FLK series
Compact liquid-air cooling system

DAIKIN

DELTATHERM

DAIKIN Fluid Technology GmbH

Partner of the industry for over 55 years

DAIKIN Fluid Technology GmbH combines the technological heritage and more than 55 years of experience of DELTATHERM®, founded in 1971 in Much, Germany, with the global expertise of the DAIKIN Group. Since 2026, the company has entered a new era as part of Daikin Industries, offering industrial cooling and temperature control solutions that unite maximum efficiency, reliability, and sustainability.

Since its foundation, the company has been supplying a wide range of industries – including machine tool manufacturing, laser technology, chemical and food processing industries, and environmental testing – with high-quality and durable cooling systems. The high level of vertical integration and flexibility in customer-specific design developed by DELTATHERM® are now complemented by advanced control technology, energy-efficient solutions, and the global quality standards of the DAIKIN Group.

The portfolio includes industrial chillers, heat exchanger systems, process temperature control units, heating systems, and a variety of cooling components. From standard units to customized special solutions, systems are developed that are optimally tailored to customers' individual production processes. A nearly complete in-house manufacturing depth – from engineering and software development to control cabinet construction, assembly, painting, and comprehensive functional testing – ensures the highest quality standards and fast response times. All core components are sourced exclusively from globally renowned manufacturers to guarantee maximum reliability.

With the commitment "High Quality, High Efficiency, High Reliability," DAIKIN Fluid Technology GmbH develops solutions that ensure maximum temperature stability, safeguard production processes, and at the same time support the transition toward a sustainable industrial future. The company combines technological strength with global competence, creating a new generation of industrial cooling and temperature control systems together with its customers.

In the field of after-sales service, DAIKIN Fluid Technology GmbH provides reliable, globally supported customer service. In addition to the long-established international DELTATHERM service network spanning more than 60 countries, customers now benefit from the expanded service infrastructure of the DAIKIN Group.

This includes:

- Global plant service
- Service hotline to our experts, in German and English
- All standard components in stock and available globally in the shortest time by express mail
- Replacement part availability > 95 %
- An expanding worldwide network of service partners with locations on 6 continents – in Europe, North America, South America, Africa, Asia and Australia
- Online service, through which we can check and maintain your systems
- Ensuring the productivity of your **DAIKIN - DELTATHERM®** machines

Made
in
Germany

FLK series

Compact liquid-air cooling system with tank and pump in the power range from 1.1 to 10.5 kW.

When cooling the process medium in the temperature range above 25 °C, the air convection cooling of the FLK cooler is an energy-saving alternative to compression cooling.

The circulating pump conveys the circulating medium over the component to be cooled back to the DELTATHERM® liquid-air cooler. The series is ready for connection and has been tested for function and leaks. For frost-free indoor installation.

Main applications of the FLK systems are:

Liquid-cooled motor spindles
Liquid-cooled drives
Liquid-cooled torque motors
Liquid-cooled servomotors
Liquid-cooled linear motors
Liquid-cooled converters
Liquid-cooled bearings
Liquid-cooled tools
Liquid-cooled welding systems
Liquid-cooled X-ray systems
Liquid-cooled CT or MRI systems

Short specification of the standard equipment FLK

- Container-mounted heat exchanger and submerged pump
- Motors and electrical switches prepared for direct connection by the customer
- Highly-efficient water / air heat exchanger made of copper tubing with pressed-on lamellae made of aluminium and a frame made of galvanised sheet steel
- Fan in axial design with suction-mounted sickle blade
- Direct drive via AC or three-phase current external rotor motor
- Maintenance-free and friction-optimised ball bearings
- Medium circuit
- Unit completely piped or hosed internally
- Externally mounted media connections
- Large-volume water tank made of HDPE / stainless steel / steel
- Free tank filling through a resealable filler
- Tank emptying option
- External contact protection in accordance with DIN 31001
- Protection class IP 54

Available options

- Complete control and regulation
- Level switch
- Air filter mat for air inlet at the heat exchanger
- Air filter mat monitoring
- Variable speed control of the fans
- Pump overflow valve for pump protection
- Manometer for display of the water outlet pressure
- Wire marking
- Heavy-duty connector (e.g. Harting)
- Flow monitor with analog or digital signal
- Water filter
- Gate valves in flow and return
- Check valves and solenoid valves for the water circuit (consumer higher than coolant)
- Tank filling via floater valve
- Automatic water backfeed with floater switch
- Tank heating for temperature control
- Pump switch-off
- Multi-circuit system
- 24V AC/DC control voltage
- Potential-free collective fault indicator
- External ON/OFF switching
- Special voltages and frequencies (50/60Hz)
- Limit temperature monitoring
- Differential temperature control
- External temperature sensor

The product image is an example. The actual devices can differ substantially due to the range of variants.

FLK series

Series FLK 1 - 7		FLK 1	FLK 2	FLK 3	FLK 4	FLK 5	FLK 6	FLK 7
Cooling capacity	kW	1.1	1.6	3.6	4.3	6.4	7.9	10.5
Air inlet temperature	°C	20	20	20	20	20	20	20
Air volume	m^3/h	800	1400	2600	2600	5200	5200	5200
Medium inlet temperature	°C	30	30	30	30	30	30	30
Medium outlet temperature approx.	°C	27	27	27	27	27	27	27
Medium amount approx.	l/min	5	10	15	15	30	40	50
Pump pressure	bar	2.8	2.5	2.0	2.0	2.9	2.0	1.0
Pump drive capacity (50/60 Hz)	kW	0.46 / 0.66	0.11 / 0.15	0.46 / 0.66	0.46 / 0.66	1 / 1.35	1 / 1.35	1 / 1.35
Medium pressure loss	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Water / Glycol mixture	%	70 / 30	70 / 30	70 / 30	70 / 30	70 / 30	70 / 30	70 / 30
Tank contents approx.	l	27	27	27	27	27	27	27
Number of axial fans	piece	1	1	1	1	1	1	1
Connected load per fan (50/60 Hz)	kW	0.68 / 0.70	0.64 / 0.78	0.13 / 0.23	0.13 / 0.23	0.13 / 0.23	0.65 / 0.85	0.65 / 0.85
Water connection outlet/inlet	inch	3/4 " IG (female)						
Max. operating pressure		atmospherically open						
Air direction		horizontal						
Width (W)	mm	320	320	320	320	420	420	420
Length (L)	mm	500	500	500	500	600	600	600
Total height (H)	mm	710	710	710	710	810	810	810
Empty weight about	kg	45	45	45	45	49	49	49
Connection voltage	V / Hz	3x400 V +/- 10 % 50 Hz PE | 3x460 V +/- 10 % 60 Hz PE (other voltages on request)						
Medium temperature min. / max.	°C	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50
Ambient temperature min. / max.	°C	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50	+5 / +50
Noise level at 1 m distance approx.	dB(A)	70	70	70	70	70	70	70
Pipe material		copper						
Lamella material		aluminium						

Components in contact with circulating medium: Stainless steel, brass, bronze, copper, plastic, rubber, iron

Approved media:

70 % distilled water with 30% Antifrogen N
70 % distilled water with 30% Glysantin G48
70 % distilled water with 30% Tyfocor

Note:

Pump, fan and other electrical components must be connected and secured directly on site. Regulation and protection optional.

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Further products from our product range

Industrial series cooling towers with open or closed circuits from 80 to 18,000 kW cooling capacity

Dry and hybrid coolers for water, oil or emulsion from 0.5 to 15,000 kW cooling capacity

Rack chillers in the power range from 0.15 to 3 kW cooling capacity; as heat exchanger up to 10 kW

Industrial cooling machines for water, oil and emulsion from 0.2 to 5,000 kW cooling capacity

Temperature control systems for water up to 160 °C and oil up to 350 °C

Immersion chillers for water, oil and emulsion from 1.7 to 115 kW cooling capacity

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