

# Process cooling

## Process Water Cooler LT

The LT series is manufactured in Germany and primarily distinguished by its high level of availability and robustness. These plug-in units are extremely easy to install and commission, and are therefore particularly interesting for small and medium-sized beverage production companies. The water system is designed as an open atmospheric system with an internal bypass and, consequently, can be operated without an external overflow valve.

### Features (standard equipment)

- ▶ Water temperature (discharge): -8... 15 °C (glycol lower than 7(8) °C is required! <sup>7)</sup>)
- ▶ Stainless steel centrifugal pump: glycol resistant approx. 2.5 bar (opt. 3.0 bar) available pressure
- ▶ Pressure gauge on discharge/flow
- ▶ Insulated stainless steel water tank with level monitor <sup>6)</sup>
- ▶ EC fan with continuous speed control
- ▶ Condensation pressure control
- ▶ Consumers higher (non-return valve and solenoid valve)
- ▶ Metal air filter mats
- ▶ Power supply: 400 V (+/- 10%); 3-PE; 50 Hz (LT-040/E: 230 V/50 Hz)
- ▶ For options, see table under machine options

### Control:

- ▶ Contained in industrial cabinet; electronic temperature controller
- ▶ Central alarm output; enabling contact input Compressor/pump

### Miscellaneous:

- ▶ Emergency stop main switch
- ▶ Selector switch for crankcase heating system /cooling/ heating operation
- ▶ Mechanical protection for condenser fin protection
- ▶ Crane eyelets
- ▶ Casters
- ▶ Resistant to water spray, conditionally weatherproof <sup>(18)</sup>

Model	Nominal refrigerating capacity <sup>1)</sup>	For tank volume <sup>5)</sup>	Order no.	Unit price/€
LT-040/E (230 V)	5.0 kW	28,000 l.	303.5400	
LT-058/E	5.6 kW	32,000 l.	303.5401	
LT-092/E	9.1 kW	49,000 l.	303.5402	
LT-117/E	11.0 kW	59,000 l.	303.5403	
LT-149/E	14.1 kW	85,000 l.	303.5404	
LT-220/E	20.0 kW	120,000 l.	303.5405	
LT-280/E	25.5 kW	150,000 l.	303.5406	



- 1) 15°C water, 32°C air
- 2) 7°C water, 35°C air
- 3) 7°C water, 25°C air
- 4) Required additional stainless steel housing option
- 5) 50% of which simultaneously in fermentation
- 6) Automatic deactivation in case of inadequate water
- 7) Min. 35% concentration; lower temperatures available on request
- 8) Free space at 10 m distance
- 9) Values in brackets ( ) require outdoor installation + stainless steel casing options
- 10) Weatherproof design for outdoor installation
- 11) If the electric heater 2.5/4/8 kW option is available, output according to selection
- 12) Acceptance of the entire refrigerating capacity by a cooling water system should be ensured by the user
- 13) Automatic deactivation in case of inadequate water
- 15) Avoids compressor damage in case of anticlockwise 400 V rotating field
- 16) Consists of reinforced hoses, 1m long, flat sealing connection nipples, seals and ball valves
- 17) Always necessary, prevents critical excessive pressure caused by temperature fluctuations in the pipe system if the water contained therein is enclosed through sealed valves.
- Consists of 2 safety pressure relief valves and all connection fittings
- 18) Roofing/rain protection is provided where glycol is used, due to a risk of dilution by rainwater

Other models and options available on request.

Errors and omissions excepted. The manufacturer's technical data applies. Subject to change without notice.

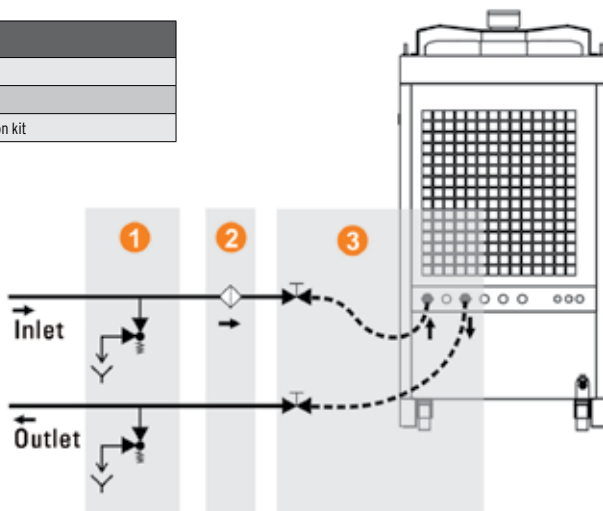
### IMPORTANT INSTRUCTIONS

- ▶ Where pure water is used (without antifreeze additive), all system parts conveying water should be installed frost-protected and emptied completely during the frost period
- ▶ Where glycol is utilised, a product safe for use with food should be selected and a minimum concentration of 25% (recommended min. 35%) achieved
- ▶ Note the flow direction marked with the arrow during installation of components
- ▶ Components installed outdoors should be protected against UV irradiation, particularly plastic components
- ▶ Note prescribed system parts. The omission of prescribed system parts can lead to damage to the cooler and other system parts
- ▶ Demineralisation is recommended in the event of high water hardness
- ▶ Please observe the minimum water quality specifications in the unit documentation

## Connection Diagram

### Legend

1:	Safety valve kit
2:	Water filter kit
3:	Refrigerator connection kit



Connection diagram (schematic diagram). The stipulations in the operating instructions apply.

# Cooling Technology

## Technical data for process water cooler LT

Model		LT-040/E (230 V)	LT-058/E	LT-092/E	LT-117/E	LT-149/E	LT-220/E	LT-280/E
Order no.		303.5400	303.5401	303.5402	303.5403	303.5404	303.5405	303.5406
Nominal refrigerating capacity <sup>1)</sup>	kW	5.0	5.6	9.1	11.0	14.1	20.0	25.5
Refrigerating capacity pursuant to Eurovent <sup>2)</sup>	kW	3.7	4.2	6.4	7.8	11.2	15.9	19.9
Refrigerating capacity under autumnal conditions <sup>3)</sup>	kW	4.1	4.8	7.3	8.8	12.7	17.9	22.4
Operating voltage	V/Hz	230/50	400/50	400/50	400/50	400/50	400/50	400/50
Refrigerant		R513A	R513A	R513A	R513A	R513A	R410A	R410A
Evaporator		Plates	Plates	Plates	Plates	Plates	Plates	Plates
Number of compressors		1	1	1	1	1	1	1
Compressor type		Rotary piston	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
No. of cooling circuits		1	1	1	1	1	1	1
No. of fans		1	1	1	1	1	1	1
Total air flow rate	m <sup>3</sup> /h	1,800	2,150	3,400	5,400	5,600	6,400	9,500
Total power input (cooling/heating)	kW	3.0 / 0.37+ <sup>10)</sup>	4.0 / 0.75+ <sup>10)</sup>	5.2 / 0.75+ <sup>10)</sup>	6.5 / 0.75+ <sup>10)</sup>	8.2 / 0.75+ <sup>10)</sup>	9.2 / 0.75+ <sup>10)</sup>	11.8 / 0.75+ <sup>10)</sup>
Water flow rate / under pressure (where dT=5K) <sup>3)</sup>	m <sup>3</sup> /h / bar	0.78 / 2.3	3.6 / 2.7	4.2 / 2.6	4.2 / 2.6	4.8 / 2.5	4.8 / 2.5	4.8 / 2.45
Available delivery head (minimum flow)	bar	3	3	3	3	3	3	3
Opt.: Water flow rate / under pressure (where dT=5K) <sup>3)</sup>	m <sup>3</sup> /h / bar	-- / --	-- / --	4.2 / 3.1	4.2 / 3.1	4.8 / 3.0	4.8 / 3.0	4.8 / 3.0
Opt.: Available delivery head (minimum flow)	bar	-- / --	-- / --	3.5	3.5	3.5	3.5	3.5
Water connection		R 3/4"ET	R 3/4"ET	R 1"ET	R 1"ET	R 1"ET	R 1"ET	R 1"ET
Water tank capacity	litre	52	70	125	125	235	235	235
Min. water temperature without/with glycol <sup>7)</sup>	°C	7/0	7/0	7/0	7/0	7/0	7/0	7/0
Sound pressure level <sup>8)</sup>	dB(A)	46	49	51	51	51	52	54
Min. ambient temperature <sup>9)</sup>	°C	0 (-20)	0 (-20)	0 (-20)	0 (-20)	0 (-20)	0 (-20)	0 (-20)
Max. ambient temperature	°C	40	40	40	40	40	40	40
IP protection rating		IP54	IP54	IP54	IP54	IP54	IP54	IP54
Electrical connection: 2m cable with connector		Schuko	CEE	CEE	CEE	CEE	CEE	CEE
Width	mm	660	660	680	680	855	855	855
Height (with casters)	mm	1,110	1,330	1,950	1,950	1,670	2,070	2,070
Depth	mm	625	662	680	680	1,125	1,360	1,360
Approx. tare weight	kg	170	180	250	260	350	400	470
<b>Machine options</b>		<b>Order no.</b>						
Heating option 2.5kW		303.5420	--	--	--	--	--	--
Heating option 4kW		--	303.5421	303.5421	303.5421	303.5421	303.5421	303.5421
Heating option 8kW		--	303.5422	303.5422	303.5422	303.5422	303.5422	303.5422
Phase control relay option <sup>15)</sup>	recommended	--	303.5430	303.5430	303.5430	303.5430	303.5430	303.5430
Stainless steel casing option		303.5440	303.5441	303.5442	303.5442	303.5443	303.5443	303.5443
Outdoor installation option <sup>4) 10)</sup>		303.5460	303.5461	303.5461	303.5461	303.5461	303.5462	303.5462
Low-noise design option		303.5450	303.5450	303.5451	303.5451	303.5452	303.5452	303.5452
Remote control station option		303.5470	303.5470	303.5470	303.5470	303.5470	303.5470	303.5470
Reinforced cold water pump option		--	--	303.5490	303.5490	303.5490	303.5490	303.5490
Automatic water replenishment option		303.5480	303.5480	303.5480	303.5480	303.5480	303.5480	303.5480
Water-cooled design option		on request	on request	on request	on request	on request	on request	on request
Heating recovery option		on request	on request	on request	on request	on request	on request	on request
<b>Accessories</b>		<b>Order no.</b>						
Refrigerator connection kit <sup>16)</sup>		304.9115	304.9115	304.9116	304.9116	304.9116	304.9116	304.9116
Safety valve kit <sup>7)</sup>	obligatory	304.9161	304.9161	304.9162	304.9162	304.9162	304.9162	304.9162
Water filter kit	obligatory	304.9140	304.9140	304.9141	304.9141	304.9141	304.9141	304.9141
Propylene glycol (food safe) 11kg canister		400.0002	400.0002	400.0002	400.0002	400.0002	400.0002	400.0002
Propylene glycol (food safe) 21kg canister		400.0005	400.0005	400.0005	400.0005	400.0005	400.0005	400.0005
Propylene glycol (food safe) 31kg canister		400.0001	400.0001	400.0001	400.0001	400.0001	400.0001	400.0001
Hydrometer for determining glycol concentration		400.0003	400.0003	400.0003	400.0003	400.0003	400.0003	400.0003