Greenwell
Design & Build

GREENWELL
TECHNICAL MANUAL

Greenwell for Trading and Contracting

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FLOOR RADIANT SYSTEM

CEILING RADIANT SYSTEM

WALL RADIANT SYSTEM

MANIFOLD AND **DISTRIBUTION**

SMART COMFORT 365 REGULATION

AIR TREATMENT AND **VENTILATION**

CONTENTS

WHO ARE WE

Greenwell is an Egyptian private sector Company that is operating in the field of general construction contracting. working with a sharp eye for dedicating details and great passion for changing the norms; passionate about engineering field, started from scratch seeking the top of engineering marketplace. Inspired by our working powerful engineers with great knowledge. We will be your ambassador to a world of innovation & your gateway to excellence and unmatchable scheme

With over 15 years of experience and 2 operating offices in **Egypt** and **Germany** we provide and implement eco-friendly solutions.

We introduce to the market a range of European technology and products that offer the best combination of design and performance into your home from sanitary works, heating systems and air-conditioning to smart home solutions, all of which can be controlled by a simple touch BY high standards of workmanship, European Brands and above all that, a well-trained after sale service team.

WHY US

Predictive Maintenance to prevent unexpected stoppages, and to achieve cost savings.

Highly Experienced Technical to maintain an appropriate technical quality level

Unlimited Free site visits to offer Expert Tips and Advices for All technical inquires.

Man Power

All Greenwell manpower were selected carefully to maintain our high technical and soft skills requirements to guarantee a highly technical service.

Engineering

Starting from understanding client requirements and finishing with all necessary technical design, Shop drawings and As-Built Drawings. We are providing a high technical support reference to international standards.

OUR SUCCESS PARTENERS

During **10 Years** Greenwell Worked For

+500 CLIENTS

+900 PROJECTS

- Concordia October
- Katameya Hights
- Patio - Shorouk city
- Mivida
- Les Rois
- Granda life Shorouk city

- Karma residence October
- Hayah Residence
- Taj City
- Layan Sabbour
- Katameya Dunes
- Water Way

- Cairo festival city
- Allegria Zayed
- Rabwa Zayed
- Sodic Vilette
- Sodic west
- Lake view

- Beverly hills Zayed
- Palm Hills
- Madinaty
- Badr city
- Ramblas
- Sodic East town

- Swan Lake
- Uptown Cairo
- New Giza
- Hacienda White - Sahel
- Hacienda Bay - Sahel
- Al Burouj

- Misr Italia
- La Vista
- Telal - Alamien
- Katameya Gardens
- Katameya Hills
- Dyar

- Hyde Park
- Mountain View
- Badeya
- ZED
- District 5 - 5th Settlement
- Palm Hills October

- Smoha - Alexandria
- Rivers Zayed
- West Golf
- Cairo Gate
- El Shorouk Springs
- Paradise El Shorouk

OUR PROJECTS

15
KATAMEYA HEIGHTS
CAIRO - EGYPT

4
EL PATIO
CASA

12
MIVIDA
Where life comes together

6
GRANDA
Life

8
KARMA
RESIDENCE

13
LAYAN

5
TAJ
CITY

10
HAYAH
RESIDENCE

7
Katameya
Dunes

4
THE
WATERWAY
RESIDENTIAL & COMMERCIAL

15
allegria

9
كايرو فستيفال سيتي
Cairo Festival City

6
THE
LAKEVIEW
RESIDENCE
New Cairo

12
Al Rabwa
Al Sheikh Zayed

11
SODIC

5
Beverly Hills
Property Management

OUR PROJECTS

5
PALM HILLS KATAMEYA

14
B Badr City

8
madinaty New Cairo

12
RAMBLAS the classic life key

4
SwanLake COMPOUND

11
UPTOWN CAIRO HEART OF CAIRO

5
NEWGIZA

17
VILLETTE NEW CAIRO

3
MISR ITALIA PROPERTIES

2
LAVISTA DEVELOPMENTS

6
Telal Sokhna

10
Katameya Hills

8
DYAR

10
MOUNTAIN VIEW iCity

7
ZED

12
HYDE PARK DEVELOPMENTS

OUR PROJECTS

15
PALM HILLS DEVELOPMENTS

4
Badyã
THE CREATIVE CITY

12
DISTRICT

6
mirage residence

8
RIVERS
NEW ZAYED

13
EMAAR

5
CAIRO gate

10
LANDMARK SABBOUR

7
El Sherouk Springs

4
مجموعة الفطيم
Al-Futtaim group

15
WADI DEGLA
DEVELOPMENTS

9
الرحاب

6
Hacienda White

12
SODIC EAST

11
haciendabay
PALM HILLS DEVELOPMENTS

5
ALBUROUJ
THE PERFECT INTEGRATED COMMUNITY

REFERENCE PROJECTS

Our Partners

4A for Contracting And Interior Finishing

- Layan Villa D66 central heating by radiators + Domestic hot water
- Layan Villa N68 Domestic hot water Boiler
- Layan Villa M05 central heating by radiators + Domestic hot water
- Layan Villa B52 Domestic hot water Boiler
- Layan Villa N58 Underfloor Heating + Domestic hot water
- Layan Villa C24 Domestic hot water boiler
- Sheraton apartment central heating by radiators + Domestic hot water

SCAS for contracting and interior finishing

- Sodic Villette main GYM Domestic hot water system
- Sodic Villette club house domestic hot water system
- Arabella villa (Underfloor + radiators + Domestic hot water)
- Shorouk villa (Domestic hot water boilers)
- Shorouk villa 2 (Domestic hot water boilers)

M N Group for contracting and interior finishing

- Beverly hills Zayed Apartment underfloor heating + Domestic hot water
- El Rabwa compound Zayed villa – underfloor heating + Domestic hot water
- El Nada compound Zayed villa 30 - underfloor heating + Domestic hot waterheating

Studio Plus Interiors

- Lake view Villa G45/5 Underfloor heating + Domestic hot water
- Lake view Villa G35/5 Underfloor heating + Domestic hot water
- Madinaty Villa 148 central heating by radiators + Domestic hot water
- Madinaty Villa 149 central heating by radiators + Domestic hot water

REFERENCE PROJECTS

Our Partners

Design Avenue Interiors

- Qattameya Heights PALACE Central heating by radiators + swimming pool heating
- West Golf 4 apartments building Central heating by radiators
- Concordia palm hills villa 35 Domestic hot water + swimming pool heating

A K for contracting and interior finishing

- Akoya compound C3/8 apartments underfloor + domestic hot water
- Akoya compound C2/9 apartments Radiators + domestic hot water
- Badya compound villa underfloor heating + solar domestic hot water
- Sodic Villette flat L1-1611-1 under floor heating + Domestic hot water
- Sodic Villette Villa 1544 underfloor heating + solar domestic hot water + Swimming pool heating

Grid fine Architects

- Sodic Villette main buildings central domestic hot water systems

Others

- Qattameya dunes villa 355
- Los Rois villa 143 Radiators, domestic hot water and swimming pool heating
- District 5 compound – Villa NHA-33-C Radiators and domestic hot water
- District 5 compound – Villa NHA-34-C Radiators and domestic hot water
- Villar compound villa 13 – Central radiant heating and cooling, central domestic hot water and swimming pool heating
- Granda El Shorouk villa B2 – Radiators

OUR SOLUTIONS AND SERVICES

HEATING SOLUTIONS

- Underfloor Heating & Radiators
- Central Domestic Hot Water Systems (Gas Heaters)
- Solar Water Heater (Gas & Electric Backup)
- Swimming Pool Heating
- Capillary Tube Mats
- Heating Pumps

COOLING SOLUTIONS

- Capillary Tube Mats
- Heat Pump & Chillers
- Air Conditioning
- Indoor Air Quality Solution

PRODUCTS

- Heat Pumps 'Michl'

All our products or installations are subjected to four aspects:

HIGH QUALITY

ENERGY SAVING

MINIMUM COST

ADEQUATE MAINTENANCE AND AFTER SALES SERVICE

MEET THE TEAM

KAREEM MAGDY

FOUNDER & DIRECTOR

MOHAMED EMAD

FOUNDER & TECHNICAL MANAGER

A WORD FROM THE FOUNDERS

As founders of Greenwell, we are driven by a vision to transform the industry through relentless innovation and uncompromising quality. Our commitment to embracing advanced technologies, sustainable practices, and exceptional engineering standards shapes every project we undertake. We strive to make a meaningful impact on our clients and communities.

BEHIND A GREAT COMPANY, A GREAT TEAM

OUR PEOPLE

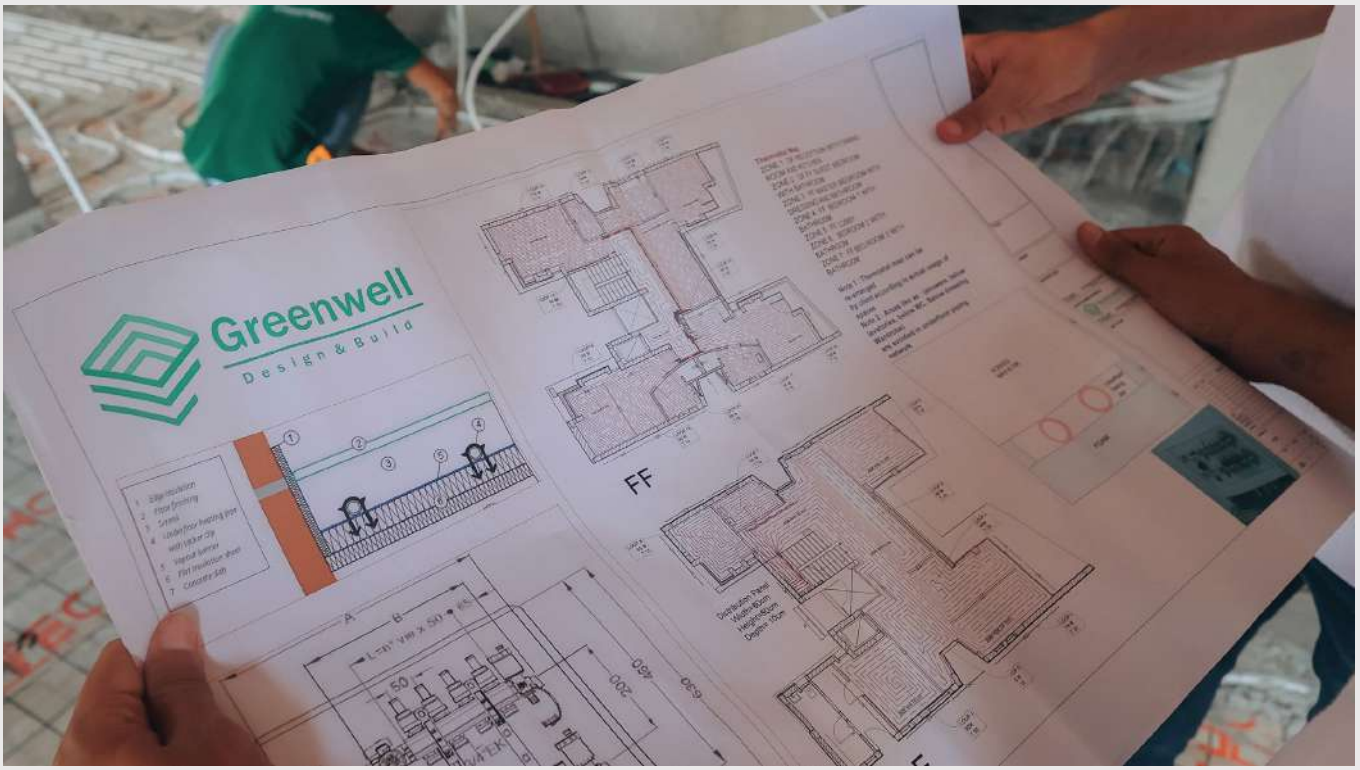
AT GREENWELL

Our team seamlessly blends the skills of highly trained engineers and seasoned technicians. We design and optimize cutting-edge heating solutions, ensuring peak performance and regulatory compliance.

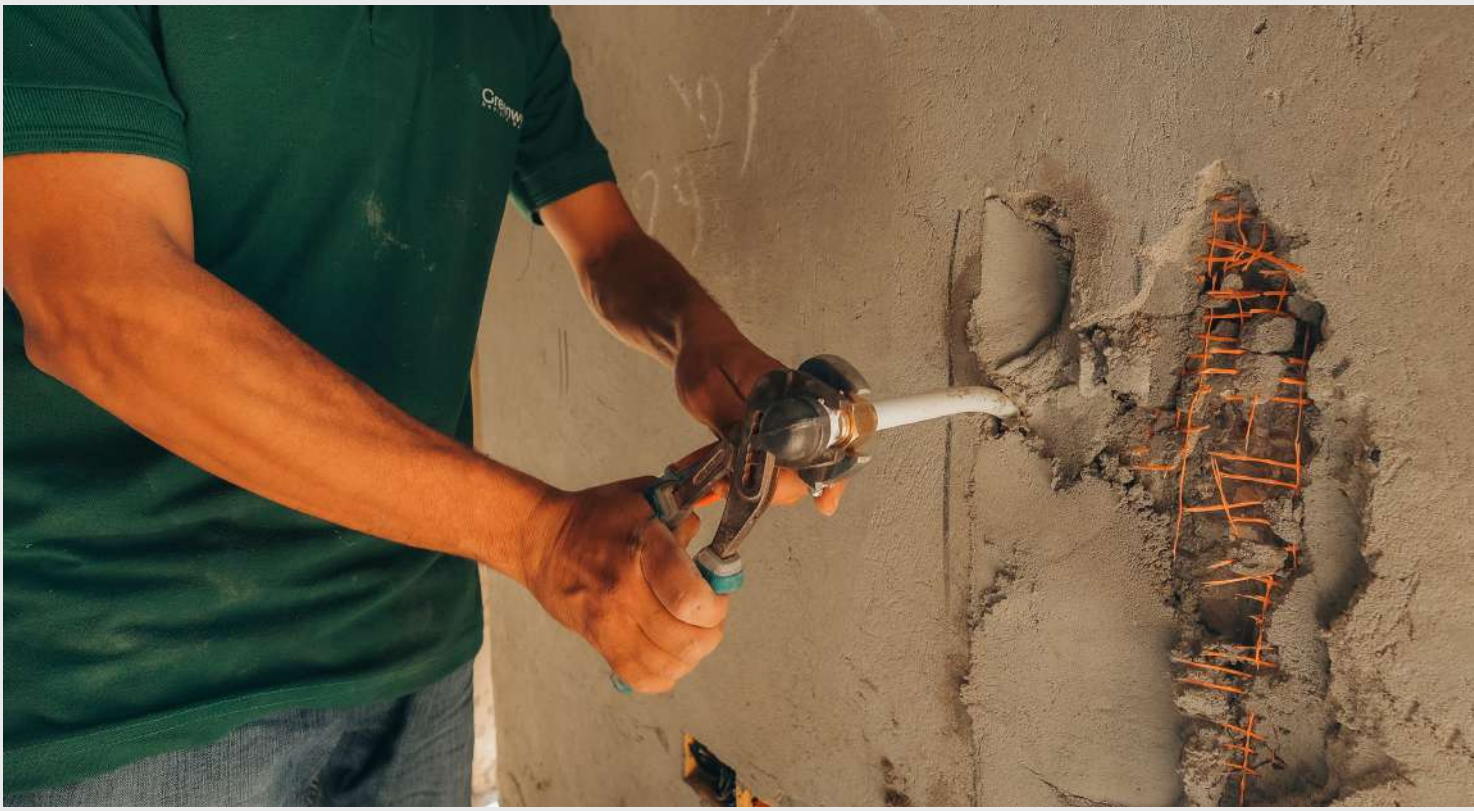
Our technicians then expertly handle installation, maintenance, and repairs, delivering reliable and efficient systems tailored to your needs.

Trust us to provide top-tier heating solutions for your commercial building.

OUR PEOPLE



PRECISION



DILIGENCE

OUR PEOPLE

THOROUGHNESS

OUR PEOPLE

DEDICATION

AT GREENWELL

We promise to deliver innovative and reliable heating solutions tailored to your specific needs. Your satisfaction and comfort are our top priorities, and we strive to exceed your expectations with every project.

LIVE FROM OUR PROJECTS

SAMPLES FROM OUR PROJECTS DURING THE PAST 10 YEARS

WHY GREENWELL

- Quality
- Sustainability
- Accuracy
- Safety
- Credibility
- European Standards
- Details
- Cost Effectiveness
- Luxury

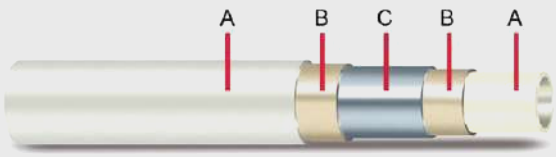
OUR PRODUCTS

1. High Quality PEX Multilayer Pipes

Industrial Blansol sa
BARBI

BLANSOL: MADE IN SPAIN.

Exclusive agent in Egypt



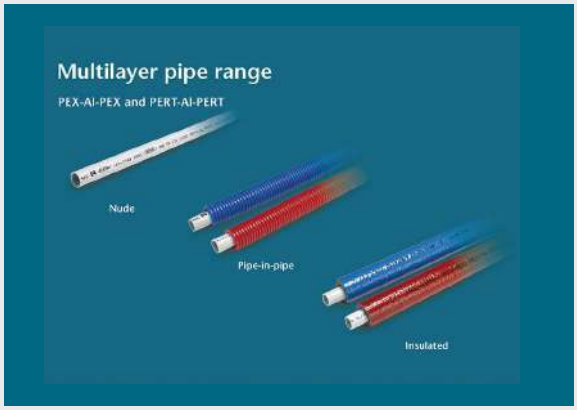
A: PEX layers | B: Adhesive layers | C: Intermediate aluminum layer

Multilayer pipe is composed of two layers of polyethylene (PERT), two layers of adhesive and an intermediate layer of aluminium.

PERT is a non-crosslinked polyethylene containing additives that provide the polyethylene with strong resistance to high temperatures. This material does not require any cross-linking process.

PERT-Al-PERT multilayer pipes are a more economical alternative compared to PEX-Al-PEX pipes as the price of the raw material used to manufacture PERT-Al-PERT pipes is cheaper and the fabrication costs lower.

Blansol manufactures two types of multilayer pipes:
PEX-Al-PEX and PERT-Al-PERT multilayer pipes.



THE PROPERTIES OF PLASTIC PIPES ARE THE FOLLOWING:

- **Flexibility.**
- **Lightness.**
- **Lack of corrosion.**
- **Easy to handle and to transport.**
- **Long lifetime.**
- **Competitive price.**

The Advantages Of Pex-Al-Pex Multilayer Pipes Compared To Metallic Pipe

FROST RESISTANCE.
In case of frost, multilayer pipes, thanks to their flexibility, will simply expand. This advantage avoids the break risk of metallic pipes.

SUITABLE FOR DRINKING WATER.
Multilayer pipes keep organoleptic properties of the water and its use is allowed by European Union authorities.

CORROSION RESISTANCE.
Multilayer pipes bear a great number of chemical agents (acids, bases, etc.) and are resistant to any type of corrosion.

LOW THERMAL CONDUCTIVITY.
The low thermal conductivity of multilayer pipes produces energy savings as heat losses are reduced.

LIGHTNESS.
Multilayer pipes are lighter than metallic pipes. So, handling and transport are much easier.

FLEXIBILITY.
The flexibility of multilayer pipes saves time in the installation process.

NOISE REDUCTION.
Metallic pipes are very noisy at water speeds exceeding 1m/second. To the contrary, multilayer pipes do not make noise at lower speeds than 2,5m/second.

LONG LIFETIME.
Multilayer pipes lifetime is bigger than the lifetime of metallic pipes. The lifetime of multilayer pipes can reach 50 years, even at high temperature and pressure conditions.

PIPES

Construction *and* Design

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Hayah Residence

Multilayer Structure:

Consists of an inner layer of cross-linked polyethylene (PEX), a middle layer of aluminum, and an outer layer of PEX. This design combines the flexibility of PEX with the rigidity and strength of aluminum.

These pipes offer superior resistance to temperature fluctuations and pressure, excellent thermal insulation, with zero risk of leakage.

Bonding:

The layers are bonded together through an advanced manufacturing process, ensuring high performance and durability.

Versatile Use:

Suitable for a variety of applications including residential plumbing, underfloor heating, cooling systems, and industrial processes.

Karma Residence - October

PIPES

Durability *and* Performance

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Hayah Residence

Temperature Resistance:

Capable of withstanding both high and low temperatures, making them suitable for a wide range of applications, from hot water systems to chilled water lines.

Their multilayer construction ensures robustness and longevity, making them ideal for both residential and commercial applications.

Corrosion Resistance:

The aluminum layer protects against corrosion and scaling, extending the pipe's lifespan and reducing maintenance needs.

Pressure Resistance:

Designed to handle high pressures without deforming or leaking, ensuring reliable performance over time.

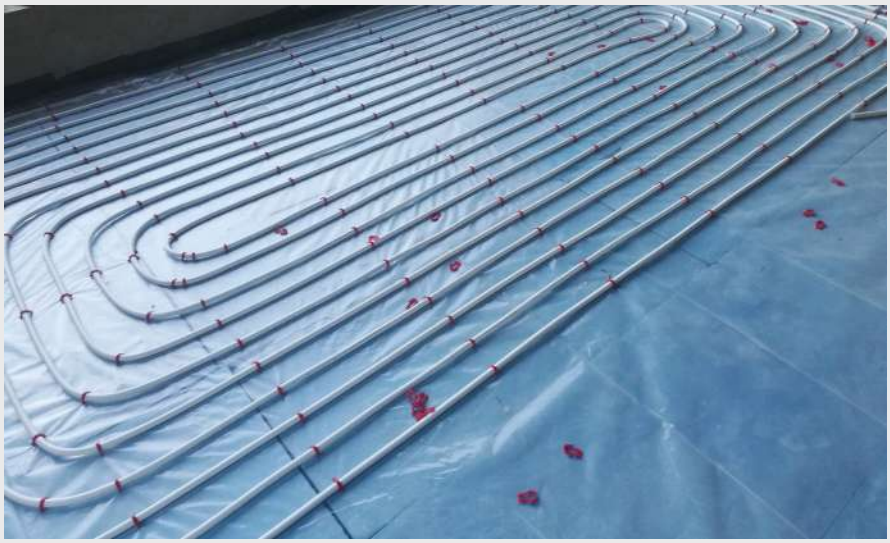
Qattameya Dunes

PIPES

Efficiency *and* Insulation

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.



Katameya Gardens

Thermal Insulation:

The multilayer construction provides excellent thermal insulation, reducing heat loss in hot water systems and maintaining temperature stability.

Their ease of installation and resistance to corrosion and scale buildup further enhance their appeal as a reliable and efficient choice for modern piping systems.

Energy Efficiency:

Enhanced insulation leads to lower energy consumption and cost savings in heating and cooling systems.

Compatibility:

Can be used with a range of fittings and connection methods, offering flexibility in different system designs.

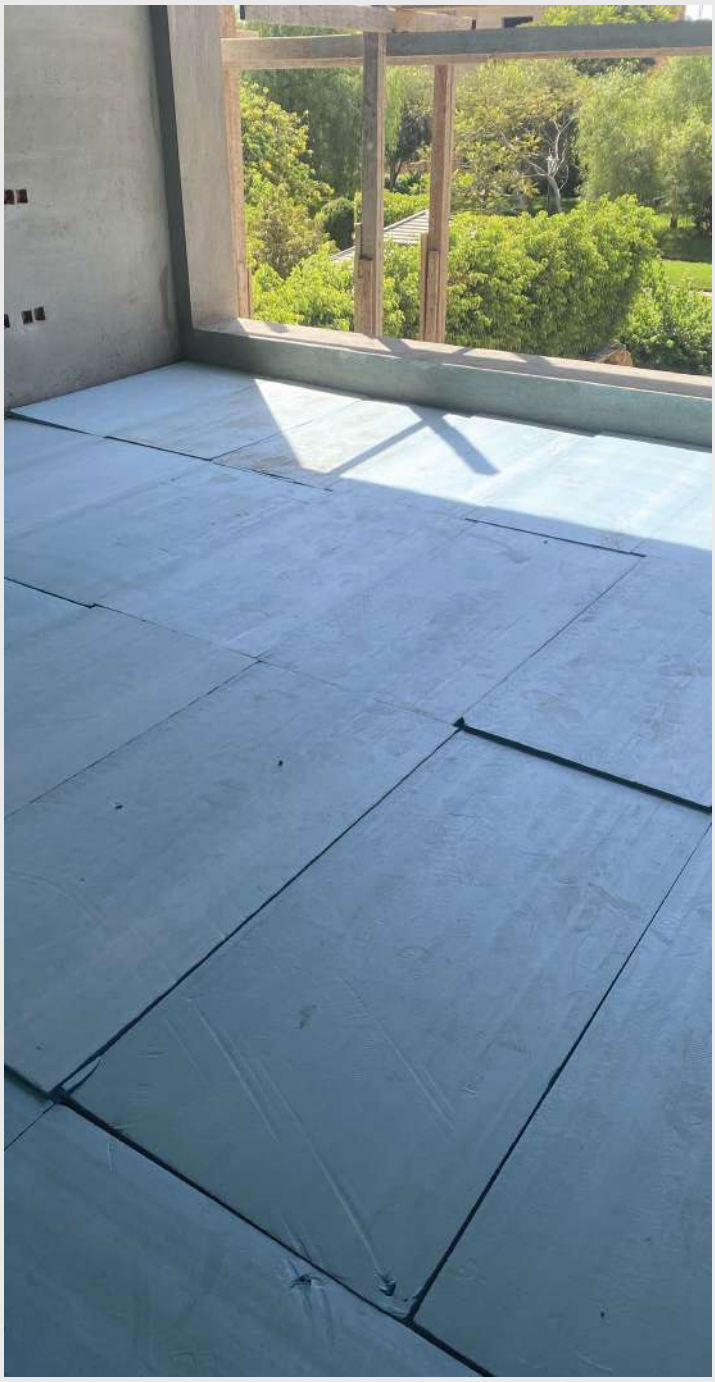
Qattameya Dunes

PIPES

Safety *and* **Reliability**

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.



Karma Residence - October

Non-Toxic:

PEX is non-toxic and doesn't affect water quality, making it a safe choice for potable water systems.

Leak Prevention:

The fusion of layers creates a robust barrier against leaks, reducing the risk of water damage and system failures.

Karma Residence - October

Qattameya Dunes

PIPES

Preparation
Installing the Foam Layer

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Katameya Gardens

Surface Preparation:

Clean the Floor:

Ensure the subfloor is clean, dry, and free of debris.

Lay the Insulation:

Foam Board:

Place a layer of foam board insulation over the subfloor. This helps in reducing heat loss downward and improves the efficiency of the heating system.

Overlap and Seal:

Ensure that the foam boards overlap slightly and seal any joints with tape to create a continuous insulating layer.

Qattameya Dunes

PIPES

Installing the PEX Multilayer Pipes

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Lorem

Les Rois

Pipe Layout:

Design the Pattern:

Plan the layout of the pipes based on the heating requirements. Common patterns include serpentine and spiral layouts.

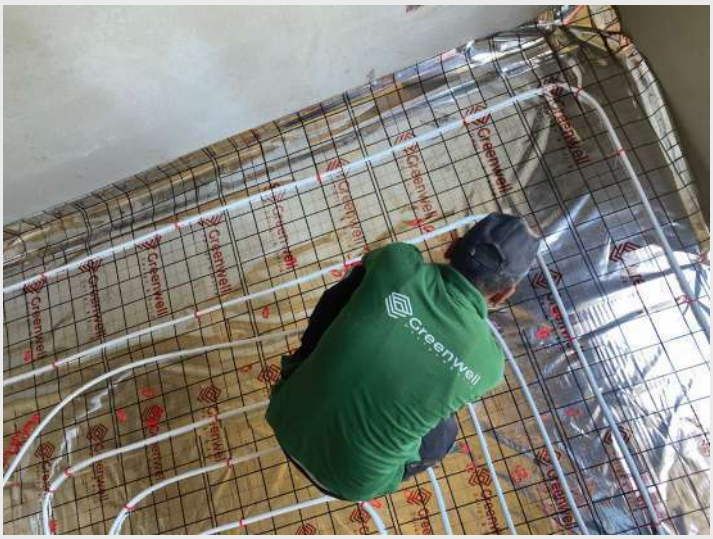
Spacing:

Ensure the pipes are spaced evenly according to the heating design specifications. Typically, spacing ranges from 6 to 12 inches apart, depending on the system and desired heat output.

Securing the Pipes:

Pipe Holders or Staples:

Use pipe holders, clips, or staples to secure the PEX pipes to the foam insulation. Ensure the pipes are securely fastened and are not prone to shifting or moving during the installation of the cement layer.



Avoid Kinks:

Carefully lay the pipes to avoid kinks or sharp bends, which can affect the flow and efficiency of the heating system.

Les Rois

PIPES

Installing the PEX Multilayer Pipes

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Katameya Gardens

Connecting the Pipes:

Fittings and Connectors:

Connect the PEX pipes using appropriate fittings and connectors. Ensure all connections are secure and leak-proof. For multilayer pipes, ensure that the fittings are compatible with the specific type of PEX you are using.

Testing:

Before proceeding to the next layer, perform a pressure test to check for any leaks in the pipe system. This involves pressurizing the system with water and checking for leaks at all joints and connections.

Qattameya Dunes

PIPES

Finizing

Pouring the Cement Layer

High Quality Pex Multilayer Pipes

The advanced insulation properties of PEX multilayer pipes significantly contribute to their energy efficiency. The combination of materials provides excellent thermal insulation, which helps to reduce heat loss and maintain stable temperatures.

Les Rois

Pouring the Cement:

Initial Pour:

Begin pouring the cement mix over the pipes, ensuring even coverage. Use a screeding tool to spread and level the cement.

Cover the Pipes:

Ensure the pipes are completely covered by the cement layer. The thickness of the cement layer should be sufficient to protect the pipes and provide adequate heat transfer. Typically, a minimum of 1.5 to 2 inches of cement is recommended above the pipes.

Leveling and Finishing:

Leveling:

Use a straightedge or screed to level the cement surface. Smooth out any irregularities and ensure an even, consistent layer.

Curing:

Allow the cement to cure properly. Follow the manufacturer's recommendations for curing time to ensure the cement achieves its full strength.

Qattameya Dunes

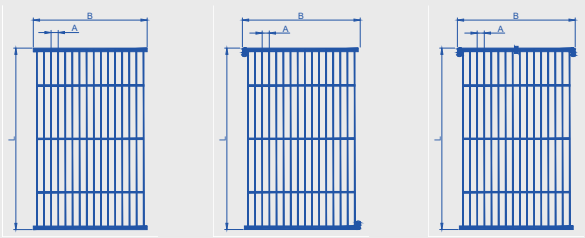
OUR PRODUCTS

2. Heating & Cooling with Capillary Tube Mats

CLINA: MADE IN GERMANY

Official & Exclusive Agent in Egypt

GB 20.00	GB 20.11	GBM 20.11
with open mat distributor pipes for welding	with 2 diagonal push-lock connections	with 2 lateral push-lock connections and 1 middle end cap



Clina Capillary Tube Mats are installed directly under the surface of one or several room enclosing surfaces – these can be the ceiling, the walls or the floor. For heating or cooling spaces, warm or cold water flows through the very thin capillary tubes having outer diameters of 3.4 or 4.3 mm. The surfaces equipped with Clina mats are maintained at an even surface temperature. They ensure a quick dissipation of the cooling load or a quick supply of the heat requirement, mainly through radiation and partly through convection. Due to the large exchange surfaces, considerable amounts of energy can be transferred draught-free and silent even at minor temperature differences between the active room surfaces and the room air.

For COOLING Purposes.

Clina Capillary Tube Mats are preferentially installed either in or on the ceiling; in this case the surface temperature of the ceiling is, depending on the supply temperature, approx. 19 °C at only 2 to 3 K spreading between supply and return (supply temperature = usually 16 °C; return temperature = 18 °C or 19 °C). Depending on the type of ceiling or the way the capillary tube mats are installed, cooling capacities of up to 100 W/m² (Δ=10 K) can be achieved for closed radiant cooling ceilings.

For HEATING Purposes.

Warm water with a temperature between 28 °C and 35 °C flows through the Clina capillary tube system. In this case, the surface temperature of the ceilings is at approx. 27-30 °C. That way, even during the heating phase, the radiant energy from the user is transferred to the ceiling.

Clina capillary tube mats can be integrated into walls of various designs and used as wall heating and wall cooling. The mats are very flexible and can be adapted to all spatial conditions, e.g. slopes or vaults. Thanks to its flexibility and very low installation height, this Clina system solution is ideal for building renovation.

PUSH-LOCK CONNECTIONS

Designation	GB 20.11	GBM 20.11	GB 20.20	GB 20.02
Description	with 2 diagonal push-lock connections	with 2 lateral push-lock connections and 1 middle end cap	with 2 push-lock connections on the left	with 2 push-lock connections on the right
Pictogram				

FIELD OF APPLICATION

- concrete ceiling or concrete wall | prefabricated concrete element, in-situ concrete (ceiling)
- plaster ceiling or wall | bare concrete, brick wall, gypsum board
- Floor | in screed
- soil | ground collector
- facade | facade absorber

OUR PRODUCTS

3. Heating & Cooling with Capillary Tube Mats

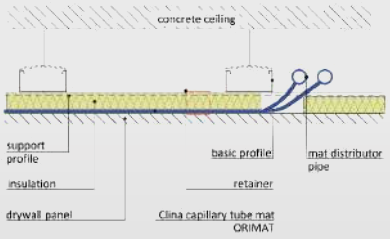
CLINA: MADE IN GERMANY
Official & Exclusive Agent in Egypt

TECHNICAL DATA	
MATERIAL/COLOUR	Polypropylene (PP-R) recyclable/blue
MAT DISTRIBUTOR PIPE	20 x 2,0 mm, round
CAPILLARY TUBE	**4,3 x 0,8 mm**
DISTANCE A	20 mm
LENGTH L	600-6000 mm in 10 mm steps
WIDTH B	as from 150 mm in 20 mm steps
CONNECTION TYPE	with open mat distr. pipes/with 2 push-lock connectors 10 mm or 15 mm
SPECIFIC WEIGHT	approx. 430 g/m² capillary tube surface
SPECIFIC VOLUME OF WATER	0,320 l/m² capillary tube surface
SPECIFIC TOTAL WEIGHT	ca. 750 g/m² capillary tube surface
PRESSURE STAGE	PN 10
MAX. RECOMMENDED OPERAT. PRESSURE	4 bar
MAX. ALLOWED HEATING TEMPERATURE	60 °C

DIFFERENT WAYS OF INSTALLATION JOINTLESS DRYWALL CEILING

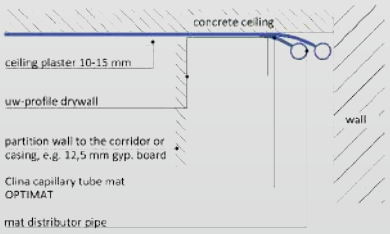
JOINTLESS DRYWALL CEILING

Heating and cooling ceiling with capillary tube mat ORIMAT S 10 applied on site
The capillary tube mats and insulation are placed on a suspended drywall ceiling. On the visible side, there is a closed, jointless ceiling for the removal or supply of sensitive heat loads. The water circulates noiselessly in the capillary tube mats and regulates the room temperature to a large extent via radiation, partly also by convection.



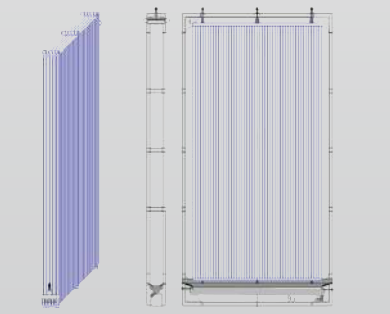
PLASTER ON CONCRETE – CEILING

Heating and cooling ceiling with capillary tube mat OPTIMAT SB 20.00
The capillary tube mats are plastered directly underneath a concrete ceiling. On the visible side, a closed, jointless plaster ceiling is created for the dissipation or supply of sensitive heat loads. The water circulates noiselessly in the capillary tube mats and regulates the room temperature largely by radiation, partly by convection.



CONVECTOR GRAVIMAT
Cooling, heating and dehumidifying

The capillary tube mats are arranged vertically and hooked in a frame, as a front-wall installation or integrated into the wall, behind any air-permeable and moisture-resistant material. On the visible side, there is a neutral or decorative room element, depending on the customer's requirements, for the dissipation or supply of sensitive heat loads. The water circulates noiselessly in the capillary tube mats, regulating the room temperature and dehumidifying rooms



CAPILLARY TUBE MATS SYSTEM INSTALLATION

Heating & Cooling with Capillary Tube Mats

Modern approach to heating and cooling, offering efficiency, comfort, and flexibility while saving energy and improving indoor air quality. Their innovative design and performance make them a compelling choice for both new constructions and renovation projects.

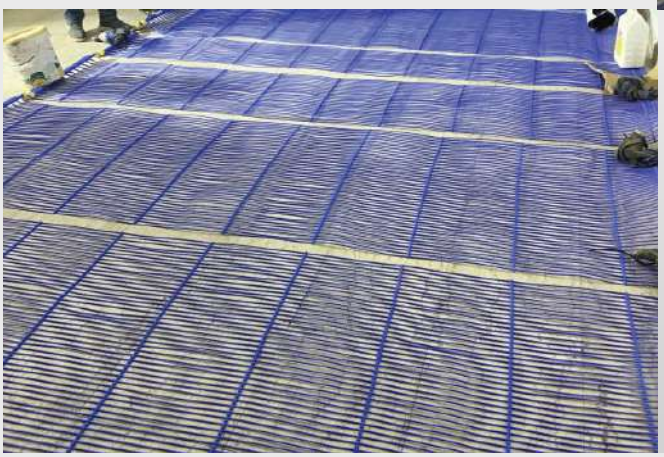
Capillary Tubes:

The system consists of thin, flexible tubes arranged in a grid pattern within mats or panels. These tubes carry either warm or cool water, which regulates the temperature of the surfaces they are embedded in.

Ideal for homes seeking an efficient and unobtrusive heating and cooling solution that enhances comfort and reduces energy costs.

Surface Integration:

Capillary tube mats can be installed within floors, ceilings, or walls, making them versatile for different types of buildings and renovation projects.



Even Distribution:

The capillary tube design ensures uniform heating or cooling across the entire surface area, eliminating hot or cold spots and providing consistent comfort.

Greenwell Head Office

CAPILLARY TUBE MATS SYSTEM INSTALLATION

Heating & Cooling with Capillary Tube Mats

Modern approach to heating and cooling, offering efficiency, comfort, and flexibility while saving energy and improving indoor air quality. Their innovative design and performance make them a compelling choice for both new constructions and renovation projects.

Integration with Renewable Energy:

The system is compatible with renewable energy sources such as solar thermal panels and heat pumps, enhancing overall energy efficiency.

Their versatility, low profile, and integration capabilities make them a valuable choice for modern climate control systems.

Reduced Energy Use:

By operating at lower temperatures and providing even distribution, capillary tube mats can lead to significant energy savings compared to conventional heating and cooling systems.

Low Temperature Operation:

The system operates efficiently at lower temperatures compared to traditional heating systems, which can lead to reduced energy consumption and cost savings.

Greenwell Head Office

CAPILLARY TUBE MATS SYSTEM INSTALLATION

Heating & Cooling with Capillary Tube Mats

Modern approach to heating and cooling, offering efficiency, comfort, and flexibility while saving energy and improving indoor air quality. Their innovative design and performance make them a compelling choice for both new constructions and renovation projects.

Easy Integration:

Capillary tube mats can be installed under various flooring types, within wall cavities, or even in ceiling panels, providing flexibility in design and application.

This technology uses a network of thin, flexible tubes embedded in floors, ceilings, or walls to provide uniform heating or cooling throughout a space.

Improved Air Quality:

Since the system does not rely on forced air, it reduces dust circulation and allergens, contributing to better indoor air quality.

Enhanced Comfort:

The gentle and even heating or cooling from capillary tube mats creates a comfortable indoor environment without the noise or drafts associated with traditional HVAC systems.

Greenwell Head Office

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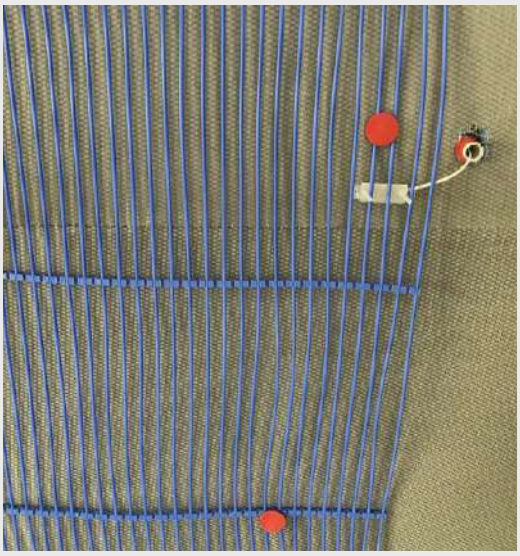
The system has fewer moving parts compared to traditional HVAC systems, reducing the likelihood of breakdowns and the need for regular maintenance.

Thin Profile:

The system's low-profile design allows for minimal impact on room height or space, making it suitable for both new constructions and renovations.



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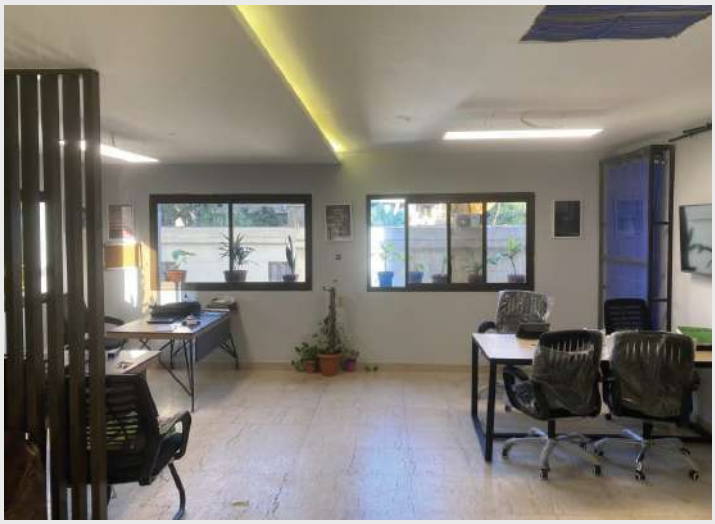

Suitable for office buildings, retail spaces, and other commercial environments where consistent temperature control and energy efficiency are priorities.

Long-Lasting Materials:

Capillary tubes are made from durable materials that resist corrosion, ensuring a long lifespan with minimal maintenance.

Greenwell Head Office

OUR PRODUCTS

4. Wall Hung Gas Boilers

De Dietrich

DE DIETRICH: MADE IN FRANCE

Official Distributer in Egypt

De Dietrich has been in business since 1684 providing innovative solutions for the heating market and the DE Dietrich MCA PRO & ZENA PLUS is another proven innovative solution.

De Dietrich is ranked **No. 2** all over the world in Boilers Manufacturing

A well-known brand in the heating and domestic hot water industry, particularly in Europe. They offer a range of domestic hot water storage tanks that are known for their quality, efficiency, and innovation.

De Dietrich Wall-Hung Gas Boilers

The wall-hung gas low temperature boiler is constructed with a rugged cast aluminium heat exchanger with a 30-year proven performance record around the world.

Wall-Hung Gas Boilers allows gas heating to be controlled by radiators or underfloor heating and instantaneous or accumulation domestic hot water production (with integrated or additional tank).

Advantages of wall-hung boilers

- **SPACE SAVING.**
  Crammed with technology, they are more compact than floor-standing boilers to save on space.
- **SIMPLE, SEAMLESS INTEGRATION.**
  Attractive and compact, they can be easily installed in a side room, kitchen, bathroom, cupboard, loft, etc.
- **INEXPENSIVE TO BUY WITH AN AVERAGE SERVICE LIFE OF 15 YEARS.**
- **SUITABLE FOR ALL REQUIREMENTS.**
  Heating and domestic hot water for optimal comfort
- **GUARANTEED EFFICIENCY.**
  High performance, further enhanced on condensing models.

Wall-hung low temperature gas boiler ZENA

The reduced dimensions and the clean aesthetic line of Zena boilers make every installation option available to you:

- **Attractive price**
- **Boiler delivered fully assembled, easy to install and ready to use.**
- **Ultra-compact to fit in anywhere in your home.**
- **24 kw & 31 kw output, ideal for heating and domestic hot water alike.**

OUR PRODUCTS

5. Central Domestic Hot Water Storage Tank

De Dietrich

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A well-known brand in the heating and domestic hot water industry, particularly in Europe. They offer a range of domestic hot water storage tanks that are known for their quality, efficiency, and innovation.

De Dietrich Domestic Hot Water Storage Tank

De Dietrich DHW storage tanks are made from high-quality materials such as stainless steel or enamelled steel. These materials are chosen for their durability, resistance to corrosion, and ability to maintain water quality.

Safety and Compliance

De Dietrich DHW storage tanks are designed to exceed industry standards for safety and performance, including regulations for pressure and temperature control.

Advantages of Domestic Hot Water Storage Tank

- **HIGH-QUALITY CONSTRUCTION.**
  premium materials such as stainless steel or enamelled steel in their tanks, ensuring durability, resistance to corrosion, and long-term performance.
- **ENERGY EFFICIENCY.**
  Their tanks are well-insulated to minimize heat loss, which helps to reduce energy consumption and lower heating costs.
- **INTEGRATION WITH RENEWABLE ENERGY.**
  Some models are designed to be compatible with solar thermal systems or other renewable energy sources, allowing homeowners to further reduce their carbon footprint and energy bills.
- **ADVANCED TECHNOLOGY.**
  De Dietrich integrates advanced heating technology and energy-saving features into their tanks, enhancing efficiency and providing greater control over water heating.
- **VERSATILITY IN APPLICATIONS.**
  They offer a range of tank sizes to suit different household needs, from smaller capacities suitable for apartments to larger tanks for family homes.

Domestic Hot Water Storage Tank DE DIETRICH

- **Storage of large quantities of hot water (150 to 3000 litres).**
- **Thick steel tank with a vitreous enamel coating on the inside.**
- **Durability guaranteed by a magnesium anode with a charge indicator to prevent corrosion of the tank.**
- **Easy to install:**
  Specifically sized to allow it to fit through doorways, the tank has a side inspection hatch to facilitate maintenance during statutory inspections.

Efficient Heating *and* Hot Water Solutions

Wall Hung Gas Boiler & Domestic Hot Water Storage Tank

A wall-hung gas boiler paired with a domestic hot water storage tank offers a compact and efficient solution for home heating and hot water needs. This combination optimizes performance, reduces energy costs, and maximizes comfort in residential settings.

Alegria Zayed

Efficiency:

Many modern wall-hung gas boilers are highly efficient, with some achieving efficiency ratings of over 90%. They use advanced technology to ensure minimal energy waste.

Compact Design:

Wall-hung boilers are much more compact and take up less space, making them ideal for smaller homes or apartments.

Sodic Vilette

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Heat Output:

They are suitable for a range of applications, from small apartments to larger homes, depending on the model and its heat output capacity.

Sodic Vilette

Sodic Vilette

Control:

Many models come with digital controls and smart thermostats, allowing for precise temperature adjustments and remote control.

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Mounting the Boiler:

Wall Mounting:
The boiler is secured to the wall using brackets. Ensure that the wall is strong enough to support the unit and that it is level.

Drilling:
Holes are drilled into the wall for mounting brackets and pipework.

Connecting to Gas Supply:

Gas Line:

A qualified technician connects the boiler to the gas supply. This involves running a gas line to the boiler and ensuring all connections are secure and leak-free.

Safety Checks:

The gas connections are tested for leaks and to ensure they comply with safety standards.

Granda life Shorouk city

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Plumbing and Heating Connections:

Water Pipes:

The boiler is connected to the central heating system and, if applicable, to a domestic hot water storage tank. This involves connecting the inlet and outlet pipes for water flow.

Pressure Testing:

The system is tested for pressure to ensure there are no leaks and that it operates correctly.

Sodic Vilette

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Electrical Connections:

Power Supply:

Connect the boiler to the electrical supply. This may involve wiring for the control panel, thermostat, and any additional features.

The system is calibrated to ensure efficient operation and to meet the home's heating and hot water needs

Controls and Thermostat:

Install and configure the digital controls and thermostat for optimal operation.

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Combination Systems

In many modern heating systems, a wall-hung gas boiler and a domestic hot water storage tank are used together:

Hydraulic unit pumps:

Hydraulic unit pumps are essential for the proper functioning of heating systems, ensuring that hot water or other heating fluids are circulated effectively to provide consistent and efficient heating throughout the space.

Alegria Zayed

Efficient Heating *and* Hot Water Solutions

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Supply Pipes:

These pipes transport heated water from the gas boiler to the water tank and then to radiators or underfloor heating systems on each floor. In multi-floor buildings, they are routed through vertical risers, and proper insulation is essential to minimize heat loss and ensure efficient heating.

Return Pipes:

These pipes carry cooler water back from the radiators or heating system to the water tank and gas boiler for reheating. They are also routed through vertical risers and must be well-insulated and carefully installed to maintain smooth flow and system efficiency.

Expansion tanks

Pressure Regulation:

Expansion tanks absorb the extra volume of water as it expands due to heating, helping to regulate and maintain stable pressure levels within both water tanks and gas boiler heating systems. This prevents excessive pressure that could lead to leaks or damage.

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Storage Capacity:

Hot water tanks come in various sizes, with capacity ranging from 100 to 1000 liters or more, depending on the needs of the household.

A domestic hot water storage tank, also known as a hot water cylinder, stores hot water for household use. These tanks can work in conjunction with a boiler or a separate heating system.

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Sodic Vilette

Heat Source:

They can be heated by a variety of sources, including gas, electricity, or even solar panels. Some systems use a boiler to heat the water stored in the tank.

Heat Exchange:

Many hot water tanks use a heat exchanger to transfer heat from the boiler or another heat source to the water in the tank. This helps ensure that the water is kept at a consistent temperature.

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Boiler with Hot Water Storage:

Some wall-hung boilers can provide hot water directly (combi boilers), but if hot water demand is high, a separate storage tank is often used. The boiler heats the water in the tank, which can then be used for various household needs.

Space Efficiency:

This setup allows the boiler to focus on heating while the storage tank ensures there is a readily available supply of hot water.

Alegria Zayed

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Temperature Control:

Modern tanks often include built-in thermostats and controls that ensure the water is kept at the desired temperature and prevent overheating.

Distribuition:

The stored hot water is pumped through the building's distribution system to where it's needed. For heating, it's circulated through radiators or underfloor systems; for hot water, it's delivered to faucets, showers, and other outlets.

Alegria Zayed

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Zoned Heating:

Large commercial buildings often have multiple zones, each with its own temperature control. The boiler system must be designed to accommodate these zones, often with separate pumps and valves.

Buffering:

In larger systems, the water tank acts as a buffer, storing excess hot water to meet peak demand times without overworking the boiler.

Together, a well-integrated boiler and water tank system enhance overall efficiency. The boiler produces heat, and the water tank stores it, minimizing energy wastage and ensuring a steady supply of hot water.

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Insulation:

Modern tanks are well-insulated to keep the water hot for longer periods, reducing the need for reheating and improving energy efficiency.

Types:

There are different types of storage tanks, including vented (open) and unvented (sealed) systems. Unvented tanks are generally more efficient and provide better water pressure.

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Combining these components effectively can lead to a more efficient and reliable heating and hot water system for your home.

Cost Savings:

Using a storage tank can be more cost-effective for homes with high hot water demand, as it allows the boiler to operate more efficiently.

Alegria Zayed

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Air Supply:

Adequate air supply must be maintained for the boiler to function safely. This may involve installing outside air intakes.

Safety Considerations

Space Requirements:

Maintain recommended clearances around the boiler and storage tank for safe operation, maintenance access, and heat dissipation. Refer to the manufacturer's guidelines.

Alegria Zayed

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Proper Venting:

Adequate ventilation is required to ensure safe combustion and prevent the buildup of harmful gases like carbon monoxide. We ensure that the venting system is installed according to manufacturer specifications and local codes.

Safety Valves:

Install pressure relief valves on hot water storage tanks to prevent excessive pressure buildup. These valves should be regularly tested to ensure they function correctly.

Quality Installation:

The gas supply line should be installed by a qualified technician to prevent leaks. Use appropriate materials and fittings that comply with safety standards.

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Leak Detection:

Regularly check for gas leaks using soapy water or a dedicated gas leak detector.

Temperature Control:

Set the thermostat on the hot water tank to a safe temperature (typically around 120°F or 49°C) to prevent scalding and reduce the risk of overheating.

Routine Inspections:

Schedule regular maintenance checks for both the gas boiler and hot water tank to identify potential issues before they become serious. This includes checking the venting system, gas connections, and safety devices.

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Installation:

Install carbon monoxide detectors in the vicinity of gas appliances to alert occupants to any dangerous leaks.

Local Regulations:

Always adhere to local building codes and regulations, which provide guidelines for safe installation practices.

Sodic Vilette

OUR PRODUCTS

6. Heat Pumps

MICHL: MADE IN GERMANY

Official & Exclusive Agent in Egypt

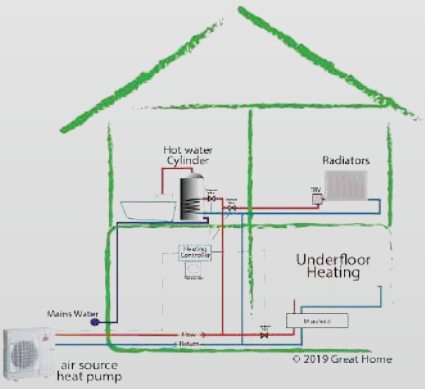
Michl has been active for over 20 years and has a view to the future. Michl Technik GmbH is a medium-sized and globally active company that covers various product areas related to the household. Michl ambition is to develop technologies that make people's lives easier. Michl products make everyday life easier and help to increase comfort.

Heat pump for COOLING and HEATING ***(space, pool and domestic)*** cost more than gas heaters, but they typically have much lower annual operating costs because of their higher efficiencies. With proper maintenance, heat pump solutions typically last longer than gas pool heaters. Therefore, you'll save more money in the long run.

Proper installation and maintenance of your heat pump heater can optimize its efficiency. It's best to have a qualified professional to install the heater, especially the electric hookup, and perform complicated maintenance or repair tasks.

When selecting a heat pump for cooling and heating, you should consider its:

Size | **Efficiency** | **Costs**



Benefits of Heat Pump Repair and Installation

Using a heat pump is one of the most energy-efficient ways to heat your home. Unlike a typical furnace, this pulls in the heat from outdoors and circulates it throughout your home. It allows you to save more than 50% on electricity and lower your monthly bill. Let Michael J Williams, Inc be your guide throughout the process of installing and maintaining your heat pump.

Another advantage is safety. A fireplace can be dangerous for obvious reasons, having an open flame with children and animals around speaks for itself. A furnace typically needs frequent maintenance to make sure there are no leaks or problems. An efficient heat pump system does not have any open flames or hot surfaces meaning this is one of the safest options for you and your family.

They also have an average lifespan of 15-20 years and maybe longer!

From Air to Pool: *Operation, Advantages, and Efficiency*

Heat Pumps

Heat pumps are fascinating devices! They're a type of mechanical system that can both heat and cool spaces by transferring heat rather than generating it through combustion or electrical resistance.

Energy Efficiency:

Heat pumps are generally more energy-efficient than gas heaters. They use less electricity to move heat than the amount of heat they generate, making them cost-effective in the long run.

Consistent Performance:

They can maintain a consistent water temperature over a long period, which is ideal for regular swimming.

Environmentally Friendly:

Heat pumps use ambient air for heating, which can reduce your carbon footprint compared to gas heaters.

Cost-Effective Operation:

Although the initial cost can be high, the lower operational costs due to higher energy efficiency can lead to savings over time.

OUR PRODUCTS

7. Central Domestic Hot Water

RHEEM: MADE IN AMERICA

Official & Exclusive Agent in Egypt

Brothers Richard and Donald Rheem founded Rheem Manufacturing Company in Emeryville, CA, in 1925. While the company has produced a number of products in its nearly 100 years of operation, Rheem is currently the only manufacturer in the world that produces heating, cooling, water heating, pool & spa heating and commercial refrigeration products, and it is the largest manufacturer of water heating products in North America.

Rheem Gas Boiler

Available capacities of these Rheem gas water heaters in Egypt range from **110** to **300** Litre.

Instead of using an independent hot water source in each bathroom such as a gas or electric water heater, this solution provides a supply of hot water to all your outlets (bathrooms, kitchen, etc) from a central point where a gas boiler takes care of heating a hot water tank big enough to supply the needed capacity.

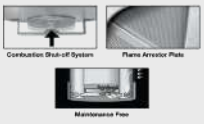
Modern gas boilers have been created with technology that has specifically been designed to keep you, your family and your home safe

Professional *Classic*® Atmospheric gas water heaters are engineered for more hot water at a low operating cost

Efficiency
- .58 - .66 UEF
- More hot water at a low operating cost

Performance
- FHR: 51 - 87 gallons
- Recovery: 30.3 to 40.4 GPH at a 90° F rise, depending on model

Guardian System™ & Sensor
- Exclusive air/fuel shut-off device
- Maintenance free – no filter to clean
- Protective control system that disables the heater in the presence of flammable vapor accumulation



Low Emissions
- Eco-friendly burner, low NOx design
- Meets 40 ng/J NOx requirements

Longer Life
- Premium grade anode rod provides long-lasting tank protection

Altitude Certification
- All models certified up to 5,999 feet above sea level, some certified up to 10,000 feet. Consult factory for specifications

Plus...
- Easy to light – no matches required
- EverKleen® patented system fights sediment build-up
- Exclusive Rheemglas® tank lining resists corrosion and prolongs tank life
- Enhanced flow brass drain valve
- Temperature and pressure relief valve included
- Factory installed temperature and pressure relief valve on select models
- Low lead compliant
- Standard replacement parts

Warranty
- 6-Year limited tank and parts warranty*
- With ProtectionPlus® the 6-year limited tank warranty becomes 10-year

*See Residential Warranty Certificate for complete information

Units meet or exceed ANSI requirements and have been tested according to D.O.E. procedures. Units meet or exceed the energy efficiency requirements of NAECA, ASHRAE standard 90, ICC Code and all state energy efficiency performance criteria.

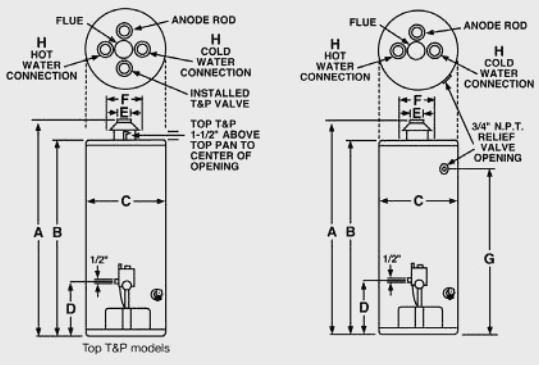
Professional *Classic* Atmospheric
29, 30, 40 and 50-Gallon Capacities
Up to 40,000 BTU/h
Natural and LP Gas

*LEED Point = 1

Professional *Classic*® Atmospheric Specifications

DESCRIPTION				FEATURES						ROUGHING IN DIMENSIONS (SHOWN IN INCHES)								ENERGY INFO.
TYPE	NOMINAL GALLON CAPACITY	RATED GALLON CAPACITY	MODEL NUMBER	GAS INPUT IN THOUS BTU/H NAT	GAS INPUT IN THOUS BTU/H LP	RECOVERY IN G.P.H. 90° F RISE NAT	RECOVERY IN G.P.H. 90° F RISE LP	FIRST HOUR RATING (GALLONS) NAT	FIRST HOUR RATING (GALLONS) LP	HEIGHT TO VENT A	TANK HEIGHT B	DIAM. C	HT. TO GAS CONN. D	VENT SIZE E	WATER CONN. CENTER F	HT. TO SIDE T&P VALVE G	WATER CONN. SIZE H	SHIP WT. (LBS)	UNIFORM ENERGY FACTOR (UEF)
Tall	29	28	PROG29-32N RH63	32	–	30.3	–	63	–	59-3/4	56-7/8	16-1/2	14-1/4	3 or 4	8	50-3/4	3/4	110	0.60
Tall	29	28	PROG29-30P RH63	–	30	–	30.3	–	63	59-3/4	56-7/8	16-1/2	14-1/4	3 or 4	8	50-3/4	3/4	110	0.60
Tall	40	38	PROG40-36N RH62*	36	–	36.4	–	84	–	61-1/2	58-1/2	19	14-1/4	3 or 4	8	52-1/4	3/4	127	0.58
Tall	40	38	PROG40-38N RH62*	38	–	38.4	–	84	–	61-1/2	58-1/2	19	14-1/4	3 or 4	8	52-1/4	3/4	127	0.58
Tall	40	38	PROG40-40N RH62*	40	–	40.4	–	84	–	63-1/4	60	19-1/2	14	3 or 4	8	53-1/2	3/4	135	0.66
Tall	40	38	PROG40-36P RH62*	–	36	–	36.3	–	84	63-1/4	60	19-1/2	14	3 or 4	8	53-1/2	3/4	135	0.66
Tall	40	38	PROG40-32P RH62*	–	32	–	32.3	–	67	61-1/2	58-1/2	19-1/2	14-1/4	3 or 4	8	52-1/4	3/4	125	0.58
Tall	50	48	PROG50-40N RH62*	40	–	40.4	–	78	–	62-1/2	59-1/4	21-1/2	14-1/2	3 or 4	8	52-1/2	3/4	165	0.65
Tall	50	48	PROG50-36P RH62*	–	36	–	35.4	–	78	62-1/2	59-1/4	21-1/2	14-1/2	3 or 4	8	52-1/2	3/4	165	0.65
Tall	50	48	PROG50-38N RH60*	38	–	38.4	–	85	–	61-1/4	58-3/8	20-1/2	14-1/4	3 or 4	8	51-3/8	3/4	150	0.64
Tall	50	48	PROG50-36P RH60*	–	36	–	35.4	–	85	61-1/4	58-3/8	20-1/2	14-1/4	3 or 4	8	51-3/8	3/4	150	0.64
Short	30	29	PROG30S-30N RH63	30	–	30.3	–	51	–	49-7/8	47	19-3/4	14-1/4	3 or 4	8	40-3/8	3/4	112	0.60
Short	40	38	PROG40S-40N RH62*	40	–	40.4	–	66	–	53-7/8	50-1/2	23	14-1/2	3	8	44	3/4	135	0.58
Short	40	38	PROG40S-36P RH62*	–	36	–	36.4	–	66	53-7/8	50-1/2	23	14-1/2	3	8	44	3/4	135	0.58
Short	40	39	PROG40S-38N RH62*	38	–	38.4	–	65	–	53-1/4	50-1/4	21-5/8	14-1/4	3 or 4	8	44	3/4	125	0.58
Short	40	39	PROG40S-35P RH62*	–	35	–	35.4	–	65	53-1/4	50-1/4	21-3/8	14-1/4	3 or 4	8	44	3/4	125	0.58
Short	40	38	PROG40S-34N RH62	34	–	34.3	–	65	–	52-3/8	49-1/8	21	14	3 or 4	8	42-3/4	3/4	120	0.59
Short	40	38	PROG40S-31P RH62	–	31	–	31.3	–	65	52-3/8	49-1/8	21	14	3 or 4	8	42-3/4	3/4	120	0.59
Short	50	48	PROG50S-40N RH61*	40	–	40.4	–	87	–	54-1/4	51-1/8	23-3/4	14-1/4	3 or 4	8	44	3/4	186	0.63
Short	50	48	PROG50S-36P RH61*	–	36	–	36.4	–	87	54-1/4	51-1/8	23-3/4	14-1/4	3 or 4	8	44	3/4	186	0.63
Models with Installed Top T&P Valve																			
Tall	40	38	PROG40-38N RH62TT	38	–	38.4	–	84	–	61-1/2	58-1/2	19	14-1/4	3 or 4	8	–	3/4	127	0.58
Tall	40	38	PROG40-40N RH62TT	40	–	40.4	–	84	–	63-1/4	60	19-1/2	14	3 or 4	8	–	3/4	135	0.66
Tall	50	48	PROG50-40N RH62TT	40	–	40.4	–	78	–	62-1/2	59-1/4	21-1/2	14-1/2	3 or 4	8	–	3/4	165	0.65
Tall	50	48	PROG50-38N RH60TT	38	–	38.4	–	85	–	61-1/4	58-3/8	20-1/2	14-1/4	3 or 4	8	–	3/4	150	0.64

Uniform Energy Factor and rated gallon capacity based on Department of Energy (DOE) requirements.



Central Domestic Hot Water:
Maximizing Efficiency and Longevity

Central Domestic Hot Water

Gas boilers remain a popular choice for central domestic hot water due to their efficiency and reliability. When selecting a gas boiler, consider the size of your home, your hot water needs, and whether you have space for a hot water tank.

Efficiency:

Modern gas boilers are quite efficient, often over 90% efficient. They use less energy to produce the same amount of heat compared to older models.

Longevity:

A well-maintained gas boiler can last between 10 to 15 years. Replacement might be needed if the boiler becomes unreliable or if it is no longer efficient.

Palm Hills PK2

OUR PRODUCTS

8. Aluminum Wall Mounted Radiator & Radiator Towel

PLUS EVO: MADE IN ITALY

Radiatori 2000

With over 15 years of activity in this sector, Radiatori 2000 S.p.A. is one of the key player in the production of die-cast aluminium radiators. The answer to the demands of those are looking for functional products without foregoing quality and aesthetic.

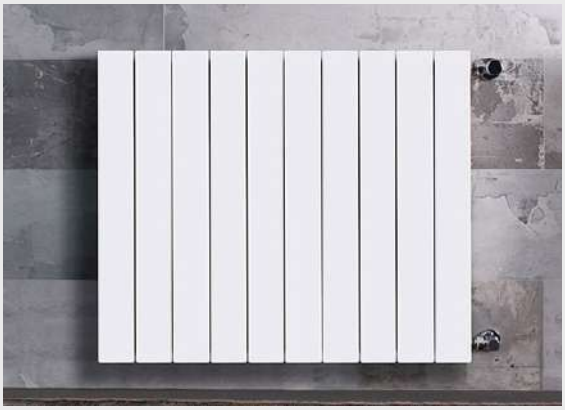
Radiatori 2000 S.p.A. is part of the FECS Group, a world leading verticalized system in the recovery, treatment and valorisation of aluminium from scrap..

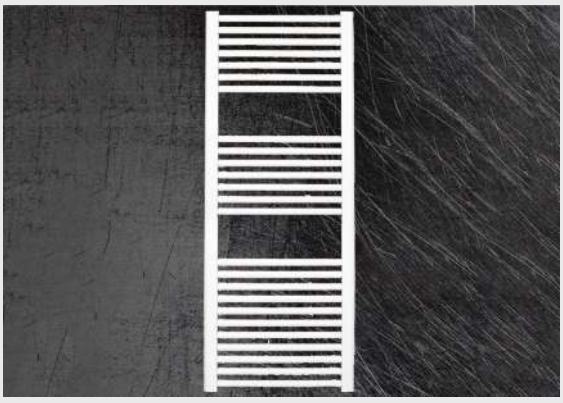
Contemporary Elegance

The Plus collection traces the evolution of the classic radiator, but with a more contemporary and minimalist mood.
Perfect even in the darker colours for those who wish to dare a little without changing course completely..

SIMPLY

Simple and elegant, Simply is the towel radiator in high quality carbon steel white colored characterized by flat and smooth surfaces. Thanks to modern welding, assembly and processing techniques, the Sira heated towel rails are guaranteed for 2 years.





ALUMINUM RADIATORS HEATING ARE:

ECONOMICAL.
It is economical not only at the time of purchase, mainly in operating costs thanks to the high thermal efficiency and flexibility of use.

ECOLOGICAL.
Aluminum is 100% recyclable and substantially limits the energy consumption with low operating temperatures.

HYGIENICAL.
Low temperatures limit the air convective motions and so the dust and dirt motions on the walls.

EASY.
Both on the installation mode and also on the possibility of controlling the various systems in the home.

OUR PRODUCTS

9. Aluminum Wall Mounted Radiator & Radiator Towel

SIRA: MADE IN ITALY

Sira Aluminum Wall Mounted Radiator

Sira brand radiators are made using the most modern production techniques to offer maximum performance with the lowest energy consumption. Elegance, versatility, safety, power and environmental comfort are just some of the main advantages that characterize the entire range of radiators for heating Sira.

Sira Radiators Suitability

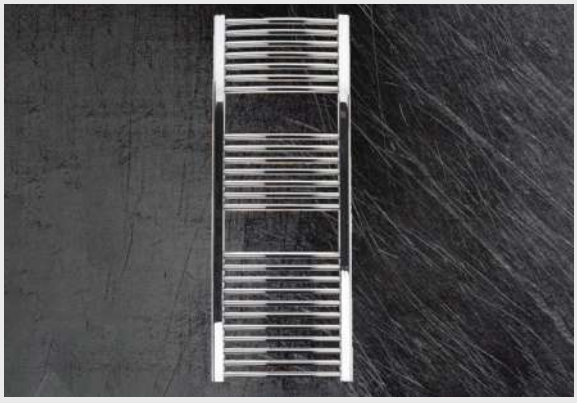
All Sira radiators with water operation are perfectly suited to modern low temperature heating systems powered by condensing boilers, integrated heat pumps to solar panels and geothermal energy systems; their reduced water content also allows a rapid adaptation of the system to any desired temperature change, achieving a further lowering of energy consumption.

ALICE ROYAL

Characterized by a essential and modern design, Alice Royal is the radiator for heating in die-cast aluminum appreciated for technology and environmental comfort. Its surfaces are slightly rounded towards the ends, giving it an aesthetic appearance that adapts to any environment.

FLEX CHROME

Realized in steel and chromed finished: the very top as for aesthetics and functionality. It has sharp and rounded surfaces. This radiator suits different ambience with its elegance.



Thanks to the special epoxy polyester paint, Sira radiators have a perfect finish and a unique brilliance. In addition, the special care given to the packaging allows to preserve the radiators intact even after repeated movements and transport.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Beverly hills Zayed

Rapid Heating:

Aluminum conducts heat efficiently, allowing these radiators to warm up quickly and provide a consistent, even heat.

Lightweight:

Compared to traditional steel radiators, aluminum models are lighter, making them easier to handle and install.

Beverly hills Zayed

Beverly hills Zayed

Corrosion Resistance:

Aluminum is resistant to rust and corrosion, enhancing the radiator's longevity and reducing maintenance needs.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Design Flexibility:

Available in various styles and sizes, aluminum radiators can complement modern interior designs and fit into different spaces.

Energy Efficiency:

They often have a high thermal output relative to their size, which can help lower energy bills and improve overall heating efficiency.

Greenwell Office

Design Versatility:

They are available in various finishes, including anodized, painted, or polished, which can match different decor styles.

Mividia

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Enhanced Comfort:

Because of their quick heating capabilities, aluminum radiators can rapidly improve comfort levels in a room, especially in colder climates.

Mividia

Environmental Impact:

Aluminum radiators are often favored for their environmental benefits. Aluminum is highly recyclable, which can contribute to a more sustainable heating solution.

Mividia

Heat Control:

Many models come with adjustable thermostats or can be integrated with smart home systems, allowing precise control over room temperature.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Low Water Content:

They typically have a low water content, meaning they heat up and cool down faster compared to radiators with a larger volume of water

Design Options:

Available in a variety of designs and finishes, including sleek modern styles and more traditional looks. Some feature flat panels, while others have more decorative designs.

Alegria Zayed

Alegria Zayed

Material:

Made from aluminum, these radiators are known for their excellent thermal conductivity. Aluminum heats up quickly and cools down just as fast, providing responsive and efficient heating.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Badr City

Compatibility:

Aluminum wall-mounted radiators are compatible with most central heating systems, including those that use gas, oil, or renewable energy sources.

aluminum wall-mounted radiators combine efficient heating with modern design, making them a versatile choice for various home aesthetics and heating needs.

Badr City

Badr City

Longevity:

Aluminum's resistance to rust and corrosion extends the lifespan of the radiator, ensuring long-term performance with minimal maintenance. This durability is particularly beneficial in a new house where you want to avoid frequent replacements or repairs.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Aluminum wall-mounted radiators are ideal for new homes due to their energy efficiency, lightweight design, and durability. Their stylish and versatile appearance enhances comfort while being a cost-effective heating solution for modern living.

Customization:

Many models offer customizable options, such as different panel configurations and finishes, to match the specific design vision of a new home.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Slim Profiles:

Many aluminum radiators are designed to be thinner than traditional models, making them less obtrusive and more suitable for tight spaces.

aluminum wall-mounted radiators combine efficient heating with modern design, making them a versatile choice for various home aesthetics and heating needs.

Alegria Zayed

Alegria Zayed

Matching Decor:

Choose a radiator that complements your interior style—whether it's sleek and modern or something that matches a more classic decor.

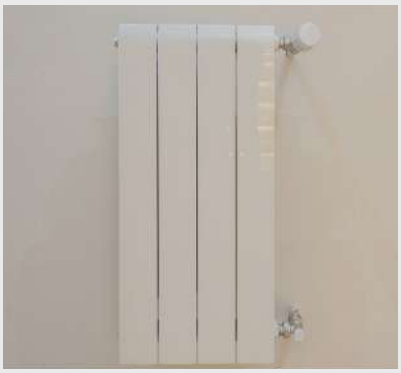
Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2



Vertical and Horizontal Options:

You can choose from vertical designs that maximize wall space or horizontal options that fit below windows.

Complementary Accessories:

Consider matching valves and other fittings to complete the look.

Alegria Zayed

Alegria Zayed

Discreet:

Their modern design means they often don't dominate the room's appearance, blending into the background while still being functional.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Alegria Zayed

Safety Considerations

Low Surface Temperature

Aluminum radiators typically operate at lower surface temperatures compared to traditional radiators. This reduces the risk of burns, making them safer, especially in homes with children or pets. The heat they emit is gentle and evenly distributed, minimizing the chance of hot spots.

Alegria Zayed

Badr City

Built-in Safety Features

Many modern aluminum radiators come equipped with safety features such as pressure relief valves and thermostatic controls. These features help regulate temperature and pressure, further enhancing safety and preventing potential hazards.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Compliance with Standards

Aluminum radiators are designed and manufactured to comply with industry safety standards and regulations. This ensures that they meet the necessary requirements for safe operation in residential settings.

Radiators: *Combining Efficiency, Design, and Durability*

Aluminum Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Beverly hills Zayed

Professional Installation:

Pipe Connections:

Connect the radiator to the central heating system's pipework. This involves attaching the inlet and outlet pipes to the radiator's valves. It's important to use the correct fittings and ensure all connections are leak-proof.

Bleeding the Radiator:

After connecting, the radiator should be bled to remove any trapped air that could hinder its performance. This is done using a radiator key to open the bleed valve until water flows out smoothly.

Beverly hills Zayed

Alegria Zayed

Positioning:

It's important to position the radiator for optimal heat distribution, often under windows or in cold spots of a room.

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Heat Output:

Steel radiators generally provide excellent heat output, making them effective at quickly warming up a room. They achieve this through their high thermal conductivity and efficient surface area.

Quick Heat-Up Time:

Due to the steel's ability to heat up rapidly, these radiators can quickly bring a room up to the desired temperature.

Alegria Zayed

Alegria Zayed

Material:

Steel radiators are made from high-quality steel, which is known for its strength and heat-conductive properties. Steel is also relatively easy to shape, allowing for various designs.

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Palm Hills PK2

Versatile Appearance:

Steel radiators come in a wide range of styles, colors, and finishes, allowing them to complement various interior design themes. They can be sleek and modern or have a more traditional look, depending on the design.

Custom Options:

Many manufacturers offer customizable options, so you can choose the size, color, and even add decorative elements to match your decor.

Alegria Zayed

Alegria Zayed

Affordable:

Compared to some other types of radiators, such as those made from cast iron or high-end designer options, steel radiators are generally more affordable while still providing good performance.

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

They require minimal maintenance. Regular cleaning to remove dust and occasional checks for leaks or damage are usually sufficient.

Robust Construction:

Steel radiators are known for their durability and resistance to physical damage. They are designed to withstand the pressures and temperatures of heating systems.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Integration with Interior Design

These radiators can be integrated into a room's layout and design. Placing them strategically can enhance the flow and function of the space. For instance, they can be installed beneath windows or as part of a room divider.

Architectural Features:

Radiators can be designed to mimic architectural features like columns or panels, enhancing the overall aesthetic and blending with the home's architecture.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Space-Saving Solutions:

Steel radiators are often designed to be more compact than traditional models, making them suitable for smaller spaces.

Functional Decor:

By choosing visually appealing radiators, homeowners can transform a traditionally utilitarian object into a decorative element that enhances the overall beauty of the space.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Incorporation into Themes:

Decorative radiators can be selected to fit specific design themes, such as industrial, vintage, or contemporary, reinforcing the chosen aesthetic.

Palm Hills PK2

Radiators: *Combining Efficiency, Design, and Durability*

Steel Wall-Mounted Radiator

A popular choice for modern heating systems due to its efficiency, lightweight design, and rapid heat distribution. These radiators are mounted directly on the wall, making them ideal for both residential and commercial spaces.

Strategic Placement:

Installing radiators in locations that optimize visibility and functionality—such as under windows or along walls—can enhance the room's layout and flow.

Alegria Zayed

Alegria Zayed

Focal Points:

Many decorative steel radiators are designed to serve as focal points in a room. Their artistic shapes and stylish appearances can enhance the overall aesthetic, transforming a functional heating element into a visually appealing feature.

Palm Hills PK2

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating, dryer and a place to hang towels. It's commonly used in bathrooms to ensure warm weather and dry and warm towels.

Beverly hills Zayed

Design Options:

Available in various designs, including traditional and modern styles, to match different bathroom aesthetics.

Dual Functionality:

Serves as a radiator for the toilet while also drying and warming towels, which can be especially pleasant in colder weather.

Beverly hills Zayed

Alegria Zayed

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating and a place to hang towels. It's commonly used in bathrooms and kitchens to ensure towels are warm and dry.

Beverly hills Zayed

Materials:

Typically made from steel or stainless steel, with options for finishes like chrome, white, or matte black.

Efficiency:

Towel radiators are efficient at both heating a bathroom and drying towels, and they can be connected to the central heating system or be electric models for standalone use.

Beverly hills Zayed

Palm Hills PK2

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating, dryer and a place to hang towels. It's commonly used in bathrooms to ensure warm weather and dry and warm towels.

Enhanced Comfort:

Because of their quick heating capabilities, aluminum radiators can rapidly improve comfort levels in a room, especially in colder climates.

They are available in various finishes, including anodized, painted, or polished, which can match different decor styles.

Layan Sabbour

Badr City

Convenience:

Adding a touch of luxury and convenience to bathrooms.

Space Saving:

By combining a radiator and towel rack into one unit, radiator towels save space and reduce clutter in smaller rooms.

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating, dryer and a place to hang towels. It's commonly used in bathrooms to ensure warm weather and dry and warm towels.

Beverly hills Zayed

Positioning:

Ideally placed in bathrooms where towels can be easily hung and accessed.

Mounting:

Installed on the wall with mounting brackets or wall mounts. The installation includes connecting the radiator to the heating system or electrical supply, depending on the model.

Beverly hills Zayed

Beverly hills Zayed

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating, dryer and a place to hang towels. It's commonly used in bathrooms to ensure warm weather and dry and warm towels.

Alegria Zayed

Avoid Harsh Chemicals:

Use gentle cleaning agents to prevent any damage to the finish.

Surface Care:

Aluminum is relatively easy to clean. Regularly wipe down the surface with a soft cloth and mild detergent to maintain its appearance.

Alegria Zayed

Alegria Zayed

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating, dryer and a place to hang towels. It's commonly used in bathrooms to ensure warm weather and dry and warm towels.

Sodic Villete

Style:

Choose a radiator design that complements the existing bathroom decor. For a modern bathroom, a sleek, minimalistic radiator may work best. For more traditional spaces, a radiator with classic detailing might be more appropriate.

Color:

Radiators are available in a variety of colors. Select one that matches or contrasts tastefully with your bathroom tiles, fixtures, and cabinetry.

Lake View

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating and a place to hang towels. It's commonly used in bathrooms and kitchens to ensure towels are warm and dry.

Beverly hills Zayed

Built-in Safety Features:

Modern towel radiators often include safety features such as temperature controls and timers. These features help regulate heat output, preventing overheating and enhancing user safety.

Low Surface Temperature:

Towel radiators are designed to operate at lower surface temperatures compared to traditional radiators. This reduces the risk of burns, making them safer, especially in bathrooms where wet conditions prevail.

Beverly hills Zayed

Palm Hills PK2

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating and a place to hang towels. It's commonly used in bathrooms and kitchens to ensure towels are warm and dry.

Beverly hills Zayed

Durable Construction:

Constructed from materials resistant to corrosion and rust, towel radiators maintain their integrity over time. This durability reduces the risk of leaks or malfunctions, contributing to overall safety.

IP Ratings:

Many towel radiators are designed specifically for bathroom use and come with appropriate IP (Ingress Protection) ratings. These ratings indicate their resistance to moisture and splashes, ensuring safe operation in damp environments.

Beverly hills Zayed

Palm Hills PK2

Towel Radiators: *Combining Efficiency, Design, and Durability*

Wall-Mounted Towel Radiator

Also known towel rail, is a dual-purpose fixture that provides both heating and a place to hang towels. It's commonly used in bathrooms and kitchens to ensure towels are warm and dry.

Beverly hills Zayed

Non-Touch Operation:

Some towel radiators have non-touch controls or remote operation options, minimizing the risk of electrical shock or burns when adjusting settings.

Electrical Safety:

For electric towel radiators, safety certifications ensure that they meet industry standards. It's important to have them installed by qualified professionals to comply with electrical safety regulations.

Beverly hills Zayed

Palm Hills PK2

OUR PRODUCTS

10. High Quality Copper Manifolds & Fittings

CARLO POLETTI
HeatingComponents&Design

CARLO POLETTI: MADE IN ITALY

Official Agent in Egypt

Ensures flow to each circuit is regulated precisely, while also controlling shut-off and allowing the venting of air from the heating system.

Innovative push-to-connect design with a 1 in. FNPT inlet and 1/2 in.

SharkBite connections are integrated on the loop ports making connecting the loops to the manifold significantly easier and faster than other connection methods.

The stainless steel manifold is built for durability and corrosion resistance.

Minimizes the risk of leaks by eliminating excess connection points.

Designed for use in a PEX system.

Electrothermic Actuator

Carlo Poletti – Made in Italy

Electrothermic Actuators are able to

1. React quickly to temperature changes
2. Deliver dependable performance with quick and accurate adjustments.

These actuators are frequently employed in systems like air conditioning, radiator control, and underfloor heating. Moreover, actuators are fabricated in such a way to resist harsh conditions.

They are known for long lifespan and durability.

Features and benefits

QUALITY AVOIDS ISSUES.
Avoid any risk of corrosion and leakages in a floor heating system by using high-quality materials only. We only use brass produced according to the CW617N standard.

COMPONENTS PROVIDE FLEXIBILITY.
Not every floor heating system has the same requirements. With our components you can establish a manifold according to your needs.

MADE TO MATCH MIXING SHUNTS.
The dimensions of the manifolds and mixing shunts match exactly so you can establish a low-temperature floor heating distribution unit according to your needs.

TESTING MINIMIZES FAILURES.
All manifold components are pressure, temperature and capacity tested to achieve a solid system for years to come.

SIMPLIFIED PRE-SETTING.
Avoid warm-up complaints by hydronic balancing the system at all times. We make the pre-setting easy. Danfoss 'throttle' pre-setting requires no tools, is accurate, visible for checking and constructed from one piece (valve with integrated seat instead of a seat inside the manifold collector).

Manifolds & Fittings
Reliable and Resilient

High Quality Copper Manifolds & Fittings

High-quality copper manifolds and fittings are essential components in plumbing, heating, and cooling systems, offering superior performance and reliability. Here's a detailed look at their features, benefits, and applications

Beverly Hills

Material:

High-quality copper manifolds are made from premium copper, ensuring excellent durability and corrosion resistance. Copper's intrinsic properties make it ideal for handling high temperatures and pressures commonly found in plumbing and heating systems.

Design Versatility:

These manifolds come in various designs, including single or multi-port configurations, to suit different system requirements. They are designed to facilitate efficient distribution and collection of fluids, such as water, throughout the system.

Durability:

Copper's natural resistance to corrosion and oxidation extends the lifespan of the manifold, reducing the need for frequent replacements and maintenance.

Smoha - Alexandria

Manifolds & Fittings
Reliable and Resilient

High Quality Copper Manifolds & Fittings

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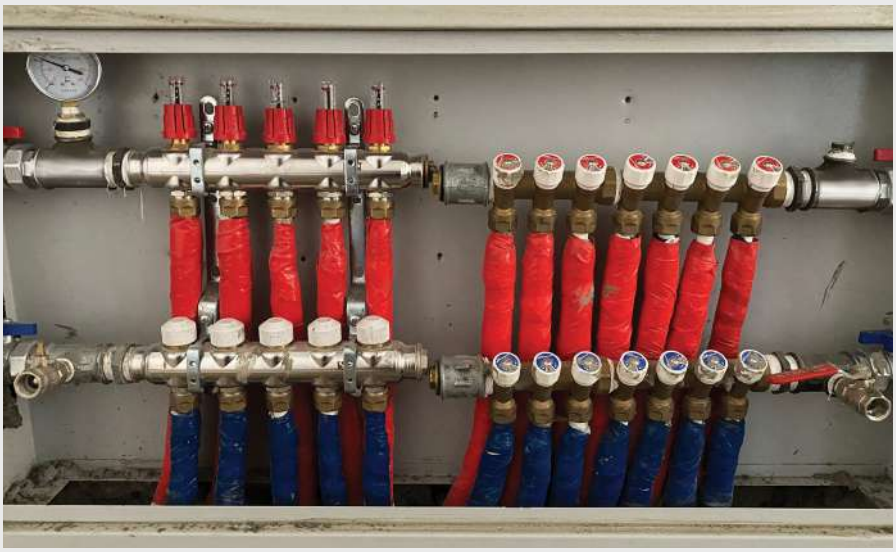


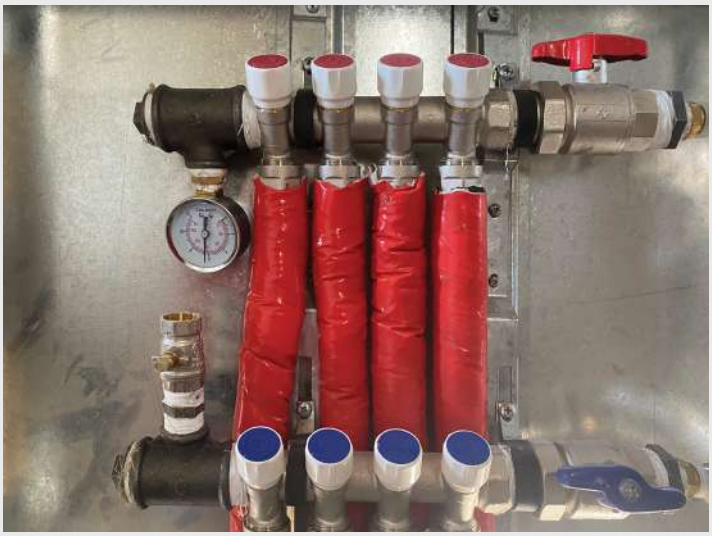
Palm Hills - 6th October

Thermal Conductivity:

Copper manifolds efficiently conduct heat, making them ideal for both hot and cold water distribution in heating systems, underfloor heating.

Pressure Handling:

High-quality copper manifolds can handle high pressures without deforming or leaking, ensuring reliable operation in demanding environments.



Layan - 5th settelement

Sodic Villette - 5th settelement

Leak Prevention:

High-quality copper fittings provide a tight seal when joined with copper pipes, minimizing the risk of leaks and ensuring a dependable connection.

Manifolds & Fittings
Reliable and Resilient

High Quality Copper Manifolds & Fittings

High-quality copper manifolds and fittings are essential components in plumbing, heating, and cooling systems, offering superior performance and reliability. Here's a detailed look at their features, benefits, and applications

Mividia - 5th settelement

Plumbing Systems:

Used in residential and commercial plumbing systems to distribute water from a central supply to various outlets.

Badr City

Heating Systems:

Essential in hydronic heating systems for distributing hot water to different areas or zones.

Badr City

Cooling Systems:

Employed in cooling systems to manage the flow of refrigerants or chilled water.

Manifolds & Fittings
Reliable and Resilient

High Quality Copper Manifolds & Fittings

High-quality copper manifolds and fittings are essential components in plumbing, heating, and cooling systems, offering superior performance and reliability. Here's a detailed look at their features, benefits, and applications

Alegria Zayed

Reliability:

Both manifolds and fittings provide reliable performance, reducing the likelihood of system failures and maintenance issues.

Efficiency:

Copper's excellent thermal conductivity contributes to the overall efficiency of heating and cooling systems by ensuring effective heat transfer.

Lake View

Lake View

Longevity:

High-quality copper components have a long service life, which can translate to cost savings over time due to their durability and reduced need for replacements.

OUR PRODUCTS

11. Circulating Pump

GRUNDFOS

GRUNDFOS: MADE IN DENMARK

Grundfos

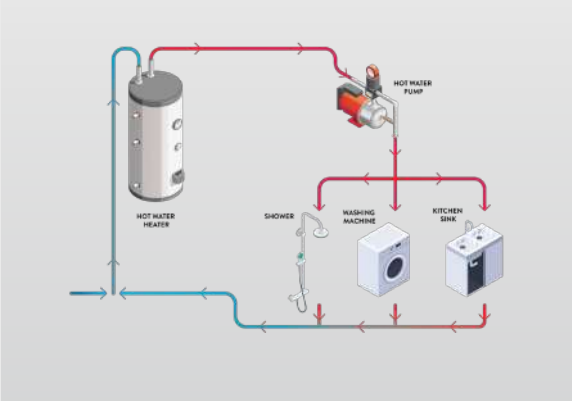
Grundfos is the largest pump manufacturer in the world, based in Denmark, with more than 19,000 employees globally.
Grundfos circulator pumps are used for heating, ventilation and air-conditioning in many applications, including private homes, office buildings, and hotels. In industry, circulator pumps are used in processes, plant maintenance, and as built-in parts in Original Equipment Manufacturer (OEM) products.

Grundfos Circulating Pump

A hot water recirculating pump with return line is a system that uses a pump and a special pipe to circulate hot water from the water heater to the farthest fixture and back. This way, the water in the pipes is always hot and ready to use, saving water and energy. The pump is activated by a thermostat or a timer, and the return line has a valve that shuts off when the water reaches the desired temperature.

Benefits of Hot Water Recirculation Pumps

Hot water recirculation pumps offer significant benefits, including instant access to hot water, which enhances user convenience and comfort. Additionally, they dramatically reduce the amount of wasted water, contributing to both water conservation and lower utility bills. Their efficient circulation system also means that water heaters operate more effectively, potentially extending their lifespan and saving on energy costs.



Circulating Pump *USP 15*

UPS is a three-speed circulator pump designed for heating and air-conditioning systems and is also used for central and district heating systems. The pump provides reliable and maintenance-free operation.

Head max	Liquid Temperature	Max flow	p max
19 ft	32 .. 230 °F	18 US gpm	145 psi

UPS 15-58 FRC

The pump is of the canned rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid.

Benefits:

- **CONVENIENCE.**
  A recirculation system considerably reduces the time it takes for water to heat up, providing users with instant hot water on tap.
- **INCREASED WATER SAVINGS.**
  A recirculation system cuts down on water losses by delivering nearly instant hot water for use instead of wasting water while waiting for it to heat up.
- **LOWER UTILITY COSTS.**
  A recirculation pump can lower the cost by reducing the amount of hot water needed.
- **SMART HEATING.**
  Some pumps are equipped with timers, or can be programmed to operate only in periods when hot water demand is high (for example, they can automatically turn on during the morning and shut off during working hours). This cuts down on unneeded heating, and reduces costs and wear.

The Role and Benefits of the Circulating Pump

Circulating Pump

The circulating pump is a critical component in both gas boiler and water tank heating systems, responsible for ensuring efficient heat distribution throughout the system

Efficient Heat Distribution:

The circulating pump moves hot water from the gas boiler to radiators or heating zones, ensuring even heat distribution throughout the building. This helps maintain consistent temperatures and prevents hot spots.

Enhances System Efficiency:

Continuous circulation of water by the pump improves overall system efficiency by ensuring that all areas of the building receive appropriate heating, reducing energy consumption and improving comfort

Granda life Shorouk city

The circulating pump helps maintain adequate water pressure within the system, which is essential for optimal performance and reliable operation of the heating system.

Granda life Shorouk city

Consistent Water Flow:

In a water tank heating system, the circulating pump ensures steady water flow from the tank to the heating system. This consistent flow is crucial for effective heat transfer and temperature control.

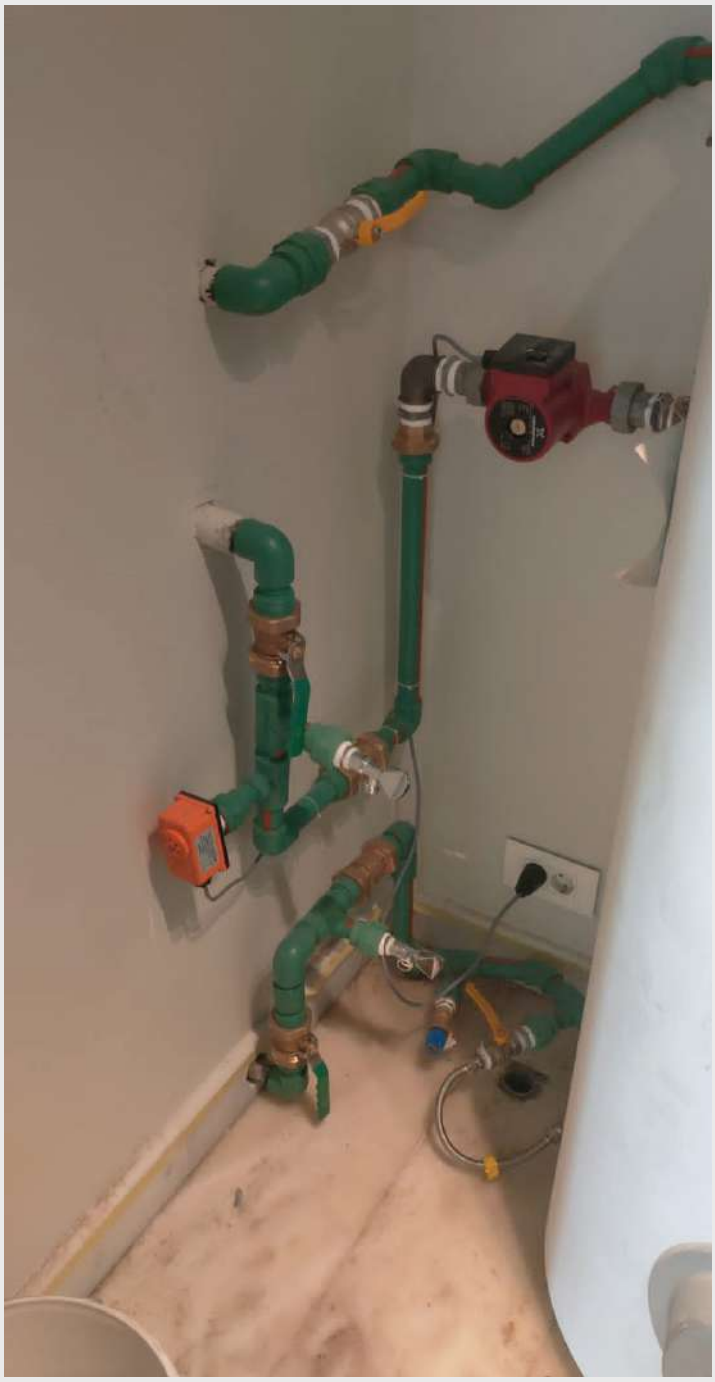
Prevents Stratification:

By keeping water in motion, the pump helps prevent stratification in the water tank, where hot water rises and cooler water stays at the bottom. This promotes uniform heating and efficient use of the stored hot water.

The Role and Benefits of the Circulating Pump

Circulating Pump

The circulating pump is a critical component in both gas boiler and water tank heating systems, responsible for ensuring efficient heat distribution throughout the system



Sodic Vilette

Reduced Wear and Tear:

By ensuring smooth and continuous water flow, the circulating pump helps minimize wear and tear on other system components, such as the boiler and radiators. This reduces the likelihood of breakdowns and extends the lifespan of the system, leading to lower maintenance costs and increased reliability.

Alegria Zayed

Improved Comfort:

Consistent heat distribution and efficient operation directly contribute to improved comfort within the building. By providing uniform heating and maintaining stable temperatures, the circulating pump helps create a more pleasant living or working environment, enhancing overall satisfaction for occupants.

OUR PRODUCTS

12. Floor heating controllers

TECH CONTROLLERS

TECH CONTROLLERS : MADE IN POLAND

The TECH Controllers Company was established in 2004. Since then, it has been continuously growing, rapidly becoming a leader in the production of electronic devices for heating, whether powered by solid fuel or other energy sources. Currently, our company occupies a total area of 7500 m², with several hundred employees working in various departments. The specialized controllers for various types of devices are sold both nationally and in 19 European countries.

HOW IT'S WORKING?

The EU-L-9r controller is a device that allows you to operate up to 50 electric actutators, control a heating device, surface cooling and operation of the floor pump. The mixing valve can be operated with an optional module (EU-i-1, EU-i-1m). Thanks to conscious control in the rooms, thermal comfort will be maintained without excessive energy consumption.

Why eu-l-9r?

- Rational control of thermal energy.
- Full adjustment to the needs and daily activites.
- Possibility of wired or wireless communication between devices.
- Expansion to a total number of 4 eu-l-9r controllers, allows you to control the temprature in 32 zones.
- Possibility of remote control via the emodeul application.

Remote control

The EU-L-9r controller has an option of remote control of the installation via the eModul application when expanded with the EU-M-9r/EU-M-9t control panel.

OUR PRODUCTS

13. Wall Mounted Digital Room Thermostat

Honeywell

HONEYWELL: MADE IN USA

Wall Mounted Digital Room Thermostat

Honeywell helps organizations solve the world's most complex challenges in automation, the future of aviation and energy transition. As a trusted partner, we provide actionable solutions and innovation through our Aerospace Technologies, Building Automation, Energy and Sustainability Solutions, and Industrial Automation business segments – powered by our Honeywell Forge software – that help make the world smarter, safer and more sustainable.

Application

T6861 digital thermostats are designed for application of 3-speed fan and valves in fan coil system.
Including:

2-pipe cool only/heat only/manual changeover and 4-pipe manual or automatic changeover
- Ventilation mode
- Manual or automatic 3-speed fan control
- Water valve control

Fan speed can be selected to automatic or manual 3-speed control mode.
In ventilation mode, fan only support manual speed control.

Features

- Super modern appearance design, suitable for office, hotel and residential building
- Horizontal and vertical model available for variant application
- Slim design, direct installation on 86 size box
- Stylish and elegant blue/green backlight with blue/green colour ring
- 2-pipe/4-pipe integrated into one unit with easy configuration
- Big LCD display with English and icons
- Easy to install and set-up
- Time on/off function
- Selectable room temperature or setpoint display
- Manual or automatic fan speed selection
- Remote temperature sensor
- Energy saving mode activation by button press or dry contact (key card)
- Cycle per Hour (CPH) function
- Adjustment of display room temperature
- Temperature unit either °C or °F
- User setting can be kept when power off
- Freezing protection function available
- Lock or unlock keys or part of keys in Installer Set-up
- Heat and cool setpoint limitation for energy saving

Set a customized temperature schedule tailored to your lifestyle, control your home's comfort on the go through our app, and enjoy potential utility savings with energy-saving programs when you upgrade to a smart home thermostat.

Travel with the convenience of checking your home's temperature from wherever you are with a T9 smart home thermostat. Upgrade today!

Features & Benefits

- CYCLE PER HOUR (CPH) FUNCTION.
- LOCK OR UNLOCK KEYS OR PART OF KEYS IN INSTALLER SET-UP.
- FREEZING PROTECTION FUNCTION AVAILABLE.
- ADJUSTMENT OF DISPLAY ROOM TEMPERATURE.
- HEAT AND COOL SET POINT LIMITATION FOR ENERGY SAVING.
- MANUAL OR AUTOMATIC FAN SPEED SELECTION.
- TIME ON/OFF FUNCTION.
- USER SETTING CAN BE KEPT WHEN POWER OFF.
- REMOTE TEMPERATURE SENSOR AVAILABLE.

Accurate Climate Control for Your Home

Wall Mounted Digital Room Thermostat

It's a modern upgrade that provides precise control over your home's temperature with user-friendly features. It's a great choice for improving comfort, efficiency, and overall climate control in your living space.

Digital Display:

These thermostats have a digital screen that shows the current temperature and allows you to adjust settings with precision. The display is often backlit, making it easy to read in various lighting conditions.

Digital thermostats are known for their accuracy compared to traditional analog models. They can often maintain the temperature within a narrow range, improving comfort and efficiency.

Cairo festival city Oriana

Simple Controls:

Most wall-mounted digital room thermostats have straightforward controls, which includes buttons or a touchscreen interface, so in order to set and adjust the temperature. Some models may also have dial controls, but digital displays provide clearer feedback.

Badr City

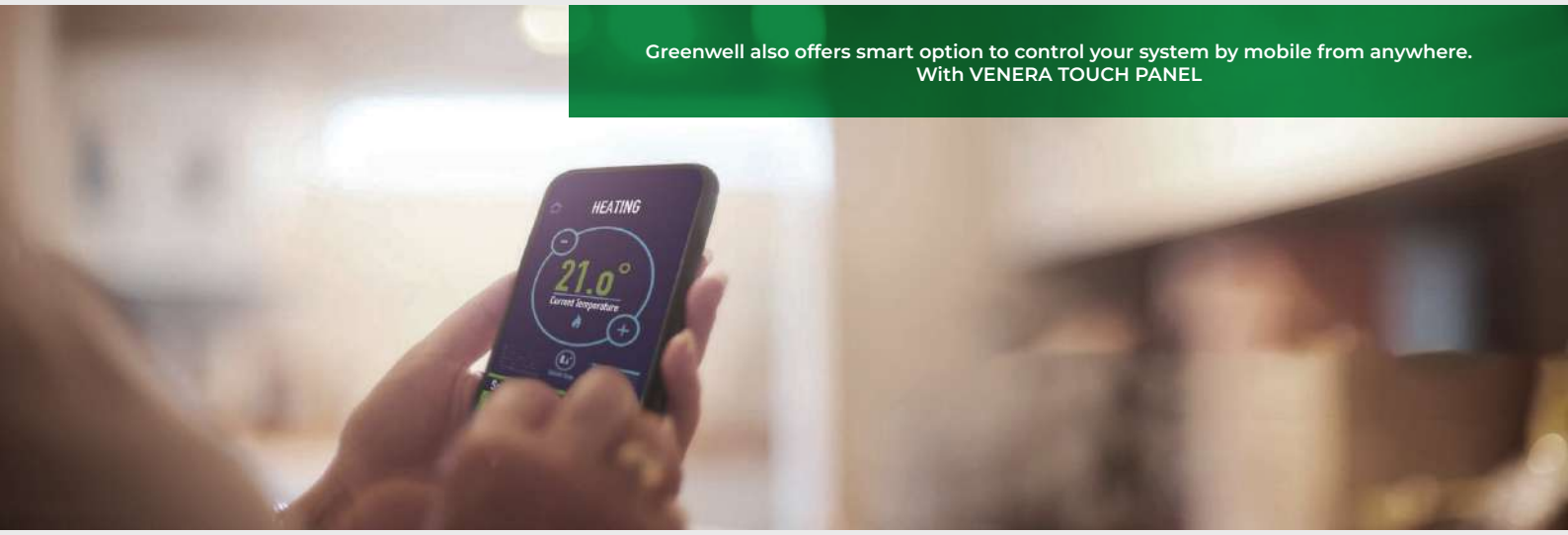
Temperature Settings:

You can usually set a desired temperature with ease. Digital thermostats allow for precise adjustments, often in 1-degree increments, which helps maintain a consistent climate.

OUR PRODUCTS

14. Wall Mounted Digital *SMART CONTROL* Room Thermostat

Consistent and precise temperature control ensures that your home remains comfortable according to your preferences.



Greenwell also offers smart option to control your system by mobile from anywhere.
With VENERA TOUCH PANEL

User-Friendly Interface:

The digital display and touchscreen interfaces make it easy to set temperatures, view schedules, and access settings.
Some models offer customization options for the display to fit your aesthetic preferences.

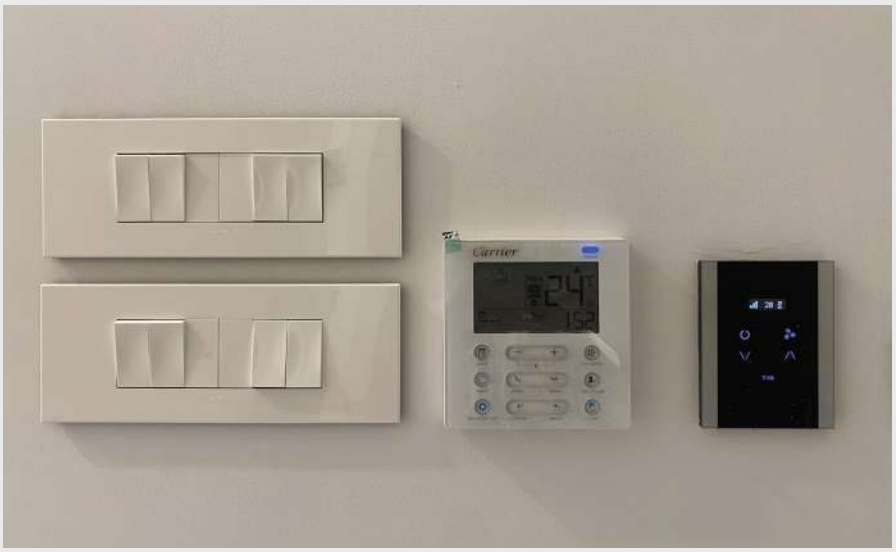
Features & Benefits

- CYCLE PER HOUR (CPH) FUNCTION.
- ADJUSTMENT OF DISPLAY ROOM TEMPERATURE.
- TIME ON/OFF FUNCTION.
- LOCK OR UNLOCK KEYS OR PART OF KEYS IN INSTALLER SET-UP.
- HEAT AND COOL SET POINT LIMITATION FOR ENERGY SAVING.
- USER SETTING CAN BE KEPT WHEN POWER OFF.
- FREEZING PROTECTION FUNCTION AVAILABLE.
- MANUAL OR AUTOMATIC FAN SPEED SELECTION.
- REMOTE TEMPERATURE SENSOR AVAILABLE.

Advanced Climate Control at Your Fingertips

*Wall Mounted Digital **SMART CONTROL** Room Thermostat*

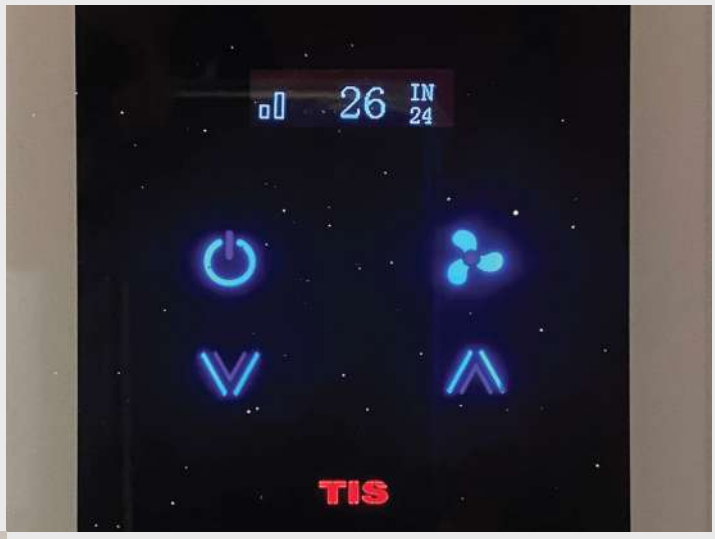
A wall-mounted digital smart control room thermostat is a sophisticated device designed to regulate the temperature in your home efficiently. It's a valuable tool for modernizing your home's climate control system, offering both convenience and energy efficiency.



Smart Connectivity:

These thermostats usually connect to your home Wi-Fi network, allowing you to control them remotely via smartphone apps. This means you can adjust the temperature from anywhere, whether you're at work, on vacation, or just lounging on the couch.

Smart thermostats can be more expensive than traditional models, but the potential savings on energy bills and increased comfort can outweigh the initial investment.



Learning Capabilities:

Some smart thermostats have learning algorithms that observe your behavior and adjust the temperature automatically based on your preferences and habits. Over time, they can optimize heating and cooling schedules to improve energy efficiency.

Voice Control and Integration:

Many smart thermostats are compatible with voice assistants like Amazon Alexa, Google Assistant, or Apple HomeKit, allowing you to control them with voice commands. They can also integrate with other smart home devices for more seamless automation.

Beverly hills Zayed

OUR PRODUCTS

15. Swimming Pool Heating Solution

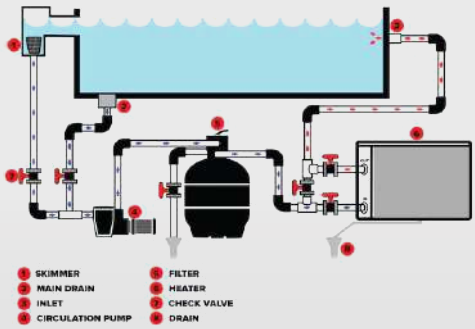
RAYPAK: MADE IN AMERICA

Raypak: A Rheem Company

Raypak has been at the forefront of environmental efficiency and sustainability for over 70 years, leading the evolution of hot water as a top manufacturer of energy-efficient boilers, water heaters, and pool heaters.

Pool Heater

Named #1 Pool Heater by Forbes, the Raypak Digital Gas is a tried and true favorite among pool pros. Its durable design and intuitive controls make it one of the strongest workhorse pool heaters on the market. This pool and spa heater is the perfect solution for environments requiring efficiency, convenience and versatility.



Function

Pool heaters play a vital role in maintaining a comfortable water temperature, ensuring that swimming pools remain enjoyable regardless of external weather conditions. By regulating the water temperature, they extend the swimming season and enhance the overall swimming experience, allowing users to comfortably swim even during cooler months or in variable climates. This function is particularly useful for preparing the pool for spontaneous activities or social gatherings, as heaters can quickly raise the water temperature to a desirable level.

FEATURES OF POOL HEATERS:

- **ENERGY EFFICIENCY.**
  Modern pool heaters are designed to maximize energy efficiency, reducing operational costs.
- **QUICK HEATING.**
  Pool heaters are capable of rapidly increasing the water temperature, allowing you to enjoy your pool sooner.
- **TEMPERATURE CONTROL.**
  Most pool heaters come with precise temperature control settings.
- **DURABILITY.**
  High-quality pool heaters are built to withstand various weather conditions and frequent use.

Gas Pool Heaters: *Fast, Reliable, and Effective Pool Heating Solutions*

Swimming Pool Heating Solution

Gas pool heaters offer an efficient and effective way to heat swimming pools, providing rapid temperature increases and reliable performance. They are particularly well-suited for pools that need to be heated quickly or used intermittently.

How They Work:

Gas pool heaters use either natural gas or propane as a fuel source. The process involves

Burning Fuel:
The heater burns gas to create a flame.

Heating Water:
This flame heats a metal exchanger within the heater.

Water Circulation:
Water from the pool is pumped through the heater, where it absorbs the heat from the exchanger.

Returning Water:
The warmed water is then returned to the pool, raising the overall temperature.

Quick Heating:

Gas heaters can quickly raise the temperature of your pool, making them ideal for those who want to heat their pool rapidly for occasional use.

Effective in Any Climate:

Gas heaters work efficiently regardless of the ambient temperature, unlike some other types that may struggle in cooler weather.

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OUR PRODUCTS

16. Plate Heat Exchanger

ZILMET: MADE IN ITALY

Zilmet

Zilmet is one of the oldest and largest expansion tank manufacturers in the world. Established in Italy on 1962, Zilmet is an international manufacturer of quality expansion vessels, pressure tanks and plate heat exchangers with several branches across the globe with worldwide distribution.

Zilmet is an ISO 9001 certified company that produces in excess of over 7 million tanks and 1 million heat exchangers every year. We take great pride in our globally renowned quality and service and look forward to sharing our story and products with you and your customers.

A plate heat exchanger is a compact device that transfers heat between two fluids through a series of thin, stacked plates. These plates maximize the surface area for efficient heat transfer while maintaining a small footprint, making the exchanger effective and space-saving. It is commonly used in various applications, including pool heating, for its efficiency and ability to handle high temperatures and pressures.

Function

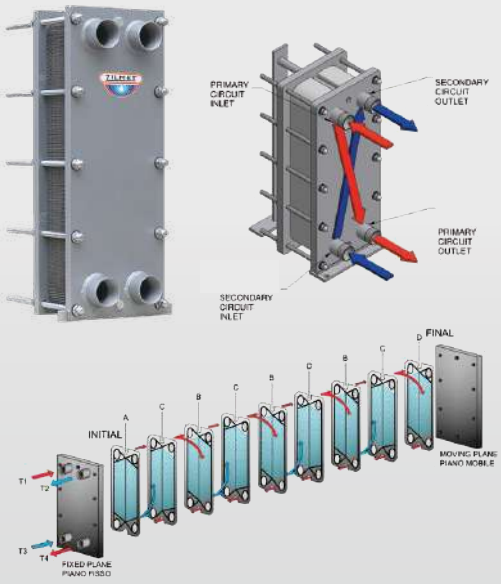
A plate heat exchanger serves the crucial function of efficiently transferring heat between two fluids without them mixing. By utilizing a series of thin, stacked plates, it maximizes the surface area for heat exchange, allowing pool water to be heated quickly and effectively as it flows over these plates. This efficient transfer ensures that the pool reaches the desired temperature faster, improving the overall energy efficiency of the heating system.

FEATURES OF POOL HEATERS:

- **HIGH THERMAL EFFICIENCY.**
  Plate heat exchangers are designed for optimal heat transfer, ensuring that pool water is heated quickly and efficiently.
- **COMPACT SIZE.**
  Plate heat exchangers are compact and space-saving, making them ideal for installations where space is limited.
- **CORROSION RESISTANCE.**
  Many plate heat exchangers are constructed from materials resistant to corrosion, such as stainless steel.
- **LOW PRESSURE DROP.**
  These heat exchangers offer a low pressure drop, meaning they do not significantly impede the flow of water through the system.

ADVANTAGES:

The Zilmet Difference High efficiency Long life Low price Small dimensions High modularity Easy maintenance High reliability



Features Of Zimlet Plate Heat Exchanger:

Suitable to a wide variety of applications including:

- Production of sanitary hot water.
- Decoupling of thermal circuits.
- District heating systems.
- Cooling of industrial machineries
- Recovery of heat coming from industrial processes.
- Heating of water for swimming pools and solar systems

Plate Heat Exchangers: *A Compact Solution for Heat Transfer*

Plate Heat Exchanger

They're a popular choice for swimming pool heating systems due to their high efficiency, compact size, and cost-effectiveness. By effectively transferring heat between the heating fluid and pool water, they help maintain comfortable swimming temperatures while optimizing energy use.

Function:

Plate heat exchangers (PHEs) serve the essential function of transferring heat between two fluids without allowing them to mix. This efficient heat transfer allows one fluid to gain heat while the other loses it, making PHEs ideal for applications such as heating swimming pools, HVAC systems, and industrial processes. Their compact design maximizes surface area, enhancing energy efficiency and enabling precise temperature control.

How Plate Heat Exchangers Work

Design:

Plate heat exchangers consist of a series of thin, flat plates arranged in a stack. These plates create multiple channels through which the fluids flow. Each plate has a set of gaskets that ensure the fluids do not mix.

Heat Transfer:

Hot fluid (often water heated by a boiler or solar panels) flows through alternate channels in the heat exchanger. The cooler pool water flows through the remaining channels. Heat is transferred from the hot fluid to the cooler fluid through the plates, effectively warming the pool water.

Efficiency:

Because the plates are thin and closely spaced, heat transfer is highly efficient. This design maximizes the surface area for heat exchange, allowing for effective and rapid temperature adjustment.

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Plate Heat Exchangers: *A Compact Solution for Heat Transfer*

Plate Heat Exchanger

They're a popular choice for swimming pool heating systems due to their high efficiency, compact size, and cost-effectiveness. By effectively transferring heat between the heating fluid and pool water, they help maintain comfortable swimming temperatures while optimizing energy use.

Compact Size:

Their design is more compact compared to traditional shell-and-tube heat exchangers, making them suitable for installations with limited space.

Cost-Effective:

Generally, plate heat exchangers are less expensive than larger, more complex heat exchange systems while still providing effective heat transfer.

No Cross-Contamination:

Since the fluids do not mix, the pool water remains uncontaminated by the heating fluid, which is crucial for maintaining water quality and hygiene.

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OUR PRODUCTS

17. Solar Water Heaters

MALTEZOS

MALTEZOS: MADE IN GREECE

MALTEZOS SA

Was founded in 1977 with main activity the production and trade of Solar Water Heaters. Today's activities cover the product sectors of Solar Water Heaters, Solar collectors, Vertical tanks and related accessories.
MALTEZOS SA holds a leadership position in the production and trade of Solar Water Heaters in Greece. The company evolved into a leader in the Renewable Energy sector due to its consistent and high quality product range along with its customer-focused approach regarding after sales technical support and service.

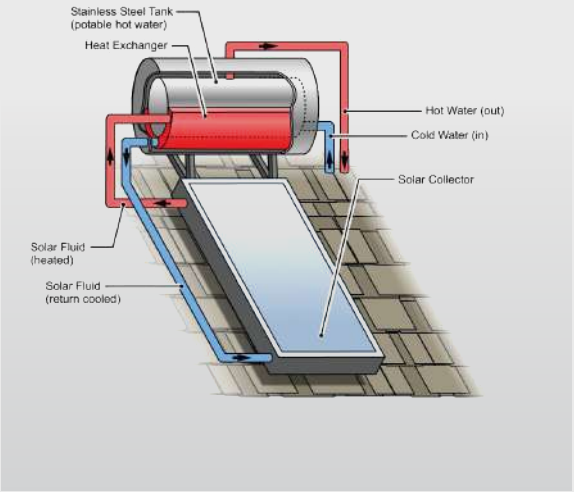
How Solar Water Heaters Work

Absorption: The collector absorbs sunlight and heats a fluid (usually water or a glycol mixture).

Heat Transfer: In passive systems, water naturally circulates through the collector due to convection. In active systems, a pump moves the heated fluid to the storage tank.

Storage: The heated water is stored in a tank, ready for use when needed.

Usage: When hot water is needed, it is drawn from the storage tank.



Function

Solar water heaters primarily function to harness solar energy to heat water for various uses, including domestic hot water for showers, dishwashing, and laundry. They can also maintain swimming pool temperatures, support space heating systems, and provide hot water for industrial processes. By utilizing renewable energy, these systems reduce reliance on conventional sources, lower energy bills, and minimize environmental impact, making them a sustainable choice for hot water needs.

FEATURES OF POOL HEATERS:

- **COLLECTORS.** They typically use flat plate or evacuated tube collectors that maximize sunlight absorption.
- **STORAGE TANKS.** Insulated tanks maintain water temperature and ensure a reliable supply of hot water.
- **ACTIVE AND PASSIVE SYSTEMS.** Active systems use pumps for circulation, while passive systems rely on natural convection, offering flexibility in design.
- **CONTROLLERS.** Many systems include temperature controllers that monitor water temperature and manage pump operation to optimize efficiency.
- **ENERGY EFFICIENCY.** They provide a sustainable alternative to conventional heating, significantly reducing energy costs.
- **LOW MAINTENANCE.** Generally require minimal maintenance, making them a convenient long-term solution.
- **SCALABILITY.** Systems can be tailored to different sizes, suitable for residential or commercial applications.
- **DURABILITY.** Made from corrosion-resistant materials, solar water heaters are designed to withstand various weather conditions.

Go Green
Eco-Friendly and Cost-Effective

Solar Water Heaters

Solar domestic hot water heating is an effective and eco-friendly way to meet your household's hot water needs. By harnessing the power of the sun, these systems offer substantial energy savings, reduced environmental impact, and low operating costs.

Solar Collectors:

The system begins with solar collectors, which capture sunlight and convert it into heat. There are two main types:

Flat-Plate Collectors:

These are insulated panels with a dark absorber plate that absorbs solar radiation. They are covered with a transparent cover that allows sunlight to pass through while reducing heat loss.

Evacuated Tube Collectors:

These consist of glass tubes with a vacuum between the inner and outer layers, providing excellent insulation and reducing heat loss. They are more efficient in colder climates.

The system includes controls and valves to regulate the flow of fluid, maintain optimal temperatures, and switch to backup heating when necessary.

Heat Transfer Fluid:

Solar collectors heat a fluid (water or a heat-transfer fluid) that circulates through the system. In active systems, this fluid is pumped through the collectors, while in passive systems, natural convection circulates the fluid.

Storage Tank:

The heated water is stored in a well-insulated tank, where it remains until needed. The storage tank is often equipped with a backup heating system to ensure hot water availability during periods of low solar radiation.

Go Green
Eco-Friendly and Cost-Effective

Solar Water Heaters

Solar domestic hot water heating is an effective and eco-friendly way to meet your household's hot water needs. By harnessing the power of the sun, these systems offer substantial energy savings, reduced environmental impact, and low operating costs.

Energy Savings:

Solar water heaters can significantly reduce your energy bills by using free solar energy to heat water. They are particularly effective in sunny regions.

Homes with solar water heating systems may have higher property values due to the appeal of energy-efficient features.

Environmental Impact:

They reduce greenhouse gas emissions by decreasing reliance on fossil fuels for water heating, contributing to a lower carbon footprint.

Low Operating Costs:

Once installed, solar water heaters have minimal operating costs. The main costs are related to maintenance and occasional repairs.

Go Green
Eco-Friendly and Cost-Effective

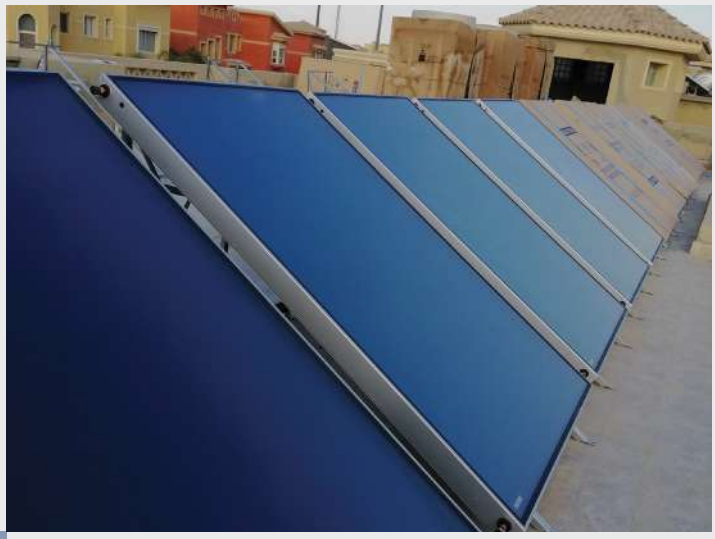
Solar Water Heaters

Solar domestic hot water heating is an effective and eco-friendly way to meet your household's hot water needs. By harnessing the power of the sun, these systems offer substantial energy savings, reduced environmental impact, and low operating costs.

Climate and Location:

The effectiveness of solar water heaters depends on the amount of sunlight received. They are most efficient in sunny climates but can still be effective in less sunny areas if combined with a reliable backup heating system.

The installation of solar collectors may affect the appearance of your home. Consider the visual impact and placement of collectors when planning your installation.



Space Requirements:

Solar collectors need to be installed in an area with adequate sunlight, such as a roof or an open space. Ensure you have sufficient space and structural support for the collectors.

Maintenance:

While solar water heating systems generally require low maintenance, periodic checks are necessary to ensure they are functioning correctly. Regular maintenance can extend the system's lifespan and efficiency.

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Greenwell
Design & Build

Thank you for taking the time to explore our heating system solutions. We invite you to reach out for a consultation or visit our website to discover how we can meet your heating needs.

At **Greenwell**, we are dedicated to providing top-notch quality and reliability in every installation, and we look forward to helping you create a warm and inviting space for your home.

Greenwell for Trading and Contracting

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