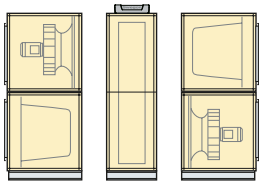
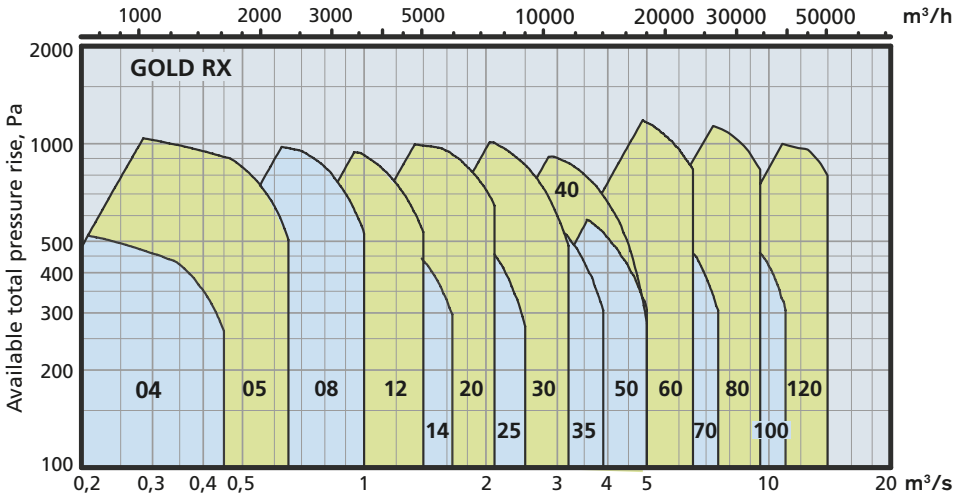
Overview



For on-site transport, the GOLD RX 12-80 can be split into three sections at the building site. The GOLD RX 100/120 is supplied in five sections.

GOLD RX

Rotary heat exchanger



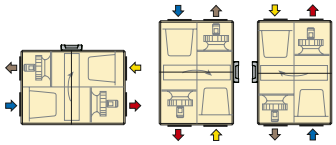
The diagram shows the recommended working range for the supply air fan.

GOLD RX	Length mm	Width mm	Height mm	Weight kg	Duct-connection	Airflow, m³/s			Power supply
						Min	200 Pa ≤ SFP_v 2.0	Max	
04	1500	825	1020	243	Ø 315	0.08	0,42	0,45	[3]1x230V, 10A
04 Top	1500	825	1020	247	Ø 315	0,08	0.40	0.45	[3]1x230V, 10A
05	1500	825	1020	243	Ø 315	0,08	0.42[1]	0.65	[3]1x230V, 10[1]/16[2]A
05 Top	1500	825	1020	247	Ø 315	0.08	0.40	0.65	[3]1x230V, 10A
08	1600	995	1185	309	Ø 400	0.20	0.78[1]	1.00	[3]1x230V, 16A[1], 3x400V, 10A[2]
08 Top	1600	995	1185	310	Ø 400	0.20	0.72	1.00	[3]1x230V, 16 A
12	1860	1199	1495	518	Ø 500	0.20	1.19[1]	1.40	3x400V, 10A
12 Top	1860	1199	1495	504	Ø 500	0.20	1.05	1.40	3x400V, 10A
14	2080	1400	1595	625	1000x400	0.30	1.65	1.65	3x400V, 10A
20	2080	1400	1595	625	1000x400	0.30	1.80[1]	2.10	3x400V, 10[1]/16[2]A
25	2220	1600	1795	786	1200x500	0.50	2.42	2.50	3x400V, 16A
30	2220	1600	1795	786	1200x500	0.50	2.42[1]	3.20	3x400V, 20A
35	2446	1990	2185	1120	1400x600	0.75	3.82	3.90	3x400V, 16A
40	2446	1990	2185	1120	1400x600	0.75	3.82	5.00	3x400V, 25A
50	2670	2318	2353	1498	1600x800	1.00	5.00	5.00	3x400V, 25A
60	2670	2318	2353	1498	1600x800	1.00	5.05[1]	6.50	3x400V, 32[1]/50[2]A
70	3120	2637	2740	2311	1800x1000	1.50	7.00	7.50	3x400V, 32A
80	3120	2637	2740	2311	1800x1000	1.50	7.00	9.50	3x400V, 50[1]/80[2]A
100	3322	3340	3440	3982	2400x1200	2.50	10.4	11.0	3x400V, 50A
120	3322	3340	3440	3982	2400x1200	2.50	10.4	14.0	3x400V,80[1]/125[2]A

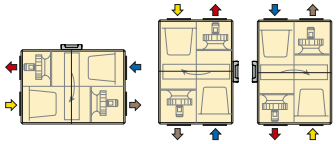
[1] Capacity variant 1. [2] Capacity variant 2. [3] Also 3x400V, 10A.

GOLD RX, 04-08

Right-hand version



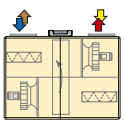
Left-hand version



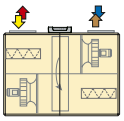
Outdoor air | Supply air | Extract air | Exhaust air

GOLD RX Top, 04-12

Right-hand version

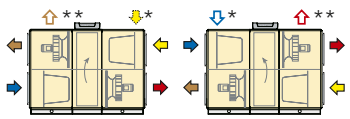


Left-hand version



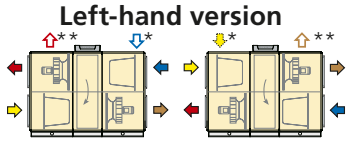
GOLD RX, 12-120

Right-hand version



Fan arrangement 1 *Fan arrangement 2*

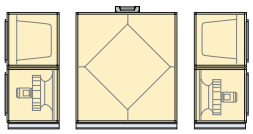
Left-hand version



Fan arrangement 1 *Fan arrangement 2*

** Sizes 14-30*
*** Sizes 14-120*

Overview



For on-site transport, the GOLD PX 11-30 and the GOLD CX 35-80 can be split into three sections at the building site. The GOLD CX 100/120 is supplied in six sections.

The overview diagram will be available later on!

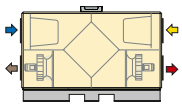
The diagram shows the recommended working range for the supply air fan.

GOLD PX	Length mm	Width mm	Height mm	Weight kg	Duct connection	Airflow, m³/s Min	Airflow, m³/s 200 Pa ≤ SFP_v 2.0	Airflow, m³/s Max	Power supply
04	2000	905	1200	291-337	Ø 315	0,08	0,45/0,45[4]	0,45	[3]1x230V, 10A
05	2000	905	1200	291-337	Ø 315	0,08	0,62/0,50[4]	0,65	[3]1x230V, 10[1]/16[2]A
07	2230	1075	1365	360-419	Ø 400	0,08	0,75/0,71[4]	0,75	[3]1x230V 10A[1], 3x400 10A[2]
08	2230	1075	1365	369-428	Ø 400	0,20	0,97/0,79[4]	1,00	[3]1x230V 16A[1], 3x400 10A[2]
11	2510	1279	1495	552-646	Ø 500	0,20	1,10/1,01[4]	1,10	[3]1x230V 16A[1], 3x400 10A[2]
12	2510	1279	1495	574-668	Ø 500	0,20	1,40/1,14[4]	1,40	3x400V, 10A
14	2830	1480	1586	667-773	1000x400	0,20	1,65/1,65[4]	1,65	3x400V, 10A
20	2830	1480	1586	703-809	1000x400	0,30	2,10/2,00[4]	2,10	3x400V, 10[1]/16[2]A
25	3220	1680	1786	905-1058	1200x500	0,30	2,50/2,48[4]	2,50	3x400V, 16A
30	3220	1680	1786	945-1098	1200x500	0,50	3,20/2,60[4]	3,20	3x400V, 16[1]/20[2]A
GOLD CX									
35	2575	2590	2085	1355	1400x600	0,75	3,90	3,90	3x400V, 20A
40	2575	2590	2085	1355	1400x600	0,75	4,25	5,00	3x400V, 32A
50	2860	2968	2353	2045	1600x800	1,00	5,00	5,00	3x400V, 25A
60	2860	2968	2353	2045	1600x800	1,00	6,00[1]	6,50	3x400V, 40[1]/50[2]A
70	3310	3437	2740	3030	1800x1000	1,50	7,50	7,50	3x400V, 32A
80	3310	3437	2740	3030	1800x1000	1,50	8,00	9,50	3x400V, 50[1]/80[2]A
100	3322	3340	3440	4568	2400x1200	2,50	11,0	11,0	3x400V, 50A
120	3322	3340	3440	4568	2400x1200	2,50	11,7	14,0	3x400V, 80[1]/125[2]A

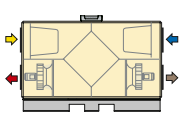
[1] Capacity variant 1. [2] Capacity variant 2. [3] Also 3x400V, 10A. [4] Heat exch. MPE/MTE.

GOLD PX, 04-08

Right-hand version

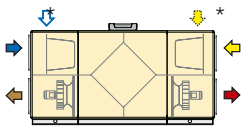


Left-hand version

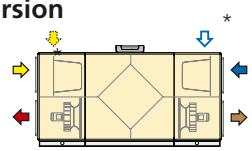


GOLD PX, 11-30

Right-hand version



Left-hand version

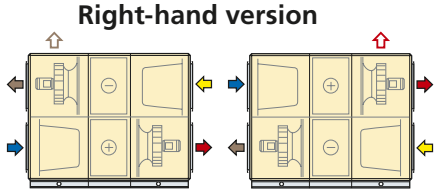


* Sizes 14-30

Outdoor air | Supply air | Extract air | Exhaust air

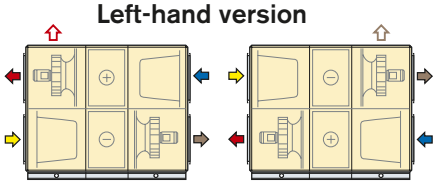
GOLD CX, 35-120

Right-hand version



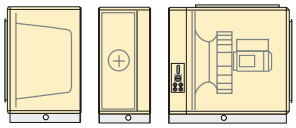
Fan arrangement 1 *Fan arrangement 2*

Left-hand version



Fan arrangement 1 *Fan arrangement 2*

Overview



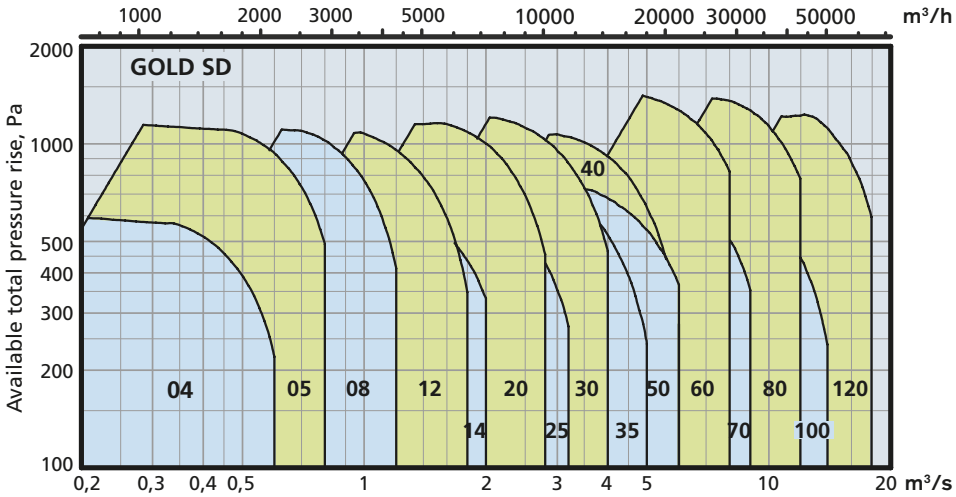
The GOLD SD 12-80 can be split into three sections (depending on the variant) for transport within the building site. The GOLD SD 100/120 is supplied in separate sections.

The diagram shows the recommended working range for air handling units with filter.

1 *L1= Length for fan*
L2= Length of the filter+fan
L3= Length of the filter+coil heat exch.+fan
2 *V1= Weight for fan*
V2= Weight of the filter+fan
V3= Weight of the filter+coil heat exch.+fan
3 *GOLD SD sizes 04-08: SFP_v 1.0, fan+filter, one air discharge direction. GOLD SD sizes 12-120: SFP_v 2.0, fan+filter+coil heat exchanger, two air discharge directions.*
4 *Capacity variant 1.*
5 *Capacity variant 2.*

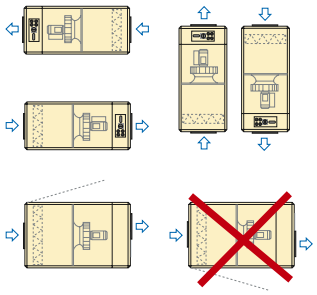
GOLD SD

Supply air and extract air handling units



GOLD SD	Length L1[1] mm	Length L2[1] mm	Length L3[1] mm	Width mm	Height mm	Weight V1[2] kg	Weight V2[2] kg	Weight V3[2] kg	Duct connection	Airflow, m³/s Min	Airflow, m³/s 200 Pa ≤ SFP_v 1.0/2.0[3]	Airflow, m³/s Max	Power supply
04	–	1099	–	825	490	–	119	–	Ø 315	0.08	0.59	0.60	1x230V, 10A
05	–	1099	–	825	490	–	119	–	Ø 315	0.08	0.72[4]	0.80	1x230V, 10A
08	–	1174		995	575	–	137	–	Ø 400	0.20	1.11[4]	1.20	1x230V, 10A[4], 3x400V, 10A[5]
12	–	1404	1961	1199	748	–	187	306	Ø 500	0.20	1.20[4]	1.80	3x400V, 10A
14	1040	1875	2471	1400	906	206	310	473	1000x400	0.30	1.76	2.00	3x400V, 10A
20	1040	1875	2471	1499	906	206	310	473	1000x400	0.30	2.14[4]	2.80	3x400V, 10A
25	1145	1980	2576	1600	1126	287	402	611	1200x500	0.50	2.70	3.20	3x400V, 10A
30	1145	1980	2576	1600	1126	287	402	611	1200x500	0.50	3.15[4]	4,00	3x400V, 10A
35	1145	1980	2576	1990	1226	375	511	782	1400x600	0.75	4.10	5.00	3x400V, 10A
40	1145	1980	2576	1990	1226	375	511	782	1400x600	0.75	4.60	6.00	3x400V, 16A
50	1078	1947	2543	2318	1420	450	660	1080	1600x800	1.00	5.40	6.00	3x400V, 10A
60	1078	1947	2543	2318	1420	450	660	1080	1600x800	1.00	6.40[4]	8.00	3x400V,16[4]/25[5]A
70	1327	2550	3310	2637	1420	640	909	1672	1800x1000	1.50	7.50	9.00	3x400V, 16A
80	1327	2550	3310	2637	1420	640	909	1672	1800x1000	1.50	7.70	12.0	3x400V,25[4]/40[5]A
100	1682	2752	3322	3340	1720	1120	1649	2284	2400x1200	2.50	11.3	14.0	3x400V, 25A
120	1682	2752	3322	3340	1720	1120	1649	2284	2400x1200	2.50	11.7	18.0	3x400V,40[4]/63[5]A

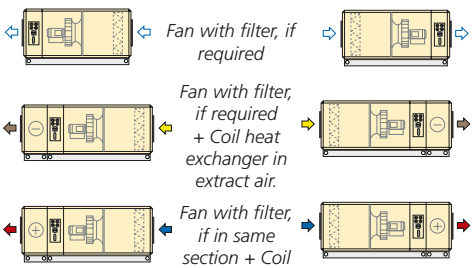
GOLD SD, 04-08



The GOLD SD 04-08 is produced in one single variant. All of its components are arranged at their given physical location inside the air handling unit. The air handling unit can be upended or turned upside down. The unit can also be installed with the inspection door upward, but not downward.

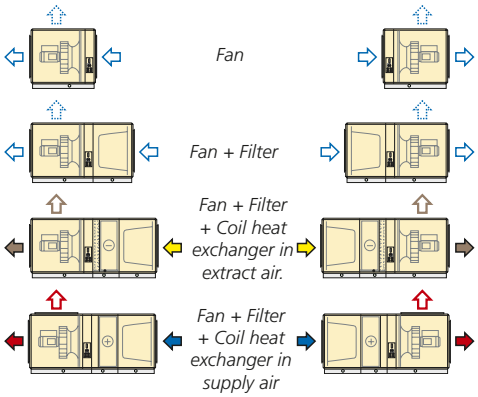
GOLD SD, 12

Left-hand version **Right-hand version**



GOLD SD 14-120

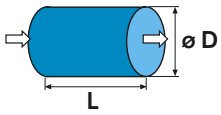
Left-hand version **Right-hand version**

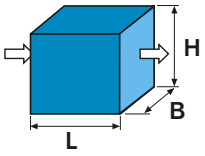


Overview

GOLD

Duct accessories, uninsulated





Size		04/05	07/08	11/12	14/20	25/30	35/40	50/60	70/80	100/120
Damper, TBSA	D	315	400	500	–	–	–	–	–	–
	B	–	–	–	1040	1240	1440	1640	1840	2440
	H	–	–	–	440	540	640	840	1040	1240
	L	140	210	210	220	220	220	220	220	220
AHU sound attenuator TBDA	D	520	600	700	–	–	–	–	–	–
	B	–	–	–	1000	1200	1400	1800	2000	2440
	H	–	–	–	400	500	600	800	1000	1240
	L	915	1200	1200	650	650	650	650	1250	1250
Air heater TBLA/TBLF hot water	B	490	590	690	1119-1250	1319-1590	1526-1850	1747[1)]	1947[1)]	–
	H	405-428	500-528	600-628	438-605	538-755	638-880	838[1)]	1038[1)]	–
	L	300	300	300	148-300	148-300	148-300	148[1)]	148[1)]	–
Air heater TBLE el.	B	314-388	400-438	538	1219	1419	1619	–	–	–
	H	385-569	471-619	719	438	538	638	–	–	–
	L	291-700	291-800	370-700	370-800	370-1000	370-1000	–	–	–
Air cooler TBKA, TBKC	B	490	590	690-770	1295-1495	1595-1790	1885-2085	–	–	–
	H	444	455-475	575-755	625	835-840	940-950	–	–	–
	L	500	500	500	500	500	500	–	–	–
Prefilter TBFA	B	500	600	900	1200	1500	1800	2475	2400	3000
	H	500	600	600	600	600	900	1000	1200	1800
	L	380	380	380	380	380	380	380	380	380

[1)] *Applicable to TBLF only.*

Duct accessories, in insulated casing

Size		04/05	07/08	11/12	14/20	25/30	35/40	50/60	70/80	100/120
Damper TCSA	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776[1)]/620[2)]	906[1)]/690[2)]	1080[1)]/906[2)]	1127	1320	1720
	L	353	353	353	353	353	353	377	381	500
Spacer section TCGA	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776[1)]/620[2)]	906[1)]/690[2)]	1080[1)]/906[2)]	1127	1320	1720
	L	723	723	723	723	723	723	617	617	720
Inspection section, TCIA	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776[1)]/620[2)]	906[1)]/690[2)]	1080[1)]/906[2)]	1127	1320	1720
	L	723	723	723	723	723	723	542	542	500
AHU sound atten. TCDA	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776[1)]/620[2)]	906[1)]/690[2)]	1080[1)]/906[2)]	1127	1320	1720
	L	948	948	948	948	948	948	972	972	1070
Air heater TCLA/TCLF hot water	B	825	995	1199	1400	1600	1990	2318[3)]	2637[3)]	3340[3)]
	H	460	542	648	776[1)]/620[2)]	906[1)]/690[2)]	1080[1)]/906[2)]	1127[3)]	1320[3)]	1720[3)]
	L	353	353	428	353	353	353	542[3)]	542[3)]	720[3)]
Air heater TCLE electric	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776	906	1080	1127	1320	1720
	L	593	593	593-800	518-723	518-723	518-723	604-764	617-760	1070
Air Cooler TCKA/TCKC	B	825	995	1199	1400	1600	1990	2318	2637	3340[4)]
	H	460	542	648	776	906	1080	1127	1320	1720[4)]
	L	428-593	428-593	422-593	468-593	468-593	468-593	542	542	720[4)]
Dual-purpose section TCEK	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776	906	1080	1127	1320	1720
	L	1409	1409	1420-2038	1608-1733	1608-1733	1608-1733	1688-1848	1700-1843	2290
Dual-purpose section TCLK	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776	906	1080	1127	1320	1720
	L	1098	1098	1148	1330-1455	1330-1455	1330-1455	1626	1626	1940
Final filter section, TCFB	B	825	995	1199	1400	1600	1990	2318	2637	3340
	H	460	542	648	776	906	1080	1127	1320	1720
	L	723	723	723	723	723	723	764	760	720

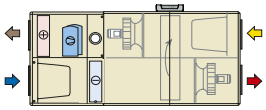
[1)] *When mounting on outlet.* [2)] *When mounting on inlet.*[3)] *Applicable to TCLA only.*

Overview

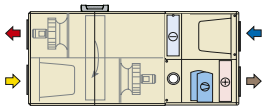
COOL DX
Cooling unit

COOL DX 08

Right-hand version

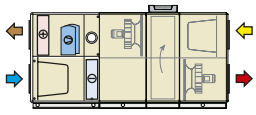


Left-hand version

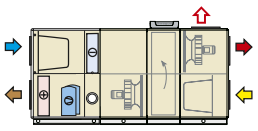


COOL DX 12-60

Right-hand version

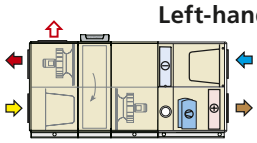


Air cooler in lower level/ GOLD fan arrangement 1

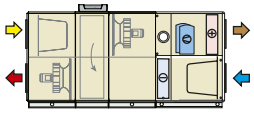


Air cooler in upper level/ GOLD fan arrangement 2

Left-hand version



Air cooler in upper level/ GOLD fan arrangement 1



Air cooler in lower level/ GOLD fan arrangement 2

Outside air | Supply air | Extract air | Exhaust air

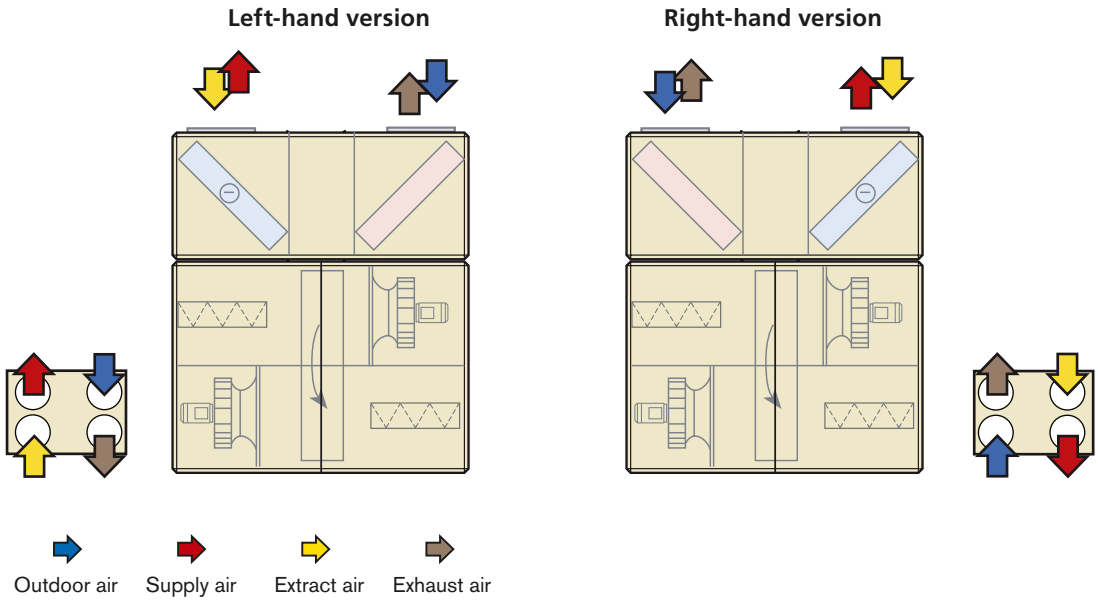
COOL DX size	For GOLD size	Capacity variant	Cooling cap. kW	Length mm	Width mm	Height mm	Duct connection	Power supply
08	07-08	1	10[1)]	900	995	1085	Ø 400	3x400 V, 16A
	07-08	2	14[1)]	900	995	1085	Ø 400	3x400 V, 20A
12	11-12	1	16[1)]	900	1199	1395	Ø 500	3x400 V, 20A
	11-12	2	21[1)]	900	1199	1395	Ø 500	3x400 V, 25A
20	14-20	1	15[1)]	900	1400	1495	1000x400	3x400 V, 25A
	14-20	2	23[1)]	900	1400	1495	1000x400	3x400 V, 25A
	14-20	3	31[1)]	900	1400	1495	1000x400	3x400 V, 40A
30	25-30	1	25[1)]	900	1600	1695	1200x500	3x400 V, 32A
	25-30	2	36[1)]	900	1600	1695	1200x500	3x400 V, 25A
	25-30	3	46[1)]	900	1600	1695	1200x500	3x400 V, 40A
40	35-40	1	39[1)]	1100	1990	2085	1400x600	3x400 V, 25A
	35-40	2	48[1)]	1100	1990	2085	1400x600	3x400 V, 40A
	35-40	3	67[1)]	1100	1990	2085	1400x600	3x400 V, 50A
60	50-60	1	56[1)]	1100	2318	2353	1600x800	3x400 V, 40A
	50-60	2	67[1)]	1100	2318	2353	1600x800	3x400 V, 50A
	50-60	3	98[1)]	1100	2318	2353	1600x800	3x400 V, 80A
80	70-80	1	67[1)]	1100	2637	2740	1800x1000	3x400 V, 50A
	70-80	2	96[1)]	1100	2637	2740	1800x1000	3x400 V, 80A
	70-80	3	134[1)]	1100	2637	2740	1800x1000	3x400 V, 100A

[1)] For an outside temperature of 26°C, 50% RH (capacity variant 1), 27°C, 50% RH (capacity variant 2) or 28°C, 50% RH (capacity variant 3), and an extract air temperature of 26°C.

Overview

COOL DX Top
cooling unit

COOL DX Top 05-12



COOL DX size	For GOLD, size	Capacity variant	Cooling capacity kW	Length mm	Width mm	Height mm	Duct connection	Power supply
05	04-05	1	6.8[1)]	1500	825	600	Ø 315	3x400 V, 16A
		2	9.3[1)]	1500	825	600	Ø 315	3x400 V, 20A
08	07-08	1	9.3[1)]	1600	995	600	Ø 400	3x400 V, 20A
	07-08	2	13.5[1)]	1600	995	600	Ø 400	3x400 V, 20A
12	11-12	1	14.8[1)]	1860	1199	600	Ø 500	3x400 V, 20A
	11-12	2	20.4[1)]	1860	1199	600	Ø 500	3x400 V, 25A

[1)] For an outdoor temperature of 26°C, 50% RH (capacity variant 1) or 28°C, 50% RH (capacity variant 2), and an extract air temperature of 26°C.

Description of the air handling unit

GOLD PX

GOLD RX

GOLD CX

GOLD SD

Contents

Description of the Air Handling Unit

General

The GOLD RX/PX/CX one-piece units are complete air handling units with direct-driven supply air and extract air fans, supply air and extract air filters and heat exchanger. The heat exchanger is either a rotary heat exchanger (RX), plate heat exchanger (PX) or coil heat exchanger (CX).

The GOLD SD single-direction units are supply air/extract air handling units with one direct-driven supply air or extract air fan. A filter is available as an option for all sizes. The coil heat exchanger and unmounted pipework package can be selected for the size 12-120 units.

The electrical and control system is completely integrated into the air handling unit. The microprocessor-based equipment controls and regulates temperatures, airflows and other functions. A large number of functions are built into the system and are simple to activate.

If supplementary functional sections such as dampers and air coolers are required, they must be installed in the ductwork (uninsulated duct accessories) or be docked to the air handling unit (insulated duct accessories).

With provision for cooling and heating
The GOLD is also well suited for cooling and heating. Control functions are ready to activate in the control system and the equipment for cooling as well as for pre-heating and reheating are available as accessories.

Field of Application

The GOLD units are designed for use in comfort ventilation applications. Depending on the variant selected, GOLD units can be utilized in buildings such as office buildings, schools, day nurseries, public buildings, shops, residential buildings, etc.

GOLD units equipped with plate/coil heat exchanger (PX/CX) and separate supply air and extract air handling units (SD) can also be used for the ventilation of moderately humid buildings; however not where the humidity is continuously high, such as in indoor swimming baths.

The separate GOLD supply air and extract air handling units (SD) are designed for applications in which the supply air and extract air flows need to be completely separated from one another or where, due to limited available space, separate units for supply air and extract air are needed. They can also be used individually if only one of the variants is needed.

GOLD units equipped with the roof, air intake section and exhaust air hood accessories can be installed outdoors.

The GOLD is designed and tested for temperatures, in the surroundings and the air stream, from -40°C to +40°C.

Certification

Swegon has a certificated quality management system that conforms to ISO 9001 and an environmental management system that conforms to ISO 14001 Standards. The GOLD air handling system is also certificated by Eurovent, No. AHU-06-06-319.

EUROVENT CERTIFIED PERFORMANCE
N° 06.06.319
Range: GOLD
www.eurovent-certification.com

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

Description of the Air Handling Unit

Mechanical Design

Casing of the GOLD RX/PX/CX

Fabricated of cover panels and inspection doors. The outer skin is made of galvanized sheet steel painted in a beige colour tone (NCS S2005-Y30R). The inner skin is made of aluminium-zinc plated sheet steel. Environmental Class C4. The intervening insulation consists of 50 mm thick slabs of mineral wool.

The inspection doors are hung on hinges and are fitted with flush-mounted door handles. The door handles must be turned in two steps to increase sub-atmospheric pressure inside the casing to atmospheric before the door will open completely.

Tightness Class L2 to EN 1886:2007 Standard. CE labelled. Conforms to the provisions of EN 61000-6-2 and EN 61000-6-3 Standards.

Applicable to sizes 04/05 and 07/08:
Common casing with two inspection doors. One of the door handles of each door can be locked.

The safety switch is externally positioned on the junction hood.

Circular duct connections for insertion joints fitted with a rubber ring seal.

The GOLD RX with rotary heat exchanger should be mounted on base beams, a foundation or on a stand so that the inspection doors can be opened. Prefitted base beams are obtainable as optional equipment; a separately supplied stand is available as an accessory.

The GOLD PX with plate heat exchanger is supplied with a base. A stand consisting of four legs designed to be secured by bolts to the base is available as an accessory.

Applicable to sizes 11-120:
Composed of three (sizes 11-80), five (GOLD RX, sizes 100/120) or six sections (GOLD CX, sizes 100/120).

Each section has one or two inspection doors. One of the handles for each one of both outer inspection doors is lockable. On the size 120 units, the inspection cover of the heat exchanger section (GOLD RX) is also lockable.

The size 14-120 units have rectangular duct connections for slip-clamp jointing. Type METU connection frames are available as an accessories. The size 11/12 units have circular duct connections for insertion joints fitted with a rubber gasket.

The unit is equipped with robust base beams.

On the size 11-30 units, the safety switch is externally positioned on the junction hood.

On the size 35-120 units, the safety switch is positioned on the exterior of the centre section.

GOLD RX, size 08

GOLD RX, size 20

GOLD CX, size 40

GOLD RX, size 120

Description of the Air Handling Unit

Mechanical Design

Casing of the GOLD SD

Fabricated of cover panels and inspection doors. The outer skin is made of galvanized sheet steel painted in a beige colour tone (NCS S2005-Y30R). The inner skin is made of aluminium-zinc plated sheet steel. Environmental Class C4. The intervening insulation consists of 50 mm thick slabs of mineral wool.

The inspection doors are hung on hinges and are fitted with flush-mounted door handles. The door handles must be opened in two steps to equalize the pressure before the door can be opened completely.

Tightness Class L2 to EN 1886:2007 Standard. CE labelled. Conform to the provisions of EN 61000-6-2 and EN 61000-6-3 Standards.

Applicable to sizes 04/05 and 08:
Common casing with one inspection door. The handle can be locked.

Space is provided to accommodate Class F5 or F7 pleated filter which can be ordered as accessories (not included as standard).

The safety isolating switch is located on the inspection side by the handle on the fan inspection door.

Circular duct connections for insertion joints fitted with a rubber ring seal.

The GOLD SD should be mounted on base beams, a foundation or on a stand so that the inspection doors can be opened. Prefitted base beams are obtainable as optional equipment; a separately supplied stand is available as an accessory.

Applicable to sizes 12:
The unit is produced in one to two sections depending on the variant selected. Possible variants are fan (with space for filter) or fan (with space for filter) + coil heat exchanger. The unit is always supplied as one unit. The sections can be unbolted at their joints and separated from one another to make transport within the site easier.

The fan section casing has two inspection doors. The handles are lockable.

Space is provided in the fan section for accommodating a class F5 or F7 pleated filter, which can be ordered as accessory (not included as standard).

The safety isolating switch is located on the inspection side by the inspection door of the fan section.

Circular duct connections for insertion joints fitted with a rubber ring seal.

The unit is equipped with robust base beams.

Applicable to sizes 14-120:
The unit is produced in one to three sections depending on the variant selected. Possible variants are fan, filter + fan or filter + coil heat exchanger + fan. The size 04-60 units are always supplied as one unit. The size 70/80 units are always supplied as one unit if they each consist of a fan or fan+filter. If the unit consists of a fan + filter + coil heat exchanger, it is supplied as two units. The one unit then consists of a fan + coil heat exchanger and the other unit consists of a filter. The sections can be unbolted at their joints and separated from one another to make transport within the site easier. For sizes 100/120, each section is supplied separately.

The sections for fan and filter have their own inspection door.

One of the door handles of the outer inspection door can be locked.

The safety isolating switch is located on the inspection side.

Rectangular duct connections for slip-clamp joint connection. Type METU connection frames are available as an accessories.

The unit is equipped with robust base beams.

Sizes 04/05 and 08

Size 12
Shows the variant without coil heat exchanger.

Sizes 14 – 80
Shows the variant with functions: filter + coil heat exchanger + fan.

Description of the air handling unit

Mechanical Design

Fans

The direct-driven fans are of GOLD Wing+ type, unique axial-centrifugal fans with the focus on excellent power efficiency, uniform airflow and low noise level. The GOLD Wing is patented. Functional sections such as air coolers and bends can be connected directly against the air handling unit without appreciable pressure losses. This saves space in the fan room.

The fans are driven by high-efficiency EC motors, which together with a motor control system especially developed for the GOLD, perform with extremely high efficiency.

The fans are approved for operation in temperatures of up to 40°C.

The fan motors have a motor control system for variable speed regulation and the fans have measurement tappings for continuous measurement and regulation of the airflow.

The fans are effectively vibration-isolated from the casing by means of rubber bushings/flexible connections (sizes 04 – 12) or steel-spring anti-vibration mountings/flexible connections (sizes 14 – 120).

The fans are fixed in their positions by means of locking knobs/screws and clamping bands. These fasteners can easily be loosened, after which the entire fan package can be withdrawn for inspection and maintenance.

Filter

The filter material is glass fibre. The filter holder has a filter locking system designed for effective tightness.

The size 14–30 GOLD RX/PX one-piece units with rotary heat exchanger or plate heat exchanger, with air intake from above, and the size 04-12 GOLD RX Top are equipped with pleated filters that conform to filter class F7.

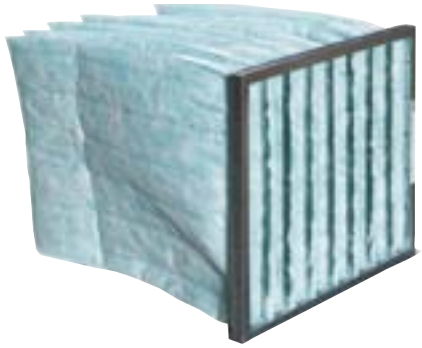
The separate GOLD SD supply air and extract air handling units in sizes 04-12 can be equipped with optional Class F5 or F7 pleated filters.

The units in other sizes have class F7 bag filters of ample proportions on both the supply air and extract air sides.

Pressure sensors for measuring the pressure drop across the filters are incorporated into the control system.

Pre-filter inside air handling units

Prefilters installed inside air handling units can be ordered as optional extras (does not apply to the type RX Top units).



Prefilters are used in ventilation systems, in which the extract air and/or the outdoor air is/are heavily polluted and it is desirable to prevent the fine filters inside the GOLD unit from becoming clogged after a short period of use.

the filters are of woven aluminium type or Class G4 compact filters.

Pressure sensors for measuring the pressure drop across the filters are incorporated into the control system.

Description of the Air Handling Unit

Mechanical Design

Heat exchanger

Rotary heat exchanger

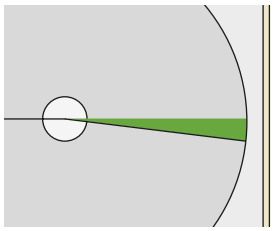
RECOnomic rotary heat exchanger with a temperature efficiency of up to 85%. The need for heat is dealt with by automatically and variably regulating the speed of the rotor.

The rotary heat exchanger effectively recovers cooling energy as well.

It is available in a hygroscopically treated version for moisture recovery (which also reduces costs for cooling), and an epoxy treated version.

Purging sector, commissioning plates and pressure measurement tappings as standard, ensure that the extract air will not be carried over to the supply air.

The RECOnomic heat exchanger is patented.



Purging sector

Plate heat exchanger

The plate heat exchangers are as standard equipped with by-pass and shut-off dampers for variable and automatic control of the heat exchanger's efficiency on heat recovery.

In cold weather, and if the extract air is humid, there is risk of frosting in plate heat exchangers. The GOLD PX is equipped with extremely effective anti-frost protection. The temperature inside the heat exchanger's "cold corner" and the humidity in the extract air are measured.

Taking the humidity into consideration, the IQnomic control system calculates the lowest permissible liquid temperature without risk of frosting inside the heat exchanger. The by-pass damper is then controlled to prevent the temperature from dropping below this limit.

The plate heat exchanger is available in two versions: normal efficiency (MPE, Maximum Pressure Efficiency) and high efficiency (MTE, Maximum Temperature Efficiency) respectively. In the MPE version, the focus is on low pressure drop across the heat exchanger. In the MTE version, priority is given to high temperature efficiency.

Is also available in an epoxy-treated version.

Internal leakage between air streams meet the requirements of air tightness class L2.

Description of the Air Handling Unit

Mechanical Design

Coil heat exchanger

The coil heat exchanger in the one-piece units, GOLD CX, sizes 35-80, are supplied complete from the factory; including mounted pipework package with all the necessary components. The system is normally filled with liquid, vented, adjusted and performance-tested prior to delivery, but can also be ordered in unfilled condition e.g. for housing improvement projects or if the application requires filling with another mixture instead of 30 % ethylene glycol. On the size 100/120 GOLD CX one-piece unit, the pipework package (accessory) including separate control unit are supplied in unmounted condition. Droplet eliminators are available as accessories.

Coil heat exchangers, droplet eliminators and pipework packages are available as unmounted accessories for the separate size 14-120 supply air and extract air handling units (SD) A separate control unit for the coil heat exchanger is always included in the supply.

The pipework package's valve variably regulates the coil heat exchanger's efficiency on heat recovery and the circulation pump is demand-controlled.

In cold weather, and if the extract air is humid, there is risk of frosting in coil heat exchangers. The GOLD CX/SD is equipped with an extremely effective anti-frost protection that measures the temperature of the liquid in the extract air coil and also the humidity in the extract air.

Taking the humidity into consideration, the IQnomic control system calculates the lowest permissible liquid temperature without risk of frosting inside the coil. The valve in the pipework package is then controlled to prevent the temperature from dropping below this limit.

Description of the Air Handling Unit

Mechanical Design

Duct Connections

For sizes 04/05, 07/08 and 11/12 the connections are circular and are designed for connection to ducts with insertion joint fitted with a rubber ring. A duct bend fits directly into the connection. The duct connections are horizontally and vertically offset to enable ducts to be run in any direction without blocking one another. The size 04/05, 08 and 12 units are also available in a top-fed variant, the GOLD RX Top, with all the duct connections upward.

The size 14-120 units have rectangular duct connections with rigidly mounted connection frame for slip-clamp connection. Type METU connection frames are available as an accessories.

The air handling unit's GOLD Wing+ fans provide a uniform airflow immediately downstream of the outlet making it possible to connect duct bends and functional sections, for example cooling coils, directly to the unit without appreciable pressure losses.

If insulated duct accessories are selected, they should be docked directly against the air handling unit. The air handling unit is then supplied without end connection panel for the relevant inlet/outlet, the so-called "Full face" version.

Circular duct connections

Circular duct connections GOLD RX Top

Air handling unit without end connection panel, "Full face"

Rectangular duct connections

Pressure Adjusting Plates

(applicable to air handling units with rotary heat exchanger only)

The unit is equipped with pressure adjusting plates to ensure that the purging air flow through the heat exchanger will be as it was designed to be. These plates make it possible to achieve correct pressure balance in the unit so that the purging airflow will pass in the correct direction.

The pressure adjusting plates are supplied in unmounted condition and shall be positioned by the extract air inlet of the air handling unit.

Environment Declaration

Swegon AB has a certificated environmental management system that conforms to ISO 14001 Standard and is registered on the REPA Register, no. 5560778465.

The GOLD is made of the following materials:

Type of Material	Percentage of total weight
Metals	Approx. 94%
Polymeric materials	Approx. 1%
Mineral wool insulation	Approx. 2%
Other materials (filters, etc.)	Approx. 3%

Description of the Air Handling Unit

Electrical and Control Equipment

General

The electrical and control system is completely integrated into the air handling unit. The microprocessor-based equipment controls and regulates temperatures, airflows and other functions. A large number of functions are built into the system and are simple to activate.

The air handling unit can be automatically controlled in several ways via the integrated time switch, however it can also be demand-controlled via a CO_2-sensor, for example. Manual control is also possible.

A large number of functions and settings can be activated/entered via a main control system.

Control Inaccuracy:
Temperature ± 1°C.
Airflow ± 5%.

Power Efficiency
The design and performance of the air handling unit are optimized for achieving excellent power efficiency.

Standards
The unit meets the provisions of the ELSÄK-FS 1999:5 and SS-EN 60204-1 electrical safety standards. Protection class IP 54.

Interference Level
The unit meets the requirements defined in the EMC Directive and has been tested according to the provisions in EN 61000-6-2 and 61000-6-3 (electromagnetic emissions in dwellings, office buildings, shops and similar environments as well as for immunity in industrial environments).

Use of an earth fault circuit breaker
The earth fault circuit breaker, if required, should only serve the air handling unit and must be of a type designed for use with the control system of the EC motor.

Control Unit – GOLD SD
If both GOLD SD supply air and extract air handling units are used in a ventilation system, the supply air unit is fitted with a control unit and the extract air unit is without. A communication cable is used to connect them to one another making it possible to control both units.

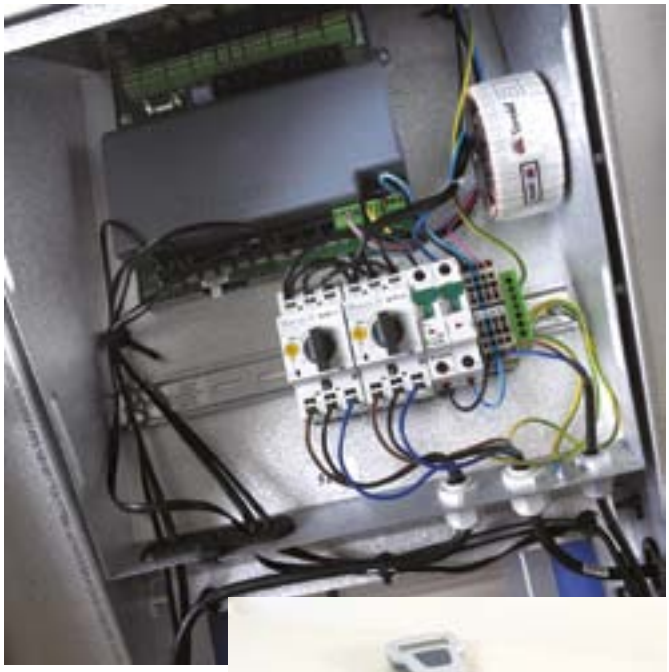
Electrical and Control Equipment

On the smaller unit sizes, the electrical and control equipment must be connected via the junction hood.

The connection cables for the hand-held micro terminal, supply air temperature sensor and the air heater have a modular connector. Quick connection is also available for communication.

Other accessories and external functions can be connected to an easy-to-access row of terminal connections.

An extra terminal for a single phase 230 V supply is also provided after the safety switch on the GOLD unit. This terminal can be used for external functional sections and can be loaded with max. 1.5 A.



All electrical and control equipment is collected inside a special enclosure in the centred section of the air handling unit.

The extra functional sections such as a cooling unit and an electric air heater, must have a separate power supply.

GOLD RX/PX/CX
On the size 04-40 GOLD RX and the GOLD PX units, electrical and control equipment must be wired via the junction hood. On the size 50-70 and 80 GOLD RX and the size 35-80 GOLD CX units, electrical and control equipment must be wired via the panel on the centre section of the air handling unit. On the size 80 GOLD RX, capacity variant 2, and the size 100/120 GOLD CX units, electric power is connected across an external safety switch and the electrical and control equipment must be wired via the panel on the centre section of the air handling unit.

GOLD SD
On the size 04-80 GOLD DS units, the electrical and control equipment must be wired via the panel by the fan inspection door. On the size 100/120 units, electric power is connected across an external safety switch and the electrical and control equipment must be wired via the panel on the centre section of the air handling unit.

Description of the Air Handling Unit

Hand-Held Micro Terminal and How to Use the Menus

The hand-held micro terminal contains menus arranged in a logical order. All the time switch, temperature control, airflow and functional settings can be entered from the terminal. Scope for viewing the current and preset values is also available.

The preset values are then stored in a type of memory that is unaffected by power failures.

The hand-held micro terminal is equipped with a 3-metre long cable for connection to the air handling unit by means of a quick connector.

The hand-held micro terminal has keys for entering the various commands. The display screen and the keys have background lighting. A red indicating LED on the terminal flashes in the event of an alarm.

Description of the Air Handling Unit

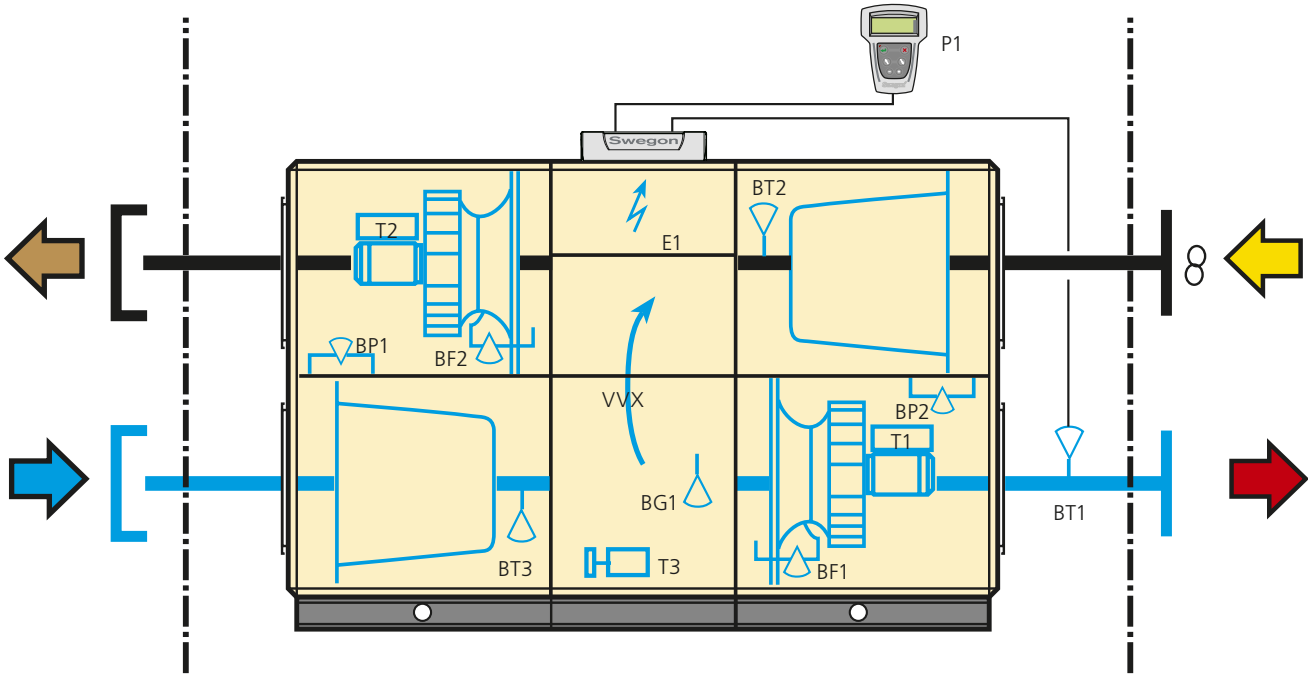
Control Schedule

Diagrammatic description of the control functions, GOLD RX

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

In that it is a microprocessor-based system, it can solve highly complicated tasks. The specific components are outlined below each individually in a simplified and schematic specification.

When you use the ProUnit air handling unit selection program for calculating data, you receive a project-specific flow chart with complete description of pertinent unit functions.



BT3	Temperature sensor, outdoor air.
BT1	Temperature sensor, supply air. Positioned in the ductwork
BT2	Temperature sensor, extract air.
T1/T2	Motor control system for variable speed control of the fan motors.
BF1/BF2	Pressure transducer. Indicates for controlling the fan speed so that the preset airflow will be maintained.
BP1/BP2	Pressure transducer for checking the filter status.
BG1	Rotation monitor for checking the rotation of the heat exchanger.
E1	Electrical equipment cubicle containing the control circuit card and other electrical equipment for controlling internal and external functions, etc.
P1	Hand-held micro terminal for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.
VVX	Variable speed-controlled rotary heat exchanger with air purging operation.
T3	Drive motor for the rotary heat exchanger

Description of the Air Handling Unit

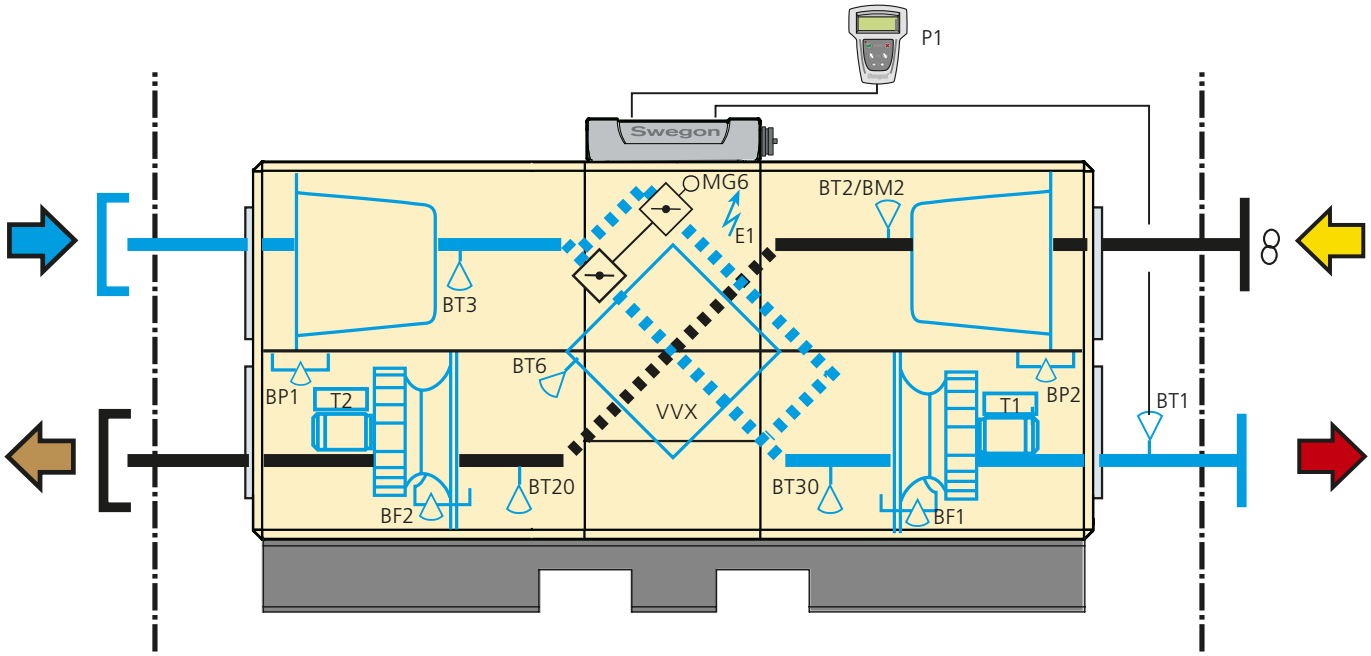
Control Schedule

Diagrammatic description of the control functions, GOLD PX

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

In that it is a microprocessor-based system, it can solve highly complicated tasks. The specific components are outlined below each individually in a simplified and schematic specification.

When you use the ProUnit air handling unit selection program for calculating data, you receive a project-specific flow chart with complete description of pertinent unit functions.



BT3	Temperature sensor, outdoor air.
BT1	Temperature sensor, supply air. Positioned in the ductwork
BT2/BM2	Temperature sensor, extract air/Humidity sensor, extract air. For anti-frost protection
T1/T2	Motor control system for variable speed control of the fan motors.
BF1/BF2	Pressure transducer. Indicates for controlling the fan speed so that the preset airflow will be maintained.
BP1/BP2	Pressure transducer for checking the filter status.
BT6	Temperature sensor, heat exchanger. For anti-frost protection
MG6	Actuator for by-pass and shut-off dampers.
E1	Electrical equipment cubicle containing the control circuit card and other electrical equipment for controlling internal and external functions, etc.
P1	Hand-held micro terminal for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.
VVX	Plate heat exchanger with by-pass and shut-off dampers.
BT20/BT30	Temperature sensor for density-corrected airflow.

Description of the Air Handling Unit

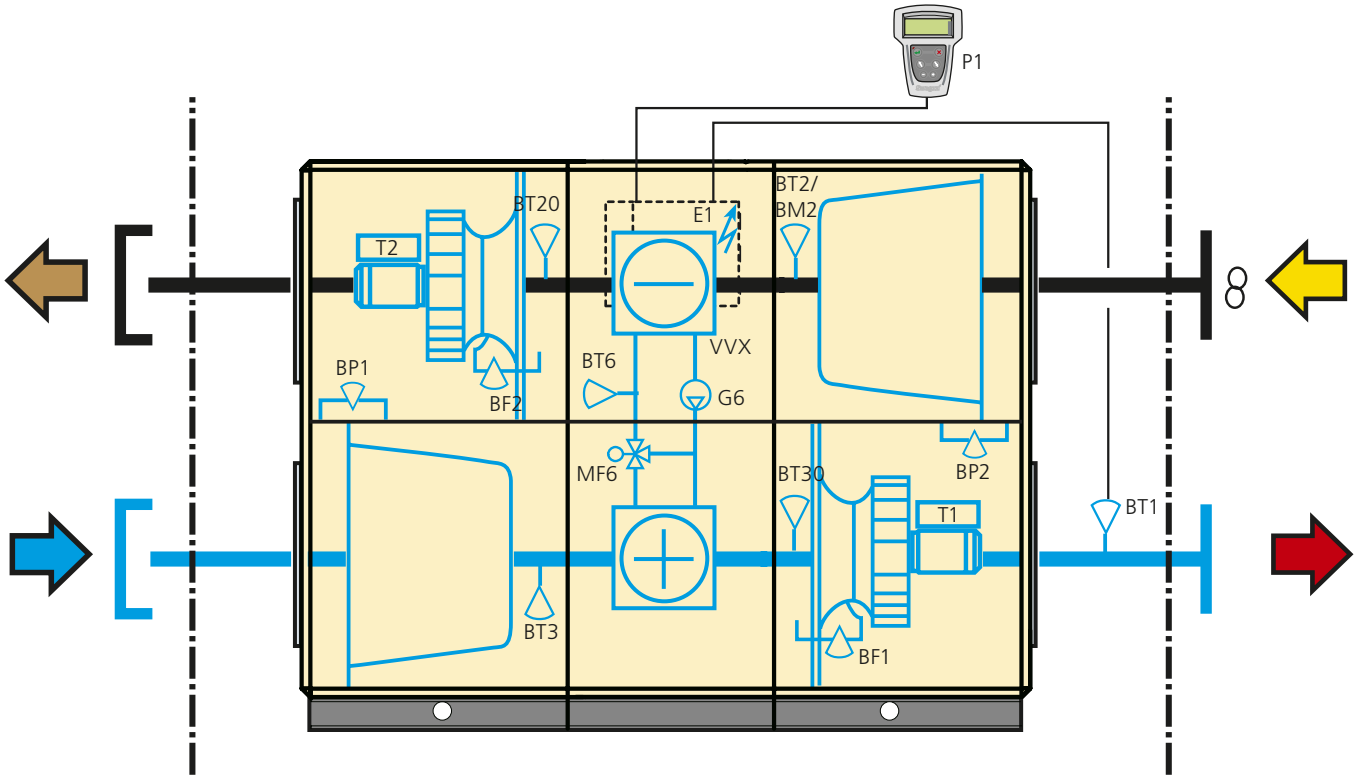
Control Schedule

Diagrammatic description of the control functions, GOLD CX

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

In that it is a microprocessor-based system, it can solve highly complicated tasks. The specific components are outlined below each individually in a simplified and schematic specification.

When you use the ProUnit air handling unit selection program for calculating data, you receive a project-specific flow chart with complete description of pertinent unit functions.



BT3	Temperature sensor, outdoor air.
BT1	Temperature sensor, supply air. Positioned in the ductwork.
BT2/BM2	Temperature sensor, extract air/Humidity sensor, extract air. For anti-frost protection.
T1/T2	Motor control system for variable speed control of the fan motors.
BF1/BF2	Pressure transducer. Indicates for controlling the fan speed so that the preset airflow will be maintained.
BP1/BP2	Pressure transducer for checking the filter status.
BT6	Temperature sensor, coil heat exchangers. For anti-frost protection.
G6	Circulation pump, coil heat exchangers.
MF6	Valve actuator, coil heat exchangers.
E1	Electrical equipment cubicle containing the control circuit card and other electrical equipment for controlling internal and external functions, etc.
P1	Hand-held micro terminal for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.
VVX	Coil heat exchanger with pipework package.
BT20/BT30	Temperature sensor for density-corrected airflow.

GOLD CX, sizes 100/120: Pipework package including control box are supplied in unmounted condition for floor or wall mounting (accessories).

Description of the air handling unit

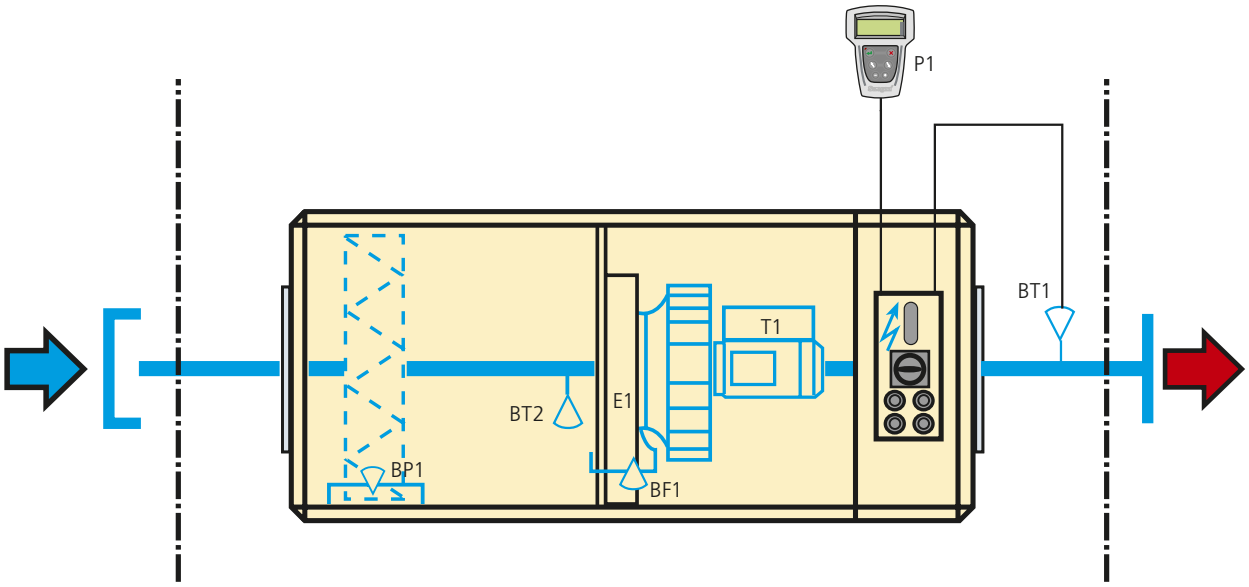
Control Schedule

Diagrammatic description of the control functions, GOLD SD, sizes 04-08

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

Because the system is microprocessor-based, it can solve highly complicated tasks. The individual components each specified below in a simplified and diagrammatical description.

When you use the ProUnit AHU selection program for calculating performance data, it provides you with a project-specific flow chart with complete descriptions of pertinent functions.



BT2 Outdoor air temperature sensor/supply air density sensor (In extract air handling units: Extract air temperature sensor/density sensor in exhaust air)

BT1 Supply air temperature sensor. Positioned in the ductwork. (Not used in extract air units)

BF1 Supply air fan pressure sensor. Indicates for control of the fan speed so that the preset airflow will be obtained. (In extract air handling units: Extract air fan pressure sensor)

BP1 Supply air filter pressure sensor, if applicable. For checking the status of the filter (In extract air handling units: Extract air filter pressure sensor)

T1 Motor control system for variable speed control of the fan motor.

E1 Electrical equipment cubicle containing a control circuit card, if included, and other electrical equipment for controlling internal and external functions, etc.

P1 Hand-held micro terminal, if specified, for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.

Description of the air handling unit

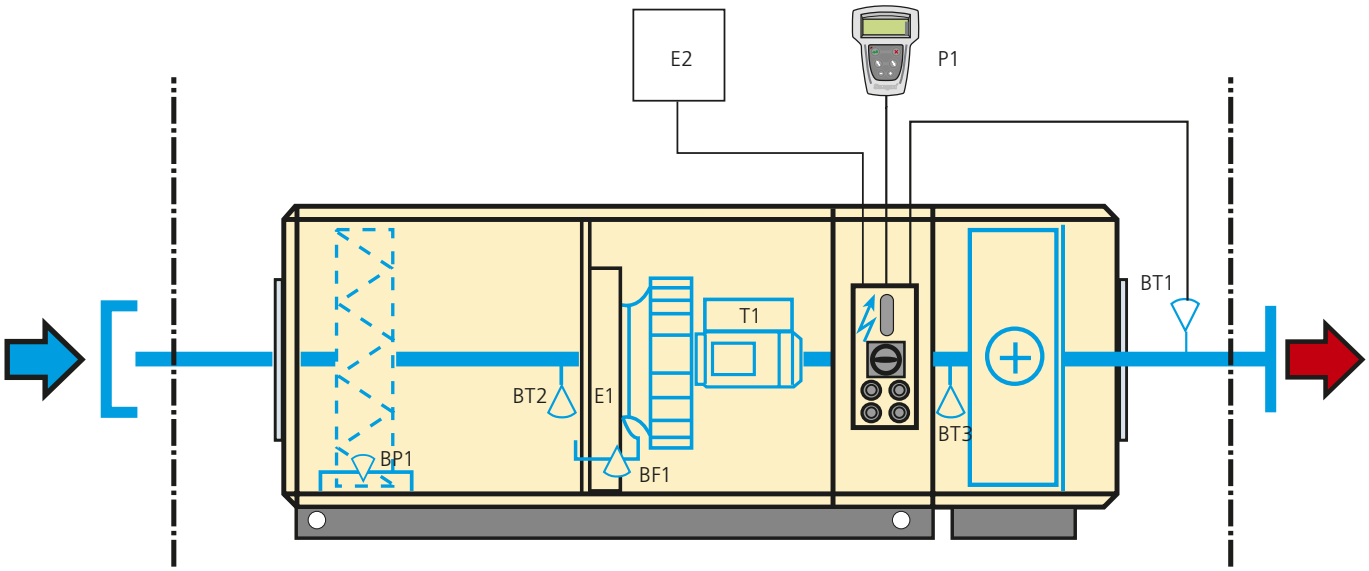
Control Schedule

Diagrammatic description of the control functions, GOLD SD, sizes 12

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

Because the system is microprocessor-based, it can solve highly complicated tasks. The individual components each specified below in a simplified and diagrammatical description.

When you use the ProUnit AHU selection program for calculating performance data, it provides you with a project-specific flow chart with complete descriptions of pertinent functions.



BT3 Outdoor air temperature sensor. (Applicable to air handling units with coil heat exchanger)

BT2 Outdoor air temperature sensor/supply air density sensor (In extract air units: Extract air temperature sensor/exhaust air density sensor)

BT1 Supply air temperature sensor. Positioned in the ductwork. (Not used in extract air units)

BF1 Supply air fan pressure sensor. Indicates for control of the fan speed so that the preset airflow will be obtained. (In extract air handling units: Extract air fan pressure sensor)

BP1 Supply air filter pressure sensor, if applicable. For checking the status of the filter (In extract air handling units: Extract air filter pressure sensor)

T1 Motor control system for variable speed control of the fan motor.

E1 Electrical equipment cubicle containing a control circuit card, if included, and other electrical equipment for controlling internal and external functions, etc.

E2 Control unit, if applicable, for controlling the pipework package.

P1 Hand-held micro terminal, if specified, for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.

Description of the air handling unit

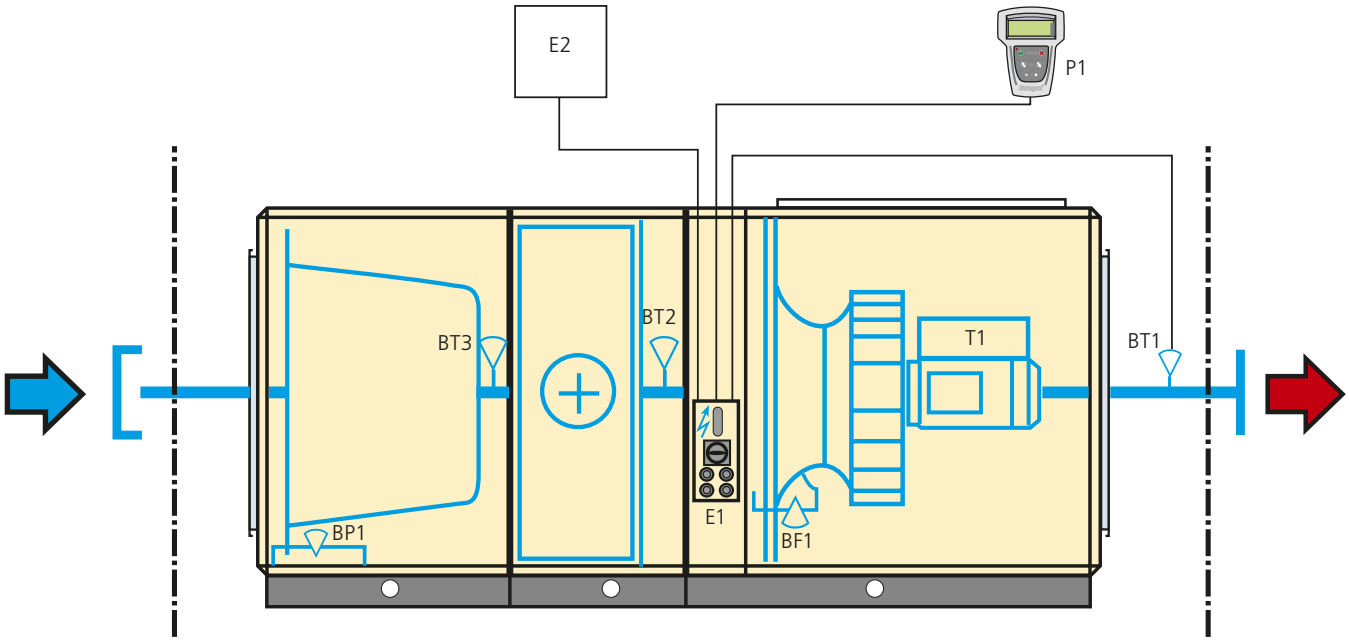
Control Schedule

Diagrammatic description of the control functions, GOLD SD, sizes 04-120

The built-in control system controls and regulates temperatures, airflows, in-operation periods and a large number of internal and external functions.

Because the system is microprocessor-based, it can solve highly complicated tasks. The individual components each specified below in a simplified and diagrammatical description.

When you use the ProUnit AHU selection program for calculating performance data, it provides you with a project-specific flow chart with complete descriptions of pertinent functions.



BT3 Outdoor air temperature sensor. (Applicable to air handling units with coil heat exchanger)

BT2 Outdoor air temperature sensor/supply air density sensor (In extract air units: Extract air temperature sensor/exhaust air density sensor)

BT1 Supply air temperature sensor. Positioned in the ductwork. (Not used in extract air units)

BF1 Supply air fan pressure sensor. Indicates for control of the fan speed so that the preset airflow will be obtained. (In extract air handling units: Extract air fan pressure sensor)

BP1 Supply air filter pressure sensor, if applicable. For checking the status of the filter (In extract air handling units: Extract air filter pressure sensor)

T1 Motor control system for variable speed control of the fan motor.

E1 Electrical equipment cubicle containing a control circuit card, if included, and other electrical equipment for controlling internal and external functions, etc.

E2 Control unit, if applicable, for controlling the pipework package.

P1 Hand-held micro terminal, if specified, for setting airflows, temperatures, control functions, in-operation periods, etc. as well as alarms.

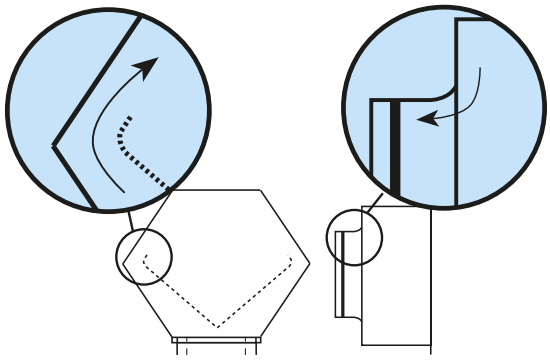
Description of the Air Handling Unit

Installation Tips

Sizing the Duct System

The preset flow is automatically kept at a constant rate if this function has been selected in the hand-held micro terminal. Lower air velocity in ducts and air diffusers mean lower pressure drop and consequently lower energy consumption and a quieter ventilation system.

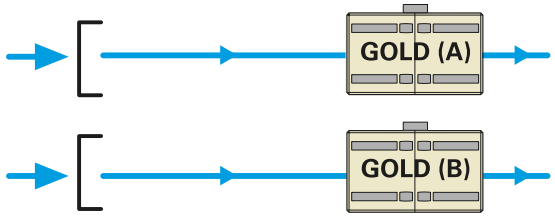
To achieve optimal operating economy and low noise level it is important to design the ventilation system with as low pressure drop as possible. The hoods for outdoor air and extract air, designed especially for the GOLD, are optimized in this respect.



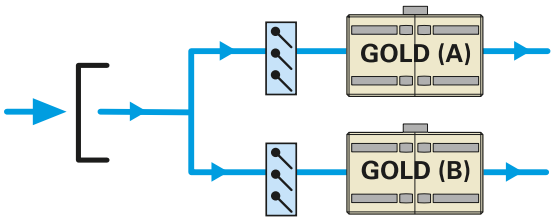
Examples of how air deflectors and extruded inlets minimize pressure losses in Swegon accessories for the GOLD.

A duct or non-return damper of its own.

Zero calibration is an integrated function in the GOLD air handling units. Every individual GOLD air handling unit in a ventilation system must be equipped with its own outdoor air and exhaust air hood/duct in order for this function to operate correctly. Or else, every individual air handling unit must be equipped with a non-return damper or a motorized damper in the outdoor air duct and/or exhaust air duct.



Every GOLD air handling unit must have its own outdoor air duct (and its own exhaust air duct/hood).



If the use of a common outdoor air duct is still desirable, every branch duct for each GOLD air handling unit must be equipped with a non-return damper or a motorized damper (also applies to a common exhaust air duct/hood).