

INDUSTRIAL WATER CHILLERS

FOR PRECISION COOLING





ADVANCED COOLING SOLUTIONS – FIDEM

At Fidem, we design and manufacture high-performance industrial chillers that are compact, efficient, and user-friendly. Built for reliable operation in diverse industrial environments, our chillers ensure precise temperature control for maximum efficiency.

- **Why Choose FIDEM Chillers?**

Engineered for stable and consistent cooling performance, Designed with a non-ferrous hydraulic circuit for superior fluid quality and cleanliness, Compatible with water, glycol mixtures, and low-viscosity fluids, Reduces maintenance costs and downtime, improving productivity, Customizable with a wide range of accessories and options to suit various industrial needs.

Each FIDEM chiller unit undergoes rigorous testing to guarantee reliable performance and long-term durability. With Aquatech Plus, you get innovative cooling solutions that enhance efficiency and optimize your industrial processes.

Powering industries with precision cooling – Choose FIDEM CHILLERS!

PROCESS COOLING APPLICATIONS



Industrial & Manufacturing Applications:



- Plastics Processing – Injection molding, blow molding, extrusion
- Thermoform Machines – Temperature control for plastic sheet forming
- Coating Systems – Regulating temperature for uniform coatings
- Surface Processing – Electroplating, anodizing, and metal finishing
- Welding Engineering – Cooling for welding torches and laser welding
- Machine Tools – Spindle cooling, cutting fluid cooling

Energy & Environmental Applications:



- Biogas & Natural Gas Treatment – Cooling for gas purification systems
- Compressed Air Treatment – Removing moisture in air compression systems
- HVAC & Building Cooling – Climate control for commercial buildings

Medical & Pharmaceutical Applications:



- Chemical & Pharmaceutical Processes – Temperature-sensitive reactions
- Medical Imaging Systems – MRI, CT scan cooling
- Laser Technology – Cooling for medical and industrial laser systems

Printing & Packaging Applications:



- Flexographic Printing Systems – Ink cooling for high-speed printing
- Offset Printing Machines – Maintaining ink viscosity and press stability

Advanced Technology & Electronics:



- Semiconductor & PCB Manufacturing – Cooling electronic components
- Data Centers & Server Cooling – Preventing overheating of IT infrastructure

Food & Beverage Industry Applications:



- Food & Beverage Processing – Dairy, breweries, beverage filling lines
- Cold Storage & Refrigeration – Chilling storage rooms and transport

Automotive & Aerospace Applications:



- Battery Cooling for EVs – Managing temperature in electric vehicle batteries
- Aerospace Component Manufacturing – Temperature control in precision machining

KEY FEATURES

Product Features

Complete solution, easy to install and manage

- **Nonferrous hydraulic circuit:** non-ferrous water tank (stainless steel from FM005), stainless steel plate evaporator, non-ferrous pump with bypass prevent water from becoming corrosive.
- **Pump and tank installed inside the chiller** provides a compact and easy to install solution; without pump and/or without tank solution available.
- **Electronic controllers with proprietary software** provide access to all the parameters of the units and allow special management for any specific need, with remote monitoring available.
- **Completely configurable** with many options and kits to fit the needs of industrial applications.
- **Condenser filters** reduce dirt, thereby preventing system downtime.
- As standard installed **differential pressure switch** that makes sure that the systems shuts down in the case that the circuit runs dry. Therefore, the investment is protected.
- **Designed with eyebolts** (till FM014) for easy handling.
- **IP54 standard** from FM007 for outdoor installations.
- **Independent condensing plenum** enables routine and special maintenance to be performed without stopping the system.
- Unit structure and design guarantee **full internal access** for easy maintenance.
- FM020 and FM024 designed with **fan step control** in order to work in low ambient temperatures down to -10 °C.
- **RS485 card** available on all models (standard from FM007).
- **Water and refrigerant manometers** permit full control of the working conditions.
- **Water pump: (standard 3bar) different head-pressures** available to meet the requirements of specific applications.
- **Visual level Indicator:** designed for open circuit models FM002, FM003, FM005.

High reliability & Low energy consumption

- **Large built-in water tank** that provides a large thermal mass / storage capacity thus reducing the number of refrigerant compressor stop/starts and short cycling thereby increasing the compressor and chiller lifetime and reducing the energy consumption.
- **Maximum ambient temperature up to 48 °C** on standard units, **Tropicalization up to 53 °C** and Low ambient options ensure reliable operation in extreme ambient conditions.
- **Oversized condensers and evaporators** guarantee high performing heat exchange increasing COP (Coefficient of Performance).
- **PID software developed and tested** to give the highest temperature consistency even at variable loads.
- Use of **compliant scroll compressors** (from FM007) designed specifically for high efficiency and long life in industrial applications.
- **Low ambient speed-control** (optional) on fan-motor ensures constant performances at different temperatures, long lifetime of the fans and a reduction in absorbed power when ambient temperature is low.

CUSTOMER BENEFITS OF FIDEM CHILLERS

1

Enhanced Equipment Protection

A differential pressure switch ensures automatic system shutdown if the circuit runs dry, safeguarding your investment from potential damage.

2

Compact & Space-Saving Design

Engineered for efficiency, our chillers offer an easy-to-install solution that fits seamlessly into any industrial setup.

3

Reduced Downtime & Maintenance

High-quality condenser filters minimize dirt accumulation, preventing unexpected system failures and ensuring continuous operation.

4

Reliable Performance in Harsh Conditions

Designed to withstand extreme ambient temperatures, our standard models operate efficiently up to 48°C, while tropicalized versions can handle up to 53°C.

5

Superior Cooling Fluid Quality

The non-ferrous hydraulic circuit ensures stable and clean coolant circulation, enhancing system performance, improving productivity, and reducing long-term maintenance costs.

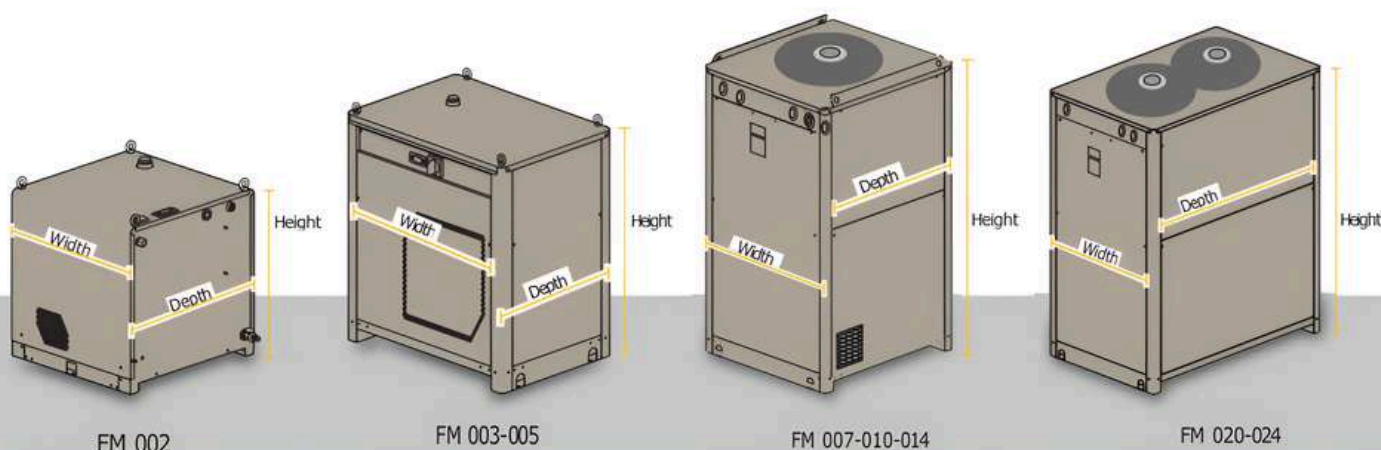
“FIDEM chillers are built for efficiency, reliability, and long-term cost savings—delivering unmatched cooling solutions for industrial applications.”

PRODUCT SPECIFICATION

FIDEM WATER RANGE

Model FM		002-W	003-W	005-W	007-W	010-W	014-W	020-W	024-W
Cooling capacity ¹	kW	1,7	3,3	5,2	7,8	10,8	14,6	20,3	23,6
Compressor abs. power ¹	kW	0,7	1,3	1,4	1,7	2,5	3,2	4,4	5,4
Power supply	V/ph./Hz	230/1/50			400/3/50				
Protection index		33			54				
Refrigerant		R407c							
Compressor									
Type		hermetic pistons			scroll				
Compressors / circuit		1 / 1							
Max.abs. power ¹ compressor	kW	0,7	1,3	1,5	2,4	3,8	4,4	5,7	6,6
Axial fans									
Quantity	n.º	1	1	1	1	1	1	2	2
Max. abs. power ¹ fan	kW	0,07	0,12	0,12	0,3	0,3	0,4	0,4	0,4
Air flow	m³/h	430	1295	1295	3437	3437	4337	6878	6159
Water cooled version									
Condenser water flow	m³/h	N.A.					1,5	2,1	2,5
Condenser connections	in	N.A.					3/4"	3/4"	3/4"
Pump P30									
Max.abs.power ¹	kW	0,4	0,4	0,4	0,9	0,9	1,0	1,3	1,3
Water flow (nom. / max) ¹	m³/h	0,3 / 1,9	0,6 / 1,9	0,9 / 1,9	1,3 / 4,8	1,8 / 4,8	2,5 / 6	3,4 / 9,6	4,9 / 9,6
Head pressure (nom. / max) ¹	m H ₂ O	35/5	33/5	26 / 5	30 / 12,8	29 / 12,8	29 / 21	29 / 17,3	28 / 17,3
Dimension and weight									
Width	mm	520	755	755	756	756	756	756	756
Depth	mm	500	535	535	806	806	806	1206	1206
Height	mm	550	801	801	1405	1405	1405	1405	1405
Connections in/out	in	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Tank capacity	l	15	15	22,5	65	65	65	100	100
Weight (axial)	kg	40	80	85	160	165	175	220	230
Weight (water cooled)	kg	n/a	n/a	n/a	n/a	n/a	175	220	230
Noise level									
Sound pressure (axial) ³	dB(A)	52	52	52	53	53	50	50	50

- at water in/out temperature 20/15 °C, glycol 0 %, either 25 °C ambient temperature (air-cooled models) or 25 °C condenser water inlet temperature with 35 °C condensing temperature (water-cooled models)
- referred to axial fan version in free field conditions at a distance of 10 m from until, measured on condenser side, 1 m from ground



PRODUCT SPECIFICATION

FIDEM WATER RANGE

Correction factors

A) Ambient temperature	°C	5	10	15	20	25	30	35	40	45
correction factor (f1)		1,05	1,05	1,05	1,05	1	0,94	0,89	0,84	0,80
B) Water outlet temperature	°C	5	10	15	20	25	30	35	40	45
correction factor (f2)		0,76	0,87	1	1,04	1,04	1,04	1,04	1,04	1,04
C) Glycol (by weight)	%	0	10	20	30	40	50	60	70	80
correction factor (f3)		1	0,99	0,98	0,97	0,96	0,95	0,94	0,93	0,92
D) Condenser Water inlet temp.	°C	20	25	30	35	40	45	50	55	60
correction factor (f4)		1,05	1	0,95	0,9	0,85	0,8	0,75	0,7	0,65

To obtain the required cooling capacity, multiply the value at nominal conditions by the above correction factors (i.e. cooling capacity = $P \times f1 \times f2 \times f3 \times f4$, where P is the cooling capacity at the water outlet temperature of 15 °C). FIDEM, in its standard configuration, can operate up to ambient temperatures of max. 48 °C and min. 5 °C and water temperatures of max. 30 °C inlet and min. 0 °C outlet. The above correction factors are approximative: for a precise selection, always refer to the software selection programme.

Options

	FM002-W	FM003-W	FM005-W	FM007-W	FM010-W	FM014-W	FM020-W	FM024-W
No Tank	✓	✓	✓	✓	✓	✓	✓	✓
No Tank & NO Pump	✓	✓	✓	✓	✓	✓	✓	✓
No Pump	✓	✓	✓	✓	✓	✓	✓	✓
P50	✓	✓	✓	✓	✓	✓	✓	✓
P15				✓	✓	✓	✓	✓
Harting Plug	✓	✓	✓	✓	✓	✓	✓	✓
Close Control (+/-0,5 °C)		✓	✓	✓	✓	✓	✓	✓
Low Water				✓	✓	✓	✓	✓
Fan Speed Control				✓	✓	✓	✓	✓
Low Ambient -20 °C				✓	✓	✓	✓	✓
Anti-Freeze Heating				✓	✓	✓	✓	✓
Bioenergy				✓	✓	✓	✓	✓
Differential Dynamic Set Point				✓	✓	✓	✓	✓
Tropicalization (53 °C, without ambient fill kit)						✓	✓	✓
Siemens Electrical Components (no control)	on request							

Versions

Open Circuit (with ambient fill tank)	✓	✓	✓					
Closed Circuit			✓	✓	✓	✓	✓	✓
Water cooled (plate condenser)						✓	✓	✓

Accessories

- **Water fill kits:** non-ferrous pressurized, automatic or ambient manual kits, for water filling in any installation.
- **Remote control kits:** base version for remote ON/OFF and general alarm monitoring. Advanced version for complete remote unit monitoring.
- **Wheels (ICEP002- ICEP014):** for ease of transport.
- **Water filters:** for circuit cleanliness and machinery protection.
- **Water by-pass:** non-ferrous, externally adjustable allowing the correct flow through the system to be set.
- **Control panel cover:** from ICEP007, can be supplied already installed.

WHY CHOOSE FIDEM INDUSTRIAL CHILLERS?

1

Precision Cooling

Engineered for optimal temperature control, ensuring maximum efficiency.

2

Robust & Reliable

Built with high-quality components for long-lasting performance.

3

Energy Efficient

Designed to reduce power consumption while delivering superior cooling.

4

Custom Solutions

Tailored to meet diverse industrial needs, from manufacturing to pharmaceuticals.

4

Global Trust

Serving industries across India, Africa, and the Middle East with excellence.

FIDEM Industrial Chillers – where cooling meets innovation



GET IN TOUCH



Plot No 74 Shree Khodiyar Park
Survey No 91 Behind Ruda
Transport Nagar Sokhda, Village,
Kuvadava Rd, near Sat Hanuman
Temple, Rajkot, Gujarat 360003



+91 72111 00451



salesaquatechplus88@gmail.com



www.aquatechplus.com
www.fidemplus.com



Rajkot, Gujarat, India



Muscat, Oman



Nairobi, Kenya (Africa)