

# FRT 0065 0200

ECO & SAFE | 24 VOLTAGE

TRENCH HEATER WITH FAN



- Flats, detached houses, offices, administrative buildings
- The lowest and 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 = <b>65</b> mm
Width	W = <b>200</b> mm
Length	L = <b>700-4 800</b> mm in step <b>100</b> mm

### Heat exchanger

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

### Working conditions

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

## 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

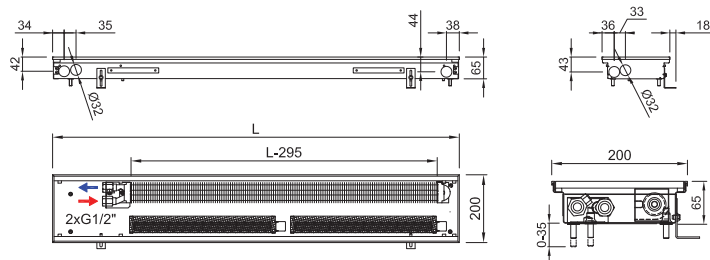
<b>Trough</b>	Galvanized steel trough with surface finish and black spray layer inside, black cover plates of connection
<b>Heat exchanger</b>	Al-Cu lamellar exchanger with air vent valve, black painted
<b>Grille</b>	Design walkable grille according the customer's choice
<b>Ledge</b>	Made of anodized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

## Accessories per order

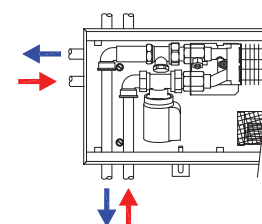
	Room thermostat		Power supply
	Electrothermal actuator		Thermostatic valve
	Lockshield valve		

Accessories details → page 14

## Technical drawing



## Connection to heating system



The hydraulic parameters of the heat exchanger → page 132

### Code example: FRT 0065 0200 2000 C 25 J2 L - 5

Trench heater FRT H = **65** mm, W = **200** mm, L = **2 000** mm, „C“ Galvanized steel trough with black inside, heat exchanger and inner parts painted black, „25“ Low bronze anodized aluminium grille, transverse, rigid, „J2“ peripheral ledge „J“, bronze 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 0200

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	23 W	83 W	197 W	232 W	275 W
800	28 W	111 W	263 W	310 W	367 W
900	34 W	133 W	316 W	372 W	440 W
1000	40 W	188 W	448 W	527 W	623 W
1100	45 W	188 W	448 W	527 W	623 W
1200	51 W	221 W	527 W	620 W	733 W
1300	57 W	243 W	579 W	682 W	807 W
1400	62 W	271 W	645 W	759 W	898 W
1500	68 W	298 W	711 W	837 W	990 W
1600	73 W	325 W	774 W	911 W	1 078 W
1700	79 W	325 W	774 W	911 W	1 078 W
1800	85 W	376 W	895 W	1 054 W	1 247 W
1900	90 W	408 W	971 W	1 143 W	1 353 W
2000	96 W	436 W	1 037 W	1 221 W	1 445 W
2100	102 W	458 W	1 090 W	1 283 W	1 518 W
2200	107 W	458 W	1 090 W	1 283 W	1 518 W
2300	113 W	513 W	1 222 W	1 438 W	1 701 W
2400	118 W	513 W	1 222 W	1 438 W	1 701 W
2500	124 W	546 W	1 301 W	1 531 W	1 811 W
2600	130 W	568 W	1 353 W	1 593 W	1 885 W
2700	135 W	590 W	1 406 W	1 655 W	1 958 W
2800	141 W	623 W	1 485 W	1 748 W	2 068 W
2900	147 W	650 W	1 548 W	1 822 W	2 156 W
3000	152 W	650 W	1 548 W	1 822 W	2 156 W
3200	163 W	733 W	1 745 W	2 054 W	2 431 W
3400	175 W	761 W	1 811 W	2 132 W	2 523 W
3600	186 W	838 W	1 996 W	2 349 W	2 779 W
3800	197 W	866 W	2 061 W	2 426 W	2 871 W
4000	208 W	915 W	2 180 W	2 566 W	3 036 W
4200	220 W	975 W	2 322 W	2 733 W	3 234 W
4400	231 W	1 026 W	2 443 W	2 876 W	3 403 W
4600	242 W	1 086 W	2 585 W	3 043 W	3 601 W
4800	253 W	1 108 W	2 638 W	3 105 W	3 674 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 output for lengths per 100 mm steps calculate linearly. Exact values can be found at [www.isan.cz](http://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	11 W	47 W	112 W	132 W	157 W
800	25 W	63 W	150 W	177 W	209 W
900	30 W	76 W	180 W	212 W	251 W
1000	35 W	107 W	255 W	300 W	355 W
1100	39 W	107 W	255 W	300 W	355 W
1200	44 W	126 W	300 W	353 W	418 W
1300	49 W	139 W	330 W	389 W	460 W
1400	54 W	155 W	368 W	433 W	512 W
1500	59 W	170 W	405 W	477 W	564 W
1600	64 W	185 W	441 W	519 W	615 W
1700	69 W	185 W	441 W	519 W	615 W
1800	74 W	214 W	510 W	601 W	711 W
1900	79 W	233 W	554 W	652 W	771 W
2000	84 W	249 W	591 W	696 W	824 W
2100	88 W	261 W	621 W	731 W	865 W
2200	93 W	261 W	621 W	731 W	865 W
2300	98 W	292 W	697 W	820 W	970 W
2400	103 W	292 W	697 W	820 W	970 W
2500	108 W	311 W	742 W	873 W	1 032 W
2600	113 W	324 W	771 W	908 W	1 075 W
2700	118 W	336 W	802 W	944 W	1 116 W
2800	123 W	355 W	847 W	997 W	1 179 W
2900	128 W	371 W	883 W	1 039 W	1 229 W
3000	132 W	371 W	883 W	1 039 W	1 229 W
3200	142 W	418 W	995 W	1 171 W	1 386 W
3400	152 W	434 W	1 032 W	1 215 W	1 438 W
3600	162 W	478 W	1 138 W	1 339 W	1 584 W
3800	172 W	494 W	1 175 W	1 383 W	1 637 W
4000	181 W	522 W	1 243 W	1 463 W	1 731 W
4200	191 W	556 W	1 324 W	1 558 W	1 844 W
4400	201 W	585 W	1 393 W	1 640 W	1 940 W
4600	211 W	619 W	1 474 W	1 735 W	2 053 W
4800	221 W	632 W	1 504 W	1 770 W	2 095 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