

Sample Gas Cooler EGK 10



Accurate measurements of gases require gas samples with stable dew points even under harsh ambient conditions.

The EGK 10 is designed for high flow applications.

The heart of any cooling system is the cooling block. The EGK 10 gas cooler features a cooling block made of aluminum which accommodates a highly efficient stainless steel heat exchanger. The temperature of the cooling block is regulated by the **Bühler Constant Regulating System** featuring a straight and constant temperature value. Maintenance-free model with one gas stream.

The regulating system provides a display showing the cooling block temperature and a relay-output indicating that the preset working range is reached.

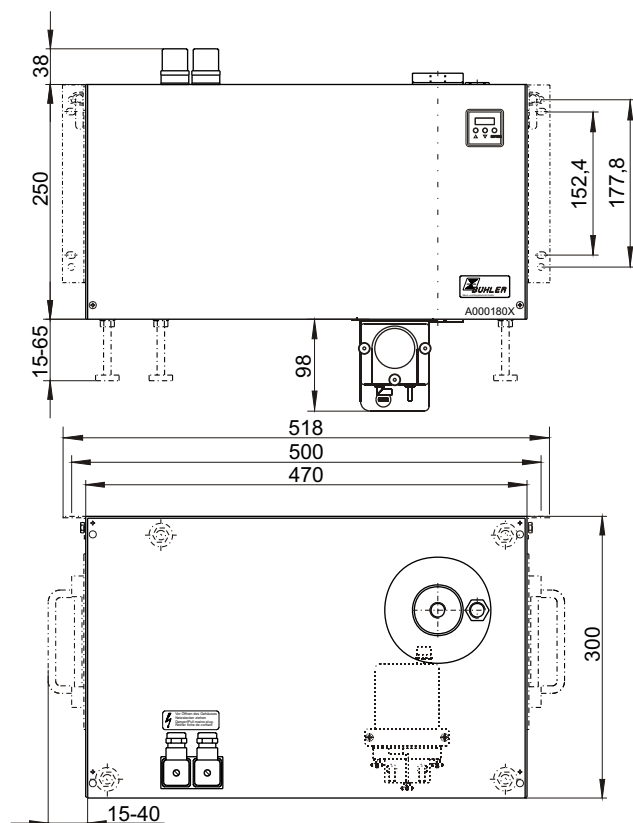
The cooler can be supplied with feet adjustable from about 1.5 to 6.6 cm and either mounting brackets or handles.

- **Compact design**
- **Easy installation**
- **Wall or table mountable**
- **Reliable cooling system**
- **CFC-free coolant**
- **Stainless steel heat exchanger**
- **Nominal capacity 1450 kJ/h**
- **Dew point stability ± 0.2 K**
- **Temperature display for cooling block**
- **Adjustable dew point and alarm thresholds**
- **Feet, handles or mounting brackets available**

Technical Data:

Ready for operation	After max. 15 minutes
Cooling capacity (at 25°C)	1450 kJ/h
Ambient temperature	+5..50°C
Dew point adjustable	2 °C to 20 °C, factory setting 5 °C
Alarm threshold adjustable with respect to dew point	
upper alarm threshold	+1 °C to +7 °C, factory setting +3 °C
lower alarm threshold	-1 °C to -3 °C, factory setting -3 °C
Dew point variations static	0.2 K
Over full operation range	± 2 °C
Power supply	115 or 230 V, 50/60 Hz
Power consumption	750 VA
Cut-in current	12 A at 230 V, 28 A at 115 V
Alarm output	250 VAC/ 150 VDC,
change over contact	2 A, 30 VA
Protection class	IP 20
Housing	Stainless steel
Weight incl. heat exchanger	approx. 32 kg
Max. pressure p_{max}	5 bar
Pressure drop Δp ($v = 1500$ l/h)	24 mbar

Dimensions (mm)



Flow parameters TS10

The values are given for gas with approx. 1 bar abs. pressure. The flows are given in l/h at the cooler outlet ! (dead volume 0.86 l)

Inlet dew point (moisture)	Ambient temperature	Flow rate in NI/h with gas inlet temperature					Water per h per 1000l/h
		60 °C	80 °C	100 °C	140 °C	180 °C	
40 °C (7 Vol%)	5...50 °C	3900	3500	3100	2600	2200	70 ml
50 °C (12 Vol%)	10...45 °C	3300	3000	2800	2450	2150	120 ml
	5...50 °C	1900	1750	1650	1450	1300	
55 °C (16 Vol%)	22...35 °C	3000	2800	2650	2350	2100	150 ml
	5...50 °C	1500	1400	1350	1200	1100	
60 °C (20 Vol%)	22...35 °C	2500	2350	2200	2000	1850	200 ml
	5...50 °C	1200	1100	1040	980	900	
65 °C (25 Vol%)	22...35 °C	-	1800	1750	1600	1450	265 ml
	5...50 °C	-	850	820	790	730	
70 °C (31 Vol%)	22...35 °C	-	1350	1280	1200	1150	365 ml
	5...50 °C	-	670	650	600	570	
80 °C (47 Vol%)	22...35 °C	-	720	700	650	630	730 ml
	5...50 °C	-	360	350	330	320	

Example: The ambient can be held in a range of 22...35 °C.

The gas inlet temperature is 140°C and the inlet dew point 60 °C.

In the row "dew point" =60 °C at ambient of 22...35 °C from the column 140 °C results in a value of 2000 l/h. Values of the gas temperature between the columns can be linearly interpolated.

Please indicate with order:

Please extract the part number for the cooler fulfilling your requirements from the type code below.

Please note: Each gas path should be equipped with a peristaltic pump or an automatic condensate drain.

Art.Nr.	4	5	6	9					0	0	EGK 10	
Power Supply												
	1										115V	
	2										230V	
Gas Path / Material / Version												
	0	0	0									Without heat exchanger
	1	1	0									Single path heat exchanger / stainless steel / TS10 G 3/8"
	1	1	1									Single path heat exchanger / stainless steel / TS10 NPT 3/8"
	1	2	1									Single path heat exchanger / glass coated / TS10 GB NPT 3/8"
Condensate Discharge ¹⁾												
	0											Without condensate discharge
Mounting Accessories												
	0											Without mounting accessories
	1											With mounting brackets
	2											With feet
	3											With mounting brackets and feet
	4											With handles
	5											With mounting brackets and handles
	6											With feet and handles
	7											Complete accessory kit

¹⁾ Peristaltic pumps cannot be mounted to the EGK 10. Peristaltic pumps for separate mounting are available.

Accessories

Part No.	Description
441 00 01	Automatic condensate drain 11 LD V 38
441 00 04	Automatic condensate drain AK 20, PVDF
441 00 05	Condensate vessel GL 1; glass, 0,4 l
441 00 19	Condensate vessel GL 2; glass, 1 l
912 40 30 106	Peristaltic pump, 230 V 50/60 Hz, 1 l/h, for separate mounting
912 40 30 107	Peristaltic pump, 115 V 50/60 Hz, 1 l/h, for separate mounting