



Peristaltic condensate and metering pumps CPsingle 11

Condensate accumulates when conditioning gas in gas conditioning. It always accumulates when cooling moist sample gas. On one hand this may occur inadvertently if thermal bridges occur in the sample gas lines. On the other hand the deposit of moisture is necessary to protect the measuring cells in the analyser from damage and/ or stabilise measurements.

Since the sample gas is often conveyed through the analysis system with suction, the condensate must be pumped off to remove it.

So-called peristaltic pumps are particularly suited for this purpose. They systemically protect the sample gas system from external air and based on the hose material used offer high resistance against the often times highly corrosive condensate.

The CPsingle pump series was designed specifically for severe conditions.

Built-in and housing version

115/230 V AC

Separate installation possible

Easy to replace hoses



Technical data

CPsingle 1l Peristaltic Pumps Technical Data

Nominal voltage / Power input at T _{amb} = 68 °F and under load	230 V 50 Hz 0.025 A 115 V 60 Hz 0.044 A
Flow rate:	0.016 lpm (50 Hz) / 0.02 lpm (60 Hz)
Inlet vacuum:	max. 11.6 psi
Inlet pressure:	max. 14.5 psi
Outlet pressure:	1 bar
Weight:	CPsingle-SA: 1.540,47 lb (0.7 kg) (housing version) CPsingle-OEM: 1.03 lb (0.47 kg) (built-in version)
IP rating:	IP 44 (housing version) IP 40 (built-in version)
Ambient temperatures:	T _{max} = 131 °F (55 °C) (housing version) T _{max} = 140 °F (60 °C) (built-in version)
Cable lengths:	6.6 ft (2 m) (housing version 115/230 V) 19.7 in (500 mm) (built-in version 115/230 V)
Parts in Contact with Mediums	
Hose:	Tygon (Norpren), others on request
Connections:	PVDF Straight 5 mm (recommended hose 4/6) Elbow 6 mm (recommended hose 5/8) Screw-in connection DN 4/6 or 1/6" – 1/4"

Calculating condensate accumulation

Dew point	86	104	122	140	158	176	°F
Moisture content Vol %	4	7	12	20	31	47	Vol %
Moisture accumulation (w) per 100 NI/h/cooled air	2.2	4	6.5	12	22	44	$\frac{ml}{h}$ per 100 NI

Total condensate accumulation formula:

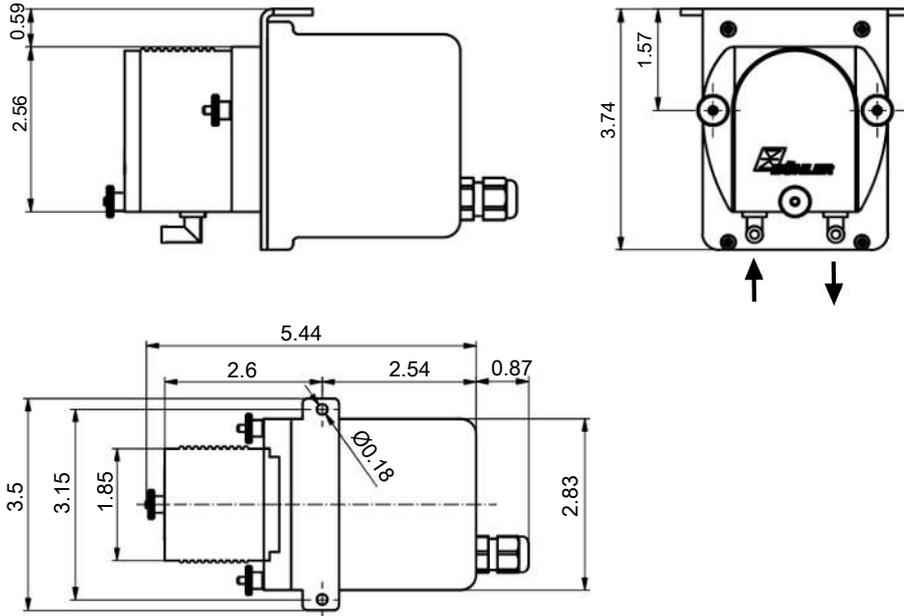
$$w_{tl} = \frac{\text{Cooled air flow}}{100 \text{ NI/h}} \cdot w \text{ (inlet dew point)}$$

Example: 180 NI/h behind the cooler; Inlet dew point 122 °F (50 °C).

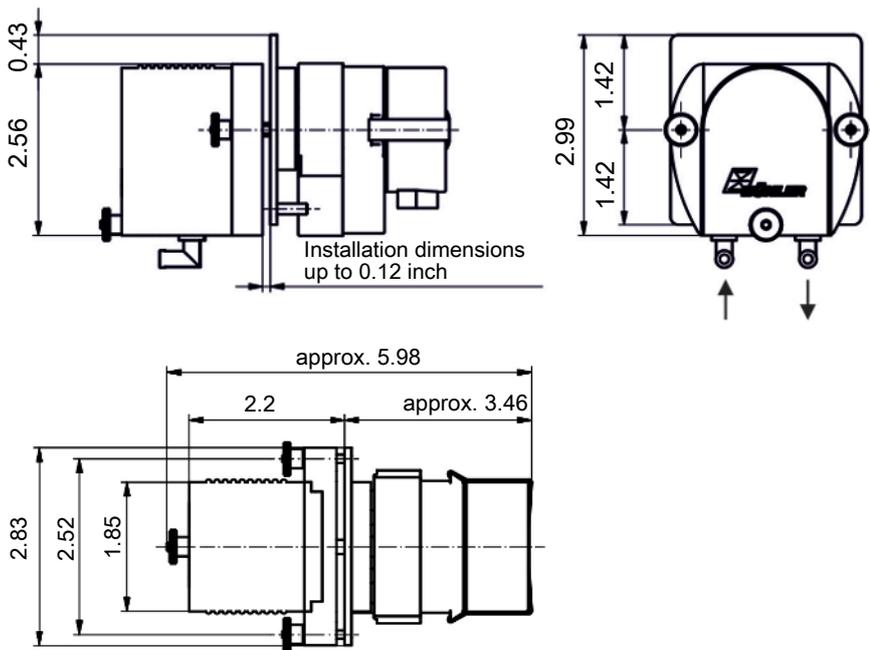
$$w_{tl} = \frac{180 \text{ NI/h}}{100 \text{ NI/h}} \cdot 6.5 \frac{ml}{h} = 12 \frac{ml}{h}$$

Dimensions

Housing version



Built-in version



Selection matrix for peristaltic pumps and subsequent add-on cooler

Cooler model	Built-in (E)/housing version (G)	Flow rate L/h	Single (E)/double version (D)
EGK 10	G	1.0	E
TS 10	E	1.0	E

Ordering instructions

The item number is a code for the configuration of your unit. Please use the following model key:

4492	1	X	X	0	1	1	X	Product Characteristic
								Gas path
	1							Single gas path
								Version
		1						Housing version
		2						Built-in version
								Supply voltage
			7					115 V, 60 Hz
			8					230 V 50 Hz
								Area of application
				0				Standard applications – CE
								Hose material
					1			Tygon (Norprene)
								Flow rate/hour
						1		1 L/h
								Hose connection
							1	straight hose nipple
							2	angled hose nipple
							3	straight and angled hose nipple
							4	Screw connection (metric) DN 4/6
							5	Screw connection (US) 1/6"-1/4"
							6	angled hose nipple and screw connection (metric)
							7	angled hose nipple and screw connection (US)
							8	straight hose nipple and screw connection (metric)
							9	straight hose nipple and screw connection (US)