



VC-2-SL

# Pre-Cooling Units Series VC

Version VC-1, VC-1-SL, VC-2-L, VC-2-SL

## Special Features

- With patented Jet-Stream heat exchanger available in 3 standard materials
- Compact construction
- Light weight
- Low maintenance
- Optimum reliability
- Version with forced ventilation
- Version with automatic condensate removal

## Application

The M&C pre-cooling units VC-... are used in gas analysis to lower the dew point of humid gas, for example:

- to relieve downstream main cooling system
- if process-bound water or steam irruption can become forward,
- if non-heated sample lines without adequate slope are mounted,
- for gas analysis system with electrochemical sensors.

## Description

The VC-... pre-cooling units produced by M&C incorporates the "Jet-Stream" design of heat exchanger. This design induces condensate formation and guarantees optimum dew point reduction to ambient temperature.

The condensate formed should be removed with a small peristaltic pump, sample trap or collection vessel.

The VC-...-SL pre-cooling unit has as a standard peristaltic pumps SR25.1 for automatic condensate removal.

The VC-...-L pre-cooling unit has got a fan to force the ventilation of the cooling fins for performance rise. In this case, a deflector is integrated for an optimal air conduction.

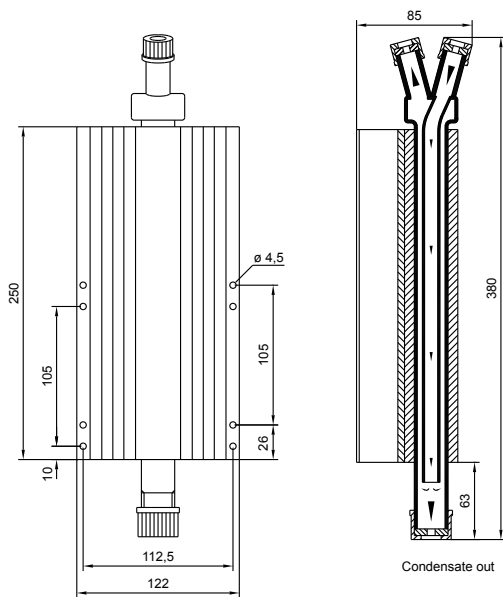
The VC-1-.. pre-cooling unit is equipped with one EC-Jet-Stream heat exchanger. The VC-2-.. pre-cooling unit is equipped with two EC-Jet-Stream heat exchangers to connect two independent sample streams or parallel or series function to connect one sample stream with a corresponding high flow rate.

The compact lightweight design of this device makes it ideal for use in portable and continuous sample conditioning systems.

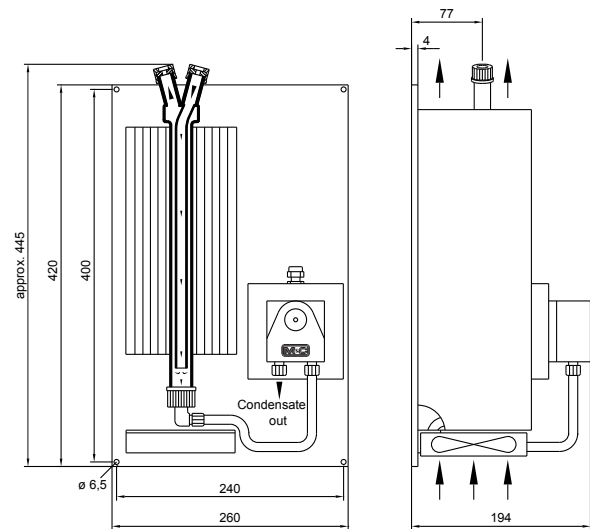
The pre-cooling units are self-controlling with low maintenance.

## Dimensions

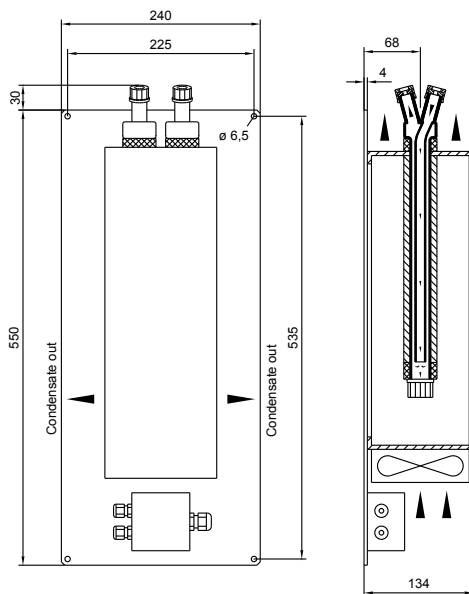
### Pre-Cooling Unit VC-1



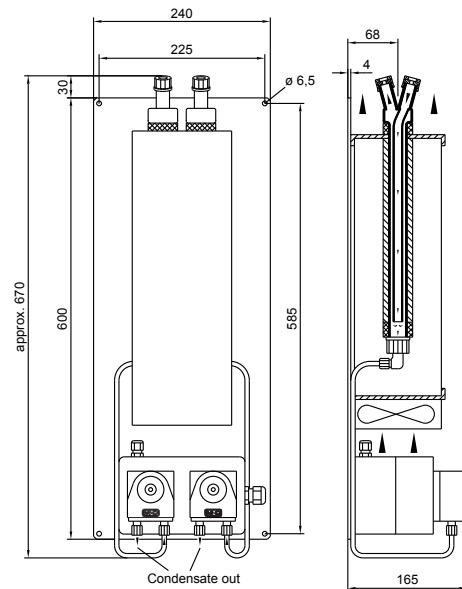
### Pre-Cooling Unit VC-1-SL



### Pre-Cooling Unit VC-2-L



### Pre-Cooling Unit VC-2-SL



Dimensions in mm

## Technical Data

Pre-cooling unit version VC-...	VC-1	VC-1-SL	VC-2-L	VC-2-SL
Part No. 230V 50-60Hz	03K1000	03K3000	03K4000	03K5000
Part No. 115V 50-60Hz	03K1000	03K3000a	03K4000a	03K5000a
Jet-Stream heat exchanger out of Duran glass EC-G	1x	1x	2x	2x
Forced ventilation	no	yes	yes	yes
Autom. condensate removal with SR25.1		1x*		2x*
Sample gas connection	2x GL18-6	2x GL18-6	4x GL18-6	4x GL18-6
Condensate connection	1x GL25-12	1x DN4/6	2x GL25-12	2x DN4/6
Power consumption		25 VA	20 VA	30 VA
Gas flow rate recommended, (other flow rates possible)	1x 250 NI/hr	1x 250 NI/hr	2x 250 NI/hr	2x 250 NI/hr
Weight approximately	3,5 kg	7,5 kg	9 kg	11 kg
Sample gas pressure	max. 3 bar g			
$\Delta P$ per heat exchanger	4 mbar at 300 NI/hr			
Stagnant space per heat exchanger	approx. 70 ml			
Sample inlet temperature	max. 180 °C			
Ambient temperature	+2 °C to +45 °C			
Storage temperature	0 °C to +55 °C			
Electrical connection	Terminals max. 2,5 mm <sup>2</sup> ; PG11 cable gland			
Electrical standard / Case protection	EN 61010 / IP22-EN60529			
Method of mounting / Ready for working	wall mounting / immediately			
Material of sample contacting parts	Duran glass, PTFE	Duran glass, PTFE, PVDF, Novoprene	Duran glass, PTFE	Duran glass, PTFE, PVDF, Novoprene