



# Defensor™ Mk4 Steam Humidifier



▲ The JS Defensor™ Mk 4 Range

## The Defensor™ Mk 4 steam humidifier: Better for you; better for the environment



The Defensor Mk 4 showing steam cylinder ▲

Increased comfort, a healthier working environment and energy efficiency are now viewed as essential in today's high-tech office buildings.

The Defensor™ Mk 4 Steam Humidifier has been designed to fulfil all these requirements. It delivers a constant supply of steam on demand as the system requires it with shorter response times and maximum operating efficiency to give the infinite control required by

### Features

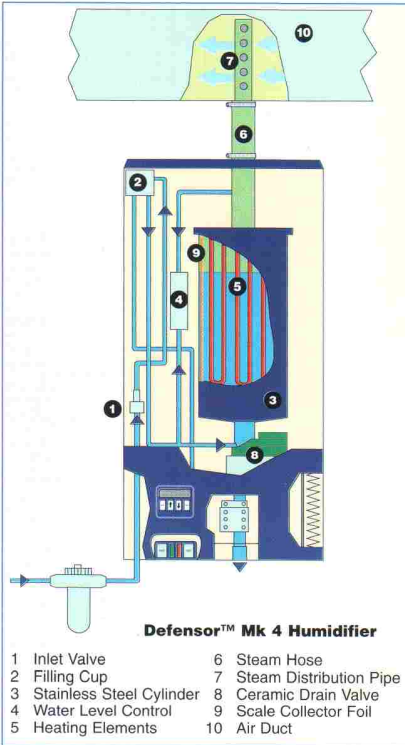
- 8 models from 5–90 kg/h
- 0-100% proportional output
- Any water quality: mains, demineralised or fully softened
- Immediate response to control signal
- No disposable plastic cylinders
- No water wastage
- Unique titanium stainless alloy self cleaning elements
- Unique stainless steel cylinders
- Newly developed ceramic drain valve
- Unique scale collector foil
- Built-in frost protection
- Safety interlocks fitted
- Built-in PI controller with IT version
- **± 1% rH with Mk 4 Process version**

modern ventilating systems.

Advanced features such as the stainless steel cylinders, cleanable collector foils, and the uniquely designed ceramic rotary disk drain valve give an overall performance that is superior to any other electric steam humidifier available today.

## Ecology

No disposal of plastic or metal parts is necessary with the Defensor™ Mk 4. The steam cylinder is made from high grade stainless steel and fitted with a scale collector foil, both easily removed and cleaned. The specially designed ceramic rotary disk valve beats the problem of leaky drain valves associated with other steam humidifiers and the introduction of a special constant level switch saves energy.

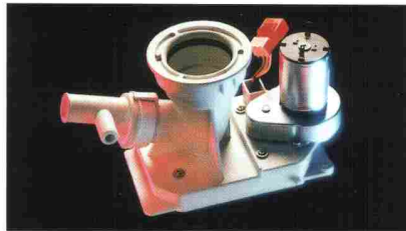


## Technology

Fully variable steam output from 0-100% is achieved by integrated circuitry controlling the resistance heating elements. Even minor load variations in the steam demand are reliably compensated without steps in steam output. This enables controlled systems, with short response times; as found with ventilation controlled air handling processes, to be monitored and corrected without difficulty.

## Maintenance

Maintenance of the Mk 4 couldn't be simpler. At intervals, scale needs removing from the unit, (although, unlike other steam humidifiers, this gradual build-up does not reduce the Mk 4's operating efficiency), the unit tells you when this is necessary. Apart from a screwdriver, no other special tools are needed. Simply drain down by pressing the drain button, remove the stainless steel cylinder and empty it. Take out the foil and wipe it clean. Once the cylinder is replaced, the unit is ready for use after an automatic test cycle. The Mk 4 is designed to keep maintenance to an absolute minimum and this can be as little as once every 2 years depending on water quality.



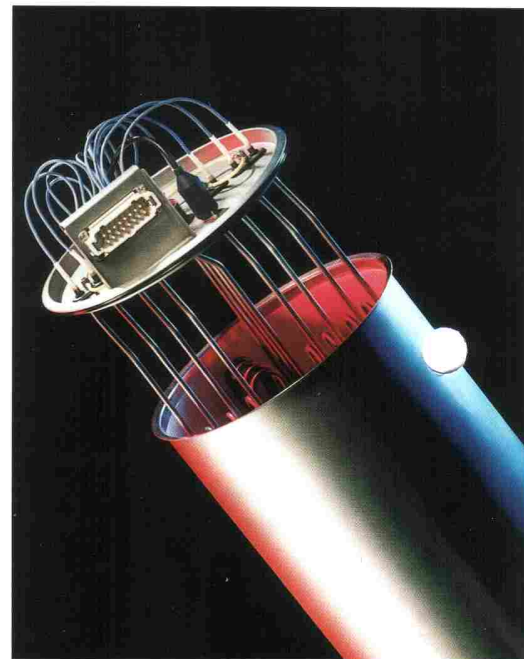
The JS Defensor™ Mk 4 Ceramic drain valve ▲

## Economy

A steam humidifier for all water qualities has distinct economic advantages. The scale collector foils, stainless steel cylinders and the specially designed ceramic drain valves permit the use of ordinary mains, fully softened or demineralised water. These newly developed features also reduce water wastage.

## Three versions

The Mk 4 ST version is self monitoring and the control panel features an on/off switch and drain button. Operating status shows steam production, operating hours and, should they occur, any malfunctions can be located via the self diagnostic display. The IT version has a digital multi-function display and keypad, together with an integral PI controller. The display provides comprehensive operating data with the opportunity to alter the performance characteristics of the humidifier to suit the most critical application. Additionally, this data can be transferred to building control systems using the RS-232 or RS-485 interface. The Mk 4 Process unit offers all the features of the IT range with **control accuracy of ± 1% rH** with demineralised water and ± 2% rH with softened or mains water. No other humidifier offers such precise control.



The JS Defensor™ Mk 4 cylinder & elements ▲

## Technical Specifications

Model	Output (kg/h)	Consumption		Dimensions (cm)	Weight (kg)	
		(kW)	(A)		nett	gross
ST 5-12	5	4	5,5	93 x 36 x 35	24	33
ST 10-12	10	7,5	11	93 x 36 x 35	25	34
ST 20-12	20	15	21,5	93 x 36 x 35	28	45
ST 30-12	30	22,5	32,5	93 x 36 x 35	29	46
ST 40-12	40	2 x 15	2 x 21,5	93 x 72 x 35	55	89
ST 50-12	50	1 x 15	1 x 21,5	93 x 72 x 35	56	90
		1 x 22,5	1 x 32,5			
ST 60-12	60	2 x 22,5	2 x 32,5	93 x 72 x 35	57	91
ST 90-12	90	3 x 22,5	3 x 32,5	93 x 108 x 35	86	137

All models available in IT and Process versions

**JS Humidifiers is the UK's leading humidification specialist. Other products from JS include:**

- JS JetSpray™ Direct Air Humidifiers
- JS JetSpray™ AHU Humidifiers
- JS ElectroVap™2 Steam Humidifiers
- JS Condaïr™ Gas Steam Humidifiers
- JS HumEvap™ Evaporative Humidifiers
- JS PureSteam™ Humidifiers
- JS HumiPac™ Ceiling Humidifiers
- JS Defensor™ ABS2 Rotary Atomisers
- JS UltraMist™ Ultrasonic Humidifiers
- JS Mobile Humidifiers
- JS PureFlo™ Water Treatment
- JS Instruments and Controls

*JS has a policy of continually improving products and performance. Actual specifications might vary from those shown.*



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