VTS

American
ventus
2022

www.vtsgroup.com

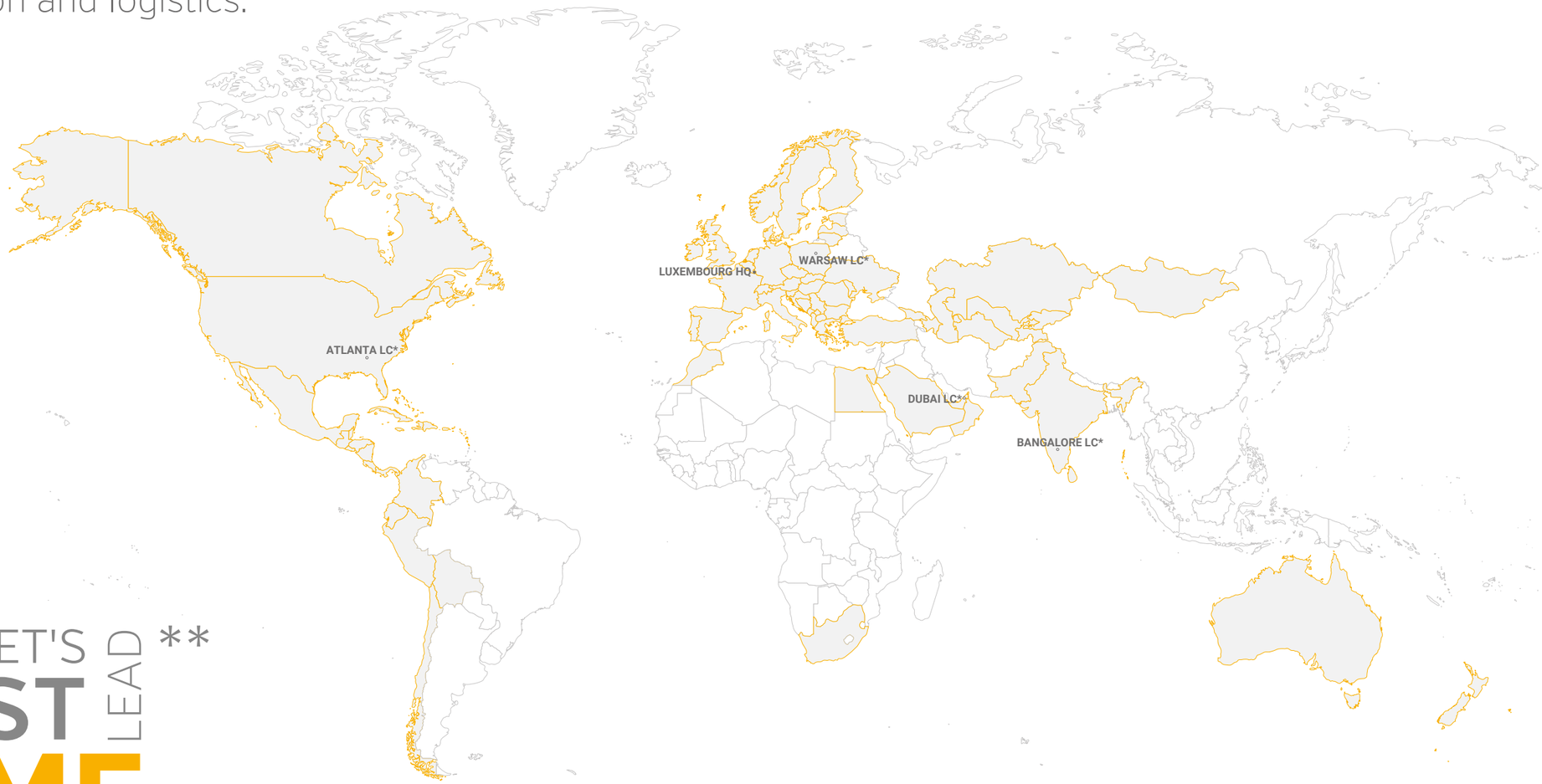
01
VTS Group

VTS Group

OUR MISSION

AHU#1

VTS GROUP is a manufacturer of technologically advanced equipment for the HVAC Sector; using innovative technologies in the spheres of project research, production and logistics.



MARKET'S **BEST TIME** LEAD **

* **Logistics center**
** Factory will confirm lead time based on the units selected.

AHRI CERTIFIED www.ahridirectory.org Central Station Air-Handling Units AHRI Standard 430

MEMBER

Conforms to UL Std 1995 Certified to CSA Std C22.2 No. 236 Intertek 4009808

ISO 9001 ISO 14001

TÜV

CE

THE 3 ELEMENTS OF SUCCESS

Consistently superior product quality. Unbeatable market prices. The shortest lead time. These three elements of market policy ensure that VTS is always one step ahead, in every region of the world.

Following the proven assembly method of the automotive Industry, VTS created a network of 4 efficiently functioning logistics centers: **Atlanta, Dubai, Warsaw and Bangalore**. Thereby guaranteeing the shortest delivery terms in the market, regardless of the region in the world.

MARKET'S BEST LEAD TIME

4 LOGISTICS CENTERS

Mass scale production of reproducible devices makes it possible for VTS to offer our product at the **most competitive price while retaining the best quality.**

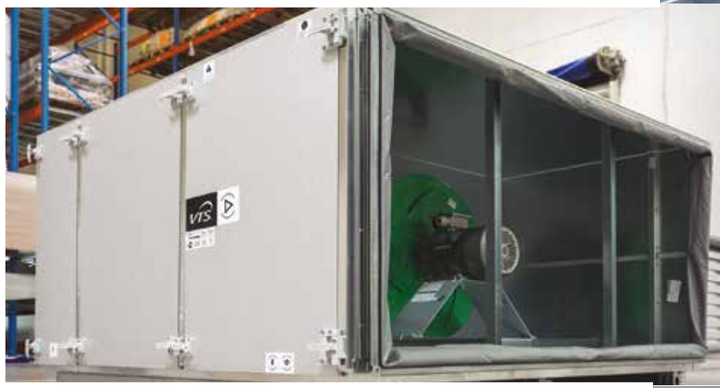
$ competitive price

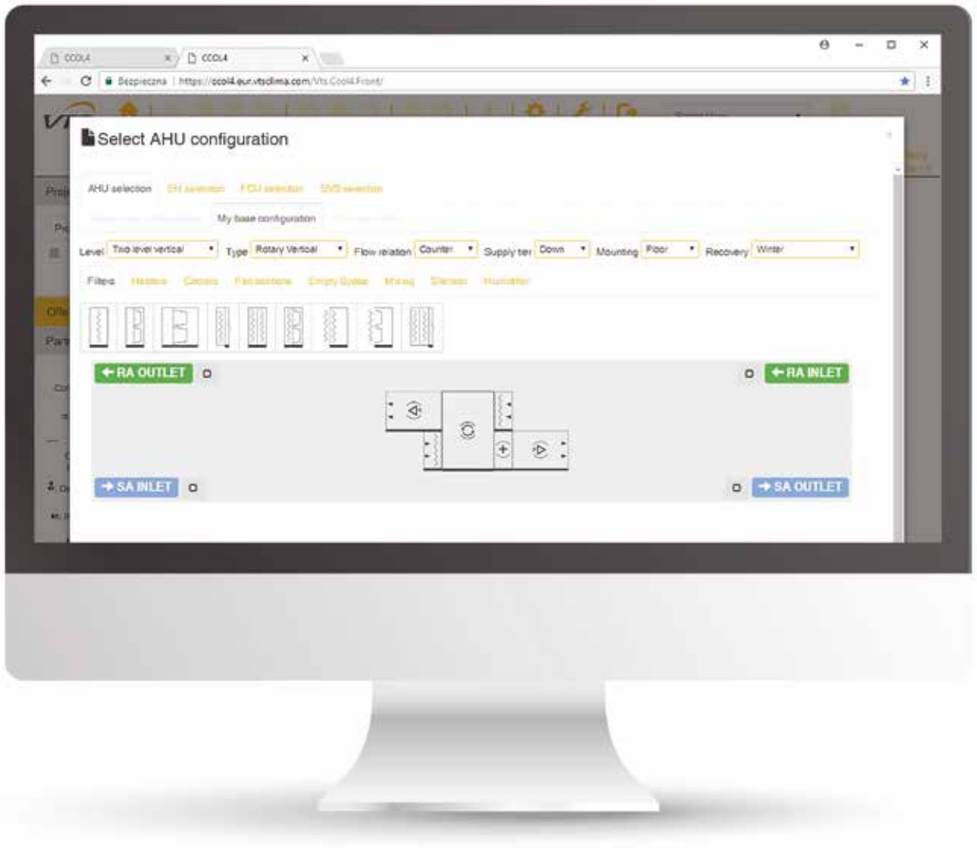
150 000 UNITS SOLD ANNUALLY

Multilevel quality control systems enables VTS to offer a **18 months warranty for each unit.**

the highest quality

18 MONTHS warranty FOR EACH UNIT





02

Designer support

ClimaCAD Online 4.0 (CCOL 4)

Customized configuration

User friendly interface

Fast&Easy selection

Integrated with CRM, ERP, WMA system

CCOL 4 IS ADJUST TO

» all browsers

» all operating system

» all devices

DATA EXPORT TO

PDF · CAD 2D · CAD 3D · SUBMITTAL · QUOTATION · TECH CARD

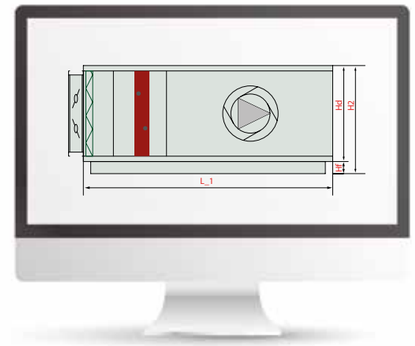
CCOL 4.0 uses the latest technology and development platforms, which will be accessable from anywhere in the world through our software as service models. All you need is a device with a web browser and access to the internet.

THE VERSATILITY OF DESIGNING

» unlimited number of device configurations
» detection of illogical configurations

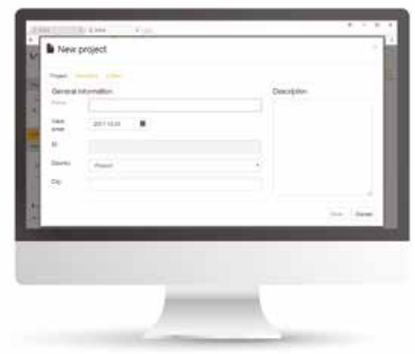
DYNAMIC COUNTING OF DEVICES DIMENSIONS

» CCOL offers the optimal length of the control panel and the optimal section length adapted to the device functions and device design



MANAGING YOUR OWN DATABASE

» the possibility of creating your own project database (selection)
» the possibility of exporting own selections to quotation by VTS technical engineers

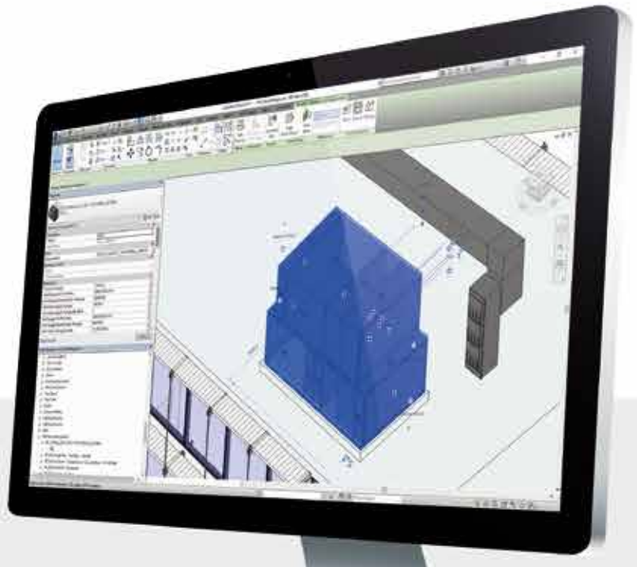


www.ccol4.com

Designer support

VTS BIM - a new approach to digital models of air-handling units

VTS has created the possibility of generating digital models of VENTUS VS and American VENTUS air-handling models on-line. This is possible thanks to the implementation of a new ClimaCAD OnLine 4.0 selection tool, equipped with .rfa (Revit®) files generator.



The release of families for the Autodesk Revit® environment by VTS makes it easier to design agencies for model the building installations on the basis of using the same platform.
At present the on-line generator is a unique solution in BIM environment. It enables the generation of a VENTUS air-handling unit model practically in no time in any configuration and with any parameters.

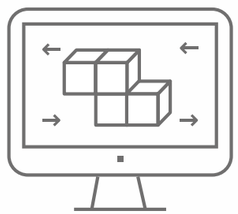
The process of model generation comes down to the following 3 steps:

1

Login to CCOL 4.0 website

Login to the CCOL 4.0 using the following web address:

www.ccol4.com



2

Unit configuration

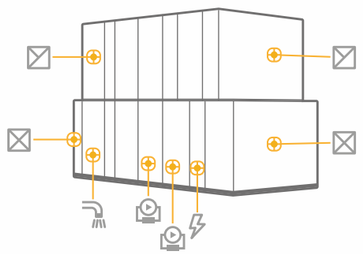
Use the intuitive selection tool to select your Air Handling Unit and set its working parameters to fit the specified project demands.

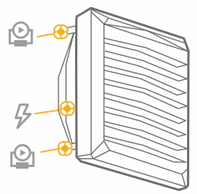
3

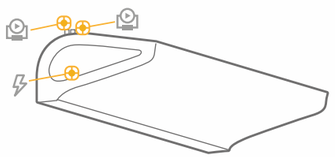
Data export to .rfa file

In order to generate a model in .rfa file, it is enough to enter the name and surname plus the email address of the person dedicated to receive the file. The system will automatically send a link to download the model. The entire process lasts approximately 15 minutes.

As a result, the client receives:







The generated objects contain detailed parameters connectors:

- **air systems,**
- **hydraulic systems,**
- **sanitary systems,**
- **electric systems,**

as well as the complete dimensional data, the device **maintenance** zone and the service **(repair)** zone.

VTS also provides digital models of WING air curtains and VOLCANO air heaters.

The models contain:

- **parametrized electric and hydraulic connectors,**
- **mount options vertically and horizontally,**
- **presentation of the range of air stream,**
- **parameter of any inclination angle of an air heater in relation to the horizontal plane.**

Models can be downloaded from: **https://vtsgroup.com/us/vts-bim**

03

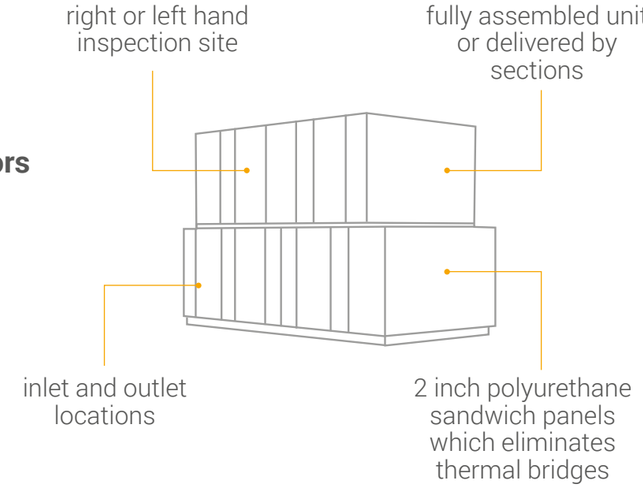
Units

AVS

from **800** CFM
to **38 000** CFM
in total **capacity**

premium efficiency motors
energy recovery system:
- cross-flow plate
- energy wheel

2 000 h
salt spray test
resistance
on the external coating

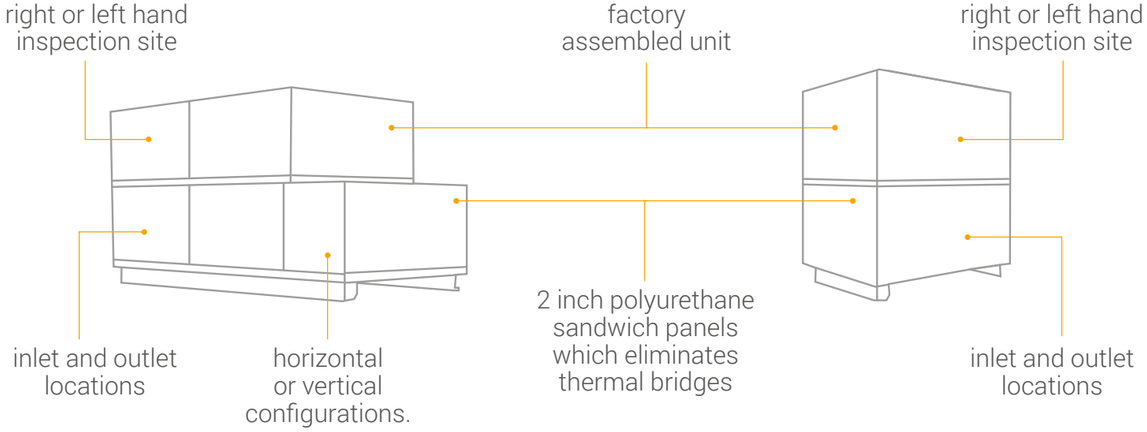


AVS LITE

from **800** CFM
to **4 000** CFM
in total **capacity**

premium efficiency motors
energy recovery system:
- cross-flow plate
- energy wheel

2 000 h
salt spray test
resistance
on the external coating



AVS VERTICAL

from **800** CFM
to **4 000** CFM
in total **capacity**

premium efficiency motors

2 000 h
salt spray test
resistance
on the external coating

Units

American
VENTUS

RELIABLE
AND TIGHT
CONSTRUCTION

TOP QUALITY
COMPONENTS

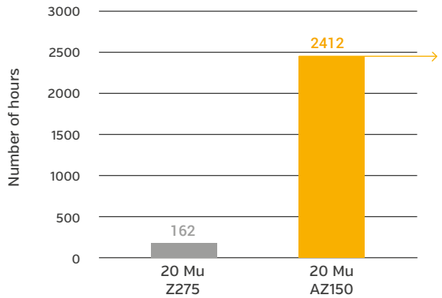
INTELLIGENT
CONTROLS
SYSTEMS

SAFETY
OF USE

DESIGN

MORE THAN 2,000 HOURS SALT SPRAY TEST PROTECTION

RESISTANCE TO CORROSION



Salt spray test according to ASATMB - 117

ALUMINUM POSTS
AS **STANDARD**
FOR ALL TYPES OF UNITS

Z PROFILE
AVS040-AVS085

C PROFILE
AVS100-AVS380

CURB READY RAILS
AVS040-AVS380

GALVANIZED STEEL SUPPORT
AS **STANDARD**
FOR ALL TYPES OF UNITS

CASING SKIN

- high rigidity and durability of the AHU structure
- low absorption of heat radiation and UV
- perfect resistance to weather conditions

FAN SECTION CAGE

- high longitudinal stiffness of the structure
- easy section assembly

CONVENIENT

- easy transport
- great profile resistance to deflection

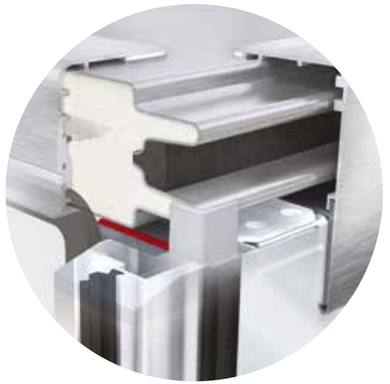
STRUCTURAL POSTS

- thermally broken as standard
- high resistance to weather conditions and UV radiation

AIR TIGHTNESS

ERGONOMIC INSPECTION PANEL LOCK

» Highly aesthetic and ergonomic handles securing perfect tightness of inspection panels.



THERMAL BREAK

ADDITIONAL POST SEALING

LABYRINTH SEALING

ADDITIONAL SEALING EDGE

ALUMINUM STRUCTURAL POSTS WITH AN ADDITIONAL SEALING FIN AND A THERMAL INSERT

» thermal break as standard - ensures no condensation outside the AHU
» the fin ensures labyrinth sealing – currently the most effective solution on the market, mainly used in laboratory equipment
» original solution consisting in the use of symmetrical channel tension filled with a sealing compound, which provides 100% tightness of the connection between the column and construction structure

* patent pending; information will be published after it's formal validation.

ROOFTOP APPLICATIONS

SECTIONAL ROOF

- prevents water penetration during service
- additional weather protection

VARIABLE INTAKE CONFIGURATIONS

- top, bottom and side intake options
- end – optional full face intake damper available units
- dampers:
  - gear system for even distribution of the torque
  - extruded aluminum construction
  - low leakage
  - double wall blade construction

CURB READY RAILS

- design -overhangs the side of the curb to avoid the need of flashing
- integrated lifting lugs

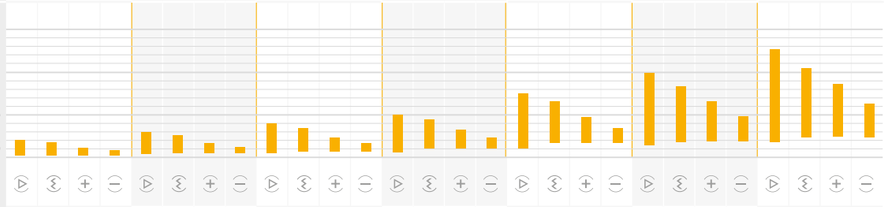
VARIABLE DISCHARGE CONFIGURATION

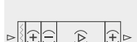
- end, top, bottom and side discharge options
- optional discharge dampers and full end discharge dampers available

04

Technical Parameters

AVS 8-55 - SUPPLY & EXHAUST

Rated parameters		Recommended range of airflow						
Size		AVS 008	AVS 012	AVS 016	AVS 020	AVS 030	AVS 040	AVS 055
15 000 / 10 000 / 5 000 / 0	[CFM]							
Min.		332 427 427 427	480 618 618 618	636 819 819 819	806 1 037 1 037 1 037	1 185 1 524 1 524 1 524	1 567 1 945 1 945 1 945	2 003 2 419 2 419 2 419
Max.		2 140 1 883 1 254 924	3 091 2 719 1 817 1 339	4 096 3 605 2 486 1 832	5 186 4 564 3 331 2 454	7 622 6 708 4 835 3 563	10 078 8 559 6 697 4 934	12 880 10 648 8 758 6 453
H_f	[inch]	3.54						
H		21.97	21.97	24.02	27.17	32.48	37.20	41.14
W		27.95	38.62	44.21	46.77	53.50	59.06	66.14
W_i		24.02	34.68	40.28	42.83	49.57	55.12	62.20
H_i		14.49	14.49	16.54	19.69	25.00	29.72	33.66

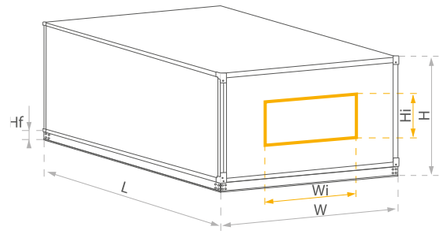
Main configuration	DE*	Basic configurations						
 AVS-XXX- R -V	-	44.26	44.26	44.26	44.26	58.65	58.65	73.05
	-	58.65	58.65	58.65	58.65	73.05	73.05	87.45
AVS-XXX- R -FV	-	73.05	73.05	73.05	73.05	87.45	87.45	101.85
AVS-XXX- R -FHV	-	73.05	73.05	73.05	73.05	87.45	87.45	101.85
 AVS-XXX- R -FCV	✔	87.45	87.45	87.45	87.45	87.45	87.45	101.85
 AVS-XXX- R -FHCV	-	87.45	87.45	87.45	87.45	101.85	101.85	116.24
	✔	101.85	101.85	101.85	101.85	101.85	101.85	116.24
 AVS-XXX- R -FHCV	-	101.85	101.85	101.85	101.85	116.24	116.24	130.64
	✔	116.24	116.24	116.24	116.24	116.24	116.24	130.64
 AVS-XXX- R -FGHV	-	87.45	87.45	87.45	87.45	101.85	101.85	116.24
 AVS-XXX- R -FGV	-	73.05	73.05	73.05	73.05	87.45	87.45	101.85
 AVS-XXX- R -FGCVH	-	101.85	101.85	101.85	101.85	116.24	116.24	130.64
	✔	116.24	116.24	116.24	116.24	116.24	116.24	130.64

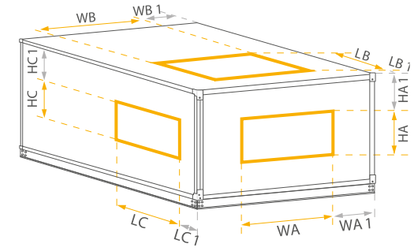
Units with external filters instead of internal are shorter by 14.4 inches

Additional functions								
Empty section	L_{min}	29.86	29.86	29.86	29.86	29.86	29.86	29.86
	L_{max}	29.86	29.86	29.86	29.86	29.86	29.86	29.86
Mixing box	L	29.86	29.86	29.86	29.86	29.86	29.86	29.86

* Include Droplet Eliminator after Cooling Coil

DIMENSIONS - AVS 8-55 - SUPPLY & EXHAUST





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 008	21.65	12.13	3.15	3.15
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15
AVS 055	59.84	31.30	3.15	3.15

Top (US)				
UNIT	WB	LB	WB1	LB1
AVS 008	17.99	7.99	5.03	4.33
AVS 012	25.98	7.99	6.33	4.33
AVS 016	34.02	7.99	5.13	4.33
AVS 020	25.98	12.01	10.43	4.33
AVS 030	34.02	12.01	9.83	4.33
AVS 040	40.47	17.32	9.29	8.27
AVS 055	47.20	22.64	9.47	5.31

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 008	17.99	7.99	5.03	5.23
AVS 012	25.98	7.99	6.33	5.23
AVS 016	34.02	7.99	5.13	6.23
AVS 020	25.98	12.01	10.43	5.83
AVS 030	34.02	12.01	9.83	8.53
AVS 040	40.47	17.32	9.29	8.19
AVS 055	47.20	22.64	9.47	7.48

Top (US)				
UNIT	WB	LB	WB1	LB1
AVS 008	17.94	7.94	5.00	11.46
AVS 012	25.94	7.94	6.34	11.46
AVS 016	33.94	7.94	5.16	11.46
AVS 020	25.94	11.94	10.43	9.46
AVS 030	33.94	11.94	9.80	9.46
AVS 040	47.20	22.64	5.93	8.66
AVS 055	52.76	27.36	6.69	8.66

Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 008	10.94	7.94	4.33	3.74
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70
AVS 055	24.13	14.96	6.89	6.73

UNIT CODING

AVS - XXX - R/L - EM / HC / EM

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm)
R/L - inspection side (R- right, L -left)
EM - symbols of additional functions upstream main functions
HC - symbols of main thermodynamic functions (basic functions)
EM - symbols of additional functions downstream main functions
Length depends on AHU equipment

AVS 65-380 - SUPPLY & EXHAUST

Rated parameters		Recommended range of airflow							
Size		AVS065	AVS085	AVS100	AVS130	AVS170	AVS230	AVS300	AVS380
75 000 / 50 000 / 25 000 / 0	[CFM]								
Min.		2 395	3 307	3 307	3 307	2 952	4 069	4 069	4 069
Max.		15 402	14 553	10 640	7 840	18 983	17 907	13 199	9 725
H_f	[inch]	3.54				3.15			
H		42.60	46.57	54.21	54.21	65.98	75.16	75.16	93.94
W		75.24	82.87	82.87	98.94	102.56	122.24	141.93	146.34
W_i		71.30	78.94	78.94	95.00	98.62	118.31	137.99	142.40
H_i		35.12	39.09	47.13	47.13	58.90	68.07	68.07	86.85

Main configuration	DE*	Basic configurations							
AVS-XXX- R -V	-	73.05	73.05	58.65	58.65	73.05	73.05	73.05	73.05
AVS-XXX- R -FV	-	87.45	87.45	73.05	73.05	87.45	87.45	87.45	87.45
AVS-XXX- R -FHV	-	101.85	101.85	87.45	87.45	101.85	101.85	101.85	101.85
AVS-XXX- R -FCV	-	101.85	101.85	87.45	87.45	101.85	101.85	101.85	101.85
	✔	101.85	101.85	87.45	87.45	101.85	101.85	101.85	101.85
AVS-XXX- R -FHCV	-	116.24	116.24	101.85	101.85	116.24	116.24	116.24	116.24
	✔	116.24	116.24	101.85	101.85	116.24	116.24	116.24	116.24
AVS-XXX- R -FHCVH	-	130.64	130.64	116.24	116.24	130.64	130.64	130.64	130.64
	✔	130.64	130.64	116.24	116.24	130.64	130.64	130.64	130.64
AVS-XXX- R -FGHV	-	116.24	116.24	101.85	101.85	116.24	116.24	116.24	116.24
AVS-XXX- R -FGV	-	101.85	101.85	87.45	87.45	101.85	101.85	101.85	101.85
AVS-XXX- R -FGCVH	-	130.64	130.64	116.24	116.24	130.64	130.64	130.64	130.64
	✔	130.64	130.64	116.24	116.24	130.64	130.64	130.64	130.64

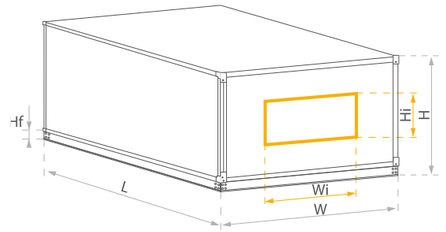
[inch]

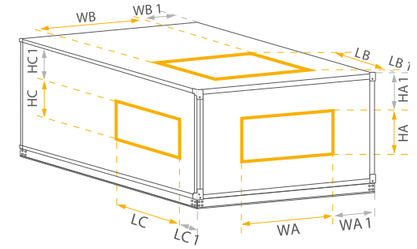
Units with external filters instead of internal are shorter by 14.4 inches

Additional functions									
Empty section	L_{min}	29.86	29.86	29.86	29.86	29.86	29.86	29.86	29.86
	L_{max}	29.86	44.26	44.26	44.26	44.26	44.26	44.26	44.26
Mixing box	L	29.86	44.26	44.26	44.26	44.26	44.26	44.26	44.26

* Include Droplet Eliminator after Cooling Coil

DIMENSIONS - AVS 65-380 - SUPPLY & EXHAUST





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)

UNIT	WA	HA	WA1	HA1
AVS 065	68.94	32.76	3.15	3.15
AVS 085	76.57	36.73	3.15	3.15
AVS 100	76.57	44.76	3.15	3.15
AVS 130	92.64	44.76	3.15	3.15
AVS 170	96.26	56.54	3.15	3.15
AVS 230	115.94	65.71	3.15	3.15
AVS 300	135.63	65.71	3.15	3.15
AVS 380	140.04	84.49	3.15	3.15

Top (US)

UNIT	WB	LB	WB1	LB1
AVS 065	47.20	22.64	14.02	5.31
AVS 085	59.84	31.30	11.52	8.27
AVS 100	59.84	31.30	11.52	8.27
AVS 130	76.57	36.73	11.18	5.31
AVS 170	76.57	36.73	12.99	5.31
AVS 230	104.33	36.73	8.96	5.31
AVS 300	124.02	36.73	8.96	5.31
AVS 380	127.95	36.73	9.19	5.31

END (FS)

UNIT	WA	HA	WA1	HA1
AVS 065	47.20	22.64	14.02	8.23
AVS 085	59.84	31.30	11.52	5.87
AVS 100	59.84	31.30	11.52	9.88
AVS 130	76.57	36.73	11.18	7.17
AVS 170	76.57	36.73	12.99	13.07
AVS 230	104.33	36.73	8.96	17.64
AVS 300	124.02	36.73	8.96	17.64
AVS 380	127.95	36.73	9.19	27.05

Top (US)

UNIT	WB	LB	WB1	LB1
AVS 065	59.84	31.30	7.70	5.31
AVS 085	59.84	31.30	11.52	5.31
AVS 100	59.84	31.30	11.52	5.31
AVS 130	75.31	29.13	11.81	5.31
AVS 170	76.57	36.73	12.99	5.31
AVS 230	104.33	36.73	8.96	5.31
AVS 300	124.02	36.73	8.96	8.66
AVS 380	127.95	36.73	9.19	8.66

Side (BS)

UNIT	HC	LC	HC1	LC1
AVS 065	24.13	14.96	6.89	7.46
AVS 085	28.07	29.13	6.89	7.48
AVS 100	35.94	29.13	6.89	7.56
AVS 130	35.94	29.13	6.89	7.56
AVS 170	47.76	29.13	6.89	7.54
AVS 230	59.57	29.13	6.89	6.22
AVS 300	59.57	29.13	6.89	6.22
AVS 380	75.31	29.13	6.89	7.74

UNIT CODING

AVS - XXX - R/L - EM / HC / EM

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm)
R/L - inspection side (R- right, L -left)
EM - symbols of additional functions upstream main functions
HC - symbols of main thermodynamic functions (basic functions)
EM - symbols of additional functions downstream main functions
Length depends on AHU equipment

AVS 8-55 - CROSS-FLOW PLATE

Rated parameters		Recommended range of airflow						
Size		AVS 008	AVS 012	AVS 016	AVS 020	AVS 030	AVS 040	AVS 055
	[CFM]	10 000 / 7 500 / 5 000 / 2 500 / 0						
Min.	[CFM]	446 427 427	697 618 618	846 819 819	1 067 1 037 1 037	1 526 1 524 1 524	2 089 1 945 1 945	2 732 2 419 2 419
Max.	[CFM]	1 699 1 254 924	2 650 1 817 1 339	3 218 2 486 1 832	4 058 3 331 2 454	5 799 4 835 3 563	7 939 6 697 4 934	10 386 8 758 6 453
H_f	[inch]	3.54						
H	[inch]	21.97	21.97	24.02	27.17	32.48	37.20	41.14
W	[inch]	27.95	38.62	44.21	46.77	53.50	59.06	66.14
W_i	[inch]	24.02	34.68	40.28	42.83	49.57	55.12	62.20
H_i	[inch]	14.49	14.49	16.54	19.69	25.00	29.72	33.66

Main configuration DE*			Basic configurations						
AVS-XXX-R-FPV/FVPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	101.85	101.85	101.85	101.85	130.64	130.64	159.44
AVS-XXX-R-FPV/FVPD_cu	-	L2	101.85	101.85	101.85	101.85	130.64	130.64	159.44
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPV/FPDV_pd	-	L2	101.85	101.85	101.85	101.85	130.64	130.64	159.44
		L1	101.85	101.85	101.85	101.85	130.64	130.64	159.44
AVS-XXX-R-FPV/FPDV_pu	-	L2	101.85	101.85	101.85	101.85	130.64	130.64	159.44
		L1	116.24	116.24	116.24	130.64	145.04	159.44	188.23
AVS-XXX-R-FPHV/FVPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHV/FVPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHV/FPDV_pd	-	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHV/FPDV_pu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
AVS-XXX-R-FPMHV/FVMPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPMHV/FVMPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

Main configuration DE*			Basic configurations						
AVS-XXX-R-FPCV/FVPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	145.04	145.04	173.83
AVS-XXX-R-FPCV/FVPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	130.64	130.64	130.64	130.64	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPCV/FPDV_pd	-	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	130.64	130.64	130.64	130.64	145.04	145.04	173.83
AVS-XXX-R-FPCV/FPDV_pu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
	✔	L2	130.64	130.64	130.64	130.64	145.04	145.04	173.83
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
AVS-XXX-R-FPMCV/FVMPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	145.04	145.04	173.83
AVS-XXX-R-FPMCV/FVMPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	130.64	130.64	130.64	130.64	145.04	145.04	173.83
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPCVH/FVPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPCVH/FVPD_cu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

Main configuration	DE*		Basic configurations						
AVS-XXX-R-FPCVH/FPDV_pd	-	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPCVH/FPDV_pu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
AVS-XXX-R-FPHCV/FVPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPHCV/FVPD_cu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHCV/FPDV_pd	-	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	101.85	101.85	101.85	116.24	130.64	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPHCV/FPDV_pu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	101.85	101.85	101.85	116.24	130.64	145.04	173.83
AVS-XXX-R-FPMCVH/FVMPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPMCVH/FVMPD_cu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83

[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

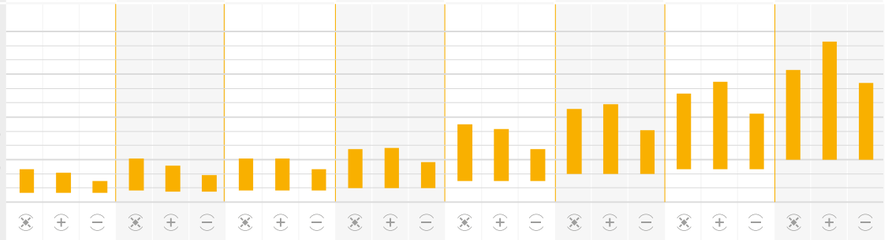
Main configuration	DE*		Basic configurations						
AVS-XXX-R-FPMHCV/FVMPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	130.64	130.64	130.64	130.64	159.44	159.44	188.23
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	159.44	159.44	188.23
AVS-XXX-R-FPMHCV/FVMPD_cu	-	L2	130.64	130.64	130.64	130.64	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	145.04	145.04	145.04	145.04	159.44	159.44	188.23
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHCVH/FVPD_cu	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	173.83	173.83	202.63
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	159.44	159.44	159.44	159.44	173.83	173.83	202.63
AVS-XXX-R-FPMHCVH/FVMPD_cu	-	L2	145.04	145.04	145.04	145.04	173.83	173.83	202.63
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	159.44	159.44	159.44	159.44	173.83	173.83	202.63
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
AVS-XXX-R-FPHCVH/FPDV_pd	-	L2	116.24	116.24	116.24	130.64	145.04	159.44	188.23
		L1	145.04	145.04	145.04	145.04	173.83	173.83	202.63
	✔	L2	116.24	116.24	116.24	130.64	145.04	159.44	188.23
		L1	159.44	159.44	159.44	159.44	173.83	173.83	202.63
AVS-XXX-R-FPHCVH/FPDV_pu	-	L2	145.04	145.04	145.04	145.04	173.83	173.83	202.63
		L1	116.24	116.24	116.24	130.64	145.04	159.44	188.23
	✔	L2	159.44	159.44	159.44	159.44	173.83	173.83	202.63
		L1	116.24	116.24	116.24	130.64	145.04	159.44	188.23
AVS-XXX-R-FPHCVH/FVPD_cd	-	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	145.04	145.04	145.04	145.04	173.83	173.83	202.63
	✔	L2	116.24	116.24	116.24	116.24	145.04	145.04	173.83
		L1	159.44	159.44	159.44	159.44	173.83	173.83	202.63
AVS-XXX-R-FPHCVH/FVPD_cu	-	L2	145.04	145.04	145.04	145.04	173.83	173.83	202.63
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83
	✔	L2	159.44	159.44	159.44	159.44	173.83	173.83	202.63
		L1	116.24	116.24	116.24	116.24	145.04	145.04	173.83

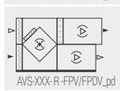
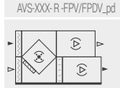
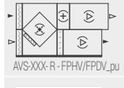
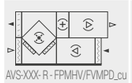
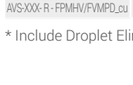
[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

AVS 65-380 - CROSS-FLOW PLATE

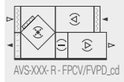
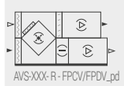
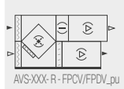
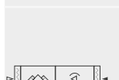
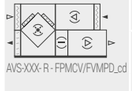
Rated parameters		Recommended range of airflow							
Size		AVS065	AVS085	AVS100	AVS130	AVS170	AVS230	AVS300	AVS380
60 000 / 45 000 / 30 000 / 15 000 / 0	[CFM]								
Min.		3 307	3 307	3 307	4 185	4 069	4 069	4 501	4 501	4 501	5 070	5 183	5 183	7 630	7 630	7 630	10 427	10 427	10 427	12 165	12 165	12 165	15 526	15 526	15 526
Max.		11 972	10 640	7 840	15 905	13 199	9 725	15 905	16 026	11 809	19 268	19 697	14 513	28 041	26 348	19 414	33 749	35 609	26 238	39 471	43 761	32 245	47 778	58 255	42 924
H_{fd}	[inch]	3.54					3.15		
H_{fu}		0.00	0.00	2.36	2.36	2.36	2.36	2.36	2.36
H		42.6	46.57	54.21	54.21	65.98	75.16	75.16	93.94
W		75.24	82.87	82.87	98.94	102.56	122.24	141.93	146.34
W_i		71.3	78.94	78.94	95.00	98.62	118.31	137.99	142.40
H_i		35.12	39.09	47.13	47.13	58.90	68.07	68.07	86.85

Main configuration DE*			Basic configurations							
 AVS-XXX-R-FPV/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	159.44	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPV/FVPD_cu	-	L2	159.44	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPV/FVPD_pd	-	L2	159.44	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	159.44	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPV/FVPD_pu	-	L2	159.44	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	188.23	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPH/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPH/FVPD_cu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPH/FPDV_pd	-	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPH/FPDV_pu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPMHV/FVMPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPMHV/FVMPD_cu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42

L [inch]

* Include Droplet Eliminator after Cooling Coil

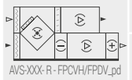
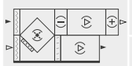
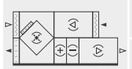
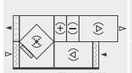
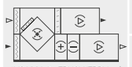
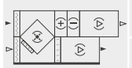
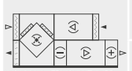
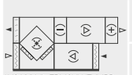
L1- doesn't cover empty space in bottom deck

Main configuration DE*			Basic configurations							
 AVS-XXX-R-FPCV/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPCV/FVPD_cu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPDV_pd	-	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPDV_pu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPMCV/FVMPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPMCV/FVMPD_cu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
AVS-XXX-R-FPCVH/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
AVS-XXX-R-FPCVH/FVPD_cu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42

[inch]

* Include Droplet Eliminator after Cooling Coil

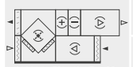
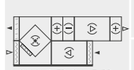
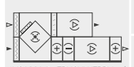
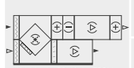
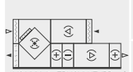
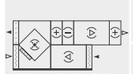
L1- doesn't cover empty space in bottom deck

Main configuration	DE*		Basic configurations							
 AVS-XXX-R-FPCVH/FPDV_pd	-	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
 AVS-XXX-R-FPCVH/FPDV_pu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPHCV/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
 AVS-XXX-R-FPHCV/FVPD_cu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPHCV/FPDV_pd	-	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
 AVS-XXX-R-FPHCV/FPDV_pu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	173.83	159.44	159.44	202.63	202.63	202.63	217.03
 AVS-XXX-R-FPMCVH/FVMPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
 AVS-XXX-R-FPMCVH/FVMPD_cu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42

[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

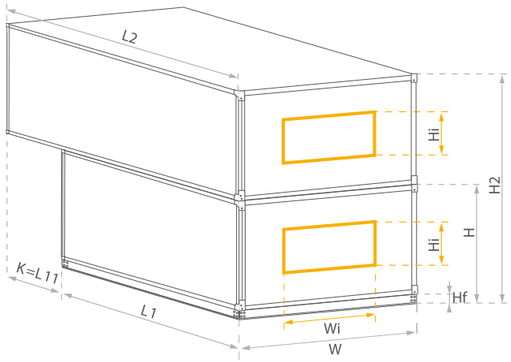
Main configuration	DE*		Basic configurations							
 AVS-XXX-R-FPMHCV/FVMPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
 AVS-XXX-R-FPMHCV/FVMPD_cu	-	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	188.23	202.63	188.23	188.23	231.42	231.42	231.42	245.82
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPHCVH/FVPD_cu	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
 AVS-XXX-R-FPMHCVH/FVMPD_cu	-	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPHCVH/FPDV_pd	-	L2	188.23	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
	✔	L2	188.23	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
 AVS-XXX-R-FPHCVH/FPDV_pu	-	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	188.23	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	188.23	188.23	173.83	173.83	217.03	217.03	217.03	231.42
 AVS-XXX-R-FPHCVH/FVPD_cd	-	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
	✔	L2	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
		L1	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
 AVS-XXX-R-FPHCVH/FVPD_cu	-	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42
	✔	L2	202.63	217.03	202.63	202.63	245.82	245.82	245.82	260.22
		L1	173.83	188.23	173.83	173.83	217.03	217.03	217.03	231.42

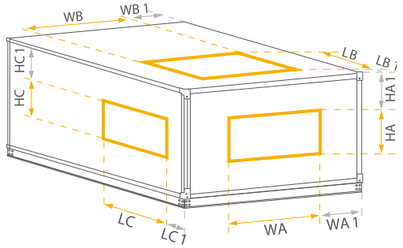
[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

DIMENSIONS - AVS 8-55 - CROSS-FLOW PLATE





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 008	21.65	12.13	3.15	3.15
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15
AVS 055	59.84	31.30	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 008	17.97	7.97	5.00	5.24
AVS 012	25.97	7.97	6.34	5.24
AVS 016	33.97	7.97	5.16	6.26
AVS 020	25.97	11.97	10.43	5.83
AVS 030	33.97	11.97	9.80	8.50
AVS 040	40.51	17.36	9.29	8.19
AVS 055	47.24	22.68	9.47	7.48

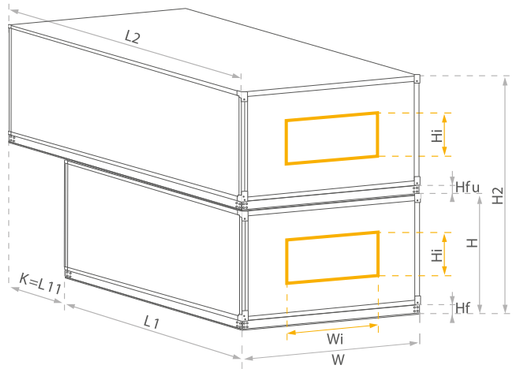
Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 008	10.94	7.94	4.33	3.74
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70
AVS 055	24.13	14.96	6.89	6.73

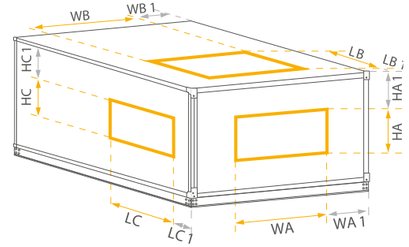
UNIT CODING

AVS - XX

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

DIMENSIONS - AVS 65-380 - CROSS-FLOW PLATE





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 065	68.94	32.76	3.15	3.15
AVS 085	76.57	36.73	3.15	3.15
AVS 100	76.57	44.76	3.15	3.15
AVS 130	92.64	44.76	3.15	3.15
AVS 170	96.26	56.54	3.15	3.15
AVS 230	115.94	65.71	3.15	3.15
AVS 300	135.63	65.71	3.15	3.15
AVS 300	140.04	84.49	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 065	47.24	22.68	14.02	8.23
AVS 085	59.88	31.34	11.52	5.87
AVS 100	59.88	31.34	11.52	9.88
AVS 130	76.61	36.77	11.18	7.17
AVS 170	76.61	36.77	12.99	13.07
AVS 230	104.37	36.77	8.96	17.64
AVS 300	124.06	36.77	8.96	17.64
AVS 380	127.99	36.77	9.19	27.05

Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 065	24.13	14.96	6.89	7.46
AVS 085	28.07	29.13	6.89	7.48
AVS 100	35.94	29.13	6.89	7.56
AVS 130	35.94	29.13	6.89	7.56
AVS 170	47.76	29.13	6.89	7.54
AVS 230	59.57	29.13	6.89	6.22
AVS 300	59.57	29.13	6.89	6.22
AVS 380	75.31	29.13	6.89	7.74

UNIT CODING

AVS - XX

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

AVS 12 - 65 WITH ENERGY WHEEL

Rated parameters		Recommended range of airflow						
Size		AVS 012	AVS 016	AVS 020	AVS 030	AVS 040	AVS 055	AVS 065
	[CFM]	12 000 / 8 000 / 4 000 / 0						
Min.		618 618 618	819 819 819	1 037 1 037 1 037	1 524 1 524 1 524	1 945 1 945 1 945	2 419 2 419 2 419	3 307 3 307 3 307
Max.		2 179 1 817 1 339	2 664 2 486 1 832	4 068 3 331 2 454	5 869 4 835 3 563	7 364 6 697 4 934	9 536 8 758 6 453	12 205 10 640 7 840
H_f	[inch]				3.54			
H		21.97	24.02	27.17	32.48	37.20	41.14	42.60
W		38.62	44.21	46.77	53.50	59.06	66.14	75.24
W_i		34.68	40.28	42.83	49.57	55.12	62.20	71.30
H_i		14.49	16.54	19.69	25.00	29.72	33.66	35.12
H_2		40.39	44.49	50.79	61.42	70.87	78.74	81.65

Main configuration	DE*		Basic configurations						
AVS-XXX-R-FRV/FRV_cd	-	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRV/FRV_cu	-	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRHV/FRV_cd	-	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRHV/FRV_cu	-	L2	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	43.19	43.19	43.19	57.59	57.59	71.99	71.99
AVS-XXX-R-FRMHV/FVMR_cd	-	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	130.64	130.64	130.64	145.04	145.04	159.44	159.44
AVS-XXX-R-FRMHV/FVMR_cu	-	L2	130.64	130.64	130.64	145.04	145.04	159.44	159.44
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
AVS-XXX-R-FRCV/FRV_cd	-	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
	✔	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	116.24	116.24	116.24	116.24	116.24	130.64	130.64
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRCV/FRV_cu	-	L2	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	43.19	43.19	43.19	57.59	57.59	71.99	71.99
	✔	L2	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	43.19	43.19	43.19	57.59	57.59	71.99	71.99

* Include Droplet Eliminator after Cooling Coil

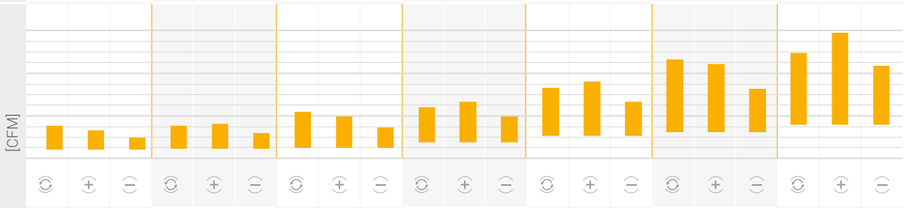
L1- doesn't cover empty space in bottom deck

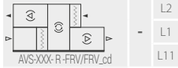
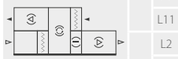
Main configuration	DE*		Basic configurations						
AVS-XXX-R-FRMCV/FVMR_cd	-	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	130.64	130.64	130.64	145.04	145.04	159.44	159.44
	✔	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	145.04	145.04	145.04	145.04	145.04	159.44	159.44
AVS-XXX-R-FRMCV/FVMR_cu	-	L2	130.64	130.64	130.64	145.04	145.04	159.44	159.44
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
	✔	L2	130.64	130.64	130.64	145.04	145.04	159.44	159.44
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
AVS-XXX-R-FRCVH/FRV_cd	-	L2	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L1	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
	✔	L2	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L1	159.44	159.44	159.44	159.44	159.44	173.83	173.83
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRCVH/FRV_cu	-	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L11	57.59	57.59	57.59	71.99	71.99	86.39	86.39
	✔	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	101.85	101.85	101.85	116.24	116.24	130.64	130.64
		L11	57.59	57.59	57.59	71.99	71.99	86.39	86.39
AVS-XXX-R-FRHCV/FRV_cd	-	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
	✔	L2	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L1	130.64	130.64	130.64	130.64	130.64	145.04	145.04
		L11	28.80	28.80	28.80	43.19	43.19	57.59	57.59
AVS-XXX-R-FRHCV/FRV_cu	-	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	57.59	57.59	57.59	71.99	71.99	86.39	86.39
	✔	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	87.45	87.45	87.45	101.85	101.85	116.24	116.24
		L11	57.59	57.59	57.59	71.99	71.99	86.39	86.39
AVS-XXX-R-FRMCVH/FVMR_cd	-	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	145.04	145.04	145.04	159.44	159.44	173.83	173.83
	✔	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	159.44	159.44	159.44	159.44	159.44	173.83	173.83
AVS-XXX-R-FRMCVH/FVMR_cu	-	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
	✔	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
AVS-XXX-R-FRMHCV/FVMR_cd	-	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	145.04	145.04	145.04	159.44	159.44	173.83	173.83
	✔	L2	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L1	159.44	159.44	159.44	159.44	159.44	173.83	173.83
AVS-XXX-R-FRMHCV/FVMR_cu	-	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
	✔	L2	145.04	145.04	145.04	159.44	159.44	173.83	173.83
		L1	116.24	116.24	116.24	130.64	130.64	145.04	145.04
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

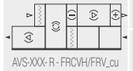
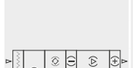
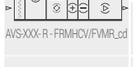
AVS 85-380 WITH ENERGY WHEEL

Rated parameters		Recommended range of airflow						
Size		AVS085	AVS100	AVS130	AVS170	AVS230	AVS300	AVS380
	[CFM]							
Min.		4 069 4 069 4 069	4 501 4 501 4 501	4 979 5 183 5 183	7 630 7 630 7 630	10 427 10 427 10 427	12 165 12 165 12 165	15 526 15 526 15 526
Max.		15 121 13 198 9 724	15 122 16 026 11 809	21 698 19 697 14 513	23 578 26 348 19 414	32 704 35 609 26 238	45 678 43 761 32 245	48 968 58 255 42 924
H_{fd}	[inch]	3.54	3.15					
H_{fu}		0.00	2.36	2.36	2.36	2.36	2.36	2.36
H		46.57	54.21	54.21	65.98	75.16	75.16	93.94
W		82.87	82.87	98.94	102.56	122.24	141.93	146.34
W_i		78.94	78.94	95.00	98.62	118.31	137.99	142.4
H_i		39.09	47.13	47.13	58.9	68.07	68.07	86.85
H_2		89.61	107.64	107.64	131.18	149.53	149.53	187.09

Main configuration	DE*		Basic configurations						
 AVS-XXX-R-FRV/FRV_cd	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	116.24	101.85	101.85	116.24	116.24	116.24	116.24
	✔	L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
 AVS-XXX-R-FRV/FRV_cu	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	116.24	101.85	101.85	116.24	116.24	116.24	116.24
	✔	L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
 AVS-XXX-R-FRHV/FRV_cd	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	130.64	116.24	116.24	130.64	130.64	130.64	130.64
	✔	L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
 AVS-XXX-R-FRHV/FRV_cu	-	L2	130.64	116.24	116.24	130.64	130.64	130.64	130.64
		L1	116.24	101.85	101.85	116.24	116.24	116.24	116.24
	✔	L11	71.99	57.59	57.59	71.99	71.99	71.99	71.99
 AVS-XXX-R-FRMHV/FVMR_cd	-	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	173.83	159.44	159.44	173.83	173.83	173.83	173.83
	✔	L11	173.83	159.44	159.44	173.83	173.83	173.83	173.83
 AVS-XXX-R-FRMHV/FVMR_cu	-	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
	✔	L11	71.99	57.59	57.59	71.99	71.99	71.99	71.99
 AVS-XXX-R-FRCV/FRV_cd	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	130.64	116.24	116.24	130.64	130.64	130.64	130.64
	✔	L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
 AVS-XXX-R-FRCV/FRV_cu	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	130.64	116.24	116.24	130.64	130.64	130.64	130.64
	✔	L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59

* Include Droplet Eliminator after Cooling Coil

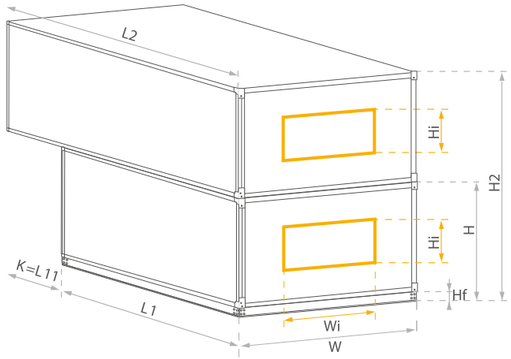
L1- doesn't cover empty space in bottom deck

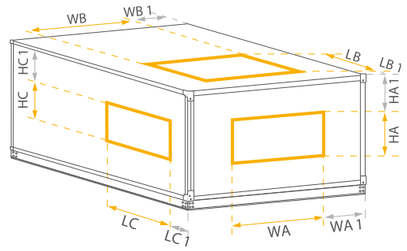
Main configuration	DE*		Basic configurations						
 AVS-XXX-R-FRMCV/FVMR_cd	-	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	173.83	159.44	159.44	173.83	173.83	173.83	173.83
	✔	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	173.83	159.44	159.44	173.83	173.83	173.83	173.83
 AVS-XXX-R-FRMCV/FVMR_cu	-	L2	173.83	159.44	159.44	173.83	173.83	173.83	173.83
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
	✔	L2	173.83	159.44	159.44	173.83	173.83	173.83	173.83
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
 AVS-XXX-R-FRCVH/FRV_cd	-	L2	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
	✔	L2	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
 AVS-XXX-R-FRCVH/FRV_cu	-	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L11	86.39	71.99	71.99	86.39	86.39	86.39	86.39
	✔	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L11	86.39	71.99	71.99	86.39	86.39	86.39	86.39
 AVS-XXX-R-FRHCV/FRV_cd	-	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
	✔	L2	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L1	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L11	57.59	43.19	43.19	57.59	57.59	57.59	57.59
AVS-XXX-R-FRHCV/FRV_cu	-	L2	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L1	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L11	86.39	71.99	71.99	86.39	86.39	86.39	86.39
	✔	L2	145.04	130.64	130.64	145.04	145.04	145.04	145.04
		L1	116.24	101.85	101.85	116.24	116.24	116.24	116.24
		L11	86.39	71.99	71.99	86.39	86.39	86.39	86.39
 AVS-XXX-R-FRMCVH/FVMR_cd	-	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
	✔	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
 AVS-XXX-R-FRMCVH/FVMR_cu	-	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
	✔	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
 AVS-XXX-R-FRMHCV/FVMR_cd	-	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
	✔	L2	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L1	188.23	173.83	173.83	188.23	188.23	188.23	188.23
 AVS-XXX-R-FRMHCV/FVMR_cu	-	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40
	✔	L2	188.23	173.83	173.83	188.23	188.23	188.23	188.23
		L1	159.44	145.04	145.04	159.44	159.44	159.44	159.44
		L11	14.40	14.40	14.40	14.40	14.40	14.40	14.40

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

DIMENSIONS -AVS 12 - 65 WITH ENERGY WHEEL





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15
AVS 055	59.84	31.30	3.15	3.15
AVS 065	68.94	32.76	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 012	25.97	7.97	6.34	5.24
AVS 016	33.97	7.97	5.16	6.26
AVS 020	25.97	11.97	10.43	5.83
AVS 030	33.97	11.97	9.80	8.50
AVS 040	40.51	17.36	9.29	8.19
AVS 055	47.24	22.68	9.47	7.48
AVS 065	47.24	22.68	14.02	8.23

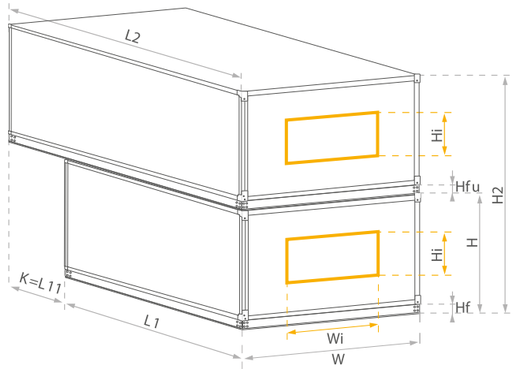
Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70
AVS 055	24.13	14.96	6.89	6.73
AVS 065	24.13	14.96	6.89	7.46

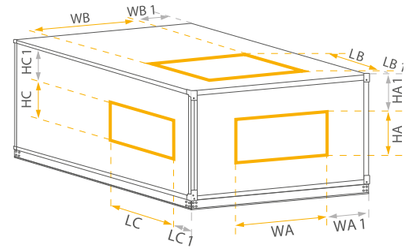
UNIT CODING

AVS - XX

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

DIMENSIONS -AVS 85-380 WITH ENERGY WHEEL





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 085	76.57	36.73	3.15	3.15
AVS 100	76.57	44.76	3.15	3.15
AVS 130	92.64	44.76	3.15	3.15
AVS 170	96.26	56.54	3.15	3.15
AVS 230	115.94	65.71	3.15	3.15
AVS 300	135.63	65.71	3.15	3.15
AVS 380	140.04	84.49	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 085	59.88	31.34	11.52	5.87
AVS 100	59.88	31.34	11.52	9.88
AVS 130	76.61	36.77	11.18	7.17
AVS 170	76.61	36.77	12.99	13.07
AVS 230	104.37	36.77	8.96	17.64
AVS 300	124.06	36.77	8.96	17.64
AVS 380	127.99	36.77	9.19	27.05

Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 085	28.07	29.13	6.89	7.48
AVS 100	35.94	29.13	6.89	7.56
AVS 130	35.94	29.13	6.89	7.56
AVS 170	47.76	29.13	6.89	7.54
AVS 230	59.57	29.13	6.89	6.22
AVS 300	59.57	29.13	6.89	6.22
AVS 380	75.31	29.13	6.89	7.74

UNIT CODING

AVS - XX

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

AVS LITE 8-40 - SUPPLY & EXHAUST

Rated parameters		Recommended range of airflow																			
Size		AVS 008				AVS 012				AVS 016				AVS 020				AVS 030				AVS 040			
15 000 / 10 000 / 5 000 / 0	[CFM]																								
Min.		332	427	427	427	480	618	618	618	636	819	819	819	806	1 037	1 037	1 037	1 185	1 524	1 524	1 524	1 567	1 945	1 945	1 945
Max.		2 140	1 883	1 254	924	3 091	2 719	1 817	1 339	4 096	3 605	2 486	1 832	5 186	4 564	3 331	2 454	7 622	6 708	4 835	3 563	10 078	8 559	6 697	4 934
H_f	[inch]	3.54																							
H		21.97				21.97				24.02				27.17				32.48				37.20			
W		27.95				38.62				44.21				46.77				53.50				59.06			
W_i		24.02				34.68				40.28				42.83				49.57				55.12			
H_i		14.49				14.49				16.54				19.69				25.00				29.72			

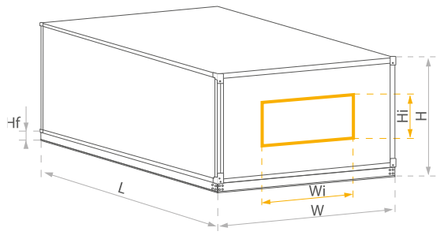
Main configuration		Basic configurations					
AVS-XXX-R-FV	L1	29,9	29,9	44,3	44,3	44,3	44,3
AVS-XXX-R-FHV	L1	44,3	44,3	44,3	44,3	58,69	58,69
AVS-XXX-R-FCV	L1	44,3	44,3	58,69	58,69	58,69	58,69
AVS-XXX-R-FHCV	L1	44,3	58,69	58,69	58,69	58,69	58,69
AVS-XXX-R-FCHV	L1	44,3	58,69	58,69	58,69	58,69	58,69
AVS-XXX-R-MFHV	L1	58,69	58,69	58,69	58,69	73,09	73,09
AVS-XXX-R-MFCV	L1	58,69	58,69	73,09	73,09	73,09	73,09
AVS-XXX-R-MFHCV	L1	58,69	73,09	73,09	73,09	73,09	73,09
AVS-XXX-R-MFCHV	L1	58,69	73,09	73,09	73,09	73,09	73,09

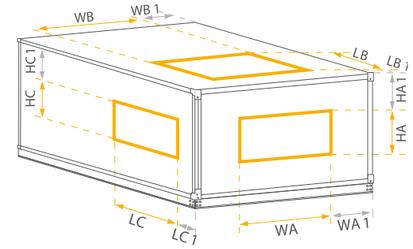
[inch]

Units with external filters instead of internal are shorter by 14.4 inches

Additional functions							
Empty section	L_{min}	29.86	29.86	29.86	29.86	29.86	29.86
	L_{max}	29.86	29.86	29.86	29.86	29.86	29.86
Mixing box	L	29.86	29.86	29.86	29.86	29.86	29.86

DIMENSIONS - AVS LITE 8-40 - SUPPLY & EXHAUST





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 008	21.65	12.13	3.15	3.15
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 008	17.99	7.99	5.03	5.23
AVS 012	25.98	7.99	6.33	5.23
AVS 016	34.02	7.99	5.13	6.23
AVS 020	25.98	12.01	10.43	5.83
AVS 030	34.02	12.01	9.83	8.53
AVS 040	40.47	17.32	9.29	8.19

Top (US)				
UNIT	WB	LB	WB1	LB1
AVS 008	17.99	7.99	5.03	4.33
AVS 012	25.98	7.99	6.33	4.33
AVS 016	34.02	7.99	5.13	4.33
AVS 020	25.98	12.01	10.43	4.33
AVS 030	34.02	12.01	9.83	4.33
AVS 040	40.47	17.32	9.29	8.27

Top (US)				
UNIT	WB	LB	WB1	LB1
AVS 008	17.94	7.94	5.00	11.46
AVS 012	25.94	7.94	6.34	11.46
AVS 016	33.94	7.94	5.16	11.46
AVS 020	25.94	11.94	10.43	9.46
AVS 030	33.94	11.94	9.80	9.46
AVS 040	47.20	22.64	5.93	8.66

Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 008	10.94	7.94	4.33	3.74
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70

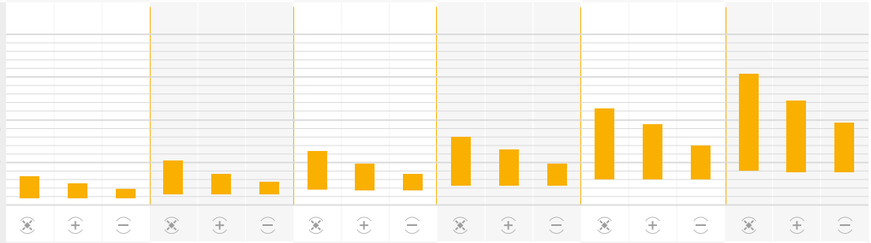
UNIT CODING

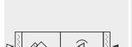
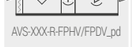
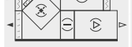
AVS - XXX - R/L - EM / HC / EM

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm)
R/L - inspection side (R- right, L -left)
EM - symbols of additional functions upstream main functions
HC - symbols of main thermodynamic functions (basic functions)
EM - symbols of additional functions downstream main functions
Length depends on AHU equipment

Technical Parameters

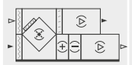
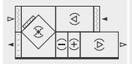
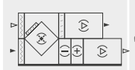
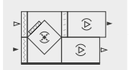
AVS LITE 8-40 - CROSS-FLOW PLATE

Rated parameters		Recommended range of airflow																
Size		AVS 008			AVS 012			AVS 016			AVS 020			AVS 030			AVS 040		
10 000 / 7 500 / 5 000 / 2 500 / 0	[CFM]																	
		⊗	⊕	⊖	⊗	⊕	⊖	⊗	⊕	⊖	⊗	⊕	⊖	⊗	⊕	⊖	⊗	⊕	⊖
Min.		446	427	427	697	618	618	846	819	819	1 067	1 037	1 037	1 526	1 524	1 524	2 089	1 945	1 945
Max.		1 699	1 254	924	2 650	1 817	1 339	3 218	2 486	1 832	4 058	3 331	2 454	5 799	4 835	3 563	7 939	6 697	4 934
H_f	[inch]	3.54																
H		21.97			21.97			24.02			27.17			32.48			37.20		
W		27.95			38.62			44.21			46.77			53.50			59.06		
W_i		24.02			34.68			40.28			42.83			49.57			55.12		
H_i		14.49			14.49			16.54			19.69			25.00			29.72		

Main configuration DE*			Basic configurations						
 AVS-XXX-R-FPV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	58,69	58,69	73,09	87,49	87,49	101,89
 AVS-XXX-R-FPV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	58,69	58,69	73,09	87,49	87,49	101,89
 AVS-XXX-R-FPHV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	73,09	73,09	87,49	87,49	87,49	101,89
AVS-XXX-R-FPHV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	73,09	73,09	87,49	87,49	87,49	101,89
 AVS-XXX-R-FPCV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	73,09	73,09	87,49	87,49	101,89	116,28
 AVS-XXX-R-FPCV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	73,09	73,09	87,49	87,49	101,89	116,28

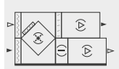
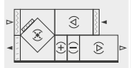
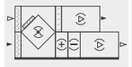
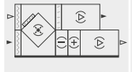
* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

Main configuration DE*			Basic configurations						
 AVS-XXX-R-FPHCV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	73,09	73,09	87,49	101,89	101,89	116,28
 AVS-XXX-R-FPHCV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	73,09	73,09	87,49	101,89	101,89	116,28
 AVS-XXX-R-FPCHV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	73,09	73,09	87,49	101,89	101,89	116,28
 AVS-XXX-R-FPCHV/ FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	73,09	73,09	87,49	101,89	101,89	116,28
 AVS-XXX-R-FPV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	73,09	73,09	73,09	87,49	101,89	101,89
 AVS-XXX-R-FPV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	73,09	73,09	73,09	87,49	101,89	101,89
 AVS-XXX-R-FPHV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	87,49	87,49	87,49	87,49	101,89	101,89

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

Main configuration DE*			Basic configurations					
 AVS-XXX-R-FPHV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	87,49	87,49	87,49	87,49	101,89	101,89
 AVS-XXX-R-FPCV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28
 AVS-XXX-R-FPCV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28
 AVS-XXX-R-FPHCV/FVPD_cd	✔	L2	58,69	58,69	73,09	87,49	87,49	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28
 AVS-XXX-R-FPHCV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28
 AVS-XXX-R-FPCHV/FVPD_cd	✔	L2	58,69	58,69	87,49	87,49	87,49	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28
 AVS-XXX-R-FPCHV/FPDV_pd	✔	L2	73,09	73,09	73,09	87,49	101,89	101,89
		L1	87,49	87,49	87,49	87,49	116,28	116,28

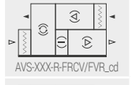
[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

AVS LITE 12 - 40 WITH ENERGY WHEEL

Rated parameters		Recommended range of airflow												
Size		AVS 012			AVS 016			AVS 020			AVS 030			AVS 040		
12 000 8 000 4 000 0	[CFM]															
Min.		618	618	618	819	819	819	1 037	1 037	1 037	1 524	1 524	1 524	1 945	1 945	1 945
Max.		2 179	1 817	1 339	2 664	2 486	1 832	4 068	3 331	2 454	5 869	4 835	3 563	7 364	6 697	4 934
H_f	[inch]	3.54														
H		21.97			24.02			27.17			32.48			37.20		
W		38.62			44.21			46.77			53.50			59.06		
W_i		34.68			40.28			42.83			49.57			55.12		
H_i		14.49			16.54			19.69			25.00			29.72		
H_2		40.39			44.49			50.79			61.42			70.87		

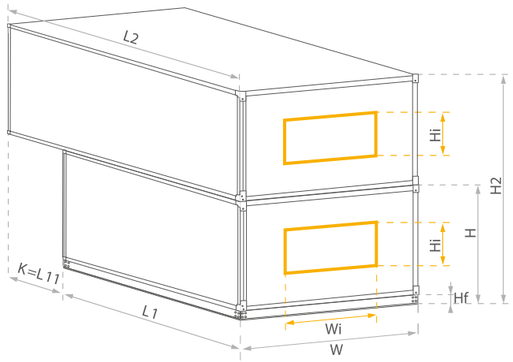
Main configuration DE*			Basic configurations				
 AVS-XXX-R-FRV/FVR_cd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	58,69	58,69	73,09	73,09	73,09
 AVS-XXX-R-FRV/FRV_pd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	73,09	73,09	73,09	73,09	73,09
 AVS-XXX-R-FRHV/FVR_cd	-	L2	58,69	58,69	73,09	73,09	73,09
		L1	73,09	73,09	73,09	73,09	73,09
 AVS-XXX-R-FRHV/FRV_pd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	73,09	73,09	73,09	87,49	87,49
 AVS-XXX-R-FRCV/FVR_cd	-	L2	58,69	58,69	73,09	73,09	73,09
		L1	73,09	73,09	73,09	87,49	87,49
AVS-XXX-R-FRCV/FRV_pd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	73,09	73,09	73,09	87,49	87,49
AVS-XXX-R-FRHCV/FVR_cd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	73,09	73,09	87,49	87,49	87,49
AVS-XXX-R-FRHCV/FRV_pd	-	L2	58,69	58,69	73,09	73,09	73,09
		L1	73,09	73,09	87,49	87,49	87,49
AVS-XXX-R-FRCHV/FVR_cd	-	L2	58,69	73,09	73,09	73,09	73,09
		L1	73,09	73,09	87,49	87,49	87,49
AVS-XXX-R-FRCHV/FRV_pd	-	L2	58,69	58,69	73,09	73,09	73,09
		L1	73,09	73,09	87,49	87,49	87,49

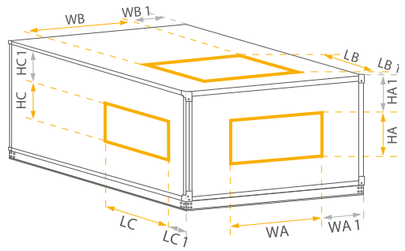
[inch]

* Include Droplet Eliminator after Cooling Coil

L1- doesn't cover empty space in bottom deck

DIMENSIONS AVS LITE 8-40 - CROSS-FLOW PLATE





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 008	21.65	12.13	3.15	3.15
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 008	17.97	7.97	5.00	5.24
AVS 012	25.97	7.97	6.34	5.24
AVS 016	33.97	7.97	5.16	6.26
AVS 020	25.97	11.97	10.43	5.83
AVS 030	33.97	11.97	9.80	8.50
AVS 040	40.51	17.36	9.29	8.19

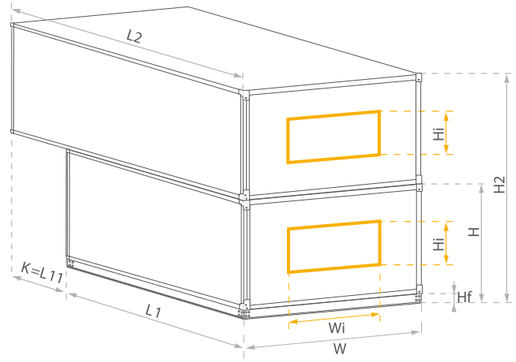
Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 008	10.94	7.94	4.33	3.74
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70

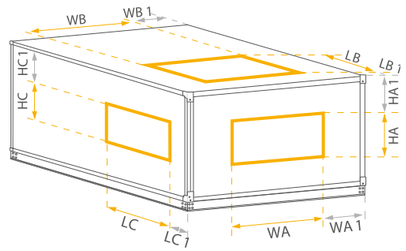
UNIT CODING

AVS - XX

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

DIMENSIONS - AVS LITE 12 - 40 WITH ENERGY WHEEL





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)				
UNIT	WA	HA	WA1	HA1
AVS 012	32.32	12.13	3.15	3.15
AVS 016	37.91	14.17	3.15	3.15
AVS 020	40.47	17.32	3.15	3.15
AVS 030	47.20	22.64	3.15	3.15
AVS 040	52.76	27.36	3.15	3.15

END (FS)				
UNIT	WA	HA	WA1	HA1
AVS 012	25.97	7.97	6.34	5.24
AVS 016	33.97	7.97	5.16	6.26
AVS 020	25.97	11.97	10.43	5.83
AVS 030	33.97	11.97	9.80	8.50
AVS 040	40.51	17.36	9.29	8.19

Side (BS)				
UNIT	HC	LC	HC1	LC1
AVS 012	10.94	7.94	4.33	3.74
AVS 016	12.94	7.94	4.33	3.74
AVS 020	15.94	11.94	4.33	3.82
AVS 030	20.94	11.94	4.33	3.98
AVS 040	16.26	14.96	6.89	8.70

UNIT CODING

AVS - XX

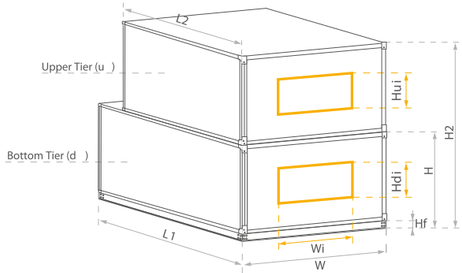
AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
PHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

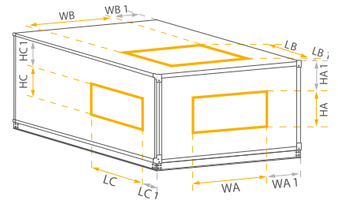
AVS - VERTICAL CONFIGURATIONS

Rated parameters		Recommended range of airflow																					
Size		AVS 008				AVS 012				AVS 016				AVS 020				AVS 030				AVS 040			
15 000	[CFM]																						
10 000																							
5 000																							
0																							
Min.		332	427	427	427	480	618	618	618	636	819	819	819	806	1 037	1 037	1 037	1 185	1 524	1 524	1 524	1 567	1 945	1 945	1 945
Max.		2 140	1 883	1 254	924	3 091	2 719	1 817	1 339	4 096	3 605	2 486	1 832	5 186	4 564	3 331	2 454	7 622	6 708	4 835	3 563	10 078	8 559	6 697	4 934
H_{fd}	[inch]	3.54																					
H_{fu}		0.00				0.00				0.00				0.00				0.00				0.00			
H		21.97				21.97				24.02				27.17				32.48				37.20			
W		27.95				38.62				44.21				46.77				53.50				59.06			
W_i		24.02				34.68				40.28				42.83				49.57				55.12			
H_{ui}		19.69				19.69				19.69				25.00				25.00				29.72			
H_{di}		14.49				14.49				16.54				19.69				25.00				29.72			
H_2		45.59				45.59				47.64				56.10				61.42				70.87			

Basic configurations								
AVS(v)-XXX-R-HV	L2	L [inch]	29.86	29.86	29.86	29.86	29.86	29.86
	L1		29.86	29.86	29.86	29.86	29.86	29.86
AVS(v)-XXX-R-CV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		29.86	29.86	29.86	29.86	29.86	29.86
AVS(v)-XXX-R-HCV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		29.86	29.86	29.86	29.86	29.86	29.86
AVS(v)-XXX-R-HCV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		29.86	29.86	29.86	29.86	29.86	29.86
AVS(v)-XXX-R-MHV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		58.65	58.65	58.65	58.65	58.65	58.65
AVS(v)-XXX-R-MCV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		58.65	58.65	58.65	58.65	58.65	58.65
AVS(v)-XXX-R-MHCV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		58.65	58.65	58.65	58.65	58.65	58.65
AVS(v)-XXX-R-MCHV	L2		29.86	29.86	29.86	29.86	29.86	29.86
	L1		58.65	58.65	58.65	58.65	58.65	58.65

DIMENSIONS - VERTICAL CONFIGURATIONS





AIR INLET / DISCHARGE DIMENSIONS

END FULL (FF)

Unit	WA	HA	WA1	HA1
AVS008	21.63	17.31	3.13	3.13
AVS012	32.31	17.31	3.13	3.13
AVS016	37.94	17.31	3.13	3.13
AVS020	40.50	22.63	3.13	3.13
AVS030	47.19	22.63	3.13	3.13
AVS 040	52.75	27.38	3.13	3.13

END FULL (FF)

Unit	WA	HA	WA1	HA1
AVS008	21.31	11.81	3.28	3.28
AVS012	32.00	11.81	3.28	3.28
AVS016	37.62	13.86	3.28	3.28
AVS020	40.19	17.01	3.28	3.28
AVS030	46.87	22.32	3.28	3.28
AVS 040	52.44	27.05	3.28	3.28

END (FS)

Unit	WA	HA	WA1	HA1
AVS008	18.00	8.00	4.60	11.12
AVS012	26.00	8.00	5.90	11.12
AVS016	34.00	8.00	4.70	10.62
AVS020	26.00	12.00	10.00	11.94
AVS030	34.00	12.00	9.40	11.94
AVS 040	48.00	12.00	5.10	16.66

END (FS)

Unit	WA	HA	WA1	HA1
AVS008	17.94	7.94	4.66	4.84
AVS012	25.94	7.94	5.91	4.84
AVS016	33.94	7.94	4.72	5.84
AVS020	25.94	11.94	10.03	5.41
AVS030	33.94	11.94	9.41	8.16
AVS 040	40.50	17.31	9.28	8.22

TOP (US)

Unit	WB	LB	WB1	LB1
AVS008	18.00	8.00	4.60	10.90
AVS012	26.00	8.00	5.90	10.90
AVS016	34.00	8.00	4.70	10.90
AVS020	26.00	12.00	10.00	8.90
AVS030	34.00	12.00	9.40	8.90
AVS 040	48.00	12.00	5.10	8.90

TOP (US)

Unit	WB	LB	WB1	LB1
AVS008	17.94	7.94	4.66	3.91
AVS012	25.94	7.94	5.91	3.91
AVS016	33.94	7.94	4.72	3.91
AVS020	25.94	11.94	10.03	3.91
AVS030	33.94	11.94	9.41	3.91
AVS 040	40.50	17.31	9.28	7.84

Side (BS)

Unit	HC	LC	HC1	LC1
AVS008	8.00	11.00	11.12	9.40
AVS012	8.00	11.00	11.12	9.40
AVS016	8.00	13.00	10.62	8.40
AVS020	12.00	16.00	11.94	6.90
AVS030	12.00	21.00	11.94	4.40
AVS 040	12.00	21.00	16.66	4.40

Side (BS)

Unit	HC	LC	HC1	LC1
AVS008	10.94	7.94	3.34	3.91
AVS012	10.94	7.94	3.34	3.91
AVS016	12.94	7.94	3.34	3.91
AVS020	15.94	11.94	3.41	3.91
AVS030	20.94	11.94	3.66	3.91
AVS 040	16.25	14.94	8.72	6.47

UNIT CODING

AVS - XXX - R/L - RHC

AVS - type of AHU family
XXX - size of unit (equal to the rated air flow in cfm*0.001)
R/L - inspection side (R- right, L -left)
RHC - symbols of main thermodynamic functions (basic functions)
Length depends on AHU equipment

05

Connection and controls

CONNECTING POINT

The Connecting Point is the power supply and VFD Enclosure, the internal wiring system of the air-handling unit related to power supply and control of fan motors. It is mounted separately for the supply and exhaust fan sections.

It consists of a casing, a frequency converter (VFD), surge protection, emergency (service) switch, strip connector, factory-produced internal power circuits, and control wiring of the fan drive system (motor-inverter). In the case of vertical air-handling units, an external wired outlet is mounted on the casing and connected to the Connecting Point.

The Connecting Point is equipped with aggregate terminals for power supply circuits; inverter circuits are factory-connected to these terminals.

CONSTRUCTION AND WIRING

THE MAIN BENEFITS OF AIR-HANDLING UNITS EQUIPPED WITH THE CONNECTING POINT ARE AS FOLLOWS:

- the certainty of correctness of internal connections supplying the motor and the VFD
- reliability of factory-tested connections and air-handling unit operation
- on-site time-savings on wiring
- lower costs of the whole installation
- factory installation of the service switch
- clear liability of the producer for the connection and configuration of inverters and motors

CONTROLS

VTS uses control algorithms that have been developed with an emphasis on energy savings, while at the same time maintaining the required parameters of the air supplied and ensuring reliability of our units.

For management of our American VENTUS air handling units we recommend our control application based on PLC controller, supporting all advanced control functions and variable ways of external communication including integration with Building Management Systems.

NEW FEATURES

MEASUREMENT AND CONTROL OF THE CONSTANT AIR VOLUME

- adjustment of the preset constant air volume under changing flow resistance - compensation of changing internal resistance of the AHU (e.g. with varying degrees of air filter dirt, different setpoint of the mixing box, etc.)
- adjustment of the fan power to the current needs of the installation
- readiness of the AHU to work with the required performance immediately after installation

CONSTANT PRESSURE CONTROL WITH VARIABLE AIR VOLUME

- control of constant, preset air pressure at variable volume (efficiency change is carried out through the air distribution system – e.g. VAV controllers)

CO_2

- automatic modulation of the amount of outside air (keeping the CO_2 concentration below the set value)
- optimization of consumption of heat and electricity

ELECTRIC HEATER CONTROL

- smooth control system that adjusts power to the current demand

HUMIDITY CONTROL

- control over air humidifying
  - both evaporative and steam
- supports control of the drying process

MIXING BOX CONTROL

- smooth control of the mixing box, external signal or as in the CO_2 control function, etc.
- optimization of the ventilation air to save energy

MAIN ELEMENTS

HMI SERVICE

Function and Application

- setting and reading of advanced operating parameters of ventilation or supply units
- management and cancellation of units operational errors is done by full text description
- management of the controller main calendar

Operation parameters

- power supply: directly from the UPC3 controller
- communication port: serial port, RS485 standard
- communication cable length: max. 3,600ft
- connection method: 1:1
- protection class: NEMA 2
- ambient temperature: -4 +140°F / φ<85%, without condensation

VARIABLE FREQUENCY DRIVES

Function and Application

- smooth regulation of the AHU air flow by proportional change of the motor-fan unit rotational speed
- maintaining fixed AHU operating parameters at varying air flow resistance of the ductworks
- protection of maximal value of motor current
- controlling of fan start-up with simultaneous protection of maximal value of start-up current
- integration with external analog and binary signals
- displaying and modification of fan-set working parameters

Operation parameters

- supply Frequency: 50/60 Hz (48 Hz to 62 Hz)
- control
  - method: Type of control: V/f (Scalar); VVW: Voltage vector control; PWM SVM (Space Vector Modulation)
  - output Frequency: 0 to 500 Hz, resolution of 0.015 Hz
- analog Inputs:
  - 1 insulated input. Levels: (0 to 10) V or (0 a 20) mA or (4 to 20) mA
  - programmable functions
- digital Inputs:
  - 4 insulated inputs
  - programmable functions:
    - Active high (PNP)
    - Active low (NPN)
- analog Output
  - 1 insulated output. Level (0 to 10) V or (0 to 20) mA or (4 to 20) mA
  - programmable functions
- relay Output
  - 1 relay with NA/NF contact.
  - maximum voltage: 240 VAC
  - maximum current 0.5 A
  - programmable functions
- communication Interface RS 485
  - insulated RS485
  - modbus-RTU protocol with maximum communication of 38.4kbps
- enclosure
  - NEMA1/IP20

DUCT TEMPERATURE SENSOR

Function and Application

- measurement of the temperature of supply, exhaust and outside air
- securing max. and min. temperature of supply air
- protection against frost on the energy recovery unit via the temperature measurement of air exhausted upstream the energy recovery unit

Operation parameters

- measurement range: -40°F -158 °F
- air humidity: 5 - 100 %
- measuring element: NTC 10k
- output signal: resistance
- cables length: max. 300 ft
- protection class: IP 54

DIFFERENTIAL PRESSURE SWITCH

Function and Application

- monitoring the filter contamination in the Air Handling Unit by measuring the difference of static pressure before and after the filter
- control of the operation of a direct driven fan unit in case of cooperation with electric heater

Operation parameters

- measurement: 0.12-1.20 in WG – filters of class MERV 6 - 15
- rated operating voltage: 250V AC (Imax=3A)
- output signal: potential-free contact, NO or NC according to the application
- switching capacity: 1mln of cycles (at temp. of 140 °F)
- protection class: NEMA 3
- ambient temperature: -4 °F +140 °F

LOW LIMIT THERMOSTAT SWITCH

Function and Application

- when the air temperature drops below the minimum allowable temperature, signal from the thermostat stops AHU fans, closes external air dampers and adjusts control valve of the heater to the max. flow of heating medium
- switching into permanent alarm condition if the AHU protection is triggered three times within an hour

Operation parameters

- measurement range: -0.4 +59 °F
- default switching threshold setting: 41 °F
- hysteresis: 1.7 - 12K
- Rated operating voltage: 30 V DC, 230 VAC
- output signal: potential-free (switchover contact)
- protection class: NEMA 3

THREE-WAY VALVE WITH ELECTRIC ACTUATOR

Function and Application

- temperature adjustment of the medium flowing through the hydronic coil
- quality hydronic heater capacity regulation (system based on additional recirculation pump)
- quantity hydronic cooler capacity regulation

Operation parameters

- actuator:
  -adjustment range: 0 -100%
  -supply voltage: 24 V AC/DC
  -input signal: 0-10 V DC
  -rotation angle: 90°
  -protection class: NEMA 2
  -ambient temperature: -22 +122 °F
- valve:
  -operating characteristics: Equal percentage/proportional Cv: 3 / 4.7 / 7.4 / 19 / 29 / 46 / 68 / 91
  -differential Pressure: 50 psi for typical applications
  -medium temperature: 0°F - 250°F

0-10 V AIR DAMPER ACTUATOR

Function and Application

- mixing ratio control for outdoor and room-exhausted air (economizer): 0-10 V actuator
- control of bypass air damper opening level for the Plate Cross-Flow – anti-frost protection of the energy recovery system
- 0-10 V actuator:
  - actuator with spring return
  - economizer fresh air side
- actuator with no spring return:
  - economizer return air side
  - by-pass damper for cross-plate based energy recovery system

Operation parameters

- regulation method: smooth 0-100%
- supply voltage: 24 VAC
- input signal: 0 -10 VDC
- rated torque: 90 in-lbs
- rotation angle 90°
- full opening time: 0 10 V: 80 - 90s;
- spring-forced return: 10s
- max. air damper area: 43 ft2
- protection class: NEMA 2
- ambient temperature: -22 +122 °F

HUMIDITY SENSOR

Function and Application

- multiple ranges as measurement windows available
- innovative self-calibrating algorithm
- long term stability and accuracy

Operation parameters

- microcontroller based design
- supply voltage: 24 V AC/DC
- 1 analogue output (0-10 VDC / 0-20 mA)
- modbus RTU (RS485) Communication

CONTROL APPLICATIONS LIST

AP - control system application for air supply-exhaust units with cross-flow heat exchanger

Application code	Functions available in particular applications					
	HW	DX	DX	PRC. BPS	MIX. CMBR	SUMMER
AP 32				✔		
AP 41	✔			✔		
AP 33		✔		✔		
AP 36	✔	✔		✔		
AP 37			✔	✔		
AP 40	✔		✔	✔		
AP 160				✔		✔
AP 161	✔			✔		✔
AP 164		✔		✔		✔
AP 165	✔	✔		✔		✔
AP 168			✔	✔		✔
AP 169	✔		✔	✔		✔

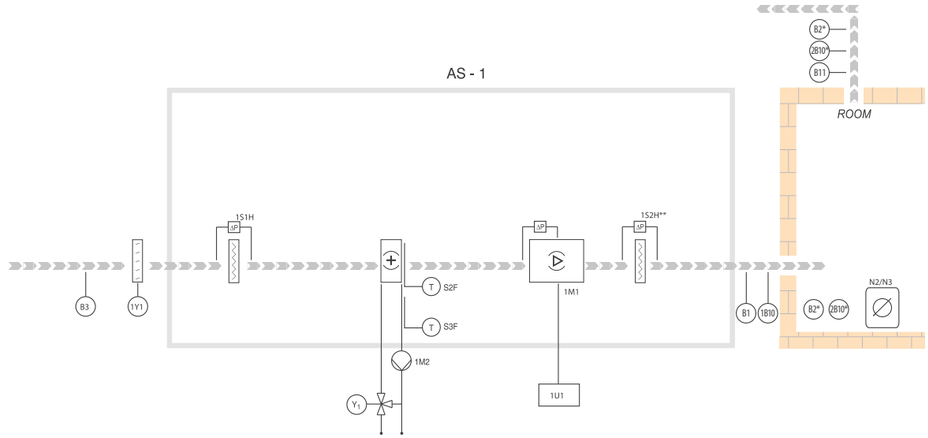
AR - control system application for air supply-exhaust units with thermal wheel

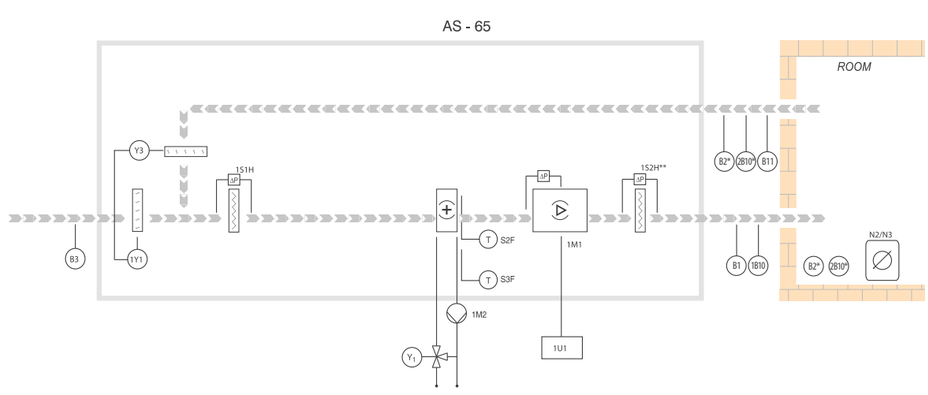
Application code	Functions available in particular applications					
	HW	DX	DX	PRC. BPS	MIX. CMBR	SUMMER
AP 0						
AP 1	✔					
AP 4		✔				
AP 5	✔	✔				
AP 8			✔			
AP 9	✔		✔			
AP 128						✔
AP 129	✔					✔
AP 132		✔				✔
AP 133	✔	✔				✔
AP 136			✔			✔
AP 137	✔		✔			✔

AS - control system application for air supply units

Application code	Functions available in particular applications					
	HW	DX	DX	PRC. BPS	MIX. CMBR	SUMMER
AP 1	✔					
AP 4		✔				
AP 5	✔	✔				
AP 8			✔			
AP 9	✔		✔			
AP 65	✔				✔	
AP 68		✔			✔	
AP 69	✔	✔			✔	
AP 72			✔		✔	
AP 73	✔		✔		✔	
AP 193	✔				✔	✔
AP 196		✔			✔	✔
AP 197	✔	✔			✔	✔
AP 200			✔		✔	✔
AP 201	✔		✔		✔	✔

SUPPLY AHUS





CONTROL

- control of room temperature, or supply or exhaust air temperature
- control of the energy recovery level – first stage of heating/ cooling
- air flow control
- operation according to calendar – temperature, efficiency, operation mode (OPERATION, STAND-BY, STOP)
- STAND-BY – maintaining the minimum, set indoor temperature.

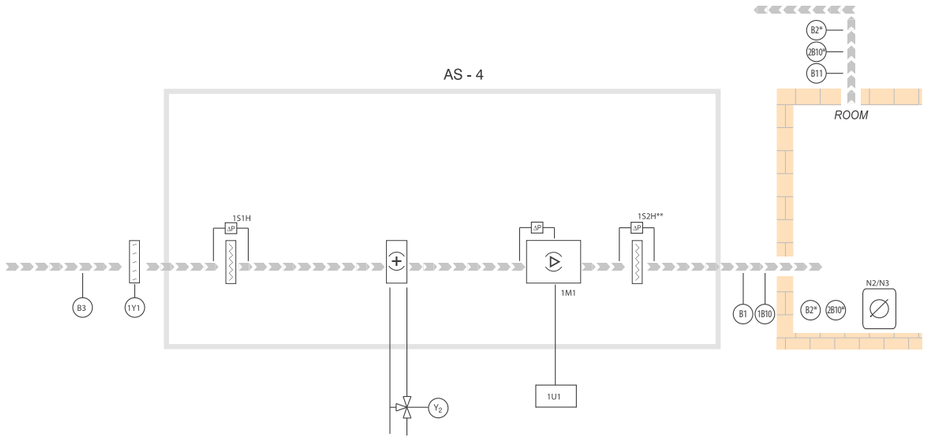
* Initial heating of external air

INFORMATION

- information on outdoor, supply, exhaust and indoor air temperatures
- filter contamination info
- alarm status info
- analog and digital input and output status info

PROTECTION

- limiting the allowed supply air temperature
- fan unit protection – the function is active:
  - if an electric heater is present
- overload protection of a drive unit
- anti-frost protection of a water heater
- protection against overheating of an electric heater
- optional protection against minimal and maximal temperature of medium returning from the water heater with use of Strap-on temperature sensor, standard NTC 10K
- the control application layouts have been prepared on the basis of water exchangers
- the quantity of applied pressure switches for filters depends on the filter configuration



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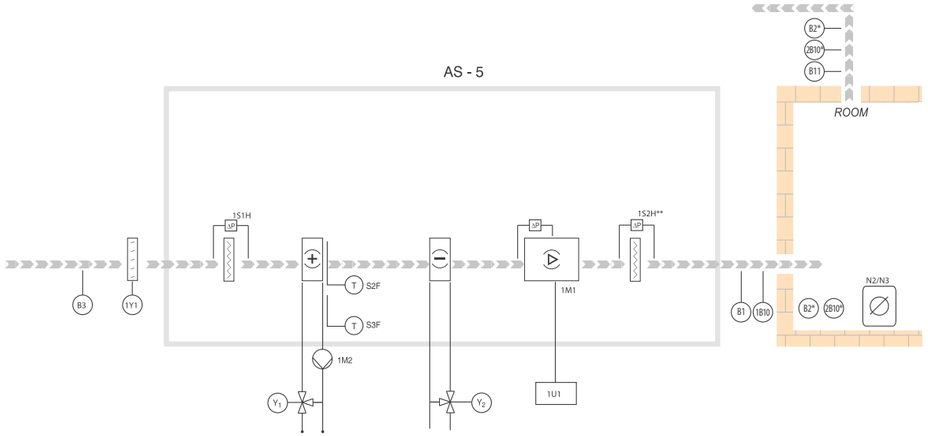

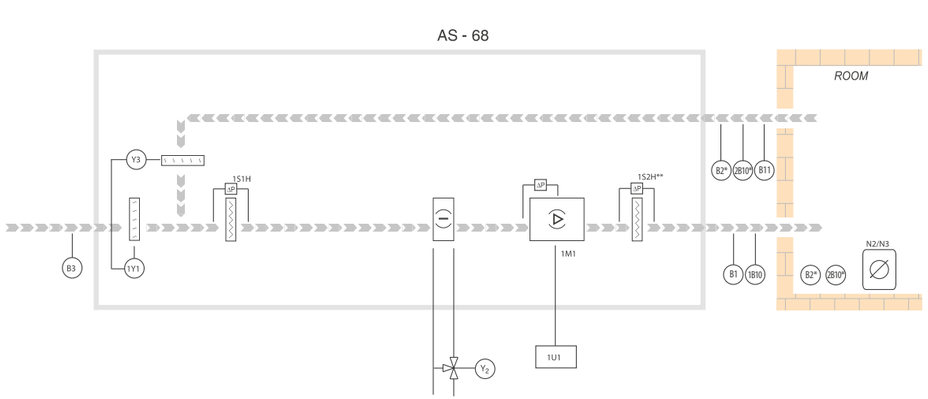

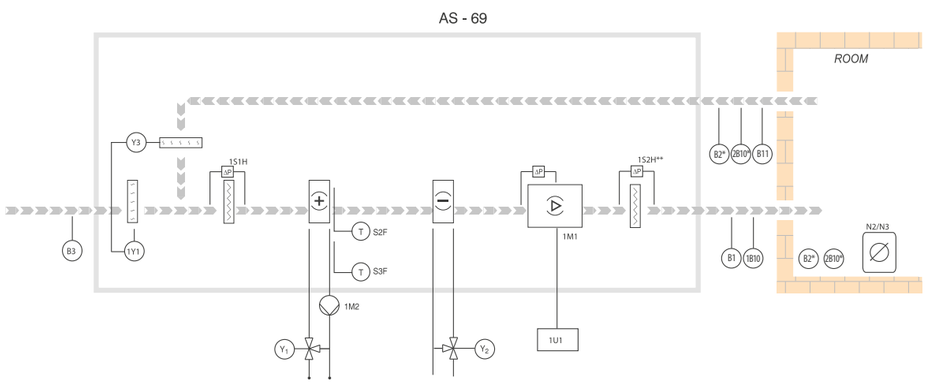

CONTROL

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- air flow control
- operation according to calendar – temperature, efficiency, operation mode (OPERATION, STAND-BY, STOP)
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PROTECTION

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  - if an electric heater is applied
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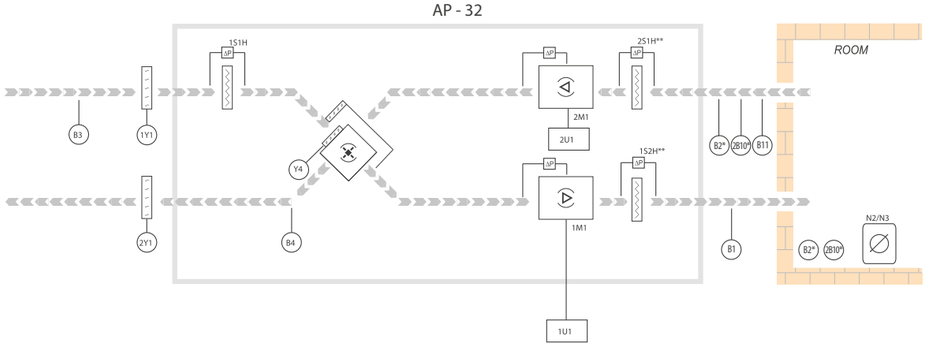
- protection against overheating of an electric heater.
- the control application layouts have been prepared on the basis of water exchangers
- the quantity of applied pressure switches for filters depends on the filters' configuration

AP - 32



CONTROL

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- control of the energy recovery level – first stage of heating/ cooling
- air flow control
- operation according to calendar – temperature, efficiency, operation mode (OPERATION, STAND-BY, STOP)
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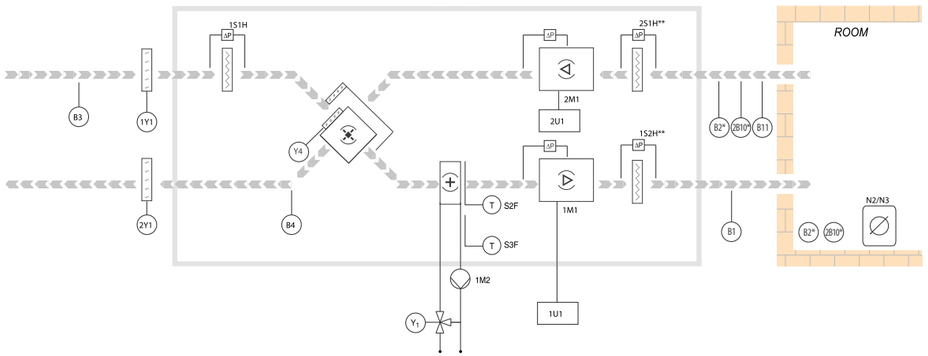
- alarm status info
- analog and digital input and output status info

PROTECTION

- limiting the allowed supply air temperature
- fan unit protection – the function is active:
  - if an electric heater is applied
- overload protection of drive unit
- anti-frost protection of a water heater
- protection against overheating of an electric heater
- anti-frost protection of an energy recovery exchanger
- optional protection against minimal and maximal temperature of medium returning from the water heater with use of Strap-on temperature sensor, standard NTC 10K
- the control application layouts have been prepared on the basis of water exchangers
- the quantity of applied pressure switches for filters depends on the filters' configuration
- optional Strap-on temperature sensor is not a part of VTS offer

AP - 33



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- protection against overheating of an electric heater
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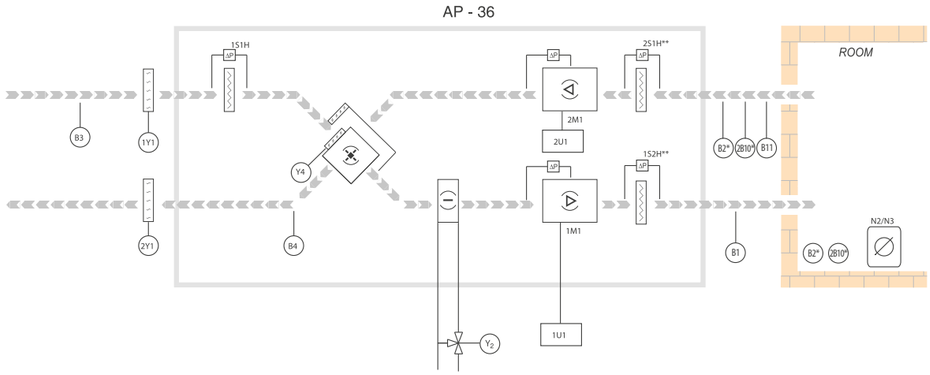
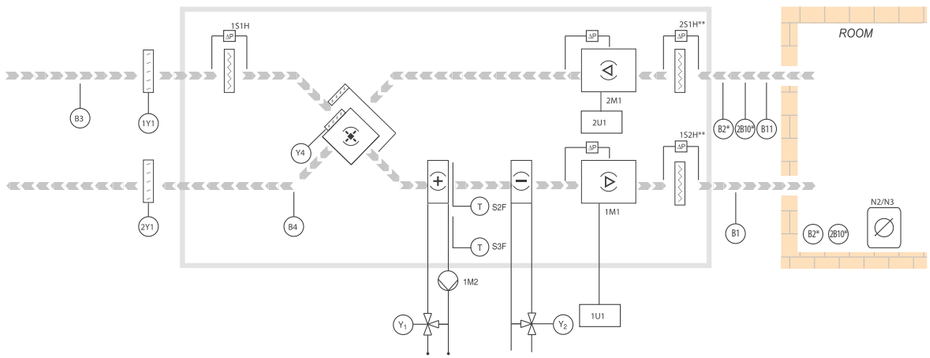
- the quantity of applied pressure switches for filters depends on the filters' configuration

AP - 36



AP - 37



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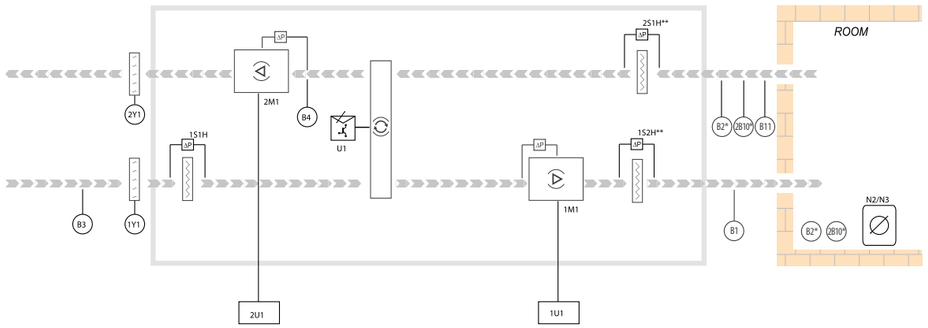
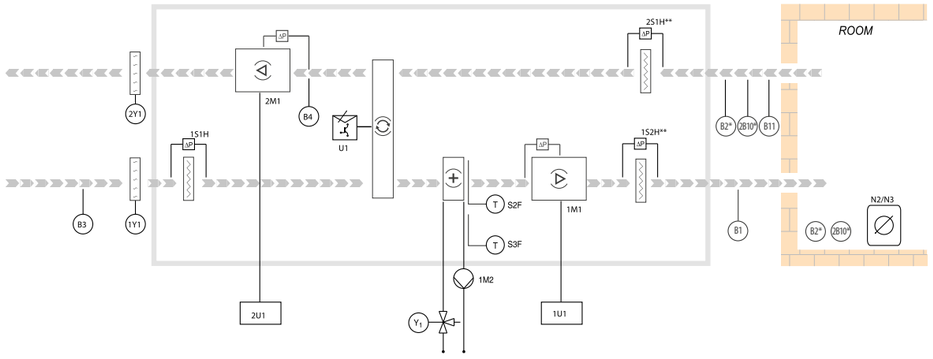
AR - 0



AR - 1



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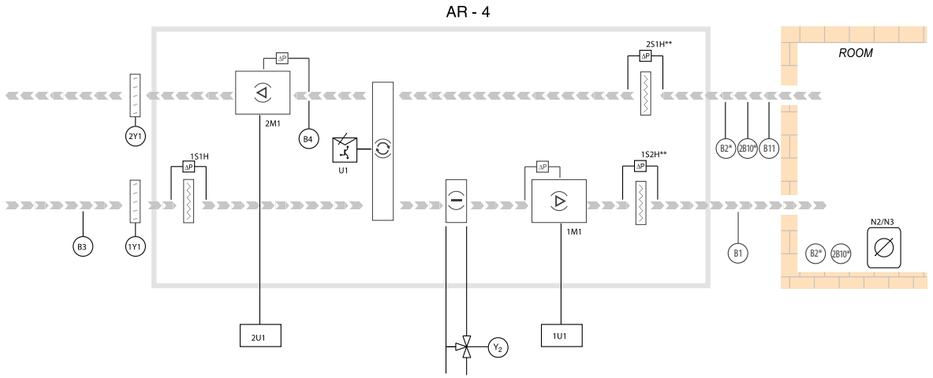
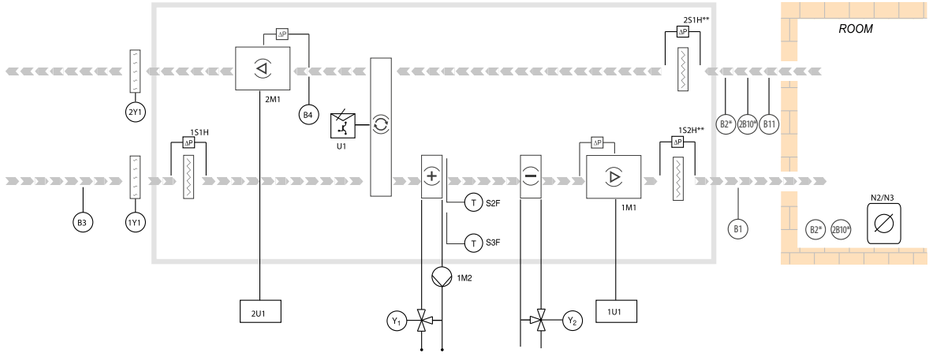
- optional Strap-on temperature sensor is not a part of VTS offer

AR - 4



AR - 5



CONTROL

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- anti-frost protection of a water heater
- protection against overheating of an electric heater
- anti-frost protection of an energy recovery exchanger
- optional protection against minimal and maximal temperature of medium returning from the water heater with use of Strap-on temperature sensor, standard NTC 10
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06

Functions

Direct drive plenum fan

Energy efficient fans are based on single inlet, air foil backward curved radial impellers with 7 blades made of a composite material to minimize the impeller weight and provide the best operating performance and provide the best dynamically balanced operating performance.

VARIABLE FREQUENCY DRIVE (VFD)

The accurate selection of air flow design and external static pressure with a smooth regulation by proportional change of the motor-fan unit rotational speed. Protection of the maximum value of the motor current, the capability to be integrated with external analog and binary signals and the integration with the BMS system

PLENUM FAN MOTOR

Fans are driven by TEFC (Totally Enclosed Fan Cooled) foot mounted motors with double shielded bearings and range from 1 HP to 15 HP. Nominal frequency: 60 Hz. Insulation class: F. Efficiency class: Premium. Bearings live: L_{10} = 20,000 h, L_{50} = 100,000 h. Shaft grounding rings available (on request).

Fan sets used in submitted air handling units are available in a wide range of voltages: 115V/1PH/60Hz, 208V/ 1PH/60Hz, 230V/1PH/60Hz, 208V/3PH/60Hz, 230V/3PH/60Hz, 460V/3PH/60Hz, 575V/3PH.

AMCA

VTS Group certifies that the VS fan series shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. The certified ratings for the VS Fans are shown in this catalogue.

Air-to-air energy recovery systems

AIR-TO-AIR ENERGY WHEEL

The total energy wheel is constructed with 7.9 inch Aluminum coated with non-toxic, non-corrosive Silica gel in a way that allows it to exchange sensible and latent heat between two airstreams, generally outside air and exhaust air. In the cooling mode, the wheel pre-treats the outside air by transferring sensible and latent heat to the exhaust stream. During the heating mode, the wheel pre-treats the outside air with sensible and latent heat from the exhaust air. This energy recovery is done without total separation of the supply and exhaust air flows with air leakages of 2% to 5%.

CROSS-FLOW PLATE

Cross-Flow plate is an indirect energy recovery device, that transfers heat from the exhaust air stream to the entering air stream which will be supplied to the space. Heat recovery at very high separation of the stream of supply and exhaust air (99.9%). Application in block supply-exhaust AHUs.

FLAT PREFILTER

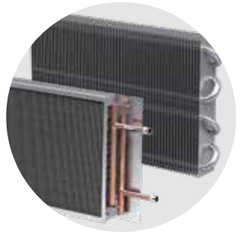
All units have a two or four inches flat prefilter or a combination thereof

- MERV8 two-inch filter.
- MERV13 four-inch filter.

HEATERS

Heaters are available in the following versions:

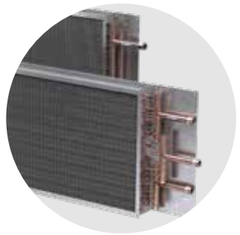
- hot water heating coils,
- resistant electric heaters,
- DX heating coils.



COOLING COILS

The cooling coils are available either as a hydronic or a DX cooling coils.

The variety of coil types allows a user to select a coil that is optimized for pressure drop and capacity requirements. The cooling coils are mounted over the drainpan to ensure water condensate flowing.

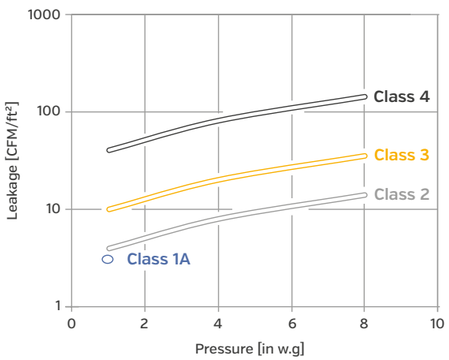


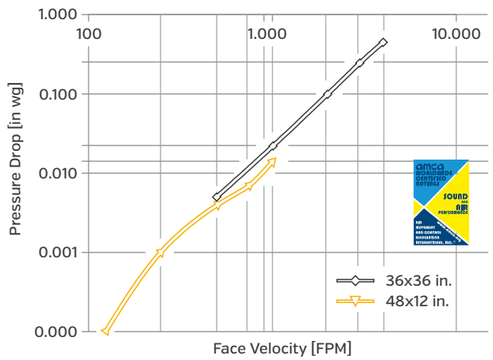
AIR DAMPERS

VTS Group certifies that the dampers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA International Certified Ratings Seal applies to Air Performance and Air Leakage. The VTS air dampers are in 3-rd class for 1, 4 and 8 in. w.g.

Leakage testing conducted in accordance with AMCA Standard 500-D-07 figure 5.4 Alternate. Data are based on a torque of 10 in-lb/ft2 applied to close and seal the damper during the test. Air leakage is based on operation between 32 to 120 F. All data corrected to represent standard air density 0.075 lb/ft3.

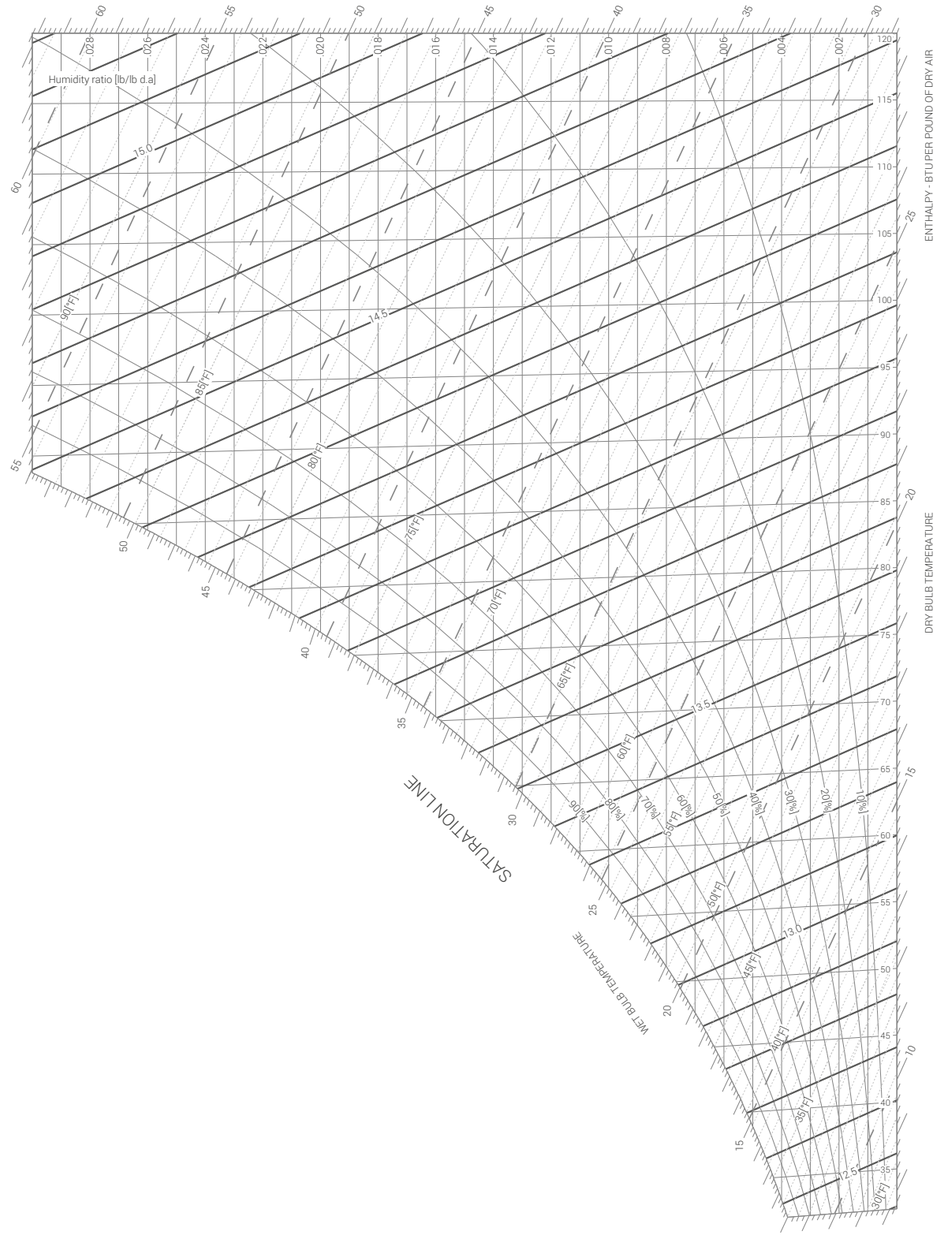
Pressure drop testing conducted in accordance with AMCA Standard 500-D-07 figure 5.3. All data corrected to represent standard air density 0.075 lb/ft3.





PSYCHROMETRIC CHART

Normal Temperature
Barometric Pressure: 29.921 Inches of Mercury
Sea Level



Certified fan performance data for fans of VS 225-VS 400 sizes

Unit Size	Q (cfm)	Ps (in. wg)	BHP (hp)
VS-225 3450 RPM	1,047	0.004	0.251
	944	0.661	0.277
	841	1.290	0.328
	737	0.195	0.363
	633	2.446	0.374
	522	2.868	0.381
	422	3.056	0.353
	314	3.162	0.300
	158	3.220	0.234
	0	3.423	0.158
VS-250 3450 RPM	1,447	0.015	0.421
	1,300	1.087	0.525
	1,162	2.000	0.645
	1,013	2.892	0.721
	868	3.536	0.747
	720	3.883	0.708
	594	4.065	0.646
	426	4.200	0.537
	283	4.258	0.442
	0	4.619	0.250
VS-315 3450 RPM	3,124	0.011	1.850
	2,824	1.280	2.027
	2,514	2.788	2.244
	2,196	4.281	2.490
	1,887	5.376	2.563
	1,558	6.086	2.485
	1,247	6.391	2.306
	930	6.566	2.059
	529	6.714	1.714
	0	7.275	0.945
VS-355 1750 RPM	2,344	0.001	0.395
	2,119	0.469	0.466
	1,882	0.978	0.516
	1,636	1.462	0.565
	1,396	1.834	0.585
	1,167	2.021	0.561
	937	2.093	0.524
	689	2.141	0.454
	457	2.186	0.382
	0	2.300	0.226
VS-400 1750 RPM	3,212	0.003	0.739
	2,898	0.601	0.838
	2,577	1.269	0.956
	2,245	1.815	1.034
	1,926	2.310	1.079
	1,620	2.585	1.051
	1,281	2.709	0.959
	957	2.770	0.844
	512	2.794	0.690
	0	2.921	0.432

NOTE 1: Performance certified is for installation Type A, Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtances (accessories).

NOTE 2: Efficiency ratings are fan static and exclude bearing and/or Power Transmission Losses.

NOTE 3 VTS America Inc. certifies that the Model VS shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Certified fan performance data for fans of VS 450-VS 630 sizes

Unit Size	Q (cfm)	Ps (in. wg)	BHP (hp)
VS-450 1750 RPM	4,673	0.002	1.206
	4,211	0.526	1.323
	3,740	1.377	1.544
	3,277	2.228	1.766
	2,815	2.909	1.871
	2,334	3.284	1.804
	1,874	3.393	1.662
	1,394	3.460	1.414
	651	3.526	1.056
	0	3.707	0.654
VS-500 1750 RPM	6386	0,000	1,756
	6157	0,606	1,957
	5613	1,638	2,480
	5070	2,449	2,882
	4527	3,071	3,083
	3984	3,525	3,097
	3441	3,842	2,962
	2897	4,047	2,708
	2354	4,163	2,386
	0	4,464	1,032
VS-560 1750 RPM	9064	0,000	2,828
	8240	1,566	4,062
	7441	2,738	4,906
	6643	3,633	5,416
	5844	4,296	5,550
	5045	4,757	5,362
	4247	5,050	4,946
	3448	5,223	4,383
	2649	5,303	3,740
	0	5,420	1,072
VS-630 1750 RPM	13061	0,000	4,651
	11772	1,778	7,038
	10594	3,352	8,646
	9417	4,549	9,611
	8240	5,412	9,853
	7063	6,010	9,504
	5886	6,391	8,713
	4709	6,596	7,641
	3649	6,684	6,568
	0	6,877	2,560

NOTE 1: Performance certified is for installation Type A, Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtances (accessories).

NOTE 2: Efficiency ratings are fan static and exclude bearing and/or Power Transmission Losses.

NOTE 3 VTS America Inc. certifies that the Model VS shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Certified sound pressure level for fans of VS 225 - VS 400 sizes

Unit Size	Ps (in. wg)	Q (cfm)	Lw Loudness	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Lw(A) dB(A)	Loudness Sones
VS-225 3450 RPM	0.000	1044	dB	95.9	75.3	76.3	81.2	79.2	80.6	80.2	82.0	88	32
			Sones	9.1	3.2	4.5	7.3	7.7	9.9	11.6	15.8		
	1.783	778	dB	92.1	75.2	78.5	82.9	79.6	76.2	68.9	70.4	84	21
			Sones	7.0	3.1	5.2	8.0	7.8	7.7	6.0	7.8		
	3.077	507	dB	89.8	76.8	82.0	82.5	75.3	72.3	64.8	64.0	82	19
			Sones	5.9	3.6	6.4	7.8	6.1	6.1	4.7	5.3		
	3.377	287	dB	91.5	82.2	83.8	81.2	76.9	74.6	67.0	63.6	83	20
			Sones	6.7	5.3	7.1	7.3	6.8	7.0	5.3	5.2		
VS-250 3450 RPM	0.013	754	dB	66.0	68.0	68.0	68.0	67.0	67.0	69.0	61.0	74	12
			Sones	1.0	1.9	2.7	3.2	3.8	4.5	6.0	4.3		
	0.640	580	dB	64.0	69.0	67.0	67.0	66.0	63.0	64.0	59.0	71	10
			Sones	0.8	2.0	2.7	3.1	3.5	3.5	4.5	4.0		
	1.047	410	dB	68.0	69.0	65.0	65.0	65.0	61.0	58.0	58.0	69	9
			Sones	1.2	2.0	2.4	2.7	3.2	3.2	3.1	3.6		
	1.111	309	dB	76.0	73.0	66.0	65.0	65.0	61.0	56.0	54.0	69	9
			Sones	2.2	2.7	2.5	2.8	3.2	3.1	2.8	2.9		
VS-315 3450 RPM	0.007	1625	dB	68.0	69.0	73.0	73.0	74.0	76.0	76.0	66.0	82	18
			Sones	1.2	2.1	3.7	4.5	5.8	7.7	9.1	5.9		
	0.951	1220	dB	67.0	70.0	73.0	72.0	71.0	70.0	69.0	65.0	77	14
			Sones	1.0	2.2	3.7	4.2	4.8	5.4	6.1	5.5		
	1.553	880	dB	70.0	72.0	72.0	71.0	69.0	67.0	62.0	64.0	74	12
			Sones	1.4	2.5	3.5	3.9	4.1	4.5	3.9	5.2		
	1.767	782	dB	80.0	80.0	75.0	72.0	69.0	65.0	60.0	59.0	75	13
			Sones	2.9	4.7	4.1	4.3	4.3	4.0	3.5	4.1		
VS-355 1750 RPM	0.014	2400	dB	72.0	73.0	78.0	77.0	77.0	78.0	85.0	71.0	88	28
			Sones	1.6	2.8	5.1	5.6	6.8	8.5	16.3	8.2		
	1.177	1420	dB	69.0	73.0	76.0	75.0	76.0	71.0	74.0	60.0	80	17
			Sones	1.2	2.7	4.5	4.9	6.4	5.5	7.8	4.2		
	2.043	1200	dB	71.0	73.0	74.0	73.0	75.0	67.0	63.0	58.0	78	13
			Sones	1.5	2.7	3.8	4.5	6.0	4.6	4.3	3.6		
	2.164	600	dB	78.0	79.0	75.0	74.0	75.0	67.0	63.0	57.0	78	14
			Sones	2.5	4.2	4.3	4.6	6.0	4.4	4.1	3.6		
VS-400 1750 RPM	0.001	3296	dB	78.0	78.0	81.0	82.0	80.0	79.0	82.0	79.0	88	28
			Sones	2.5	3.8	6.0	7.5	8.0	8.9	13.4	13.4		
	1.303	2636	dB	76.0	79.0	81.0	81.0	79.0	74.0	76.0	67.0	84	21
			Sones	2.2	4.1	5.9	7.3	7.6	6.8	9.3	6.4		
	2.674	1648	dB	78.0	78.0	79.0	81.0	78.0	66.0	64.0	61.0	82	17
			Sones	2.4	4.0	5.5	7.2	7.0	4.2	4.5	4.3		
	2.843	988	dB	87.0	87.0	82.0	81.0	78.0	67.0	64.0	61.0	83	19
			Sones	4.8	7.2	6.3	7.3	7.3	4.6	4.3	4.3		

NOTE 1: The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA Standard 301. Values shown are for outlet LwA sound power levels and outlet hemispherical sone levels for installation type A:Free Inlet, Free Outlet, calculated per AMCA Standard 301. The AMCA Certified Ratings Seal applies to Air performance and sound.

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Certified sound pressure level for fans of VS 450 - VS 630 sizes

Unit Size	Ps (in. wg)	Q (cfm)	Lw Loudness	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Lw(A) dB(A)	Loudness Sones
VS-450 1750 RPM	0.001	4673	dB	82.0	82.0	88.0	86.0	95.0	86.0	81.0	88.0	96	45
			Sones	3.2	5.1	8.9	9.8	20.4	13.9	11.9	23.4		
	1.405	3710	dB	82.0	83.0	86.0	85.0	86.0	80.0	79.0	79.0	90	31
			Sones	3.3	5.7	8.0	8.8	11.7	6.4	10.6	13.3		
	2.986	2715	dB	82.0	81.0	85.0	84.0	98.0	78.0	73.0	69.0	98	40
			Sones	3.2	4.7	7.7	8.5	25.7	8.7	7.5	7.2		
	3.457	1200	dB	83.0	87.0	85.0	83.0	101.0	84.0	71.0	67.0	101	48
			Sones	3.6	7.2	7.6	8.2	32.0	12.1	6.8	6.6		
VS-500 1750 RPM	0.001	6392	dB	86.0	88.0	88.0	88.1	87.0	87.2	89.0	81.0	94	43
			Sones	4.6	7.7	9.2	10.9	12.4	15.2	20.7	14.8		
	1.144	5886	dB	85.1	88.5	87.5	87.5	86.5	85.5	86.5	80.0	93	39
			Sones	4.2	8.0	8.8	10.5	11.8	13.4	17.5	13.7		
	3.424	4120	dB	87.0	89.0	86.0	86.0	85.4	81.5	80.0	78.5	90	32
			Sones	4.9	8.1	8.0	9.5	11.0	10.7	11.5	12.6		
	4.163	2354	dB	97.0	93.4	86.3	85.0	85.0	81.0	75.9	73.5	89	31
			Sones	9.7	10.4	8.2	9.2	10.8	10.2	9.0	9.4		
VS-560 1750 RPM	0.001	9052	dB	89.0	91.0	91.0	91.3	90.4	92.0	92.0	84.0	97	54
			Sones	5.5	9.5	11.2	13.6	15.5	19.1	26.3	18.5		
	1.566	8240	dB	88.5	92.0	91.1	91.0	90.0	88.5	89.5	83.0	96	48
			Sones	5.5	9.5	10.9	13.0	14.5	16.5	21.9	17.3		
	4.268	5886	dB	90.4	92.0	89.0	89.0	89.0	85.3	83.5	81.9	93	39
			Sones	6.2	9.9	9.8	11.6	13.8	13.2	14.4	15.7		
	5.207	3531	dB	100.0	98.0	89.5	88.5	88.5	84.5	79.0	77.0	93	38
			Sones	12.4	12.8	10.0	11.2	13.5	12.5	11.0	11.6		
VS-630 1750 RPM	0.001	12796	dB	93.0	95.1	95.0	95.0	94.0	94.2	95.7	87.5	101	69
			Sones	7.6	11.5	14.1	17.1	19.6	24.4	34.0	23.6		
	1.782	11772	dB	92.0	95.2	94.5	94.5	93.5	92.2	93.5	87.0	100	62
			Sones	7.1	11.9	13.7	16.6	18.9	21.2	28.7	22.2		
	4.175	9823	dB	92.0	96.0	94.0	94.0	93.0	90.0	90.0	85.8	98	53
			Sones	7.0	12.3	12.9	15.6	17.9	17.9	22.2	20.5		
	6.387	5886	dB	100.0	98.4	92.8	92.2	92.0	88.0	83.9	82.7	96	47
			Sones	12.1	14.3	12.0	14.1	17.0	15.9	14.8	16.6		

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SYMBOLS AND LABELS

Basic symbols

PROCESS			FUNCTION
Symbol	**Graphic**	**Name**	**Options of functions**
F		AIR FILTRATION	 FILTER
V		VENTILATION	 FAN
C		AIR COOLING	 HYDRONIC COOLING COIL  DX COOLING COIL  RUN-AROUND COIL
H		AIR HEATING	 HYDRONIC HEATING COIL  ELECTRIC HEATER  DX HEATING  STEAM HEATER
M		MIXING BOX	 MIXING BOX
P		ENERGY RECOVERY	 CROSS FLOW PLATE
R		ENERGY RECOVERY	 ENERGY WHEEL

Auxiliary symbols

Symbol	Graphic	Name
FC		FLEXIBLE CONNECTION
AD		DAMPER
FLG		FLANGES
E		EMPTY SECTION

VTS America, Inc.
3535 Gravel Springs Road Ext
Suite 201
Buford, GA 30519
United States of America
Tel: 470-809-6811
Fax: 470-809-6815
e-mail: america@vtsgroup.com

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