

FRT 0065 0175

ECO & SAFE | 24 VOLTAGE

TRENCH HEATER WITH FAN



- Flats, detached houses, offices, administrative buildings
- The lowest and the most narrow fan assisted trench heater
- High heating output
- Continuous speed control
- Quiet operation
- Common electricity consumption **2 W/m**
- Using in dry environment



Technical data

Trench heater

Height	H = 65 mm
Width	W = 175 mm
Length	L = 700-4 800 mm in step 100 mm

Heat exchanger

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

Working conditions

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

Variants

Transverse grilles - rigid



natur - anod. aluminium



bronze - anod. aluminium



black - anod. aluminium

Peripheral ledge



(more on page 8)

- Low trench heaters are equipped with a non-rolling grille segment
- Only transverse grilles are delivered
- Colours natural, bronze, black

More possibilities and variants → page 6

Trench heater standard equipment

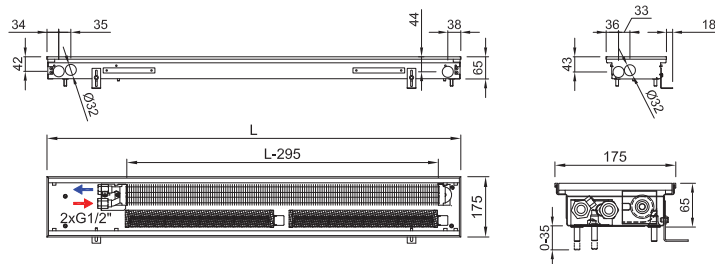
Trough	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
Heat exchanger	Al-Cu lamellar exchanger with air vent valve, black painted
Grille	Design walkable grille according the customer's choice
Ledge	Made of anodized aluminium, type and colour according the customer's choice
Fan	Modern tangential fan with 24 V DC EC motor with high efficiency
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

Accessories per order

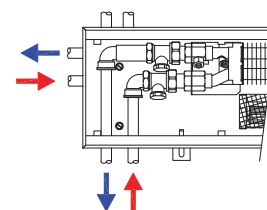


Accessories details → page 14

Technical drawing



Connection to heating system



Electrothermal actuator can't be installed in the body of the trench heater due to limited internal space

The hydraulic parameters of the heat exchanger → page 132

Code example: FRT 0065 0175 1200 C 35 L3 L - 5

Trench heater FRT H = **65** mm, W = **175** mm, L = **1 200** mm, „**C**“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „**35**“ Low black anodized aluminium grille, transverse, rigid, „**L3**“ peripheral ledge „**L**“, black anodized aluminium, „**L**“ water connection on the left side (when installing the heat exchanger closer to the window, fans to the room) „**5**“ 24 V DC fans without controller (controller is not needed)

Trench heater heating output FRT 0065 0175

Q[W] 75/65/20 °C (ΔT=50 °C)

Temperature exponent 1,1

Length L [mm]	Speed [-] / Heating output [W]				
	0	1	2	3	4 max.
700	19 W	82 W	183 W	214 W	228 W
800	24 W	109 W	244 W	285 W	304 W
900	29 W	130 W	292 W	342 W	365 W
1000	34 W	185 W	414 W	484 W	517 W
1100	38 W	185 W	414 W	484 W	517 W
1200	43 W	217 W	487 W	569 W	608 W
1300	48 W	239 W	536 W	626 W	669 W
1400	53 W	266 W	597 W	698 W	745 W
1500	57 W	294 W	658 W	769 W	821 W
1600	62 W	320 W	716 W	837 W	894 W
1700	67 W	320 W	716 W	837 W	894 W
1800	72 W	370 W	828 W	968 W	1 034 W
1900	77 W	401 W	899 W	1 051 W	1 122 W
2000	81 W	428 W	960 W	1 122 W	1 198 W
2100	86 W	450 W	1 008 W	1 179 W	1 259 W
2200	91 W	450 W	1 008 W	1 179 W	1 259 W
2300	96 W	504 W	1 130 W	1 321 W	1 411 W
2400	100 W	504 W	1 130 W	1 321 W	1 411 W
2500	105 W	537 W	1 203 W	1 406 W	1 502 W
2600	110 W	559 W	1 252 W	1 463 W	1 563 W
2700	115 W	581 W	1 300 W	1 520 W	1 624 W
2800	119 W	613 W	1 374 W	1 606 W	1 715 W
2900	124 W	639 W	1 432 W	1 674 W	1 788 W
3000	129 W	639 W	1 432 W	1 674 W	1 788 W
3200	139 W	721 W	1 615 W	1 888 W	2 016 W
3400	148 W	748 W	1 676 W	1 959 W	2 092 W
3600	158 W	824 W	1 846 W	2 158 W	2 305 W
3800	167 W	851 W	1 907 W	2 229 W	2 381 W
4000	177 W	900 W	2 016 W	2 357 W	2 518 W
4200	186 W	959 W	2 148 W	2 511 W	2 682 W
4400	196 W	1 009 W	2 260 W	2 642 W	2 822 W
4600	205 W	1 068 W	2 392 W	2 796 W	2 986 W
4800	215 W	1 089 W	2 440 W	2 853 W	3 047 W

75/65/20 °C → 75 °C inlet temperature, 65 °C outlet temp., 20 °C room temp. / Output 90/70/20 °C = ~ 1,22 x 75/65/20 °C / Output 70/55/20 °C = ~ 0,84 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

Acoustic power [dB]

Length L [mm]	Speed [-] / Acoustic power [dB]				
	0	1	2	3	4 max.
700	-	< 25	< 25	30	36
800	-	< 25	25	31	37
900	-	< 25	26	32	38
1000	-	< 25	26	32	38
1100	-	< 25	26	32	38
1200	-	< 25	27	33	39
1300	-	< 25	27	33	39
1400	-	< 25	28	33	39
1500	-	< 25	28	34	40
1600	-	< 25	28	34	40
1700	-	< 25	28	34	40
1800	-	< 25	29	34	40
1900	-	< 25	29	35	41
2000	-	< 25	29	35	41
2100	-	< 25	29	35	41
2200	-	< 25	30	35	41
2300	-	< 25	30	36	41
2400	-	< 25	30	36	41
2500	-	< 25	30	36	42
2600	-	< 25	30	36	42
2700	-	< 25	30	36	42
2800	-	< 25	31	36	42
2900	-	< 25	31	37	42
3000	-	< 25	31	37	42
3200	-	< 25	31	37	43
3400	-	< 25	32	37	43
3600	-	25	32	37	43
3800	-	25	32	38	43
4000	-	25	32	38	44
4200	-	25	32	38	44
4400	-	26	33	38	44
4600	-	26	33	39	44
4800	-	26	33	39	44

More details on page → 13

Q[W] 55/45/20 °C (ΔT=30 °C)

Length L [mm]	Speed [-] / Heating output [W]				
	0	1	2	3	4 max.
700	9 W	47 W	104 W	122 W	130 W
800	25 W	62 W	139 W	162 W	173 W
900	30 W	74 W	166 W	195 W	208 W
1000	35 W	105 W	236 W	276 W	295 W
1100	39 W	105 W	236 W	276 W	295 W
1200	44 W	124 W	278 W	324 W	347 W
1300	49 W	136 W	306 W	357 W	381 W
1400	54 W	152 W	340 W	398 W	425 W
1500	59 W	168 W	375 W	438 W	468 W
1600	64 W	182 W	408 W	477 W	510 W
1700	69 W	182 W	408 W	477 W	510 W
1800	74 W	211 W	472 W	552 W	590 W
1900	79 W	229 W	513 W	599 W	640 W
2000	84 W	244 W	547 W	640 W	683 W
2100	88 W	257 W	575 W	672 W	718 W
2200	93 W	257 W	575 W	672 W	718 W
2300	98 W	287 W	644 W	753 W	804 W
2400	103 W	287 W	644 W	753 W	804 W
2500	108 W	306 W	686 W	802 W	856 W
2600	113 W	319 W	714 W	834 W	891 W
2700	118 W	331 W	741 W	867 W	926 W
2800	123 W	349 W	783 W	916 W	978 W
2900	128 W	364 W	816 W	954 W	1 019 W
3000	132 W	364 W	816 W	954 W	1 019 W
3200	142 W	411 W	921 W	1 076 W	1 149 W
3400	152 W	426 W	956 W	1 117 W	1 193 W
3600	162 W	470 W	1 052 W	1 230 W	1 314 W
3800	172 W	485 W	1 087 W	1 271 W	1 357 W
4000	181 W	513 W	1 149 W	1 344 W	1 436 W
4200	191 W	547 W	1 225 W	1 432 W	1 529 W
4400	201 W	575 W	1 288 W	1 506 W	1 609 W
4600	211 W	609 W	1 364 W	1 594 W	1 702 W
4800	221 W	621 W	1 391 W	1 627 W	1 737 W

Fans input power [W]*

Length L [mm]	Number of fans	Speed [-] / Fans input power [W]*			
		1	2	3	4 max.
700	1	1 W	1 W	2 W	2 W
800	1	1 W	1 W	2 W	2 W
900	1	1 W	1 W	2 W	2 W
1000	1	2 W	2 W	2 W	3 W
1100	1	2 W	2 W	2 W	3 W
1200	2	2 W	3 W	3 W	4 W
1300	2	2 W	3 W	3 W	4 W
1400	2	3 W	3 W	4 W	5 W
1500	2	3 W	3 W	4 W	5 W
1600	1	3 W	3 W	4 W	5 W
1700	2	3 W	3 W	4 W	5 W
1800	2	3 W	3 W	4 W	5 W
1900	2	3 W	4 W	5 W	6 W
2000	2	4 W	5 W	6 W	7 W
2100	2	4 W	5 W	6 W	7 W
2200	2	4 W	5 W	6 W	7 W
2300	2	4 W	5 W	6 W	7 W
2400	2	4 W	5 W	6 W	7 W
2500	3	5 W	6 W	7 W	9 W
2600	3	5 W	6 W	7 W	9 W
2700	3	5 W	6 W	7 W	9 W
2800	3	5 W	6 W	7 W	9 W
2900	2	5 W	6 W	7 W	9 W
3000	3	5 W	6 W	7 W	9 W
3200	3	6 W	8 W	9 W	11 W
3400	3	6 W	8 W	9 W	11 W
3600	3	7 W	8 W	10 W	12 W
3800	4	7 W	9 W	11 W	13 W
4000	4	7 W	9 W	11 W	13 W
4200	3	7 W	9 W	11 W	13 W
4400	4	8 W	10 W	12 W	14 W
4600	4	8 W	10 W	12 W	15 W
4800	4	8 W	10 W	12 W	15 W

* Approximate fan input powers / When using electrothermal actuator add in the trench heater's power 3 W / Wiring of the trench heater → page 136