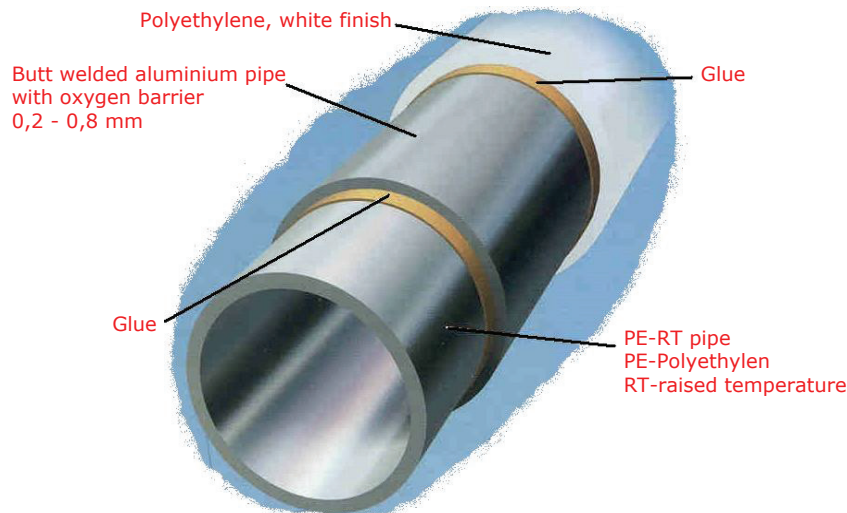


HERZ PIPEFIX

Pipes and fittings

Data sheet for PIPEFIX, Issue 0616

 Pipes


Plastic composite pipe PE-RT TYPE II / AL/ PE-RT TYPE II, multilayer pipe for complex installation tasks in heating, air conditioning and plumbing installations. System tested with HERZ PIPEFIX press and screw fittings or connectors. Delivered in coils or rails. Delivered in coils.

<i>Pipe Ø x wall thickness [mm]</i>	<i>Aluminium wall thickness [mm]</i>	PE-RT TYPE II / AL/ PE-RT TYPE II pipe coil	PE-RT TYPE II / AL/ PE-RT TYPE II pipe rail
10x1,3	0,2	3 C101 30	-
16x2	0,4	3 C160 20	3 C160 34
16x2	0,2	3 D160 20	-
20x2	0,4	3 C200 20	3 C200 34
20x2	0,25	3 C200 30	-
26x3	0,5	3 C260 30	3 C260 35
32x3	0,5	3 C320 30	3 C320 35
40x3,5	0,5	3 C400 30	3 C400 36
50x4,0	0,5	-	3 C500 40
63x4,5	0,8	-	3 C630 45
75x5	0,8	-	3 C750 50

 Technical specification

Maximal operation temperature (over 50 years)	70°C
Maximal operation temperature (max.1 year)	95°C
Emergency operation temperature (max. 100 h)	110°C
Maximal operation pressure (over 50 years)	10 bar
Maximal operation pressure (max. 1 year)	12 bar
Thermal conductivity	0,47 W/mK
Internal surface roughness	0,007 mm
Co- efficient of linear expansion	0,023 mm/(mK)
Oxygen permeability	<0,1 g/m³d

Plastic composite pipe PE-RT TYPE II / AL/ PE-RT TYPE II, with insulation.

Pipe Ø x wall thickness [mm]	Aluminium wall thickness [mm]	Insulation wall thickness [mm]	Order number
16x2	0,4	6	3 C160 06
20x2	0,4	6	3 C200 06
26x3	0,5	6	3 C260 06
32x3	0,5	6	3 C320 06
16x2	0,4	9	3 C160 09
20x2	0,4	9	3 C200 09
26x3	0,5	9	3 C260 09
32x3	0,5	9	3 C320 09
16x2	0,4	13	3 C160 13
20x2	0,4	13	3 C200 13
26x3	0,5	13	3 C260 13
32x3	0,5	13	3 C320 13

Technical specification

Maximal operation temperature (over 50 years)	70°C
<input checked="" type="checkbox"/> Maximal operation temperature (max.1 year)	95°C
Emergency operation temperature (max. 100 h)	110°C
Maximal operation pressure (over 50 years)	10 bar
Maximal operation pressure (max. 1 year)	12 bar
Thermal conductivity	0,47 W/mK
Internal surface roughness	0,007 mm
Co- efficient of linear expansion	0,023 mm/(mK)
Oxygen permeability	<0,1 g/m³d
Insulation LPDE foam with PP coating	
Thermal conductivity	0,04 W/mk as per EN8497
Reaction to fire according DIN 4102 B1	
CFC and HCFC free	
Water vapor diffusion number ≥ 6000 to 52 615	
Outer casing grey, black lettering	

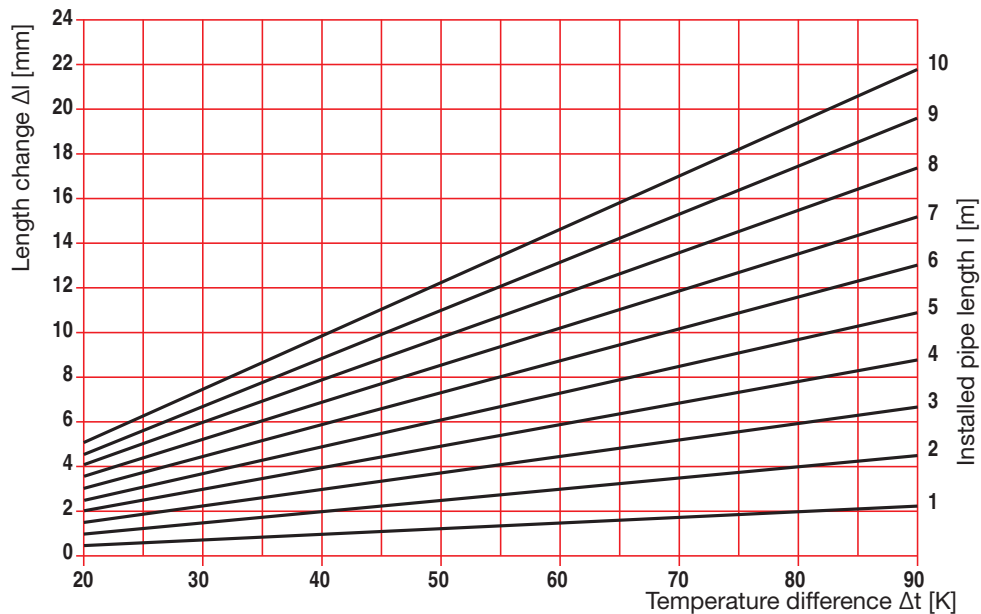
Pipe Ø x wall thickness [mm]	Order number
16x2	3 C160 33
20x2	3 C200 33

☑ Thermal expansion

The linear expansion coefficient, independent of the pipe size, totals 0,023 mm/m°K. The length change between installation and operating temperature may be calculated using the following formular.

$$\Delta l = a \times l \times \Delta t$$

- Δl ... length change
- a ... Expansion coefficient [0,023 mm/m°K]
- l ... Installed pipe length [m]
- Δt ... Temperature difference between installation and operating temperature



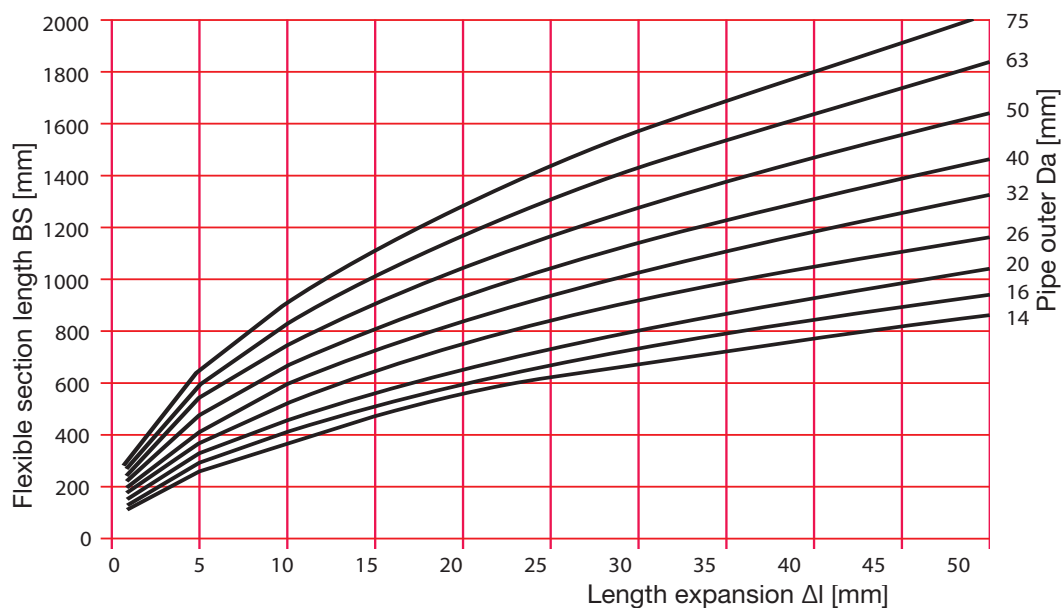
Pipe expansion is compensated by professional installation

☑ Expansion section and fixing interavals

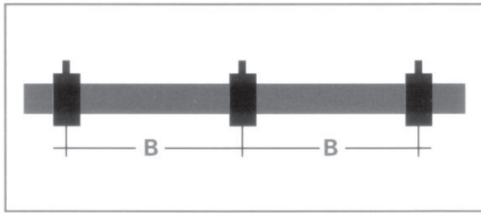
With normally installed pipes or „Pipes in pipe“ installations, sufficient flexible sections must be left to compensate the expansion. When installing buried or under screed (underfloor heating) pipes, the expansion is recorded as radial. The flexible section can be calculated as follows.

$$BS = c \times \sqrt{Da \times \Delta l}$$

- c ... 33, (dimensionless material constants)
- Da ... outer diameter of the pipe
- Δl ... length change

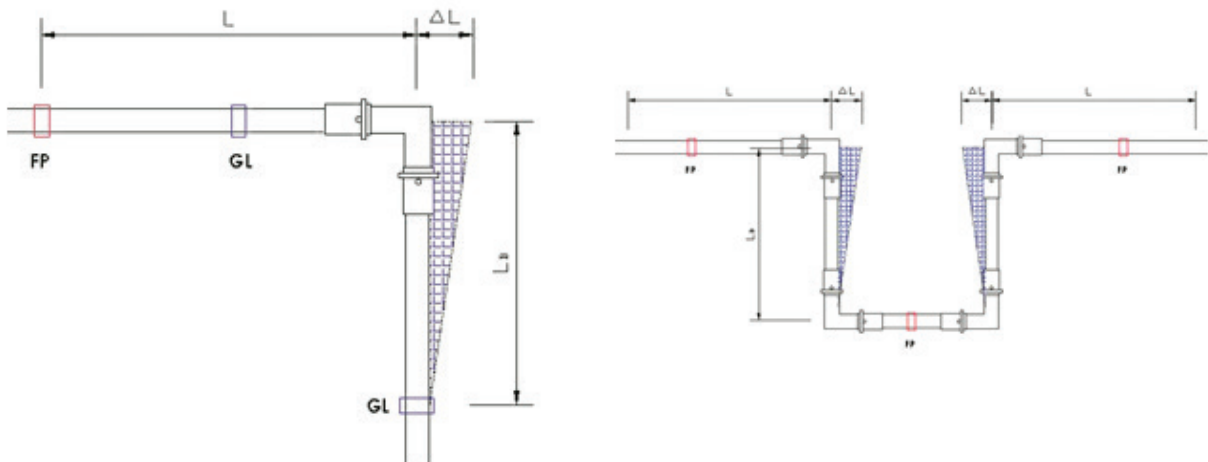


Loose laid pipes do not require any supports, such as clips, clamps, etc. due to their stable shape. The support intervals can be found in the table below. Plastic or metal pipe clamps should have a soft lining, of rubber or another soft material, in order to avoid damage to the pipe and to reduce noise transmission



Dimension [mm]	Support Interval B [m]	Dimension [mm]	Support Interval B [m]
14	0,8	32	1,6
16	0,8	40	1,7
20	1	50	1,8
26	1,2	63	2

The arrangement of fixed points and sliding supports is very important when installing, so that sufficient flexible section are available. Fittings (elbows, T's etc.) are recommended for changes in direction, for pipe sizes DN 32 and above they must be utilised. The pipe expansion can be halved by around 50% by pre-stressing the pipes.



Pipe expansion for directional charges, flexible section to be calculated using the diagram

Inclusion of the pipe expansion in long pipes, including expansion through U-bends, flexible sections by calculation or from the diagram

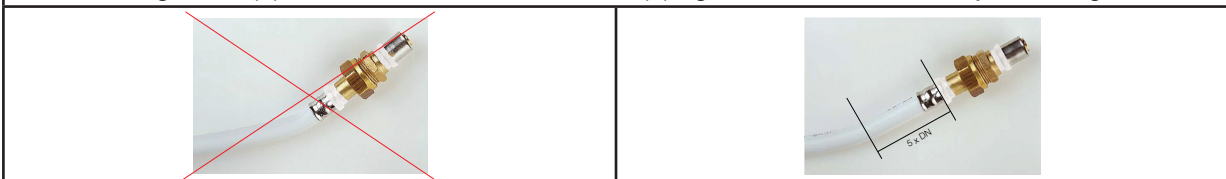
Bending radius

The pipe can be bent using a bending tool such as an inner or outer spring, or the usual bending tools or by hand. the minimum bending radius must always be adhered to. For DN 32 pipes or larger, fittings must always be used.

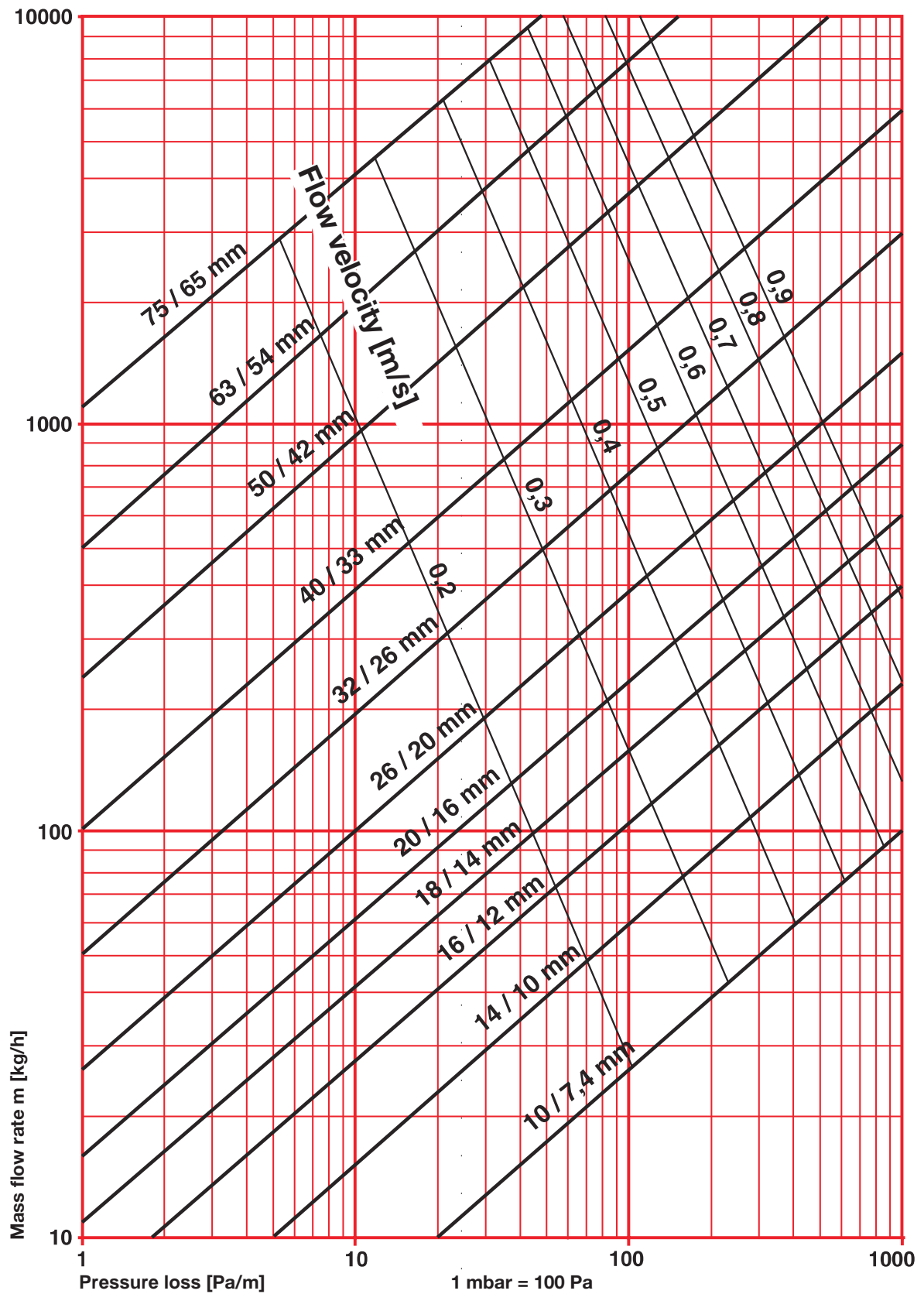
d Ø	Radius with bending tool [mm]	Radius without bending tool [mm]
10	20	50
14	28	70
16	32	80
18	36	90
20	40	100
26	130	260
32 - 63	HERZ PipeFix elbows	HERZ PipeFix elbows

For a working environment temperature less than +5°C there is an increased risk of the pipe snapping or kinking during bending. For bending pipes under +5°C the relevant part of the pipe must be warmed up.

Pipe bends after a press fitting or clip must have a section of pipe 5 x DN between fitting and bend in order to avoid damage to the pipes. Where there are creases in the piping these sections must always be changed.

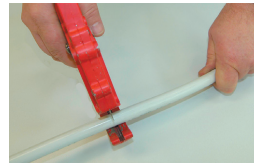


Pipe pressure loss diagram

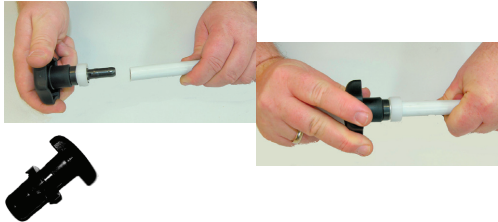


Processing of HERZ pipes with HERZ fittings

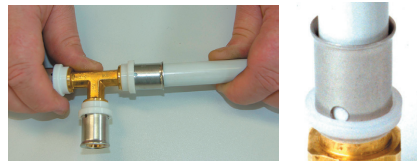
The tube is cut to length at right angles with suitable tool. Suitable tools are commercial available pipe shears, pipe cutters and hacksaws.



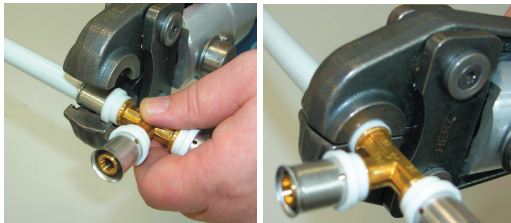
The pipe is trimmed and calibrated with a special tool suitable for its diameter. The resulting shavings must be removed from the end of the pipe. If the calibrator is fixed in a drilling machine, the maximum revolutions of 10rpm must not be exceeded.



Placing the fitting on the pipe. Check the correct pipe engagement through the vision ports on the press sleeve - the pipe must have fully engaged on the fitting and be visible in the ports.

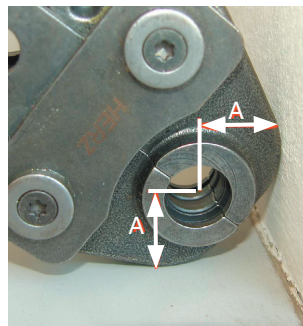


Complete pressure sealing using a press device or manual press pliers. The pipes must be free of stress. The press procedure is complete if the jaws have been closed completely.

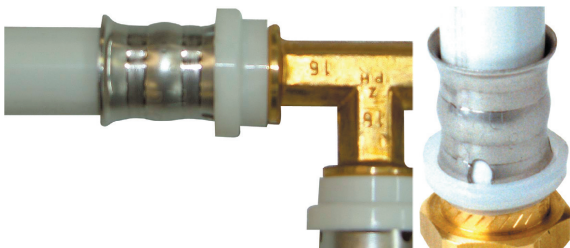


Press tools are precision tools and should be handled accordingly. HERZ PipeFix is pressed using the profile „TH“, so that the usual tools (hand press device, accupress device, etc.) can be used. Small „A“ distances to the wall or floor are possible.

d Ø	A [mm]	d Ø	A [mm]	d Ø	A [mm]
10	25	20	30	40	40
14	25	26	30	50	70
16	25	32	40	63	70



Checking the pressure sealing: On the side of the press sleeves you can see two parallel, ring-shaped grooves with a bulge between them.



Non-detachable connections such as press fittings can be buried after installation (See local or national legislation for confirmation). Press connections are prohibited from being buried in floors in the Fernwärme Wien (Vienna's remote heating programme) area. To avoid corrosion to the fittings there must be galvanic separation from the concrete or masonry using moisture insulation. This insulation can, for example, be carried out using heat shrinking materials or corrosion protection tape. In case, compatibility with the pipe material and fitting must be checked.

It is imperative that the stated pipe diameter and pipe wall thickness are adhered to when processing

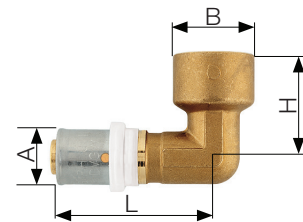
Connection resistance								
Pipe dim.	Pipe bend	Angles	T-piece flow re-direction one-way (1 into 2)	T-piece flow mixer (2 into 1)	T-piece flow re-director two-way (1 into 2)	T-piece flow collection (2 into 1)	Passage piece	wall angles
Values in equivalent pipe lengths in m								
14	0,70	1,50	1,30	1,60	1,70	1,70	1,00	1,40
16	0,60	1,40	1,20	1,50	1,60	1,60	0,90	1,30
18	0,55	1,20	0,90	1,40	1,50	1,50	0,70	1,20
20	0,50	1,10	0,60	1,30	1,40	1,40	0,50	1,10
26	0,40	1,00	0,50	1,20	1,30	1,30	0,40	-
32	0,30	0,80	0,30	1,00	1,10	1,10	0,30	-
40	0,26	0,76	0,28	0,95	1,00	1,00	0,26	-
50	0,22	0,72	0,26	0,90	0,95	0,95	0,22	-
63	0,18	0,70	0,24	0,85	0,90	0,90	0,18	-

To simplify the pipe network calculation the resistance values of the fittings are given in equivalent pipe lengths. These pipe lengths are to be found in the above table and are added to the length of the pipe network when calculating the pipe network.

$$\Delta p_g = R \times l + Z + \Delta p_v$$

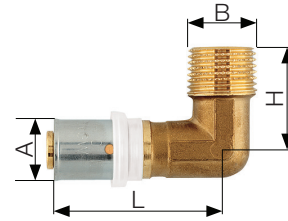
Δp_g ...	Total pressure loss in the heating circuit
R ...	Pressure loss per running m of pipe [Pa/m]
l ...	Pipe length in meter
Z ...	Sum of the individual resistances
Δp_v ...	Pressure loss of the heating circuit thermostatic valves

HERZ Angle with internal thread



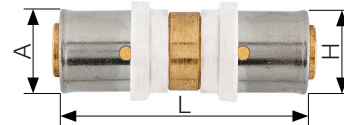
Order number	A	B	L	H
P 7114 21	14 x 2	1/2	53	34
P 7116 21	16 x 2	1/2	44	34
P 7118 21	18 x 2	1/2	53	34
P 7120 21	20 x 2	1/2	50	34
P 7120 22	20 x 2	3/4	52	45
P 7126 22	26 x 3	3/4	56	45
P 7132 23	32 x 3	1	55	49
P 7140 24	40 x 3,5	1 1/4	55	55
P 7150 24	50 x 4	1 1/4	76	63
P 7150 25	50 x 4	1 1/2	76	63
P 7163 26	63 x 4,5	2	83	70

HERZ Angle with external thread



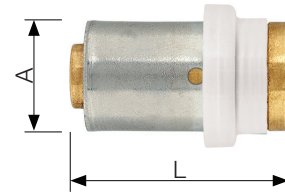
Order number	A	B	L	H
P 7114 11	14 x 2	1/2	53	34
P 7116 11	16 x 2	1/2	44	34
P 7118 11	18 x 2	1/2	53	34
P 7120 11	20 x 2	1/2	50	34
P 7120 12	20 x 2	3/4	52	45
P 7126 12	26 x 3	3/4	56	45
P 7132 13	32 x 3	1	55	49
P 7140 14	40 x 3,5	1 1/4	55	55
P 7150 14	50 x 4	1 1/4	76	63
P 7163 16	63 x 4,5	2	83	70

HERZ Coupling, Reduced Coupling



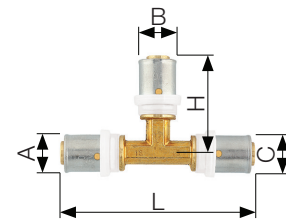
Order number	A	B	L
P 7010 00	10 x 1,3	10 x 1,3	41
P 7014 00	14 x 2	14 x 2	65
P 7016 00	16 x 2	16 x 2	58
P 7016 01	16 x 2	14 x 2	65
P 7018 00	18 x 2	18 x 2	65
P 7018 01	18 x 2	14 x 2	65
P 7018 02	18 x 2	16 x 2	65
P 7020 00	20 x 2	20 x 2	58
P 7020 03	20 x 2	14 x 2	62
P 7020 01	20 x 2	16 x 2	62
P 7020 02	20 x 2	18 x 2	65
P 7026 00	26 x 3	26 x 2	65
P 7026 01	26 x 3	16 x 2	65
P 7026 03	26 x 3	17 x 2	65
P 7026 05	26 x 3	18 x 2	65
P 7026 02	26 x 3	20 x 2	65
P 7032 00	32 x 3	32 x 3	65
P 7032 01	32 x 3	16 x 2	65
P 7032 07	32 x 3	18 x 2	65
P 7032 02	32 x 3	20 x 2	65
P 7032 06	32 x 3	26 x 3	65
P 7040 00	40 x 3,5	40 x 3,5	65
P 7040 02	40 x 3,5	26 x 3	65
P 7040 03	40 x 3,5	32 x 3	65
P 7050 00	50 x 4	50 x 4	97
P 7050 01	50 x 4	26 x 3	81
P 7050 02	50 x 4	32 x 3	81
P 7050 03	50 x 4	40 x 3,5	81
P 7063 00	63 x 4,5	63 x 4,5	98
P 7063 01	63 x 4,5	26 x 3	82
P 7063 02	63 x 4,5	32 x 3	82
P 7063 03	63 x 4,5	40 x 3,5	82
P 7063 04	63 x 4,5	50 x 4	98

HERZ End-stop



Order number	A	L
P 7014 10	14 x 2	33
P 7016 10	16 x 2	31
P 7017 10	17 x 2	33
P 7018 10	18 x 2	33
P 7020 10	20 x 2	31
P 7026 10	26 x 3	33
P 7032 10	32 x 3	33
P 7040 10	40 x 3,5	33
P 7050 10	50 x 4	49
P 7063 10	63 x 4,5	49

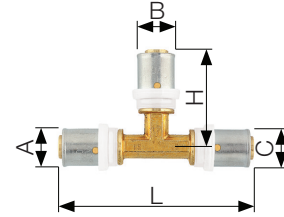
HERZ T-piece



Order number	A	B	C	L	H
P 7214 00	14 x 2	14 x 2	14 x 2	83	42
P 7214 01	14 x 2	16 x 2	14 x 2	83	42
P 7216 00	16 x 2	16 x 2	16 x 2	77	39
P 7216 01	16 x 2	14 x 2	16 x 2	83	42
P 7216 05	16 x 2	18 x 2	16 x 2	88	44
P 7216 03	16 x 2	20 x 2	16 x 2	83	42
P 7217 00	17 x 2	17 x 2	17 x 2	107	54
P 7218 00	18 x 2	18 x 2	18 x 2	83	42
P 7218 01	18 x 2	14 x 2	18 x 2	88	44
P 7218 02	18 x 2	16 x 2	18 x 2	88	44
P 7220 00	20 x 2	20 x 2	20 x 2	83	42
P 7210 00	20 x 2	10 x 1,3	20 x 2	88	33
P 7220 10	20 x 2	14 x 2	20 x 2	88	44
P 7220 02	20 x 2	18 x 2	20 x 2	88	44
P 7220 06	20 x 2	26 x 3	20 x 2	102	51
P 7220 01	20 x 2	16 x 2	20 x 2	83	42
P 7220 03	20 x 2	16 x 2	16 x 2	83	42
P 7220 08	20 x 2	20 x 2	16 x 2	83	42
P 7226 00	26 x 3	26 x 3	26 x 3	102	51
P 7226 17	26 x 3	32 x 3	26 x 3	106	53
P 7226 03	26 x 3	16 x 2	26 x 3	97	49
P 7226 04	26 x 3	18 x 2	26 x 3	102	51
P 7226 05	26 x 3	20 x 2	26 x 3	97	49
P 7232 00	32 x 3	32 x 3	32 x 3	106	53
P 7232 10	32 x 3	40 x 3,5	32 x 3	106	53
P 7232 01	32 x 3	16 x 2	32 x 3	106	53
P 7232 03	32 x 3	18 x 2	32 x 3	106	53
P 7232 04	32 x 3	20 x 2	32 x 3	106	53
P 7232 07	32 x 3	26 x 3	32 x 3	106	53
P 7240 00	40 x 3,5	40 x 3,5	40 x 3,5	110	55
P 7240 12	40 x 3,5	50 x 4	40 x 3,5	120	76

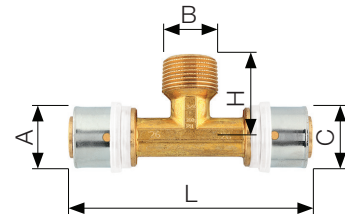
Order number	A	B	C	L	H
P 7240 02	40 x 3,5	26 x 3	40 x 3,5	110	55
P 7240 03	40 x 3,5	32 x 3	40 x 3,5	110	55
P 7250 00	50 x 4	50 x 4	50 x 4	152	76
P 7250 03	50 x 4	26 x 3	50 x 4	152	62
P 7250 01	50 x 4	32 x 3	50 x 4	152	62
P 7250 02	50 x 4	40 x 3,5	50 x 4	152	61
P 7263 00	63 x 4,5	63 x 4,5	63 x 4,5	166	83
P 7263 01	63 x 4,5	32 x 3	63 x 4,5	166	67
P 7263 02	63 x 4,5	40 x 3,5	63 x 4,5	153	70
P 7263 03	63 x 4,5	50 x 4	63 x 4,5	166	83

HERZ T-piece, reduced



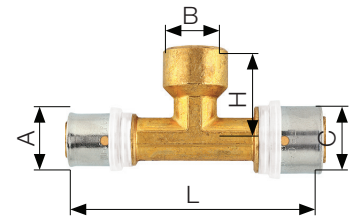
Order number	A	B	C	L	H
P 7216 02	16 x 2	14 x 2	14 x 2	83	42
P 7218 04	18 x 2	16 x 2	14 x 2	107	54
P 7218 03	18 x 2	16 x 2	16 x 2	88	44
P 7220 11	20 x 2	14 x 2	16 x 2	88	44
P 7220 03	20 x 2	16 x 2	16 x 2	83	42
P 7220 07	20 x 2	16 x 2	18 x 2	88	44
P 7220 04	20 x 2	18 x 2	18 x 2	88	44
P 7220 09	20 x 2	20 x 2	14 x 2	88	44
P 7220 08	20 x 2	20 x 2	16 x 2	88	44
P 7226 18	26 x 3	18 x 2	18 x 2	102	51
P 7226 12	26 x 3	18 x 2	20 x 2	102	51
P 7226 13	26 x 3	20 x 2	16 x 2	102	51
P 7226 14	26 x 3	20 x 2	20 x 2	102	51
P 7226 19	26 x 3	20 x 2,5	16 x 2	102	51
P 7226 16	26 x 3	26 x 3	16 x 2	112	56
P 7226 15	26 x 3	26 x 3	20 x 2	112	56
P 7232 11	32 x 3	20 x 2	26 x 3	106	53
P 7232 09	32 x 3	26 x 3	26 x 3	106	53
P 7232 15	32 x 3	32 x 3	20 x 2	106	53
P 7232 14	32 x 3	32 x 3	26 x 3	106	53
P 7240 06	40 x 3,5	26 x 3	32 x 3	110	55
P 7240 04	40 x 3,5	32 x 3	32 x 3	110	50
P 7240 07	40 x 3,5	40 x 3,5	26 x 3	110	55
P 7240 08	40 x 3,5	40 x 3,5	32 x 3	110	55
P 7250 06	50 x 4	32 x 3	40 x 3,5	152	62
P 7250 05	50 x 4	40 x 3,5	40 x 3,5	152	62
P 7250 07	50 x 4	50 x 4	32 x 3	152	76
P 7250 08	50 x 4	50 x 4	40 x 3,5	152	76
P 7263 04	63 x 4,5	40 x 3,5	50 x 4	166	67
P 7263 05	63 x 4,5	50 x 4	50 x 4	166	83
P 7263 06	63 x 4,5	63 x 4,5	40 x 3,5	150	83
P 7263 07	63 x 4,5	63 x 4,5	50 x 4	166	83

HERZ T-piece with external thread



Order number	A	B	C	L	H
P 7216 51	16 x 2	1/2	16 x 2	90	34
P 7218 51	18 x 2	1/2	18 x 2	98	34
P 7220 51	20 x 2	1/2	20 x 2	91	34
P 7226 51	26 x 3	1/2	26 x 3	112	38
P 7220 52	20 x 2	3/4	20 x 2	98	34
P 7226 52	26 x 3	3/4	26 x 3	112	38
P 7232 51	32 x 3	3/4	32 x 3	110	47
P 7226 53	26 x 3	1	26 x 3	112	43
P 7232 52	32 x 3	1	32 x 3	110	47
P 7240 52	40 x 3,5	1	40 x 3,5	110	55
P 7240 53	40 x 3,5	1¼	40 x 3,5	110	55
P 7250 53	50 x 4	1¼	50 x 4	152	61
P 7250 54	50 x 4	1½	50 x 4	152	61
P 7263 54	63 x 4,5	1½	63 x 4,5	166	68
P 7263 55	63 x 4,5	2	63 x 4,5	166	70

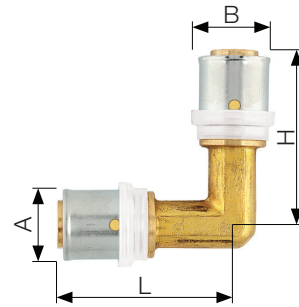
HERZ T-piece with external thread



Order number	A	B	C	L	H
P 7216 41	16 x 2	1/2	16 x 2	90	34
P 7218 41	18 x 2	1/2	18 x 2	98	34
P 7220 41	20 x 2	1/2	20 x 2	91	34
P 7226 42	26 x 3	1/2	20 x 2	112	38
P 7226 41	26 x 3	1/2	26 x 3	112	37
P 7232 43	32 x 3	1/2	32 x 3	110	47
P 7220 42	20 x 2	3/4	20 x 2	112	43
P 7226 44	26 x 3	3/4	26 x 3	112	43
P 7232 41	32 x 3	3/4	32 x 3	110	47
P 7232 42	32 x 3	1	32 x 3	110	47
P 7240 41	40 x 3,5	1	40 x 3,5	110	55
P 7232 44	32 x 3	1¼	32 x 3	125	55
P 7240 42	40 x 3,5	1¼	40 x 3,5	110	55
P 7250 42	50 x 4	1¼	50 x 4	152	63
P 7250 43	50 x 4	1½	50 x 4	152	63
P 7263 43	63 x 4,5	1½	63 x 4,5	166	68
P 7263 44	63 x 4,5	2	63 x 4,5	166	70

HERZ 90° angle

Order number	A	B	L	H
P 7114 00	14 x 2	14 x 2	42	42
P 7116 00	16 x 2	16 x 2	39	39
P 7118 00	18 x 2	18 x 2	42	42
P 7120 00	20 x 2	20 x 2	42	42
P 7110 00	20 x 2	10 x 1,3	42	33
P 7126 00	26 x 3	26 x 3	49	49
P 7132 00	32 x 3	32 x 3	53	53
P 7140 00	40 x 3,5	40 x 3,5	55	55
P 7150 00	50 x 4	50 x 4	76	76
P 7163 00	63 x 4,5	63 x 4,5	83	83


 Compression connections

See data sheet 6066 - 6198

 Calibration tools:

Calibration tools for HERZ-pipe, with lever, or using with cordless screwdriver.

Pipe Ø	Calibration tool with lever	Calibration tool for cordless screwdriver	Pipe Ø	Calibration tool with lever	Calibration tool for cordless screwdriver
10 x 1,3	3 F010 11	-	40 x 3,5	P 2011 80	P 2010 80
16 x 2	P 2011 74	P 2010 74	50 x 4	P 2011 83	P 2010 83
20 x 2	P 2011 76	P 2010 76	63 x 4,5	P 2011 87	P 2010 87
26 x 3	P 2011 78	P 2010 78	75 x 5	P 2010 91	
32 x 3	P 2011 79	P 2010 79			

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