



Plastic pipes
easily and reliably

FV THERM

Heating system

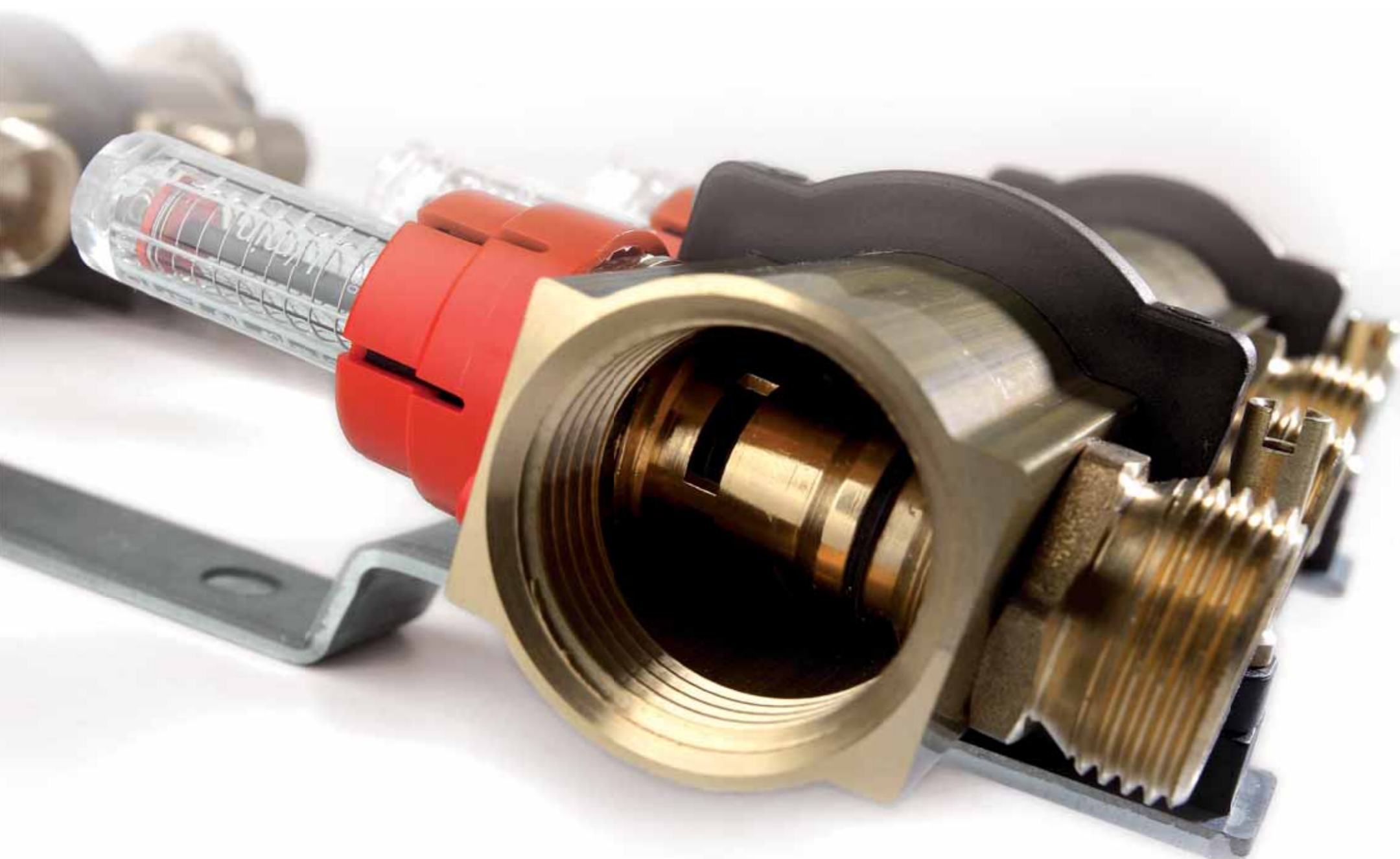


PRODUCT CATALOGUE



EUROPEAN UNION.
EUROPEAN REGIONAL DEVELOPMENT FUND. INVESTMENT IN YOUR FUTURE.

- ✓ FV Plast is highly reliable
- ✓ FV Plast improves the quality, introducing technological innovation
- ✓ FV Plast listens to the professionals - plumbers, who work daily with the distribution



FV THERM

Simple and secure heating distribution system

Offers a professional solution with permanent value. Whether a new building or reconstruction, under-floor or wall heating or heating by radiators of various types, FV THERM satisfies diverse requirements in a convincing manner.

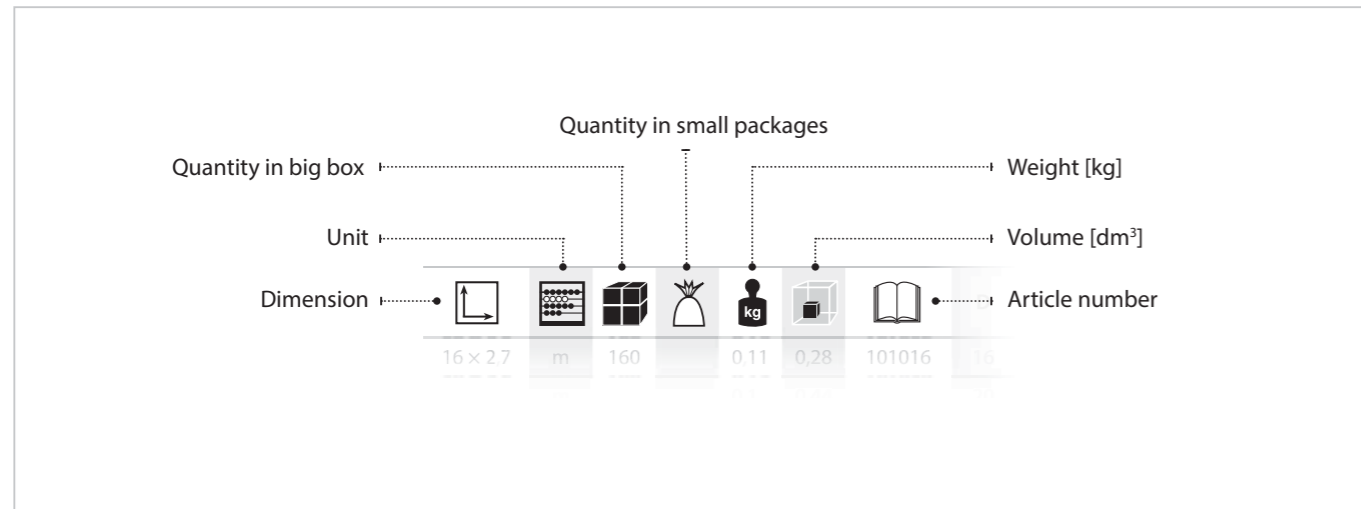
The high quality workmanship of all system components, PE-RT and PE-Xa pipes, system EPS and PUR sheets, and accessories, makes it possible to install the complete FV THERM floor heating and cooling system in three simple steps. FV Plast service naturally includes preparation on the basis of a computer program while complying with all existing regulations.

System insulation tacker sheets comprises EPS sheet insulation, with a grid patterned polyethylene membrane or superior deep-drawing nap foil are complemented with a highly efficient PUR sheets only 14 mm thick.

The laying technique by means of a device for fastening system pipes with quality PP clips, called a tacker, allows for a simple, precise and fast installation even in the case of irregular ground plans.

The smooth connection of pipes is ensured by mechanical couplings which, like the heating distributors, are made of quality brass with the highest accuracy.

Icons



The company is constantly striving to improve products and product lines. As a result, range and specifications in this catalogue can change. Check out our website for updated information or call us. Thank you for your understanding.

Content

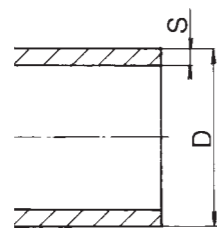
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System pipes

FV THERM PE-RT heating pipe



15 x 1,8	m	200		0,08	0,6	111015
17 x 2,0	m	200		0,09	0,6	111017
20 x 2,0	m	200		0,1	0,6	111020

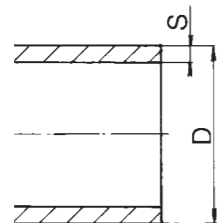


5-layer highly flexible PE-RT system pipe with enhanced thermal resistance as per EN ISO 22391, with EVAL oxygen barrier as per DIN 4726, with enhanced protection against mechanical damage during transport and handling on the construction site. Designed for underfloor heating and connecting heating bodies of operating temperature of up to 70°C and pressure of 4 bar. Packed in taped bundles in cartons.

FV THERM PE-Xa heating pipe



17 x 2,0	m	200		0,09	0,6	111117
20 x 2,0	m	200		0,1	0,6	111120



5-layer highly resistant PE-Xa cross-linked polyethylene with enhanced thermal resistance as per ČSN EN ISO 15875, with EVAL oxygen barrier as per DIN 4726, with enhanced protection against mechanical damage during transport and handling on the construction site. Designed for underfloor heating and connecting heating bodies of operating temperature of up to 95°C and pressure of 6 bar. Packed in taped bundles in cartons.

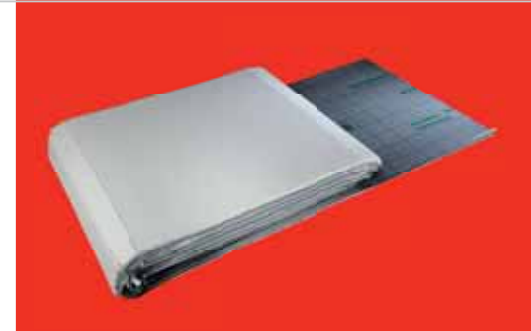
The exceptional mechanical resistance and flexibility of the five-layer FV THERM PE-RT pipe prevents damage to the oxygen barrier consisting of an EVAL layer even if handled roughly.



System sheets

FV THERM EPS Tacker Roll

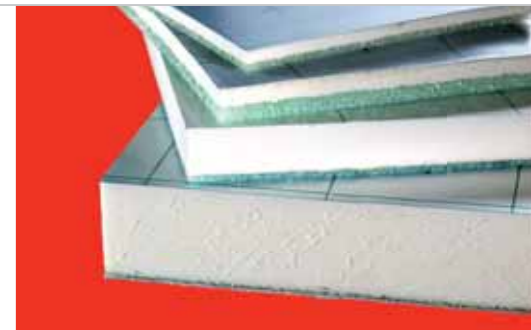
30 mm	m ²	10		1	23	94020



Thermal and impact insulation as per DIN EN 13163 (WLS 045) with fabric reinforced foil with printed 5 cm grid to easily fasten original tacker staples, with the adhesive foil extending 18 mm beyond the edge on the long side of the sheet. Packed in PE bag.

FV THERM PUR System Layered Sheet

14 mm	m ²	20		0,6	14	94114



Layered thermal and impact multilayer sheet with a PUR layer for perfect thermal comfort, and an expanded PE layer for efficient impact absorption. Suitable for laying PE-RT and PE-Xa system heating pipes of diameters of 15, 17 and 20 mm, packed in cartons.

Do you want to save the floor building height in the attic? The PUR polyurethane layered FV THERM system sheet will save you precious centimetres. It has double thermal resistance and an extra layer of expanded polyethylene, which perfectly absorbs the impact noise. All that in just 14 mm.



System sheets

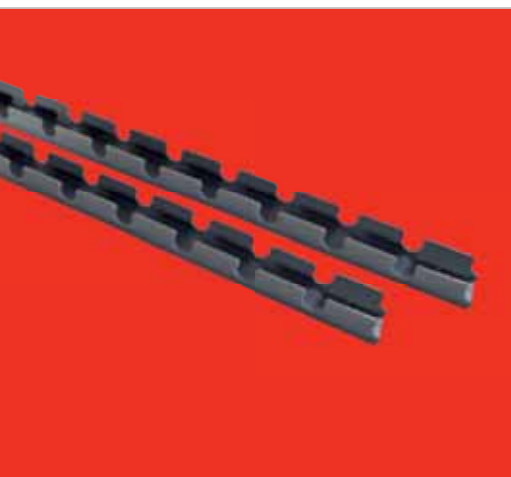
FV THERM NOP System Sheet



Height	Area	Volume	Weight	Length	Code
30 mm	m ²	8,96	1,3	30	94230

Combined thermal and impact EPS insulation with a layer of resistant nop-shaped foil. Suitable for laying PE-RT and PE-Xa system heating pipes of diameters of 15, 17 and 20 mm, with edging for easy connection of another sheet. The sheet concept allows for a fast and simple installation with minimum cutting loss. Packed in cartons.

FV THERM Plastic Rails



Length	Unit	Quantity	Weight	Code
3 m	pcs	10	1	94915
3 m	pcs	10	1	94917
3 m	pcs	10	1	94920

Plastic fastening rails for easy laying of heating system pipes with height fixation, with prepared holes for anchoring. Spacing of holes for pipe anchoring = 50 mm, length 4000 mm. Packed in units.

Manifolds

FV THERM Flow Meter Manifold

Height	Unit	Quantity	Weight	Code	Number of circuits
150 mm	pcs	1	1,5	95402	2 circuits
200 mm	pcs	1	1,8	95403	3 circuits
250 mm	pcs	1	2	95404	4 circuits
300 mm	pcs	1	2,5	95405	5 circuits
350 mm	pcs	1	3	95406	6 circuits
400 mm	pcs	1	3,5	95407	7 circuits
450 mm	pcs	1	4	95408	8 circuits
500 mm	pcs	1	4,5	95409	9 circuits
550 mm	pcs	1	5	95410	10 circuits
600 mm	pcs	1	5,5	95411	11 circuits
650 mm	pcs	1	6	95412	12 circuits



Complete manifold with flow meters

Flow header and return header of massive brass profiles with spacing of 50 mm always with 1" male connections from the right or from the left as preferred.

The supply inlets are furnished with assembled, adjustable and lockable, always clear dry flow meters with a scale from 0,1 to 4 l/min for accurate adjustment of flows in individual coils.

Return header: assembled, lockable in-built valves for the use of thermal actuators with ON/OFF functions. To facilitate the assembly, the flow header and return header are lateral to each other and down-oriented on a noise-insulated console.

The delivery includes: 1 set comprising a 1/2" charge and discharge ball valve incl. manual ventilation and labels. Packed in cartons.

Do you want to be certain of the flows in all heating circuits? FV THERM manifolds will always reliably distribute and measure the flows for you. They are made of quality brass with the highest accuracy and include accurate balancing valves and dry, maintenance-free flow indicators.



Cabinets

FV THERM Surface Mounted Cabinet AP (above plaster)



							Size
520 mm	pcs	1	1	6	60	96004	Size 1
720 mm	pcs	1	1	7	70	96008	Size 2
920 mm	pcs	1	1	8	100	96012	Size 3
1120 mm	pcs	1	1	10	120	96016	Size 4

Surface Mounted Cabinet AP (above plaster)

Made of steel sheet, white powder varnish. Back side with a fixing holder to anchor the manifolds and electric accessories, depth 100 mm, lockable removable door.

FV THERM Flush Mounted Cabinet UP (under plaster)



							Size
520 mm	pcs	1	1	6	60	96104	Size 1
720 mm	pcs	1	1	7	70	96108	Size 2
920 mm	pcs	1	1	8	100	96112	Size 3
1120 mm	pcs	1	1	10	120	96116	Size 4

Flush Mounted Cabinet UP (under plaster)

Made of steel sheet, white powder varnish. Back side with a fixing holder to anchor the manifolds, electric accessories, depth 100 mm, lockable removable door. Fillet for building into wall.

Accessories

FV THERM Tacker Staples

long	pcs	1000		0,001	0,01	94800
short	pcs	1000		0,001	0,01	94801



Quality tacker clip for fastening a 15/17/20 mm pipe

The PP clip is furnished with efficient hooks which together with a system sheet ensure an easy and secure installation of the 15/17/20 mm system pipe. The clips are packed in taped 50-piece dispensers in 1000-piece cartons.

FV THERM Edge Insulation

150 mm	m	200	50	1	15	94810



150 mm edge insulation

Consisting of 8 mm thick foam PE foil, height 150 mm with 280 mm PE foil glued on it. Furnished with self-adhesive tape on the back facilitating attachment to the wall. Suitable for cement and self-levelling flooring.

FV THERM PE Corrugated Sleeve

400 mm	pcs		10	0,5	0,35	94840



PE corrugated sleeve for the protection of system pipes when crossing dilatation joints and manifolds outlets.

Accessories

FV THERM Expansion Joint Profile



100 x 1800 mm	pcs	20	0,8	1,8	94820

Can be used to achieve an elastic joint between and on the perimeter of heated screed slabs, consisting of a PE core covered by a stable PET layer and a vertical self-adhesive support leg, width 10 mm, height 100 mm, length 1800 mm.

FV THERM Adhesive Tape



50 mm x 66 m	pcs	10	0,1	0,5	94999

Adhesive tape
width 50 mm, length 66 m



FV THERM Click Guide Piece



15	pcs	25	0,07	0,1	94830
17	pcs	25	0,07	0,1	94831
20	pcs	10	0,08	0,1	94839

Adjustable guide piece 0-90° for system pipes, used as ceiling lead-through and supply connection to distributor.

FV THERM Plasticizer



10 l	pcs		10	10	94899

Cement plasticizer
For the preparation of heating floor covering with good elasticity and to increase mechanical strength.



Temperature regulation

FV THERM Thermal Actuator



pcs	50	1	0,14	0,3	95100	

For thermostatically controlled heating circuits, for incorporation in the return header with an open/locked indicator. Standardly, locked without power, may be altered to „open without power“. Packed in cartons.

FV THERM Electronic Controller



pcs	1	1	0,4	3	95910	

Electronic controller for a DIN fillet enabling to connect up to 24 pieces of thermodrives and 6 pieces of room thermoregulators. LED signalling, silent switching.



FV THERM Room Thermostat



pcs	1	1	0,2	0,1	95900	

230 V electronic temperature regulator for individual rooms, combined with thermal actuators. Accessories: wall mounting adapter. Operating range: 5 - 30 °C. May control up to 15 actuators. 24 V made to order.

FV THERM Transformer



pcs	1	1	2	1	95920	

230 V AC/24 V AC safety transformer. Short circuit resistance with integrated thermal cutout.



Couplers - armatures

FV THERM Eurokonus Connection 3/4"



Size	Unit	Quantity	Weight (kg)	Volume (m³)	Code
15 x 1,8	pcs	10	0,1	0,03	95515
17 x 2,0	pcs	10	0,1	0,03	95517
20 x 2,0	pcs	10	0,1	0,03	95520

MS-clamping threaded joint

For connecting PE-RT and PE-Xa 15/17/20 mm system pipes to distributors. Consisting of: 3/4" IG MS-union nut, clamping ring and O-ring.

FV THERM Coupler



Size	Unit	Quantity	Weight (kg)	Volume (m³)	Code
15 x 1,8	pcs	10	0,1	0,07	95615
17 x 2,0	pcs	10	0,1	0,07	95617
20 x 2,0	pcs	10	0,1	0,1	95620

Compact coupler

Consisting of MS-double threaded joints and 2 clamping threaded joints for connecting system pipes.

Equipment

FV THERM Tacker Staple Gun



Size	Unit	Quantity	Weight (kg)	Volume (m³)	Code
15/17/20	pcs	1	7	15	99000

15/17/20 tacker staple gun is a special fastening tool for anchoring a system pipe onto tacker system sheets. Adjustable height, for anchoring system pipes by means of original 15/17/20 fastener staples.



FV THERM Unwinder



Size	Unit	Quantity	Weight (kg)	Volume (m³)	Code
420 mm	pcs	1	15	30	99001

Massive pipe unwinder for ideal unwinding of a system pipe up to 600 meters long. Consisting of a plastic drum with a removable side. Maximum load limit about 90 kg, maximum core diameter about 260 mm, maximum width 420 mm.

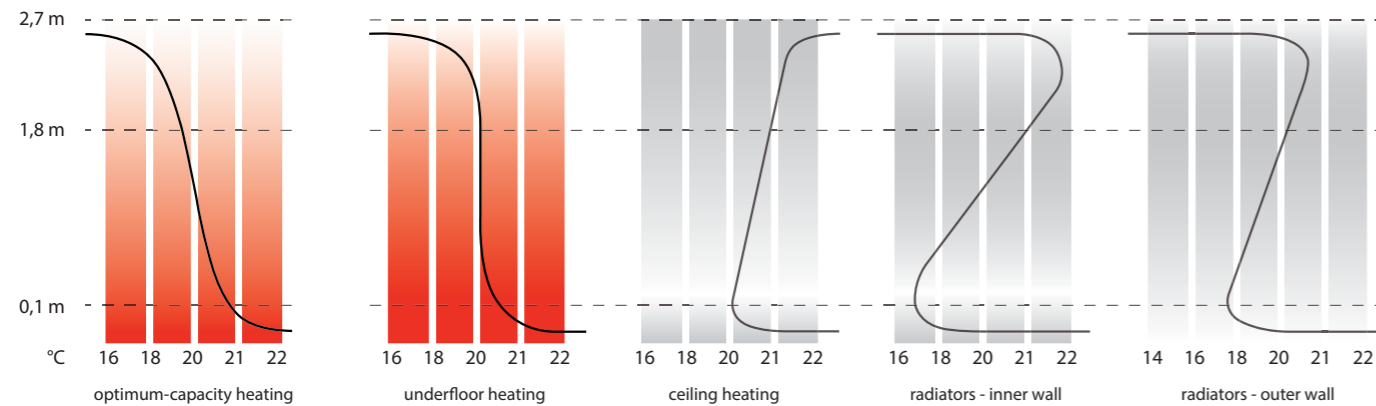


Do you know that a pipe can be perfectly attached to the system sheet using an original tacker staple gun and specially developed tacker staples which are part of the FV THERM package? This will significantly save your labour when laying PE-RT and PE-Xa system pipes, and thereby increase the assembly productivity.



Why underfloor heating systems?

Requirements for the quality and comfort of building interiors are still increasing. It is large-scale heating and cooling systems that contribute in no small way to the creation of thermal comfort.



Individual family houses, apartment buildings, buildings with offices and shops, industrial and sports halls or outdoor areas – underfloor heating systems find use in all of the places.

What was exceptional yesterday is a matter of fact today: optimum-capacity heating and cooling systems which can be easily adjusted to individual requirements are a standard. Therefore, it is no surprise that when choosing a modern and progressive system solution, investors are increasingly opting for them. FV Plast translated its long-time experience in water and heating distribution into the FV THERM system which is an answer to this development. The decisive criteria in the selection of a heating and cooling system are – apart from user comfort and architectural freedom – energy savings and hygiene as well as consideration for the planet Earth.

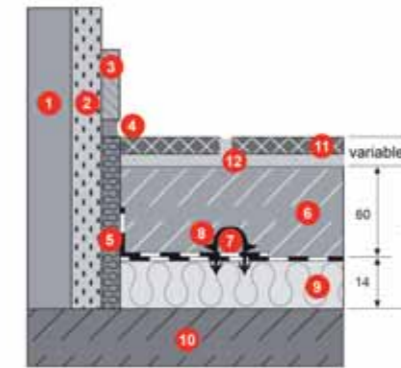
The efficiency of FV Plast's underfloor heating systems ensures an optimum, precisely adjustable temperature profile in all heated premises every day. Negative effects of "classic" heating systems (hot-water radiators, fancoils, direct-heating sources) on the room's indoor environment such as air turbulence, draught or accumulation of heat at the ceiling thus belong to the past. Temperature heights in a room heated by a hot-water underfloor heating system correspond almost to the physiological ideal of heating. (see the graphs).

Experts know it: the larger the area supplying and removing heat, the more efficient and economical space heating. The ambient temperature is perceived to be higher in large-scale heating systems as opposed to conventional radiators. So, the room's objective temperature may be 1°C to 2°C lower. Consequently, energy savings range from 6 to 12%. It is also possible to significantly reduce the hot water temperature in the system and thereby achieve optimum conditions for the use of condensing gas boilers or so-called alternative energy systems – heat pumps or solar collectors connected to central heat storage.

As regards hygiene, underfloor heating systems have an undoubted advantage in their effects on the internal surfaces of a construction which they heat evenly. The risk of occurrence of condensation spots is thus reduced. As a result, living conditions for sponges, bacteria and mites become difficult to impossible. Being often neglected, particularly in public areas, cleaning of heating bodies is no longer necessary.

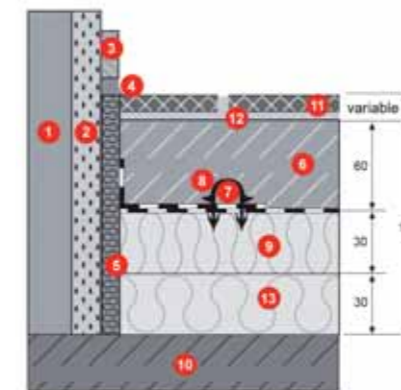
Layer structure of FV THERM underfloor heating

Recommended floor structure above heated rooms as recommended in ČSN EN 1264 insulation thermal resistance $R = 0,75 \text{ m}^2 \text{ K/W}$



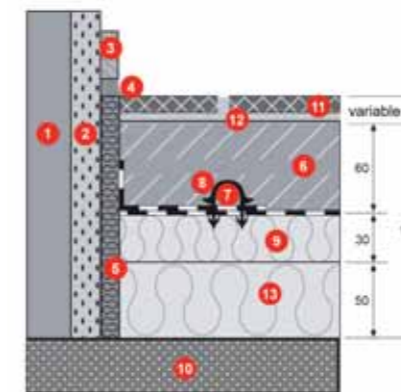
- 1 Wall
- 2 Coating
- 3 Skirting board
- 4 Elastic jointing material
- 5 FV THERM edge insulation
- 6 Seamless flooring as per DIN 18560
- 7 FV THERM system heating pipe PE-RT 15 mm
- 8 FV THERM staple
- 9 FV THERM system layered sheet PUR 14 mm
- 10 Backing
- 11 Tiles
- 12 Thin-film elastic construction adhesive

Recommended floor structure above natural ground, basement or occasionally heated rooms as recommended in ČSN EN 1264 insulation thermal resistance $R = 1,25 \text{ m}^2 \text{ K/W}$



- 1 Wall
- 2 Coating
- 3 Skirting board
- 4 Elastic jointing material
- 5 FV THERM edge insulation
- 6 Seamless flooring as per DIN 18560
- 7 FV THERM system heating pipe PE-RT 15 mm
- 8 FV THERM staple
- 9 FV THERM EPS tacker roll 30 mm
- 10 Backing
- 11 Tiles
- 12 Thin-film elastic construction adhesive
- 13 EPS 30 mm sheet

Recommended floor structure above outdoor environment as recommended in ČSN EN 1264 insulation thermal resistance $R = 2,0 \text{ m}^2 \text{ K/W}$



- 1 Wall
- 2 Coating
- 3 Skirting board
- 4 Elastic jointing material
- 5 FV THERM edge insulation
- 6 Seamless flooring as per DIN 18560
- 7 FV THERM system heating pipe PE-RT 15 mm
- 8 FV THERM staple
- 9 FV THERM EPS tacker roll 30 mm
- 10 Bearing structure
- 11 Tiles
- 12 Thin-film elastic construction adhesive
- 13 EPS 50 mm sheet

The above values are to be considered lower limits. Any increase in the insulation layer thermal resistance is beneficial for the comfort of the residential premises, user's pocket and, last but not least, the planet Earth.

FV Plast wishes you an easy assembly and well-working heating system.



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