



Underfloor heating | Ventilation systems



www.underfloorheating.co.uk

Robbens Systems

German quality with British expertise since 1992

Why choose Robbens Systems®:

Through our many years of supplying underfloor heating systems, we pride ourselves on creating the perfect blend of design, quality and service.

Our flagship range of manifolds all come pre-built and supplied mounted on a board, and all of our pipe comes labelled to match our pipe layout drawings. Ultimately small features like this save time and money on site.

We provide total support through the entire project. Whether this is pre-sales or after-sales, we can help in the specification, installation and set up advice to the end user. No matter what part of the project you are working on, we will be there to help.

Experience is the key:

Robbens Systems® have been at the forefront of the UK underfloor heating market since 1992, developing state of the art design methods and products. Through supplying thousands of domestic and commercial projects, Robbens Systems® have gained intimate knowledge of building methods and the information/service needs of clients, matching our services to these specific needs. Through excellent products, high levels of customer service and responsible trading, Robbens Systems® have continued to delight their customers.

Our focus: the customer:

At Robbens Systems®, each customer is an individual and each project is a one off, both receiving the advice and personal attention they deserve. Our technology is definitely of the modern world, but we have a strong belief in old fashioned service!

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Since 1992 we at Robbens systems® have prided ourselves on designing and supplying high quality and high performance underfloor heating systems. We use only the finest components and use the best design principles to provide bespoke underfloor heating systems.

Nowadays we have the backing of our German parent company Frânkische. They are market leaders in the manufacture of plastic pipes and supply us with the best possible pipes for use with our systems.

Frânkische also manufacture modern and high quality mechanical ventilation and heat recovery (MVHR) systems. The high efficiency units, coupled with a range of Frânkische corrugated plastic pipes provide us with state of the art home ventilation systems.

Robbens Systems® supply these MVHR systems fully designed for use in your home. The combination of heat recovery and underfloor heating creates the perfect blend of comfort in your home along with energy efficiency.

New build or refurbishment

Underfloor heating and home ventilation for both

Refurbishment

Older buildings are often built without the same levels of insulation as more modern buildings. The heat loss calculation of the project is essential to ensure that the heating system can provide enough heat for the project.

Robbens Systems® will look at the building plans at quotation stage, and use the ceiling, door and window heights combined with their U-values to calculate the heat loss of the building. The systems outputs can then be checked against this to ensure that system will provide enough heat for the project.

If in the case of a very old, poorly insulated property the system will not perform satisfactory enough to heat the building, we will highlight this for you and recommend either increasing the insulation values of the project or adding supplementary heating.

Although this is a rare requirement, we believe it's best to know at this early stage than to find out after the project is completed!

New Build

New builds are built in the UK to extremely high standards with high levels of thermal insulation. This makes the specification of the underfloor heating much easier to provide the building with an efficient and comfortable heating system even in the depths of winter.

Because of these high levels of insulation modern new builds usually require a lower amount of heat than older properties. This often means that the inclusion of modern low temperature heat sources such as ground or air source heat pumps are often included in the specification. By pairing these types of heat source with a Robbens Systems® underfloor Heating system you can get the perfect blend of comfort and efficiency.

As new builds are built from scratch they can often be treated as a 'blank canvas' allowing a whole range of different floor constructions. This allows Robbens Systems®, the builder and the architect to specify the ideal system for your project.



Underfloor heating

Radiators heat from the top down, which can create an uncomfortable environment

The heat generated by radiators is normally concentrated into relatively small areas, heating the air directly around them. The air then rises up the wall, along the ceiling into the centre of the room. When it reaches the centre of the room, it cools slightly, and then descends towards the floor. The outcome of this is a warm head and cold feet!

Our feet naturally act as the body's own 'thermostat', having warm feet will generally mean we feel more comfortable. Underfloor heating heats the whole floor area which generates the opposite heat cycle to that of conventional heat sources, and results in warm feet and even room temperatures.

Compared to conventional

radiators, an underfloor heating system generates more radiant heat as opposed to convective heat. Radiators heat up the room by recirculation, along with the permanent flow of dust particles and micro-organisms.

In contrast, the underfloor heating system delivers predominantly radiant heat. As known from the "tile stove", this will create a very cosy and comfortable feel within the room.

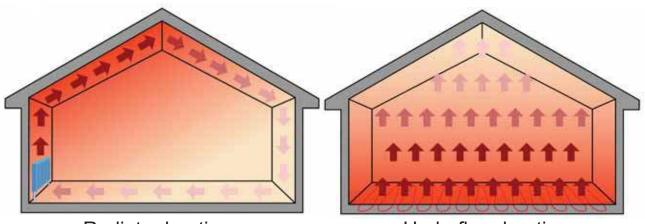
Underfloor heating can result in a 15% energy saving over traditional heating systems, assuming the system has been installed correctly and is running using a suitable setback facility.

Underfloor heating systems evenly disperse radiant heat. This means

the room temperature can be reduced by about 2–3 degrees because a human body is able to assimilate the radiant heat directly.

Furthermore, the flow temperature of the underfloor heating system will be between 40–60 degrees, which is considerably lower than the temperatures required by radiators. This allows the perfect combination with thermal heat sources such as heat pumps and solar systems, which reach such temperatures over the whole year.

The different heat patterns of both underfloor heating and radiators



Radiator heating

Underfloor heating

Profi-screed cliprail

for liquid or sand/cement screed floors

New build or major refurbishment – max output and lowest cost. The Profiscreed cliprail system is installed onto rigid insulation, then covered with either traditional or liquid screed. Ideal for boilers and heat pumps as the heating water required is just 45 degrees.

Specification:

Profi-screed cliprail system using 16mm PEX-AL-PEX or PE-RT pipe installed into cliprail.

The Profi-screed system is compatible with low temperature heat sources, such as ground or air source heat pumps. The pipe spacing can be reduced or increased depending on the heat loss of the building and the water temperature being supplied by the heat source.

Installing this system:

Installation starts after the insulation layer has been fitted to the subfloor. A membrane (not supplied) is installed first if a liquid screed is to be used, containing the screed above the insulation. The edge isolation (supplied) is fitted around all perimeter walls,

creating a thermal break between the floor and the outside walls. Next, the cliprail is installed across the pipe runs, at approx. 1m intervals.

The cliprail has barbs which simply push and lock into the insulation, or have a self-adhesive backing. Pipework is installed following the CAD pipe layout diagram (provided). Flow pipes should be fitted with conduit (supplied) to reduce heat loss between manifold and the room to be heated.

Cover with 50-75mm screed. Allow to dry before installing floorcoverings.

Suitable Floor coverings:

- Tiles
- Carpets
- Structural timber (18-25mm)
- Laminate
- Polished concrete

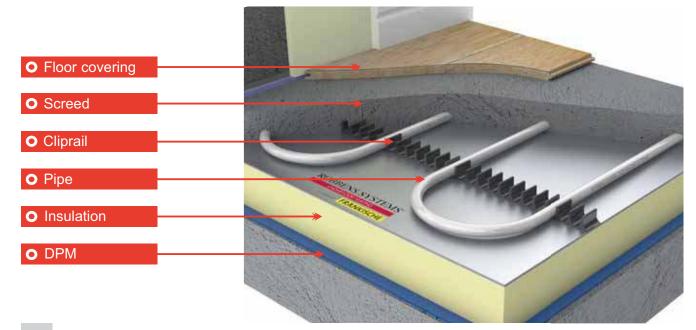
Compatible Heat-source:

• Boiler or Heat pump - 45°c

Pipe Centres

This system can be designed with the following pipe spacing's.

- 100mm
- 150mm
- 200mm
- 250mm



Profi-screed staple

for liquid or sand/cement screed floors

The Profi-screed staple system is installed onto rigid insulation, then covered with either traditional or liquid screed. Ideal for boilers and heat pumps as the heating water required is just 45 degrees.

Specification:

Profi-screed staple system using 16mm PEX-AL-PEX or PE-RT pipe installed using staples & staple gun.

The Profi-screed staple system is compatible with low temperature heat sources, such as ground or air source heat pumps. The pipe spacing can be reduced or increased depending on the heat loss of the building and the water temperature being supplied by the heat source.

Installing this system:

Installation starts after the insulation layer has been fitted to the subfloor. A membrane (not supplied) is installed first if a liquid screed is to be used, containing the screed above the insulation. The edge isolation (supplied) is

fitted around all perimeter walls, creating a thermal break between the floor and the outside walls.

Pipework is stapled directly into position following the CAD pipe layout diagram (provided). Flow pipes should be fitted with conduit (supplied) to reduce heat loss between manifold and the room to be heated.

Suitable Floor coverings:

- Tiles
- Carpets
- Structural timber (18-25mm)
- Laminate
- Polished concrete

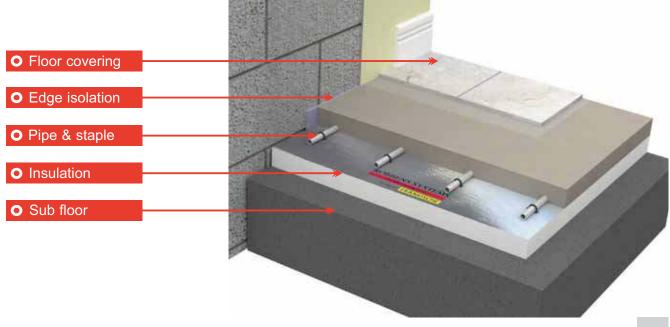
Compatible Heat-source:

Boiler or Heat pump - 45°c

Pipe Centres

This system can be designed with the following pipe spacing's.

- 100mm
- 150mm
- 200mm
- 250mm



Profi-joist

ideal for new and refurbishment floor joists

Profi-joist uses galvanized pipe clips attached to joist edges. With a fast response time and no need for equal joist spacing's, Profi-joist is ideal for any joisted floor.

Specification:

The Profi-joist system combines 450mm galvanised pipe holding clips, attached to joist edges. Random joist spacing's are easily accommodated with this system. After the pipe is installed, aluminium sheets cover the joists to add heat distribution.

Installation:

Insulation is fitted between joists, leaving a 16mm space down from the joist top. Pipe clips are fitted along the joist, which hold the 16mm Pex-Al-pex pipe.

After pipe installation, the remaining 16mm deep gap between pipes is filled with Rockwool or similar.

The floor is then covered with 0.5mm aluminium sheets, prior to either a structural timber finish floor, or chipboard.

Floorcoverings:

- Carpets over chipboard deck
- Timber directly onto joists (18-28mm)
- Laminate over chipboard deck
- Tiles over plywood deck

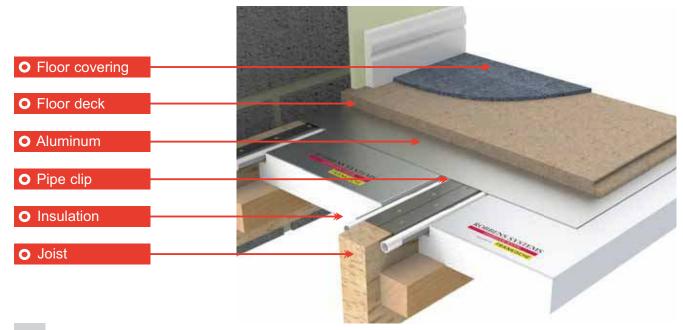
Compatible Heat-source:

• Boiler or Heat pump - 60°c

Pipe Centres:

This system can be designed with the pipe spacing's shown below.

- 150mm (for approx. 300mm joist centres)
- 200mm (for approx. 400mm joist centres
-)300mm (for approx. 600mm joist centres)



Profi-chip

Chipboard with integrated underfloor heating

Profi-Chip panels are the perfect system for installation into new or refurbishment projects where there are limited build up heights.

Specification:

The new profi-chip heating board features the ability to cut the board in 4 places, giving matching connections to other panels. This allows panels to be cut and for the cut ends to start the next row (min 600mm)

Panels are the standard chipboard size of 2400mm x 600mm. Profi-chip uses 12mm Pex pipe.

Installing this system:

Panels are installed onto floor joists or battens, and the tongue and grooved edges are glued to the adjoining panels, as well as to the joists. Panels are also screwed into the joists. 12mm Frankische pipe is then fitted, following the pipe layout drawing supplied with the system.

6mm plywood is bonded to the top surface after pipe installation, forming a ridged structural floor.

Floor coverings are installed directly on top of the 6mm ply.

Suitable Floor coverings:

- Tiles
- Carpets
- Structural timber (18-25mm)
- Laminate

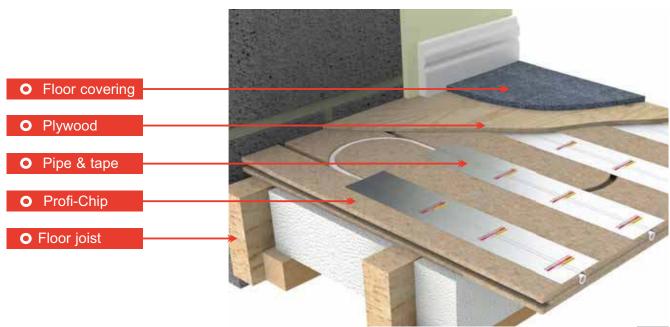
Compatible Heat-source:

• Boiler or Heat pump - 60°c

Pipe Centres;

This system can be designed with the following pipe spacing's.

• 150mm



Profi-low 15mm

low height heat pump compatible

Profi-low is a load bearing 600mm x 600mm panel, which is then covered with liquid screed. Install over existing floors where a low profile, high output system is needed.

Specification:

The Profi-low system is designed to be used in projects where a high output, low profile system is needed.

Profi-low is excellent for use with a heat pump, and can operate with a water temperature as low as 35 degrees. If required, Profilow has the ability to incorporate more pipe into the floor, as the system is designed for both 75mm and 150mm spacings - again further aiding the heat pump performance.

Installed onto existing timber, screed or concrete subfloors, the finished height before floor covering is just 15 to 18mm.

When installed onto an uninsulated floor, Profi-low is available with a 3,5,6 or 10mm thermal break insulation, prebonded to the back of the tiles.

Installing this system:

Attach the pre-assembled manifold to the wall.

Install the interlocking tiles to cover the entire area. Secure to the subfloor with screws.

Pipework is installed following the CAD pipe layout diagram (provided). Pressure test manifold and pipework prior to screeding. Screed using a suitable self-leveling liquid screed to the top of the panels (15mm) or to 3mm over when carpet is to be installed.

Floor coverings are installed directly to the finished screed surface.

Suitable Floor coverings:

- Tiles
- · Carpets
- Structural timber (18-25mm)
- Laminate

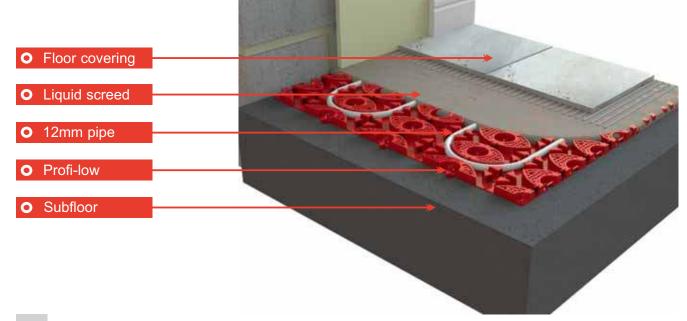
Compatible Heat-source:

• Boiler or Heat pump - 45°c

Pipe Centres:

This system can be designed with the following pipe spacing's.

- 75mm
- 150mm



Profi-panel

over floor panels with built-in insulation – ideal for refurbishment

EPS panels, 1200mm x x1200mm, in any thickness from 18mm to 100mm. Combining insulation with underfloor heating – perfect when refurbishing older buildings.

Specification:

The Profi-Panel system can be used in any project where a specific build up height is required. These can vary from new builds through to older renovation projects. Profi-Panels are supplied with foiled grooves, to aid in an even heat distribution.

Installation:

The 1200 x 1200mm panels are laid onto a load bearing subfloor. Curved ends should be placed along the shortest walls, giving maximum length of straight pipe runs. The centres are then installed, cutting panels as necessary.

The 16mm pipe then pushes into the groove, following the pipe layout drawing that is supplied for your rooms. Once the pipe has been installed, a vapour barrier should cover the floor, followed by either the finished floorcovering, or 9mm plywood prior to tiling, vinyl flooring or carpet.

Floorcoverings:

- Tiles or stone over 9mm plywood deck
- Carpets over 9mm plywood deck
- Timber (14-22mm)
- Laminate (14-22mm)

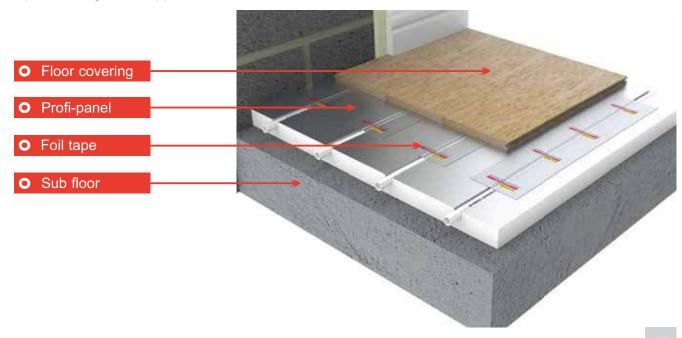
Compatible Heat-source:

• Boiler or Heat pump - 60°c

Pipe Centres:

This system can be designed with the pipe spacing's shown below.

- 150mm
- 200mm



Profi-mix joist & batten

dry screed to store heat - ideal for heat pumps

Profi-mix allows a joist or batten floor to be heated by a low temperature heat pump. Heat is stored in the dry screed layer, requiring water at just 35 degrees

Specification:

The Profi-mix system allows a suspended or batten floor to be heated from a very low heat source. Using 30-35mm of dry screed, the system will build up and hold heat. It also allows closer pipe spacing's if required to meet the heating demand of the rooms.

Installation:

Install battens along joist, install rigid insulation, and ensure top of insulation is 30-35mm below joist tops.

Pipework is installed onto the insulation, following the CAD pipe layout diagram (provided). The pipes are then covered with a dry mix of sand and cement, to provide a thermal mass to hold and conduct the heat through

the floor above.

Structural floorboards (eg Oak planking) can be installed directly to the joists. Otherwise, a structural floor deck (typically 18-22mm chipboard, or suitable screedboard, is installed onto the floor joists, with carpet or tiles above.

Floorcoverings:

- Carpets over screed board or chipboard deck
- Timber directly onto joists (18-28mm)
- Laminate over screed board or chipboard deck
- Tiles over screed board or chipboard deck

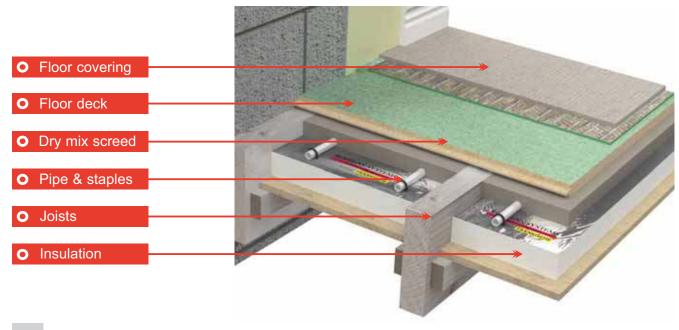
Compatible Heat-source:

• Boiler or Heat pump - 45°c

Pipe Centres:

This system can be designed with the following pipe spacing's.

- 100mm
- 150mm
- 200mm
- 300mm



Controls

thermostats and wiring centres for ultimate performance

Using our wiring centers in your application means that the actuator, boiler and pump connections are wired from a single point.

4,8 & 10 zone wiring centers can connect up to 6 actuators per zone.

Radiators can also be controlled via 1 zone – ideal for heated towel rails.

Robbens Systems supply one of the best thermostat and wiring centre options available - easy web and home automation compatibility means there are no costly upgrades needed.



Wiring centres

This is the central brain of the underfloor heating system. It is installed next to the manifold, and connects the boiler or heat pump, thermostats and actuators.

The wiring centre can connect to the thermostat either with 3 core & earth cable, or wirelessly.

Robbens provide 4, 8 and 10 zone controllers - depending on how many rooms are to operated from each manifold.

Thermostats

With a choice of 240 volt wired, or battery operated wireless thermostats, installation is made simple even in older projects. Available in a choice of colours, with backlit displays and easy phone or ipad control.

Each thermostat learns the heating characteristics of the room, and adjusts itself over a 14 day period.

Radiators can also be controlled room by room using the same thermostats and a distribution manifold ask for details.





Manifolds

premium manifolds for boilers and heat pumps

The heart of every underfloor heating system is the manifold. All the pipework is brought back to this central distribution point, which is called the manifold. The main flow and returns are connected to the heat source for the building.



Manifolds

premium manifolds for boilers and heat pumps

Multi-zone manifolds provide automatic zoning of your building in conjunction with a thermostat in each room. They come supplied with water temperature blending units and have an electronic actuator on each loop, designed to turn water flow on and off. This is controlled by the room thermostat.

Single-zone manifolds (without actuators) are used where only one room needs to be heated and controlled by a single thermostat, a single zone manifold is used. The entire manifold is either on or off, and this is controlled by one main actuator, connected to the thermostat.

Boiler manifolds

Underfloor heating requires water at a much lower temperature than boilers supply - therefore the manifold must mix this hot water with cooler water. This is done by the mixing unit, which recycles water which has already been around the underfloor heating pipes.

The temperature is set on a thermostatic head connected to the mixing unit. Temperature gauges show the actual water temperature on both the supply and return valves.

Heat pump manifolds

Heat pumps supply water at a much lower temperature than boilers - usually this does not require any mixing to reduce the temperature. Robbens use a distribution manifold for heat pumps, which is designed to fit this situation.

Our distribution manifold includes a balancing valve which ensure a high flow back to the heat pump - essential for correct operation and maximum efficiency.

- Factory assembled manifolds
- Mounted onto 15mm melamine faced exterior grade plywood
- · Grundfos modulating pumps with all boiler manifolds
- · Pressure differential valve on all heat pump manifolds
- Nickel plated solid brass construction
- Auto air vents, pressure and temperature gauges
- Filling points with hosepipe connections

Pipes

German quality for peace of mind

Profi-therm AL is FRÄNKISCHE's highly flexible multilayer composite 16x2mm pipe. This multilayer composite pipe system, which was specifically optimized for radiant heating and cooling applications, contains an extremely thin aluminium layer that meets all requirements in terms of stability. This enables optimum bend radii (5 x diameter), which can be easily achieved through manual bending without requiring any additional tooling.

Whether used inside residential buildings, open-plan offices, car dealerships or hotels, the flexible profitherm AL multilayer composite pipe can be easily used in any radiant heating installation and guarantees reliable operation.

Reliable quality

The inside and outside layers of the pipe are made of polyethylene of raised temperature resistance (PERT) and the inner core layer is made of butt-welded aluminium (PE-RT/AL/PE-RT). These three layers are permanently bonded together with a special adhesive – designed for the highest demands, excellent reliability and extreme durability.

Profi-therm AL pipes are connected using alpex crimp connections, alpex compression couplings and compression fittings with a 16mm diameter. The fittings are either made of high-quality PPSU (polyphenylsulfone) plastic or dezincification-resistant brass.



Profi-therm Al:

- Excellent sound absorption properties
- Superior flow properties
- Corrosion resistant
- Superior resistance to chemicals
- Continuous upper temperature resistance: 70 °C
- Max. operating pressure: 6 bar
- Oxygen-impermeable aluminium layer



MVHR

mechanical ventilation with heat recovery



Good reasons to use heat recovery ventilation

It has become commonplace in modern building construction that homes are virtually airtight due to legal standards and in order to save energy. At the same time, building control prescribes that a minimum air exchange must be ensured in airtight buildings.

Ideally, the entire indoor air will be exchanged completely every one to two hours in order to guarantee healthy in-door climate. This requirement is hard to meet considering current living and working habits. FRÄNKISCHE has developed the perfect solution to this challenge: profi-air – the ventilation system with heat recovery ventilation. It supplies the building with fresh, filtered outdoor air while removing used air around the clock.

Pollen, fine dust and other pollutants are prevented from entering the home – which is not the case when airing by opening the windows. An extra benefit ensuring a pleasant atmosphere and making people with allergies happy.

The technologically advanced profi-air ventilation system stands for the top quality of all components. Our many years of competency and experience in the field of pipe systems are particularly well reflected in profiair classic and profi-air tunnel.

With profi-air, you will have fresh clean air and a better quality of living at your home.





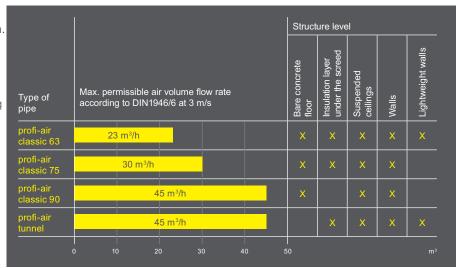
profi-air - heat recovery ventilation made easy

The profi-air system is a complete system for heat recovery ventilation.

The flexible air distribution system with pipe variants of classic and tunnel profiles is suitable for installation in both new and existing buildings.

Ventilation units are available to match each and every installation situation and building size.

Exclusive design grills perfectly complement the system and add an individual touch to each room.



All benefits at a glance

The main focus of mechanical ventilation with heat recovery (MVHR) is on healthy ventilation of the building.

Properly filtered air ensures a comfortable room climate, and prevents fine dust and allergens from

entering. Humidity or mould growth are a thing of the past.

profi-air ensures evenly distributed air exchange, enhanced energy efficiency and stable value of your property.













HYGIENICALLY SOUND



Two advanced pipe systems: Our proven round pipe ...

profi-air classic



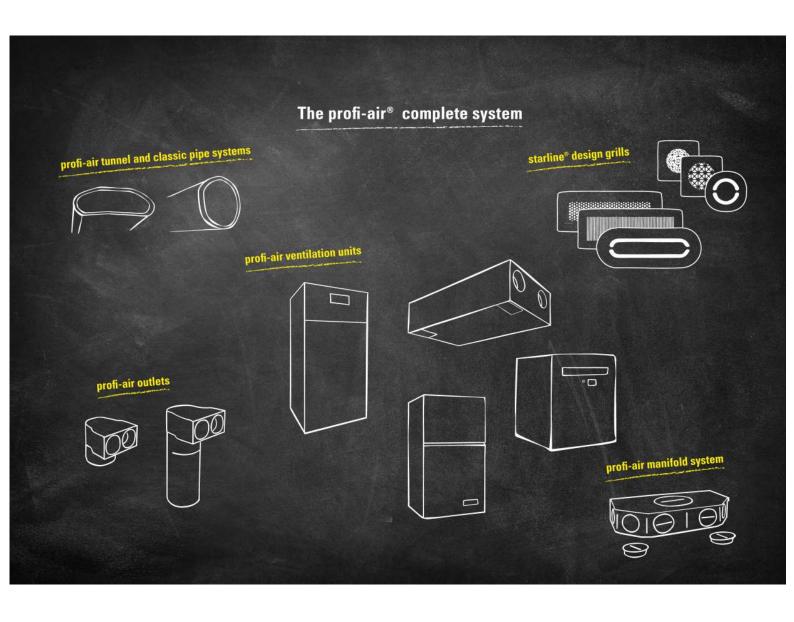
The profi-air classic pipe system is ideal for installation in bare concrete, timber stud walls and engineered floor joists.

- Thanks to its flexibility, no additional fittings are required even with very narrow bend radii.
- Fits inside of 100mm stud-work walls

- smooth, antibacterial and antistatic inner surface
- flow-optimised pipes and fittings (less noise, lower energy requirement)
- reliable connection option no sealing with adhesive tape
- lightweight and tightly bendable fewer fittings required

Technical data

		profi-air classic 63	profi-air classic 75	profi-air classic 90
Dimensions	D _o [mm]	64	76	91
	D _i [mm]	54	63	78
Min. bend radius	vertical [mm]	150	150	150
	horizontal [mm]	150	150	150
Antistatic and antibacterial inner surface		Yes	Yes	Yes
Test				



Efficient ventilation units

profi-air 250/400 touch

Efficient ventilation units for wall / floor installation in larger family homes.



profi-air 180/300 sensor

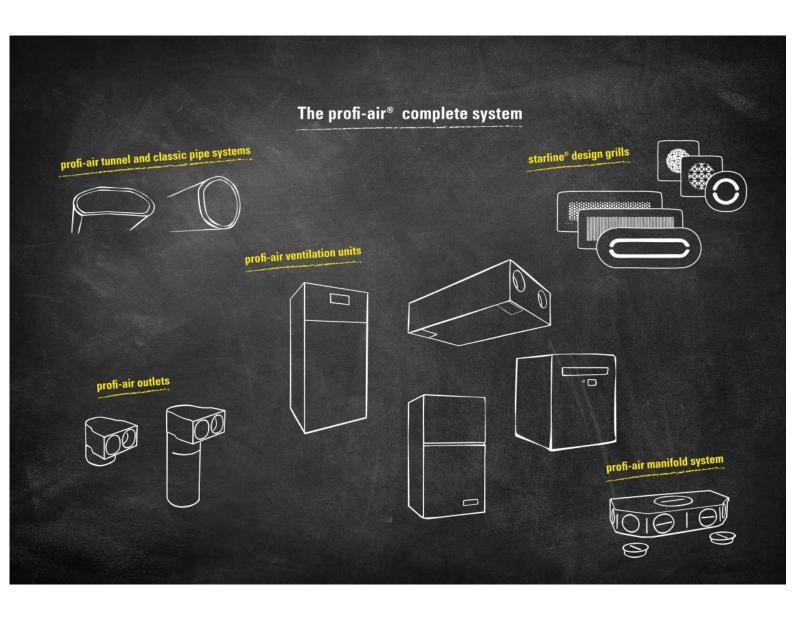
Efficient ventilation units for wall installation in apartments and smaller family homes.



profi-air 180 flat

Efficient ventilation units for ceiling installation in flats and apartments.





profi-air design grills



Design grill collection for heat recovery ventilation

- 20 designs matching any interior style
- innovative magnetic fixing

Experience the whole variety at www.designgrills.com

350 x 130mm



SHAPE BUSINESS

160 x 160mm



SHAPE COMPACT





... and our innovative tunnel pipe

profi-air tunnel



Low installation height on bare concrete

Thanks to its extremely low installation height of only 52mm, the profi-air tunnel pipe system is ideally suited for installation on bare concrete. It can also be perfectly installed in the wall or on the ceiling.

• smooth, antibacterial and

antistatic inner surface

- flow-optimised pipes and fittings (less noise, lower energy requirement)
- high impact strength
- innovative sealing core provides reliable connection
- very low installation height (52mm)

Technical data

		profi-air tunnel coiled	profi-air tunnel straight lengths
Dimensions	W [mm]	132	132
	H [mm]	52	52
Min. bend radius	vertical [mm]	150	_
	horizontal [mm]	300	_
Antistatic and antibacterial inner surface		Yes	Yes
Test			

Quote request

for Underfloor heating, home ventilation or for both

To receive a free quotation please send a copy of your floor plans and elevations by post to the following address:

Robbens Systems®

84 Castleham Road

St Leonards-on-Sea

East Sussex

TN38 9NT

You can also email your plans and elevations to: **quotes@robbens.co.uk**

or you can complete the quotation form on our website: www.underfloorheating.co.uk

Please send us the following information:

- Floor and Elevation plans
- Insulation details and U-Values
- · Your contact details
- Systems required: eg Profi-Screed
- Floor construction
- Confirm if it's a new build or renovation
- · Manifold locations: eg under stairs cupboard

If you need some help please contact us for free advice on 01424 851111, or visit our website for more information.

At Robbens Systems®, we guarantee our designs and the room temperatures achievable as shown in your quotation. This is based on the information provided to us at quotation stage.

If only basic information is provided, our quote will be based on the outputs of the system. Our experts are always on hand to discuss your quotation, and will visit your project if required to review the specification.





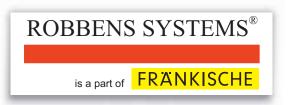


Underfloor heating | Ventilation systems

Robbens Systems® have been at the fore-front of low energy heating systems since 1992. Underfloor Heating and Ventilation Systems are at the core of the Robbens business.

Robbens Systems® offer a personal service to clients, with free quotations, on-site visits and expert technical advice before, during and after purchase.

Robbens Systems® is part of FRÄNKISCHE, a leading European manufacturer of building and industrial pipes.











Contact Robbens Systems:

HEAD OFFICE 84 Castleham Road St. Leonards-on-Sea East Sussex TN38 9NT

TEL: 01424 851111

FAX: 01424 851135

sales@robbens.co.uk

quotes@robbens.co.uk