






ALKON 50-70.



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# The modulating pump

ALKON 70		ALKON 50	
<b>MODULATION PUMP</b> <i>(standard supply)</i>		<b>CONSTANT WATER FLOW RATE</b> <i>(optional)</i>	<b>MODULATION PUMP</b> <i>(optional)</i>
<b>3500 ÷ 1000 l/h</b>		<b>3000 l/h</b>	<b>3000 ÷ 900 l/h</b>
			
<b>MAX Output 70 kW</b>		<b>MAX Output 50 kW</b>	<b>MAX Output 50 kW</b>
<b>Δt 16°C</b>		<b>Δt 14°C</b>	<b>Δt 14°C</b>
<b>MIN Output 10 kW</b>		<b>MIN Output 10 kW</b>	<b>MIN Output 10 kW</b>
<b>Δt 9°C</b>		<b>Δt 3°C</b>	<b>Δt 10°C</b>

With the modulating pump the  $\Delta t$  (refer to table) between the flow and return is maintained at a high level and subsequently the boiler will operate in condensing condition for a longer time.

It is a well know fact that the system's performance, or rather, the energy supply is conditioned by the temperature difference between the flow and return ( $\Delta t$ ).

Well then, it is not sufficient to modulate the generator's power, above all with condensing boilers. In order to improve the boiler efficiency it is necessary to maintain the return temperature as low as possible.

Therefore, the ALKON's electronics, in combination with the heating controller, when the supplied output decreases, reduces the number of revolutions of the pump and therefore the hourly water flow rate, maintaining the  $\Delta t$  (temperature difference) practically constant.

ALKON 70 is delivered, as standard, with modulating pump.

For ALKON 50 the pump is optional and it is possible to make a choice between the modulating or fixed flow rate pump, thus allowing the highest installation flexibility.

## ALKON heating system design

The ALKON condensing boiler permits many types of solutions for every system. A typical layout can be seen below: the ALKON is a rapid generator with

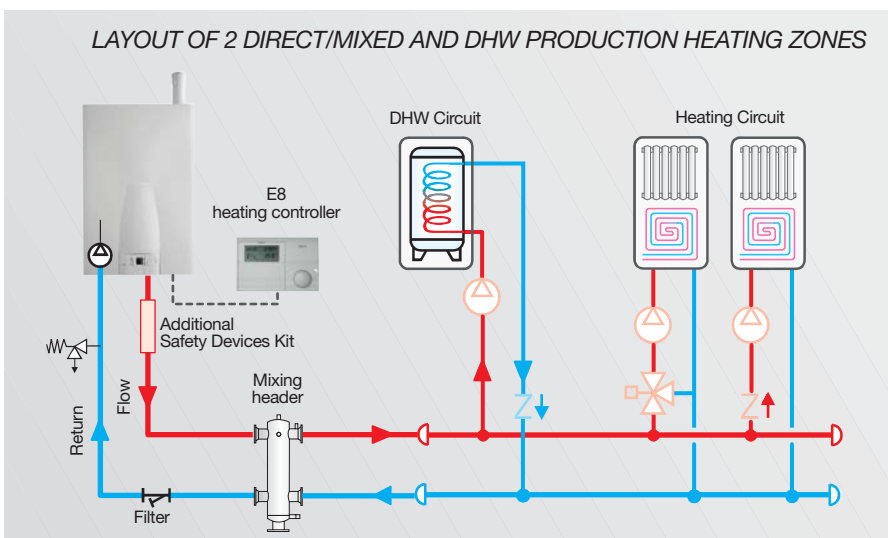
a low water content, which faithfully follows the variations of the heating load with maximum fuel saving.

Provision for a pump will have to be made on the basis of the circuit's characteristics and therefore, interface the boiler's various heating loads via the mixing header.

Its various and very important tasks are:

- To make independent the connected circuits.
- To act as "separator" so as to permit the separation and collection of the sludge of the system.
- To vent automatically the air contained in the circuits.
- If a DHW storage tank is foreseen, a loading pump must be fitted.

The zones or various C.H. systems, for example in a block of flats with several apartments, can be controlled by the E8 heating controller.



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