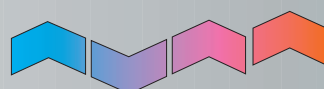


Vapac®



*Delivering Humidification
Advantage*

**RESISTANCE
HEATER**



Resistance Range

Features and Benefits

The New VapaNet is packed with useful features, providing superior quality and reliable trouble-free operation.

- **Seven capacities**

5 – 60 Kg/hr steam generation.

- **Close control and comfort control versions**

Proportional:- 8-100% modulation (LR#P).

On/Off control:- (LR#).

- **Various water types**

The unit can operate with demineralised, de-ionised, softened and potable raw mains water.

- **Hinged door to front for easy access**

Reduces the space required for mounting and access.

All electrical and mechanical components designed for easy service and maintenance.

- **Control networking**

VapaNet systems have the ability to communicate with other Vapac products to create a seamless network of control.

VapaNet has the ability to communicate with any BMS system that incorporates the LON open system protocol.

- **Master/slave option**

VapaNet will allow for a maximum of 10 cylinders to communicate within a master/slave system with an interconnecting 2-core screened cable.

Maximum duty of 300 Kg/hr.

- **Stainless steel cylinder**

Stainless steel cylinder incorporates a removable plastic liner, which makes it easy to clean and maintain.

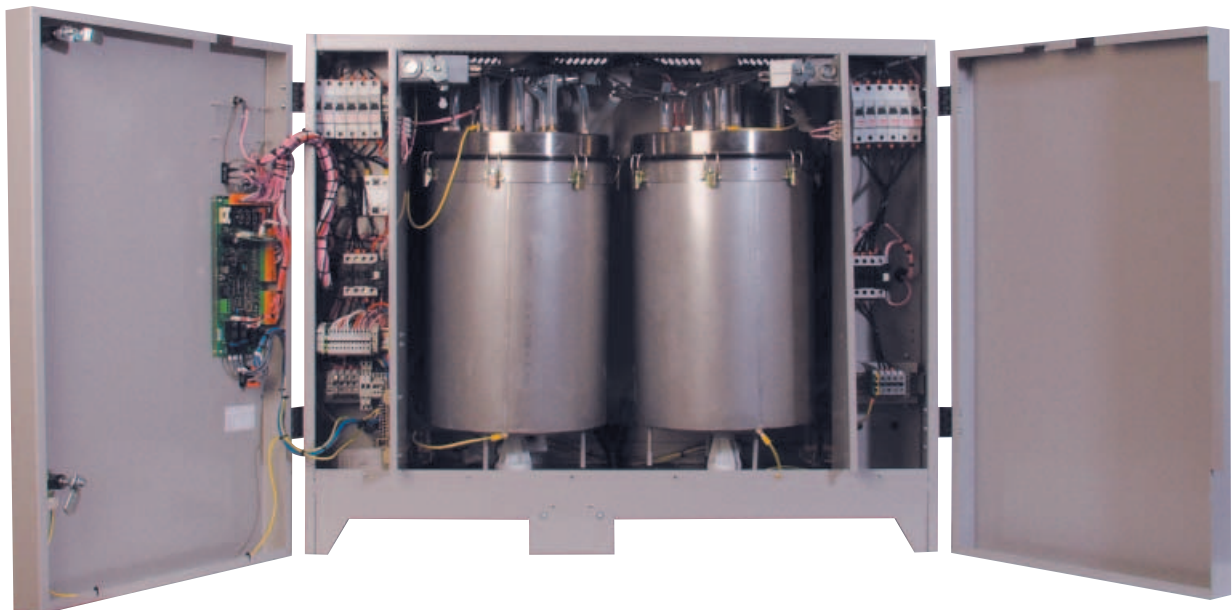
- **Control features**

The unit can be set up to control directly from humidity sensor (supplied by Vapac or other leading brands).

Volt free contacts for remote alarm and run signals.

The new VapaNet range of units can be supplied with options to enhance the unit diagnostics

Standard - 3 colour LED indications. **Option** - Built-in or de-mountable stand alone 4-line Alpha-Numeric Display.



Product model references for units with or without Alpha-Numeric Display

Unit steam output Kg/hr	5	10	20	30	40	50	60
Model reference : With 3 LED indication	LR05 LR05P	LR10 LR10P	LR20 LR20P	LR30 LR30P	LR40 LR40P	LR50 LR50P	LR60 LR60P
Model reference: Alpha-Numeric display	LR05D LR05PD	LR10D LR10PD	LR20D LR20PD	LR30D LR30PD	LR40D LR40PD	LR50D LR50PD	LR60D LR60PD

LR(P) Resistance Heater Humidifiers



The method for boiling water with VapaNet is, in essence, that employed in the common kettle, but the similarity with a tea party stops there. LR(P) incorporates the highest technology software and hardware, so that first class performance is ensured regardless of system demands or water quality. This technology allows LR(P) to be fed not only with demineralised water, but also with softened or normal tap water. The VapaNet controls the mineral concentration of the water and keeps it under close control at all times.

VapaNet gives accurate water feed, whilst providing the correct conductivity management of the water to minimise disturbances of steam production. This ensures the steam supply keeps pace with demand, critical in process or laboratory environments.

The VapaNet display offers easy-to-understand user information at a glance. LR(P) can be equipped with Vapac's own brand proportional duct or space sensors, and also accepts all industry standard control signals. A system of up to 300Kg/hr can be driven from one single control signal.

All VapaNet units can be fitted with the option of a keypad and Alpha Numeric display. At the touch of a button system status will be displayed and, in the event of service being needed, a help message will scroll across the display describing the action to be taken.

Vapac offers you the choice of spending your maintenance budget on labour time rather than cylinder replacement. The robust stainless steel cylinder construction means that you can continue using the same cylinder for thousands of hours of operation. In addition, the use of demineralised water not only offers almost 'maintenance-free' cylinders, but also maintains steam production, since the only disturbances come in the form of cold water feeds.



Control Signals

VapaNet humidifiers can be configured to accept all commonly available proportional control signals (Potentiometric, 0-5v, 0-10v, 0-20v, 2-10v, 1-18v, 4-20ma, network).



Control Options

The VapaNet system has the ability to communicate with other standard LON products connected onto the network. It can also communicate with any BMS that is open system LON protocol.

VapaNet units can be connected together using LON network to form a master slave system by reducing the amount of hard wiring required. The maximum number of cylinders to be slaved together is 10, but they do not have to be the same output. A fully proportional humidifier would act as the master and control all slaves as on/off devices. A comprehensive range of accessories for steam, water, electrical power, control and drainage is available - contact your Vapac representative for more details.

Operating Limits		Water Supply		Water and Drain Connections	
Ambient Air Temp.	5° C to 35°C	Conductivity	0-1000µs	Water Connection	¾" thread B.S.P.
Water Temp.	1°C to 30°C	Ph	7.3-8.0	Drain Outlet	35mm OD spigot
Duct Pressure	+2000Pa, -600Pa	Silicon	0		
		Supply Pressure	1.5-8 bar		
		Chlorine	170 ppm Max		

Steam Output and Electrical Requirements

Model	LR05 LR05P	LR10 LR10P	LR20 LR20P	LR30 LR30P	LR40 LR40P	LR50 LR50P	LR60 LR60P
Maximum steam output Kg/hr	5	10	20	30	40	50	60
Electrical supply Ø phase	1~N	3~N	3~N	3~N	3~N	3~N	3~N
Supply Voltage	200-250	200-440	200-440	200-440	200-440	200-440	200-440
Power rating Range kW	2.9/4.56	5.7/9.26	11.48/18.52	17.51/28.26	2 x 11.48/18.52	1 x 17.51/28.26 1 x 11.48/18.52	2 x 17.51/28.26
Full Load Current (per phase)							
200-250v direct 1~N	14.6/18.2	N/A	N/A	N/A	N/A	N/A	N/A
200-230v Delta 380-440 Star 3~N	N/A	16.1/12.2	33.1/24.3	50.6/37.1	2 x 33.1/24.3	1 x 50.6/37.1 1 x 33.1/24.3	2 x 50.6/37.1

See Installation & Operation Manual for full electrical specification

Resistance Heater Humidifier Guide

- 1a. Supply **Vapac VapaNet** self-contained, electronically controlled self-generative wall mounting steam humidifier(s)

Nominate:

(A) **VapaNet LRP**(Proportional)

(B) **VapaNet LR**(On/Off)

- 1b. Each unit shall be of the resistance heater element type capable of producing Kg/hr.

2. The internal control circuit shall operate at 24vac.

3. The steam shall be generated in a cleanable, stainless steel, plastic lined cylinder for ease and convenience of maintenance with minimum 'downtime'.

4. The steam shall be introduced into the duct work using stainless steel 35mm or 54mm diameter distributor pipes according to the unit size.

5. Each steam pipe will have a 12% built-in inclination for continuous condensate drainage to avoid the need for a separate condensate return line.

6. When all services are connected and operational, the humidifier shall be totally automatic in operation. The boiled water condition will be controlled by means of periodic drain sequence to ensure the correct concentration of water is being maintained.

- 7a. The humidifier shall incorporate an anti-foaming sequence to introduce corrective, pumped periodical drainage.

- 7b. The humidifier will shut down and flash a red warning indicator light in the event of:

(A) A drain pump blockage

(B) A fault of the feed water supply

8. The electronic controller shall include a set plug to determine the maximum output setting of the unit.

9. The humidifier shall provide a safe 24vac electrical supply for an external On/Off humidistat connection.

10. Each steam cylinder shall have a water level switch to trigger closure of the feed valve and prevent overfilling.

11. The humidifier shall include a drain pump to minimise the risk of blockage by sediment.

12. The unit shall include a fill-cup with a safety overflow circuit to drain from water feed line and pump circuit.

13. To comply with local bye-laws, regulations and plumbing codes, each unit shall include a fill cup providing a 25mm air gap on the water feed line to prevent back feeding/contamination of feed water supply line. The drain circuit shall discharge through a drain trap vented into the steam cylinder compartment.

14. The water feed to the unit shall incorporate a strainer and a flow control restrictor to suit connection to water supplies with pressure in range 1 to 8 bar.

15. The cabinet shall be constructed from zinc coated mild steel with a polyester powder coat, and shall comprise of two compartments within one cabinet. The cabinet will have air vents for ventilation. Each compartment within the cabinet will be accessible from a hinged front door that will have locks to restrict entry by any unauthorised personnel.

16. LRP Models

The humidifier shall include a VapaNet control facility to achieve output response to a modulating control signal across 8-100% of its capacity by power switching semi-conductor devices.

Options:

17. The unit can incorporate an Alpha-Numeric Display with touch-sensitive keypad for operational information and for adjustment purposes.

* Applies to water with a mineral content

Dimensions and Weights

MODEL	LR05 LR05P	LR10 LR10P	LR20 LR20P	LR30 LR30P	LR40 LR40P	LR50 LR50P	LR60 LR60P
Height A mm	810	810	810	810	810	810	810
Width B mm	520	520	520	520	990	990	990
Depth C mm	415	415	415	415	415	415	415
Service kg Weight	34	35.5	39	40	72.5	73.5	74.5
No. of Steam Cylinders	1	1	1	1	2	2	2



Vapac® is an internationally registered trademark. Vapac equipment is covered by international patents.

The manufacturer reserves the right to change the design or specification of the equipment described in this brochure without prior notice.

Printed in Great Britain
0411010/Jan 03

Vapac Humidity Control Ltd

Fircroft Way, Edenbridge, Kent TN8 6EZ

Tel: +44(0)1732 863447 Fax: +44(0)1732 865658

An Eaton-Williams Company

www.eaton-williams.com

Vapac®