

Process cooling

Process Water Cooler MT-MINI

Temperature control processes in the beverage industry are subject to increasing requirements in terms of eco-friendliness and quality. The latest generation of cold water chillers for small companies is characterised by a high degree of energy efficiency and reliability. Designed for indoor installation, these systems have a finned tube coil evaporator and a non-ferrous water circuit. A variety of accessory kits for the hydraulic circuit simplify connection to the consumer network.

Features (standard equipment)

- ▶ Water temperature (discharge): 0... 30 °C (glycol brine lower than 5 °C is required!) ⁴⁾
- ▶ Glycol-resistant centrifugal pump (non-ferrous): approx. 3 bar available pressure; pressure gauge on discharge/flow
- ▶ Insulated plastic water tank with level monitor
- ▶ Evaporator immersed in the atmospheric water tank
- ▶ Refrigerant: R134a (MT-MINI-03) or R410A (MT-MINI-05-10)
- ▶ Ambient temperature: 5... 45 °C
- ▶ Power supply: 230 V/1 Ph/50 Hz (+/- 10%)

Control:

- ▶ Integrated in housing with XR60CX processor controller
- ▶ Central alarm output
- ▶ Enabling contact input compressor/pump

Miscellaneous:

- ▶ Emergency stop main switch (MT-MINI-08-10)
- ▶ Phase protection relay
- ▶ Mechanical protection for condenser fin protection
- ▶ Galvanised carbon steel chassis plates, polyester coated
- ▶ Guides for forklift/pallet truck, crane eyelets
- ▶ Protection rating: IP33, falling water spray

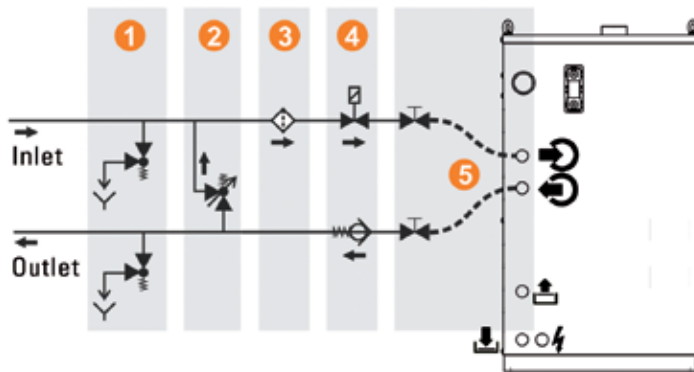
Model	Nominal refrigerating capacity ¹⁾	For tank volume ⁴⁾	Order no.	Unit price/€
MT-MINI-03	1.76 kW	11,800 l.	303.5600	
MT-MINI-05	2.7 kW	18,000 l.	303.5601	
MT-MINI-08	3.43 kW	22,900 l.	303.5602	
MT-MINI-10	4.43 kW	29,600 l.	303.5603	



MT-Mini -03 to -05

- 1) 15/20°C water, 25°C air
- 2) 7/12°C water, 35°C air
- 3) 7/12°C water, 25°C air
- 4) 50% of which simultaneously in fermentation
- 5) MT cooler, P3 pump, on/off fan(s) speed control, full load
- 6) Free space at 10 m distance from condenser side and h=1.6 m
- 7) Only required in non-pressurised systems at a higher level than the machine tank and where air can flow into the water system (e.g. automatic air venting valve, connections for cooling hoses, etc.). Consists of a solenoid valve, non-return valve and all connection fittings.
- 8) Approved: Tyfocor L and Antifrogen L (25... 30 % concentration)
- 9) Consists of reinforced hoses with stainless steel sheathing, non-return valves and transition fittings
- 10) Ensures the prescribed minimum flow, even if all consumers are inactive. Consists of an overflow valve and all required connection fittings
- 11) 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

Connection Diagram



Schematic diagram: the manufacturer's specification / operating and installation instructions apply.

Other models and options available on request. Errors and omissions excepted. The manufacturer's technical data applies. Subject to change without notice.

Legend	
1:	Safety valve kit (safety valves, fittings)
2:	Adjustable overflow valve kit (overflow valve, fittings)
3:	Water filter kit (dirt traps, double nipples)
4:	Return flow prevention kit if the system is higher than the machine (solenoid valve, non-return valve, fittings)
5:	Refrigerator connection kit (reinforced hoses, ball valves, fittings)

Cooling Technology

Technical data for process water cooler MT-mini

Model		MT-MINI-03	MT-MINI-05	MT-MINI-08	MT-MINI-10
Order no.		303.5600	303.5601	303.5602	303.5603
Nominal refrigerating capacity ¹⁾	kW	1.76	2.7	3.43	4.43
Refrigerating capacity pursuant to Eurovent ²⁾	kW	1.22	1.84	2.33	2.98
Refrigerating capacity under autumnal conditions ³⁾	kW	1.4	2.1	2.7	3.5
Compressor / Circuits		1 / 1	1 / 1	1 / 1	1 / 1
No. of fans		1	1	1	1
Total air flow rate	m ³ /h	900	1,100	1,600	1,500
Power input / Current consumption / Peak current ⁵⁾	kW/A/A	0.9 / 4.1 / 15.8	1.6 / 7.5 / 20.3	1.9 / 8.6 / 22	2.3 / 10.1 / 27.3
Water flow rate / under pressure (where $\Delta T=5K$) ³⁾	m ³ /h / bar	0.2 / 3.0	0.4 / 3.4	0.5 / 3.2	0.6 / 2.8
Available delivery head (for minimum flow)	bar	3.6	3.6	3.6	3.6
Water connection	Rp (inch)	1/2	1/2	1/2	1/2
Water tank capacity	litre	15	15	22	22
Sound pressure level ⁶⁾	dB(A)	46	47	47	47
Width	mm	486	486	486	486
Height	mm	623	623	876	876
Depth	mm	660	660	660	660
Tare weight	kg	68	71	97	100
Machine options		Order no.			
Optional wheels (2 fixed, 2 steerable)		--	--	303.5620	303.5620
Optional low water temperature to -5 °C		--	--	303.5610	303.5611
Optional tank level switch		303.5630	303.5630	303.5630	303.5630
Accessories for open systems		Order no.			
MT-MINI kit, transition 1/2"- 3/4"	obligatory	304.9180	304.9180	304.9180	304.9180
Refrigerator connection kit ⁹⁾		304.9111	304.9111	304.9111	304.9111
Adjustable overflow valve kit ¹⁰⁾	obligatory	304.9171	304.9171	304.9171	304.9171
Safety valve kit ¹¹⁾	obligatory	304.9161	304.9161	304.9161	304.9161
Return flow prevention kit ⁷⁾		304.9131	304.9131	304.9131	304.9131
Water filter kit	obligatory	304.9140	304.9140	304.9140	304.9140
Other accessories for all models		Order no.			
Propylene glycol (food safe) 11kg canister				400.0002	
Propylene glycol (food safe) 21kg canister				400.0005	
Propylene glycol (food safe) 31kg canister				400.0001	
Hydrometer for glycol concentration measurement				400.0003	



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 (8) should be selected and a minimum/maximum concentration of 25/ 30% set
- ▶ Note the flow direction marked with the arrow during installation.
- ▶ Components installed outdoors should be protected against UV irradiation, particularly plastic components
- ▶ Observe the pressure calibration instructions to ensure operation free of malfunctions and avoid damage to the machine

Note prescribed system parts.
The omission of prescribed system parts can lead to damage to the cooler and other system parts.

