

PRIMO

Climate system for installation along the perimeter wall



QUICK FACTS

- A complete climate system for installation along the perimeter wall.
- High capacity and small space requirements.
- Prefabricate parts promote uncomplicated installation.
- Modular designed units offering immense flexibility. Adapted for new building and renovation projects as well as replacement of existing induction units.
- Completely PVC-free Systems

KEY FIGURES

Cooling capacity:	1930 W (L = 1600 mm, = 10°C, pressure 300 Pa and q= 45 l/s).
Heating capacity:	Water: 2030 W (L = 1600 mm, = 30°C, pressure 300 Pa and q= 45 l/s). Electric: Max. 1000 W (L=1300, 1600)
Air flow:	6 to 45 l/s.
Pressure range:	150 - 300 Pa.
Lengths:	600, 800, 1000, 1300 and 1600 mm.
Heights:	From 365 mm.
Duct dimensions:	125,160,200 mm.
Control:	System integrated control equipment for sequence control per room.

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Technical description

Characteristic for Primo

The perimeter wall system Primo in many ways represents a completely new way to construct a perimeter wall system.

Among the advantages offered by the system, despite its minimal space requirements, are all the functions you would expect a climate system to feature.

The entire system is installed against the facade, which means that no installation space is required on the floor, ceiling or in the corridor.

- Primo is a complete system with the functions cooling, heating, ventilation and temperature control. The system also has electrical trunking and perimeter casing.
- Thanks to its modular design Primo is the perfect choice for new building as well as for renovation projects and for the replacement of old induction and mini-air units.
- The modules are based on measurement adapted pre-fabricated parts that permit quick and easy assembly.
- Sound insulating, prefabricated wall blocks.
- Thermally insulated distribution pipes.
- Swegon's well-known pipe connection with double o-ring seals that take up both pipe expansion and building tolerances ± 7 mm.
- Correct air flow adjusted at the factory. If there is a need to change the air flow at a later date this is easily done by adding or removing plugs from the nozzle strip.

The flexible design and the possibility to position wall blocks between each module means that placement of partition walls can be decided at a later stage. Naturally, this method even lets you change the placement of the partition walls after the system has been commissioned.

Using the Swegon web-based software, ProPipe, both the design and selection are easy. ProPipe is available on our website: www.swegon.com



Functions

- Ventilation
- Cooling
- Heating (water or electric)
- Integrated room temperature control
- Space for electrical trunking

Areas of application

New build, extension and refurbishment of:

- Offices
- Conference facilities
- Hotels

Version

The Primo is available in the following variants:

- Variant B: Ventilation, water-based cooling and heating from a coil.
- Variant X: Ventilation, water-based cooling from a coil and heating from electric elements in the coil

Installation

Mounting:

The prefabricated pipe system is suspended on the mounting rail by the means of brackets and secured. You can choose between first installing the complete pipe system by itself and then installing the units or fit the units as the installation of the pipe system progresses. Associated valve assemblies with hoses (Ø 12) are easily installed using quick action couplings and join the unit with the distribution pipe.

Connection:

Connection respective termination fittings are installed at the beginning and end.

Control equipment:

The connection cable is connected to snap-in terminals on the unit's connection card and is routed on to the adjacent unit. The transformer is suspended on a wall rail and is connected to the connection card, number as required.

Casing:

Electrical trunking, perimeter casing and supply air grille are fitted in position after which the room regulator is connected to the snap-in terminals on the unit's connection card.

To wire the electric heating elements

Swegon's LUNA or your own control system can be used for controlling the heating elements in the electric variant of the Primo.

Information about how to wire the control system is provided in a separate product data sheet and installation instructions at www.swegon.com

CE marking

The Primo with electric heating is CE marked in accordance with applicable regulations.

The CE Declaration is available at our home page: www.swegon.com

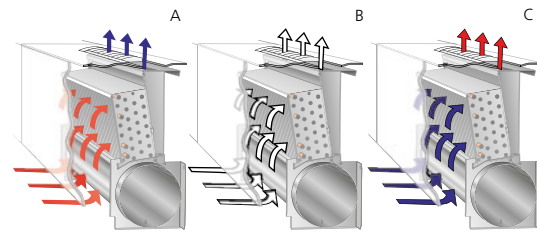


Figure 1. Operating modes.

A=Cooling, B=Neutral, C=Heating (Waterborne or electric)

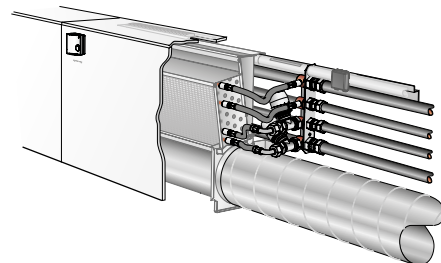
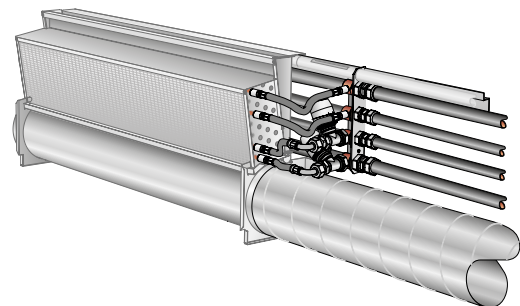


Figure 2. Installation.

Connection dimensions

Cooling (water): Plain pipe ends CU Ø28 x 1.0 mm

Heating (water): Plain pipe ends CU Ø22 x 1.0 mm

Air: Duct Ø125, Ø160 or Ø200 mm

Range available on order

Length: 600, 800, 1000, 1300 and 1600 mm, (figure 5)

Dimensions: Ø125 mm height: 365-565 mm, depth: 183 mm
 Ø160 mm height: 400-600 mm, depth: 183 mm
 Ø200 mm height: 450-650 mm, depth: 220 mm

Special types

- Primo with air connection in the unit's duct from below.
- Primo with front position distribution pipe (figure 5).
- Ceiling-mounted Primo for indoor climate solutions in hotels, for example (Figure 3).
- Optional brand of valves.
- Contact Swegon for further information about special types.

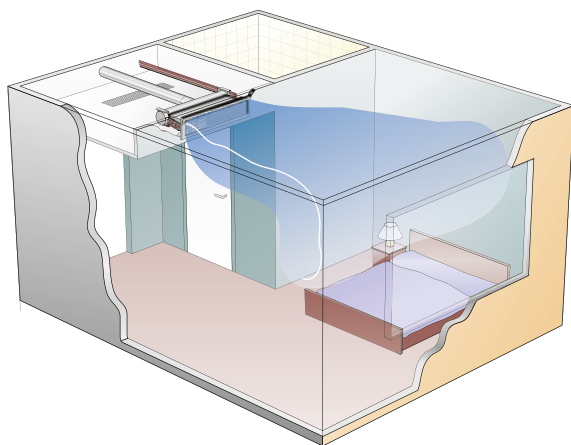


Figure 3. Ceiling-mounted Primo in hotel rooms.

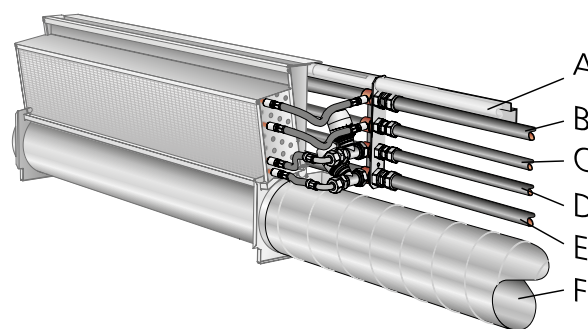


Figure 4. Connection dimensions.

A. Installation pipe, control cable Ø25 mm

B. Return cooling Ø28 mm

C. Return heat Ø22 mm

D. Supply heat Ø22 mm

E. Supply cooling Ø28 mm

F. Air duct Ø125, 160 or 200 mm

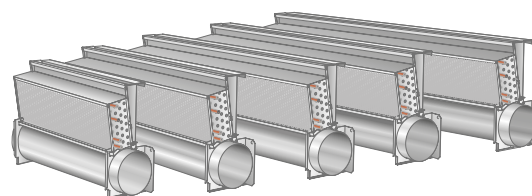


Figure 5. Range available on order.

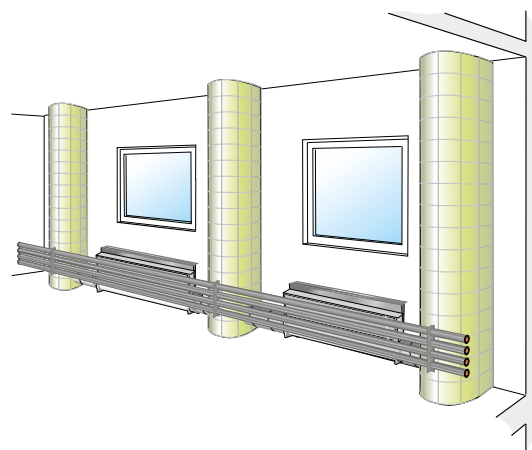


Figure 6. Primo with front position distribution pipe.

Upgrade old facade systems

Why choose Swegon's solution?

Swegon has developed accessories that are specially adapted to simplify installation in niches between existing pillars.

PRIMO with its compact construction dimensions and prefabricated solutions where main pipes for heating and cooling water can be placed either in front of or behind the appliances provides great flexibility to handle many types of facades. The system contains no moving parts or filters, which guarantees a minimum of maintenance.

The product can advantageously be equipped with Swegon's control equipment LUNA, which includes prefabricated cabling adapted to facade systems. In addition, there are a number of variants of casings to choose from which are customized to your requirements and current situation.

Why upgrade?

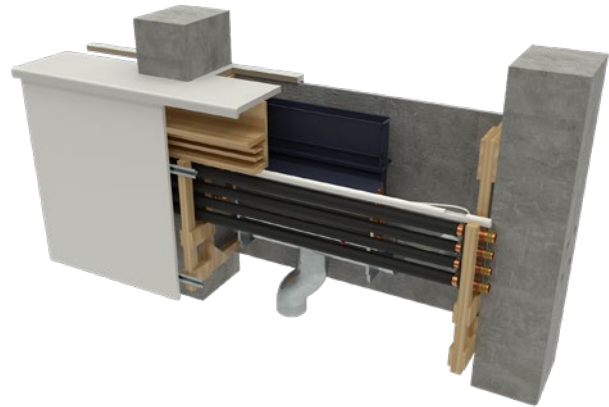
In addition to new installation, PRIMO is developed to be able to easily upgrade old facade systems. An upgrade is beneficial both in terms of reduced energy consumption and improved comfort in the premises.

PRIMO delivers higher cooling and heating power at lower duct pressures than older appliances, which reduces electricity consumption in the air handling unit. The increased power in combination with higher airflow, lower noise level and improved air distribution significantly improves comfort.

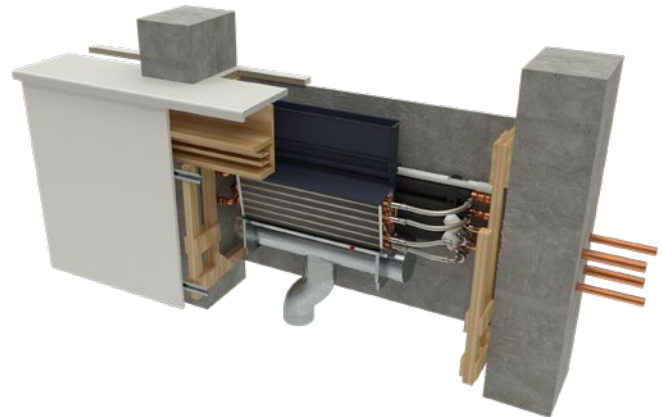
Advantages of replacing old devices

- Swegon has system solutions adapted to quick and easy replacement of existing facade devices
- Prefabricated details ensure time-efficient and quality-assured assembly
- Reduces energy consumption compared to older systems through high capacity at lower duct pressure
- Improved room climate compared to older systems through increased cooling capacity
- Improved comfort with significantly lower noise and more efficient control equipment

PRIMO with pipes in front of the unit



PRIMO with pipes behind the unit



Products and accessories for replacing old devices

Product	Name	Description
PRIMO d (std) PRIMO d	PRIMO d xxx-B-R-125/100 PRIMO d xxx-B-L-125/100	(right-hand version) (left-hand version)
Accessories	Name	Description
Telescopic outlet air connection fitting Mounting rail Valve package	PRIMO d T-OE-xxx PRIMO d T-MR-2400 PRIMO d T-VS-B-300	L=2400 mm
Accessories -Front side solution		
Pipe package Pipe package Pipe package Pillar bracket	PRIMO d T-PR-1200-1499 PRIMO d T-PM-1200-1499 PRIMO d T-PL-1200-1499 PRIMO d T-PB	exact length = c-c pillar -15mm exact length = c-c pillar +35mm exact length - pillar width +10mm
Accessories -Back side solution		
Pipe package	PRIMO d T-PP-600-899	smooth pipe ends for press couplings, exact length = c-c pillar - pillar width - 165mm

Accessories

Mounting rail MR

Telescopic outlet air connection fitting OE

Telescopic outlet air connection fitting for full height units. The telescopic outlet air connection fitting is required to give maximal unit performance.

VS Valve set

Flexible hoses (Ø 12) for connection between main pipes and coil (see Figure 7). Version B contains valves; Version C contains valves, actuators and connection card.

Connection pipes PR, PM, PL and PJ

For connection of heat, cooling and control cable routing between units. Pipe set supplied measurement adapted ($L \geq 410$) and as standard complete with the necessary connection fittings.

Wall block WB

Prefabricated wall blocks. Available in different sizes adapted to the type of unit.

Connection components CS

Contains compression ring couplings, pipe stop with venting nipples, end cover and grease, extra o-rings and self-vulcanising tape.

Corner solution PC

Coupling fittings to go around a corner.

Control equipment LUNA

Room regulator, control cable and transformer, see the LUNA brochure.

Perimeter casing PrimoFront

See the perimeter casing brochure, PrimoFront.

Supply air grille GA

Grille with fixed slats for sill installation. Colour: RAL 9003, gloss value 30 +6%. Dimensions $L=600, 800, 1000, 1300$ and 1600 mm. $B=100$ mm. Hole cut-out size = $L + 10 \times 105$ mm.

Supply air grille PrimoFlex

Grille with adjustable deflectors for sill installation. Colour: RAL 9003, gloss value 30 +6%. Dimensions: $L=600, 800, 1000, 1300$ and 1600 mm. $B=100$ mm. Hole cut-out size = $L + 10 \times 105$ mm.

Draining hose HD

Hose for connection to the unit's condensation tray.

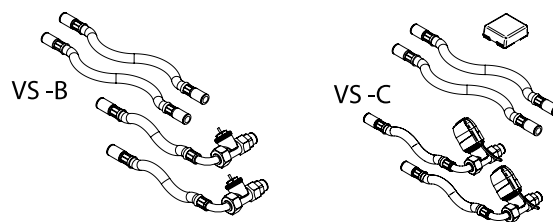


Figure 7. Valve set VS



Figure 8. Supply air grille PrimoFlex.



Figure 9. Perimeter casing PrimoFront.

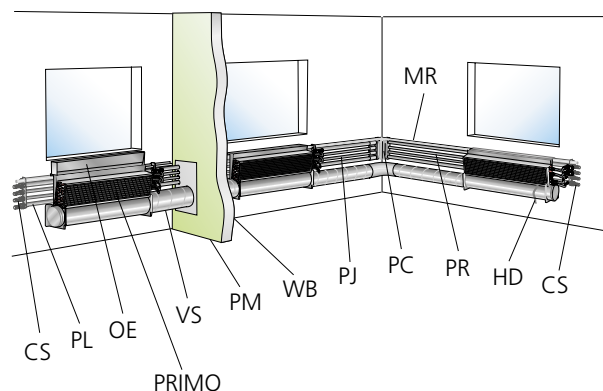


Figure 10. Assembly drawing accessories.

Technical data

Units of measure

P:	Output W, kW
t_r :	Room temperature °C
v:	Velocity m/s
q:	Flow l/s
p:	Pressure Pa, kPa
t_m :	Mean water temperature °C
ΔT_m :	Temperature difference [$t_r - t_m$] K
ΔT :	Temperature difference, between supply and return K
ΔT_r :	Temperature difference, between room and primary air K
Δp :	Pressure drop Pa, kPa
k_{pk} :	Pressure constant
Supplemental index: k=cooling, i=air, v=heating	

Recommended limit values, Water

Max. recommended operating pressure:	600 kPa
Max. recommended test pressure for testing completed installations:	900 kPa
Max. recommended pressure drop across standard valve:	20 kPa
Min. warm water flow per unit:	0.013 l/s
Highest supply temperature:	60°C
Min. cold water flow per unit:	
Primo length 600 and 800 mm:	0.02 l/s
Primo 1000, 1300 and 1600 mm:	0.04 l/s
Min. cold water temperature:	Should always be dimensioned so that the system works without condensation.

Cooling

Selection tables 1-4

The tables are organised according to ducting pressure, unit size and air flow rate.

Stated capacities for cooling and warm water in tables 1-9 refer to a unit with casing and telescopic outlet air connection fitting. Use power factor 1.02 for units without casing. The capacity for a unit without casing then becomes $P_{k/v}(W) = P_{table} \cdot 1.02$. Use correction factor 0.9 for units without a telescopic outlet air connection fitting. The capacity for a unit without telescopic outlet air connection fitting $P_{k/v}(W) = P_{table} \cdot 0.9$. Sound levels are stated for a unit with casing and attenuation 10 m² Sabine.

This is how to use the selection tables:

1. Perimeter wall unit's length (mm)
2. Primary air flow (l/s)
3. Sound level (dB(A))*
4. Cooling capacity, primary air (W)
5. Cooling capacity, water (W)

1	2	3	4				5							
			ΔT_i				ΔT_{mk}							
600	17	20	122	163	204	245	231	275	318	360	405	446	488	530
600	20	20	144	192	240	288	235	280	323	366	409	451	492	534
600	21	20	151	202	252	302	236	280	324	367	409	452	494	535
800	11	20	79	106	132	158	272	337	375	423	489	533	590	637
800	14	20	101	134	168	202	288	353	398	450	518	569	628	684

The air's cooling capacity can also be calculated according to the formula:

$$P_i(W) = q_i \cdot 1.2 \cdot \Delta T_i, \text{ where:}$$

P_i = Primary air cooling capacity (W)

q_i = The air flow (l/s)

ΔT_i = Temperature difference (K)

The pressure drop on the water side is calculated using the formula:

$$\Delta p = (q/k_p)^2 \text{ (kPa) where:}$$

Δp = pressure drop in the water coil (kPa)

q = water flow per unit (l/s), taken from Diagram 1 or 4 where the value is divided by the number of units on the branch.

k_p = Pressure constant which is taken from table 5 or 11

Cooling

Diagram 1 and 2. The function between the cooling capacity P_k (W), temperature change ΔT_k (K) and cooling water flow q_k (l/s) per unit.

Diagram 3. The function of the correction factor for the cooling capacity P_k (W) and the cooling water flow q_k (l/s). Different water rates have some influence on the cooling capacity effect. By checking the obtained water flow rate using diagram 3, the specified outputs in tables 1-4 may need to be adjusted upwards or downwards according to the formula:

$$P_{\text{corrected}} = P_{k(\text{table 1-4})} \cdot k_{(\text{diagram 3a/3b})}$$

Table 5. Pressure constant k_{pk} for calculation of the pressure drop for the cooling water. The pressure constant k_{pk} is presented based on the size of the unit, the number of units in series and the distance (c-c) between the units.

Diagram 1. Water flow cooling capacity, per unit.

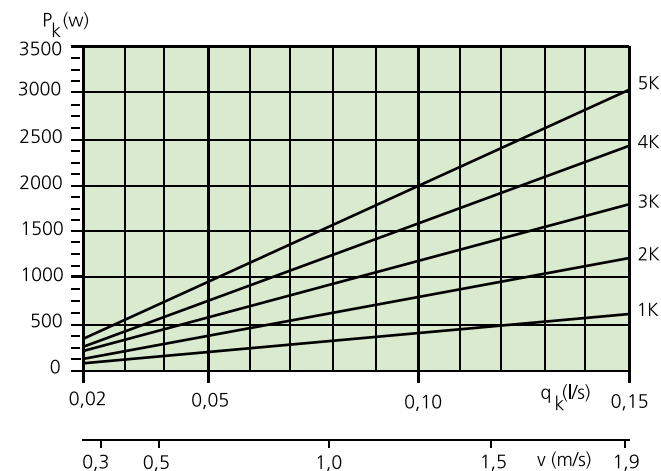


Diagram 2. Water flow cooling capacity, per branch.

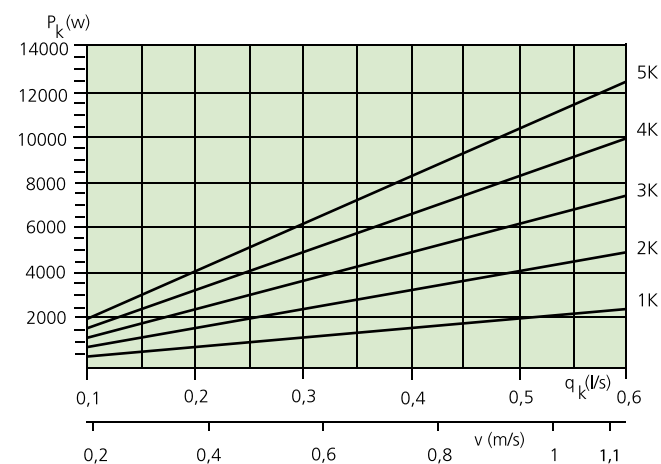
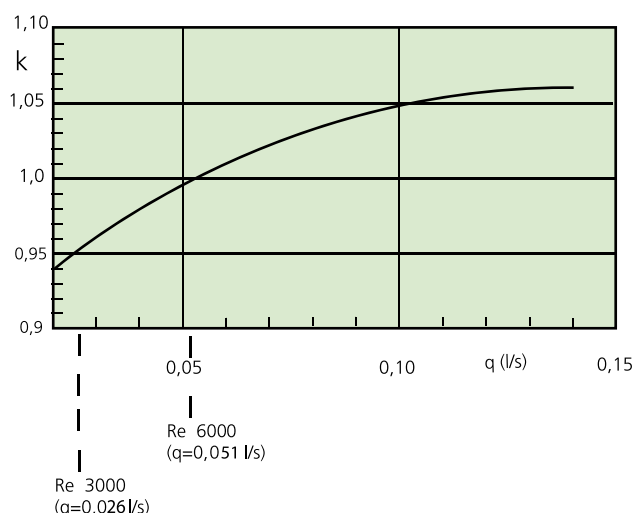
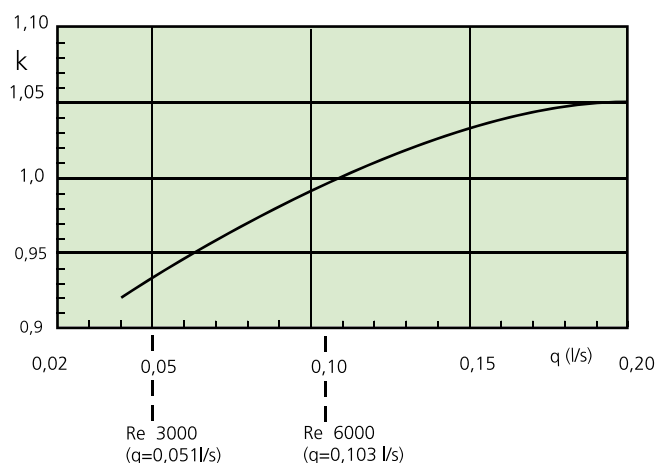


Diagram 3a. Water flow capacity correction



Applies to Primo sizes 600 and 800.

Diagram 3b. Water flow capacity correction



Applies to Primo sizes 1000, 1300 and 1600.

Table 1. Data - cooling. Selection guide, cooling - pressure 300 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Cooling capacity primary air (W)				Cooling capacity water (W) Unit with casing									
			ΔT_l	6	8	10	12	ΔT_{mk}	5	6	7	8	9	10	11	12
600	9	<25		65	86	108	130		222	249	296	342	387	432	476	501
600	12	<25		86	115	144	173		235	269	316	362	407	453	498	530
600	15	<25		108	144	180	216		244	284	331	377	423	470	514	553
600	18	25		130	173	216	259		250	294	342	389	435	481	527	569
600	21	27		151	202	252	302		254	300	348	395	442	489	535	580
600	23	28		166	221	276	331		254	302	350	397	444	491	537	584
800	12	<25		86	115	144	173		309	344	410	474	538	602	663	696
800	15	<25		108	144	180	216		322	365	431	496	560	624	686	726
800	18	25		130	173	216	259		333	383	449	514	578	643	705	752
800	21	27		151	202	252	302		342	397	464	529	594	659	722	775
800	24	28		173	230	288	346		349	409	476	541	606	672	735	793
800	27	29		194	259	324	389		354	417	484	550	616	681	746	807
800	30	30		216	288	360	432		357	423	490	556	622	688	753	816
800	33	31		238	317	396	475		358	425	492	559	625	691	757	822
1000	16	<25		115	154	192	230		385	434	518	596	680	727	811	888
1000	19	26		137	182	228	274		400	456	541	621	705	760	844	922
1000	22	27		158	211	264	317		413	476	562	642	727	789	874	954
1000	25	28		180	240	300	360		425	494	580	662	747	816	901	982
1000	28	29		202	269	336	403		435	510	596	679	765	839	924	1007
1000	31	30		223	298	372	446		443	523	610	694	781	859	945	1028
1000	34	31		245	326	408	490		450	533	621	707	794	876	963	1047
1000	37	32		266	355	444	533		456	542	630	717	805	890	977	1063
1000	40	32		288	384	480	576		460	548	637	725	813	900	988	1075
1000	43	33		310	413	516	619		462	552	641	730	819	908	996	1084
1300	21	27		151	202	252	302		512	575	688	792	904	966	1077	1181
1300	24	28		173	230	288	346		527	598	711	817	929	999	1111	1215
1300	27	29		194	259	324	389		541	619	733	840	953	1030	1142	1248
1300	30	30		216	288	360	432		554	639	753	861	975	1059	1171	1278
1300	33	31		238	317	396	475		565	657	772	881	995	1085	1198	1306
1300	36	32		259	346	432	518		576	673	788	899	1013	1109	1223	1332
1300	39	32		281	374	468	562		585	687	803	915	1030	1130	1245	1355
1300	42	33		302	403	504	605		593	700	816	929	1045	1150	1265	1376
1300	45	33		324	432	540	648		600	711	828	942	1058	1167	1282	1395
1600	27	29		194	259	324	389		644	725	866	997	1137	1216	1355	1485
1600	30	30		216	288	360	432		659	747	889	1021	1162	1249	1389	1520
1600	33	31		238	317	396	475		673	769	911	1044	1186	1280	1420	1552
1600	36	32		259	346	432	518		686	789	932	1066	1208	1309	1450	1583
1600	39	32		281	374	468	562		698	808	951	1087	1229	1337	1478	1612
1600	42	33		302	403	504	605		709	825	969	1106	1249	1362	1504	1640
1600	45	33		324	432	540	648		720	841	985	1123	1267	1386	1529	1665

The stated capacity for cooling water refers to a unit with casing and telescopic outlet air connection fitting.
Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 2. Data - cooling. Selection guide, cooling - pressure 250 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Cooling capacity primary air (W)				Cooling capacity water (W)									
			ΔT_l	6	8	10	12	ΔT_{mk}	Unit with casing							
								5	6	7	8	9	10	11	12	
600	8	<25		58	77	96	115		195	241	269	303	351	383	424	459
600	11	<25		79	106	132	158		210	256	291	330	378	416	459	500
600	14	<25		101	134	168	202		222	268	307	348	395	436	478	521
600	17	<25		122	163	204	245		231	275	318	360	405	446	488	530
600	20	25		144	192	240	288		235	280	323	366	409	451	492	534
600	21	25		151	202	252	302		236	280	324	367	409	452	494	535
800	11	<25		79	106	132	158		272	337	375	423	489	533	590	637
800	14	<25		101	134	168	202		288	353	398	450	518	569	628	684
800	17	<25		122	163	204	245		302	366	417	473	540	595	655	714
800	20	25		144	192	240	288		313	377	432	490	556	613	673	733
800	23	26		166	221	276	331		322	385	443	503	567	625	683	743
800	26	27		187	250	312	374		328	391	451	512	573	631	689	748
800	29	28		209	278	348	418		332	394	455	516	576	635	694	752
800	31	28		223	298	372	446		333	395	456	517	577	637	696	756
1000	14	<25		101	134	168	202		359	402	483	525	605	681	725	800
1000	17	<25		122	163	204	245		374	426	507	557	638	714	766	842
1000	20	25		144	192	240	288		388	447	528	586	667	744	802	879
1000	23	26		166	221	276	331		400	465	547	611	691	769	834	911
1000	26	27		187	250	312	374		410	481	562	632	713	791	861	939
1000	29	28		209	278	348	418		418	493	575	649	730	809	883	962
1000	32	29	230	307	384	461	424	503	585	662	744	823	901	980		
1000	35	30	252	336	420	504	429	510	592	672	753	834	913	993		
1000	38	30	274	365	456	547	431	514	596	678	759	840	921	1002		
1000	40	31	288	384	480	576	432	515	597	679	761	843	924	1005		
1300	19	<25	137	182	228	274	480	539	647	704	811	912	971	1072		
1300	22	26	158	211	264	317	496	563	671	736	843	945	1012	1113		
1300	25	27	180	240	300	360	510	585	693	765	873	976	1050	1152		
1300	28	28	202	269	336	403	523	604	713	792	900	1004	1084	1187		
1300	31	28	223	298	372	446	535	622	731	816	924	1028	1115	1218		
1300	34	29	245	326	408	490	545	638	746	838	946	1050	1142	1246		
1300	37	30	266	355	444	533	554	651	760	856	964	1070	1166	1270		
1300	40	31	288	384	480	576	561	663	772	872	980	1086	1186	1291		
1300	43	31	310	413	516	619	567	672	781	885	994	1100	1203	1309		
1300	45	32	324	432	540	648	570	677	787	892	1001	1108	1213	1319		
1600	24	26	173	230	288	346	602	676	810	882	1016	1143	1217	1343		
1600	27	27	194	259	324	389	618	700	834	914	1049	1176	1258	1385		
1600	30	28	216	288	360	432	632	722	857	944	1079	1208	1297	1424		
1600	33	29	238	317	396	475	646	742	878	973	1107	1236	1332	1460		
1600	36	30	259	346	432	518	658	761	897	998	1133	1263	1365	1494		
1600	39	30	281	374	468	562	670	779	915	1022	1157	1287	1396	1525		
1600	42	31	302	403	504	605	680	795	931	1043	1179	1310	1423	1553		

The stated capacity for cooling water refers to a unit with casing and telescopic outlet air connection fitting.
Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 3. Data - cooling. Selection guide, cooling - pressure 200 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Cooling capacity primary air (W)				Cooling capacity water (W) Unit with casing									
			ΔT_l	6	8	10	12	ΔT_{mk}	5	6	7	8	9	10	11	12
600	7	<25		50	67	84	101		185	208	251	274	319	344	367	411
600	10	<25		72	96	120	144		195	225	267	297	341	373	403	446
600	13	<25		94	125	156	187		201	237	279	314	356	393	428	470
600	16	<25		115	154	192	230		206	245	285	324	365	404	442	482
600	19	<25		137	182	228	274		208	248	288	327	367	406	444	483
800	10	<25		72	96	120	144		261	292	354	385	449	485	516	579
800	13	<25		94	125	156	187		270	310	370	410	472	514	553	615
800	16	<25		115	154	192	230		278	324	383	429	490	538	583	643
800	19	<25		137	182	228	274		284	335	393	444	503	555	605	664
800	22	<25		158	211	264	317		289	343	400	454	512	567	619	677
800	25	25		180	240	300	360		292	348	404	460	516	572	626	682
800	28	26		202	269	336	403		293	349	405	460	516	572	626	682
1000	13	<25		94	125	156	187		319	360	438	479	556	597	673	714
1000	16	<25		115	154	192	230		337	386	464	513	590	640	716	765
1000	19	<25		137	182	228	274		352	409	487	544	621	677	754	810
1000	22	<25		158	211	264	317		365	429	506	569	646	709	785	848
1000	25	25		180	240	300	360		376	445	522	590	667	734	811	878
1000	28	26		202	269	336	403		385	457	534	606	682	754	830	901
1000	31	26		223	298	372	446		391	466	543	617	694	768	844	918
1000	34	27		245	326	408	490		395	471	548	624	700	776	852	927
1000	36	28		259	346	432	518		396	473	549	626	702	778	853	929
1300	18	<25		130	173	216	259		429	486	590	646	749	805	907	963
1300	21	<25		151	202	252	302		447	512	616	680	783	848	950	1014
1300	24	<25		173	230	288	346		463	536	639	711	814	886	989	1060
1300	27	25		194	259	324	389		477	557	660	739	842	921	1023	1101
1300	30	26		216	288	360	432		490	575	679	763	866	951	1053	1137
1300	33	27		238	317	396	475		501	591	695	784	887	976	1078	1167
1300	36	28		259	346	432	518		510	605	708	802	904	998	1099	1193
1300	39	28		281	374	468	562		517	615	718	816	918	1015	1116	1213
1300	42	29		302	403	504	605		523	623	726	826	928	1027	1129	1228
1300	45	30		324	432	540	648		527	629	732	833	935	1036	1137	1237
1600	23	<25		166	221	276	331		539	611	741	812	942	1013	1141	1212
1600	26	25		187	250	312	374		557	637	767	847	976	1056	1184	1263
1600	29	26		209	278	348	418		573	662	792	879	1008	1095	1223	1310
1600	32	27		230	307	384	461		588	684	813	908	1037	1131	1259	1353
1600	35	27		252	336	420	504		602	704	833	934	1063	1163	1291	1391
1600	38	28		274	365	456	547		614	722	851	958	1086	1193	1320	1426
1600	41	29		295	394	492	590		625	738	867	979	1107	1218	1346	1457
1600	44	29		317	422	528	634		635	752	881	997	1125	1241	1368	1483
1600	45	30		324	432	540	648		637	756	885	1002	1130	1247	1375	1491

The stated capacity for cooling water refers to a unit with casing and telescopic outlet air connection fitting.
Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 4. Data - cooling. Selection guide, cooling - pressure 150 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Cooling capacity primary air (W)				Cooling capacity water (W) Unit with casing									
			ΔT_l	6	8	10	12	ΔT_{mk}	5	6	7	8	9	10	11	12
600	6	<25		43	58	72	86		165	185	226	247	269	290	314	354
600	9	<25		65	86	108	130		176	204	243	272	301	330	361	400
600	12	<25		86	115	144	173		183	216	254	288	322	356	390	428
600	15	<25		108	144	180	216		187	223	259	295	331	366	402	437
600	16	<25		115	154	192	230		188	224	260	295	331	366	402	437
800	9	<25		65	86	108	130		234	264	321	352	383	414	449	506
800	12	<25		86	115	144	173		244	282	338	377	416	455	496	552
800	15	<25		108	144	180	216		253	297	351	396	441	485	532	586
800	18	<25		130	173	216	259		259	307	360	409	457	505	555	607
800	21	<25		151	202	252	302		263	313	365	415	465	515	565	616
800	24	<25		173	230	288	346		265	315	366	415	465	515	565	616
1000	11	<25		79	106	132	158		253	284	352	382	450	517	565	616
1000	14	<25		101	134	168	202		285	326	394	435	502	570	605	672
1000	17	<25		122	163	204	245		312	361	429	478	545	613	657	724
1000	20	<25		144	192	240	288		332	388	456	512	579	646	699	766
1000	23	<25		166	221	276	331		345	407	475	536	604	671	729	796
1000	26	<25		187	250	312	374		353	418	486	551	618	686	748	815
1000	29	<25		209	278	348	418		354	421	489	556	624	691	757	824
1000	31	<25		223	298	372	446		354	421	489	556	624	691	757	824
1300	15	<25		108	144	180	216		340	382	473	514	604	694	727	817
1300	18	<25		130	173	216	259		373	425	516	567	657	747	791	881
1300	21	<25		151	202	252	302		401	462	553	613	703	793	847	937
1300	24	<25		173	230	288	346		425	493	584	652	743	832	895	984
1300	27	<25		194	259	324	389		444	519	610	685	775	865	934	1024
1300	30	<25		216	288	360	432		458	539	630	710	800	890	966	1055
1300	33	<25		238	317	396	475		468	553	644	728	818	908	989	1079
1300	36	25		259	346	432	518		473	561	652	739	830	920	1005	1094
1300	39	26		281	374	468	562		473	564	654	744	834	924	1012	1101
1300	42	26		302	403	504	605		473	564	654	744	834	924	1012	1101
1600	19	<25		137	182	228	274		427	480	594	646	759	872	914	1026
1600	22	<25		158	211	264	317		460	523	637	699	812	925	978	1090
1600	25	<25		180	240	300	360		489	562	675	747	860	972	1035	1147
1600	28	<25		202	269	336	403		515	596	709	789	902	1015	1087	1199
1600	31	<25		223	298	372	446		537	625	739	826	939	1051	1132	1244
1600	34	<25		245	326	408	490		555	650	764	857	970	1083	1170	1282
1600	37	25		266	355	444	533		570	670	784	883	996	1109	1202	1314
1600	40	26		288	384	480	576		581	686	800	903	1016	1129	1228	1340
1600	43	27		310	413	516	619		589	697	811	918	1031	1144	1247	1359
1600	45	27		324	432	540	648		592	702	816	925	1038	1151	1257	1369

The stated capacity for cooling water refers to a unit with casing and telescopic outlet air connection fitting.
Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 5. Pressure constant cooling k_{pk}

	Unit size	C-C 1,2 (m)				C-C 2,4 (m)				C-C 3,6 (m)			
		Number of units				Number of units				Number of units			
		1	4	8	12	1	4	8	12	1	4	8	12
Cooling	600	0,0107	0,0107	0,0104	0,0099	0,0107	0,0106	0,0102	0,0092	0,0107	0,0106	0,0099	0,0086
k_{pk}	800	0,0096	0,0096	0,0094	0,0089	0,0096	0,0095	0,0091	0,0083	0,0096	0,0095	0,0089	0,0079
	1000	0,0159	0,0158	0,0151	0,0135	0,0159	0,0157	0,0143	0,0119	0,0159	0,0156	0,0136	0,0107
	1300					0,0155	0,0153	0,0140	0,0118	0,0155	0,0152	0,0134	0,0108
	1600					0,0148	0,0145	0,0134	0,0114	0,0148	0,0144	0,0129	0,0104

The k_{pk} values specified above are applicable to the pressure drop across the coil in combination with the valve set with 300 mm length of stroke and fully open valve ($k_v = 0.89$). If more than one unit is installed, the k_{pk} values specified are average values for each unit in the loop, including the pressure drop in the main pipe.

For more detailed pressure drop calculations, use the Swegon ProPipe software available at our website: www.swegon.com.

The pressure drop on the water side is calculated using the formula:

$\Delta p = (q/k_p)^2$ (kPa) where:

Δp = pressure drop in the water coil (kPa)

q = water flow per unit (l/s), taken from Diagram 1 or 4 where the value is divided by the number of units on the branch.

k_p = Pressure constant which is taken from table 5 or 11

Heating

Selection tables 6-9

The tables are organised according to ducting pressure, unit size and air flow rate.

Stated capacities for cooling and warm water in tables 1-9 refer to a unit with casing and telescopic outlet air connection fitting. Use power factor 1.02 for units without casing. The capacity for a unit without casing then becomes $P_{k/v} (W) = P_{table} \cdot 1.02$.

Use correction factor 0.9 for units without a telescopic outlet air connection fitting. The capacity for a unit without telescopic outlet air connection fitting $P_{k/v} (W) = P_{table} \cdot 0.9$. Sound levels are stated for a unit with casing and attenuation 10 m² Sabine.

This is how to use the selection tables:

1. Perimeter wall unit's length (mm)
2. Primary air flow (l/s)
3. Sound level (dB(A))
4. Heating capacity, water (W)

1	2	3	4					
			ΔT_{mv}					
600	17	20	335	450	563	680	796	915
600	20	20	337	451	566	682	797	914
600	21	20	335	449	564	679	794	909
800	11	20	380	529	649	804	954	1133
800	14	20	411	565	699	857	1013	1189

Table 10. Heat capacity with natural convection (without primary air).

Diagram 4 and 5. The function between the heating capacity $P_v (W)$, the temperature change $\Delta T_v (K)$ and the heating water flow $q_v (l/s)$, per unit.

Table 11. Pressure constant k_{pv} for the calculation of the pressure drop for the warm water. The pressure constant k_{pv} is presented based on the size of the unit, the number of units in series and the distance (c-c) between the units.

Diagram 4. Water flow heating capacity, per unit.

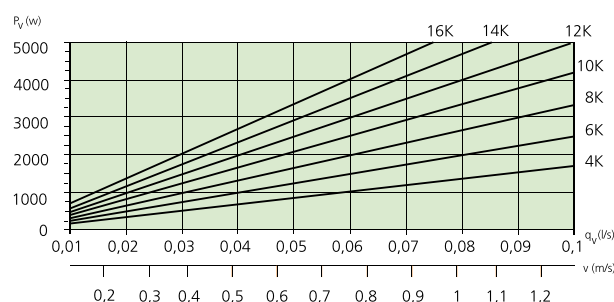


Diagram 5. Water flow heating capacity, per branch.

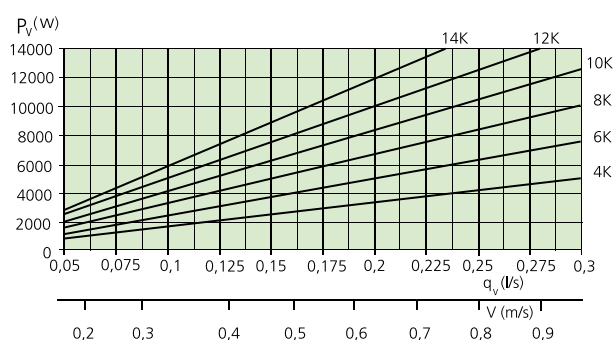


Table 6. Data - heating. Selection guide, heating - pressure 300 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Heating capacity water (W) at ΔT_{mv} K						
			ΔT_{mv}	Unit with casing					
600	9	<25		15	20	25	30	35	40
600	12	<25		290	388	502	594	701	807
600	15	<25		318	423	539	640	750	860
600	18	25		338	449	566	674	788	900
600	21	27		348	463	582	696	813	929
600	23	28		349	467	587	706	826	945
800	12	<25		345	467	587	706	828	950
800	15	<25		398	533	694	820	971	1118
800	18	25		429	572	735	870	1023	1174
800	21	27		454	604	768	911	1068	1222
800	24	28		473	628	793	944	1104	1262
800	27	29		485	646	812	969	1132	1293
800	30	30		492	656	823	986	1151	1316
800	33	31		492	658	827	994	1162	1331
1000	16	<25		492	658	827	994	1165	1337
1000	19	26		517	693	901	1064	1259	1449
1000	22	27		548	732	941	1113	1311	1505
1000	25	28		575	765	975	1156	1357	1554
1000	28	29		596	793	1004	1193	1397	1598
1000	31	30		613	815	1028	1224	1430	1635
1000	34	31		625	831	1046	1248	1457	1665
1000	37	32		633	843	1058	1266	1478	1690
1000	40	32		635	848	1065	1278	1493	1708
1000	43	33		635	849	1066	1283	1501	1720
1300	22	27		635	849	1066	1283	1503	1725
1300	24	28		696	932	1210	1430	1691	1946
1300	27	29		717	958	1237	1463	1726	1983
1300	30	30		746	994	1274	1509	1775	2036
1300	33	31		771	1026	1307	1550	1819	2083
1300	36	32		792	1054	1336	1587	1859	2127
1300	39	32		811	1077	1361	1619	1894	2165
1300	42	33		825	1097	1382	1647	1924	2199
1300	45	33		837	1113	1399	1670	1950	2228
1600	27	29		844	1124	1412	1688	1971	2253
1600	30	30		864	1158	1506	1778	2104	2423
1600	33	31		896	1197	1547	1828	2157	2479
1600	36	32		925	1233	1584	1875	2207	2532
1600	39	32		951	1267	1618	1918	2252	2582
1600	42	33		975	1296	1649	1957	2295	2627
1600	45	33		995	1323	1677	1993	2333	2669
1600				1013	1347	1702	2025	2368	2707

Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 7. Data - heating. Selection guide, heating - pressure 250 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Heating capacity water (W) at ΔT_{mv} K Unit with casing						
			ΔT_{mv}	15	20	25	30	35	40
600	8	<25		274	380	467	577	685	811
600	11	<25		303	414	514	628	740	864
600	14	<25		323	437	546	662	777	899
600	17	<25		335	450	563	680	796	915
600	20	25		335	451	566	682	797	915
600	21	25		335	451	566	682	797	915
800	11	<25		380	529	649	804	954	1133
800	14	<25		411	565	699	857	1013	1189
800	17	<25		436	594	738	900	1059	1233
800	20	25		455	615	768	932	1094	1265
800	23	26		467	629	787	952	1115	1284
800	26	27		474	636	797	961	1125	1291
800	29	28		474	636	797	961	1125	1291
800	31	28		474	636	797	961	1125	1291
1000	15	<25		498	691	849	1049	1244	1475
1000	17	<25		519	715	882	1085	1284	1513
1000	20	25		546	747	926	1133	1335	1561
1000	23	26		569	773	961	1171	1377	1601
1000	26	27		586	793	990	1201	1410	1631
1000	29	28		600	808	1010	1223	1433	1652
1000	32	29		608	817	1023	1236	1447	1663
1000	35	30		612	821	1029	1240	1451	1665
1000	38	30		612	821	1229	1240	1451	1665
1000	40	31		612	821	1229	1240	1451	1665
1300	20	<25		663	920	1132	1399	1659	1967
1300	22	26		684	945	1165	1435	1699	2006
1300	25	27		713	979	1211	1485	1754	2057
1300	28	28		738	1008	1251	1528	1801	2102
1300	31	28		760	1033	1285	1566	1842	2140
1300	34	29		778	1054	1314	1597	1875	2171
1300	37	30		793	1071	1338	1621	1902	2196
1300	40	31		805	1084	1355	1640	1922	2213
1300	43	31		813	1093	1368	1652	1934	2223
1300	45	32		816	1096	1373	1657	1939	2226
1600	25	26		828	1150	1414	1748	2074	2460
1600	27	27		849	1175	1448	1785	2114	2498
1600	30	28		879	1210	1495	1836	2170	2552
1600	33	29		906	1241	1537	1882	2221	2600
1600	36	30		930	1269	1575	1924	2266	2643
1600	39	30		951	1294	1609	1960	2306	2680
1600	42	31		970	1315	1639	1992	2340	2711
1600	45	32		986	1333	1663	2018	2368	2738

Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 8. Data - heating. Selection guide, heating - pressure 200 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Heating capacity water (W) at ΔT_{mv} K Unit with casing						
			ΔT_{mv}	15	20	25	30	35	40
600	7	<25		275	356	441	530	655	781
600	10	<25		299	394	492	593	715	837
600	13	<25		315	419	525	634	752	871
600	16	<25		321	430	540	652	766	881
600	19	<25		321	430	540	652	766	881
800	10	<25		386	501	620	745	922	1099
800	13	<25		412	540	674	811	984	1158
800	16	<25		431	571	714	861	1031	1201
800	19	<25		444	592	742	896	1062	1228
800	22	<25		451	604	758	915	1077	1240
800	25	25		452	606	762	919	1078	1240
800	28	26		452	606	762	919	1078	1240
1000	13	<25		498	646	800	960	1188	1417
1000	16	<25		524	686	854	1027	1252	1477
1000	19	<25		545	719	898	1082	1303	1525
1000	22	<25		562	746	934	1126	1343	1562
1000	25	25		574	765	959	1158	1371	1586
1000	28	26		581	777	976	1177	1388	1599
1000	31	26		583	782	983	1186	1392	1600
1000	34	27		583	782	983	1186	1392	1600
1000	36	28		583	782	983	1186	1392	1600
1300	18	<25		670	870	1078	1295	1599	1905
1300	21	<25		696	910	1132	1361	1663	1965
1300	24	<25		719	945	1179	1419	1717	2015
1300	27	25		737	975	1219	1469	1763	2058
1300	30	26		753	999	1252	1509	1800	2091
1300	33	27		765	1019	1278	1541	1828	2116
1300	36	28		773	1033	1297	1565	1848	2132
1300	39	28		778	1042	1309	1579	1859	2140
1300	42	29		780	1045	1314	1585	1862	2140
1300	45	30		780	1045	1314	1585	1862	2140
1600	23	<25		843	1094	1357	1629	2010	2392
1600	26	25		868	1134	1410	1696	2073	2452
1600	29	26		891	1170	1458	1755	2129	2504
1600	32	27		912	1202	1501	1808	2178	2550
1600	35	27		929	1229	1538	1854	2221	2589
1600	38	28		944	1253	1569	1893	2256	2621
1600	41	29		956	1272	1596	1925	2285	2646
1600	44	29		965	1288	1616	1950	2307	2664
1600	45	30		968	1292	1622	1957	2312	2668

Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 9. Data - heating. Selection guide, heating - pressure 150 Pa

Unit length (mm)	Air flow (l/s)	Sound level dB (A)	Heating capacity water (W) at ΔT_{mv} K Unit with casing						
			ΔT_{mv}	15	20	25	30	35	40
600	6	<25		246	324	422	501	603	722
600	9	<25		277	369	473	566	673	788
600	12	<25		296	397	503	605	713	823
600	15	<25		303	407	511	616	722	828
600	16	<25		302	407	511	616	722	828
800	9	<25		351	463	602	715	859	1027
800	12	<25		382	509	653	781	930	1093
800	15	<25		405	542	690	828	980	1139
800	18	<25		420	563	712	857	1009	1164
800	21	<25		426	572	720	868	1017	1168
800	24	<25		426	572	720	868	1017	1168
1000	11	<25		444	584	762	903	1088	1305
1000	14	<25		477	633	817	975	1165	1377
1000	17	<25		504	673	861	1031	1225	1433
1000	20	<25		525	703	894	1074	1270	1474
1000	23	<25		540	724	916	1103	1298	1499
1000	26	<25		548	736	928	1117	1312	1508
1000	29	<25		550	738	928	1117	1312	1508
1000	31	<25		550	738	928	1117	1312	1508
1300	15	<25		595	784	1022	1212	1460	1749
1300	18	<25		629	833	1078	1284	1537	1822
1300	21	<25		658	876	1125	1345	1602	1883
1300	24	<25		682	912	1165	1396	1656	1933
1300	27	<25		702	941	1196	1437	1698	1971
1300	30	<25		717	963	1219	1467	1728	1997
1300	33	<25		728	978	1234	1486	1747	2012
1300	36	25		734	986	1242	1496	1755	2016
1300	39	26		735	987	1242	1496	1755	2016
1300	42	26		735	987	1242	1496	1755	2016
1600	19	<25		747	983	1282	1521	1831	2194
1600	22	<25		781	1033	1338	1593	1908	2267
1600	25	<25		811	1078	1387	1657	1976	2331
1600	28	<25		837	1117	1431	1712	2035	2386
1600	31	<25		860	1150	1467	1760	2085	2431
1600	34	<25		879	1178	1498	1799	2126	2468
1600	37	25		895	1201	1522	1830	2157	2495
1600	40	26		907	1218	1539	1853	2180	2514
1600	43	27		915	1229	1550	1867	2193	2523
1600	45	27		919	1234	1554	1872	2197	2524

Sound levels apply for a unit with casing and attenuation 10 m² Sabine.

Table 10. Heat capacity with natural convection

ΔT_{mv} K	Primo 600 W	Primo 800 W	Primo 1000 W	Primo 1300 W	Primo 1600 W
15	99	139	179	239	298
20	151	212	272	363	453
25	209	293	376	502	627
30	272	381	490	654	817
35	341	477	613	818	1022
40	414	579	745	993	1241

Table 11. Pressure constant-heating k_{pv}

	Unit size	C-C 1,2 (m)				C-C 2,4 (m)				C-C 3,6 (m)			
		Number of units				Number of units				Number of units			
		1	4	8	12	1	4	8	12	1	4	8	12
Heating k_{pv}	600	0,0160	0,0156	0,0136	0,0108	0,0160	0,0152	0,0121	0,0086	0,0160	0,0149	0,0110	0,0074
	800	0,0159	0,0156	0,0137	0,0109	0,0159	0,0152	0,0122	0,0088	0,0159	0,0149	0,0111	0,0076
	1000	0,0149	0,0146	0,0129	0,0104	0,0149	0,0143	0,0116	0,0084	0,0149	0,0140	0,0106	0,0076
	1300					0,0145	0,0138	0,0114	0,0084	0,0145	0,0136	0,0104	0,0073
	1600					0,0138	0,0133	0,0111	0,0083	0,0138	0,0131	0,0102	0,0072

The k_{pv} values specified above are applicable to the pressure drop across the coil in combination with the valve set with 300 mm length of stroke and fully open valve ($k_v = 0.89$). If more than one unit is installed, the k_{pv} values specified are average values for each unit in the loop, including the pressure drop in the main pipe.

For more detailed pressure drop calculations, use the Swegon ProPipe software available at our website: www.swegon.com.

Table 12. Electric heating

Unit size	W
600	400 W
800	700 W
1000	800 W
1300, 1600	1000 W

Sound

Table 13. Octave band divided sound effect can be obtained by adding stated dB(A) value (table 1-4) to the correction factors in table 12.

Table 14. The natural attenuation is the total sound output reduction from the ducting to the room including the unit's end reflection.

Diagram 6. The sound reduction index for calculating the resulting reduction with wall penetration.

Table 13. Sound power.

Hz	125	250	500	1K	2K	4K
K1 dB	0	-1	-1	-1	-3	-4

Table 14. Natural attenuation.

Length (mm)	Centre frequency 1/1 octave (Hz)							
	63	125	250	500	1K	2K	4K	8K
600	19	13	14	12	15	18	13	14
800	18	12	13	11	14	17	12	13
1000	16	11	12	9	13	15	11	12
1300	15	9	10	8	11	14	9	10
1600	14	8	9	7	10	13	8	9

With casing the natural attenuation increases by 2-3 dB.

Wall penetration with wall block WB

Reduction index: R_w 28 for $t=100$ mm (ref. $1m^2$).

Reduction index: R_w 29 for $t=150$ mm (ref. $1m^2$).

Applies with jointing around all openings (air duct, pipe, electrical trunking and outer edges).

Example:

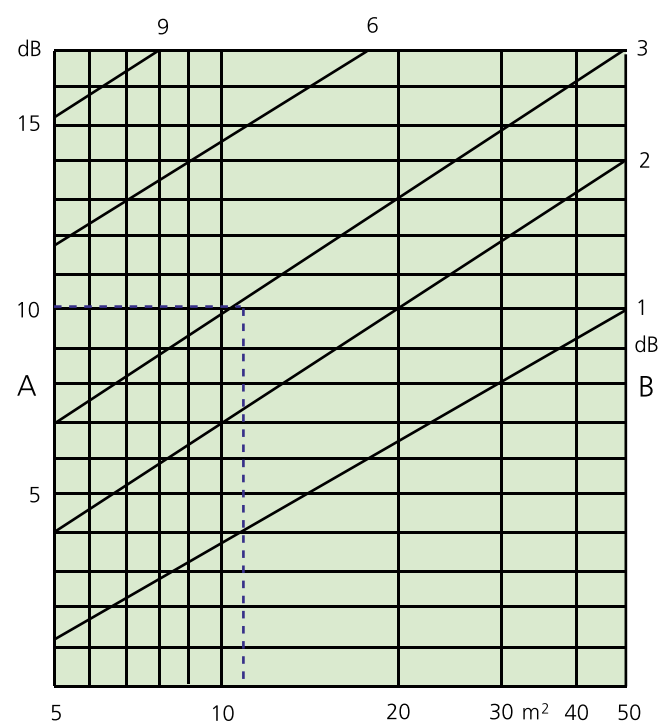
$12m^2$ wall R_w 38, wall penetration VF-1($t=100$ mm): R_w 28.

Difference 10 dB.

Reduction 3 dB according to Diagram 6.

Resulting in $R_w=38-3=35$

Diagram 6. Reduction index



A = Difference $R_w - R_{w \text{ wall block}}$, B = Reduction dB

Example

Cooling

Along a southern facade there are four similar offices with measurements $w \times d \times h = 3.6 \times 3.4 \times 2.7\text{m}$. The cooling requirement is 65W/m^2 , which gives in total 795W/office . The air flow should be 26 l/s . Available pressure, primary air, is 250 Pa .

The sound level from installations must not exceed 30 dB(A) .

Selected room temperature summer: 24°C

The cooling water's supply temperature is 15°C and the selected return temperature is 18°C .

Supply air temperature 15°C gives: $\Delta T_i = 9\text{K}$

Solution

Cooling

The supply air that maintains a temperature of 15°C gives the cooling capacity $P_i = 1.2 \times 26\text{ l/s} \times 9 = 280\text{ W}$. The remaining cooling requirement $795 - 280 = 515\text{W}$ should be cooled using water.

Table 2 gives for the Primo size 1000 and the air flow 26 l/s (250Pa) the cooling capacity 600 W at $\Delta T_{mk} = 7.5\text{K}$, which is sufficient to cover the requirement.

From Diagram 1 it can be read that the output 600 W gives 0.047 l/s in cooling water flow.

Diagram 3b shows that the water flow per unit 0.047 l/s does not give sufficient turbulent flow. We see that the water flow 0.047 l/s gives 93% of the nominal capacity. This is compensated by counting up the unit's requisite performance with: $515/0.93 = 554\text{W}$.

With the c-c distance 3.6 m the pressure drop can be calculated based on the water flow 0.047 l/s and the pressure drop constant $k_{pk} = 0.0156$, which is taken from Table 5. The pressure drop will then be: $\Delta p_k = (q_k / k_{pk})^2 = (0.047/0.0156)^2 = 9.1\text{ kPa}$.

Sound level

Table 2 shows that the sound level for Primo size 1000 with the air flow 26 l/s is 27 dB(A) .

Solution:

A total of 1 x Primo size 1000 in each room, placed at c-c 3.6 m .

Heating

Waterborne heating

The method for the heating calculation is the same as for cooling.

The heating capacity can be found in tables 6-10. The water flow is taken from diagrams 4-5 and the pressure constant k_{pv} can be found in table 11.

Electric heating

For particulars of electric heating, see Table 12.

Pressure drop, sound levels, any correction for insufficient turbulent flow and much more can quickly and easily be attained with the help of the Swegon web-based software, ProPipe.

Dimensions

Length	
Length Primo:	B = 600, 800, 1000, 1300 and 1600 mm
Outlet telescopic outlet air connection fitting internally:	Length 110 mm

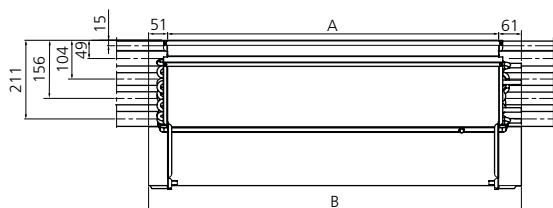


Figure 11. View: front.

A=Outlet telescopic outlet air connection fitting,
B=Length

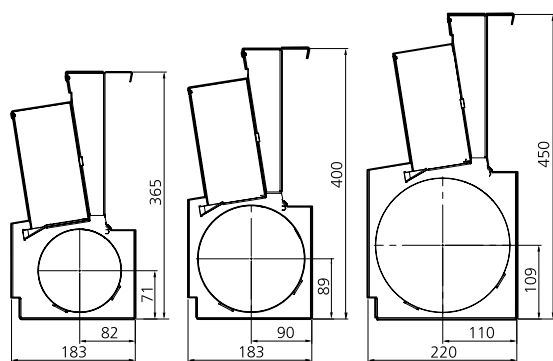


Figure 12. View: end.

Ø125, Ø160 and Ø200

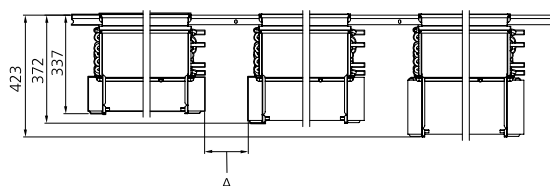


Figure 13. Assembly area.

A=Min. installation spacing 200 mm

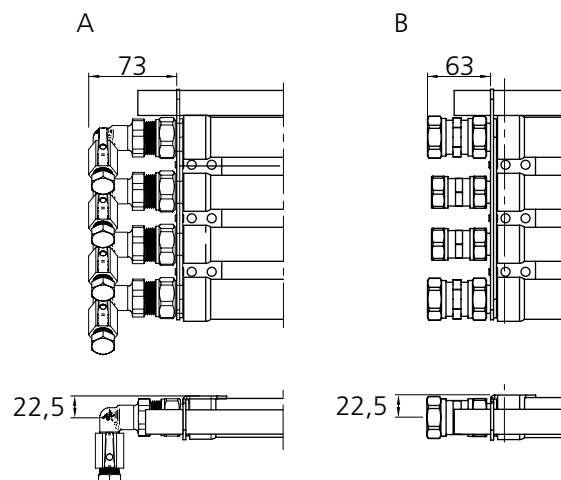


Figure 14. Connection components.

A=Pipe end,
B=Pipe coupling

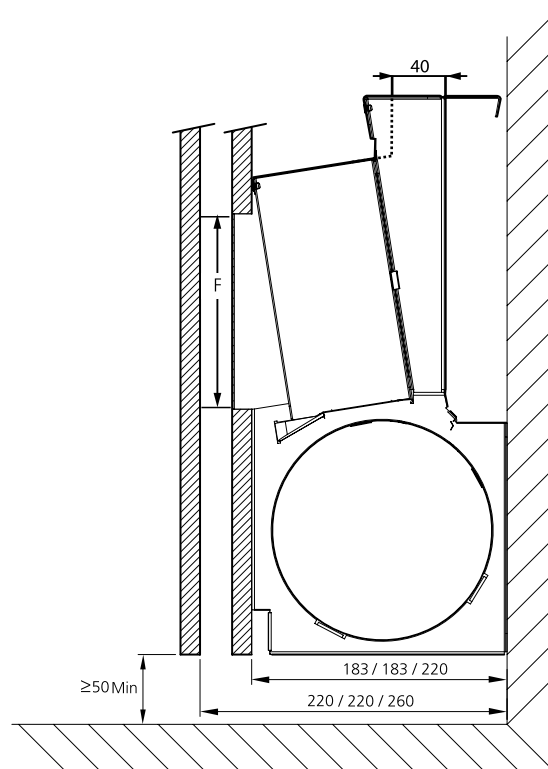


Figure 15. Secondary air opening.

Minimum distance between the floor and casing or circulation air opening in the front panel.

F= Front grille size 130 x unit length (mm) where the free area must be at least 49%.

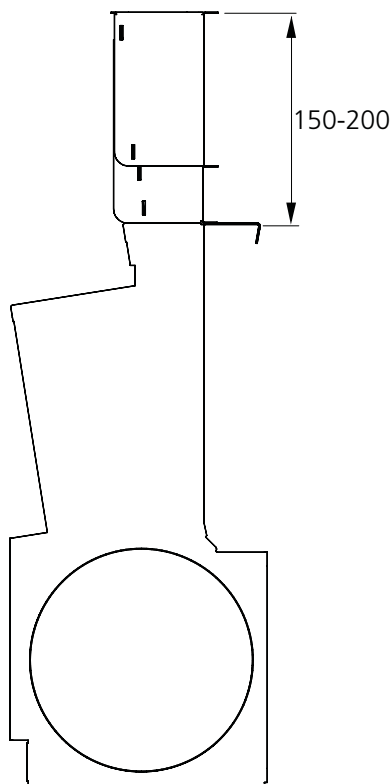


Figure 16. Outlet telescopic outlet air connection fitting.

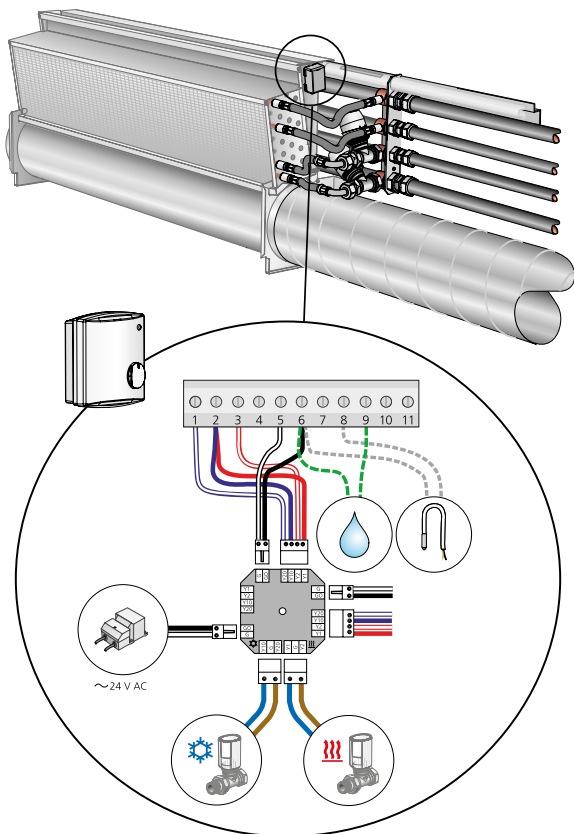


Figure 18. Control equipment LUNA.

For particulars on how to wire the electric heating, see the separate installation instructions at www.swegon.com

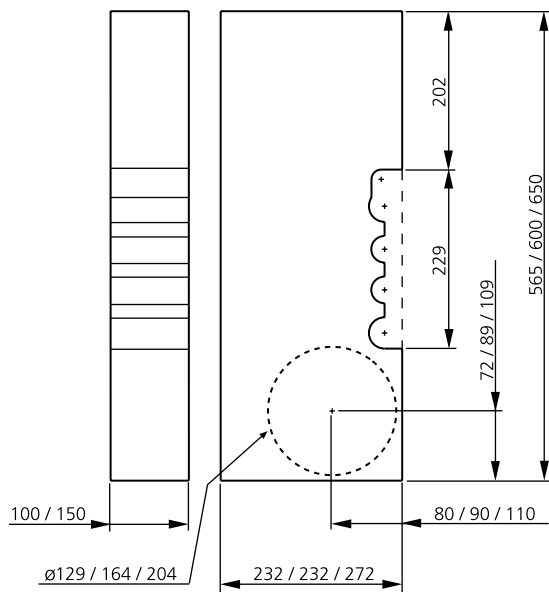


Figure 17. Wall block WB.

Table 15. Weight

Weight (kg)	Size: (mm)	Variant B			Variant X		
		Ducting dimensions			Ducting dimensions		
		Ø125	Ø160	Ø200	Ø125	Ø160	Ø200
Dry weight	600	6.6	6.9	7.6	7,4	7,7	8,4
	800	8.8	9.2	10.0	9,7	10,1	10,9
	1000	11.0	11.5	12.3	12,0	12,5	13,3
	1300	14.1	14.9	16.1	15,1	15,9	17,1
	1600	17.4	18.3	19.7	18,4	19,3	20,7
Weight water filled	600	7.5	7.8	8.5	8,3	8,6	9,3
	800	10.1	10.5	11.3	11,0	11,4	12,2
	1000	12.6	13.1	13.9	13,6	14,1	14,9
	1300	16.2	17	18.2	17,2	18,0	19,2
	1600	20,0	20.9	22.3	21,0	21,9	23,3

Specification

Climate system type Primo for cooling, heating and ventilation. The system shall comprise Swegon room control equipment and essential accessories for connection of pipes and the air supply.

The Swegon delivery shall include all material for each unit branch shown on the drawings for the physical limit of contract.

Wall penetrations shall be carried out using Swegon wall block WB or any other method as set out on the drawing. Carried out by the ventilation contractor or another contractor. Swegon casing PrimoFront as set out on the drawing should be carried out by the ventilation contractor or another contractor.

Limits of contract

Swegon limits of contract are at the connection points for water. At these connection points the plumbing contractor connects to plain pipe ends, fills the system, vents and performs pressure testing.

the ventilation contractor connects to the duct connections with dimensions as set out on the basic size drawing under the section "Dimensions".

The electrical contractor provides an earthed 220 V socket for each transformer and a fitted connection box for each thermostat.

The building contractor makes the cut outs in interior walls and soundproofs as per the drawings.

Order key

Product

Climate unit PRIMO	d-	aaaa-	b-	ccc-	ddd-	eee-	f
Version:							
Size:							
600, 800, 1000, 1300 and 1600							
Function:							
B = Cooling and heating							
X = Cooling and electric heating							
Connection side:							
L = Left							
R = Right							
Duct dimension:							
125, 160 and 200 mm							
Drive pressure:							
150-300 Pa							
Air flow: (l/s)							

Accessories

Telescopic outlet air connection fitting PRIMO d- T- OE- aaaa

Size:

600, 800, 1000,
1300 and 1600

Valve set PRIMO d- T- VS a- bbb

Type:

B = Without actuator and connection card

C = With actuator and connection card (LUNA)

Hose length:

L=300, 500 and 700 mm

Mounting rail L=2400 mm PRIMO d- T- MR- 2400

Connection pipe: PRIMO d- T- aa- bbb- ccc

Type:

PR=Connection pipe right

PM=Connection pipe centre

PL=Connection pipe left

PJ=Connection pipe splice

Length interval (mm)

Also state the exact length (L $\geq$ 410mm)

Ventilation duct: PRIMO d- T- AD- aaa- bbb- ccc

Duct dimension:

Ø125, 160 or 200

Length interval (mm)

Also state the exact length.

Wall block PRIMO d- T- WB- aaa- bbb

Ducting dimensions

Ø125, 160 or 200 mm

Thickness:

100 or 150 mm

Connection components PRIMO d- T- aa- bbb

Type:

CS=Connection and termination complete

CE=Only pipe termination

Size:

125=duct termination Ø125

160=duct termination Ø160

200=duct termination Ø200

Connection components PRIMO d- T- Cl- aa

Type:

Cl=Compression ring coupling 1x

Pipe diameter:

22 mm

28 mm

Corner solution: PRIMO d- T- PC- aa

Elbow:

90

Grille with fixed slats PRIMO d- T- GA- aaaa

Size:

600, 800, 1000, 1300, 1600

Grille with adjustable deflectors PRIMOFLEX d- bbbb

Version:

Size:

600, 800, 1000, 1300, 1600

Accessory packages

For front side solution

Mounting rail	PRIMO d T-MR-2400
Pipe package	PRIMO d T-PR-1200-1499
Pipe package	PRIMO d T-PM-1200-1499
Pipe package	PRIMO d T-PL-1200-1499
Valve package	PRIMO d T-VS-B-300
Pillar bracket	PRIMO d T-PB

For back side solution

Mounting rail	PRIMO d T-MR-2400
Pipe package	PRIMO d T-PP-600-899
Valve package	PRIMO d T-VS-B-300

Explanatory text

Example of the specification text.

Swegon climate system Primo consists of the climate units, electronic room control equipment and requisite accessories for the connection of pipes and ventilation, with following functions:

- Cooling
- Heating
- Ventilation
- Integrated room temperature control (optional)
- Space for electrical trunking
- Sound insulating wall block (optional)
- Cleanable

The Swegon delivery shall include all material for each unit branch shown on the drawings for the physical limit of contract.

Each unit should be supplied with preset prescribed air flow. (optional)

Wall penetrations should be designed with:

- Wall block: WB (optional)
- According to the method set out on the drawing

The building contractor marks out reference lines on the perimeter wall for the suspension of perimeter wall units. The plumbing contractor connects to plain pipe ends 22 mm (heating) 500 and 700 mm (cooling), fills, vents, pressure tests and bears responsibility for the planned water flow reaching every system branch.

The electrical contractor provides an earthed outlet socket for each transformer, placed at the most 1000 mm from the transformer and lower than the top of the system.

The electrical contractor fits a mounting box for each thermostat as set out on the drawing.

The electrical contractor carries out sound insulation between cable trunking and the perimeter unit. The building contractor carries out hole-making in partition walls and sound insulation as set out on the drawing.

The electrical installation contractor connects the power (24 V) and the signal cables to the wiring terminals equipped with spring-loaded pressure connections. The maximum permissible cable cross-sectional area is 2.5 mm². For reliable operation we recommend the use of cable ends with multi-pin connectors.

For particulars on how to wire the electric heating, see the separate installation instructions at www.swegon.com

Accessories:

Valve set VS - a - bbb

Window sill grille: GA aaa or PRIMOFLEX, xx qty

Drain to condensation tray HD, xx qty

Wall penetration WB -a - bbb - ccc - ddd, xx qty

Distribution pipe PR, PM, PL or PJ - aaa - bbb, xx qty

Connection fitting CS - aaa, xx qty

Mounting rail MR, xx qty

Room regulator LUNA RE (see separate brochure)

Transformer SYST TS (see separate brochure)

Control cable, see brochure LUNA

Accessory packages, front side solution

Mounting rail PRIMO d T-MR-2400

Pipe package PRIMO d T-PR-aaaa

Pipe package PRIMO d T-PM-aaaa

Pipe package PRIMO d T-PL-aaaa

Valve package PRIMO d T-VS-B-300

Pillar bracket PRIMO d T-PB

Accessory packages, back side solution

Mounting rail PRIMO d T-MR-2400

Pipe package PRIMO d T-PP-aaaa

Valve package PRIMO d T-VS-B-300

Quantities are specified by number or with reference to the drawing.

Size: FA XX-1 PRIMO d - aaaa - b - c - ddd Pressure xx Pa

Air flow xx l/s, xx qty

FA XX-2 PRIMO d - aaaa - b - c - ddd . Pressure xx Pa

Air flow xx l/s, xx qty etc

Quantities are specified by number or with reference to the drawing.

Accessories for the perimeter wall system in the room

Control equipment

See the separate section in the catalogue Indoor Climate Systems.