PARAGON Wall

Compact comfort module

QUICK FACTS

- Cooling, heating and ventilation
- Designed for installation in the rear edge of the room
- Integrated control equipment as an option
- One grille for both the supply air and the recirculated air
- Closed unit
- Flexible air flow – VariFlow
- Adjustable air direction - ADC
- CCO valve for maximum capacity

AIR FLOW *					TOTAL COOLING CAPACITY			
80 Pa	(l/s)		m³/h		(W)		(W)	
	Nozzle		Nozzle		Variant		Variant	
Size	LL	HH	LL	HH	NC		HC	
775	11	24	39	87	404	582	413	621
900	13	29	46	104	475	703	487	749
1100	17	38	60	135	626	921	642	986
1300	20	45	72	161	759	1121	773	1189
1500	18	49	64	176	723	1201	779	1324

** Air flow at max. 30 dB(A)*

Pi = 80 Pa, ΔT_i = 6K, ΔT_{mk} = 8.5K, Water; 0.05 l/s, 14°C in.

Swegon

Contents

Technical description

PARAGON WALL Comfort module

Paragon Wall has been developed for creating a well-performing indoor climate in offices where technical installations are meant to be located in the rear edge of the room.

Strong focus has been directed on a high degree of comfort, low installation costs as well as low running costs in this application. Since the Paragon Wall is driven by a central air handling unit, there is no built-in fan that would otherwise generate sound and require servicing. Through patent-pending technology, the built-in coil is optimally utilized which provides high cooling/heating capacity already while the air pressure and airflows are low.

By using the same grille for both the distribution of supplied air and the recirculation of room air, PARAGON WALL makes a technical installation outside the relevant room possible. This offers several important benefits. By utilising the space above the false ceiling in the adjoining corridor, service can be carried out in the corridor without the need for access to the room served by the unit. With only one grille to take into consideration, only one opening needs to be cut in the wall. PARAGON WALL is, of course, equipped with VariFlow and ADC for simple adjustment of the air flow and direction of air discharge. Vertical air discharge direction can also be set simply by adjusting the angle of the louvers in the grille.

Figure 1. PARAGON WALL

EUROVENT CERTIFIED PERFORMANCE
N° 08.02.033
Range: PARAGON WALL
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

PARAGON WALL in a nutshell

- Plug & Play
- Factory-fitted control equipment is optional.
- Low sound level
- Draught-free indoor climate
- No fan in the room
- Dry system without condensation
- No need for any drainage system
- No filter
- Requires minimal maintenance
- Low energy consumption
- Flexible adjustment of the air volume (VariFlow)
- Guaranteed comfort through flexible adjustment of the direction of air discharge (ADC)

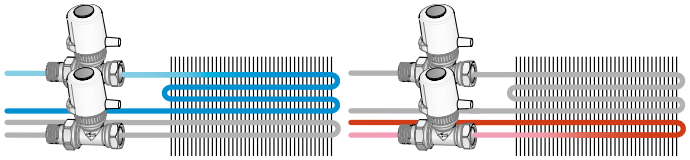
Outstanding features of the PARAGON WALL comfort module

Paragon Wall is the name of a new comfort module that is part of the family of compact comfort modules and is designed especially for rear-edge location in office rooms.

The module is installed above the false ceiling in the corridor outside the room and requires no false ceiling inside the room. By using the same grille both for distribution of supply air and the recirculation of room air, only one grille is visible inside the room.

The Paragon Wall product family includes the following variants:

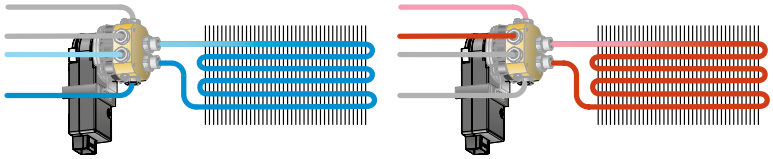
PARAGON Wall c B-NC
Normal capacity Paragon with 4 tube coil, that is separate cooling and heating coils



PARAGON Wall c B-HC (CCO)
Paragon Wall B-HC CCO is a high capacity variant of Paragon Wall where a CCO valve Compact Change Over is used to utilise the whole coil of both cooling and heating.

Advantages:

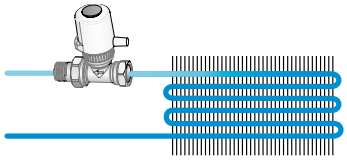
- Compact PARAGON Wall unit with high output means simpler project planning.
- Smaller units can be used. Lower investment cost and less space needed.
- Faster conditioning of a room that has been left empty. High and consistent comfort
- Permits a higher cooling water temperature and lower heating water temperature, which gives lower operating costs for the chiller and heat pump, i.e. less environmental impact.



Room control system CONDUCTOR is used to control the CCO valve.
For more information about the CCO valve, see the CCO product data sheet at www.swegon.se

PARAGON Wall c A-HC
High capacity Paragon for cooling only. The capacity of the heat exchanger is utilised optimally by maximising the cooling circuit through the coil.

- Lower energy consumption gives a lower operating cost and with that less environment impact.
- A smaller Paragon unit than before can be used, which results in a lower investment cost and more space for other installations
- The high output gives faster cooling of hotel rooms that have stood empty.



Basic function diagram

Offices

The primary air is supplied via duct connection in the rear edge of the unit and this builds up positive pressure inside the unit. The positive pressure distributes the primary air with relatively high velocity via two rows of nozzle holes, one row in the upper edge and one row in the lower edge of the outlet. The high velocity of the primary air creates negative pressure which generates induction of the room air.

The recirculation air is sucked into the unit through the same grille that is used for distributing air into the room.

The recirculation air is then conveyed through the coil where it is cooled, heated, if required, or just passes untreated, before it mixes with the primary air and is discharged into the room.

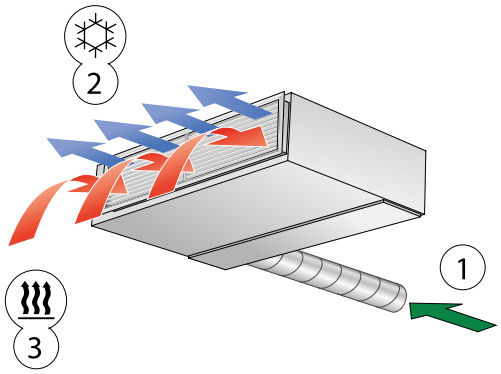


Figure 2. Cooling function Paragon Wall
1 = Primary air
2 = Primary air mixed with chilled room air
3 = Induced room air

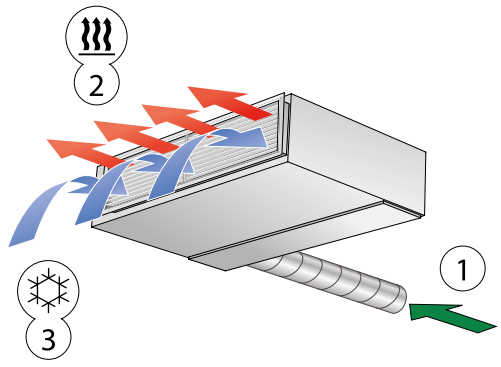


Figure 3. Heating function Paragon Wall
1 = Primary air
2 = Primary air mixed with heated room air
3 = Induced room air

The air is ideally distributed to office rooms by discharging it in a fan shape and utilising as much of the ceiling and any intermediate walls as possible for preventing draughts in the occupied zone.

Horizontal air distribution is achieved by means of the ADC (Anti-Draught Control) feature. If vertical air distribution is desirable, this is achieved by setting the outlet grille vanes to slant upward or downward.

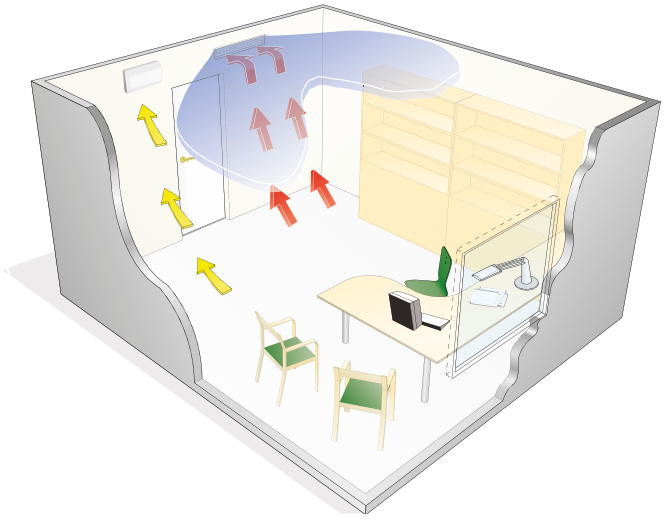


Figure 4. Air distribution with the Paragon Wall in a separate office room

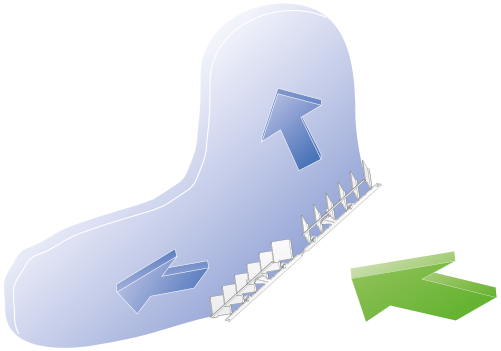


Figure 5 – Horizontal air distribution with ADC

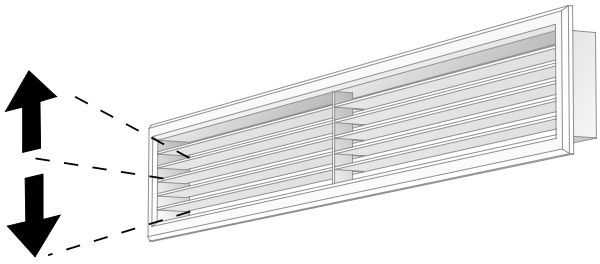


Figure 6. Vertical air distribution with adjustable louvres in the supply air grille.

Nozzle setting

Figure 7. Adjusted nozzle L

Figure 8. Adjusted nozzle M

Figure 9. Nozzle H. Strip removed

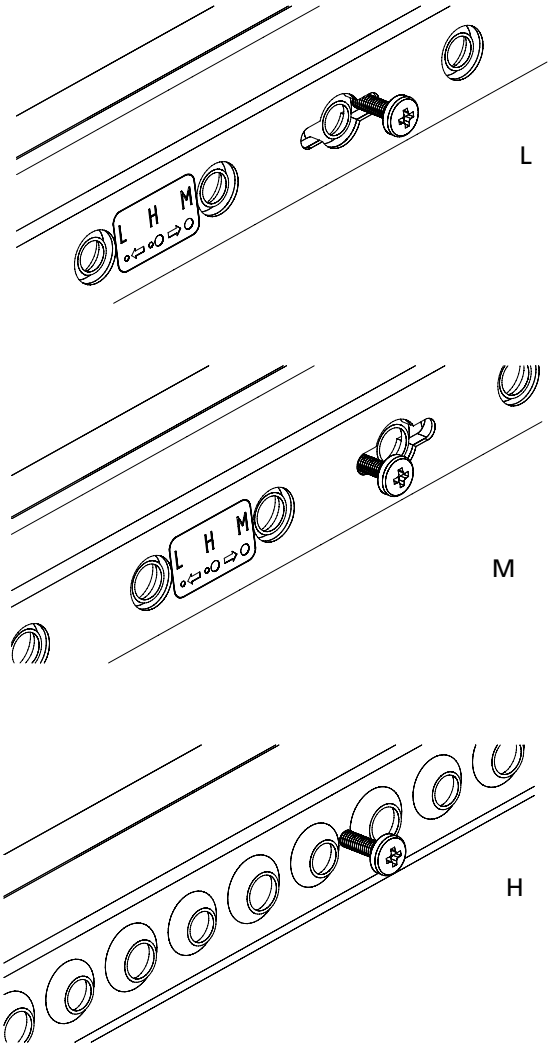


Figure 10. Adjustment of nozzles L, M and H

(The strip for nozzle H has been removed)

Optional Extras

CONDUCTOR Control equipment

Energy efficient

The control equipment for the Paragon Wall in the standard version is based on the CONDUCTOR in order to save on energy to the fullest possible extent. The CONDUCTOR is Swegon's in-house designed controller specially designed for controlling water-borne and airborne indoor climate systems.

The W4.1 application used in combination with the PARAGON WALL demand-controls both the room temperature and the air quality in the room. When someone is in the room, the functions of the controller adapt to provide comfort feed-back control. If no one is in the room, the controls activate the economy comfort mode, allowing the room temperature to deviate more from the preset setpoint. At the same time, the system reduces the air flow to the relevant room to a minimum in order to save fan energy. In addition, there are a number of other functions for both comfort and energy feed-back control coupled to temperature deviations, open/closed windows and possible condensation precipitation.

Communication

CONDUCTOR has been developed as a subsystem in Swegon's electrical and control equipment platform. The GOLD air handling units, used in combination with the Super WISE communication unit, offer unique opportunities for achieving energy-efficient applications all the way from the room level and up to the plant room.

The CONDUCTOR communicates via Modbus RTU Main control systems can access the entire list of parameters for both reading and writing values.

Simple installation and simple maintenance

Factory-fitted control equipment makes the installation work simple. All the necessary components are then easily accessible via an easy-to-remove inspection cover in the underside of the unit.

The room controller included in the supply communicates wirelessly or via wired connection to the comfort module controller. Wireless communication reduces the costs for running cables. On the other hand, a wired connection reduces the need for maintenance since the user then does not need to periodically replace batteries.

For more information regarding the CONDUCTOR, see separate product data sheet.

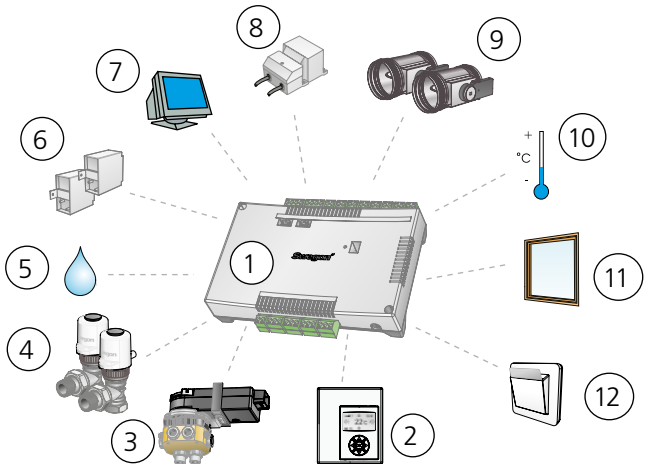


Figure 11. Factory-fitted control equipment CONDUCTOR W4.1

1 = Controller

2 = Room controller

3 = CCO valve and actuator (variant B-HC)

4 = Valves and valve actuators for cooling and heating water (variant B-NC and A-HC)

5 = Condensation sensor

6 = Pressure sensor

7 = Communication via Modbus RTU

Accessories, if required:

8 = Transformer

9 = Motorised ventilation damper

10 = External temperature sensor

11 = Window contact

12 = Key card holder or presence sensor

6-way change over valve - CCO

With CCO - Compact Change Over, the same single circuit in the coil is used for both heating and cooling, providing maximum utilisation of the coil and thus a higher cooling and heating capacity.

Advantages:

- A higher cooling water temperature and lower heating water temperature give improved operating economy for the chiller and heat pump. Lower energy consumption gives lower operating cost and less environment impact.
- Smaller PARAGON units can be used. Lower investment cost and less space needed.
- Faster conditioning of an office that has been left unoccupied. High and consistent comfort.
- Compact unit with high output means simpler project planning.

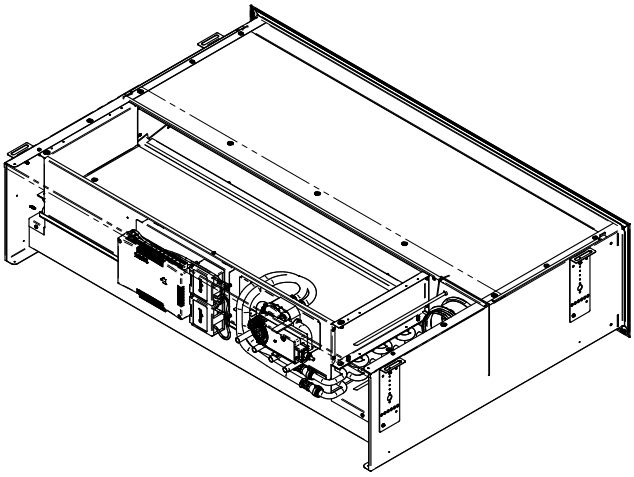


Figure 12. Factory-fitted CONDUCTOR with CCO valve PARAGON WALL B-HC

PARAGON together with the connectable control system CONDUCTOR make a very good comfort solution in offices. CONDUCTOR is also used to control the CCO valve.

If an occupancy detector is used and when this indicates occupancy, the air flow increases from the economical low flow to the normal flow, while the temperature adjusts to the comfort level.

When the room is empty, the ventilation and temperature return to economic low flow.

In addition to the automatic room control, the user can manually adjust the temperature and air flow.

In those cases where simple control without the possibility of connection is sufficient the more basic LUNA room control system can be used. The temperature can be regulated individually in each room, but the air flow is constant.

For more information about the CCO valve, see the CCO product data sheet at www.swegon.se

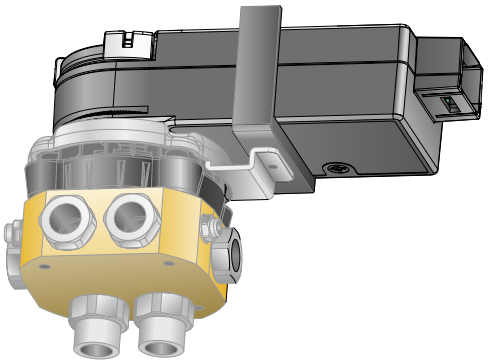


Figure 13. CCO 6-way valve

LUNA control equipment

A simpler form of control equipment is available in applications where the user does not want demand-controlled ventilation in the room and has no need of communication with an external monitoring system. This variant of control is called LUNA and regulates the temperature in the room only (not the air quality). Paragon Wall with factory-fitted LUNA is available to order. Please note that the controller in this case is incorporated into the room controller and requires a cable connection from the room to the actuator and possibly to condensation sensor up inside the Paragon Wall. For more information, see the separate datasheet for the LUNA.

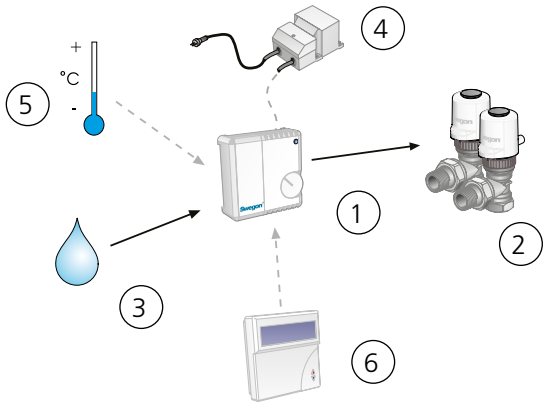


Figure 14. Factory-fitted control equipment LUNA

1 = Room controller with room thermostat

2 = Valves and valve actuators for cooling and heating water

3 = Condensation sensor

Accessories, if required:

4 = Transformer

5 = External temperature sensor

6 = Hand unit for changing the factory settings

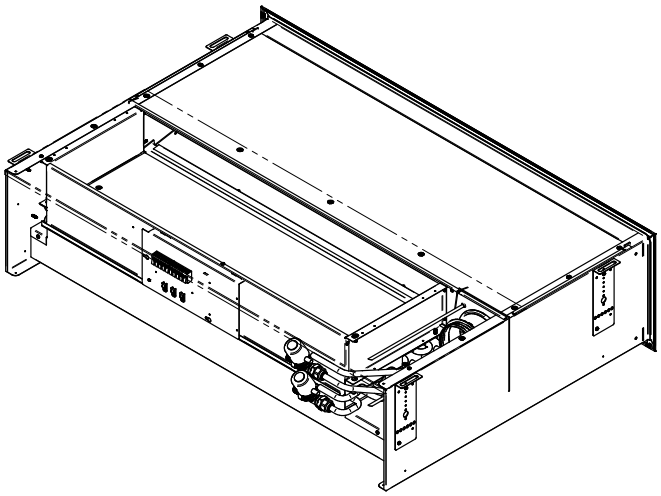


Figure 15. Factory fitted LUNA-CH

Sizing

Designations

P: Capacity (W, kW)

v: Velocity (m/s)

q: Flow (l/s)

p: Pressure, (Pa, kPa)

t_r: Room temperature (°C)

t_m: Mean water temperature (°C)

ΔT_m: Temperature difference [t_r–t_m] (K)

ΔT: Temperature difference, between inlet and return (K)

ΔT_i: Temperature difference, between room and supply air (K)

Δp: Pressure drop (Pa, kPa)

k_p: Pressure drop constant
Supplementary index:

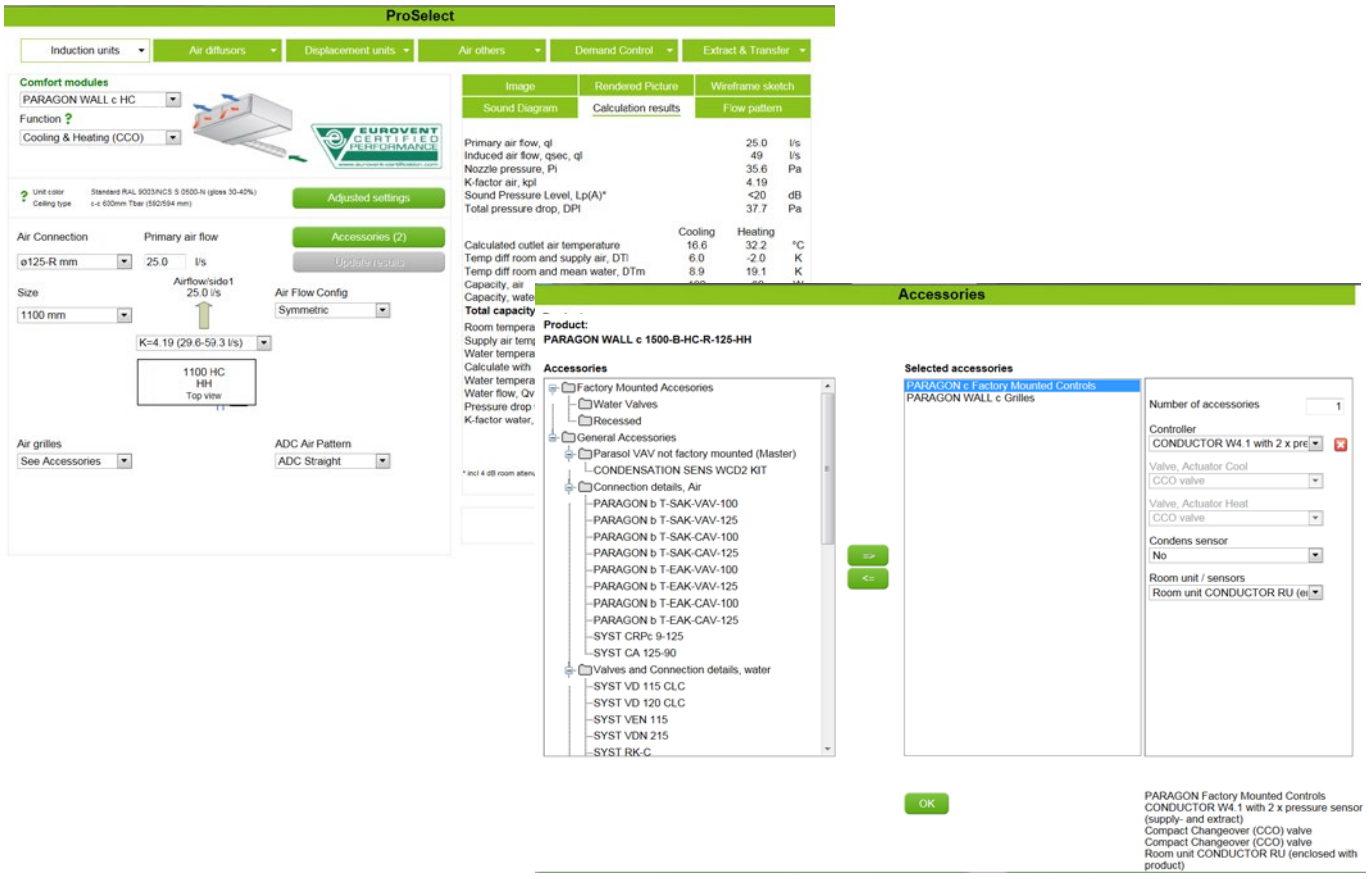
k = cooling, l = air, v = heating, i = commissioning

Recommended limit values, water

Max. recommended operating pressure (across coil only):	1600 kPa
Max. recommended test pressure (across coil only):	2,400 kPa
Max. recommended pressure drop across a standard valve:	20 kPa
Max. recommended pressure drop across the CCO valve	20 kPa
Min. permissible heating water flow:	0.013 l/s
Max. permissible supply flow temperature:	60 °C
Min. permissible cooling water flow:	0.04 l/s
Lowest permissible supply flow temperature:	Should always be dimensioned so that the system works without condensation

Planning with ProSelect

Both planning and sizing are made easier by using Swegon's ProSelect Project design computer program. ProSelect is available at Swegon's home page: www.swegon.com.



Cooling

Cooling capacity

Cooling capacities achieved from both the primary air and chilled water for various lengths of unit and airflows are tabulated in Table 3-8. The total cooling capacity for one unit is the sum of the cooling capacity of the primary air and the chilled water.

The cooling capacity of the primary air can also be calculated using the formula:

$P_l = 1.2 \cdot q_l \cdot \Delta T_l$ where

P_l = Cooling capacity of the air (W)

q_l= Air flow (l/s)

ΔT_l= Temperature differential (K)

Pressure drop

The pressure drop on the water side can be calculated using the formula:

$\Delta p = (q / k_{pk})^2$ where

Δp = Pressure drop in the water circuit (kPa)

q = Water flow (l/s), see Diagram 1

k_{pk} = Pressure drop constant read from table 1.

Table 1. Pressure drop, water

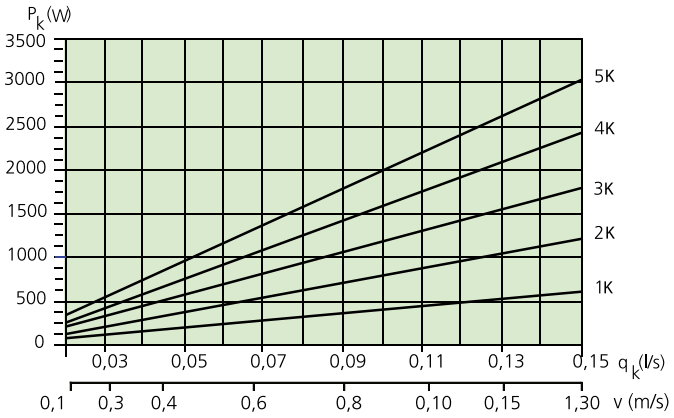
Length	NC	HC	HC CCO
	K_{pk} Cooling	K_{pk} Cooling	K_{pk} Cooling
775	0.0250	0.0230	0.0178
900	0.0231	0.0214	0.0170
1100	0.0215	0.0197	0.0161
1300	0.0205	0.0185	0.0154
1500	0.0194	0.0170	0.0145

NC - Normal design
HC - High Capacity design
HC - High Capacity design with CCO valve

Table 2. The cooling capacity of natural convection

The cooling capacity of water (W) at ΔT_{mv}								
Size	5	6	7	8	9	10	11	12
775	14	20	26	34	42	51	60	71
900	17	24	32	40	50	61	72	85
1100	22	31	41	53	65	79	94	110
1300	31	42	53	65	79	93	108	124
1500	40	52	64	78	92	107	122	138

Diagram 1 – Cooling capacity
The function between cooling capacity P_k (W), change in temperatureΔT_k (K) and the cooling water flow q_k (l/s).



Capacity correction

Different water flows influence the available cooling effect to a certain degree. To calculate the actual cooling power based on a flow-dependant correction factor, use Swegon's ProSelect computer program, available at www.swegon.com.

Diagram 2. Water flow – capacity correction

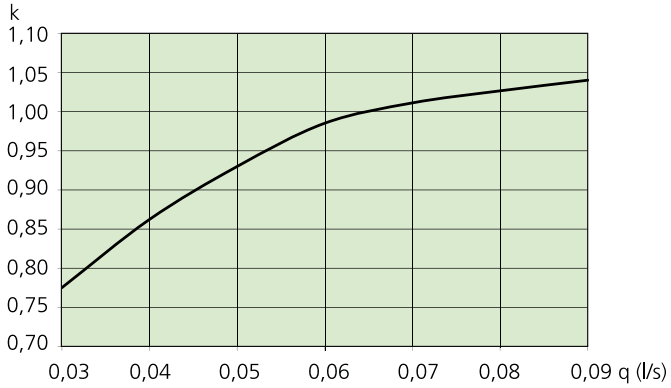


Table 3 – Cooling capacity, NC, 100 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	12	43	<20	86	115	144	173	259	303	346	390	434	477	521	1.2
775	M	M	15.4	55	24	111	148	185	222	286	332	378	423	469	514	560	1.54
775	H	H	27	97	29	194	259	324	389	328	385	442	499	557	615	673	2.7
900	L	L	14.4	52	<20	104	138	173	207	311	364	416	468	521	573	626	1.44
900	M	M	18.5	67	25	133	178	222	266	343	399	454	509	563	618	672	1.85
900	H	H	32.4	117	30	233	311	389	467	394	462	531	600	669	739	809	3.24
1100	L	L	18.6	67	20	134	179	223	268	406	474	543	611	679	748	816	1.86
1100	M	M	23.9	86	26	172	229	287	344	448	520	592	663	735	806	877	2.39
1100	H	H	41.9	151	31	302	402	503	603	513	603	692	782	873	964	1055	4.19
1300	L	L	22.2	80	21	160	213	266	320	501	585	669	753	838	922	1007	2.22
1300	M	M	28.5	103	27	205	274	342	410	552	641	730	818	906	994	1082	2.85
1300	H	H	50	180	32	360	480	600	720	633	743	854	965	1077	1189	1301	5
1500	L	L	19.7	71	<20	142	189	236	284	494	574	653	732	811	889	968	1.97
1500	M	M	34.3	123	26	247	329	412	494	605	704	802	900	998	1096	1194	3.43
1500	H	H	54.6	197	32	393	524	655	786	696	810	924	1037	1150	1262	1375	5.46

Table 4 – Cooling capacity, NC, 150 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	14.7	53	24	106	141	176	212	307	358	409	460	511	563	614	1.2
775	M	M	18.9	68	30	136	181	226	272	334	388	441	495	548	601	654	1.54
775	H	H	33.1	119	35	238	317	397	476	377	442	507	573	639	705	772	2.7
900	L	L	17.6	63	25	127	169	212	254	369	430	492	553	614	676	737	1.44
900	M	M	22.7	82	31	163	218	272	326	401	466	530	594	658	722	785	1.85
900	H	H	39.7	143	36	286	381	476	571	453	531	609	688	768	847	927	3.24
1100	L	L	22.8	82	26	164	219	273	328	481	561	641	721	801	881	961	1.86
1100	M	M	29.3	105	32	211	281	351	422	523	607	691	775	858	941	1024	2.39
1100	H	H	51.3	185	37	369	493	616	739	590	692	795	898	1001	1105	1209	4.19
1300	L	L	27.2	98	27	196	261	326	392	593	692	791	890	988	1087	1186	2.22
1300	M	M	34.9	126	33	251	335	419	503	645	749	853	956	1059	1161	1263	2.85
1300	H	H	61.2	220	38	441	588	735	882	728	854	981	1107	1235	1363	1491	5
1500	L	L	24.1	87	23	174	232	290	347	581	676	772	867	963	1058	1153	1.97
1500	M	M	42.0	151	32	302	403	504	605	697	811	924	1038	1151	1264	1377	3.43
1500	H	H	66.9	241	38	481	642	802	963	789	918	1048	1177	1306	1435	1563	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

2) The specified capacities are based on a complete unit including standard distribution and recirculation grille. Without grille the water capacity increases by approx. 5%. With ADC adjusted to Fan shape you lose approx. 5% in water capacity. The primary air capacity is not affected.

NOTE! The total cooling capacity is the sum of the airborne and waterborne cooling capacities.

Table 5 – Cooling capacity, NC, 200 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	17.0	61	28	122	163	204	244	341	397	454	510	567	623	679	1.2
775	M	M	21.8	78	34	157	209	261	314	368	427	486	545	604	662	720	1.54
775	H	H	38.2	137	40	275	367	458	550	412	483	554	625	697	769	841	2.7
900	L	L	20.4	73	29	147	196	244	293	410	477	545	613	681	748	816	1.44
900	M	M	26.2	94	35	188	251	314	377	442	513	584	655	725	795	865	1.85
900	H	H	45.8	165	40	330	440	550	660	495	580	665	751	837	924	1011	3.24
1100	L	L	26.3	95	30	189	253	316	379	534	623	711	800	888	976	1064	1.86
1100	M	M	33.8	122	36	243	324	406	487	576	669	762	854	946	1037	1129	2.39
1100	H	H	59.3	213	42	427	569	711	853	645	756	868	980	1092	1205	1318	4.19
1300	L	L	31.4	113	31	226	301	377	452	659	768	877	986	1095	1204	1313	2.22
1300	M	M	40.3	145	37	290	387	484	580	711	825	940	1053	1167	1280	1392	2.85
1300	H	H	70.7	255	43	509	679	849	1018	796	933	1070	1209	1347	1486	1626	5
1500	L	L	27.9	100	27	201	267	334	401	642	749	856	963	1070	1177	1285	1.97
1500	M	M	48.5	175	37	349	466	582	699	762	886	1011	1135	1259	1383	1507	3.43
1500	H	H	77.2	278	42	556	741	927	1112	854	995	1136	1276	1417	1557	1697	5.46

Table 6 – Cooling capacity, HC, 100 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	12	43	<20	86	115	144	173	278	324	369	414	459	503	548	1.2
775	M	M	15.4	55	24	111	148	185	222	312	362	411	461	510	559	607	1.54
775	H	H	27	97	29	194	259	324	389	376	438	499	560	621	682	742	2.7
900	L	L	14.4	52	<20	104	138	173	207	334	389	443	497	551	605	658	1.44
900	M	M	18.5	67	25	133	178	222	266	374	434	494	553	612	671	730	1.85
900	H	H	32.4	117	30	233	311	389	467	452	526	599	673	746	819	892	3.24
1100	L	L	18.6	67	20	134	179	223	268	436	507	578	648	718	789	859	1.86
1100	M	M	23.9	86	26	172	229	287	344	488	566	644	721	799	875	952	2.39
1100	H	H	41.9	151	31	302	402	503	603	590	686	782	877	973	1068	1163	4.19
1300	L	L	22.2	80	21	160	213	266	320	538	625	713	799	886	973	1059	2.22
1300	M	M	28.5	103	27	205	274	342	410	602	699	794	890	985	1079	1174	2.85
1300	H	H	50	180	32	360	480	600	720	727	846	964	1082	1200	1317	1434	5
1500	L	L	19.7	71	<20	142	189	236	284	545	633	721	808	895	982	1069	1.97
1500	M	M	34.3	123	26	247	329	412	494	700	814	927	1040	1153	1265	1377	3.43
1500	H	H	54.6	197	32	393	524	655	786	811	944	1076	1209	1341	1473	1605	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

2) The specified capacities are based on a complete unit including standard distribution and recirculation grille. Without grille the water capacity increases by approx. 5%. With ADC adjusted to Fan shape you lose approx. 5% in water capacity. The primary air capacity is not affected.

NOTE! The total cooling capacity is the sum of the airborne and waterborne cooling capacities.

Table 7 – Cooling capacity, HC, 150 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	14.7	53	24	106	141	176	212	331	385	439	492	546	599	653	1.2
775	M	M	18.9	68	30	136	181	226	272	366	425	484	542	601	659	717	1.54
775	H	H	33.1	119	35	238	317	397	476	434	506	577	648	719	790	861	2.7
900	L	L	17.6	63	25	127	169	212	254	397	462	527	591	656	720	784	1.44
900	M	M	22.7	82	31	163	218	272	326	440	511	581	651	721	791	861	1.85
900	H	H	39.7	143	36	286	381	476	571	522	608	693	778	864	949	1034	3.24
1100	L	L	22.8	82	26	164	219	273	328	518	603	687	771	855	939	1023	1.86
1100	M	M	29.3	105	32	211	281	351	422	574	666	758	850	941	1032	1123	2.39
1100	H	H	51.3	185	37	369	493	616	739	681	793	904	1015	1127	1238	1348	4.19
1300	L	L	27.2	98	27	196	261	326	392	639	744	847	951	1055	1158	1261	2.22
1300	M	M	34.9	126	33	251	335	419	503	708	822	935	1048	1161	1273	1385	2.85
1300	H	H	61.2	220	38	441	588	735	882	840	977	1115	1252	1389	1526	1663	5
1500	L	L	24.1	87	23	174	232	290	347	653	759	865	971	1076	1181	1286	1.97
1500	M	M	42.0	151	32	302	403	504	605	821	954	1087	1219	1351	1482	1613	3.43
1500	H	H	66.9	241	38	481	642	802	963	935	1090	1244	1399	1553	1707	1861	5.46

Table 8 – Cooling capacity, HC, 200 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Cooling capacity, primary air (W) ΔT_l				Cooling capacity, water (W) at ΔT_{mk} [2]							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	6	8	10	12	6	7	8	9	10	11	12	k_{pl}
775	L	L	17.0	61	28	122	163	204	244	368	428	488	548	608	667	727	1.2
775	M	M	21.8	78	34	157	209	261	314	405	470	536	601	665	730	794	1.54
775	H	H	38.2	137	40	275	367	458	550	476	554	632	711	789	867	945	2.7
900	L	L	20.4	73	29	147	196	244	293	442	514	586	658	730	802	873	1.44
900	M	M	26.2	94	35	188	251	314	377	486	565	643	721	799	877	954	1.85
900	H	H	45.8	165	40	330	440	550	660	571	666	760	853	947	1041	1135	3.24
1100	L	L	26.3	95	30	189	253	316	379	577	671	765	859	952	1046	1139	1.86
1100	M	M	33.8	122	36	243	324	406	487	634	737	839	941	1042	1144	1244	2.39
1100	H	H	59.3	213	42	427	569	711	853	745	868	991	1113	1236	1358	1480	4.19
1300	L	L	31.4	113	31	226	301	377	452	711	827	943	1059	1174	1290	1405	2.22
1300	M	M	40.3	145	37	290	387	484	580	782	909	1035	1160	1286	1410	1535	2.85
1300	H	H	70.7	255	43	509	679	849	1018	919	1071	1222	1373	1524	1675	1825	5
1500	L	L	27.9	100	27	201	267	334	401	730	849	968	1086	1205	1323	1441	1.97
1500	M	M	48.5	175	37	349	466	582	699	907	1054	1200	1346	1491	1636	1781	3.43
1500	H	H	77.2	278	42	556	741	927	1112	1024	1194	1364	1533	1703	1873	2042	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

2) The specified capacities are based on a complete unit including standard distribution and recirculation grille. Without grille the water capacity increases by approx. 5%. With ADC adjusted to Fan shape you lose approx. 5% in water capacity. The primary air capacity is not affected.

NOTE! The total cooling capacity is the sum of the airborne and waterborne cooling capacities.

Heating

Heating capacity

Heating capacity achieved from the water circuit for various lengths of unit and airflows are tabulated in Table 11-16.

Pressure drop

The pressure drop on the water side can be calculated using the formula:

$\Delta p = (q / k_{pv})^2$ where

Δp = Pressure drop in the water circuit (kPa)

q = Water flow (l/s), see Diagram 3

k_{pv} = Pressure drop constant read from table 9.

For a more detailed pressure drop calculation, use the Swegon's ProSelect software, which is available on www.swegon.com.

Table 9 Pressure drop, water

	NC	HC	HC CCO
Length	k_{pv} Heating		k_{pv} Heating
775	0.0385		0.0189
900	0.0372		0.0181
1100	0.0348		0.0171
1300	0.0329		0.0163
1500	0.0311		0.0156

NC - Normal design
HC CCO - High Capacity design with CCO valve

Diagram 3 - Heating capacity

The function between the heating capacity P_v (W), the change in temperature ΔT_v (K) and the heating water flow q_v (l/s).

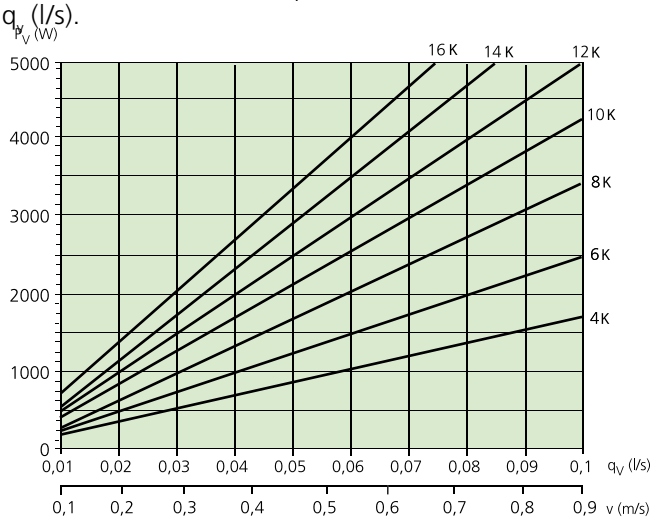


Table 10 - Heating capacity for natural convection

	Heat output at ΔT_{mv} [K] (W)						
Length	5	10	15	20	25	30	35
775	19	44	73	104	137	172	208
900	22	53	87	125	165	207	250
1100	23	56	96	140	188	240	294
1300	23	60	105	156	212	273	338
1500	23	63	113	171	236	307	383

Capacity correction

Different water flow rates to some extent have an effect on the heating capacity output. In order to calculate the actual heating capacity based on a flow-dependant correction factor, use Swegon's ProSelect software, which is available from www.swegon.com.

Diagram 4. Water flow – capacity correction

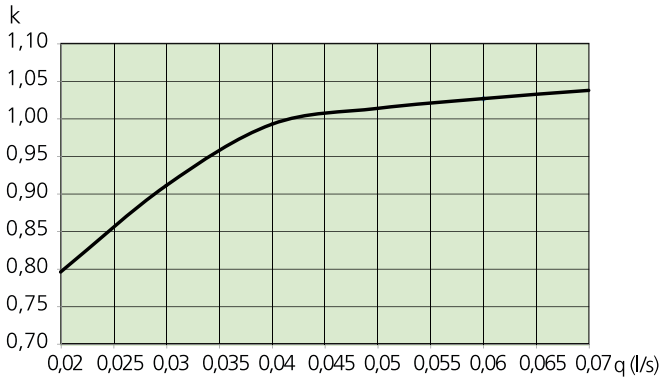


Table 11 – Heating capacity, NC, 100 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	12	43	<20	116	236	359	484	609	735	862	1.2
775	M	M	15.4	55	24	127	259	393	529	665	802	940	1.54
775	H	H	27	97	29	149	305	463	623	784	947	1110	2.7
900	L	L	14.4	52	<20	139	284	432	581	731	883	1035	1.44
900	M	M	18.5	67	25	153	311	472	635	799	963	1129	1.85
900	H	H	32.4	117	30	179	366	556	748	942	1137	1333	3.24
1100	L	L	18.6	67	20	181	370	563	758	954	1152	1350	1.86
1100	M	M	23.9	86	26	199	406	616	828	1042	1257	1473	2.39
1100	H	H	41.9	151	31	233	477	725	976	1229	1483	1739	4.19
1300	L	L	22.2	80	21	223	457	694	935	1177	1420	1666	2.22
1300	M	M	28.5	103	27	246	501	760	1022	1285	1550	1816	2.85
1300	H	H	50	180	32	288	589	894	1204	1515	1829	2145	5
1500	L	L	19.7	71	<20	235	479	727	977	1229	1482	1737	1.97
1500	M	M	34.3	123	26	277	568	864	1164	1466	1771	2077	3.43
1500	H	H	54.6	197	32	309	633	964	1298	1636	1976	2318	5.46

Table 12 – Heating capacity, NC, 150 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	14.7	53	24	131	268	407	548	690	833	977	1.2
775	M	M	18.9	68	30	144	293	443	594	745	898	1050	1.54
775	H	H	33.1	119	35	163	334	509	686	864	1044	1225	2.7
900	L	L	17.6	63	25	157	322	489	658	829	1000	1173	1.44
900	M	M	22.7	82	31	173	352	532	713	895	1078	1262	1.85
900	H	H	39.7	143	36	195	401	611	824	1038	1254	1472	3.24
1100	L	L	22.8	82	26	205	419	638	858	1081	1305	1530	1.86
1100	M	M	29.3	105	32	226	459	694	930	1168	1406	1646	2.39
1100	H	H	51.3	185	37	255	523	797	1074	1354	1636	1920	4.19
1300	L	L	27.2	98	27	253	517	787	1059	1333	1609	1887	2.22
1300	M	M	34.9	126	33	279	566	855	1147	1440	1735	2030	2.85
1300	H	H	61.2	220	38	314	645	983	1325	1670	2018	2368	5
1500	L	L	24.1	87	23	267	544	824	1107	1392	1679	1967	1.97
1500	M	M	42.0	151	32	310	634	965	1300	1638	1978	2320	3.43
1500	H	H	66.9	241	38	340	698	1064	1434	1807	2184	2562	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

Table 13 – Heating capacity, NC, 200 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	17.0	61	28	142	290	441	593	747	902	1058	1.2
775	M	M	21.8	78	34	157	317	478	640	802	965	1129	1.54
775	H	H	38.2	137	40	172	355	541	730	921	1114	1308	2.7
900	L	L	20.4	73	29	170	348	530	713	898	1084	1271	1.44
900	M	M	26.2	94	35	188	380	574	768	964	1160	1356	1.85
900	H	H	45.8	165	40	207	426	650	877	1106	1338	1570	3.24
1100	L	L	26.3	95	30	222	454	691	930	1171	1414	1658	1.86
1100	M	M	33.8	122	36	245	496	749	1002	1257	1513	1769	2.39
1100	H	H	59.3	213	42	270	556	848	1144	1443	1745	2049	4.19
1300	L	L	31.4	113	31	274	560	852	1147	1444	1744	2045	2.22
1300	M	M	40.3	145	37	303	612	923	1236	1550	1866	2182	2.85
1300	H	H	70.7	255	43	333	686	1046	1411	1780	2152	2527	5
1500	L	L	27.9	100	27	289	589	893	1200	1508	1819	2130	1.97
1500	M	M	48.5	175	37	333	682	1037	1397	1760	2125	2493	3.43
1500	H	H	77.2	278	42	362	744	1134	1530	1929	2331	2736	5.46

Table 14 – Heating capacity, HC, 100 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	12	43	<20	217	439	661	884	1109	1333	1558	1.2
775	M	M	15.4	55	24	241	489	738	990	1242	1496	1750	1.54
775	H	H	27	97	29	291	591	895	1201	1509	1819	2130	2.7
900	L	L	14.4	52	<20	261	527	794	1062	1331	1601	1872	1.44
900	M	M	18.5	67	25	290	587	887	1189	1492	1797	2102	1.85
900	H	H	32.4	117	30	349	710	1075	1443	1813	2185	2559	3.24
1100	L	L	18.6	67	20	341	687	1036	1386	1737	2089	2441	1.86
1100	M	M	23.9	86	26	378	765	1157	1551	1947	2344	2742	2.39
1100	H	H	41.9	151	31	455	926	1402	1882	2365	2850	3337	4.19
1300	L	L	22.2	80	21	420	847	1277	1709	2142	2576	3011	2.22
1300	M	M	28.5	103	27	466	944	1427	1913	2401	2891	3382	2.85
1300	H	H	50	180	32	562	1142	1729	2321	2917	3515	4116	5
1500	L	L	19.7	71	<20	440	905	1379	1860	2345	2835	3327	1.97
1500	M	M	34.3	123	26	560	1130	1704	2281	2860	3440	4022	3.43
1500	H	H	54.6	197	32	632	1281	1937	2597	3261	3927	4596	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

Table 15 – Heating capacity, HC, 150 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	14.7	53	24	261	525	790	1057	1324	1592	1860	1.2
775	M	M	18.9	68	30	285	578	875	1174	1475	1777	2081	1.54
775	H	H	33.1	119	35	338	686	1038	1392	1749	2106	2465	2.7
900	L	L	17.6	63	25	313	630	949	1269	1590	1912	2234	1.44
900	M	M	22.7	82	31	342	695	1051	1411	1772	2135	2499	1.85
900	H	H	39.7	143	36	406	824	1247	1672	2100	2530	2961	3.24
1100	L	L	22.8	82	26	408	822	1238	1656	2074	2494	2914	1.86
1100	M	M	29.3	105	32	446	906	1371	1840	2311	2785	3260	2.39
1100	H	H	51.3	185	37	530	1075	1626	2182	2739	3300	3862	4.19
1300	L	L	27.2	98	27	504	1014	1527	2042	2559	3076	3594	2.22
1300	M	M	34.9	126	33	550	1118	1691	2269	2851	3434	4020	2.85
1300	H	H	61.2	220	38	654	1326	2006	2691	3379	4070	4763	5
1500	L	L	24.1	87	23	517	1062	1618	2181	2750	3323	3899	1.97
1500	M	M	42.0	151	32	637	1295	1960	2631	3305	3982	4662	3.43
1500	H	H	66.9	241	38	711	1442	2180	2923	3671	4421	5173	5.46

Table 16 – Heating capacity, HC, 200 Pa

Length of the unit	Nozzle setting		Air flow		Sound level [1]	Heating capacity, water (W) at ΔT_{mv}							Pressure drop constant, air
mm			l/s	m³/h	dB(A)	5	10	15	20	25	30	35	k_{pl}
775	L	L	17.0	61	28	291	586	882	1179	1477	1775	2074	1.2
775	M	M	21.8	78	34	316	642	972	1305	1640	1977	2315	1.54
775	H	H	38.2	137	40	372	754	1140	1528	1918	2310	2702	2.7
900	L	L	20.4	73	29	350	704	1060	1416	1774	2132	2491	1.44
900	M	M	26.2	94	35	379	771	1168	1568	1970	2375	2780	1.85
900	H	H	45.8	165	40	447	906	1369	1835	2304	2774	3246	3.24
1100	L	L	26.3	95	30	456	918	1382	1848	2314	2781	3249	1.86
1100	M	M	33.8	122	36	495	1006	1524	2045	2570	3097	3627	2.39
1100	H	H	59.3	213	42	583	1182	1786	2394	3005	3619	4234	4.19
1300	L	L	31.4	113	31	563	1132	1705	2279	2854	3430	4008	2.22
1300	M	M	40.3	145	37	610	1241	1879	2523	3170	3820	4473	2.85
1300	H	H	70.7	255	43	719	1457	2203	2953	3707	4463	5222	5
1500	L	L	27.9	100	27	572	1174	1787	2409	3037	3669	4305	1.97
1500	M	M	48.5	175	37	692	1412	2142	2878	3620	4366	5116	3.43
1500	H	H	77.2	278	42	767	1556	2352	3155	3961	4771	5583	5.46

1) The specified sound level is applicable to connection without damper or with fully open damper. In other cases where the air flow is demand-controlled with motor-driven dampers, the required data can be read from Swegon's ProSelect sizing program. Room attenuation = 4 dB

Acoustics

Natural attenuation

Natural attenuation is the total reduction in sound power from duct to room including the end reflection of the unit.

Table 17 – Natural attenuation with cladding

Natural attenuation (dB) at mid frequency f (Hz) ΔL_w [dB]							
63	125	250	500	1k	2k	4k	8k
24	14	9	6	9	14	14	18

Accessories

Supply air kit – PARAGON T-SAK-VAV

A motor-driven damper is needed in applications where the user wants to demand-control the supply air by means of CONDUCTOR control equipment The damper causes a certain amount of flow-generated sound. Therefore a sound attenuator is also needed to guarantee a low sound level in the room. The following components are included in PARAGON T-SAK-VAV:

Motor-driven damper	CRTc including Swegon's motor
Sound attenuator	CLA rectangular sound attenuator with circular connection spigots L=500mm

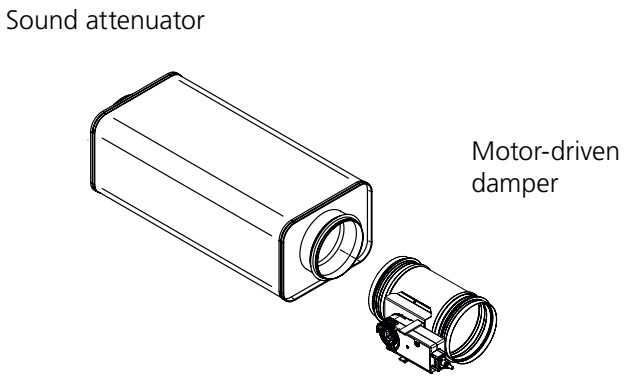


Figure 16. PARAGON T-SAK-VAV

Supply air kit – PARAGON T-SAK-CAV

A commissioning damper is needed to ensure the correct air flow if a simpler feed-back control system with constant air flow has been selected. Commissioning dampers also generate a certain amount of sound. We therefore recommend the use of a sound attenuator for keeping the sound level at a minimum. The following components are included in PARAGON T-SAK-CAV:

Commissioning damper	CRPc-9 Commissioning damper with perforated damper blade and manually adjustable blade
Sound attenuator	CLA rectangular sound attenuator with circular connection spigots L=500mm

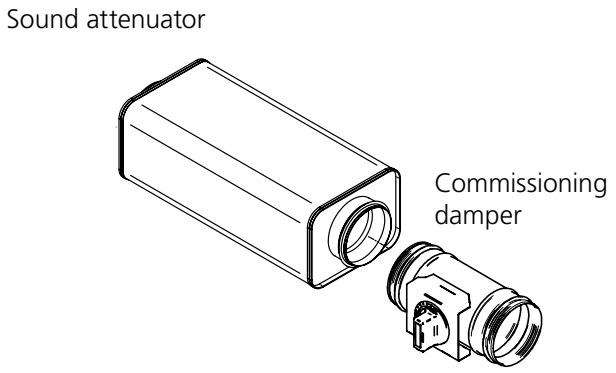


Figure 17. PARAGON T-SAK-CAV

Extract air kit – PARAGON T-EAK-VAV

If the supply air is demand-controlled, the extract air also needs to be feed-back controlled. An extract air kit is needed for balancing the supply air and the extract air. Precisely like the supply air kit, this kit consists of a motor-driven damper and a sound attenuator. In addition an extract air register and two alternative mounting frames are included: one with a nipple and one with a joint.

Motor-driven damper	CRTc including Swegon's motor
Sound attenuator	CLA rectangular sound attenuator with circular connection spigots L=500mm
Extract air register	EXCa and accompanying mounting frames: one with a nipple and one with a joint

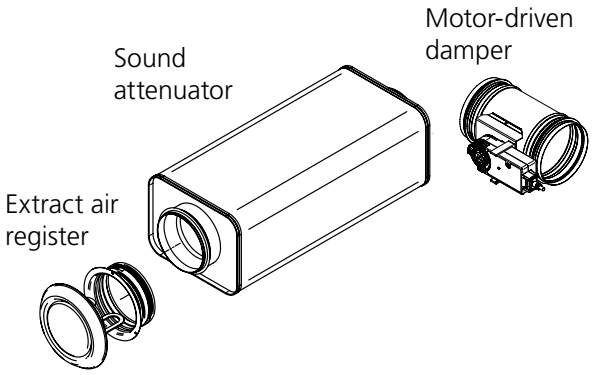


Figure 18. Extract air kit – PARAGON T-EAK-VAV

Extract air kit – PARAGON T-EAK-CAV

A commissioning damper is needed in systems with constant airflows in order to balance the extract air flow with the supply air flow.

Therefore a kit designed for constant airflows is available for simpler systems.Ø This kit contains commissioning damper, sound attenuator, extract air register and mounting frames.

Commissioning damper	CRPc-9 Commissioning damper with perforated damper blade and manually adjustable blade
Sound attenuator	CLA rectangular sound attenuator with circular connection spigots L=500mm
Extract air register	EXCa and accompanying mounting frames: One with a nipple and one with a joint

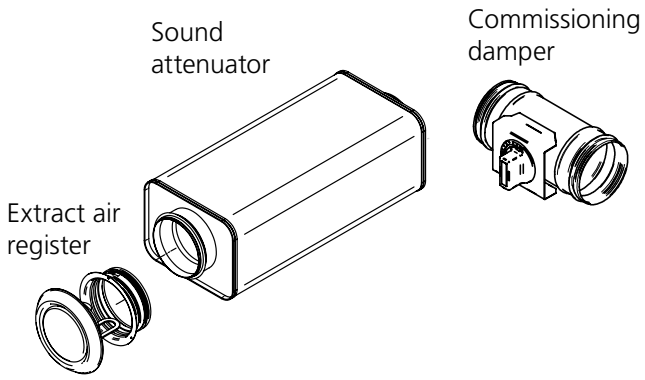


Figure 19. Extract air kit PARAGON T-EAK-CAV

Suspension kit SYST MS M8

In the applications in which the Paragon Wall is not mounted in direct contact with the ceiling, a suspension kit is available which simplifies the task of lowering it to hang at the level desired.

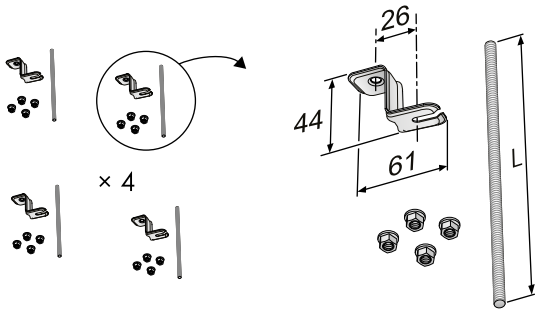


Figure 20. Suspension kit SYST MS M8

Flexible hoses

In applications in which you desire to avoid risk of movement in the pipe system caused by heat expansion, you can advantageously utilize flexible hoses for the connection of chilled water and hot water. Eventual vibrations via the pipe system are at the same time diminished to an absolute minimum.

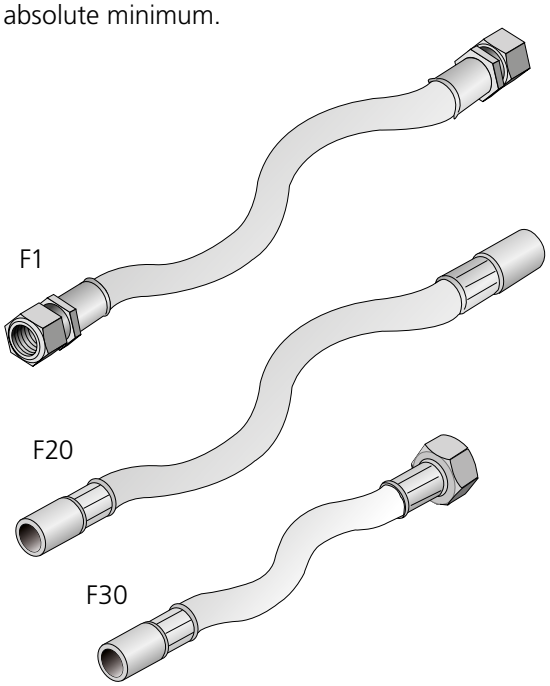


Figure 21. Flexible connection hose, SYST FH

Venting nipple

A venting nipple with push-on connection can be utilised in combination with type SYST FS F20 flexible hoses. This is normally not needed, but can be an option if the coil in the paragon Wall is at the highest point on the water loop.

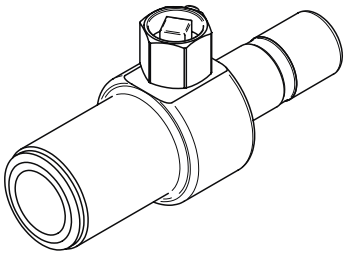


Figure 22. Venting nipple, SYST AR

Factory-fitted control equipment

Optional: Orders can be placed for factory-fitted control equipment for the PARAGON Wall.

All the options and possible combinations of the same that are sizable in ProSelect are tabulated below.

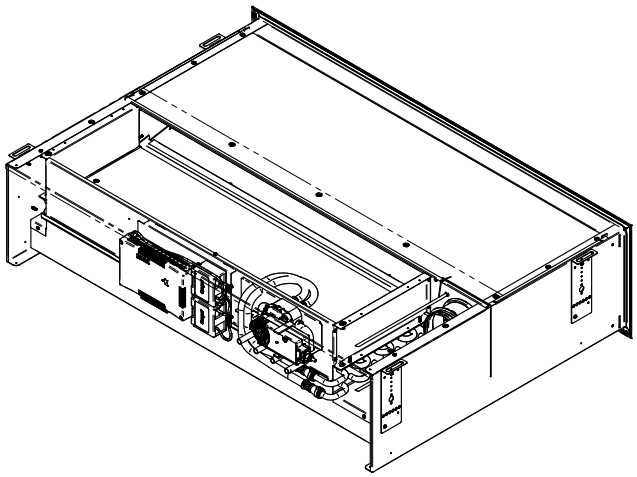


Figure 23. Paragon Wall with factory-fitted Conductor W4.1 controller including RU room unit and 2 pressure sensors as well as CCO valve for cooling and heating.

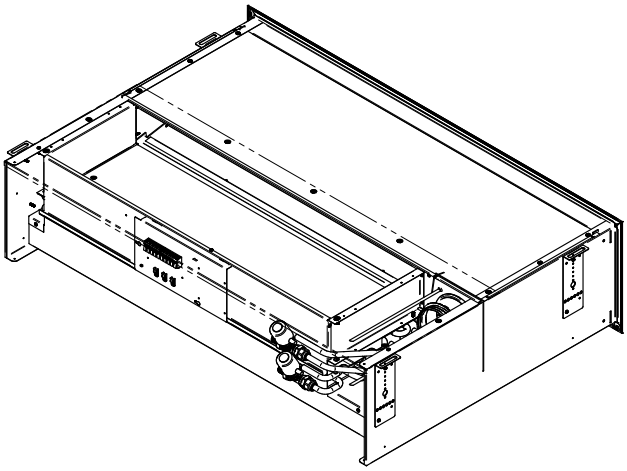


Figure 24 Paragon Wall with factory-fitted LUNA wiring terminals, VEN115 valve and actuator ACTUATORb 24V NC.

ProSelect

ProSelect is Swegon's sizing program, available at www.swegon.com.

Several options and combinations can be sized in ProSelect.

The factory-fitted control equipment described in figures 23 and 24 is shown below as an example.

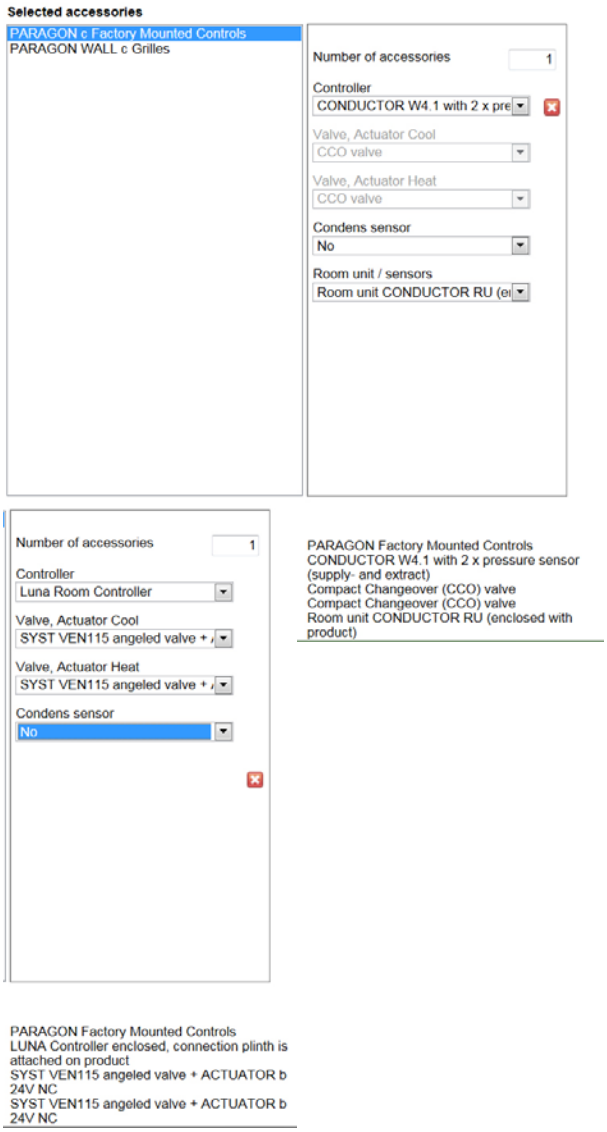


Table 18. Factory-fitted accessories

All the options below and all the possible combinations of the same can be sized in ProSelect.
Conductor RE W1 controller incl. RU room unit
Conductor RE W3 controller incl. RU room unit
Conductor RE W4.1 controller incl. RU room unit and mounted pressure sensor for supply air.
Conductor RE W4.1 controller incl. RU room unit and two mounted pressure sensors for supply/extract air.
LUNA controller (extra wiring terminals are fitted; the controller is packaged together with the module)
SYST VEN115 straight valve
Straight valve SYST VEN115 + ACTUATORb 24V NC actuator wired to terminals
Only ACTUATORb 24V NC actuator wired to terminals
Condensation sensor, wired to terminals
Temperature sensor, wired to terminals (Only in combination with Conductor RE)

Installation

Installation

The PARAGON Wall is delivered with four mounting brackets designed for installation directly against the ceiling or installation suspended from the ceiling. The mounting brackets allow a certain amount of further adjustment after the comfort module/ceiling mounting brackets has/have been mounted as accurately as possible. This enables you to position the supply spigot correctly in relation to the wall and the grille. The next step is to connect the air duct, cooling pipes, heating pipes and power supply (24 V AC) to the control equipment. The motor dampers can be directly wired into the controller in the Paragon Wall, if a supply air kit and an extract air kit are included in the installation. The SYST MS M8 suspension kit (must be ordered separately) can be used to advantage in applications in which the PARAGON Wall should not be mounted directly against the ceiling. For detailed mounting instructions, see separate document available for downloading at www.swegon.com.

Water connections

If the Paragon Wall is supplied with factory-fitted control equipment, the supply water (cooling and heating) should be connected to Ø 12 x 1.0 mm (Cu) flat pipe end. The return water (cooling and heating with thermal actuator) should be connected to the valves, DN ½" male threads. When CCO is supplied all four connections to the system are Ø 12 x 1.0 mm (Cu)

If the Paragon Wall is supplied without control equipment, all the pipes (supply/return – cooling/heating) should be connected to Ø 12 x 1.0 mm (Cu) flat pipe end.

NOTE! Support sleeves must be used if compression ring couplings are fitted. It is important use a pipe wrench to adequately restrain the pipe connections when tightening external connections to prevent damage to the connection pipes.

Air connection

A Ø 125 mm air duct including gasket should be connected directly to a fixed nipple.

If the supply air kit is included in the installation, connect the parts in the following order, viewed from the Paragon Wall:

1. PARAGON WALL Comfort module
2. Air duct, Ø 125 mm
3. Sound attenuator, CLA
4. Air duct, Ø 125 mm
5. CRT motor-driven damper

Note that the supply and extract air kits are also available in Ø 100mm. This kit is suitable for use if the space is limited and low airflows are discharged into the room.

Connection of control equipment

CONDUCTOR

If the CONDUCTOR control equipment is supplied in factory-fitted condition, the actuator (cooling and heating) is wired to the controller on delivery. The controller must be energized in order to start up the feed-back control functions. This occurs either through the supply of power via a 24 V AC network or through the addition of a separate transformer.

The transformer is available as accessory and must be ordered separately. Note that a transformer normally supplies enough current to operate up to 6 Paragon Wall units with factory-fitted CONDUCTOR under the condition that the units are situated within a reasonable distance, to avoid too drastic voltage drops in the cables.

The room controller is delivered well packaged together with the Paragon Wall. The room controller can either operate with wireless remote control or have a wired cable connection. If the controller operates through wireless communication, 4 size AAA batteries supply it with power. If cable connection is used, the room unit is supplied with power via the same cabling used for communication between the module controller and the room controller. As soon as the module controller and the room controller are energized, you simply enter the ID number of the module controller into the room controller to start wireless communication. If the room controller is connected via a cable, you are not required to enter any ID number.
There are several accessories available to special order for utilizing the energy saving functions available in the CONDUCTOR with application W4.1 (standard). The motor operated dampers can be easily wired directly to the controller, if the supply and extract air kits are included in the installation.
For hotels there is provision for connecting a key card holder intended to serve as a presence sensor. Of course traditional presence sensors can also be connected, if they are required. There is also an input for a window contact (not accessory), which can be utilized for saving energy when the window is opened. For more information regarding CONDUCTOR W4.1, see the separate product data sheet.

LUNA

If the Paragon Wall is equipped with LUNA factory-fitted control equipment, the actuator (cooling and heating) is wired to a terminal block, which is simple to reach after dismantling the recirculation grille in the bottom side of the Paragon Wall. There is no controller mounted in the Paragon Wall, since the intelligence in the LUNA is integrated into the room controller. The controller is then instead delivered separately well packaged together with the Paragon Wall. The controller must be energized in order to start up the feed-back control functions. This occurs either through the supply of power via a 24 V AC network or through the addition of a separate transformer.

The transformer is available as accessory and must be ordered separately. Note that a transformer normally supplies enough current to operate up to 6 Paragon Wall units. This assumes that the units with factory-fitted mounted LUNA are situated within a reasonable distance, to avoid too drastic voltage drops.

Maintenance

Since the Paragon Wall operates without any built-in fan, without filter and without a drainage system, very little maintenance is required. In a hotel room or a hospital room, it is normally sufficient to vacuum clean the back side of the coil every six months to remove loose dust. A simple visual inspection of connections and wiping the supply air grille and the condensate drip tray with a damp cloth is also recommended. Avoid aggressive cleaning agents which may harm painted surfaces. Normally a mild soap or alcohol solution is fully adequate for cleaning. Note that the dry operation without condensation minimises the risk of bacteria growth that otherwise is occurs in wet systems.

The requirement for maintenance is yet lower in an office room, since this type of environment is normally much more dust-free, and this allows longer intervals between scheduled maintenance. It is normally enough to clean the coil in an office room once every second year.

Dimensions and weights

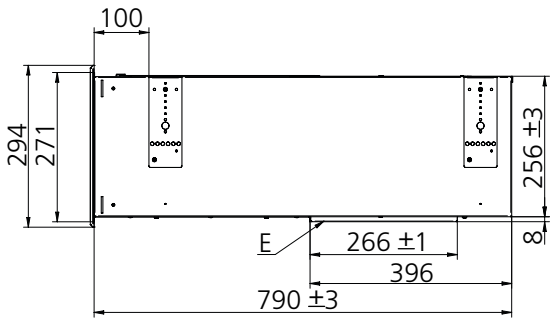
Table 19 – Weight

PARAGON Wall c B-NC / PARAGON Wall c A-HC		
	RY	RN
L	Dry, kg	Dry, kg
775	22.6	20.8
900	25.5	23.4
1100	29.5	26.9
1300	33.8	30.8
1500	37.6	34.2
PARAGON Wall c B-HC (CCO)		
	RY	RN
L	Dry, kg	Dry, kg
775	24.8	23
900	27.7	25.6
1100	31.7	29.1
1300	36	33
1500	39.8	36.4
RY: Connection side R = Right; Supply/extract air grille with spigot Y = Yes		

Table 20 – Water volume

PARAGON Wall c B-NC		
	Water volume, l	
L	Cooling	Heating
775	0.8	0.3
900	1.0	0.4
1100	1.3	0.5
1300	1.5	0.6
1500	1.8	0.7
PARAGON Wall c A-HC		
	Water volume, l	
L	Cooling	Heating
775	1.1	
900	1.3	
1100	1.7	
1300	2.0	
1500	2.4	
PARAGON Wall c B-HC (CCO)		
	Water volume, l	
L	Cooling or heating	
775	1.1	
900	1.3	
1100	1.7	
1300	2.0	
1500	2.4	

PARAGON WALL (R) Right connection



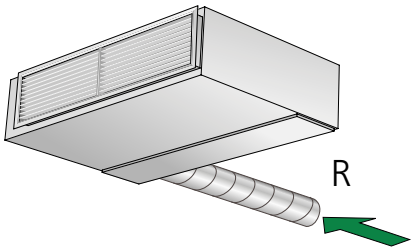


Figure 25. End view

E = Condensate drip tray

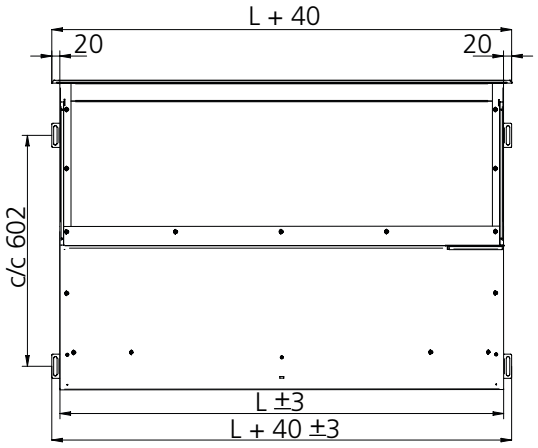


Figure 26. View from above.

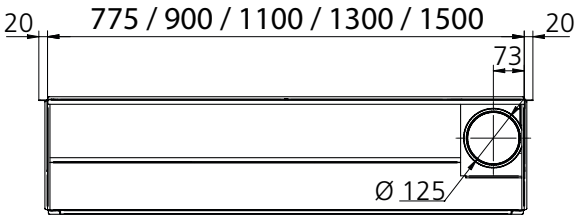


Figure 28. View seen from the rear, air connection R, right side.

L	L + 40	L / 2
775	815	387.5
900	940	450
1100	1140	550
1300	1340	650
1500	1540	750

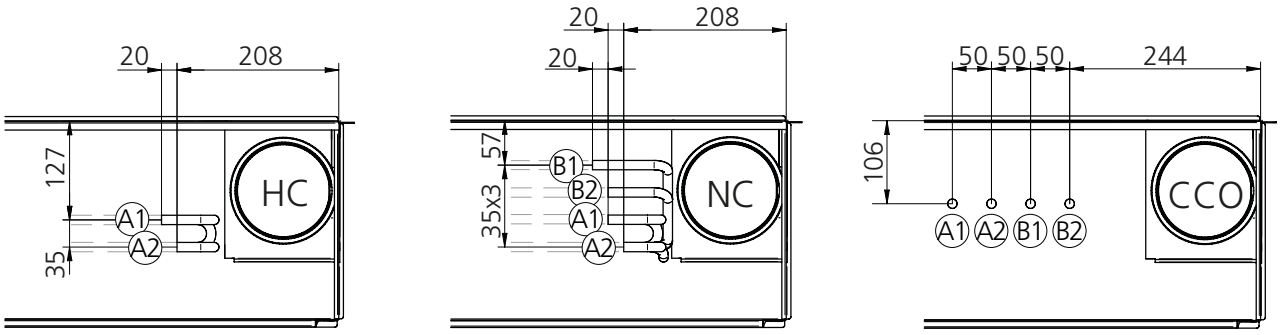


Figure 27. View rear, water connection.

A1 = Cooling water, inlet pipe Ø12x1.0 mm (Cu)

A2 = Cooling water, return Ø12x1.0 mm (Cu).

B1 = Heating water, inlet water Ø12x1.0 (Cu)

B2 = Heating water, return Ø12x1.0 (Cu).

PARAGON WALL (L) Left connection

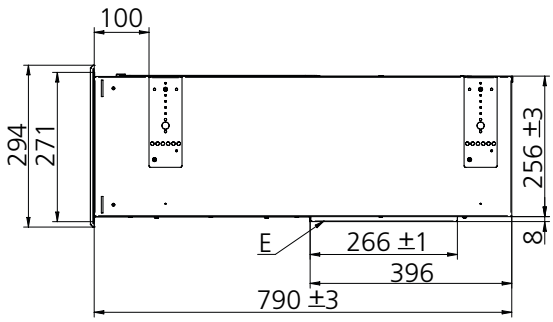
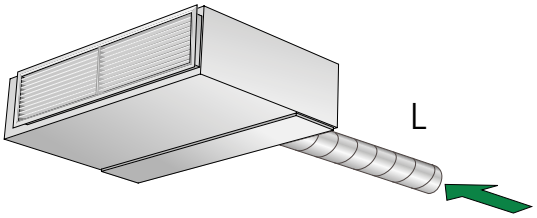


Figure 29. End view

E = Condensate drip tray



L	L + 40	L / 2
775	815	387.5
900	940	450
1100	1140	550
1300	1340	650
1500	1540	750

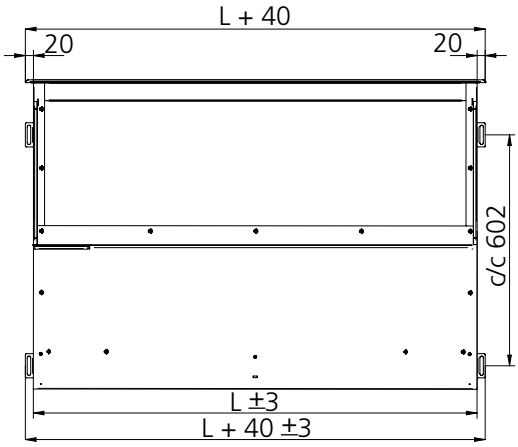


Figure 30. View from above.

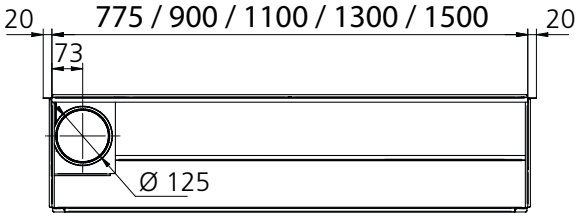


Figure 32. View seen from the rear, air connection L, left side.

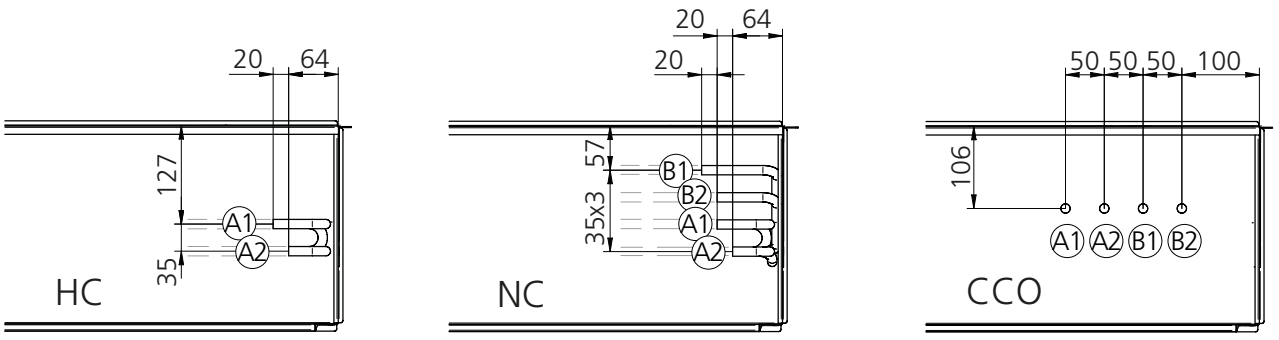


Figure 31. View rear - water connections,

A1 = Cooling water, inlet pipe Ø12x1.0 mm (Cu)

A2 = Cooling water, return Ø12x1.0 mm (Cu).

B1 = Heating water, inlet water Ø12x1.0 (Cu)

B2 = Heating water, return Ø12x1.0 (Cu).

Dimensions, accessories

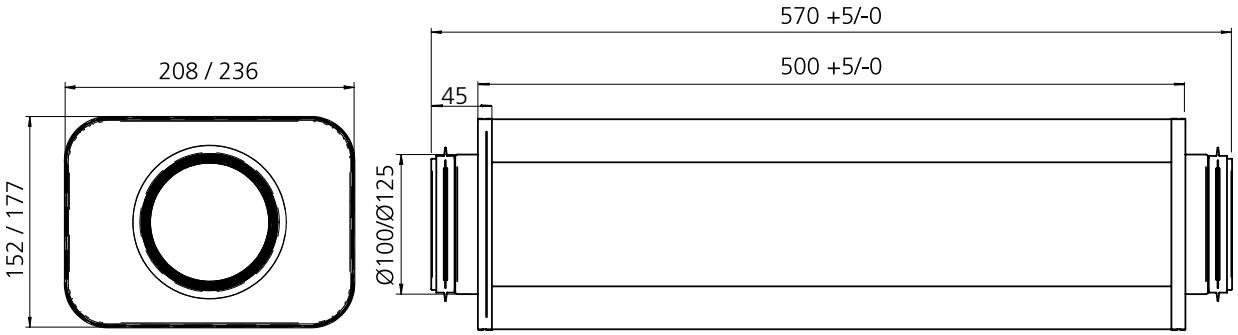


Figure 33. Dimensional drawing sound attenuator CLA Ø 100-500 or Ø125-500.
The following components are included in PARAGON T-SAK and PARAGON T-EAK:

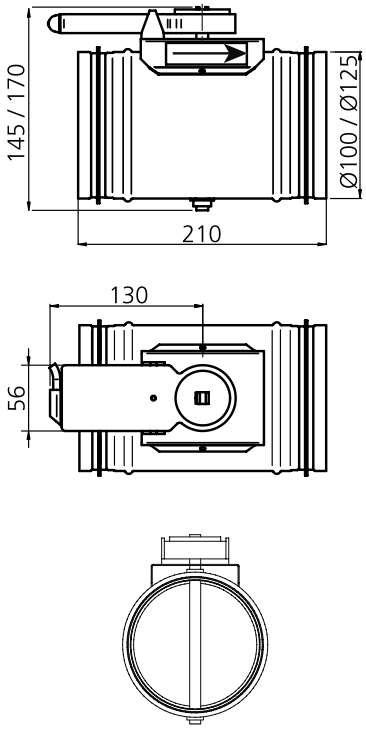


Figure 34. Dimensional drawing motor-driven damper. Included in PARAGON T-SAK-VAV and PARAGON T-EAK-VAV

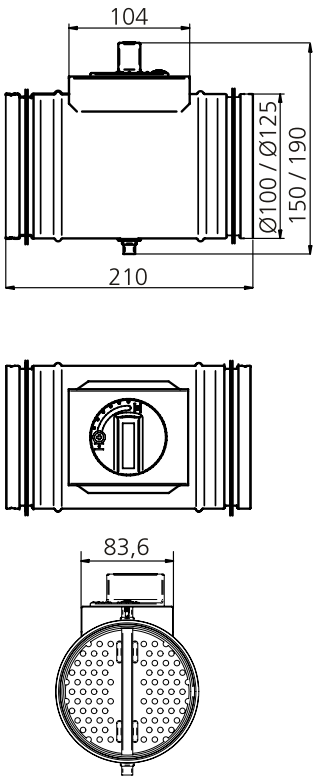


Figure 35. Dimensional drawing commissioning damper. Included in PARAGON T-SAK-CAV and PARAGON T-EAK-CAV

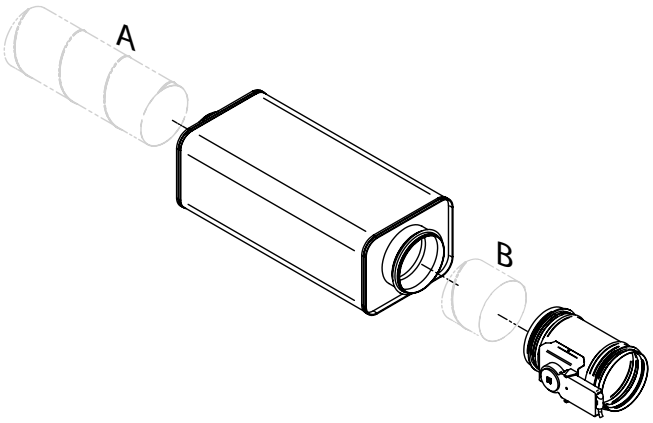


Figure 36. Supply air kit PARAGON T-SAK-VAV-125
Spiral duct not included.
Spiral duct A: Min. length: 330mm
Spiral duct B: Min. length: 70mm

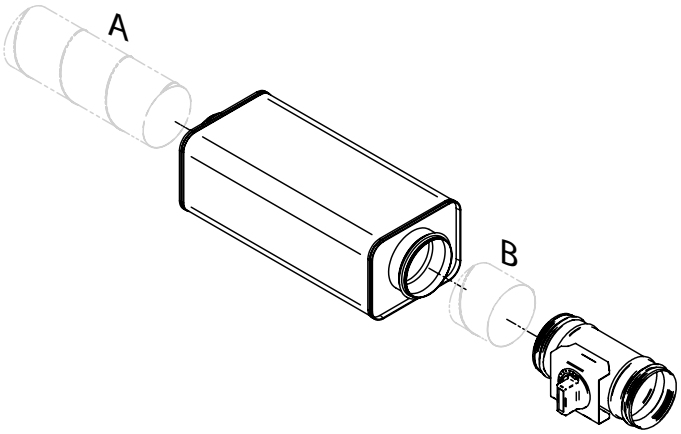


Figure 38. Supply air kit PARAGON T-SAK-CAV-125
Spiral duct not included.
Spiral duct A: Min. length: 330mm
Spiral duct B: Min. length: 70mm

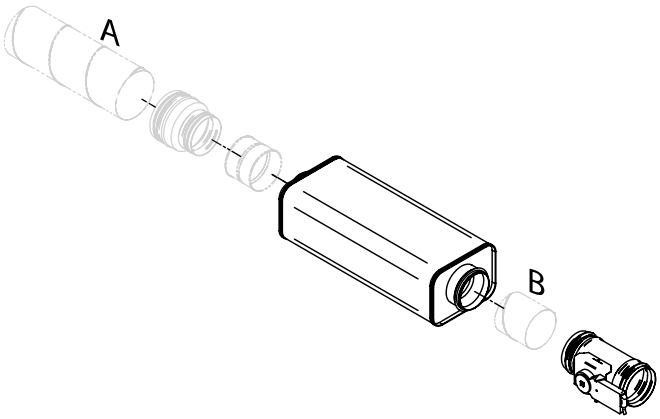


Figure 37. Supply air kit, PARAGON T-SAK-VAV-100
Spiral duct and jointing sleeves dim. 100 not included.
Spiral duct A: Min. length: 330mm
Spiral duct B: Min. length: 70mm

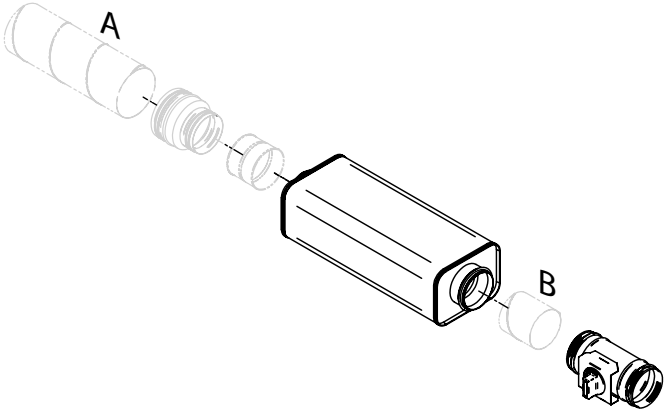


Figure 39. Supply air kit, PARAGON T-SAK-CAV-100
Spiral duct and jointing sleeves dim. 100 not included.
Spiral duct A: Min. length: 330mm
Spiral duct B: Min. length: 70mm

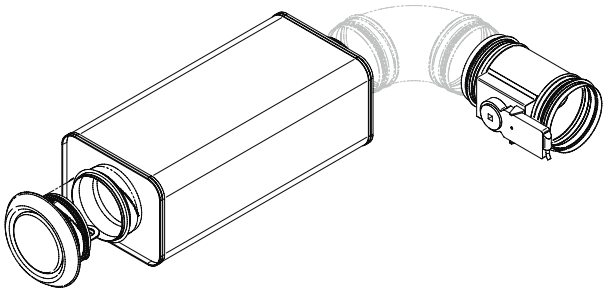


Figure 40. Extract air kit – PARAGON T-EAK

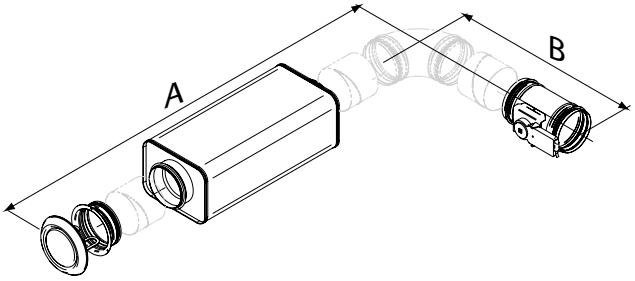


Figure 41. Extract air kit, PARAGON T-EAK-CAV
Available for connection sizes 125 and 100.
Spiral duct and bends are not included
A: Min. length: 770 mm
B: Min. length: 360 mm

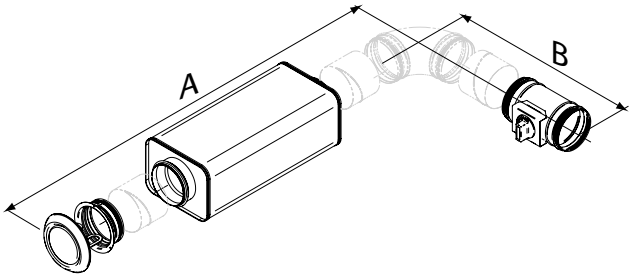


Figure 42. Extract air kit, PARAGON T-EAK-CAV
Available for connection sizes 125 and 100.
Spiral duct and bends are not included
A: Min. length: 770 mm
B: Min. length: 360 mm

Ordering key

PARAGON WALL Ordering key

Type PARAGON WALL comfort module for cooling, heating, ventilation and control. As standard, factory fitted components are included for plug & play installation.

PARAGON WALL delivery demarcation

Swegon's limits of supply are at the connection points for water.

At these connection points, the RE pipework contractor connects to plain pipe end and/or male threads towards valves, fills the system, bleeds it and tests the pressure in the circuits.

The ventilation contractor connects to the duct connections with dimensions as specified on the basic size drawing in the section "Dimensions".

EE electrical equipment contractor provides a 24 V AC network power supply or earthed 230 V outlets for a transformer, as well as a junction box, if required, installed in a wall for a room thermostat.

The building contractor cuts the openings in corridor wall for the supply air duct, in the interior wall and suspended ceiling for the supply air and extract air grilles and in the bathroom ceiling for the extract air duct.

The electrical contractor connects the power (24V) and signal cables to the connection terminals with spring-loaded snap-in connections.

Maximum cable cross section 2.5 mm^2. For safe operation, we recommend cable ends with ferrules.

For connection of electric heating, see the separate installation instructions on www.swegon.se

PARAGON WALL Ordering key

PARAGON WALL	c	aaaa-	b-	ccccc-	d-	ef
Version:						
Length (mm) 775, 900, 1100. 1300 and 1500						
Function B = Cooling and heating						
Capacity variant NC - Normal design HC - High capacity design HC CCO - High capacity design with CCO valve						
Connection side R - Right L - Left						
Flow variant Upper nozzle row: L, M, H Lower nozzle row: L, M, H						

Available to order, kit and accessories

Supply air kit	VAV: PARAGON CRTc motor-driven damper with tight damper blade with damper actuator and CLA sound attenuator
	CAV: PARAGON CRPc manually adjustable damper with perforated damper blade and CLA sound attenuator
Extract air kit	VAV: PARAGON CRTc motor-driven damper with tight damper blade with damper actuator, CLA sound attenuator and extract air register with mounting frame
	CAV: PARAGON CRPc manually adjustable damper with perforated damper blade, CLA sound attenuator and extract air register with mounting frame
Flexible connection hose	Connection hose supplied with clamping ring coupling, push-on coupling or union nut.
Assembly piece	Ceiling mounting bracket and threaded rod for mounting in ceiling. Double threaded rods with thread lock are also available.
Venting nipple	Venting nipple with push-on coupling for connection to the return pipe for water, diameter: 12 mm
For further accessories for the control equipment, see the CONDUCTOR and LUNA product datasheets.	

Ordering key, accessory kit

Supply air kit	PARAGON	c-	T-SAK-VAV-	bbb
Version:				
Kit with motor-driven damper				
Ø100; Ø125				

Supply air kit	PARAGON	c-	T-SAK-CAV-	bbb
Version:				
Kit with manually adjustable damper				
Ø100; Ø125				

Extract air kit	PARAGON	c-	T-EAK-VAV-	bbb
Version:				
Kit with motor-driven damper				
Ø100; Ø125				

Extract air kit	PARAGON	c-	T-EAK-CAV-	bbb
Version:				
Kit with manually adjustable damper				
Ø100; Ø125				

Ordering Key, Accessories

Assembly piece	SYST MS M8-	aaaa-	b
Length of threaded rod (mm): 200; 500; 1000			
Type: 1=One threaded rod 2=Two threaded rods and one thread lock			

Flexible connection hose, (x1) Clamping ring coupling (Ø12 mm) against pipe at both ends (excl. support sleeves)	SYST FH F1-	aaa-	12
Length (mm): 300; 500; 700			

Flexible connection hose, (x1) Quick-fit coupling push-on (Ø12 mm) against pipe at both ends	SYST FH F20-	aaa-	12
Length (mm): 275; 475; 675			

Flexible connection hose, (x1) Quick-fit coupling, push-on (12 mm dia.) against pipe on one end, G20ID sleeve nut on the other end.	SYST FH F30-	aaa-	12
Length (mm): 200; 400; 600			

Venting nipple	SYST AR12

Specification text

Example of a specification text according to VVS AMA. PCT.312 Duct connected chilled beams.

KB XX

Swegon's PARAGON WALL comfort module that supplies air via a common supply air and recirculated air grille.

For rear edge installation in a wall or ceiling, with the following functions:

- Cooling
- Heating, water
- Ventilation
- VariFlow for simple adjustment of the airflows
- ADC
- Ø125 mm duct connection
- Built-in circulating air opening
- Coil and control equipment, if required, accessible via the cover
- Cleanable
- Fixed measurement tapping with hose
- Supply air and recirculating air grilles painted in standard shade of white (RAL 9003)

Factory-fitted accessory kit:

- PARAGON c-T-SAK-VAV-aaa xx pcs.
- PARAGON c-T-SAK-CAV-aaa xx pcs.
- PARAGON c-T-EAK-VAV-aaa xx pcs.
- PARAGON c-T-EAK-CAV-aaa xx pcs.

Accessories:

- Commissioning damper SYST CRPc 9-125, xx pcs.
- Assembly piece, SYST MS M8 aaaa-b
- Flexible connection hose, SYST FH F1 aaa- 12 xx pcs.
- Flexible connection hose, SYST FH F20 aaa- 12 xx pcs.
- Flexible connection hose, SYST FH F30 aaa- 12 xx pcs.
- Venting nipple, SYST AR 12 xx pcs.

etc.

Specify the quantity separately or with reference to the drawing.

Contractor demarcation

- Contractor demarcation at connection point for water and air as in outline drawing.
- At the points of connection the pipe contractor connects to 12 mm plain pipe end after which the ventilation contractor connects the Ø125 mm insertion piece (sleeve).
- The pipe contractor fills, bleeds, tests the pressure and assumes responsibility for the design water flows reaching each branch of the system and the unit.
- The ventilation contractor conducts initial commissioning of the airflows