



**VENTUS S-type**

2020



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01

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## **VTG Group**

1.1	VTG Group – a leader in HVAC sector.....	4
1.2	3 constituents of success.....	6



02

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## **VENTUS S-TYPE**

2.1	VENTUS S-type description.....	7
2.2	Technical Specifications.....	8
2.3	Electrical wiring diagrams and dimensions.....	10
2.4	Wide airflow range - advanced performance regulation.....	11



03

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## **VENTUS S-TYPE SELECTION**

3.1	Introduction - VENTUS S-Type Selection.....	12
3.2	How to select best model of SVS unit.....	12
3.3	SVS units – general specification.....	14
3.4	Max. external static pressure.....	15
3.5	AHU's internal pressure drop.....	17
3.6	Water coils.....	21
3.7	Fans curves.....	33

**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.



**24/7**  
**IMMEDIATE** AVAILABILITY

\* Logistics centre

OUR MISSION

**AHU#1**



# 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 5 efficiently functioning logistics centers: **Atlanta, Dubai, Moscow, Warsaw and Bangalore**. Thereby guaranteeing the shortest delivery terms in the market, regardless of the region in the world.

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**.

Multilevel quality control systems enables VTS to offer the longest warranty in the market. **Up to 2-years warranty of trouble free equipment operation**.

MARKET'S LEAD  
**BEST TIME**

**5** LOGISTICS  
CENTERS

**\$** competitive  
price

**150 000**  
UNITS  
SOLD ANNUALLY

**Q** the highest  
quality

UP TO **2** optional warranty  
YEARS FOR EACH  
UNIT



VENTUS S-type is a range of air handling units offered by VTS Group.

The product specification results from the effort of experienced design engineers and reflects Indian and MEA market requirements regarding high cooling performance. The S-type was developed with the use of the state-of-the-art technologies, advanced material engineering and innovative construction solution.

Due to this, the VENTUS S-type offer reliability and energy saving.

**ventus**  
**S-TYPE**

 from **883** to  
**5621** CFM  
INTOTALCAPACITY

 **5**  
SIZES

 **LOW HEIGHT  
& WEIGHT**

 **EFFICIENT  
AND RELIABLE**  
EC MOTORS

 **WATER  
TIGHTNESS**

 **ATTRACTIVE  
PRICE**



# **ventus** **S-TYPE**

## TECHNICAL SPECIFICATIONS

### CASING

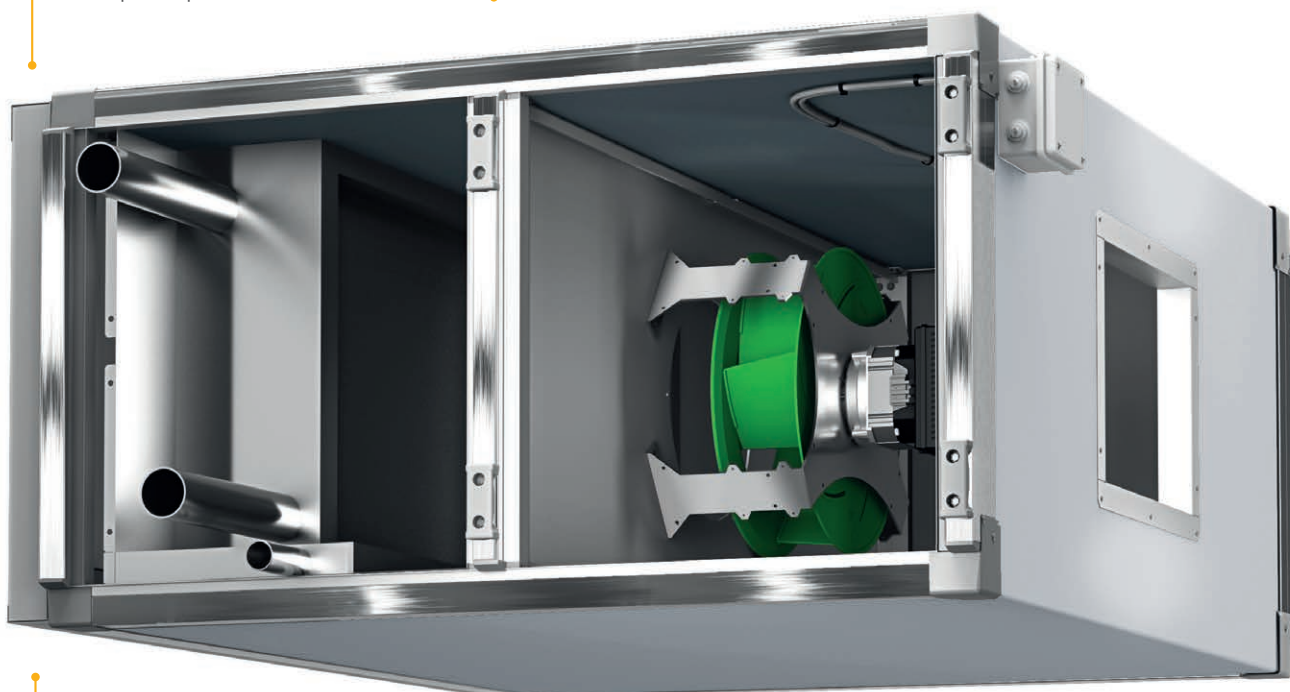
- 40 mm "Sandwich" double skin panels made of rigid polyurethane foam
- Inspection panels mounted on AHU side
- High anticorrosive protection:
  - Galvanized zinc (Zn) coating: 180g/m<sup>2</sup>
  - External protection coating material thickness: polyester / 25µm
- Inspection panels on both sides

### AIR FILTERS

- Pleated filtration fabric shielded by steel net, installed in 50 mm thick frame
- Filtration fabric made of polyester fibres
- Working max parameters: max temperature (+70)°C, max. RH100%
- ISO Coarse 75% (ISO 16890) - G4 (EN779)

### COOLING COIL

- Hydronic coils - 4, 6 rows available
- DX - 6 rows, 2 sections available
- Max operating pressure - 1,6 MPa
- Testing pressure - 2,1 MPa
- Drain tray: stainless steel, water outlet 1"



### DIRECT DRIVE PLUG FAN SET > BLOWER

- Single inlet, radial, backward curved, free running fan
- Direct drive – fan impeller installed directly on motor shaft
- Fan section consisting of single or twin fans
- Smooth regulation

### DIRECT DRIVE PLUG FAN SET > AC MOTORS

- Fan and motor mounted on common housing, separated from AHU casing by set of rubber vibration absorbing mounts
- Motors of TEFS (Totally Enclosed, Fan-Cooled)
- Variable Frequency Drive (VFD) – standard part of the fan-set
- Available Energy classes: IE2
- Junction box on casing

### DIRECT DRIVE PLUG FAN SET > EC MOTORS

- Set of fan and motor mounted on common rail, fixed to the AHU fan diaphragm.
- EC motors are Permanent Magnet motor, characterised by much higher efficiency vs traditional inductive AC motors.
- Required regulation with 0-10V regulator or ModBus signal
- Junction box on casing

## TYPICAL APPLICATION



residential  
buildings



industrial  
buildings



small  
businesses



sports  
facilities



retail and  
warehouses



garages  
and workshops





### UNIT CASING:

Monocoque technology - a self supporting shell structure used in Formula 1 car and aviation. This is exactly how we design our products, therefore our units feature low weight and optimal height, are easy for transportation and further installation. Moreover double skin "sandwich" panels with 40 mm rigid polyurethane foam ensure best thermal insulation.

- » Thermal conductivity: PPU  $\lambda = 0,022 \text{ W/mK}$
- » PPU density:  $\rho = 42 \text{ kg/m}^3$ .
- » Casing heat transfer coefficient:  $K = 0.6 \text{ W/m}^2\text{K}$
- » Casing mechanical strength:  
+2500 Pa ÷ 2500 Pa < 2 mm
- » Casing tightness: -400 Pa - 0.05 l/sm<sup>2</sup>  
+700 Pa - 0.13 l/sm<sup>3</sup>
- » Anticorrosive protection:  
- Galvanized zinc (Zn) coating: 180g/m<sup>2</sup>
- » External protection coating material thickness:  
polyester 25µm
- » Inspection panels mounted on AHU side.

### NO THERMAL BRIDGES

Our Monocoque casing is a framework free construction. This eliminates the problem of water condensation on the external AHU side - and therefore - no more of harmful water dripping from the ceiling.

### DRAIN TRAY

They are fabricated from heavy stainless steel and are to prevent condensation.

### COOLING COILS

Fabricated from copper tubes mechanically bonded with aluminum fins and are leak tested at 305 psig pressure.

#### Hydronic

- » Copper pipe: dimensions: ½"
- » Fin Type: corrugated fin
- » Row: 4 or 6 rows
- » Max operating pressure: 1,6 MPa
- » Testing pressure: 2,1 MPa
- » Equipped with air discharge valve and water outlet valve

#### > DX

- » Copper pipe: dimensions: ½"
- » Fin Type: corrugated fin
- » Row: 6 rows, 2 - sections
- » Max operating pressure: 1,6 MPa
- » Testing pressure: 2,1 MPa

### DIRECT DRIVE PLUG FAN SET

#### Blower

- » Single inlet, radial, backward curved, free running fan.
- » Impeller made of SAN (styrene/ acrylonitrile) construction material with 20% glass fiber.
- » Direct drive – fan impeller installed directly on motor shaft.
- » Fan section consisting of single or twin fans .

#### AC Motors

- » Fan and motor mounted on common housing, separated from AHU casing by set of rubber vibration absorbing mounts.
- » Motors of TEFS (Totally Enclosed, Fan-Cooled).
- » Motors fitted for IEC standard.
- » Variable Frequency Drive (VFD) – standard part of the fan-set.
- » Available Energy classes: IE2
- » Available voltage: 1x230V/50Hz, 3x380V/50Hz, 3x400V/50Hz, 3x400V/60Hz.
- » Number of poles: 2.
- » Motor winding insulation class: F (fitted for VFD operations).
- » Bearings lifetime: L10= 20000h / L50 = 100000h.
- » Protection degree: IP55.
- » Working conditions: 60°C.

#### EC Motors

- » Set of fan and motor mounted on common rail, fixed to the AHU fan diaphragm.
- » EC motors are Permanent Magnet motor, characterised by much higher efficiency vs traditional inductive AC motors.
- » EC motors (Electronically Commutated) – where mechanical commutator switching the windings has been replaced with electronic one.
- » Change of revolutions is done by means of changing the frequency rate of windings switching (rate or magnetic field rotating).
- » Highly inductive permanent magnets have applied in EC motors used by VTS, which enabled to achieve high torque at relatively small dimensions.
- » Rated voltage: EC motors of nominal capacity equal or less 0,75kW - 1x230V AC.
- » Motor winding insulation class: F.
- » Protection degree: IP54. » Maximum working ambient temperature: 55°C.
- » Lifespan: - 70 000 hours at load not exceeding 70% of nominal capacity at ambient temperature not exceeding 35°C, - 30 000 hours at 100% capacity load at ambient temperature not exceeding 55°C.

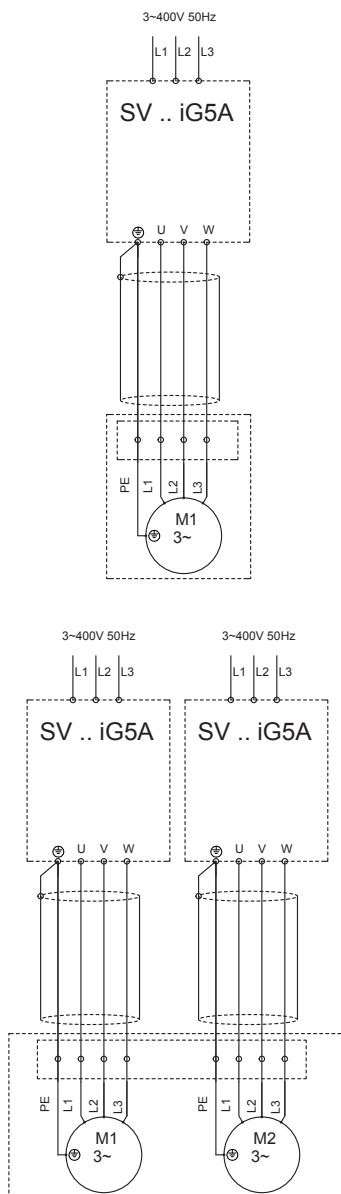
### AIR FILTERS

- » All Units are provided with air filters.
- » Pleated filtration fabric shielded by steel net, installed in 50 mm thick frame.
- » Filtration fabric made of polyester fibres.
- » Working max parameters: max. temperature (+70)°C, max RH100%.
- » ISO Coarse 75% (ISO 16890) - G4 (EN779).

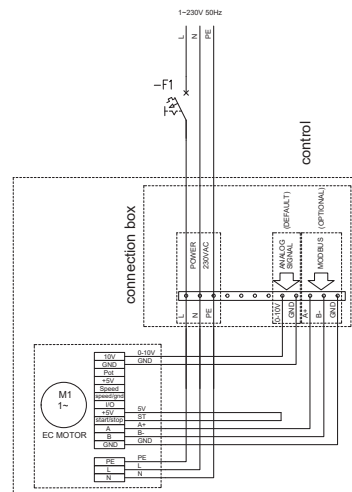


## ELECTRICAL WIRING DIAGRAMS

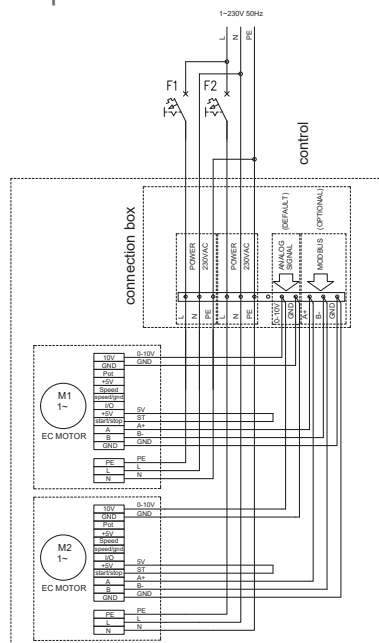
## 3 phase with VFD



## 1 phase - 1 EC MOTOR



## 1 phase - 2 EC MOTOR

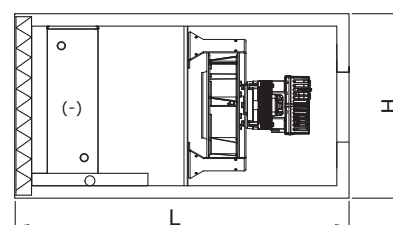
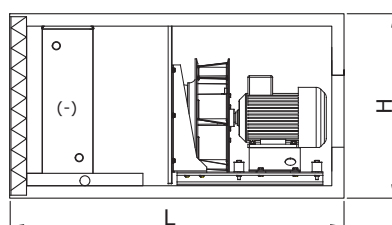
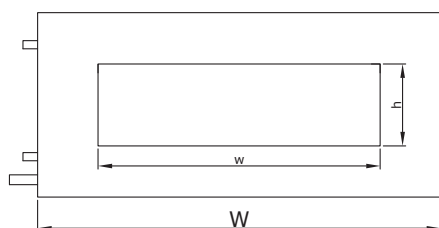


Unit size	Fan set with AC Motor									
	Model	Rated Output	Poles	Efficiency Class	Protection Grade	Rated Current at				
	[-]	[kW]	[-]	[-]	[-]	415V/3ph/50Hz	230V/1ph/50Hz	380V/3ph/50Hz	400V/3ph/50Hz	400V/3ph/60Hz
SVS-35	VS 315	1,5	2	IE2	IP55 / F	3,1	5,54	3,36	3,1	3,19
SVS-50	VS 355	1,5	2	IE2	IP55 / F	3,1	5,54	3,36	3,1	3,19
SVS-70	VS 315 x 2	1,5 x 2	2	IE2	IP55 / F	6,2	11,08	6,72	6,2	6,38
SVS-85	VS 400 x 2	1,5 x 2	2	IE2	IP55 / F	6,2	11,08	6,72	6,2	6,38
SVS-100	VS 400 x 2	1,5 x 2	2	IE2	IP55 / F	6,2	11,08	6,72	6,2	6,38

Unit size	Fan set with EC Motor			
	Model	Rated Output	Protection Grade	Rated Current at 230V/1ph/50Hz
	[-]	[kW]	[-]	[A]
SVS-35	VS 315	0,75	IP54 / F	3,7
SVS-50	VS 315	0,75	IP54 / F	3,7
SVS-70	VS 315 x 2	0,75 x 2	IP54 / F	7,2
SVS-85	VS 315 x 2	0,75 x 2	IP54 / F	7,2
SVS-100	VS 315 x 2	0,75 x 2	IP54 / F	7,2



 **100%**  
**units**  
factory tested



Unit size	Dimensions			Duct Connection	FAN	Motor	Weight
	H	W	L	h x w	Model	Rated Output	
	[mm]				[-]	[kW]	
SVS-35	530	1130	1120	210 x 700	VS 315	1,5	106
SVS-50	595	1300	1120	310x550	VS 355	1,5	124
SVS-70	530	2000	1120	310x1200	VS 315 x 2	1,5 x 2	181
SVS-85	655	2000	1120	410x1400	VS 400 x 2	1,5 x 2	205
SVS-100	655	2200	1120	410x1400	VS 400 x 2	1,5 x 2	220

Unit size	Min Air Flow		Max Air Flow		Air Flow		
	CMH	CFM	CMH	CFM	CFM		
					0	1000	2000
SVS-35	1500	883	3500	2060			
SVS-50	2100	1236	4500	2660			
SVS-70	3000	1766	7000	4120			
SVS-85	3400	2001	8500	5003			
SVS-100	4200	2472	9500	5621			

Unit size	Coil Volume			Coil Connections			
	WCL4R	WCL6R	DX6R	WCL4R, WCL6R		DX6R	
	[Liters]			$\phi D_{in}$	$\phi D_{out}$	$\phi D_{in}$	$\phi D_{out}$
SVS-35	6,33	9,5	9,5	DN32	DN32	2x5/8"	2xØ28
SVS-50	8,24	12,36	12,36	DN50	DN50	2xØ22	2xØ35
SVS-70	12,08	18,13	18,13	DN50	DN50	2xØ22	2xØ35
SVS-85	15,44	23,16	23,16	DN50	DN50	2xØ22	2xØ35
SVS-100	17,23	25,84	25,84	DN50	DN50	2xØ22	2xØ42



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Some of technical data and descriptions may vary from the actual products specification.  
Before placing the order, please, confirm all technical specification with VTS sales representative.

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