zehnder *stratos*

zehnder *stratos*

Model Code (example)

CS-15-19

- Depth (cm)
- Height (cm)
- CS = Convector Stratos
  CSW = Convector Stratos with rear dummy panel

CS-..-10

No. of panels:	2
No. of fins:	2
Depth:	98mm
Height:	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 4

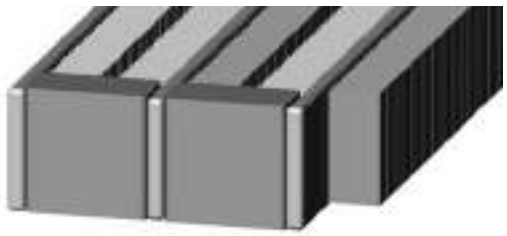
CS-..-13

No. of panels:	2
No. of fins:	3
Depth:	133mm
Height	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 4

CS-..-19

No. of panels:	3
No. of fins:	4
Depth:	186mm
Height:	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 5

CS-..-22



No. of panels:	3
No. of fins:	5
Depth:	221mm
Height:	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 5

CSW-..-19

No. of panels:	2 + dummy panel
No. of fins	4
Depth:	186mm
Height:	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 6

CSW-..-28

No. of panels:	3 + dummy panel
No. of fins:	6
Depth:	274mm
Height:	75 - 309mm
Length:	500 - 4000mm
Output/Metre:	see page 6

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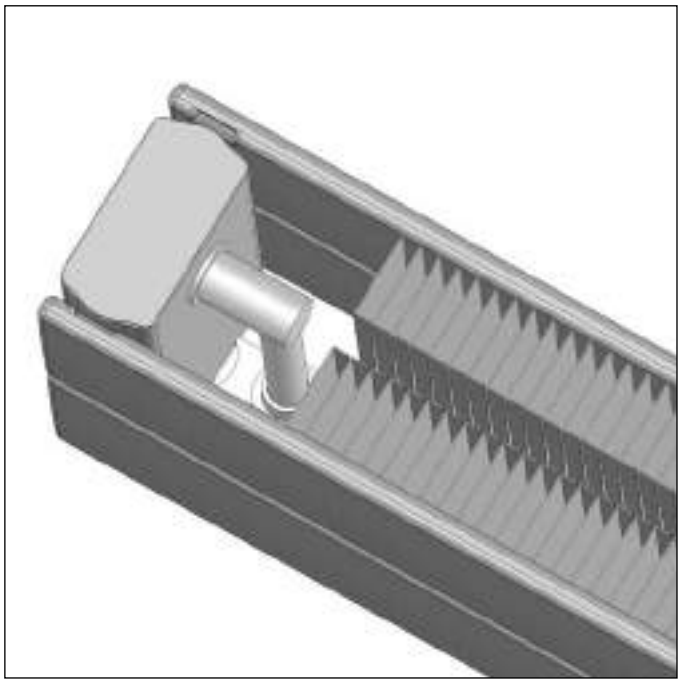


CSW model

The **zehnder** *stratos* is a low profile convector radiator ideal for perimeter applications in public buildings, halls and offices. Due to its unobtrusive design and offering exceptionally high outputs, the **zehnder** *stratos* combines minimum and limited space with the maximum heat advantage. The CSW model, with a non-water bearing dummy panel, enables the radiator to be placed in front of a window whilst reducing heat and energy losses making the **zehnder** *stratos* an attractive, powerful and affordable convector radiator.

Standard Features:
- fully tested and compliant to EN 442
- neat, compact design
- exceptionally high heat output
- safety enhanced, robust construction
- white powder coat finish
- lengths from 500 to 4000mm in 100mm increments
- combination brackets for floor/wall mounting

Options:
- wide range of colours including metallic finishes
- reflective cover plate (CSW model)
- welded-on decorative grille covering the fins
- built-in valves (Completto model)
- installation in series
- trench installation
- other connection options

Operating Parameters:
- max. working temperature: 120°C
- max. test pressure: 5.85 bar
- max. working pressure: 4.5 bar
  (not available for high pressure use)

Product Specification:
The **zehnder** *stratos* is manufactured from mild steel and contains between 1 and 4 flat tubes measuring 75 x 10 x 1.3mm, stacked horizontally on top of one another with a 3mm gap between the tubes. The fins are welded on using a patented laser-welding technique. Two or three rows of water conducting, shaped tubes are located one behind the other. The horizontal tubes are welded to the 82 x 40 x 1.5mm manifolds using laser welding.

Height from 75 to 309mm. Length from 500 to 4000mm.

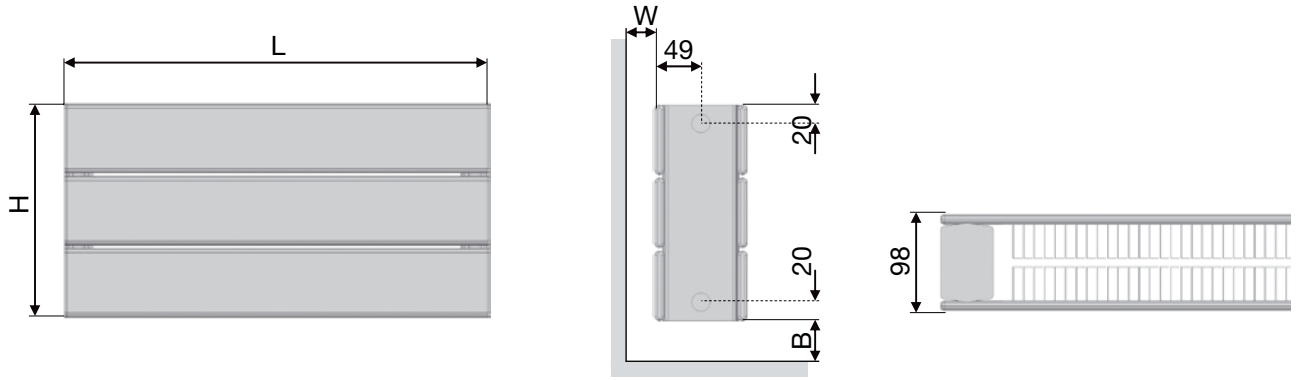
The radiator contains two ½" connections for the flow/return and a ½" air vent.

Primed and finished with powder coat RAL 9016 white, in accordance with DIN 55900.

Heat outputs and tested and comply to EN 442.

zehnder *stratos*

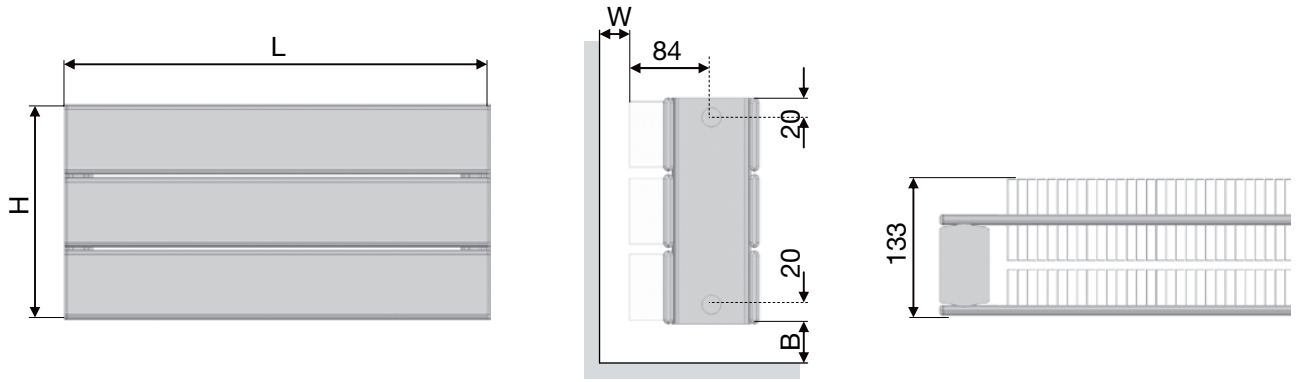
CS-..-10



Technical data per 1000mm length - 100mm increments

Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CS-08-10	75	50	120	6.2	1.4	1.6	482	562	618
CS-15-10	153	50	120	12.3	3.0	3.2	791	922	1012
CS-23-10	231	50	120	18.4	4.4	4.8	1042	1213	1330
CS-31-10	309	50	120	24.5	5.9	6.4	1255	1459	1599

CS-..-13



Technical data per 1000mm length - 100mm increments

Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CS-08-13	75	50	120	7.4	1.4	2.4	626	731	804
CS-15-13	153	50	120	14.7	3.0	4.5	1029	1207	1319
CS-23-13	231	50	120	22.0	4.4	6.7	1356	1580	1734
CS-31-13	309	50	120	29.3	5.9	8.9	1632	1900	2084

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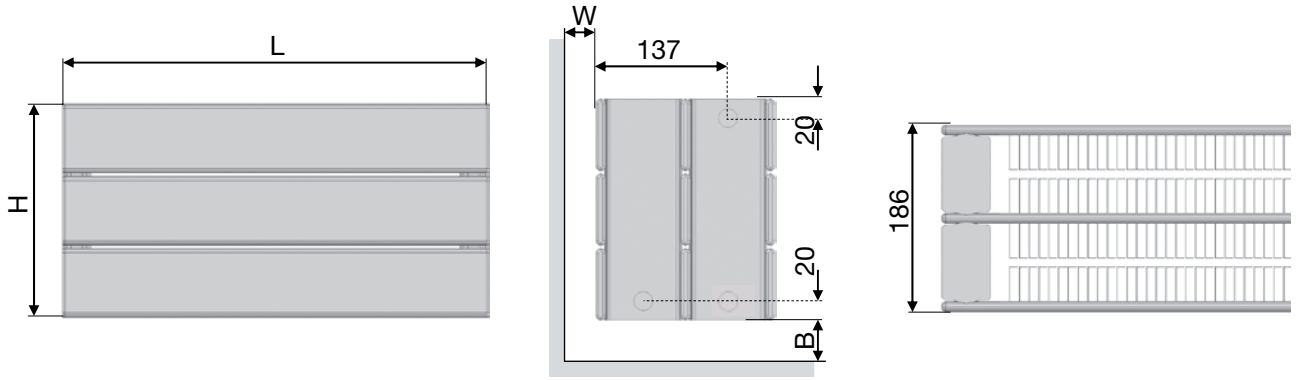
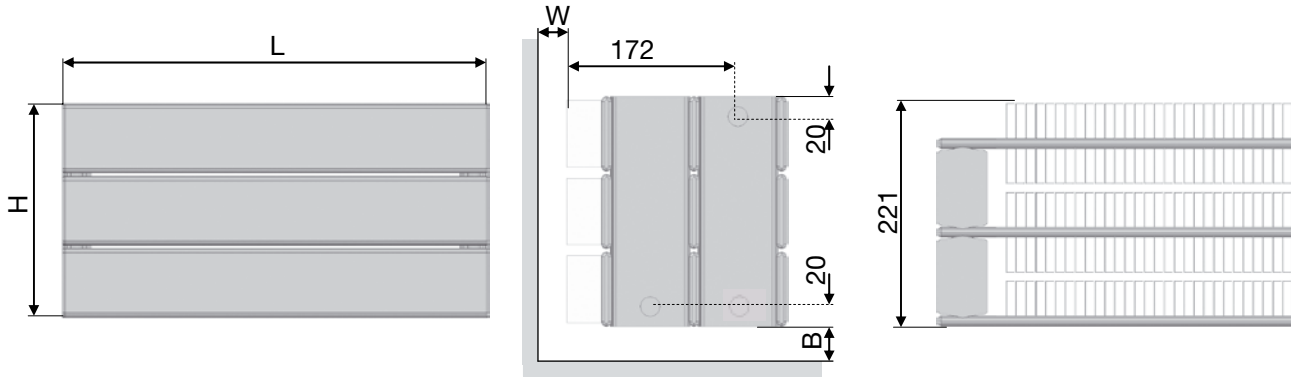
CS-..-19



Technical data per 1000mm length - 100mm increments

Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CS-08-19	75	50	120	10.8	2.4	3.1	879	1024	1124
CS-15-19	153	50	120	21.3	4.8	6.1	1394	1623	1780
CS-23-19	231	50	120	31.9	7.3	9.1	1825	2124	2330
CS-31-19	309	50	120	42.4	9.7	12.2	2209	2571	2820

CS-..-22

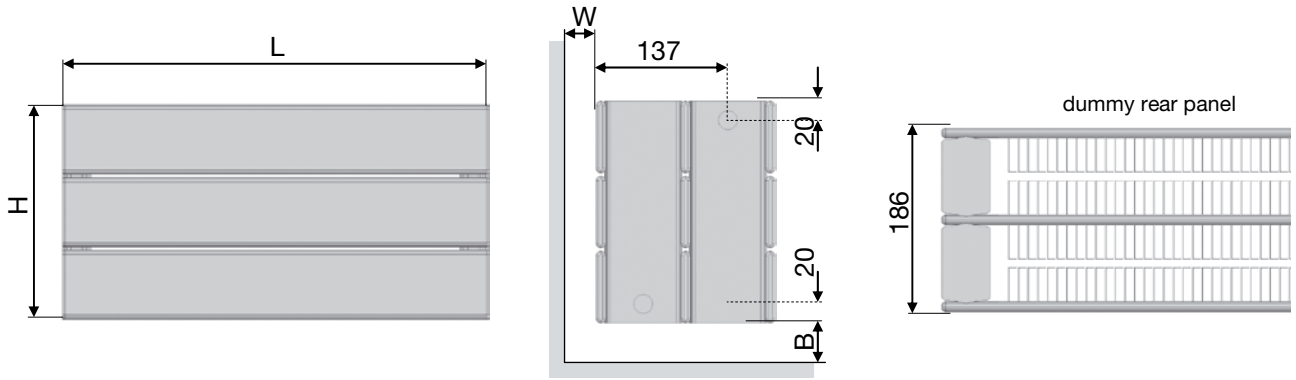


Technical data per 1000mm length - 100mm increments

Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CS-08-22	75	50	120	12.0	2.4	3.7	999	1167	1282
CS-15-22	153	50	120	23.7	4.8	7.3	1627	1896	2081
CS-23-22	231	50	120	35.5	7.3	11.0	2118	2465	2704
CS-31-22	309	50	120	47.2	9.7	14.7	2517	2927	3208

zehnder *stratos*

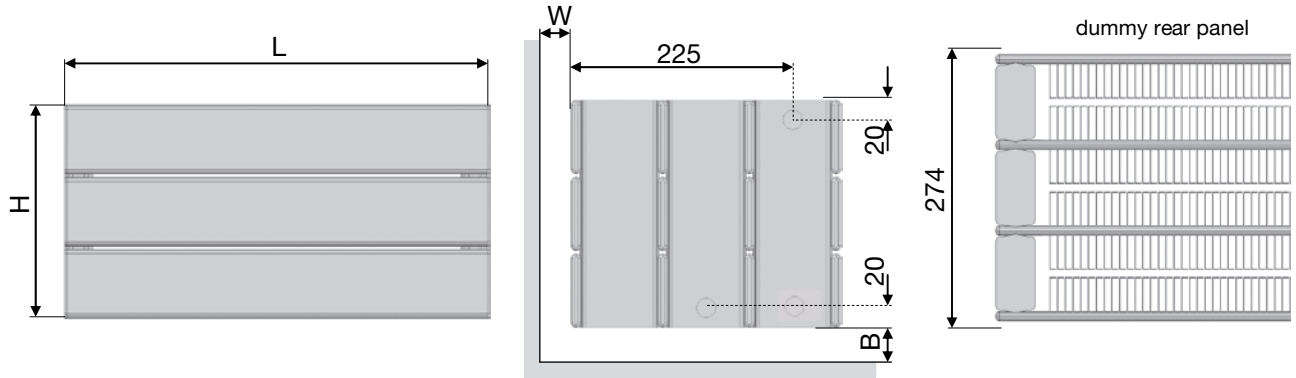
CSW-..-19



Technical data per 1000mm length - 100mm increments

Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CSW-08-19	75	100	120	10.8	1.4	3.1	621	724	794
CSW-15-19	153	100	120	21.3	3.0	6.1	1023	1191	1306
CSW-23-19	231	100	120	31.9	4.4	9.1	1349	1568	1719
CSW-31-19	309	100	120	42.4	5.9	12.2	1624	1886	2066

CSW-..-28

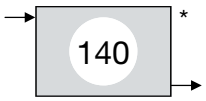


Technical data per 1000mm length - 100mm increments

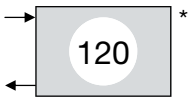
Model	Height	Distance from wall	Distance from floor	Mass	Volume	Surface Area	Output EN442	Output	Output
	H	W-min	B-min	M	V	A	ΔT = 50K	ΔT = 56K	ΔT = 60K
	mm	mm	mm	kg	litres	m²	Watts	Watts	Watts
CSW-08-28	75	100	120	15.4	2.4	4.5	1043	1215	1337
CSW-15-28	153	100	120	30.4	4.8	9.0	1681	1959	2150
CSW-23-28	231	100	120	45.3	7.3	13.5	2173	2527	2769
CSW-31-28	309	100	120	60.3	9.7	18.0	2568	2982	3267

The following connections are available for **CS** and **CSW** models:

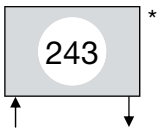
BOE
bottom opposite end, side, left hand flow



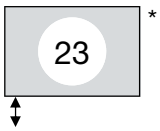
TBOE
top-bottom opposite end, side, left hand flow



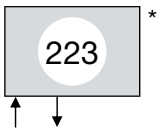
TBSE
same end, side, left hand flow and return



BBOE
bottom-bottom opposite end, underside, left hand flow



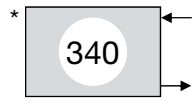
BSS
bottom monotube, left hand underside, left hand flow and return



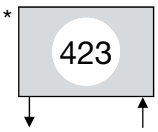
BBM
bottom, underside, left hand flow, middle return

BOE
bottom opposite end, side, right hand flow

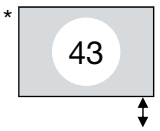
TBOE
top-bottom opposite end, side, right hand flow



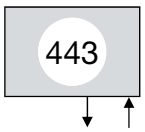
TBSE
same end, side, left hand flow and return



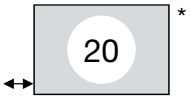
BBOE
bottom-bottom opposite end, underside, left hand flow



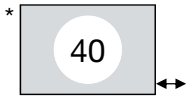
BSS
bottom monotube, left hand underside, left hand flow and return



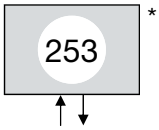
BBM
bottom, underside, left hand flow, middle return



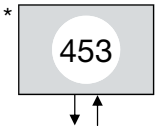
BSE
bottom side monotube, left hand flow and return



BSE
bottom side monotube, right hand flow and return



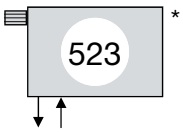
BM
bottom middle, underside, left hand flow



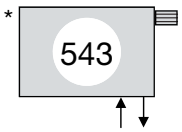
BM
bottom middle, underside, right hand flow

These connections are not available for CS-08-.. and CSW-08-.. models (75mm in height)

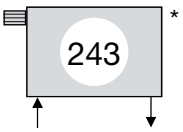
The following connections are available for **CS** and **CSW** Completto models (with built-in valve):



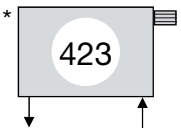
BSS
bottom same-side, left hand underside, right hand flow



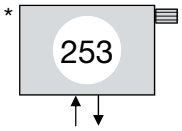
BSS
bottom same-side, right hand =underside, left hand flow



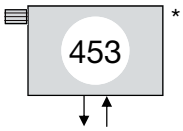
BBOE
bottom-bottom opposite end, underside, left hand flow



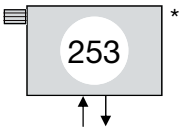
BBOE
bottom-bottom opposite end, underside, right hand flow



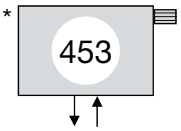
BM
bottom middle, underside, left hand flow



BM
bottom middle, underside, right hand flow



BM
bottom middle, underside, left hand flow with reversed positions of flow and return



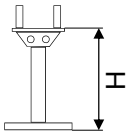
BBOE
bottom-bottom opposite end, underside, right hand flow

These connections are not available for CS-08-.. and CSW-08-.. Models (75mm in height)

NB: For radiators with offset connections (CS-..-19, CS-..-22, CSW-..-28), the flow is into the front most connection and the return flow from the rear

zehnder *stratos*

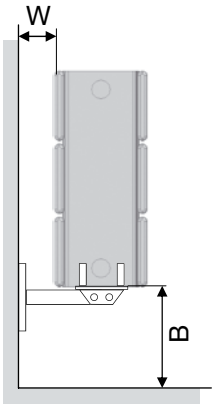
Combination brackets for wall and floor mounting are supplied as standard.



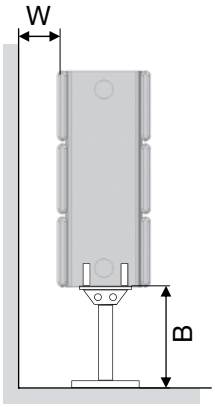
W = 50mm min CS models
100mm min CSW models

B = 120mm min

H = standard height of bracket is 250mm and can be cut down to size if required



Wall mounted



Floor mounted

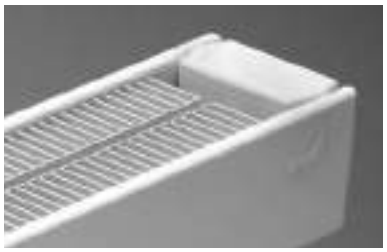
Please note, the bracket foot cover plates are additional.

Number of brackets supplied

	For installation lengths up to 1600mm	For installation lengths from 1700mm to 3200mm	For installation lengths from 3300mm to 4000mm	
CS-..-10/CS-..-13/CS-..-19/ CS-08-22/CS-15-22/ CSW-08-19/CSW-15-19/ CSW-23-19	2	3	4	
	For installation lengths up to 1200mm	For installation lengths from 1300mm to 2400mm	For installation lengths from 2500mm to 4000mm	
CS-23-22/CS-31-22/ CSW-31-19/CSW-08-28/ CSW-15-28	2	3	4	
	For installation lengths up to 1200mm	For installation lengths from 1300mm to 2100mm	For installation lengths from 2200mm to 3000mm	For installation lengths from 3000mm to 4000mm
CSW-23-28/CSW-31-28	2	3	4	5

Top Grille

The addition of a fixed top grille reduces the output by approximately 3-7% from the stated values.

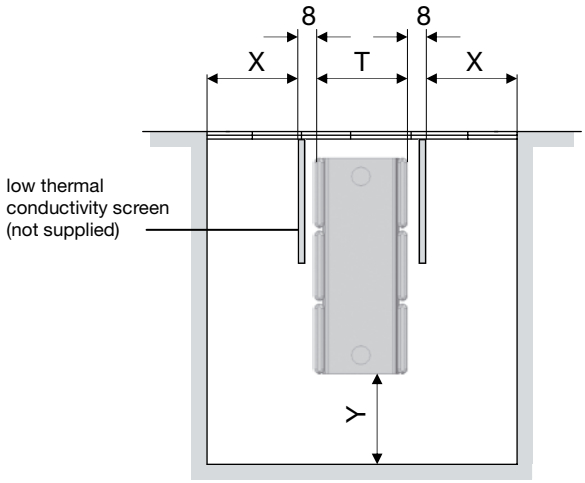


Stratos convector without top grille

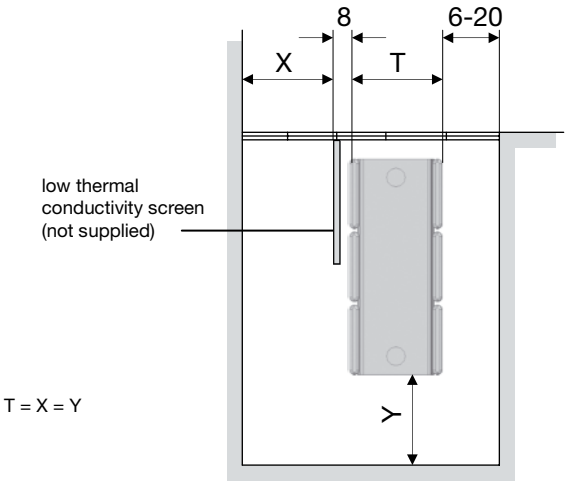
Stratos convector with top grille

Duct and Trench installation

If installed in a duct or trench, the output will be reduced by 20% without a grille. A top grille of at least 70% free surface area will reduce the heat emission by approximately 35% of the stated value.

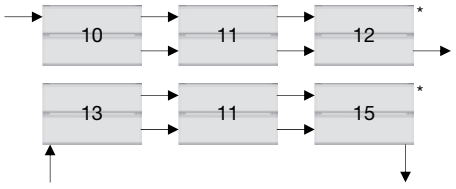
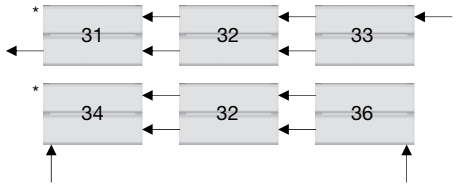
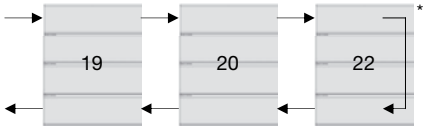
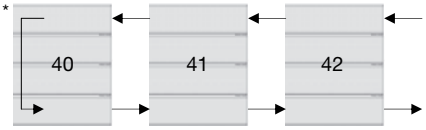


Installation away from a wall



Adjacent to a wall or window

Connection in series (maximum 3 radiators and 12 metres in length)

Connection in series	Opposite-side connection - flow on the left	Opposite-side connection - flow on the right
Installation height 75mm		
Installation height 153 - 309mm		
	Same-side connection - flow on the left	**Same-side connection - flow on the right**
Installation height 153mm		
Installation height 231 - 309mm		

Outputs are shown at ΔT = 50, 56 and 60K. For other ΔT values, a correction factor must be used to convert the output from ΔT = 50K to the required ΔT.

For example, for model CS-08-10 output at ΔT = 50K = 482. For ΔT = 62K, correction factor = 1.3398 = 482 x 1.3398 = 646 W/m at ΔT = 62K.

Correction Factors for ΔT = 30K to 48K

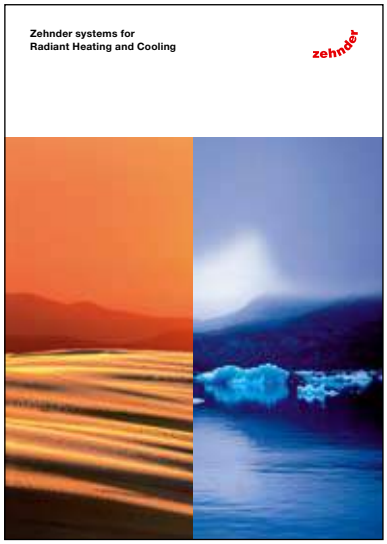
Model	n	30	32	34	36	38	40	42	44	46	48
CS-08-10, CS-15-13 CSW-08-28	1.36	0.4992	0.5450	0.5919	0.6397	0.6885	0.7382	0.7889	0.8404	0.8928	0.9460
CS-08-13, CS-08-22	1.37	0.4967	0.5426	0.5896	0.6376	0.6866	0.7366	0.7875	0.8393	0.8921	0.9456
CS-08-19, CS-15-10 CS-15-22, CS-23-13 CSW-08-19, CSW-15-28	1.35	0.5018	0.5474	0.5941	0.6418	0.6904	0.7399	0.7903	0.8415	0.8935	0.9464
CS-15-19, CS-23-10 CS-23-19, CS-23-22 CS-31-13, CS-31-19 CSW-15-19	1.34	0.5043	0.5499	0.5964	0.6439	0.6923	0.7416	0.7917	0.8426	0.8943	0.9468
CS-31-10, CSW-23-19, CSW-23-28	1.33	0.5069	0.5524	0.5987	0.6460	0.6942	0.7432	0.7930	0.8436	0.8950	0.9472
CS-31-22, CSW-31-19, CSW-31-28	1.32	0.5095	0.5548	0.6011	0.6482	0.6961	0.7449	0.7944	0.8447	0.8958	0.9475

Correction Factors for ΔT = 52K to 70K

Model	n	52	54	56	58	60	62	64	66	68	70
CS-08-10, CS-15-13 CSW-08-28	1.36	1.0548	1.1103	1.1666	1.2237	1.2814	1.3398	1.3990	1.4587	1.5192	1.5803
CS-08-13, CS-08-22	1.37	1.0552	1.1112	1.1680	1.2255	1.2837	1.3427	1.4024	1.4628	1.5239	1.5856
CS-08-19, CS-15-10 CS-15-22, CS-23-13 CSW-08-19, CSW-15-28	1.35	1.0544	1.1095	1.1653	1.2219	1.2791	1.3370	1.3955	1.4547	1.5145	1.5750
CS-15-19, CS-23-10 CS-23-19, CS-23-22 CS-31-13, CS-31-19 CSW-15-19	1.34	1.0540	1.1086	1.1640	1.2200	1.2767	1.3341	1.3921	1.4507	1.5099	1.5697
CS-31-10, CSW-23-19, CSW-23-28	1.33	1.0535	1.1078	1.1627	1.2182	1.2744	1.3312	1.3886	1.4466	1.5052	1.5644
CS-31-22, CSW-31-19, CSW-31-28	1.32	1.0531	1.1069	1.1614	1.2164	1.2721	1.3284	1.3852	1.4426	1.5006	1.5592

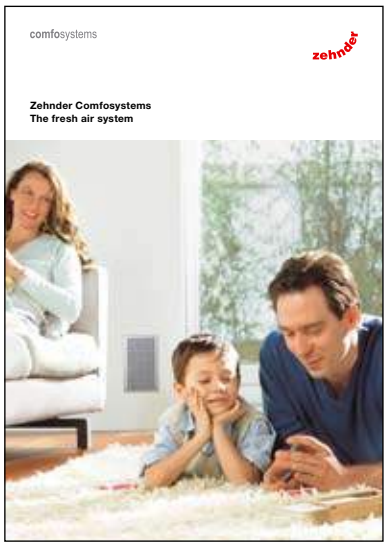
Heating – Cooling – Fresh and Clean Air

Zehnder Ltd are the leading manufacturers of quality made-to-measure radiators. Zehnder also offer a variety of products from Heating and Cooling panels to Industrial Filtration.



Natural radiation is the basis for radiant heating and cooling, which must ensure comfortable heat or pleasant cooling especially in office buildings, as well as in sports and events arenas and factories - all of this with maximum economy, without maintenance costs.

Zehnder Clean Air Solutions stands for clean air, and are used in buildings with a particular dust problem such as factories. Using the electrostatic principle, specially patented filters collect the finest particles and thus protect the staff and the materials.



Comfortable and healthy heating and cooling go hand in hand with clean and fresh air. Comfosystems from Zehnder ensure that heat is not achieved at the expense of the air we breathe. Whilst fresh air is provided, the used air together with the odours and moisture is removed while the energy is recovered.

Whether this involves heat, cooling, clean and healthy air, Zehnder helps create the perfect climate.

For further information, go to www.zehnder.co.uk

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