EKİN ENDÜSTRİYEL

SHELL & TUBE HEAT EXCHANGERS PRODUCT CATALOGUE

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.

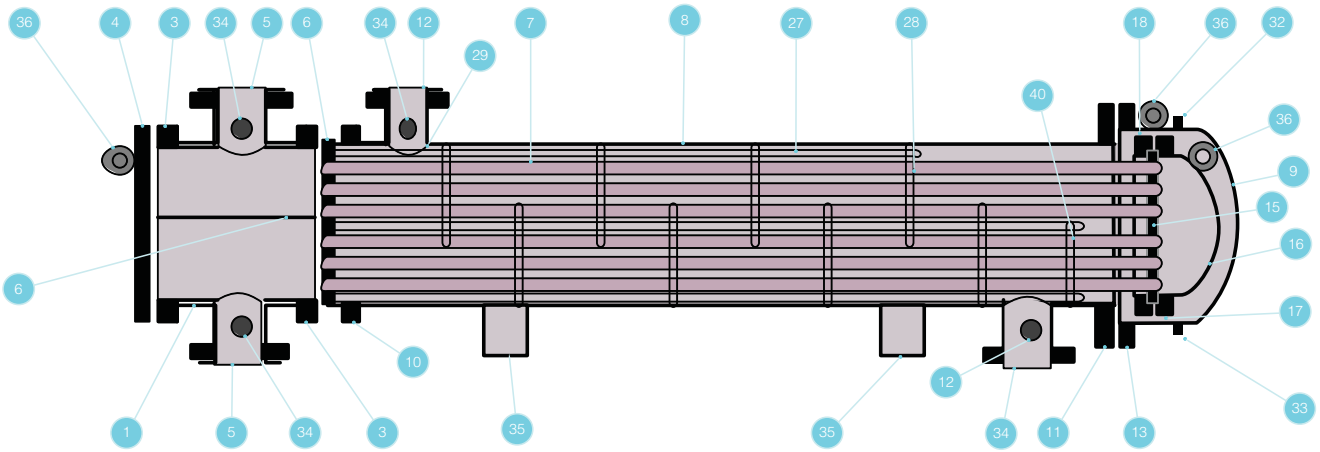
The ID files of the equipment and the quality files are prepared and shared with each customer.

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;

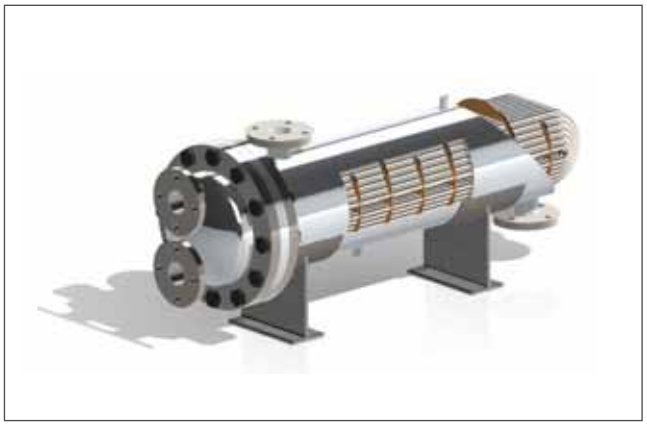
- They can be designed and manufactured to operate at very high pressures.
- Highly flexible and robust design.
- They can be designed and manufactured to operate at very high and very low temperatures.
- They are resistant to thermal shocks.
- There is no size limitation.
- They can be used in all applications.
- 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.

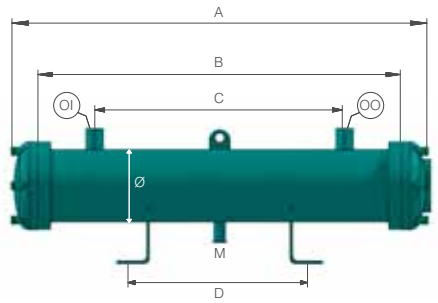
SHELL & TUBE HEAT EXCHANGERS

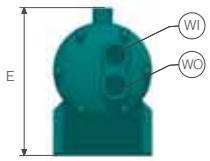
Oil Coolers

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

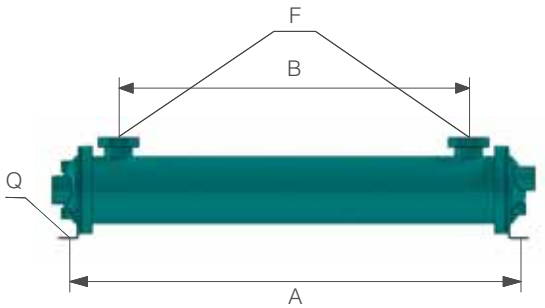
Shell And Tube Heat Exchangers With Finned Tube

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.

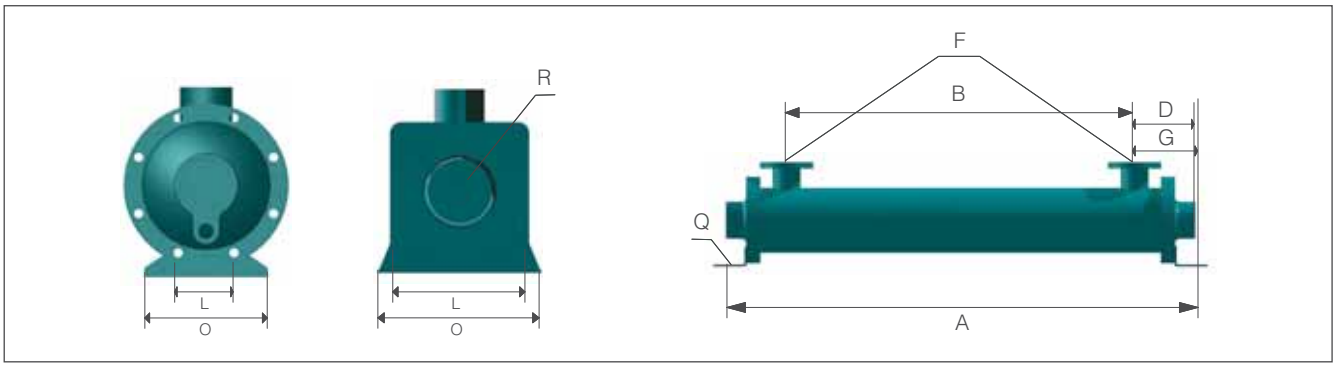
MIT laminated pipe heat exchanger is used in many different applications in industry. It allows heat transfer up to 1000 kW capacity.

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.

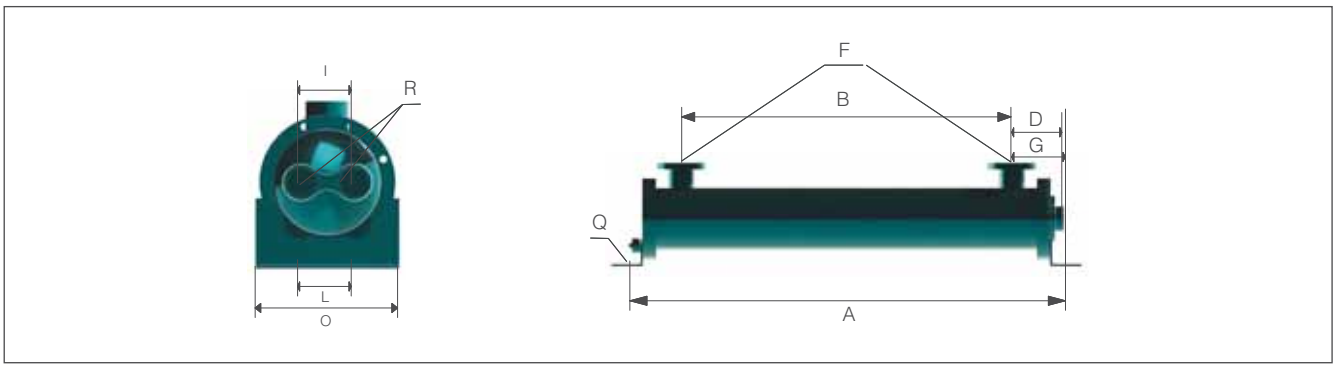


Model	A	B	F	Q	m^2	Weight (kg)
MFYS-505	189	55	G 3/4"	Ø 9 x 16	0,43	3,15
MFYS-508	265	97	G 3/4"	Ø 9 x 16	0,73	3,60
MFYS-510	316	148	G 3/4"	Ø 9 x 16	0,94	3,45
MFYS-512	367	199	G 3/4"	Ø 9 x 16	1,13	4,05
MFYS-514	418	250	G 3/4"	Ø 9 x 16	1,43	4,50
MFYS-518	519	351	G 3/4"	Ø 9 x 16	1,74	5,10
MFYS-524	672	504	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



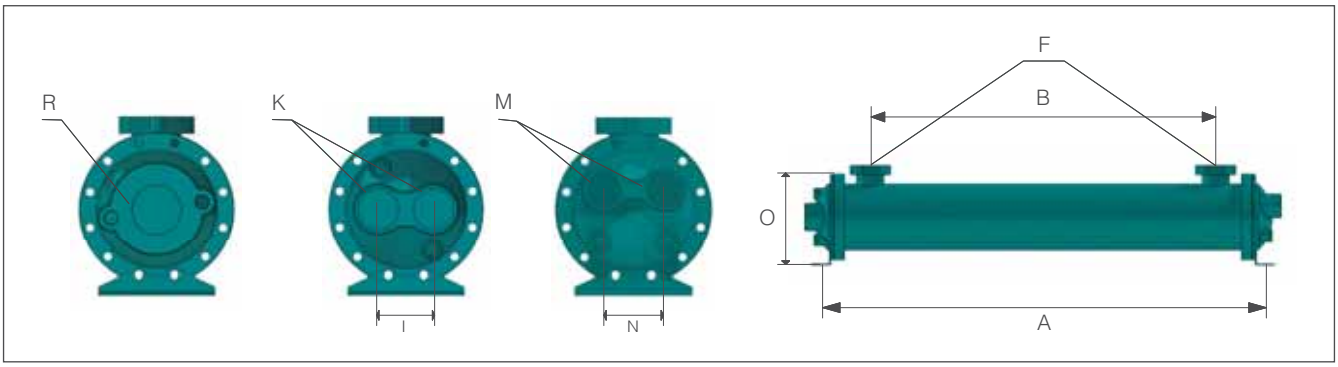
Model	D	R	G	L	O
MFYS-505-O	66	G 3/4"	66	63,5	89
MFYS-508-O	82	G 3/4"	83	63,5	89
MFYS-510-O	82	G 3/4"	83	63,5	89
MFYS-512-O	82	G 3/4"	83	63,5	89
MFYS-514-O	82	G 3/4"	83	63,5	89
MFYS-518-O	82	G 3/4"	83	63,5	89
MFYS-524-O	82	G 3/4"	83	63,5	89
MFYS-536-O	82	G 3/4"	83	63,5	89
MFYS-708-O	103	G 1 1/4"	103	76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

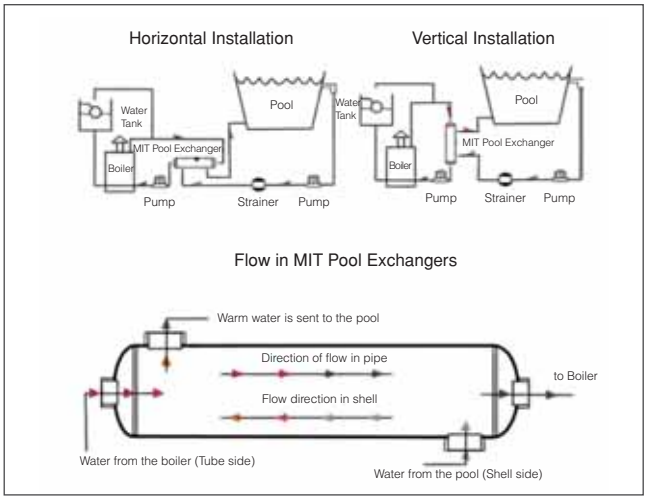
- Floor Heating
- Pools
- Spas
- Domestic Water
- Solar Heating

Industrial Applications

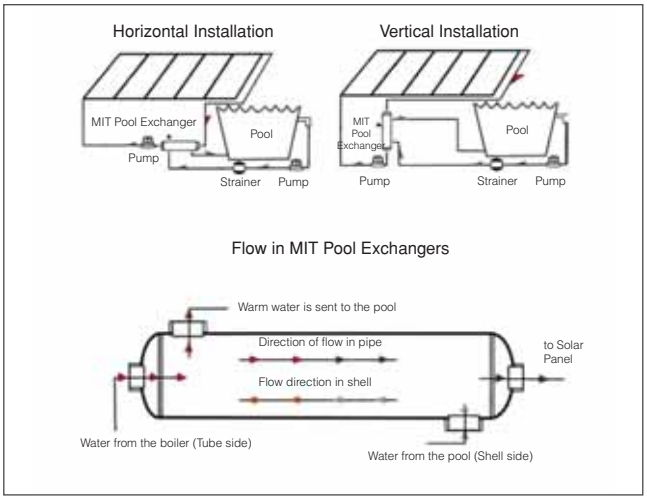
- Oil Cooling
- Steam Condense
- Central Heating
- Motor Cooling
- Waste Water Heat Recovery

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.

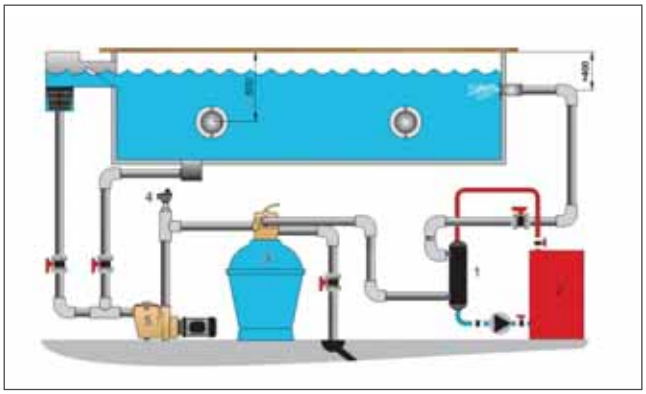
Boiler Pool Heating System



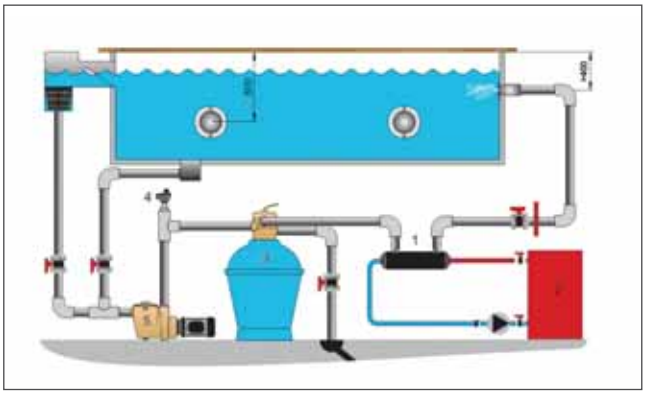
Solar Pool Heating System



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.

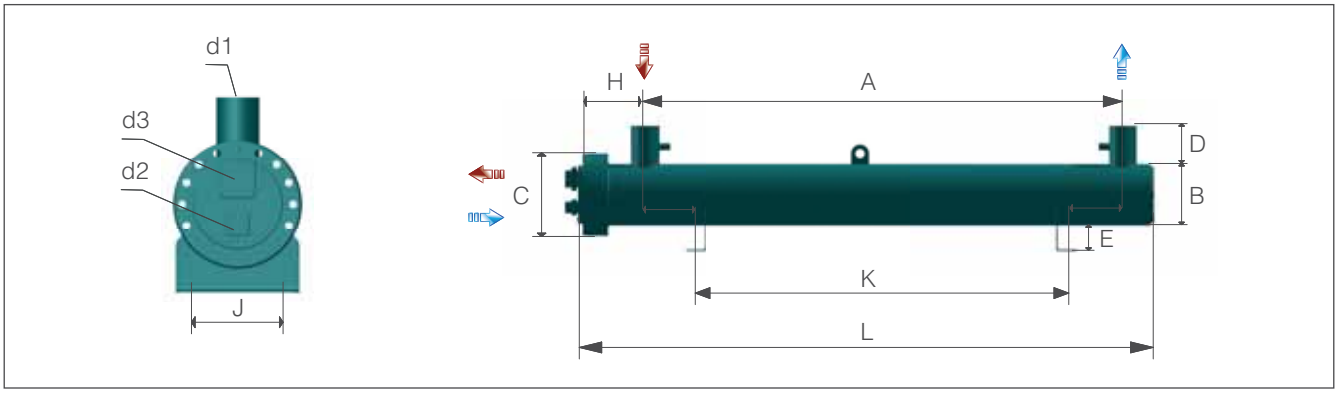
Disassembly of the tube bundle ensures maintenance and cleaning. Please contact us for special order products out of catalog.

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

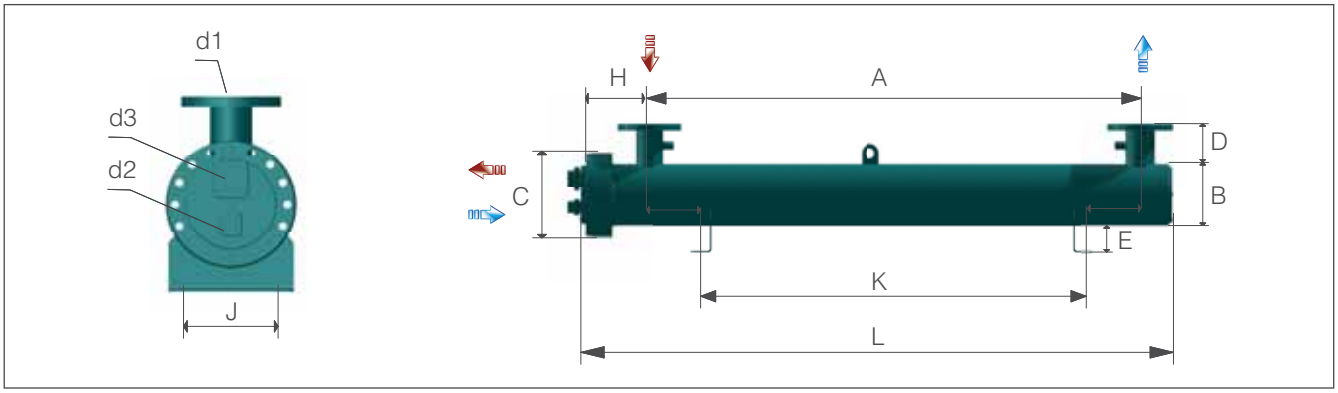


		20	30	40	50	60	70	80	100	135	145
Dimensions (mm)	L	865	1015	1215	1375	1285	1435	1635	1785	1830	2110
	A	660	810	1000	1160	1050	1200	1385	1535	1555	1835
	B	140	140	140	140	168	168	168	168	194	194
	C	195	195	195	195	245	245	245	245	260	260
	D	120	120	120	120	120	120	120	120	120	120
	E	80	80	80	80	80	80	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

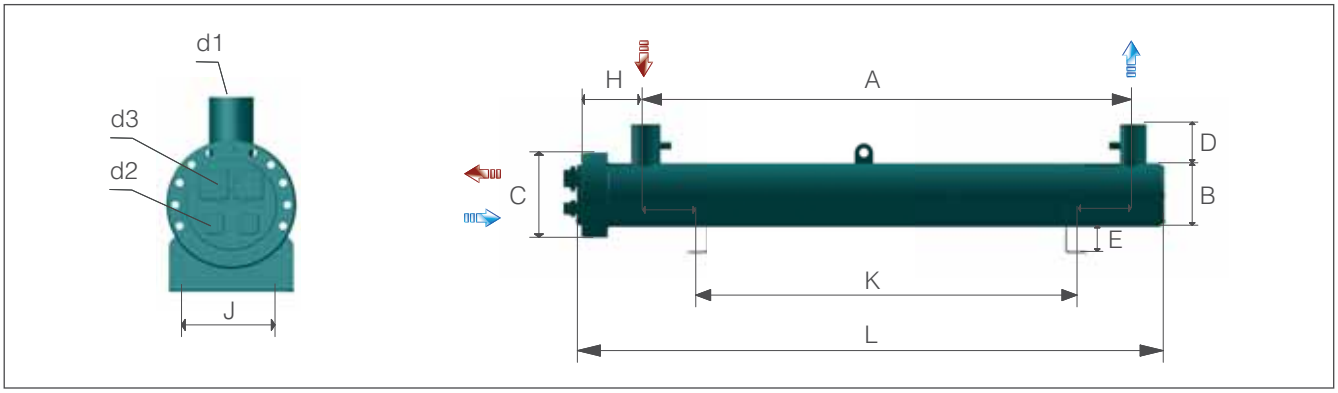


		165	205	245	290	340	390	450	500	590
Dimensions (mm)	L	2310	2340	2640	2670	2670	2670	2720	2720	2720
	A	2035	2000	2300	2270	2270	2270	2270	2270	2270
	B	194	219	219	273	273	273	324	324	324
	C	260	300	300	350	350	350	420	420	420
	D	120	150	150	150	150	150	150	150	150
	E	80	80	80	100	100	100	100	100	100
	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

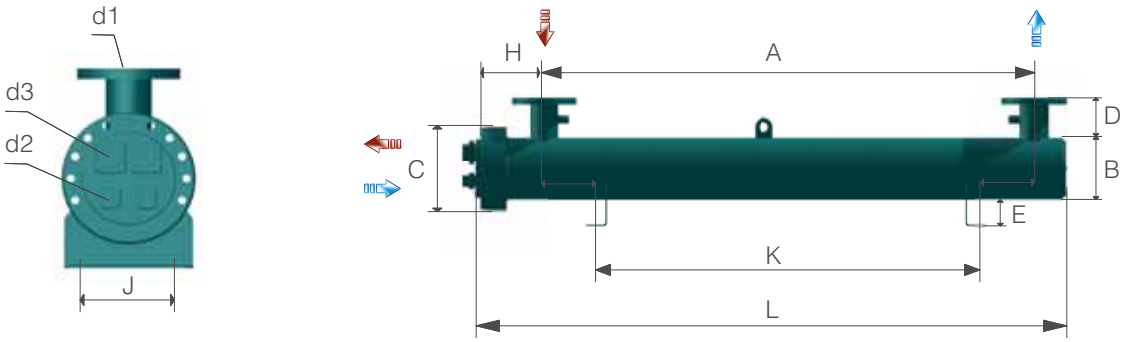


		20	30	40	50	60	70	80	100	135	145	165	205	245
Dimensions (mm)	L	865	1015	1215	1375	1285	1435	1635	1785	1830	2110	2310	2340	2640
	A	660	810	1000	1160	1050	1200	1385	1535	1555	1835	2035	2000	2300
	B	140	140	140	140	168	168	168	168	194	194	194	219	219
	C	195	195	195	195	245	245	245	245	260	260	260	300	300
	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.

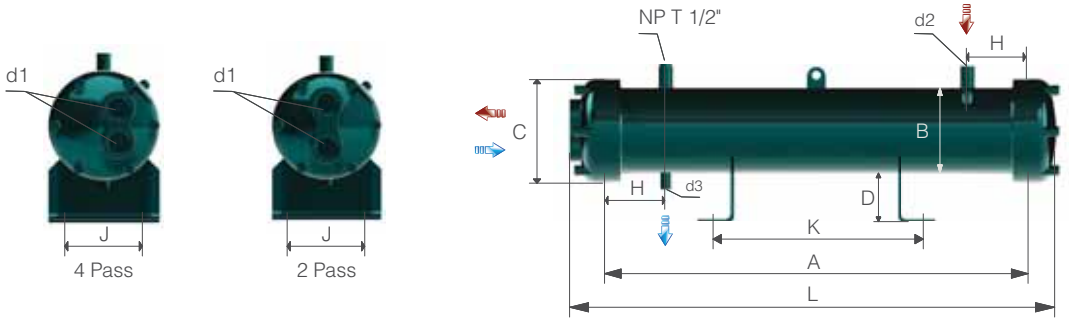
Please contact us for special order products out of catalog.

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

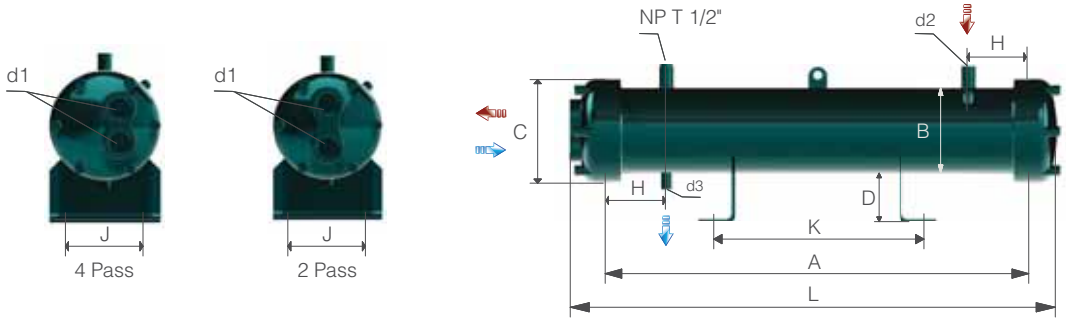


		20	35	45	55	65	65C	75C	90C	60	90
Dimensions (mm)	L	790	790	815	815	815	1115	1115	1115	1515	1515
	A	700	700	700	700	700	1000	1000	1000	1400	1400
	B	140	140	168	168	168	168	168	168	168	168
	C	170	170	200	200	200	200	200	200	200	200
	D	80	80	80	80	80	80	80	80	80	80
	H	100	100	100	100	100	100	100	100	100	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

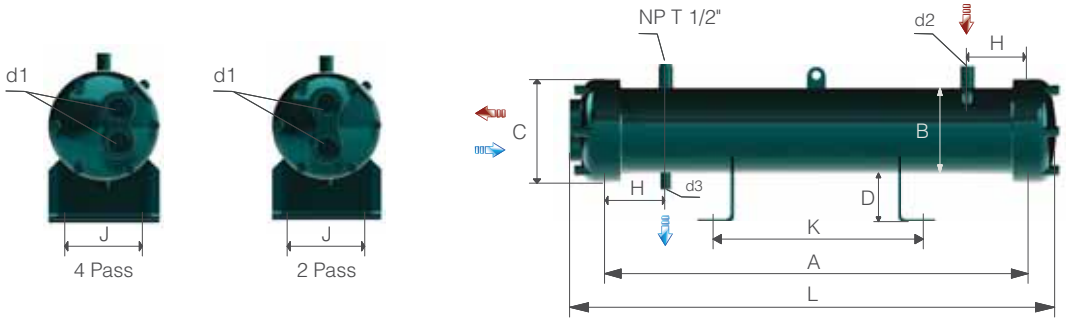


		100	120	130	145	165	180	200	220	245	265
Dimensions (mm)	L	1515	1515	1515	1915	1915	1915	1915	1915	1915	1915
	A	1400	1400	1400	1800	1800	1800	1800	1800	1800	1800
	B	168	168	168	168	168	168	194	194	219	219
	C	200	200	200	200	200	200	250	250	250	250
	D	80	80	80	80	80	80	80	80	80	80
	H	150	150	150	150	150	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

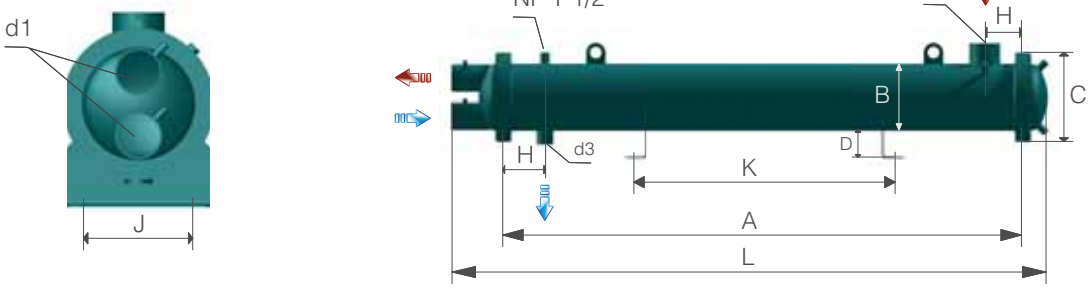


		285	315	340	360	400	450	480	520	550	610
Dimensions (mm)	L	1915	1925	1925	1925	1925	1925	1940	1940	1940	1940
	A	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
	B	219	273	273	273	273	273	324	324	324	324
	C	250	295	295	295	295	295	350	350	350	350
	D	80	100	100	100	100	100	100	100	100	100
	H	150	150	150	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		