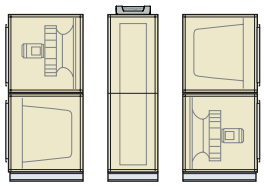
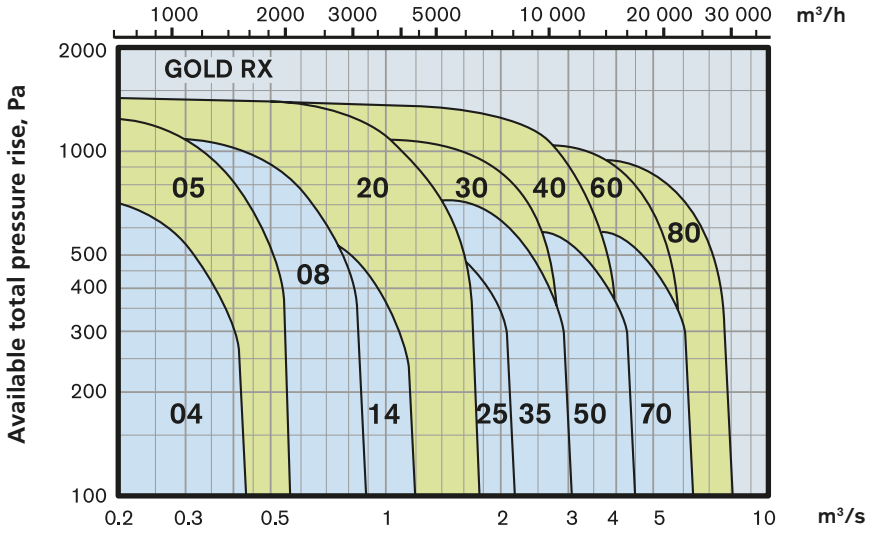
Overview



The GOLD RX 12-80 can be split into three sections for transport within the building site.

GOLD RX

Rotary heat exchanger

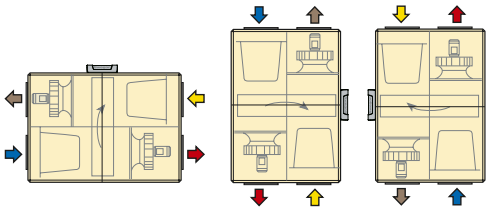


GOLD RX	Length mm	Width mm	Height mm	Weight kg	Duct connection size	Airflow, m3/s Min.	250 Pa ≤SFPv 2.5	Max.	Power supply
04	1500	820	1020	260	Ø 315	0,08	0,42	0,45	1x230V, 10A[1]
05	1500	820	1020	260	Ø 315	0,08	0,42	0,62	1x230V, 16A[1]
08	1600	990	1185	315	Ø 400	0,10	0,72	0,90	1x230V, 20A[1]
12	1860	1199	1495	419	Ø 500	0,20	1,30	1,30	3x400V, 10A
12 Top	1860	1199	1495	405	Ø 500	0,20	1,30	1,30	3x400V, 10A
14	2080	1295	1495	640	1000x400	0,20	1,10	1,10	3x400V, 10A
20	2080	1295	1495	640	1000x400	0,20	1,50	1,80	3x400V, 16A
25	2220	1595	1795	840	1200x500	0,30	2,20	2,20	3x400V, 16A
30	2220	1595	1795	840	1200x500	0,30	2,50	3,00	3x400V, 20A
35	2300	1885	2085	1100	1400x600	0,60	3,10	3,10	3x400V, 16A
40	2300	1885	2085	1100	1400x600	0,60	3,40	4,10	3x400V, 32A
50	2670	2318	2376	1690	1600x800	0,80	4,60	4,60	3x400V, 25A
60	2670	2318	2376	1690	1600x800	0,80	5,00	6,00	3x400V, 40A
70	3070	2637	2752	2379	1800x1000	1,00	6,70	6,30	3x400V, 32A
80	3070	2637	2752	2379	1800x1000	1,00	7,00	8,20	3x400V, 50A

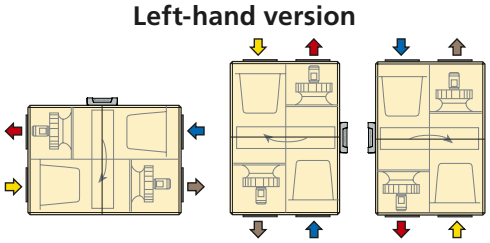
1) Also 3x400 V.

GOLD RX, 04-08

Right-hand version



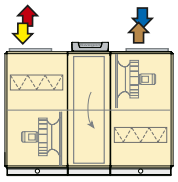
Left-hand version



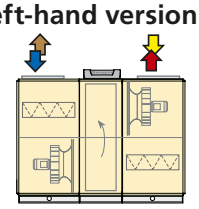
Outdoor air | Supply air | Extract air | Exhaust air

GOLD RX Top, 12

Right-hand version

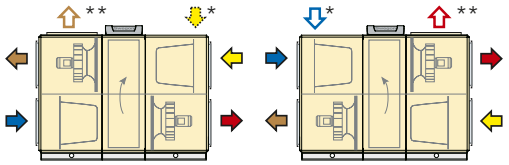


Left-hand version



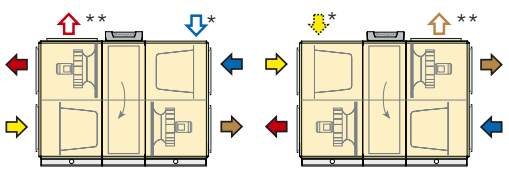
GOLD RX, 12-80

Right-hand version



Fan arrangement 1 *Fan arrangement 2*

Left-hand version



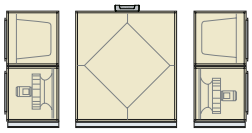
Fan arrangement 1 *Fan arrangement 2*

** Sizes 14-30*
*** Sizes 14-80*

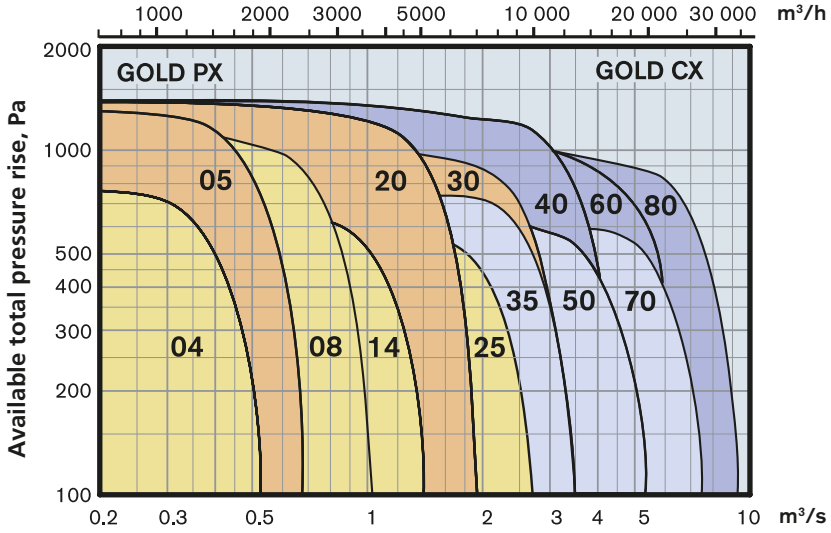
Overview

GOLD PX
Plate heat exchanger

GOLD CX
Coil heat exchanger



The GOLD PX 12-30 and the GOLD CX 35-80 can be split into three sections for transport within the building site.

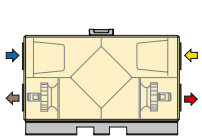


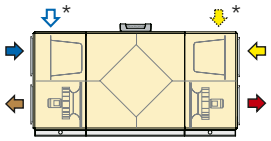
GOLD PX	Length mm	Width mm	Height mm	Weight kg	Duct connection size	Airflow, m3/s Min.	250 Pa ≤SFPv 2.,5	Max.	Power supply
04	2000	900	1200	355	Ø 315	0,08	0,50	0,52	1x230V, 10A[1]
05	2000	900	1200	355	Ø 315	0,08	0,50	0,68	1x230V, 16A[1]
08	2230	1070	1200	455	Ø 400	0,10	0,80	1,00	1x230V, 20A[1]
12	2510	1199	1495	539	Ø 500	0,20	1,10	1,30	3x400V, 10A
14	2730	1375	1495	760	1000x400	0,20	1,40	1,40	3x400V, 10A
20	2730	1375	1495	760	1000x400	0,20	1,70	1,90	3x400V, 16A
25	3170	1595	1795	1020	1200x500	0,30	2,60	2,60	3x400V, 16A
30	3170	1595	1795	1020	1200x500	0,30	3,10	3,40	3x400V, 20A
GOLD CX									
35	2450	2485	2006	1450	1400x600	0,60	3,40	3,40	3x400V, 16A
40	2450	2485	2006	1450	1400x600	0,60	3,60	4,40	3x400V, 32A
50	2860	2807	2376	2237	1600x800	0,80	5,00	5,00	3x400V, 25A
60	2860	2807	2376	2237	1600x800	0,80	5,80	6,50	3x400V, 40A
70	3260	3319	2752	3092	1800x1000	1,00	7,00	7,00	3x400V, 32A
80	3260	3319	2752	3092	1800x1000	1,00	7,80	9,00	3x400V, 50A

1) Also 3x400 V.

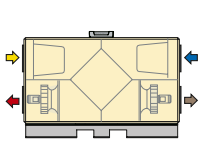
GOLD PX, 04-08

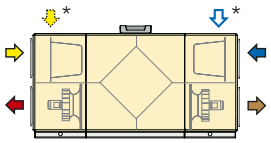
Right-hand version





Left-hand version



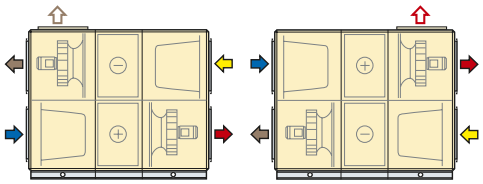


GOLD PX, 12-30

** Sizes 14-30*

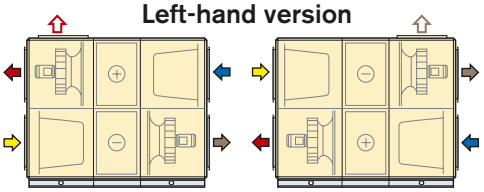
GOLD CX, 35-80

Right-hand version



Fan arrangement 1 *Fan arrangement 2*

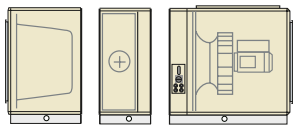
Left-hand version



Fan arrangement 1 *Fan arrangement 2*

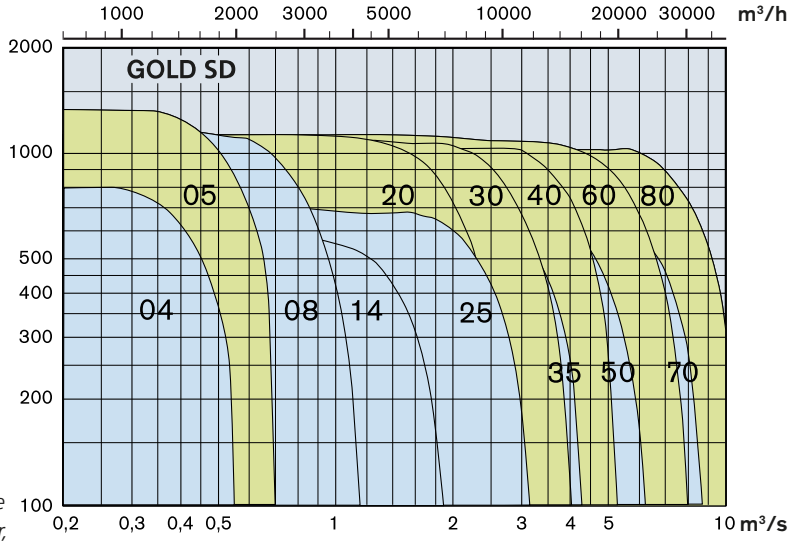
GOLD SD

Supply air and extract air handling units



The GOLD SD 14-80 can be split into three sections (depending on the variant) for transport within the building site.

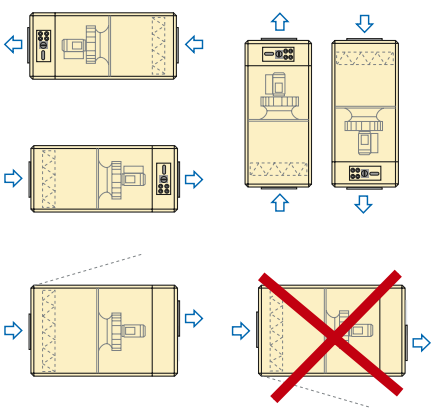
11 L1= Length of the fan
L2= Length of the filter + fan
L3= Length of the filter + coil heat exchanger + fan
2 V1= Weight of the fan
V2= Weight of the filter + fan
V3= Weight of the filter + coil heat exchanger + fan
** The first value is applicable to a fan + filter, one airflow. 3 The second value is applicable to a fan + filter + coil heat exchanger, two airflows.*



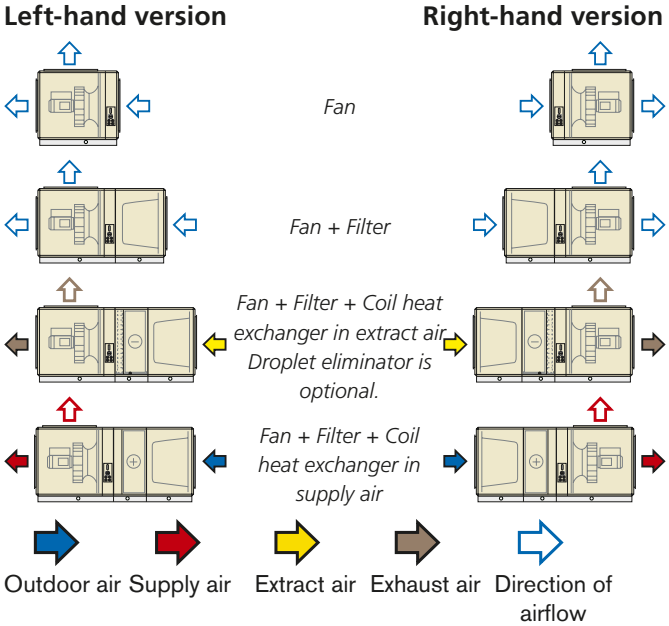
GOLD SD	Length L1[1] mm	Length L2[1] mm	Length L3[1] mm	Width mm	Height mm	Wgt. V1[2] kg	Wgt. V2[2] kg	Wgt. V3[2] kg	Duct conn.	Airflow, m³/s Min.	250 Pa ≤ SFP_v 2,5	Max.	Power supply
04		1100	-	820	490	_	115	-	Ø 315	0,08	0,52	0,52	1x230V, 10A
05	_	1100	-	820	490	_	115	-	Ø 315	0,08	0,68	0,68	1x230V, 10A
08	_	1175	-	990	575	_	150	-	Ø 400	0,10	1,05	1,05	1x230V, 10A
14	1040	1909	2505	1295	856	230	340	475	1000x400	0,20	1,6/1,35[3]	1,6/1,35[3]	3x400V, 10A
20	1040	1909	2505	1295	856	230	340	475	1000x400	0,20	2,5/1,8[3]	2,5/2,1[3]	3x400V, 10A
25	1145	2014	2610	1595	1126	310	450	670	1200x500	0,30	2,7/2,4[3]	2,7/2,4[3]	3x400V, 10A
30	1145	2014	2610	1595	1126	310	450	670	1200x500	0,30	3,7/3,0[3]	3,7/3,2[3]	3x400V, 10A
35	1145	2014	2610	1885	1126	365	520	760	1400x600	0,60	3,9/3,4[3]	3,9/3,4[3]	3x400V, 10A
40	1145	2014	2610	1885	1126	365	520	760	1400x600	0,60	5,0/3,9[3]	5,0/4,4[3]	3x400V, 16A
50	1145	2014	2610	2318	1420	550	760	1170	1600x800	0,80	5,4/5,0[3]	5,4/5,0[3]	3x400V, 16A
60	1145	2014	2610	2318	1420	550	760	1170	1600x800	0,80	7,3/6,1[3]	7,3/6,5[3]	3x400V, 20A
70	1278	2500	3260	2637	1442	675	945	1700	1800x1000	1,00	7,9/7,0[3]	7,9/7,0[3]	3x400V, 16A
80	1278	2500	3260	2637	1442	675	945	1700	1800x1000	1,00	10,0/8,0[3]	10,0/9,0[3]	3x400V, 25A

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.

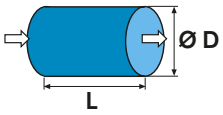


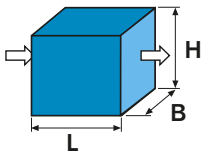
GOLD SD, 14-80



Overview

GOLD
Duct accessories





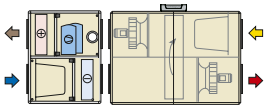
Size		04/05	08	12	14/20	25/30	35/40	50/60	70/80
Damper	D	315	400	500	–	–	–	–	–
TBSA	B	–	–	–	1040	1240	1440	1640	1840
	H	–	–	–	440	540	640	840	1040
	L	140	210	210	215	160	160	160	215
Unit	D	520	600	700	–	–	–	–	–
Silencer	B	–	–	–	1000	1200	1400	1800	2000
TBDA	H	–	–	–	400	500	600	800	1000
	L	915	1200	1200	650	650	650	650	1250
Air heater	B	490	590	690	1119-1250	1319-1590	1526-1850	1747-2318	1947-2637
TBLA/TBLF	H	405-428	500-528	600-628	438-605	538-755	638-880	838-1127	1038-1320
hot water	L	300	300	300	148-300	148-300	148-300	148-570	148-570
Air heater	B	314	400	538	1200	1400	1600	2318	2637
TBLE	H	385	528	700	400	500	800	1127	1320
el	L	291	300	370-700	370-500	370-600	370-600	632-792	632-792
Air cooler	B	488	688	690-770	1250-1495	1595-1790	1885-2085	2318	2637
TBKA, TBKC	H	430	630	575-755	590-625	765-840	940-950	1127	1320
	L	500	500	500	500	500	500	570	570
Dual-purpose	B	–	–	–	–	–	–	2318	2637
section	H	–	–	–	–	–	–	1127	1320
TBEK	L	–	–	–	–	–	–	1716-1876	1716-1876
Dual-purpose	B	–	–	–	–	–	–	2318	2637
section	H	–	–	–	–	–	–	1127	1320
TBLK	L	–	–	–	–	–	–	1654	1654
Air recirculation	B	–	–	1199	1295	1595	1885	2318	2637
section	H	–	–	1295	1295	1595	1885	2253	2640
TBBR/TCBR	L	–	–		550	550	550	570	570
Prefilter	B	500	600	900	1200	1500	1800	2475	2400
TBFA	H	500	600	600	600	600	900	1000	1200
	L	380	380	380	380	380	380	380	380

Overview

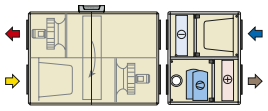
CoolDX
Cooling unit

CoolDX 08

Right-hand version

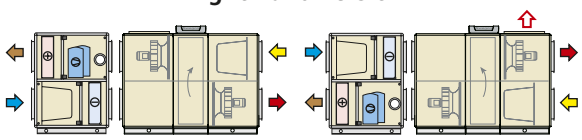


Left-hand version



CoolDX 12-60

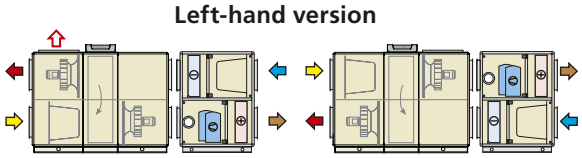
Right-hand version



Cooling coil in lower level/ GOLD fan arrangement 1

Cooling coil in upper level/ GOLD fan arrangement 2

Left-hand version



Cooling coil in upper level/ GOLD fan arrangement 1

Cooling coil in lower level/ GOLD fan arrangement 2

CoolDX Size	For GOLD, size	Capac-ity variant	Cool. cap., kW [1]	Length mm	Width mm	Height mm	Duct connec-tion size	Power supply
08	08	1	10	1250	990	1086	Ø 400	3x400 V, 16A
	08	2	14	1250	990	1086	Ø 400	3x400 V, 16A
12	12	1	14	1250	1199	1394	Ø 500	3x400 V, 16A
	12	2	20	1250	1199	1394	Ø 500	3x400 V, 20A
20	14-20	1	14	1250	1294	1394	1000x400	3x400 V, 16A
	14-20	2	20	1250	1295	1394	1000x400	3x400 V, 20A
	14-20	3	26	1250	1295	1394	1000x400	3x400 V, 25A
30	25-30	1	26	1250	1595	1696	1200x500	3x400 V, 25A
	25-30	2	32	1250	1595	1696	1200x500	3x400 V, 32A
	25-30	3	45	1250	1595	1696	1200x500	3x400 V, 40A
40	35-40	1	39	1250	1886	1986	1400x600	3x400 V, 40A
	35-40	2	44	1250	1886	1986	1400x600	3x400 V, 40A
	35-40	3	58	1250	1886	1986	1400x600	3x400 V, 63A
60	50-60	1	58	1250	2253	2353	1600x800	3x400 V, 50A
	50-60	2	69	1250	2253	2353	1600x800	3x400 V, 63A
	50-60	3	95	1250	2253	2353	1600x800	3x400 V, 80A

[1] At outdoor temperature of 28°C, 50% RH and extract air temperature of 25°C.

Description of the air handling unit

GOLD CX

GOLD PX

GOLD RX

GOLD SD

Contents

Description of the Air Handling Unit

GOLD CX

GOLD PX

GOLD RX

The stand (04/05 and 08) is an accessory.

GOLD SD

Certificate No. 06.06.319

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 14-80 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.

The GOLD is a one-piece air handling unit. If supplementary function sections such as dampers and cooling coils are needed, they must be positioned in the ductwork.

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.

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.

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. 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 prEN 1886:2002 Standard. CE labelled. Conforms to the provisions of EN 61000-6-2 and EN 61000-6-3 Standards.

Applicable to sizes 04/05 and 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 a foundation or base structure that provides sufficient height above the floor to enable inspection doors to be opened. The 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 14-80.
Fabricated as three sections.

Each section has its own inspection door. One of the door handles of each of both outer inspection doors can be locked.

The size 14-80 units have rectangular duct connections for slip-clamp jointing. Type METU connection frames are available as an accessories. The size 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 04-30 units, the safety switch is externally positioned on the junction hood.

On the size 35-80 units, the safety switch is positioned on the exterior of the centre section.

Sizes 04/05 and 08

Sizes 14-40

Sizes 50-80

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. 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 for the size 04-40 units and Tightness Class L3 for the size 50-80 units, according to CEN Standard prEN 1886:2002. 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 a base or stand so that the inspection doors can be opened. The stand is available as an accessory.

Applicable to sizes 14-80:
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.

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 by the inspection door of the fan section.

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

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

Description of the Air Handling Unit

Mechanical Design

Fans

Type GOLD Wing direct-driven fans, unique axial-centrifugal fans that offer performance focused on excellent power efficiency, uniform airflow and a low level of motor and flow-generated noise. The GOLD Wing is patented. The functional sections such as cooling coils as well as duct bends can be connected directly to the air handling unit without appreciable pressure losses. This saves you space in the fan room.

The fans are driven by high-performance, Class EFF1-rated motors, i.e. their performance measures up to the highest efficiency rating classified by the EU and CEMEP European Committee of Manufacturers of Electrical Machines and Power Electronics.

The fans are authorized for temperatures up to 40°C while they are running.

The fan motors have frequency inverters for variable speed control and the fans have measurement tappings for continuous airflow measurements and control.

The fans are effectively vibration-isolated from the casing by means of rubber anti-vibration bushings and fabric sleeves.

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

Filters

Amply sized, Class F7 bag filters on both the extract air and outdoor air sides.

The filter material is glass fibre. The filter holder has an expansion-type locking system that achieves 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, are equipped with Class F7 pleated filters. The size 12 GOLD RX Top units also have class F7 pleated filters.

The separate GOLD SD supply air and extract air handling units in sizes 04-08 can be equipped with optional Class F5 or F7 pleated filters.

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

Description of the Air Handling Unit

Mechanical Design

Heat exchanger

Rotary heat exchanger

RECOnomic rotary heat exchangers of Swegon patented manufacture with up to 85% temperature efficiency. The amount of heat required is controlled by automatically and variably regulating the rotor speed of the heat exchanger.

Is also available in a hygroscopically treated version for moisture or cooling energy recovery, as well as in an epoxy-treated version.

Equipped with air purging sector.

If the unit is changed from the right-hand to left-hand version, the heat exchanger's direction of rotation changes automatically.

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.

Is also available in an epoxy-treated version.

Description of the Air Handling Unit

Mechanical Design

Coil heat exchanger

The coil heat exchanger in the one-piece units (CX) are supplied complete from the factory; including mounted the 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. Droplet eliminators are available as accessories.

Coil heat exchangers, droplet eliminators and pipework packages are available as unmounted accessories for the separate size 14-80 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

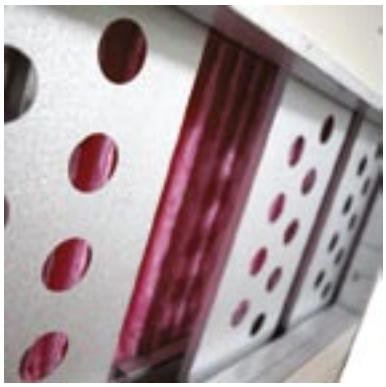
Mechanical Design

Duct Connections

For sizes 04/05, 08 and 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 14-80 units have rectangular duct connections with rigidly mounted connection frame for slip-clamp connection. Type METU connection frames are available as an accessories. On the size 14/-80 GOLD RX and SD units and on the size 35-80 GOLD CX units, the fan outlet in the top panel of the unit is fitted with a cover panel. This cover panel can be easily moved to the end wall panel if it is desirable for the upper fan to discharge air upwards.

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.



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.

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 fitted, should only serve the air handling unit and must be of a type designed for use with frequency inverters.

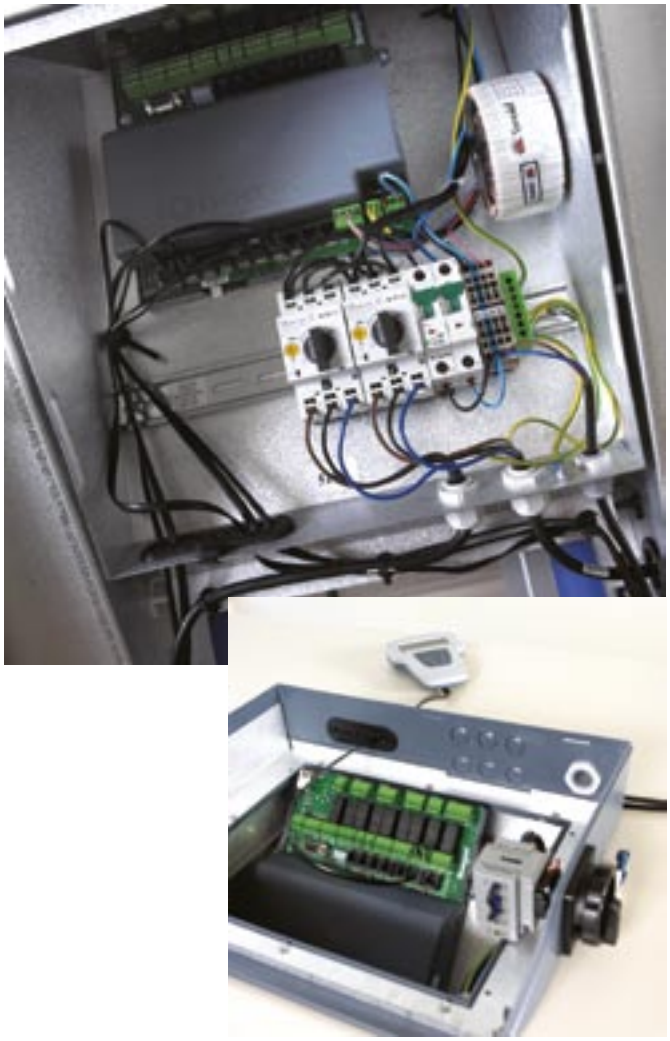
Control Unit – GOLD SD
If both GOLD SD supply air and extract air handling units are used in a ventilation system, the supply air unit is fitted with a control unit and the extract air unit is without. A communication cable is used to connect them to one another making it possible to control both units.

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.



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

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.

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 50-80 GOLD RX and the GOLD CX units, electrical and control equipment must be wired via the panel on the centre section of the air handling unit.

GOLD SD
On all unit sizes, electrical and control equipment must be wired via the panel by the fan inspection door.

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

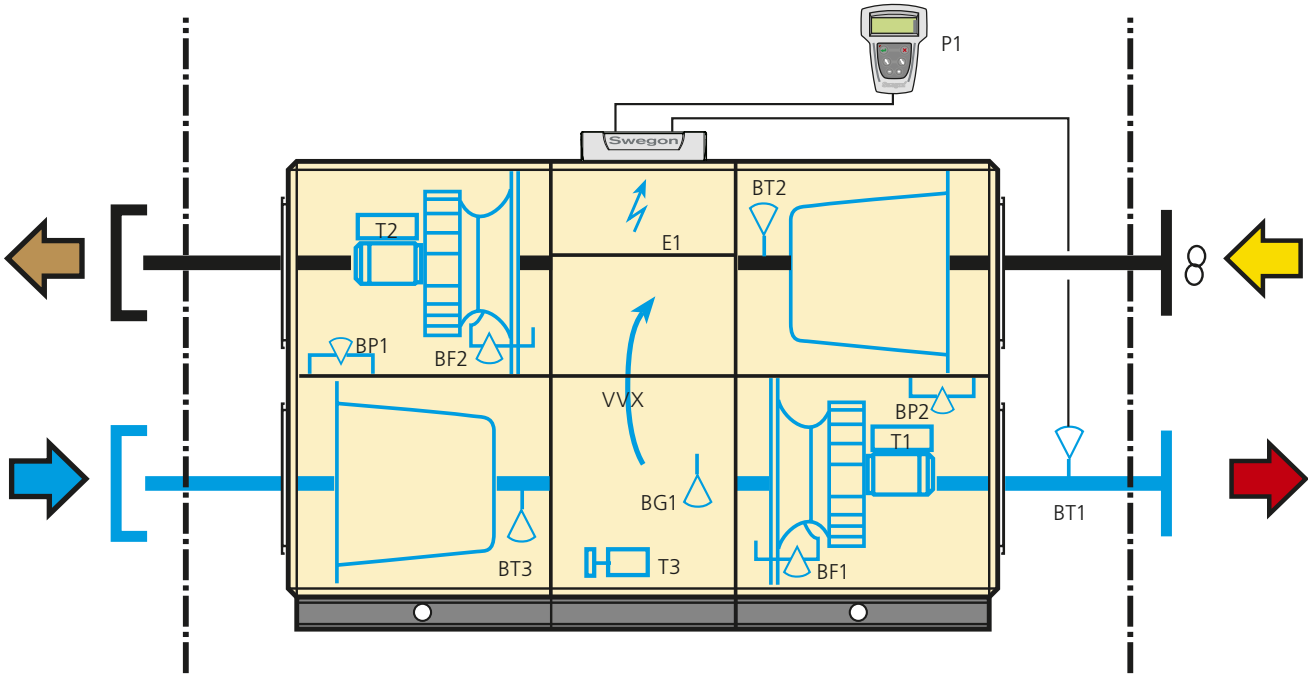
Control Schedule

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	Frequency inverters for variably controlling the speed 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

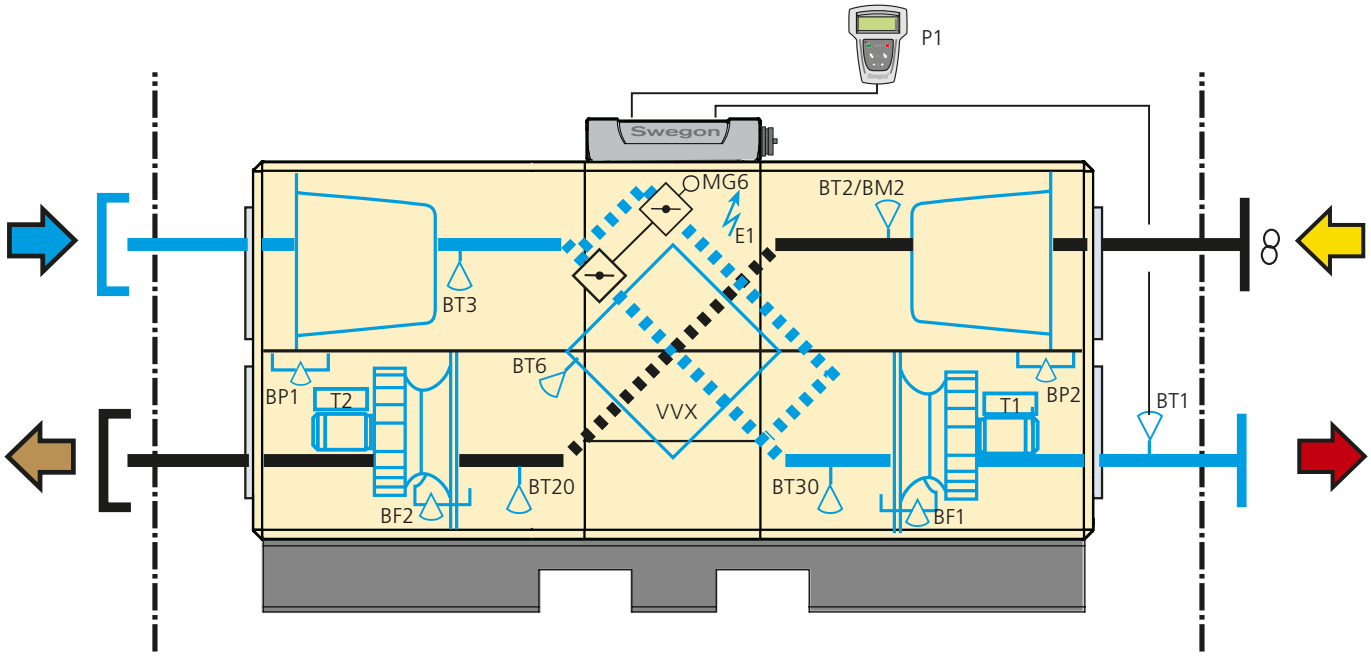
Control Schedule

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	Frequency inverters for variably controlling the speed 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

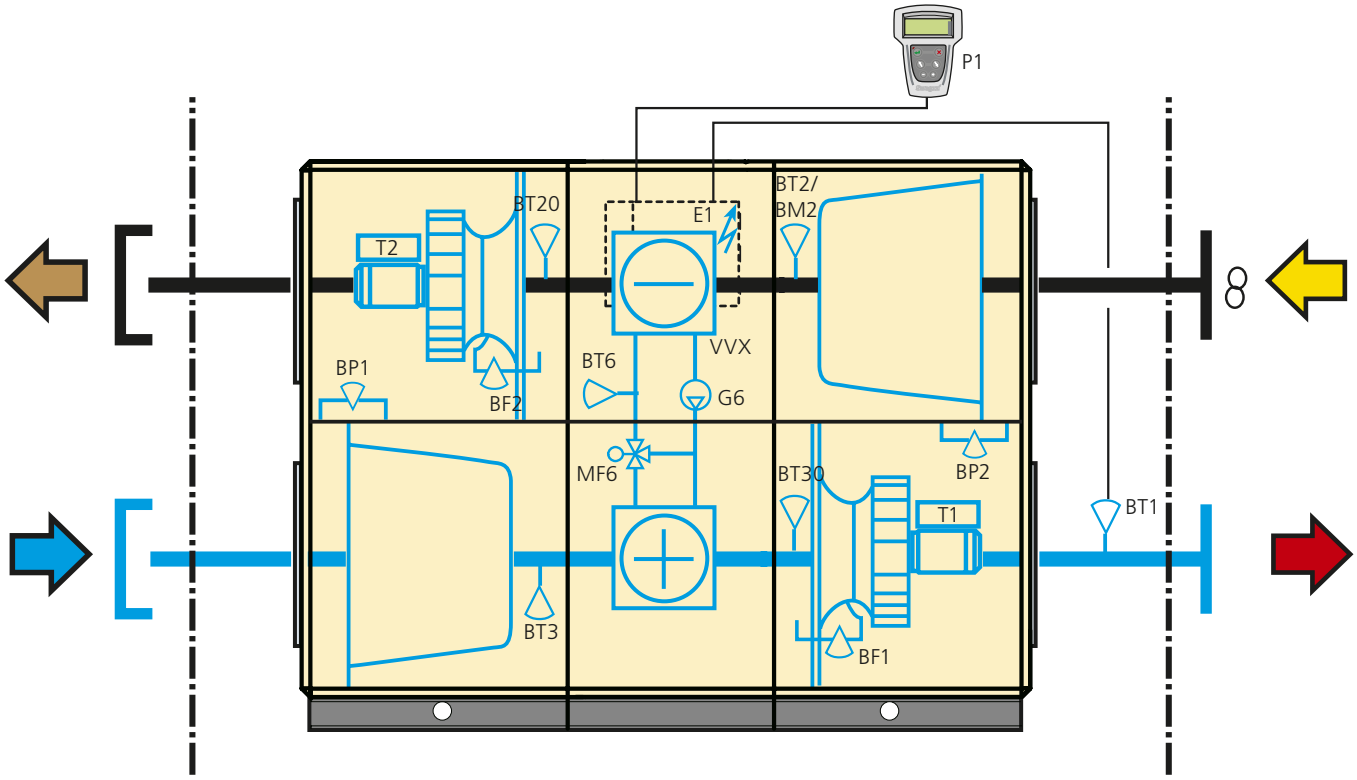
Control Schedule

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	Frequency inverters for variably controlling the speed 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.

Description of the Air Handling Unit

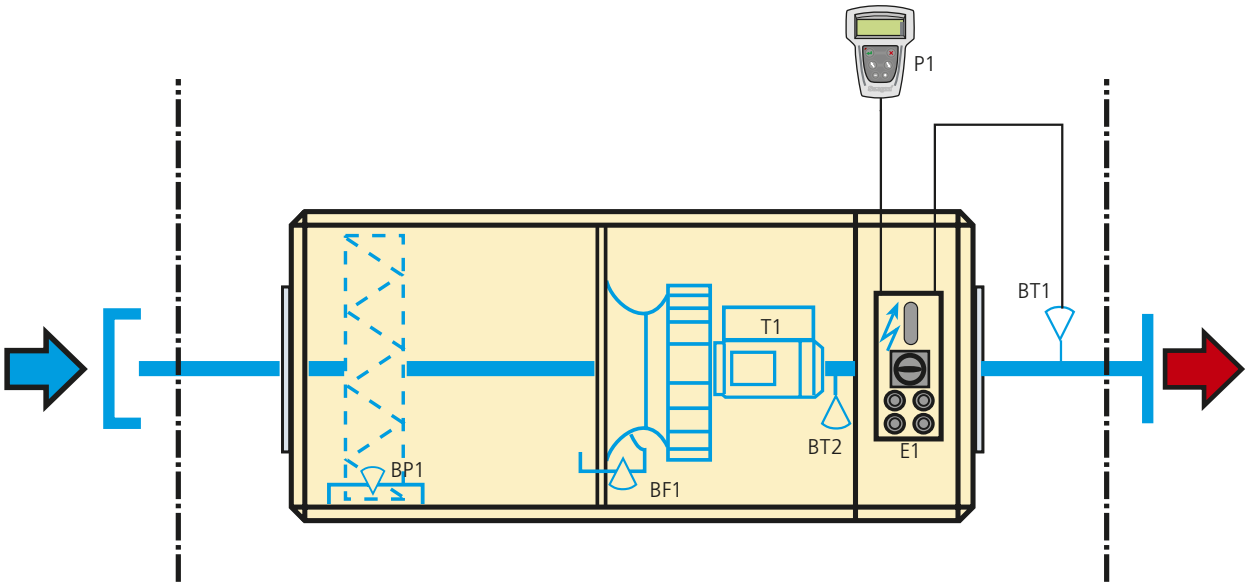
Control Schedule

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 are each specified below in a simplified and diagrammatical description.

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.



BT2 Outdoor air temperature sensor/supply air density sensor (In extract air handling 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. Transmits readings for controlling the fan speed so that the preset airflow will be maintained. (Serves as an extract air fan pressure sensor in an extract air unit)

BP1 Supply air filter pressure sensor, if applicable. For checking the filter status (Extract air filter pressure sensor in an extract air unit).

T1 Frequency inverters for variable speed control of the fan motors.

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

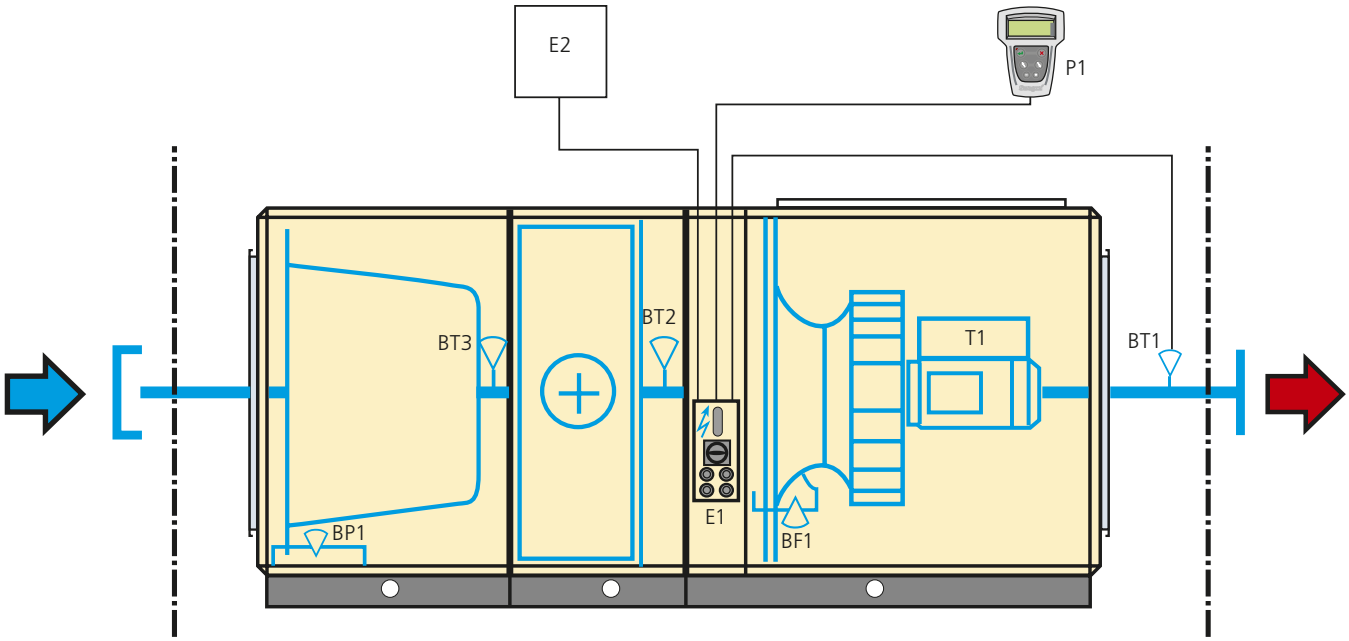
Control Schedule

Diagrammatic description of the control functions, GOLD SD, sizes 04-80

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 air handling unit selection program for calculating data, you receive a project-specific flow chart with complete description of pertinent unit 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 handling 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. Transmits readings for controlling the fan speed so that the preset airflow will be maintained. (Serves as an extract air fan pressure sensor in an extract air unit)
BP1	Supply air filter pressure sensor, if applicable. For checking the filter status (Extract air filter pressure sensor in an extract air unit).
T1	Frequency inverters for variable speed control of the fan motors.
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.

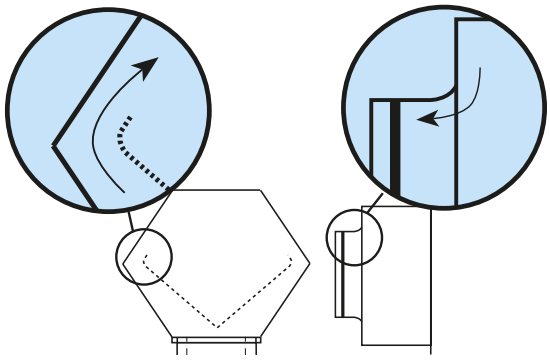
Description of the Air Handling Unit

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.

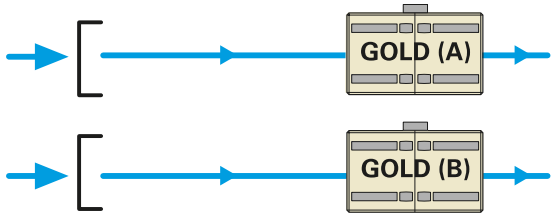
To achieve optimal operating economy and low noise level it is important to design the ventilation system with as low pressure drop as possible. The hoods for outdoor air and extract air, designed especially for the GOLD, are optimized in this respect.



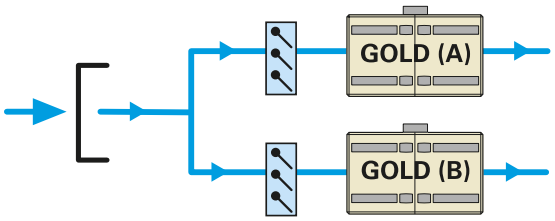
Examples of how air deflectors and extruded inlets minimize pressure losses in Swegon accessories for the GOLD.

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).