec)	50kPa	2
	Pump selection using multiple units with storage cylinder (flow through all units)		
2	16 ltrs/min (0.27 ltrs/sec)	50kPa	2
3	24 ltrs/min (0.40 ltrs/sec)	60kPa	2
4	32 ltrs/min (0.53 ltrs/sec)	60kPa	3
5	40 ltrs/min (0.67 ltrs/sec)	60kPa	3
6	48 ltrs/min (0.80 ltrs/sec)	60kPa	3

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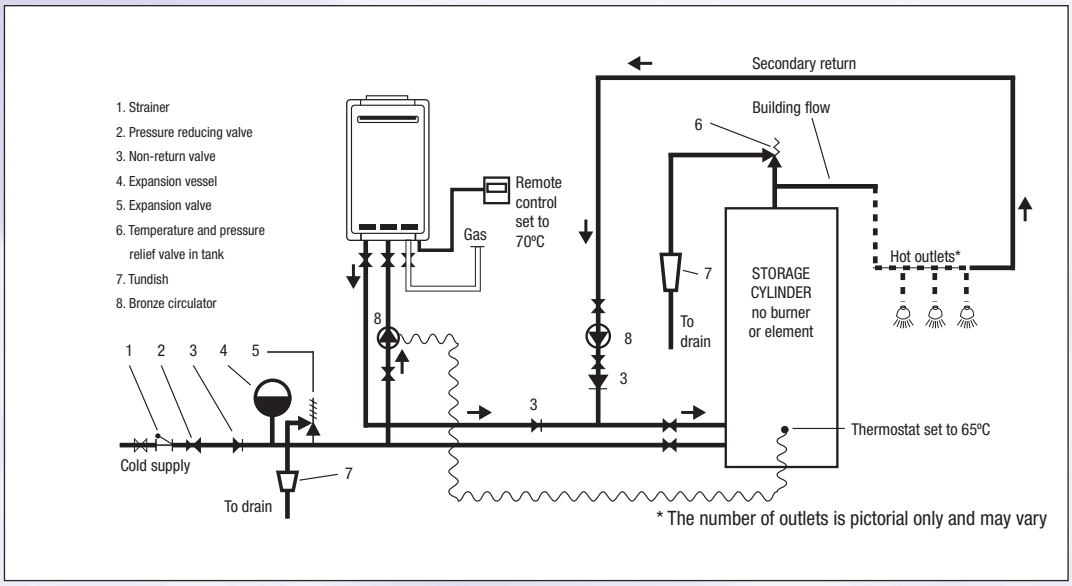
Storage Cylinder Combination



Schematic diagram shows single WH/WHX unit with additional storage cyclinder, plus pipework and valve arrangement. Units should be pre-set to a minimum set point of 70ºC to maintain 65ºC flow from the cylinder. Please refer to the Andrews Design and Installation guide for further information.

Andrews continuous flow water heaters can be combined with our range of ST storage cylinders to provide large volumes of hot water for peak flow use. This is especially useful in cases where the hot water flow rate requirement exceeds the flow capacity of the heaters for a limited period. Or where there is an intermittent large demand for hot water such as hospitals, hotels, apartments, sports changing rooms and health clubs.

Storage Cylinder Details

	ST66	ST100	ST166
Capacity	300 ltrs	455 ltrs	755 ltrs
Connection	Rc1½"	Rc1½"	Rc2"
Thermostat Connection	Rc¾"	Rc¾"	Rc¾"
Height	1492mm	1588mm	1981mm
Diameter	610mm	711mm	813mm
Weight Empty	95.2kg	141kg	245kg
Weight Full	395kg	594kg	998kg
Max pressure	10.3 bar	10.3bar	10.3bar

Specification

Model (Natural Gas)		WH42	WH56	WHX56	WHC56
Model** (Propane)		LWH42	LWH56	LWHX56	N/A
Heat input net	kW	49.0	62.3	62.3	54.0
Heat output net	kW	42.0	55.8	55.8	55.8
Gas rate natural	m^3/hr	5.1	6.5	6.5	5.1
Gas rate propane	m^3/hr	1.9	2.5	2.5	N/A
NOx emissions	ppm	52	52	N/A	60
NOx emissions	mg/kWh	92	92	N/A	105.84
NOx emissions (propane)	ppm	N/A	N/A	72	N/A
NOx emissions (propane)	mg/kWh	N/A	N/A	128	N/A
Noise Level	dB(A)	49	49	49	49
Water connection		¾" BSP	¾" BSP	¾" BSP	¾" BSP
Gas connection (gas cock supplied)		¾" BSP	¾" BSP	¾" BSP	¾" BSP
Efficiency	%	86	90	90	103
Max water pressure	bar	10.0	10.0	10.0	10.0
Min water pressure***	bar	1.0	1.0	1.0	1.0
Electric supply	V	230	230	230	230
Frequency	Hz	50	50	50	50
Fuse		5A	5A	5A	5A
Max flow rate @ 25°C rise	ltrs/min	24	32	32	32
Min flow rate	ltrs/min	3.5	3.5	3.5	3.5
Width	mm	450	450	450	465
Height	mm	615	615	615	615
Depth	mm	240	240	240	240
Weight	kg	29	29	30	29
Flue Type		Concentric 100mm	Concentric 100mm	External no Flue required	Concentric 100mm

*** L prefix propane models must be specified when ordering.*

**** Note: Although the heaters operate at low water pressure, maximum performance is not attained unless the incoming pressure is 2 bar or more. On pumped circulation systems a minimum flow of 8 litres/min through each heater is required for optimum performance.*

Water flow at different temperature rises

Model (Natural Gas)	25°C		35°C		45°C		55°C		65°C	
	l/sec	l/min	l/sec	l/min	l/sec	l/min	l/sec	l/min	l/sec	l/min
WH42	0.4	24	0.29	17	0.22	13	0.18	10.8	0.15	9
WH56/WHX56	0.53	32	0.38	23	0.3	18	0.24	15	0.21	12
LWH42	0.4	24	0.29	17	0.22	13	0.18	10.8	0.15	9
LWH56/LWHX56	0.53	32	0.38	23	0.3	18	0.24	15	0.21	12
WHC56	0.53	32	0.38	23	0.3	18	0.24	15	0.21	12

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