

Stratus 66 and 126

Cassette chilled beam



Cassette chilled beam



- Cassette chilled beam for integrating in suspended ceiling
- Available with the functions for comfort control and control equipment
- Suited for standard 600 mm ceiling module
- Available in two sizes, 600x600 mm and 1200x600 mm.

Stratus 66 and 126

Stratus is a cassette chilled beam and integrates ventilation, cooling and heating. It covers a wide range of supply air and assures you the best room comfort. It is supported with a nozzle technology NCS (Noz-

zle Control System) that gives you the highest induction rate and flexible air pattern.

Together with RCS (Room Comfort Support), it helps you to have a good indoor condition by direct-

ing the air so it will create low air velocities in the occupied zone.

Stratus is available in sizes 600 x 600 mm and 1200 x 600 mm and adapted to false ceilings with a module of 600 mm.

Definitions

ΔT_{mean} (K): Is the Temperature difference between mean water (cooling/heating in and out) and room air T_R

ΔT_{Pr} (K): Temperature difference between room air T_R and primary air T_{Pr}

ΔT_W (K): Temperature difference between water flow T_{WIN} and return T_{WOUT}

T_{SWIN} (K): Temperature difference between ceiling room air T_t and inlet water T_{WIN}

P_{Pr} (Pa): Primary air pressure drop

P_W (kPa): Water pressure drop

T_R (°C): Room temperature

T_t (°C): Ceiling room temperature

T_{WIN} (°C): Water inlet temperature

T_{WOUT} (°C): Water return temperature

T_{Pr} (°C): Primary air temperature

P_{Pr} (W): Primary air cooling capacity

P_{SW} (W): Water cooling capacity

P_{total} (W): Total cooling capacity $P_{Pr} + P_{SW}$

Q_W (l/s): Water volume flow rate

Q (l/s): Primary air volume flow rate

L_W -dB(A): Sound power level

Cooling effects for Stratus 66 and 126

Unit size	Nozzle setting	Primary airflow Q (l/s)	Sound level in dB(A)	Nozzle pressure P _{Pr} (Pa)	Cooling capacity Primary air (W) at ΔT_{Pr}			Cooling capacity Water (W) at ΔT_{mean}			ΔP_w Water Pressure Drop (kPa) and water flow at 0,05 l/s
					6	8	10	6	8	10	
66	S	7	21	63	50	67	84	187	253	322	4,0
66	S	8	24	82	58	77	96	209	282	358	4,0
66	S	9	27	104	65	86	108	230	310	393	4,0
66	S	10	29	128	72	96	120	252	337	427	4,0
66	S	11	31	156	79	106	132	272	364	460	4,0
66	M	12	22	51	86	115	144	215	290	368	4,0
66	M	14	26	69	101	134	168	245	328	415	4,0
66	M	16	30	91	115	154	192	273	365	461	4,0
66	M	18	33	114	130	173	216	301	401	505	4,0
66	L	18	30	56	130	173	216	257	345	436	4,0
66	L	20	33	69	144	192	240	281	375	473	4,0
66	L	22	35	83	158	211	264	303	404	510	4,0

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					6	8	10	6	8	10	
126	S	11	<20	49	79	106	132	328	430	536	7,5
126	S	12	<20	59	86	115	144	352	462	575	7,5
126	S	13	21	69	94	125	156	375	493	614	7,5
126	S	14	23	79	101	134	168	397	524	652	7,5
126	S	15	25	91	108	144	180	420	554	690	7,5
126	S	16	26	104	115	154	192	441	584	727	7,5
126	S	18	29	131	130	173	216	484	641	799	7,5
126	M	20	26	46	144	192	240	393	518	645	7,5
126	M	22	28	55	158	211	264	424	560	697	7,5
126	M	24	30	66	173	230	288	454	600	748	7,5
126	M	26	32	78	187	250	312	483	640	798	7,5
126	M	28	34	90	202	269	336	512	679	846	7,5
126	L	30	32	53	216	288	360	466	617	768	7,5
126	L	32	33	60	230	307	384	490	650	809	7,5
126	L	34	35	68	245	326	408	514	681	850	7,5

S = small
M = medium
L = large

Heating effects for Stratus 66 and 126

Unit size	Nozzle setting	Primary airflow l/s	Sound level in dB(A)	Nozzle pressure Pa	Heating Capacity Water Air (W) at ΔT_{mean}						ΔP_w Water Pressure Drop (kPa) and water flow at 0,015 l/s
					5	10	15	20	25	30	
66	S	7	21	63	80	159	243	326	418	503	0,1
66	S	8	24	82	86	170	261	352	448	538	0,1
66	S	9	27	104	91	182	278	376	478	572	0,1
66	S	10	29	128	96	193	295	401	507	606	0,1
66	S	11	31	156	102	203	312	424	535	640	0,1
66	M	12	22	51	89	177	271	366	465	557	0,1
66	M	14	26	69	96	193	295	401	507	606	0,1
66	M	16	30	91	104	208	319	434	547	654	0,1
66	M	18	33	114	111	223	342	467	585	701	0,1
66	L	18	30	56	98	196	300	407	515	616	0,1
66	L	20	33	69	104	208	319	434	547	654	0,1
66	L	22	35	83	110	220	337	460	577	691	0,1

Unit size	Nozzle setting	Primary airflow l/s	Sound level in dB(A)	Nozzle pressure Pa	Heating Capacity Water Air (W) at ΔT_{mean}						ΔP_w Water Pressure Drop (kPa) and water flow at 0,015 l/s
					5	10	15	20	25	30	
126	S	11	<20	49	153	267	390	504	654	775	0,1
126	S	12	<20	59	158	279	409	532	686	813	0,1
126	S	13	21	69	162	291	427	560	717	851	0,1
126	S	14	23	79	167	303	446	586	749	888	0,1
126	S	15	25	91	172	315	464	613	780	925	0,1
126	S	16	26	104	177	326	483	639	810	962	0,1
126	S	18	29	131	186	350	519	689	870	1034	0,1
126	M	20	26	46	168	306	451	594	757	899	0,1
126	M	22	28	55	175	323	477	631	801	951	0,1
126	M	24	30	66	182	340	503	668	845	1004	0,1
126	M	26	32	78	189	356	529	703	887	1055	0,1
126	M	28	34	90	195	373	554	738	929	1105	0,1
126	L	30	32	53	182	340	503	668	845	1004	0,1
126	L	32	33	60	187	353	524	696	879	1045	0,1
126	L	34	35	68	192	366	544	724	912	1085	0,1

S = small
M = medium
L = large

NOTE!

- Supply air and room air are at the same temperature.
- For heating calculations in a change-over, 2-pipe mode, please use the Systemair software for design.

Flow patterns, sound data, corrections, pressure drop

Sound power

Stratus	Correction K_{oct} dB Octave band, middle frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
66	0	0	-1	-2	-9	-13	-13	-9
126	-4	-1	0	0	-6	-14	-17	-15
Tol+/-	4	3	3	1	3	1	4	4

The sound power levels for each octave band are obtained by adding the sound pressure level L_{A10} , dB(A) to the corrections K_{oct} given in the table above, according to the following formula: $L_W = L_{A10} + K_{oct}$.

The correction K_{oct} is the average in the area of application of the cassette chilled beam Stratus.

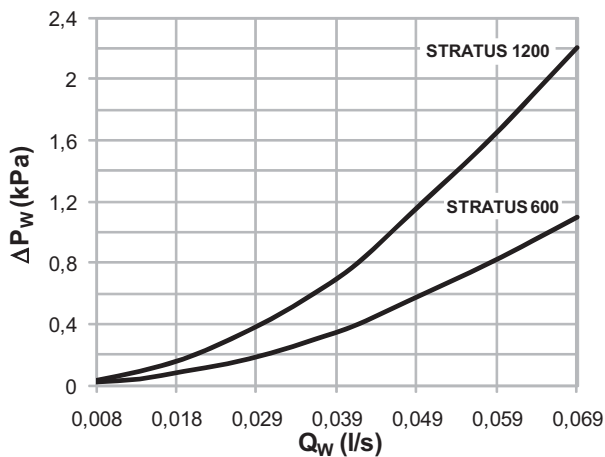
Sound attenuation

Stratus	Correction K_{oct} dB Octave band, middle frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
66	15	17	14	12	13	11	10	10
126	15	17	14	11	12	12	11	11
Tol+/-	2	1	2	1	1	1	1	1

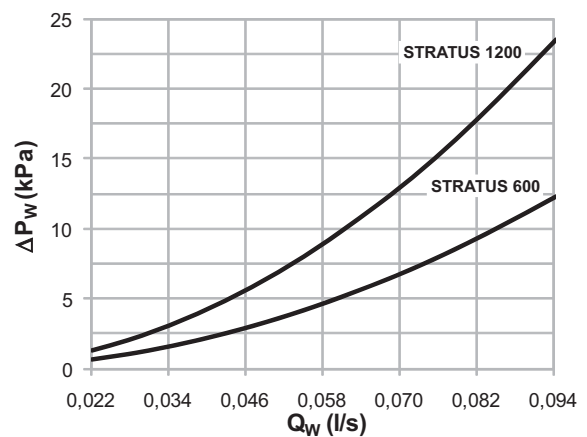
The average sound attenuation ΔL of the cassette chilled beam Stratus from duct to room includes the end reflection of the connecting duct.

Pressure drop coil

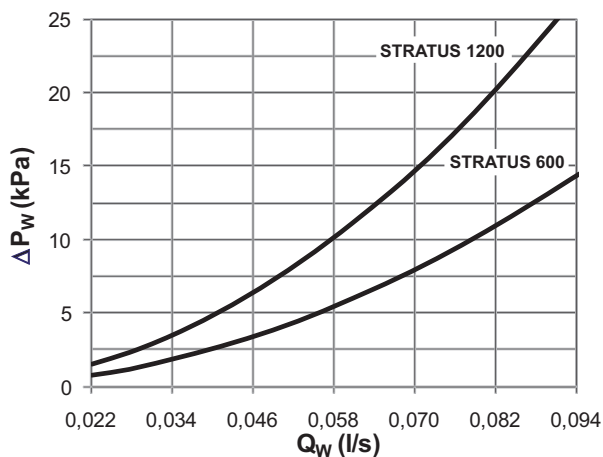
Pressure drop in coil - 4 pipes system - Heating



Pressure drop in coil - 4 pipes system - Cooling

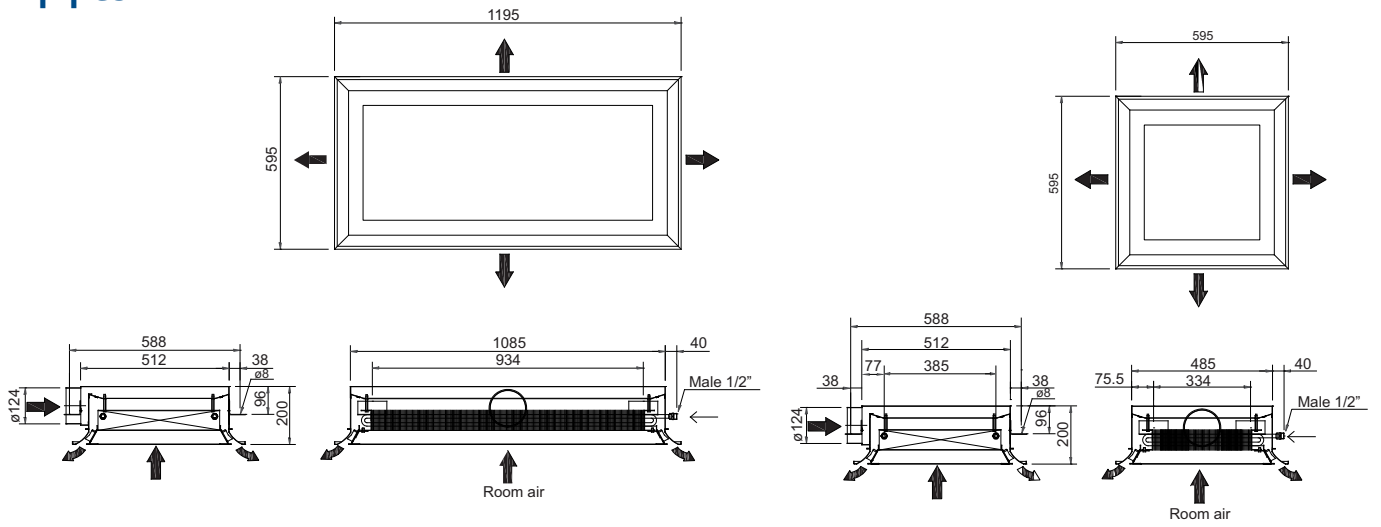


Pressure drop in coil - 4 pipes system - Cooling and Heating

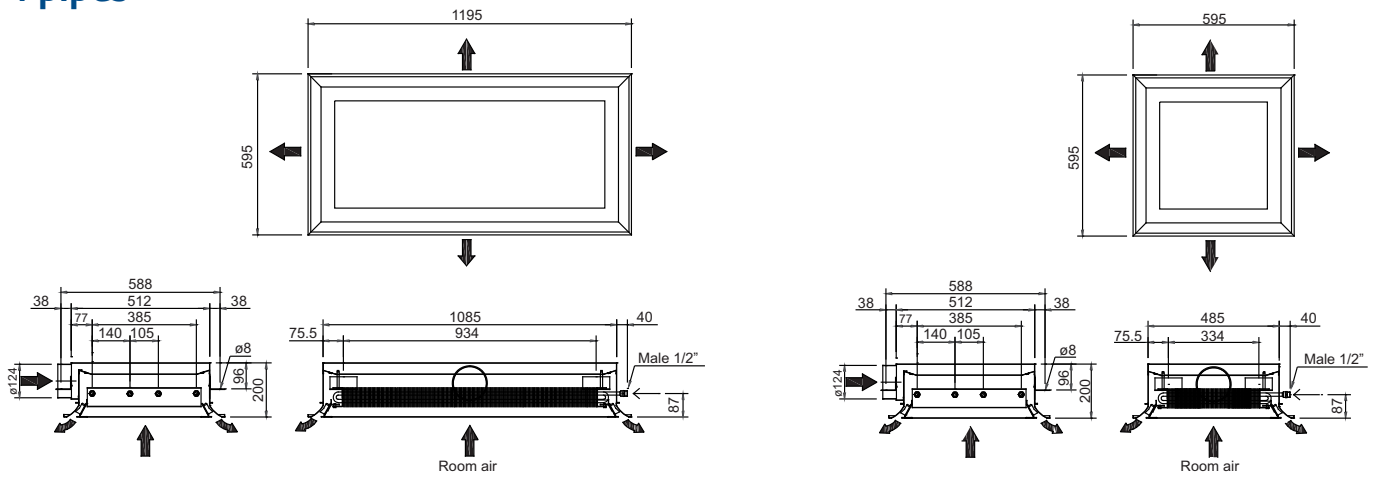


Dimensions

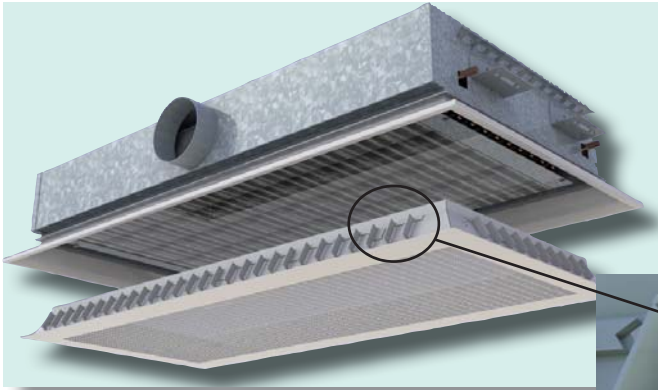
2 pipes



4 pipes



RCS (Room Comfort Support)



With the use of RCS, you avoid the risk of getting a draft in the occupied zone and with an unhealthy workplace. To arrange the vanes in a pattern when beams have a risk to collide, are easily done and doesn't affect pressure drop or noise level.



NCS (Nozzle Control System)



With the possibility to select a range of nozzle position that suits your installation. You will be able to adjust to the desired supply airflow by selecting Nozzle positions L (Low), M (Mid) and H (for higher capacities by combining Low and Mid nozzles). Following possibilities can provide you with a wide range of airflow.

Product code, special units, accessories

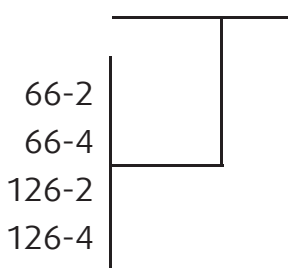
Product code example

Stratus-66-4

Meaning a unit 600 x 600 mm and with ventilation, cooling and heating.

Product code xxx-b-c

Product code xxx-b



b = 2 - only cooling
4 - cooling and heating

c = 1 including NCS
2 including RCS
3 including NCS and RCS (std in Sweden)

Material and surface finish

The casing is mainly made of galvanized steel sheet. The frontplate is powder painted in white.

The standard colour RAL 9010 corresponds to NCS 0502-Y, gloss level 30.

The coil made of copper tubes (thickness 1 mm) and aluminium fins, connection size is 1/2" male. Maximum working pressure 1.6 MPa.

ARGUS, control system for Systemair's Chilled Beams.

This system includes room control unit, valve and actuator in different versions. For more information, look at separate product sheet for **ARGUS**.

