

# Zehnder Alumline Stock models

Stock range of heating and cooling ceiling panels

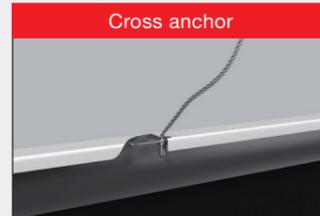


# Suspension system for lay-in module and sail

Standard lay-in modules



Cross anchor



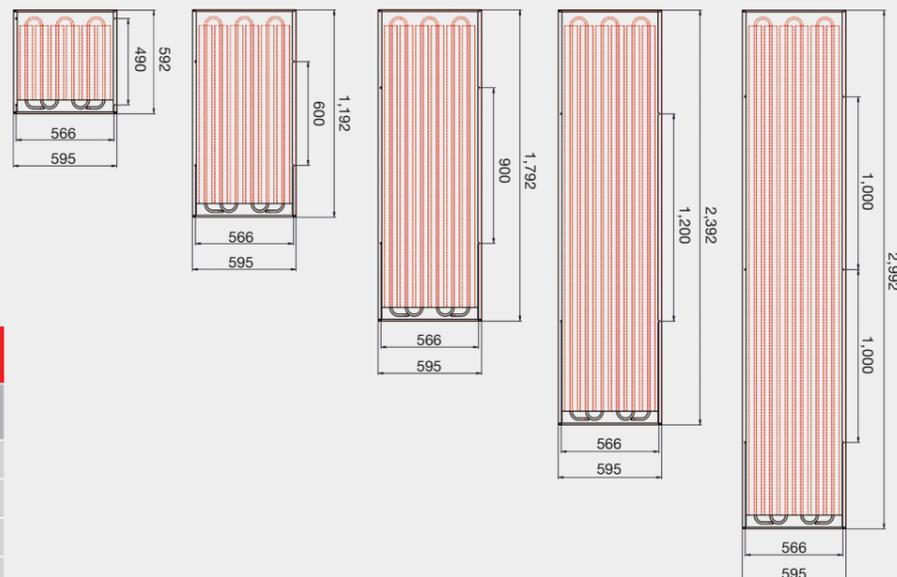
Standard sail



The suspension system must be at a right angle to the module on all planes.

### Plasterboard frames

Zehnder Alumline ceiling panels can be integrated into Plasterboard ceilings using the purpose made Zehnder Plasterboard Frame (see Technical Specification - Plasterboard Frames Pg.4) or utilising a suitably built aperture in the ceiling.



Number of highest possible hanging points Nominal overall width 600 mm

Nominal overall length	Quantity
600 mm	4
1,200 mm	4
1,800 mm	4
2,400 mm	4
3,000 mm	6

# Heating and cooling performance

The heating and cooling performance values of Zehnder Alumline are measured based on EN 14037-3 (heating) and EN 14240 (cooling).

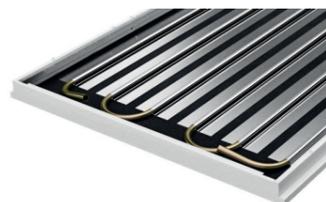
### Thermal outputs for 6-pipe activation

Dimensions	Sail module / ceiling sail with insulation					Sail module / ceiling sail without insulation				
	600 x 600	600 x 1200	600 x 1800	600 x 2400	600 x 3000	600 x 600	600 x 1200	600 x 1800	600 x 2400	600 x 3000
K	1,8777	3,7554	5,6331	7,5108	9,3885	2,4136	4,8272	7,2409	9,6545	12,068
n			1,163					1,191		
Δ t (K)	W	W	W	W	W	W	W	W	W	W
70	263	525	788	1051	1314	380	761	1141	1521	1902
68	254	508	762	1016	1270	367	735	1102	1470	1837
66	245	491	736	981	1227	355	709	1064	1418	1773
64	237	473	710	947	1184	342	684	1026	1367	1709
62	228	456	684	913	1141	329	658	987	1317	1646
60	220	439	659	878	1098	317	633	950	1266	1583
58	211	422	633	844	1056	304	608	912	1216	1520
56	203	405	608	811	1013	292	583	875	1166	1458
55	198	397	595	794	992	285	571	856	1142	1427
54	194	389	583	777	971	279	558	838	1117	1396
52	186	372	558	744	930	267	534	801	1068	1335
50	178	355	533	711	888	255	510	764	1019	1274
48	169	339	508	678	847	243	485	728	971	1213
46	161	322	484	645	806	231	461	692	923	1153
44	153	306	459	612	765	219	438	656	875	1094
42	145	290	435	580	725	207	414	621	828	1035
40	137	274	411	548	685	195	391	586	781	977
38	129	258	387	516	645	184	367	551	735	919
36	121	242	364	485	606	172	345	517	689	861
34	113	227	340	454	567	161	322	483	644	805
32	106	211	317	423	529	150	299	449	599	749
30	98	196	294	392	490	139	277	416	555	693
28	91	181	272	362	453	128	255	383	511	639
26	83	166	249	332	415	117	234	351	468	585
24	76	151	227	303	378	106	213	319	425	531
22	68	137	205	273	342	96	192	287	383	479
20	61	122	184	245	306	86	171	257	342	428
18	54	108	162	217	271	75	151	226	302	377
16	47	94	142	189	236	66	131	197	262	328
14	40	81	121	162	202	56	112	168	224	280
12	34	68	101	135	169	47	93	140	186	233
10	27	55	82	109	137	37	75	112	150	187

### Cooling capacities for 6-pipe activation

Dimensions	Sail module / ceiling sail with insulation					Sail module / ceiling sail without insulation				
	600 x 600	600 x 1200	600 x 1800	600 x 2400	600 x 3000	600 x 600	600 x 1200	600 x 1800	600 x 2400	600 x 3000
K	3,0777	6,5489	10,02	13,491	16,962	3,1278	6,6553	10,183	13,71	17,238
n			1,0695					1,0869		
Δ t (K)	W	W	W	W	W	W	W	W	W	W
15	56	119	181	244	307	59	126	193	260	327
14	52	110	169	227	285	55	117	179	241	304
13	48	102	156	210	264	51	108	165	223	280
12	44	93	143	192	242	47	99	152	204	257
11	40	85	130	175	220	42	90	138	186	234
10	36	77	118	158	199	38	81	124	167	211
9	32	69	105	141	178	34	72	111	149	188
8	28	61	93	125	157	30	64	98	131	165
7	25	52	80	108	136	26	55	84	114	143
6	21	45	68	92	115	22	47	71	96	121
5	17	37	56	75	95	18	38	59	79	99
4	14	29	44	59	75	14	30	46	62	78
3	10	21	32	44	55	10	22	34	45	57
2	6	14	21	28	36	7	14	22	29	37
1	3	7	10	13	17	3	7	10	14	17

Technical specifications for 6-pipe activation



		Lay-in module				
Dimensions	Unit of measurement					
Width type	-	600				
Length type <sup>2)</sup>	-	600	1,200	1,800	2,400	3,000
Actual width	mm	595				
Actual length <sup>2)</sup>	mm	592	1,192	1,792	2,392	2,992
Number of suspension points per module	Piece	4	4	4	4	6
No. of parallel pipes	Piece	6				
Tube spacing	mm	90				
Pipe material / dimension (outside ø)	- / mm	D copper pipe / 12				
Panel material	-	Galvanised steel				

Parameters

Max. operating temperature	°C	83				
Max. operating pressure	bar	10				

Weight

Operating weight with water, without insulation	kg	3.61	6.99	10.82	14.20	19.36
Operating weight with water, with insulation <sup>1)</sup>	kg	3.77	7.33	11.33	14.90	20.24
Water content	kg	0.39	0.75	1.11	1.47	1.83

<sup>1)</sup> Insulation made of mineral wool in LDPE foil, mass per unit area = 0.84 kg/m<sup>2</sup>, λ = 0.03 - 0.04 W/(m\*K)

Plasterboard Frames

The Zehnder Plasterboard frames are available as standard to fit the standard Zehnder Alumline ceiling panel range (600 width x 600, 1,200, 1,800, 2,400 or 3,000mm lengths). The frame consists of a white powder-coated Aluminium T-section sides and ends which are joined at the corners with an internal bracket. The frame is secured by fixing through the upstand of the T-section into the subframe of the aperture of the plasterboard ceiling.

Bespoke plasterboard frames are available to order.

# Zehnder Alumline Stock Selection

Introduction

This stock profile has been compiled to supply smaller projects where a quick delivery time is required.

Five models are offered, based on a lay-in grid version of the Zehnder Alumline radiant panel, which can also be used in a free-hanging applications if required. To complement the range, a simple hanger system and 1m length flexible hoses are also available.

For comprehensive information on the range of Alumline ceiling panels, consult the **Zehnder Alumline Technical brochure for heating and cooling ceiling modules**.

Specification

Panels manufactured according to the TAIM e.V. quality standard, version: November 1998. The material will be galvanised sheet steel with a minimum thickness of 0.6mm, with the lip on longitudinal side in line with static requirements.

Surface finished in RAL 9016 (white). Suitable for a T24 ceiling construction for heating and cooling ceiling modules. Panels supplied individually packaged in cardboard outer with protection film on front face of panel.

Design

The radiant panels will be 595 mm in width and lengths up to 2,992 mm in increments of 592 mm starting from 592 mm.

Installation

A minimum suspension height of 350 mm (bottom edge of bare ceiling to upper edge of heating and cooling ceiling) is recommended.

Insulation

Thermal foam insulation as standard

Pipe register

Factory-integrated copper pipe register with large-area aluminium heat-conducting profiles from D-shaped 12mm copper tubing according to EN 12735-2.

Performance

Maximum operating temperature: 83 °C  
Maximum operating pressure: 10 bar

Flexible hoses

Steel braided 12 x 15 x 1,000mm length<sup>1)</sup>. Max. operating temperature of 80 °C and a max. operating pressure of 16 bar.

<sup>1)</sup> Data stated for DN10 variant. DN13 variant and corrugated pipe information available on request

# Stock Panel Selection

Product Code	Description	Panel Size	Output*
10017265	Alumline L592 x W595 CG RAL 9016 Same End Connections SP	592 x 595mm	178
10017266	Alumline L1,192 x W595 CG RAL 9016 Same End Connections SP	1192 x 595mm	355
10017267	Alumline L1,792 x W595 CG RAL 9016 Same End Connections SP	1792 x 595mm	533
10017268	Alumline L2,392 x W595 CG RAL 9016 Same End Connections SP	2392 x 595mm	711
10017270	Alumline L2,992 x W595 CG RAL 9016 Same End Connections SP	2992 x 595mm	888

Product Code	Description
40023147	2 x Armored flexible hose 12x15x1000 mm stainless steel braiding
40023148	2 x Armored flexible hose 12x15x1000 mm stainless steel braiding; 4 x Hanging wire, 1.5mm L:1,000 mm
40023149	2 x Armored flexible hose 12x15x1000 mm stainless steel braiding; 6 x Hanging wire, 1.5mm L:1,000 mm

\*) Output based on Δt (K) 50 to EN 14037-3 standard for heating and cooling performance for ceiling panels

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