EKİN ENDÜSTRİYEL

SHELL & TUBE HEAT EXCHANGERS PRODUCT CATALOGUE

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EKİN ENDÜSTRİYEL
Isıtma-Soğutma San. Tic. Ltd. Şti.

Sustainable Innovation, Quality Standardization and Dynamism

Ekin Endustriyel, which has entered Turkish heating sector by exporting of plated heat exchangers, is known with customer focused vision and dynamism. Ekin has expanded into new and upcoming investments. One of the main steps was gaining the identity of being a producer. Ekin has started the production of plate heat exchangers with the brand of "MIT". We have grown in the philosophy of quality, through initially adapting to ISO Quality Management.

MIT plate heat exchangers have become a solution for engineering problems in the world market and have grown through an expansion of franchises.

Engineering Approaches, Integrated Solutions

Ekin has expanded into the production of components, sales, and after-sales service by employing expert engineers. The factors that guided Ekin to success are their exceptional customer service to the needs and wants of consumers, modern facilities, and becoming partners to projects that involve high-end technology.

Ekin is an expert company which has a wide product range which includes plate heat exchangers, accumulation tanks, water heater tanks, installation, and its service group and submit competitive advantages to mechanical installation sector in Turkey and all around the world.

ISO CE GOST CERTIFICATE 799 33 13 TSE-HYB TURQUM® TURKISH QUALITY OF MACHINERY

APPLICATION FIELDS

HEAT TRANSFER PRODUCTS

• Gasketed Plate Heat Exchangers • Brazed Heat Exchangers • Shell&Tube Heat Exchangers • Air Fan Oil Cooler • Economizers • Coils and Radiators

PRESSURE VESSELS

• Water Heater Tanks • Water Storage Tanks • Buffer Tanks • Expansion Tanks • Stainless Steel Process Tanks • Balance Tanks / Dirt Separators / Air Separators • Pressured Air Tanks • Neutralization Tanks • Air Tubes • Steel IBC Tanks with ADR

COMPLETE SYSTEMS UNITS

• Heat Stations • Steam Package Systems • Special Designed Systems • Dosing Systems • Substations • Thermoregulators

FOOD GRADE SYSTEMS

• Pasteurizers with plate heat exchangers • Hygienic Pasteurizers with Shell & Tube Heat Exchangers • Cheese and whey Systems • UHT – Sterilization Systems • CIP Systems • Hygienic Storage and Process Tanks • Homogenizers • Standartization Systems • Evaporators • Turn-key Projects

FLUID TRANSFER PRODUCTS

• Lobe Pumps • Hygienic Centrifuge Pumps • Turbo / Roots / Centrifuge Blowers • Drum Pumps • Acid Pumps • Dosing Pumps • Monopumps • Air operated Double Diaphragm Pumps (AODD)

VALVES

• Thermoplastic Valves
• Plastomatic Valves

ENERGY SYSTEMS

• Solar Collectors
• Water Heater Tanks for Solar

Contents

SHELL & TUBE HEAT EXCHANGERS

We design and manufacture products based on the project sent by our customers or according to customer requirements. Calculations, designs and projections according to customer demand and in accordance with **ASME Code Section VIII Div 1 and 2** (American Society Mechanical Engineers), **API 661, API 650** (American Petroleum Institute), **TEMA** (Tubular Exchanger Manufacturers Association), **AD-MERKBLAATTER, CODAT, DIN, EN 13445, PED 2014/68** / **AB** and **TSE**.

If the standards are not specified, we use ASME VIII Div 1 for pressure vessels and TEMA for heat exchangers and API 661 for radiators. At the same time, it is ensured that project controls and productions are carried out according to these standards.

In our projects, materials suitable for international codes are selected and all kinds of carbon steel, stainless steel and special coated steels and alloy materials including high strength quenched steels are used successfully. The welds and controls are also carried out by our welders who are certified to international standards by SMAW, TIG, MAG-MIG sources according to ASME IV and EN.

Services

MIT pipe heat exchangers are used in the public and private sectors of iron and steel, machinery industry, petroleum, petrochemical, gas, power plants, food, pharmaceutical, health, paper industry, leather, textile, air conditioning, ship and marine industrial facilities. in military, construction, swimming pool, geothermal and contracting sectors, in the areas of heating and cooling.

- Shell and Tube Heat Exchangers
- Shell and Tube Standard Heat Exchangers
- Serpantines
- Radiators
- Batteries
- Economizers
- Ship Towers
- Maintenance & Repair

Products are designed according to customer requirements. Ekin designs its heat exchangers by means of licensed computer programs.

The software used by MIT pipe heat exchanger engineers provide equipment design according to different international standards.

All parts to be manufactured by MIT can be modeled in 3D in computer environment. The type of process required for machining of modeled parts in CNC vertical machining center, selection of tool paths, process sequence etc. are programmed in computer environment. With computerized simulation of complex parts, possible errors can be detected before being processed on the machine.

Due to the sectors we serve, every material we use in our manufacturing should be of the highest quality.

Today, many materials are frequently used in heat exchangers and pressure vessels, such as;

- ASME SA516 Gr 70
- ASME SA106 Gr B
- ASME SA105
- ASME SA387
- ASME SA179
- ASME SA213
- CuZn28Pb1
- P265
- P335
- ASME SA266
- ASME SA182
- St35.8
- Duplex
- Super Duplex
- Monel

are still imported from abroad.

Our company realizes the importation of materials from many countries from Europe to the Far East according to the need. All materials used in our workshop are used in accordance with EN 10204 3.1 and / or ASME standards and, if necessary, are checked by neutral inspection organizations and used as original certified. Input quality control reports are prepared for each material used in our projects.

Different tests can be applied according to the necessity of manufacturing in our workshop. While some of these tests are carried out by MIT quality control engineers, some of them can be done by neutral control organizations.

In our workshop, quality file is produced for every equipment manufactured. Regarding the produced equipments; manufacturing program, mechanical design reports, manufacturing technical drawings, quality-control plan, NDT test reports, material certificates, dimension-size control reports, material input quality control reports, welding process specifications (WPS), welding test reports (PQR), welder certificates (WPQ), compliance reports etc. are presented to our customers in a transparent manner.

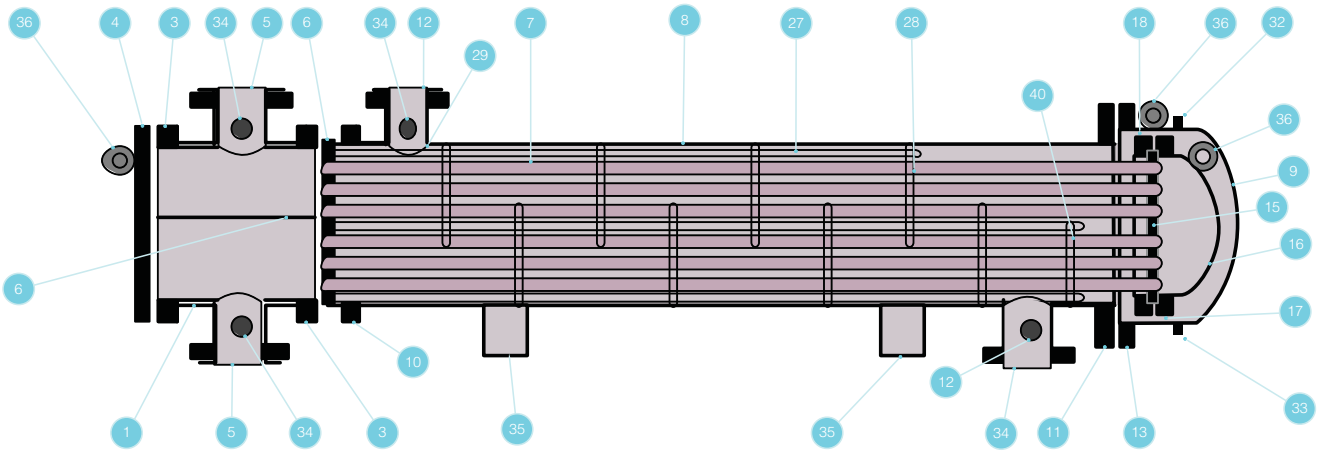
The ID files of the equipment and the quality files are prepared and shared with each customer.

SHELL & TUBE HEAT EXCHANGERS

It is the most widely used heat exchanger in industrial facilities such as iron and steel, petroleum, petrochemical, gas, power plants, food, pharmaceuticals, leather, textiles, air conditioning, ships and maritime sectors.

The heat exchangers used in the industries can be used in all sectors where there is a second alternative energy requirement from an alternative energy.

Shell &Tube Heat Exchanger Components;



1	Fixed Head-Channel	9	Body Cover	17	Floating Head Flange	25	Packing Seal Ring	33	Unloading Connection
2	Fixed Head-Nozzle	10	Body Flange-Fixed Front Side	18	Floating Head Rear Assembly	26	Flashlight Ring	34	Measuring Instrument Connection
3	Fixed Head, Flanged Channel	11	Body Flange - Rear Side	19	Segment	27	Connecting Rods and Gaps	35	Support
4	Channel Cover	12	Body Inlet	20	Rear Flange	28	Suppression or Support Plates	36	Lifting Ring
5	Fixed Head Inlet	13	Body Cover Flange	21	Floating Head Cover	29	Inlet Surge Board (Curtain)	37	Support
6	Fixed Tube Mirror	14	Expansion Connection	22	Floating Tube Mirror Shirt	30	Longitudinal Surveillance Plate (Curtain)	38	Sluice
7	Tubes	15	Floating Tube Miror	23	Seal Box Flange	31	Chamber	39	Liquid Level Connection
8	Body	16	Floating Head Cover	24	Seal	32	Airing Connection		

Advantages of Shell & Tube Heat Exchangers;

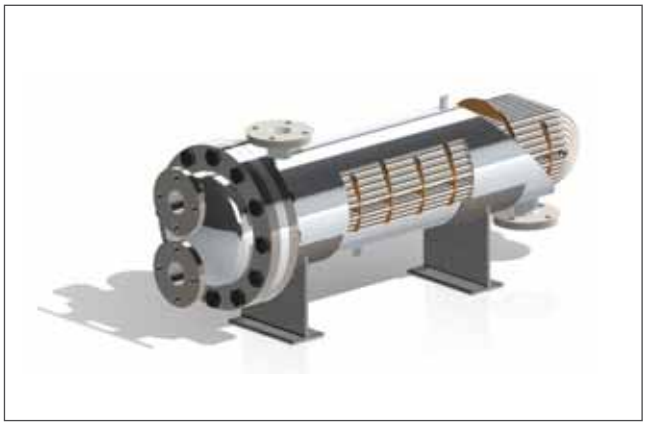
- They can be designed and manufactured to operate at very high pressures.
- Highly flexible and robust design.
- They can be designed and manufactured to operate at very high and very low temperatures.
- They are resistant to thermal shocks.
- There is no size limitation.
- They can be used in all applications.
- Pressure losses are minimal and can be kept to a minimum in accordance with the process purpose.
- They can be easily dismantled and reassembled for maintenance, repair and cleaning.
- Maintenance and repairs are easy.
- Pipe diameter, pipe number, pipe length, pipe pitch and pipe arrangement can be changed. Therefore, the design of tube heat exchangers has a lot of flexibility.

SHELL & TUBE HEAT EXCHANGERS

Heat transfer applications often require different solutions for different processes. After obtaining the necessary information in the process, it is designed by the expert engineers in the field and the schematic drawing is extracted. After the schematic drawing is checked, there is no dimensional problem and production pictures are taken.

Each heat exchanger approved for production is a process-specific heat exchanger, which is usually designed and which is similar. After the heat exchangers are manufactured, it is possible to isolate the heat losses to the minimum by isolating them if desired. There is no capacity limit in the production of pipe heat exchangers. Heat exchangers can be grouped in multiple ways by connecting in series or parallel and their capacities can be increased. Ekin, which provides the provision of facilities that require high capacities such as Petrochemical Plants and Power Plants, is one of the leading companies in the sector with its experience in this field.

U Shaped and Straight Shell &Tube Heat Exchangers



Customized and Hygienic Heat Exchangers

In some food and chemistry applications, heat treatments are carried out at very high temperatures or pressures. The use of plate heat exchangers at the mentioned temperatures and pressures is not used because the gasket temperature and pressure resistance is exceeded. For such applications, MIT engineers have developed a complete, hygienic tube heat exchangers. The temperature limit for these tube heat exchangers can be up to 350 °C. The welds in this type of heat exchanger must be made very precisely to ensure a smooth flow surface.

At the MIT production facility, such resources are implemented by certified welders and are examined by expert engineers in a 3-stage quality control phase. MIT engineers, who are experts on food processing processes, offer the most appropriate solutions during design, taking into account the capacity, location, type of food to be processed.

In high-pressure applications, as well as capacity calculations, material thicknesses are of vital importance in terms of welding technologies. Therefore, every heat exchanger produced at Ekin is kept under test for 1.5 hours at a pressure of 1.5 times the normal working pressure and is shipped if there is no problem in the test.

Tube in Tube Heat Exchangers

Usually used in food and sludge processes. The materials used are stainless in weight. In the case of chemical mixture in the sludge processes, material analysis is performed and material selection is made.

Double Tube Heat Exchangers

The preferred type of product for safety reasons is the double tube safe heat exchangers where the fluids are mixed with each other.

A possible leakage is reported by means of an electrical signal through a pressure switch or a float in the control chamber.

The double walled safety tubes in the tube bundle are heat transfer tubes with thin channels that create a leakage space after the two tubes are connected.

In addition to oil cooling systems, the transformer is also used in chemical process engineering, heat recovery, food processes and domestic hot water heaters.

Copper and copper alloys are generally preferred in the products, and carbon steel and stainless steel materials are used according to the processes.

Depending on the application and processing requirements, special designs are selected on the inner or outer pipe to ensure the best heat transfer and processing.

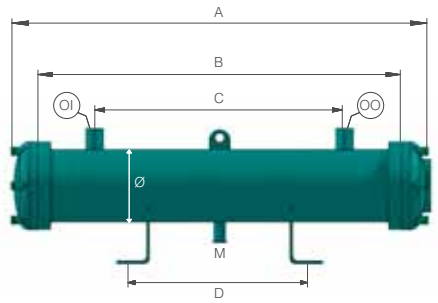
SHELL & TUBE HEAT EXCHANGERS

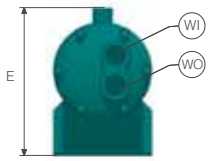
Oil Coolers

Many machines used in the industry need cooling during their work. The cooling process is usually caused by the collision of the water from the cooling tower or the chiller in the heat exchanger by the machine. MIT oil coolers can be used in all types of applications. Oil coolers can be manufactured as standard in certain dimensions and can be manufactured in special manufacturing processes.

Grooved Copper Tube Oil Heat Exchangers

In MIT oil coolers, internal pipes can be manufactured from grooved copper pipes and turbulent flow can be provided. In this way, heat transfer is much higher than standard flat tube heat exchangers. In standard products, the inner tubes are made of copper and the quality of all other equipments are manufactured as ST35.8.





Model	Capacity	A	B	C	D	E	M	Ø	OI-OO	WI-WO	Weight
	(Kcal/h)	(mm)	(mm)	(mm)	(mm)	(mm)	(inch)	(mm)	(inch)	(inch)	(kg)
MIT.BYS.14.50	18100	590	500	340	340	252	G 1/2"	140	G 1"	G 1"	29
MIT.BYS.14.75	26400	840	750	550	500	252	G 1/2"	140	G 1"	G 1"	32,5
MIT.BYS.14.100	36300	1090	1000	800	650	252	G 1/2"	140	G 1"	G 1"	42
MIT.BYS.14.125	44500	1345	1250	1050	800	252	G 1/2"	140	G 1"	G 1"	45
MIT.BYS.16.50	21400	592	500	340	340	280	G 1/2"	168	G 1"	G 1"	32
MIT.BYS.16.75	34600	842	750	550	500	280	G 1/2"	168	G 1"	G 1"	40
MIT.BYS.16.100	44500	1092	1000	800	650	280	G 1/2"	168	G 1"	G 1"	49
MIT.BYS.16.125	56100	1342	1250	1050	800	298	G 1/2"	168	G 1"	G 1"	57
MIT.BYS.16.150	67600	1592	1500	1300	1000	292	G 1/2"	168	G 1"	G 1"	66
MIT.BYS.22.75	52800	850	750	550	500	349	G 1/2"	220	G 2"	G 2"	66
MIT.BYS.22.100	70900	1100	1000	800	650	349	G 1/2"	220	G 2"	G 2"	77,5
MIT.BYS.22.125	89100	1344	1250	1050	800	349	G 1/2"	220	G 2"	G 2"	89
MIT.BYS.22.150	107000	1594	1500	1300	1000	349	G 1/2"	220	G 2"	G 2"	100
MIT.BYS.22.175	125000	1844	1750	1550	1150	349	G 1/2"	220	G 2"	G 2"	111
MIT.BYS.22.200	143000	2094	2000	1780	1250	349	G 1/2"	220	G 2"	G 2"	123
MIT.BYS.22.250	179000	2594	2500	2280	1450	349	G 1/2"	220	G 2"	G 2"	146
MIT.BYS.25.75	92400	850	750	550	500	423	G 1/2"	273	G 2"	G 2"	89
MIT.BYS.25.100	123000	1100	1000	800	700	423	G 1/2"	273	G 2"	G 2"	128
MIT.BYS.25.125	165000	1350	1250	1050	800	423	G 1/2"	273	G 2"	G 2"	145
MIT.BYS.25.150	186000	1600	1500	1300	1000	423	G 1/2"	273	G 2"	G 2"	162
MIT.BYS.25.175	217000	1850	1750	1550	1150	423	G 1/2"	273	G 2"	G 2"	180
MIT.BYS.25.200	247000	2100	2000	1780	1250	423	G 1/2"	273	G 2"	G 2"	197
MIT.BYS.25.250	310000	2600	2500	2280	1450	423	G 1/2"	273	G 2"	G 2"	230
MIT.BYS.25.300	371000	3100	3000	2760	1700	423	G 1/2"	273	G 2"	G 2"	263

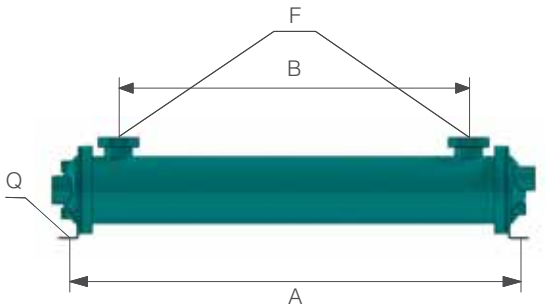
Shell And Tube Heat Exchangers With Finned Tube

The heat exchangers with flap heating surfaces, which are called laminated pipe heat exchangers, significantly increase the heat transfer between gases and liquids, saving space and are more efficient than flat pipes.

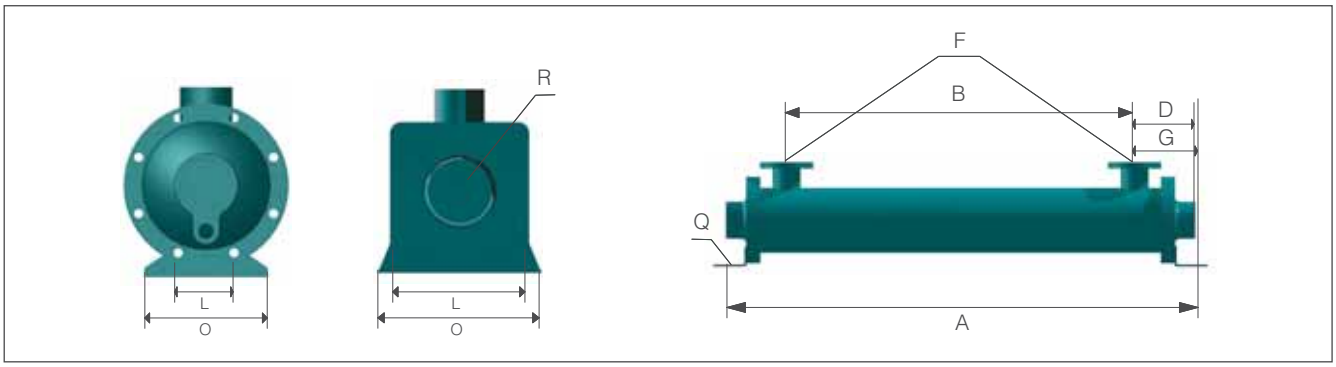
MIT laminated pipe heat exchanger is used in many different applications in industry. It allows heat transfer up to 1000 kW capacity.

Advantages

- Heat transfer surface between 0.43 m^2 and 56 m^2.
- Corrosion resistant, aluminum lamellae that increase the heat transfer area.
- Heat transfer up to 1000 kW.
- 1500 liter / minute oil flow rate.
- Detachable cap and tube bundle make it possible to clean the heat exchanger.
- 35 bar oil, 10 bar water resistant product range.

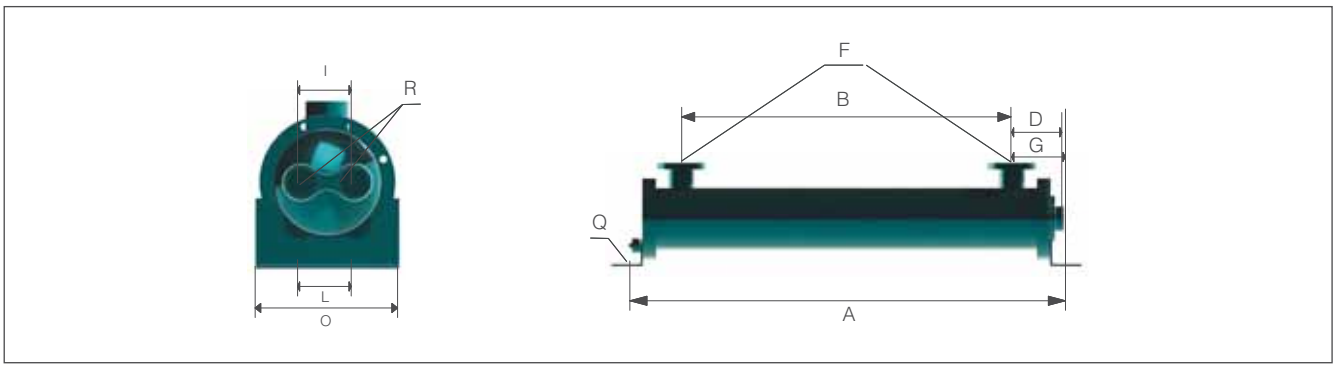


Model	A	B	F	Q	m^2	Weight (kg)
MFYS-505	189	55	G 3/4"	Ø 9 x 16	0,43	3,15
MFYS-508	265	97	G 3/4"	Ø 9 x 16	0,73	3,60
MFYS-510	316	148	G 3/4"	Ø 9 x 16	0,94	3,45
MFYS-512	367	199	G 3/4"	Ø 9 x 16	1,13	4,05
MFYS-514	418	250	G 3/4"	Ø 9 x 16	1,43	4,50
MFYS-518	519	351	G 3/4"	Ø 9 x 16	1,74	5,10
MFYS-524	672	504	G 3/4"	Ø 9 x 16	2,35	6,00
MFYS-536	976	808	G 3/4"	Ø 9 x 16	3,57	7,80
MFYS-708	283	76	G 11/2"	Ø 11 x 19	1,38	7,30
MFYS-712	385	178	G 11/2"	Ø 11 x 19	2,18	8,40
MFYS-714	436	229	G 11/2"	Ø 11 x 19	2,53	8,80
MFYS-718	537	330	G 11/2"	Ø 11 x 19	3,29	10,20
MFYS-724	690	483	G 11/2"	Ø 11 x 19	4,44	11,60
MFYS-736	976	787	G 11/2"	Ø 11 x 19	6,73	15,50
MFYS-1012	397	157	G 11/2"	Ø 11 x 25	4,38	15,40
MFYS-1014	448	208	G 11/2"	Ø 11 x 25	5,17	16,90
MFYS-1018	549	309	G 11/2"	Ø 11 x 25	6,73	19,80
MFYS-1024	702	462	G 11/2"	Ø 11 x 25	9,06	21,80
MFYS-1036	1006	766	G 11/2"	Ø 11 x 25	13,74	30,50
MFYS-1048	1307	1067	G 11/2"	Ø 11 x 25	18,41	39,80



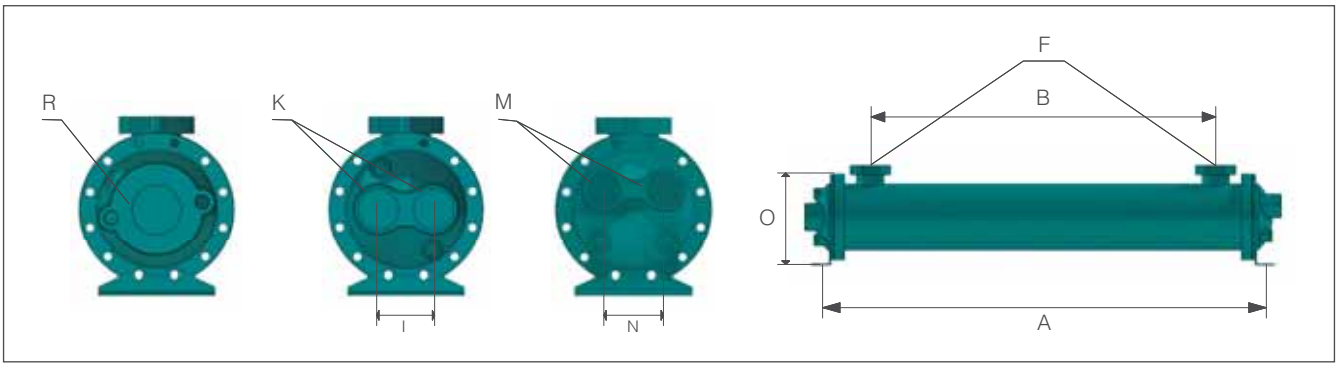
Model	D	R	G	L	O
MFYS-505-O	66	G 3/4"	66	63,5	89
MFYS-508-O	82	G 3/4"	83	63,5	89
MFYS-510-O	82	G 3/4"	83	63,5	89
MFYS-512-O	82	G 3/4"	83	63,5	89
MFYS-514-O	82	G 3/4"	83	63,5	89
MFYS-518-O	82	G 3/4"	83	63,5	89
MFYS-524-O	82	G 3/4"	83	63,5	89
MFYS-536-O	82	G 3/4"	83	63,5	89
MFYS-708-O	103	G 1 1/4"	103	76	127
MFYS-712-O	103	G 1 1/4"	103	76	127

Model	D	R	G	L	O
MFYS-714-O	103	G 1 1/4"	103	76	127
MFYS-718-O	103	G 1 1/4"	103	76	127
MFYS-724-O	103	G 1 1/4"	103	76	127
MFYS-736-O	103	G 1 1/4"	103	76	127
MFYS-1012-O	116	G 1 1/2"	116	102	165
MFYS-1014-O	116	G 1 1/2"	116	102	165
MFYS-1018-O	116	G 1 1/2"	116	102	165
MFYS-1024-O	116	G 1 1/2"	116	102	165
MFYS-1036-O	116	G 1 1/2"	116	102	165
MFYS-1048-O	116	G 1 1/2"	116	102	165



Model	D	R	G	L	O	I
MFYS-505-T	83	G 3/8"	67	63,5	89	28
MFYS-508-T	83	G 3/8"	85	63,5	89	28
MFYS-510-T	83	G 3/8"	85	63,5	89	28
MFYS-512-T	83	G 3/8"	85	63,5	89	28
MFYS-514-T	83	G 3/8"	85	63,5	89	28
MFYS-518-T	83	G 3/8"	85	63,5	89	28
MFYS-524-T	83	G 3/8"	85	63,5	89	28
MFYS-536-T	83	G 3/8"	85	63,5	89	28
MFYS-708-T	91	G 1"	95	76	127	41
MFYS-712-T	91	G 1"	95	76	127	41

Model	D	R	G	L	O	I
MFYS-714-T	91	G 1"	95	76	127	41
MFYS-718-T	91	G 1"	95	76	127	41
MFYS-724-T	91	G 1"	95	76	127	41
MFYS-736-T	91	G 1"	95	76	127	41
MFYS-1012-T	113	G 1 1/4"	110	102	165	60
MFYS-1014-T	113	G 1 1/4"	110	102	165	60
MFYS-1018-T	113	G 1 1/4"	110	102	165	60
MFYS-1024-T	113	G 1 1/4"	110	102	165	60
MFYS-1036-T	113	G 1 1/4"	110	102	165	60
MFYS-1048-T	113	G 1 1/4"	110	102	165	60



Model	A	B	F	R	I	K	M	N	O	m²
MFYS-1218-T	526	250	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	9,28
MFYS-1224-T	678	402	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	12,57
MFYS-1230-T	831	555	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	15,86
MFYS-1236-T	983	707	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	19,05
MFYS-1242-T	1136	860	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	22,36
MFYS-1248-T	1288	1012	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	25,53
MFYS-1254-T	1440	1164	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	28,82
MFYS-1260-T	1593	1317	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	32,01
MFYS-1266-T	1745	1469	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	35,30
MFYS-1272-T	1897	1621	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	38,49
MFYS-1278-T	2050	1774	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	41,78
MFYS-1284-T	2202	1966	SAE 2 1/2"	G 2"	87+80	G 2"	G 1"	70	190	45,05

Model	A	B	F	R	I	K	M	N	O	m²
MFYS-1724	706	368	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	14,77
MFYS-1730	859	521	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	18,85
MFYS-1736	1011	673	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	22,65
MFYS-1742	1164	826	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	26,70
MFYS-1748	1316	978	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	30,52
MFYS-1754	1468	1130	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	34,55
MFYS-1760	1621	1283	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	38,40
MFYS-1766	1773	1435	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	42,25
MFYS-1772	1925	1587	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	46,28
MFYS-1778	2078	1740	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	50,12
MFYS-1784	2230	1932	SAE 3"	G 3"	100	G 2 1/2"	G 2"	108	210	54,15

Stainless Steel and Titanium Pool Heat Exchangers

MIT tubular pool heat exchangers can be used in a wide range of systems such as solar pool heating systems or pool heating systems.

MIT pool heat exchangers ensure long life for all system components. Chlorine and its salt play an important role for the continuity of the systems by preventing the contact with the solar system or boiler directly.

MIT pool heat exchangers have been designed by Ekin engineers in an innovative way and their spiral and twisted design has increased the heat transfer efficiency to a high level. This also increases the thermal efficiency in the system.

MIT pool heat exchangers are designed to offer you the best solution with a wide range of capacities. These exchangers are perfect for pool, spa and similar applications.

Features

- High heat transfer efficiency.
- Soft and smooth tubes provide fast flow.
- Compact and advanced design.
- Wide range of usages.
- Different and large capacity sizes.

MIT pool heat exchangers are constructed from fully pressurized outer shell and threaded tubular inner tubes. Thus, the high flow rate within the heat exchanger is achieved, the heat exchanger is intended to be more durable, more efficient and cost effective.

The pool heat exchangers of Ekin have a large capacity to operate from a small spa to olympic pools. MIT pool heat exchangers from 15 kW up to 1750 kW provide the most appropriate and economical solution.

Advantages

- High efficiency coefficient 10000 W / m^2 °C, 5 or 6 times more efficiency than conventional heat exchangers.
- Compact design is 1/10 according to traditional products.
- Stainless steel and / or titanium material provides durability in corrosion and pressure factors.
- The connection design of the heat exchanger destroys the pressure on it.
- Compliance with ASME Standards VIII-1.
- Compact design.
- Easy installation and durability.

The MIT pool heat exchanger body and tubes are designed to operate at 205 °C and 1.3 MPa pressure. Body AISI 316L or titanium and tubes & connections can be selected from AISI 316L or titanium materials, depending on working conditions and chlorine content.

Model	Normal Capacity		Body Diameter (mm)	Body Lenght (mm)	Heat Transfer Area (m^2)	Swimming Pool Capacity		Body (Pool) Inlet-Outlet Connection	Tube (Hot) Inlet-Outlet Connection
	kW	kBtu/Hr				m^3	USGAL		
MIT-MS-16	16	55	60	360	0,15	18	4700	1"	3\4"
MIT-MS-25	25	85	60	520	0,25	28	7300	1"	3\4"
MIT-MS-45	45	155	76	450	0,33	50	13300	1 1\2"	1"
MIT-MS-61	61	210	76	570	0,44	68	18000	1 1\2"	1 1\2"
MIT-MS-88	88	300	76	780	0,64	98	25800	2"	1 1\2"
MIT-MT-105	105	360	89	830	0,85	120	31500	2"	1 1\2"
MIT-MS-175	175	600	114	900	1,55	200	52500	2 1/2"	2"
MIT-MS-352	352	1200	133	900	2,01	400	105600	2 1/2"	2"
MIT-MS-704	704	2400	168	950	4,47	800	211200	4"	2"
MIT-MS-880	880	3000	168	1100	5,3	1000	264000	4"	2 1\2"
MIT-MS-1056	1056	3600	168	1300	6,42	1200	316800	4"	2 1\2"
MIT-MS-1320	1320	4500	219	1070	8,46	1500	396000	4"	2 1\2"
MIT-MS-1467	1467	5000	219	1120	8,87	1660	439000	4"	2 1\2"
MIT-MS-1760	1760	6000	219	1220	10,64	2000	526800	4"	2 1\2"

All of our pool heat exchangers are manufactured as AISI 316 or AISI 316Ti stainless steel.

Working Principle of MIT Sheel & Tube Heat Exchangers for Swimming Pools

MIT pool heat exchangers perform the heating / cooling process from the boiler / chiller by transferring water from the pool. The MIT pool heat exchangers prevent the passage of chlorine or any chemicals from the pool to the system, keeping the system and pool separate.

MIT pool heat exchangers ensure that the pool is healthy and long-lasting by keeping the materials that will harm the system. MIT pool heat exchangers are designed according to the size of the boiler or the size of the pool and the system to be used. The pool water with low temperatures allows the pool to heat evenly from the central boiler. MIT pool heat exchangers can be used in solar systems as well as boiler systems.

Housing Applications

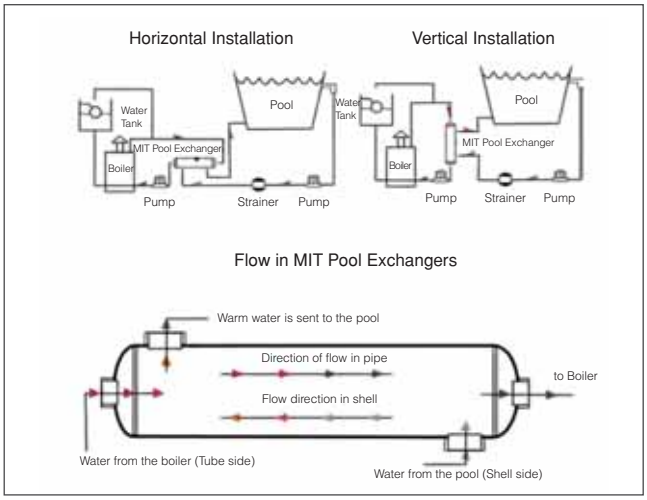
- Floor Heating
- Pools
- Spas
- Domestic Water
- Solar Heating

Industrial Applications

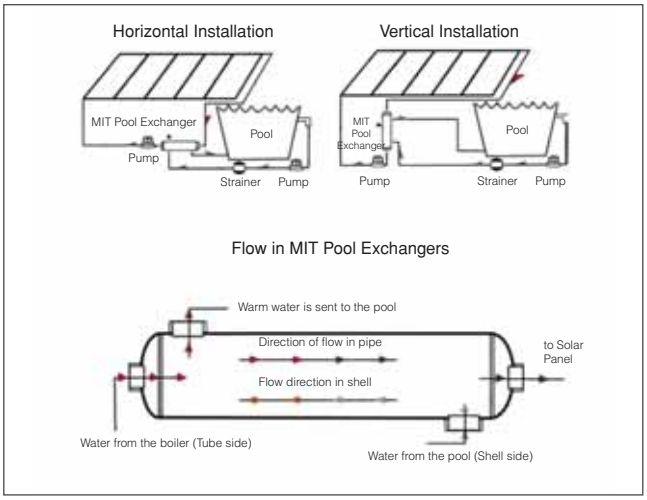
- Oil Cooling
- Steam Condense
- Central Heating
- Motor Cooling
- Waste Water Heat Recovery

The MIT pool heat exchangers transfer heat from the heat source to the heat source by providing heat transfer with the cold water in the pond.

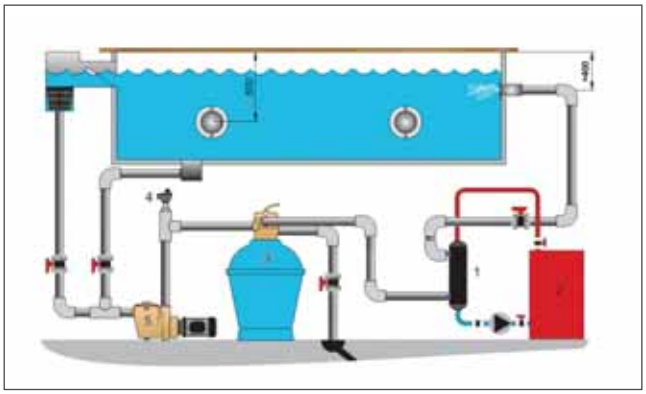
Boiler Pool Heating System



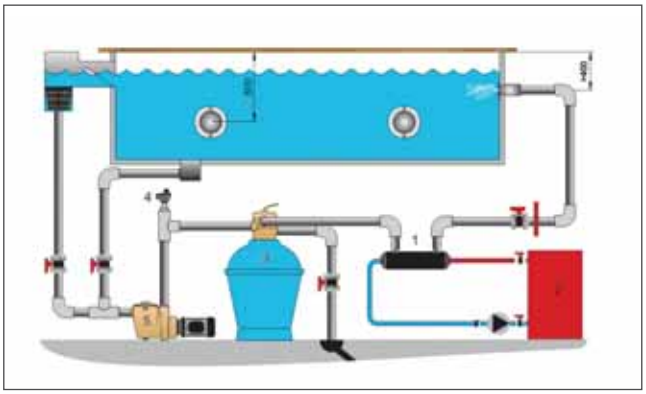
Solar Pool Heating System



Vertical Pool Heat Exchanger Model



Horizontal Pool Heat Exchanger Model



1	Tubular Pool Exchanger	3	Strainer	5	Pump
2	Boiler	4	Thermostate		

Shell & Tube Evaporators

BE Type Evaporators

BE type evaporators have basic capacity and geometry options up to 1500 kW. They can be manufactured with 4 cooling circuits.

Appropriate refrigerants are all HFC and HCFCs. Special reverse flow and high heat transfer efficient evaporators are manufactured for R134A gas.

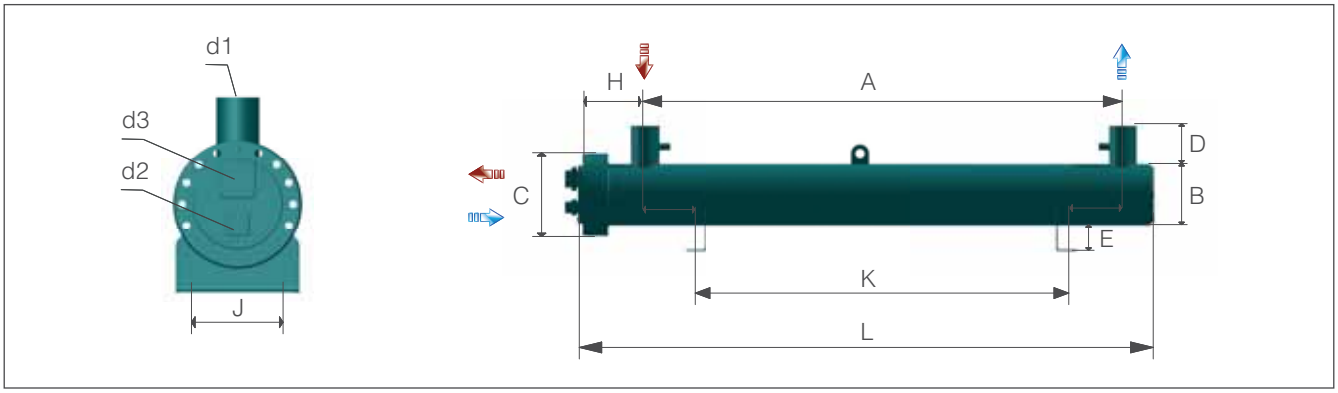
Disassembly of the tube bundle ensures maintenance and cleaning. Please contact us for special order products out of catalog.

Usage Areas of Sheel & Tube Evaporators

- Cooling Groups
- Ice Machines
- Marine Industry
- Ice Rinks

MIT-BE Single Circuit Evaporators

			20	30	40	50	60	70	80	100	135	145
Capacity	Q_w	kW	21	32	42	50	61	74	86	104	135	144
		Tons (RT)	6,0	9,1	12,0	14,2	17,4	21,1	24,5	29,6	38,5	41,0
Mass Flow Rate	WN	m^3/h	4	5	8	9	11	13	15	18	22	25
Pressure Drop	Δp	kPa	16	20	45	48	41	48	61	64	49	54
Refrigerant Fluid Volume	L		3,8	4,5	5,4	6,1	7,9	8,9	10,3	11,2	15,3	17,8
Water Volume	L		5,9	7,1	8,7	10,0	14,5	16,2	18,5	20,4	27,4	31,7

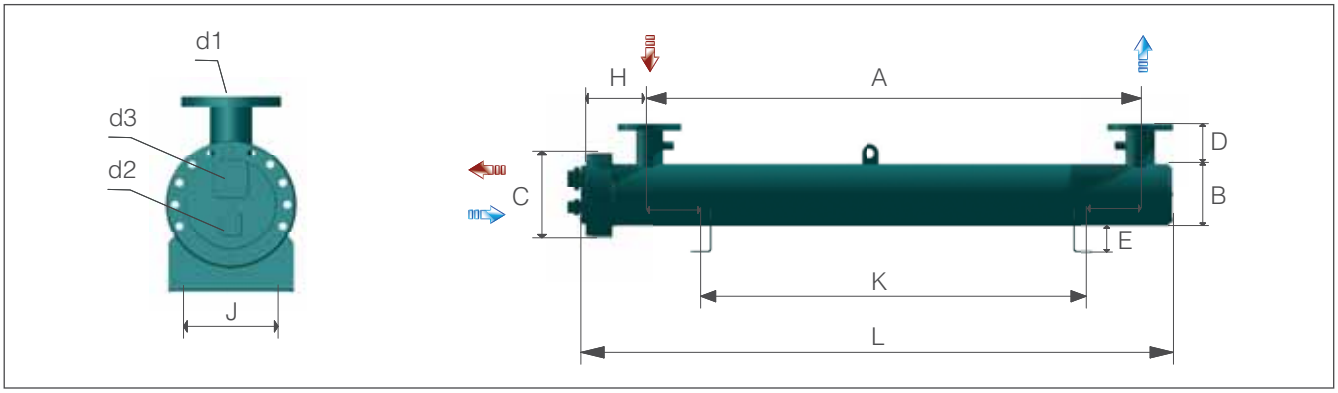


		20	30	40	50	60	70	80	100	135	145
Dimensions (mm)	L	865	1015	1215	1375	1285	1435	1635	1785	1830	2110
	A	660	810	1000	1160	1050	1200	1385	1535	1555	1835
	B	140	140	140	140	168	168	168	168	194	194
	C	195	195	195	195	245	245	245	245	260	260
	D	120	120	120	120	120	120	120	120	120	120
	E	80	80	80	80	80	80	80	80	80	80
	H	160	160	160	160	170	170	170	170	195	195
	J	117	117	117	117	147	147	147	147	180	180
	K	550	700	900	1060	910	1060	1260	1410	1200	1500
	d1	G 1 1/2	G 1 1/2	G 2	G 2	G 2 1/2	G 2 1/2	G 2 1/2	G 2 1/2	G 3	G 3
	d2	FL 22	FL 22	FL 22	FL 22	FL 22	FL 22	FL 22	FL 22	FL 35	FL 35
	d3	FL 35	FL 35	FL 35	FL 35	FL 42	FL 42	FL 42	FL 42	FL 54	FL 54
Weight	kg	40	43	49	53	69	74	81	85	112	125

R407C	Water Inlet Temperature	12 °C	EvaporationTemperature (DEW)	2,75 °C
	Water Outlet Temperature	7 °C	Condensation Temperature	45 °C
	Contamination Coefficient	0,000043 m^2 K/W	Extreme Temperature	4 K

MIT-BE Single Circuit Evaporators

			165	205	245	290	340	390	450	500	590
Capacity	Q_w	kW	162	202	242	295	345	395	450	515	585
		Tons (RT)	46,2	57,5	68,9	84,0	98,3	112,5	128,2	146,7	166,7
Mass Flow Rate	WN	m^3/h	28	35	42	50	59	68	77	88	99
Pressure Drop	Δp	kPa	53	35	54	28	50	34	36	39	54
Refrigerant Fluid Volume	L		19,7	26,5	30,0	36,9	41,7	47,8	56,5	64,3	72,8
Water Volume	L		34,7	47,5	53,6	98,5	93,0	85,9	139,8	130,8	121,0

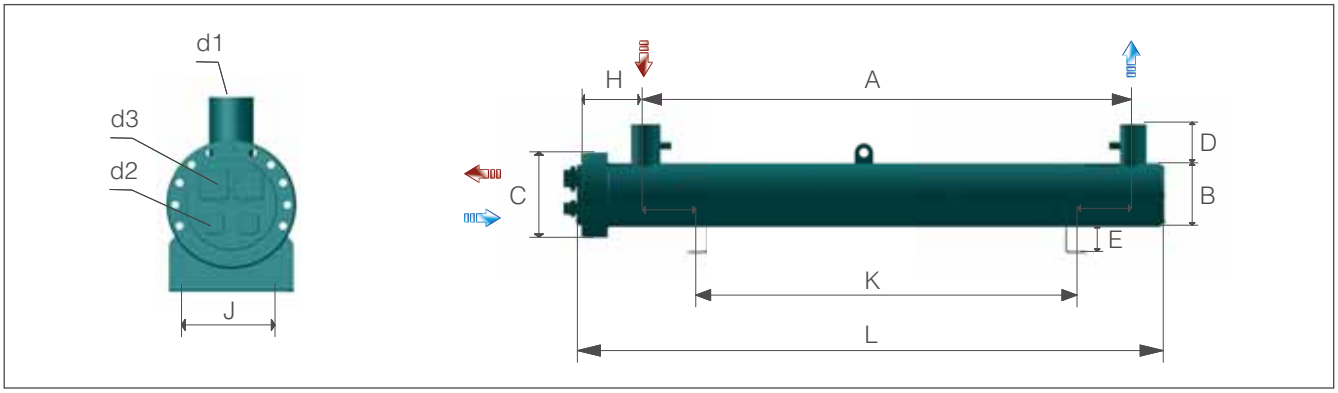


		165	205	245	290	340	390	450	500	590
Dimensions (mm)	L	2310	2340	2640	2670	2670	2670	2720	2720	2720
	A	2035	2000	2300	2270	2270	2270	2270	2270	2270
	B	194	219	219	273	273	273	324	324	324
	C	260	300	300	350	350	350	420	420	420
	D	120	150	150	150	150	150	150	150	150
	E	80	80	80	100	100	100	100	100	100
	H	195	225	225	255	255	255	285	285	285
	J	180	200	200	245	245	245	280	280	280
	K	1700	1800	2100	2100	2100	2100	2100	2100	2100
	d1	G 3	DN 100	DN 100	DN 125	DN 125	DN 125	DN 150	DN 150	DN 150
	d2	FL 35	FL 35	FL 35	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42
	d3	FL 54	FL 80	FL 80	FL 80	FL 80	FL 80	FL 80	FL 80	FL 80
Weight	kg	134	167	176	230	237	245	308	320	337

R407C	Water Inlet Temperature	12 °C	EvaporationTemperature (DEW)	2,75 °C
	Water Outlet Temperature	7 °C	Condensation Temperature	45 °C
	Contamination Coefficient	0,000043 m^2 K/W	Extreme Temperature	4 K

MIT-BED Double Circuit Evaporators

			20	30	40	50	60	70	80	100	135	145	165	205	245
Capacity	Q_w	kW	21	32	42	50	61	74	86	104	135	144	162	202	242
		Tons (RT)	6,0	9,1	12,0	14,2	17,4	21,1	24,5	29,6	38,5	41,0	46,2	57,5	68,9
Mass Flow Rate	WN	m^3/h	4	5	8	9	11	13	15	18	22	25	28	35	42
Pressure Drop	Δp	kPa	16	20	45	48	41	48	61	64	49	54	53	35	54
Refrigerant Fluid Volume	L		3,8	4,5	5,4	6,1	7,9	8,9	10,3	11,2	15,3	17,8	19,7	26,5	30,0
Water Volume	L		5,9	7,1	8,7	10,0	14,5	16,2	18,5	20,4	27,4	31,7	34,7	47,5	53,6

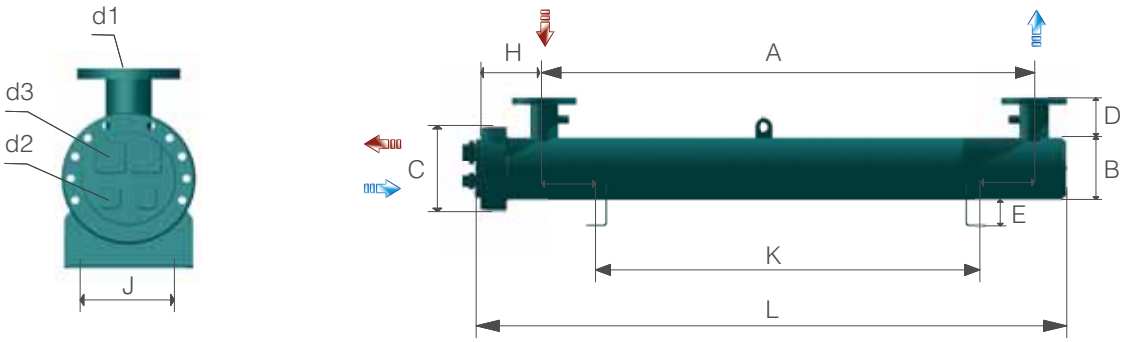


		20	30	40	50	60	70	80	100	135	145	165	205	245
Dimensions (mm)	L	865	1015	1215	1375	1285	1435	1635	1785	1830	2110	2310	2340	2640
	A	660	810	1000	1160	1050	1200	1385	1535	1555	1835	2035	2000	2300
	B	140	140	140	140	168	168	168	168	194	194	194	219	219
	C	195	195	195	195	245	245	245	245	260	260	260	300	300
	D	120	120	120	120	120	120	120	120	120	120	120	150	150
	E	80	80	80	80	80	80	80	80	80	80	80	80	80
	H	160	160	160	160	170	170	170	170	195	195	195	225	225
	J	117	117	117	117	147	147	147	147	180	180	180	200	200
	K	550	700	900	1060	910	1060	1260	1410	1200	1500	1700	1800	2100
	d1	G 1 1/2	G 1 1/2	G 2	G 2	G 2 1/2	G 2 1/2	G 2 1/2	G 2 1/2	G 3	G 3	G 3	DN 100	DN 100
	d2	FL 16	FL 16	FL 16	FL 16	FL 22	FL 22	FL 22	FL 22	FL 22	FL 22	FL 22	FL 35	FL 35
	d3	FL 28	FL 28	FL 28	FL 28	FL 35	FL 35	FL 35	FL 35	FL 42	FL 42	FL 42	FL 54	FL 54
Weight	kg	40	43	49	53	69	74	81	85	112	125	134	167	176

R407C	Water Inlet Temperature	12 °C	EvaporationTemperature (DEW)	2,75 °C
	Water Outlet Temperature	7 °C	Condensation Temperature	45 °C
	Contamination Coefficient	0,000043 m^2 K/W	Extreme Temperature	4 K

MIT-BED Double Circuit Evaporators

			290	340	390	450	500	590	660	770	920	1050	1150	1250	1350	1500
Capacity	Q_w	kW	295	345	395	450	515	585	665	775	900	1050	1150	1250	1350	1450
		Tons (RT)	84,0	98,3	112,5	128,2	146,7	166,7	189,5	220,8	256,4	299,1	327,6	356,1	384,6	413,1
Mass Flow Rate	WN	m^3/h	50	59	68	77	88	99	116	132	160	181	200	213	236	265
Pressure Drop	Δp	kPa	28	50	34	36	39	54	37	59	58	62	58	63	66	73
Refrigerant Fluid Volume	L		36,9	41,7	47,8	56,5	64,3	72,8	83,7	96,7	116,5	138,6	166,7	173,8	188,6	213,2
Water Volume	L		98,5	93,0	85,9	139,8	130,8	121,0	227,4	212,5	189,7	224,3	301,7	293,5	396,0	369,7



		290	340	390	450	500	590	660	770	920	1050	1150	1250	1350	1500
Dimensions (mm)	L	2670	2670	2670	2720	2720	2720	2750	2750	2750	3240	3275	3275	3285	3285
	A	2270	2270	2270	2270	2270	2270	2200	2200	2200	2700	2700	2700	2700	2700
	B	273	273	273	324	324	324	406	406	406	406	457	457	508	508
	C	350	350	350	420	420	420	510	510	510	510	570	570	620	620
	D	150	150	150	150	150	150	200	200	200	200	200	200	200	200
	E	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	H	255	255	255	285	285	285	335	335	335	335	355	355	355	355
	J	245	245	245	280	280	280	370	370	370	370,0	420,0	420,0	470	470
	K	2100	2100	2100	2100	2100	2100	2000	2000	2000	2200	2200	2200	2200	2200
	d1	DN 125	DN 125	DN 125	DN 150	DN 150	DN 150	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
	d2	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42	FL 42	FL 54	FL 54	FL 54	FL 54
	d3	FL 67	FL 67	FL 67	FL 80	FL 80	FL 80	FL 80	FL 80	FL 80	FL 80	FL 105	FL 105	FL 105	FL 105
Weight	kg	230	237	245	308	320	337	510	528	554	621	740	749	840	873

R407C	Water Inlet Temperature	12 °C	EvaporationTemperature (DEW)	2,75 °C
	Water Outlet Temperature	7 °C	Condensation Temperature	45 °C
	Contamination Coefficient	0,000043 m^2 K/W	Extreme Temperature	4 K

Shell &Tube Condensers

BC Type Condencers

Ekin BC type condensers have basic capacity and geometry options up to 1800 kW. Suitable refrigerants are all HFCs and HCFCs.

With its special production BCM models that can be used in sea water, it makes its weight in the maritime sector. Connection type (flanged, threaded, welded, etc.) and diameters can be changed.

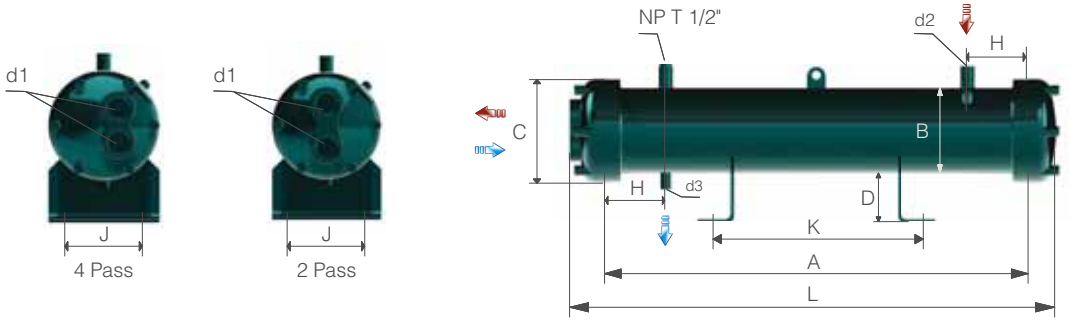
Please contact us for special order products out of catalog.

Usage Areas of Tubular Condensers

- Heating Pumps
- Cooling Groups
- Ice Machines
- Maritime Industry

MIT-BC Series Condensers

			20	35	45	55	65	65C	75C	90C	60	90
Capacity	Q_w	kW	22	33	42	51	58	65	79	94	60	81
		Tons (RT)	6,3	9,4	12,0	14,5	16,5	18,5	22,5	26,8	17,1	23,1
Mass Flow Rate	WN	m^3/h	3,5	6,1	7,8	9,5	11,2	10,4	12,9	15,6	11	15,6
Pressure Drop	Δp	kPa	16	29	30	33	31	57	65	73	19	22
Pass			4	4	4	4	4	4	4	4	2	2
Refrigerant Fluid Volume	L		6,3	5,6	9	8,2	7,5	13,2	12,1	11	20,3	18,8
Water Volume	L		3,5	4,1	4,8	5,5	6,2	6,3	7,3	8,2	7,0	8,4

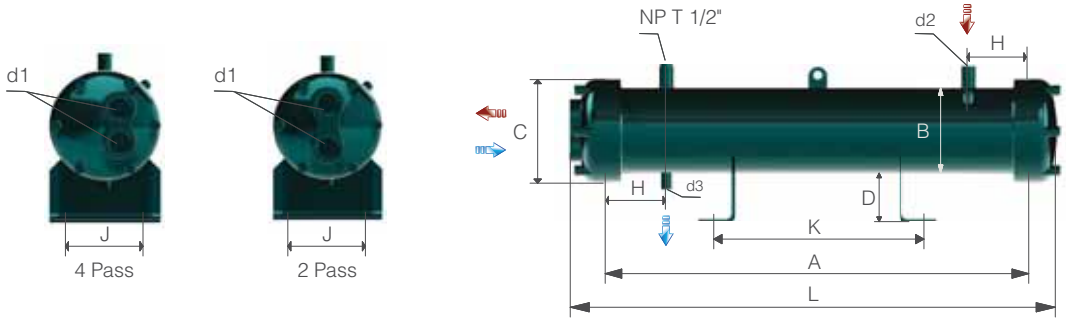


		20	35	45	55	65	65C	75C	90C	60	90
Dimensions (mm)	L	790	790	815	815	815	1115	1115	1115	1515	1515
	A	700	700	700	700	700	1000	1000	1000	1400	1400
	B	140	140	168	168	168	168	168	168	168	168
	C	170	170	200	200	200	200	200	200	200	200
	D	80	80	80	80	80	80	80	80	80	80
	H	100	100	100	100	100	100	100	100	100	100
	J	120	120	150	150	150	150	150	150	150	150
	K	350	350	350	350	350	500	500	500	700	700
	d1	G 1"	G 1"	G 1 1/2"	G 1 1/2"	G 1 1/2"	G 1 1/2"	G 1 1/2"	G 1 1/2"	G 2"	G 2"
	d2	W 22	W 22	W 28	W 28	W 28	W 28	W 28	W 28	W 35	W 35
	d3	W 16	W 16	W 22	W 22	W 22	W 22	W 22	W 22	W 28	W 28
Weight	kg	32	34	45	46	47	55	57	59	65	68

R407C	Water Inlet Temperature	28 °C	Condensation Temperature (DEW)	42 °C
	Water Outlet Temperature	33 °C	Extreme Cooling (Δt)	3 K
	Contamination Coefficient	0,000043 m^2 K/W		

MIT-BC Series Condensers

			100	120	130	145	165	180	200	220	245	265
Capacity	Q_w	kW	94	111	120	141	163	176	205	227	251	273
		Tons (RT)	26,8	31,6	34,2	40,2	46,4	50,1	58,4	64,7	71,5	77,8
Mass Flow Rate	WN	m^3/h	17,3	20,8	22,4	25,1	28,6	31,2	34,6	38,1	42,4	45,9
Pressure Drop	Δp	kPa	21	25	27	46	50	36	33	33	48	52
Pass			2	2	2	2	2	2	2	2	2	2
Refrigerant Fluid Volume	L		17,2	15,7	14,9	22,4	20,4	19,4	27	25	36,5	34,5
Water Volume	L		9,8	11,1	11,8	12,1	13,9	14,7	18,1	19,8	21,6	23,4

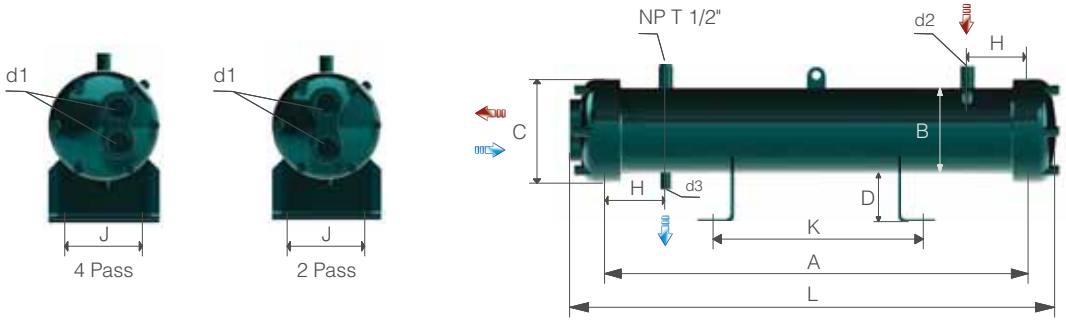


		100	120	130	145	165	180	200	220	245	265
Dimensions (mm)	L	1515	1515	1515	1915	1915	1915	1915	1915	1915	1915
	A	1400	1400	1400	1800	1800	1800	1800	1800	1800	1800
	B	168	168	168	168	168	168	194	194	219	219
	C	200	200	200	200	200	200	250	250	250	250
	D	80	80	80	80	80	80	80	80	80	80
	H	150	150	150	150	150	150	150	150	150	150
	J	150	150	150	150	150	150	180	180	200	200
	K	700	700	700	900	900	900	900	900	900	900
	d1	G 2"	G 2"	G 2"	G 2"	G 2"	G 2"	G 2 1/2"	G 2 1/2"	G 2 1/2"	G 2 1/2"
	d2	W 35	W 35	W 35	W 42	W 42	W 42	W 42	W 42	W 54	W 54
	d3	W 28	W 28	W 28	W 35	W 35	W 35	W 35	W 35	W 42	W 42
Weight	kg	71	73	75	85	89	91	124	128	139	143

R407C	Water Inlet Temperature	28 °C	Condensation Temperature (DEW)	42 °C
	Water Outlet Temperature	33 °C	Extreme Cooling (Δt)	3 K
	Contamination Coefficient	0,000043 m^2 K/W		

MIT-BC Series Condensers

			285	315	340	360	400	450	480	520	550	610
Capacity	Q_w	kW	295	321	345	380	424	472	498	557	596	649
		Tons (RT)	84,0	91,5	98,3	108,3	120,8	134,5	141,9	158,7	169,8	184,9
Mass Flow Rate	WN	m^3/h	49,3	54,2	58,8	62,3	69,2	77,9	83,2	90	95,2	106
Pressure Drop	Δp	kPa	55	42	59	44	48	55	37	37	38	43
Pass			2	2	2	2	2	2	2	2	2	2
Refrigerant Fluid Volume	L		32,5	64,9	63	59	55	51,1	89	83	79	75,1
Water Volume	L		25,1	28,1	29,8	33,3	36,8	40,4	44,6	49,9	53,4	57,0

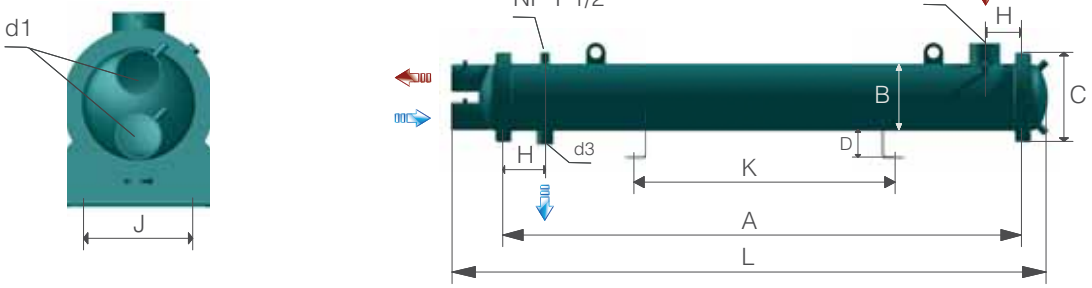


		285	315	340	360	400	450	480	520	550	610
Dimensions (mm)	L	1915	1925	1925	1925	1925	1925	1940	1940	1940	1940
	A	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
	B	219	273	273	273	273	273	324	324	324	324
	C	250	295	295	295	295	295	350	350	350	350
	D	80	100	100	100	100	100	100	100	100	100
	H	150	150	150	150	150	150	150	150	150	150
	J	180	240	240	240	240	240	280	280	280	280
	K	900	900	900	900	900	900	900	900	900	900
	d1	G 2 1/2"	G 3"	G 3"	G 3"	G 3"	G 3"	G 4"	G 4"	G 4"	G 4"
	d2	W 54	W 54	W 54	W 54	W 54	W 54	W 54	W 54	W 54	W 80
	d3	W 42	W 42	W 42	W 42	W 42	W 42	W 42	W 42	W 42	W 54
Weight	kg	147	181	185	193	201	208	248	259	267	274

R407C	Water Inlet Temperature	28 °C	Condensation Temperature (DEW)	42 °C
	Water Outlet Temperature	33 °C	Extreme Cooling (Δt)	3 K
	Contamination Coefficient	0,000043 m^2 K/W		

MIT-BC Series Condensers

			675	760	840	940	1040	1100	1220	1360	1520	1680
Capacity	Q_w	kW	702	793	867	1039	1178	1243	1350	1489	1670	1849
		Tons (RT)	200,0	225,9	247,0	296,0	335,6	354,1	384,6	424,2	475,8	526,8
Mass Flow Rate	WN	m^3/h	117	132	145	163	180	190	211	235	263	291
Pressure Drop	Δp	kPa	49	37	41	49	51	54	45	50	39	41
Pass			2	2	2	2	2	2	2	2	2	2
Refrigerant Fluid Volume	L		71,1	92,1	85,2	144	131,9	125,3	180,1	169,1	222,3	205,8
Water Volume	L		60,5	81,4	87,5	109,6	120,4	126,3	140,8	150,6	174,3	188,9



		675	760	840	940	1040	1100	1220	1360	1520	1680
Dimensions (mm)	L	1940	2175	2175	2415	2415	2415	2435	2435	2455	2455
	A	1800	1800	1800	2000	2000	2000	2000	2000	2000	2000
	B	324	356	356	406	406	406	457	457	508	508
	C	350	430	430	480	480	480	530	530	580	580
	D	100	100	100	100	100	100	100	100	100	100
	H	150	150	150	150	150	150	150	150	150	150
	J	280	320	320	370	370	370	420	420	470	470
	K	900	900	900	1000	1000	1000	1000	1000	1000	1000
	d1	G 4"	J 5"	J 5"	J 6"	J 6"	J 6"	J 6"	J 6"	J 6"	J 6"
	d2	W 80	W 80	W 80	W 80	W 80	W 80	W 100	W 100	W 100	W 100
	d3	W 54	W 54	W 54	W 54	W 54	W 54	W 80	W 80	W 80	W 80
Weight	kg	283	352	366	466	490	503	592	614	725	758

R407C	Water Inlet Temperature	28 °C	Condensation Temperature (DEW)	42 °C
	Water Outlet Temperature	33 °C	Extreme Cooling (Δt)	3 K
	Contamination Coefficient	0,000043 m^2 K/W		

SERPANTINES

They are used as single or grouped where the heat needs to be changed. Serpantines can be used in every sector, especially in the textile sector, in air conditioners in drying machines and in stoves, especially in air handling units.

By taking into account customer demands and product use places, product selection is made in the most appropriate way by considering efficiency, product costs. Alternative solutions are offered by considering environmental conditions and safety rules. Steam, hot oil, sea water, air and water can be used as fluid in the serpantines.

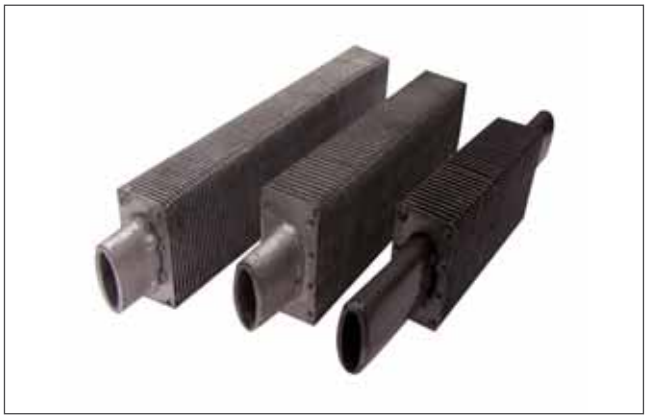
Spiral Winged Serpantines

Depending on the customer request, serpentine is manufactured by using electro-galvanized coating or hot-dip galvanized coating on carbon steel tube DKP finned coils. Thanks to this coating in serpentine production, the heat transfer is increased while the oxidation rate is reduced.

In standard serpentine products, the wings are fixed to the pipe by spot welding. However, continuous welding can also be applied between wing and pipe during production of serpentine according to customer demand.

Oval Pipe Serpentines

The most common problem in applications related to fluid mechanics is the friction resistance caused by the form of bodies. The form of the body in contact with the fluid can be reduced by making it more suitable to the current shape.



Oval pipes are more suitable to the current shape than circular pipes.

Both spiral winged serpentine and flake serpentine are manufactured with oval pipes.

Sequins Serpantines

Depending on the customer's request, plating solder coating can be applied instead of internal blowing in the stamping coils with copper and special alloy. With this coating, the heat transfer is increased while the oxidation rate is reduced. In stamping serpentines,The number of pipes can be changed according to customer's requirement.

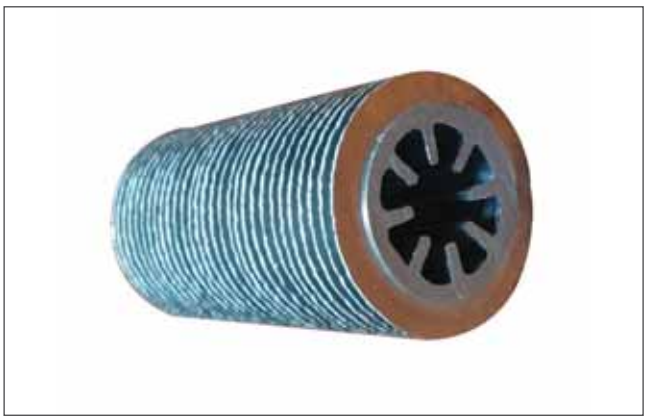
Grooved Pipes

In terms of heat transfer and pressure drop in the heat exchangers, the properties of the fluid, flow condition and heat transfer surface area are effective. The surface shape of the tubular pipes increases the turbulent properties of the fluid. Thanks to the helically-shaped flow patterns around the pipes, the heat transfer rate can be increased significantly by providing turbulence at low fluid speeds. The grooving of the pipes with a spiral pattern does not have any negative effect on the durability of the material but on the contrary provides an improved thermal expansion feature.

Grooved pipes can be used primarily in evaporators or condenser heat exchangers for air conditioning and cooling purposes, heat exchangers produced with such pipes can also be used for industrial air discharge, condenser / chiller, flue gas, steam, water, glycol, alcohol, oil and many other special applications. suitable.

Turbulators

Turbulators were obtained by the development of serpentines with oval wings. Increases the turbulence of air with increased wing sections and increases heat transfer. It is not suitable for use in fluids with high pollution factor. It is difficult to clean due to wing turbulators.



BATTERIES

Water, steam and air conditioner batteries are produced in the desired size and capacity according to customer requirements. In order to select the product that best suits your needs in battery designs, the necessary calculations are performed using a special software program.

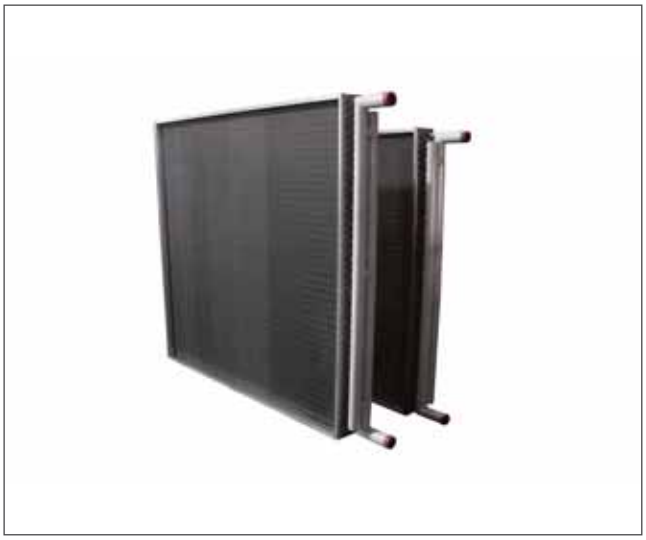
Water and Steam Batteries

Aluminum or epoxy coated aluminum or copper coverslips are used in batteries in flat or wavy surfaces. Cladding thicknesses vary from 0.12 mm to 0.20 mm depending on the need.

Copper tubes with diameters of 3/8", 1/2", 5/8"are used. After the fin is set, the machines are mechanically inflated in automatic machines to ensure full contact and thus heat transfer is maximized.

In steam coils, thick meat pipes resistant to high pressures such as 0.7 mm and 1 mm are used. Copper tubes are used in collectors of copper coils and steel pipes are used in collectors of hot and cold water coils. On request, the collector pipe can be made of stainless steel. Steel couplings are used as standard in collectors and brass fittings are used on request. All products are equipped with air and water purifiers and cuffs.

The number of pipes and rows is determined by considering the capacity value and pressure loss required by the customer. The optimum fit is selected by comparing pressure loss and capacity values. Unless otherwise stated, the batteries are tested in a pool filled with water at 40-45 °C with 20 bar pressure. After the test, the products are washed externally and dried.



Air Conditioning Evaporators and Condensers

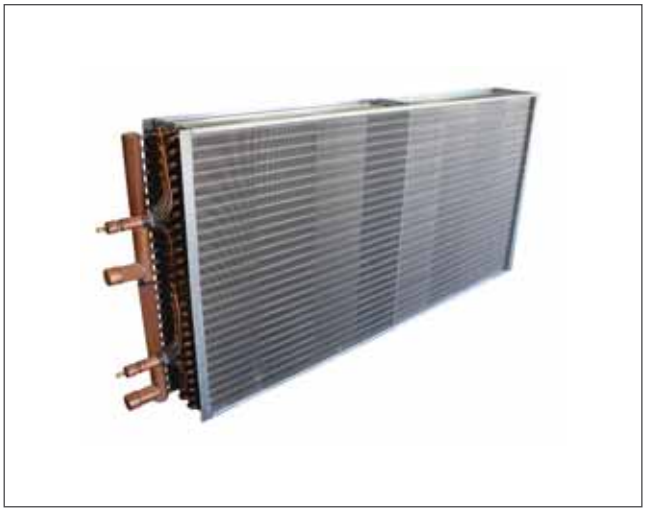
Air conditioner condenser and evaporators are produced in desired size and capacity according to customer requirements. The production capacity and size are carried out according to the pictures, samples or data sent by the customer. Capacity and size calculations related to the products can be done precisely by the software program used. In the 3/8" tubular batteries 25x12.5 mm, 25x21.65 mm or 31.75x27.5 mm fin molds; 40x34.64 mm mold is used in 5/8 "tubular batteries.

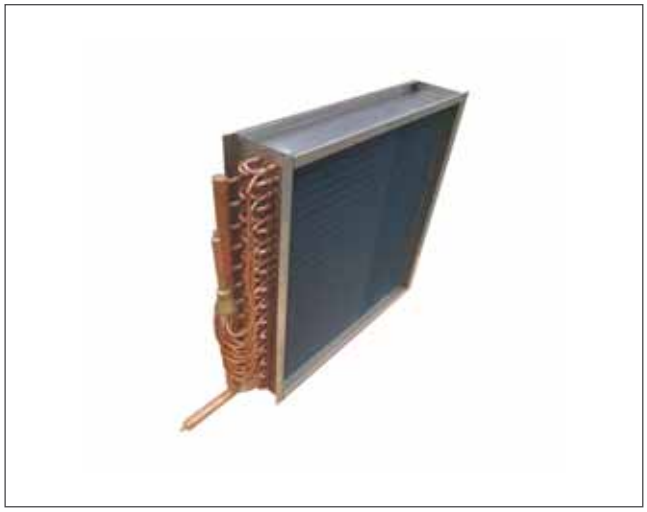
If requested, production can be carried out in the form of a checkered form for the specified molds. All condenser and evaporator batteries are tested at a pressure of 35 bar and shipped with 3 bar nitrogen after testing.

If requested by the customer, the products are painted with electrostatic powder paint and the standard color RAL7038 is used.

DX Batteries

DDX Battery means using refrigerant with a compressor, loading the heat from the evaporator to the refrigerant and discharging it into the atmosphere (ie transferring heat from air to air). In doing so, the refrigerant is vaporized directly at the source (ie in the air handling unit) where the heat is to be transferred. A different fluid is not used when transferring heat such as other systems. In the case of heat transfer with conventional chillers, the heat is first transferred to the water and then transferred to the heat exchanger in the chiller, where it is transferred to the refrigerant. The heat transferred to the fluid is again thrown into the atmosphere with the help of the compressor.





RADIATORS

The radiators formed by the grouping of the serpentines vary according to their fluid types and usage areas. Fluid types; hot water, superheated water, seawater, steam, superheated oil and nitrogen etc. radiators used in the gas. It is possible to classify according to the Serpentine type. It is listed as bare tube, serpentine with straight pipe, serpentine with oval pipe, flat double pipe with winged, grooved and crooked pipe radiators.

The radiators classified according to the serpentine structure can also be classified as galvanized, electro galvanized coated serpentine and hot dipped galvanized stud serpentine. According to the serpentine, wing, mirror and collector material used, it can be classified as complete carbon steel, complete stainless steel, complete copper serpentine and radiator group as different material radiators.

Pipe and Wing Information

Carbon steel, stainless steel, copper, brass and bafon pipe and special alloy tube serpentines can be used. Depending on the type of fluid, area and purpose of use, pipe and wing selections are made in such a way that highest efficiency is achieved by considering fluid side pressure drops.

Usage Areas

It is used in textile sector, drying machines, air heating and ambient heating and / or cooling depending on the fluid type. It is used in hot oil systems for heating and / or hot air. The radiators that can be used in the air-oil cooling process are also used for the cooling of sea water and air in the shipping sector.

ECONOMIZERS

Flue Gas Economizers

Today's competitive conditions lead firms to maintain the highest level of energy with high cost. In particular, the use of waste hot water energy in the textile sector with the use of waste flue gas generated in steam, water and hot oil boilers contributes to the production costs and the country's economy. The systems made by taking into account the process values pay themselves in a short time. Economizers take names according to processes. Waste flue gas is used to obtain hot water and hot air from the gases thrown into the atmosphere as in the ram machines used in the textile industry.

The most important points in the applications of waste flue gas are the properties of the gas and the condensation temperatures. In the case of flue gases, acid appears in case of condensation and all surfaces with condensation must be made of acid-resistant materials. Condensation is not preferred if the minimum pressure loss is targeted and the economizer can be designed from carbon-steel materials. We can classify according to economizers systems and materials. Economizers are classified according to the processes and materials used.

Superheated Water Production Economiser

- External dimensions of 4490x4191x1320 mm.
- 1"x3.20mm P235GH ST 35-8 quality carbon steel.
- 8 mm pitch on the pipe, 13x1,20 mm.
- DKP Wing Coil and Continuous MIG MAG Welding Serpentine.
- Economizer production with elbow rotating and 120 bar compressive strength.

Economizers by System;

Non-Condensing Waste Smoke Gas Economizers;

- Hot Water Generators
- Super Heated Water Generators
- Economizers with Low Pressure Steam Generators and Hot Air Generators

Condensing Waste Chimney Gas Economizers

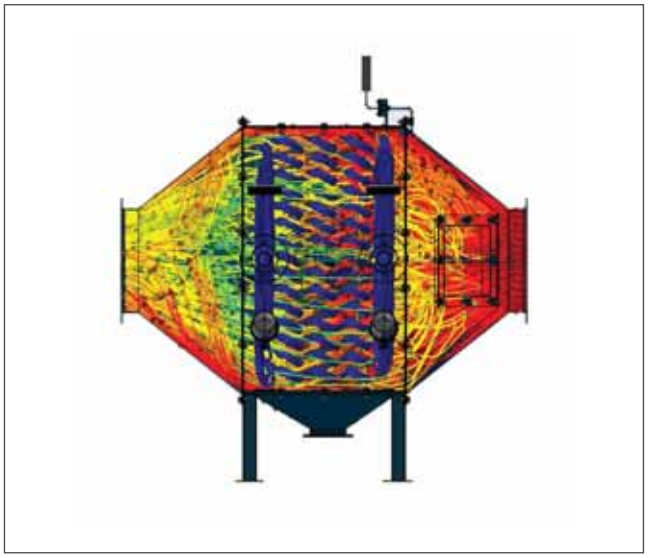
- Hot Water Generators
- Superheated Water Generators
- Low Pressure Steam Generator
- Hot Air Generators

Economizers by Material;

- Complete Carbon Steel Economizers
- Bladed Serpentine, Finned Serpentine Economizers
- Complete Stainless Steel Economizers
- No-Wing Serpatine, Winged Serpatine Economisers

Waste Heat Recovery Systems

The boiler feed water is heated with the smoke gases inside the economizer before entering the boiler's actual heating surfaces. In this way, as the temperature difference between the water sent to the boiler and the water being heated is reduced, the output of the gases in the water becomes easier and the thermal efficiency of the boiler increases.



AIR COOLERS

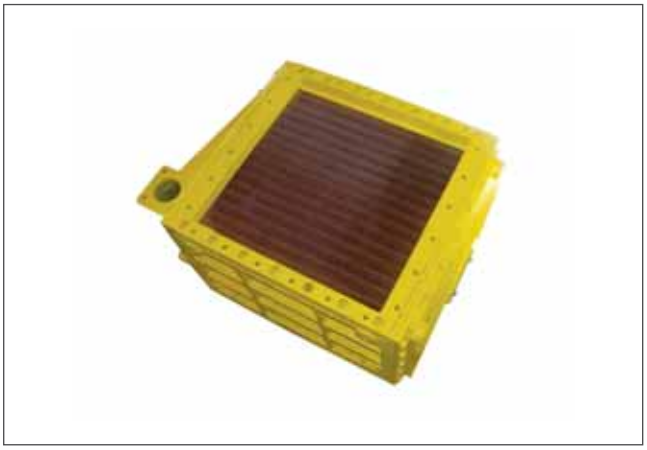
Engine Air Coolers

They are the coolers that increase the pressure by means of a turbo charge and reduce the volume by cooling the heated air, thereby increasing the amount of air entering the cylinder and thus allowing a better and more efficient combustion of diesel engines.

Our experience, developed in closed cooperation with engine manufacturers and plant system contractors, enables us to develop tailor-made, customer-focused and economic concepts for the optimization of complete charge air modules in an engine. Thanks to the use of special materials, advanced coating technology and new poultry pipe systems, the charge air coolers are also active in engines that burn biogas and other special gas fuels.

Major applications are marine, off-road and stationary diesel and gas engines with performance over 200 kW.

The most important design feature is the curvature of the wing surfaces. The curved surface produces effective turbulence which is very important for efficient heat transfer. The fins are always made of pure copper and the pipe diameter is 10.6 mm. Material CU.NI is 90/10 (available in 70/30).



OPERATION AND MAINTENANCE OF SHEEL & TUBE HEAT EXCHANGERS

Even though they are long-lasting and smooth devices, they are exposed to some deformations and pollution caused by external factors. According to the systems used in certain periods of time, cleaning and maintenance are needed. A proper cleaning without proper chemicals may damage the pipes and require larger revisions to the heat exchanger. Therefore, it is very important that cleaning and maintenance are carried out by specialized teams.

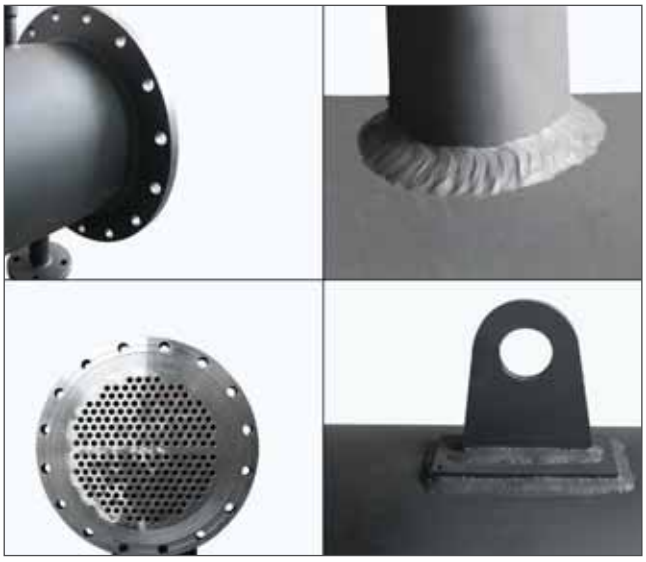
MIT's expert staff provides cleaning, maintenance and repair services for each type of tube heat exchanger. Maintenance and cleaning processes are completed in the shortest possible time and delivered to your business in the first day's performance. In addition to cleaning, corroded and deformed inner tubes can be changed individually or in bundles depending on the structure of the tube heat exchanger. During this process, the pipe materials can be selected as desired.

Caution

Please review this section carefully. The information contained in this manual covers the requirements for the installer and the user during installation, use and maintenance of the device. The use and maintenance of MIT-brand heat exchangers must be carried out in accordance with the guidelines in this manual. Otherwise, the responsibility will belong to the practitioner. The devices may only be used for the intended purpose. Non-objective uses can be dangerous. It is the responsibility of the user to interfere with the device and to use the original spare parts except for the authorized MIT authorized services.

Installation Instructions

- The tube bundle must be mounted in the heat exchanger chamber so that the serpentine can be disassembled and removed in the detachable serpentine heat exchangers.
- When the heat exchanger is put into operation, first the cold fluid and then the hot fluid should be put into operation in a suitable way and the air inside the device must be drained.
- When the heat exchanger is to be shut down the hot fluid must then be disconnected from the cold fluid.
- The heat exchanger inlet water (heated fluid) should be filtered.
- The heat exchanger must be supplied with soft water to feed the boilers producing the heating fluid to prevent calcification.
- The heat exchanger must be inserted and cleaned periodically.
- Check that the devices on the heat exchanger are intact (thermometers, valves, thermostatic valves, condensate, etc.) which are defective should be repaired or replaced.
- The heat exchanger should be opened every year and the coils should be cleaned.
- The dismantled flange seals must be kept firm and clean, and the bolts tightened properly.



Maintenance and Repair

- Check that the luminaires on the heat exchanger installation are intact.
- The heat exchanger should be opened once a month by opening the drain valve and cleaning of the deposited deposits at the bottom.
- The heat exchanger should be serviced once a year.
- When water quality is not suitable (hardness degree, hard water and very hard water) and at high temperatures, maintenance is more convenient.
- The following operations are performed during maintenance.
  - The hot water circuit is operated. Circuit and hot water production are controlled.
  - Check whether there is a water leak from the device or connections.
  - Check the safety valve.
  - Check whether the device temperature gauge is working or not.
- During maintenance, the drain valve is removed and the water inside the device is drained. During draining, drainage of the device should be connected with an expense and water supply to the boiler room should be prevented.
- Check the device for any residue. If there is a residue, the cleaning flange of the appliance is opened and cleaned by holding pressurized water.

MIT authorized services are recommended for maintenance and repairs. Our company isn't responsible for unauthorized applications. It is recommended to use original spare parts for maintenance and repairs.

EKIN ACADEMY

Ekin is aware that the progress in its sector is possible through continuous development and learning.

Ekin Academy, established with this awareness, aims to provide high-quality and sustainable development with its modern education methods, to provide successful employees and to provide value to the society through social responsibility projects.

Training and development programs that will make a direct contribution to the results of our employees' work processes and which will make a difference in their personal development are prepared by Ekin Academy.

For our business partners and customers, our training modules prepared by our expert staff provide training support for pre-sales and post-sales issues such as commissioning, operation, maintenance and repair of our products.

In cooperation with universities within the scope of corporate social responsibility projects, we are experiencing the happiness of adding value to the society by allowing the engineer candidate, who aims to take place in the fields where Ekin is active, to meet with the sector and to experience the theoretical knowledge acquired in the fields of application.

In-Company Trainings

Ekin Academy conducts technical, leadership, strategy development, sales and training and development programs for different tasks in the fields of heat transfer, pressure vessels, package systems, food systems and liquid transfer.

Out-of-Company Trainings

We are realizing conferences and training activities to our business partners, professional groups and institutions where we carry out social responsibility projects in various locations of Turkey.

SALES TEAM

At Ekin, we produce a proactive solution by our engineering staff who are specialized in their field. Our team, which works with the aim of unconditional customer satisfaction, works selflessly in order to gain customer loyalty by raising the bar of success in products, services and processes.

We are happy to share our accumulated knowledge with our valued customers. Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.

Customer Satisfaction

Customer rights are protected in all circumstances.

Privacy Policy

Aware of the importance of protecting personal information, personal information is not shared with third parties.

Information Security

The requirements of ISO 27001 information security management system are fulfilled at Ekin.

Ethical Values

In all our business relations, our principle of mutual benefit by adhering to laws and ethics is our principle.

CERTIFICATES


ISQ
CERTIFICATE
EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SAN. VE TİC. LTD. ŞTİ.
ISO 50001:2018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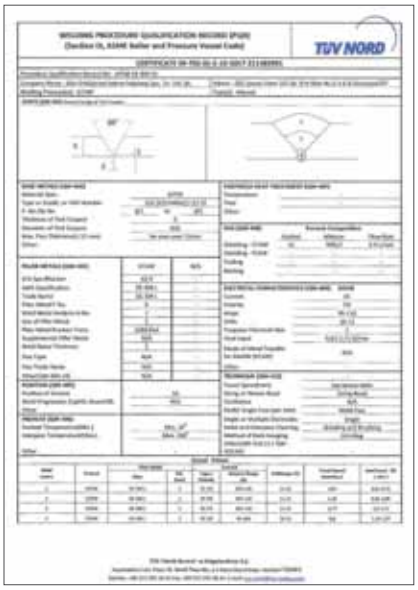
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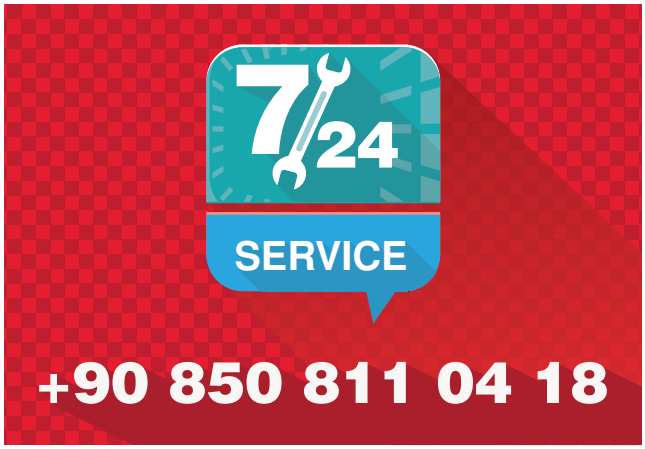
EKİN ENDÜSTRİYEL ISITMA SOĞUTMA SAN. VE TİC.LTD.ŞTİ.

PROFESSIONAL SYSTEM SOLUTION CENTER

From our MIT professional system solution center, you can get help with problems with your pumps, heat exchangers and your system. Our solution center consisting of our expert engineers will be happy to help you.

- Domestic hot water installations.
- Central and district heating systems.
- Milk, yogurt, buttermilk heating, cooling and pasteurization systems.
- Industrial cooling and heating systems.
- Oil cooling systems.
- Energy recovery systems.
- Pool heating systems.
- Steam installations.

It is vital for your system to be designed and implemented correctly in the first installation in order to be able to operate at the desired capacity, smoothness and long life. For this reason, you can get first-hand the technical support you need during the installation phase of your system and the problems that may arise in the business; You can reach us **24 hours +90 (216) 232 24 12 in 7 days**.



We would like to reiterate that we will be happy to share our knowledge accumulated over many years with our valued customers in order for your system to work correctly and performance.

Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.

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Our products are produced with Turkish engineering technology in **135 countries** in the world today...

444 EKİN 3546

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Isıtma-Soğutma San. Tic. Ltd. Şti.

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