LTC-1

Gas- and liquid coolers Series LC, LT

Jacket cooler with cooling coil
version LGC-1 (S), LC-1 (S)
Jacket cooler with bundle of tubes
version LGT-2, LTC-1

Special Features

- **Optimal cooling capacity**
- **No stagnant space**
- **Material stainless steel 316Ti**
- **Dial thermometer**
- **Wall mounting**
- **Various connection sizes available**
- **Other executions on request**

Application

The M&C gas and liquid coolers series L... are used in the analysis technique to decrease the temperature of a liquid sample respectively to cool down the dew point of a humid sample gas.

The coolant for example is water. The countercurrent working principle guarantees an optimised cooling process.

Description

The M&C gas coolers LGC-1 and the extended version LGC-1S are equipped with a cooling coil fixed in a completely welded steering tube. An additional area at the bottom guarantees a sure separation of sample gas and condensate.

The version LGT-2 is a tubular gas cooler with a separation area as well.

The dial thermometer at the coolant inlet indicates the approximate temperature of the sample gas outlet dew point.

The condensate is removed by means of a peristaltic pump, an automatic liquid drainer or a collecting vessel.

The M&C liquid coolers LC-1 and the extended version LC-1S are equipped with a cooling coil fixed in a completely welded steering tube.

The version LTC-1 is a tubular liquid cooler. Top and bottom of the cooler are designed as distribution areas. The top of the cooler LTC-1 is removable.

The dial thermometer at the coolant inlet of versions LC-1 and LC-1S respectively at the bottom of version LTC-1 indicates the temperature of the sample outlet.

Liquid and gas coolers series L… are operating nearly maintenance-free.

The cooling effect and the stability of cooling are depending on the inlet temperature of the coolant, the quantity of coolant, the conditions of the sample inlet, the state of aggregation of the sample, the ΔT between coolant inlet temperature and sample outlet temperature as well as the ambient temperature.

The quality of the coolant and the sample must correspond to the material of the coolers.

Layout and calculation of the cooler are effected in accordance with the specific application and operating data. Please specify all available parameters along with your inquiry.

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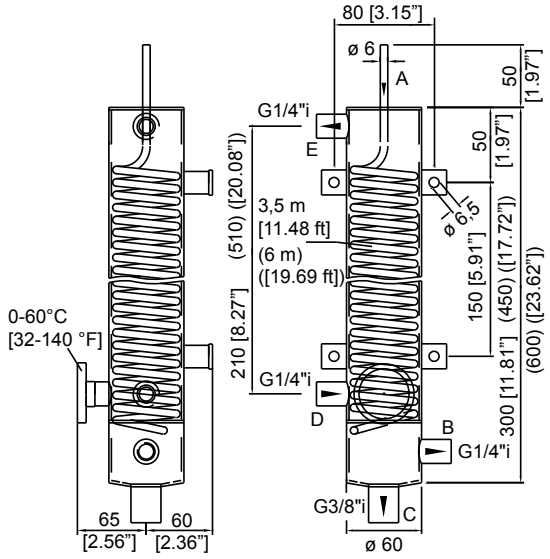
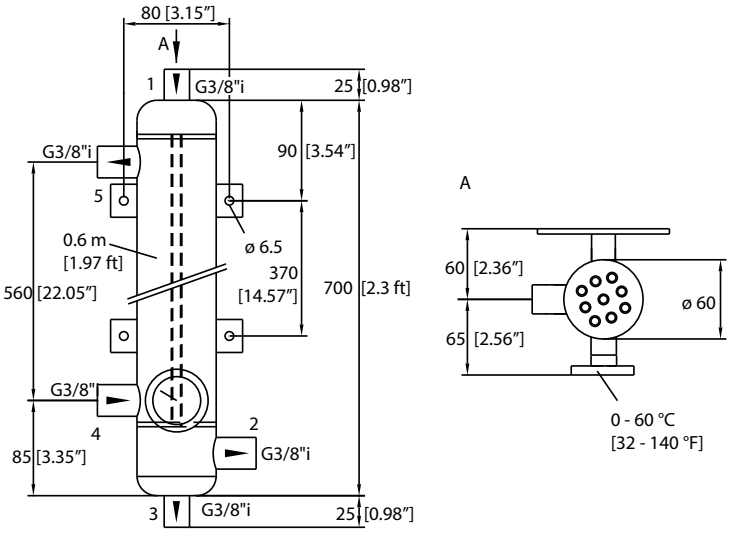
Dimensions

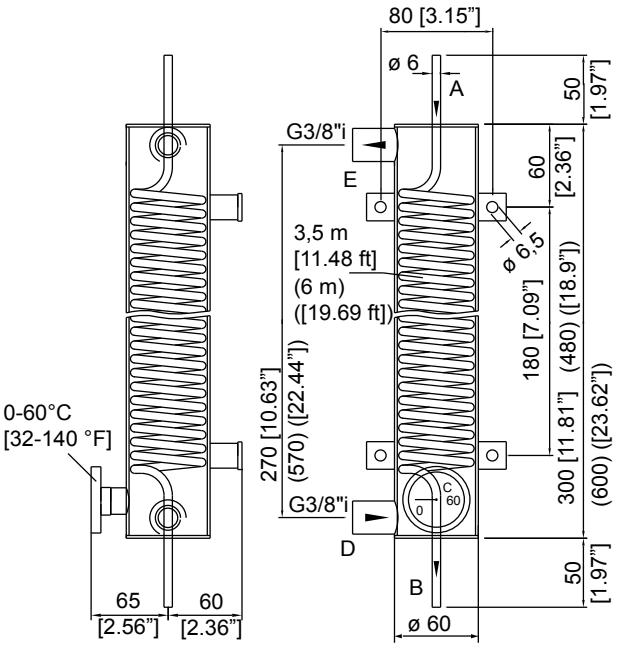
Gas cooler LGC-1 (S)



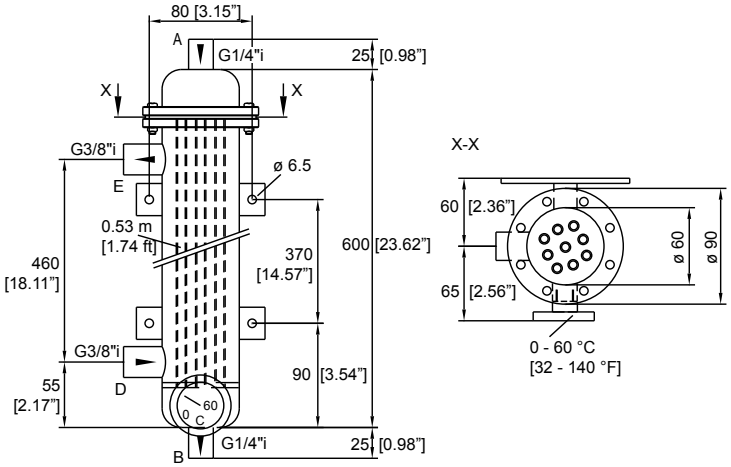
Gas cooler LGT-2



Liquid cooler LC-1 (S)



Liquid cooler LTC-1



Dimensions in mm [inches]

Connections:	A: Sample IN	B: Sample OUT	C: Condensate OUT	D: Coolant IN	E: Coolant OUT

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Technical Data

Coolant cooler Version L...	LGC-1 (S)	LC-1 (S)	LGT-2	LTC-1
Part-No.	04 K 1000 04 K 1500[S)]	04 K 2000 04 K 2500[S)]	04 K 4000	04 K 3000
Gas cooler with separation area	yes	no	yes	no
Liquid cooler	no	yes	no	yes
Cooling capacity approx.	max. 900 kJ/h / 1600 kJ/h[S)]		max. 3600 kJ/h / 6100 kJ/h[1)]	
Dimension cooling coil / bundle of pipes	1x 4/6 mm, length 3.5 m [11.48 ft] or 6 m[S)] [19.69 ft][S)]		9x 6/8 mm, length LGT: 0.6 m [1.97 ft] LTC: 0.5 m [1.64 ft]	
Sample connection INLET 1.	tube ø 6mm o.d.	tube ø 6 mm o.d.	G3/8"i	G1/4"i
Sample connection OUTLET 2.	G1/4"i	tube ø 6 mm o.d.	G3/8"i	G1/4"i
Condensate connection 3.	G3/8"i		G3/8"i	
Coolant connection IN- and OUTLET 4./5.	G1/4"i	G3/8"i	G3/8"i	G3/8"i
Sample flow rate, recommended max.	500 l/h	60 l/h	700 l/h	200 l/h
Sample pressure	max. 10 bar g	max. 50 bar g	max. 10 bar g	max. 10 bar g
Coolant pressure	max. 10 bar g	max. 10 bar g	max. 10 bar g	max. 10 bar g
Coolant liquid flow rate	50-300 l/h, depending on necessary cooling capacity, coolant temperature IN/OUT, etc.			
Differential pressure ΔP sample side	30 mbar with 500 l/h	0.7 bar with 60 l/h	1 mbar with 500 l/h	0.2 bar with 200 l/h
Stagnant space sample side	175 ml / 210 ml[S)]	44 ml / 76 ml[S)]	370 ml / 780 ml[1)]	350 ml / 740 ml[1)]
Sample inlet temperature	max. 300 °C [572 °F]	max. 300 °C [572 °F]	max. 300 °C [572 °F]	max. 300 °C [572 °F]
Ambient temperature / Storage temperature	+2 °C to +80 °C [35.6 to 176 °F]/ -40 °C to +80 °C [~-40 to 176 °F]			
Mounting / Material of medium touched parts	Wall mounting / stainless steel 316Ti*			
Dimensions (w x h x d)	110 x 400 x 125 mm [4.33" x 15.75" x 4.92"] / 110 x 700 x 125 mm[S)] [4.33" x 27.56" x 4.92"][S)]		120 x 750 x 125 mm [4.72" x 29.53" x 4.92"]	120 x 650 x 125 mm [4.72" x 25.59 x 4.92"]
Weight	1.8 kg [3.97 lbs] / 3.0 kg[S)] [6.61 lbs][S)]	1.8 kg [3.97 lbs] / 3.0 kg[S)] [6.61 lbs][S)]	3.3 kg [7.28 lbs]	3.6 kg [7.94 lbs]
Options:	**Part-No.:**			
Pressure rating PN40 with certificate of conformity			04 K 9000	
Bundle of pipes 10/12 mm[1)] instead of 6/8			04 K 9010	
Coolant connection G1/4"i instead of G3/8"i 4./5.				04 K 9015
Coolant connection G1/2"i instead of G3/8"i 4./5.				04 K 9020
Sample connection IN/OUT G3/8"i instead of G1/4"i 1./2.				04 K 9025
Sample connection IN/OUT G1/2"i instead of G1/4"i 1./2.				04 K 9030
Sample-, Condensate-, Coolant connection G1/4"i instead of G3/8"i			04 K 9035	
Sample-, Condensate-, Coolant connection G1/2"i instead of G3/8"i			04 K 9040	

[S)] = Extended version (S).
[1)] = With option bundle of pipes 10/12 mm instead of 6/8 mm.
* Standard, others on request.

Maximum cooling capacity referring to super heated steam respectively liquid and sufficient coolant.