Microflex® HP

All-in-one solution for heat pumps

PRE INSULATED
100% ORIGINAL DESIGN
PIPE PRODUCTION

watts.eu

WATTS®

Microflex®: Flexibility, all the way!

Microflex has been known since 1994 as the outspoken expert in the development and optimization of systems with ultra-flexible pre-insulated pipes.
We offer the most complete and ultra-flexible system solution for a network of pre-insulated pipes for a variety of applications: heating, sanitary, cooling and renewable energy.

Always on time on-site

Flexibility is in our nature. As soon as your order comes in, we get straight to work to deliver:

- Directly to your site *
- On the agreed day
- Per meter or in rolls of 100 m

Flexible and efficient installation

Microflex tubes are known as the most flexible on the market and guarantee the greatest efficiency during installation:

- No couplings or attachments necessary at obstacles
- Faster assembly times
- Advantageous installation costs
- Lower total cost of ownership

* Depending on the terms & conditions of your local distributor

Environmentally friendly

Microflex manufactures products that contribute to a sustainable future.

- Lower energy consumption and CO_2 emission
- Recyclable products without polluting elements (CFC)
- Environmentally friendly production

Lower installation cost with higher efficiency

Return on investment thanks to Microflex!

- Higher return through investment in age-resistant insulation
- Unparalleled flexibility at installation

Microflex® HP: The all-in-one solution for heat pumps

Microflex is always looking for solutions that are more effective, cost efficient and sustainable. In this way we want to contribute to a lower use of the limited natural resources of our earth.

The new Microflex HP is the ultimate solution for the installation of monobloc heat pumps. In the intelligent design of the pipe, the pipes for the supply and return of heating and/or cooling are combined with two conduits for the power and network cable in the same outer casing. The result is a complete and flexible solution with high quality insulation. The Microflex HP is also suitable for connecting a garage, garden house, outdoor sauna or winter garden.

ADVANTAGES

- **Quick and easy** installation through combination of medium and wire conduits
- Light in weight due to **compact design**
- Cut to size for free *, so **no waste**
- **Only one wall feed through** to put pipe and cables into the building
- **Safe and easy** routing and replacement of wires because of integraded wire tubes
- **Efficient** installation thanks to the small bending radius

MAIN CHARACTERISTICS

- Suitable for both heating and cooling
- 2 medium pipes in PE-Xa with oxygen diffusion barrier (SDR 11)
- 2 conduit tubes for power and network cable
- Max. operating pressure: 6 bar
- Max. medium temperature: + 85°C constant (peak 95°C)
- High quality aging resistant PE-X insulation

* Depending on the terms & conditions of your local distributor

Range overview

Microflex® HP

Art. No.	PE-Xa d_out x s (mm)	DN	Electric corrugated conduit outer/inner diameter (mm)	Outer casing d_out (mm)	Weight (kg/m)	Inner bending radius (1) (m)	Average Thickness of Insulation (mm)
Microflex HP: PN6/SDR11 + electric conduit							
MQ12525C3225E	2 x 25 x 2.3	20-20	25/18.8 32/25	125	1,63	0,3	15
MQ12532C3225E	2 x 32 x 2.9	25-25	25/18.8 32/25	125	1,79	0,3	12
MQ16032C3225E	2 x 32 x 2.9	25-25	25/18.8 32/25	160	2,27	0,5	27
MQ16040C32E	2 x 40 x 3.7	32-32	2 x 32/25	160	2,60	0,6	15
MQ20050C40E	2 x 50 x 4.6	40-40	2 x 40/32	200	4,00	0,8	22

(1) Valores prácticos que no deformen ni dañen las tuberías

PE-X-coupling

Art. No.	PE-Xa d_out x s (mm)	Connection
MJ3413425/23	25 x 2,3	¾" M
MJ3414432/29	32 x 2,9	1" M
MJ3415440/37	40 x 3,7	1 ¼" M
MJ3416450/46	50 x 4,6	1 ½" M

Fix point

Art. No.	PE-Xa d_out x s (mm)	Connection
MFP34	25 x 2,3	¾" M
MFP44	32 x 2,9	1" M
MFP54	40 x 3,7	1 ¼" M
MFP64	50 x 4,6	1 ½" M

Dust cap (indoor application)

Art. No.	Outer casing (mm)	Pipe type
MSQ125253225	125	MQ12525C3225E
MSQ125323225	125	MQ12532C3225E
MSQ160323225	160	MQ16032C3225E
MSQ1604032	160	MQ16040C32E
MSQ200504040	200	MQ20050C40E

End cap (outdoor application)

Art. No.	Outer casing (mm)	Pipe type
MGQ1251832	125	MQ12525C3225E MQ12532C3225E
MGQ1601832	160	MQ16032C3225E MQ16040C32E
MGQ2002550	200	MQ20050C40E

Wall feed trough (underground application)

Art. No.	Outer casing (mm)	Wall opening (mm)
6LS325	125	180-182
7LS325	160	209-212
9LS325	200	250-255

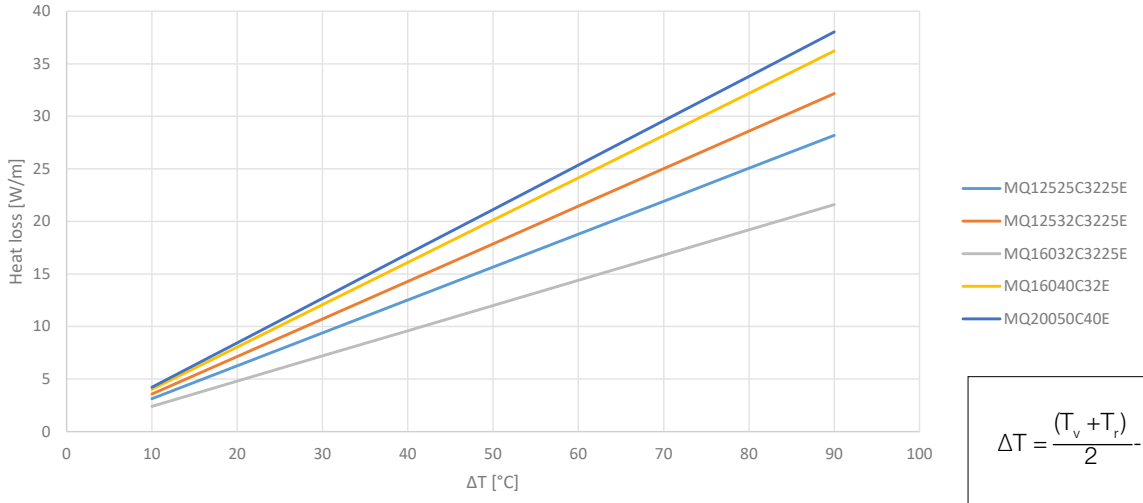
Pressure loss

Heating Capacity [kW] at a given ΔT [K]							Flow [l/s]	25 x 2,3		32 x 2,9		40 x 3,7		50 x 4,6	
5	10	15	20	25	30	40		m/s	Pa/m	m/s	Pa/m	m/s	Pa/m	m/s	Pa/m
1,3	2,5	3,8	5	6,3	7,5	10	0,08	0,21	33	0,15	13	0,11	6	-	-
2,5	5	7,5	10	12,5	15	20	0,12	0,37	84,8	0,22	25,6	0,14	9	0,08	2,3
3,8	7,5	11,3	15	18,8	22,5	30	0,18	0,55	174,9	0,33	52,4	0,22	18,4	0,11	4,6
5	10	15	20	25	30	40	0,24	0,73	239,5	0,45	87,5	0,29	30,6	0,19	11,2
6,3	12,5	18,8	25	31,3	37,5	50	0,3	0,92	439,9	0,56	130,7	0,36	45,5	0,23	15,5
7,5	15	22,5	30	37,5	45	60	0,36	1,1	613,2	0,67	181,5	0,43	63,1	0,27	20,4
8,8	17,5	26,3	35	43,8	52,5	70	0,42	1,28	813,1	0,78	240	0,5	83,2	0,31	25,9
10	20	30	40	50	60	80	0,48	1,47	1039,3	0,89	305,8	0,58	105,9	0,34	31,9
11,3	22,5	33,8	45	56,3	67,5	90	0,55	1,68	1336	1,02	392	0,66	135,4	0,42	45,8
12,5	25	37,5	50	62,5	75	100	0,6	1,84	1569,5	1,11	459,6	0,72	158,6	0,46	53,5
13,8	27,5	41,3	55	68,8	82,5	110	0,65	1,99	1820,8	1,21	532,2	0,78	183,4	0,5	61,8
15	30	45	60	75	90	120	0,7	-	-	1,3	609,8	0,84	209,8	0,54	70,7
16,3	32,5	48,8	65	81,3	97,5	130	0,75	-	-	1,39	692,3	0,9	237,9	0,57	80,1
17,5	35	52,5	70	87,5	105	140	0,85	-	-	1,58	872,2	1,02	299	0,65	100,4
18,8	37,5	56,3	75	93,8	112,5	150	0,9	-	-	1,67	969,4	1,08	332	0,69	111,4
20	40	60	80	100	120	160	0,95	-	-	1,76	1071,5	1,14	366,6	0,73	122,9
21,3	42,5	63,8	85	106,3	127,5	170	1	-	-	1,85	1178,5	1,2	402,8	0,76	134,9
22,5	45	67,5	90	112,5	135	180	1,05	-	-	1,95	1290,3	1,26	440,6	0,8	147,4
23,8	47,5	71,3	95	118,8	142,5	190	1,1	-	-	2,04	1406,9	1,32	480	0,84	160,5
25	50	75	100	125	150	200	1,2	-	-	-	-	1,44	563,5	0,92	188,1
27,5	55	82,5	110	137,5	165	220	1,3	-	-	-	-	1,56	653,3	0,99	217,8
30	60	90	120	150	180	240	1,4	-	-	-	-	1,68	749,4	1,07	249,5
32,5	65	97,5	130	162,5	195	260	1,55	-	-	-	-	1,86	905,2	1,19	300,8
35	70	105	140	175	210	280	1,65	-	-	-	-	1,98	1016,9	1,26	337,4
								-	-	-	-	-	-	1,38	396,2
								-	-	-	-	-	-	1,45	437,8
								-	-	-	-	-	-	1,53	481,3
								-	-	-	-	-	-	1,61	526,9
								-	-	-	-	-	-	1,68	574,3
								-	-	-	-	-	-	1,84	675,1

Pipe Rugosity: 0.007 mm. Water density: 0.994 g/cm^3. Water temperature: 35°C.

Heat loss

Type	U_{TPS} [W/(m K)]	Pipe heat loss [W/m] ΔT [°C]								
		10	20	30	40	50	60	70	80	90
MQ12525C3225E	0,313	3,13	6,26	9,40	12,53	15,66	18,79	21,93	25,06	28,19
MQ12532C3225E	0,357	3,57	7,15	10,72	14,30	17,87	21,44	25,02	28,59	32,17
MQ16032C3225E	0,240	2,40	4,80	7,20	9,60	12,00	14,40	16,80	19,20	21,60
MQ16040C32E	0,403	4,03	8,05	12,08	16,10	20,13	24,15	28,18	32,20	36,23
MQ20050C40E	0,423	4,23	8,45	12,68	16,90	21,13	25,36	29,58	33,81	38,03



$$\Delta T = \frac{(T_v + T_r)}{2} - T_o$$

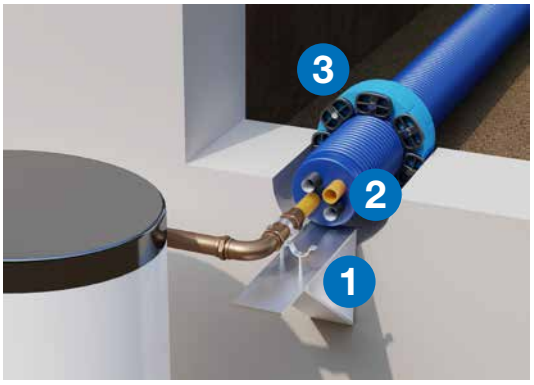
T_v : Flow temperature
T_r : Return temperature
T_o : Ground temperature

Installation guidelines

- The pre-insulated pipes are always supplied with plastic caps that close the medium pipe to prevent contamination during transport and/or installation. If the pipe is not immediately connected, it is recommended to put the plastic caps on the medium pipe and protect the insulation from moisture using end caps or shrink caps.
- Install the tube by pulling on the medium tubes, never pull on the outer casing.
- Make sure that the pipes are not dragged on the ground and remove sharp objects (this is to avoid damage to the casing).
- Lay the tubes in serpentine to minimize the expansion/contraction forces on the tube to limit. By covering the pipes with sand at even distances, they're held in the appropriate position.
- Indicate on the plan how and where the pipeline network (including branches and connections) runs and archive the file.

Installation examples

Indoor unit



1. It is necessary to attach the pipe to a support system to be anchored using fix points (anchoring system not available in our range).
2. A dust cap at the ends ensures a dust-proof closure of the tube.
3. The wall feed through MicroSeal ensures a water proof closing up to 3 bar.

Outdoor unit

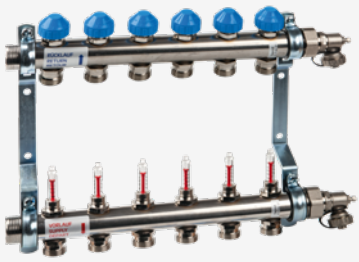
1. For outdoor connections, the use of watertight end caps is mandatory to prevent damage to the insulation due to water seepage.
2. When installing, the prescribed minimum bending radius must not be exceeded, nor during installation, nor in the end position of the pipe.
3. Carefully place the Microflex tube on a 10 cm compact sand bed on the bottom of the trench. The sand bed should support the pipe evenly.

Scan this code for our complete installation manual.

Compatible products

In addition to connections for heat pumps and boilers, Watts offers a wide range of supplementary systems. This comprehensive range provides customers and end users with high-quality, optimally matched products from a single source.
Detailed information, brochures, data sheets and instructions can be found on www.wattswater.eu.

Watts Vision - Smart home system
Vision® Wireless is an intelligent Smart Home System which is designed to control both hydronic and electric underfloor and radiator heating, lighting and other electrical appliances. Due to integrated WiFi module you are able to monitor and change setting in your house via smart phone or tablet.



HKV - Manifolds for heating systems
In stainless steel round pipe or brass profiled pipe, up to 12 zones and available with a large range range of accessories.

Isomix - Control unit for panel heating/cooling systems
Ready-to-mount, compact control unit to control supply temperature in radiant panel heating or cooling systems up to 14 kW heat demand.

iDROSET Series CF - Static balancing valve
For calibrating and adjusting the water flow in heating and cooling systems, and domestic hot and cold water installations. No specific tools are required for installation and it has a direct reading on the device itself.

Flowbox - Pre-mounted hydraulic modules
Flowbox hydraulic modules are used to distribute heating water from a heat source (boiler, heat pump, etc.) to consumption circuits or to a storage tank. These modules can also be used for cooling systems, taking into account the permissible medium temperatures of the circulation pump.

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