

Electric Vaporisers for CO₂



HP Range of Electric Vaporisers for CO₂

Designed for use with liquid CO₂ stored in large bulk storage tanks at low pressure or in high pressure cylinders with a syphon tube fitted. Our HP range vaporises CO₂ cleanly and effectively.

The vaporisers incorporate high efficiency heating elements and thermal insulation, helping you to keep operating costs to a minimum. The elements are thermostatically controlled to give an even CO₂ gas output temperature which avoids energy wastage when the gas flow is below full vaporiser capacity. Heat fuses are fitted to all vaporisers to protect from overheating in the event of a thermostat failure.

The vaporisers, which have CE marking, comply with the following Directives and Standards:

- 2004/108/EC - Electromagnetic Compatibility Directive
- 73/23/EEC - Low Voltage Directive
- 97/23/EC - Pressure Equipment Directive
- BS EN 50081-1 & 2 - EMC Emissions
- BS EN 50082-1 - EMC Immunity
- BS EN 60204/1 - Safety of Machinery – Electrical Equipment

Specification

		HP1	HP3	HP6	HP12	HP18	HP24
Maximum CO₂ vapourisation rate (kg/h)	Cylinder	12	34	68	136	204	272
	Bulk Tank	-	25	54	108	162	216
Design pressure (bar)		190	103	103	103	103	103
Connections	Inlet	Rc½	Rc¾	Standard ¾ in n.b. compression. Adapters are provided to terminate in R¾			
	Outlet	CO ₂ male	Rc¾				
Electrical supply		230 volt single phase		400 volt 3 phase 50Hz			
Heating capacity (kW)		1	3	6	12	18	24
IP Rating		23D	55	55	55	55	55
Dimensions	Height (mm)	425	420	492	764	1037	1310
	Width (mm)	125	415	508			
	Depth (mm)	95	272	536 (excluding pipework)			
Net weight (kg)		5.5	41.10	52	97.4	142.8	188.2
Part number		2224.0251	2224.0301	2500.0090	2500.0091	2500.0092	2500.0093

HP1 CO₂ Vaporiser

The HP1 is a high pressure CO₂ electric vaporiser containing a 1kW cartridge heating element. The unit is designed to be wall mounted and connected to either a single CO₂ syphon cylinder or to a manifold of cylinders by a high pressure hose or length of ¾ in o.d. high pressure copper tube.

The HP1 vaporiser has an Rc½ inlet connection and a BS341 Part 1 No. 8 CO₂ male outlet to take a suitable pressure reducing valve. The HP1 incorporates a safety bursting disc which ruptures at 190 bar.

The heating element is controlled by a thermostat giving a gas outlet temperature of about 70°C. The thermostat is protected by a separate heat fuse. A neon light indicates when the heating element is in operation. The whole assembly is mounted in a sturdy splash proof steel casing.



HP1 CO₂ Vaporiser

HP3 CO₂ Vaporiser

The HP3 is a 3 kW electric vaporiser designed for use with manifolded CO₂ syphon cylinders or with a CO₂ bulk storage tank. Liquid CO₂ enters the HP3 and is vaporised into gas. The CO₂ gas temperature is controllable over a temperature range of 50°C to 80°C. A pressure regulator should be fitted to control output pressure.

The vaporiser is designed to be wall mounted. The inlet and outlet connections are Rc³/₈.

The vaporiser requires a 230 V single phase supply. The 3 off 1 kW elements are protected by a heat fuse.

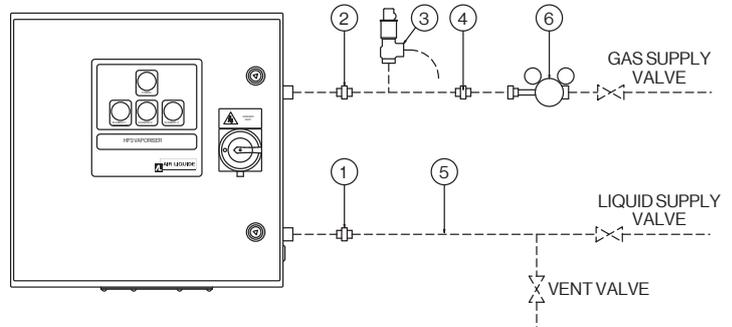
A pressure relief device must be fitted to protect the vaporiser against over pressure (see item 3).

An interlocked switch is fitted to ensure electrical supply is disconnected when the door is opened.



HP3 CO₂ Vaporiser

Typical Installation Diagram (with/without pressure reduction)



Interconnecting Fittings

Item	Description	Part Number
With pressure reduction		
1	Adapter R ³ / ₈ x ³ / ₈ in o.d.	2222.1302
2	Nipple R ³ / ₈ x R ¹ / ₂	2222.2007
3	Either a) For bulk CO ₂ – relief valve, 29 bar	2223.4801
	+ tee Rc ¹ / ₂ equal	2222.2302
	or b) For cylinders – relief valve 103 bar	2223.5001
	+ tee Rc ¹ / ₂ equal	2222.2302
4	Nipple R ¹ / ₂ male BS 341 No. 8/DIN 477 No. 6	2222.0101
5	Copper tube ³ / ₈ in o.d.	2222.2401
6	Regulator, 0-10 bar, 120mm stem.	0000.1073
Bulk Kit	Items 1, 2, 3a, 4 & 6	2224.0325
Cylinders Kit	Items 1, 2, 3b, 4 & 6	2224.0324
Without pressure reduction		
Bulk Kit	Items 1, 2, 3a & 4	2224.0327
Cylinders Kit	Items 1, 2, 3b & 4	2224.0326

HP6, HP12, HP18 & HP24 CO₂ Vaporisers

Redesigned to exacting customer standards the HP6 range of electric vaporisers are designed for connection to CO₂ bulk storage tanks or large manifolds of CO₂ syphon cylinders. Single vaporisers should be mounted on a raised stool (Part Number 2224.0423).

NB: HP12, HP18 & HP24 units include a pre attached stool.

When high CO₂ vaporisation rates are required, the HP6 (6 kW) can be stacked up to 4 high and piped in series, to effectively create HP12 (12 kW), HP18 (18 kW) or HP24 (24 kW) vaporisers. Each HP6 module is self contained, with a separate analog temperature controller and contactor, which ensures that each element only needs to be switched on as demand increases, saving energy when demand is low.

The inlet and outlet connections on the HP6 are ¾ in n.b. steel pipe compression fittings and are located at the back of the unit. Adapters terminating in R¾ are also provided. Each HP6 requires a 400 V, 3 phase, 4 wire power supply. Three 2 kW elements are cast within an aluminium heating block, each protected by a thermal heat fuse. A pressure relief device must be fitted to protect the vaporiser against over-pressure.

The heat fuse elements are pure tin links which are connected in the line supply to the heating elements. In the event of an excessive temperature rise the electrical supply is interrupted.

The analog temperature controller switches the 20 A 3-Phase contactor and is adjustable over a temperature range of 50°C to 80°C.

The normal operating temperature for the unit is 50°C to 70°C.

Three 2 A miniature circuit breakers, located within the equipment, provide short circuit and overload protection.

A light, mounted on the front panel, will signal when the main electrical supply is on. Three LED's, each connected to an element, indicate when that element is functioning. An interlocked isolating switch is fitted to ensure the electrical supply is isolated when the door is opened.



Air Liquide CO₂ Equipment: Freeze, Pump, Vaporise, Protect



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