nqa.
ISO 9001:2015
Registered
Quality Management

UKAS
MANAGEMENT
SYSTEMS
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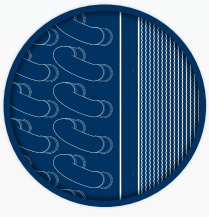
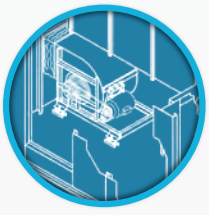
coolmax

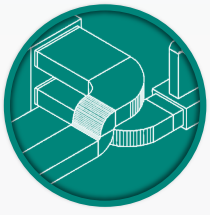
GROUP OF COMPANIES

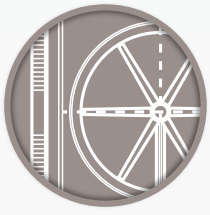
The real one window solution

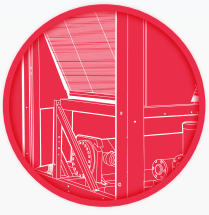

COIL MANUFACTURING


AIR HANDLING UNITS


VENTILATION SYSTEM


DUCTING SYSTEM


COOLING TOWER


CHILLER SYSTEMS

It’s our vision to deliver world class engineering services & projects in any given environment for the benefit of our Customers, Employees & the Communities we serve. That’s how we create smarter products for our clients by offering our customers the highest quality of **HVACR & Electrical services focusing on personalized solutions and convenience.**

ABOUT

COOLMAX International manufactures and installs a wide range of HVAC and refrigeration systems. These include large central Air-conditioning plants, Packaged Air-conditioning systems, Split air conditioners; Commercial Refrigeration equipment. COOLMAX other ventures include Installation, Operation & Maintenance of HVACR System, Electrical, Data Communication products and Special Control Valves etc. The lines of business include Production, Development, Design and implementation of Central Air-conditioning, Industrial and Commercial Refrigeration solutions

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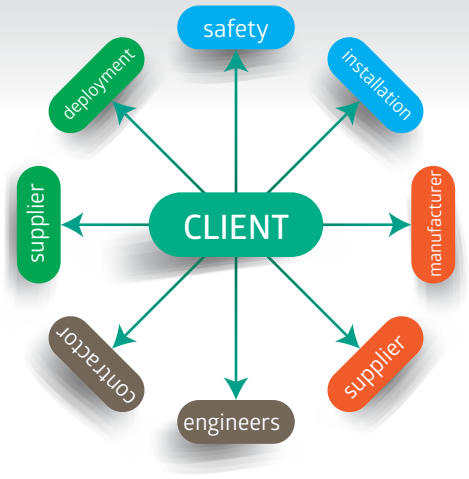
Services & Product management offered

Project Design - Supervision & Finalization
Complete Turn-key HVACR & Co-generation solutions
Operations & Maintenance of complete HVACR solutions

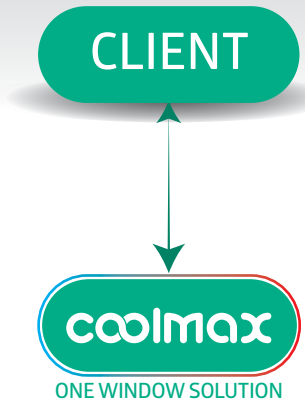
APPROACH

Project Management

CONVENTIONAL



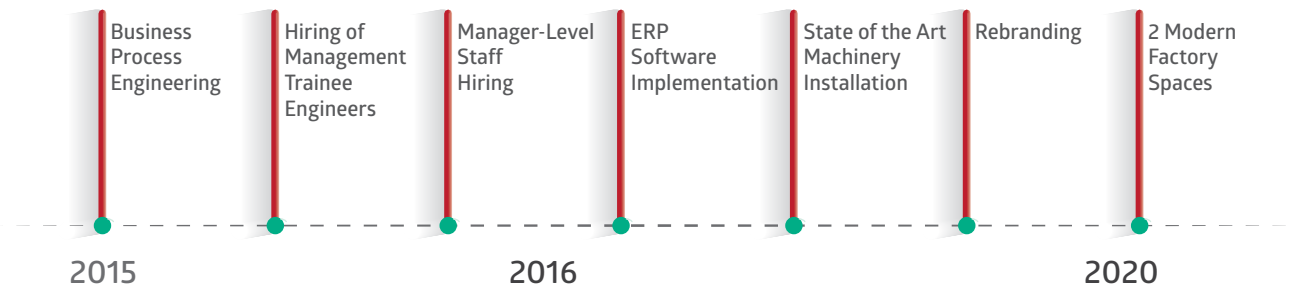
SIMPLIFIED



CONSULTING | DESIGNING & ENGINEERING | PROCUREMENT
MANUFACTURING | DEPLOYMENT | MAINTENANCE & AFTER-SALES

MILESTONES

With our rigorous Development Program in place, we are bringing progressional efficiencies through continuous investment in People, Technology and Equipment.



Outcome : Improved levels of Product Quality standards achieved through the Development Program

With COOLMAX International being a one window solution it is able to render unmatched client services. Some of the benefits includes

- Consulting Round the Clock
- Product Efficiency
- Better Client Feedback
- Supplier Management
- Direct Communication
- Design Engineers & Production
- Quick Turn Around Time

MADE IN PAKISTAN

COOLMAX International is one of the top manufacturer of Air-conditioning and Refrigeration equipment in Pakistan. Offering the widest range of Air-conditioning products: Split Air conditioners, Packaged Air conditioners, Air-cooled / Water-cooled Chillers, Fan Coil Units and Air Handling units.

COOLMAX International

D-22, Sultan Salahuddin Ayubi Road Phase-1, SITE-2,
Ahsanabad Superhighway - Karachi - Pakistan

Tel (92-21) 36411550
Email info@coolmax.com.pk
Web www.coolmax.com.pk

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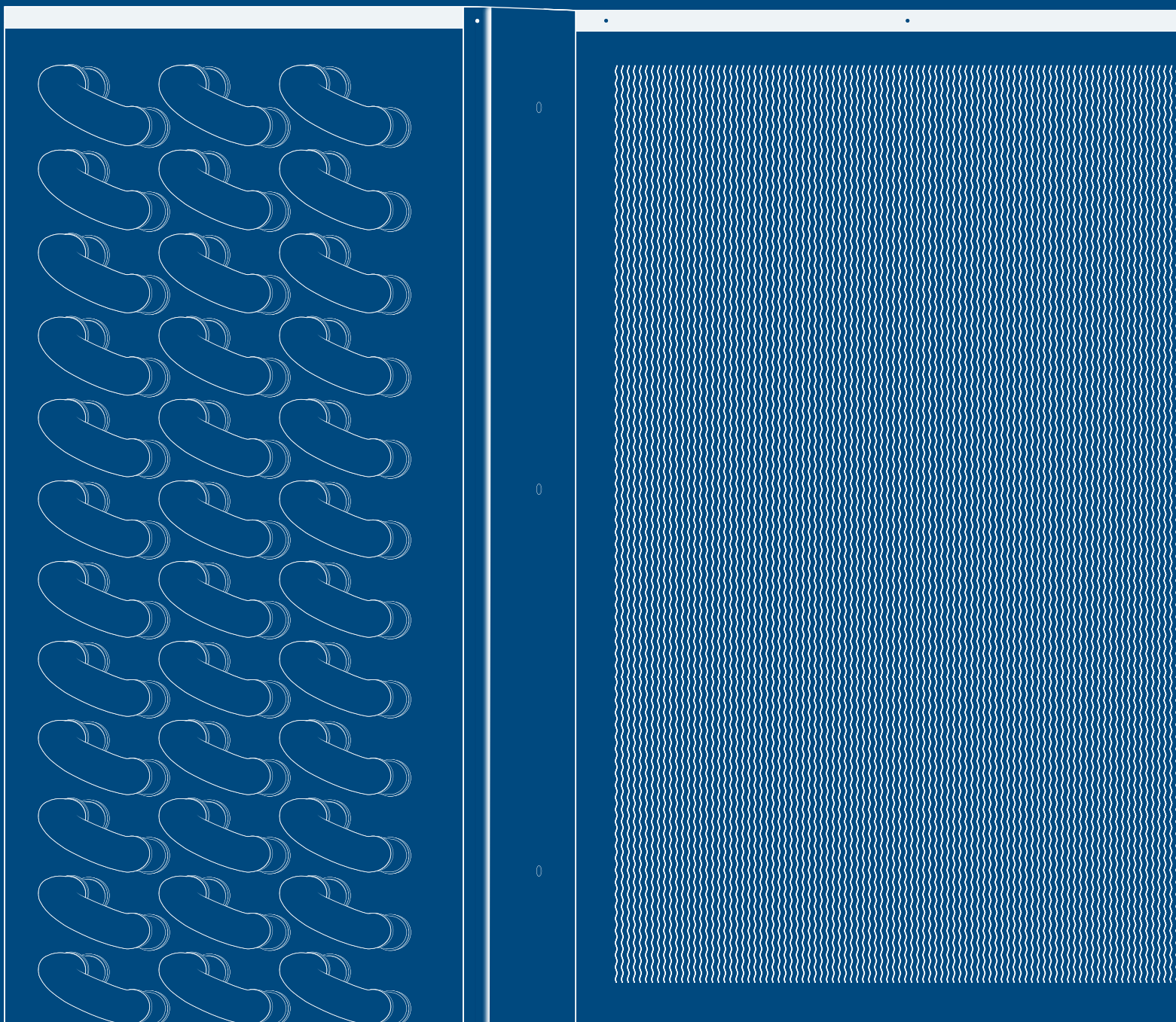
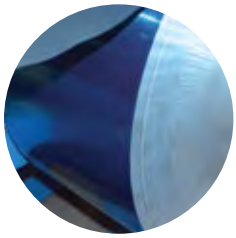


HEAT EXCHANGER COILS

We provide HVACR products such as Air Handling Units, Selected Range of Chillers, Air-Conditioning & Refrigerating Units and Heat Exchanger Coils.
We can create bespoke products at highly competitive prices with fast Turn around time. We have state of the art technology to design and calculate as per your desired specification and requirement.

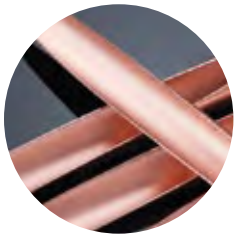
ALL TYPES OF HVACR EQUIPMENT & HEAT EXCHANGER COILS

We provide quality range of applications such as Chilled Water Coil, Hot Water Coil, Steam Coil, Condenser Coil and Evaporator Coil including Low Temperature Coil. COOLMAX produces conventional finned pack heat exchangers coils for OEM and other customers, manufactured from the highest quality copper tubes and aluminium or copper fins. Critical components for the coils such as the headers and connecting pipes are manufactured in-house. Specially evaluated quality suppliers and sub-contractors are used for our outsourced components.



Hydrophilic Fin Material

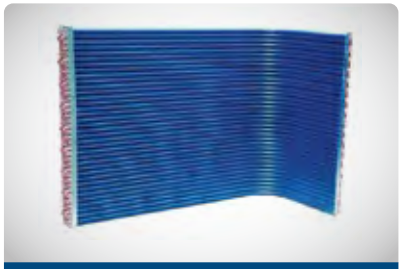
Hydrophilic dipped coated sheet which is a high quality is being used as a standard in our coil manufacturing process.
Benefit: It has proved to be highly efficient in resistance to corrosion and has long term durability.



Internally grooved Copper Tubes

This is also used as a 'standard' in our manufacturing process.
Benefit: These type of copper tubes are more efficient in heat exchange and transfer in comparison to smooth tubes as it homogenizes refrigerant temperatures across the tube


DX Evaporator Coil


L-shaped Condenser Coil


Chilled Water Coil


Chilled Water Coil - Copper Fins


Condenser Coil - Low Temp. Unit


Steam Coil


Evaporator Coil - Low Temp. Unit


U-shaped Condenser Coil


Marine Coated Coil


Hot Water Coil

PERFECT EQUIPMENT

L / U BENDING MACHINE →

← HIGH SPEED FIN PRESS

TUBE ALIGNING MACHINE →

↑ HAIR-PIN BENDING

COPPER TUBE STRAIGHTENING →

FINS MANUFACTURING ↓

REFINED TECHNIQUES

U - BENDING ↑

TUBE EXPANSION ↓

← SOLDERING

↓ LEAKAGE TESTING

DIFFERENTIATION

State of the art Machinery

Our efficient design and quality coils, built for performance, are driven by our adaptation to state of the art machinery. Some of which involves cutting-edge technology exclusively in use of COOLMAX International. As a step towards complete automation in production, we possess a CNC Turret Machine to reduce production time and increase workman accuracy.

Some of the features it offers are

- Creation of Coil side plates
- Complete Design automation
- Plate designing
- Punching

Quality Control

Quality control is an integral part of our intricate coil manufacturing process. At each step we take care of the quality, so that the end-product is error free and of high quality. It is through our design efficiency and rigorous testing processes, that only the best quality reach our clients. Our standard testing process include

Water & Air pressure testing	|	Hot Water / Chilled Water Coils
Nitrogen Pressure testing	|	Condenser / Evaporator / DX & Steam Coils

By automating the processes we are not only able to provide quality coils, but also are able to deliver faster on the project thus helping our clients to save cost and time.

TOOLING SPECIFICATION

Tube Diameter (mm)	Type of Cu-Tube (mm)	Fin Pitch/Geometry (mm)	Fin Spacing (mm)	Fin Surface
7 Cross Form	7*0.33 Smooth tube/ Inner-grooved tube		1.4-2.0	Plain/D-Type
	7*0.35 Smooth tube/ Inner-grooved tube	21*15.75	1.6-2.3	Sine Wave
9.52 Cross Form	9.52*0.35 Smooth tube/ Inner-grooved tube	25.4*22	1.2-6.0	Sine Wave/ Enhanced louver
		25*21.65	1.6-3.0	Sine Wave/ Enhanced louver
		25.4*19.05	1.4-2.5	Sine Wave
9.52 Straight Form	9.52*0.35 Smooth tube/ Inner-grooved tube	25.4*25.4	4.0-6.35	Plain /D-Type
12.7 Cross Form	12.7*0.41 Smooth tube/ Inner-grooved tube	38.1*38.1	4.0-6.35	Sine Wave/Plain
		35*30		
		31.75*27.5		
12.7 Straight Form	12.7*0.41 Smooth tube/ Inner-grooved tube		4.0-6.35	Plain
15.88 Cross Form	15.88*0.5 Smooth tube/ Inner-grooved tube	38.1*38.1	4.0-6.35	Sine Wave/Plain
15.88 Straight Form	15.88*0.41 Smooth tube/ Inner-grooved tube	50*50	4.0-7.5	

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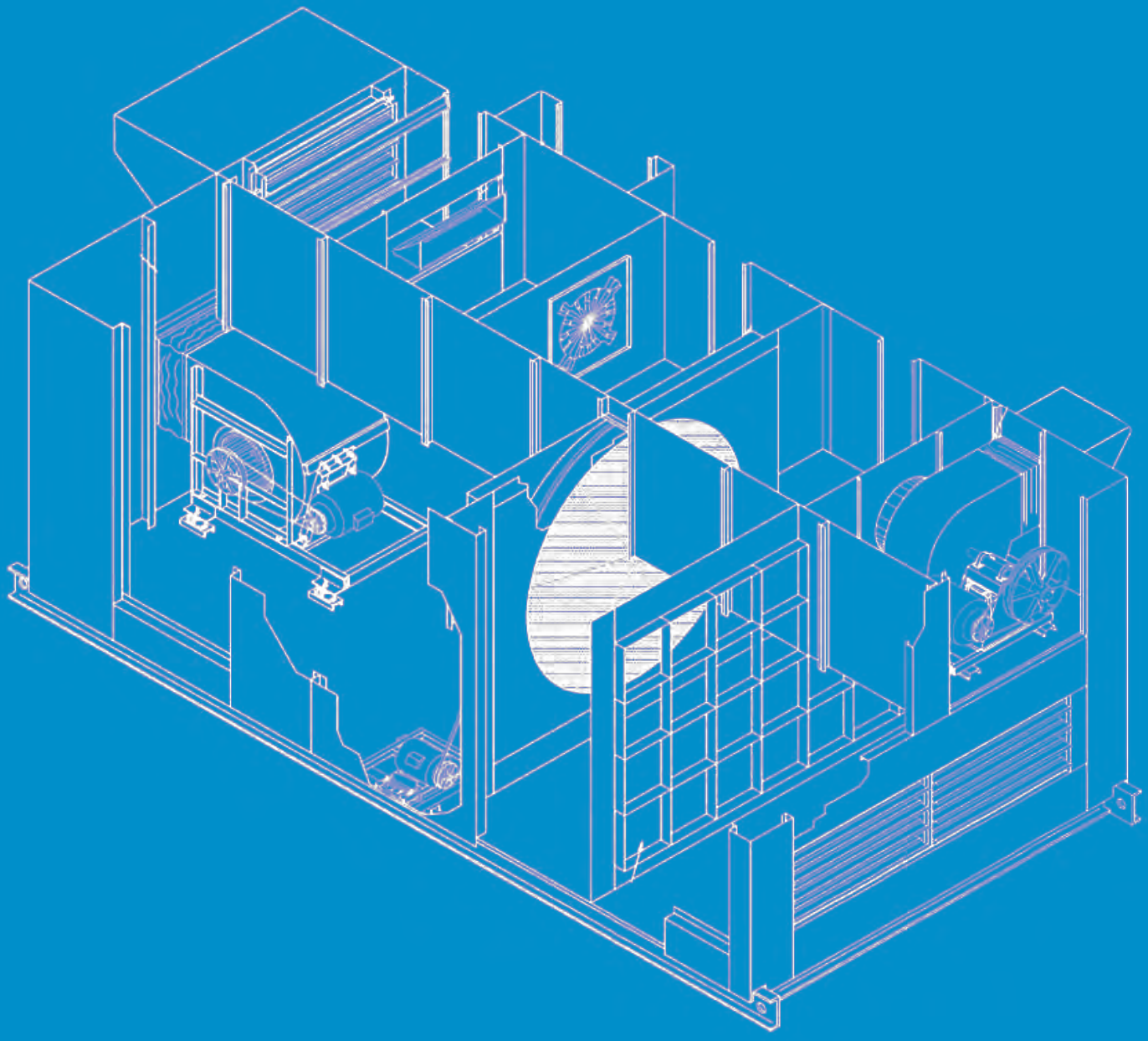

AIR HANDLING UNITS

We provide a wide range of Air Handling Units for use in various applications from enclosed spaces to large industrial applications. All our AHUs, down to its smallest part and simplest functions, went through a testing process to ensure highest performance quality and maintaining consistency with being energy efficient.

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Air Handling Unit

Air Handling Unit

Horizontal Duct Type Unit

Best fit for ducted applications of multiple zones. Ranging from 20 kW to 40 kW cooling capacity with air volume ranging from 1.11 m3/s to 1.94 m3/s.
It is connected to an outdoor condensing unit for heat exchange.

Vertical Package AHU

Designed to have a small footprint, this unit can be supplied chilled water to provide cooling via connection to the duct. Ranging from 26.5 kW to 106 kW cooling capacity with air volume ranging from 0.83 m3/s to 3.32 m3/s.

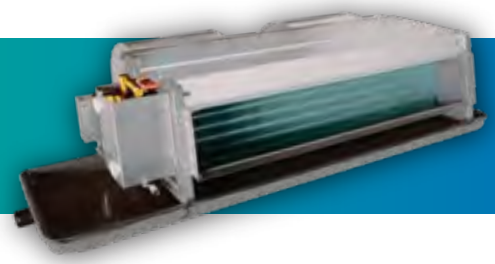
Modular Air Handling Unit

Designed to have customizable functionality which can be chosen according to various project requirements.

Roof Top Package Unit

A single unit, composed of the outer and inner unit combined, is very useful for compact placement while maintaining a high air flow rate through the ducts. This electrically run unit provides cooling and heating and can be supplied with both fresh ambient air or return air for heat exchange.

Fan Coil Unit



Concealed Ceiling Type

Best fit for ducted applications of multiple zones. It is connected to an outdoor condensing unit for heat exchange. It has a volumetric capacity range from 200 CFM - 1200 CFM making it suitable for civil and residential use.

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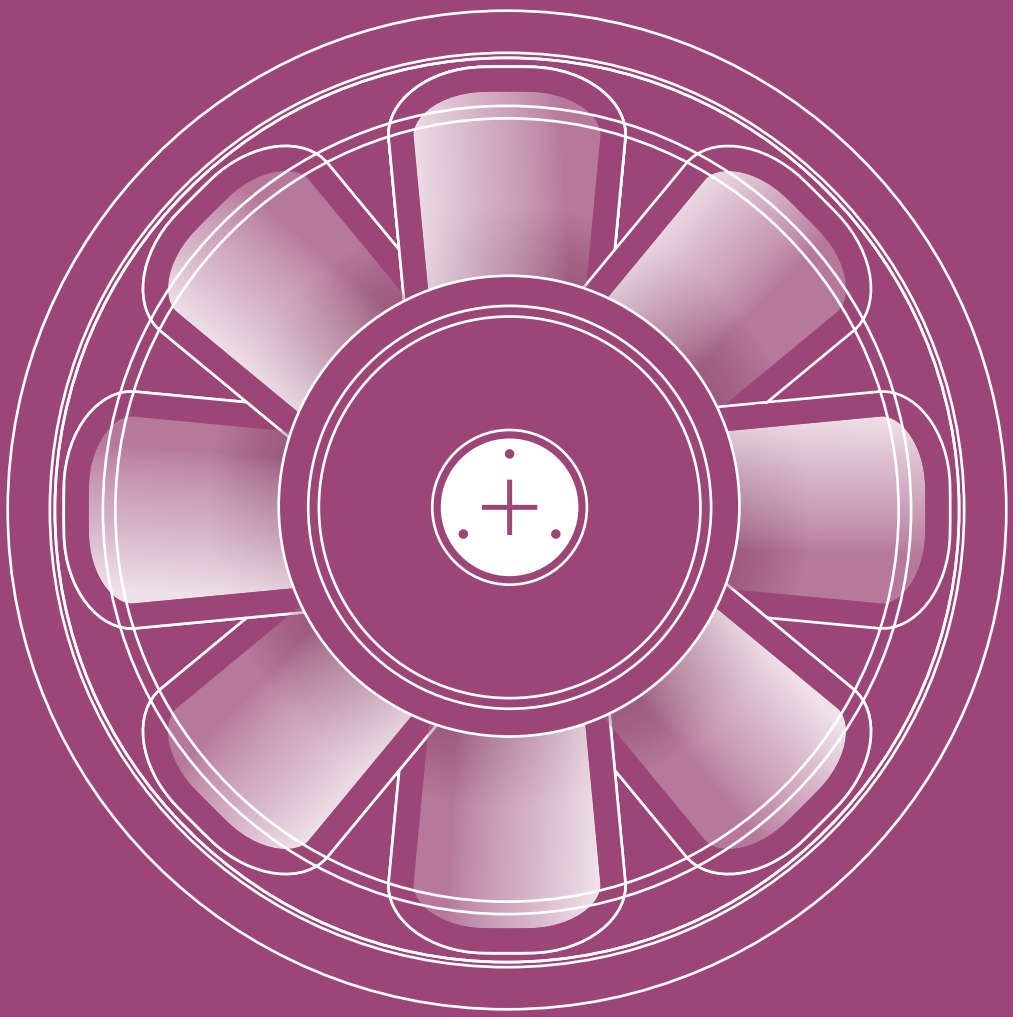
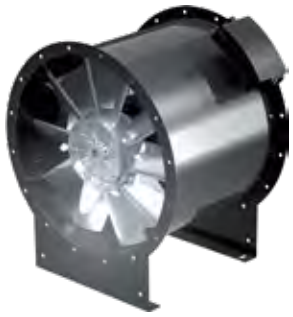


VENTILATION SYSTEMS

COOLMAX offers complete range of Ventilation products and solutions. We are providing Integrated solutions such as ventilation for Supply and Exhaust, Air curtains and other Industrial end to end solutions.



Tube axial fan

Designed for cost effective, reliable air movement in commercial and light industrial ducted and non-ducted applications. This unit is available with cast aluminium or fabricated steel propellers to meet specific application requirements. It exhausts air from a wide range of commercial applications such as factories, warehouses, workshops, gymnasiums, bulk goods retail outlets and assembly halls.

Centrifugal Blower

The production of our Centrifugal blower include continuously welded heavy gauge steel housings with removable inlet plates and housings, Teflon shaft seals, flanged inlets and outlets for assured stable operation.
Capacity Range: 500 CFM - 25000 CFM

Roof Extractor

It extends the life span of roof and reduces roofing problems. A sturdy aluminium construction provides durability, longevity and is suitable for most roof types. This vent is ideal for all-year-round clearing out hot air during summer and reducing moisture build up during the winter months. It exhausts air from a wide range of commercial applications such as factories, warehouses, workshops, gymnasiums, bulk goods retail outlets and assembly halls.

EC Fans

EC fans are generally recognised as being the latest thing in energy efficient air movement technology. EC stands for Electronically Commutated which implies a brush-less DC motor.

GLF Axial Fan

Louvres on the airflow side makes it dust-proof and waterproof, The fan features large airflow capacity, low noise operation, energy efficiency and convenient installation.
They are suitable for use in kitchens, warehouses and places with limited ventilation conditions of waste gas and hot air.
Airflow: 7000-44500 m³/h

Misting Axial Fan

It adopts a centrifugal misting system with easy installation and maintenance. It can handle large air volume over long distances. The misting volume is adjustable.
It is applicable for factories, warehouses, green houses, livestock farms, opening-air restaurants, sports ground, swimming pools, outdoor work-sites, home application or in any outdoor area where you want to be comfortable

Air Curtain

Optimized design for maintaining pressure differential across the door. The cross-flow fan coupled with an efficient motor promises good performance. Manual and wireless remote control are also available.
Airflow : 1200 - 2300 m³/h

Plug Fans

Plug Fans are preferred because of the fact that they are easy to clean and prevent accumulation of dust on the surfaces. They are highly efficient in high static conditions for low air volume.

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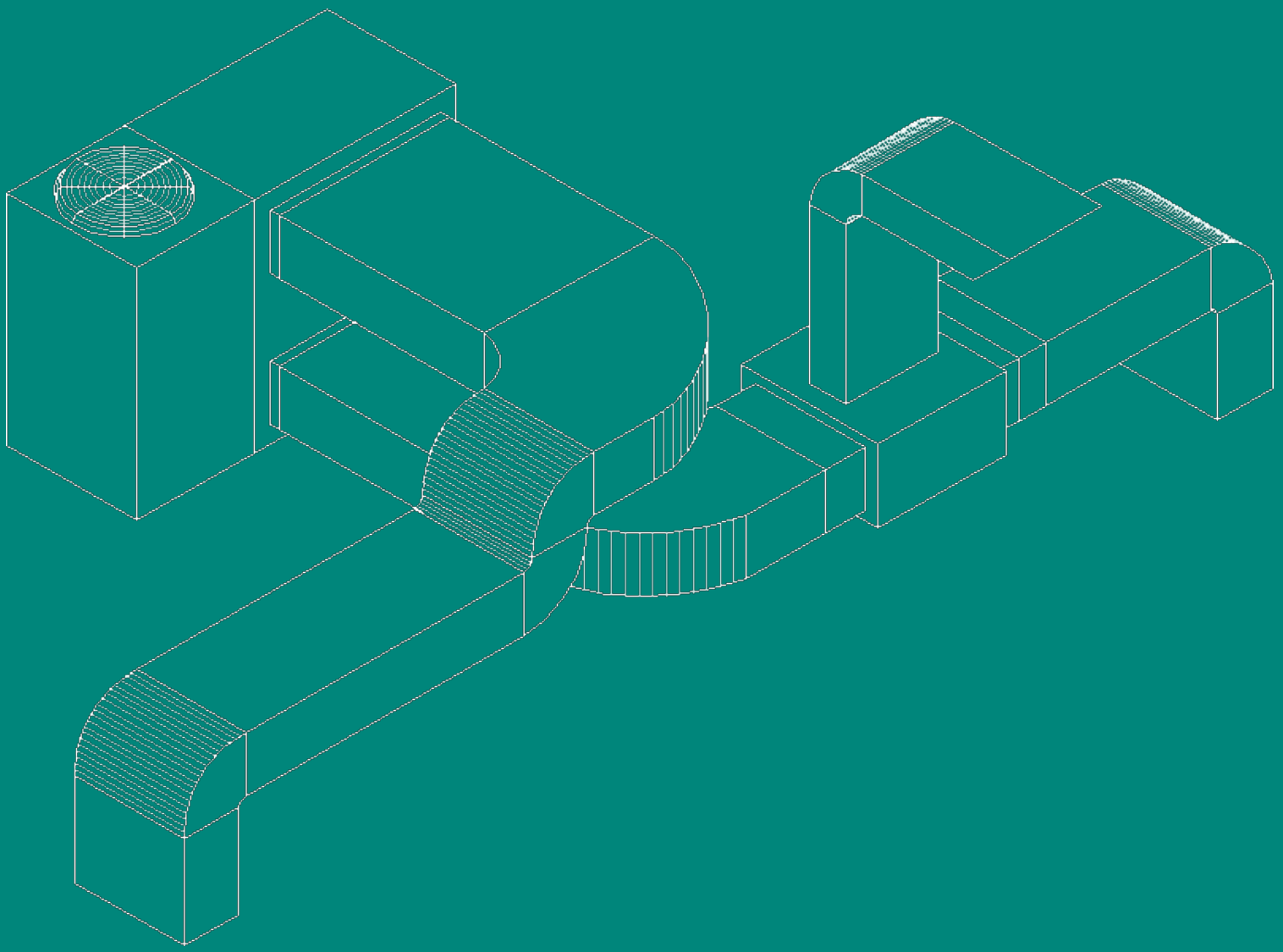
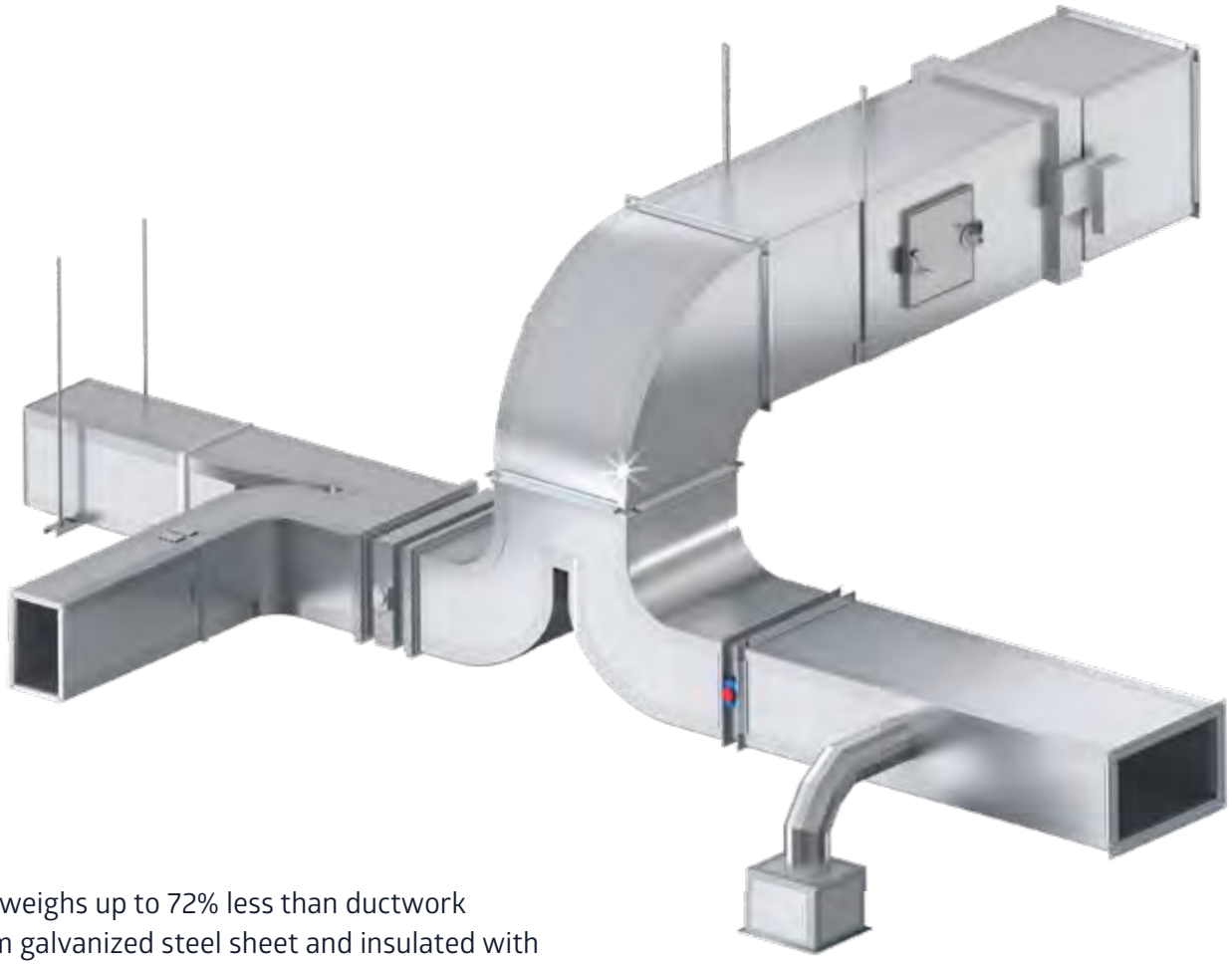


DUCTING SYSTEMS

COOLMAX has complete range of solutions for installation of Pre-Insulated Ducting System and machines for producing Sheet metal ducting according to International standards and classification.

Complete Range of Pre-Insulated Ducting System



LOW WEIGHT – weighs up to 72% less than ductwork constructed from galvanized steel sheet and insulated with mineral fibre – this makes it ideal for refurbishment projects, where existing building structures have insufficient load capacities for new service loads.

FASTER INSTALLATION SPEEDS – low weight ductwork fabricated in sections up to 13 ft (3.93 m) long, single–fix installation with pre-installed insulation as a supplementary operation, which reduces project scheduling periods for insulated ductwork.

INSTALLED COST SAVINGS – reduced labor and materials, including fixings and first level support members, can provide an ideal value engineered ductwork solution without compromising on performance.

SPACE SAVING – typically saves up to 6-8" (150–200 mm) in a single dimension, since the space required to manually install a separate layer of insulation around the ductwork is eliminated – this allows ductwork to be installed flush to ceilings, walls and floors, as well as to surfaces within confined enclosures.

Complete Range of Machine-made Sheet Metal Ducting System

COOLMAX has complete range of machines for making sheet metal ducting according to international standard and classification.

Super Auto duct Line III

SUPER AUTO DUCT LINE III can complete the 7mm small right angle edge for the angle steel flange. Sheets with the angle steel flange and TDC flange can be folded into the rectangular and square duct on the machine automatically. It is especially suitable for the duct manufacturing for Air conditioning, ventilation and exhaust air ducting system.

Duct Jointing by TDF System

"Transverse Duct Flange" is the integral part of the duct which is roll-formed onto the duct during various types of sheet metal process works. We also have separate plant for TDF system capable of producing 30mm wide flange as per the HVAC and SMACNA standards.

Duct Jointing by TDC System

"Transverse Duct Connector" is a flange inserted on duct. It is identical to angle iron flange and stronger if made from proper gauge of sheet for strength. It is preferred for joining big size duct pieces to avoid any sagging in ducting and to ensure strong structure for duct. The selection of size of the TDC flange is according to the pressure, class and size of the duct.

Advantage of Machine-made Ducting

It is dimensionally and diagonally accurate, in which chances of leakages are minimized. The main advantage of machine made ducting include the saving of wastage of sheet metal and is free from noise pollution at work site. The Machine ensures speedy works and minimum space is required for fabrication works.


Flange Forming

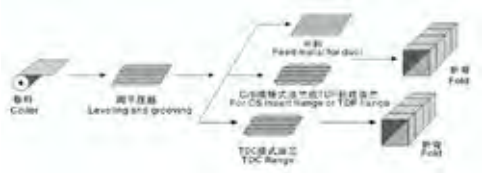

Roll Forming

DIFFERENTIATION

State-of-the-art Machinery

The precision and reliability of our ducts are driven by the automated manufacturing process and state of the art machinery. The fully automated Rectangular Duct Forming Machine / Auto Coil Line III is one of the most efficient machines known in HVAC Fabrication industry. For complete automation in production process we have Auto Line III.
Some of the features it offers are

- Cutting & Folding
- Levelling & Grooving
- Hydraulic Punching
- Notching



Ducting Accessories

Dampers

Motorized

Gear Operated

Handle Operated

Diffusers

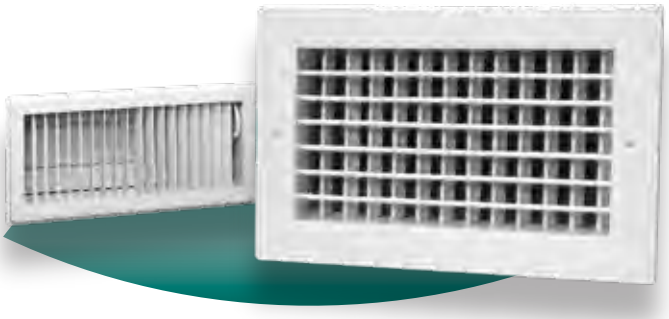
Circular

Square

Swirl

Grills

Linear Grills



Adjustable Grills

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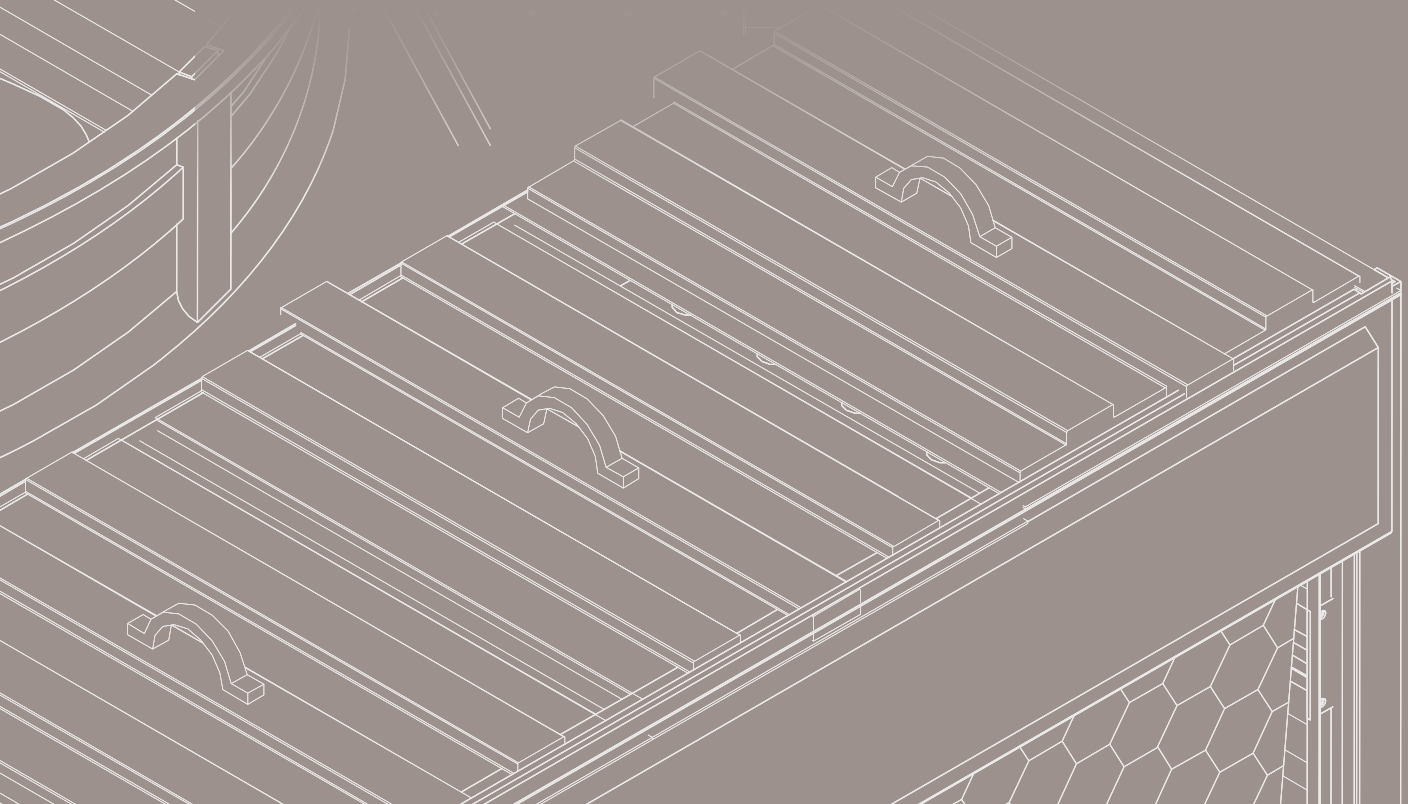
COOLING TOWERS

Cooling Tower structure and Quality Core components such as Fills, Fans and Water distribution piping enables us to provide absolute guarantee for high-efficiency thermal performance & adequate air flow design for cooling purpose.



Cooling Tower

Cooling Tower structure and Quality Core components such as Fills, Fans and Water distribution piping enables us to provide absolute guarantee for high-efficiency thermal performance & adequate air flow design for cooling purpose.

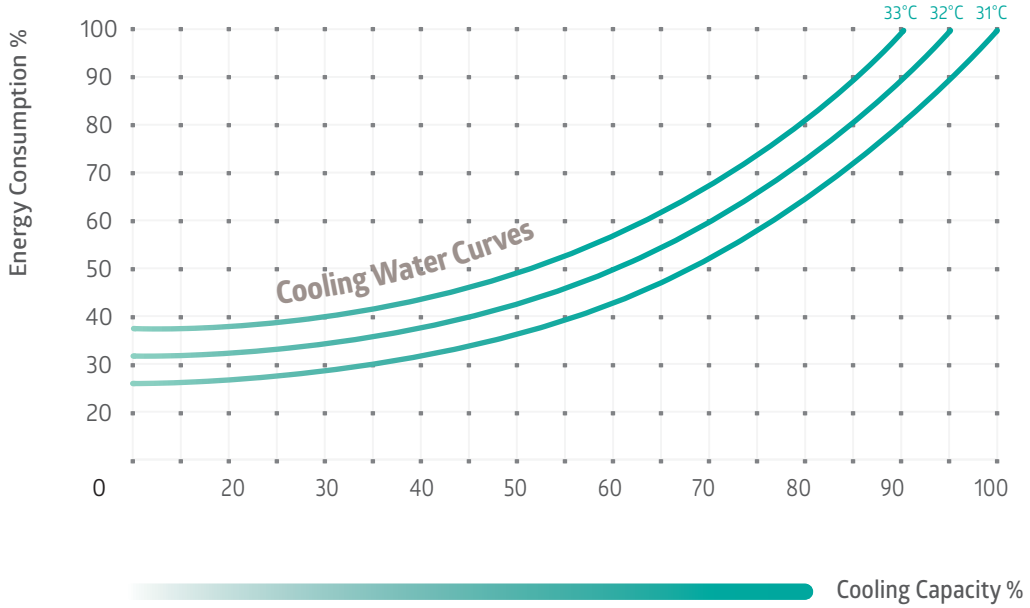
Features

Low Noise - Environmental Protection
Low Energy Consumption - High Efficiency
Less Drift - Energy saving
Casing & Basin
Working Deck & Protective Devices
Drift Eliminator
Fan
Frame Structure & Fasteners

Client Servicing

The Company not only continuously exceeds clients expectations, it also perfect every step of design, production, logistics and After-sales services. It's an honor to provide convenient, reliable and professional services to our clients. From the moment client choose COOLMAX, the service team liaise regularly with the clients and collect clients feedback to provide data and technical support for after-sales services.

Curves of cooling capacity, energy consumption and water temperature of cooling tower



High Efficiency - Absolute Guarantee of High Efficiency Thermal Performance

The tower dimension and designated core components are designed for optimum thermal performance, exceeding industry standard.

Low Noise - Environmental Protection

We reduce mechanical noise effectively by use of high-quality, quieter transmission components. Through pool-type water distribution with cover and nozzles, we reduce water flow noise to minimum. With the large dimension of tower and low noise of double-layer aluminum alloy aero-foil fan, we assure that cooling towers generate minimal noise.

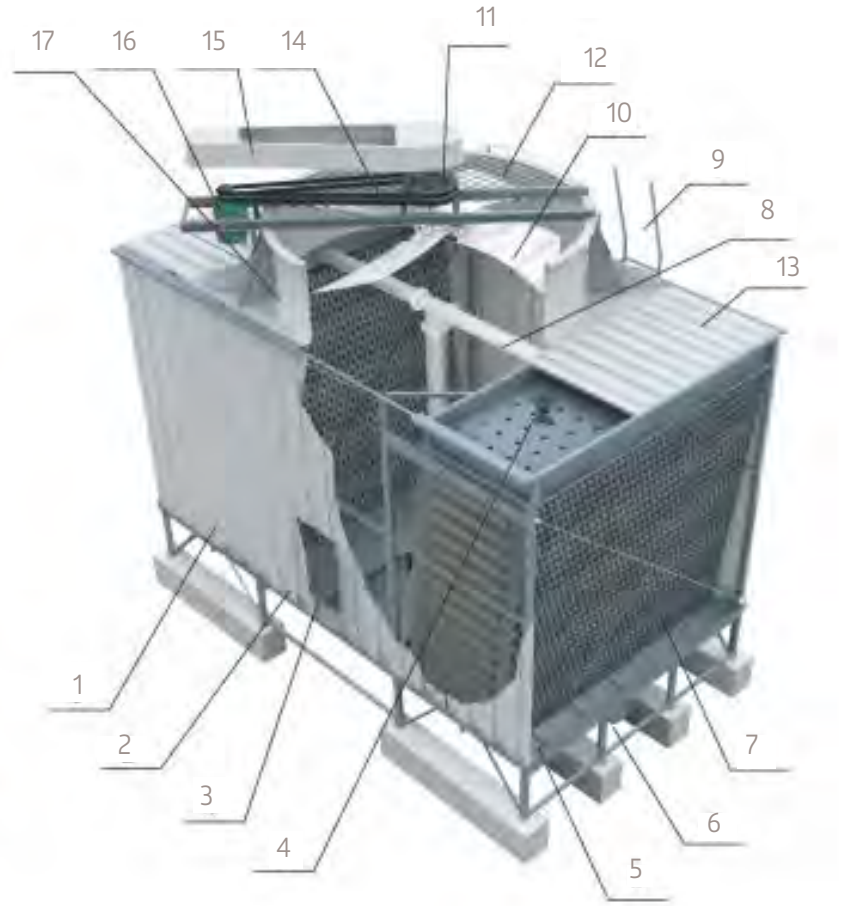
Low Energy Consumption - High efficiency

Under the premise of achieving the same cooling effect, it saves operating cost by larger tower dimension, more heat transfer area and bigger fan diameter while lower rotating speed. Power ratio meets the national standards, of which most of the models are lower than 0.03kW/(m3/h).

Less Drift - Energy Saving

With highly efficient multi-functional fills, we can restrict the drift loss at a very low level. At the same time, there are special water baffle plates and no beams in the middle, which can assure water will not drift outside. The drift loss is less than 0.001%

Cooling Tower Structure Illustration



YHA 100

CTI - Cooling Technology Institute Certification - This standard sets forth a program whereby the Cooling Technology Institute will certify that all models of a line of evaporative heat rejection equipment offered for sale by a specific manufacturer will perform thermally in accordance with the manufacturer's published ratings.

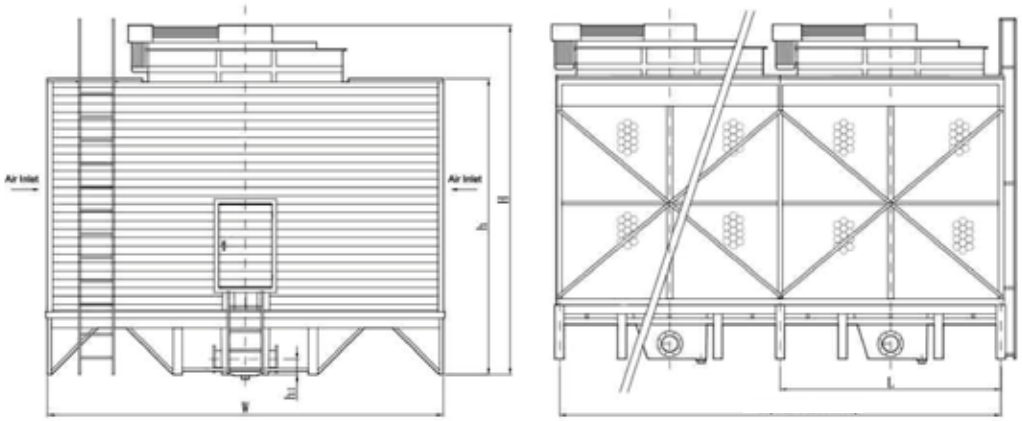
Number 11-40-01

Specifications

1	Casing	FRP
2	Access Door	FRP
3	Walkway	HDGS
4	Nozzle	PP
5	Cold Water Basin	FRP
6	Outlet Flange	HDGS
7	Fill	Fire Retardant PVC
8	Internal Piping	HDGS (YHA100 ~350)
9	Ladder	HDGS
10	Fan (Aerofoil)	Al Alloy
11	Speed Reducer	Cast Iron
12	Fan Guard	HDGS
13	Hot Water Basin Cover	FRP
14	Belts	Rubber
15	Belts Guard	FRP (Applicable for motor ≤7.5kW)
16	Motor	Totally Enclosed IP55, F Class
17	Fan Cylinder	FRP

Standard Configuration

Cooling Tower Outline Drawing



International standard design working condition: water inlet temperature 37°C, water outlet temperature 32°C, web-bulb temperature 28°C, dry-bulb temperature 31.5°C, atmospheric pressure 9.9*104 Pa

Cooling Tower Special Qualities

Fills
Packing fills utilize only high quality raw PVC film sheets by vacuum forming. The fills are hanging in whole sheet, which overcome airflow short-pass, uneven water distribution and low cooling effect by fills layering, and convenient to install, disassemble, and clean.

Internal Piping
By the theory of natural uniform distribution of liquid, it makes water flow evenly into the hot basin. It can save the cost to install external piping, take up less space and look more beautiful.

Distribution System
Use the unique overflow device and nozzles layout and realize smooth and even water distribution under different system load, to meet the requirements of energy saving. The device completely eliminates the drift loss of cooling water. Hot water basin cover avoids water pollution and protects nozzles from blocking by foreign objects falling into the hot basin. At the same time, avoids direct sunlight and inhibits growth of algae. Besides, it can avoid water loss from direct evaporation and possible splash out.

Casing & Basin
Use the imported corrosion-resistant and UV-resistant gel coat and pigment; integrally mix and mold welt with high grade resin and non-alkali fiber. Casings and basin are made of FRP by pultrusion. It's uniform in color and thickness, difficult to fade, anti-aging, and smooth surface finishing. Stripe-shaped surface of casings is non-glare and strong to avoid light pollution.

Drift Eliminator
Drift eliminators are dedicated parts for YHD, YHG counter-flow cooling towers. Its unique three-dimensional three folds honeycomb type build, has very high water collection efficiency and low air resistance. The drift loss of circulating water is less than 0.001%, to conserve water resource to maximum. It helps prevent the spread of legionella.

Working Deck & Protective Devices
There are spacious maintenance walkway, handrails, and movable maintenance deck for the towers of YHA and YHB. Fan guard cover is densely spread. Access door is large in size. Working deck's width is adequate to assure maintenance staff's work is safe and convenient. Mechanical components use protective device such as motor cover, belt cover etc.

Fan
Patent aero-foil fan, made of aluminum alloy, has the best qualities of strength and light weight design, high volume of air delivery, low energy consumption and long life. It can also run at a very low speed. Blade angle can be adjusted according to system load. It can fully run under rated power for best performance.

Frame Structure & Fasteners
Leading structure design and quality materials to make frame structure and fasteners. The standard configuration of structure is superior hot-dip galvanized steel (GB Q235) and fasteners of 304 stainless steel.

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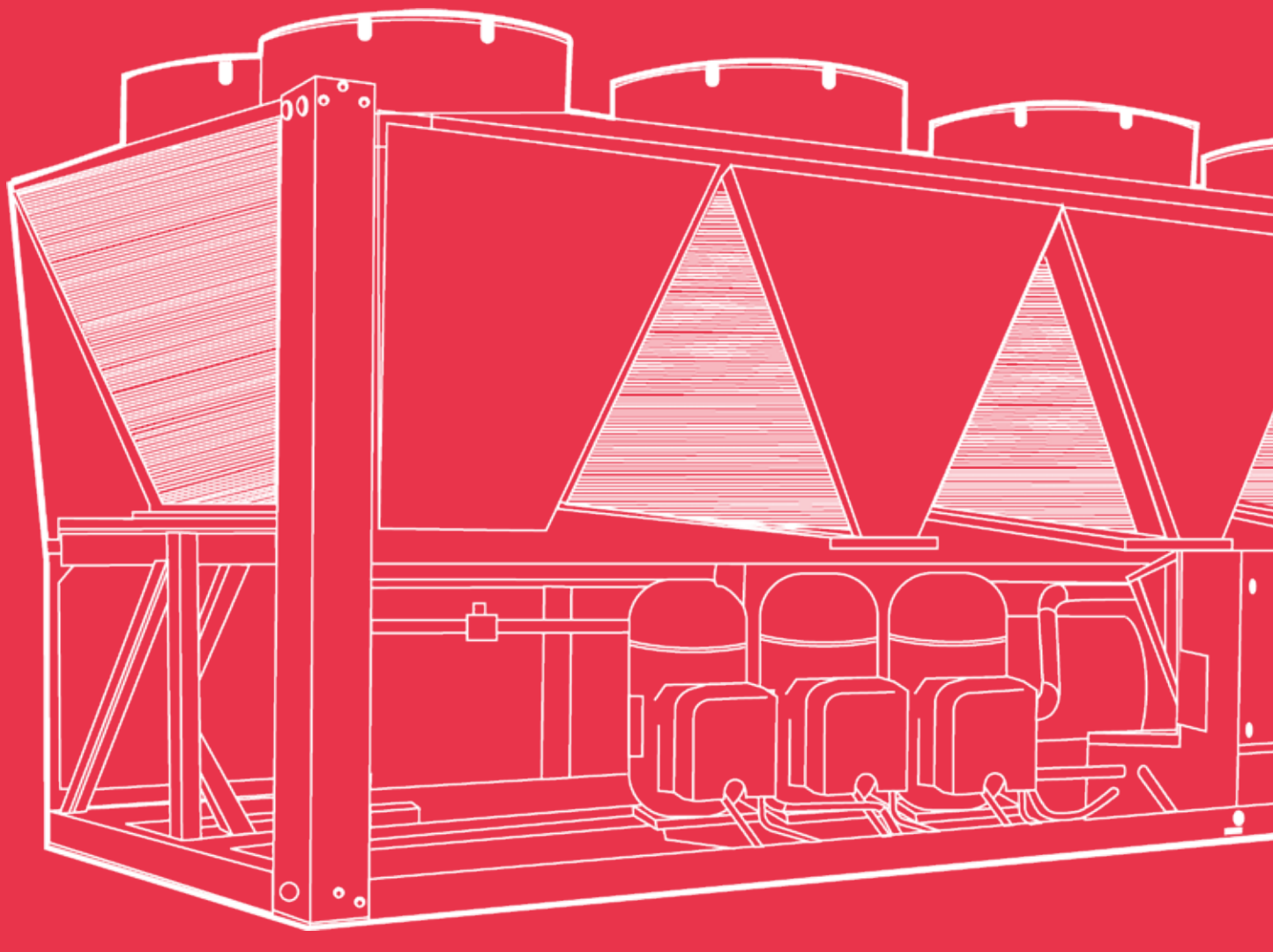
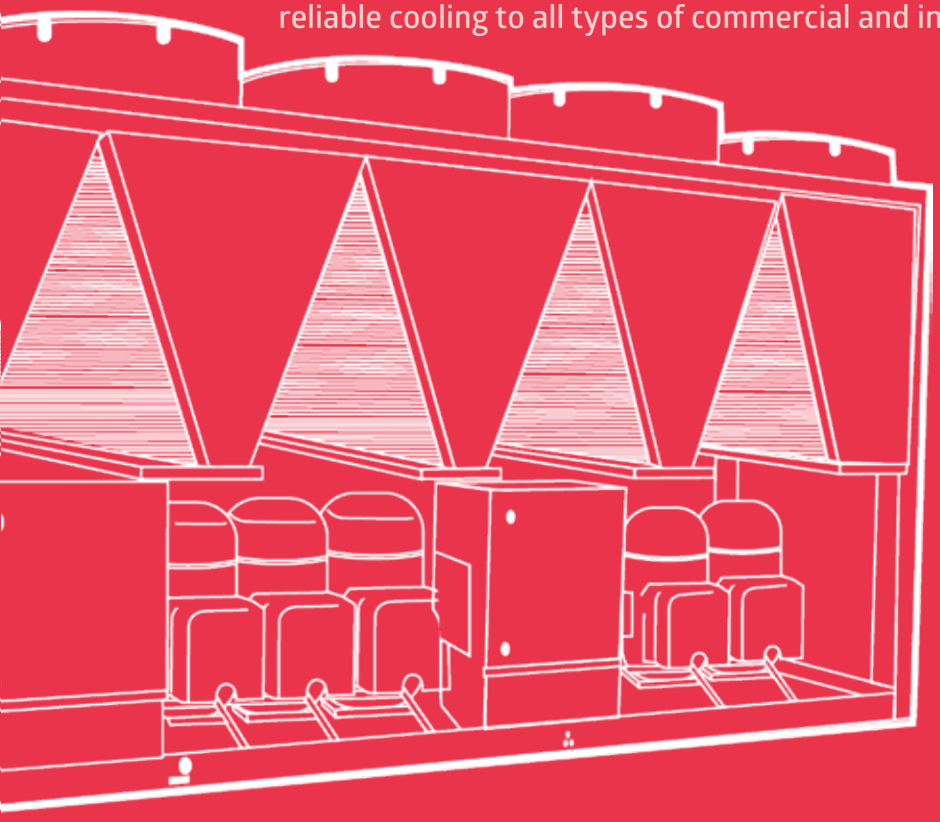


CHILLER SYSTEMS

We provide a wide range of water & air-cooled chillers, with scroll & screw type compressors. Our chiller solutions are designed to bring efficient and reliable cooling to all types of commercial and industrial applications.



Air Cooled Scroll Chiller

- Environmental friendly refrigerant
- Automatically optimized air volume and condensing pressure
- Long service life of compressors
- Efficient heat exchangers
- Dynamically adjusting expansion valves

Air Cooled Scroll Chiller

The Air-Cooled Scroll Chillers are central air-conditioning units that integrate with various air side units such as fan coil units and air handling units. They use air for thermal exchange, while the water is used as a refrigerant carrier. They are best suited for applications in commercial, industrial and civil buildings.

The environment friendly refrigerant, R410a, is used. It is stable and non-toxic with zero ozone depleting potential. The chillers provides operations in ambient temperatures ranging from -10°C to 48°C. Pressure tested condensers coils are composed of aluminium fins and copper tubes. The air volume and condensing pressure is automatically optimized based on ambient temperature and required load via DC brush-less motors compatible with variable speed.

The scroll compressors have high efficiency, stable operation, low noise, minimal vibration and a long service life. The V-shaped condensers being used provides maximum heat exchange area with the help of durable, low noise impeller fans with blade profiles. An efficient shell and tube heat exchanger is used for better heat transfer performance, lower water resistance and lower requirements of water quality. Plate type heat exchanger are also provided. Expansion valves are designated to dynamically match the refrigeration requirements.

Based on smart design, the units are made compact to reduce installation space and cost. Special attention is paid to safety functions to ensure safe and stable operations with quick maintenance services.

Water Cooled Screw Chiller

- Various refrigerant configurations
- High performance compressor
- Improved cooling capacity and energy efficiency ratio
- Accurate electronic expansion valve
- Efficient oil separator

Water Cooled Screw Chiller

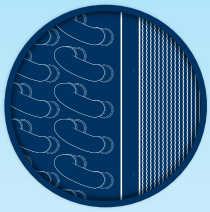
We offer water cooled screw chiller with various refrigerants R407c, R410a and R134a, which has no ozone depletion potential and no phase-out schedule. They function well in applications of cooling in production lines and conditioning of commercial spaces.

High-performance screw compressor ensures that the chiller is economical and durable with low vibration and low noise. The Semi-hermetical twin-rotor screw compressor is equipped with separated radial and axial bearings, liquid injection and economizer connection, PTC motor temperature thermistors and discharge temperature thermistors, a motor protector, and oil level switch and oil pressure differential switch and other accessories.

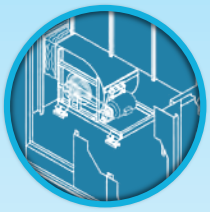
The accessories guarantee the compressor has the best reliability, longest bearing life during heavy duty running and strict operating conditions. With flooded type evaporator, evaporation temperature is increased and so is the heat exchange efficiency with reduced refrigerant charge. The evaporator has refrigerant in the shell and chilled water inside the tubes. The shell is of welded carbon steel construction with steel tube sheets and copper heat exchange tubes. Tubes are mechanically expanded into tube sheets with double grooves to ensure leak tight and trouble-free operation.

Together with screw compressor that is specialized for flooded type chiller, unit's cooling capacity and energy efficiency ratio is greatly improved. COP can reach 6.2. Control logic is optimized to calculate the best liquid level automatically and adjust the actual value quickly for satisfactory output.

The electronic expansion valve can adjust refrigerant flow and evaporator liquid level accurately and fast to maintain the best partial load efficiency and wide operating range. The oil separator efficiency is up to 99.98%. Double circuits can lower failure rate to a minimum and improve unit's reliability. Because there are double compressors, in case that one faulted compressor needs maintenance, the other compressor can still perform normally.

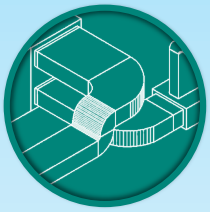


COIL MANUFACTURING

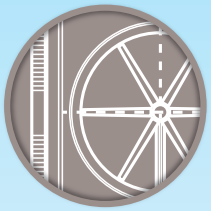


AIR HANDLING UNITS

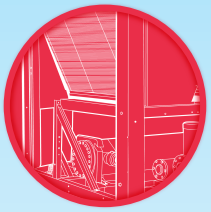
VENTILATION SYSTEM



DUCTING SYSTEM



COOLING TOWER



CHILLER SYSTEMS

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