

Comfort air conditioning unit with double plate heat exchanger and "adiabatic" evaporative cooling system



Adsolair 58 13 01 - simplified illustration

Automatically selects the most economical operating mode!



Adsolair

Adsolair 56/58

AIR VOLUME FLOW: 2,600 – 52,800 m³/h

At a glance:

- ▶ For heat and cooling recovery
- ▶ Over 75% temperature efficiency
- ▶ Energy-saving EC fans
- ▶ Integrated compressor refrigeration system (58 series)
- ▶ Intelligent air bypass duct
- ▶ Two-stage supply air filtration
- ▶ "Adiabatic" evaporative cooling – Cooling without electricity
- ▶ Integrated defrosting function
- ▶ Compact design
- ▶ Freely configurable HVAC system
- ▶ Fulfils the requirements of VDI 6022

Units in the Adsolair series achieve high heat recovery rates and can be used in a wide variety of comfort air conditioning applications. The integrated "adiabatic" evaporative cooling system allows temperature reductions of over 14 K. A compressor refrigeration system integrated into the 58 series additionally increases

the cooling capacity of the overall system at high temperatures and allows the dehumidification of outside air. The combination of first-class components with precise control and regulation systems guarantees economical operation at all times, while ensuring the highest degree of comfort air conditioning.

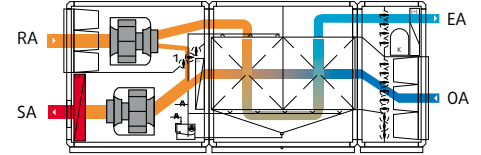
Further performance parameters and options:

- Filtering the air in any operating mode
 - Corrosion-free heat exchanger made from polypropylene
 - Pumped hot water heating coil
 - Thermal bridge factor TB1
 - Individually controllable performance parameters
 - Complete unit, ready to connect, contains all structural elements for comfort air conditioning, including all control and regulation fittings
 - Intensive quality inspection with factory trial run
- Options
- Recirculation air heating damper
 - Pumped chilled water cooling coil
 - Pressure reversal
 - Sound absorber
 - Reversible refrigeration system (58 series)
 - Outdoor installation
 - Hot water extraction, to use waste heat for heating purposes (58 series)
 - Increased cooling capacity
 - Remote maintenance
 - And many more

Functional description

Wintertime conditions

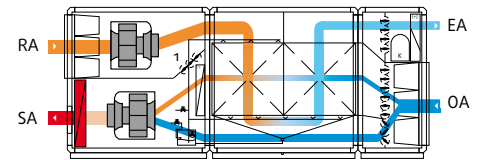
In case of low outside temperatures the system operates completely in heat recovery mode. The standard heating coil (LPHW) compensates for ventilation and transmission heat losses of the building as required.



Defrosting Circuit

All recuperative heat exchangers tend to ice over in the exhaust air section in case of low outside temperatures. In defrost operation, the OA-SA bypass opens, reducing the outside air flow rate

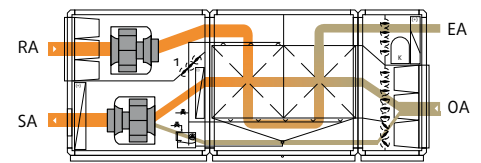
going through the recuperator. The heat contained in the return air melts any ice in the heat exchanger, while the airflow rate routed past the recuperator is regulated as required.



Transitional Period

As the outside air temperatures rise, the heat recovery requirement is reduced. The OA/SA bypass damper, which runs along the entire depth of the device, is

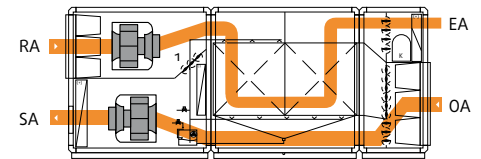
continuously regulated in order to achieve the desired supply air temperature.



Free cooling

If the outside temperatures continue to rise, the heat recovery is bypassed. The structural design of the OA/SA bypass ensures that the pressure losses within

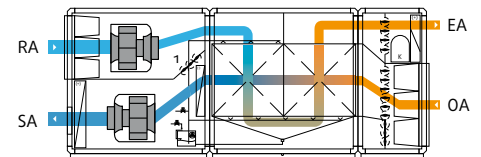
the unit are low and that the power consumption of both fans in bypass mode is also low.



Summertime conditions

If the outside temperature rises above the return temperature, the highly efficient heat exchanger is used as a "cooling recovery system".

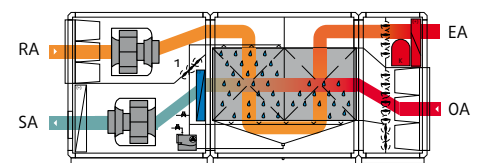
The warm outside air is cooled by the return air.



Indirect "adiabatic" evaporative cooling

The Menerga Adsolair principle uses the advantages of indirect "adiabatic" evaporative cooling without the disadvantages of supply air humidification. A major component of the Adsolair principle is the double plate heat exchanger, in which the return air is "adiabatically" cooled. In return, the outside air is cooled by the humid, cold exhaust air, without being humidified.

The high efficiency rate lies in the fact that both processes ("adiabatic" evaporative cooling of the return air + cooling of the outside air) take place simultaneously in the heat exchanger. The high degree of temperature efficiency of the double plate heat exchanger allows significant cooling of the OA-SA by over 14 K. If required, the compressor refrigeration system will switch on and cool the supply air even further.

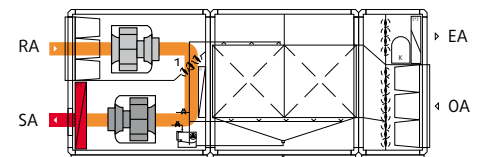


Recirculation Air Operation (heating)*

In recirculation air mode, the outdoor and exhaust air dampers are closed. The air is heated via the heating coil. Rooms which are not used all of the time, such as

lecture halls or sports halls, can therefore be quickly heated before being used.

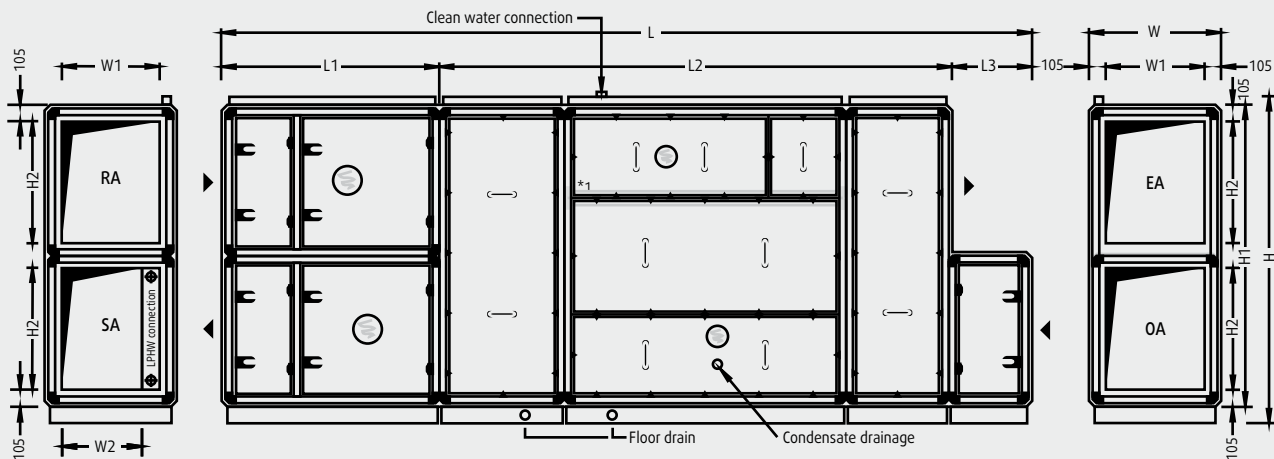
* only possible with optional recirculation air heating damper



1 Recirculation air heating damper (additional equipment)

Adsolair Type 56

System dimensions and weights



Important! Where a system is operated in parallel, the supply air and return air ducts of the two units have to be brought together.

Where units are run in parallel, each unit has a controls cabinet.

Proportions/details vary depending on system size.

Mirror-image design possible.

Unit type	L	W ¹	H ²	L1	L2	L3	W1	W2	H1	H2	Weight
56 03 01	4,350	790	1,700	1,240	2,510	600	580	510	1,520	580	1,100
56 05 01	4,510	1,110	1,700	1,400	2,510	600	900	830	1,520	580	1,350
56 06 01	5,630	790	2,340	1,400	3,630	600	580	420	2,160	900	1,550
56 10 01	5,630	1,110	2,340	1,400	3,630	600	900	740	2,160	900	1,850
56 13 01	5,790	1,430	2,340	1,560	3,630	600	1,220	1,060	2,160	900	2,200
56 16 01	5,790	1,750	2,340	1,560	3,630	600	1,540	1,380	2,160	900	2,520
56 19 01	5,790	2,070	2,340	1,560	3,630	600	1,860	1,700	2,160	900	2,800
56 25 01	6,430	2,070	2,980	1,560	4,270	600	1,860	1,700	2,800	1,220	3,800
56 32 01	7,230	2,070	3,620	1,560	5,070	600	1,860	1,700	3,440	1,540	4,650
56 36 01	7,230	2,390	3,620	1,560	5,070	600	2,180	2,020	3,440	1,540	5,250

Largest transport unit *

Unit Type	L	W	H ²	Weight
56 03 01	2,510	790	1,700	600
56 05 01	2,510	1,110	1,700	750
56 06 01	3,630	790	2,340	950
56 10 01	3,630	1,110	2,340	1,120
56 13 01	3,630	1,430	2,340	1,300
56 16 01	3,630	1,750	2,340	1,500
56 19 01	3,630	2,070	2,340	1,680
56 25 01	4,270	2,070	2,980	2,400
56 32 01	5,070	2,070	3,620	3,150
56 36 01	5,070	2,390	3,620	3,500

Operating weight

Unit Type	Weight
56 03 01	1,140
56 05 01	1,390
56 06 01	1,600
56 10 01	1,920
56 13 01	2,290
56 16 01	2,630
56 19 01	2,940
56 25 01	3,990
56 32 01	4,880
56 36 01	5,540

Controls cabinet

Unit Type	H x W x D	Position at unit
56 03 01	1,120 x 640 x 210	SA/RA side
56 05 01	1,120 x 640 x 210	SA/RA side
56 06 01	1,120 x 640 x 210	SA/RA side
56 10 01	1,120 x 640 x 210	SA/RA side
56 13 01	1,120 x 640 x 210	SA/RA side
56 16 01	1,120 x 640 x 210	SA/RA side
56 19 01	1,120 x 640 x 210	SA/RA side
56 25 01	1,120 x 640 x 210	SA/RA side
56 32 01	1,280 x 640 x 210	SA/RA side
56 36 01	1,280 x 640 x 210	SA/RA side

For service work, a clearance corresponding to dimension W is required on the operating side of the unit. If dimension W is smaller than one metre, please leave a clearance of one metre. For service work above the unit, please allow 50 mm working height clearance above the cable duct.

Please comply with the dimensions for body size, air duct connections and electrical switch cabinet.

All lengths are given in mm, weights in kg, weight incl. Controls cabinet.

- 1 Door fitting assembly increase unit width by 65 mm each operating side
- 2 incl. 120 mm base frame, plus 60 mm cable duct

* Partitioning of unit for smaller apertures possible (at extra cost).

Technical specifications and services

Unit Type		56 03 01	56 05 01	56 06 01	56 10 01	56 13 01	56 16 01
Optimum flow rate	m ³ /h	2,600	3,900	4,000	6,000	7,900	9,800
Max. volume flow rate ¹	m ³ /h	3,400	5,100	5,100	7,800	10,400	12,900
Coefficient of power efficiency according to EN 13053:2012	%	66	67	72	72	72	73
Total electrical power rating ²	kW	2.17	2.92	2.78	4.08	4.91	5.89
Current consumption ²	A	5.2	8.7	8.2	10.2	16.1	16.1
Operating voltage		3 / N / PE 400 V 50 Hz					
Ext. pressure loss							
Supply and fresh air channel	Pa	300	300	300	300	300	300
Return and exhaust air channel	Pa	300	300	300	300	300	300
Sound power level³							
Supply air vent	dB(A)	80	81	81	72	79	73
RA connection	dB(A)	74	66	66	72	69	70
Outside air vent	dB(A)	77	77	77	72	75	71
EA connection	dB(A)	82	72	71	76	76	74
Acoustic pressure at a distance of 1 m from the device ³	dB(A)	66	65	65	58	64	59
Fan units							
Rated motor input for supply air ⁴	kW	1.06	1.50	1.49	2.11	2.61	3.08
Rated motor input for return air ⁴	kW	0.83	1.13	1.12	1.74	2.01	2.46
SFP category supply air return air		2 2	2 2	1 2	1 2	1 1	1 2
Nominal rating supply air return air	kW	1.7 1.7	3.0 1.7	3.0 1.7	3.0 3.0	4.7 4.7	4.7 4.7
Evaporative cooling ⁵							
Cooling capacity of "adiabatic" evaporative cooling system ⁶	kW	8.5	12.9	14.0	21.1	27.9	33.0
Rated pump input for evaporative cooling	kW	0.28	0.29	0.17	0.23	0.29	0.35
Efficiency classes according to EN 13053:2012							
Heat recovery class		H2	H2	H1	H1	H1	H1
Power consumption of fan motors SA RA		P1 P1	P1 P1	P1 P1	P1 P1	P1 P1	P1 P1
Air velocity class		V2	V2	V2	V2	V2	V2
Filtration according to DIN EN 779							
Supply air Outside air		F7 M5					
Return Air		M5					
LPHW							
Heating capacity SA=22°C ⁷	kW	7.0	10.3	8.2	12.2	16.2	20.3
Heating capacity SA=30°C ⁷	kW	13.9	20.7	18.8	28.1	37.3	46.3
Heating capacity Defrost ^{7,8}	kW	5.4	8.2	9.2	13.8	17.9	22.2
Water flow rate and pressure losses							
LPHW	m ³ /h kPa	0.51 5.2	0.88 4.2	0.89 4.8	1.38 4.3	2.14 3.6	2.16 4.3
LPHW valve	m ³ /h kPa	0.40 6.4	0.59 5.6	0.54 4.7	0.77 9.5	1.04 6.7	1.21 9.2
Connections							
LPHW connection	DN	32	32	32	32	40	40
LPHW control valve connection	DN	15	15	15	15	15	15
Clean water connection ⁹	DN	15	15	15	15	15	20
Condensate / slurry drain	DN	40	40	40	40	40	40
Floor drains	DN	40	40	40	40	40	40
LPCW (optional)							
Cooling capacity SA ≈ 17° C ⁶	kW	9.2	15.1	12.7	20.0	29.3	38.3
Additional power consumption for supply air ⁴	W	130	110	120	110	150	180
LPCW connection	DN	32	40	40	50	50	65
LPCW control valve-connection	DN	15	20	20	25	32	40
Water flow rate and pressure losses							
LPCW	m ³ /h kPa	1.31 7.9	2.16 11.0	1.82 4.3	2.86 3.7	4.20 6.2	5.48 4.1
LPCW valve	m ³ /h kPa	1.31 10.8	2.16 11.8	1.82 8.3	2.86 8.2	4.20 6.9	5.48 11.7

Specifications of technical data relate to the optimum flow rate and return air condition 22°C / 40% r.h., outside air condition -12°C / 90% r.h. and an altitude height of zero metres above sea level, unless otherwise specified

- 1 may require of alteration of technical equipment
 2 dependent on configuration of measurement and control system/unit

- 3 at 250 Hz mid-band frequency
 4 with average filter contamination
 5 water quality of make-up water corresponds to VDI 3803 table B3 with a bacteria count < 100 CFU/ml, water hardness range "middle".
 6 for RA 26°C; 55% r.h. and OA 32°C; 40% r.h.
 7 FL = 70°C

- 8 At OA=-15°C, SA=18°C, 66% optimum flow rate and active defrost function
 9 2 bar system pressure required at 25 l/min flow rate.

Please seek approval of technical data and specifications prior to start of the planning process.

* maximum possible volume flow rate

Technical specifications and services

Unit Type		56 19 01	56 25 01	56 32 01	56 36 01	56 xx xx
Optimum flow rate	m ³ /h	11,800	15,800	19,900	23,100	up to 52,800 *
Max. volume flow rate ¹	m ³ /h	15,600	20,500	26,400	29,700	
Coefficient of power efficiency according to EN 13053:2012	%	73	73	75	75	
Total electrical power rating ²	kW	8.43	10.92	15.96	18.36	
Current consumption ²	A	18.0	30.9	33.9	42.3	
Operating voltage		3 / N / PE 400 V 50 Hz				
Ext. pressure loss						
Supply and fresh air channel	Pa	400	500	500	500	
Return and exhaust air channel	Pa	400	500	500	500	
Sound power level³						
Supply air vent	dB(A)	76	85	77	87	
RA connection	dB(A)	72	75	74	76	
Outside air vent	dB(A)	75	80	79	87	
EA connection	dB(A)	77	83	81	80	
Acoustic pressure at a distance of 1 m from the device ³	dB(A)	61	69	64	72	
Fan units						
Rated motor input for supply air ⁴	kW	4.50	5.72	8.46	9.84	
Rated motor input for return air ⁴	kW	3.53	4.56	6.66	7.72	
SFP category supply air return air		2 2	1 2	2 3	2 3	
Nominal rating supply air return air	kW	6.0 4.7	9.4 9.4	11.0 9.4	16.5 9.4	
Evaporative cooling⁵						
Cooling capacity of "adiabatic" evaporative cooling system ⁶	kW	39.7	55.9	72.7	84.4	
Rated pump input for evaporative cooling	kW	0.40	0.64	0.84	0.80	
Efficiency classes according to EN 13053:2012						
Heat recovery class		H1	H1	H1	H1	
Power consumption of fan motors SA RA		P1 P1	P1 P1	P1 P1	P1 P1	
Air velocity class		V2	V2	V2	V2	
Filtration according to DIN EN 779						
Supply air Outside air		F7 M5				
Return Air		M5				
LPHW						
Heating capacity SA=22°C ⁷	kW	29.0	32.2	33.5	38.6	
Heating capacity SA=30°C ⁷	kW	60.1	73.9	86.4	100.1	
Heating capacity Defrost ^{7,8}	kW	26.4	36.5	43.2	49.7	
Water flow rate and pressure losses						
LPHW	m ³ /h kPa	2.13 4.8	3.85 3.9	4.75 3.5	4.75 3.9	
LPHW (pump warm water) valve	m ³ /h kPa	1.51 5.7	1.92 3.7	2.21 4.9	2.48 6.2	
Connections						
LPHW connection	DN	40	50	50	65	
LPHW control valve connection	DN	20	25	25	25	
Clean water connection ⁹	DN	20	20	20	20	
Condensate / slurry drain	DN	40	40	40	40	
Floor drains	DN	40	40	40	40	
LPCW (optional)						
Cooling capacity SA ≈ 17°C ⁶	kW	45.7	57.7	70.8	87.6	
Additional power consumption for supply air ⁴	W	240	660	740	930	
LPCW connection	DN	80	80	80	100	
LPCW control valve-connection	DN	40	50	50	50	
Water flow rate and pressure losses						
LPCW	m ³ /h kPa	6.53 4.0	8.26 3.9	10.13 3.8	12.53 6.0	
LPCW valve	m ³ /h kPa	6.53 6.8	8.26 10.9	10.13 6.4	12.53 9.8	

Specifications of technical data relate to the optimum flow rate and return air condition 22°C / 40% r.h., outside air condition -12°C / 90% r.h. and an altitude height of zero metres above sea level, unless otherwise specified

- 1 may require of alteration of technical equipment
 2 dependent on configuration of measurement and control system/unit

- 3 at 250 Hz mid-band frequency
 4 with average filter contamination
 5 water quality of make-up water corresponds to VDI 3803 table B3 with a bacteria count < 100 CFU/ml, water hardness range "middle".
 6 for RA 26°C; 55% r.h. and OA 32°C; 40% r.h.
 7 FL = 70°C

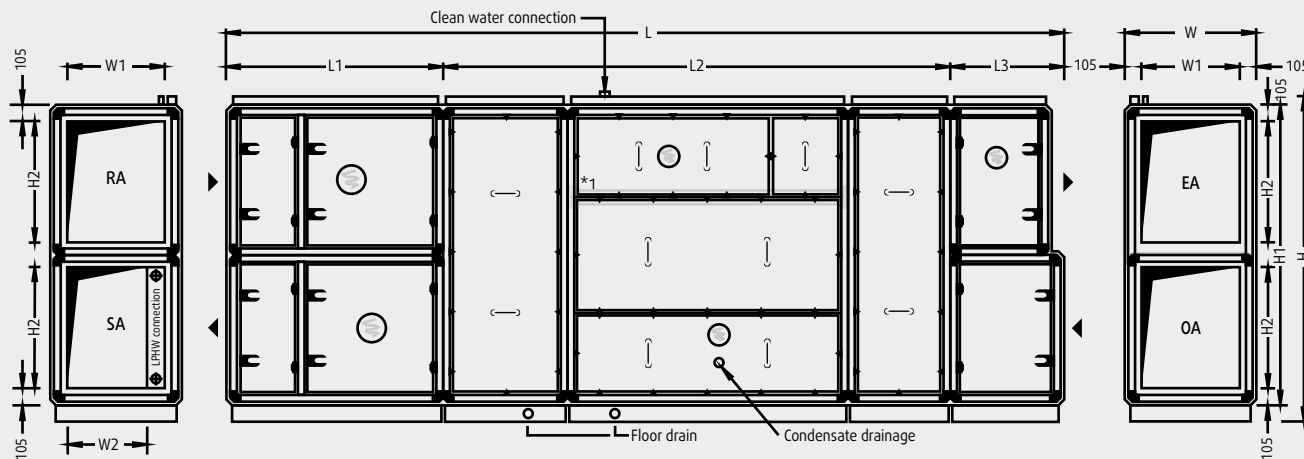
- 8 At OA=-15°C, SA=18°C, 66% optimum flow rate and active defrost function
 9 2 bar system pressure required at 25 l/min flow rate.

Please seek approval of technical data and specifications prior to start of the planning process.

* maximum possible volume flow rate

Adsolair Type 58

System dimensions and weights



Important! Where a system is operated in parallel, the supply air and return air ducts of the two units have to be brought together.

Where units are run in parallel, each unit has a controls cabinet.

Mirror-image design possible.

Proportions/details vary depending on system size.

Unit Type	L	W ¹	H ²	L1	L2	L3	W1	W2	H1	H2	Weight
58 03 01	4,670	790	1,700	1,240	2,510	920	580	510	1,520	580	1,300
58 05 01	4,830	1,110	1,700	1,400	2,510	920	900	830	1,520	580	1,600
58 06 01	5,950	790	2,340	1,400	3,630	920	580	420	2,160	900	1,780
58 10 01	5,950	1,110	2,340	1,400	3,630	920	900	740	2,160	900	2,100
58 13 01	6,110	1,430	2,340	1,560	3,630	920	1,220	1,060	2,160	900	2,550
58 16 01	6,110	1,750	2,340	1,560	3,630	920	1,540	1,380	2,160	900	2,830
58 19 01	6,110	2,070	2,340	1,560	3,630	920	1,860	1,700	2,160	900	3,300
58 25 01	6,750	2,070	2,980	1,560	4,270	920	1,860	1,700	2,800	1,220	4,400
58 32 01	7,550	2,070	3,620	1,560	5,070	920	1,860	1,700	3,440	1,540	5,350
58 36 01	7,550	2,390	3,620	1,560	5,070	920	2,180	2,020	3,440	1,540	5,750

▶ Largest transport unit *

Unit Type	L	W	H ²	Weight
58 03 01	2,510	790	1,700	620
58 05 01	2,510	1,110	1,700	770
58 06 01	3,630	790	2,340	980
58 10 01	3,630	1,110	2,340	1,170
58 13 01	3,630	1,430	2,340	1,370
58 16 01	3,630	1,750	2,340	1,580
58 19 01	3,630	2,070	2,340	1,770
58 25 01	4,270	2,070	2,980	2,530
58 32 01	5,070	2,070	3,620	3,350
58 36 01	5,070	2,390	3,620	3,750

▶ Operating weight

Unit Type	Weight
58 03 01	1,340
58 05 01	1,640
58 06 01	1,830
58 10 01	2,170
58 13 01	2,640
58 16 01	2,940
58 19 01	3,440
58 25 01	4,590
58 32 01	5,580
58 36 01	6,040

▶ Controls cabinet

Unit Type	H x W x D	Position at unit
58 03 01	1,280 x 640 x 210	SA/RA side
58 05 01	1,280 x 640 x 210	SA/RA side
58 06 01	1,280 x 640 x 210	SA/RA side
58 10 01	1,280 x 640 x 210	SA/RA side
58 13 01	1,280 x 640 x 210	SA/RA side
58 16 01	1,280 x 640 x 210	SA/RA side
58 19 01	1,280 x 640 x 210	SA/RA side
58 25 01	1,280 x 640 x 210	SA/RA side
58 32 01	1,280 x 640 x 210	SA/RA side
58 36 01	1,600 x 640 x 250	SA/RA side

For service work, a clearance corresponding to dimension W is required on the operating side of the unit. If dimension W is smaller than one metre, please leave a clearance of one metre. For service work above the unit, please allow 50 mm working height clearance above the cable duct.

Please comply with the dimensions for body size, air duct connections and electrical switch cabinet.

All lengths are given in mm, weights in kg, weight incl. Controls cabinet.

- 1 Door fitting assembly increase unit width by 65 mm each operating side
- 2 incl. 120 mm base frame, plus 60 mm cable duct

* Partitioning of unit for smaller apertures possible (at extra cost).

Technical specifications and services

Unit Type		58 03 01	58 05 01	58 06 01	58 10 01	58 13 01	58 16 01
Optimum flow rate	m ³ /h	2,600	3,900	4,000	6,000	7,900	9,800
Max. volume flow rate	m ³ /h	3,400	5,100	5,100	7,800	10,400	12,900
Total cooling capacity ¹	kW	17.4	24.8	24.1	37.1	46.9	58.0
Energy Efficiency Ratio ^{1,2}	EER	7.3	9.2	11.1	11.6	11.9	11.1
Coefficient of power efficiency according to EN 13053:2012	%	66	67	72	72	72	73
Total electrical power rating ³	kW	4.55	5.47	4.94	7.21	8.78	11.03
Current consumption ³	A	16.0	16.6	15.7	20.7	28.1	32.8
Operating voltage		3 / N / PE 400 V 50 Hz					
Ext. pressure loss							
Supply and fresh air channel	Pa	300	300	300	300	300	300
Return and exhaust air channel	Pa	300	300	300	300	300	300
Sound power level⁴							
Supply air vent	dB(A)	63	76	74	72	72	71
RA connection	dB(A)	72	66	65	72	67	70
Outside air vent	dB(A)	60	76	76	67	71	67
EA connection	dB(A)	69	64	63	67	66	66
Acoustic pressure at a distance of 1 m from the device ⁴	dB(A)	57	60	59	58	59	57
Fan units							
Rated fan input for supply air ⁵	kW	1.26	1.58	1.58	2.20	2.73	3.22
Rated fan input for return air ⁵	kW	0.91	1.20	1.18	1.81	2.12	2.58
SFP category supply air return air		3 3	2 2	2 2	2 2	1 2	1 2
Nominal rating supply air return air	kW	3.2 1.7	3.0 1.7	3.0 1.7	3.0 3.0	4.7 4.7	4.7 4.7
Evaporative cooling⁶							
Cooling capacity of "adiabatic" evaporative cooling system ¹	kW	8.5	12.8	14.0	21.1	27.9	33.0
Rated pump input for evaporative cooling	kW	0.28	0.39	0.28	0.40	0.63	0.63
Compressor refrigeration system							
Filling volume for refrigerant type R410A	kg	4,0	5,0	7,0	8,5	11,5	13,0
Rated compressor input	kW	2.1	2.3	2.9	2.8	3.3	4.6
Mechanical cooling capacity ^{1,7}	kW	8.9	12.0	10.1	16.0	19.0	25.0
Efficiency classes according to EN 13053:2012							
Heat recovery class		H2	H2	H1	H1	H1	H1
Power consumption of fans SA RA		P2 P1	P1 P1	P1 P1	P1 P1	P1 P1	P1 P1
Air velocity class		V2	V2	V2	V2	V2	V2
Filtration according to DIN EN 779							
Supply air Outside air		F7 M5					
Return Air		M5					
LPHW							
Heating capacity SA=22°C ⁸	kW	6.8	10.3	8.2	12.2	16.1	20.3
Heating capacity SA=30°C ⁸	kW	13.7	20.7	18.8	21.1	37.2	46.3
Heating capacity Defrost ^{8,9}	kW	5.3	8.2	9.1	13.7	17.9	22.2
Water flow rate and pressure losses							
LPHW	m ³ /h kPa	0.51 5.2	0.88 4.2	0.89 4.8	1.38 4.3	2.14 3.6	2.16 4.3
LPHW (pump warm water) valve	m ³ /h kPa	0.40 6.2	0.59 5.6	0.54 4.6	0.77 9.5	1.02 6.7	1.21 9.1
Connections							
LPHW connection	DN	32	32	32	32	40	40
LPHW control valve connection	DN	15	15	15	15	15	15
Clean water connection ¹⁰	DN	15	15	15	15	15	20
Condensate / slurry drain	DN	40	40	40	40	40	40
Floor drains	DN	40	40	40	40	40	40

Specifications of technical data relate to the optimum flow rate and return air condition 22°C / 40% r.h., outside air condition -12°C / 90% r.h. and an altitude height of zero metres above sea level, unless otherwise specified

- for RA 26°C; 55% r.h. and OA 32°C; 40% r.h.
- incl. evaporative cooling capacity taking into account power consumption for adiabatic pump(s)

3 dependent on configuration of measurement and control system/unit

4 at 250 Hz mid-band frequency

5 with average filter contamination

6 water quality of make-up water corresponds to VDI 3803 table B3 with a bacteria count < 100 CFU/ml, water hardness range "middle".

7 at supply air ≈ 17°C

8 FL = 70°C

9 At OA=-15°C, SA=18°C, 66% of optimum flow rate and active defrost function

10 2 bar system pressure required at 25 l/min flow rate

* maximum possible volume flow rate

Please seek approval of technical data and specifications prior to start of the planning process.

Technical specifications and services

Unit Type		58 19 01	58 25 01	58 32 01	58 36 01	58 xx xx	
Optimum flow rate	m ³ /h	11,800	15,800	19,900	23,100	up to 52,800 *	
Max. volume flow rate	m ³ /h	15,600	20,500	26,400	29,700		
Total cooling capacity ¹	kW	71.0	93.5	119.7	133.1	Technical details upon request.	
Energy Efficiency Ratio ^{1,2}	EER	11.3	12.9	13.2	14.6		
Coefficient of power efficiency according to EN 13053:2012	%	73	73	75	75		
Total electrical power rating ³	kW	14.61	18.35	24.68	28.79		
Current consumption ³	A	40.0	54.0	61.0	73.4		
Operating voltage		3 / N / PE 400 V 50 Hz					
Ext. pressure loss							
Supply and fresh air channel	Pa	400	400	500	500		
Return and exhaust air channel	Pa	400	400	500	500		
Sound power level ⁴							
Supply air vent	dB(A)	75	77	77	81		
RA connection	dB(A)	72	71	74	82		
Outside air vent	dB(A)	73	77	77	86		
EA connection	dB(A)	68	70	72	75		
Acoustic pressure at a distance of 1 m from the device ⁴	dB(A)	61	66	63	67		
Fan units							
Rated fan input for supply air ⁵	kW	4.68	6.26	8.72	10.59		
Rated fan input for return air ⁵	kW	3.66	4.84	6.92	9.10		
SFP category supply air return air		2 2	2 2	3 3	3 3		
Nominal rating supply air return air	kW	6.0 4.7	9.4 9.4	11.0 9.4	16.5 11.0		
Evaporative cooling ⁶							
Cooling capacity of "adiabatic" evaporative cooling system ¹	kW	39.7	55.8	72.6	84.1		
Rated pump input for evaporative cooling	kW	0.77	1.05	1.04	1.30		
Compressor refrigeration system							
Filling volume for refrigerant type R410A	kg	20,0	27,5	32,0	32,5		
Rated compressor input	kW	5.5	6.2	8.0	7.8		
Mechanical cooling capacity ^{1,7}	kW	31.3	37.7	47.1	49.0		
Efficiency classes according to EN 13053:2012							
Heat recovery class		H1	H1	H1	H1		
Power consumption of fans SA RA		P1 P1	P1 P1	P1 P1	P1 P1		
Air velocity class		V2	V2	V2	V2		
Filtration according to DIN EN 779							
Supply air Outside air		F7 M5					
Return Air		M5					
LPHW							
Heating capacity SA=22°C ⁸	kW	28.9	31.8	33.4	37.6		
Heating capacity SA=30°C ⁸	kW	60.0	73.6	86.2	98.9		
Heating capacity Defrost ^{8,9}	kW	26.4	36.4	43.1	49.4		
Water flow rate and pressure losses							
LPHW	m ³ /h kPa	2.13 4.8	3.85 3.9	4.75 3.5	4.75 3.9		
LPHW (pump warm water) valve	m ³ /h kPa	1.50 5.7	1.91 3.7	2.21 4.9	2.45 6.0		
Connections							
LPHW connection	DN	40	50	50	65		
LPHW control valve connection	DN	20	25	25	25		
Clean water connection ¹⁰	DN	20	20	20	20		
Condensate / slurry drain	DN	40	40	40	40		
Floor drains	DN	40	40	40	40		

Specifications of technical data relate to the Optimum flow rate and return air condition 22°C / 40% r.h., outside air condition -12°C / 90% r.h. and an altitude height of zero metres above sea level, unless otherwise specified

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