

Turnbull & Scott™
Trusted.

Turnbull & Scott Trench Heating



Hitte Fan Assisted LPHW

HITTE

CONTEMPORARY TRENCH AND PERIMETER HEATING FROM HITTE

The Hitte team has been designing and manufacturing space heating products for over 20 years in the Czech Republic. High quality materials, skilled engineers and modern production methods are combined to deliver the Hitte portfolio which carries a 10 year manufacturer's warranty.

The contemporary and stylish Trench and Perimeter Heating ranges offer highly effective and discrete heating and cooling solutions whether installed as primary or secondary heating systems or as a cold air barrier under large glazed areas.

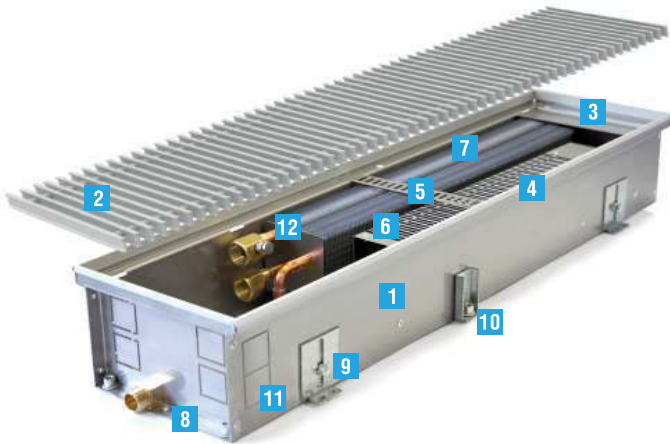
The Hitte Trench range includes Natural Convection, Fan Assisted and Electric options as well

as combined Heating–Cooling units. Models are also available for use in wet and humid environments.

For areas where creating a floor trench is not feasible, the Natural Convection floor standing Perimeter Heater presents an elegant alternative.

In addition to the standard straight trench units, mitred cornering, and blank units can be added to provide a continuous aesthetic. Curved/arc shaped trench heaters can also be manufactured to order. The Hitte team will undertake bespoke designs for the most complex and challenging of projects.

PRODUCT FEATURES



- 1** The standard trough, for use in dry environments, is available in either black powder coated FeZn steel or AISI 304 stainless steel. For wet and humid environments and for heating-cooling trench units the trough is AISI 316 stainless steel.
- 2** The flexible sprung design grille covers are available in various aluminum shades or wood.
- 3** There are 2 protective metal cover plates, the larger covers the pipe connections and the smaller covers the electrical terminals.
- 4** The decorative edging can match the selected grille colour. It must be flush with the finished floor or within 0–1 mm.
- 5** The spacer is used to maintain the geometry of the trough prior to installation. It should be removed post-installation.
- 6** The 24DC fan for fan-assisted trench heating models. (Fan-assisted trench heating models have a significantly increased heating output level compared to natural convection models).
- 7** The heat exchanger element has aluminum fins on copper tubes with 1/2" pipe connections.
- 8** The drainage pipe for water/condensate outflow, for models NWX, FWX, FCX.
- 9** The height adjustable fixing screw attaches the trench unit to the trench floor after the unit has been leveled.
- 10** Adjustable leveling legs. There will be one at each corner and additional leveling legs along the length of the trough will be filled in longer units.
- 11** Knock-outs for heating pipe access.
- 12** Air bleed valve.

TRENCH HEATING PRODUCT CODES

convectors

HITTE FXX 080 245 2000 X N X X

brand name

MODEL

- NXX — natural convection
- NXA — natural convection, an air spigot
- NWX — natural convection, for wet environment
- NWA — natural convection, for wet environment, an air spigot
- NSX — natural convection, self-standing
- NMX — natural convection, wall-mounted
- FXX — with a fan
- FXA — with a fan, an air spigot
- FWX — with a fan, for wet environment
- FWA — with a fan, for wet environment, an air spigot
- FSX — with a fan, self-standing
- FMX — with a fan, wall-mounted
- FCX — with a fan, cooling/heating
- FCA — with a fan, cooling/heating, an air spigot
- EXX — electrical 220V

HEIGHT

WIDTH

LENGTH

TROUGH MATERIAL

- X — standard, AISI 304 stainless steel
- F — black powder coated FeZn steel, RAL 9005
- A — non-standard, additional information required

EDGING

- N — aluminum
- L — light bronze
- D — dark bronze
- — without edges
- A — non-standard, additional information required

PIPE CONNECTION

- X — standard (right side)
- L — left side
- A — non-standard, additional information required

PRODUCT CLASSIFICATION

- X — standard
- A — non-standard, additional information required

grilles

HITTE G XX 080 245 2000 X N XX

brand name

MODEL

- G — a grille
- S — on a spring
- T — consists of segments
- L — longitudinal

GRILLE CLASSIFICATION

- X — standard
- A — non-standard, additional information required

HEIGHT

WIDTH

LENGTH

LENGTH CLASSIFICATION

- X — standard
- A — non-standard, additional information required

GRILLE MATERIAL

- N — aluminum
- L — light bronze
- D — dark bronze
- O — oak
- A — ash tree
- B — beech
- I — stainless steel

GRILLE MATERIAL CLASSIFICATION

- X — standard
- A — non-standard, additional information required



WITH FAN



WITHOUT FAN



FOR HEATING



FOR COOLING



FOR WET ENVIRONMENT



LOW-NOISE



AIR SPIGOT FOR FRESH AIR



ELECTRICAL



TROUGH MADE OF BLACK POWDER COATED FeZn STEEL, RAL 9005

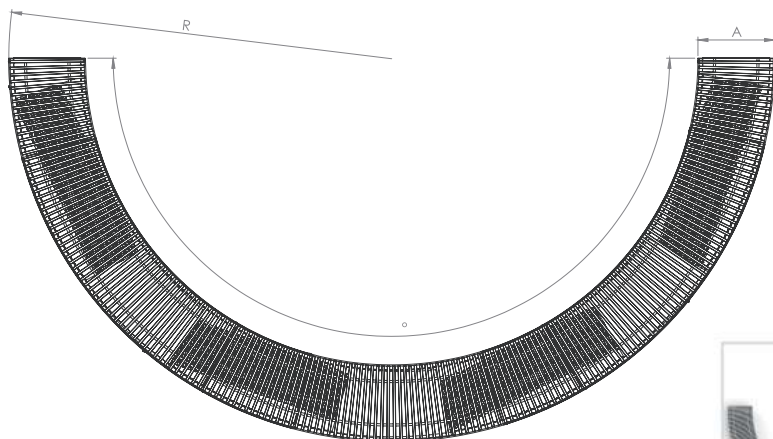


TROUGH MADE OF AISI 304 STAINLESS STEEL



TROUGH MADE OF AISI 316 STAINLESS STEEL FOR WET/HUMID ENVIRONMENTS AND COMBINED HEATING-COOLING TRENCH UNITS.

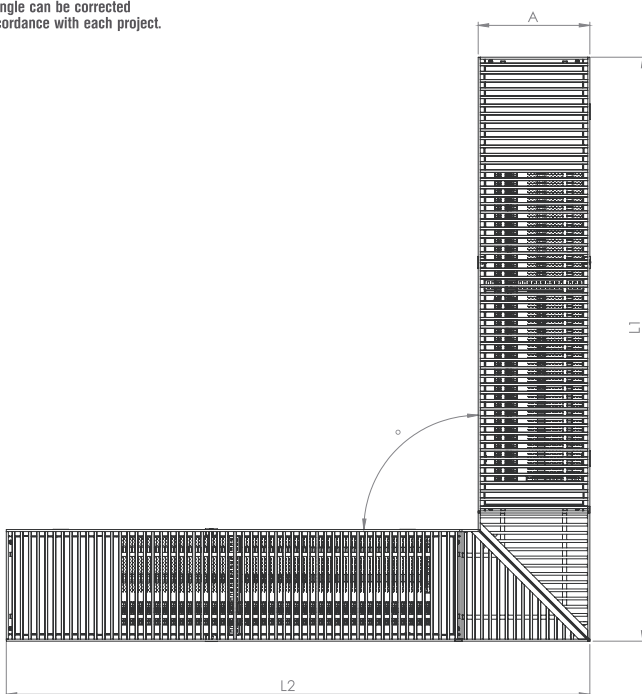
CURVED TRENCH HEATING

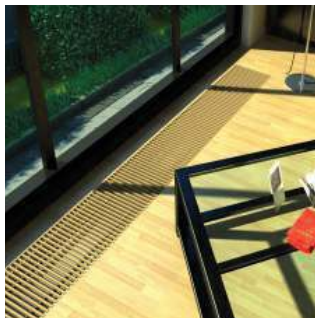
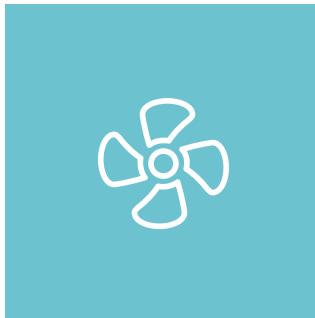
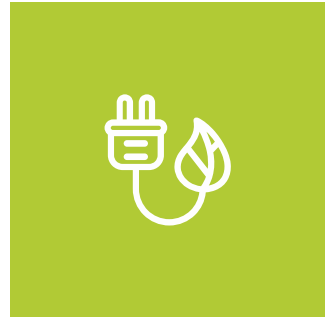
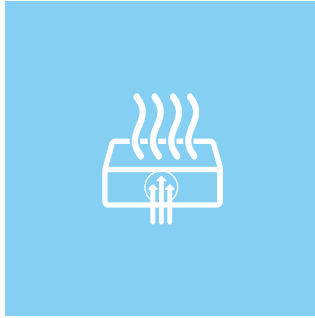


MITRED CORNERS



The angle can be corrected
in accordance with each project.





HITTE
FAN-ASSISTED TRENCH HEATING

FXX FAN-ASSISTED TRENCH HEATING

FXX Trench Heating has a fan (Fan-Assisted Convection) for higher thermal output. This type of Trench Heating is used as primary/main source of space heating, and also as a cold air barrier under large glazed areas removing condensate.

All Hitte fans operate on a direct current with a safe voltage of 24 V, which not only provides high efficiency, but also a low noise level ideal making it ideal for bedrooms, children's rooms, hotel rooms, etc.

Hitte Fan-Assisted Trench Heating is divided into three types:

- FXX for standard dry environments
- FWH with drainage for wet/humid environments
- FCX combination of heating and cooling for the summertime

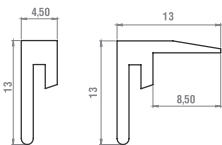
Standard Features

- choice of trough material – stainless steel or black powder coated FeZn steel;
- choice of natural, light bronze or dark bronze painted aluminium perimeter trough edging;
- CuAl heat exchanger with air valve and 1/2" brass ends;
- a tangential DC 24V fan with protective metal cover;
- spacers to protect trench geometry during installation and concrete pouring;
- cover plates to protect water and electrical connections;
- drainage connectors for wet/humid environment trench units and combined heating and cooling trench units;
- a set of fixing legs and level adjusting screws;
- 18 mm MDF cover to protect against damage and falling debris during installation.

Bespoke Trench Heating Design & Manufacture

Bespoke trenching heating systems can be designed and manufactured to meet the most challenging project specifications.

Standard Edging or Extended Edging



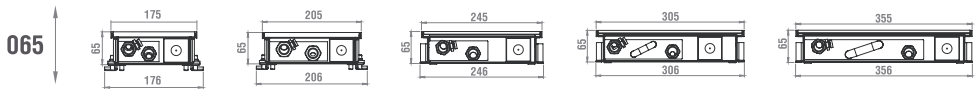
Standard Edging	Extended Edging
The standard edge creates a frame around the perimeter of the unit and fits snugly against the trough.	The extended edge is an optional feature and should be specified when placing the order.
	The extended edge should be attached to the inner edge of the trough after the supper layer of the floor is finished.

Typically this would match the Grille colour unless an alternative colour is requested.

FXX 065



FAN-ASSISTED TRENCH HEATING



L 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

FXX 065 Specifications

Fan-assisted Trench Heating

Description:

- for dry interiors: offices, apartments, private houses, shop windows;
- possible to install these convectors in multi-story buildings, where the depth of the floor screed does not exceed 7–10 cm;
- low noise DC 24V fan with safety cover.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 316

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

Convectors with fans are operated by the SIEMENS digital thermostats with stepless or 3-step speed control and safe DC 24V voltage. A small volume of water in the heat exchangers allows to heat room air until the set temperature in shortest time.

Trough Material Options



Knock-outs for water pipe connections at multiple locations to suit project preferences.



FXX 065 Grille Options

Available Grille colours in the Hitte standard range.
Non-standard colours available on request at additional cost (RAL system).



MATT ALUMINUM



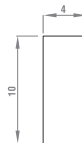
DARK BRONZE



LIGHT BRONZE



BLACK RAL 9005



Standard Grille

Accessories



FLEXIBLE STEEL HOSES
HITTE, 1/2"



RETURN VALVE
ARCO 1/2"



THERMOSTATIC
VALVE ARCO 1/2"



ELECTRIC ACTUATOR
SIEMENS STA 73 AC/DC 24 NC



BALL VALVE
ARCO 1/2"



ROOM THERMOSTAT
SIEMENS RDG160 T /
RDG160 KN

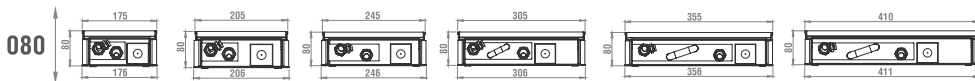


TRAFO
15W, 60W,
120W, 240W, 480W

FXX 080



FAN-ASSISTED TRENCH HEATING



L 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

FXX 080 Specifications

Fan-assisted Trench Heating for standard dry environments

Description:

- for dry interiors: offices, apartments, private houses, car dealerships, rooms with panoramic windows;
- high thermal output.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 304

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FWX 080 Specifications

Fan-assisted Trench Heating for wet/humid environments

Description:

- for wet interiors: pools, bathrooms, winter gardens, saunas;
- high thermal output;
- could be combined with the other heating elements of heating systems.

Water/moisture drainage connection: Ø18 mm

Heat exchanger water connections: 1/2" inner thread

Stainless steel trough for wet/humid interiors: AISI 316

Trough material thickness: 1 mm

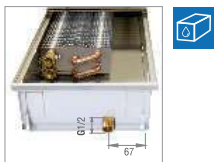
Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

Standard Trough Material Options



Knock-outs for water pipe connections at multiple locations to suit project preferences.



Suitable for standard dry environments only.

FXX 080 Grille Options

Available Grille colours in the Hitte standard range.
Non-standard colours available on request at additional cost (RAL system).



MATT ALUMINUM



DARK BRONZE



LIGHT BRONZE



BLACK RAL 9005



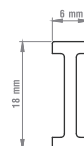
OAK



BEECH

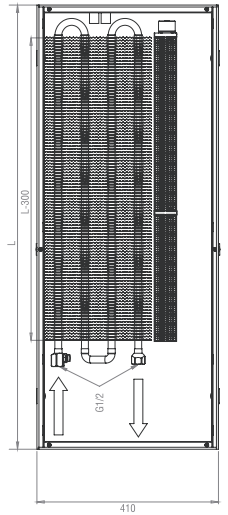
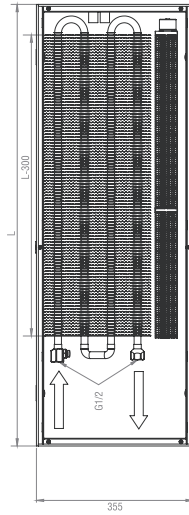
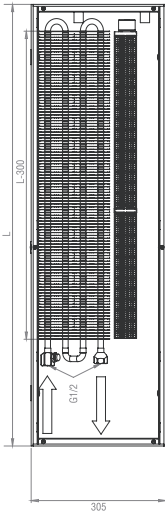
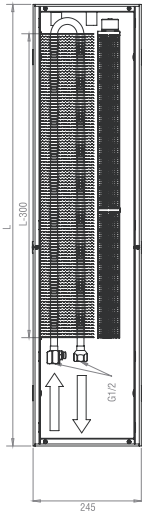
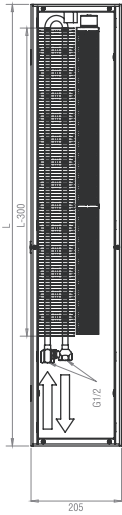
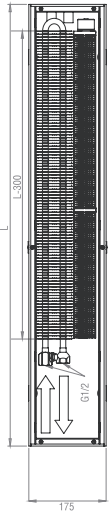
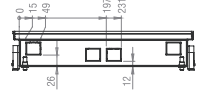
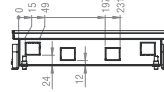
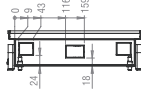
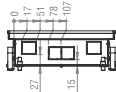
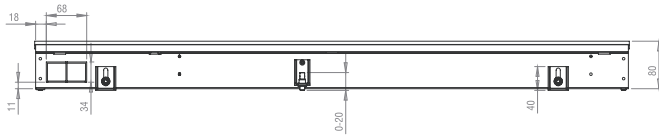


ASH TREE



Standard Grille

FFX 080 Drawings



Accessories



FLEXIBLE STEEL HOSES
HITTE, 1/2"



RETURN VALVES ARCO 1/2"



THERMOSTATIC VALVES ARCO 1/2"



ELECTRIC ACTUATOR
SIEMENS STA 73 AC/DC 24 NC



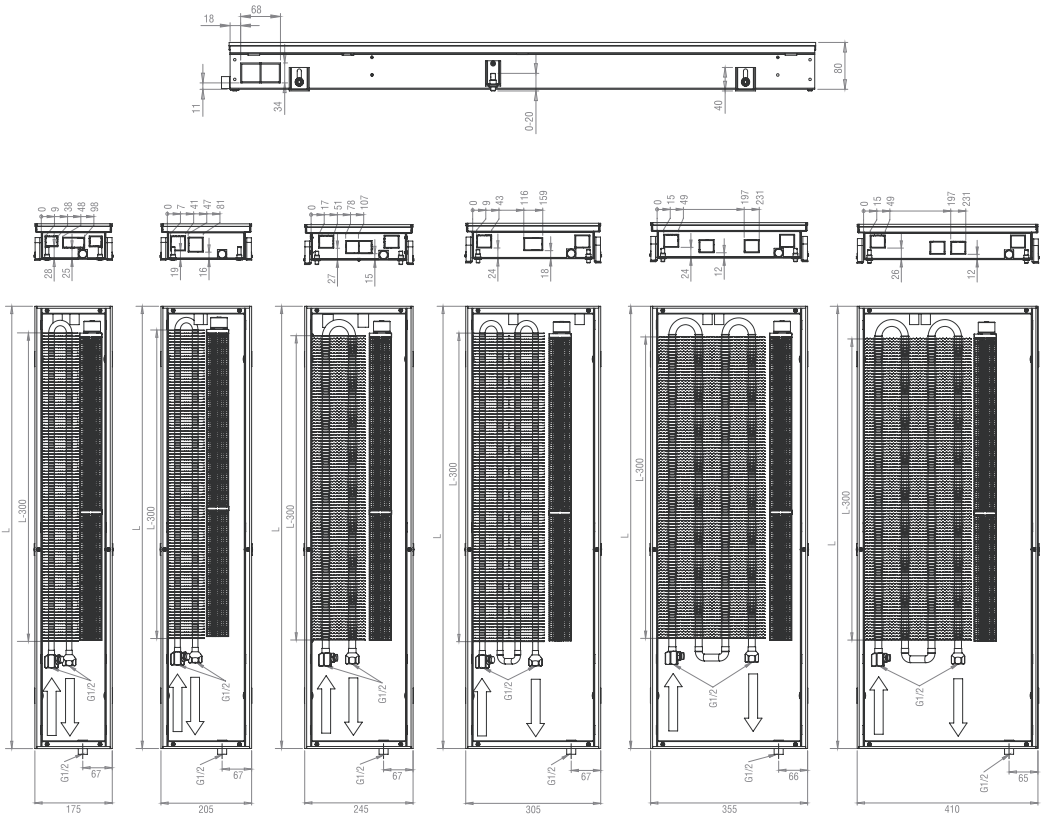
BALL VALVE
ARCO 1/2"



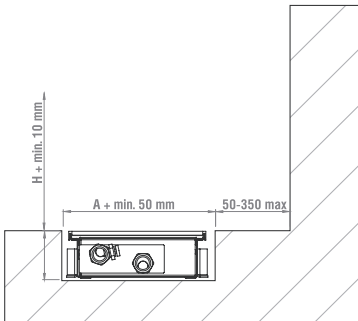
ROOM THERMOSTAT
SIEMENS RDG160 T /
RDG160 KN



TRAFO
15W, 60W,
120W, 240W, 480W



Installation



- Select the correct model for the room type: FXX for standard dry interior or FWX for wet/humid interior.
- Ensure there is sufficient space for the trench heater unit – consider wall space, slopes, windows as well as floor thickness.
- The height of the floor trench should be at least 10mm greater than the heater unit depth.
- The width of the floor trench should be at least 50mm greater than the heater unit width.
- Ensure there is sufficient space for water pipe connection and concrete directly to the edge of the heater unit.

230V/24V DC Hitte Output Control pg.42

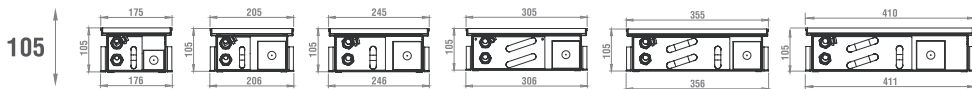
Pressure Drop pgs.48-53

Acoustic noise pg.54

FXX 105



FAN-ASSISTED TRENCH HEATING



L 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

FXX 105 Specifications

Fan-assisted Trench Heating for standard dry environments

Description:

- for dry interiors: offices, apartments, private houses, car dealerships, rooms with panoramic windows;
- high thermal output.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 304

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FWX 105 Specifications

Fan-assisted Trench Heating for wet/humid environments

Description:

- for wet interiors: pools, bathrooms, winter gardens, saunas;
- high thermal output;
- could be combined with the other heating elements of heating systems.

Water/moisture drainage connection: Ø18 mm

Heat exchanger water connections: 1/2" inner thread

Stainless steel trough for wet/humid interiors: AISI 316

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FCX 105 Specifications

Fan-assisted Trench Heating for heating OR cooling

Description:

- for all types of buildings: residential, office, commercial, etc;
- a trench FCX convactor with a fan for heating, and also to make a cold screen in the summertime;
- easy room temperature control by a thermostat RDG160;
- the low 24V supply voltage provides the safety.

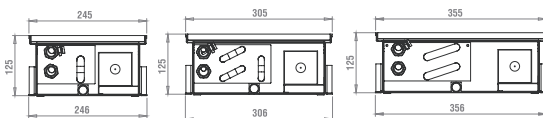
Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 316

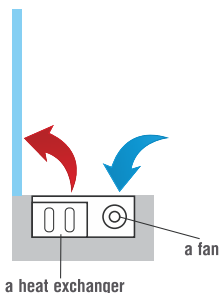
Trough material thickness: 1 mm

Water temperature : 38 - 110 °C

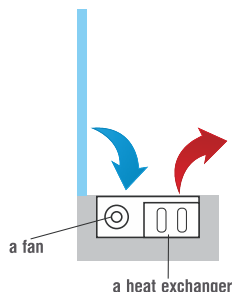
Maximum working pressure: 16 bar



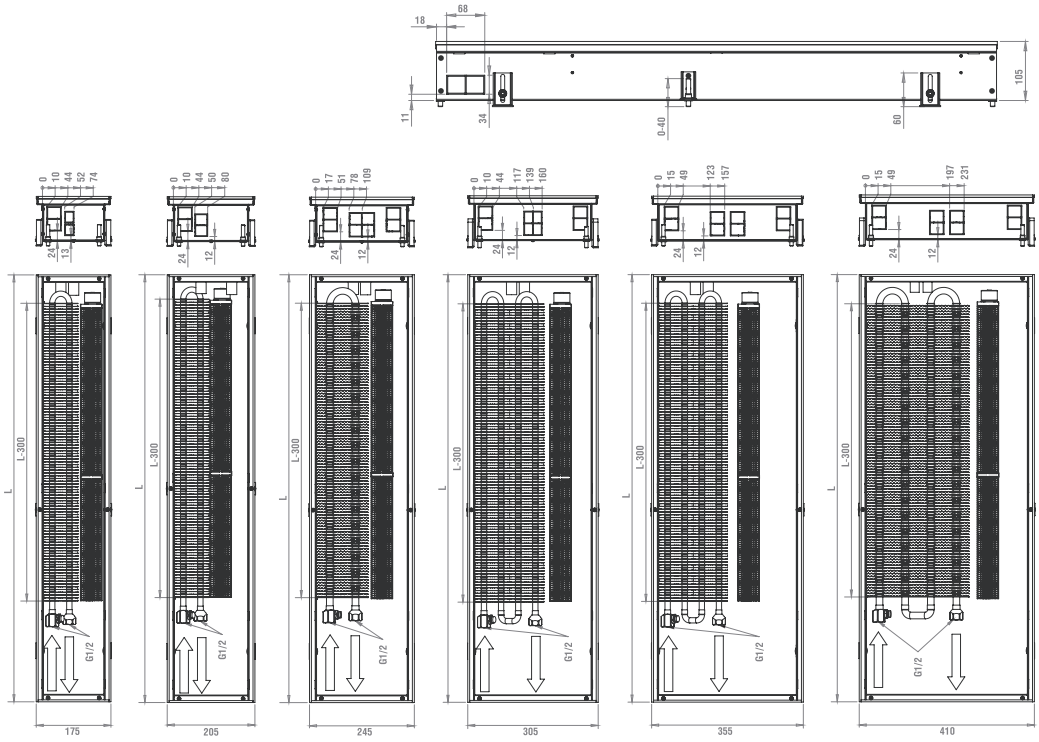
1. Installation of the convector when fan position on a room side.



2. Installation of the convector when fan position on a window side.



FXX 105 Drawings



Standard Trough Material Options



Knock-outs for water pipe connections at multiple locations to suit project preferences.



Suitable for standard dry environments only.

FXX 105 Grille Options

Available Grille colours in the Hitte standard range.
Non-standard colours available on request at additional cost (RAL system).



MATT ALUMINIUM



OAK



DARK BRONZE



BEECH



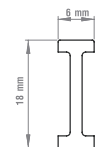
LIGHT BRONZE



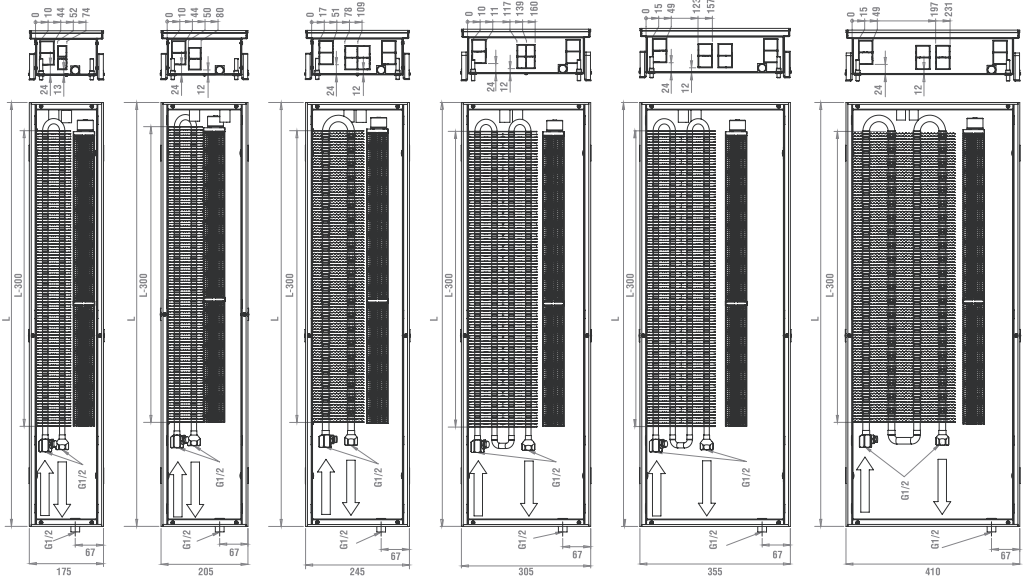
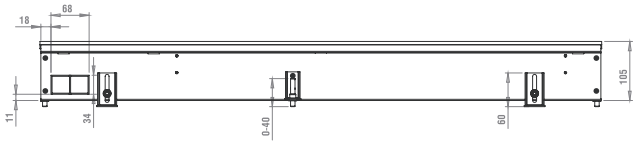
ASH TREE



BLACK RAL 9005



Standard Grille



Accessories



FLEXIBLE STEEL HOSES
HITTE, 1/2"



BALL VALVE
ARCO 1/2"



RETURN VALVE
ARCO 1/2"



ROOM THERMOSTAT
SIEMENS RDG160 T /
RDG160 KN



THERMOSTATIC
VALVES ARCO 1/2"

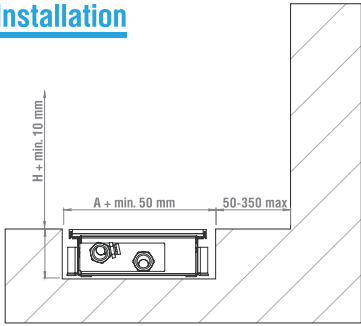


TRAF0
15W, 60W,
120W, 240W, 480W



ELECTRIC ACTUATOR
SIEMENS
STA 73 AC/DC 24 NC

Installation



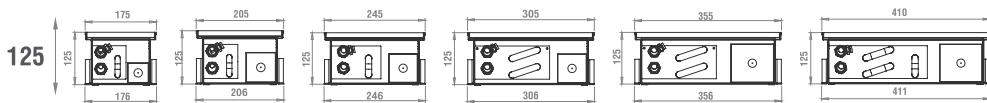
- Select the correct model for the room type: FXX for standard dry interior or FWX for wet/humid interior.
- Ensure there is sufficient space for the trench heater unit – consider wall space, slopes, windows as well as floor thickness.
- The height of the floor trench should be at least 10mm greater than the heater unit depth.
- The width of the floor trench should be at least 50mm greater than the heater unit width.
- Ensure there is sufficient space for water pipe connection and concrete directly to the edge of the heater unit.

230V/24V DC Hitte Output Control pg.42
Pressure Drop pgs.48-53
Acoustic noise pg.54

FXX 125



FAN-ASSISTED TRENCH HEATING



L 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

FXX 125 Specifications

Fan-assisted Trench Heating for standard dry environments

Description:

- for dry interiors: offices, apartments, private houses, car dealerships, rooms with panoramic windows;
- high thermal output.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 304

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FCX 125 Specifications

Fan-assisted Trench Heating for heating OR cooling

Description:

- for all types of buildings: residential, office, commercial, etc;
- a trench FCX convactor with a fan for heating, and also to make a cold screen in the summertime;
- easy room temperature control by a thermostat RDG160;
- the low 24V supply voltage provides the safety.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 316

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FWX 125 Specifications

Fan-assisted Trench Heating for wet/humid environments

Description:

- for wet interiors: pools, bathrooms, winter gardens, saunas;
- high thermal output;
- could be combined with the other heating elements of heating systems.

Water/moisture drainage connection: Ø18 mm

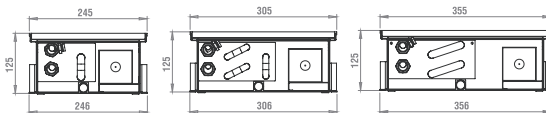
Heat exchanger water connections: 1/2" inner thread

Stainless steel trough for wet/humid interiors: AISI 316

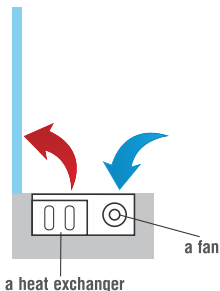
Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

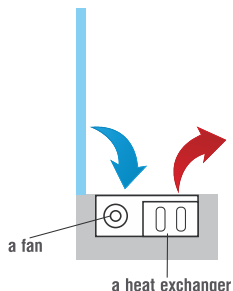
Maximum working pressure: 16 bar



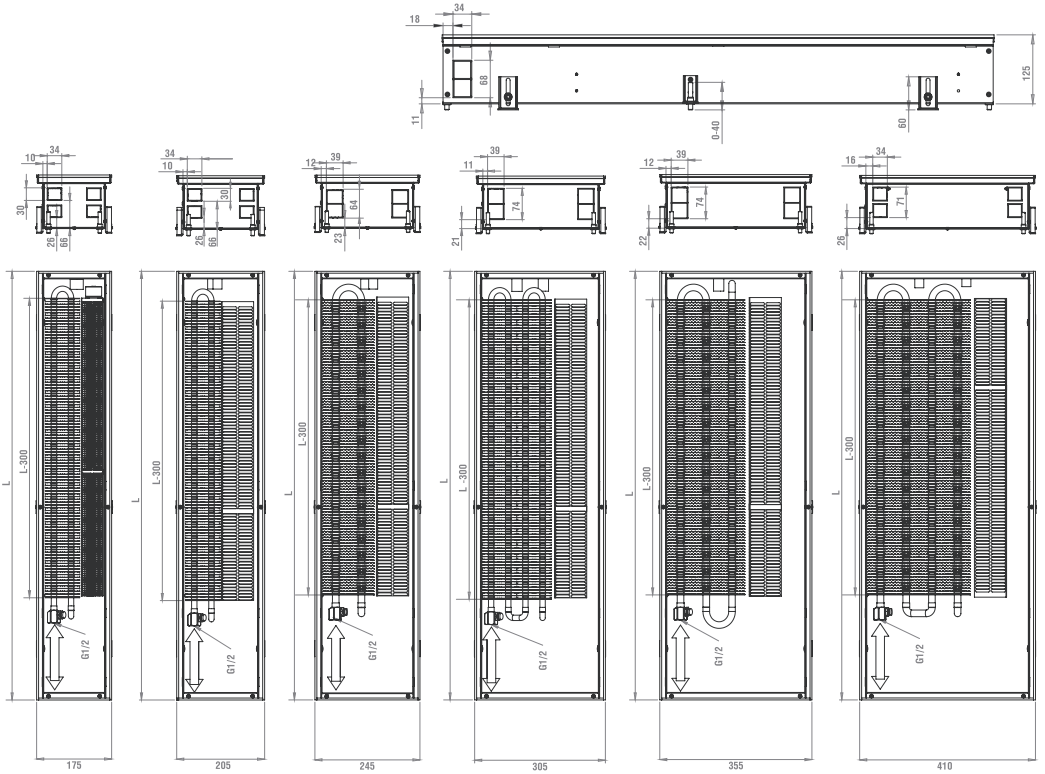
1. Installation of the convector when fan position on a room side.



2. Installation of the convector when fan position on a window side.



FXX 125 Drawings



Standard Trough Material Options



Knock-outs for water pipe connections at multiple locations to suit project preferences.



Suitable for standard dry environments only.

FXX 125 Grille Options

Available Grille colours in the Hitte standard range.
Non-standard colours available on request at additional cost (RAL system).



MATT ALUMINUM



OAK



DARK BRONZE



BEECH



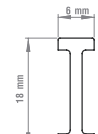
LIGHT BRONZE



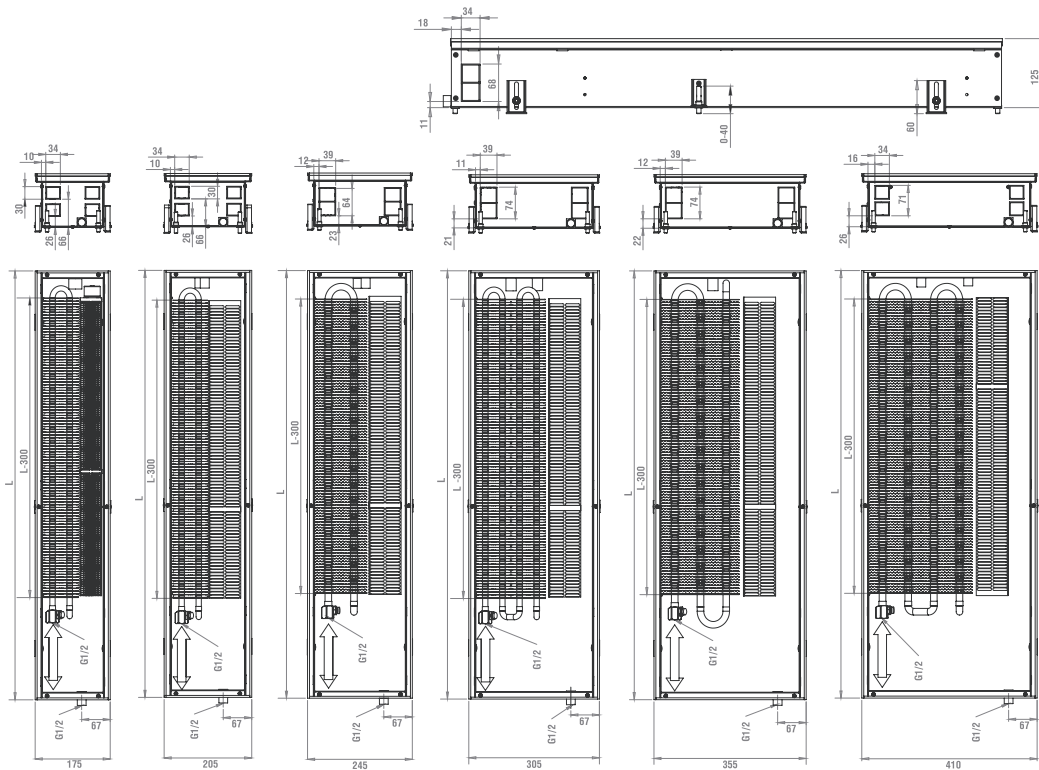
ASH TREE



BLACK RAL 9005



Standard Grille



Accessories



FLEXIBLE STEEL HOSES
HITTE, 1/2"



BALL VALVE
ARCO 1/2"



RETURN VALVE ARCO 1/2"



ROOM THERMOSTAT
SIEMENS RDG160 T /
RDG160 KN



THERMOSTATIC VALVE ARCO 1/2"

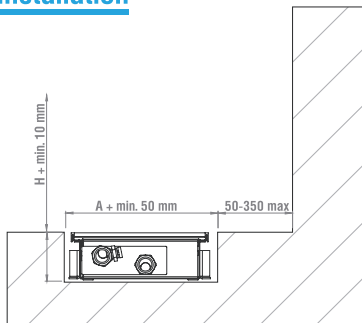


TRAFO
15W, 60W,
120W, 240W, 480W



ELECTRIC ACTUATOR
SIEMENS
STA 73 AC/DC 24 NC

Installation



- Select the correct model for the room type: FXX for standard dry interior or FWX for wet/humid interior.
- Ensure there is sufficient space for the trench heater unit – consider wall space, slopes, windows as well as floor thickness.
- The height of the floor trench should be at least 10mm greater than the heater unit depth.
- The width of the floor trench should be at least 50mm greater than the heater unit width.
- Ensure there is sufficient space for water pipe connection and concrete directly to the edge of the heater unit.

230V/24V DC Hitte Output Control pg.42

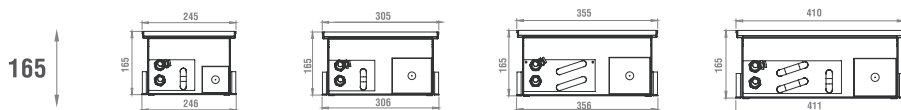
Pressure Drop pgs.48-53

Acoustic noise pg.54

FXX 165



FAN-ASSISTED TRENCH HEATING



L 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

FXX 165 Specifications

Fan-assisted Trench Heating for standard dry environments

Description:

- for dry interiors: offices, apartments, private houses, car dealerships, rooms with panoramic windows;
- high thermal output.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 304

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FCX 165 Specifications

Fan-assisted Trench Heating for heating OR cooling

Description:

- for all types of buildings: residential, office, commercial, etc;
- a trench FCX convector with a fan for heating, and also to make a cold screen in the summertime;
- easy room temperature control by a thermostat RDG160;
- the low 24V supply voltage provides the safety.

Heat exchanger water connection: inner thread G 1/2

Stainless steel trough for dry interiors: AISI 316

Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

Maximum working pressure: 16 bar

FWX 165 Specifications

Fan-assisted Trench Heating for wet/humid environments

Description:

- for wet interiors: pools, bathrooms, winter gardens, saunas;
- high thermal output;
- could be combined with the other heating elements of heating systems.

Water/moisture drainage connection: Ø18 mm

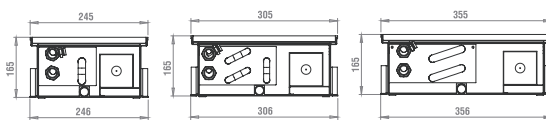
Heat exchanger water connections: 1/2" inner thread

Stainless steel trough for wet/humid interiors: AISI 316

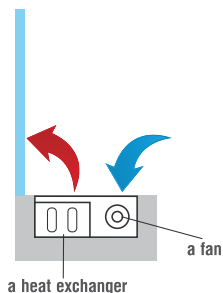
Trough material thickness: 1 mm

Water temperature: 38 - 110 °C

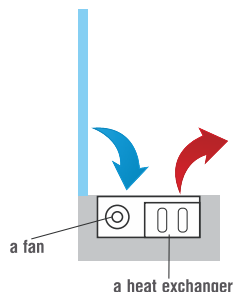
Maximum working pressure: 16 bar



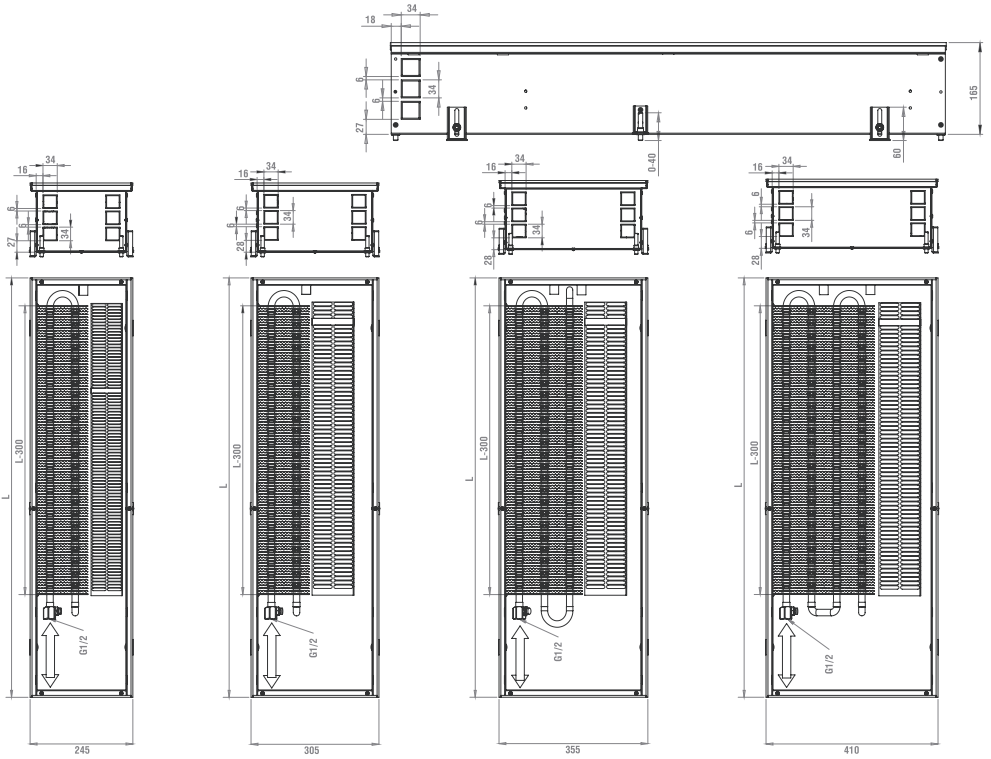
1. Installation of the convector when fan position on a room side.



2. Installation of the convector when fan position on a window side.



FFX 165 Drawings



Standard Trough Material Options



Knock-outs for water pipe connections at multiple locations to suit project preferences.



61/2
67



Suitable for standard dry environments only.

FFX 105 Grille Options

Available Grille colours in the Hitte standard range.
Non-standard colours available on request at additional cost (RAL system).



MATT ALUMINUM



OAK



DARK BRONZE



BEECH



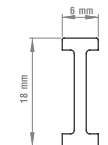
LIGHT BRONZE



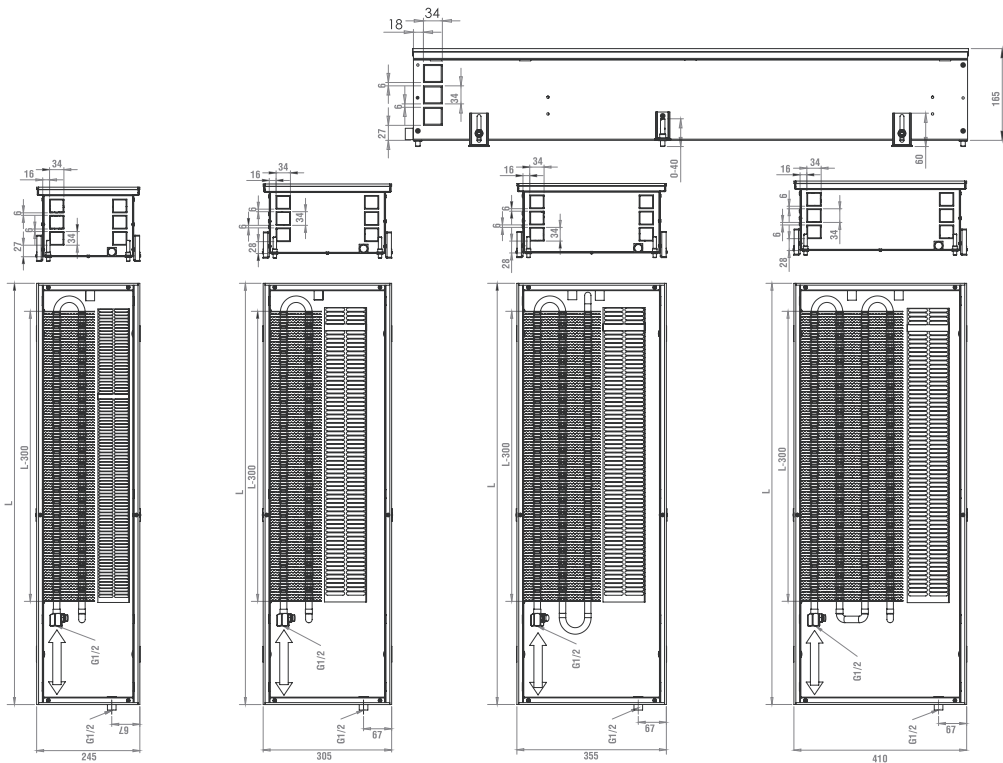
ASH TREE



BLACK RAL 9005



Standard Grille



Accessories



FLEXIBLE STEEL HOSES
HITTE, 1/2"



BALL VALVE
ARCO 1/2"



RETURN VALVE ARCO 1/2"



ROOM THERMOSTAT
SIEMENS RDG160 T /
RDG160 KN



THERMOSTATIC VALVES ARCO 1/2"

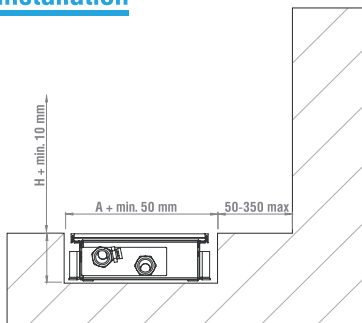


TRAFO
15W, 60W,
120W, 240W, 480W



ELECTRIC ACTUATOR
SIEMENS
STA 73 AC/DC 24 NC

Installation



- Select the correct model for the room type: FXX for standard dry interior or FWX for wet/humid interior.
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- The width of the floor trench should be at least 50mm greater than the heater unit width.
- Ensure there is sufficient space for water pipe connection and concrete directly to the edge of the heater unit.

230V/24V DC Hitte Output Control pg.42

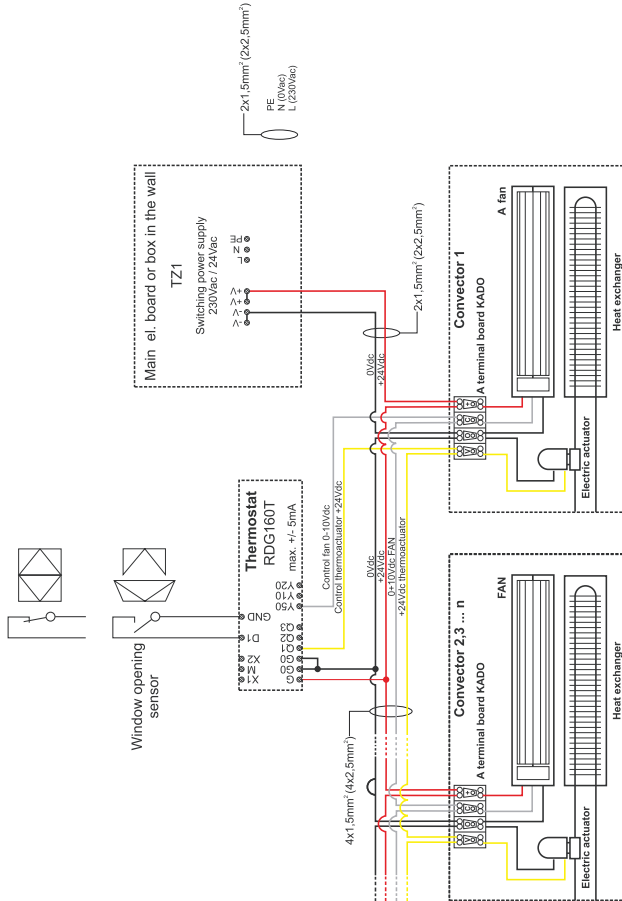
Pressure Drop pgs.48-53

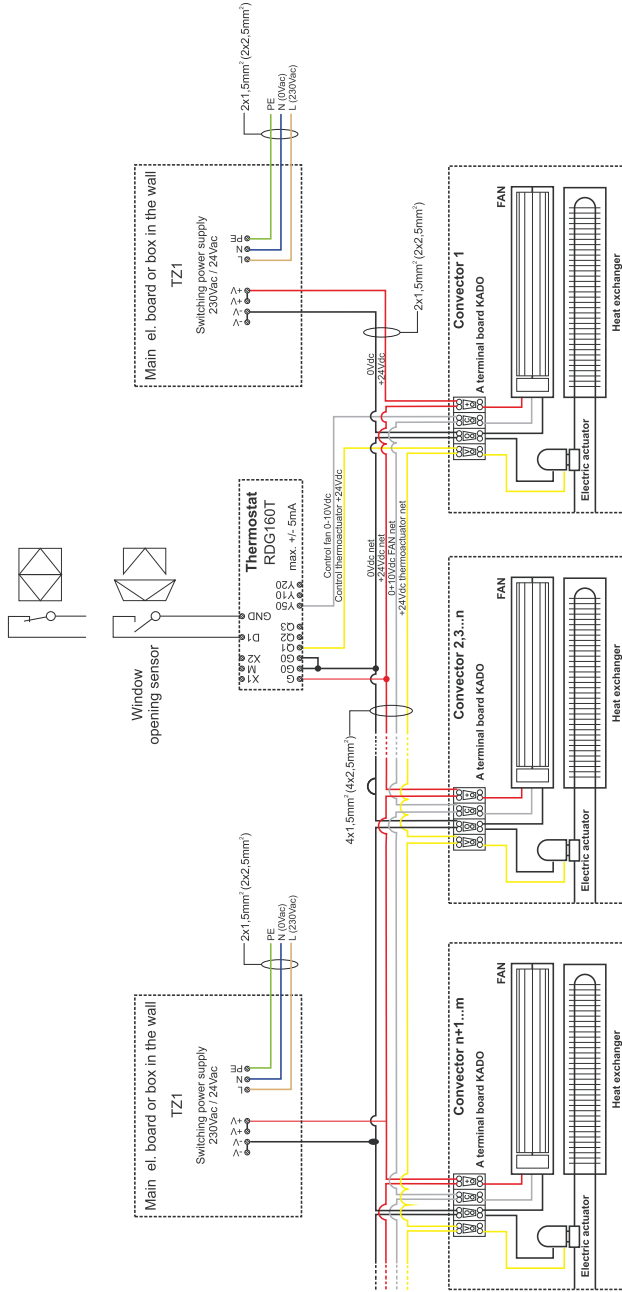
Acoustic noise pg.54

HITTE TRENCH HEATING DIAGRAMS

Safe 24 V DC voltage with low power consumption.

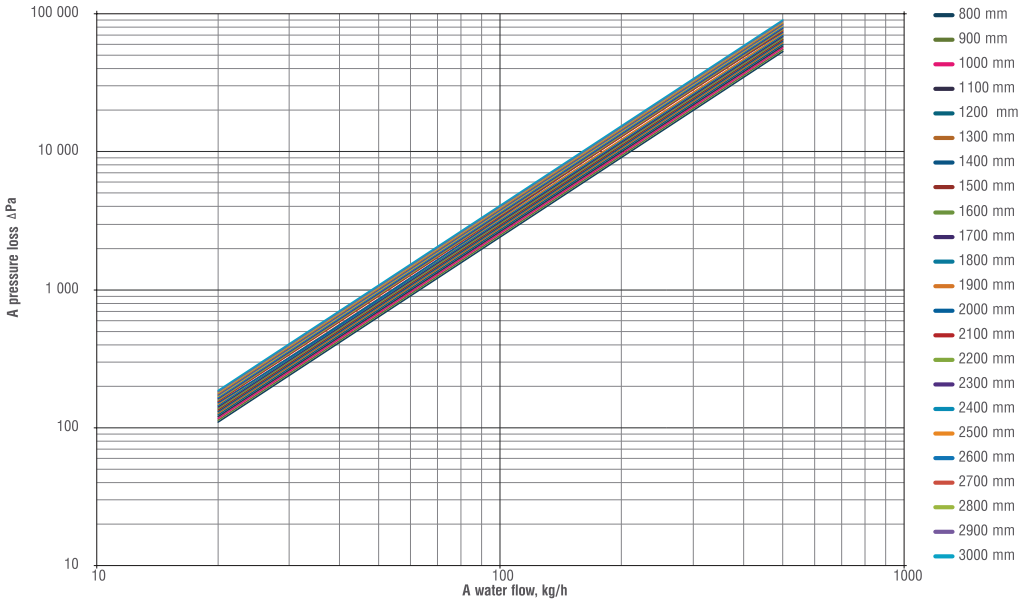
Comfortable stepless or 3-step speed control by changing of 0-10 V DC.





Pressure loss 2 tube heat exchanger Cu Ø12 mm depending on the length and water flow

A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3	
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75	
A pipe length (mm)	1,09	1,29	1,49	1,69	1,89	2,09	2,29	2,49	2,69	2,89	3,09	3,29	3,49	3,69	3,89	4,09	4,29	4,49	4,69	4,89	5,09	5,29	5,49	
A water flow (kg/h)	Δp (Pa)																							
20	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
40	82	86	89	93	96	100	103	107	110	114	118	121	125	128	132	135	139	142	146	150	153	157	160	
60	173	180	188	195	203	210	218	225	233	240	248	255	263	270	278	285	293	300	308	315	323	330	338	
100	443	462	481	500	519	539	558	577	596	615	635	654	673	692	711	731	750	769	788	807	827	846	865	
160	1051	1097	1142	1188	1233	1279	1325	1370	1416	1461	1507	1552	1598	1644	1689	1735	1780	1826	1872	1917	1963	2008	2054	
250	2389	2493	2596	2700	2804	2907	3011	3114	3218	3322	3425	3529	3633	3736	3840	3944	4047	4151	4254	4358	4462	4565	4669	
400	5673	5919	6165	6411	6657	6903	7149	7395	7642	7888	8134	8380	8626	8872	9118	9364	9610	9856	10102	10349	10595	10841	11087	
600	11962	12481	13000	13519	14037	14557	15076	15595	16114	16632	17151	17670	18189	18708	19227	19746	20265	20784	21303	21822	22341	22859	23378	



For models:

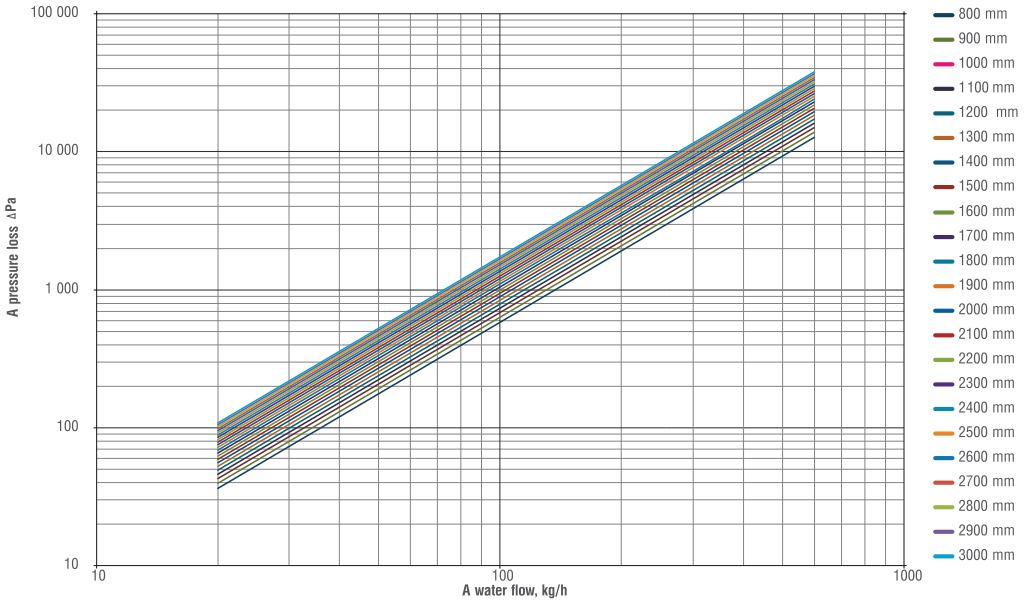
NXX 080 175
NXX 105 175

FXX 065 175
FXX 080 175
FXX 105 175
FXX 065 205
FXX 080 205
FXX 105 205

Pressure loss 4 tube heat exchanger Cu Ø12 mm
depending on the length and water flow



A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3	
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75	
A pipe length (mm)	2,176	2,5776	2,9776	3,3776	3,7776	4,1776	4,5776	4,9776	5,3776	5,7776	6,1776	6,5776	6,9776	7,3776	7,7776	8,1776	8,5776	8,9776	9,3776	9,7776	10,178	10,578	10,978	
A water flow (kg/h)	Δp (Pa)																							
20	36,074	39,182	42,289	45,396	48,503	51,61	54,717	57,824	60,932	64,039	67,146	70,253	73,36	76,467	79,575	82,682	85,789	88,896	92,003	95,11	98,217	101,32	104,43	
40	125,62	136,44	147,26	158,08	168,9	179,72	190,54	201,36	212,18	223	233,82	244,64	255,46	266,27	277,09	287,91	298,73	309,55	320,37	331,19	342,01	352,83	363,65	
60	260,63	283,07	305,52	327,97	350,42	372,87	395,31	417,76	440,21	462,66	485,11	507,56	530	552,45	574,9	597,35	619,8	642,24	664,69	687,14	709,59	732,04	754,49	
100	653,65	709,95	766,25	822,55	878,85	935,15	991,45	1047,75	1104,1	1160,4	1216,7	1273	1329,3	1385,6	1441,9	1498,2	1554,5	1610,8	1667,1	1723,4	1779,7	1836	1892,3	
160	1523,2	1654,4	1785,6	1916,8	2048	2179,2	2310,4	2441,6	2572,8	2704	2835,2	2966,4	3097,6	3228,8	3360	3491,2	3622,4	3753,6	3884,8	4016	4147,2	4278,4	4409,6	
250	3401,2	3694,2	3987,1	4280,1	4573,1	4866	5159	5451,9	5744,9	6037,8	6330,8	6623,7	6916,7	7209,7	7502,6	7795,6	8088,5	8381,5	8674,4	8967,4	9260,3	9553,3	9846,2	
400	7926	8608,7	9291,3	9974	10657	11339	12022	12705	13387	14070	14753	15435	16118	16801	17483	18166	18849	19532	20214	20897	21580	22262	22945	
600	16444	17861	19277	20694	22110	23526	24943	26359	27775	29192	30608	32025	33441	34857	36274	37690	39107	40523	41939	43356	44772	46188	47605	

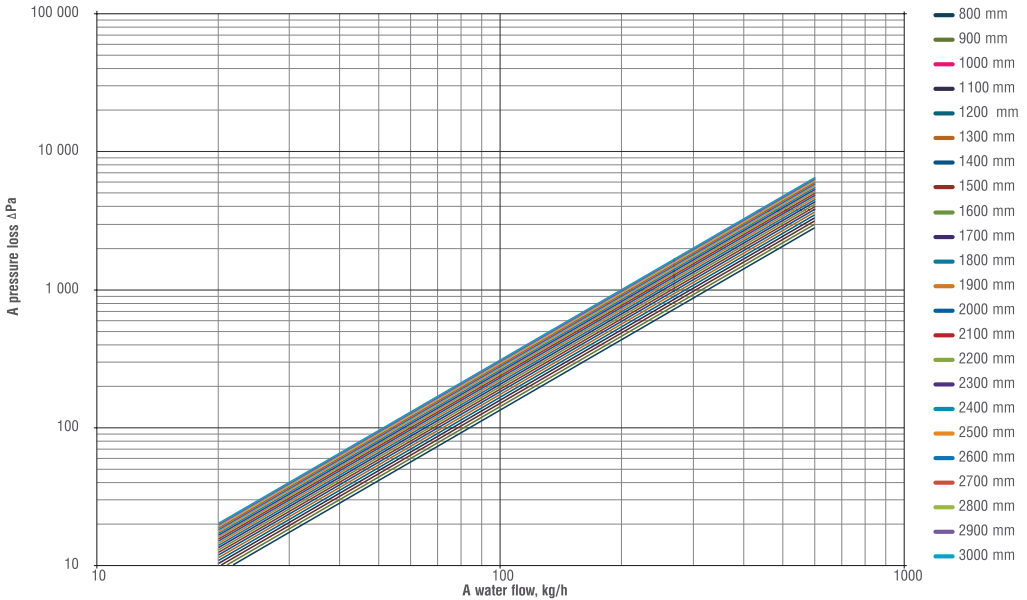


For models:

- | | |
|-------------|-------------|
| NXX 125 175 | FXX 125 175 |
| NXX 165 175 | FXX 125 205 |
| NXX 205 175 | FXX 080 305 |
| NXX 065 305 | FXX 105 305 |
| NXX 080 305 | FXX 105 355 |
| NXX 105 305 | |

Pressure loss 2 tube heat exchanger Cu Ø 15 mm depending on the length and water flow

A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3	
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75	
A pipe length (mm)	1,0888	1,2888	1,4888	1,6888	1,8888	2,0888	2,2888	2,4888	2,6888	2,8888	3,0888	3,2888	3,4888	3,6888	3,8888	4,0888	4,2888	4,4888	4,6888	4,8888	5,0888	5,2888	5,4888	
A water flow (kg/h)	Δp (Pa)																							
20	8,5986	9,1302	9,6618	10,193	10,725	11,256	11,788	12,32	12,851	13,383	13,914	14,446	14,978	15,509	16,041	16,572	17,104	17,635	18,167	18,699	19,23	19,762	20,293	
40	27,937	29,664	31,391	33,118	34,845	36,572	38,3	40,027	41,754	43,481	45,208	46,935	48,662	50,389	52,116	53,843	55,57	57,298	59,025	60,752	62,479	64,206	65,933	
60	55,659	59,1	62,541	65,982	69,422	72,863	76,304	79,745	83,186	86,627	90,068	93,509	96,95	100,39	103,83	107,27	110,71	114,15	117,59	121,04	124,48	127,92	131,36	
100	132,64	140,84	149,04	157,24	165,44	173,64	181,84	190,04	198,24	206,44	214,64	222,84	231,04	239,24	247,44	255,64	263,84	272,04	280,24	288,44	296,64	304,84	313,04	
160	294,9	313,14	331,37	349,6	367,83	386,06	404,29	422,52	440,75	458,99	477,22	495,45	513,68	531,91	550,14	568,37	586,61	604,84	623,07	641,3	659,53	677,76	695,99	
250	629,76	668,69	707,63	746,56	785,49	824,42	863,35	902,29	941,22	980,15	1019,1	1058	1096,9	1135,9	1174,8	1213,7	1252,7	1291,6	1330,5	1369,5	1408,4	1447,3	1486,3	
400	1400,2	1486,7	1573,3	1659,8	1746,4	1833	1919,5	2006,1	2092,6	2179,2	2265,8	2352,3	2438,9	2525,4	2612	2698,6	2785,1	2871,7	2958,2	3044,8	3131,4	3217,9	3304,5	
600	2789,6	2962	3134,5	3306,9	3479,4	3651,8	3824,3	3996,7	4169,2	4341,6	4514,1	4686,5	4859	5031,4	5203,9	5376,3	5548,8	5721,3	5893,7	6066,2	6238,6	6411,1	6583,5	



For models:

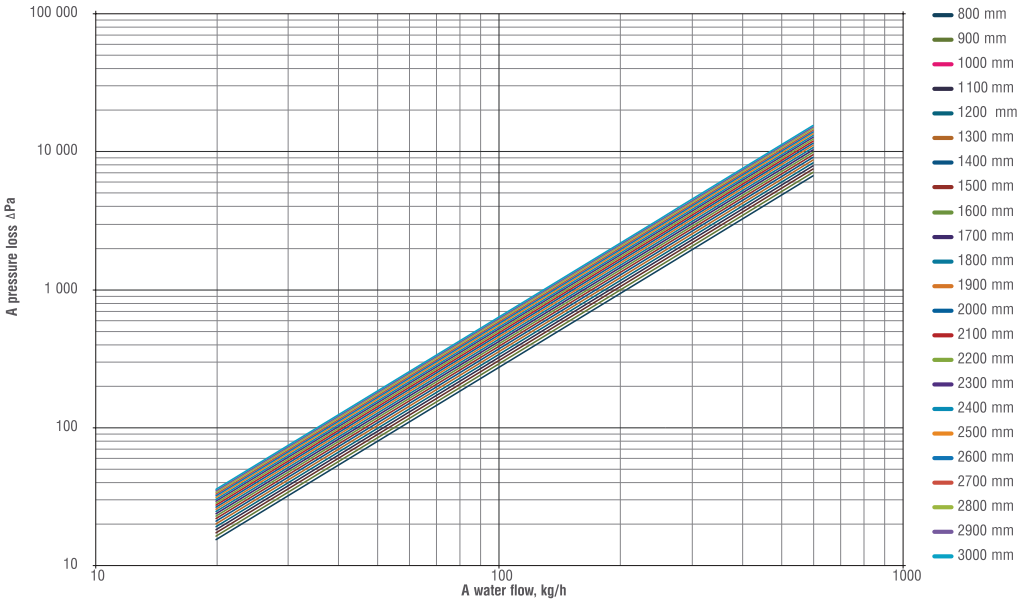
NXX 080 205
NXX 105 205
NXX 065 245
NXX 080 245
NXX 105 245

FXX 065 245
FXX 080 245
FXX 105 245

Pressure loss 4 tube heat exchanger Cu Ø15 mm
depending on the length and water flow



A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75
A pipe length (mm)	2,176	2,576	2,976	3,376	3,776	4,176	4,576	4,976	5,376	5,776	6,176	6,576	6,976	7,376	7,776	8,176	8,576	8,976	9,376	9,776	10,178	10,578	10,978
A water flow (kg/h)	Δp (Pa)																						
20	17,197	18,26	19,324	20,387	21,45	22,513	23,576	24,639	25,702	26,766	27,829	28,892	29,955	31,018	32,081	33,144	34,208	35,271	36,334	37,397	38,46	39,523	40,587
40	55,874	59,328	62,782	66,236	69,691	73,145	76,599	80,053	83,507	86,962	90,416	93,87	97,324	100,778	104,23	107,69	111,14	114,6	118,05	121,5	124,96	128,41	131,87
60	111,32	118,2	125,08	131,96	138,84	145,73	152,61	159,49	166,37	173,25	180,14	187,02	193,9	200,78	207,66	214,54	221,43	228,31	235,19	242,07	248,95	255,84	262,72
100	265,28	281,68	298,08	314,48	330,88	347,28	363,68	380,08	396,48	412,88	429,28	445,68	462,08	478,48	494,88	511,28	527,68	544,08	560,48	576,88	593,28	609,68	626,08
160	589,81	626,27	662,73	699,2	735,66	772,12	808,58	845,05	881,51	917,97	954,43	990,9	1027,4	1063,8	1100,3	1136,7	1173,2	1209,7	1246,1	1282,6	1319,1	1355,5	1392
250	1259,5	1337,4	1415,3	1493,1	1571	1648,8	1726,7	1804,6	1882,4	1960,3	2038,2	2116	2193,9	2271,8	2349,6	2427,5	2505,4	2583,2	2661,1	2739	2816,8	2894,7	2972,5
400	2800,3	2973,4	3146,6	3319,7	3492,8	3665,9	3839	4012,2	4185,3	4358,4	4531,5	4704,6	4877,8	5050,9	5224	5397,1	5570,2	5743,3	5916,5	6089,6	6262,7	6435,8	6609
600	5579,1	5924	6268,9	6613,8	6958,7	7303,6	7648,5	7993,4	8338,3	8683,2	9028,1	9373,1	9718	10063	10408	10753	11098	11443	11788	12133	12478	12823	13168

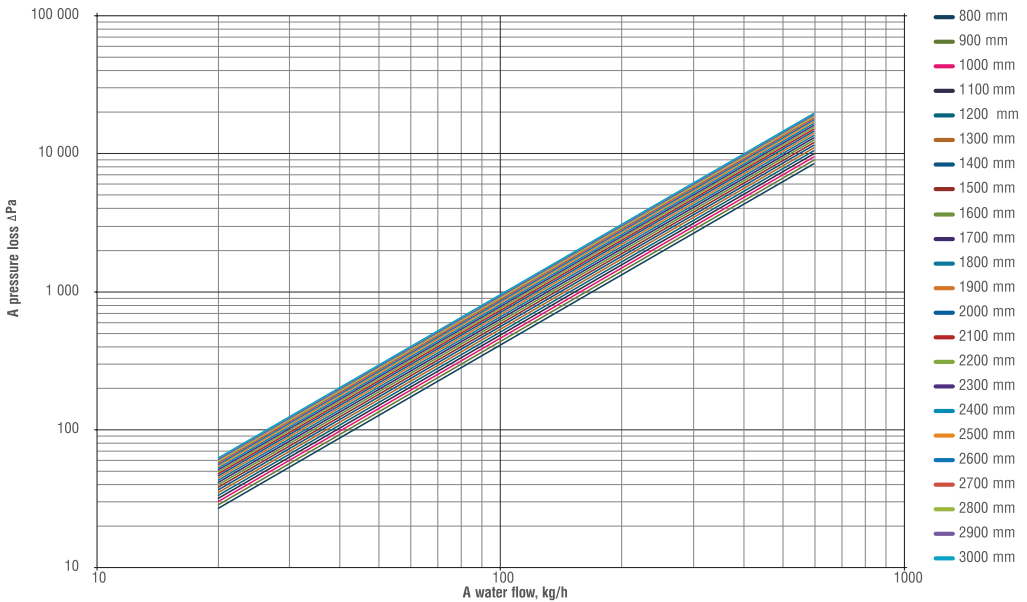


For models:

- | | |
|-------------|-------------|
| NXX 125 205 | FXX 125 245 |
| NXX 165 205 | FXX 165 245 |
| NXX 205 205 | FXX 165 305 |
| NXX 125 245 | FXX 065 355 |
| NXX 165 245 | FXX 080 355 |
| NXX 205 245 | FXX 080 410 |
| NXX 065 355 | FXX 105 410 |
| NXX 080 355 | |
| NXX 080 410 | |
| NXX 105 410 | |

Pressure loss 6 tube heat exchanger Cu \varnothing 12 mm depending on the length and water flow

A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75
A pipe length (mm)	3,2664	3,8664	4,4664	5,0664	5,6664	6,2664	6,8664	7,4664	8,0664	8,6664	9,2664	9,8664	10,466	11,066	11,666	12,266	12,866	13,466	14,066	14,666	15,266	15,866	16,466
A water flow (kg/h)																							
20	25,796	27,391	28,985	30,58	32,175	33,769	35,364	36,959	38,554	40,148	41,743	43,338	44,933	46,527	48,122	49,717	51,311	52,906	54,501	56,096	57,69	59,285	60,88
40	83,811	88,992	94,173	99,355	104,54	109,72	114,9	120,08	125,26	130,44	135,62	140,8	145,99	151,17	156,35	161,53	166,71	171,89	177,07	182,26	187,44	192,62	197,8
60	166,98	177,3	187,62	197,94	208,27	218,59	228,91	239,24	249,56	259,88	270,2	280,53	290,85	301,17	311,49	321,82	332,14	342,46	352,78	363,11	373,43	383,75	394,08
100	397,92	422,52	447,12	471,72	496,32	520,92	545,52	570,12	594,72	619,32	643,92	668,52	693,12	717,72	742,32	766,92	791,52	816,12	840,72	865,32	889,92	914,52	939,12
160	884,71	939,41	994,1	1048,8	1103,5	1158,2	1212,9	1267,6	1322,3	1377	1431,7	1486,3	1541	1595,7	1650,4	1705,1	1759,8	1814,5	1869,2	1923,9	1978,6	2033,3	2088
250	1889,3	2006,1	2122,9	2239,7	2356,5	2473,3	2590,1	2706,9	2823,7	2940,5	3057,3	3174,1	3290,8	3407,6	3524,4	3641,2	3758	3874,8	3991,6	4108,4	4225,2	4342	4458,8
400	4200,5	4460,2	4719,9	4979,5	5239,2	5498,9	5758,6	6018,2	6277,9	6537,6	6797,3	7057	7316,6	7576,3	7836	8095,7	8355,4	8615	8874,7	9134,4	9394,1	9653,8	9913,4
600	8368,7	8886	9403,4	9920,7	10438	10955	11473	11990	12508	13025	13542	14060	14577	15094	15612	16129	16646	17164	17681	18198	18716	19233	19751



For models:

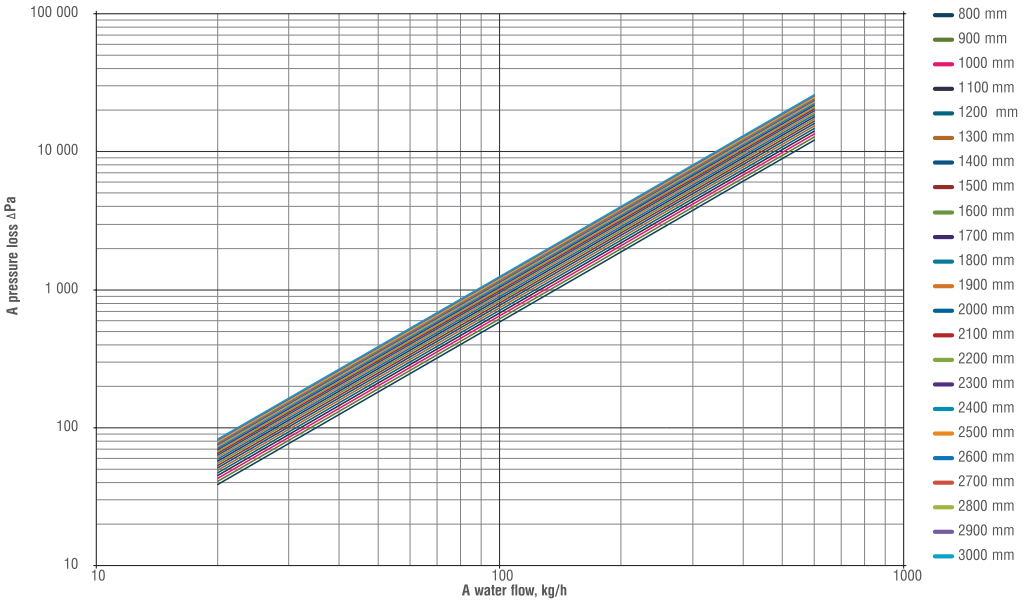
NXX 165 305
NXX 205 305
NXX 125 355
NXX 165 355
NXX 205 355

FXX 125 355

Pressure loss 8 tube heat exchanger Cu Ø15 mm
depending on the length and water flow



A trench length (mm)	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3	
A heat exchanger length (mm)	0,55	0,65	0,75	0,85	0,95	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	1,85	1,95	2,05	2,15	2,25	2,35	2,45	2,55	2,65	2,75	
A pipe length (mm)	4,3552	5,1552	5,9552	6,7552	7,5552	8,3552	9,1552	9,9552	10,755	11,555	12,355	13,155	13,955	14,755	15,555	16,355	17,155	17,955	18,755	19,555	20,355	21,155	21,955	
A water flow (kg/h)	Δp (Pa)																							
20	34,394	36,521	38,647	40,773	42,9	45,026	47,152	49,279	51,405	53,531	55,657	57,784	59,91	62,036	64,163	66,289	68,415	70,542	72,668	74,794	76,92	79,047	81,173	
40	111,75	118,66	125,56	132,47	139,38	146,29	153,2	160,11	167,01	173,92	180,83	187,74	194,65	201,56	208,47	215,37	222,28	229,19	236,1	243,01	249,92	256,82	263,73	
60	222,64	236,4	250,16	263,93	277,69	291,45	305,22	318,98	332,74	346,51	360,27	374,03	387,8	401,56	415,33	429,09	442,85	456,62	470,38	484,14	497,91	511,67	525,43	
100	530,56	563,36	596,16	628,96	661,76	694,56	727,36	760,16	792,96	825,76	858,56	891,36	924,16	956,96	989,76	1022,6	1055,4	1088,2	1121	1153,8	1186,6	1219,4	1252,2	
160	1179,6	1252,5	1325,5	1398,4	1471,3	1544,2	1617,2	1690,1	1763	1835,9	1908,9	1981,8	2054,7	2127,6	2200,6	2273,5	2346,4	2419,3	2492,3	2565,2	2638,1	2711	2784	
250	2519	2674,8	2830,5	2986,2	3142	3297,7	3453,4	3609,1	3764,9	3920,6	4076,3	4232,1	4387,8	4543,5	4699,3	4855	5010,7	5166,4	5322,2	5477,9	5633,6	5789,4	5945,1	
400	5600,7	5946,9	6293,1	6639,4	6985,6	7331,9	7678,1	8024,3	8370,6	8716,8	9063	9409,3	9755,5	10102	10448	10794	11140	11487	11833	12179	12525	12872	13218	
600	11158	11848	12538	13228	13917	14607	15297	15987	16677	17367	18056	18746	19436	20126	20816	21505	22195	22885	23575	24265	24954	25644	26334	



For models:

NXX 125 410
NXX 165 410
NXX 205 410

FXX 125 410
FXX 165 410

A noise level, dB/1/2/3 speed (5/7/10V)

A CONVECTOR WITH A FAN	* Fans start to work with a voltage of 1 V, in that moment noise level lower than the values in the table					
	h65mm	h80mm	h105mm	h125mm	h165mm	h205mm
800	17/20/24	17/20/24	22/25/28	22/25/28	30/37/44	30/37/44
900	17/20/24	17/20/24	22/25/28	22/25/28	30/37/44	30/37/44
1000	17/20/24	17/20/24	22/25/28	22/25/28	30/37/44	30/37/44
1100	17/20/24	17/20/24	22/25/28	22/25/28	30/37/44	30/37/44
1200	17/20/24	17/20/24	22/25/28	22/25/28	31/38/47	31/38/47
1300	17/20/24	17/20/24	22/25/28	22/25/28	31/38/47	31/38/47
1400	17/20/24	17/20/24	22/25/28	22/25/28	31/38/47	31/38/47
1500	18/21/25	18/21/25	25/28/33	25/28/33	31/38/47	31/38/47
1600	18/21/25	18/21/25	25/28/33	25/28/33	31/38/47	31/38/47
1700	18/21/25	18/21/25	25/28/33	25/28/33	33/40/49	33/40/49
1800	19/22/26	19/22/26	28/35/44	28/35/44	33/40/49	33/40/49
1900	19/22/26	19/22/26	28/35/44	28/35/44	33/40/49	33/40/49
2000	19/22/26	19/22/26	28/35/44	28/35/44	33/40/49	33/40/49
2100	19/22/26	19/22/26	28/35/44	28/35/44	33/40/49	33/40/49
2200	20/23/27	20/23/27	28/35/44	28/35/44	34/41/50	34/41/50
2300	19/22/26	19/22/26	28/35/44	28/35/44	34/41/50	34/41/50
2400	20/23/27	20/23/27	28/35/44	28/35/44	34/41/50	34/41/50
2500	20/23/27	20/23/27	28/35/44	28/35/44	37/44/53	37/44/53
2600	20/23/27	20/23/27	28/35/44	28/35/44	37/44/53	37/44/53
2700	20/23/27	20/23/27	28/35/44	28/35/44	37/44/53	37/44/53
2800	21/24/28	21/24/28	29/36/45	29/36/45	37/44/53	37/44/53
2900	19/22/26	19/22/26	28/35/44	28/35/44	37/44/53	37/44/53
3000	21/24/28	21/24/28	29/36/45	29/36/45	37/44/53	37/44/53
3100	21/24/28	21/24/28	29/36/45	29/36/45	39/46/55	39/46/55
3200	21/24/28	21/24/28	29/36/45	29/36/45	39/46/55	39/46/55
3300	20/23/27	20/23/27	28/35/44	28/35/44	39/46/55	39/46/55
3400	23/26/30	23/26/30	31/36/47	31/36/47	39/46/55	39/46/55
3500	20/23/27	20/23/27	28/35/44	28/35/44	39/46/55	39/46/55
3600	20/23/27	20/23/27	28/35/44	28/35/44	39/46/55	39/46/55
3700	20/23/27	20/23/27	28/35/44	28/35/44	39/46/55	39/46/55
3800	23/26/30	23/26/30	31/36/47	31/36/47	39/46/55	39/46/55
3900	23/26/30	23/26/30	31/36/47	31/36/47	39/46/55	39/46/55
4000	23/26/30	23/26/30	31/36/47	31/36/47	39/46/55	39/46/55



Strojírenský zkušební ústav, s.p., Brno, Česká republika
Engineering Test Institute, Public Enterprise, Czech Republic

OSVĚDČENÍ O ZKOUŠCE CERTIFICATE OF TEST

Číslo
Number **O-39-00192-18**

Výrobce
Manufacturer

Hitte s.r.o.
Dvořákova 2, 356 01 Lomnice Týn
Česká republika – Czech Republic

Výrobek
Product

Otopná tělesa – podlahové konvektory
Radiators – underfloor convectors

Typové označení
Type designation

FXX, NXX

Metoda zkoušek
Test method

ČSN EN 16430-1:2015, ČSN EN 16430-2:2015, ČSN ISO 9614-2:1997
EN 16430-1:2014, EN 16430-2:2014

Podklad pro vydání osvědčení
Basis for Certificate issuance

Protokol č. 39-11109/T, 39-11167/T, 39-11167/T1, 39-11167/A/H
Report No.

Výsledky
Results

Materiálové vlastnosti Material properties	Rozměrové tolerance Dimensional tolerances	Příprava a povrchová úprava Preparation and finishing	Zkouška těsnosti Test of pressure tightness	Zkouška odolnosti proti přetlaku Test of pressure resistance
HitteNXX080245XNXX	+	+	+	+
HitteFXX080245XNXX	+	+	+	+
HitteFXX105205XNXX	+	+	+	+
HitteNXX105205XNXX	+	+	+	+
HitteNXX105175XNXX	+	+	+	+
HitteNXX105245XNXX	+	+	+	+
HitteNXX105305XNXX	+	+	+	+
HitteNXX105355XNXX	+	+	+	+
HitteNXX125305XNXX	+	+	+	+
HitteNXX125355XNXX	+	+	+	+
HitteFXX105175XNXX	+	+	+	+

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Strojírenský zkušební ústav, s.p., Hudcova 2, 602 00 Brno, Česká republika
Engineering Test Institute, public enterprise, Hudcova 2, 602 00 Brno, Czech Republic

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