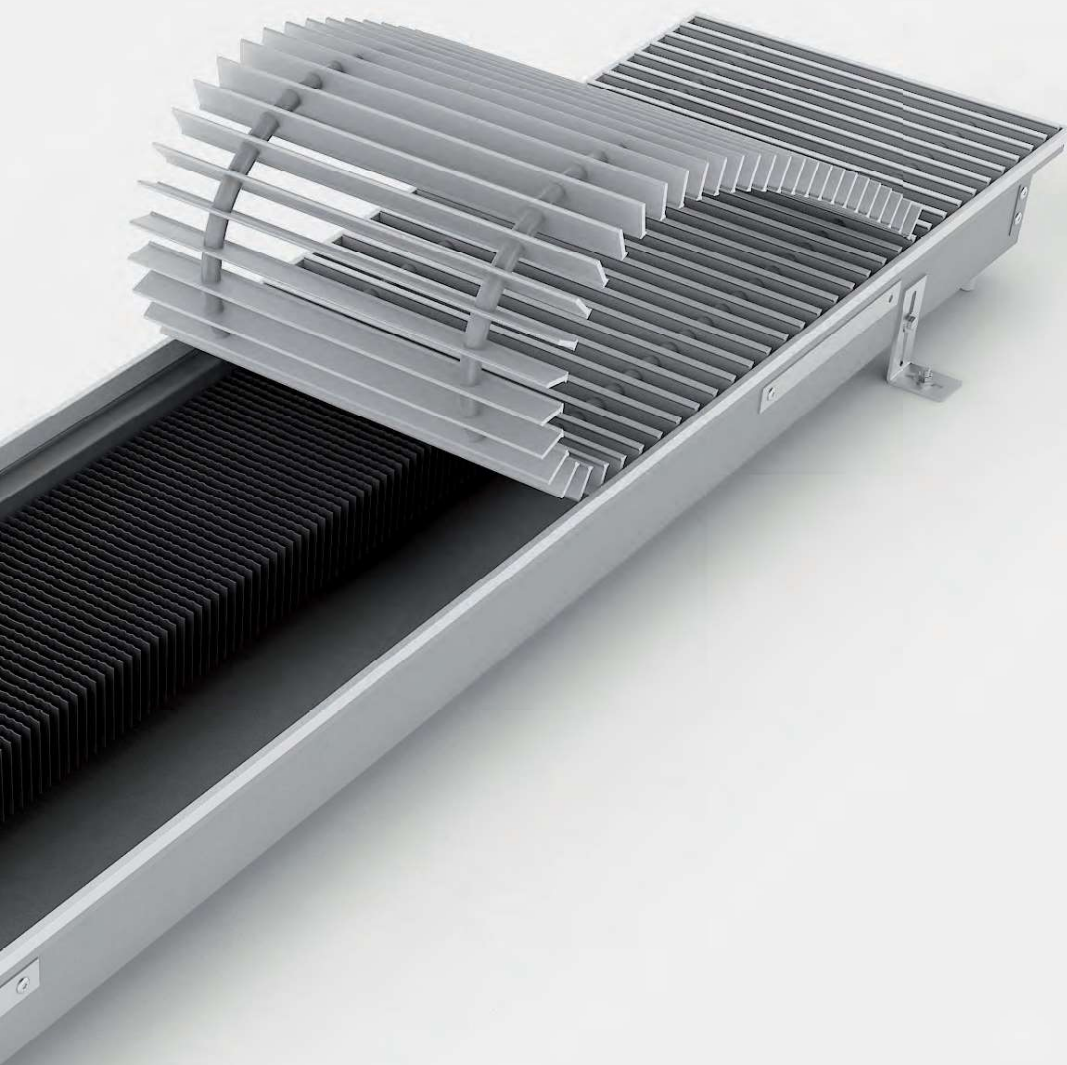


# FRK





## Trench heaters with **natural convection and lamellar exchanger, heating**

# TERMO - FRK



## trench heaters with natural convection

FRK trench heaters with natural convection are installed under glazing covering the entire area of buildings. Trench heaters form a thermal barrier to keep the flow of cold air from the window surface. A part of warm air is directed inwards and heats residential spaces. The trench heaters are normally used as additional heating combined with other types of heating. If the heat output of the trench heater is sufficient the trench heater may also be used as the main heating system. These trench heaters are also suitable to adjust temperatures in entrance halls, commercial areas and long corridors.

A great range of the heights and widths of the trench heaters gives the designer many options how to fit the model with the required output in the configuration of the floor. Necessary data are presented in data sheets for individual products.

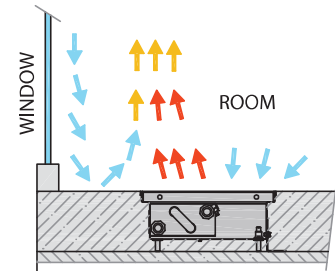
### The range of FRK models with natural convection

Height	80 mm	90 mm	110 mm	125 mm	140 mm	165 mm	200 mm
Width	-	175 mm	175 mm	175 mm	175 mm	-	-
	-	200 mm	200 mm	200 mm	200 mm	-	-
	250 mm	250 mm	250 mm	250 mm	250 mm	-	-
	300 mm	300 mm	300 mm	300 mm	300 mm	300 mm	300 mm
	-	350 mm	350 mm	350 mm	350 mm	350 mm	350 mm
	-	425 mm	425 mm	425 mm	425 mm	425 mm	425 mm

### Placement in the floor

The trench heaters are laid in the floor so that the exchanger is closer to the window side. The vertical and horizontal distribution of temperatures in the heated room is uniform and conditions are created to provide thermal comfort.

Air flow is comparable to the heat transfer with classical heating bodies placed on the wall below windows.



# FRK an overview of trench heaters with natural convection

175

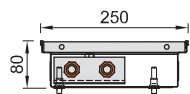
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250

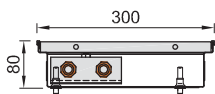
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350

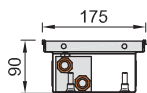
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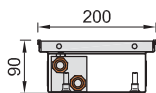
FRK 0080 0250  
page 108



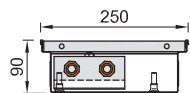
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page 108



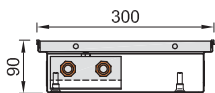
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page 110



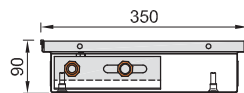
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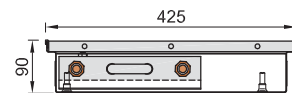
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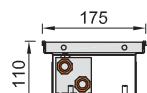
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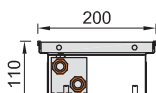
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page 110



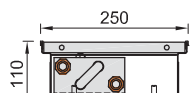
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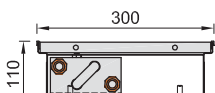
FRK 0110 00175  
page 112



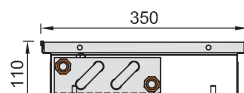
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page 112



FRK 0110 0250  
page 112



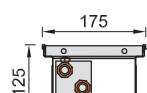
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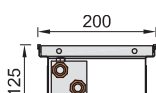
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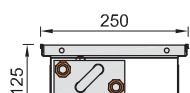
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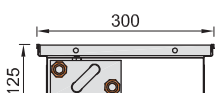
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page 114



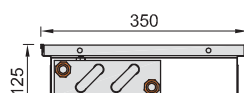
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page 114



FRK 0125 0250  
page 114



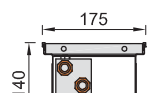
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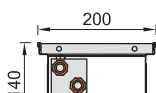
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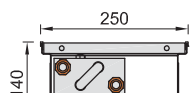
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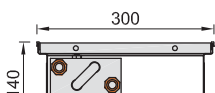
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page 116



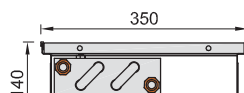
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page 116



FRK 0140 0250  
page 116



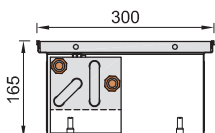
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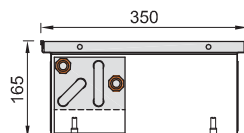
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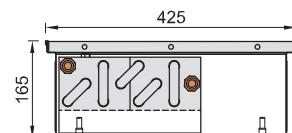
FRK 0140 0425  
page 116



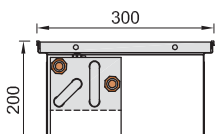
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page 118



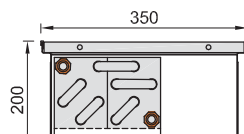
FRK 0165 0350  
page 118



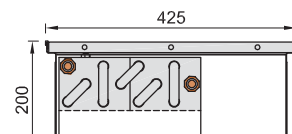
FRK 0165 0425  
page 118



FRK 0200 0300  
page 120



FRK 0200 0350  
page 120



FRK 0200 0425  
page 120



# FRK 0080 0250/0300

TRENCH HEATERS WITH NATURAL CONVECTION



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2pipe system



FRK 0080 0250

## Technical data

### Trench heater

Height [H]	<b>80 mm</b>
Width [W]	<b>250, 300 mm</b>
Length [L]	<b>700-4 800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2xG1/2" inner</b>

### Working conditions

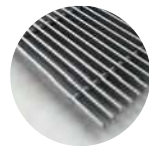
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order

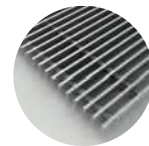


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## FRK 0080 0250/0300 Trench heater heating output

Q[W] 75/65/20 °C (ΔT=50 °C)

H×W [mm]	0080 0250 L [mm] n=1,369	0080 0300 L [mm] n=1,376
700	115 W	119 W
800	144 W	148 W
900	172 W	177 W
1000	200 W	206 W
1100	229 W	236 W
1200	257 W	265 W
1300	286 W	294 W
1400	314 W	324 W
1500	343 W	353 W
1600	371 W	382 W
1700	399 W	411 W
1800	428 W	441 W
1900	456 W	470 W
2000	485 W	499 W
2100	513 W	528 W
2200	542 W	558 W
2300	570 W	587 W
2400	598 W	616 W
2500	627 W	646 W
2600	655 W	675 W
2700	684 W	704 W
2800	712 W	733 W
2900	741 W	763 W
3000	769 W	792 W
3200	826 W	850 W
3400	883 W	909 W
3600	940 W	968 W
3800	996 W	1026 W
4000	1053 W	1085 W
4200	1110 W	1143 W
4400	1167 W	1202 W
4600	1224 W	1260 W
4800	1281 W	1319 W

Q[W] 55/45/20 °C (ΔT=30 °C)

H×W [mm]	0080 0250 L [mm] n=1,369	0080 0300 L [mm] n=1,376
700	57 W	59 W
800	72 W	73 W
900	85 W	88 W
1000	99 W	102 W
1100	114 W	117 W
1200	128 W	131 W
1300	142 W	146 W
1400	156 W	160 W
1500	170 W	175 W
1600	184 W	189 W
1700	198 W	204 W
1800	213 W	218 W
1900	227 W	233 W
2000	241 W	247 W
2100	255 W	262 W
2200	269 W	276 W
2300	283 W	291 W
2400	297 W	305 W
2500	312 W	320 W
2600	326 W	334 W
2700	340 W	349 W
2800	354 W	363 W
2900	368 W	378 W
3000	382 W	392 W
3200	410 W	421 W
3400	439 W	450 W
3600	467 W	479 W
3800	495 W	508 W
4000	523 W	537 W
4200	552 W	566 W
4400	580 W	595 W
4600	608 W	624 W
4800	637 W	653 W

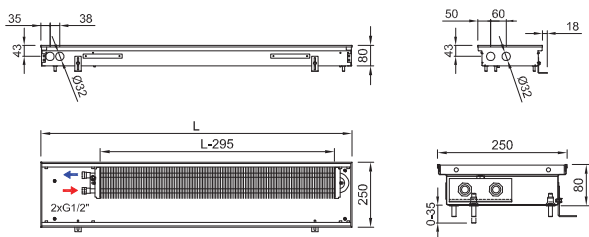
75/65/20 °C → 75 °C inlet temperature, 65 °C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating output for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)



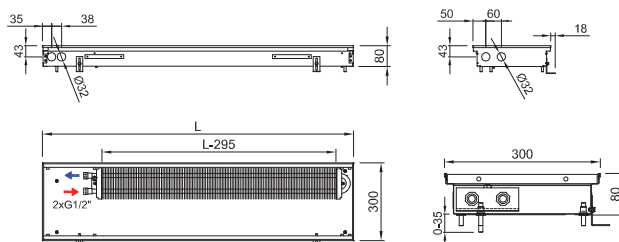
FRK 0080 0300

## Technical drawing

FRK 0080 0250



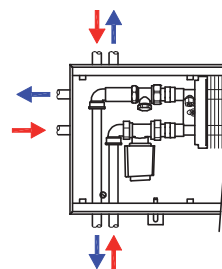
FRK 0080 0300



## Trench heater standard equipment

<b>Trough</b>	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
<b>Heat exchanger</b>	Al-Cu lamellar exchanger with air vent valve, black painted
<b>Grille</b>	Design walkable grille according the customer's choice (stainless grilles surcharge)
<b>Ledge</b>	Made of anodized aluminium, type and colour according the customer's choice
<b>Assembly elements</b>	Leveling screws for setting up the trough, mounting brackets
<b>Manual</b>	Manual for the progress of work during installation and user manual
<b>Wiring</b>	Electrical wiring diagram of the trench heaters
<b>Mounting board</b>	Cover and the spacer particle board for easy installation
<b>Package</b>	Transport package for protection against damage during transportation and handling

## Connection to heating system



① Grilles → 6    ② Ledges → 8    ③ Accessories → 14    ④ Hydraulic parameters → 126

**Code example:** FRK 0080 0250 1900 C 11 L1 L - 0 / Trench heater **FRK** H=80 mm, W= 250 mm, L=1 900 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „15„ Low natural anodized aluminium grille, transverse, rigid, „L1“ peripheral ledge „L“ with an overlap, natur anodized aluminium „L“ water connection at the left side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection



# FRK 0090 175/0200/0250/0300/0350

TRENCH HEATERS WITH NATURAL CONVECTION



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2pipe system



FRK 0090 0175



FRK 0090 0200

## Technical data

### Trench heater

Height [H]	<b>90 mm</b>
Width [W]	<b>175, 200, 250, 300, 350, 425 mm</b>
Length [L]	<b>700-4800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2×G1/2" inner</b>

### Working conditions

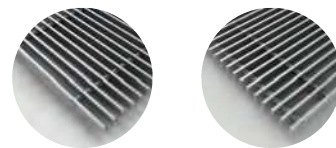
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order



## Variants

### Grilles



Transverse roll-up

Linear

### Peripheral ledges



## Trench heater heating output FRK 0090 0175/0200/0250/0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

H×W [mm]	0090 0175	0090 0200	0090 0250	0090 0300	0090 0350	0090 0425
L [mm]	n=1,46	n=1,463	n=1,375	n=1,369	n=1,372	n=1,389
700	79 W	94 W	137 W	146 W	168 W	209 W
800	98 W	117 W	171 W	182 W	210 W	261 W
900	118 W	140 W	205 W	218 W	252 W	313 W
1000	137 W	164 W	239 W	254 W	293 W	365 W
1100	157 W	187 W	273 W	290 W	335 W	416 W
1200	176 W	210 W	306 W	326 W	376 W	468 W
1300	196 W	233 W	340 W	362 W	418 W	520 W
1400	215 W	256 W	374 W	398 W	460 W	572 W
1500	235 W	279 W	408 W	434 W	501 W	623 W
1600	254 W	303 W	442 W	470 W	543 W	675 W
1700	274 W	326 W	476 W	506 W	584 W	727 W
1800	293 W	349 W	510 W	542 W	626 W	778 W
1900	313 W	372 W	544 W	578 W	668 W	830 W
2000	332 W	395 W	577 W	614 W	709 W	882 W
2100	352 W	419 W	611 W	650 W	751 W	934 W
2200	371 W	442 W	645 W	686 W	792 W	985 W
2300	391 W	465 W	679 W	722 W	834 W	1037 W
2400	411 W	488 W	713 W	758 W	876 W	1089 W
2500	430 W	511 W	747 W	794 W	917 W	1140 W
2600	450 W	535 W	781 W	830 W	959 W	1192 W
2700	469 W	558 W	814 W	866 W	1000 W	1244 W
2800	489 W	581 W	848 W	902 W	1042 W	1296 W
2900	508 W	604 W	882 W	938 W	1084 W	1347 W
3000	528 W	627 W	916 W	974 W	1125 W	1399 W
3200	567 W	674 W	984 W	1046 W	1208 W	1502 W
3400	606 W	720 W	1052 W	1118 W	1292 W	1606 W
3600	645 W	766 W	1119 W	1190 W	1375 W	1709 W
3800	684 W	813 W	1187 W	1262 W	1458 W	1813 W
4000	723 W	859 W	1255 W	1334 W	1541 W	1916 W
4200	762 W	906 W	1322 W	1406 W	1624 W	2020 W
4400	801 W	952 W	1390 W	1478 W	1708 W	2123 W
4600	840 W	998 W	1458 W	1550 W	1791 W	2227 W
4800	879 W	1045 W	1526 W	1622 W	1874 W	2330 W

Q[W] 55/45/20 °C (ΔT=30 °C)

H×W [mm]	0090 0175	0090 0200	0090 0250	0090 0300	0090 0350	0090 0425
L [mm]	n=1,46	n=1,463	n=1,375	n=1,369	n=1,372	n=1,389
700	37 W	45 W	68 W	73 W	83 W	103 W
800	46 W	55 W	85 W	90 W	104 W	128 W
900	56 W	66 W	102 W	108 W	125 W	154 W
1000	65 W	78 W	118 W	126 W	145 W	180 W
1100	74 W	89 W	135 W	144 W	166 W	205 W
1200	83 W	99 W	152 W	162 W	187 W	230 W
1300	93 W	110 W	168 W	180 W	207 W	256 W
1400	102 W	121 W	185 W	198 W	228 W	281 W
1500	111 W	132 W	202 W	216 W	249 W	306 W
1600	120 W	144 W	219 W	234 W	269 W	332 W
1700	130 W	154 W	236 W	251 W	290 W	358 W
1800	139 W	165 W	253 W	269 W	311 W	383 W
1900	148 W	176 W	270 W	287 W	331 W	408 W
2000	157 W	187 W	286 W	305 W	352 W	434 W
2100	167 W	198 W	303 W	323 W	373 W	459 W
2200	176 W	209 W	320 W	341 W	393 W	484 W
2300	185 W	220 W	336 W	359 W	414 W	510 W
2400	195 W	231 W	353 W	377 W	435 W	536 W
2500	204 W	242 W	370 W	395 W	455 W	561 W
2600	213 W	253 W	387 W	412 W	476 W	586 W
2700	222 W	264 W	403 W	430 W	496 W	612 W
2800	232 W	275 W	420 W	448 W	517 W	637 W
2900	241 W	286 W	437 W	466 W	538 W	662 W
3000	250 W	297 W	454 W	484 W	558 W	688 W
3200	269 W	319 W	488 W	520 W	599 W	739 W
3400	287 W	341 W	521 W	556 W	641 W	790 W
3600	306 W	363 W	554 W	591 W	682 W	841 W
3800	324 W	385 W	588 W	627 W	723 W	892 W
4000	343 W	407 W	622 W	663 W	765 W	942 W
4200	361 W	429 W	655 W	699 W	806 W	993 W
4400	380 W	451 W	689 W	734 W	847 W	1 044 W
4600	398 W	473 W	722 W	770 W	889 W	1 095 W
4800	417 W	495 W	756 W	806 W	930 W	1 146 W

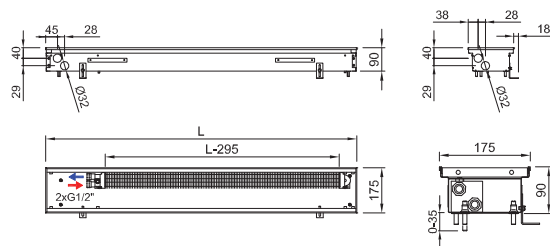
75/65/20 °C → 75°C inlet temperature, 65°C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating output for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)

# /0425

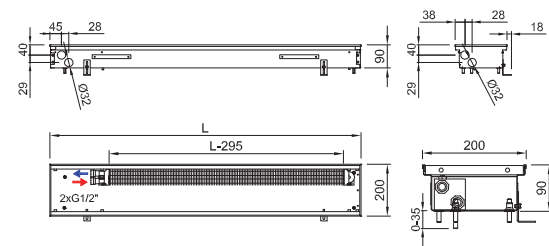


## Technical drawing

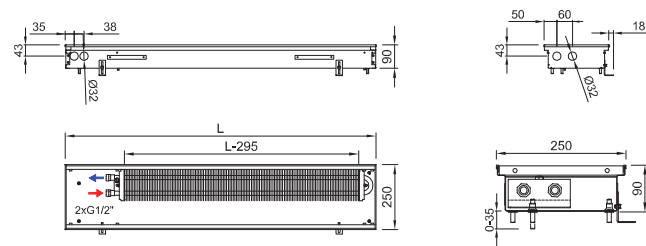
FRK 0090 0175



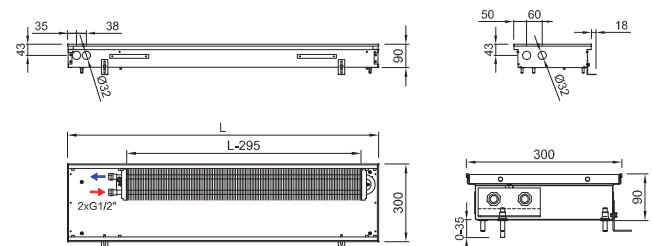
FRK 0090 0200



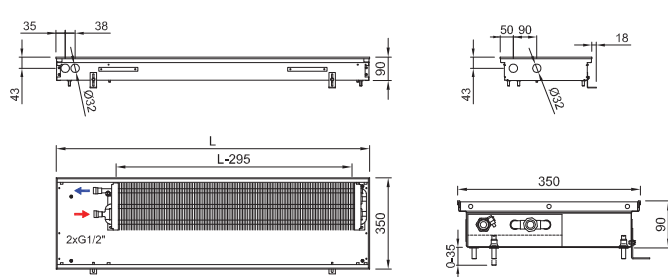
FRK 0090 0250



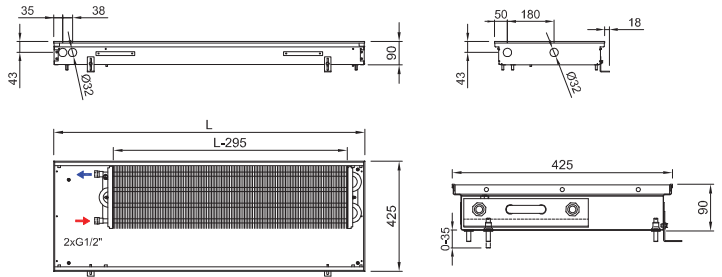
FRK 0090 0300



FRK 0090 0350



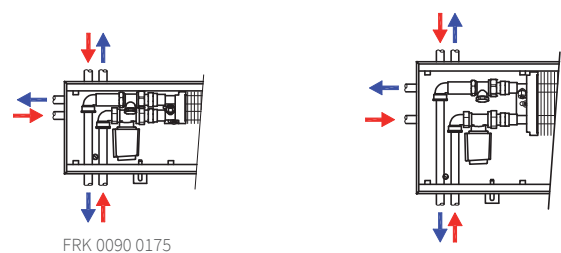
FRK 0090 0425



## Trench heater standard equipment

<b>Trough</b>	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
<b>Heat exchanger</b>	Al-Cu lamellar exchanger with air vent valve, black painted
<b>Grille</b>	Design walkable grille according the customer's choice (stainless grilles surcharge)
<b>Ledge</b>	Made of anodized aluminium, type and colour according the customer's choice
<b>Assembly elements</b>	Leveling screws for setting up the trough, mounting brackets
<b>Manual</b>	Manual for the progress of work during installation and user manual
<b>Wiring</b>	Electrical wiring diagram of the trench heaters
<b>Mounting board</b>	Cover and the spacer particle board for easy installation
<b>Package</b>	Transport package for protection against damage during transportation and handling

## Connection to heating system



FRK 0090 0175

① Grilles → 6    ② Ledges → 8    ③ Accessories → 14    ④ Hydraulic parameters → 126

**Code example:** FRK 0090 0300 0900 C 12 J1 L - 0/ Trench heater **FRK** H=90 mm, W= 300 mm, L=900 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „12“ natur anodized aluminium grille, linear, rigid „J1“ peripheral ledge „J“, natur anodized aluminium, „L“ water connection at the left side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection



# FRK 0110 0175/0200/0250/0300/0350

TRENCH HEATERS WITH NATURAL CONVECTION



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2 pipe system



FRK 0110 0175



FRK 0110 0200

## Technical data

### Trench heater

Height [H]	<b>110 mm</b>
Width [W]	<b>175, 200, 250, 300, 350, 425 mm</b>
Length [L]	<b>700-4800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2×G1/2" inner</b>

### Working conditions

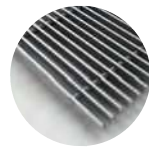
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order

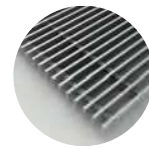


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## Trench heater heating output FRK 0110 0175/0200/0250/0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

H×W [mm]	0110 0175	0110 0200	0110 0250	0110 0300	0110 0350	0110 0425
L [mm]	n=1,479	n=1,479	n=1,46	n=1,468	n=1,458	n=1,403
700	103 W	110 W	166 W	182 W	194 W	245 W
800	129 W	137 W	207 W	227 W	242 W	305 W
900	155 W	164 W	248 W	272 W	290 W	365 W
1000	180 W	191 W	289 W	316 W	338 W	425 W
1100	206 W	218 W	330 W	361 W	386 W	486 W
1200	232 W	246 W	371 W	406 W	434 W	546 W
1300	257 W	273 W	413 W	451 W	482 W	607 W
1400	283 W	300 W	454 W	496 W	530 W	667 W
1500	308 W	327 W	495 W	541 W	578 W	727 W
1600	334 W	354 W	536 W	586 W	625 W	788 W
1700	359 W	381 W	577 W	631 W	673 W	848 W
1800	385 W	408 W	618 W	676 W	721 W	908 W
1900	411 W	435 W	659 W	720 W	769 W	969 W
2000	436 W	463 W	700 W	765 W	817 W	1 029 W
2100	462 W	490 W	741 W	810 W	865 W	1 089 W
2200	487 W	517 W	782 W	855 W	913 W	1 150 W
2300	513 W	544 W	823 W	900 W	961 W	1 210 W
2400	539 W	571 W	864 W	945 W	1 009 W	1 270 W
2500	564 W	598 W	905 W	990 W	1 057 W	1 331 W
2600	590 W	625 W	946 W	1 035 W	1 105 W	1 391 W
2700	615 W	653 W	987 W	1 080 W	1 153 W	1 451 W
2800	641 W	680 W	1 028 W	1 124 W	1 201 W	1 512 W
2900	667 W	707 W	1 069 W	1 169 W	1 249 W	1 572 W
3000	692 W	734 W	1 110 W	1 214 W	1 297 W	1 632 W
3200	743 W	788 W	1 192 W	1 304 W	1 392 W	1 753 W
3400	794 W	842 W	1 275 W	1 394 W	1 488 W	1 874 W
3600	846 W	897 W	1 357 W	1 484 W	1 584 W	1 995 W
3800	897 W	951 W	1 439 W	1 573 W	1 680 W	2 115 W
4000	948 W	1 005 W	1 521 W	1 663 W	1 776 W	2 236 W
4200	999 W	1 060 W	1 603 W	1 753 W	1 872 W	2 357 W
4400	1 050 W	1 114 W	1 685 W	1 843 W	1 968 W	2 477 W
4600	1 101 W	1 168 W	1 767 W	1 932 W	2 063 W	2 598 W
4800	1 153 W	1 222 W	1 849 W	2 022 W	2 159 W	2 719 W

Q[W] 55/45/20 °C (ΔT=30 °C)

H×W [mm]	0110 0175	0110 0200	0110 0250	0110 0300	0110 0350	0110 0425
L [mm]	n=1,479	n=1,479	n=1,46	n=1,468	n=1,458	n=1,403
700	48 W	52 W	79 W	86 W	92 W	120 W
800	61 W	64 W	98 W	107 W	115 W	149 W
900	73 W	77 W	118 W	129 W	138 W	178 W
1000	85 W	90 W	137 W	149 W	160 W	208 W
1100	97 W	102 W	157 W	171 W	183 W	237 W
1200	109 W	116 W	176 W	192 W	206 W	267 W
1300	121 W	128 W	196 W	213 W	229 W	297 W
1400	133 W	141 W	215 W	234 W	252 W	326 W
1500	145 W	154 W	235 W	256 W	274 W	355 W
1600	157 W	166 W	254 W	277 W	297 W	385 W
1700	169 W	179 W	274 W	298 W	320 W	414 W
1800	181 W	192 W	293 W	319 W	342 W	444 W
1900	193 W	204 W	313 W	340 W	365 W	473 W
2000	205 W	217 W	332 W	361 W	388 W	503 W
2100	217 W	230 W	351 W	383 W	411 W	532 W
2200	229 W	243 W	371 W	404 W	434 W	562 W
2300	241 W	256 W	390 W	425 W	456 W	591 W
2400	253 W	268 W	410 W	446 W	479 W	620 W
2500	265 W	281 W	429 W	468 W	502 W	650 W
2600	277 W	294 W	449 W	489 W	525 W	679 W
2700	289 W	307 W	468 W	510 W	547 W	709 W
2800	301 W	319 W	488 W	531 W	570 W	739 W
2900	313 W	332 W	507 W	552 W	593 W	768 W
3000	325 W	345 W	526 W	574 W	616 W	797 W
3200	349 W	370 W	565 W	616 W	661 W	856 W
3400	373 W	395 W	605 W	659 W	707 W	915 W
3600	398 W	421 W	644 W	701 W	752 W	975 W
3800	421 W	447 W	683 W	743 W	798 W	1 033 W
4000	445 W	472 W	721 W	786 W	843 W	1 092 W
4200	469 W	498 W	760 W	828 W	889 W	1 151 W
4400	493 W	523 W	799 W	871 W	934 W	1 210 W
4600	517 W	549 W	838 W	913 W	980 W	1 269 W
4800	542 W	574 W	877 W	955 W	1 025 W	1 328 W

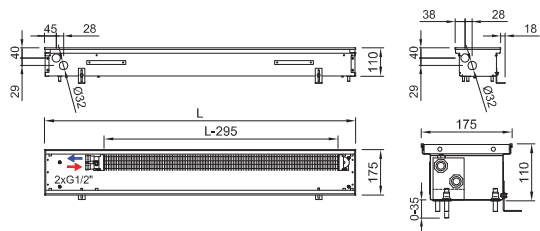
75/65/20 °C → 75°C inlet temperature, 65°C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating outputs for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)

# /0425

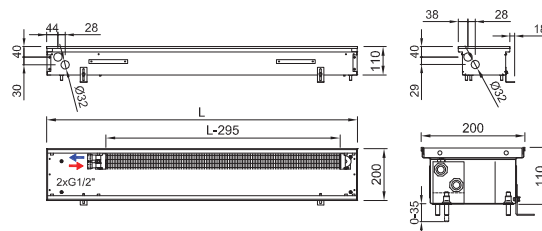


## Technical drawing

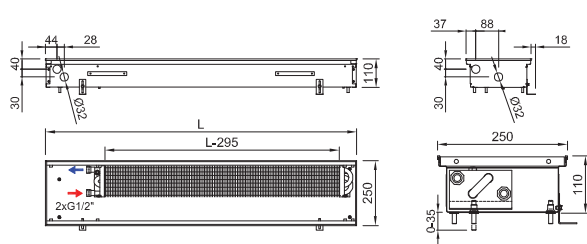
FRK 0110 0175



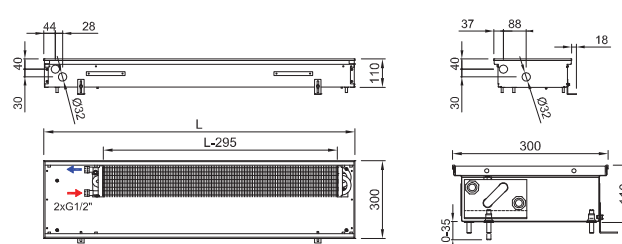
FRK 0110 0200



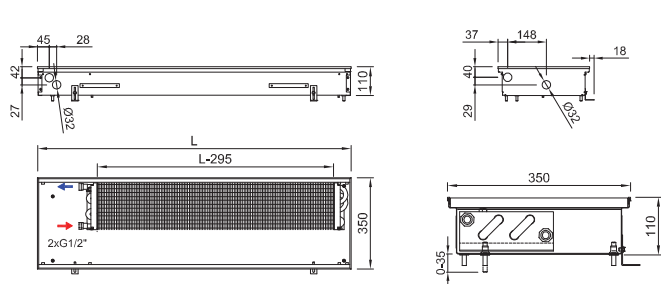
FRK 0110 0250



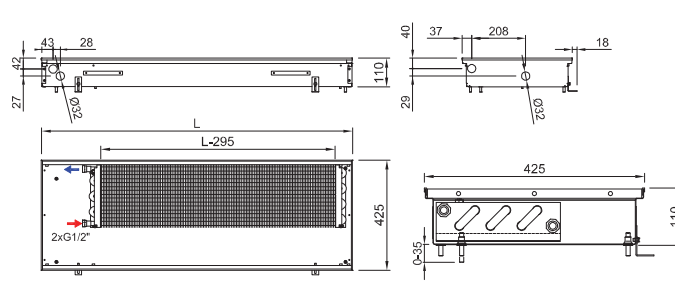
FRK 0110 0300



FRK 0110 0350



FRK 0110 0425

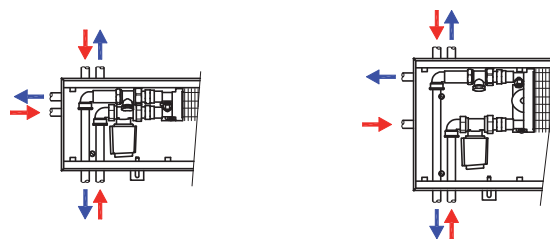


## Trench heater standard equipment

- Trough** Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
- Heat exchanger** Al-Cu lamellar exchanger with air vent valve, black painted
- Grille** Design walkable grille according the customer's choice (stainless grilles surcharge)
- Ledge** Made of anodized aluminium, type and colour according the customer's choice
- Assembly elements** Leveling screws for setting up the trough, mounting brackets
- Manual** Manual for the progress of work during installation and user manual
- Wiring** Electrical wiring diagram of the trench heaters
- Mounting board** Cover and the spacer particle board for easy installation
- Package** Transport package for protection against damage during transportation and handling

- Ⓜ Grilles → 6
- Ⓜ Ledges → 8
- Ⓜ Accessories → 14
- Ⓜ Hydraulic parameters → 126

## Connection to heating system



FRK 0110 0175

**Code example:** FRK 0110 0175 2200 C 21 J2 R - 0 / Trench heater **FRK** H=110 mm, W=175 mm, L=2 200 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „21“ bronze anodized aluminium grille, transverse, roll-up, „J2“ peripheral ledge „J“, bronze anodized aluminium, „R“ water connection at the right side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection

# FRK 0125 175/0200/0250/0300/0350

TRENCH HEATERS WITH NATURAL CONVECTION



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2 pipe system



FRK 0125 0175



FRK 0125 0200

## Technical data

### Trench heater

Height [H]	<b>125 mm</b>
Width [W]	<b>175, 200, 250, 300, 350, 425 mm</b>
Length [L]	<b>700-4800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2xG1/2" inner</b>

### Working conditions

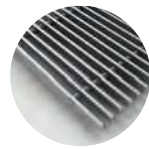
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order

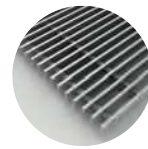


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## Trench heater heating output FRK 0125 0175/0200/0250/0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

HxW [mm]	0125 0175	0125 0200	0125 0250	0125 0300	0125 0350	0125 0425
L [mm]	n=1,483	n=1,485	n=1,457	n=1,369	n=1,421	n=1,403
700	107 W	112 W	188 W	213 W	266 W	319 W
800	134 W	140 W	235 W	266 W	332 W	398 W
900	161 W	168 W	281 W	319 W	398 W	477 W
1000	187 W	196 W	328 W	372 W	464 W	556 W
1100	214 W	224 W	374 W	424 W	530 W	635 W
1200	240 W	251 W	421 W	477 W	596 W	714 W
1300	267 W	279 W	467 W	530 W	661 W	793 W
1400	293 W	307 W	514 W	583 W	727 W	872 W
1500	320 W	335 W	560 W	635 W	793 W	951 W
1600	346 W	363 W	607 W	688 W	859 W	1030 W
1700	373 W	390 W	653 W	741 W	925 W	1109 W
1800	399 W	418 W	700 W	793 W	990 W	1187 W
1900	426 W	446 W	746 W	846 W	1056 W	1266 W
2000	452 W	474 W	793 W	899 W	1122 W	1345 W
2100	479 W	501 W	839 W	952 W	1188 W	1424 W
2200	505 W	529 W	886 W	1004 W	1254 W	1503 W
2300	532 W	557 W	932 W	1057 W	1320 W	1582 W
2400	559 W	585 W	978 W	1110 W	1385 W	1661 W
2500	585 W	613 W	1025 W	1162 W	1451 W	1740 W
2600	612 W	640 W	1071 W	1215 W	1517 W	1819 W
2700	638 W	668 W	1118 W	1268 W	1583 W	1898 W
2800	665 W	696 W	1164 W	1321 W	1649 W	1977 W
2900	691 W	724 W	1211 W	1373 W	1714 W	2055 W
3000	718 W	751 W	1257 W	1426 W	1780 W	2134 W
3200	771 W	807 W	1350 W	1531 W	1912 W	2292 W
3400	824 W	863 W	1443 W	1637 W	2043 W	2450 W
3600	877 W	918 W	1536 W	1742 W	2175 W	2608 W
3800	930 W	974 W	1629 W	1848 W	2307 W	2766 W
4000	983 W	1029 W	1722 W	1953 W	2438 W	2923 W
4200	1036 W	1085 W	1815 W	2059 W	2570 W	3081 W
4400	1089 W	1140 W	1908 W	2164 W	2702 W	3239 W
4600	1142 W	1196 W	2001 W	2270 W	2833 W	3397 W
4800	1195 W	1252 W	2094 W	2375 W	2965 W	3555 W

Q[W] 55/45/20 °C (ΔT=30 °C)

HxW [mm]	0125 0175	0125 0200	0125 0250	0125 0300	0125 0350	0125 0425
L [mm]	n=1,483	n=1,485	n=1,457	n=1,369	n=1,421	n=1,403
700	50 W	52 W	89 W	106 W	129 W	156 W
800	63 W	66 W	112 W	132 W	161 W	194 W
900	75 W	79 W	134 W	159 W	193 W	233 W
1000	88 W	92 W	156 W	185 W	225 W	272 W
1100	100 W	105 W	178 W	211 W	256 W	310 W
1200	112 W	118 W	200 W	237 W	288 W	349 W
1300	125 W	131 W	222 W	263 W	320 W	387 W
1400	137 W	144 W	244 W	290 W	352 W	426 W
1500	150 W	157 W	266 W	316 W	384 W	464 W
1600	162 W	170 W	288 W	342 W	416 W	503 W
1700	175 W	183 W	310 W	368 W	448 W	542 W
1800	187 W	196 W	333 W	394 W	479 W	580 W
1900	200 W	209 W	354 W	420 W	511 W	618 W
2000	212 W	222 W	377 W	447 W	543 W	657 W
2100	225 W	235 W	399 W	473 W	575 W	695 W
2200	237 W	248 W	421 W	499 W	607 W	734 W
2300	249 W	261 W	443 W	525 W	639 W	773 W
2400	262 W	274 W	465 W	552 W	670 W	811 W
2500	274 W	287 W	487 W	577 W	702 W	850 W
2600	287 W	300 W	509 W	604 W	734 W	888 W
2700	299 W	313 W	531 W	630 W	766 W	927 W
2800	312 W	326 W	553 W	656 W	798 W	966 W
2900	324 W	339 W	575 W	682 W	829 W	1004 W
3000	337 W	352 W	597 W	709 W	861 W	1042 W
3200	361 W	378 W	641 W	761 W	925 W	1119 W
3400	386 W	404 W	686 W	814 W	989 W	1197 W
3600	411 W	430 W	730 W	866 W	1052 W	1274 W
3800	436 W	456 W	774 W	918 W	1116 W	1351 W
4000	461 W	482 W	818 W	971 W	1180 W	1428 W
4200	486 W	508 W	862 W	1023 W	1244 W	1505 W
4400	510 W	534 W	907 W	1075 W	1307 W	1582 W
4600	535 W	560 W	951 W	1128 W	1371 W	1659 W
4800	560 W	586 W	995 W	1180 W	1435 W	1736 W

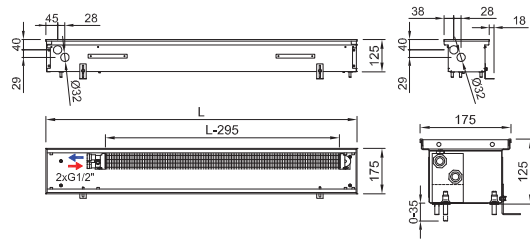
75/65/20 °C → 75°C inlet temperature, 65°C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating outputs for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)

# /0425

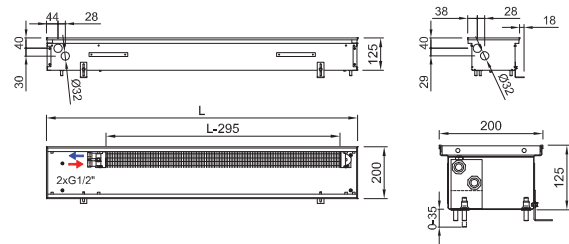


## Technical drawing

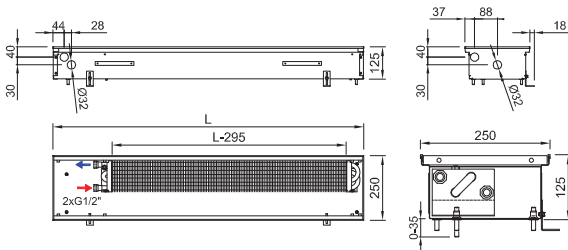
FRK 0125 0175



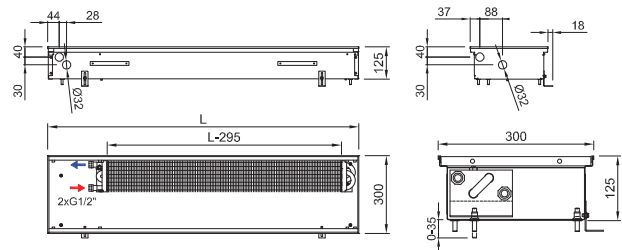
FRK 0125 0200



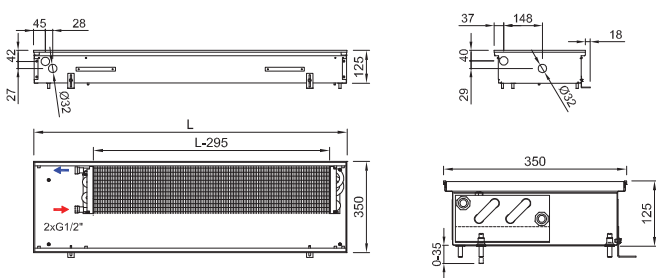
FRK 0125 0250



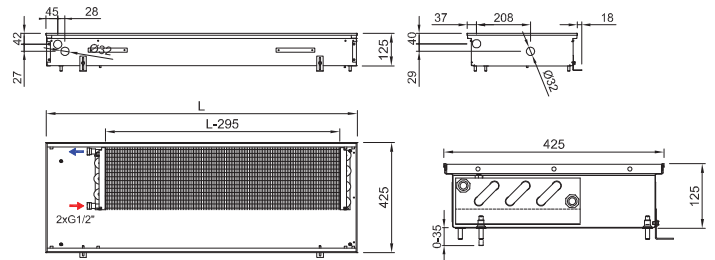
FRK 0125 0300



FRK 0125 0350



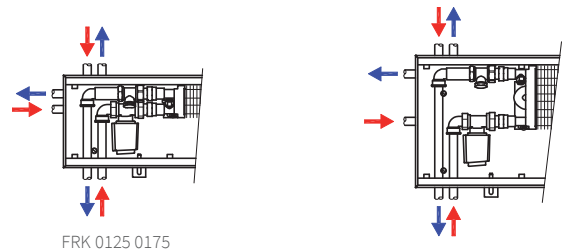
FRK 0125 0425



## Trench heater standard equipment

- Trough** Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
- Heat exchanger** Al-Cu lamellar exchanger with air vent valve, black painted
- Grille** Design walkable grille according to the customer's choice (stainless grilles surcharge)
- Ledge** Made of anodized aluminium, type and colour according to the customer's choice
- Assembly elements** Leveling screws for setting up the trough, mounting brackets
- Manual** Manual for the progress of work during installation and user manual
- Wiring** Electrical wiring diagram of the trench heaters
- Mounting board** Cover and the spacer particle board for easy installation
- Package** Transport package for protection against damage during transportation and handling

## Connection to heating system



FRK 0125 0175

- Ⓜ Grilles → 6
- Ⓛ Ledges → 8
- ⊕ Accessories → 14
- Ⓞ Hydraulic parameters → 126

**Code example:** FRK 0125 0250 1500 C 62 L2 L - 0 / Trench heater **FRK** H=125 mm, W=250 mm, L=1 500 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „62“ stained beech grille, transverse, roll-up, „L2“ peripheral ledge „L“ with an overlap, bronze anodized aluminium, „L“ water connection at the left side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection



# FRK 0140 0175/0200/0250/0300/0350

TRENCH HEATERS WITH NATURAL CONVECTION



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2pipe system



FRK 0140 0175



FRK 0140 0200

## Technical data

### Trench heater

Height [H]	<b>140 mm</b>
Width [W]	<b>175, 200, 250, 300, 350, 425 mm</b>
Length [L]	<b>L = 700–4 800 mm in step 100 mm</b>

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2xG1/2" inner</b>

### Working conditions

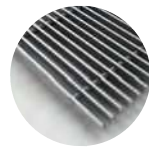
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C Humidity Rh = 20 to 70%</b>

## Accessories per order

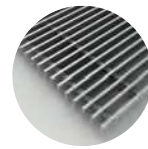


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## Trench heater heating output FRK 0140 0175/0200/0250/0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

HxW [mm]	0140 0175	0140 0200	0140 0250	0140 0300	0140 0350	0140 0425
L [mm]	n=1,495	n=1,496	n=1,443	n=1,453	n=1,452	n=1,403
700	111 W	116 W	200 W	223 W	276 W	354 W
800	138 W	145 W	249 W	278 W	344 W	441 W
900	165 W	174 W	298 W	333 W	412 W	528 W
1000	192 W	203 W	347 W	389 W	481 W	615 W
1100	220 W	231 W	396 W	444 W	549 W	703 W
1200	247 W	260 W	446 W	499 W	617 W	790 W
1300	274 W	289 W	495 W	554 W	685 W	877 W
1400	301 W	317 W	544 W	609 W	753 W	964 W
1500	329 W	346 W	593 W	664 W	822 W	1 052 W
1600	356 W	375 W	642 W	719 W	890 W	1 139 W
1700	383 W	404 W	692 W	774 W	958 W	1 226 W
1800	411 W	432 W	741 W	829 W	1 026 W	1 314 W
1900	438 W	461 W	790 W	885 W	1 094 W	1 401 W
2000	465 W	490 W	839 W	940 W	1 162 W	1 488 W
2100	492 W	519 W	889 W	995 W	1 231 W	1 575 W
2200	520 W	547 W	938 W	1 050 W	1 299 W	1 663 W
2300	547 W	576 W	987 W	1 105 W	1 367 W	1 750 W
2400	574 W	605 W	1 036 W	1 160 W	1 435 W	1 837 W
2500	602 W	633 W	1 085 W	1 215 W	1 503 W	1 925 W
2600	629 W	662 W	1 135 W	1 270 W	1 572 W	2 012 W
2700	656 W	691 W	1 184 W	1 325 W	1 640 W	2 099 W
2800	683 W	720 W	1 233 W	1 381 W	1 708 W	2 186 W
2900	711 W	748 W	1 282 W	1 436 W	1 776 W	2 274 W
3000	738 W	777 W	1 332 W	1 491 W	1 844 W	2 361 W
3200	793 W	835 W	1 430 W	1 601 W	1 981 W	2 536 W
3400	847 W	892 W	1 528 W	1 711 W	2 117 W	2 710 W
3600	902 W	949 W	1 627 W	1 821 W	2 253 W	2 885 W
3800	956 W	1 007 W	1 725 W	1 932 W	2 390 W	3 059 W
4000	1 011 W	1 064 W	1 824 W	2 042 W	2 526 W	3 234 W
4200	1 065 W	1 122 W	1 922 W	2 152 W	2 662 W	3 408 W
4400	1 120 W	1 179 W	2 021 W	2 262 W	2 799 W	3 583 W
4600	1 174 W	1 237 W	2 119 W	2 373 W	2 935 W	3 757 W
4800	1 229 W	1 294 W	2 218 W	2 483 W	3 071 W	3 932 W

Q[W] 55/45/20 °C (ΔT=30 °C)

HxW [mm]	0140 0175	0140 0200	0140 0250	0140 0300	0140 0350	0140 0425
L [mm]	n=1,495	n=1,496	n=1,443	n=1,453	n=1,452	n=1,403
700	52 W	54 W	96 W	106 W	131	173 W
800	64 W	68 W	119 W	132 W	164	215 W
900	77 W	81 W	143 W	159 W	196	258 W
1000	89 W	95 W	166 W	185 W	229	300 W
1100	103 W	108 W	189 W	211 W	261	343 W
1200	115 W	121 W	213 W	238 W	294	386 W
1300	128 W	135 W	237 W	264 W	326	428 W
1400	140 W	148 W	260 W	290 W	359	471 W
1500	153 W	161 W	284 W	316 W	392	514 W
1600	166 W	175 W	307 W	342 W	424	556 W
1700	179 W	188 W	331 W	368 W	456	599 W
1800	192 W	201 W	355 W	395 W	489	642 W
1900	204 W	215 W	378 W	421 W	521	684 W
2000	217 W	228 W	401 W	447 W	553	727 W
2100	229 W	242 W	425 W	474 W	586	769 W
2200	242 W	255 W	449 W	500 W	619	812 W
2300	255 W	268 W	472 W	526 W	651	854 W
2400	268 W	282 W	496 W	552 W	683	897 W
2500	281 W	295 W	519 W	578 W	716	940 W
2600	293 W	308 W	543 W	604 W	749	982 W
2700	306 W	322 W	567 W	631 W	781	1 025 W
2800	318 W	335 W	590 W	657 W	814	1 067 W
2900	331 W	348 W	613 W	684 W	846	1 110 W
3000	344 W	362 W	637 W	710 W	878	1 153 W
3200	370 W	389 W	684 W	762 W	944	1 238 W
3400	395 W	415 W	731 W	814 W	1008	1 323 W
3600	420 W	442 W	778 W	867 W	1073	1 409 W
3800	446 W	469 W	825 W	920 W	1138	1 494 W
4000	471 W	495 W	873 W	972 W	1203	1 579 W
4200	496 W	522 W	920 W	1 024 W	1268	1 664 W
4400	522 W	549 W	967 W	1 077 W	1333	1 749 W
4600	547 W	576 W	1 014 W	1 129 W	1398	1 834 W
4800	573 W	603 W	1 061 W	1 182 W	1463	1 920 W

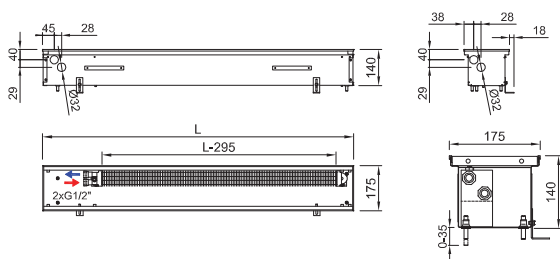
75/65/20 °C → 75 °C inlet temperature, 65 °C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating outputs for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)

# /0425

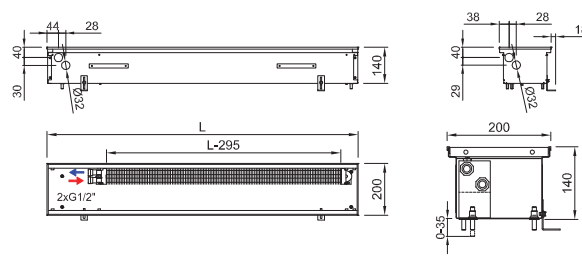


## Technical drawing

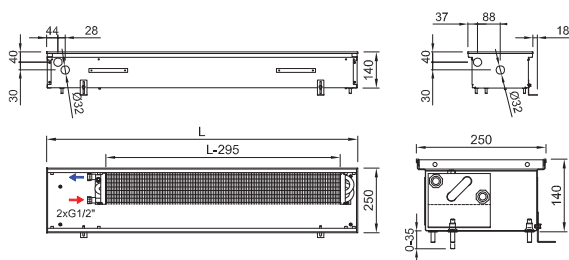
FRK 0140 0175



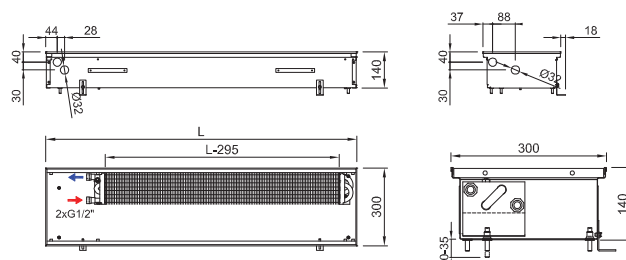
FRK 0140 0200



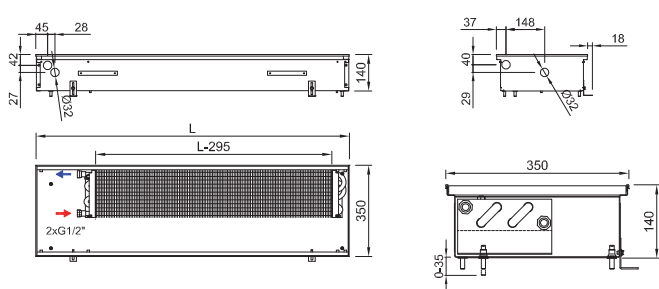
FRK 0140 0250



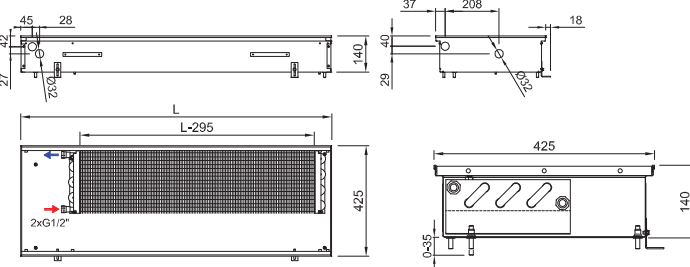
FRK 0140 0300



FRK 0140 0350



FRK 0140 0425

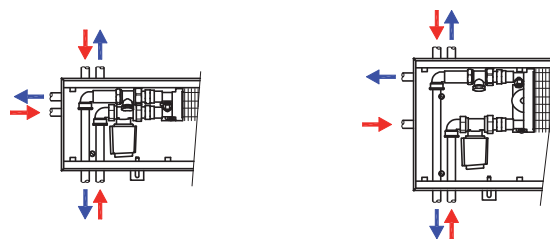


## Trench heater standard equipment

- Trough** Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
- Heat exchanger** Al-Cu lamellar exchanger with air vent valve, black painted
- Grille** Design walkable grille according the customer's choice (stainless grilles surcharge)
- Ledge** Made of anodized aluminium, type and colour according the customer's choice
- Assembly elements** Leveling screws for setting up the trough, mounting brackets
- Manual** Manual for the progress of work during installation and user manual
- Wiring** Electrical wiring diagram of the trench heaters
- Mounting board** Cover and the spacer particle board for easy installation
- Package** Transport package for protection against damage during transportation and handling

- Ⓜ Grilles → 6
- Ⓛ Ledges → 8
- ⊕ Accessories → 14
- Ⓞ Hydraulic parameters → 126

## Connection to heating system



FRK 0140 0175

**Code example:** FRK 0140 0425 1400 C 63 L1 L - 0 / Trench heater FRK H=140 mm, W=425 mm, L= 1 400 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „63“ natural oak grille, transverse, roll-up, „L1“ peripheral ledge „L“ with an overlap, natur anodized aluminium „L“ water connection at the left side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection



# FRK 0165 0300/0350/0425

TRENCH HEATERS WITH NATURAL CONVECTION



FRK 0165 0300



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2pipe system

## Technical data

### Trench heater

Height [H]	<b>165 mm</b>
Width [W]	<b>300, 350, 425 mm</b>
Length [L]	<b>700-4 800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2×G1/2" inner</b>

### Working conditions

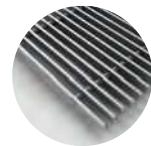
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order

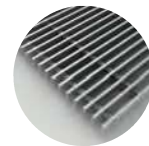


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## Trench heater heating output FRK 0165 0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

H×W [mm] L [mm]	0165 0300 n=1,457	0165 0350 n=1,449	0165 0425 n=1,442	0140 0300 n=1,453
700	233 W	292 W	401 W	223 W
800	291 W	365 W	500 W	278 W
900	349 W	437 W	599 W	333 W
1000	406 W	509 W	698 W	389 W
1100	464 W	581 W	797 W	444 W
1200	521 W	654 W	896 W	499 W
1300	579 W	726 W	995 W	554 W
1400	637 W	798 W	1 094 W	609 W
1500	694 W	870 W	1 193 W	664 W
1600	752 W	942 W	1 292 W	719 W
1700	809 W	1 015 W	1 391 W	774 W
1800	867 W	1 087 W	1 490 W	829 W
1900	925 W	1 159 W	1 589 W	885 W
2000	982 W	1 231 W	1 688 W	940 W
2100	1 040 W	1 304 W	1 787 W	995 W
2200	1 097 W	1 376 W	1 886 W	1 050 W
2300	1 155 W	1 448 W	1 985 W	1 105 W
2400	1 213 W	1 520 W	2 084 W	1 160 W
2500	1 270 W	1 592 W	2 183 W	1 215 W
2600	1 328 W	1 665 W	2 282 W	1 270 W
2700	1 385 W	1 737 W	2 381 W	1 325 W
2800	1 443 W	1 809 W	2 480 W	1 381 W
2900	1 501 W	1 881 W	2 579 W	1 436 W
3000	1 558 W	1 954 W	2 678 W	1 491 W
3200	1 673 W	2 098 W	2 876 W	1 601 W
3400	1 789 W	2 242 W	3 074 W	1 711 W
3600	1 904 W	2 387 W	3 272 W	1 821 W
3800	2 019 W	2 531 W	3 470 W	1 932 W
4000	2 134 W	2 676 W	3 668 W	2 042 W
4200	2 250 W	2 820 W	3 866 W	2 152 W
4400	2 365 W	2 965 W	4 064 W	2 262 W
4600	2 480 W	3 109 W	4 262 W	2 373 W
4800	2 595 W	3 253 W	4 460 W	2 483 W

Q[W] 55/45/20 °C (ΔT=30 °C)

H×W [mm] L [mm]	0165 0300 n=1,457	0165 0350 n=1,449	0165 0425 n=1,442
700	111 W	139 W	192 W
800	138 W	174 W	239 W
900	166 W	208 W	287 W
1000	193 W	243 W	334 W
1100	220 W	277 W	382 W
1200	248 W	312 W	429 W
1300	275 W	346 W	476 W
1400	303 W	381 W	524 W
1500	330 W	415 W	571 W
1600	357 W	449 W	619 W
1700	384 W	484 W	666 W
1800	412 W	519 W	713 W
1900	440 W	553 W	761 W
2000	467 W	587 W	808 W
2100	494 W	622 W	856 W
2200	521 W	656 W	903 W
2300	549 W	691 W	950 W
2400	576 W	725 W	998 W
2500	603 W	759 W	1 045 W
2600	631 W	794 W	1 093 W
2700	658 W	829 W	1 140 W
2800	686 W	863 W	1 187 W
2900	713 W	897 W	1 235 W
3000	740 W	932 W	1 282 W
3200	795 W	1001 W	1 377 W
3400	850 W	1069 W	1 472 W
3600	905 W	1139 W	1 567 W
3800	959 W	1207 W	1 661 W
4000	1 014 W	1277 W	1 756 W
4200	1 069 W	1345 W	1 851 W
4400	1 124 W	1414 W	1 946 W
4600	1 178 W	1483 W	2 041 W
4800	1 233 W	1552 W	2 135 W

75/65/20 °C → 75 °C inlet temperature, 65 °C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating outputs for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)



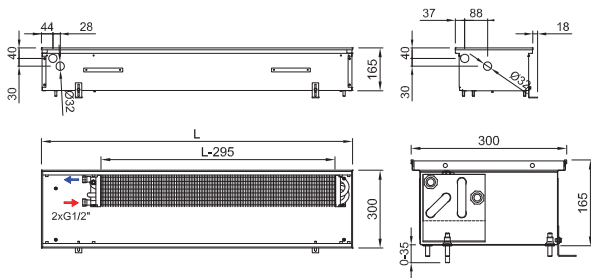
FRK 0165 0350



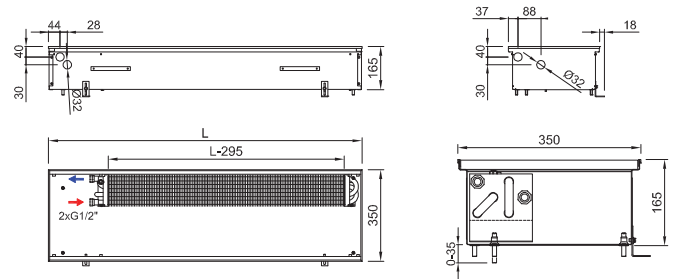
FRK 0165 0425

## Technical drawing

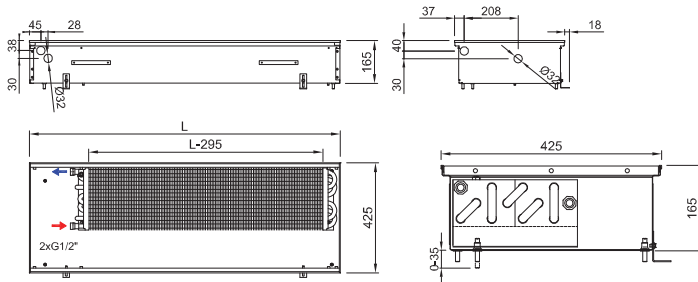
FRK 0165 0300



FRK 0165 0350



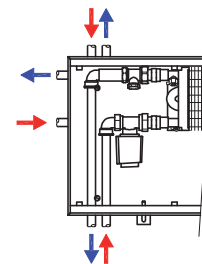
FRK 0165 0425



## Trench heater standard equipment

<b>Trough</b>	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
<b>Heat exchanger</b>	Al-Cu lamellar exchanger with air vent valve, black painted
<b>Grille</b>	Design walkable grille according to the customer's choice (stainless grilles surcharge)
<b>Ledge</b>	Made of anodized aluminium, type and colour according to the customer's choice
<b>Assembly elements</b>	Leveling screws for setting up the trough, mounting brackets
<b>Manual</b>	Manual for the progress of work during installation and user manual
<b>Wiring</b>	Electrical wiring diagram of the trench heaters
<b>Mounting board</b>	Cover and the spacer particle board for easy installation
<b>Package</b>	Transport package for protection against damage during transportation and handling

## Connection to heating system



ⓘ Grilles → 6    ⓘ Ledges → 8    ⓘ Accessories → 14    ⓘ Hydraulic parameters → 126

**Code example:** FRK 0165 0300 1900 C 52 J1 R - 0 / Trench heater FRK H=165 mm, W= 300 mm, L= 1900 mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „52“ stainless grille, transverse, roll-up, „J1“ peripheral ledge „J“, natur anodized aluminium, „R“ water connection at the right side (when installing the heat exchanger closer to the window, fans to the room), „0“ trench heater with natural convection

# FRK 0200 0300/0350/0425

TRENCH HEATERS WITH NATURAL CONVECTION



FRK 0200 0300



- Offices, corridors, halls, flats, winter garden
- High heating output of natural convection
- Suitable for combining with other heating systems
- Using in dry environment
- 2pipe system

## Technical data

### Trench heater

Height [H]	<b>200 mm</b>
Width [W]	<b>300, 350, 425 mm</b>
Length [L]	<b>700-4 800 mm</b> in step 100 mm

### Heat exchanger

Type	<b>Al-Cu lamellar</b>
Length	<b>L-295 mm</b>
Connection thread	<b>2xG1/2" inner</b>

### Working conditions

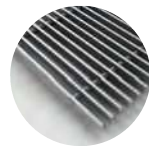
Max. temperature	<b>110 °C</b>
Max. overpressure	<b>1 MPa (10 bar)</b>
Protection	<b>IP 20</b>
Ambient conditions	<b>Temp. T = +2 to +40 °C</b> <b>Humidity Rh = 20 to 70%</b>

## Accessories per order

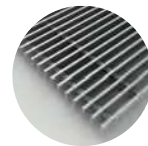


## Variants

### Grilles



Transverse roll-up



Linear

### Peripheral ledges



## Trench heater heating output FRK 0200 0300/0350/0425

Q[W] 75/65/20 °C (ΔT=50 °C)

HxW [mm]	0200 0300	0200 0350	0200 0425	0140 0300
L [mm]	n=1,462	n=1,457	n=1,461	n=1,453
700	237 W	319 W	435 W	223 W
800	296 W	397 W	542 W	278 W
900	354 W	476 W	649 W	333 W
1000	413 W	554 W	756 W	389 W
1100	471 W	633 W	864 W	444 W
1200	530 W	711 W	971 W	499 W
1300	588 W	790 W	1 078 W	554 W
1400	647 W	869 W	1 185 W	609 W
1500	706 W	947 W	1 293 W	664 W
1600	764 W	1026 W	1 400 W	719 W
1700	823 W	1104 W	1 507 W	774 W
1800	881 W	1183 W	1 615 W	829 W
1900	940 W	1262 W	1 722 W	885 W
2000	998 W	1340 W	1 829 W	940 W
2100	1 057 W	1419 W	1 936 W	995 W
2200	1 115 W	1497 W	2 044 W	1 050 W
2300	1 174 W	1576 W	2 151 W	1 105 W
2400	1 233 W	1655 W	2 258 W	1 160 W
2500	1 291 W	1733 W	2 366 W	1 215 W
2600	1 350 W	1812 W	2 473 W	1 270 W
2700	1 408 W	1890 W	2 580 W	1 325 W
2800	1 467 W	1969 W	2 687 W	1 381 W
2900	1 525 W	2048 W	2 795 W	1 436 W
3000	1 584 W	2126 W	2 902 W	1 491 W
3200	1 701 W	2283 W	3 117 W	1 601 W
3400	1 818 W	2441 W	3 331 W	1 711 W
3600	1 935 W	2598 W	3 546 W	1 821 W
3800	2 052 W	2755 W	3 760 W	1 932 W
4000	2 169 W	2912 W	3 975 W	2 042 W
4200	2 287 W	3069 W	4 189 W	2 152 W
4400	2 404 W	3227 W	4 404 W	2 262 W
4600	2 521 W	3384 W	4 618 W	2 373 W
4800	2 638 W	3541 W	4 833 W	2 483 W

Q[W] 55/45/20 °C (ΔT=30 °C)

HxW [mm]	0200 0300	0200 0350	0200 0425
L [mm]	n=1,462	n=1,457	n=1,461
700	112 W	152 W	206 W
800	140 W	189 W	257 W
900	168 W	226 W	308 W
1000	196 W	263 W	358 W
1100	223 W	301 W	410 W
1200	251 W	338 W	460 W
1300	279 W	375 W	511 W
1400	307 W	413 W	562 W
1500	335 W	450 W	613 W
1600	362 W	487 W	664 W
1700	390 W	524 W	715 W
1800	417 W	562 W	766 W
1900	445 W	600 W	816 W
2000	473 W	637 W	867 W
2100	501 W	674 W	918 W
2200	528 W	711 W	969 W
2300	556 W	749 W	1 020 W
2400	584 W	786 W	1 071 W
2500	612 W	823 W	1 122 W
2600	640 W	861 W	1 173 W
2700	667 W	898 W	1 223 W
2800	695 W	935 W	1 274 W
2900	723 W	973 W	1 325 W
3000	751 W	1010 W	1 376 W
3200	806 W	1085 W	1 478 W
3400	861 W	1160 W	1 579 W
3600	917 W	1234 W	1 681 W
3800	972 W	1309 W	1 783 W
4000	1 028 W	1383 W	1 885 W
4200	1 084 W	1458 W	1 986 W
4400	1 139 W	1533 W	2 088 W
4600	1 194 W	1608 W	2 190 W
4800	1 250 W	1682 W	2 291 W

75/65/20 °C → 75 °C inlet temperature, 65 °C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,29 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,80 x 75/65/20 °C / Heating outputs in accordance with EN 16430 / Not listed heating outputs for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://www.isan.cz)



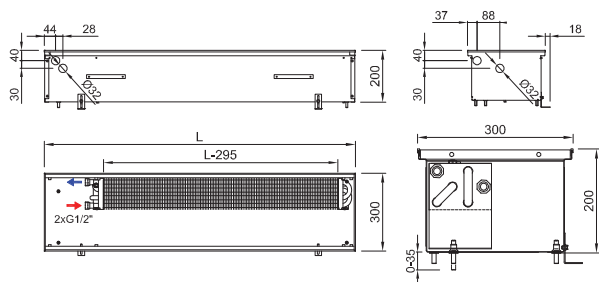
FRK 0200 0350



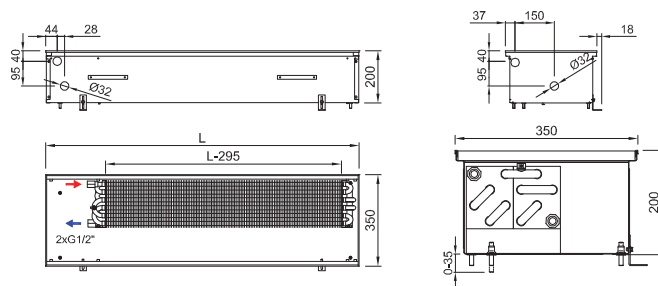
FRK 0200 0425

## Technical drawing

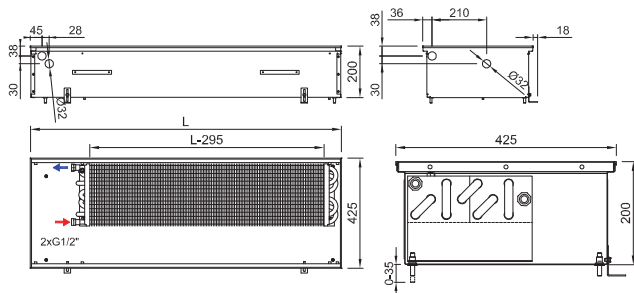
FRK 0200 0300



FRK 0200 0350



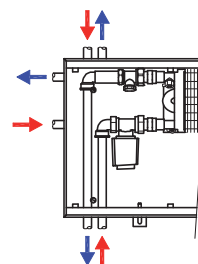
FRK 0200 0425



## Trench heater standard equipment

<b>Trough</b>	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
<b>Heat exchanger</b>	Al-Cu lamellar exchanger with air vent valve, black painted
<b>Grille</b>	Design walkable grille according the customer's choice (stainless grilles surcharge)
<b>Ledge</b>	Made of anodized aluminium, type and colour according the customer's choice
<b>Assembly elements</b>	Leveling screws for setting up the trough, mounting brackets
<b>Manual</b>	Manual for the progress of work during installation and user manual
<b>Wiring</b>	Electrical wiring diagram of the trench heaters
<b>Mounting board</b>	Cover and the spacer particle board for easy installation
<b>Package</b>	Transport package for protection against damage during transportation and handling

## Connection to heating system



① Grilles → 6    ② Ledges → 8    ③ Accessories → 14    ④ Hydraulic parameters → 126

**Code example:** FRK 0200 0425 1500 C 62 L2 L - 0 / Trench heater **FRK** H=200 mm, W= 425 mm, L= 1 500 mm, „C” Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „62” stained beech grille, transverse, roll-up, „L2” peripheral ledge „L” with an overlap, bronze anodized aluminium, „L” water connection at the left side (when installing the heat exchanger closer to the window, fans to the room), „0” trench heater with natural convection