

# COMPACT HEAT RECOVERY AIR-HANDLING UNITS



- ✓ **FOR INSTALLATION IN SPACE LIMITED ROOMS**
- ✓ **COMPREHENSIVE AIR-CONDITIONING**
- ✓ **OPTIONAL TRANSPORT IN 1 UP TO 3 BLOCKS**
- ✓ **UNRIVALLED OPTIMISATION OF INTERNAL ASSEMBLIES**

### CHARACTERISTICS

Compact AeroMaster XP air-handling unit assemblies are intended for rooms requiring space savings with optional output openings directed upward or sideward.

### APPLICATION / OPERATING CONDITIONS

These units are designed for air transport and conditioning in normal indoor environments at ambient temperatures from -40°C to +40°C..

### FEATURES

- Basic G4, M5 and F7 filtration classes
- Inlet air heating
- Inlet air cooling
- Inlet and outlet air mixing

### DESIGN

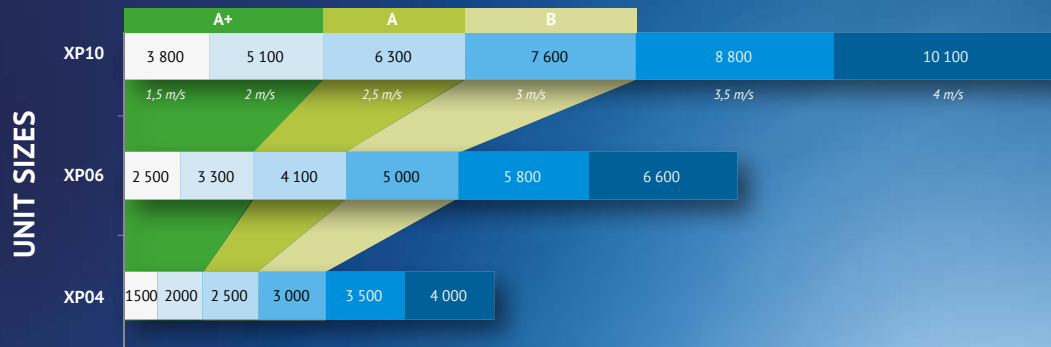
Compact AeroMaster XP air-handling units feature a unique frameless design, thanks to which they achieve top parameters as per European Standard EN EN1886. These units are manufactured in the following basic material combinations:

- Galvanized sheet steel (275 g/m<sup>2</sup>)
- Coated sheet steel (RAL 9002 2W002, EU 169-85, 15 µm)
- Coated sheet steel (polyester paint)
- Insulation – 50mm thick non-combustible mineral wool (110 kg/m<sup>3</sup>)

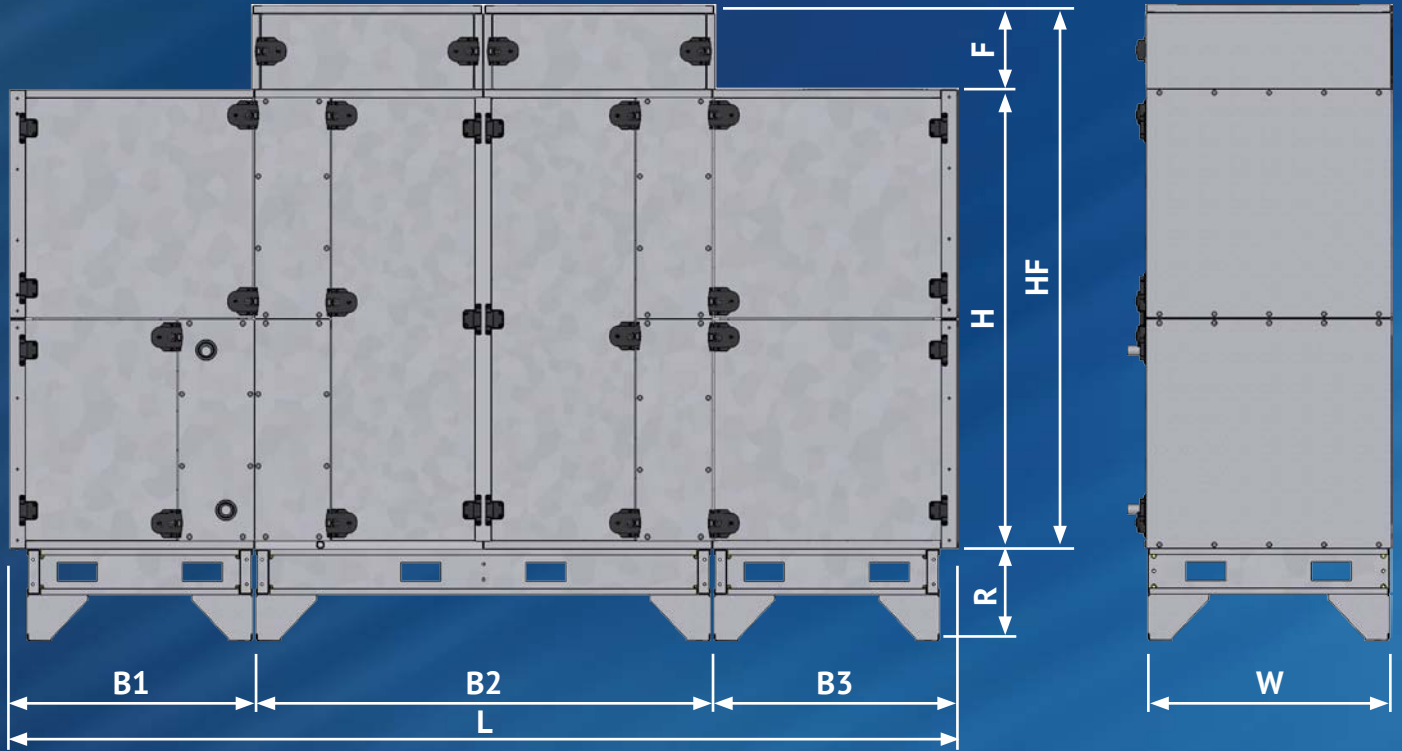
■ CASING MECHANICAL STRENGTH	D2 (M)
■ CASING AIR LEAKAGE	L1(M)
■ FILTER BYPASS LEAKAGE	< 1,2 % (F7)
■ THERMAL INSULATION	T3
■ THERMAL BRIDGING	TB3
■ OPERATING TEMPERATURE	-40 TO +40°C
■ CASING ACOUSTIC INSULATION (dB/OCTAVE BAND)	16,1/125, 19,1/250 Hz, 27,0/500 Hz, 29,7/1 kHz, 30,2/2 kHz, 29,3/4 kHz, 33,2/8 kHz

### UNIT OUTPUTS

Energy performance to air flow velocity correlation of AeroMaster XP Compact air-handling units



# COMPACT HEAT RECOVERY AIR-HANDLING UNITS



## DIMENSIONS AND WEIGHTS

DIMENSIONS AND WEIGHTS										
	B1=B3	B2	F	H	HF	L	R	W	m	
	(mm)									(kg)
XP 04	675	1250	280	1200	1480	2600	150/300/400	650	550	
XP 06	800	1500	280	1500	1780	3100	150/300/400	800	770	
XP 10	875	1650	280	1820	2100	3400	150/300/400	960	1040	

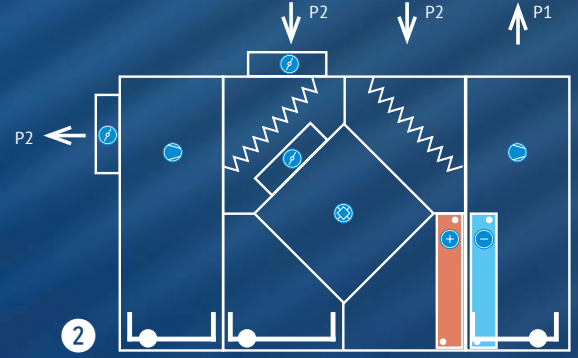
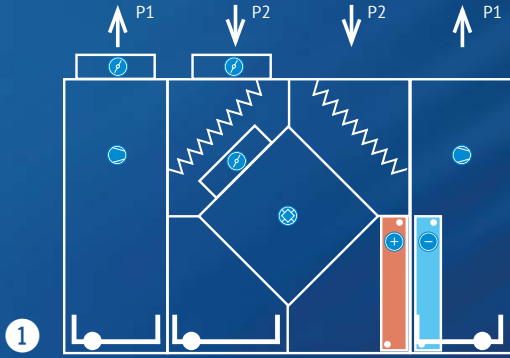
The indicated weights are only intended for informative purposes. The final weight of the assembly is dependent on the unit configuration and is specified in the quotation for a specific unit.

## CONNECTION DIMENSIONS

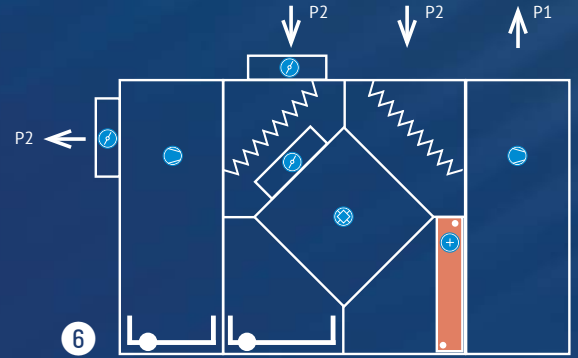
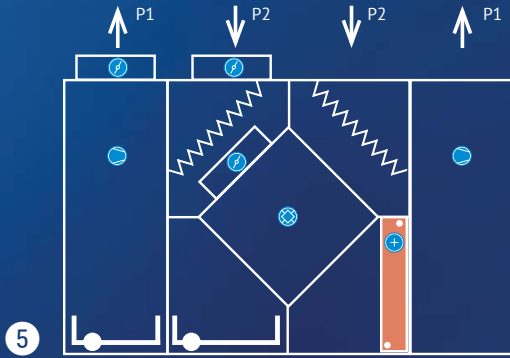
DUCT CONNECTION DIMENSIONS				
	P1	P2	P3	P4
	Large opening	Narrowed opening	Auxiliary chamber	Internal damper
	(mm)			
XP 04	500 × 450	350 × 450	500 × 450	350 × 350
XP 06	650 × 600	350 × 600	650 × 600	450 × 500
XP 10	810 × 660	350 × 760	810 × 760	660 × 450

**EXAMPLE ASSEMBLIES** of Economy and Efficiency versions of units. The Efficiency version is available in XP06 and XP10 sizes and features high heat recovery efficiency and low pressure loss. The Economy version is available in all sizes (XP04, XP06 and XP10).

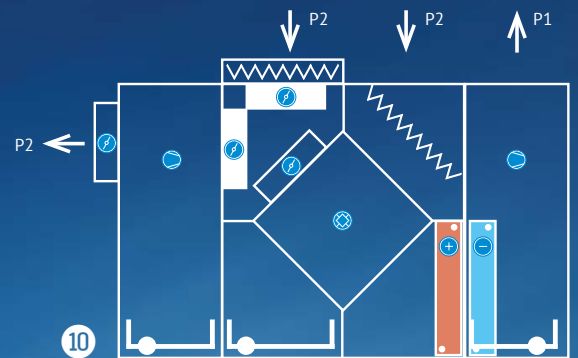
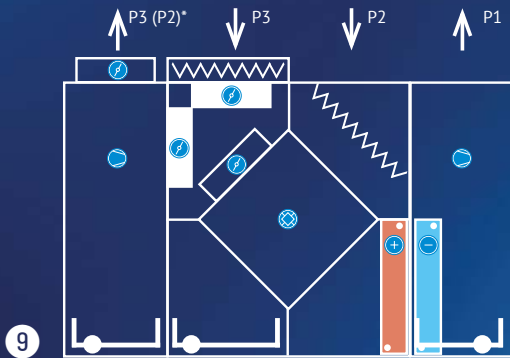
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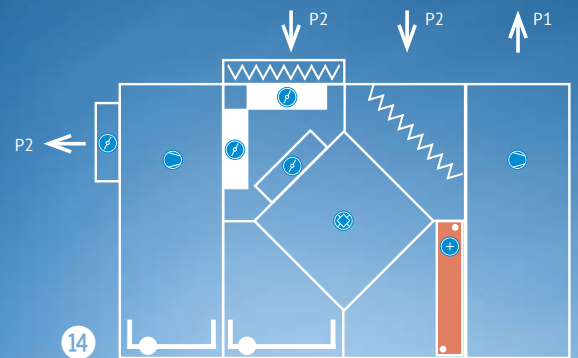
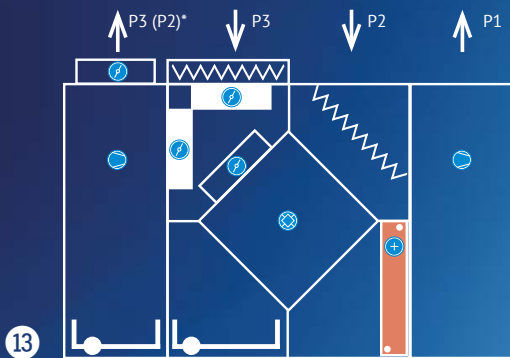
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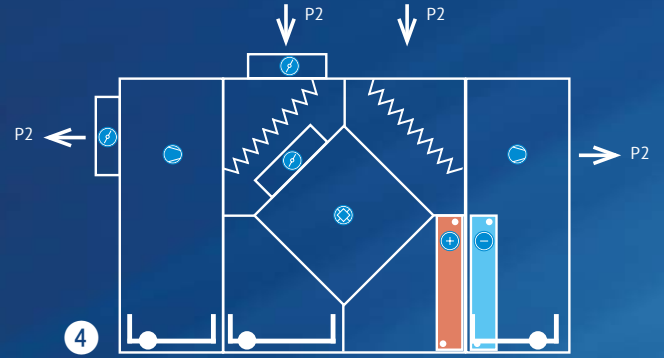
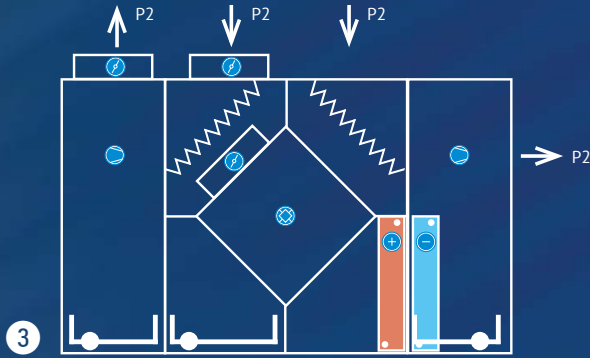
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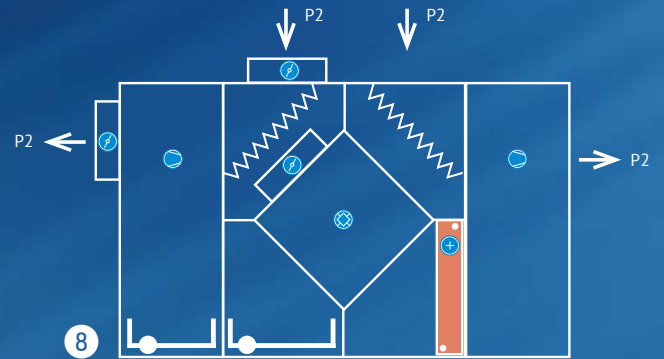
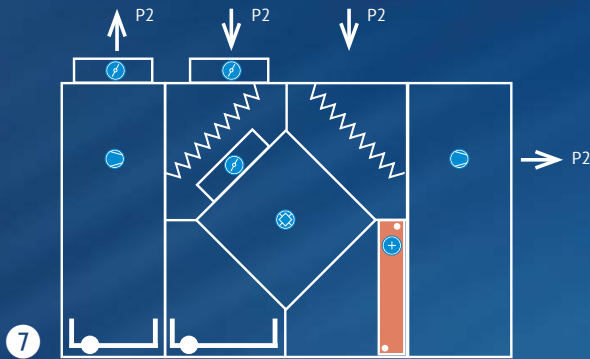
# COMPACT HEAT RECOVERY AIR-HANDLING UNITS

These example assemblies represent right-hand versions. (P2)\* – applies for XP10 dimensional range.

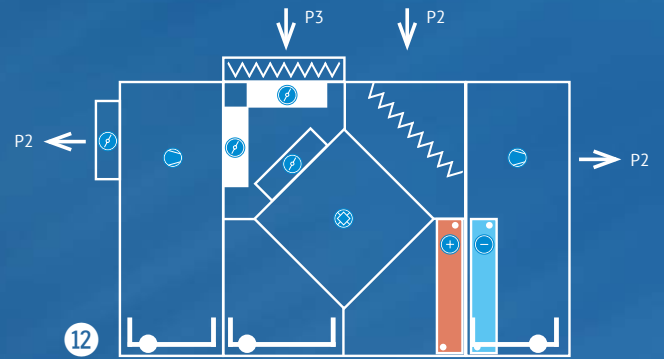
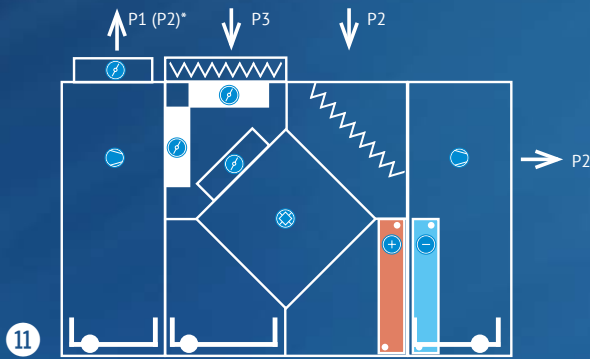
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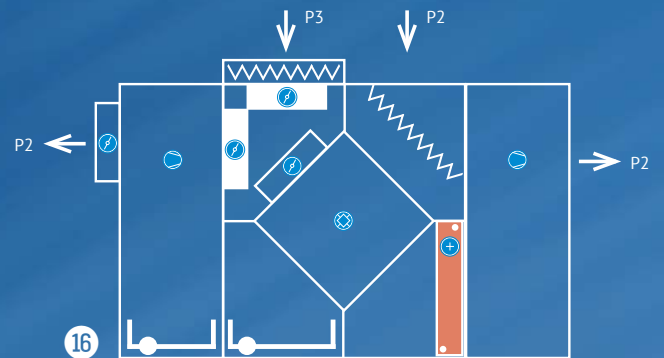
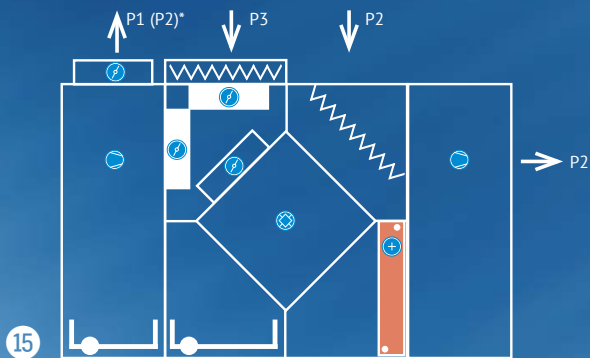
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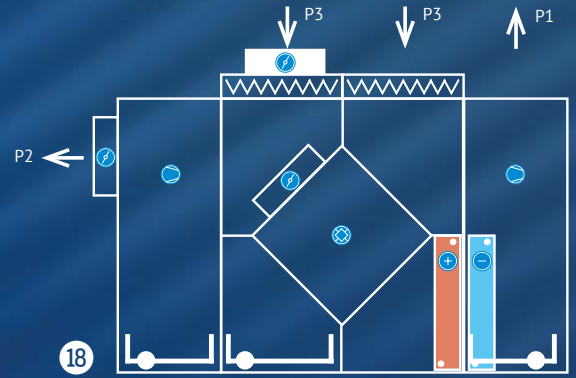
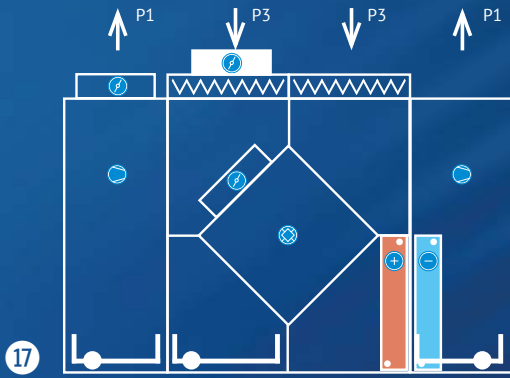


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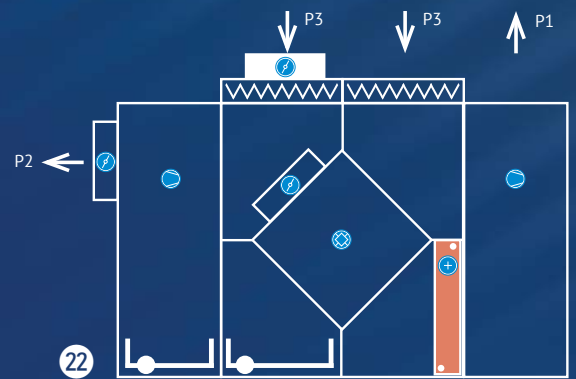
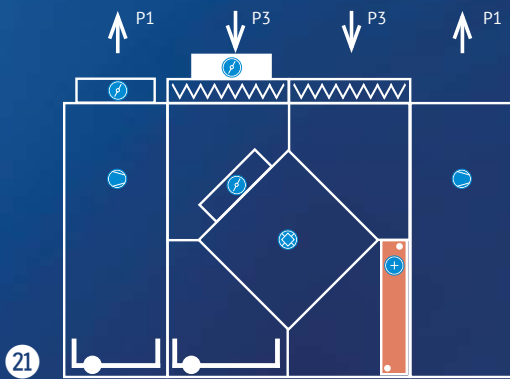


EXAMPLE ASSEMBLIES of small XP04 units feature high heat recovery efficiency and low pressure loss.

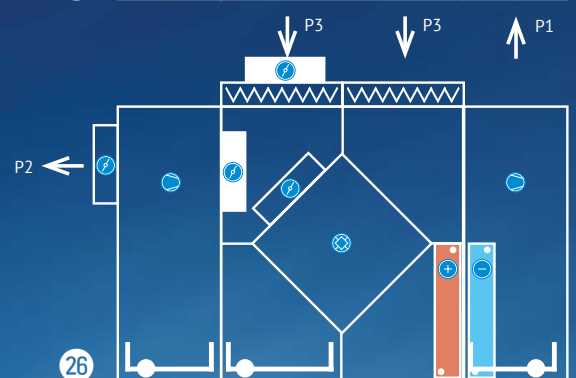
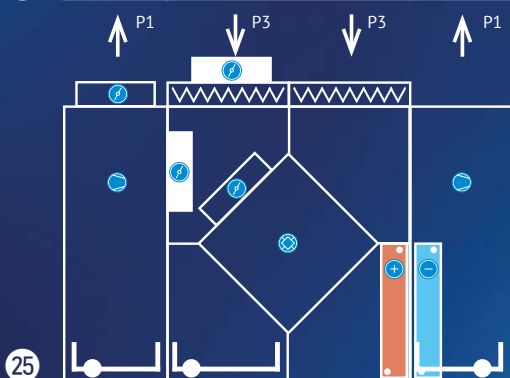
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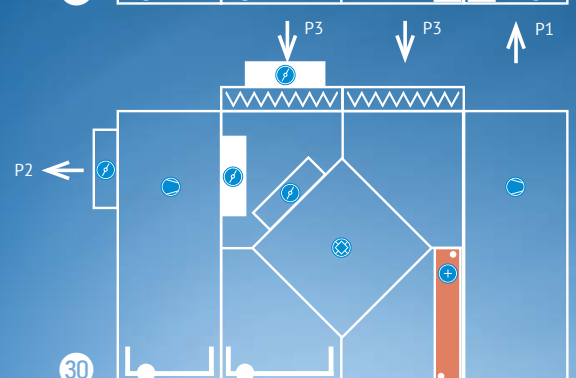
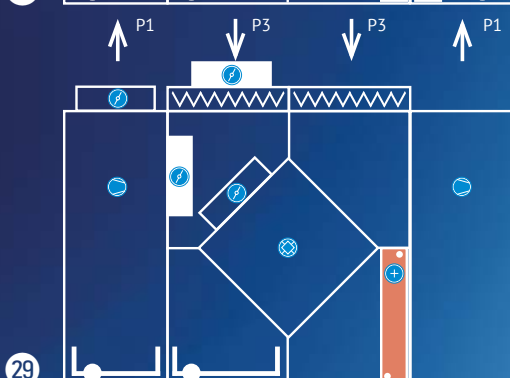
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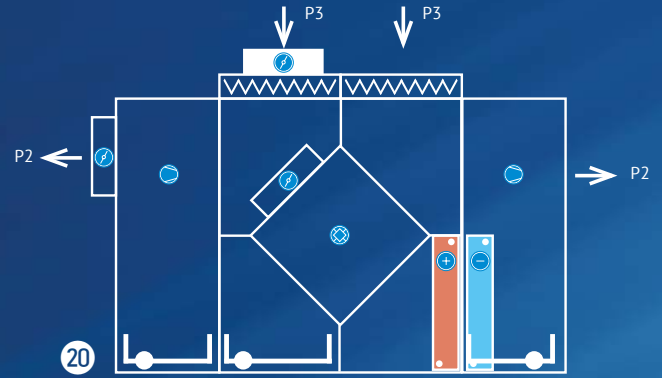
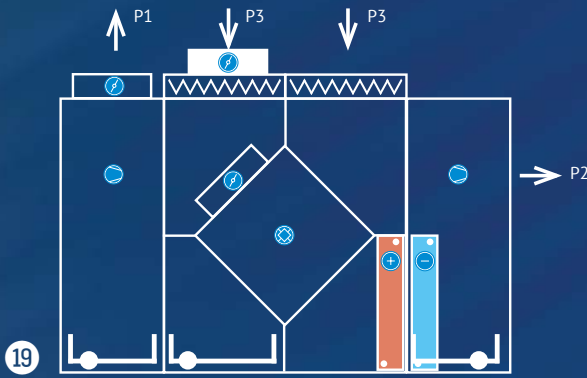
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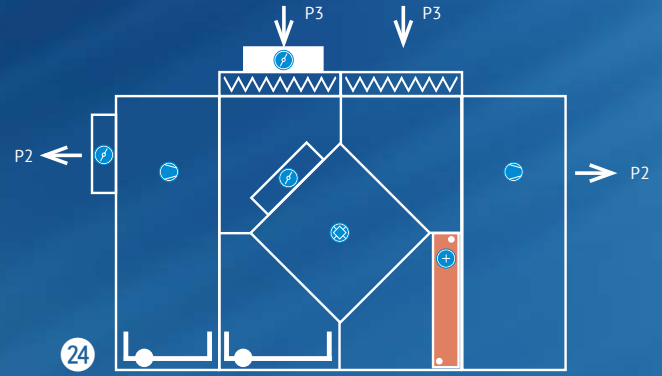
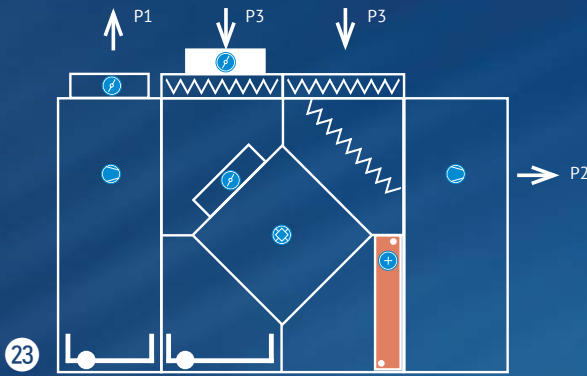
# COMPACT HEAT RECOVERY AIR-HANDLING UNITS

*These example assemblies represent right-hand versions.*

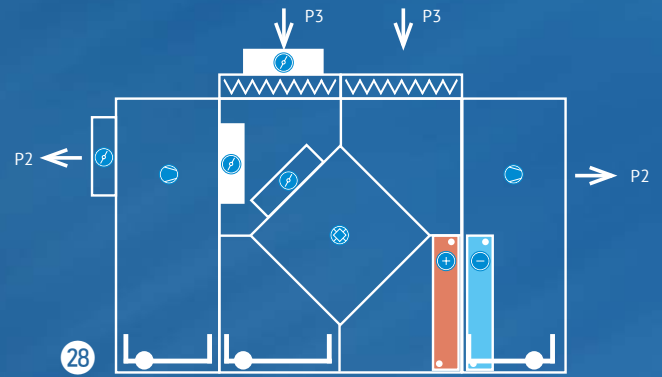
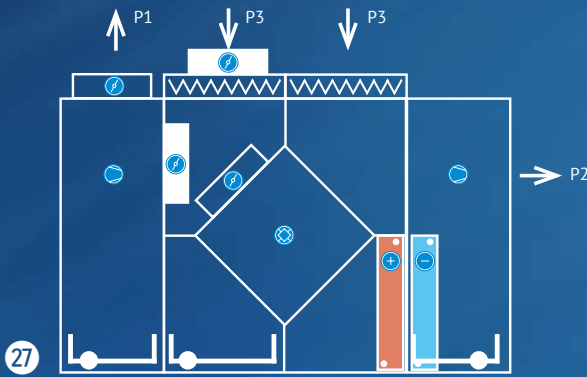
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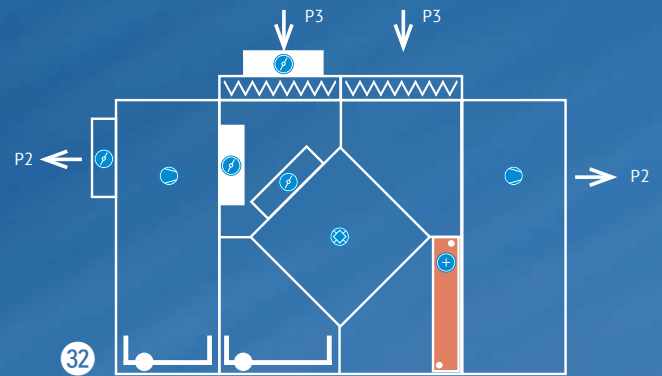
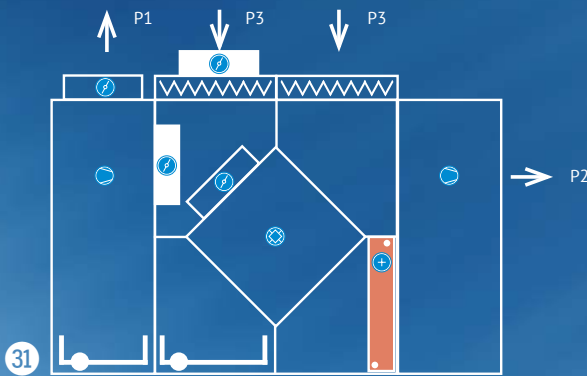
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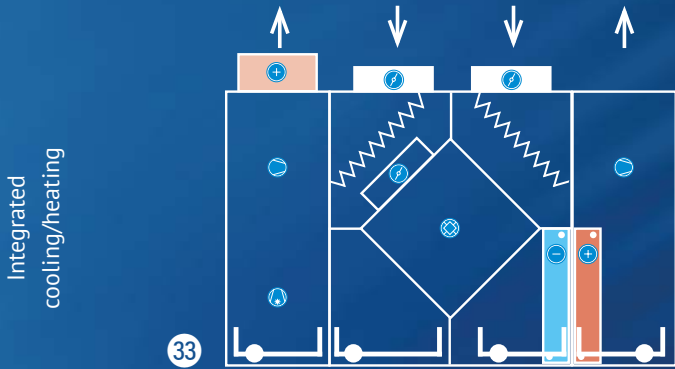
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### EXAMPLE ASSEMBLIES (additional application options)

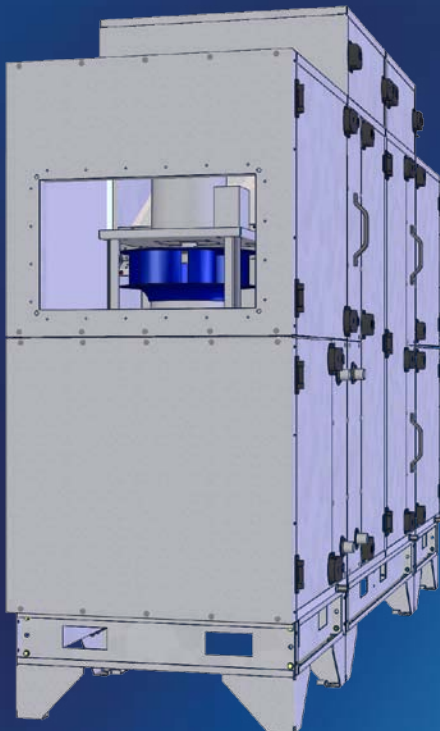


For more example assemblies with integrated heating/cooling, refer to the separate document.

### LEFT-HAND AND RIGHT-HAND UNIT VERSION

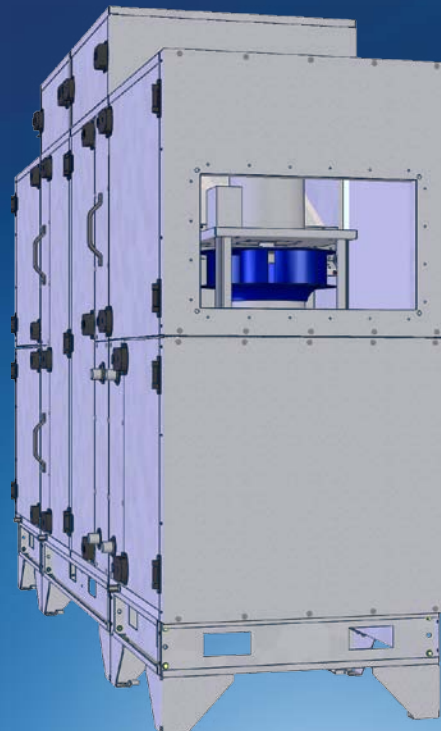
The side configuration is determined according to the service side and inlet fan.

Inlet fan on the left-hand side



■ LEFT-HAND VERSION

Inlet fan on the right-hand side

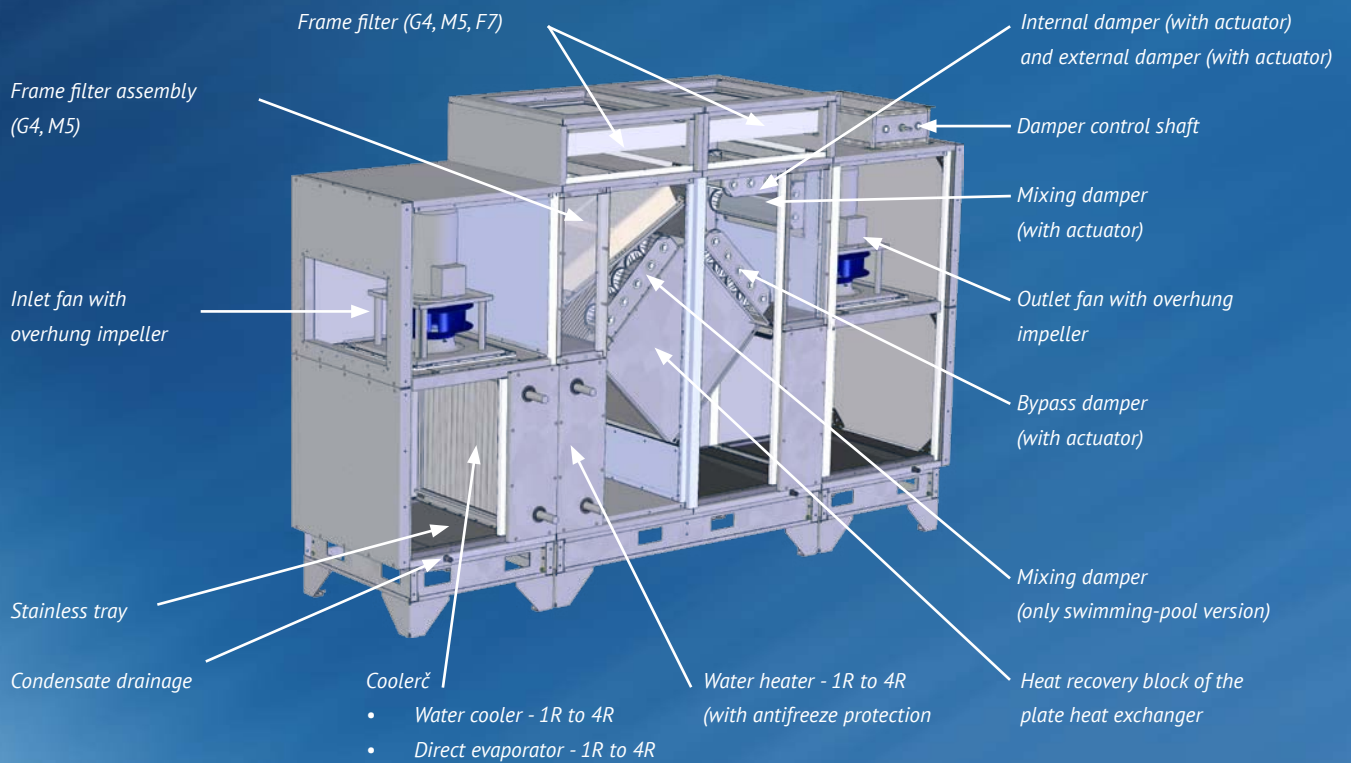
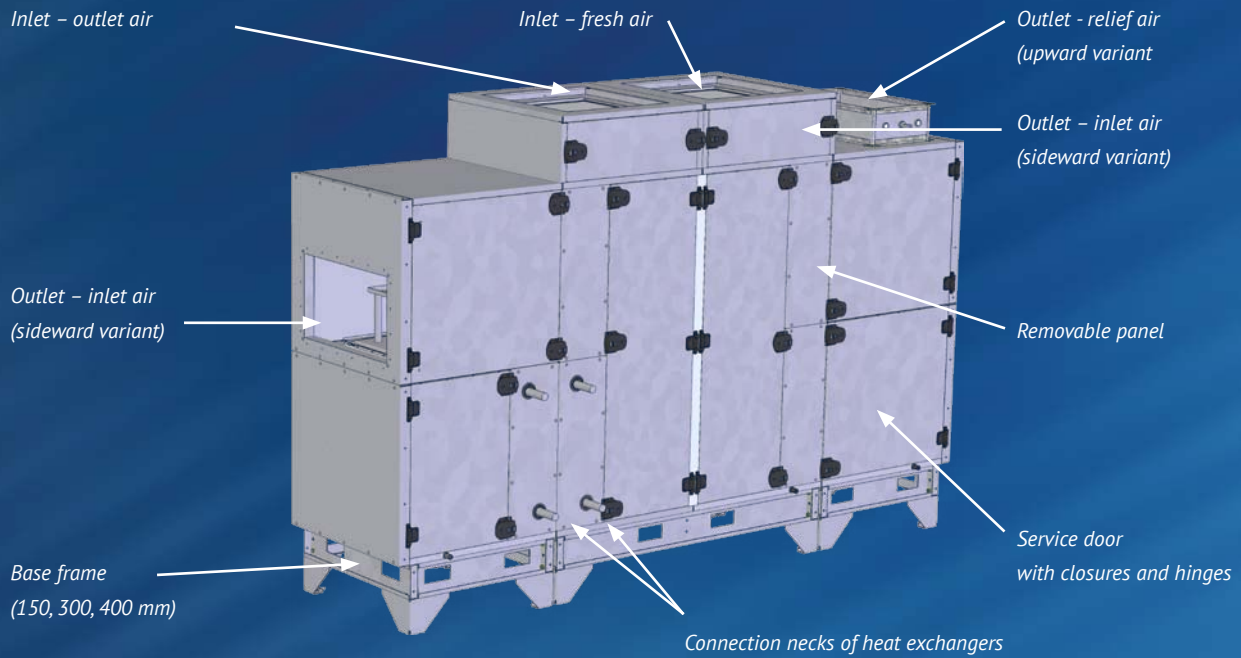


■ RIGHT-HAND VERSION



# COMPACT HEAT RECOVERY AIR-HANDLING UNITS

## BASIC COMPONENTS



### SPECIFICATION OF MATERIAL FOR COMPACT AEROMASTER XP AIR-HANDLING UNITS

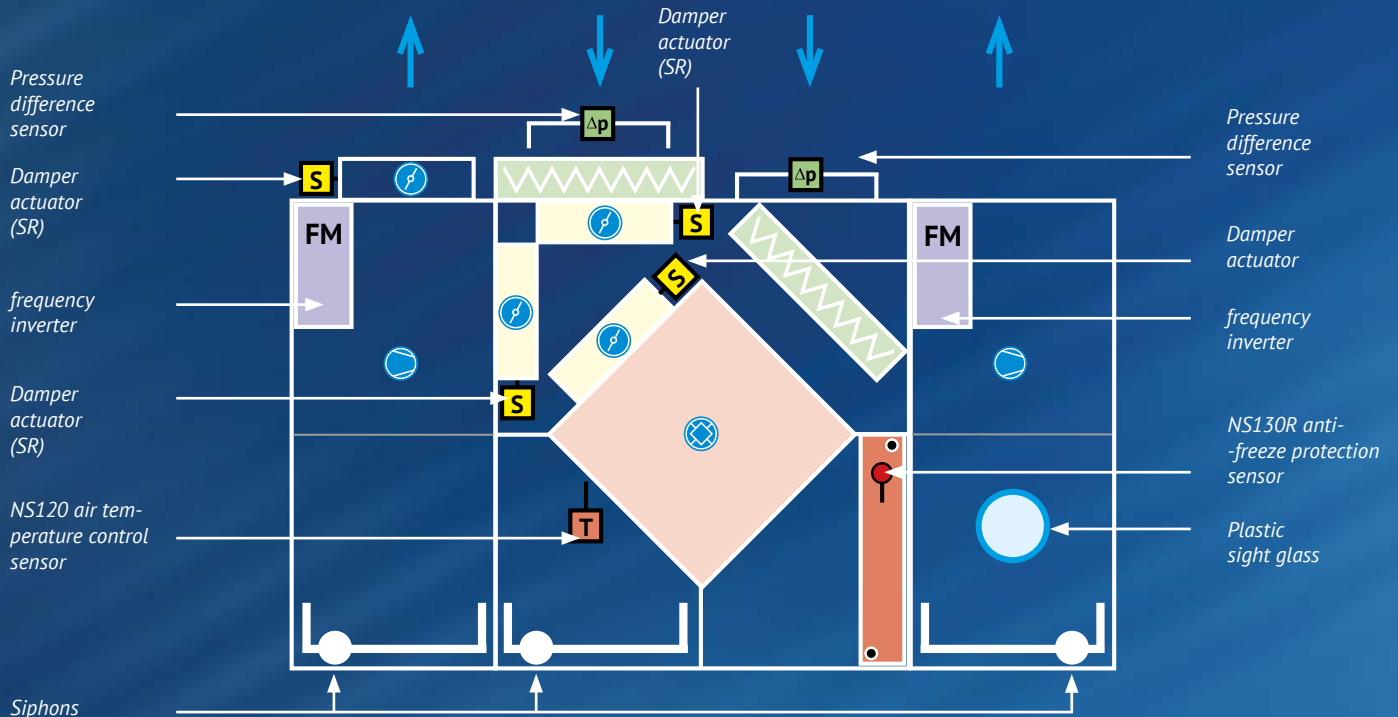
REMAK air-handling units are characterized by their long service intervals and trouble-free operation. Compact AeroMaster XP air-handling units are delivered in following surface finish combinations (hot-dip galvanizing, powder coating, and stainless steel) which comply with the grade of atmosphere corrosiveness in accordance with EN 12500 and corrosion resistance in accordance with EN ISO 14713.

CODE	INTERNAL CASING	EXTERNAL CASING	INTERNAL ASSEMBLY DESIGN	TRAY & CONNECTION MAT.	BASE FRAME	CORROSION RESISTANCE	NOTE. (RECOMMENDATION)
0	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143	Tray stainless steel V2A 1.4301, X5CrNi, 189, AISI304 standard connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C2/C2	Air-handling units for indoor environment - low corrosivity
1	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143 with RAL 9002 finish	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143	Tray stainless steel V2A 1.4301, X5CrNi, 189, AISI304 standard connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C2/C2	Air-handling units for indoor environment - low corrosivity, request for design
2	Galvanised Z275 + powder coating	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	Galvanised sheet parts (metallised) + paint (coated), other parts according to the basic specification of internal assemblies	Tray stainless steel V2A 1.4301, X5CrNi, 189, AISI304 connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C4/C2	Air-handling units for indoor environment - high air corrosivity, air without chlorine impurities
3	Galvanised Z275 + powder coating	Galvanised Z275 ČSN EN 10 346 ČSN EN 10143 with RAL 9002 finish	Galvanised sheet parts (metallised) + paint (coated), other parts according to the basic specification of internal assemblies	Tray stainless steel V2A 1.4301, X5CrNi, 189, AISI304 connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C4/C2	Air-handling units for indoor environment - high air corrosivity, air without chlorine impurities
4	Galvanised Z275 + powder coating	Galvanised Z275 + powder coating	Galvanised sheet parts (metallised) + paint (coated), other parts according to the basic specification of internal assemblies	Tray stainless steel V4A 1.4571, X10, Cr NiMoTi 1810, AISI316Ti stainless connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C4/C4	version for pools chlorine resistant
5	Galvanised Z275 + powder coating	Galvanised Z275 + powder coating	Galvanised sheet parts (metallised) + paint (coated), other parts according to the basic specification of internal assemblies + special adaptations	Tray stainless steel V2A 1.4301, X5CrNi, 189, AISI304 connecting material	Galvanised Z275 ČSN EN 10 346 ČSN EN 1014	C4/C4	Hygiene version air without chlorine impurities

RISK OF CORROSION IS DEPENDENT ON THE INFLUENCE OF EXTERNAL EFFECTS ACCORDING TO ČSN EN ISO 14713		
CLASS	CORRODING ENVIRONMENT	CORROSIVITY
C1	Interior: dry	very low
C2	Interior: intermittent moisture	low
	Exterior: open landscape	
C3	Interior: high humidity and slightly polluted environment	medium
	Exterior: industrial environments, coastal locations	
C4	Interior: pools, chemical plants, etc.	high
	Exterior: industrial and coastal areas	
C5	Exterior: industrial emissions along with high humidity and intense influence of maritime environment	very high

# COMPACT HEAT RECOVERY AIR-HANDLING UNITS

## COMPACT UNIT ACCESSORIES



**CAPILLARY THERMOSTAT** – Auxiliary antifreeze protection sensor. If the temperature falls below the permissible level, this thermostat will activate antifreeze protection of the connected control system.

**TEMPERATURE SENSORS** – The return water temperature is sensed by the high-speed response NS 130 / Ni1000 temperature sensor. Inlet air temperature sensing behind the heater is performed by the NS120/ Ni1000 sensor. This sensor serves for both inlet air temperature control as well as antifreeze protection.

**PRESSURE DIFFERENCE SENSOR** – This is a pressure monitor. It signals exceeding of the preset pressure loss, e.g. filter fouling or fan malfunction.

**FREQUENCY INVERTERS** – The frequency inverters are optimized to power the fan motors. They enable fan motor speed control and thus the air-handling unit's air flow rate control.

**DAMPER ACTUATORS** – damper drive for air-handling damper setting The actuators are equipped with emergency functions and feature high operational safety. Control: 0-10V; 230 V/24 V  
SR = continuous control.

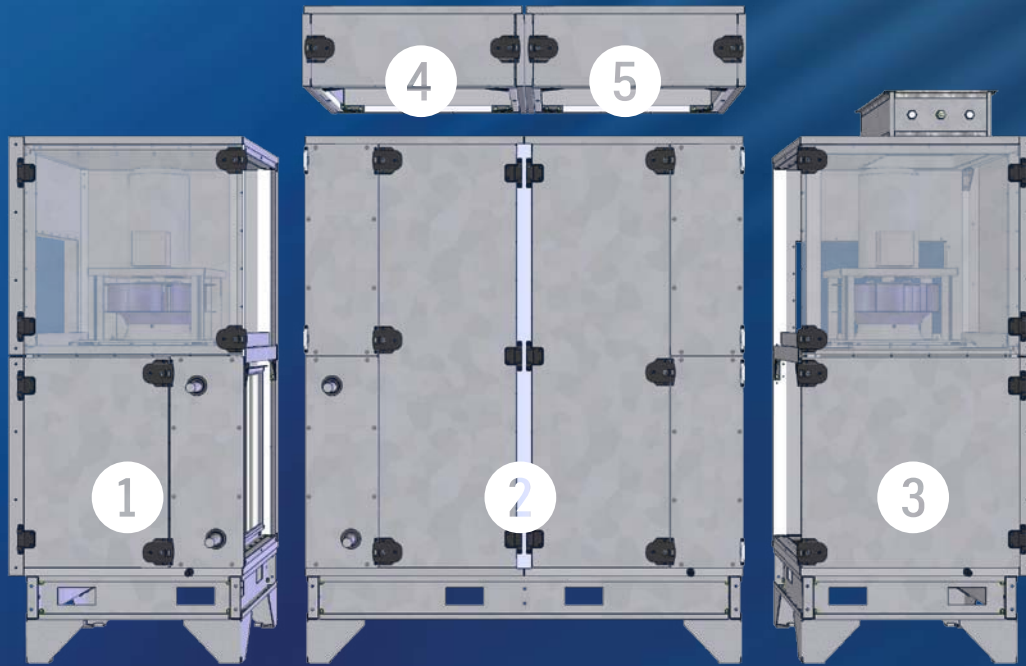
**SIPHONS** – Standard versions of the AeroMaster XP Compact air-handling units can be fitted with siphons. The siphon height corresponds to the pressure conditions inside the air-handling unit (fan static pressure).

**PLASTIC SIGHT GLASS** – service window.



### DELIVERY TO THE SITE

The unit can be dispatched disassembled into individual blocks or assembled on a common frame.



1. Inlet fan block, size XPMK/2
2. XPMK plate exchanger block
3. Outlet fan block, size XPXK/2

4. Auxiliary filter block
5. Auxiliary filter block

### MEASURING & CONTROL SYSTEM

- As standard, compact AeroMaster XP air-handling units are delivered with VCS control units.
- VCS control units are compact control and power distributors used for the decentralized regulation and control of air-handling systems. They provide the equipment with high stability and safety while allowing easy control, including the viewing of operating states.
- Measuring & control equipment includes frequency inverters, inlet and outlet filter pressure sensors, inlet and outlet air temperature sensors, fresh air temperature sensor, air temperature sensor for heat recovery and heat exchanger anti-freeze sensor.

