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Since 1988

Havak

VENTILATION AND AIR CONDITIONING
CATALOG
2023



www.havak.com

The logo for Havak, featuring the word "Havak" in a bold, italicized sans-serif font. The letter "H" is stylized with a blue and white striped pattern.

VENTILATION AND AIR CONDITIONING CATALOG **2023**





VENTILATION AND AIR CONDITIONING CATALOG 2023

In parallel with the development of industry, environmental pollution is increasing day by day. Environmental pollution also negatively affects indoor air quality. Therefore, improvement of indoor air quality in buildings becomes very important. Especially indoor areas where people live together and hygiene conditions become more important like shopping malls, business centers, supermarkets, hospitals, sports halls, cinema-theater-concert halls, schools, museums and similar places, "Air cleaning and Air quality improvement" is a need. Besides employees working in various industrial plants are also under the influence of pollutants that negatively affect human health, such as dust and smoke. Like this kind of areas, improvement indoor air quality is a must. Considering that the energy is getting more expensive every day passed and every unit used is harmful to the environment, the energy efficiency of the devices which are used to increase the indoor air quality is also important.

With this awareness, Havak has been serving the ventilation and air conditioning industry since 1988 with the products that increase the indoor air quality and high energy efficiency. Havak has adopted the principle of quality product and service also Havak has been certified with ISO 9001: 2015 certificate. Havak's engineers analyze the needs of the customers and develop specific solutions by performing on-site exploration when necessary.

HAVAK has selected a mission which is quality, trust, applicability, innovation and customer satisfaction.

HAVAK means quality, reliable service support with the range of products that can meet all your requirements in the ventilation and air conditioning sector.

**QUALITY,
TRUST,
APPLICABILITY,
INNOVATION:
HAVAK.**



VENTILATION AND AIR CONDITIONING CATALOG 2023

Sound Attenuators	7-12	10
Textile Air Ducts	13-35	25
Air Curtains	37-57	30
Humidifiers	59-110	40
Dehumidifiers	111-125	45
Industrial Ventilation Products	127-168	50
Renewable Energy Products	169-179	56
Electrical Heaters	181-188	60

Sound Attenuators

Sound Attenuators	8
Rectangular Silencers	9
Circular Silencers	11
Acoustic Louvers	12

SILENCERS



Silencers provides sound reduction in ducts, AHU and device outputs. In the manufacture of silencers, materials like galvanized sheet, glass wool (50 kg / m³), glass tulle, perforated sheet, etc. are using. Silencers are manufacturing in two different types, rectangular and circular. Rectangular silencers provide more sound absorption than circular silencers.

Sound pressure (dB) is determined by measuring instruments. A-weighted average is usually used for ventilation works. The representation of the A-weighted average unit is dBA

You can see desired sound levels table for spaces below ;

Space Type	NC or RC Level	Approx. dBA
Buildings		
House (Rural or Suburb)	20-30	25-35
House (City)	25-35	30-40
Flats	30-40	35-45
Hotels		
Special Room	30-40	35-45
Ballroom Dining hall	30-40	35-45
Halls, Corridor, Lobbys	35-45	40-50
Garages	40-50	45-55
Kitchen, Laundry	40-50	45-55
Hospitals and Clinics		
Special Room	25-35	30-40
Surgery Room	30-40	35-45
Ward	30-40	35-45
Labratory	30-40	35-45
Lobby, Waiting Room	35-45	40-50
Bathroom ve Toilet Room	40-50	45-55
Offices		
Management Rooms	20-30	25-35
Conference Saloon	25-35	30-40
Manager Rooms	30-40	35-45
General Rooms	30-40	35-45
Reception Rooms	30-40	35-45
Open Offices	35-45	40-50
Designing Rooms	35-45	40-50
Halls and Corridors	40-50	45-55
Calculating Rooms	40-50	45-55
Theater, Music Halls		
Concert and Opera Saloons	15-25	20-30
Sound Record Studios	15-25	20-30
Theatre Saloons	25-35	30-40
Functional Saloons	25-35	30-40
Cinema Saloons	30-40	35-45
TV Studios	30-40	35-45
Amitheatre	30-40	35-45
Seminar Saloons	30-40	35-45
Planetariums	30-40	35-45

Space Type	NC or RC Level	Approx. dBA
Schools and Sanctuary		
Sanctuary Rooms	20-30	25-35
Libraries	30-40	35-45
School and Classrooms	30-40	35-45
Labratory	35-45	40-50
Entertainment Saloons	35-45	40-50
Halls, Corridor	35-45	40-50
Public Buildings		
Libraries, Museums	30-40	35-45
Post Offices	35-45	40-50
Bank Areas	35-45	40-50
Bathroom ve Toilet Room	40-50	45-55
Restaurant and Cafe		
Restaurants	35-45	40-50
Cocteyl Saloons	35-45	40-50
Night Clubs	35-45	40-50
Cafeterias	40-50	45-55
Stores		
Textile Stores	35-45	40-50
Upstairs of Big Stores	35-45	40-50
Downstairs of Big Stores	40-50	45-55
Small Stores	40-50	45-55
Supermarkets	40-50	45-55
Indoor Sport saloon		
Big Competition Saloons	30-40	35-45
Bowling Saloons	35-45	40-50
Sport Saloons	35-45	40-50
Swimming pools	40-50	45-55
Transportation (Bus, Railway, Flight)		
Ticket Office	30-40	35-45
Waiting rooms	35-50	40-55

Rectangular Silencers



- Galvanise sheet material.
- Glass wool filling, 50 kg/m³ density
- Insulated surfaces which are in contact with air are covered with black glass tulle
- Reduces the sound level coming from Ventilation and Air conditioning systems
- Silencers are bolted from inlet and outlet with the flanges.
- Accessories: Counter Flange

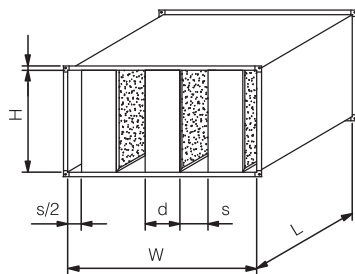
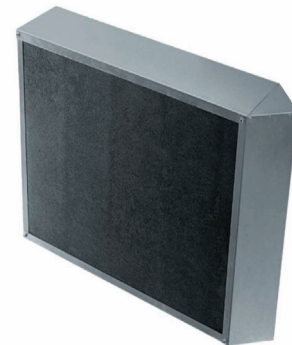
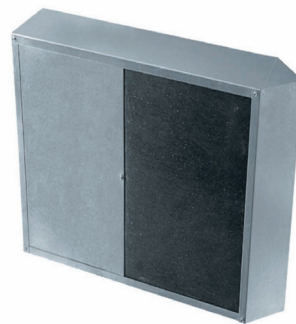
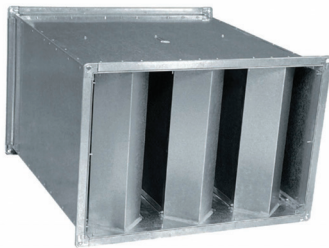
Selection

To do selection the informations below should be given,.

- V (m³/h): Air flow
- dE (dBA): Sound level to absorb
- AxB (mm): Duct Section
- Pst-ma x (Pa): Pressure Drop

LF Silencer panel (250-1000Hz)

HF Silencer panel (500-4000Hz)



SA x LF / HF x d x s x W x H x L

- SA Silencer
 - SA 10 Type
 - SA 20 Type
- LF / HF Panel Type
- d Panel Thickness
 - SA 10 - 100 mm
 - SA 20 - 200 mm
- s Distance between panels
 - SA 10 - min 40 mm, max 100 mm
 - SA 20 - min 80 mm, max 200 mm
- w Silencer Width
 - SA 10 - min 140 mm, max 1600 mm
 - SA 20 - min 280 mm, max 2400 mm
- H Silencer Height
 - SA 10 - min 300 mm, max 900 mm
 - SA 20 - min 300 mm, max 1800 mm
- L Silencer Length
 - SA 10 - min 500 mm, max 2500 mm
 - SA 20 - min 500 mm, max 2500 mm

Type	Code
SA 10 - LF	10601100
SA 10 - HF	10601200
SA 20 - LF	10602100
SA 20 - HF	10602200

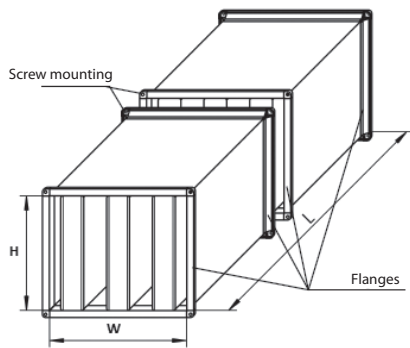
Rectangular Silencers



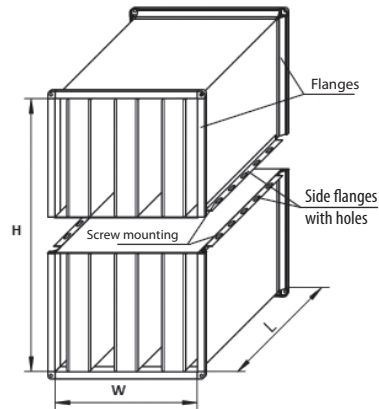
Mounting Types

If a large sized split attenuator will be used mounting should be solid. Silencers do not have any load bearing function.

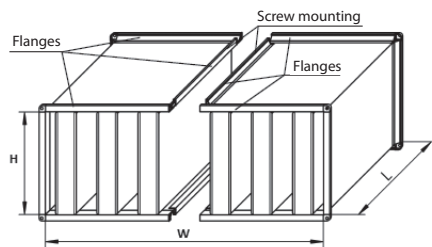
Spiltted lenght



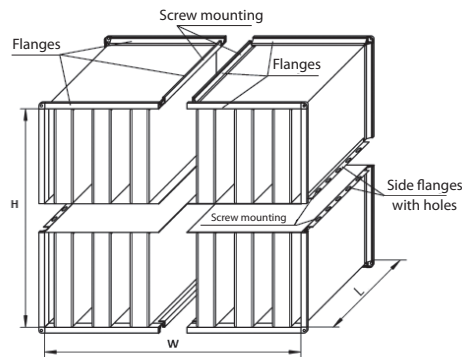
Spiltted height



Spiltted widht



Spiltted weight and Height



Circular Silencer

- Outside is galvanized sheet inside is perforated sheet and 50kg/m³ glass/stone wool is used
- Insulation thickness 5 or 10 cm
- Silencer lengths are produced 500, 1000 1500 mm.
- Duct Connection is made with with sealed gasgets on both side.

YS - 050 - 200x1000 - CV/FV
1 - 2 - 3 - 4 - 5

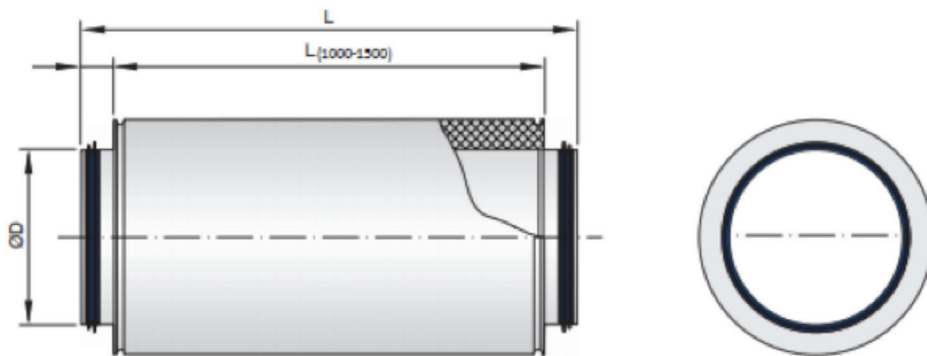
1. Circular Silencer
2. Insulation Thickness (mm)
(50-100 mm)
3. Inner Diameter (mm) (100-800 mm)
4. Length (mm) (1000-1500 mm)
5. Connection Type
 CV - Gasget Connecetion
 FV – Flange Connection



CAS



CAB



AEL - Acoustic Louvers



- Body and blades are made of galvanized sheet. Insulation is 50kg/m³ glasswool. Body and blades can also be made by aluminum and stainless steel
- They are using to reduce the sound level from end of air ducts.
- Oven-dying can also be done on aluminum and galvanized materials
- Standart mounting is screwed from throat
- Accessories: PVC Covered galvanized wire net can be use behind

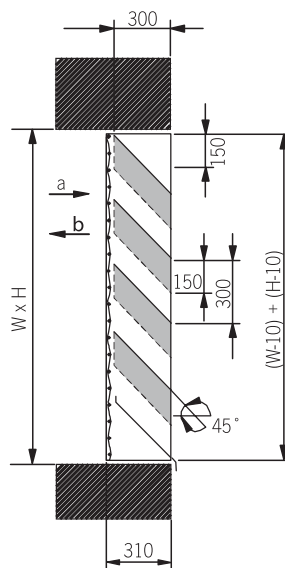
Standart Dimension (mm)	Air flow (m ³ /h)	AEL-1-Code	AEL-1-Code
400 x 400	1150	10300301	10310301
600 x 400	1700	10300302	10310302
600 x 600	2800	10300303	10310303
800 x 600	3750	10300304	10310304
800 x 800	5200	10300305	10310305
1000 x 800	6500	10300306	10310306
1000 x 1000	8350	10300307	10310307
1200 x 1400	14300	10300308	10310308
1200 x 1600	16500	10300309	10310309
1500 x 1500	16000	10300310	10310310
1500 x 2000	21000	10300311	10310311

Airflow has calculated as 3m/s velocity.



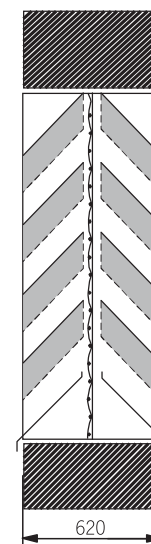
AEL-1

One sided Acoustic Louver



AEL-2

Two sided Acoustic Louver



Pressure Loss

- AEL-1 (a) : 40 Pa
- AEL-1 (b) : 48 Pa
- AEL-2 : 64 Pa

TEXTILE AIR DUCTS

Textile air ducts 14-35

25

Textile Ducts



Working Principles of Fabric Duct

Fabric ducts are designed to distribute cold or hot air in to the area. This can be done in various ways, depending on the application. With its expertise in ventilation, our company propose specific solutions for the projects.

In galvanised duct applications, air currents occur in some parts of the building. When people's increasing demands for comfort is taken into account, these classical solutions are insufficient. Textile duct options provide homogeneous and perfect air distribution at this point.

Fabric duct applications offer more economical solutions than conventional galvanized ducts and also increase comfort in the environment where they are applied by providing much higher quality air distribution. Fabric ducts also contribute to the architectural structure of the space with various shape, color and logo options.

Our fabric ducts are the right choice in places where a draft-free and comfortable working environment is demanded. As Havak, we offer more economical, flexible, aesthetic and practical fabric duct solutions instead of classical duct applications.

Fabric duct applications provide a comfortable environment without creating air drafts and contribute to the productivity of users and employees. Studies show that with the improvement of indoor air quality in schools, the learning ability of students increases up to 18%.

Working Principles of Fabric Duct



Even & Comfortable

NanoSox system disperses airflow through fabric permeation and designed multi-row orifices to form a tridimensional air dispersion effect with great comfort, overall even airflow and precise air throw.



Aesthetic

Multiple colors are available to blend well with any indoor decoration, Meanwhile, the system as well as the color could be customized and individually designed.



Condensation Free

Air dispersion through fabric permeation forms a cooling air layer around the duct surface so that there is no temperature difference between inside and outside, therefore no insulation is required to prevent condensation.



Hygienic and Healthy

Owing to the convenient dismantle and quick installation, NanoSox system is very easy to clean, Improved IAQ meets higher healthy and hygienic requirements



Quiet

NanoSox system uses flexible material operating at lower air velocity, it does not generate noise or transmit resonance. Quiet system improves the indoor environmental quality.



Light Weight

NanoSox system uses flexible material operating at lower air velocity, it does not generate noise or transmit resonance. Quiet system improves the indoor environmental quality.

Textile Ducts



Quick Installation

Specialized cable and track suspension system bring you quick installation and reduce material waste on the jobsite. Installation time is substantially shortened, accounting only 1/10 or less time of that of metal duct system.



Reliable Quality

Introduce large laser production line and system simulation platform into production process, all products are manufactured in our factory to ensure high pressure resistance, micro-permeability and provided to our customers with ISO 9001 Quality Management System.



Green

Introduce environmental-friendly fabric, green manufacturing process, quick installation and simple operation procedure, convenient transportation, storage and recycle plus tridimensional and laminar air dispersion model makes NanoSox system greener and more energy-saving.

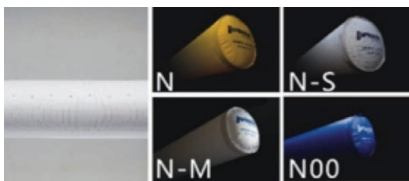


Economical

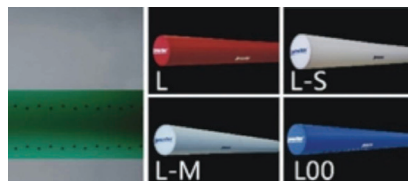
Simpler design of NanoSox could replace the whole traditional ductwork including air ducts, air dampers, diffusers and insulation materials, light weight, easy transportation and quick installation to reduce overall cost.

What is the advantages

High-Quality Nanosox-N, ideal Nanosox-L series and top fire proof Firesox series with variations of regular, antistatic and anti microbial functional properties. Totally 9 products with multi-functional customization ability as per special demands, providing the most comprehensive standart permeability choices, to fulfill the higher requirements in various industries.



Nanosox®- N Series



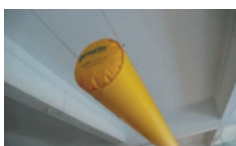
Nanosox®-L Series



Fibersox™ Series

Complete Duct Profile

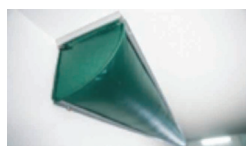
Besides the duck shapes of round, half-round, large half-round quarter and rectangular, conic duct has been developed as the World unique, providing better air distribution performance and economic features.



Round-O



Half Round-O



Quarter Round-O



Rectangle

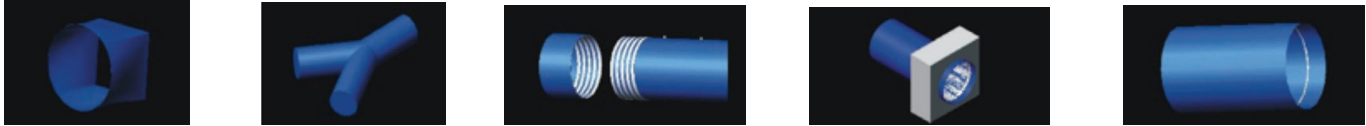


Conic

Textile Ducts

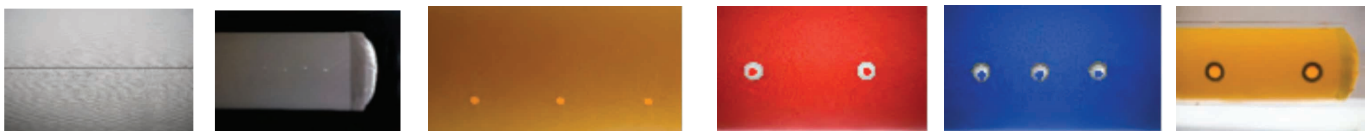
Versataile Fittings

In addition to regular fittings (inlet, end cap, elbow, T connector), Unique fittings such as square to round, Y inlet, bevel end cap, tension ring, wall pass-through and expansion segment and more are introduced to fit various applications.



Outlets

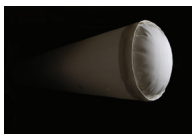
Airflow can be discharged through fabric permeation, mesh slot, s-slot, liner slot, orifice, nozzle and rings.



Premium Fabric Material

Unique micro of permeability technology

Permeability as low as (3,6 m³/m²/h) can be achieved to ensure minimum air permeation in high pressure large systems, while still maintaining condensation free.



Superior fire resistant Nanosox

The superior fire resistance performance of Nanosox does not degrade after repeated laundering.

Nonflammable Firesox Material

Nonflammable firesox is made of non-organic fire proof material. It is classified under nonflammable as Class A type, to meet stringent fire safety requirement.

Best Industry Warranty

Execptional product series are backed by unmatched industry warranty. A 15 years, 10 years and 8 years limited warranties come with Nanosox-N, Nanosox-L and Firesox series.



Professional Desing and Installation

World leading air dispersion system technology

With a large space airflow lab and modern CFD computer simulation technology, Nanosox engineers can tackle the most complicated and most demanding project with precision and confidence.

Detailed design manual and iCase application gallery

Accompanied thousands client iCase application gallery, the new Nanosox system design manual is easy to follow and easy to find reference project designs to achieve optimum solutions.

iSox Design Software

Unique iSox CAD design makes the precision system design a breeze.

Full installation manual & specialized tools

Extensive work flow pictures in the detailed installation instruction, along with proprietary tool (cable tightener) quickly turn a novice installer to Professional in no time.

Textile Ducts



Advanced Production

Large scale laser automatic production line

Possessing the world unique automatic production lines Nanosox reaches the production capacity of 3.000.000 m² per year.



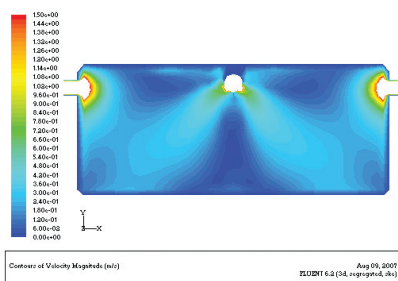
Global Top Advanced multi-head Laser Processing Center

Precise processing technology of Nanosox ssystem reaches the international top level with the global top advanced multi head laser processing center.



Large Scale and Full Range of Storage Leads to Shorter Lead Time

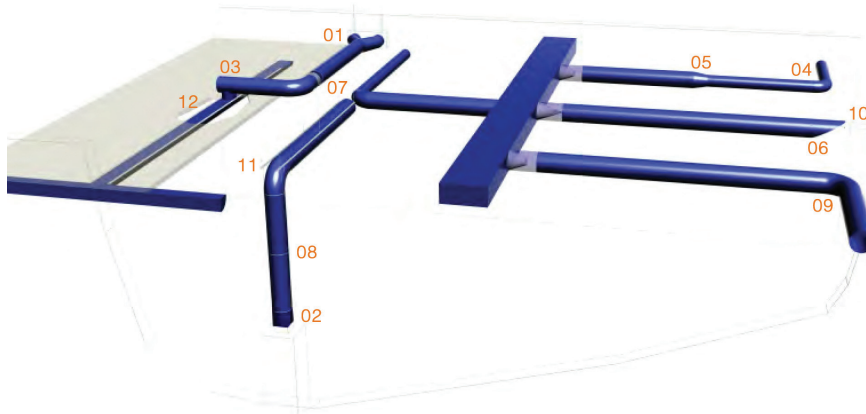
Full range of storage facilities, plus high efficient production management system, shortens regular lead time to less than 15 days, an deven shorter for special orders.



World Leading Effect Testing Simulation Platform

All the finished products would be tested at the effect testing platform, which guarantees the zero-defect and completely accordant air distribution effect as per the design requirement.

How To Select



1. Y-inlet
2. Square to round inlet
3. T connection
4. Elbow
5. Transition
6. Bevel end
7. Expansion segment
8. Tension ring
9. Wall pass through
10. Galvanized cable
11. H-track
12. Flash mount track



General Fittings

Inlet Connection

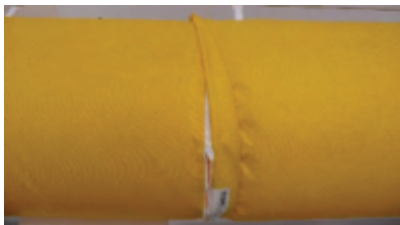
Generally use single layer or double layer inlet to cover outlet of metal duct, fixed with belt, riveted.

Durkeesox employs double layer inlet only fixes the inside layer, the outer layer is used to cover up and easy to remove for washing.



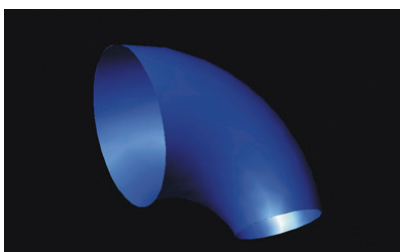
End Cap

Durkeesox uses end cap, joins with duct by zipper, easier to change for washing or extend in the length direction.



Zipper Connection

Join among straight duct, fittings and components, similar to conventional used flange.



Elbow

Standart centerline radius is $1,5 \times \text{Dia}$. The elbow consists of multiple gores, different curve angles per application requirement.

How to Use?

A-System Layout



General Location Layout

Low space location layout: Make ductwork layout along Wall, beam, pole to save space and improve aesthetics. For workshop application, lay out ductwork along production line or densely occupied area to meet both requirements of production and occupants. For supermarket application, uniformly lay out the system perpendicular to shelves and parallel to light area.

High and Large space layout: To match return air, use straight duct as possible to improve indoor air distribution. For workshop layout shall be along production line, avoid equipments and travelling crane, meanwhile, consider directional air dispersion. For supermarket, layout is perpendicular to shelves or above main walkway. For sports place layout shall be around auditoria. For grid structure, layout ductwork inside it. For grid structure with berm, mount ductwork both sides along berm, both save space and convenience installation and maintenance.

General Location Aesthetics Design

The relation between duct diameter and aesthetics at the different installation height: Generally the applicable duct diameter is larger when the installation is higher to reach a perfect combination of aesthetics and effect.

Arc Closed Design: The layout could be in arc, or closed round, Oval to match with architecture style for both more aesthetic appearance and uniform air dispersion.

Design to match with decoration: Mount half-round or Quarter-round duct against ceiling, or open a groove on suspended ceiling then put Nanosox duct inside. For meshed suspended ceiling just mount ductwork above it.



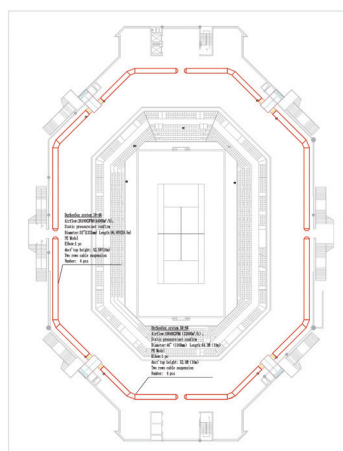
Special Case Design

Temporary Location Design: Considering easy installation and dismantlement, track installation is mostly applied. To take reuse into account, maintain the same duct diameter and duct length as possible.

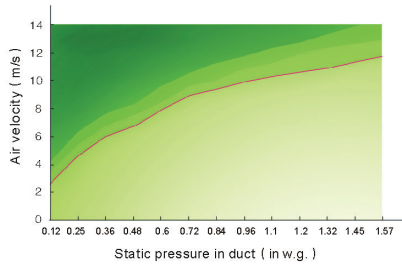
Anti-condensation design: Lay out the ductwork along glass curtain or specially mount one or more ducts to easy condensation area.

System Layout

Use iSox design software, we could complete layout design and drawing work more easily and quickly.



How to Use?



B - Dimension Selection

Because the Nanosox system diameter selection is related to air velocity and static pressure in the duct, when the static pressure does not match the air velocity in the duct, the airflow in the duct will become turbulent which will affect the actual air dispersion and overall performance. Shown by left schematic illustrating the relation between pressure, turbulence and air velocity that we obtained through an experiment.

From the schematic, we could find when the air velocity is bigger, static pressure become smaller, the turbulence will be increasing (darker the colour, bigger the turbulence), it is for sure that turbulence is related to the ratio of air velocity to static pressure in duct, the bigger the turbulence is. What is more, high air velocity could increase noise from system.+

A Nanosox system diameter utilizes mm as a spec unit starting at 152mm to 1828mm. The duct diameter is determined according to air volume and system inlet air velocity.

Calculation equation: $g = v \cdot \pi \cdot O^2 / 4$ g: Air volume per duct system

v : System inlet air velocity

O : System duct diameter

Nanosox system inlet air velocity: to avoid system inlet turbulence and negative pressure.



Round straight duct less than 9 m/s



Elbow less than 8 m/s



T connection less than 8 m/s



Large half round less than 8 m/s



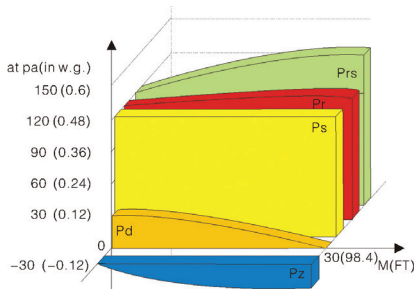
Half round less than 7 m/s



Rectangle less than 8,5 m/s

If the duct diameter is excessive big, installation space is not enough, it is advised to use rectangle duct or divide the system into several small ducts.

How to Use?



C - Air Pressure Design

Pressure in a Nanosox system consists of static pressure, velocity pressure and resistance loss, the direct relation of static pressure regain and resistance loss plays a key role. In most cases, static pressure regain is more than frictional resistance loss in straight duct. Result : Static pressure = inlet static pressure + static pressure regain – pressure loss

($Pr = Ps + Prs - Pz$), the average pressure is the average of inlet static pressure and end static pressure. The principle is shown by left schematic.

Based on abundant engineering experience, we believe that when pressure difference less than %10 of inlet static pressure, airflow along the duct is uniform. On the contrary, PAD pressure adjustment device shall be installed to balance the pressure in duct. Shown in below schematic, after balance, maximum pressure difference is in 25 Pa, less than %10 of inlet static pressure.

Inlet pressure of complicated system with multi ducts is according to resistance calculation of least favorable loop, meanwhile, consider air dispersion pressure, frictional and local pressure loss from main duct, branch duct.

D - Air Dispersion Design

Employ Nanosox patented design software specialized for fabric air dispersion system to make the detailed design, that is to determine permeability of fabric, type, dimension, quantity and direction of orifice or nozzle, which is made by Nanosox engineering technology center.

According to cross section of height design we determine air throw and controlled area

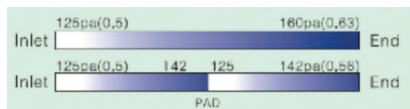
Generally we take the middle line of two adjacent ducts as the boundary, according to uniform layout principle. Based on actual project situation, in light of air volume from each duct and layout, divide the whole area, try to uniformly distribute the air volume as possible.

Determine Orifices direction

According to divided area, specify the direction of orifices and determine the number of orifice rows. According to airflow capacity, determine permeated air volume and air volume by orifices.

Determine size and rows of orifice

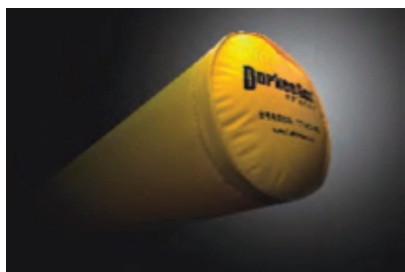
Generally, design is completed by the patented specialized software iSox-manufactory and inputted into automatic production line for manufacturing. In addition, iSox software can help draw a standard construction plan of installation and automatically list a specification table for each portion of system



Nanosox®-N Series

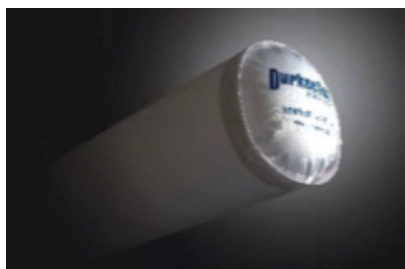


Different to most similar products been treated in flame retardant, Nanosox-N series adopts the material from directly weaved fabric with Nanotechnology and permanent fire retardant property, which getting the best fireproofing feature with no influence during washing. Nanosox-N series provides higher physical properties, including high pressure resistant, tensile strenght, stable permeability, antimicrobial, antistatic etc anti-corrosion..Along with 10 standart permeation rates and 15 years warranty, it is the top level and most widely used product series, which has gained various certifications and patents from national and abroad.



N / General

Constructed of Nanosox-N fabric in various permeability. Typically applied on all kinds of heating & cooling places with general comfort requirement



N - M / Anti Mikrobial

Made of permanent antimicrobial Nanosox-N fabric with guarentees both permanent antimicrobial and fire resistant performance. Mainly applied on food, pharmacy, clean room, industries of cleanness demanding.



N - S / Anti Static

A combination of Nanosox-N fabric in diverse permeability and inherent antistatic fibre to dissipate static build-up. Typically used in electronic, chemical, percision manufacturing, industries of static sensitive environment.



NOO / Non Permeable

Made of Non-permeable Nanosox-N fabric, commonly used in industrial workshop, warehouse etc, heating and ventilating area where features a high and large space. Meanwhile, it is also applicable to light refrigerating places.

Nanosox®-N Series

Shape



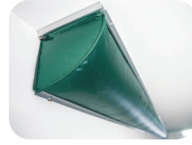
Round- O



Half Round - D



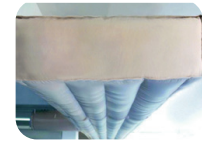
Large Half Round
HD



Quarter Round- O



Conic - C



Rectangle- S

Air Outlet Model



Mesh Slot
Model-MS



S-slot
Model-SS



Linear slot
Model-LS



Orifice - O



Nozzle - N



Adjustable
Nozul-AN



Rubber
Ring-R

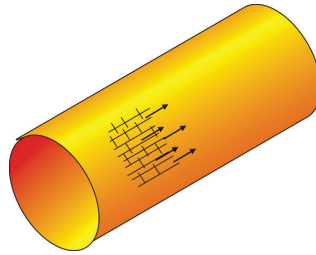
*Nozzel Dia : 1" / 1.5", Rubber Ring Size: 2" / 2.5"

Technical Specifications

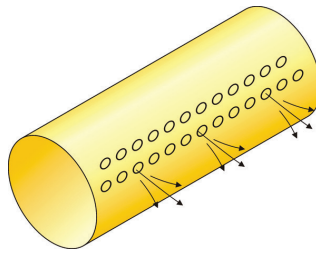
Property	Items	Index	Results	Code compliance	Testing organization	Remarks	
Material property	Ten Permeability		0/0,2/0,5/1/2/4/6/8/16/20cfm/ft ² at 0.5"wg	0/0,2/0,48/1/2 /5,8/8,2/15,5/20	GB/T 5453-1997	CTTC	
	Fire safety	B	FIGRA, W/s ≤ 120 THR600s, MJ ≤ 7,5	15 2,2	GB 8624-2006 EN13501-1; 2007	NFTC SGS	Formal testing
		s1	SMOGRa, m ³ /s2 ≤ 30 TSP600s, m ³ ≤ 50	0 20			
		d0	Flaming particles or droplets withing 600s Ignition of the filter paper	No No			
		T0	Smoke Toxicity ZA1	ZA1			
		Class 1	Calculated Smoke Developed(CSD) ≤ 50 Flame Spread Index(FSI) ≤ 25	20 0	UI723	UL	
	Physics property	Class 0	Fire propagation index	0,4	BS 476-6,7:1997	TUV SUD PSB	Formal testing
		Tensile strength	> 3,4lb (15N)	6,5lb (29N)	GB/T 3917,1-1997	CTTC	Formal testing and UL certificate
		Tear strength	> 112lb (500N)	279lb (1240N)	GB/T 3923,1-1997		
		Shrinkage after washing	< 2%	0,5%	GB/T 8630-2002		
		Permeability tolerance CV(%)	< 5%	3,7%	GB/T5453-1997		
	Temperature range	17,8°C(0° F)(24hours);129°C(265° F)(60days) No change of appearance	No change	Ac167 & UI181	UL		
	Operational performance	Clean & fibre drop property	No fabric drops	No change	Ac167 & UI181	UL	Formal testing and UL certificate
		Anti-mold	No Destroying or decomposing after 60days under the testing condition of UI181	No change	Ac167 & UI181	UL	
		Textile health security	PH	4,0-7,5	7,4	GB 18401-2003	CTTC
Formaldehyde content			≤ 20mg/kg (20ppm)	Accord			
Decomposable Aromatic Amine dye			≤ 20mg/kg (20ppm)	Unfound			
NS-M Anti-microbial	>95%	>99%	ASTM E2149	CTTC			
NS-S Anti-static		0,093µc/ft ² (1,0µc/m ²)	GB/T 12703-1991	CTTC			
System performance	Pressure resistance	No change at 7,6 in"wg (1900pa) static pressure Appearance no change, no tear, no damage at 8 in-wg(2000pa) static pressure	No change	Ac167 & UL181	UL	Formal testing and UL certificate	
	Passive permeability	Passive permeability volume at 2 in-wg (500Pa)	≤ 2,8cfm/ft ² (50m ³ /h/m ²)	0,84 (25m ³ /h/m ²)	JGJ 141-2004	National center of quality supervision and inspection and testing for air condition equipment	
		Passive permeability volume at 4 in-wg (1000Pa)	≤ 5,5cfm/ft ² (100m ³ /h/m ²)	1,98 (48m ³ /h/m ²)			
	Dimension tolerance		≤ 1%	No change			

Nanosox®-N Series

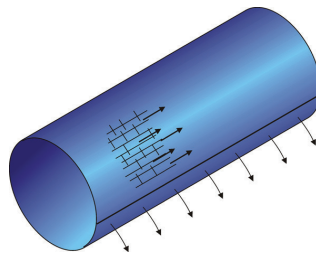
Air Flow Models



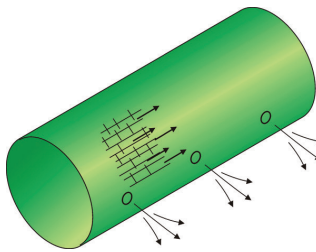
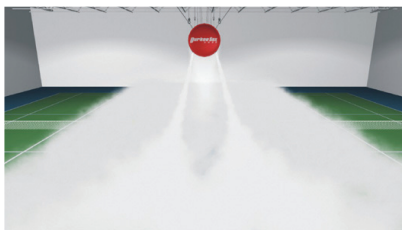
PM - Permeable



EJ – Direct Blow

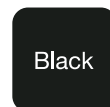
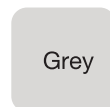
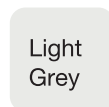


PS – Permeable and Slot

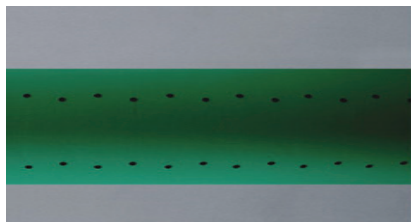


PE – Permeable and Direct blow

Colors



Nanosox®-L Series



Nanosox-L is made of inherent permanent fire retardant fabric with reliable & stable physical properties like high pressure resistant, tensile strength, stable permeability etc. It provides 5 standard permeation rates and 10 year warranty, mainly applied at economical sites.



L / General: Constructed of Nanosox-L fabric in various permeability. Typically applied on all kinds of heating&cooling places with general comfort requirement.



L – M / Antimicrobial: Constructed of anti-microbial of Nanosox-L with diverse air permeability. Normally applied on food and medical etc. Industries of higher cleanliness requirement.



L –S / Antistatic: Constructed of anti-static of Nanosox-L with different permeability. Typically used in electronic and precision manufacturing etc. Industries of static sensitive environment.



N00 / Non permeable: Made of non-permeable Nanosox-L fabric. Commonly used in workshop, warehouse etc. heating and ventilating area where features a high and a large space. Meanwhile, it is also applicable to light refrigerating places.

Nanosox®-L Series

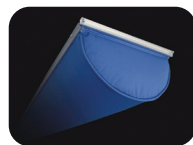
Shape



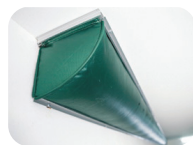
Round- O



Half Round - D



Large Half Round
HD



Quarter Round- O

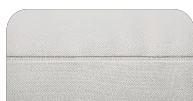


Conic - C

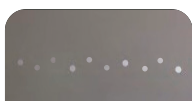


Rectangle- S

Air Outlet Model



Mesh Slot
Model-MS



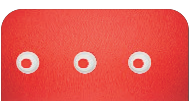
S-slot
Model-SS



Linear slot
Model-LS



Orifice - O



Nozzle - N



Adjustable
Nozul-AN



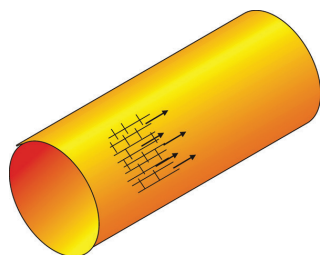
Rubber
Ring-R

Technical Specifications

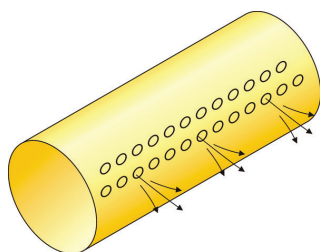
Property	Item	Index	Result	Code Compliance	Testing Organization	
Material Property	5 permeability	O/ 9,14 / 36,58 / 109,73 / 292,61 (m3/h)m2 (125 Pa pressure)	O/ 8,88 / 36,58 / 106,07 / 276,15	ASTM D737 GB/T 5453-1997	CTTC	
	Fire Safety	Class 1	Calculated smoke developed (eSD) , 50	20	ui 2518	UL
		Class O	Flame spread index (FSI) 5,25 Fire propagation index	0 0.4	ASTM E84 BS 476-6:7:1997	TUV SUD PSB
	Physics Property	Weight	225 g/m2 ± 5 %	227 g	ASTM D3776	C T T C
		Tensile strenght	> 15 N	29 N	GB/T3917.1- 1997	
		Tear strenght	> 500 N	1240 N	GB/13923.1 - 1997	
		Shrinkage after washing	<2 %	0.2 %	GB/T 8630 -2002	
	Permeability tolerans	<5 %	Accord	GB/T 5453 -1997		
	Operational Performance	Textile health security	PH 4.0 - 7.5 Formaldehyde content 5 20 mg/kg (20 ppm) Decomposable Aromatic Amine dye 5 20 mg/kg (20ppm) No abnormal odor	7.4 Accord Unfound None	GB 18401 - 2003	
		L-M Anti-mikrobia	> 90 %	> 95 %	ASTM E2149	
L-S Anti-static			0.7pc/m2	GB/T 12703 - 1991		
System Performance	Pressure resistance	No Change at 1900 Pa static Pressure	No Change	JGJ141-2004	UL	

Nanosox®-L Series

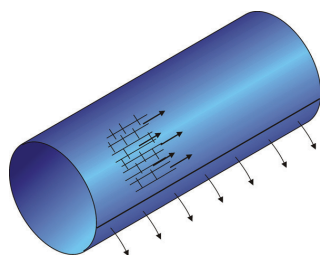
Air Flow Models



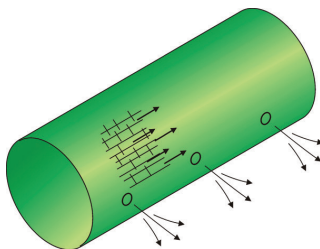
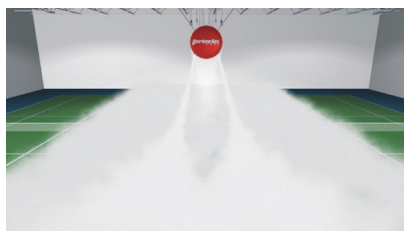
PM - Permeable



EJ – Direct Blow

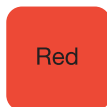


PS – Permeable and Slot



PE – Permeable and Direct blow

Colors



Red



White



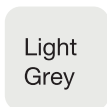
Yellow



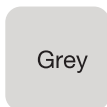
Beige



Blue



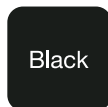
Light Grey



Grey



Green



Black



Custom Color

Ventisox - Best Ventilation Series



V / Non permeable



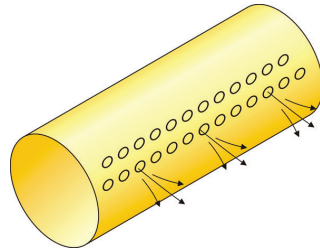
V / Customized Permeation

Ventisox is developed by Durkeesox which meets the high technology ventilation needs of all industrial, commercial and general use spaces with 8 years warranty. Ventisox is manufacturing with flame retardant fabric.

Property	Item	Index	Result	Code compliance	Testing Organization	
Material property	Permeability	Q m ³ /h 125 Pa	Q m ³ /h 125 Pa	GB/T 5453-1997 ASTM D737	CTTC	
	Fire Safety	Class 1	Calculated smoke developed eSD < ;50 Flame spread index (FSI); 25	20 0	UI723 ASTM E84	UL
	Physics Property	Weight	185g/m ²	190 g/m ²	ASTM D3776	CTTC
		Tensile Strenght	>5 N	29	GB/T 3917.3-1997	
		Tear Strenght	>00 N	1240	GB/T 3917.3-1997	
		Shrinkage after washing	< %	0,2 %	GB/T 8630-2002	
		Permeability Tolerance	05 %	Accord	GB/T 5453-1997	
	Operational Performans	Textile health security	pH 4.0-7.5 Formaldehyde content <; 20 mg/kg (20 ppm) Decomposable Aromatic Amine dye ;20 mg/kg (20 ppm) No abnormal odor	7,4 Accord Unfound None	GB 18401-2003	
	System Performance	Pressure resistance	No change At 1900Pa Static pressure	No Change	JGJ 141-2004	UL

Ventisox - Best Ventilation Series

Air Flow Models



EJ – Direct blow

Shape



Conic - C

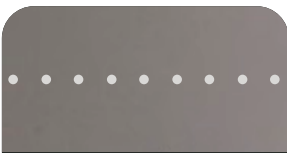


Round - O

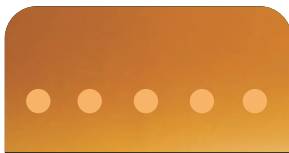


Half Round - D

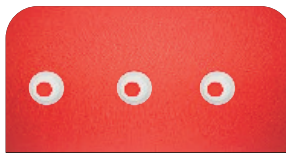
Shape



Linear slot
Model-LS



Orifice - O



Nozzle - N

Colors



Red



White



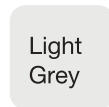
Yellow



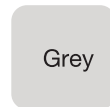
Beige



Blue



Light
Grey



Grey



Green



Black



Custom
Color

FiberSox™ - Patented Top Fire Proof Series

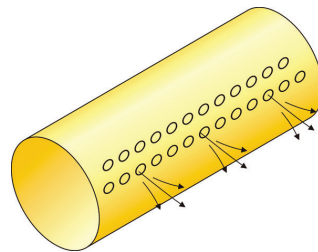


FiberSox™ series is made of Class A nonflammable fabric material providing the best fireproofing property and 8 years warranty. It is mainly for the applications which have strict fireproofing requirements during heating, ventilation and slightly cooling.

Technical Specifications

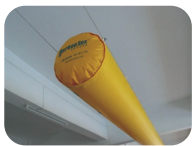
Property	Items	Index	Results	Code compliance	Testing organization	Remarks	
Material Property	Fire Safety	A2	FIGRA, w/s S120 THR 600s, MJ s 7,5 Termal value MJ s 3.0	5 0.9 1.6	GB 8624-2012	NFTC	Formal Testing
		S1	SMOGR m2/s2 s30 TSP600s, m2 S 50	0 20			
		D0	Flamming particles or droplets withing 600s	Accord			
		T0	Smoke toxyity ZAI	ZAI			
		Class A2	SMOGR, m2/s2 S30 TSP600s, m2 S 50 Flamming particles or droplets withing 600s	9.5 11.7 No	EN 13501-1:AI: 2009	SGS	Formal Testing
		Class A1	Fire propagation index	0.4	BS476-6:AI 2009	TUV SUD PSB	Formal Testing
		Weight	300g / m2±5%	305 g	ASTM D3776		
System Performance	Pressure resistance	Appearance no change, no tear, no damage at 2000Pa static pressure	No change	JGJ 41-2004	National center of quality supervision and inspection for air condition equipment		
	Passive permeability	500 Pa Passive permeability volume	s50 m3/h/m2				1s m3/h/m2
		1000 Pa Passive permeability volume	s100 m3/h/m2				36 m3/h/m2
	Dimension tolerance	1%	No change				

Air Flow Models



EJ – Direct blow

Shape



Round - O

Colour



Air Outlet Model



S-slot
Model-SS

Linear slot
Model-LS

Orifice - O

Nozzle - N

* Nozzel Dia : 1" / 1.5", Rubber Ring Size: 2" / 2.5"

Accessory and Installation

Installation of a NanoSox® system is much easier than any conventional air duct system, which consists of 2 styles

- 1- Cable suspension system
- 2- Aluminum track suspension system
- 3- Internal retention ring

Cable Suspension System

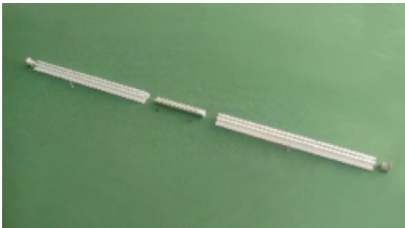
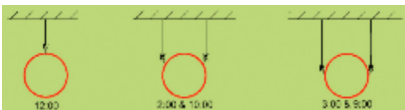
Cable suspension system is more popular due to convenient installation and low cost. Which can be divided as following ;

By material; Galvanized cable, Stainless cable

By load capacity; ordinary cable , heavy duty cable

By row of cables; single row, double rows, multi rows

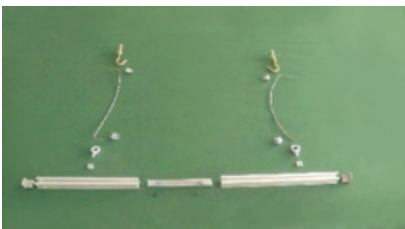
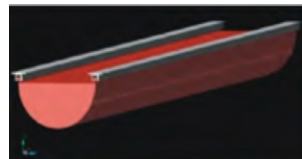
By suspension direction; 12:00 single row, 2:00&10:00 or 3:00&9:00 double rows



Aluminum Track Suspension System

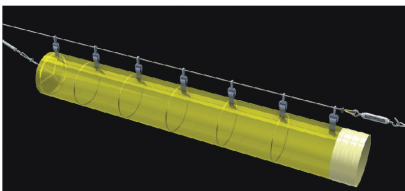
Flush Mount Track

For half-round, large half-round and quarter-round Nanosox systems which are mounted against ceiling or wall.



H-Track

For suspension type of round Nanosox systems.



Internal Retention Ring

Nanosox System Air dispersion system with the internal retention ring (IRR) provides perfect inflation appearance even without air supply. Meanwhile, inflation popping causing by initial air supply can be avoided.

The major material required to install Nanosox system includes ; fabric air ducts and its fittings, components and accessories, which are supplied by the manufacturer (shipped with consignment, including installation drawing, installation manual and assembly drawing, etc) Other installation auxiliaries required on jobsite, such as, brackets, fastening bolts and mores shall be purchased by the installation contractor.

Accessory and Installation



Transition-V
 Connect ducts with different diameters. Bottom flat: more aesthetic, Concentrate: better air flow, Top flat: easier to install



T-Connector
 Deliver the airflow to branch ducts which are perpendicular to main duct. Connected by zipper.

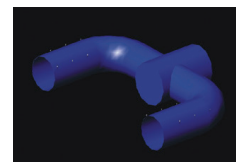
Special Fittings



Y inlet – Connect two outlets of AHU to one duct



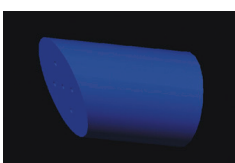
Square to round inlet Connect square metal duct to round fabric duct



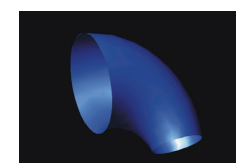
T-connection inlet – Connect fabric duct inlet T-connection



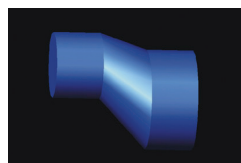
Elbow inlet – Connect fabric duct inlet with elbows



Bevel end- Disperse air in bevel end of duct, specialized for individual case

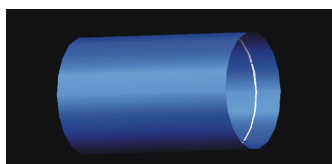


Transition elbow – Connect elbows in different diameter

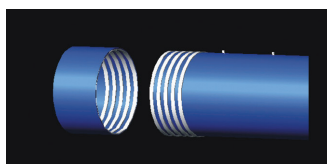


Bevel transition- Connect uneven ducts with different diameters

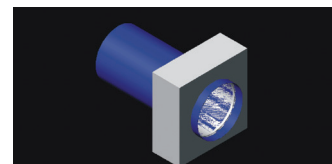
Functional Fittings



Tension ring
 For supporting use, fixed inside duct to produce aesthetic appearance. Applied to upright elbows, etc special occasions



Expansion segment
 Connected between two sections, fold one end in airflow direction, fixed by hasp from outside, contributing to certain flexibility in length



Wall pass through
 A component to resolve through wall problem, employs tension ring and certain length of duct to fix in the hole of wall and seal the gap between

DIFFUSOX™



DiffuSox™ air diffuser is made of metal frame and highly permeable fabric, the air dispersion surface attach to the metal frame via Velcro, connecting to metal inlet via square to round fitting and detachable inlet.

Advantages

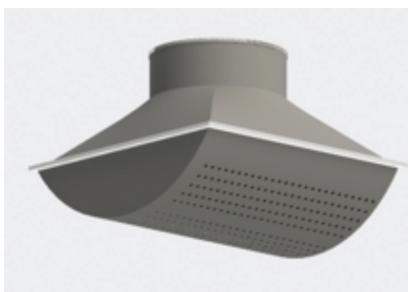


Quite & improve indoor Enviroment



Easy Instalation, Maintanance and Replacement

Where to use ?



Application Where Requests For Frequent Cleaning And Maintenance

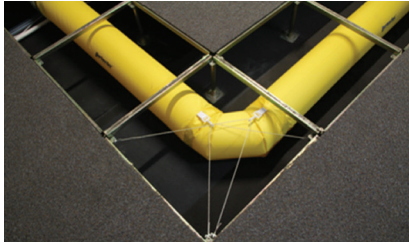


Large Space With Ceiling Where Requests For Even And Comfortable Air Dispersion



Small Space With Ceiling Where Requests For Quiet Environment And Visual Pleasing

UF SOX-N SERIES



UF™ underfloor air conditioning is a specialty fabric underfloor air vent system that is installed underneath raised access floor space which provides an air highway to guard against thermal decay and achieve optimum air distribution.”

Advantages



Quick Installation

The installation time of UF™ system is only 1/10 of that of traditional metal air duct.



Even & Comfortable

Linear vents are designed along longitude direction of DurkeeSox fabric air duct right below the floor vents to obtain more even and balanced air dispersion at target area.



Flexible Layout

Made of flexible fabric material, DurkeeSox layout design is very flexible on the basis of floor space. Standardized section (active section and inactive section) can be freely configured in accordance with client's demand.



Green & Energy Conservation

As san air delivery highway, DurkeeSox fabric air duct delivers cooling air and heating air to perimeter zone under the raise access floor of target area, reversing the energy waste at unnecessary area on its way to target area.



Easy Maintenance

DurkeeSox® fabric air duct can be easily dismantled and taken out by removing necessary floor tiles. It is much more difficult to remove metal duct from underneath the floor tiles.

Where to use ?



Training or Conference Hall



Other IT or Computer Equipment Room

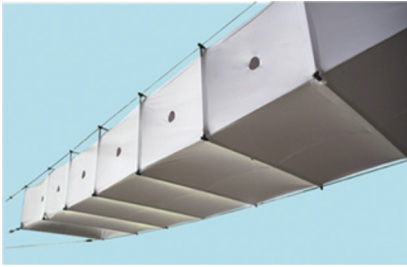


Server Room

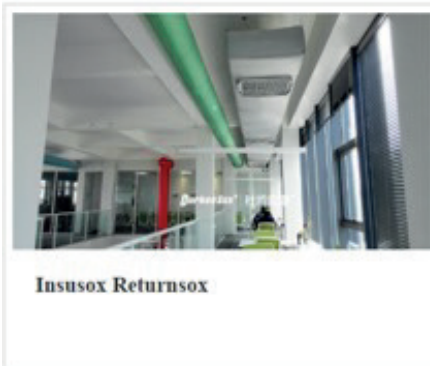


Exhibition Hall & Office Auxiliary Area

RETURNSOX™-N SERIES



“Made of high-strength material, ReturnSox™ return air duct system utilizes patented internal support frame to maintain the flexible air duct in rectangle shape and return air under negative pressure. Returnsox™ is a replacement of traditional return air duct with cable suspension system to install on site.



Insusox Returnsox



Air Return or Ventilation: Durkeesox Returnsox

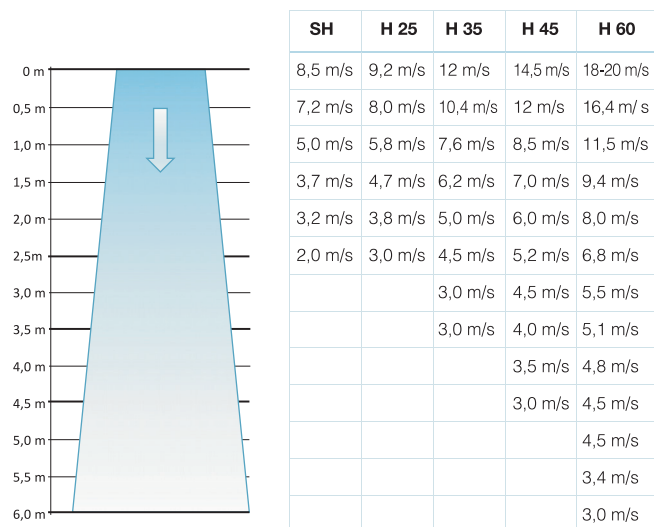
AIR CURTAINS

What is air curtain ?	38
How does it work ?	39
Why should air curtain be used?	40
Selection, installation and maintenance	41
Control panels	42
Smart control system	43
SH series air curtains	44
H25 series air curtains	45
H35 series air curtains	46
H45 series air curtains	47
LP series air curtains	48
Cold storage model air curtains	49
Recessed model air curtains	50
V series vertical type air curtains	51
H60/V60 series industrial air curtain	52
RDH series revolving door air curtains	53
CL 25 air curtains	54
CL 35 air curtains	55
RDV Revolving door air curtains	56
Application photos	57

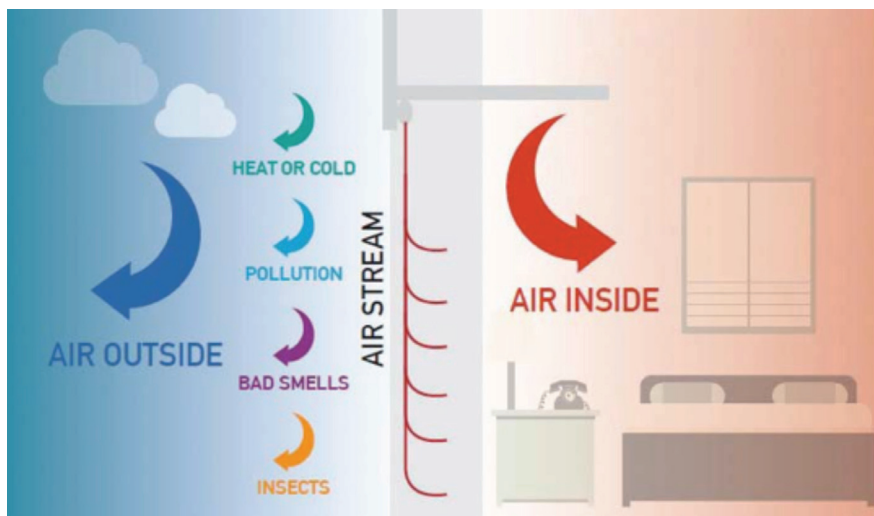
What is air curtain?

An air curtain is a device that separates two different temperature zones with an invisible curtain of air and helps keeping the quality of conditioned air in the building without limiting the access of people and vehicles.

Air velocity graph



Air curtain effect



How do they work?

Placing an air curtain above or to the side of the entrance, covering the full door that maximizes performance by stopping heated air escaping in winter and cooled air escaping in summertime, as well as reducing energy losses, creating a comfortable indoor climate and preventing cold draughts.

In some stores, fans which are placed above the doors, with low heater capacity and airflow rate, called "door heater" can only heat that area. But thanks to powerful air flow, air curtains can prevent heat loss and provide energy efficiency. To get maximum efficiency from air curtain, air should be balanced in place. If the place has negative or positive pressure, air curtain can not prevent air loss from indoor, but can heat the air that comes from outside and cover indoor comfort conditions.

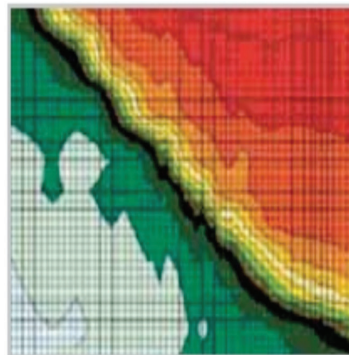
What is benefit?

- **Doors can remain open**
By creating "invisible door" using the fast moving air stream people can pass easily from area to area without doors hindering progress.
- **Reduces draughts and discomfort**
Comfort levels for staff, customers and visitors close to the doorway are increased by air curtains with reducing draughts through frequently opening doorways.
- **Energy saving**
Costs of running heating and air conditioning systems can be reduced with air curtains as they help to seal the building from the environment, making the building more energy efficient. Air curtains also increase the useful life of air conditions by making them less work.
- **Increases indoor air quality**
Insects, pollens and other airborne pollutants can be minimized with air curtains as they block much of these from entering the building.

Thermal Camera Image

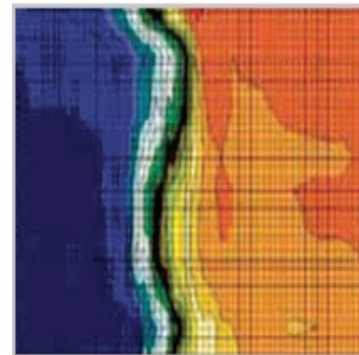
Opening without air curtain

The heated or conditioned air escapes through this unprotected opening. The result is energy loss and poor comfort.



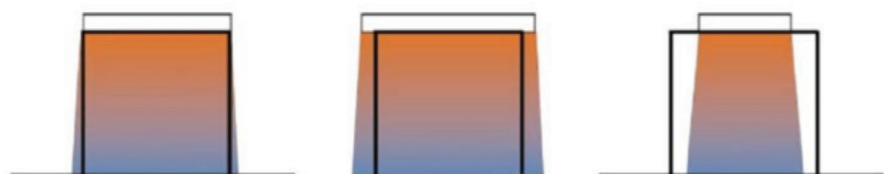
Opening with correctly adjusted air curtain

A sharp separation between different temperature zones is obtained with a correctly set up air curtain. It creates a barrier that effectively prevents undesired air flows.



The efficiency of air curtains is affected by the pressure and temperature difference, as well as the wind pressure.

In an appropriate installation, the stream of air generated by air curtain should cover the entire opening it has been installed to protect. If the air curtain is oversized, it will use additional energy without providing any additional benefit to the consumer. If the air curtain is undersized, it cannot create an air stream large enough to fully protect the opening it has been installed above, leading to increase space heating or cooling costs as a result of infiltration.



Why should air curtain be used?

There are three main mechanisms through which heat is lost across an opening in a building envelope: losses through mechanical ventilation, losses through natural ventilation and losses caused by natural convection. Each of these mechanisms is briefly described in the following subsections.

Mechanical Ventilation

In using a mechanical ventilation system, the interior of a building, or a region within a building, can be pressurised in three separate conditions: positively pressurised, negatively pressurised or non-pressurised (with no pressure differential between zones). These variations in pressure difference across an opening between zone can be a result of poorly balanced ventilation system, ineffective controls or in some cases of a deliberate design decision. Air curtain solutions can work in all of these scenarios (within reason). Yet, they are most effective when the pressure differential across the air stream is zero.

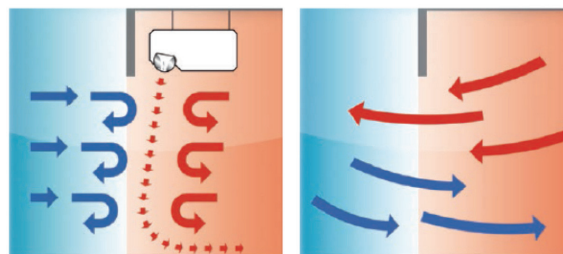
Natural Ventilation

Buildings are not completely airtight. Openings in a building like doors, windows and cracks will naturally allow hot air to escape and colder air will enter the building to replace it. This natural ventilation mechanism can be exacerbated by the prevailing wind conditions and direction, relative to the openings. The use of an air curtain in this scenario can reduce the effects of heat loss as a result of wind-driven natural ventilation.

Natural Convection

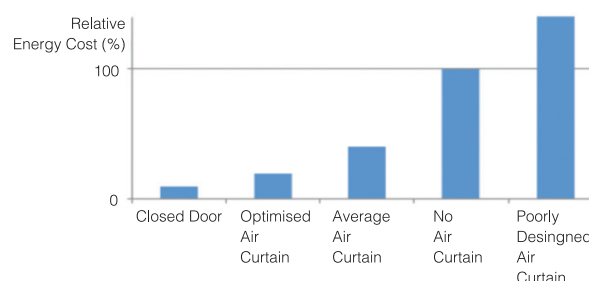
Cold air is denser than warm air, which allows hot air to rise. Across an unimpeded boundary between a heated area and a cool area, hot air will escape from the top of the opening. This process will naturally allow colder air to enter the heated space close to ground level, which is known as natural convection. Under these conditions an air curtain can limit the exchange of air between the two zones by creating a barrier to impede air flow.

The figure below, shows two different applications (left one has air curtain, right one has no air curtain) and their results.



Energy Use and Expenditure

Maintaining a temperature within a region through heating or cooling has a cost. That cost can be viewed in two ways: the energy needed to attain that temperature and the associated monetary value. Figure below provides a visual representation of the relative costs, both energy and fiscal, of the various options provided in this document as well as the consequences of using a well optimised and a poorly optimised air curtain solution. The graph is benchmarked against an equivalent building with an open door and unimpeded air flow. It clearly identifies the impacts of using a well optimised air curtain solution for businesses operating an open door policy in terms of both energy usage and energy expenditure.



Indicative cost comparison for various air curtain options baselined against open door

Selection, installation and maintenance

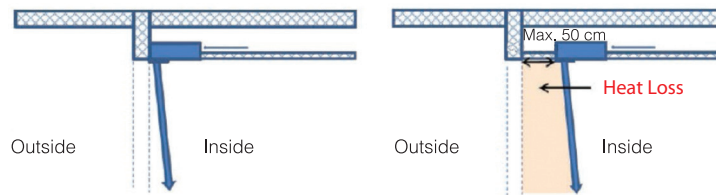
An air curtain is usually mounted above or alongside a door or window opening. When mounted above the opening, the air curtain discharges its air vertically across the opening. When mounted alongside the opening, the air is discharged horizontally across the opening. The benefits associated with using an air curtain will only be fully realised if the equipment is properly sized, installed, adjusted, and maintained. The checklist presented on right side has been compiled to assist with this process.

Filtering

The main task for an air curtain filter is to protect a water coil against contamination. Therefore, quite a coarse air curtain filter can be used to maintain the required air flow rate. However, even a coarse filter will become contaminated and must be cleaned or replaced eventually. The frequency of the cleaning depends on the environment the air curtain is installed in. In a dusty environment (like a clothes shop) the filters will need to be cleaned much more frequently than in a cleaner office style environment.

There are a range of different filter alarms available on the market to monitor this process ranging from simple timers to more advanced dynamic alarms which measure the pressure drop across the filter.

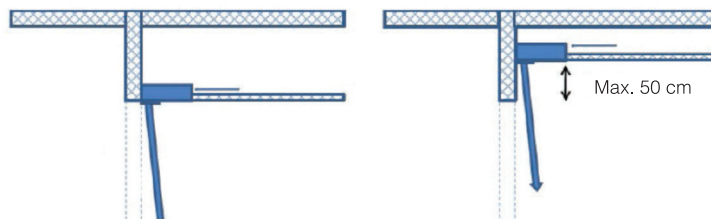
Since even a slightly contaminated filter will reduce the air flow through the unit, filters should not be used on air curtains with electrical or direct gas fired heating due to safety reasons, since the internal temperature will increase with decreasing air flow.



Horizontal installation recommendations: ideal (left) and maximum (right)

How far is the air curtain from the door horizontally?

An air curtain should be installed close enough to the opening to prevent heat loss from cold air entering the space or vice versa for cold room applications. In an ideal installation, there would be no separation horizontally between the opening and the air curtain. However, the air curtain can still be effective provided the separation is within 50 cm.



Horizontal installation recommendations: ideal (left) and maximum (right)

Air Curtain Maintenance

In order to ensure the continued high performance of any commercial, industrial or refrigeration product, a maintenance programme is essential. The recommended maintenance period can vary between manufacturer, operating environment and product type and will be outlined in the product documentation. To facilitate the maintenance programme, a checklist, presented in table below, has been compiled to highlight the main components to evaluate.

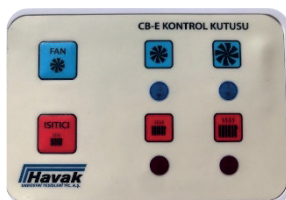
Control panels

Surface mounted control panels

CB-E

Control panel for electrical heated units. Unit can be controlled On/Off, two fan steps and two heater steps manually.

CB-E



CBA-W/A

CB- W/A

Control panel for ambient and water heated units. Unit can be controlled On/Off and two fan steps manually.

Recessed control panels

E-CB-E



Module for controlling the air curtains remotely. Unit can be controlled On/Off, two fan steps and two heater steps. Also magnetic door switch can be integrated to the unit, if requested.

Connection kits

LK-W/A

Modular linking kit for ambient and water heated units. It is used for link more than one units to operate them as one unit.

LK-E

Modular linking kit for electrical heated units. It is used for link more than one units to operate them as one unit.

Smart control system



CB BMS



An air curtain which reacts itself with the information coming from the indoor air and outdoor air. It is possible to do it with HAVAK SCB (smart control box)

First of all we have 2 NTC probes to figure out the air temperature. This parts also works with the open/close status of the sliding door. This is the third information we can evaluate in our operating scenerio. If the door is manual it is possible to add a door switch to our PCB card. We call this door switch mode. In addition to this we manage our air curtain 3 heating stage and 3 step fan speed.

Besides in the line with customer demands, system gives reaction in two different way which shows variability about the reaction temperature. These are Comfort Mode and Economy Mode. These two mode works and changes heating step and fan speed step with the temperature difference between indoor air temperature and outdoor air temperature.

The difference between them, Economy mode reacts due to high temperature difference against to Comfort mode which allows to change fan and heating levels. In addition to this, Economy and Comfort mode can be compatible with door switch.

The mode which are included in our control system are below;

Mode 1: Standart usage

Mode 2: Door Switch mode

Mode 3: Economy mode

Mode 4: Economy mode + door switch mode

Mode 5: Comfort mode

Mode 6: Comfort mode + door switch mode

Mode 7: BMS connection via Modbus

SH model air curtains



- High output air stream for entrances up to 2,3 meter height.
- Electric heated, water heated or ambient models are available.
- Modular design for each door lengths.
- Flexible connection and easy mounting.
- Adjustable air flow direction.
- Independent control over fan speed and heat output.
- Automatic cut out against over heating. (High limit thermostat)
- Aluminum crossflow fans.
- NiCr tube resistances to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- Various control systems and color options due to the customer demands.
- 2 years warranty

Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m³/h)	Max. mounting height (m)****	Weight (Kg)	Code
SH 100A	1070x300x220	n/a	240V-1ph	0,65	43,5/53	8,5	1300	2,3	18	30201001
SH 100W	1070x300x220	9*	240V-1ph	0,65	43/53	7,5	1250	2,3	22	30201002
SH 100E	1070x300x220	3,0/9,0	400V-3ph	13,5	43/52,7	8,5	1250	2,3	24	30201003
SH 150A	1610x300x220	n/a	240V-1ph	0,65	44/53,5	8,5	2000	2,3	25	30201501
SH 150W	1610x300x220	13,5*	240V-1ph	0,65	43/53,5	7,5	1950	2,3	27	30201502
SH 150E	1610x300x220	4,5/13,5	400V-3ph	20	43/53	8,5	2000	2,3	29	30201503
SH 200A	2070x300x220	n/a	240V-1ph	0,9	44/54	8,5	2600	2,3	35	30202001
SH 200W	2070x300x220	18*	240V-1ph	0,9	44,5/54	7,5	2500	2,3	39	30202002
SH 200E	2070x300x220	6/18	400V-3ph	27	44/53	8,5	2500	2,3	44	30202003

* LPHW 80/60 C ve 18 C indoor temperature

** For each Phases (A)

*** Measured 3 mt away from the product

**** Min. 2-2,5 m/s air speed on the ground

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA- E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK- E	Modular linkingkit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	30300013
CB-BMS-W	Water heated air curtain smart control system	30300014

CB-BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus

CB-E



CBA-W/A

E - CB - E



CB BMS



H25 model air curtains



- High output air stream for entrances up to 2,5 meter height.
- Electrical heated, water heated or ambient models are available.
- Modular design for each door lengths.
- Flexible connection and easy mounting.
- Adjustable air flow direction.
- Independent control over fan speed and heat output.
- Automatic cut out against overheating. (High limit thermostat)
- Aluminum crossflow fans.
- NiCr tube resistances to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- High temperature resistant polyamid side covers.
- Various control systems and color options due to the customer demands
- 2 year warranty

30

Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m³/h)	Max mounting height (m)****	Weight (Kg)	Code
H25 100A	1050 X 235 X 310	n/a	240V-1ph	0,65	57/53	9	1400	2,5	17	30251001
H25 100W	1050 X 235 X 310	9*	240V-1ph	0,65	56/52	8	1250	2,5	19	30251002
H25 100E	1050 X 235 X 310	4,5/9	400V - 3ph	13,5	57/53	9	1400	2,5	21	30251003
H25 150A	1570 X 235 X 310	n/a	240V - 1ph	0,65	58/54	9	2300	2,5	23	30251501
H25 150W	1570 X 235 X 310	13,5*	240V - 1ph	0,65	57/53	8	2100	2,5	26	30251502
H25 150E	1570 X 235 X 310	6 75/13,5	400V - 3ph	20	58/54	9	2300	2,5	27	30251503
H25 200A	2050 X 235 X 310	n/a	240V - 1ph	0,9	58/54	9	2800	2,5	34	30252001
H25 200W	2050 X 235 X 310	18*	240V - 1ph	0,9	57/53	8	2500	2,5	38	30252002
H25 200E	2050 X 235 X 310	9\18	400V - 3ph	27	58/54	9	2800	2,5	42	30252003
H25 250A	2620 x 235 x 310	n/a	240V - 1ph	0,13	60/56	9	3700	2,5	40	30252501
H25 250W	2620 x 235 x 310	22,5*	240V - 1ph	22,5*	59/55	8	3350	2,5	45	30252502
H25 250E	2620 x 235 x 310	11,5 / 22,5	400V - 3ph	33,5	60/56	9	3700	2,5	48	30252503

* LPHW 80/ 60 C and 20° C indoor temperature
 ** For each phase (A)
 *** Measured 3 meters from the product ,
 **** Min 3 m/s air speed on the ground

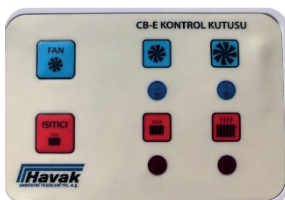
Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA- E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK- E	Modular linkingkit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	30300013
CB-BMS-W	Water heated air curtain smart control system	30300014

CB-BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus

CB-E



CBA-W/A

E - CB - E



CB BMS



H35 model Air Curtains



- High output air stream for entrances up to 2,3 meter height.
 - Electric heated, water heated or ambient models are available.
 - Modular design for each door lengths.
 - Flexible connection and easy mounting.
 - Adjustable air flow direction.
 - Independent control over fan speed and heat output.
 - Automatic cut out against over heating. (High limit thermostat)
 - Aluminum crossflow fans.
 - NiCr tube resistances to improve efficiency.
 - Automatic cooling system.
 - Corrosion proof steel housing with electrostatic powder paint coated.
 - Thermally protected motor.
 - Various control systems and color options due to the customer demands
- 2 year warranty

Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m³/h)	Max mounting height (m)****	Weight (Kg)	Code
H35100A	1100x300x390	n/a	240V-1ph	1,35	60/57	12	2400	3,5	30	30351001
H35100W	1100x300x390	13*	240V-1ph	1,35	59/56	11	2250	3,5	32	30351002
H35 100E	1100x300x390	6\12	400V-3ph	18	60/57	12	2400	3,5	34	30351003
H35150A	1600x300x390	n/a	240V-1ph	1,90	61/58	12	3600	3,5	40	30351501
H35150W	1600x300x390	20*	240V-1ph	1,90	60/57	11	3450	3,5	43	30351502
H35 150E	1600x300x390	9\18	400V-3ph	30	61/58	12	3600	3,5	46	30351503
H35 200A	2200x300x390	n/a	240V-1ph	2,70	61/58	12	4800	3,5	52	30352001
H35 200W	2200x300x390	26*	240V-1ph	2,70	60/57	11	4600	3,5	56	30352002
H35 200E	2200x300x390	12 / 24	400V-3ph	36	61/58	12	4800	3,5	60	30352003
H35 250A	2700x300x390	n/a	240V-1ph	32,25	63/60	12	6000	3,5	70	30352501
H35 250W	2700x300x390	33*	240V-1ph	32,25	62/59	11	5700	3,5	75	30352502
H35 250E	2700x300x390	15/30	400V-3ph	48	63/60	12	6000	3,5	80	30352503

* LPHW 80/ 60 C and 20° C indoor temperature

** For each phase (A)

*** Measured 3 meters from the product,

**** Min 2-2,5 m/s air speed on the ground

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA- E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK- E	Modular linkingkit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014

CB- BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus

CB-E



CBA-W/A

E - CB - E



CB BMS



H45 model Air Curtains



- High output air stream for entrances up to 4,5 meter height.
- Electrical heated, water heated or ambient models are available.
- Moduler design for each door lenghts.
- Flexible connection and easy mounting.
- Adjustable air flow direction.
- Independent control over fan speed and heat output.
- Automatic cut out against over heating. (High limit thermostat)
- Aluminum crossflow fans.
- NiCr tube resistances to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- Various control systems and color options due to the customer demands
- 2 year warranty

30

Model	Dimensions LxH xW (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m ³ /h)	Max mounting height (m)****	Weight (Kg)	Code
H45100A	1100 x 330 x 450	n/a	240V - 1ph	1.7	66/57	14.5	3200	4.5	40	3045100 1
H45100W	1100 x 330 x 450	18'	240V - 1ph	1.7	65/56	14	3150	4.5	42	30451002
H45 100E	1100 x 330 x 450	7 5/15	400V - 3ph	24	66/57	14.5	3200	4.5	44	30451003
H45150A	1600 x 330 x 450	n/a	240V - 1ph	2	67/58	14.5	4300	4.5	51	30451501
H45150W	1600 x 330 x 450	24'	240V - 1ph	2	66/57	14	4250	4.5	54	30451502
H45 150E	1600 x 330 x 450	11\22	400V - 3ph	36	67/58	14.5	4300	4.5	58	30451503
H45 200A	2200 x 330 x 450	n/a	240V - 1ph	3.4	67/58	14.5	6400	4.5	80	30452001
H45 200W	2200 x 330 x 450	36'	240V - 1ph	3.4	66/57	14	6300	4.5	84	30452002
H45 200E	2200 x 330 x 450	15\30	400V - 3ph	48	67/58	14.5	6400	4.5	88	30452003
H45 250A	2700x330x450	n/a	240V-1ph	3.9	69/60	14.5	7500	4.5	91	30452501
H45 250W	2700x330x450	42*	240V-1ph	3.9	68/59	14	7400	4.5	96	30452502
H45 250E	2700x330x450	18.5/37	400V-3ph	60	69/60	14.5	7500	4.5	102	30452503

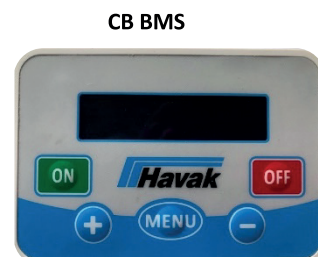
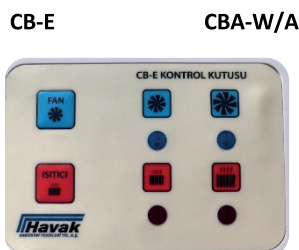
* L PHW 80/ 60 C and 20° C indoor temperature
 ** For each phase (A)
 *** Measured 3 meters from the product
 **** Min 3 m/s air speed on the ground

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014

CB- BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus



LP Series (Classic) Models



LP series air curtains, which have low noise level and durable structure, are recommended for 2.3 m height doors. These units are manufactured with 1.0 m and 1.5 m lengths as standard with ambient, electrical and water heater types. Units are easy-demount type for service and maintenance.

Model	Dimensions L x H xW (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m ³ /h)	Max mounting height (m)	Weight (Kg)	Code
LP1000A	1200x300x180	n/a	240 V-1pH	0.52	54/50	6	1300	2.3	28	30501001
LP1500A	1700x300x180	n/a	240 V-1pH	0.52	55/51	6	2100	2.3	39	30501501
LP1000E	1200x300x180	3/6/9	380 V-3pH	13	55/51	6	1300	2.3	30	30501003
LP1500E	1700x300x180	45/7 5/12	380 V-3pH	17	56/52	6	2100	2.3	41	30501503
LP1000W	1200x300x180	10*	240 V-1pH	0.52	55/51	6	1300	2.3	40	30501002
LP1500W	1700x300x180	15*	240 V-1pH	0.52	56/52	6	2100	2.3	60	30501502

* LPHW 80/ 60 C and 20° C indoor temperature"

** For each phase (A)

*** Measured 3 meters from the product

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA- E	Recessed control panel for electrical heated unit	30300006
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013

CB- BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus

CB-E

CBA-W/A



CB BMS



Cold storage models



At cold rooms, ambient model air curtains can not only prevent the air circulation depending on the temperature difference between two areas to ensure energy efficiency and icing in the room, but also can keep the cold room conditions to protect cold chain. Thanks to these units modular design , perfect solutions can be applied for every kind of door width. Air speed on the ground level can be set to prevent air circulation between two rooms, with motor's speed settings according to room's indoor pressure. The units are compatible with door switch.

Model	Dimensions L x H x W (mm)	Electrical supply	Supply rating*	Sound level dB(A)**	Max. air speed (m/s)	Max airflow (m ³ /h)	Max mounting height (m)	Weight (Kg)	Code
H25 100 CS	1050 x 235 x 310	240V - 1ph	0.5	57/53	9	1400	2,5	17	30271001
H25 150 CS	1570 x 235 x 310	240V - 1ph	0.9	58/54	9	2300	2,5	23	30271501
H25 200 CS	2050 x 235 x 310	240V - 1ph	0.9	58/54	9	2800	2,5	34	30272001
H25 250 CS	2620 x 235 x 310	240V - 1ph	0.13	60/56	9	3700	2,5	40	30272501
H35 100 CS	1100 x 300 x 390	240V - 1ph	1.7	60/57	12	2400	3,5	30	30371001
H35 150 CS	1600 x 300 x 390	240V - 1ph	2	61/58	11	3600	3,5	40	30371501
H35 200 CS	2200 x 300 x 390	240V - 1ph	2.7	61/58	12	4800	3,5	60	30372001
H35 250 CS	2700 x 300 x 390	240V - 1ph	3.25	63/60	12	6000	3,5	70	30372501
H45 100 CS	1100 x 330 x 450	240V - 1ph	1.7	66/57	14,5	3200	4,5	40	30471001
H45 150 CS	1600 x 330 x 450	240V - 1ph	2	67/58	14,5	4300	4,5	51	30471501
H45 200 CS	2200 x 330 x 450	240V - 1ph	3.8	67/58	14,5	6400	4,5	80	30472001
H45 250 CS	2700 x 330 x 450	240V - 1ph	3.9	69/60	14,5	7500	4,5	91	30472501

* For each phase (A)

** Measured 3 meters from the product

Accessories

Type	Description	Code
CB-CS	Control panel for cold storage models	30200107
LK-CS	Modular linking kit	30200108
CB-REO	Motor speed control	30200109
DS	Door switch	30200110

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Recessed models



Recessed models are available as ambient air, electric or water heated versions and manufactured in modules of 1m, 1,5 m and 2 m lengths, the recessed series can be used to screen any door width.

- High output air stream for entrances up to 2,5m (H25), 3,5 (H35) and 4.5m (H45) height
- Electrical heated, water heated or ambient models available
- Aluminum cylindrical crossflow fans
- Automatic cut out against overheating. (High limit thermostat)
- Thermally protected motor
- Automatic cooling system application when needed
- Easy maintenance and service with hinged grill
- Independent control over fan speed and heat output (2 levels each)
- Door switch use option with time relay (Depending on the model)
- Standard RAL 9016 color Linear grill or other types of grilles and color options
- Optional BMS connection and electronic control for various applications

Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m³/h)	Max mounting height (m)	Weight (Kg)	Code
H25 100 A/R	1100 x 260 x 400	n/a	240V - 1ph	0.5	57/53	9	1400	2.5	21	30261001
H25 100 W/R	1100 x 260 x 400	9*	240V - 1ph	0.5	56/52	8	1250	2.5	23	30261002
H25 100 E/R	1100 x 260 x 400	4.5/9	400V - 3ph	13.5	57/53	9	1400	2.5	25	30261003
H25 150 A/R	1600 x 260 x 400	n/a	240V - 1ph	0.9	58/54	9	2300	2.5	27	30261501
H25 150 W/R	1600 x 260 x 400	13.5*	240V - 1ph	0.9	57/53	8	2100	2.5	30	30261502
H25 150 E/R	1600 x 260 x 400	6 75/135	400V - 3ph	20	58/54	9	2300	2.5	31	30261503
H25 200 A/R	2150 x 260 x 400	n/a	240V - 1ph	1	58/54	9	2800	2.5	38	30262001
H25 200 W/R	2150 x 260 x 400	18*	240V - 1ph	1	57/53	8	2500	2.5	42	30262002
H25 200 E/R	2150 x 260 x 400	9\18	400V - 3ph	27	58/54	9	2800	2.5	46	30262003
H35 100 A/R	1100 x 300 x 450	n/a	240V-1ph	1	60/57	12	2400	3.5	30	30361001
H35 100 W/R	1100 x 300 x 450	13*	240V-1ph	1	59/56	11	2250	3.5	32	30361002
H35 100 E/R	1100 x 300 x 450	6/12	400V-3ph	18	60/57	12	2400	3.5	34	30361003
H35 150 A/R	1600 x 300 x 450	n/a	240V-1ph	1.5	61/58	12	3600	3.5	40	30361501
H35 150 W/R	1600 x 300 x 450	20*	240V-1ph	1.5	60/57	11	3450	3.5	43	30361502
H35 150 E/R	1600 x 300 x 450	9/18	400V-3ph	30	61/58	12	3600	3.5	46	30361503
H35 200 A/R	2200 x 300 x 450	n/a	240V-1ph	2	61/58	12	4800	3.5	52	30362001
H35 200 W/R	2200 x 300 x 450	26*	240V-1ph	2	60/57	11	4600	3.5	56	30362002
H35 200 E/R	2200 x 300 x 450	12/24	400V-3ph	36	61/58	12	4800	3.5	60	30362003
H45 100 A/R	1150 x 320 x 500	n/a	240V - 1ph	1.7	66/57	14	2900	4.5	38	30461001
H45 100 W/R	1150 x 320 x 500	16*	240V - 1ph	1.7	65/56	13.5	2800	4.5	40	30461002
H45 100 E/R	1150 x 320 x 500	7.5/15	400V - 3ph	24	66/57	14	2900	4.5	42	30461003
H45 150 A/R	1650 x 320 x 500	n/a	240V - 1ph	2	67/58	14	4000	4.5	48	30461501
H45 150 W/R	1650 x 320 x 500	24*	240V - 1ph	2	66/57	13.5	3900	4.5	51	30461502
H45 150 E/R	1650 x 320 x 500	11/22	400V - 3ph	36	67/58	14	4000	4.5	54	30461503
H45 200 A/R	2200 x 320 x 500	n/a	240V - 1ph	3.4	67/58	14	5800	4.5	76	30462001
H45 200 W/R	2200 x 320 x 500	32*	240V - 1ph	3.4	66/57	13.5	5600	4.5	80	30462002
H45 200 E/R	2200 x 320 x 500	15/30	400V - 3ph	48	67/58	14	5800	4.5	84	30462003

* LPHW 80/ 60 C and 20° C indoor temperature **For each phase (A) ***Measured 3 meters from the product

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014

CB-E CB-A-W/A



E - CB - E



CB BMS



V series vertical type air curtains



High output air stream for entrances up to 2,5, 3,5 and 4,5 meter height.

- Electrical heated, water heated or ambient models are available.
- Modular design for each door lengths.
- Flexible connection and easy mounting.
- Adjustable air flow direction.
- Aluminum crossflow fans.
- NiCr tube resistances to improve efficiency.
- Automatic cooling system
- Corrosion proof steel housing with electrostatic powder paint coated. Thermally protected motor.
- Various control systems and color options due to the customer demands, 2 year warranty

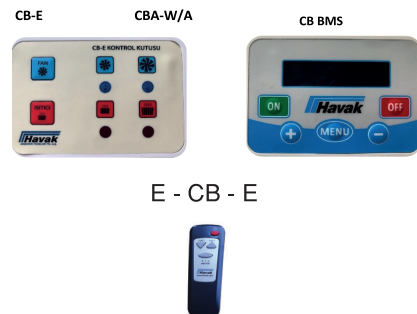
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Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m³/h)	Max mounting height (m)	Weight (Kg)	Code
V25 100A	1050 x 235 x 310	n/a	240V - 1ph	0.65	57/53	9	1400	2.5	21	31251001
V25 100W	1050 x 235 x 310	9*	240V - 1ph	0.65	56/52	8	1250	2.5	23	31251002
V25 100E	1050 x 235 x 310	4.5/9	400V - 3ph	13.5	57/53	9	1400	2.5	25	31251003
V25 150A	1570 x 235 x 310	n/a	240V - 1ph	0.65	58/54	9	2300	2.5	27	31251501
V25 150W	1570 x 235 x 310	13.5*	240V - 1ph	0.65	57/53	8	2100	2.5	30	31251502
V25 150E	1570 x 235 x 310	6.75/13.5	400V - 3ph	20	58/54	9	2300	2.5	31	31251503
V25 200A	2050 x 235 x 310	n/a	240V - 1ph	0.9	58/54	9	2800	2.5	38	31252001
V25 200W	2050 x 235 x 310	18*	240V - 1ph	0.9	57/53	8	2500	2.5	42	31252002
V25 200E	2050 x 235 x 310	9\18	400V - 3ph	27	58/54	9	2800	2.5	46	31252003
V25 250A	2620 x 235 x 310	n/a	240V - 1ph	0.13	60/56	9	3700	2.5	48	31252501
V25 250W	2620 x 235 x 310	22.5*	240V - 1ph	22.5*	59/55	8	3350	2.5	54	31252502
V25 250E	2620 x 235 x 310	11.5/22.5	400V - 3ph	33.5	60/56	9	3700	2.5	56	31252503
V35 100A	1100 x 300 x 390	n/a	240V-1ph	1.35	60/57	12	2400	3.5	30	31351001
V35 100W	1100 x 300 x 390	13*	240V-1ph	1.35	59/56	11	2250	3.5	32	31351002
V35 100E	1100 x 300 x 390	6/12	400V-3ph	18	60/57	12	2400	3.5	34	31351003
V35 150A	1600 x 300 x 390	n/a	240V-1ph	1.9	61/58	12	3600	3.5	40	31351501
V35 150W	1600 x 300 x 390	20*	240V-1ph	1.9	60/57	11	3450	3.5	43	31351502
V35 150E	1600 x 300 x 390	9/18	400V-3ph	30	61/58	12	3600	3.5	46	31351503
V35 200A	2200 x 300 x 390	n/a	240V-1ph	2.7	61/58	12	4800	3.5	52	31352001
V35 200W	2200 x 300 x 390	26*	240V-1ph	2.7	60/57	11	4600	3.5	56	31352002
V35 200E	2200 x 300 x 390	12/24	400V-3ph	36	61/58	12	4800	3.5	60	31352003
V35 250A	2700 x 330 x 390	n/a	240V-1ph	3.25	63/60	12	6000	3.5	70	31352501
V35 250W	2700 x 330 x 390	33*	240V-1ph	3.25	62/59	11	5700	3.5	75	31352502
V35 250E	2700 x 330 x 390	15/30	400V-3ph	48	63/60	12	6000	3.5	80	31352503
V45 100A	1100 x 330 x 450	n/a	240V - 1ph	1.9	66/57	14	2900	4.5	38	31451001
V45 100W	1100 x 330 x 450	16*	240V - 1ph	1.9	65/56	13.5	2800	4.5	40	31451002
V45 100E	1100 x 330 x 450	7.5/15	400V - 3ph	24	66/57	14	2900	4.5	42	31451003
V45 150A	1600 x 330 x 450	n/a	240V - 1ph	2	67/58	14	4000	4.5	48	31451501
V45 150W	1600 x 330 x 450	24*	240V - 1ph	2	66/57	13.5	3900	4.5	51	31451502
V45 150E	1600 x 330 x 450	11/22	400V - 3ph	36	67/58	14	4000	4.5	54	31451503
V45 200A	2200 x 330 x 450	n/a	240V - 1ph	3.8	67/58	14	5800	4.5	76	31452001
V45 200W	2200 x 330 x 450	32*	240V - 1ph	3.8	66/57	13.5	5600	4.5	80	31462002
V45 200E	2200 x 330 x 450	15/30	400V - 3ph	48	67/58	14	5800	4.5	84	31462003
V45 250A	2700 x 330 x 450	n/a	240V - 1ph	3.9	69/60	14	7500	4.5	86	31462501
V45 250W	2700 x 330 x 450	40*	240V - 1ph	3.9	68/59	13.5	7400	4.5	91	31462502
V45 250E	2700 x 330 x 450	18.5/27	400V - 3ph	60	69/60	14	7500	4.5	96	31462503

* LPHW 80/60 C ve 18 C indoor temperature ** For each phases (A) *** Measured 3 mt away from the product

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E - CB - E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014



H60/V60 Series Industrial Air Curtains



A range of air curtains designed for industrial applications and areas like factories and distribution centers where the highest performance is required to protect open door. With highly durable components offering long life and maintenance free operation, these units can be specified with confidence and trouble free long service in mind.

Havak H60/V60 models are specially designed with high capacities for industrial applications such as warehouses, factories, distribution and transfer centers with high performance requirements. These units provide covering process area's comfort conditions and reducing operation costs. These units have long operating life with reliable and low maintenance requirements.

- Super high output airstream for the largest doors up to 5-7 metres.
- 1m, 1.5 m and 2 m units can be linked together as a complete air curtain system.
- Electrical heated, water heated or ambient versions for all lengths.
- Adjustable air outlets.
- High capacity centrifugal blowers for large air movement.
- Control box provides 3 fan speed (Standart).
- Electronic control with door switch (Optional).

Model	Dimensions L x H x W (mm)	Heat output (kW)	Electrical supply	Supply rating (A)**	Sound level dB(A)***	Max. air speed (m/s)	Max airflow (m ³ /h)	Max mounting height (m)	Weight (Kg)	Code
H60 100A	1100x550x680	n/a	240-1ph	9	60	18	6400	5 – 7	60	30601001
H60 100W	1100x550x680	33,7*	240-1ph	9	60	18	6200	5 – 7	70	30601002
H60 100E	1100x550x680	32	400-3ph	30	59	18	6400	5 – 7	80	30601003
H60 150A	1510x550x680	n/a	240-1ph	13.5	62	18	9600	5 – 7	90	30601501
H60 150W	1510x550x680	54,4*	240-1ph	13.5	62	18	9400	5 – 7	105	30601502
H60 150E	1510x550x680	52	400-3ph	42	61	18	9600	5 – 7	120	30601503
H60 200A	2200x550x680	n/a	240-1ph	18	64	18	12800	5 – 7	120	30602001
H60 200W	2200x550x680	68,7*	240-1ph	18	64	18	12600	5 – 7	150	30602002
H60 200E	2200x550x680	68	400-3ph	60	63	18	12800	5 – 7	180	30602003
V60 100A	1100x550x680	n/a	240-1ph	9	60	18	6400	5 – 7	60	31601001
V60 100W	1100x550x680	33,7*	240-1ph	9	60	18	6200	5 – 7	70	31601002
V60 100E	1100x550x680	32	400-3ph	30	59	18	6400	5 – 7	80	31601003
V60 150A	1510x550x680	n/a	240-1ph	13.5	62	18	9600	5 – 7	90	31601501
V60 150W	1510x550x680	54,4*	240-1ph	13.5	62	18	9400	5 – 7	105	31601502
V60 150E	1510x550x680	52	400-3ph	42	61	18	9600	5 – 7	120	31601503
V60 200A	2200x550x680	n/a	240-1ph	18	64	18	12800	5 – 7	120	31602001
V60 200W	2200x550x680	68,7*	240-1ph	18	64	18	12600	5 – 7	150	31602002
V60 200E	2200x550x680	68	400-3ph	60	63	18	12800	5 – 7	180	31602003

* LPHW 80/ 60 C and 20° C indoor temperature **For each phase (A) ***Measured 3 meters from the product

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E - CB - E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014

CB-E CBA-W/A



E - CB - E



CB BMS



RDH Series Revolving Door Air Curtain



These units are specially designed air curtains for revolving and round type doors. Unit's blowing duct is specially produced for revolving door's dimensions, to integrate the unit over door.

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Model	Heat output (kW)-	Supply rating**	Sound Level dB(A)***	Length (mm)	Max airflow (m ³ /h)	Max mounting height (m)	Weight (Kg)	Code
RDH 9A	n/a	3	43/61	1000	2000	3	80	30630911
RDH 9W	9*	3	42/60	1000	1950	3	85	30630912
RDH 9E	3.6.2009	14	43/61	1000	2000	3	90	30630913
RDH 12A	n/a	4	47/63	1000	2600	3	100	30631211
RDH 12W	12*	4	46/62	1000	2200	3	105	30631212
RDH 12E	4.8.2012	22	47/63	1000	2600	3	110	30631213
RDH 18A	n/a	6	47/64	1500	3700	3	150	30631811
RDH 18W	18*	6	46/63	1500	3100	3	155	30631812
RDH 18E	6.12.2018	32	47/64	1500	3700	3	160	30631813
RDH 24A	n/a	8	48/65	2000	5200	3	200	30632411
RDH 24W	24*	8	47/64	2000	4400	3	210	30632412
RDH 24E	12/18/24	43	48/65	2000	5200	3	220	30632413
RDH 30A	n/a	10	48/66	2500	6300	3	220	30633011
RDH 30W	30*	10	47/65	2500	5300	3	230	30633012
RDH 30E	10/20/30	54	48/66	2500	6300	3	240	30633013

* LPHW 80/ 60 C and 20° C indoor temperature ** For each phase (A) *** Measured 3 meters from the product

Accessories

Type	Description	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated unit	30300006
LK - W/A	Modular linking kit for ambient/hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E - CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	303000013
CB-BMS-W	Water heated air curtain smart control system	303000014

CB-E CBA-W/A



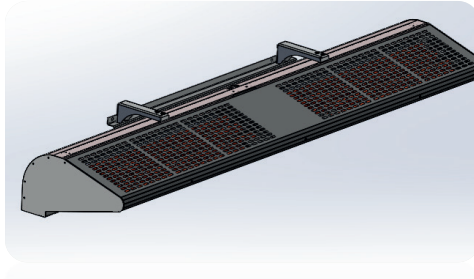
E - CB - E



CB BMS



CL25 Models Air Curtains



- High output air stream for entrances up to 2.5 meter height.
- Electrical heated, water heated or ambient models are available.
- Modular design for each door lengths.
- Flexible connection and easy mounting.
- Adjustable air flow direction
- Independent control over fan speed and heat output.
- Automatic cut of against over heating. (High limit thermostat)
- Aluminum cross flow fans.
- Ni Cr tube resistance to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- Various control systems and color options due to the customer demands.
- 2 years warranty.

Model	Dimensions L x H x W (mm)	Heating Output (kW)	Electrical supply	Supply Rating** A	Sound Level (dB(A))***	Max. Air Speed (m/s)	Max. Air Flow (m³/h)	Max. Mounting Height (m)****	Weight (Kg)	Code
CL25 100A	1090x200x360	n/a	240V-1ph	1	60/58	8,5	1550	2,5	18	30211001
CL25 100W	1090x200x360	9*	240V-1ph	1	61/58	8	1400	2,5	21	30211002
CL25 100E	1090x200x360	4,5/9	400V - 3ph	13,5	62/61	7,5	1450	2,5	22	30211003
CL25 150A	1600x200x360	n/a	240V-1ph	1,4	63/58	8,5	2300	2,5	26	30211501
CL25 150W	1600x200x360	13,5*	240V-1ph	1,4	63/59	8	2300	2,5	28	30211502
CL25 150E	1600x200x360	6,75/13,5	400V - 3ph	20	63/60	7,5	2300	2,5	30	30211503

*LPHW 80/60 °C and 18 °C indoor Temperature ** For each phase (A) ***Measured 3 meters from the product
****Min 3 m/s air speed on the ground

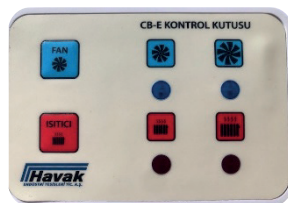
Accessories

	Decription	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated units	30300006
LK - W/A	Modular linking kit for ambient / hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E-CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	30300013
CB-BMS-W	Water heated air curtain smart control system	30300014

CB-BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
- Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
- BMS connection via Modbus

CB-E

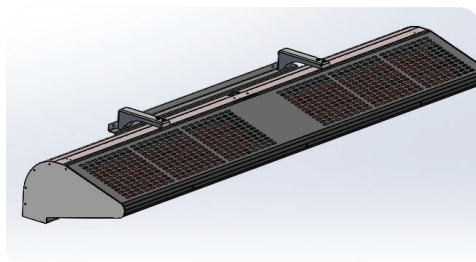


CBA-W/A

CB BMS



CL35 Models Air Curtains



- High output air stream for entrances up to 3.5 meter height.
- Electrical heated, water heated or ambient models are available.
- Modular design for each door lengths.
- Flexible connection and easy mounting.
- Adjustable air flow direction
- Independent control over fan speed and heat output.
- Automatic cut of against over heating. (High limit thermostat)
- Aluminum cross flow fans.
- Ni Cr tube resistance to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- Various control systems and color options due to the customer demands.
- 2 years warranty.

30

Model	Dimensions L x H x W (mm)	Heating Output (kW)	Electrical supply	Supply Rating** A	Sound Level (dbA)***	Max. Air Speed (m/s)	Max. Air Flow (m³/h)	Max. Mounting Height (m)****	Weight (Kg)	Code
CL35 100A	1090x210x385	n/a	240V-1ph	1	61/59	11	2700	3,5	22	30221001
CL35 100W	1090x210x385	13*	240V-1ph	1	62/60	10	2460	3,5	27	30221002
CL35 100E	1090x210x385	6/12	400V - 3ph	18	61/59	10,5	2600	3,5	29	30221003
CL35 150A	1600x210x385	n/a	240V-1ph	1,4	62/60	11	4100	3,5	31	30221501
CL35 150W	1600x210x385	20*	240V-1ph	1,4	63/61	10	3700	3,5	39	30221502
CL35 150E	1600x210x385	9/18	400V - 3ph	30	62/60	10,5	3900	3,5	41	30221503

*LPHW 80/60 °C and 18 °C indoor Temperature ** For each phase (A) ***Measured 3 meters from the product
****Min 3 m/s air speed on the ground

Accessories

Type	Decription	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated units	30300006
LK - W/A	Modular linking kit for ambient / hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E-CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	30300013
CB-BMS-W	Water heated air curtain smart control system	30300014

CB-BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
 - Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
 - BMS connection via Modbus

CB-E CBA-W/A



CB BMS



RDV Models Air Curtains



- High output air stream for entrances up to 2.5 meter height.
- Electrical heated, water heated or ambient models are available.
- Moduler design for each door lenghts.
- Flexible connection and easy mounting.
- Adjustable air flow direction
- Independent control over fan speed and heat output.
- Automatic cut of against over heating. (High limit thermostat)
- Aluminum cross flow fans.
- Ni Cr tube resistance to improve efficiency.
- Automatic cooling system.
- Corrosion proof steel housing with electrostatic powder paint coated.
- Thermally protected motor.
- Various control systems and color options due to the customer demands.
- 2 years warranty.

Model	Dimensions L x H x W (mm)	Heating Output (kW)	Electrical supply	Supply Rating ** A	Sound Level (dbA)***	Max. Air Speed (m/s)	Max. Air Flow (m³/h)	Max. Mounting Height (m)****	Weight (Kg)	Code
RDV-2200A	2250x285x480	n/a	240V-1ph	1,7	62/65	11	5000	2,5	60	30642201
RDV-2200W	2250x285x480	26*	240V-1ph	1,7	62/65	10	4550	2,5	72	30642202
RDV-2200E	2250x285x480	12/24	400V-3ph	36	62/65	10,5	4800	2,5	76	30642203

*LPHW 80/60 °C and 18 °C indoor Temperature ** For each phase (A) ***Measured 3 meters from the product **** Min 3 m/s air speed on the ground

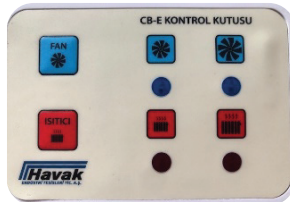
Accessories

Type	Decription	Code
CB-W/A	Control panel for ambient/hot water heated units	30300003
CB-E	Control panel for electrical heated unit	30300004
CBA-W/A	Recessed control panel for ambient/hot water heated units	30300005
CBA-E	Recessed control panel for electrical heated units	30300006
LK - W/A	Modular linking kit for ambient / hot water heated unit	30300008
LK-E	Modular linking kit for electrical heated unit	30300009
E-CB- E	Remote control for electrical heated unit with door switch option	30301000
CB-BMS	Electrical heated or ambient air curtain smart control system	30300013
CB-BMS-W	Water heated air curtain smart control system	30300014

CB-BMS

- Control box with led screen
- Indoor and outdoor temperature sensor
- Control with the signal from door switch
- Energy efficiency with comfort mode and economy mode
 - Automatically fan and heating level changing according to the difference between indoor and outdoor temperature
 - BMS connection via Modbus

CB-E



CBA-W/A

CB BMS



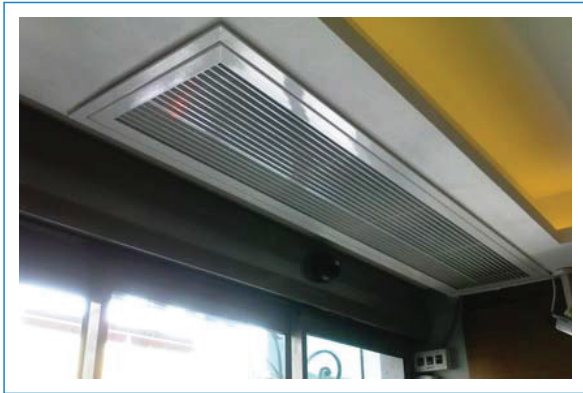
Application Photos



Four Seasons, H Series



Suryapı Sales Office, H Series, Bayrampasa - Istanbul



H Series Recessed Model



Hyundai Assan, IND Model, Izmit - Kocaeli



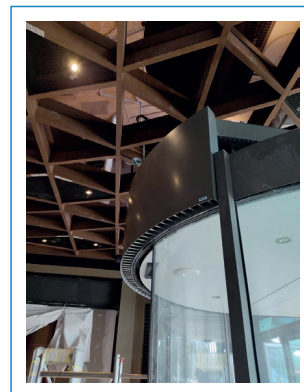
Acıbadem Hospital, PL3500 Model,
Fulya - Istanbul



ACCS Model



Holiday INN Airport, SF Model



RDH Model

HUMIDIFIERS

Humidification	60
Electrode Boiler Humidifiers	61-68
Gas to Steam Humidifiers	69
Resistance Heater Humidifiers	70-78
Steam Injection Tubes	79-83
Space Area Humidifiers	84
Steam To Steam Humidifiers	85-86
Atomisers	87-89
High Pressure Humidifiers	90-95
Ultrasonic Humidifiers	93-103
Evaporative Humidifiers	104-110

Humidification

Humidity is one of the most important factors affecting the indoor air quality of our environment. One of the other important factors affecting indoor air quality is ambient temperature. Since the ambient temperature can be easily measured, we can have a direct idea about the temperature. However, since there is no device that shows the humidity level in the environments, we cannot directly have any idea about the humidity of the environment. Even if the ambient temperature is very comfortable, such as 20-22 °C, we may feel uncomfortable because the humidity value is not among the comfort conditions. The felt temperature has a close relationship with the humidity value. Studies indicate that the humidity level should be between 40-60% for a comfortable environment.

The humidity of the environment can have very important results in terms of health as well as comfort. If the amount of moisture is less or more than it should be, it can cause different health problems. In order to eliminate the problems caused by excess or low humidity in the air, the requirements of the buildings on humidification and humidity should be known and actions should be taken according to these requirements.

One of the main causes of discomfort such as itching, dermatitis, cracking, hair and nail loss seen in the winter months is due to the fact that the humidity is below the standard values. Humidity has a special importance especially in allergic rhinitis and asthma diseases. Humidity is an important factor in animal shelters as well as humans.

Humidification is also of great importance in industry. Humidity is the most important factor in many sectors in terms of product quality. Textile, wood, paper, photography, cheese, confectionery, bakery products, leather businesses can be counted among these sectors.

Humidity is at a very important point in the protection of private archives in libraries and the protection of valuable documents in museums.

LE-D Comfort Control Model

Vapanet control systems are designed for an easy control of LE-D and LEP-D Humidifiers. Both an engineer or an user can read the performance data easily.



It incorporates an intelligent combination of feeding, boiling and draining to minimise wastage of water and energy. Water Level control technology gives a performance turndown of between 20% and 100% of designated unit performance.

Features

- 9 Different Capacity between 5 – 110 Kg/hr steam generation.
- Water Level Control 20-100 % (LE-D)
- Control with all analog DC signals and potentiometric signal
- Electric feeding options 200-400 volt, Phase+Notr or 2 Phase, 3 Phase
- Digital User Screen (Display)
- Communication ability with BMS Systems.
- Ability to send Running/Fault signals to BMS System.
- Ability to colligate up to 10 units and control as 1 unit.
- Foam Protection.
- Stainles steel drain tray
- Drain Pump
- Control feautres
- It can be controlled by a sensor which is installed in a humidifier duct or VAPAC installed in a room or any other signal which comes from outdoor.

Operating Limits	
Ambient Air Temperature	5 - 35 °C
Water Temperature	1° - 30°C
Duct Pressure	-600Pa to 2000Pa

Water Supply	
Conductivity	80 -1000 µS
Ph	7.3 to - 8.0
Silica	0
Water Pressure	1 to 8 Bar
Hardness	50 to 500ppm

Capacity, Electric Information, Dimensions and Weights

On/off and Proportional Control (%20-100)										
Code		40112105	40112109	40112118	40112130	40112145	40112155	40112160	40112190	40112110
Model		LE05D	LE09D	LE18D	LE30D	LE45D	LE55D	LE60D	LE90D	LE110D
Max. Steam Output	kg/h	1.5	1.8-9	3.6-18	6-30	9-45	11-55	12-60	18-90	22-110
Number of Cylinders		1	1	1	1	1	1	2	2	2
Diameter of Steam Outlet	mm	35	35	35	54	54	54	54	54	54
Voltage	V	200/440	380/440							
Electrical Supply		Faz+N ya da 2 Faz		3 Faz						
Max. Power Rating	kW	3.8	6.8	13.5	22.5	33.9	41.37	45	67.8	82.74
Full Load Current Range (per phase Amps)	Amps	19.5/9	35.5/16	40.5/18.5	68/31	54/46	132/114	71/62	108/92	132/114
Max. Fuse Rating Range (per phase Amps)	Amps	32/16	63/25	50/32	80/50	63	80	2x50	2x63	2x80
Height	mm	676	676	676	810	810	810	810	810	810
Width	mm	430	430	430	520	520	520	990	990	990
Depht	mm	320	320	320	415	415	415	415	415	415
Dry Weight	kg	34	36	39	40	40	40	74	75	75
Wet Weight	kg	48	50	66	67	67	67	127	128	128

Note : For LE55D and LE110D voltage should be over 400 V. Conductivity should be between 400-1000 µS.

LEP-D Comfort Control Model



The unique Pulsed Energy control provides infinitely variable steam output from 8% up to 100% of full capacity. Typically, the VapaNet Pulsed Energy (LEP) can be used in close tolerance applications..

Features

- 7 different capacity between 5-90 kg/h Pulsed energy control 8-100%
- Control with all analog DC signals and potentiometric signal
- Electric feeding options 200-400 volt, Phase+Notr or 2 Phase, 3 Phase Digital User
- Screen (Display)
- Communication ability with BMS Systems.
- Ability to send Running/Fault signals to BMS System
- Ability to colligate up to 10 units and control as 1 unit.
- Foam Protection.
- Stainles steel drain tray
- Drain Pump
- Control feauteres
- It can be controlled by a sensor which is installed in a humidifier duct or VAPAC installed in a room or any other signal which comes from outdoor.

Room Distribution Unit (RDU)

This is available for both LE-O and LEP-O models up to 45 Kg/hr and would be ideal for applications where AHU/ducts are unavailable. They can be supplied either fixed to the humidifier or loose for remote mounting directly into the room.

Optional Accessories

- Alfa Numeric Screen
- Connection cable

Operating Limits	
Ambient Air Temperature	5 - 35 °C
Water Temperature	1° - 30°C
Duct Pressure	-600Pa to 2000Pa

Water Supply	
Conductivity	80 -1000 μS
Ph	7.3 to - 8.0
Silica	0
Water Pressure	1 to 8 Bar
Hardness	50 to 500ppm

Capacity, Electric Information, Dimensions and Weights

Proportional Control (%8-100)								
Code		40112205	40112209	40112218	40112230	40112245	40112260	40112290
Model		LE05PD	LE09PD	LE18PD	LE30PD	LE45PD	LE60PD	LE90PD
Max. Steam Output	kg/h	0.45	0.72-9	1.5-18	2.4-30	3.6-45	4.8-60	7.2-90
Number of Cylinders		1	1	1	1	1	2	2
Diameter of Steam Outlet	mm	35	35	35	54	54	54	54
Voltage	V	200/440		380/440				
Electrical Supply		Faz+N ya da 2 Faz		3 Faz				
Max. Power Rating	kW	3.8	6.8	13.6	22.5	34	45	67.8
Full Load Current Range (per phase Amps)	Amps	23/11	41/19	47/22	78/36	62/53	82/72	124/106
Max. Fuse Rating Range (per phase Amps)	Amps	32/16	63/25	50/32	100/50	80	2x50	2x80
Height	mm	676	676	676	810	810	810	810
Width	mm	430	430	430	520	520	990	990
Depht	mm	320	320	320	415	415	415	415
Dry Weight	kg	34	36	39	40	40	74	75
Wet Weight	kg	48	50	66	67	67	127	128

Classic Serie - Proportional Control {LE-LC}

Classic serie, produce clean hygienic steam for humidifying the environment of people in offices and domestic dwellings. Environments required for the preservation and exhibition of works of art, manuscripts and items of antiquity. They are also used in production processes, laboratories and for the elimination of any static problems. To give greater flexibility where cost is an issue, Vapac have increased the range of basic units from 2 - 4Kg/h, to 5 - 55Kg/h. This has been achieved without compromise on quality or reliability, by offering units with an uncomplicated approach to design and without many of the standard extras that may not be required, while retaining those that are.

Standart Specifications

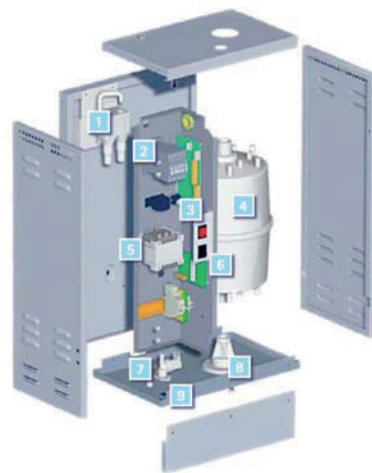
- Lift off front cover, for easy
- access for service and maintenance
- Robust construction
- Duct pressure up to 1000Pa
- Led Status
- Drain Pump
- Water Level Control

Optional Accessories

- High Static Duct Kit (2000Pa)
- Network card
- Room Distribution Unit (RDU)
- Run fault relay (Volt free signal)
- Network Upgrade

Water Supply	
Conductivity	80 -1000 μ S
Ph	7.3 to - 8.0
Silica	0
Water Pressure	1 to 8 Bar
Hardness	50 to 500ppm

Operating Limits	
Ambient Air Temperature	5 - 35 $^{\circ}$ C
Water Temperature	1 $^{\circ}$ - 30 $^{\circ}$ C
Duct Pressure	-600Pa to 1000Pa



1. Tundish
2. Contactor
3. Status Led
4. Cylinder
5. Transformer
6. On / Of drain
7. Solenoid valve
8. Drain pump
9. Drip tray

Capacity, Electric Information, Dimensions and Weights

On/off and Proportional Control (%20-100)							
Code		40111305	40111309	40111318	40111330	40111345	40111355
Model		LE05LC	LE09LC	LE18LC	LE30LC	LE45LC	LE55LC
Max. Steam Output	kg/h	1-5	1.8-9	3.6-18	6-30	9-45	11-55
Number of Cylinders		1	1	1	1	1	1
Diameter of Steam Outlet	mm	35	35	35	54	54	54
Voltage	V	200/440	380/440				
Electrical Supply		Faz+N ya da 2 Faz	3 Faz				
Max. Power Rating	kW	3.7	6.8	13.5	22.5	33.8	41.3
Full Load Current Range (per phase Amps)	Amps	9/ 19.5	16/35.5	18.5/40.5	31/68	46/99	66/57
Height	mm	674	674	674	811	811	811
Width	mm	430	430	430	521	521	521
Depht	mm	280	280	280	375	375	375
Dry Weight	kg	34	36	39	40	45	45
Wet Weight	kg	48	50	66	66	72	72

Steam Room Type

Vapac steam room generator are designed for especially for steam rooms



Features

- Digital display for temperature adjustment.
- On/off switch for room light
- Voltage-free control to lock the main pump
- Cylinder warning light
- Low voltage control circuit - 24 VAC
- Ouderless Steam
- Fully automatic operation
- Maintainability

Capacity, Electric Information, Dimensions and Weights

Code	40111518	40111530	40111545	40111555
Model	VS18D	VS30D	VS45D	VS55D
Max. amount of steam (kg/h)	18	30	45	55
Max. electric power (kW)	13,35	22,25	33,54	41,07
Voltage (V)	415	415	415	415
Height (mm)	674	811	811	811
Width (mm)	430	521	521	521
Depth (mm)	280	376	376	376
Weight dry (kg)	39	40	45	45
Weight wet (kg)	65,5	66,5	72	72

Room Distribution Unit (RDU)



The room distribution unit (RDU) can be used to enable the humidifier devices to be used independently without being connected to the air ducts. RDU is mounted on the device and distributes the produced steam to the local within the fans of RDU .

RDU Model	RDU-Mini	RDU-5	RDU-9	RDU-18	RDU-30	RDU-45
Code	40111404	40111405	40111409	40111418	40111430	40111445
Height	183	205	205	205	205	230
Width	325	430	430	430	602	842
Depht	230	265	265	265	360	360
Weight	3.6	6	10	12	14	16

VapaLite

Simple humidification system for light commercial applications



Low Voltage Control Circuit

Vapalite internal control circuit is operated at 24 Volt (AC)

On/off Humidistat Control

Vapalite can be operated On/Off using wall or duck mounted humidistat or by the signals 0.5V, 0-10 V, 2-10V, 1-15V, 0-20V, 4-20 mA DC sent.

Steam Distribution

A steam distribution nozzle is included for installation into the duct work system together with 1.5m both steam hose (22mm diameter) and condensate hose (6mm diameter). Stainless steel, steam distribution pipes are also available with in duct lengths 200,300 and 400mm.

Room Distribution Unit

Where a Vapalite is to be used for free discharge and without a ducted air distribution system, a Room Distribution Unit (RDU) is available.

The RDU is mounted directly on top of the Vapalite and replaces the steam hose and duct steam distribution pipes. A small fan with in the RDU blows steam in to the room.

Water and Drain

The Vapalite includes a built-in fill-cap that provides a 25mm air-gap in the water feed-line to prevent back feeding or contamination of the feed water supply. The fill-cup includes a safety overflow circuit.

Casing

The casing is manufactured from galvanized steel. The electrical section is fully enclosed. Access to the steam production area is via a locable cover. The electrical section slides out for easy front access.

Features

- 4kg1h Capacity
- Powerful VapaNet operating system
- Easy to use
- Ideal for light commercial applications
- Pump drainage
- Disposable and cleanable cylinders manufactured from recyclable materials.

Capacity, Electric Information, Dimensions and Weights

Code		40101404
VapaLite Model		MV4
Height	mm	500
Width	mm	325
Depth	mm	230
Weight	kg	16
Capacity	kg/h	2-4
Maks.capacity	kg/h	1
AC Power Supply	kW	3.0
Electrical supply		1 phase
Electrical supply	Volts	220-240
Full load current	Amps	15.0 - 13.0
Fuse rating	Amps	20 - 20
Steam nozzle no.		1
RDU Height	mm	183
RDU weight	kg	3.6

Water Supply	
Conductivity	80 -1000 µS
Ph	7.3 to - 8.0
Silica	0
Water Pressure	0.3 to 8 Bar
Hardness	50 to 500ppm

Operating Limits	
Ambient Air Temperature	1 - 35 °C
Water Temperature	1° - 35°C
Duct Pressure	50 Pa

Water and drainage connections	
Water connection	3/4" BSP
Drainage outlet	35 mm OD

Drain trap underneath projects making overall height 565 mm.

Spare Cylinder and Accessories



Standart cylinder



cleanable cylinder



Steam Hose



Steam Diffuser



Reversed Steam Diffuser



Condansate Seperator

Model	Standart Cylinder	Code	Cleanable Cylinder	Code
LE05D LE05LC	LE05PD	D1-2N235	40101910	C1-2N235 40101920
LEC5		D1-N235	40101911	C1-N235 40101921
LE09D LE09LC	LE09PD LEC09	D2N235	40101912	C2N235 40101922
LE18D LE18LC	LE18PD LEC18	D3N335	40101913	C3N335 40101923
LE30D LE30LC LEC30 LE30PD	LE60D (2 pcs) LE60PD (2 pcs)	D4H355	40101914	C4H355 40101924
LE45D LE45LC LEC45 LE45PD LE55D	LE55D LE90D (2 pcs) LE90PD (2 pcs) LE110D (2 pcs)	D4H655	40101915	C4H655 C4SS655* 40101925 40101925-S
PV60 WL60	PVP60 PE60	CD-5H-6WB	40101916	- -

* With stainless steel electrodes

Steam Hose	Ø 22 mm Ø 35 mm Ø 54 mm	40101932 40101930 40101931		
Steam Diffuser	Ø 35 mm - 300 mm 450 mm 600 mm 750 mm 900 mm 1050 mm	40101940 40101941 40101942 40101943 40101944 40101945	Reversed	40101950 40101951 40101952 40101953 40101954 40101955
Condensate Seperator	Ø 54 mm - 650 mm 900 mm 1400 mm	40101946 40101947 40101948		40101956 40101957 40101958
	Ø 35 mm Ø 54 mm	40101960 40101961		
Hygrostat				
Duct Mounted	FVKIT-108	40101980		
Room Mounted	FVKIT-107	40101981		

XTP- Electrode Boiler Humidifier



XTP Series electrode steam humidifiers from DriSteem provide humidification for a wide range of buildings, including health care, commercial, industrial, and government facilities. Easy installation and minimal maintenance make XT Series one of the most affordable humidification systems to purchase and install.

XTP series humidifier features

Each unit capacity is 2-130 kg / h and 4 units can be connected together to increase the capacity up to 520 kg / h.

Disperses steam into ductwork or open spaces.

Works with water conductivity from 125-1250 $\mu\text{S} / \text{cm}$.

Easy to replace steam cylinder

Compact in size to fit into small spaces with attractive cabinet for finished space applications.

Possibility for updating program and save datas with USB port.

Modbus and optional BACnet or Lontalk for inter-operability with multiple building automation systems.

Automatic drain and fill events for optimized humidifier performance based on water



Vapor - logic 4 controller

Capacity, Electric Specification, Dimensions and Weights

Model*	Max. Power (kW)	Max. Stream Capacity (kg/h)	Nominal current draw (Amper)**			Shipping weight (kg)	Max. operating weight (kg)	Dimensions (mm)			Code
			1 Phase		3 Phase			Width	Height	Depth	
			240 V	480 V							
XTP002	1.7	2	7	-	-	17	17	370	523	221	40121002
XTP003	3.3	5	14	7	4	17	17	370	523	221	40121003
XTP006	6.0	8	25	13	7	17	21	370	523	221	40121006
XTP010	10.0	14	-	-	12	23	36	450	612	300	40121010
XTP017	16.5	22	-	-	20	23	36	450	612	300	40121017
XTP025	25.0	34	-	-	30	29	52	504	650	340	40121025
XTP033	33.3	45	-	-	40	29	52	504	650	340	40121033
XTP042	41.7	57	-	-	50	29	52	504	650	340	40121042
XTP048	48	65	-	-	58	29	52	504	650	340	40121048
XTP050***	50.0	68	-	-	30	63	99	1005	650	340	40121050
XTP067***	66.7	90	-	-	40	63	99	1005	650	340	40121067
XTP083***	83.3	113	-	-	50	63	99	1005	650	340	40121083
XTP096***	95.7	130	-	-	2x58	63	99	1005	650	340	40121096
XTS002	1.7	2	7	-	-	17	17	370	523	221	40121102
XTS003	3.3	5	14	7	4	17	17	370	523	221	40121103
XTS006	6.0	8	25	13	7	17	21	370	523	221	40121106
XTS010	10.0	14	-	-	12	23	36	450	612	300	40121110
XTS017	16.5	22	-	-	20	23	36	450	612	300	40121117
XTS025	25.0	34	-	-	30	29	52	504	650	340	40121125
XTS033	33.3	45	-	-	40	29	52	504	650	340	40121133
XTS042	41.7	57	-	-	50	29	52	504	650	340	40121142
XTS048	47.8	65	-	-	58	29	52	504	650	340s	40121148

* XTP models controls with Vapor-Logic controller

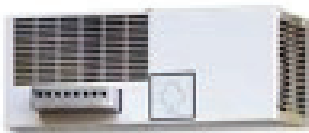
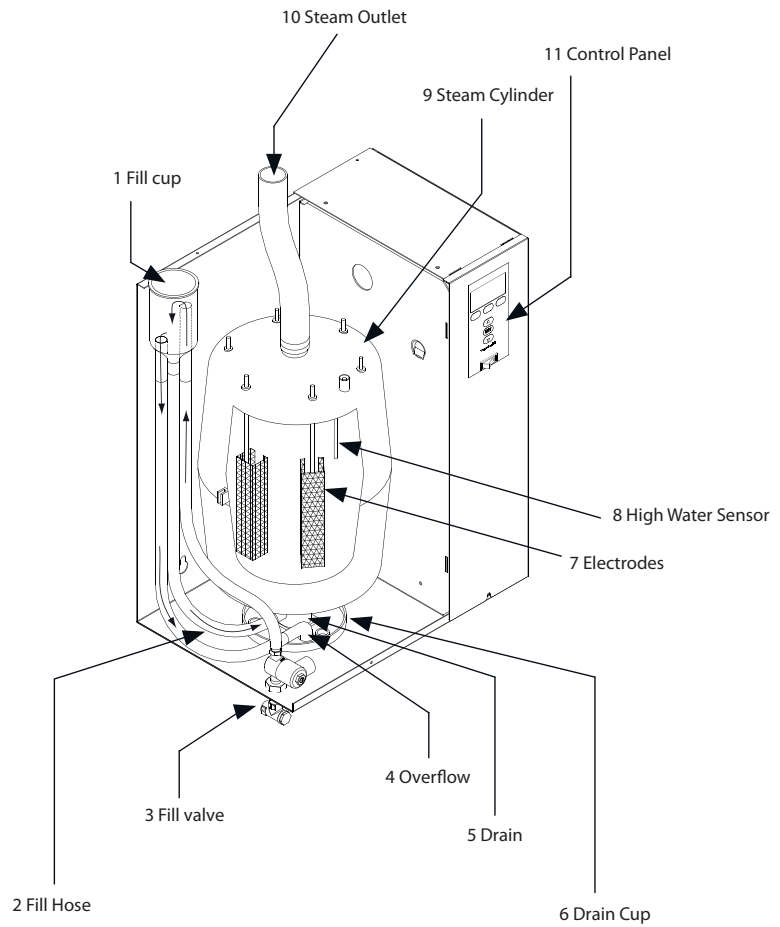
** For circuit protection requirements, see the XT Series Humidifier installation, operation and manual, contact with us

*** Model XTP only. These models have two steam cylinders and require independent service connections.

XTP-E



XTP Series Humidifier Parts



XT SERIES FAN PACK OR STEAM BLOWER

Designed for finished spaces
 Blowers mount on top of XT Series humidifiers or remotely
 Capacity up to 22.7 kg/ h

Space Distribution Unit Technical Specifications

Model	Max. Power (W)	Max. Stream Output (kg/h)	Current 115V, 50/60Hz	Weight (kg)	Max. Operating Weight (kg/h)	Dimensions (mm)			Code
						Width	Height	Depth	
SDU-006E2	17	9.1	0.16 A	5.7	4.3	373	152	198	40120006
SDU-017E2	23	22.7	0.23 A	12.5	11.3	455	350	279	40120017

GTS-LX Humidifiers



GTS-LX Features

- Ten models to fit application exact demand, between 50 600 lbs/hr (23 – 272 kg/h)
- Ultra-low NOx and high efficiency in one product
- Extended capacity range through linkage of up to 8 units under one controller
- High-efficiency GTS humidifier incorporates universal water control for use with any water type
- GTS humidifiers are fully interoperable with building automation systems using BACnet, Modbus, or optional LonTalk systems
- Smart drain technology adjusts drain intervals automatically based on water quality
- Space saving design, for ease of installation and placement flexibility
- Accurate, responsive, adjustable RH control due to full burner modulation and PID control
- Easy firmware updates through the USB port on the Vapor-logic control board
- Extended capacity range through linkage of up to 8 units under one controller
- Automatically cools discharged hot water to 140°F (60 °C) to meet governing code safety requirements
- Thermal (combustion) efficiency: 94% Higher Heating Value (HHV) of fuel 103% Lower Heating Value (LHV) of fuel
- Control to ±3% RH
- End-of-season auto drain minimizes microbial growth
- Automated drain and flush removes precipitated minerals from evaporating chamber

CAPACITIES

GTS Model	Maximum steam capacity		Input		Water usage of maximum capacity	Tank volume	GTS humidifier LX series*		Turndown		Full load amps*	
	kg/h	Kw	m3/h	litres/hr			litres	Operating weight	Shipping (empty) weight**	ratio	lbs/hr	120V 60Hz
					kg	kg						
LX-50	23	17,8	1,7	23	53	138	85	5:1	10	2	1,5	
LX-75	34	26,8	2,5	34	53	138	85	6:1	12,5	2	1,5	
LX-100	45	35,8	3,4	45	49	136	87	8:1	12,5	2	1,5	
LX-150	68	53,6	5,1	68	95	204	110	6:1	25	2,5	2	
LX-200	91	71,5	6,8	91	159	320	161	6,7:1	30	4	2,5	
LX-250	113	89,4	8,5	114	159	320	161	8,3:1	30	4	2,5	
LX-300	136	105,5	10	136	155	321	166	10:1	30	4	2,5	
LX-400	181	143	13,5	182	303	571	269	13,3:1	30	6,5	3,5	
LX-500	227	178,8	16,9	227	303	571	269	16,7:1	30	6,5	3,5	
LX-600	272	211	20	273	295	574	279	20:1	30	6,5	3,5	

* For outdoor enclosures, see the Installation, Operation and Maintenance Manual

** Add approximately 60-90 lbs (27-41 kg) for packaging material.

Resistance boilered Humidifiers



RTS humidifier incorporates universal water control for use with any water type - tap, softened, or RO/DI

Control \pm %1RH

Capacity from 2.7 to 147 kg/h, link up to 8 units for capacity up to 1176 kg/h

Optional mini-drain operation mode allows for 24/7 continuous steam output

Comprehensive control with Vapor-logic touchscreen controller

Integrated drain water tempering automatically cools discharged hot water to 60 °C

Interoperability allows communication with building automation systems via

Modbus® or BACnet® or with optional LonTalk protocols.

smart drain technology adjusts drain intervals automatically based on water quality.

Draining removes precipitated minerals from the tank.

Removable front covers with quarter-turn latches allow easy one-sided access to the tank and electrical connections

SDU-I-RX Space Distribution Unit

SDU Model	Maximum capacity kg/h	Shipping weight kg	Amps at 120V 50/60 Hz	m3/h
SDU-I RX	13,6	30,4	3,2	1296
SDU -E-RX (SM)	31,8	27,7	2,07	936
SDU-E-RX (MD)	45,5	31,7	2,07	936

SDU-I RX is available for all RX-XX-1 models up to 13,6kg/h

SDU -E-RX (SM) is available for all RX-XX-1 models

SDU-E-RX (MD) is available for all RX-XX-2 models up to 45,9 kg/h

RX-XX-3 and RX-XX-4 models can not be used with an SDU

SDU's ship separate from the RX unit

RTS Resistance Boiled Humidifier

RTS model							1 Phase Code	3 Phase Code
	Maximum Steam Capacity	Power	Total Maximum Current Draw	Maximum Steam Capacity	Power	Total Maximum Current Draw		
	kg/hr	kW	amps	kg/hr	kW	amps		
RX-6-1	2,5	2	8	-	-	-	40151002	-
RX-12-1	5	4	16	5,4	4	8,7	40151005	40153005
RX-18-1	7,5	6	24	8,2	6	8,7	40151007	40153008
RX-24-1	10	8	31,9	10,9	8	13	40151010	40153011
RX-30-1	12,5	10	39,9	13,6	10	17,3	40151012	40153014
RX-36-1	15	12	47,92	16,3	10	17,3	40151015	40153016
RX-42-1	-	-	-	19	14	21,7	-	40153019
RX-48-1	-	-	-	21,8	16	26	-	40153022
RX-63-1	-	-	-	28,6	21	32,5	-	40153029
RX-75-1	-	-	-	34	25	39	-	40153034
RX-48-2	20	16	63,9	-	-	-	40151020	-
RX-63-2	30	21	95,8	-	-	-	40151030	-
RX-90-2	-	-	-	40,8	30	52	-	40150341
RX-102-2	-	-	-	46,3	34	52	-	40150346
RX-126-2	-	-	-	57,1	42	65	-	40150357
RX-144-2	-	-	-	65,3	48	77,9	-	40150365
RX-162-2	-	-	-	73,5	54	77,9	-	40150373
RX-75-3	33,7	25	107,8	-	-	-	40151033	-
RX-90-3	41,2	30	131,8	-	-	-	40151041	-
RX-102-3	45	34	143,8	-	-	-	40151045	-
RX-189-3	-	-	-	85,7	63	97,4	-	40153085
RX-216-3	-	-	-	98	72	116,9	-	40153098
RX-243-3	-	-	-	110,2	81	116,9	-	40153110
RX-126-4	55	42	175,7	-	-	-	40151055	-
RX-144-4	60	48	191,7	-	-	-	40151060	-
RX-264-4	-	-	-	119,7	88	155,9	-	40153120
RX-288-4	-	-	-	130,6	96	155,9	-	40153130
RX-324-4	-	-	-	146,9	108	155,9	-	40153147
All RTS humidifier models operate at 50/Hz.								
For wire sizing, the highest leg draw is shown due to current imbalance.								

Resistance Heater Humidifier (LR-D / LRP-D)



Vapanet Control System

The LR and LRP incorporates the highest technology software and hardware, so that first class performance is ensured regardless of system demands or water quality. This technology allows the LR and LRP to be fed not only with demineralised water, but also with softened or normal tap water. The VapaNet controls the mineral concentration of the water and keeps it under close control at all times..

Room Distribution Unit

This is available for both LR and LRP models up to 30 Kg/hr and would be ideal for applications where AHU/ducts are unavailable. They can be supplied either fixed to the humidifier or loose for remote mounting directly into the room..

Low Maintenance

The robust stainless steel cylinder construction means that you can continue using the same cylinder for thousands of hours of operation. In addition, the use of demineralised water not only offers almost 'maintenance-free' cylinders, but also maintains steam production, since the only disturbances come in the form of cold water feeds.

VRO6000 Reverse Osmosis Unit

Using demineralised water could produce nominally two years operation without the need for anything more than a visual inspection, representing a much cheaper, long-term option as maintenance costs are comparatively low.

Features

- 7 Capacity
7-60 kg/steam generation
- Close control and Comfort control Versions
On/Off Control (LR-D)
Water Level Control 20-100% (LR-D)
Pulsed Energy Control 8-100% (LRP-D)

- Various Water Types

The unit can operate with demineralised, deionised, softened and potable raw mains water.

User Display

- Control Network
- Run and Alarm Interface
- Master/Slave Option

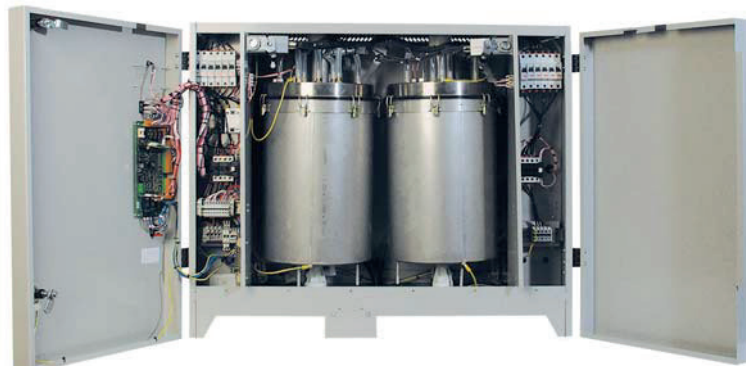
VapaNet allows for a maximum of 10 cylinders to communicate within a Master/Slave system with an interconnecting two-core cable.

- Stainless Steel Cylinder

The stainless steel cylinder incorporates a removable plastic liner, which makes it easy to clean and maintain..

- Stainless Steel Drain Tray
- Drain Pump
- Control Feature

The humidifier can be controlled directly from either a duct or room mounted sensor, supplied by Vapac or any other leading brand, or an external signal.



LR-D / LRP-D

Water Supply	
Conductivity	0 -1000 µS
Ph	7.3 to - 8.0
Silica	0
Water Pressure	1 to 8 Bar
Hardness	170 pmm max.

Operating Limits	
Ambient Air Temperature	5 - 35 °C
Water Temperature	1° - 30 °C
Duct Pressure	+2000 to -600 pa

Water Inlet and Drain Connections	
Water Inlet Connection	3/4" BSP
Drain Outlet	35 mm OD

Capacity, Electric Information, Dimensions and Weights

On/off proportional models		LR05D	LR10D	LR20D	LR30D	LR40D*	LR50D*	LR60D*
Code		40112711	40112712	40112713	40112714	40112715	40112716	40112717
		LR05PD	LR10PD	LR20PD	LR30PD	LR40PD*	LR50PD*	LR60PD*
Code		40112721	40112722	40112723	40112724	40112725	40112726	40112727
Max. Steam Output	kg/h	5	10	20	30	40	50	60
Voltage	V	200-250	200-440	200-440	200-440	200-440	200-440	200-440
Electrical Supply	faz	1+N	1+N veya 3 Ph	3 Ph	3 Ph	3 Ph	3 Ph	3 Ph
Max. Power Rating	kW	2.9/4.56	5.7/9.26	11.48/18.52	17.51/28.26	2X11.48 2X18.52	1x17.51/1x11.48 1x28.26/1x18.52	2x17.51 2x28.26
Full Load Current Range (per phase Amps)	A	14.6/18.2	28.7/12.2	33.1/24.3	50.6/37.1	2x33.1 2x24.3	1x50.6/1x33.1 1x37.1/1x24.3	2x50.6 2x37.1
Max. Fuse Rating Range (per phase Amps)	A	20 20	32 20	40 32	63 40	2x40 2x32	1x63 / 1x40 1x40 / 1x32	2x63 2x40
Number of Tank		1	1	1	1	2	2	2
Diameter of Steam Outlet	mm	35	35	54	54	54	54	54
Height	mm	810	810	810	810	810	810	810
Width	mm	520	520	520	520	990	990	990
Depht	mm	415	415	415	415	415	415	415
Dry Weight	kg	34	35.5	39	40	72.5	73.5	74.5
Wet Weight	kg	48	49.5	65.5	66.5	125.5	126.5	127.5

40 , 50 ve 60 kg. capacity models use 2 power supplies
See installation and operational manual for full electrical specification.

RDU-Room Distribution Unit

RDU dimensions		RDU 05 LR	RDU 10 LR	RDU 20 LR	RDU 30 LR
Height	mm	205	205	205	205
Width	mm	377	377	435	602
Depht	mm	360	360	360	360
Weight	kg	6	10	12	14



VLC VAPORSTREAM HUMIDIFIER



From providing comfort humidity to meeting the strictest clean-room requirements, the Vaporstream electric humidifier is an industrial-grade unit designed to meet the humidification demands of any building environment.

VLC Features

- Broad capacity range from 5.7 to 285 lbs/hr (2.6 to 129 kg/h), link up to 16 units for capacity up to 4560 lbs/hr (2068 kg/h)
- Control ability On/off proportional or SSR (Solid-state relay)
- Electronically monitored water level ensures safe and reliable operation
- Consistent and reliable control to $\pm 1\%$ RH
- Interoperability allows communication with building automation systems via Modbus or with optional BACnet or LonTalk protocols.
- End-of-season autodrain minimizes microbial growth

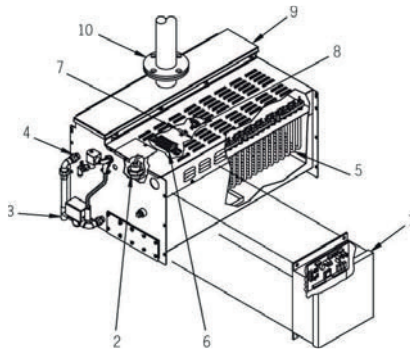
Easy Maintenance

- Softened water significantly reduces maintenance requirements.
- User-adjustable water skimmer skims off floating minerals
- Controller-operated drain and flush removes precipitated minerals from evaporating chamber
- Cleanout plate and removable cover provide inspection and service access

Additional Options

- 316 stainless steel construction
- Evaporating chamber insulation
- NEMA -4 control cabinet

Vaporstream Components



1. Vapor-Logic 4 Controller: Vapor-logic controls all humidifier functions and can connect to a building automation system via Modbus or optional BACnet or LonTalk.

2. Water Level Control: Tap/Softened water control water levels electronically using a three rod probe. Systems with the RO/DI water option control water levels using a float valve and low-water cutoff switch.

3. Drainage: Duration and frequency of draining are user adjustable. To avoid possible stagnant water and microbial growth, the humidifier automatically drains if there is no call for humidity after a user-defined time period (72-hour default).

4. Water skimmer/overflow port: In tap/softened water systems, the water skimmer reduces surface minerals in the evaporating chamber. Skimming occurs each time the humidifier fills. The skim time duration is user-adjustable. In systems with the RO/DI water option, skimming is not required; the skimmer port functions as an overflow port.

5. Heating elements: Low-watt-density Incoloy-sheathed heating elements ensure operation for many seasons. Constant expansion and contraction of heating elements sheds mineral scale. In the unlikely event of heater failure, heating elements can be removed easily.

6. Terminal strip: All control wiring connections at the humidifier can be made in this single location.

7. Temperature sensor: Mounted on the evaporating chamber, this sensor enables Over-temperature protection, freeze protection, preheating, allowing rapid response to a call for humidity.

8. Over temperature thermostat: This safety device shuts down the humidifier if it becomes too hot. This is one of three levels of safety protection that also includes the temperature sensor and the water level control system.

9. Service access: Access cover allows periodic inspection and servicing of the evaporating chamber

10. Steam Outlet: Steam generated in the humidifier rises through the steam outlet and travels to the dispersion assembly through vapor hose or piping.

VLC

Capacity and Electrical Specifications

Model	Quantity		Amper						Code
			230 V			3 Phase 400V**			
			kW	230V	Stream Capacity (kg/h)	(kW)	400V	Stream Capacity (kg/h)	
VLC 2-1	1	1	1.8	8	2.4	-	-	-	40131002
VLC 3-1	1	1	2.8	12	3.6	-	-	-	40131003
VLC 4-1	1	1	3.7	16	4.7	-	-	-	40131004
VLC 5-1	1	1	4.9	21.3	6.3	-	-	-	40131005
VLC 6-1	3	1	5.5	24	7.1	6	8.7	7.8	40131006
VLC 9-1	3	1	8.3	35.9	10.7	9.0	13	11.6	40131009
VLC 12-1	3	1	-	-	-	12	17.3	15.5	40131012
VLC 16-1	3	1	-	-	-	16	23.1	20.7	40131016
VLC 21-1	3	1	-	-	-	21	30.3	27.1	40131021
VLC 25-1	3	1	-	-	-	25	36.1	32.3	40131025
VLC 12-2	6	2	11.0	47.9	14.2	12	17.3	15.5	40132012
VLC 18-2	6	2	16.5	71.9	21.4	18.0	26	23.3	40132018
VLC 24-2	6	2	-	-	-	24	34.6	31	40132024
VLC 32-2	6	2	-	-	-	32	46.2	41.4	40132032
VLC 42-2	6	2	-	-	-	42	60.6	54.3	40132042
VLC 50-2	6	2	-	-	-	50	72.2	64.6	40132050
VLC 18-3	9	3	16.5	71.9	21.4	18.0	26	23.3	40133018
VLC 27-3	9	3	24.8	107.8	32.1	27	39	34.9	40133027
VLC 36-3	9	3	-	-	-	36	52.0	46.5	40133036
VLC 48-3	9	3	-	-	-	48	69.3	62.1	40133048
VLC 63-3	9	3	-	-	-	63	90.9	81.4	40133063
VLC 75-3	9	3	-	-	-	75	108.3	97	40133075
VLC 24-4	12	4	22.0	95.8	28.5	24	34.6	31	40134024
VLC 36-4	12	4	33.1	143.8	42.7	36	52.0	46.5	40134036
VLC 48-4	12	4	-	-	-	48	69.3	62.1	40134048
VLC 64-4	12	4	-	-	-	64	92.4	82.7	40134064
VLC 84-4	12	4	-	-	-	84	121.2	108.6	40134084
VLC 100-4	12	4	-	-	-	100	144.3	129.3	40134100

* Heater stages identifies the number of contactors

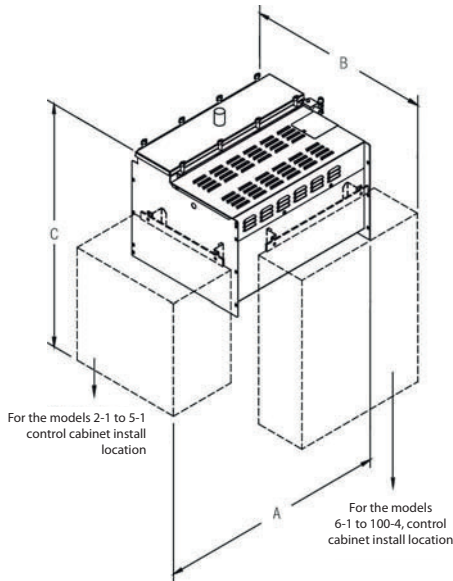
** Three-phase power supply connection. All heater loads are wired Delta

VLC

Vaporstream Control Cabinet Features

Vaporstream control cabinets are CE certified and mounted. Control cabinet options include :

- Factory mounting on humidifier
- Cabinet door interlock switch



The control cabinet can be mounted up to 50' (15 m) from the Vaporstream. The keypad can be mounted up to 500' (152 m) from the control cabinet. (Distances are based on wire/cable lengths.)

Model (kW - Stage)	Without control cabin dimensions		
	A (mm)	B (mm)	C (mm)
VLC 2-1,3-1,4-1,5-1	436	559	770
VLC 6-1,9-1,12-1,16-1,21-1,25-1	500	782	770
VLC 12-2,18-2,24-2,32-2,42-2,50-2	630	782	975
VLC 18-3,27-3,36-3,48-3,63-3-75-3	707	782	975
VLC 24-4,36-4,48-4,64-4,84-4,100-4	898	782	975

Model (kW - Stage)	With control cabin dimensions		
	A (mm)	B (mm)	C (mm)
VLC 2-1,3-1,4-1,5-1	374	559	480
VLC 6-1,9-1,12-1,16-1,21-1,25-1	326	760	480
VLC 12-2,18-2,24-2,32-2,42-2,50-2	517	760	480
VLC 18-3,27-3,36-3,48-3,63-3-75-3	707	760	480
VLC 24-4,36-4,48-4,64-4,84-4,100-4	898	760	480

HT Humidifier



The HT humidifier is a compact, cabinet-style unit compatible with all water types (tap, softened, deionized, reverse osmosis) and numerous dispersion options. Installation is a snap — just attach the frame to a supporting structure and connect electrical and water services. Available matching Space Distribution Units disperse steam with no visible vapor trail, making Humidi-tech ideal for use in finished spaces..

HT Features

- Capacity from 2.7 to 46 kg/h, link up to 16 units for capacity up to 740 kg/h
- Disperses steam through ductwork with dispersion tubes or panels, or directly into a room with a Space Distribution Unit (SDU) mounted remotely or on top of the HT
- On / off or proportional control ability.
- Control to $\pm 3\%$ RH
- Electronically monitored water level ensures safe and reliable operation
- End-of-season autodrain minimizes microbial growth
- Interoperability allows communication with building automation systems via Modbus or with optional BACnet or LonTalk protocols
- Softened water significantly reduces maintenance requirements.
- User-adjustable water skimmer skims off floating minerals
- Controller-operated drain and flush removes precipitated minerals from evaporating chamber

Capacity and Electrical Specification

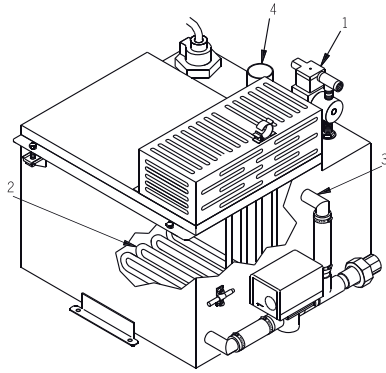
Model	Max. Electric Range (kW)	230V		3 Phase 230V		Shipping weight (kg)	Operating weight (kg)	Code
		Steam capacity (kg/h)	i Max (A)	Steam capacity (kg/h)	i Max (A)			
HT 2	2	2,5	8	2,7	—	37	44	40122002
HT 4	4	5	16	5,4	8,7*	37	44	40122004
HT 6	6	7,5	24	8,2	13,0*	41	56	40122006
HT 8	8	10	31,9	10,9	17,3*	41	56	40122008
HT 10	10	12,5	39,9	13,6	15,2*	43	64	40122010
HT 12	12	15	47,9	16,3	17,3	43	64	40122012
HT 14	14	—	—	17,5	20,2	43	64	40122014
HT 16	16	—	—	21,8	23,1	43	64	40122016
HT 21	21	—	—	28,6	30,3	44	70	40122021
HT 25	25	—	—	34	36,1	44	70	40122025
HT 30	30	—	—	40,9	43,3	47	72	40122030
HT 34	34	—	—	46,2	49,1	47	72	40122034

* For wire sizing the highest leg draw is shown due to current imbalance.

All humidifiers operate at 50/60Hz

SDU-E is available for all models If adding SDU add 5.5kg for SDU-E and 4 kg for SDU-I on weights

HT HUMIDIFIER



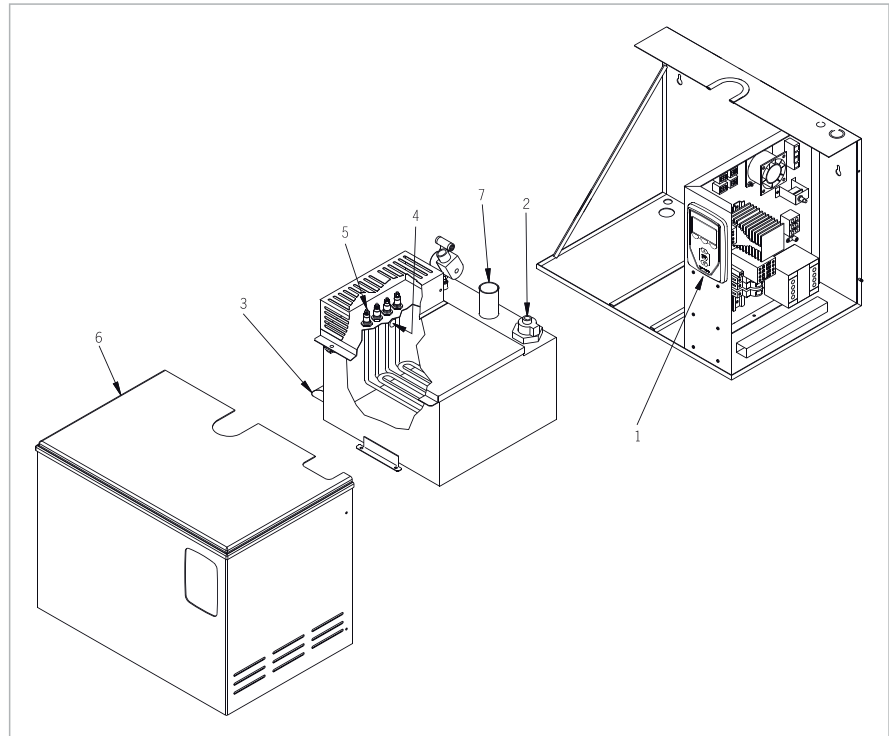
HT Principal of operation

1. When the system is first activated, the fill valve opens and the evaporating chamber fills with water to the operating level.

2. On a call for humidity, the heating elements are energized, causing the water to boil. The fill valve opens and closes as needed to maintain the operating water level.

During refill in tap/softened water systems, a portion of the surface water is skimmed off, carrying away precipitated minerals. DI/RO water systems (systems using deionized water or water that has been treated using reverse osmosis) do not require skimming.

Steam created in the evaporating chamber flows through vapor hose or piping to the dispersion assembly, where it is discharged into the airstream.



HT Components

1. Vapor-Logic 4 Controller: Vapor-logic4 controls all humidifier functions and can connect to a building automation system via Modbus or optional BACnet MS/TP or LonTalk

2. Water Level Control: Tap or softened water systems control water levels electronically using a three-rod probe. DI/RO water systems control water levels using a float valve and low-water cutoff switch.

3. Drain: Duration and frequency of draining are user adjustable. To avoid possible stagnant water and microbial growth, the humidifier automatically drains if there is no call for humidity after a userdefined time period (72-hour default).

4. Water skimmer/overflow port: In tap/softened water systems, the water skimmer reduces surface minerals in the evaporating chamber. Skimming occurs each time the humidifier fills. The skim time duration is useradjustable. DI/RO water systems do not require skimming. In DI/RO systems, the skimmer port functions as an overflow port.

5. Heating Element: Low-watt-density Incoloy-sheathed heating elements ensure operation for many seasons. Constant expansion and contraction of heating elements sheds mineral scale. In the unlikely event of heater failure, heating elements can be removed easily.

6. Removable cover: A removable cover allows easy access to the evaporating chamber, electrical connections, and drain.

7. Steam outlet: Steam generated in the humidifier rises through the steam outlet and travels to the dispersion assembly through vapor hose or piping.

8. Temperature sensor (not shown): Mounted on the evaporating chamber, this sensor enables: Over-temperature protection, Freeze protection, Preheating, allowing rapid response to a call for humidity

Steam Injection Humidifiers

Steam Injection humidifiers use steam from an external source, such as an in-house boiler or a district steam system. These stainless steel humidifiers consists of water/steam separator, proportional control valve and steam jacketed distribution tube made of stainless steel (Insulation in need). On the steam distribution pipe there are number of special designed nozzles (tubes) depending on capacity. According to this design of steam pipe condensate inside the steam not able to escape in the duct or AHU.

There are two types of steam injection humidifiers, Standart or Clean-Steam. Clean-Steam Humidifiers are useful for sensitive enviroments. Because of DI steam is so active all parts of humidifiers which contact steam are made from stainless steel.

Single Tube Humidifier

Single-tube humidifiers are preassembled and suitable for small-capacity applications where available non-wetting distance is not critical. Non-wetting distance is % 90 RH and approximetly 3-5 meter.



Capacity Values

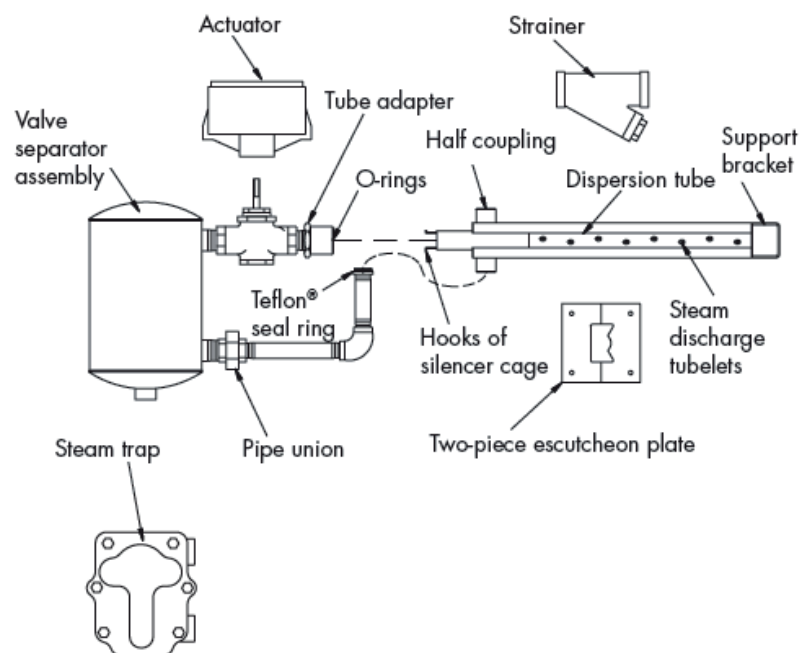
Model	Kv*	Stream Pressure (kPa)	Capacity (kg/h)	Code
5-60	1.3	103	22	40102105
6-70	3.8	103	61	40102106
7-70	8.1	103	112	40102107
8-80	23.8	103	273	40102108

* For different Kv factors and steam pressure capacity contact us

Standart Distribution Pipe Lenght

Tube Type	152	305	457	610	762	914	1219	1524	1829	2134	2438	2743	3048	3352	3658
60	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
70			X	X	X	X	X	X	X	X	X	X	X	X	X
80						X	X	X	X	X	X	X	X	X	X

Single-tube humidifier



Mini-Bank Humidifiers

Mini-Bank humidifiers are designed for small ducts where fast absorption is required.



Duct Height and Distribution Pipe Quantity

Duct Height (mm)	Distirbution Tube qty	Code
150 - 230	2	40102200
231 - 305	3	
306 - 380	4	
381 - 455	5	
456 - 530	6	
531 - 610	7	

Capacity Value

	Kvs	Stream Pressure													
		14	21	28	34	41	48	55	62	69	76	83	90	97	103
Mini-bank 5-50	0.09	0.7	0.9	1.0	1.1	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.0
	0.19	1.6	2.0	2.3	2.5	2.8	3.0	3.3	3.4	3.6	3.8	3.9	4.1	4.3	4.4
	0.3	3.0	3.6	4.1	4.6	5.1	5.5	5.9	6.3	6.6	6.9	7.2	7.5	7.8	8.1
	0.65	5.4	6.7	7.8	8.7	9.5	10.3	11.0	11.7	12.3	13.0	13.6	14.1	14.7	15.2
	1.1	9.4	11.6	13.4	15.1	16.5	17.9	19.1	20.3	21.4	22.5	23.5	24.4	25.4	26.3
	1.9	15.9	19.6	22.5	25.3	27.9	30.0	32.2	34.2	36.1	38.0				
	2.81	23.0	28.6	32.9	37.1										
	3.1	25.4	31.2	36.5											
	3.8	30.3	38.1												

Maxi-Bank Humidifiers

Maxibank humidifiers are used to avoid the problem of wetting in the duct due to capacity to ensure rapid absorption. With a large number of steam pipes distributed steam in to duct or AHU to absorb at a short distance. Non wetting distance is %90 RH and approximately 0.8-1 meter.

- Multi tube humidifiers (Multiple tube) are disassembled for on site mounting
- Maxi-Bank humidifiers are multi tube humidifiers. It is assembled in the factory and ready to delivered.

Standart Distribution Pipe Lengths

Tube Type	152	305	457	610	762	914	1219	1524	1829	2134	2438	2743	3048	3352	3658
60	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
70			X	X	X	X	X	X	X	X	X	X	X	X	X
80						X	X	X	X	X	X	X	X	X	X



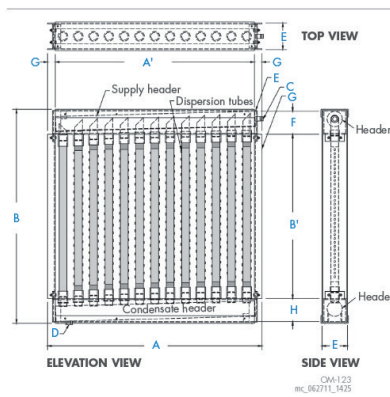
Capacity Values

Code	40102305	40102315	40102306	40102316	40102326	40102336	40102346	40102307	40102317	40102327	40102337	40102347	40102357	40102367	40102308	40102318	40102309	
Sep. dms	5"	5"	6"	6"	6"	6"	6"	7"	7"	7"	7"	7"	7"	7"	8"	8"	9"	
Valve. dms	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1/4"	1/4"	2"	
Kvs	0.3	0.65	1.1	1.9	2.81	3.1	3.8	4.3	4.8	5.4	6.5	8.2	8.7	10.4	17.3	24.2		
Steam Pressure	14	2.9	5.4	9.5	16.3	24.0	26.8	30.4	36.7	37.6	45.8	51.7	65.3	68.5	82.6	129.7	151.0	215.5
	21	3.6	6.8	11.8	20.0	29.5	32.7	38.1	45.4	47.6	56.2	64.9	82.1	83.9	100.7	152.4	213.6	304.8
	28	4.2	7.7	13.6	23.1	34.0	37.6	44.5	52.2	55.8	64.9	76.2	94.3	99.3	116.6	186.9	261.3	373.8
	34	4.7	8.6	15.0	25.9	38.1	42.2	50.3	58.5	63.0	72.1	85.7	106.1	110.7	132.9	215.5	302.1	431.4
	41	5.1	9.5	16.8	28.1	41.7	45.8	55.3	64.0	69.4	78.0	93.4	116.6	122.9	144.7	241.3	337.5	482.2
	48	5.5	10.4	18.1	30.4	44.9	49.9	59.9	68.9	74.8	84.4	101.6	126.6	133.8	158.3	264.0	369.7	528.4
	55	5.9	10.9	19.1	32.7	48.1	53.1	64.4	73.0	80.3	90.3	108.9	136.5	142.4	171.0	285.3	399.6	570.6
	62	6.3	11.8	20.4	34.5	50.8	56.2	68.5	77.6	85.3	95.7	115.2	145.2	152.4	182.8	304.8	426.8	610.1
	69	6.6	12.2	21.3	36.3	53.5	59.4	72.1	82.1	89.8	101.2	122.0	154.2	161.9	194.1	323.4	453.1	646.8
	76	6.9	13.2	22.7	38.1	56.2	62.1	75.8	86.2	94.3	106.6	128.4	161.9	170.6	204.6	341.1	477.6	682.2
	83	7.2	13.6	23.6	39.9	58.5	64.9	79.4	89.8	98.9	111.6	134.7	170.1	178.7	214.6	357.4	500.8	715.3
	90	7.5	14.1	24.5	41.3	61.2	67.6	82.6	93.9	103.0	116.1	140.6	177.4	186.9	224.1	373.8	523.0	747.1
	97	7.8	14.5	25.4	43.1	63.5	70.3	85.7	97.5	107.0	120.7	145.6	184.6	194.6	233.1	388.7	544.3	777.5
	103	8.1	15.0	26.3	44.5	65.8	72.6	88.9	101.2	111.1	125.2	151.5	191.9	201.9	242.2	403.7	564.7	806.9
	138	9.3	17.7	30.4	51.3	76.2	84.4	103.0	117.5	128.8	145.6	176.4	223.2	235.0	282.1	469.9	658.2	940.3
	172	10.4	19.5	34.0	57.6	85.3	94.3	115.7	132.0	145.2	163.7	198.2	250.8	264.0	317.1	528.4	739.8	1056.4
	207	11.4	21.3	37.2	63.0	93.4	103.9	127.0	145.2	159.7	180.1	217.7	275.8	290.3	348.4	580.6	812.8	1161.7
241	12.3	23.1	39.9	68.0	101.6	112.5	137.4	157.4	172.8	195.0	235.9	298.5	314.3	377.4	628.7	880.4	1257.4	
276	13.2	24.9	43.1	73.0	108.4	120.7	148.3	168.3	185.1	208.7	252.7	319.8	336.6	404.2	673.6	943.0	1346.7	
310	14.0	26.3	45.4	77.6	115.7	128.4	157.4	178.7	196.9	221.8	268.1	339.7	357.4	429.1	715.3	1001.5	1430.6	
345	14.7	27.7	48.1	81.6	122.0	135.2	166.0	188.7	207.7	264.1	283.0	358.3	377.4	453.1	754.8	1056.9	1509.6	

ULTRA-SORB Steam Distribution Panel



Ultra-Sorb steam distribution panel provides fast absorption without wetting problems at very small distances. Ultra-Sorb panels can be mounted in a duct or AHU. Can work with pressure or non-pressurized steam. Absorption distance is shorter than 90% RH, less than 0.5 meters. In order to minimize the energy loss due to the double transfer and water loss due to condensation, the distribution tubes can be isolated with PVDF as an option and can save more than 80% energy.

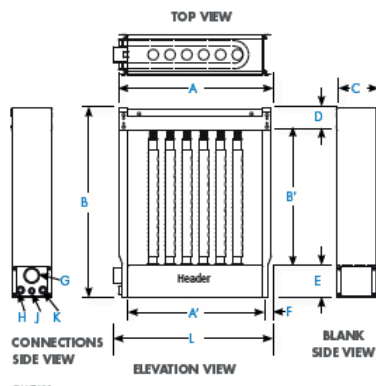


LH - Ultra Sorb Horizontal Type Dimensions

Dimension	Information		Code
A	Unit width	*530 - 3280 mm	40102510
A ¹	Face width	*305 - 3050 mm	
B	Unit height	*380 - 3050 mm	
B ¹	Face height	*305 - 3050 mm	
C	Steam inlet	According to steam pressure	
D	Condensate drain	3/4"	
E	Collector dimension	For Collector 75 mm and 100 mm E:127 mm For Collector 125 mm E:152 mm For Collector 150 mm E:178 mm	
F	Collector dimension	For Collector 75 mm F:114 mm For Collector 100 mm F:140 mm For Collector 125 mm F:165 mm For Collector 150 mm F:191 mm	

* Maksimum 25 mm artış ile

LV - Ultra Sorb Vertical Type Dimensions



Dimension	Information		Code
A	Unit width	*380 - 3735 mm	40102520
A ¹	Face width	*305 - 3660 mm	
B	Unit height	*530 - 3960 mm	
B ¹	Face height	*305 - 3660 mm	
C	Steam inlet	According to steam pressure	
D	Condensate drain	3/4"	
E	Collector dimension	For Collector 75 mm and 100 mm E:127 mm For Collector 125 mm E:152 mm For Collector 150 mm E:178 mm	
F	Collector dimension	For Collector 75 mm F:114 mm For Collector 100 mm F:140 mm For Collector 125 mm F:165 mm For Collector 150 mm F:191 mm	

* Maximum 25mm increase

RAPID-SORB Steam Distribution System



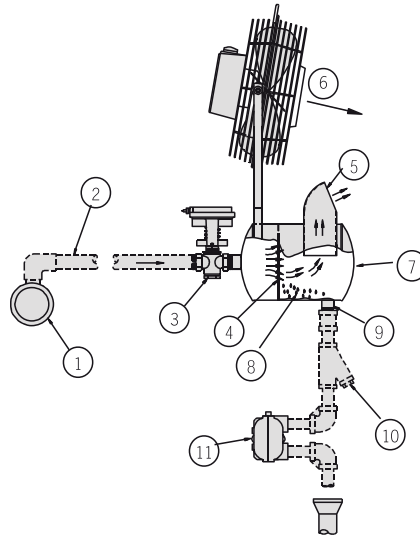
Short absorption distance and maximum efficiency are among the preferred methods in the desired non-pressurized steam applications. It is used to mix the steam produced by the multi-pipe and nozzles in the shortest distance within the duct or AHU. In order to minimize the energy loss due to the double transfer and water loss due to condensation, the distribution tubes can be isolated with PVDF as an option and can save more than 80% energy.

Capacity and Model

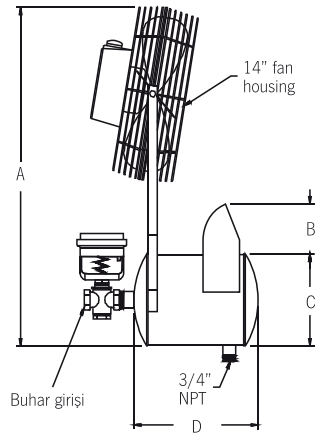
Capacity	Distribution Tube Model	Tube Model	Code
Up to 113 kg/h	DN50 Steam Tube Model	DN40 Tubes	40104011
		DN50 Tubes	40104012
between 114 - 227 kg/h	DN50 Steam Tube Model	DN40 Tubes	40104021
		DN50 Tubes	40104022
between 228 - 363 kg/h	DN80 Steam Tube Model	DN40 Tubes	40104031
		DN50 Tubes	40104032
between 364 - 590 kg/h	DN50 Steam Tube Model	DN40 Tubes	40104041
		DN50 Tubes	40104042
between 591 - 953 kg/h	DN50 Steam Tube Model	DN40 Tubes	40104051
		DN50 Tubes	40104052

Area Type Humidifier

The Area-type humidifier is designed for open spaces such as warehouses and manufacturing spaces that do not have a duct system. Steam discharged from the humidifier is quietly dispersed by a fan without discharging water dr



No	Description
1	Steam line
2	Steam Inlet
3	Steam Valve
4	Internal Baffle Plate
5	Steam Dispersion Port
6	Three - Speed Fan
7	Seperator
8	Entrained Condensate
9	Drain ¾"
10	Strainer
11	Steam Trap



Ölçüler (mm)			
A	B	C	D
700	120	180	240

Capacity Values

Model	Valve Dimensions	Kvs	Stream Pressure (kPa)													Code	
			14	21	28	34	41	48	55	62	69	76	83	90	97		103
7AE	1/2"	0.3	2.9	3.6	4.2	4.7	5.1	5.5	5.9	6.3	6.6	6.9	7.2	7.8	7.8	8.1	40102400
		0.65	5.4	6.8	7.7	8.6	9.5	10.4	10.9	11.8	12.2	13.2	13.6	14.1	14.5	15.0	
		1.1	9.5	11.8	13.6	15.0	16.8	18.1	19.1	20.4	21.3	22.7	23.6	24.5	25.4	26.3	
		1.9	16.3	20.0	23.1	25.9	28.1	30.4	32.7	34.5	36.3	38.1	39.9	41.3	43.1	44.5	
		2.81	24.0	29.5	34.0	38.1	41.7	44.9	48.1	50.8	53.5	56.2	58.5	61.2	63.5	65.8	
	3.8	32.7	39.9	45.8	51.3	56.2	60.8	64.9	68.9	72.6	76.2	79.4	82.6	85.7	88.9		
	3/4"	4.8	40.4	49.9	57.6	64.0	70.3	75.8	81.2	86.2	90.7	95.3	99.3	103.4	107.5	111.1	
		6.5	55.3	67.6	78.5	87.5	95.7	103.9	110.7	117.5	123.4	129.7					
	1"	8.7	73.9	90.3	104.3	116.6	127.9										
		10.4	88.5	108.4	125.2												

STS Humidifiers

STS: (Steam to steam)

The STS steam-to-steam humidifier creates chemical-free humidification steam using boiler steam as its energy source. It accomplishes this by using boiler steam in its heat exchanger to vaporize clean fill water into humidification steam. This rather cheap method (compared to electricity) eliminates problems caused by boiler water softening

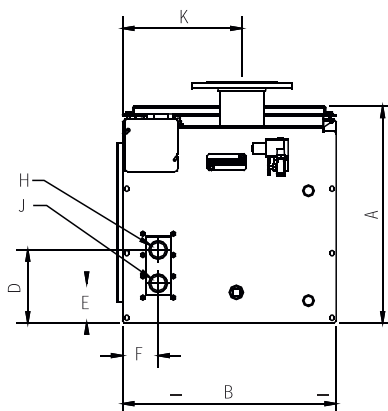
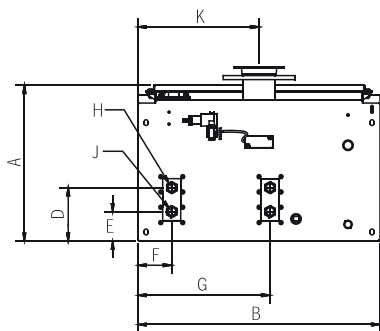


STS Features

- Every Unit capacity is 4.5-726 kg/h.
- 4 devices can be connected to each other to increase capacity up to 2904 kg / h
- There is a microprocessor control panel on the device.
- On / off or proportional control ability.
- Control sensitivity \pm %3 RH
- Can be connected to all building automation systems and suitable for all signals.
- It can work with tap, softened, reverse-osmosis and deionized water.
- Generated steam can be dispersed in a duct or locale.
- End-of-season autodrain minimizes microbial growth
- Easy to maintain.

Capacity Values

Model	Capacity (kg/h)				Code
	Stream Pressure (kPa)				
	34	69	90	103	
STS-25C	9	32	45	54	40102701
STS-25S	5	11	14	16	40102702
STS-50C	23	68	91	109	40102703
STS-50S	14	25	34	36	40102704
STS-100C	45	136	181	218	40102705
STS-100S	27	50	64	68	40102706
STS-200S	68	132	163	177	40102707
STS-400C	136	263	327	358	40102708
STS-800C	295	578	680	726	40102709



Humidifier Dimension

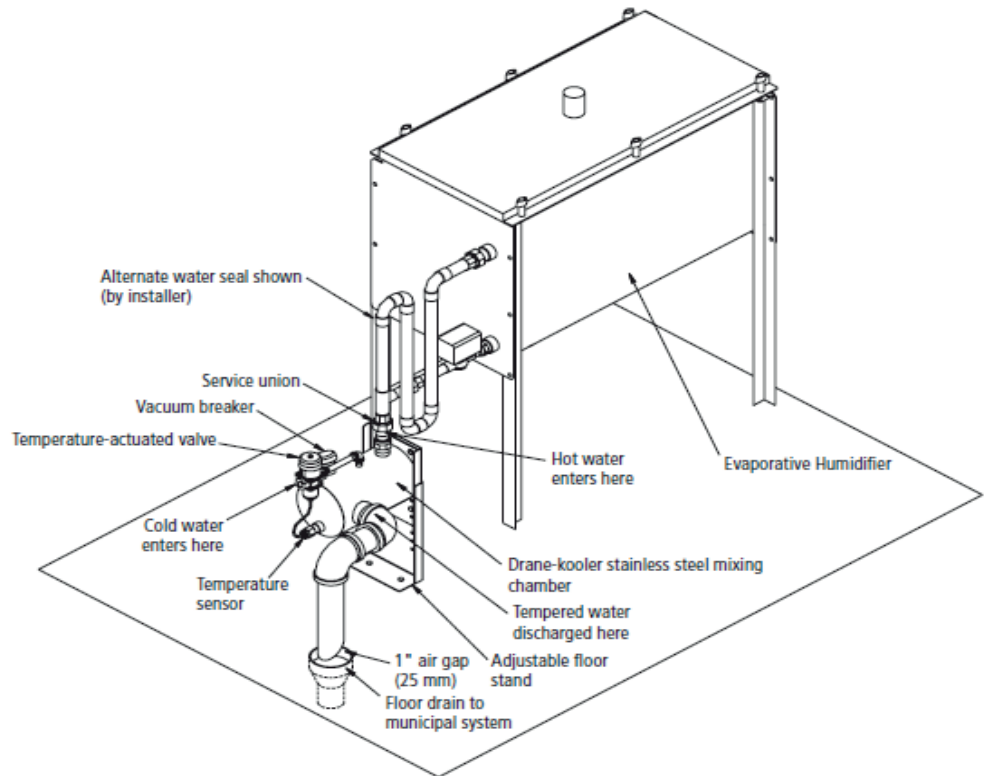
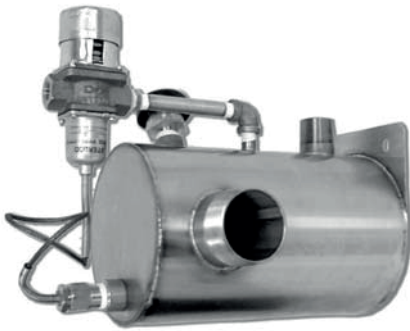
	STS Model		
	25C	100C	400C
	mm	mm	mm
A	495	495	495
B	375	490	768
C	605	1007	1401
D	169	169	169
E	93	93	93
F	80	80	107
G			419
H	25	25	25
J	25	25	25
K	187	273	384
L	64	70	95

Drain Cooler

It has been developed in cases which to cool hot water from humidifier or other applications should be drained.

Most local administrations have arrangements for the drainage of water at temperatures of 60 ° C and above. Drainage systems consisting of PVC or CPVC material can be damaged if the temperature of the hot water increases. Drain cooler which is made from 304 stainless steel useful in this kind of cases. The thermostatically controlled valve ensures that the hot water is mixed with cold water and the temperature of the water to be drained is brought to a suitable degree. With accessories different mounting options are available.

	Max. output velocity	Max. Temperature	Code
	l/min	°C	
Hot water input	22.7	100	40102900
Cold water input	22.7	21	
Cooled water output	45.4	60	



Atomiser Humidifiers



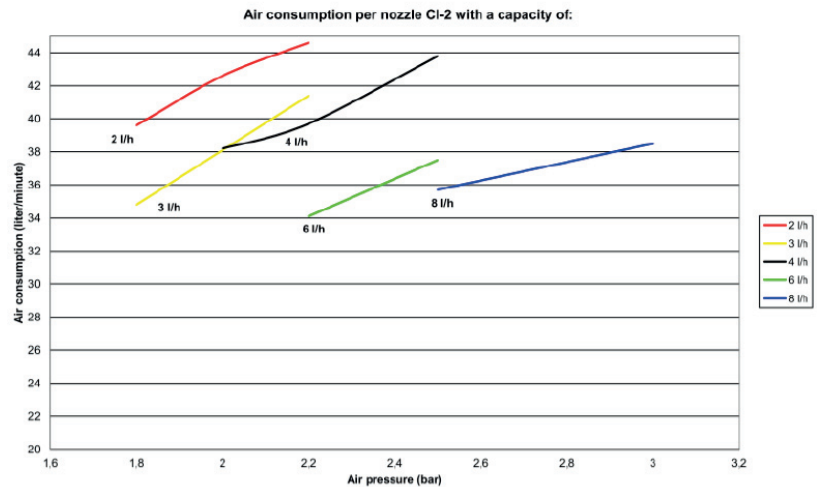
The atomiser nozzle system is a humidification system that can be used in all industrial applications where controlled or constant humidity is required. These humidifiers are used to atomise water or water based fluids to provide humidity to the air. Pressurized air and water are needed for the system. The air in the nozzle is mixed with water and very small water particles are given to the environment. Atomizer humidifiers, available as two different models, can be preferred according to application and desired properties.

1- CI-2 Atomiser Nozzle

The CI-2 Air-Assisted nozzle atomises water or other water based fluids into a very fine spray. The mixing of the air and water is realized inside the nozzle and therefore very small droplets are possible. This fine spray evaporates quickly in the air, increasing the relative humidity. The CI-2 features self cleaning needles. Because the nozzle is air assisted, a compressor with sufficient capacity is required

Features:

- Self cleaning patented concept
- Fully stainless steel
- Both water and air tube are closed off automatically
- Very reliable
- Low maintenance
- Long lifespan
- Water treatment not required
- Adjustable capacity (by flow controllers)
- Fast evaporation (small droplets)
- Low air consumption
- Easy to install without regard to relative installation heights



Atomiser Humidifiers

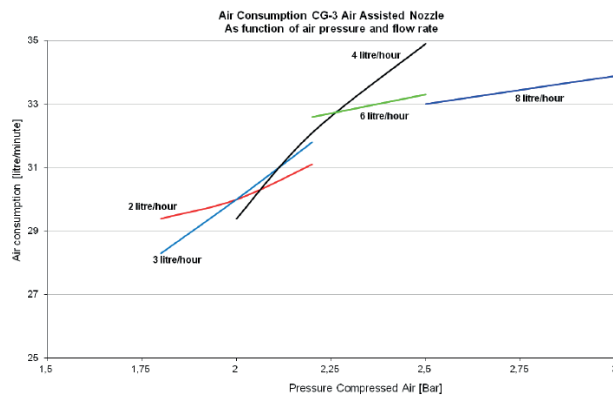
2- CG-3 Atomiser Nozzle

The CG-3 Low Noise Air Assisted nozzle atomises water or other water based fluids into a very fine spray. This fine spray evaporates quickly in the air increasing the relative humidity. The CG-3 features self cleaning needles and low noise design. Because the nozzle is air assisted, a compressor with sufficient capacity is required



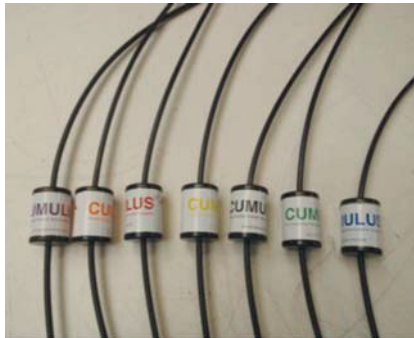
Features:

- Self cleaning patented concept
- Special low noise design
- Fully stainless steel
- Both water and air tube are closed off automatically
- Very reliable
- Low maintenance
- Long lifespan
- Water treatment not required
- Adjustable capacity
- Fast evaporation (small droplets)
- Low air consumption
- Easy to install without regard to relative installation heights



	CI-2 Atomizer Nozul	CG-3 Atomizer Nozul
Code	40179221	40179222
Humidification capacity[l/hr] [l/hr]	0.5 - 12	0.5 - 3*
Dimensions [cm]	L 10.4, Ø 3.0	L 130, Ø 30
Weight [g]	410	450
Material	SST 304 (also SST 316 available)	Stainless Steel
Sound level [dB(A)]	79	69
Maximum water hardness	12	12
Minimum Hava Basinci [bar]	2.0	2.0
Minimum water pressure [Bar]	2.3*	1
Maximum water pressure [Bar]	4.0	4.5
Water inlet 1/8 " BSP	1/8 " BSP	
Air inlet	1/8 " BSP	1/8 " BSP
Quality of compressed air	3 mg/m ³ 0.5 mg/m ³	0.5 mg/m ³
Compressed air consumption lt/min	42 (2 bar)	32
Expected lifespan (year)	20	20
Self cleaning	Yes	Yes
Control System	JetControl	JetControl

Flow Controllers



The capacity of the Cumulus® air assisted nozzles is regulated by a flow controller. The different capacities are colored.

The flow controller provides the air assisted nozzles with a constant water flow. This is pressure independent (between 1 and 4 bar). The maximum applicable water pressure is 4 bar.

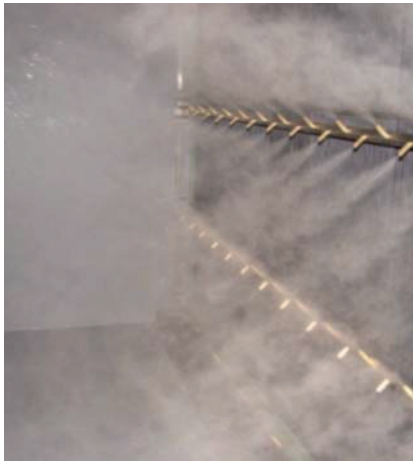
The higher the capacity of the flow controller, the longer it takes for the droplets to be absorbed. The flow controllers are made of stainless steel and plastic and are equipped with a plastic hose on each side. The flow controllers also have an integrated non-return valve and a particles filter.

	0.5	1	2	3	4	6	8
	40179230	40179231	40179232	40179233	40179234	40179236	40179238
Colour	Purple	Orange	Red	Yellow	Black	Green	Blue
Maximum water pressure [bar]	4.0						
To be applied with nozzle type	CI-2			CG-3			
Material	Stainless Steel and plastic						
Nozzle mounting height [m] (1)	>1.0	>1.5	2.0 - 3.5	3.5 - 5.0	5.0 - 6.5	6.5 - 9.0	9.0 - >
Plastic hose (2 pcs) [mm]	Ø6xØ4x500						
Weight (2 hoses) (g)	100						
Dimensions [mm]	Ø 37 x 52						

(1). This is a guideline at 21° C and can differ with other temperatures.

High Pressure Humidifiers

High pressure nozzles are specifically designed for humidification. By pressing water through a very small hole in combination with a swirling element, a very fine spray is produced. The droplets are so small that they evaporate quickly in the surrounding air. The system consists of three main parts; High pressure Water treatment system, Humidifiers and control units in different shape and capacity.



Features

Although the humidification system operates independently, it is usually controlled by the BMS (building automation system).

The unit is controlled and maintained using modern electronics. The status screen gives you all the information about the unit's functions. The warning signal comes out when maintenance is required

Advantages

- Low operating cost
- Long Lifespan
- Reverse Osmosis included
- Water fresh
- Low Sound level
- Adyabatic cooling
- Low maintenance cost
- Microprocessor control



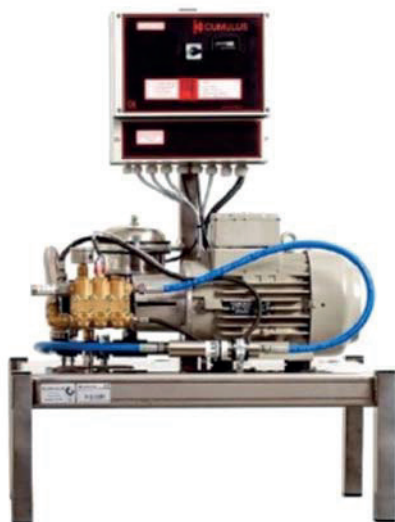
Requires systems

- Water treatment is recommended.
- High Pressure unit
- High Pressure piping

Technical Specifications

Nozzle diameter	100 µm	150 µm	200 µm	300 µm	400 µm
Dimension (diameterxlenght) mm	ø10x34				
Weight (g)	14				
Min-Max.operating pressure (bar)	40-140				
Recommended operating pressure (bar)	80				
Material	Stainless steel				
Droplet size µm	15-20				
Humidification capacity (80 bar) (1/h)	2	2,7	3,8	6,6	9

High Pressured Pump



The High Pressure Booster Min is a high pressure humidification unit without reverse osmosis unit. The unit has its own control unit, therefore it can operate stand alone. If required, the unit can also be connected to a Building Management System to control it. Standart version is MIN typr. Capacity range is, 60 lt/h and 800 lt/h.Pumps can be mounted on stainless steel surface.One control unit, status display and operating hour counter can mount on a unit directly.

Technical Details

	HP BOOSTER MIN 120	HP BOOSTER MIN 220	HP BOOSTER MIN 280	HP BOOSTER MIN 380	HP BOOSTER MIN 480
Mak.Pump Capacity (1/h)	120	220	280	380	480
Dimesions (LxHxW) mm	400x680x1110				
Weight (kg)	65	70	75	80	85
Conductivity water (µS)	5-20				
Operating pressure (bar)	70-100				
Power consumption (kw)	0,7	1,3	1,6	1,7	1,8
Control Signal	0-10v-4-20 m A				
Connectable to AHU	Yes				
Stand alone operation	Yes				
Max.amount of zones	12				
Waterfresh safety	Yes				
Auto restart at power failure	Yes				
External warning signal	Optional				
Maintenance signal	Yes				
Monitoring at distance	Optional				
Water pressure safety	Yes				
Overload protection	Yes				
Inlet dynamic water pressure (bar)	3				
Min/Max Temperature °C	0-40 °C				
Power connection	400V AC				

Frequency Control

Cumulus high pressure pumps are not modulated by a frequency control. The reason is that the high pressure pumps are designed for constant rotation. In this way, the pressure in the nozzle is always high enough to provide very fine water particles. Frequency-controlled applications cannot perform these fine water particles at low speeds.

In addition to the negative effect on atomization, frequency control reduces the lifespan of the pump.

Water Treatment

Water Treatment

Good humidification starts with good water. For this reason, we integrate water treatment into our systems. The most important device is the Reverse Osmosis device. Highly efficient filtration method removes all bacteria, viruses and minerals in the water by 97%. Therefore, reverse osmosis forms the basis of reliability against the system and Legionella.

Reverse Osmosis unit is either fully integrated into the system (CombiCompact) or integrated (Cumro Express).

Water is softened using ion exchangers to prevent premature damage of reverse osmosis membranes.

Water treatment can be mounted as a single unit without humidifiers. Standart products capacity range is 4 l/h to 2000 l/h. VDI-6022 standarts hygen certified.

Cumro 2000 Reversed Osmosis 500 - 2000 l/h

Reverse Osmosis Membrane is used as a filter to remove water-insoluble substances. The Reversed Osmosis method is an excellent and inexpensive method to purify water. The osmosis foundation is based on the rotation by pressing water around the semi-permeable membrane. Thin molecules in pure water going through the membrane which large parts or molecules can not. The parts which are not passed through the membrane are discharged together with the drained water. Pure water passing through the membrane is called reverse osmosis water.

Technical Details



	CUMRO 500	CUMRO 750	CUMRO 1000
Capacity	500	750	1000
Dimension (LxHxW) mm	600x1300x600	600x1300x600	600x1300x600
Weight(kg)	80	85	90
Osmosis membrane number	2	3	4
Reverse osmosis pump pressure (bar)	12-13		
Demiralization efficiency(%)	97-99 %		
Voltage (Volt/Hz)	400/50		
Required capacity of inlet water (1/hr)	650	975	1300
Min. Dynamic water pressure (bar)	2	2	2
Max. Dynamic water pressure (bar)	4		
Min-max Ambient temperature (°C)	5-80		
Max Water inlet temperature (°C)	25		
Dry running safety for the pump	0.8 bar		
Outlet pressure	2-5		
Water inlet size	3/4"		
Drain tube (mm)	20x13		
Demineralised water (µS/cm)	<20		
Pre-filtration of solid particles (µm) µ	<10		
Nominal power (kw)	0,7	1,2	1,7
Max power (kw)	2,2		
Akım (Amper)	6,3		
Waterfresh system	Dahil		
Control unit equipped with	2 manometer for pressure control, thermally secured electric motor, high pressured pump		

Water Treatment



Water Softener

The life of Reversed Osmosis membranes is related to calcium and magnesium in water. For this reason, we recommend the water softening device before the Reverse Osmosis device.



Cumulus Combi Compact

The Combi Compact is a unique unit consisting of a combination of reverse osmosis and a high pressure pump.

The device is surrounded by a stainless steel cabinet.

All pressure gauges and controls are integrated in front of the device for optimum operation.

Technical Details

	COMBI COMPACT NG HD60 RO140 400V	COMBI COMPACT NG HD120 RO140	COMBI COMPACT NG HD220 RO280	COMBI COMPACT NG HD280 RO280	COMBI COMPACT NG HD380 RO280
Max.Pump Capacity (l/h)	60	120	220	280	380
Max.Reverse Osmosis Capacity (l/h)	140	140	280	280	280
Dimension (LxHxW) mm	400x800x1200				
Weight (kg)	65	70	75	80	85
Water conductivity (µS)	5-20				
Operation pressure (bar)	70-100				
Operation Power (kw)	0,8	1	1,5	1,8	2,2
Control signals	0-10v-4-20 m A				
Connectable to AHU	Yes				
Stand alone operation	Yes				
Max.amount of zones	12				
Waterfresh safety	Yes				
Auto restart at power failure	Yes				
External warning signal	Optional				
Maintenance signal	Yes				
Monitoring at distance	Optional				
Water pressure safety	Yes				
Overload protection	Yes				
Inlet dynamic water pressure (bar)	3				
Min/Max Temperature °C	0-40 °C				
Power connection	400V AC				

Control System



Control System

The Cumulus Lance control system has been specially developed to provide a smooth humidification. The device can also be connected to the building automation system, such as the humidification system.

The control signal 0-10V of the building control system is converted into a gradual control of the humidification.

Depending on the number of lance groups, up to 15 control steps can be hydraulically controlled. This is more than sufficient to adequately humidify even demanding applications such as museums.

Technical Details

Dimension (LxHxW) mm	150/250/250
Weight (kg)	3
Operation Power (kw)	0,1 kw
Control signals	0-10 V-4-20 m A
Connectable to AHU	Yes
Stand alone operation	No
Waterfresh safety	Yes
Auto restart at power failure	Yes
Display	Digital
External warning signal	Optionel
Maintenance signal	Yes
Monitoring at distance	Optionel
Power connection	230 V

Functions

After a demand for humidification from the building management system Reverse Osmosis device is activated. Reverse Osmosis device sends water to the high pressure pump. The pump supplies water under high pressure. Lance Control activates humidification by opening one or more lances.

Waterfresh System

The Lance control also regulates the operation of the WaterFresh system. The WaterFresh system never provides humidification when water is stagnant. This is done by opening and closing the humidification system periodically if there is no demand for humidification in the previous 24 hours. This arrangement provides the Legionella security system in summer seasons where less humidity is required.

Ufo HP-6 Saturnus Humidifiers



UFO HP-6 Saturnus has an attractive design and is available in white as standard. The fan is mounted on the side wall and the sound which is already low is also moved upwards.

The moisture from the specially developed aircraft-shaped unit is quickly absorbed at a short distance.

There are 2 types of UFOs to be radial and axial. In general, the radial version is used and installed 6-8 m high. The axial version is ideal for large and high lounges. Moisturizers are wall type and aerosols fall into the air with strong force.

The capacity of the device is from 17 l/h up to 48 l/h. It is usually used 17 l/h for rooms up to 7 meters in height. More than 7 meters height 24 l/h capacity devices are used

Ufo is made of high quality plastic and stainless steel. In addition, production is available according to your RAL code.

Technical Details

Kod	
Dimensions [mm] (diameter x height)	570 x 190
Weight [kg]	5
Power consumption [W]	68
Standard capacity of the nozzle [l/hr]	2,7
Standard number of nozzles	6
Recommended water [°dH]	0-4
Conductivity water [µS/cm]	10 - 150
Control unit	JetControl
Material	Plastic housing and stainless steel nozzle and bracket
Minimum height [m]	3.5
Minimum zone for evaporation [m]	3.5
Water temperature [°C]	1 - 80
Ambient temperature, min.-max. [°C]	1 - 80

Water is formed into an 1µm aerosol-shaped particle with an ultrasonic vibration 1.7 mhz.

The device's water tank has special ceramic parts called "piezo-ceramics" and the components makes a 1.7 mhz vibration when 48 V power is supplied. The water is divided into 1µm particles with a vibration size of 1.7 MHz and these particles are distributed to the environment by the air flow created by the fan. In the area, this particle mist (cold vapor) is quickly absorbed and completely destroyed.

In these models, there is a hygiene control system called "Aqua-drain" which periodically flushes the water supply line and discharges the water in the tank. This feature is an important system that minimizes the risk of bacteria growth.

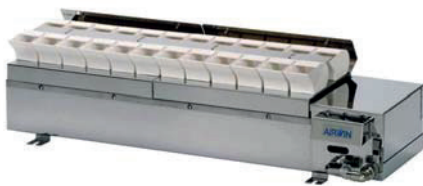
Duct Type Ultrasonic Humidifiers

The AIRWIN N-KBD humidifier, which is used as duct type and air conditioning systems, meets all efficiency requirements. Because it humidifies air with energy gain hygienic and safe way.

Atomisation by ultrasound has become more and more important in the last few years and new fields of application have opened up. In the sectors of trade, service and industry humidification has become a decisive part of optimal air-conditioning. In these sectors technical processes and storage of perishable goods demand humidification within close tolerance limits.

Progressive technology makes universal application and economical operation possible - only ~52W/h of electrical power input for 1kg of humidity. AIRWIN-humidifiers are particularly suitable for simultaneous humidification and cooling. For these applications much more electrical energy (up to 93%) can be saved compared with isothermal humidification systems.

Mineral deposits are prevented by the use of fully demineralised water.



Features

Operation

Water is atomised into aerosols of ~ 1µm by ultrasonic vibrations of 1.7 MHz. The air flow in the air duct transports the aerosol mist out of the humidifier into the air duct. There it is soon absorbed as humidity by the air..

Equipment Description

The AIRWIN N-KBD is made of non-corrosive high-quality steel. It is ready for operation. Only water and electrical energy lines have to be connected at the place of installation. Safety equipment includes thermal protection, overflow and dry-running protection and protection against voltage peaks. For the connection to BMS (building management system) or similar systems the N-KBD is equipped with a corresponding potential-free exit.

Control

AIRWIN ultrasonic humidifiers are controllable without starting delay or overrun.

- * two-stage control with 1-step hygrostat
- * two-stage control with 2-step hygrostat
- * continuous control with built-in signal adapter

Hygien

AquaDrain flushes the water supply line, empties the water reservoir of the N-KBD in cycles as well as the water.

reservoir after short periods of "non-humidification" and power failures. AquaDrain is a programme developed by BOGA GMBH, which guarantees hygienic safety in connection with the benefits of high frequency ultrasound for germ control.

Capacity, Electric Specification, Dimensions and Weights

Model	Capacity (kg/h)	Voltage (V/Hz)	Power Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
N-KBD6	3.6	48/50	185	6.0	177.5/285/260.5	40104206
N-KBD12	7.2	48/50	375	7.7	177.5/435/260.5	40104212
N-KBD18	10.8	48/50	555	9.5	177.5/585/260.5	40104218
N-KBD24	14.4	48/50	735	11.7	177.5/735/260.5	40104224
N-KBD30	18.0	48/50	915	13.7	177.5/885/260.5	40104230
N-KBD36	21.6	48/50	1095	15.2	177.5/1035/260.5	40104236
N-KBD42	25.2	48/50	1275	17.2	177.5/1185/260.5	40104242
Mounting Support	For an ideal duct assembly , it should be stainless steel.			0.05		40104201

Accessories	Code
Hygrostat	40104280
Transformer	Check Page 111 .

Room Type Humidifiers

Ultrasound for energy – saving air humidification

- Progressive technology
- Universal application
- Economical operation

All go to distinguish today's humidification technology.

This is why air humidification has gained considerable importance in recent years and unfurled new applications to convince the ventilation and air-conditioning expert.

Employing the ultrasound principle and using only approx. 0.092 kW/h of electrical power for a humidifying capacity of 1 kg/h, AIRWIN RB/P and RB/P-D come out on top in terms of operating efficiency. The energy saving over isothermal humidification systems with simultaneous humidification and cooling (adiabatic or evaporative cooling) is particularly striking.

The AIRWIN RB/P and RB/P-D ultrasonic humidifier will pay for themselves in next to no time owing to the electrical energy saving.

In connection with our disinfection program Contra-Keim it is also possible to disinfect the room air or surfaces



Features

Function

AIRWIN RB room humidifiers work on the ULTRASOUND PRINCIPLE. Operating at an excitation frequency of 1,7 MHz, the humidification water at the WATER/AIR boundary layer is broken up into extremely fine aerosols – 1µm – without giving off any significant amount of heat. The flow of air in the air duct conveys the aerosol vapour into the area to be humidified. In accordance with the Brownian molecular theory, the degree of aerosol fineness guarantees a completely uniform distribution of humidity throughout the entire air cross section.

Device Description

AIRWIN RB/P and RB/P-D are made of corrosive-resistant materials (stainless steel housing, plastic parts). Dry-running protection, thermal protection, overrunning protection and voltage peak protection are part of the basic equipment. AIRWIN RB/P and RB/P-D operate with low voltage 48VAC. The necessary transformers are part of our delivery range. The RB/P ultrasonic humidifiers are ready for connection to the control signal 0...10VDC. A hygrostat can also be directly connected. The RB/P-D ultrasonic humidifiers come with the hygiene management AquaDrain. Therefore they are particularly suitable for extremely demanding hygienic applications. AquaDrain is a system that flushes the water supply line to the humidifier according to diverse parameters and empties the water reservoir of the RB/P-D humidifier in certain intervals. AquaDrain is controlled by a software program and a combination of magnetic valves. In addition, AquaDrain prevents compensation of the water level, which is reduced by evaporation, in passive operating mode of the RB/P-D humidifier.

Control

RB/P

- Two-step control with hygrostat (50%, 100%)
- Continuous control for all ordinary signals
- Operation control
- External safety chain can be connected

Hygiene

AquaDrain flushes the water supply line, empties the water reservoir of the RB/P-D in intervals, empties the water reservoir after short periods of "non-humidification" and in case of a power failure. AquaDrain is a program developed by BOGA GMBH which provides hygienic safety in connection with the massively germ-killing effect of the high-frequency ultrasound system.

Capacity, Electric Specification, Dimensions and Weights

Model	Capacity (kg/h)	Voltage (V/Hz)	Power Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
RB/P2	1.0	48/50	110	06	180/260/290	40104302
RB/P4	2.0	48/50	180	08	180/340/290	40104304
RB/P6	3.0	48/50	240	10	180/460/290	40104306
RB/P8	4.0	48/50	310	12	180/550/290	40104308
RB/P10	5.0	48/50	370	14	180/640/290	40104310
RB/P16	8.0	48/50	620	20	180/910/290	40104316
WD	Wall bracket			1.8	L=365	40104301

With Aqua Drain						
Model	Capacity (kg/h)	Voltage (V/Hz)	Power Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
RB/P-D4	2.0	48/50	190	9	180/340/290	40104404
RB/P-D6	3.0	48/50	250	11	180/460/290	40104406
RB/P-D8	4.0	48/50	310	12	180/550/290	40104408
RB/P-D10	5.0	48/50	370	14	180/640/290	40104410
RB/P-D16	8.0	48/50	630	21	180/910/290	40104416
WD	Wall bracket			1.8	L=365	40104301

Ultrasonic Humidifiers with Fan

This type of ultrasonic humidifiers are designed for salad bars, cheese, fish, flowers, vegetables, meat departments and all large-surface production processes (textile, etc.) where small tolerances are required. The produced aerosol fog is delivered to the desired places with distribution pipes.



- This type of ultrasonic humidifiers can be controlled by on / off control or proportional control.
- Each output can be controlled by potentiometer separately.

Capacity, Electric Specification, Dimensions and Weights

Model	Capacity (kg/h)	Voltage (V/Hz)	Power Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
UB/P8	4.0	48/50	310	12	180/550/270	40104501
UB/P-D8	4.0	48/50	310	12	180/550/270	40104503

Mini Ultrasonic Humidifiers

KMB humidifiers are ideal humidifiers for humidification of air-conditioning systems, fan convectors, small spaces (tobacco cabinets, etc.) It is controlled by On/off hygostat. Humidifier capacity is max. 0.44 kg/h

- Potentiometer for 0-100 % control
- Magnetic valve can be added to drain water



Capacity, Electric Specification, Dimensions and Weights

Model	Capacity (kg/h)	Voltage (V/Hz)	Power Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
KMB	0.44	48/50	50	2	141-252-50	40104811
Potentiometer	For 0... %100 control					40104812
Aquadrain	Magnetic valve for drain.					40104813

GOL Humidifiers

Delicate salads, good looking vegetables, healthy vitamins and bio elements: the GOL keeps fruit and vegetables extremely fresh and in premium quality. Humidification by the extremely fine and drifting aerosol mist keeps root and leaf vegetables fresh much longer and sensitive fruit can keep their inner and outer qualities. No more mismanagement and expensive depreciation losses due to spoilt goods. A warm and dry surface climate results in dehydration (the goods decay) and stop a loss of valuable ingredients (vitamins) due to the high output of CO2. As the circulating air is humidified by a fresh mist covering, there is almost 100% saturation over the entire display surface.



Features

Operation Specification

Water is nebulised by ultrasonic oscillations of 1.7 MHz into aerosols of ~ 1µm and transported in the air flow which is produced by a built-in radial fan, to the fresh goods. There the aerosol mist (cold steam) quickly mingles with the ambient air and evaporates completely.

Device Specification

The humidifier AIRWIN GOL is made of corrosion-resistant stainless steel. It is wired ready for operation ex works. Only water and electrical energy supplies have to be provided on the spot.

Included safety devices are thermal protection, overflow protection, dry running protection, a network filter and protection against peak voltages.

Control

Humidification output can be adjusted separately between > 0 and 100% for every aerosol output. So it is possible to adapt the degree of humidification to the respective fresh goods. The humidification time and period will be programmed by a 2 channel week timer in the remote control.

Hygiene

GOL Nemlendiricilerde hijyen gerekliliği kullanım amacına bağlı olarak çıkmıştır. Sonuç olarak cihazın ve koruma parçalarının tamamı hijyeniktir. Diğer nemlendirme sistemlerinde ve uygulamalarında bu şekilde güvenli çalışma mümkün olmamaktadır. Aqua-drain, Ozon jeneratörü, arıtılmış su, UV reaktörü (isteğe bağlı), hava filtresi ve özel malzemeler en yüksek hijyen gerekliliğini sağlar.

Accessories

For the humidification system GOL we can supply the appropriate reverse osmosis unit BO-RO6 ,also the aerosol distribution system made of

Model	Capacity (kg/h)	Voltage (V / Hz)	Power Consumption (VA)	Weight (kg)	Dimensions (H/L/W mm)	Code
GOL-1	0.5	230V-50Hz	110	10.75	244/333/263	40104611
GOL-2	1.0	230V-50Hz	135	11	244/333/263	40104612
GOL-3	1.5	230V-50Hz	160	11.25	244/333/263	40104613
GOL-4	2.0	230V-50Hz	185	11.5	244/333/263	40104614
GOL-5	2.5	230V-50Hz	245	15	244/454/263	40104615
GOL-6	3.0	230V-50Hz	270	15.25	244/454/263	40104616

Model	Capacity (kg/h)	Voltage (V / Hz)	Power Consumption (VA)	Weight (kg)	Dimensions (H/L/W mm)	Code
GOL-2 / FB	1.0	230V-50Hz	135	15	244 /333/ 263 FB 80/210/140	40104712
GOL-3 / FB	1.5	230V-50Hz	160	12.25	244 /333/ 263 FB 80/210/140	40104713
GOL-4 / FB	2.0	230V-50Hz	185	12.5	244 /333/ 263 FB 80/210/140	40104714

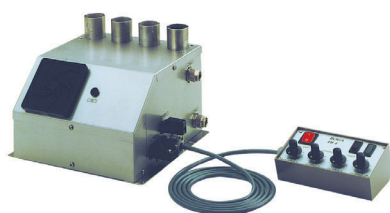
UB-1-24 Humidifiers

With the AIRWIN UB dry warm air soon disappears, because it effectively humidifies the air and refreshes it.



The AIRWIN UB may be applied directly for specific humidification of

- Salad bars
- Cheese counters
- Fish counters
- Flower counters
- Vegetable counters
- Sausage and meat counters,
- Room humidification by air ducts
- At any place where optimal and specific humidification is required.



Features

Magnetic valve for drain.

- The AIRWIN UB is made of non-corrosive high-quality steel. It is ready for operation. Only water and electrical energy services have to be connected on the spot. The safety equipment includes thermal protection, overflow and dry-running protection.
- Ultrasonic humidifiers are controllable without starting delay and without overrun.
- UB series on/off control by hygrostat.
- UB-FB series with potentiometers in the remote control for separate output control, each output between 0 and 100%.
- AquaDrain flushes the water supply lines, empties the water reservoir of the UB in cycles, empties the water reservoir after short periods of "non-humidification" and power failures. The compact ventilator only works on humidification request.



Capacity Values

Model	Capacity (kg/h)	Voltage (V / Hz)	Elec Consumption(VA)	Fuse Rating (A)	Dimensions (H/L/W mm)	Code
UB1	0,5	230/50	105	7,2	179,5/253/274	40104601
UB2	1,0	230/50	135	7,4	179,5/253/274	40104602
UB3	1,5	230/50	165	7,6	179,5/253/274	40104603
UB4	2,0	230/50	195	7,8	179,5/253/274	40104604
UB12	6,0	48/50	450	9,4	268/368/992	40104504
UB18	9,0	48/50	675	14,1	268/368/992	40104505
UB24	12,0	48/50	900	18,75	268/368/992	40104506



Model	Capacity (kg/h)	Voltage (V / Hz)	Elec Consumption(VA)	Fuse Rating (A)	Dimensions (H/L/W mm)	Code
UB-1/FB	0,5	230/50	105	7,2	179,5/253/274	40104601-FB
UB-2/FB	1,0	230/50	135	7,4	179,5/253/274	40104602-FB
UB3-3/FB	1,5	230/50	165	7,6	179,5/253/274	40104603-FB
UB4-4/FB	2,0	230/50	195	7,8	179,5/253/274	40104604-FB
UB-12/FB	6,0	48/50	450	9,4	268/368/992	40104504-FB
UB-18/FB	9,0	48/50	675	14,1	268/368/992	40104505-FB
UB-24/FB	12,0	48/50	900	18,75	268/368/992	40104506-FB

UB1CT - 4CT Humidifiers



Due to its innovative technology it can be used for numerous applications and is very economical to run - only ~98W/h of electrical input for 1kg of humidity. The adiabatic humidification principle receives energy from the warm air and cools the object to be humidified (cooling by evaporation) with simultaneous reduction of the operating time of the cooling units. Both factors ensure that the UB1-4CT pays for itself in a very short time.

Operation

For easy programming and operation the control parameters and configuration data are attributed to different levels. Foil keys provide easy operation. The two LED displays show the parameter icons and the respective values and make operation transparent. Operation Level- Parameter Level-Configuration Level

Device Description

AIRWIN UB1-4CT is made of corrosion-resistant stainless steel. It is wired ready for operation ex works. Only water and electrical energy supplies have to be provided on the spot. It comes with the safety devices thermal protection, overflow protection and dry running protection.

Control

The ultrasonic humidifier Airwin UB1-4CT starts and stops immediately when required. It can be operated by either a hygrostat or a built-in microprocessor control or by both. By using highly integrated technology the microprocessor CT1 obtains extremely variable functionality and operating safety. The compact microprocessor controls type CT1 with the front frame dimensions 48mm x 96mm (H/B) and pluggable control insert are especially suitable for ultrasonic humidifiers.

The controls can be programmed as two point, three point or continuous control with the usual control structures. They also have two limit comparators that can be attributed to the input signals. 8 different limit comparator functions can be selected. A ramp function with adjustable gradients and auto optimisation are available. A voltage output with 18VDC / 22mA for energy supply of the humidity transmitters is also included.

Freely adjustable are :

- Control Settings (with auto optimisation)
- Type of operating output
- Measuring transducer and control range
- Type and function of alarm contacts

Hygiene

AquaDrain flushes the water supply lines, empties the water reservoir of the UB in cycles, empties the water reservoir after short periods of "non-humidification" and power failures. The compact ventilator only works on humidification request

Capacity Values

Model	Capacity (kg/h)	Voltage (V/Hz)	Elec Consumption (VA)	Weight (kg)	Dimensions H/L/W (mm)	Code
UB1CT	0,5	230/50	105	7,5	179,5/253/274	40104621
UB2CT	1,0	230/50	135	7,7	179,5/253/274	40104622
UB3CT	1,5	230/50	165	7,9	179,5/253/274	40104623
UB4CT	2,0	230/50	195	8,1	179,5/253/274	40104624

ST/STH Transformers

The transformers of the ST / STH series are designed to provide electrical energy supply for one single humidifier. They are equipped with primary and secondary fuses. They transform the system voltage of 230V 50Hz to 48/53V. Model STH comes with transformer housing and illuminated ON/OFF mains switch.

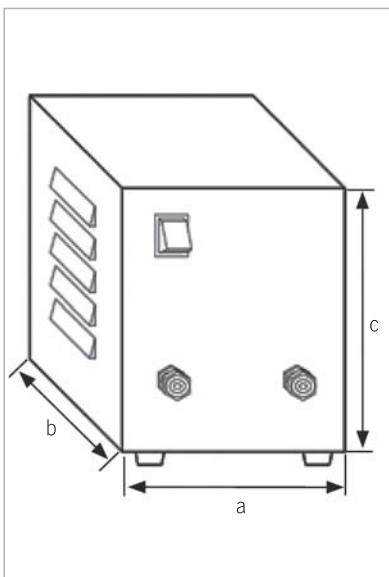


ST- Without Housing Models Capacity Values

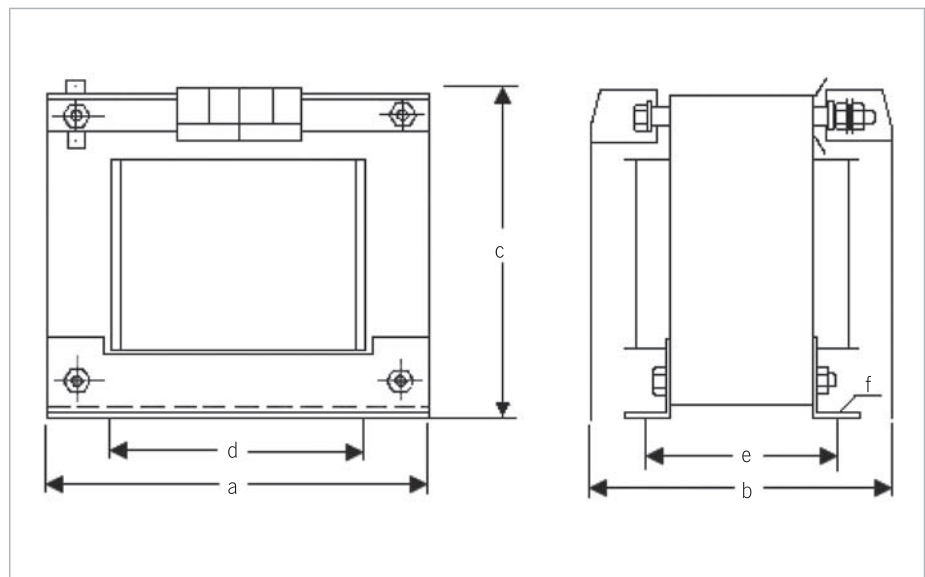
Model	Power (kVA)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Weight (kg)	Code
ST 75	0,075	84	94	80	64	47	4,8	1,5	40210075
ST 160	0,16	105	102	96	84	62	5,8	3	40210160
ST 200	0,2	105	110	96	84	70	5,8	3,5	40210200
ST 250	0,25	105	124	96	84	85	5,8	4,5	40210250
ST 320	0,32	120	105	106	90	70	5,8	4,3	40210320
ST 400	0,4	120	120	106	90	84	5,8	5,8	40210400
ST 500	0,5	120	130	106	90	102	5,8	6,8	40210500
ST 800	0,8	150	135	142	122	101	7	10,2	40210800
ST 1000	1	150	165	142	122	127	7	13,4	40211000
ST 1300	1,3	174	150	166	135	106	7	15,7	40211300
ST 1600	1,6	174	180	166	135	136	7	21	40211600

STH- With Housing Models Capacity Values

Model	Power (VA)	a (mm)	b (mm)	c (mm)	Weight (kg)	Code
STH 75	0,075	163	200	210	3,7	40220075
STH 160	0,16	163	200	210	5,2	40220160
STH 200	0,2	163	200	210	5,7	40220200
STH 250	0,25	163	200	210	6,7	40220250
STH 320	0,32	163	200	210	6,5	40220320
STH 400	0,4	163	200	210	8	40220400
STH 500	0,5	163	200	210	9	40220500
STH 800	0,8	255	355	314	16,7	40220800
STH 1000	1	255	355	314	19,9	40221000
STH 1300	1,3	255	355	314	22,2	40221300
STH 1600	1,6	255	355	314	27,5	40221600



STH Transformator



ST Transformator

SDS/SLSH Transformers

The transformers of the SDS / SLSH series are designed for electrical energy supply of up to 6 humidifiers. They are equipped with primary and secondary fuses. They transform the system voltage of 230V 50Hz to 48/53V. Model SLSH comes with transformer housing and optional ON/OFF switch.

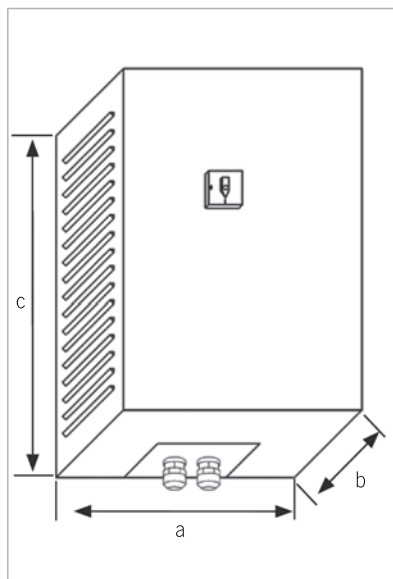


SDS - Without Housing Models Capacity Values

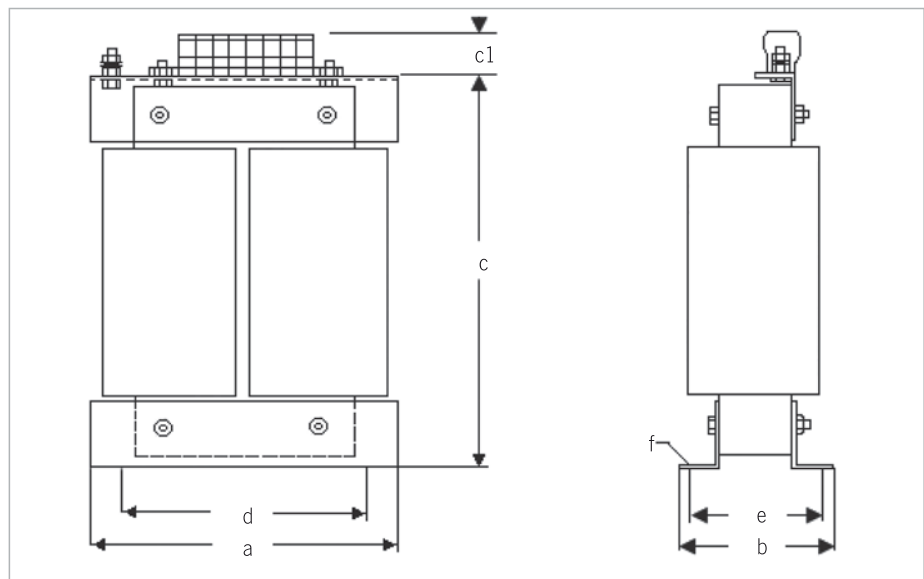
Model	Power (kVA)	a (mm)	b (mm)	c (mm)	c1 (mm)	d (mm)	e (mm)	f (mm)	Weight (kg)	Code
SDS 2.0	2	176	132	228	40-60	112	102	10	19,4	40200020
SDS 2.5	2,5	200	135	260	40-60	124	107	10	23	40200025
SDS 3.0	3	200	147	260	40-60	124	119	10	27,5	40200030
SDS 3.5	3,5	200	173	260	40-60	124	145	10	34,5	40200035
SDS 4.0	4	240	153	310	60-80	144	125	10	34,5	40200040
SDS 4.5	4,5	240	168	310	60-80	144	140	10	40	40200045
SDS 5.0	5	240	183	310	60-80	144	155	10	46,5	40200050
SDS 6.3	6,3	280	173	365	60-90	176	143	12	54	40200063
SDS 7.5	7,5	280	188	365	60-90	176	158	12	63	40200075
SDS 8.8	8,8	280	203	365	60-90	176	173	12	77	40200088
SDS 10.0	10	280	233	365	60-90	176	203	12	91	40200100

SLSH - With Housing Models Capacity Values

Model	Power (VA)	a (mm)	b (mm)	c (mm)	c1 (mm)	PG	Weight (kg)	Code
SLSH 2.0	2	500	275	350	380	16	28,4	40201020
SLSH 2.5	2,5	500	275	350	380	16	32	40201025
SLSH 3.0	3	500	275	350	380	16	36,5	40201030
SLSH 3.5	3,5	500	275	350	380	16	41	40201035
SLSH 4.0	4	500	275	350	380	16	46	40201040
SLSH 4.5	4,5	650	285	450	480	16	52,5	40201045
SLSH 5.0	5	650	285	450	480	16	59	40201050
SLSH 6.3	6,3	650	285	450	480	16	66,5	40201063
SLSH 7.5	7,5	650	285	450	480	16	75,5	40201075
SLSH 8.8	8,8	520	520	500	545	23	99	40201088
SLSH10.0	10	520	520	500	545	23	113	40201100



SLSH Transformator



SDS Transformator

What is Evaporative Humidifiers



Evaporative humidifiers are aqueous type humidifiers with both cooling and humidification properties. It consists of a water tank and pump sprinkler system, The water in the tank is pumped onto pads by the pump, the passing air over the wetted pads takes the water by evaporating it with the hidden heat. So the temperature of the air is reduced slightly.

Operation Principle

Adiabatic humidifiers / coolers operate on the basis of water evaporation by air flow passing through the wet surface by natural conditions. The air carries the water vapor and reduces the heat of evaporation in the air. This principle guarantees the oscillation of water in the liquid state during the formation of the gas-air mixture.

Micro organisms, minerals and similar parts do not get in to air during the evaporation phase that makes the principle healthy. If only the high air flow, water droplets could get in to the air. This is the biggest difference between Media pad and atomizer humidifiers. By adjusting the air flow velocity or using droplet separator eliminates this disadvantage.

Evaporative Panel

Rigit Construction

The evaporative panel consists of cellulosic or glass fiber pads which are supported by structural additives that absorb water without destroying the rigidity of the device.

Hygenic Panel

When the panel is inorganic it is not a source for bacteria and mould.

The panel contains silver ions and this ions acts as a biocide to prevent water particles from escaping without evaporation.

High Efficiency

The mounting of the panel boards was done by pressure on the metal frames without use of glue. The number of boards per clear front surface area is greater than without bonding. In addition, great design of the angles, the saturation efficiency of the panels is highest and the loss of load is minimal.

Low Maintenance Cost

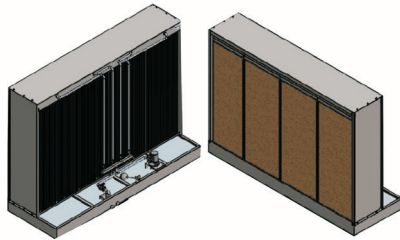
As the universal solvent is water, it can dissolve any adhesive as time passes. This is the reason why bonded panels lifespan is shorter than heat assembled panels. The lifespan of panels without adhesives is significantly longer than the bonded panels. The most important thing is, they can operate with any kind of water because there is not an adhesive.

Features

Easy Maintenance

Panel plates are mounted on stainless steel frame with integrated sprinkler system. Maintenance and replacement can be done easily by hand. The cassettes can be easily removed from the air handling unit by pulling forward and the space required for inter-service is reduced.

It is easy to reach to device for cleaning and maintenance.



Evaporative Humidifier Product Codes

EH - C/G - WP/WOP - 075/100/150 /200 - S/O - 2500 - 2000 - 800 /400 - S/SC - CP/O
 - C/O AB C D E F G H I J
 K

- A: Evaporative Humidifier
- B Pad type (C Cellulosic , G: Glass fiber)
- C Pump (WP:With Pump, WOP: Without pump)
- D D: Pad thickness
- E: Droplet seperator (S: With droplet sep. , O: Without droplet sep.) F: Widht(mm)
- G Height (mm)
- H: Tray lenght(mm)
- 1: Control type (S: On/Off control, SC: Step control)
- J: Control panel (CP:With Control panel , O:Without Control Panel)
- K: Conductivity meter (C: With CM, O: Without CM)

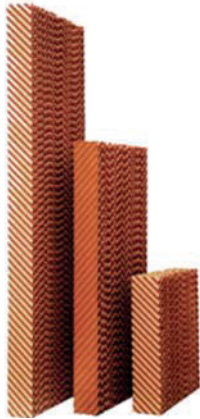
Device Description

- Outer Panel: 304 quality stainless steel.
- Pad Casset: It is made of 304 quality stainless steel and it has a special design that provides water flow on the pad surface.
- Pad: According to requirements and desired properties it is selected either cellulosic or glassfiber.
- Droplet Seperator: It is used when airflow velocity is ove 3 m/s.
- Flator: By the special design structure it provides water intake automatically according to water level.
- Pump : Used to send the water inside the tray to the pads.

Optional Accessories

- Step Control: If proportional control is required, it controls the solenoid valves for each pad to provide proportional humidification.
- Proportional control : If proportioanal control is required, pump is controlled with an inverter due to the signal 0-10V
- On/Off Control : If On/off control is required, the unit will be controlled on/off by manually or receiving the signal of a higrostate.
- UV Filter: It provides disinfection of humidifier water. It is preferred for hygienic applications.
- Conductivity Sensor: Provides fresh water from the source by draining the tray completely if the conductivity of water increases in the tray.
- Water Level Sensor: In case of increase of water level in the tray, it prevents water inlet by closing water solenoid valve.

CELLULOSIC PADS



Pad Types

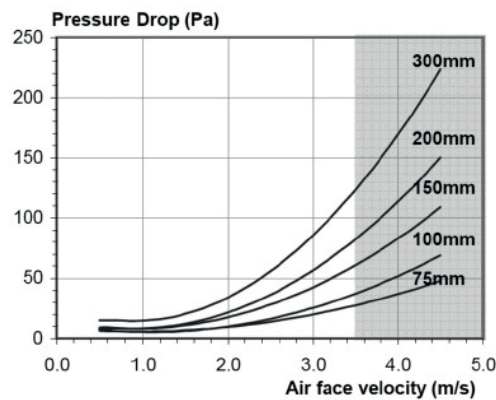
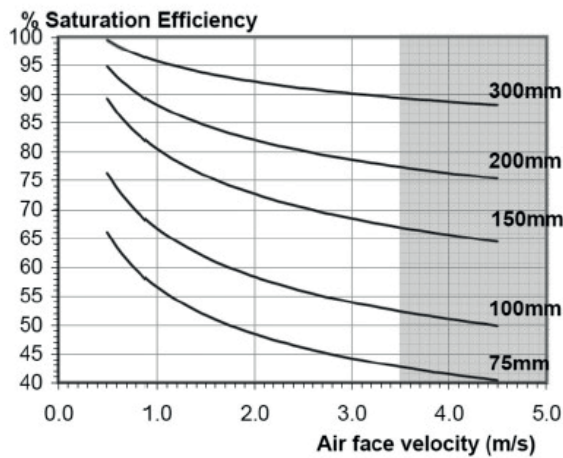
1- Cellulosic Pad

It is manufactured from impregnated cellulose paper, which simply provides wettability and strength. Its wavy and cross-channel structure increases the surface area, facilitates the contact of air with water and ensures minimum air resistance. It is preferred in industrial applications.

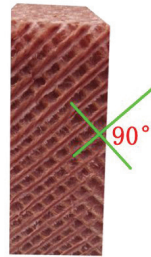
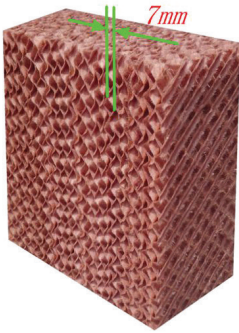
These pads are flammable and constitute the economic option in price. Pad thickness range is 100, 150 and 200 mm. For special projects it can be produced 300mm.

Pad Thickness (mm)	100	150	200	100	150	200	100	150	200	100	150	200	100	150	200	Kod
Face Velocity (m/s)	0,5	0,5	0,5	1,0	1,0	1,0	1,5	1,5	1,5	2,0	2,0	2	2,5	2,5	2,5	40105100
Saturation Efficiency (%)	72,3	83,2	92,2	71,5	82,5	90,5	70,2	80,0	87,1	68,1	78,5	85,0	66,0	77,0	84,0	
Pressure Drop (Pa)	0,5	1,7	3,4	7,3	8,4	10,3	11,3	13,5	21,3	17,9	19,5	35,5	21,3	26,5	45,6	

Cellulosic Pad Humidifier Graphics



GLASSFIBER PADS

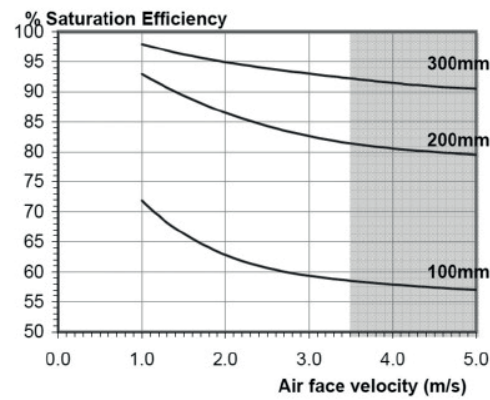
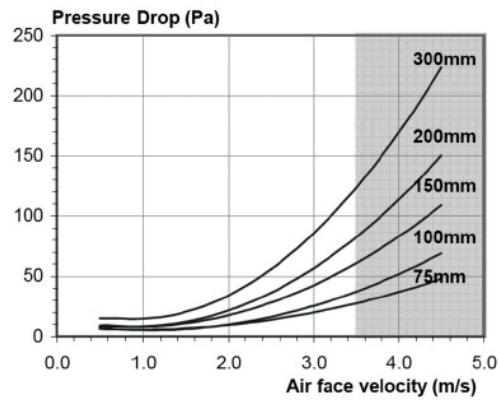


2-Glass Fiber Pad

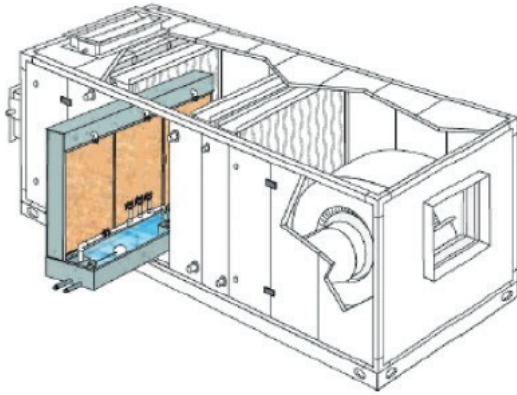
It is designed for optimum performance in low pressure drop with its wavy and cross channel structure.

This material unlikely to cellulosic pads, due to its inorganic structure it is non-flammable and does not allow odor formation. Increases evaporation efficiency by creating more contact time between air and water. All pads are framed by stainless steel sheet and are installed together with sprinkler system. Pads can be easily removed and retracted from the unit for service and maintenance

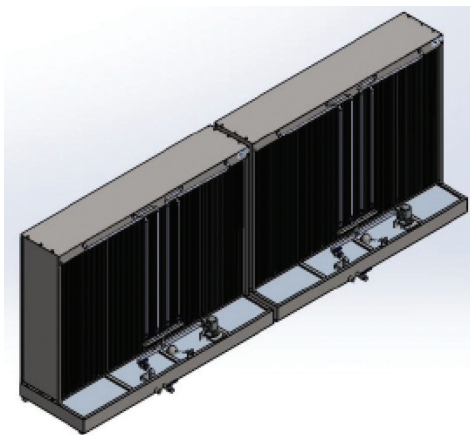
Glass Fiber Pad Humidifier Graphics



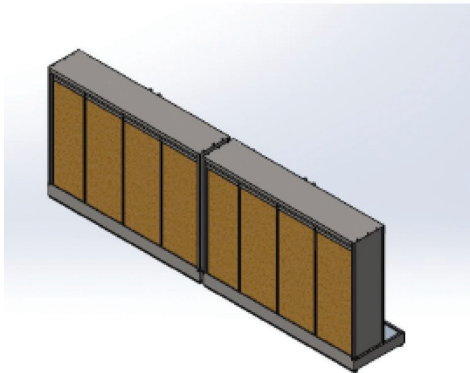
Installation Types



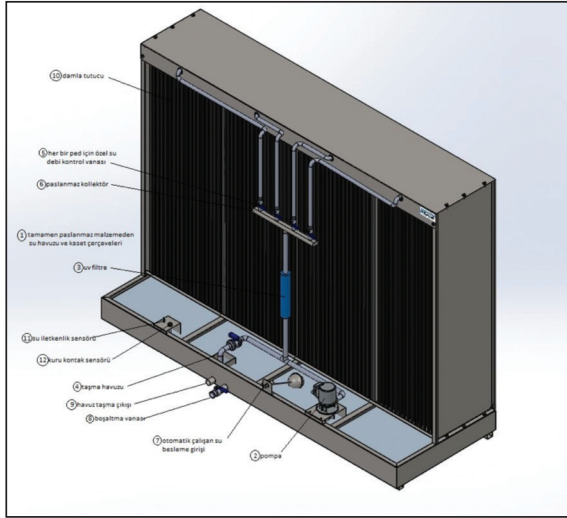
AHU : Usually after the heating coil or just before the Cooling coil.
In this type of installation feeding and drain could be done by side.



Modular installation : At high airflow rates, unit can be design modular as in the Picture.



Evaporative Humidifier part list



1. 304 Stainless Steel Tank
2. Pump
3. UV Filter
4. Overflow tank
5. Droplet Seperator
6. Solenoid Valve that controls the flow rate of water.
7. Stainless steel collector
8. Water supply inlet (float)
9. Drain valve
10. Tank overflow exit
11. Pad
12. Conductivity sensor

On/Off Control panel



Optional parts

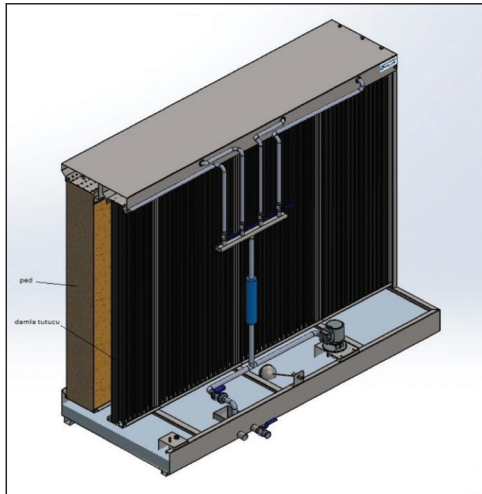
- Drop seperator
- Soleniod water supply valves
- Step Control
- Soleniod valve for drain
- Electric protection and control panel
- Flow meter
- UV filter
- Level sensor
- On/off Control panel
- Step control, control panel
- Proprtional control, control panel

Standart parts

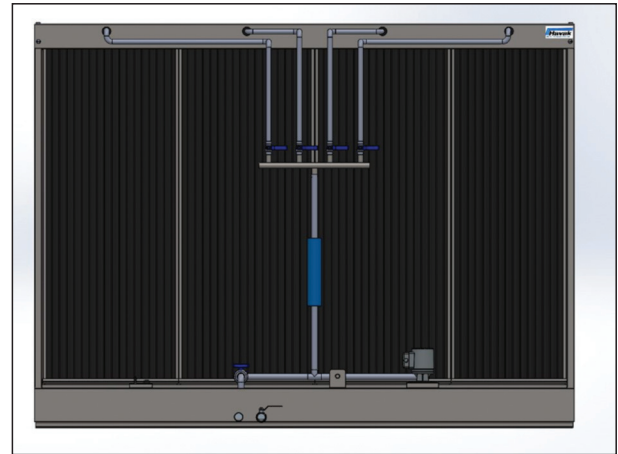
- Water inlet float
- Motor protection switch
- Water pump
- Drainage outlet 1"
- Manual Valves for pads
- Overflow protection
- Pad cassetts
- Piping
- Stainless steel collector

Maintanance

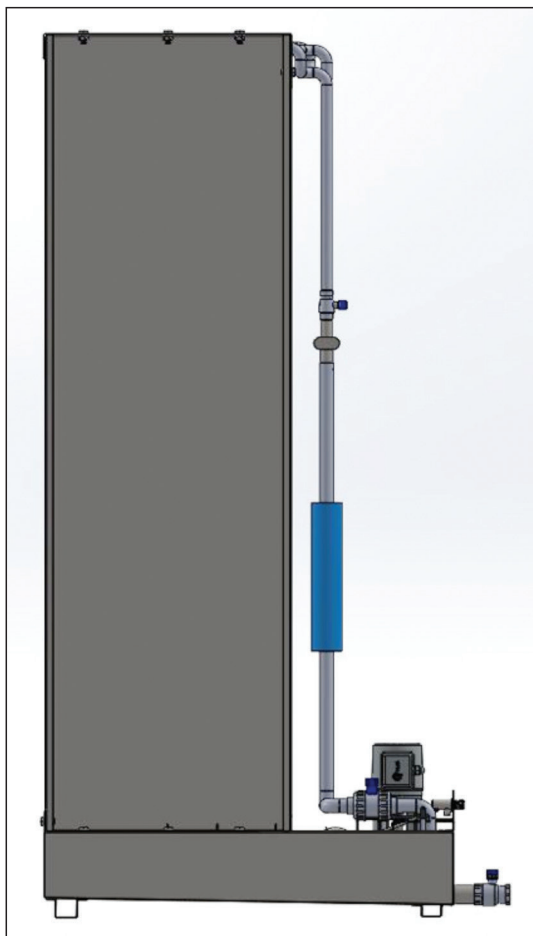
Since Evaporative humidifiers consist of few mechanical parts they do not need much maintainance. The PH value of the circulated water in the tank and the holes of the pads should be checked against clogging.



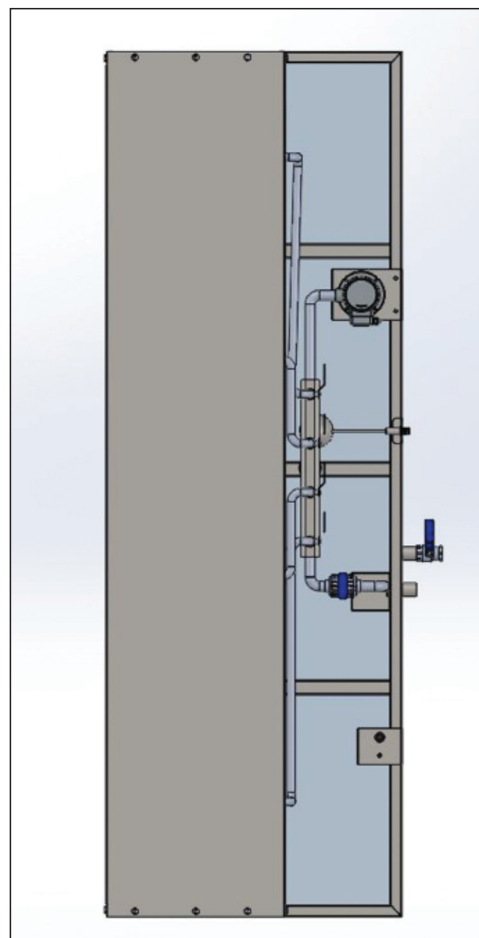
Isometric view



Front View



Side View

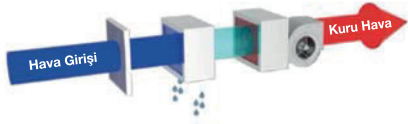


Top View

DEHUMIDIFIERS

Adsorbtion Dehumidifiers	112-119
Condensing Dehumidifiers	120-121
Pool Type Dehumidifiers	122-123
Room Type Dehumidifiers	124-125

Dehumidifiers



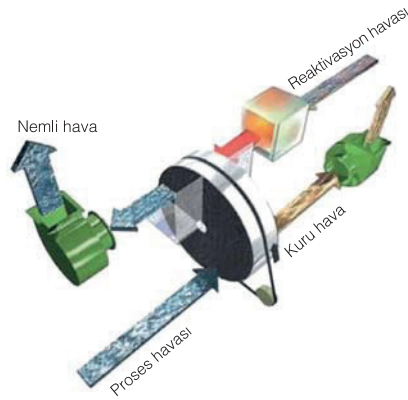
In areas where high humidity is not desired, it is possible to reduce the humidity by condensing the moisture in the air or keeping it on the silicagel surfaces.

Condensing Dehumidifiers

This dehumidification technology exploits the physical process of condensation of water vapor through the cooling of the moist air through a heat exchanger (finned coils) producing water condensate. This process is more efficient at medium to high temperatures and under conditions of high relative humidity (greater than 40%). Condensing dehumidifiers TFT ensure high performance for industrial, commercial and private uses : are generally used in environments where it is necessary to control the level of humidity or prevent condensation.

Condensing dehumidifier models are below ;

- **Hercules** :Suitable for industrial buildings too large and with very high humidity conditions
- **Vega** : Suitable for indoor swimming pools, designed to ensure maximum climatic and hygienic comfort.
- **Gemini** :Suitable for homes and offices, offers a great flexibility of installation to suit the needs of space in urban environments of everyday use..



Adsorption Dehumidifiers

The adsorption dehumidifiers using a technology based on the use of materials naturally drying (ie endowed with high physical-chemical affinity towards water vapor), as the silica gel. This operation technology makes them suitable for use in environments where they are required humidity values even at low temperatures and constant values dew point very low (up to -60°). With this technique it is possible to dehumidify any type of environment in any condition. The Model AD is (Air Dry) to respond to the need for dehumidification to extreme temperatures (below 0° C) and very low humidity values. The dehumidifiers in this line are particularly suitable for continuous operation stationary and mobile. To limit the energy consumption resulting TFT proposes integrative solutions as the Heat Recovery Systems capable of recovering up to 70% of the heat generated by the machine to re-enter the cycle of operation, generating a considerable saving.

Where to Use Dehumidifiers

- **Fungus and Mold**: The formation of mold and fungus directly on products and packaging containing them can be avoided by keeping the level below 70% relative humidity (RH) of the air. This is important in many situations, for example in the deposits of products, in production environments and packaging. In these cases it is necessary to use a dehumidification system fixed or mobile to maintain the required values.
- **Hygroscopic** : Some materials, such as powders and flour, in contact with humid air forming lumps, remain in a sticky status or degrade easily. In these cases it is recommended to introduce into the production process an appropriate dehumidification system designed ad hoc. Most of hygroscopic materials require very low dew point and controlled humidity conditions that are obtained only with the use of.
- **Bacteria**: Bacteria need moisture to survive and multiply. This problem becomes particularly serious and impactful when treating hygroscopic materials, such as in installations of packaging of drugs or in the chemical and food industries. Maintaining the temperature and the relative humidity low (usually less than 50%) prevents the proliferation of most of the bacteria, and thus avoids the damage to the products.
- **Bad Smells**: To maintain a healthy environment and comfortable, not only for the products but also for the personnel handling them is necessary to counteract the formation of unpleasant odors by maintaining the rate of relative humidity below 50% (RH) with the aid of filtration systems air. Thanks to new and efficient energy recovery systems, it is also possible to guarantee an appropriate better comfort in the environment with a considerable saving in money. These applications are very well suited in environments such as banks, supermarkets, hotels, large office buildings.
- **Humidity control**: In production processes involving drying or desiccation of sensitive products at elevated temperatures, it is necessary to install a dehumidification system that maintains the relative humidity low even at low temperature. This procedure avoids the formation of condensate and / or the formation of ice, ensuring a better result and faster in the production cycle with a considerable saving of energy and money.

- **Food:** Processes of freezing, packaging and storage in cold storage at low temperatures. Cooling tunnel, handling raw food powder, sugar processing (milling, grain, powdered sugar). Drying and curing cells of meats and cheeses, drying with dry air for washed ready to use salads, drying with controlled temperature of vegetables, low-temperature drying of herbs. Deposits industrial grain seed, automated storage. Pneumatic conveyors, storage silos.

- **Pharmaceutical:** Local production, packaging, laboratories and warehouses, drying rooms, purification, sterilization, freeze-drying and sealing require controlled temperature and relative humidity. Hospitals, surgical and outpatient locals and analysis laboratories must be equipped with dehumidifying system certified and guaranteed to keep the premises sterilized.

We can work on any phase of processing and production of medicines in powder, tablets or effervescent tablets, liquid or gel, coated with film, bottled or in syringes.

- **Chemical:** Disintegration of metallic materials, production of chemicals, disposal, extraction, recovery and purification of chemicals, corrosive and explosive. Painting, textile and tanning industry, building materials, coatings, inks, adhesives, civil engineering, personal care, cleaning industry and institutions, oil field, polyurethane, agriculture, food and paper industries: all these processes processing and manufacturing sectors require dehumidifying system certified, easy to maintain and always working, even in extreme weather conditions, to maintain the treated substances, which could result in serious damage.

- **Storage:** Situations where maintaining a relative humidity becomes necessary to store objects and products. Cold storage warehouses and supermarkets, shopping malls, bars and restaurants, show rooms, pantries, lockers of shipping companies, shipyards, military and petroleum products, business records and public garage (public storage doors), containers for transport by road and by sea, gas carriers and oil tankers.

- **Electronics:** Electronics SMD (Surface Mounting Device) requires conditions of low relative humidity to maintain the properties of the electronic components. Places Recommended application: machinery control room, server room.

- **Energy:** Machinery protection, boilers, turbines (once not more used), stocking of material of first necessity that do not contain steel.

- **Oil and Gas:** Workshops and plants for the production of combustible gases through distillation reaction, mixture processing; warehouses and storage tanks; companies for the hydrogenation of oils and fats for the treatment of agricultural products for welding or cutting of metal; factories for the processing of crude oil, gasoline and lubricating mixtures

- **Automotive:** Production and testing of air-bag, manufacture of tires for cars, installation of windows, drying car paints plants, protection of the components stored in the car, cab assembly prototypes, wind tunnels, dehumidification for the compartments for trains, assembly lines chain.

- **Defence:** Magazines military munitions, storage of food and basic necessities. Maintaining healthy air in garages, workshops and dormitories

- **Public buildings and civil:** Archives, museums and cultural heritage: dehumidification in relation to the sandblasting and painting (vases, containers).

Sport and well-being: prevention of condensation on cold surfaces, drying of new constructions. Swimming pools, sports facilities, spas and wellness centers

- **Raw Material & Recyclables:** Manufacture of wood and derivatives, minerals, metals, agricultural products and animals. Production and recycling of plastics, glass, paper ferrous materials, aluminum, cork and oils.

ADS 150 – 300 Model



MODELLO	ADS	150	300
Performances			
Dehumidification Capacity *	Kg/h	0,57	1,1
Fans			
Process air flow	m ³ /h	150	300
Static pressure	Pa	100	150
Fan nominal power	W	52	102
Regeneration air flow	m ³ /h	50	100
Static pressure	Pa	100	150
Fan nominal power	W	-	-
Drive Motor			
Nominal power	VA	3,7	3,7
Regeneration			
Regeneration type		Electric	Electric
Installed power	KW	0,7	1,4
Temperature rise in the heating coil	°C	80	80
Electrical characteristics			
Power supply	Volt/Ph/Hz	230/1+N/50 ±5%	230/1+N/50 ±5%
Maximum power absorbed standard units	KW	0,76	1,51
Maximum current absorbed standard units	A	4	7
Noise level			
Sound pressure **	dB (A)	42	42
Sound power **	dB (A)	70	70

* Conditione at 20 °C %60 UR

** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

AD 100 – 1250 Model



TECHNICAL DATA								
MODEL	AD	100	270	420	550	700	820	1250
Performances								
Dehumidification Capacity *	Kg/h	0,59	0,99	1,95	2,67	2,71	4,78	6,74
Fans								
Process air flow	m ³ /h	100	270	420	550	700	820	1250
Static pressure	Pa	180	210	300	270	180	160	400
Fan nominal power	W	52	102	166	166	170	170	500
Reactivation air flow	m ³ /h	30	50	90	120	135	210	270
Static pressure	Pa	210	190	320	280	260	250	180
Fan nominal power	W	80	80	166	166	166	166	166
Drive Motor								
Nominal power	W	3,0	3,0	3,0	3,0	3,0	3,0	3,0
Regeneration								
Regeneration type		Electric	Electric	Electric	Electric	Electric	Electric	Electric
Installed power	KW	0,9	1,3	2,6	3,5	3,5	6,6	9,9
Temp. rise in the heating coil	°C	80	75	80	85	75	90	100
Electrical characteristics								
Power supply	Volt/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50
Maximum power absorbed	KW	1,04	1,49	2,94	3,84	3,84	6,95	10,58
Maximum current absorbed	A	4,52	6,48	14,03	17,92	17,93	12,33	17,95
Noise level								
Sound pressure **	dB (A)	42	42	44	44	46	58	64
Sound power **	dB (A)	70	70	72	72	74	86	92

AD 800 – 1100 Model



TECHNICAL DATA			
MODEL	AD	800	1100T
Performances			
Dehumidification Capacity *	Kg/h	4,8	5,0
Fans			
Process air flow	m ³ /h	800	1100
Static pressure	Pa	200	300
Fan nominal power	KW	0,25	0,37
Reactivation air flow	m ³ /h	250	250
Static pressure	Pa	180	180
Fan nominal power	KW	0,085	0,085
Drive Motor			
Nominal power	VA	11	11
Regeneration			
Regeneration type		Electric	Electric
Installed power	KW	6,6	6,6
Regeneration type		Steam	Steam
Power output heating	KW	-	-
Steam consumption at 6Bar(a)	Kg/h	-	-
Temperature rise in the heating coil	°C	100	100
Electrical characteristics			
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	KW	7,0	7,1
Maximum current absorbed standard units	A	11,2	11,6
Noise level			
Sound pressure **	dB (A)	65	66
Sound power **	dB (A)	93	94

* Conditions at 20°C 60% RH

** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

AD 1000E – 3100TE Model



TECHNICAL DATA						
MODEL	AD	1000	1500	2000	2500	3100T
Performances						
Dehumidification Capacity *	kg/h	8,8	12,7	15,8	18,9	11,5
Fans						
Process air flow	m ³ /h	1000	1500	2000	2500	3100
Static pressure	Pa	300	200	250	300	250
Fan nominal power	kW	0,37	0,49	0,92	1,25	1,25
Reactivation air flow	m ³ /h	350	500	680	820	450
Static pressure	Pa	180	250	180	250	250
Fan nominal power	kW	0,24	0,37	0,49	0,72	0,37
Drive Motor						
Nominal power	VA	11	11	11	11	11
Regeneration						
Regeneration type		Electric	Electric	Electric	Electric	Electric
Installed power	KW	12,0	18,0	22,5	27,0	15,0
Regeneration type		Steam	Steam	Steam	Steam	Steam
Power output heating	kW	12,0	17,2	23,2	28,2	15,5
Steam consumption at 6Bar(a)	kg/h	21	30	40	49	27
Temperature rise in the heating coil	°C	100	100	100	100	100
Electrical characteristics						
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	kW	12,6	18,9	23,9	29,0	16,6
Maximum current absorbed standard units	A	18,4	27,5	34,8	42,5	24,3
Noise level						
Sound pressure **	dB (A)	64	64	66	66	68
Sound power **	dB (A)	92	92	94	94	96

* Conditions at 20°C 60% RH

** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

AD 3000 – 6500 Model



MODEL	AD	3000	3500	4500T	4000	5000	6500T
Performances							
Dehumidification Capacity *	Kg/h	23	27,3	21,1	31,7	37,2	27,1
Fans							
Process air flow	m ³ /h	3000	3500	4500	4000	5000	6500
Static pressure	Pa	400	350	300	400	400	400
Fan nominal power	KW	1,65	1,65	2,4	2,2	2,2	4,0
Reactivation air flow	m ³ /h	900	1100	900	1350	1600	1100
Static pressure	Pa	200	300	300	400	350	400
Fan nominal power	KW	0,49	0,72	0,72	0,75	1,1	0,75
Drive Motor							
Nominal power	W	11	11	10	10	10	10
Regeneration							
Regeneration type		Elettrica	Elettrica	Elettrica	Elettrica	Elettrica	Elettrica
Installed power	KW	30,0	36,0	27,0	45,0	54,0	36,0
Regeneration type		Vapore	Vapore	Vapore	Vapore	Vapore	Vapore
Power output heating	KW	31,1	37,9	31,1	46,6	55,2	37,9
Steam consuption at 6Bar(a)	Kg/h	54	65	54	80	95	65
Temperature rise in the heating coil	°C	100	100	100	100	100	100
Electrical characteristics							
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	KW	32,3	38,5	30,3	48,1	57,5	40,9
Maximum current absorbed standard units	A	46,7	55,8	43,7	69,5	83,1	60,8
Noise level							
Sound pressure **	dB (A)	68	68	69	70	72	73
Sound power **	dB (A)	96	96	97	98	100	101

* Conditions at 20°C 60% RH

** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

AD 7000 – 2500 Model



TECHNICAL DATA							
MODEL	AD	7000	9000	11000	13000	19000	25000
Performances							
Dehumidification Capacity *	Kg/h	52,9	63,7	81,8	92,0	131,1	162,0
Fans							
Process air flow	m ³ /h	7000	9000	11000	13000	19000	25000
Static pressure	Pa	400	400	400	400	400	400
Fan nominal power	KW	4	5,5	7,5	7,5	11	15
Reactivation air flow	m ³ /h	2300	2700	3670	4300	5500	7900
Static pressure	Pa	400	400	400	400	400	400
Fan nominal power	KW	2,2	3	3	3	4	5,5
Drive Motor							
Nominal power	W	10	10	10	10	10	10
Regeneration							
Regeneration type		Electric	Electric	Electric	Electric	Electric	Electric
Installed power	KW	75,0	90,0	120,0	144,0	180,0	252,0
Regeneration type		Steam	Steam	Steam	Steam	Steam	Steam
Power output heating	KW	78,9	102,7	126,3	147,5	188,9	272,4
Steam consuption at 6Bar(a)	Kg/h	118	153	186	219	279	402
Temperature rise in the heating coil	°C	100	100	100	100	100	100
Electrical characteristics							
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	KW	81,4	98,7	130,7	154,7	195,2	272,7
Maximum current absorbed standard units	A	123,5	158,6	204,3	240,8	303,2	424,5
Noise level							
Sound pressure **	dB (A)	71	72	74	74	76	76
Sound power **	dB (A)	99	100	102	102	104	104

* Conditions at 20°C 60% RH

** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

AD 2000 – 9500E Model



TECHNICAL DATA							
MODEL	ADP	2000	3500	5000	6500	8000	9500
Performances							
Dehumidification Capacity *	Kg/h	18,6	31,1	42,5	55,9	66,0	77,1
Fans							
Process air flow	m ³ /h	2000	3500	5000	6500	8000	9500
Static pressure	Pa	400	400	400	400	400	400
Fan nominal power	KW	1,1	1,5	2,2	4	5,5	7,5
Reactivation air flow	m ³ /h	700	1200	1700	2200	2600	3100
Static pressure	Pa	400	400	400	400	350	350
Fan nominal power	KW	0,75	0,75	1,1	1,5	1,5	2,2
Drive Motor							
Nominal power	W	10	10	10	10	10	10
Regeneration							
Regeneration type		Electrical	Electrical	Electrical	Electrical	Electrical	Electrical
Installed power	KW	25,5	39,6	56,1	72,6	85,8	99,0
Regeneration type		Steam	Steam	Steam	Steam	Steam	Steam
Power output heating	KW	24,2	41,2	58,6	75,5	89,7	106,5
Steam consumption at 6Bar(a)	Kg/h	36	61	86	111	133	158
Temperature rise in the heating coil	°C	100	100	100	100	100	100
Electrical characteristics							
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	KW	27,4	41,9	59,4	78,1	92,8	108,7
Maximum current absorbed standard units	A	43,9	66,8	93,9	121,8	145,7	172,3
Noise level							
Sound pressure **	dB (A)	60	64	65	66	69	70
Sound power **	dB (A)	88	92	93	94	97	98

* Conditions at 20°C 60% RH
 ** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

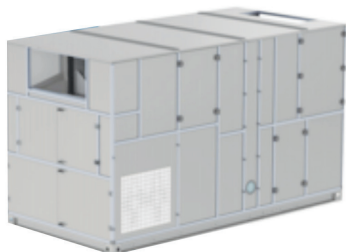
ADP 2002E – 9502E Model



TECHNICAL DATA							
MODEL	ADP	2002	3502	5002	6502	8002	9502
Performances							
Dehumidification Capacity *	Kg/h	16,0	28,7	38,2	50,7	58,8	66,9
Fans							
Process air flow	m ³ /h	2000	3500	5000	6500	8000	9500
Static pressure	Pa	400	400	400	400	400	400
Fan nominal power	KW	1,1	2,2	3	4	5,5	7,5
Reactivation air flow	m ³ /h	700	1200	1700	2200	2600	3100
Static pressure	Pa	400	400	400	400	400	400
Fan nominal power	KW	0,75	0,75	1,1	1,1	1,5	2,2
Drive Motor							
Nominal power	W	10	10	10	10	10	10
Regeneration							
Regeneration type		Electrical	Electrical	Electrical	Electrical	Electrical	Electrical
Installed power	KW	24	42	60	72	90	105
Regeneration type		Steam	Steam	Steam	Steam	Steam	Steam
Power output heating	KW	24,1	41,4	58,6	75,9	89,7	106,9
Steam consumption at 6Bar(a)	Kg/h	42	71	101	131	155	185
Temperature rise in the heating coil	°C	100	100	100	100	100	100
Electrical characteristics							
Power supply	Volt/Ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%
Maximum power absorbed standard units	KW	25,9	45	64,1	77,1	97	114,7
Maximum current absorbed standard units	A	38,7	71,4	94,4	113,4	142,5	169,4
Noise level							
Sound pressure **	dB (A)	60	64	65	66	69	70
Sound power **	dB (A)	88	92	93	94	97	98

* Conditions at 20°C 60% RH
 ** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

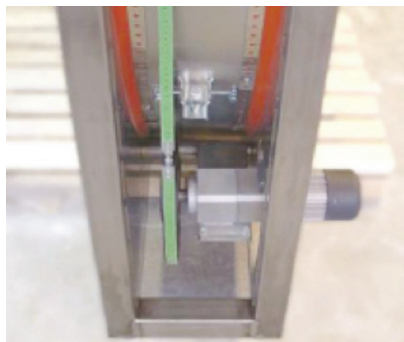
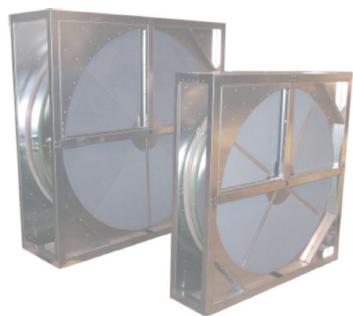
ADE 2500F – 19000F Model



TECHNICAL DATA								
MODEL	ADE	2500	4000	6000	9000	11000	15000	19000
Performances								
Dehumidification Capacity *	Kg/h	18,2	28,5	39,6	56,8	70,0	94,3	119,2
Fans								
Process air flow	m ³ /h	2500	4000	6000	9000	11000	15000	19000
Static pressure	Pa	350	350	350	350	350	350	350
Fan nominal power	KW	1,1	2,2	3	5,5	5,5	7,5	11
Minimum regenerationair flow	m ³ /h	2000	3000	4000	5500	7000	9000	11000
Maximum regenerationair flow	m ³ /h	4500	7500	11000	15000	19000	22000	26000
Static pressure	Pa	350	350	350	350	350	350	350
Fan nominal power	KW	3	5,5	11	11	15	15	18,5
Drive Motor								
Nominal power	W	10	10	10	10	10		10
Compressor								
Compressor type		reciprocating	reciprocating	reciprocating	reciprocating	reciprocating	reciprocating	reciprocating
Nominal absorbed power	KW	5,5	8,0	12,1	17,3	19,5	27,5	33,0
Inrush current	A	63	75	118	144	159	215	326
Gas refrigerant type		R134a	R134a	R134a	R134a	R134a	R134a	R134a
Electrical characteristics								
Power supply	Volt/Ph/Hz	400/3/50 ±5%						
Maximum power absorbed unit std	KW	9,65	15,7	26,1	33,8	40,0	50,0	62,6
Maximum current absorbed unit std	A	21,7	36,1	55,4	67,5	81,2	99,3	133,9
Noise level								
Sound pressure **	dB (A)	71	72	74	74	76	78	78
Sound power **	dB (A)	99	100	102	102	104	106	106

* At 20°C 60% RH, maximum outdoor air temperature 35°C 50%
 ** Sound pressure level calculated in free field, 10 meters from unit, direction factor Q = 2, according to ISO 9614

Dessicant ROTORS



The cassette uses a pulley and a belt driven by an electric motor with gearbox. The belt is produced by Optibelt while the motors are from Rotekup to 770mm diameter or from Mini Motor for larger models. The seals are made of low-friction rubber resistant to high temperatures.

Model	Diameter (mm)	Thickness (mm)
AD055	550	200/400
AD060	600	200/400
AD065	650	200/400
AD077	770	200/400
AD087	870	200/400
AD096	965	200/400
AD105	1050	200/400
AD122	1220	200/400
AD137	1370	200/400
AD152	1525	200/400
AD173	1730	200/400
AD194	1940	200/400
AD219	2190	200/400
AD245	2450	200/400
AD270	2700	200/400
AD310	3100	200/400
AD320	3200	200/400

CD / CDP 160 – 980 Model



The cassette uses a pulley and a belt driven by an electric motor with gearbox. The belt is produced by Optibelt while the motors are from Rotekup to 770mm diameter or from Mini Motor for larger models. The seals are made of low-friction rubber resistant to high temperatures.

TECHNICAL CHARACTERISTICS							
MODEL	CD	160	240	360	520	750	980
Performance							
Dehumidification capacity at 32°C 90% ⁽⁴⁾	L/24h	160	240	360	520	750	980
Dehumidification capacity at 30°C 80% ⁽⁴⁾	L/24h	126	188	300	440	620	830
Dehumidification capacity at 27°C 80% ⁽⁴⁾	L/24h	82	135	230	340	480	640
Dehumidification capacity at 27°C 60% ⁽⁴⁾	L/24h	70	103	170	250	340	470
Dehumidification capacity at 25°C 80% ⁽⁴⁾	L/24h	83	125	200	290	400	545
Dehumidification capacity at 25°C 60% ⁽⁴⁾	L/24h	60	90	145	210	290	395
Dehumidification capacity at 20°C 80% ⁽⁴⁾	L/24h	68	105	160	250	350	470
Dehumidification capacity at 20°C 60% ⁽⁴⁾	L/24h	48	70	140	170	240	320
Dehumidification capacity at 15°C 80% ⁽⁴⁾	L/24h	56	79	125	200	270	370
Dehumidification capacity at 15°C 60% ⁽⁴⁾	L/24h	37	55	80	115	160	215
Dehumidification capacity at 10°C 80% ⁽⁴⁾	L/24h	38	60	95	145	200	270
Dehumidification capacity at 10°C 60% ⁽⁴⁾	L/24h	22	35	55	80	110	150
Fans							
Air Flow	m ³ /h	1800÷1400	2300÷1600	3500÷3000	4600÷3800	6200÷5800	8500÷8000
Available static pressure	Pa	0÷125	0÷150	0÷125	0÷150	180÷300	180÷300
Refrigerant							
Type		R410a	R410a	R407c	R407c	R407c	R407c
Refrigerant charge	Kg						
Global Warming Potential (GWP)		2088	2088	1774	1774	1774	1774
Load equivalent CO ₂	t						
Electrical characteristics							
Power Supply	Volt/Ph/Hz	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Total absorbed power at 27°C 60%	KW	2,2	3,7	5,2	6,7	9,3	11,9
Maximum absorbed power ⁽¹⁾	KW	2,5	4,3	6,0	7,7	10,7	13,7
Maximum absorbed current ⁽¹⁾	A	11,5	9,1	12,5	15,6	18,2	22,9
Starting current ⁽¹⁾	A	39	50	63	76	87	98
Integration for heating							
Supplementary electrical heater	KW	4	4	4	4	4	4
Hot water coil ⁽²⁾	KW	5,0	5,0	9,0	12,0	20,0	24,0
Noise							
Sound pressure level ⁽³⁾	dB (A)	54	55	61	65	67	70
Sound power level ⁽⁴⁾	dB (A)	73	74	80	84	86	89

(1) With ambient conditions 35°C 95% without electrical resistance
 (2) Ambient temperature 27°C, water temperature 70°/60°C, compressor off
 (3) Sound pressure level calculated in a free field, 3 metres from the unit, directionality factor Q=2, according to ISO 9614
 (4) Operating temperature limits 7°÷35°C, relative humidity 45%÷99%

CDW16 / CDK 44 – 100 Model



TECHNICAL CHARACTERISTICS				
MODEL	CD	W16	K44	K100
Performance				
Dehumidification capacity at 32°C 90% ⁽⁴⁾	L/24h	15,2	44	96
Dehumidification capacity at 30°C 80% ⁽⁴⁾	L/24h	12	36	80
Dehumidification capacity at 27°C 80% ⁽⁴⁾	L/24h	9,6	27	56
Dehumidification capacity at 27°C 60% ⁽⁴⁾	L/24h	6,4	21	44
Dehumidification capacity at 25°C 80% ⁽⁴⁾	L/24h	8	25	52
Dehumidification capacity at 25°C 60% ⁽⁴⁾	L/24h	5,6	16	36
Dehumidification capacity at 20°C 80% ⁽⁴⁾	L/24h	5,6	18	45
Dehumidification capacity at 20°C 60% ⁽⁴⁾	L/24h	4	14	30
Dehumidification capacity at 15°C 80% ⁽⁴⁾	L/24h	4,8	16	37
Dehumidification capacity at 15°C 60% ⁽⁴⁾	L/24h	2,4	10	24
Dehumidification capacity at 10°C 80% ⁽⁴⁾	L/24h	4,	13	26
Dehumidification capacity at 10°C 60% ⁽⁴⁾	L/24h	1,6	8	18
Fans				
Air Flow	m ³ /h	160	450	1100
Available static pressure	Pa	0	0	0
Refrigerant				
Type		R134a	R410a	R410a
Refrigerant charge	Kg			
Global Warming Potential (GWP)		1430	2088	2088
Load equivalent CO ₂	t			
Electrical characteristics				
Power Supply	Volt/Ph/Hz	230/1/50	230/1/50	230/1/50
Total absorbed power at 20°C 60%	KW	0,2	0,57	1,05
Maximum absorbed power ⁽¹⁾	KW	0,26	0,71	1,48
Maximum absorbed current ⁽¹⁾	A	1,52	3,9	7,2
Starting current ⁽¹⁾	A	6,5	16	28
Noise				
Sound pressure level ⁽³⁾	dB (A)	39	51	56
Sound power level ⁽³⁾	dB (A)	58	70	75

(1) With ambient conditions 35°C 70% without electrical heater
 (2) Ambient temperature 27°C, water temperature 70°/60°C, compressor off
 (3) Sound pressure level calculated in a free field, 3 metres from the unit, directionality factor Q=2, according to ISO9614
 (4) Operating temperature limits 7°-35°C, relative humidity 30%-99%

CDNP 33 – 96 Model



TECHNICAL CHARACTERISTICS					
MODEL	CDNP	33	44	62	96
Performance					
Dehumidification capacity at 32°C 90% ⁽⁴⁾	L/24h	33	44	62	96
Dehumidification capacity at 30°C 80% ⁽⁴⁾	L/24h	26	36	52	80
Dehumidification capacity at 27°C 80% ⁽⁴⁾	L/24h	18	26	36	56
Dehumidification capacity at 27°C 60% ⁽⁴⁾	L/24h	13	18	27	44
Dehumidification capacity at 25°C 80% ⁽⁴⁾	L/24h	17	25	34	52
Dehumidification capacity at 25°C 60% ⁽⁴⁾	L/24h	12	17	23	36
Dehumidification capacity at 20°C 80% ⁽⁴⁾	L/24h	13,5	19	27	45
Dehumidification capacity at 20°C 60% ⁽⁴⁾	L/24h	10	14	19	30
Dehumidification capacity at 15°C 80% ⁽⁴⁾	L/24h	11	16	22	37
Dehumidification capacity at 15°C 60% ⁽⁴⁾	L/24h	8	11	14	24
Dehumidification capacity at 10°C 80% ⁽⁴⁾	L/24h	8	11,5	17	26
Dehumidification capacity at 10°C 60% ⁽⁴⁾	L/24h	5,5	8	10	18
Fans					
Air Flow	m ³ /h	380	450	550	1000
Available static pressure	Pa	0÷10	0÷10	0÷10	0÷10
Refrigerant					
Type		R410a	R410a	R410a	R410a
Refrigerant charge	Kg				
Global Warming Potential (GWP)		2088	2088	2088	2088
Load equivalent CO ₂	t				
Electrical characteristics					
Power Supply	Volt/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Total absorbed power at 20°C 60%	KW	0,41	0,57	0,72	1,05
Maximum absorbed power ⁽¹⁾	KW	0,59	0,81	0,92	1,48
Maximum absorbed current ⁽¹⁾	A	3,2	3,9	4,2	7,2
Starting current ⁽¹⁾	A	10	18	20	29
Noise					
Sound pressure level ⁽³⁾	dB (A)	43	43	51	52
Sound power level ⁽³⁾	dB (A)	62	62	70	71

(1) With ambient conditions 35°C 70% without electrical resistance
 (2) Ambient temperature 27°C, water temperature 70°/60°C, compressor off
 (3) Sound pressure level calculated in a free field, 3 metres from the unit, directionality factor Q=2, according to ISO9614
 (4) Operating temperature limits 1°-35°C, relative humidity 30%-98%



The CSW series of fixed dehumidifiers are high-performance devices that can be used in a variety of applications. They are particularly suitable for dehumidifying swimming pool environments, as they are resistant to corrosion caused by chlorine. They are equipped with a high efficiency, washable, polyurethane air filter, and easily replaceable, and the possibility of direct discharge. As an option, it is possible to install a condensate lifting pump that allows the pumping of the condensate up to a height of 3.5 metres from the positioning level of the machine. CSW series fixed dehumidifiers can be equipped with electric heaters or hot water coil for heating. Their elegant design makes them particularly suitable for installation in special environments such as libraries and offices.

TECHNICAL CHARACTERISTICS						
MODEL	CSW	63	100	140		96V
Performance						
Dehumidification capacity at 32°C 90% ⁽⁴⁾	L/24h	69	116	140		100
Dehumidification capacity at 30°C 80% ⁽⁴⁾	L/24h	57	94	115		80
Dehumidification capacity at 27°C 80% ⁽⁴⁾	L/24h	47	76	90		60
Dehumidification capacity at 27°C 60% ⁽⁴⁾	L/24h	32	53	75		48
Dehumidification capacity at 25°C 80% ⁽⁴⁾	L/24h	44	72	80		56
Dehumidification capacity at 25°C 60% ⁽⁴⁾	L/24h	31	50	60		40
Dehumidification capacity at 20°C 80% ⁽⁴⁾	L/24h	37	60	70		45
Dehumidification capacity at 20°C 60% ⁽⁴⁾	L/24h	24	40	43		32
Dehumidification capacity at 15°C 80% ⁽⁴⁾	L/24h	31	50	50		37
Dehumidification capacity at 15°C 60% ⁽⁴⁾	L/24h	18	28	30		24
Dehumidification capacity at 10°C 80% ⁽⁴⁾	L/24h	26	41	35		28
Dehumidification capacity at 10°C 60% ⁽⁴⁾	L/24h	13	21	20		16
Fans						
Air Flow	m ³ /h	600	980	900		800
Available static pressure	Pa	50+60	50+60	50+60		50+60
Refrigerant						
Type		R410a	R410a	R407c		R410a
Refrigerant charge	Kg					
Global Warming Potential (GWP)		2088	2088	1774		2088
Load equivalent CO ₂	t					
Electrical characteristics						
Power Supply	Volt/Ph/Hz	230/1/50	230/1/50	230/1/50		230/1/50
Total absorbed power at 27°C 60%	KW	0,84	1,39	1,88		1,4
Maximum absorbed power ⁽¹⁾	KW	0,97	1,61	2,29		1,61
Maximum absorbed current ⁽¹⁾	A	4,4	7,5	10,5		7,0
Starting current ⁽¹⁾	A	22	28	33		28
Integration for heating						
Supplementary electrical heater	KW	2	2,7	-		4
Hot water coil ⁽²⁾	KW	2,2	3,2	-		4,5
Noise						
Sound pressure level ⁽³⁾	dB (A)	49	52	49		49
Sound power level ⁽³⁾	dB (A)	68	71	68		68

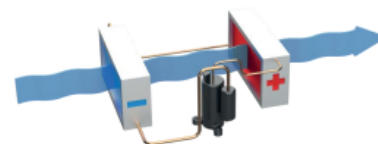
(1) With ambient conditions 35°C 70% without electrical resistance
 (2) Ambient temperature 27°C, water temperature 70°/60°C, compressor off
 (3) Sound pressure level calculated in a free field, 3 metres from the unit, directionality factor Q=2, according to ISO9614
 (4) Operating temperature limits 7°-35°C, relative humidity 40%-99%

FRAME

All CSW units are made of galvanized sheet metal, powder coated with polyurethane powders at 180°C to ensure the best resistance to atmospheric agents. The frame is self-supporting. For size 140, the structure and external panels are made of anodized aluminium profiles and internal sheets are made of stainless steel.

REFRIGERANT CIRCUIT

The refrigerant gas used in these units is R410a or R407c. The refrigerant circuit is designed in accordance with ISO 97/23 on welding procedures and PED standards. The refrigeration circuit includes: filter drier, Schrader valve for maintenance and control, capillary tube for expansion, compressor, condenser and evaporator in copper tube with aluminium fins.



COMPRESSOR

The characteristics of the rotary compressor are: High efficiency to save energy, Low noise level, quiet operation, use of HFC refrigerant for environmental protection, high reliability, long life.

FAN

The fans are made of galvanized steel, centrifugal type with forward blades. They are all statically and dynamically balanced. All the electric motors used are directly connected to the fans. The motors are all IP54 rated.

AIR FILTER

Made of synthetic material, the air filter is washable and easy to replace.

MICROPROCESSORS

The microprocessor controls all the functions of the machine, such as: general operation, automatic defrosting system, alarms, humidity and temperature regulation (temperature only for the machine version with hot water battery or electric heating elements).

ELECTRICAL PANEL

The electrical panel complies with the electromagnetic compatibility standards (2004/108 EEC) and the electrical safety standards for low voltage appliances 2006/95 EEC. The electrical panel is composed of the following components: remote control terminals, electronic board. The installation must comply with the safety standards and the laws in force. Provide a main switch-disconnector, if necessary.

CONDENSATE COLLECTION TRAY

Stainless steel tray, condensate drain pipe connection 3/4" Female.

TEST

The tests are carried out to verify the tightness of the cooling circuit. Electrical discharge tests and functional tests are also carried out.

CSW



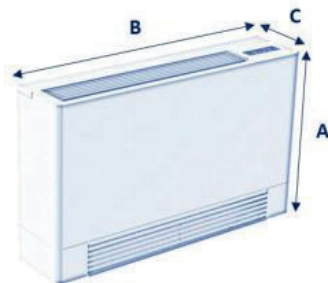
VERSION

CSW... Horizontal version (Fan-coils)
 CSW...V Vertical version (cabinet)

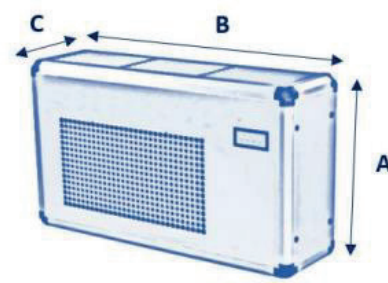
Model CSW	Code	63	100	140	96V
Hot gas defrost	HGAS	o	o	o	-
Built-in electronic temperature and humidity controller	RGITU	•	•	-	•
Remote electronic temperature and humidity controller	RGRTU	o	o	-	o
Electronic remote humidity regulator	RGRU	o	o	o	o
Condensate drain pump	PRC	o	o	o	o
Electric heating elements	HOEL	o	o	-	o
Heating hot water coil	HOWA	o	o	-	o
3-way on/off valve for hot water coil	KIVM	o	o	-	o

• standard, o optional, – not available.

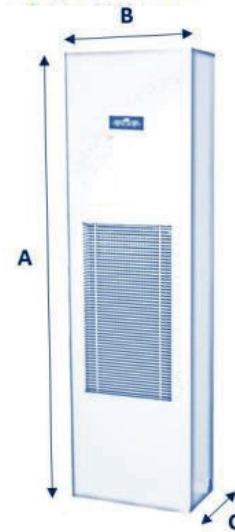
Dimensions model 63 - 100



Dimensions model 140



Dimensions model 96V



Model	CSW	63	100	140	96V
A	mm	605	740	710	1760
B	mm	1010	1220	1125	515
C	mm	235	250	360	290
Empty weight	Kg	48	72	66	72



Dehumidifier is used to reduce the air humidity, making the space be suitable for people's lives and goods storage. And now, it is widely used in scientific research, industrial, medical, instrumentation, commodity storage, underground engineering, computer room, library, archives, warehouses, baths and other places to prevent equipment, instruments, computers, telecommunications materials, goods, information and other moisture, corrosion, mildew and losses. The desired humidity level can be adjusted from the control panel, automatic defrost and tank filling alert (DH-18 & DH-50) can be monitored by the warning lamps. Absorbs the dust in the air by pre-filtering. Devices can be connected to fixed drainage if desired.

DH-20 Room Type Dehumidifiers



DH-20 model dehumidifiers are portable type dehumidifiers for small spaces. According to water tank, the received moisture can be held in the device or the drain line can be connected to a fixed line. The humidity level display can be used to monitor the instantaneous humidity of the space and the desired humidity level, fan speed and timing settings can be made via the control panel.



Model	DH-20
Code	45400020
Max Capacity (30°C 80% RH)	20L/DAY
Air Circulations	180-240 m ³ /h (2 steps)
Working Temperature	5 - 38 °C
Power Consumption	220 ~ 230V / 50 Hz / 1 Phase 280W
Water Tank Capacity	6 lt
Weight	14 Kg
Dimensions	370x255x615 mm

DH-50 Room Type Dehumidifiers



DH-50 model dehumidifiers are portable type dehumidifiers for medium sized (80-160 m³) spaces. Can be used domestic or commercial purposes. The drain line can be connected to a fixed line. The humidity level display can be used to monitor the humidity of the space and the desired humidity level, fan speed and timing settings can be made via the control panel.



Model	DH-50
Code	45400050
Max Capacity	50 lt/day (30°C % 80 RH)
Air Circulations	500 m ³ /h
Working temperature	5°C - 38°C
Power Consumption	850 W (220V/50Hz)
Weight	26 kg
Dimensions	360x 440 x 630 mm (wx l x h)

DH-90 Room Type Dehumidifiers



DH-90 model dehumidifiers are portable type dehumidifiers for medium sized (300 m³) spaces. Can be used domestic or commercial purposes. The drain line can be connected to a fixed line. The humidity level display can be used to monitor the humidity of the space and the desired humidity level, fan speed and timing settings can be made via the control panel.

Model	DH-90
Code	45400090
Max Capacity	90 lt/day (30°C ve% 80 RH)
Air Circulations	800 m ³ /h
Working temperature	5°C - 38°C
Power Consumption	1667 W (220V/50Hz)
Weight	49 kg
Dimensions	415 x 480 x 960 mm (wx l x h)

DH-150 Room Type Dehumidifiers



DH-150 model dehumidifiers are portable devices used in large volume areas such as industrial process, warehouse or indoor swimming pools. The drain line can be connected to a fixed line. The humidity level display can be used to monitor the humidity of the space and the desired humidity level, fan speed and timing settings can be made via the control panel.

Model	DH-150
Code	45400150
Max Capacity	150 lt/day (30°C ve% 80 RH)
Air Circulations	1200 m ³ /h
Working temperature	5°C - 38°C
Power Consumption	2200 W (220V/50Hz)
Weight	60 kg
Dimensions	500 x 600 x 995 mm (wx l x h)

INDUSTRIAL VENTILATION PRODUCTS

Welding Fumes /Dust Extraction Arms	128-130
Atex Arms	131
Fans	132
Probis Suction Arms	133-134
Mobile Units / Dust, Fumes, Suction Units	135-137
Centralized Filters	138-140
Oil Mist Suction Units	141-146
Suction Unit special for Grinding	147-148
Dust/ Fumes suction Booth	149-151
Airalt Filtering Unit	152
Aircom Filtering Unit	153
Airalt Atex Filtering Unit	154-156
High Pressure Filtering Unit	157-159
Electrostatic Filter	160
Exhaust reels	161-167
HLE Locomotive Exhaust Suction Unit	168

Dynaflex Welding Arms

Wall type



Dynaflex No-Smoke, Self-supporting suction arm represents the best technical solution for the suction of welding smoke, gas, vapours, aerosol, oil fumes, dusts, etc.

Features

- Flexible pipe, easy maintenance and easy assembly
- Simple movements
- Brand new ergonomic polypropylene hood
- Setting Damper

Code	50011630	50011640
Arm diameter (mm)	Ø160	Ø160
Arm length (m.)	3	4

Cart type



Code	50011631
Arm diameter (mm)	Ø160
Arm length (m.)	3

Accessories

Hood



Code	50111505
Arm diameter (mm)	Ø160

Wall Support



Code	50111504
Arm diameter (mm)	Ø160

Evolution No Smoke Arm



Evolution No Smoke, Self-supporting suction arm represents the best technical solution for the suction of welding smoke, gas, vapours, aerosol, oil fumes, dusts, etc

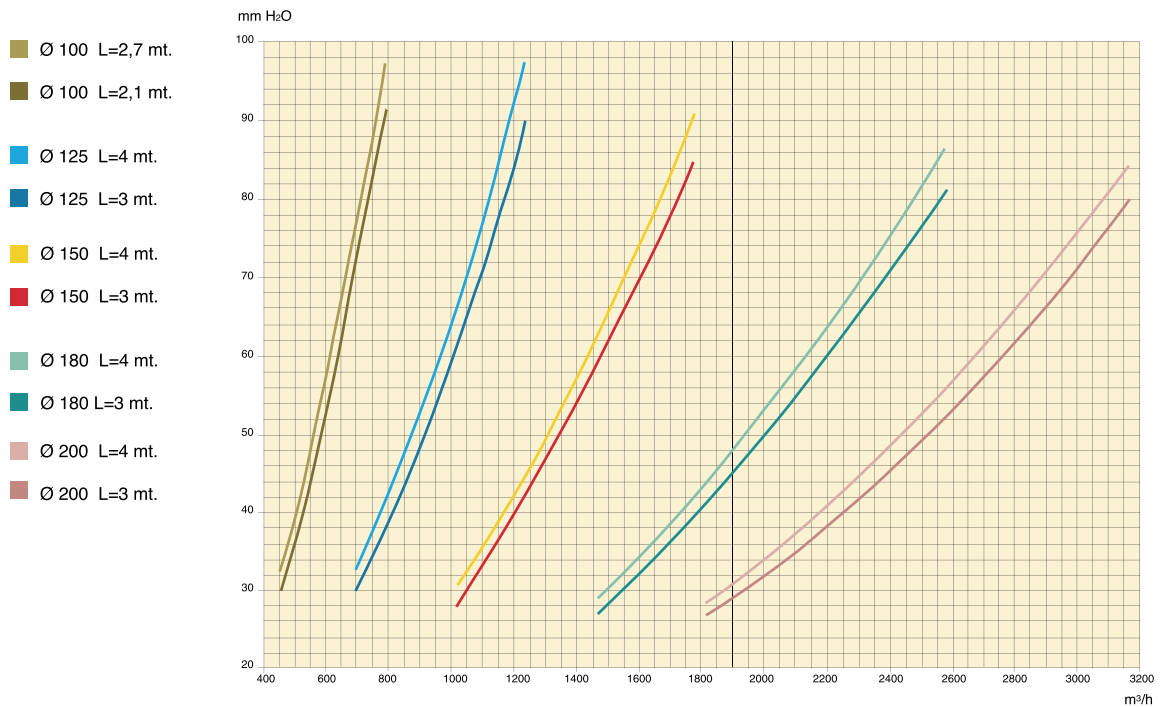
The polluted air is sucked in through the jointed hood and passes through pipes made of sturdy sheet metal (zinc-plated, inox, scratchproof enameled, aluminum) to the high efficiency fan or to the central piping system, and from here to the filtering unit used in the specific applications.

Evolution No-Smoke are coupled together by special external articulated joints that we have patented, and a high resistance flexible pipe NO-SMOKE FLEX which allow easy and convenient movement of the arm.

The Evolution No-Smoke Arm is also equipped with a rotary bearing which enables rotation through 360° if installed on its special stand. The flow of polluted air that passes through the suction duct created in the arm, is not therefore, hindered by internal joints or articulations. Due to the reduced length of the hose used in the elbows, load losses are far lower than with other similar systems on the market. Less load loss means : lower fan power, hence energy saving ; lower air flow speed, hence less noise.

Code	50101027	50101230	50101240	50101530	50101540	50101830	50101840	50102030	50102040
Arm diameter (mm)	Ø100	Ø125	Ø125	Ø150	Ø150	Ø180	Ø180	Ø200	Ø200
Arm length (m.)	2,7	3,0	4,0	3,0	4,0	3,0	4,0	3,0	4,0

Pressure Loss Graffic



50

Evolution Arm Accessories

Code:50111501



Sparks stop net kit for plastic hood Ø 150 mm complete with: net, protection cart er.

Code:50111502



Sparks stop net kit for plastic hood Ø 150 mm

Code:50112001



Light kit for aluminum hood Ø 200 mm and Stainless Steel Hood Sparks stop net.

Code:50111503



Stainless Steel Hood.

Code:50111504



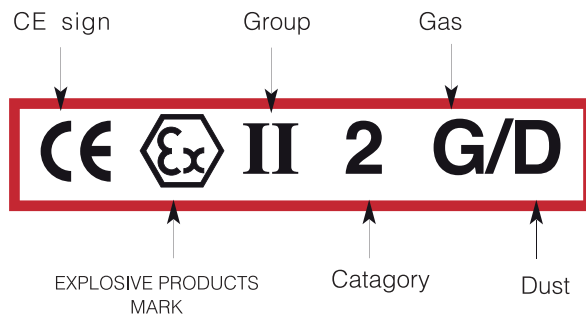
Wall Support for Evolution Arm.

Code:50150100



Wall Support for Fan

EVOLUTION ATEX EXPROOF ARMS



The Evolution ATEX arms was designed in compliance with the machinery directive 98/37/EC and the ATEX directive 94/9/EC.

The device is classified in compliance with ATEX rules by the above identification string.

OPTIONAL

On request Evolution ATEX arms can be produced in fully AISI 316 stainless steel suitable for example for food industry, pharmaceutical and chemical applications. Antistatic flexible ARM with $R < 10^9 \text{ Ohm}$ Copper earthing wire connecting the stiff piping sections and the arm support shelf supplied as optional.

Evolution ATEX fume extraction arms are designed to convey locally produced pollutants towards specific filtering and deodorising systems in potentially explosive atmospheres. The use of specific materials to guarantee a proper ground connection of the electric components make the Evolution ATEX arm suitable to be applied in zone 21, 1 and with dust classified st3

Kst Values for some industrial Dusts

powders	Pmax, Bar	Kst, bar.m.s ⁻¹
PVC	6,7-8,5	27-98
Polietilen	7,4-8,8	54-131
Linyit	8,1-10,0	93-176
Cellulose	8,0-9,8	56-229
Pigment	6,5-10,7	28-344
Aluminum	5,4-12,9	16-750

Correlation between Kst values and explosion dust

explosion class	Kst, bar.m.s ⁻¹	explosion type
	explosive, 10 KJ	
St0	0	no
St1	<200	weak
St2	>200-300	powerful
St3	>300	very powerful

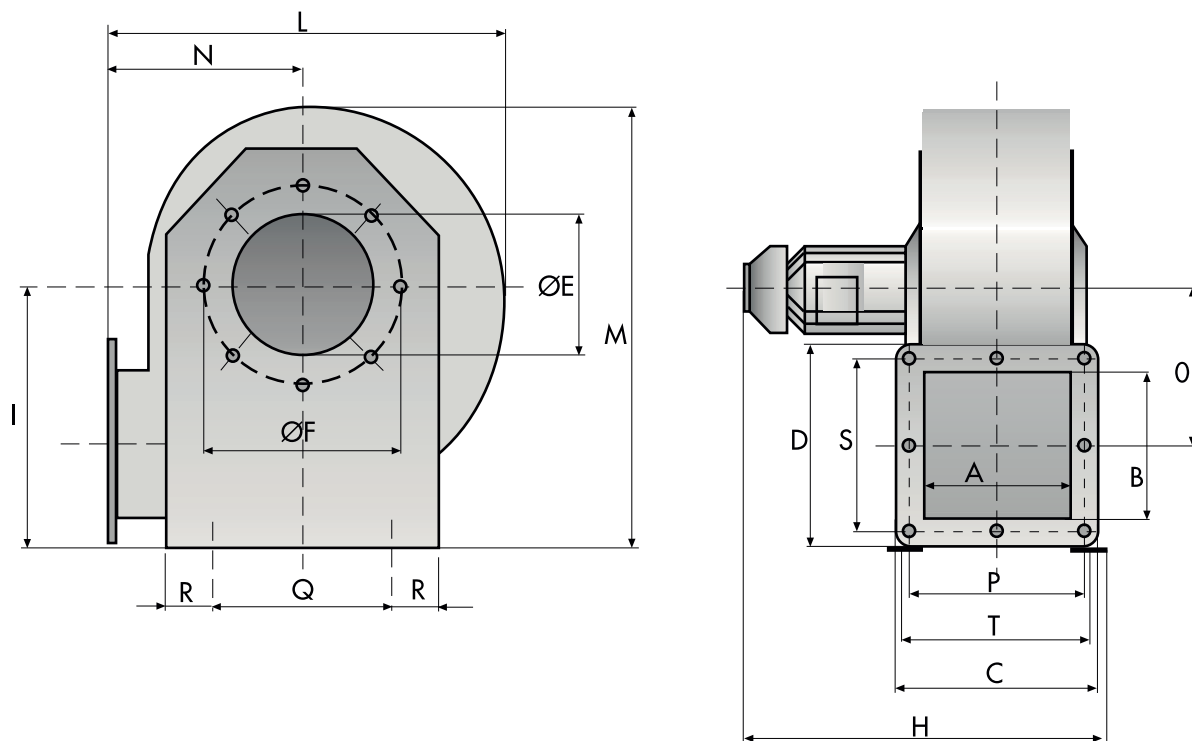
Code	50301021	50301022	50301230	50301530	50301540	50301830	50301840	50302030	50302040	50302530	50302540
Arm diameter (mm)	Ø100	Ø100	Ø125	Ø150	Ø150	Ø180	Ø180	Ø200	Ø200	Ø250	Ø250
Arm length	2,1	2,7	3,0	3,0	4,0	3,0	4,0	3,0	4,0	3,0	4,0

Fan Selection

Air Flow Rates

Evolution	Ø100 mm 2,1 mt	Ø100 mm 2,7 mt	Ø125 mm 3,0 mt	Ø125 mm 4,0 mt	Ø150 mm 3,0 mt	Ø150 mm 4,0 mt	Ø180 mm 3,0 mt	Ø180 mm 4,0 mt	Ø200 mm 3,0 mt	Ø200 mm 4,0 mt	Kod
HP 0,50	604	590									50151005
HP 0,75			1100	1050							50151007
HP 1			1250	1150	1700	1630					50151010
HP 2					1900	1850	2000	1900	2500	2450	50151020
HP 3							2300	2050	3000	2850	50151030

Fan Dimensions



Dimensions

	A	B	C	D	ØE	ØF	H	I	L	M	N	O	P	Q	R	S	T	dB(A)
HP 0,5/Ø100	140	185	200	245	105	150	392	242	351	409	182	114	170	170	52	215	183	73
HP 0,75/Ø125-Ø150	140	185	200	245	162	216	392	242	351	409	182	114	170	170	52	215	183	75
HP 1/Ø150	160	160	220	220	152	216	432	287	429	477	212	262	190	198	53	190	204	80
HP 2/Ø150	180	180	240	240	153	216	502	378	535	619	257	227	210	278	48	210	223	82
HP 2/Ø180-Ø200	200	200	260	260	205	268	522	412	601	685	286	258	230	320	47	230	243	82
HP 3/Ø150	180	180	240	240	153	216	502	378	535	619	257	227	210	278	48	210	223	84
HP 3/Ø180-Ø200	200	200	260	260	205	268	522	412	601	685	286	258	230	320	47	230	248	84

PROBIS

Code: 50401000

Applications

The PROBIS self-supporting articulated arm made by CORAL represent the best technical solution and has the necessary versability for extracting furnes emitted by soft soldering, laboratory vapours, electronics in general, small scale craft work goldsmithery, dental laboratories, etc. The CORAL PROBISA, arm is available with two articulated joints fitted with Fast-tightening screws for the correct positioning at the workstation, according to the specifie type of use required. The PROBIS arm can be fixed to the ceiling or the workhench.

Operating Principle

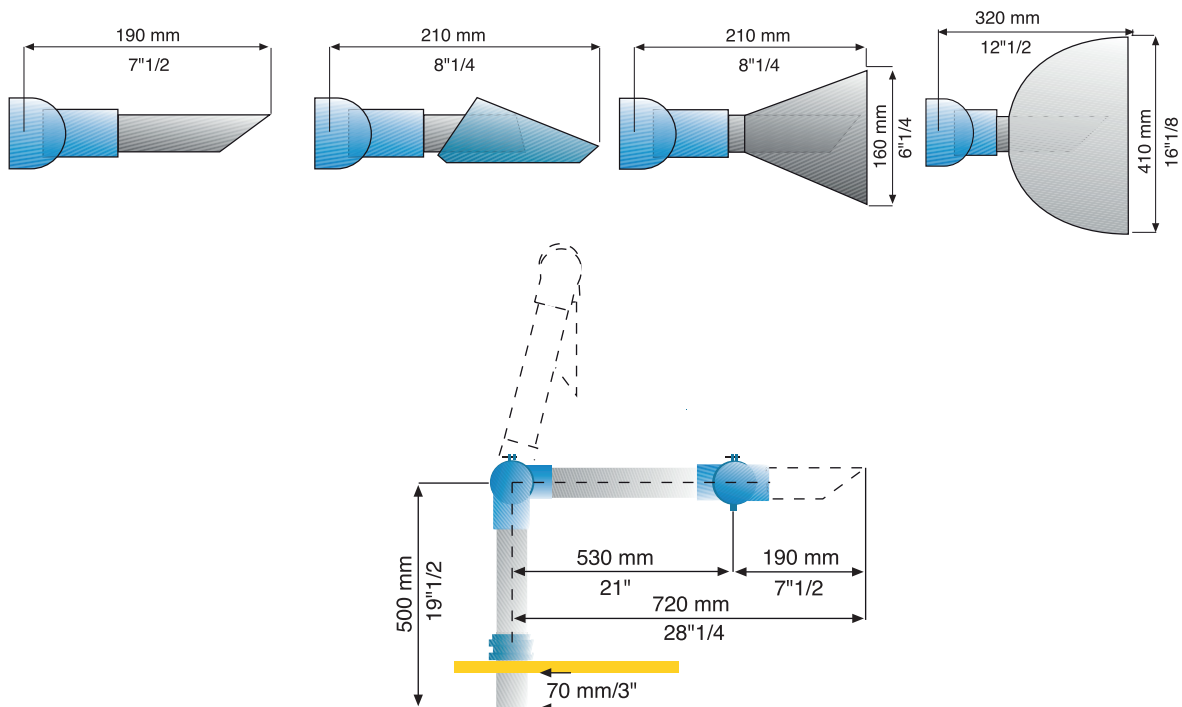
The polluted air is sucked in by one of the seven types of hoods, interchangeable according to the type of use with ideal positioning possibilities as it can rotate 360 about its axis, passes through the anodized aluminium pipe with articulated joints made of a resistant plastic material, to the CORAL suction and filter unit or the centralized suction system.

Accessories

In addition to the various types of hoods available the circular hood can be fitted with halogen light for a grater and more clearly defined area of visibility CORAL also provide special hoods made of plexiglas for automatic welding so that these operations can be kept under visual control and a damper to set the desired air flow.



Dimensions



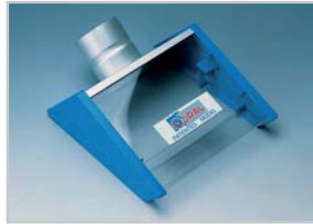
PROBIS/A Accessories

Code: 50400101



Pleksiglas Circular Hood

Code: 50400102



Pleksiglas Hood With Leak

Code: 50400103



Hood With 100 mm leak

Code: 50400104



Hood With 150 mm leak

Code: 50400105



Hood with 250 mm leak

Code: 50400106



Suction hood type stilo

Code: 50400107



Circular Hood

Code: 50400108



Circular hood with halogen light 24V 20W

Code: 50400400



Couplings with flexible hose

Code: 50400118



Transformer

Code: 50400201

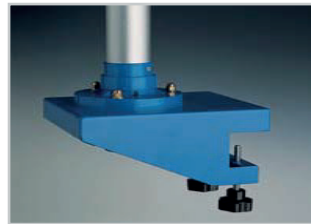


Table Support

Code: 50400202



Wall Support

Code: 50400300



Air Flow Setting Damper

PROBIS/C



Code: 50402000

In this model, the joints are made of PVC and the pipe is made of painted aluminum. It always maintains its easy-to-use feature.

Mobile Smoke/Dust Suction Devices (Clean Go)



The polluted air, sucked by the patented arm UNIVERSAL NO-SMOKE or EVOLUTION NO-SMOKE (optional), completely articulated and extensible having a 360° rotation is ejected in the decantation room where heavier particles are filtered. At the same time the particles present in the air are stopped by the prefilter. Then the air come through the high efficiency cellulose cartridges rated BIA USG, C and the activated carbon filter where the gases are absorbed. The air is then ejected in premises again

The new unit "CLEAN GO" thanks to its small dimension is easy to use and operational efficient and represents the actual solution for suction, filtering and deodorizing of welding fumes, solvent, vapours aerosol in work premises

"CLEAN GO" is designed according to up-to-date technologies, suitable in industrial and handicraft field, where easy to move and small size are requested to the filtering units.

"CLEAN GO" has particularly been studied for use in different fields such as industrial maintenance, car repair workshops, hydraulic and light mechanical workshop.

ENERGY SAVING

The extraction of toxic fumes from work premises in winter creates a drop in temperature. Usually this situation has been solved by oversizing the heating group, with very high installation and running costs.

The "CLEAN GO" represents the ideal solution to the problem, because the filtered air may be recycled completely free of pollutants in the working area.

MAXIMUM EFFICIENCY

The high efficiency filter media used, permits a collection higher than 99,9% and an almost total elimination of odours.

Technical data

Code	50810000
CLEANGO	
Dimensions	756x702x916mm
Dynaflex Arm Length	3m.
Power	1,1kW
Voltage	230/400V 3PH 50HZ
Current	2,52A
Noise Level	72 dB(A)
Airflow	Max. 1400m3/h
Maximum Pressure Drop	1250Pa

Optional Filters

Code: 50810102



Cellulose Filter

Code: 50810103



Charcoal cartridge 2,5kg

Code: 50810101



Charcoal cartridge 10 kg



Cleaning DF ve Jetclean DF



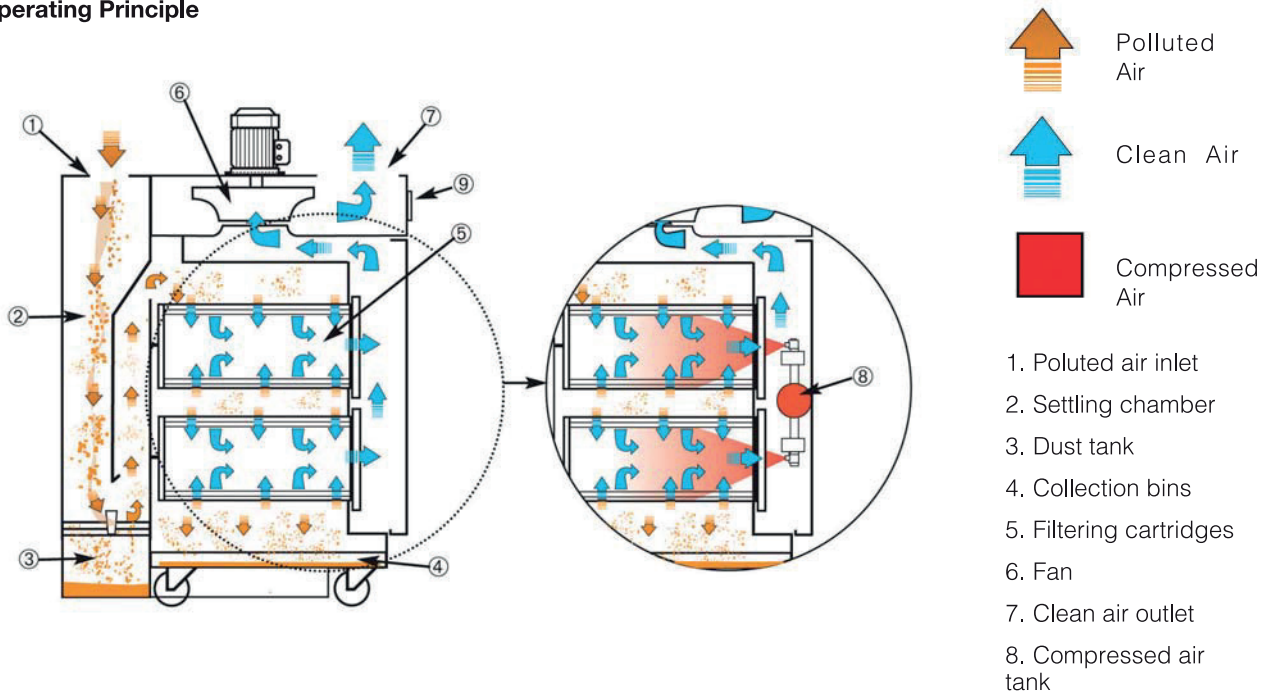
The CLEANING DF and JETCLEAN DF are filter units equipped with horizontal cartridges suitable for suction and filtration of welding fumes, fine and coarse dusts as well as of small quantities of chips. They are composed by powder coated steel panels and pre-fitted with articulated arm flanged connection model UNIVERSAL NO-SMOKE 3.3 mts (Standard) or EVOLUTION NO-SMOKE 3 mts (Optional) both in Dia 150 mm. They are composed by powder coated steel panels and pre-fitted with articulated arm flanged connection model UNIVERSAL NO-SMOKE 3.3 mts (Standard) or EVOLUTION NO-SMOKE 3 mts (Optional) both in Dia 150 mm. They are engineered to be used inside the work premises. The polluted air is sucked through the inlet thanks to the depression created by the suction fan positioned on the clean side.

The filter unit consists of one vertical pre-chamber, where the heaviest dusts are sorted out, falling then in a first collecting bin (A). The following labyrinth together with the high efficiency filtering cartridges complete the filtration of the remaining fine dusts collected in the second bin (B). The high performance fan, placed just on the top of the unit, assures a high suction capacity and a low noise level, the clean air is exhausted out through a top grill.

The JETCLEAN DF thanks to the pneumatic cleaning automatic system (with compressed air) grants the perfect efficiency of the filter cartridges.

The CLEANING DF unit is equipped instead with disposable filter cartrid

Operating Principle



Filter Specification

Cartridge filter	Cleaning / Jetclean	DF1 0,55	DF1 0,75	DF2 1,1	DF2 2,2
	Cartridge number	1	1	2	2
	Cartridge dimensions	Ø325 - H400 mm		Ø325 - H400 mm	
	IFA/BGIA Class	CLEANING DF1		CLEANING DF2	
		M CEL		M CEL	
		Selüloz 12 m ²		Selüloz 24 m ²	
	IFA/BGIA Class	JETCLEAN DF1		JETCLEAN DF2	
		M PES		M PES	
		Polyester 8 m ²		Polyester 16 m ²	

Cleaning DF ve Jetclean DF

Dimensions

DF 1

* Plenum (optional)

dimensions	CLEANING DF JETCLEAN DF	A	B	C	D	E	F
DF1 0,55		675	905	1129	939	2360	1530
DF1 0,75		675	905	1162	939	2360	1530

DF 2

dimensions	CLEANING DF JETCLEAN DF	A	B	C	D	E	F
DF2 1,1		750	955	1380	1158	2579	1654
DF2 2,2		750	955	1420	1158	2579	1654

Technical Data

Code	50820155	50820175	50820211	50820222
Cleaning/Jetclean	DF1 0,55	DF1 0,75	DF2 1,1	DF2 2,2
Power Rate	0,75 HP - 0,55 kW	1 HP - 0,75 kW	1,5 HP - 1,1 kW	3 HP - 2,2 kW
RPM	2800	2800	2800	2800
Fan Type	PRM 220	PRM 220	PRM 250	PRM 250
Nominal Air flow	1400 m ³ /h	1450 m ³ /h	1880 m ³ /h	2280 m ³ /h
∅150 Arm Air flow	1000 m ³ /h	1100 m ³ /h	1550 m ³ /h	2150 m ³ /h
Number of Arms	1 x ∅150 mm	1 x ∅150 mm	1 x ∅150 mm	2 x ∅150 mm
Average Sound level	71 dB - 64 dB*	72 dB - 65 dB*	74 dB - 70 dB*	74,5 dB - 70 dB*
Bin Dust holding capacity	9+15 lt	9+15 lt	12+28 lt	12+28 lt
Weight	105 kg	110 kg	145 kg	160 kg

* With sound absorber plenum

IPETJET DF

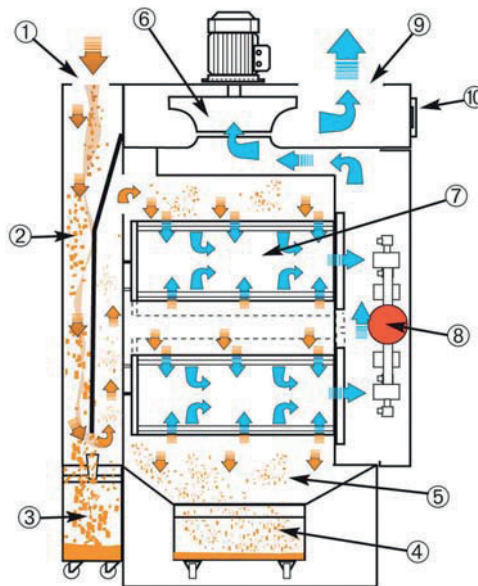


The new IPERJET DF filter equipped with horizontal cartridges is suitable for suction and filtration of welding fumes, fine and coarse dusts as well as of small quantities of chips, dusts/fumes from thermal cutting. It is a filter unit to be installed inside the work premises. If allowed by local regulations, the filtered air can be recycled into the working area giving a considerable energy saving.

The filter unit consists of one pre-chamber where the most dusts are sorted out, falling then in the first collecting bin. The following labyrinth together with the high efficiency filtering cartridges and the second collecting bin complete the filtration of the remaining dusts.

The high performance fan, placed just on the top of the unit assures a high suction capacity and a low noise level.

Operating Principle



1. Poluted air inlet
2. Settling chamber
3. Collection Bin
4. Recollection Bin
5. Second settling chamber
6. Fan
7. Filtering cartridges
8. Compressed air tank
9. Clean air outlet
10. Manometer

OPTIONAL

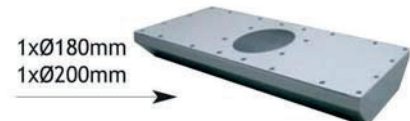


Code: 50831012
Inlet connection

Code: 50831013
Inlet connection for arms



Code: 50831014
inlet connection for arms

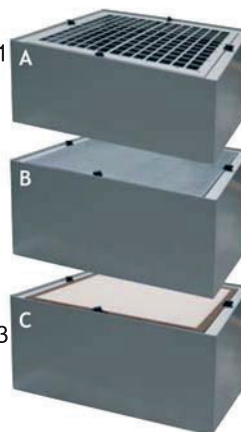


Clean air outlet filter

Code: 50831021
Vent (A)

Cod: 50831022
Active
Carbon (B)

Code: 50831023
Hepa (C)



Code: 50831011
Ducting kit for
clean outlet

Code: 50101540
Evolution No-Smoke Arm 4m



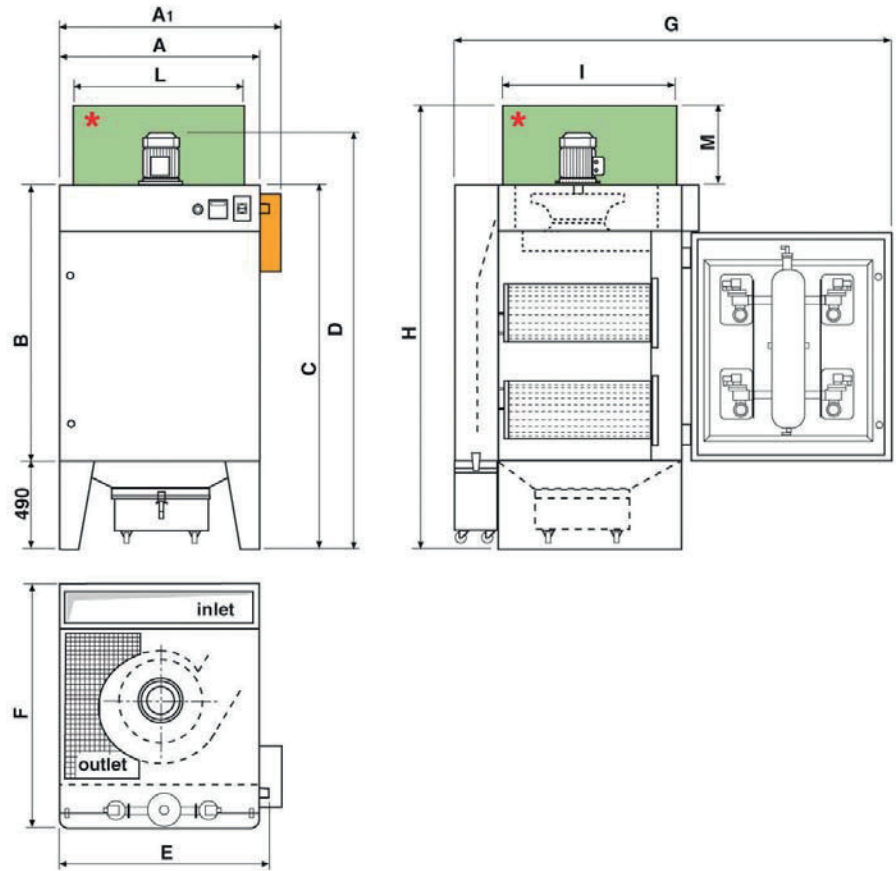
Kod: 50831046
Electric Control Panel
(Standart for DF9
Optional for
DF 4 and DF6)



IPERJET DF

Technical Specifications

- Electric control panel (Standart for DF9, optional for DF4 and DF6)
- Sound absorber plenum (Optional)



Dimensions	IPERJET	A	A1	B	C	D	E	F	G	H	I	L	M
	DF4- DF4 Thermalcut	930	-	1120	1610	1915	1015	1210	2085	2043	866	838	433
	DF6- DF6 Thermalcut	1100	-	1315	1805	2130	1190	1210	2260	2358	1038	840	553
	DF9- DF9 Thermalcut	-	1500	1495	1979	2354	-	1293	2540	2532	1293	980	553

Cartridge Filter	IPERJET	DF4 - DF4/R	DF6	DF9	THERMALCUT		
					DF4 - DF4/R	DF6	DF9
	Cartridge number	4	6	9	4	4	6
	IFA/BGIA Class	M PES (Standart) Polyester			M-PES+PTFE MEMBRAN Polyester Teflon Membran	M-NANOTECH Nanofiber Cellulose	
Cartridge Dimensions	Ø325 - H750 mm			Ø325 - H750 mm	Ø325 - H660 mm		

DF4/R: With Wheels

IPERJET DF

Filtre Yüzeji		DF4-DF4/R		DF6	DF9
	IPERJET	3HP-37m ²	4HP-48m ²	5,5HP-72 m ²	10HP-108 m ²
	IPERJET THERMALCUT M-PES+PTFE/MEMBRAN	3HP-48m ²		4HP-48 m ²	5,5HP-72m ²
	IPERJET THERMALCUT M-NANOTECH	3HP-84m ²		4HP-84m ²	5,5HP-126m ²

Code	50834122	50834230	50834322	50836140	50836330	50839140	50839340
IPERJET	DF4	DF4 / R	DF4 THERMALCUT	DF6	DF6 THERMALCUT	DF9	DF9 THERMALCUT
Power Rate	3HP-2,2 kW	4HP-3 kW	3HP-2,2 kW	5,5HP-4 kW	4HP-3 kW	10HP-7,5 kW	5,5HP-4 kW
R.P.M	2865	2895	2865	2900	2895	2915	2900
Fan Type	PRA250			PRA280	PRA250	PRA320	PRA280
Fan Electric Feeding	230/400 V 50 Hz			400/690 V 50 Hz	230/400 V 50 Hz	400/690 V 50 Hz	
	Could be 60 Hz if required						
Nominal Air Flow m ³ /h	2200 m ³ /h	3000 m ³ /h	2000 m ³ /h	4000 m ³ /h	2500 m ³ /h	6500 m ³ /h	3500 m ³ /h
Static Pressure	100 mmH ₂ O						
Apprx. Sound Level	78 dB-71 dB*	78 dB-71 dB*	77 dB-70 dB*	81 dB-75 dB*	77 dB-70 dB*	87 dB-79 dB*	79 dB-73 dB*
Dust Tank Capacity	80+86 lt			90+115 lt		102+137 lt	
Weight	380 kg	385 kg	380 kg	470 kg		620 kg	
Compressor Pressure	5/6 BAR						
Valve Feeding	24 VDC						

With Sound Absorber Plenum

Oil Mist Suction Filter (Noil)



APPLICATION

MECHANICAL INDUSTRY: lathe for multiple operations, threading machines, gear cutting machines, and so on.

GRAPHIC ARTS: rotary presses for newspapers, ink smoke, etc...

FOOD INDUSTRY: vegetal oil nebulizers, machines for alimentary paste working, etc...

OTHER: turbines, compressors, pumps, greasing machines, nebulizers, etc...

HIGHEST EFFICIENCY

Thanks to the joint use of a BIA tested USG,C rated cellulose pre-filter and polyester filter an high efficiency up to an average value of 98% in the capture of oil particles is guaranteed. The filtered air is then recycled in the work premises.

OIL RECOVERY

The filtered oil collected in the low part of the separator gets out from the oil outlet which guarantees the almost total oil recovery and the relative recycle.

The oil outlet of NOIL provided with a 1" 1/2 pipe union must always be plunged into the oil recycle tank so that there is no air escape (see installation examples).

REDUCED OVERALL DIMENTION

The NOIL separator is very solid and has reduced dimensions thanks to the inside mounting of the ventilator, allowing an easy adaptability to all machine tools.

POST FILTER

In case of heavy duty use where smokes are present we suggest to apply the post-filter with BIA tested USG, C teflon coated cartridge. The post-filter is supplied complete with 90° bend for an even distribution of the filtered air in the room.



Mounting Types



Stand Support



Installation on a wall mounted bracket

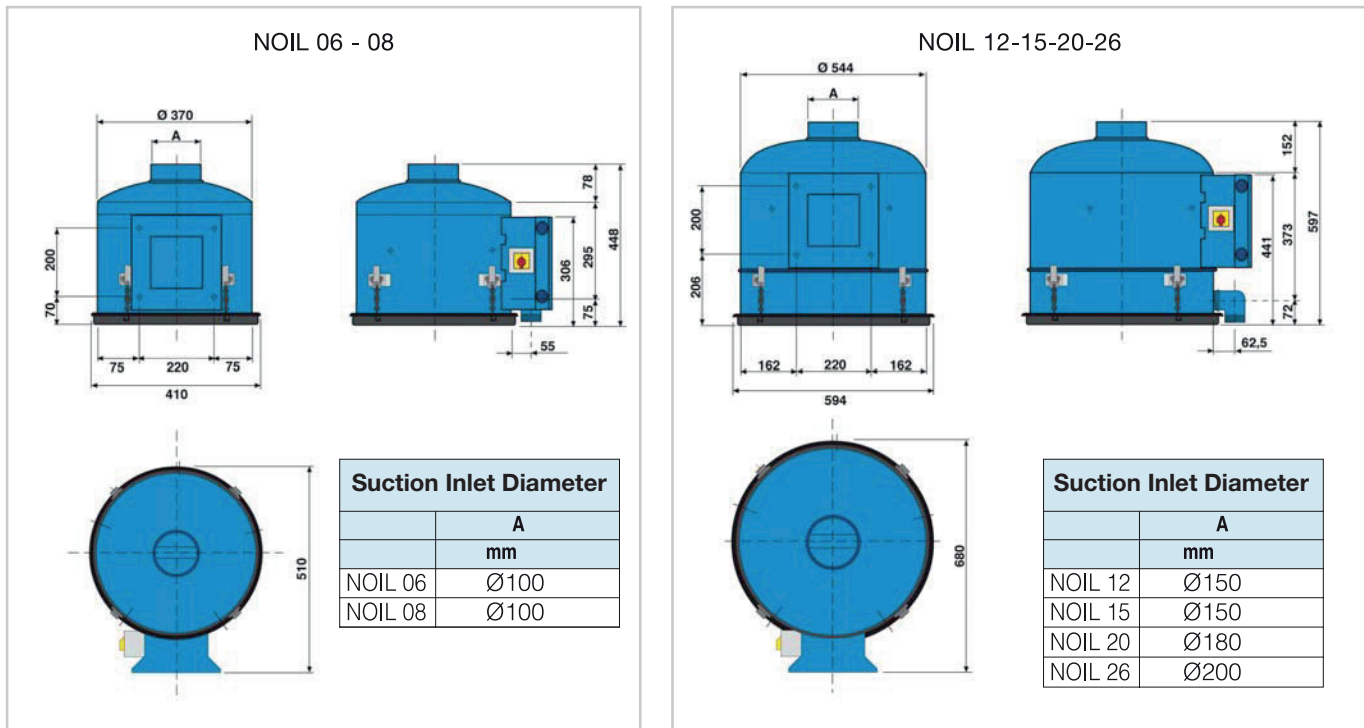


Installation on a column support

Other installations allow the direct fixing of the NOIL unit to the machine tool or cart mounting

NOIL

Technical Data



Model	Max. Airflow (m ³ /h)	Static Pressure (Pa)	Motor Power (230/400V-50 Hz-2900-rpm) (kW - HP)	Weight (kg)	Gross Weight (dB) (A)	Code
NOIL 06	600	500	0,75-1	28	68	50910600
NOIL 08	800	500	0,75-1	29	72	50910800
NOIL 12	1200	500	1,5-2	55	74	50911200
NOIL 15	1500	500	1,5-2	56	75	50911500
NOIL 20	2200	500	1,5-2	55	75	50912000
NOIL 26	2600	500	1,5-2	56	76	50912600

Noil 06 & 12 not available at 60 Hz

Oil Mist Suction Filter (Oilstop)



COMPLIANCE TO SAFETY STANDARDS

The OIL STOP has been designed and manufactured in accordance to the laws and standards set forth by the American Conference Governmental Industrial Hygienists (ACGIH). The OIL STOP meets or exceeds the T.V.L. (Threshold Limit Values) and T.W.A. (Time-Weighted Average) for the maximum acceptable concentration of the different polluting substances (for machine tool mist the maximum value is 5 mg/m³).

MAXIMUM EFFICIENCY

The OIL STOP performs with a very high level of filtration efficiency (up to 99%). Where bad odor must also be removed, OIL STOP is equipped optionally with CARBO activated charcoal filters. If odors are to be removed the composition of the polluting agents should be supplied us to enable suggest the proper activated charcoals.

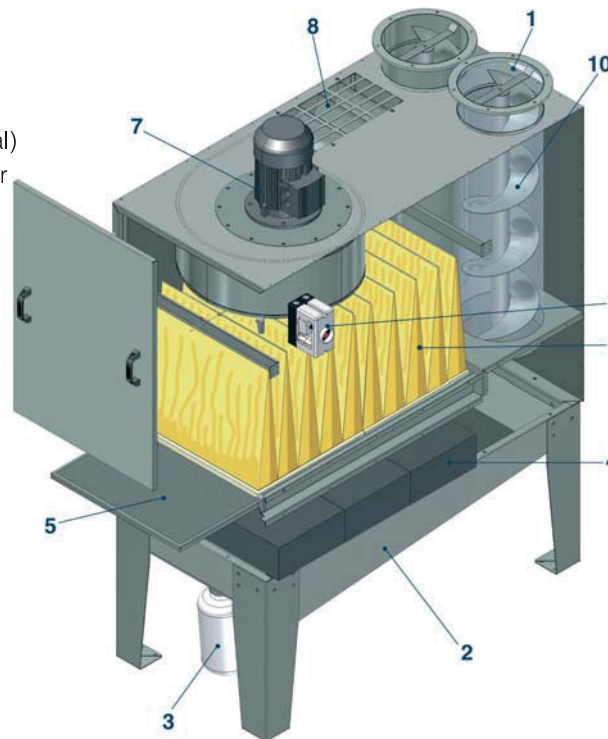
QUIET OPERATION

Due to the layout of its filters, their remarkable absorbing power and the special streamline, the OIL STOP can be used in any environment without causing acoustic pollution. Where very low noise levels are required, OPTIONAL AFON model silencers are supplied.

OPTIONS

Depending on the different requirements, OIL STOP can be supplied with CARBO charcoal filters, with absolute filters or with any other type of filter to solve potential problem. As an optional we can supply either a collection tank or a continuous oil drainage system, and, in case of special installation requirements, also high pressure PA/P - PR - AP/T - PR/T - VAP.

1. Oil mist air inlet
2. Oil drain hooper
3. Oil collecting tank
4. Drop separator (Optional)
5. Wire metal mesh prefilter
6. Pocket filter
7. Fan
8. Clean air outlet
9. Thermal switch
10. Centrifugal separator

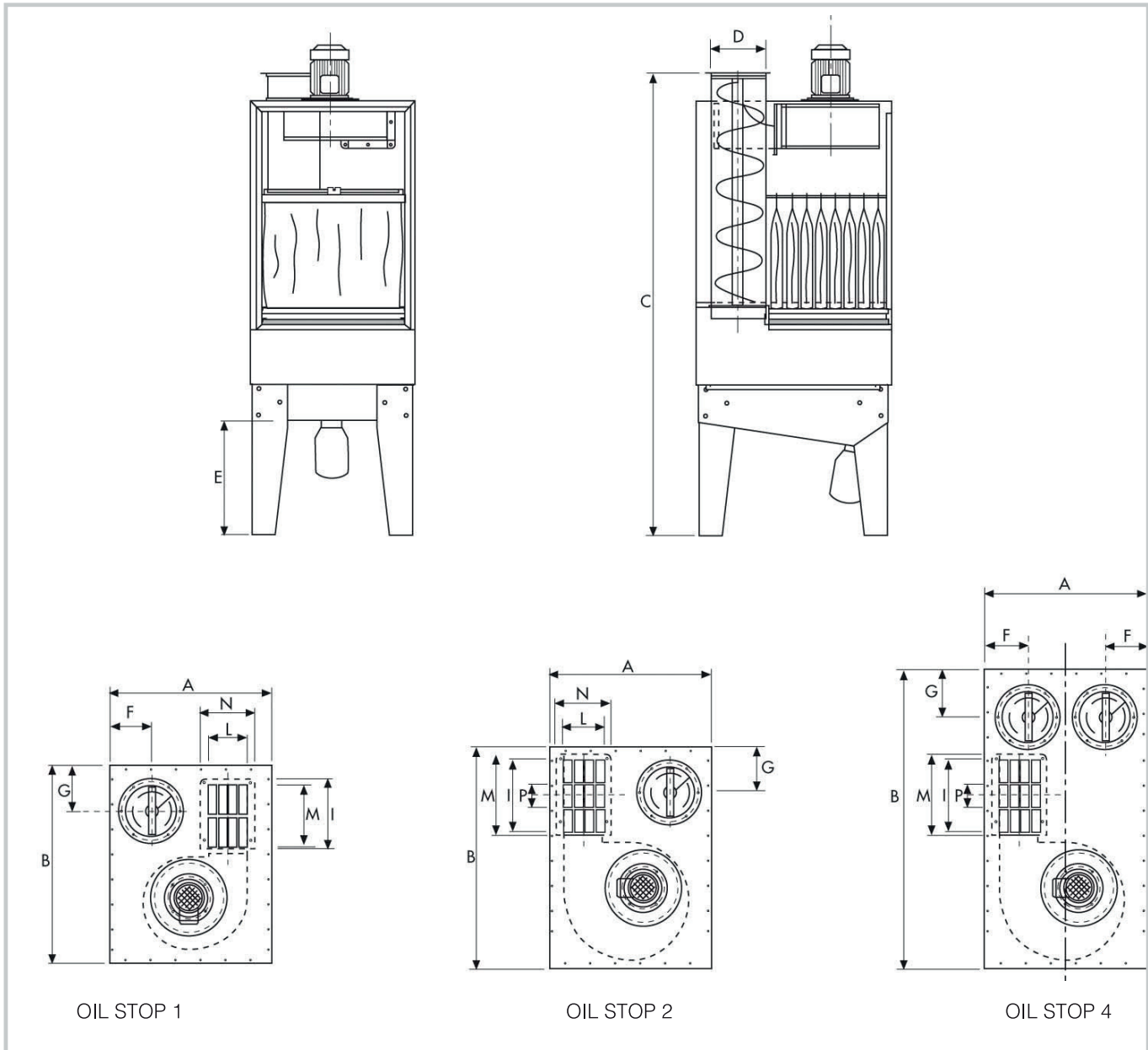


Operatin Principle

Contaminated air with heavy oil mist from the machine application enters the OIL STOP and passes through the first stage centrifugal/mechanical separating chamber, which is composed by a helical system and a metal screen. The centrifugal inlet chamber has the same cross section as the intake opening thereby reducing pressure drop. Due to the centrifugal force created by the air speed inside the centrifugal separator, the heavy mist impacts the helical insert and separates from the air. The screen in the chamber prevents its reinterinc back into the air flow, and drives them to slide along the walls of the chamber and fall below by gravity, onto the oil collection hopper. Oil is then collected in a small tank and recycled if required. A large portion of the oil droplets in suspension at this point have been separated, and the air now passes through the drop separator (Optional) and the wire metal mesh pre-filter. Due to the efficient operation of these three levels of filtration, all oil mist has been removed from the air stream. To further remove any possible remaining impurities, like micro mists and oil vapors, the air passes through a final high efficiency pleated pocket filter, which is made of ultra fine glass fiber filtering material. The high quality pleated filter cartridge contains a large volume of surface area for long life. The air is finally exhausted through the discharge grate located on the top of the OIL STOP.

OIL STOP

Dimensions

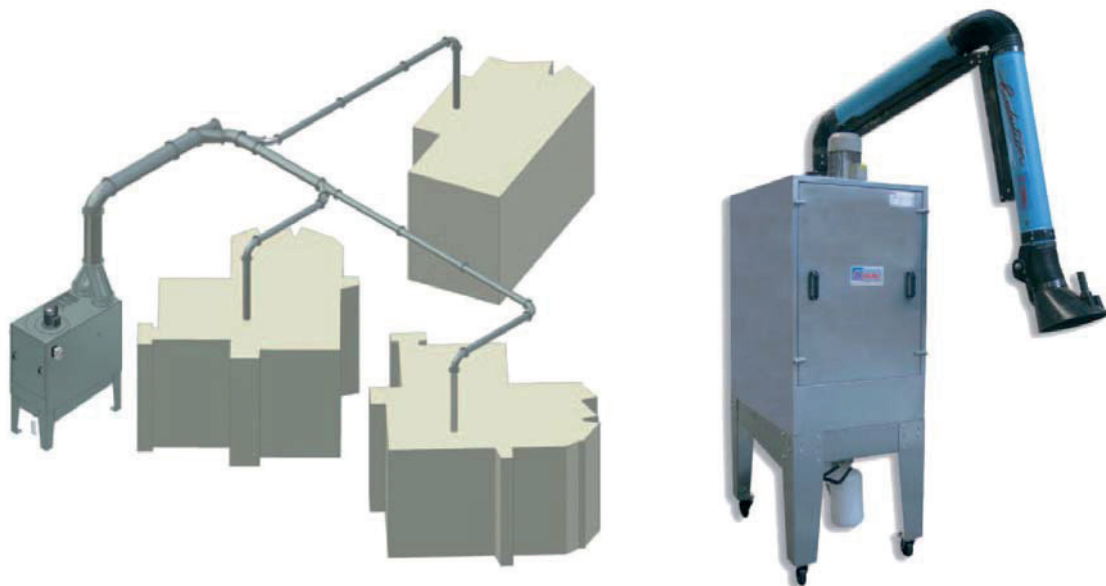


Dimensions	Model	A	B	C	D	E	F	G	I	L	M	N	P
	OIL STOP 1	700	1060	1750	220	480	207	235	257	164	225	194	-
	OIL STOP 2	700	1060	1750	280	480	207	235	360	206	385	230	135
	OIL STOP 4	700	1450	1750	2x280	480	177,5	205	401	224	430	250	270

OIL STOP

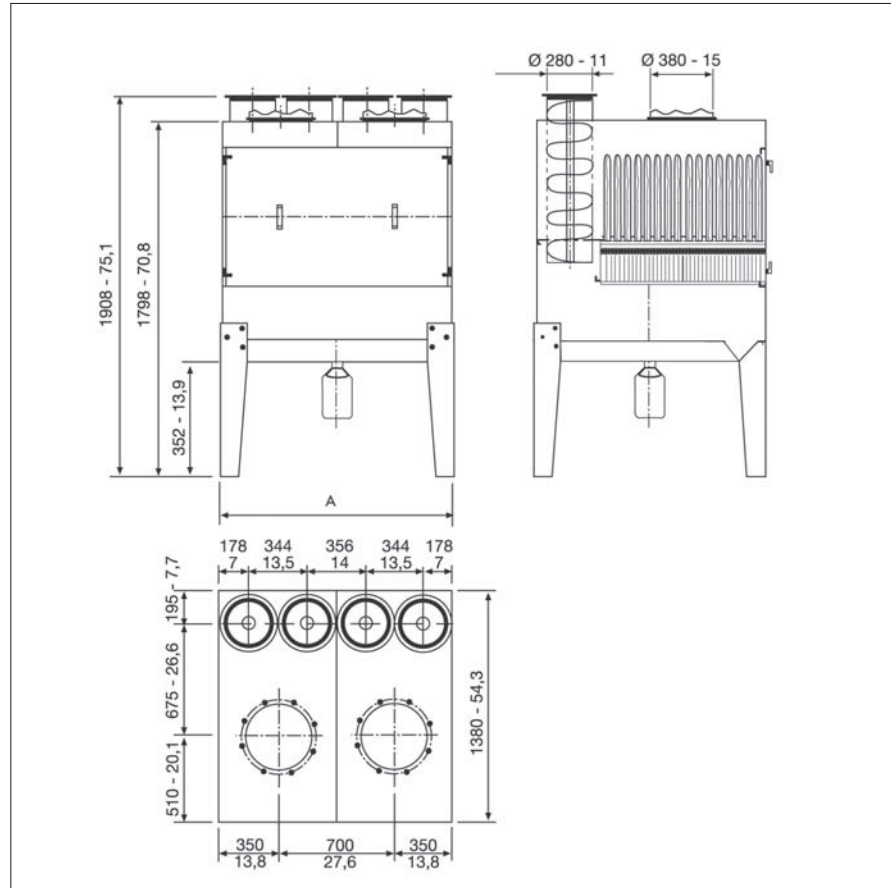
Technical Features

Code	50920100	50920200	50920400	50920500
OIL STOP	OIL STOP 1	OIL STOP 2	OIL STOP 4	Universal No Smoke
Max Airflow	1315 m ³ /h	2530 m ³ /h	3600 m ³ /h	1470 m ³ /h
Power	0,75 kW	1,5 kW	3 kW	1,5 kW
Voltage	230/400 V 3 faz 50 Hz	230/400 V 3 faz 50 Hz	230/400 V 3 faz 50 Hz	230/400 V 3 faz 50 Hz
Rpm	2800	2800	2800	2800
Noise Level (With out Absorber)	74 dB (A)	76 dB (A)	83 dB (A)	79 dB (A)
Gross Weight	145 kg	192 kg	245 kg	213 kg
Filter Efficiency	%99	%99	%99	%99
Inlet Diameter	Ø220 mm	Ø280 mm	2xØ280 mm	Ø150 mm
Outlet Dimensions	164x257 mm	206x360 mm	224x401 mm	206x360 mm
Bin	5 lt	5 lt	10 lt	5 lt



OIL STOP / M

Central oil mist suction devices for large capacities. Fan is positioned outside of the device.



Code	50930200	50930300	50930400	50930500	50930600
OIL STOP/M	2	3	4	5	6
Max Airflow	8000	12000	16000	20000	24000
Filtering Efficiency %	99	99	99	99	99
Inlet Qty	4	6	8	10	12
Outlet Qty	2	3	4	5	6
Weight	400 kg	600 kg	800 kg	1000 kg	1200 kg
A dimension	1398 mm	2097 mm	2812 mm	3511	4210

GRINDING DUST SUCTION FILTER – GRINDEX



APPLICATION

The Grindex suction filter has been built for use in all dry grinding, tool sharpening processes, etc., and where the possibility exists to convey incandescent particles with the air that might damage the filters.

FIRE-HAZARD SAFETY EXTINGUISHING

Owing to the preliminary water system, any sparks present in the air are extinguished before they come into contact with the filters.

This prevents damage to the fabrics and danger of fire.

This system also reduces clogging of the filtering pockets, there by increasing their operational autonomy.

MAINTENANCE THE FILTER UNIT

The Grindex comes complete with a manual mechanical filter shaking device to maintain high efficiency levels of the actual filters.

The unit has been especially built so that the filtering section can easily be removed from the top part of the Grindex with no need to use tools or service wrenches, hence the filters can be cleaned thoroughly after long periods of operation.

MINIMUM OVERALL SIZE

Thanks to the extensive filtering surface achieved through the filtering pockets, which however occupy less space than tubular filters and also because of the compact bearing structure made from painted sheet metal, the Grindex is easy to locate near the machines or in laboratories.

ENERGY SAVING

The aspirated air can be recirculated to the working environment.

This allows considerable energy savings during the winter and running costs can be reduced through the implementation of a high-yield fan.

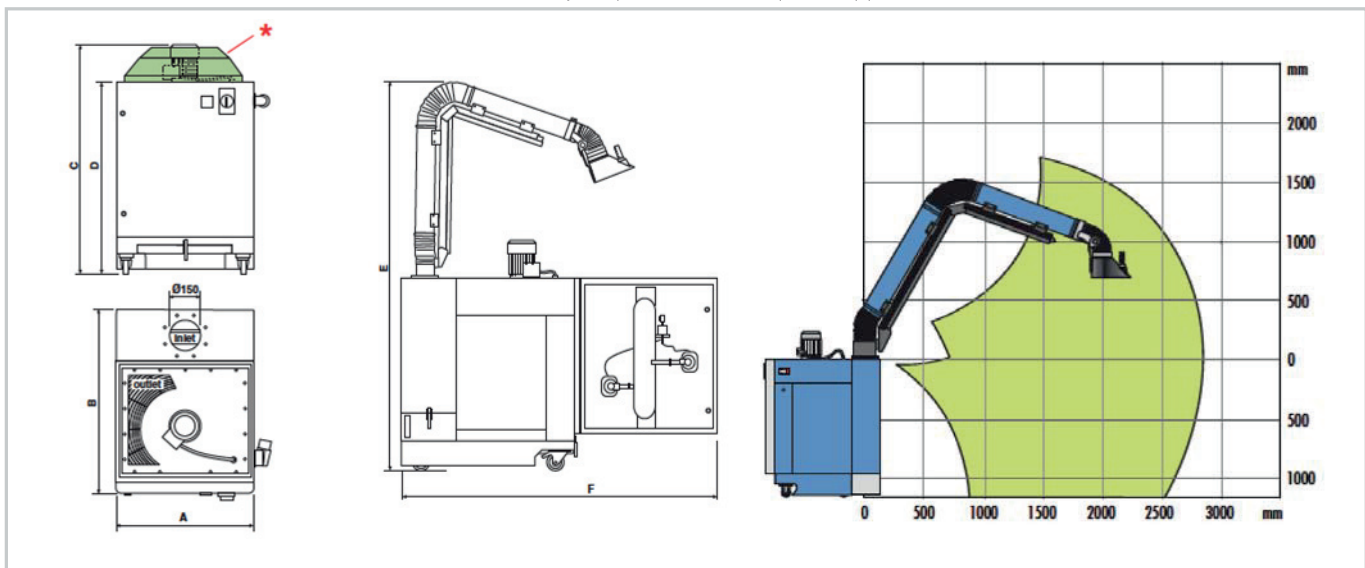
VERY LOW NOISE LEVEL

The Grindex filtering unit has been developed taking into account the problem posed by acoustic pollution, it offers a very low operational noise level of 70 dBA.

An sound-proofing plenum is also available which reduces the noise for special applications.

HIGH FILTERING EFFICIENCY

The special high-permeability polyester needle felt with which the filtering pockets are made, ensures longer life and better filtration effectiveness (up to 99%) BIA U, and low load losses in comparison with the traditional fabrics, such as cotton for instance. In the GRINDEX/3 the filtering efficiency is up to 99,99% for special applications.



GRINDEX DF DF JET	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
DF1 0,75	675	905	1160	939	2360	1580
DF2 1,1	750	955	1382	1158	2579	1705
DF2 2,2	750	955	1422	1158	2579	1705

GRINDEX

KOD	50841007	50842011	50842022	50841107	50842111	50842122
GRINDEX	DF1 0,75	DF2 1,1	DF2 2,2	DF1 JET 0,75	DF2-JET 1,1	DF2-JET 2,2
Power Rate Kw	1 HP- 0 ,75	1,5 HP- 1,1	3 HP-2,2	1 HP-0,75	1,5 HP- 1,1	3 HP-2,2
Air Flow m ³ /h	1450	1880	2280	1450	1880	2280
Fan Type	PRM 220	PRM 250	PRM 250	PRM 220	PRM 250	PRM 250
Electric Feeding (V-Hz)	400-50	400-50	400-50	400-50	400-50	400-50
R.P.M	2850	2846	2845	2850	2846	2845
Apprx. Sound Level (dB)	72	74	74.5	72	74	74.5
Cartridge Number	1	2	2	1	2	2
Cartridge Dimension (mm)	Ø325- H400	Ø325- H400	Ø325- H400	Ø325- H400	Ø325- H400	Ø325- H400
Cartridge Type	Celluloce	Celluloce	Celluloce	Polyester	Polyester	Polyester
Cartridge Surface Area (m ²)	12	2 x 12	2x12	8	2x8	2x8
Weight (kg)	115	150	165	125	160	175

Accessories



Code: 50849100
Plenum box Hepa filter



Code: 50849200
Plenum box Hepa filter



Code: 50849101
Hepa filter



Code: 50849001
Spark arrestor



Code: 50849010
Celluloce filter



Code: 50849020
Polyester filter

ZINCOCAR DF



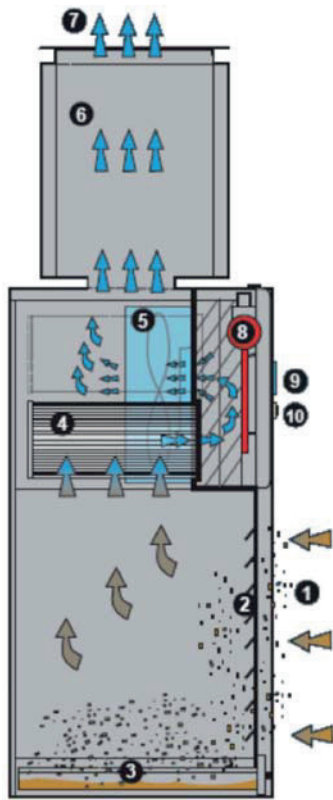
The sanding booth ZINCOCAR DF has been studied according to modern criteria of plug & play, easy maintenance, maximum filtration efficiency and easy stand alone positioning.

Suction and filtering of:

- Wood sanding dusts
- Steel sanding/ grinding dusts
- Kaynak dumanı
- Malzeme işlenmesi sonucu ortaya çıkan tozlar
- Metal yüzey kaplamasından çıkan tozlar

ZINCOCAR DF, atölyelerdeki çeşitli zor uygulamalar için tasarlanmış ve geliştirilmiştir;

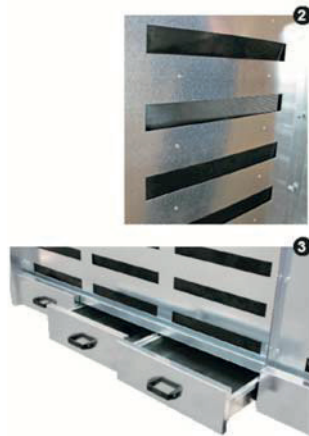
- Local/source exhaust is difficult or not possible
- Ductwork installation is complicated or not suitable
- Air-conditioned or heated workshops to avoid energy waste in exhausting the air outdoor and the need to recycle the outside air
- Environments where the source of pollutant/smoke is changing depending on process
- Insufficient local exhaust performed by portable units or weak filtering capability of the existing pollution control system



Benefits of booth ZINCOCAR DF

Energy saving, reduced heating or air conditioning cost

- Easy and low cost retrofit without need of pipings
- Friendly transportation and installation by the crane eyelets and forklift lifting points
- Quick maintenance of the horizontal cartridges
- Stand alone positioning with the possibility to vary the location depending on immediate needs
- Easy dust disposal thanks to the wheeled container
- Plug & play installation just with compressed air connection and electric power
- Low noise operation thanks to the high efficiency backward curved fans installed
- Filtered air recirculation in the working area



1. Dust inlet
2. No return rubber lip
3. Dust collecting drawer
4. Filtering cartridge
5. Fan
6. Afon silencer
7. Filtered air outlet
8. Compressed air tank
9. Cyclic programmer (PLC)
10. On/Off Switch

ZINCOCAR DF

Operating Principle

The cabins are completely built in panels of galvanized iron (painted on request) bolted to one another.

The operating procedure of the sanding cabin ZINCOCAR DF is simple and effective and is clearly illustrated in the diagram.

A vacuum is created via the soundproofed centrifugal fan positioned on the upper part of the cabin.

This vacuum forces the air to circulate driving the dust through the high efficiency Class M cartridge filters without dangerous spreading into the work environment.

The air, perfectly purified, is ejected by the centrifugal fan the characteristics of which are such as to guarantee the correct suction speed of the area in accordance with existing regulations.

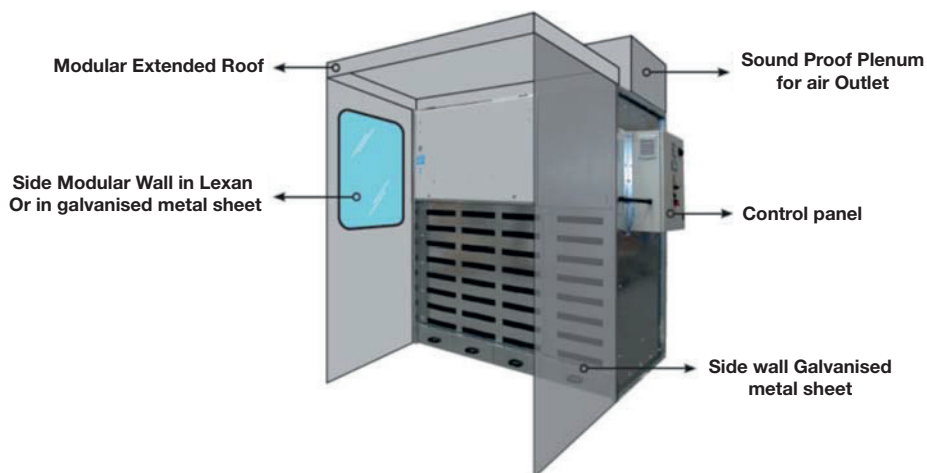
The cabin is also equipped with a complete cyclic programmer for the automatic cleaning of the filtering cartridges by compressed air and ON/OFF switch.

ZINCOCAR DF standard version includes AFON silencer.

Technical Features

	Airflow m ³ /h	Fan kW	Filtering Surface m ²	Noise level dB (A)	Dust Collecting capacity Liter Litre
ZINCOCAR DF 1,5	6000	3	90	72	135
ZINCOCAR DF 2	8000	4	120	72	175
ZINCOCAR DF 2,5	10000	5,5	150	73	215
ZINCOCAR DF 3	12000	7,5	180	73,5	255
ZINCOCAR DF 4	16000	4+4	240 (120+120)	75	350 (175+175)
ZINCOCAR DF 5	20000	5,5+5,5	300 (150+150)	76	430 (215+215)
ZINCOCAR DF 6	24000	7,5+7,5	360 (180+180)	76,4	510 (255+255)

Optional Parts



ZINCOCAR DF

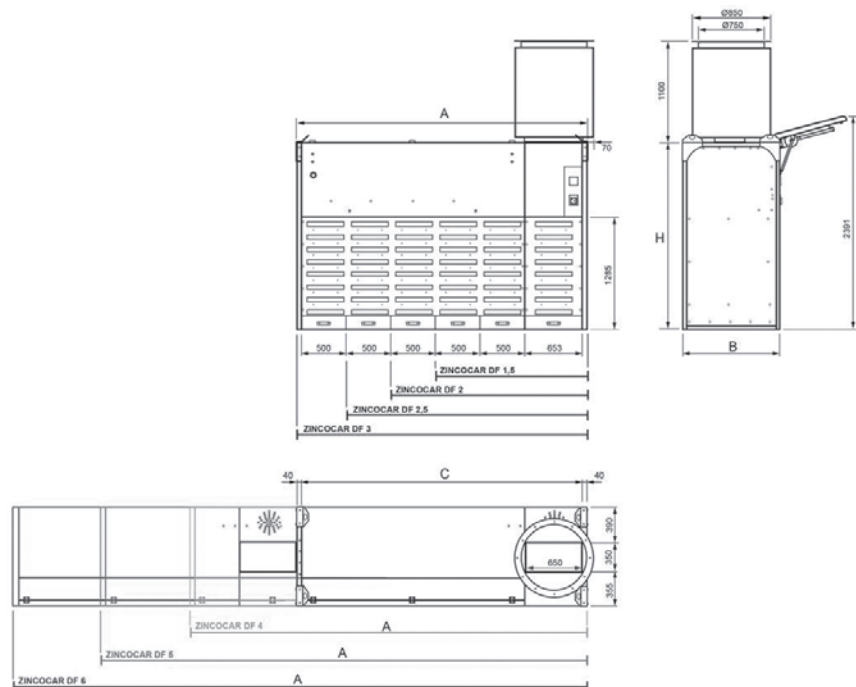
Cartridge Filter

	Cartridge Number	IFA/BGIA Value	Cartridge Dimensions mm	Filtering Surface m2
ZINCOCAR DF 1,5	6	M-CEL	Ø325 x H700	90
ZINCOCAR DF 2	8			120
ZINCOCAR DF 2,5	10			150
ZINCOCAR DF 3	12			180
ZINCOCAR DF 4	16 (8+8)			240 (120+120)
ZINCOCAR DF 5	20 (10+10)			300 (150+150)
ZINCOCAR DF 6	24 (12+12)			360 (180+180)

	A	B	H	C
ZINCOCAR DF 1,5	1733	1095	2115	1653
ZINCOCAR DF 2	2233	1095	2115	2153
ZINCOCAR DF 2,5	2733	1095	2115	2653
ZINCOCAR DF 3	3233	1095	2115	3153
ZINCOCAR DF 4	4466	1095	2115	4306
ZINCOCAR DF 5	5466	1095	2115	5306
ZINCOCAR DF 6	6466	1095	2115	6306

- ZINCOCAR DF 4 (DF2+DF2)
- ZINCOCAR DF 5 (DF2,5+2,5)
- ZINCOCAR DF 6 (DF3+DF3)

Dimensions



AIRALT



Airalt Operating Principle

The contaminated air enters from the hopper inlet and due to the abrupt decrease of velocity and the 1ST stage impact filter, the larger particles decant and fall into the dust collection bin. The finer or lighter particles flow through the cartridges (AIRALT) or the sleeves (AIRALT/M) from the outside to the inside, therefore the dust deposits outside and the air flows through the filters and is emitted in a purified condition.

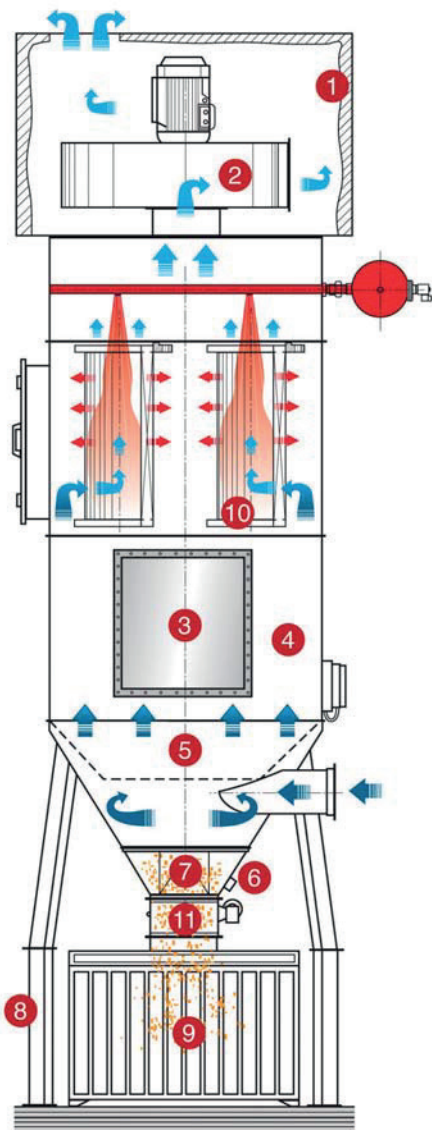
The gradual accumulation of dust requires periodical cleaning of the filters; the backwashing cleaning is carried out by a compressed Air blast which causes a high frequency oscillating motion to the filters. This air blast technique, also known as "shock wave cleaning" helps the backwashing process.

The cleaning sequence is carried out on each filter section, by means of diaphragm magnetic valves managed by a cycle timer, which determines both pause and operating period or by a PLC mounted on the control board, taking into account the pressure differential between clean and dirty zones of the filters. In this way the conditions of efficiency of the filter are always maintained at a maximum. Thanks to this highly reliable cleaning method, after an initial operating period, the filter reaches a nearly constant pressure drop throughout its operating life.

The unit is fitted with a differential pressure switch for monitoring the cartridges clogging and the subsequent pneumatic cleaning cycle.

The standard mounted cartridges or sleeves made from polyester fibres with IFA/BGIA L-PES classification, ensure a high separation efficiency rate (>0,1%) only with filtration speed lower than 0.056m/s, with inlet dust concentration of 200 mg/m and particle size between 0.2 and 2 μm. The AIRALT-AIRALT-M filter equipment allows a maximum vacuum of 5000 mmH₂O/0,5 bar on the outlet. In case of special requests for bigger loss charges or version requesting Atex versions (filter positioned in zone 22-21 dust / 2-1 gas) please contact our Technical Department.

We suggest to protect the unit against hard weather conditions to ensure a longer life.



1. Polluted air inlet
2. Filtered air outlet
3. Electrovalve
4. Compressed air tank
5. Distribution pipe
6. Nozzles
7. Filtering cartridge
8. Cyclic programmer
9. Maintenance door
10. Hopper
11. Collection bin (Up to 2000 mm)

Optional

1. Soundproofed
2. Fan
3. Explosion-relief panel
4. Additional module for venting area
5. Inner cone
6. Level control with rotated blade
7. Fitting
8. Legs with extension
9. Dust container

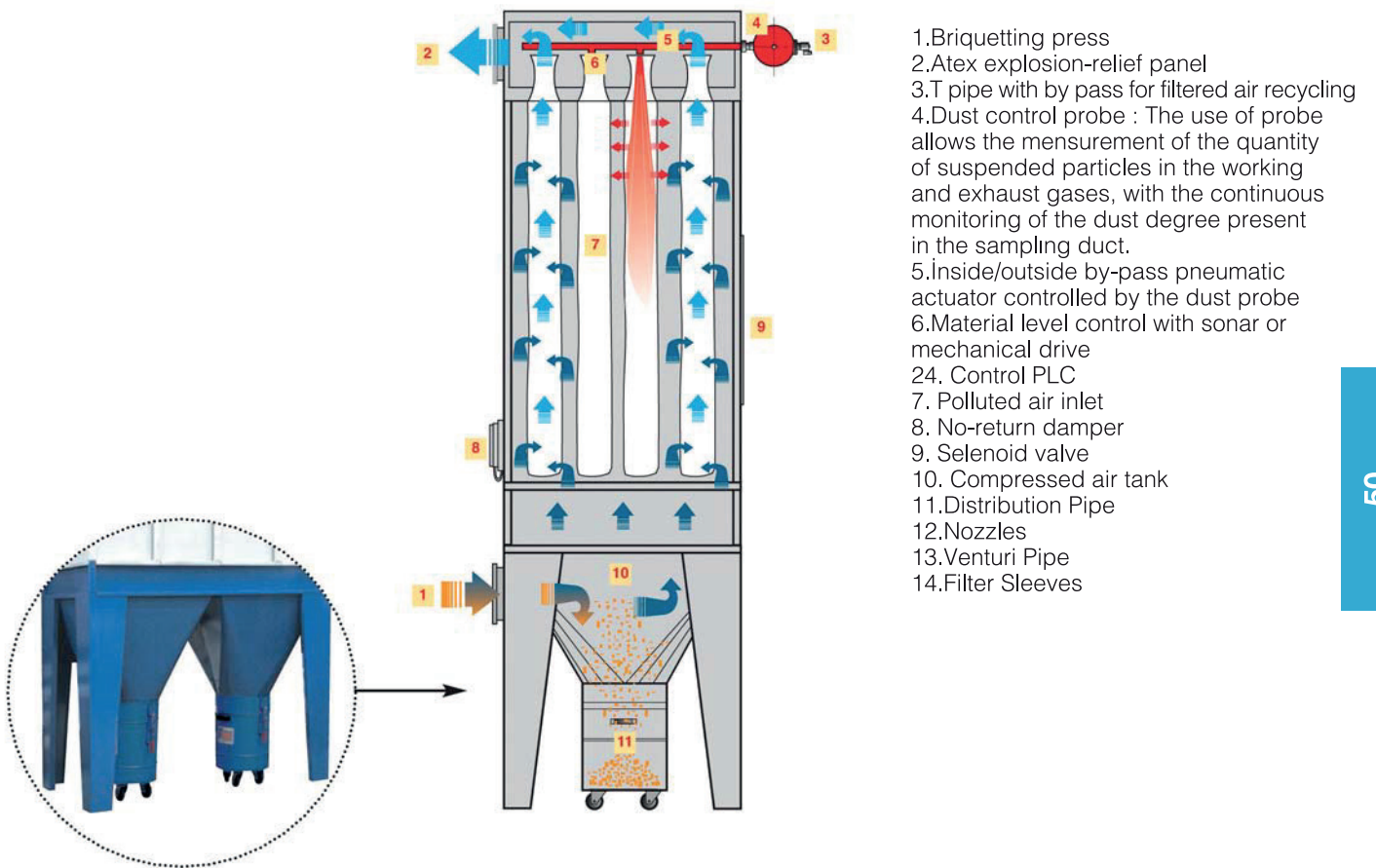
For other models, capacities and Atex versions please contact our company.

AIRCOM



WORKING PRINCIPLE AIRCOM

sleeves reverse pulse jet filter is a highly efficient, self maintaining filter for dusts, with fully automatic cleaning by compressed air injection. The unit is manufactured with individual, reinforced, galvanized (painted on request) steel panels which make for extremely robust construction. The design includes a soundproofed upper chamber which houses the suction fans, an intermediate section which houses the compressed air cleaning system, the centre section which includes the required filtering sleeves (polyester media C 500 gr/m² BIA USG rated or as an optional BIA USG, C rated in antistatic/teflon coated polyester media) and a lower section with the supporting legs, rotary valve, hopper and polluted air inlet. AIRCOM is working in depression (vacuum) according to following process: the contaminated air enter from hopper inlet by the strong speed decrease, larger particles drop into the rotating valve and disposed outside the unit granting the maximum operational safety. AIRCOM cleaning is guaranteed by the reverse jet system with compressed air controlled by the fully automatic cyclic programmer with pressostat (PLC) that gives impuls to the solenoid valves cleaning a row of filtering sleeves each time, obtaining in this way a quite constant loss of charges level and constant air flow. The high pressure and efficiency suction fans are positioned on the top of the unit, soundproofed and in this way also protected by the weather conditions.



For other models, capacities and Atex versions please contact our company.

AIRALT ATEX



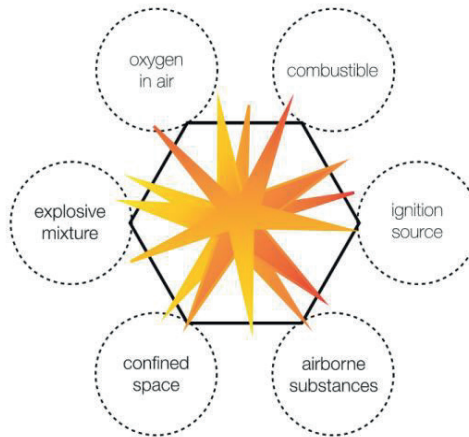
2. What does ATEX mean?

The selected acronym, ATEX, comes from the French *ATmosphères Explosives*, meaning “explosive atmospheres”, and covers all areas in which equipment is required to be used in atmospheres that are considered potentially explosive due to the presence of both dusts (denoted by the letter D) and gases (denoted by the letter G).

3. What is meant by “equipment”?

As defined by Directive 2014/34/UE, the term “equipment” is intended as any machinery, materials, fixed or mobile devices, control elements, instrumentation and detection and prevention systems, whether combined or on their own, used for the production, transport, storage, measurement, control and conversion of energy, as well as for material processing, that could provoke an explosion due to the potential ignition sources that they contain.

What is meant by an “explosive atmosphere” ?



10. How are dusts classified according to the described parameters?

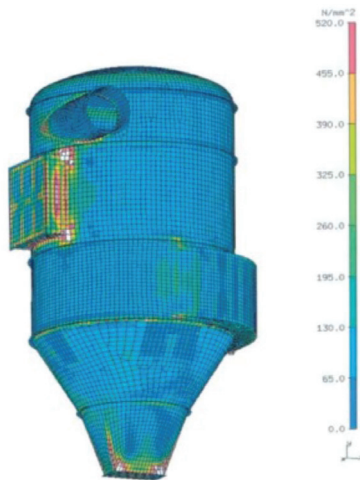
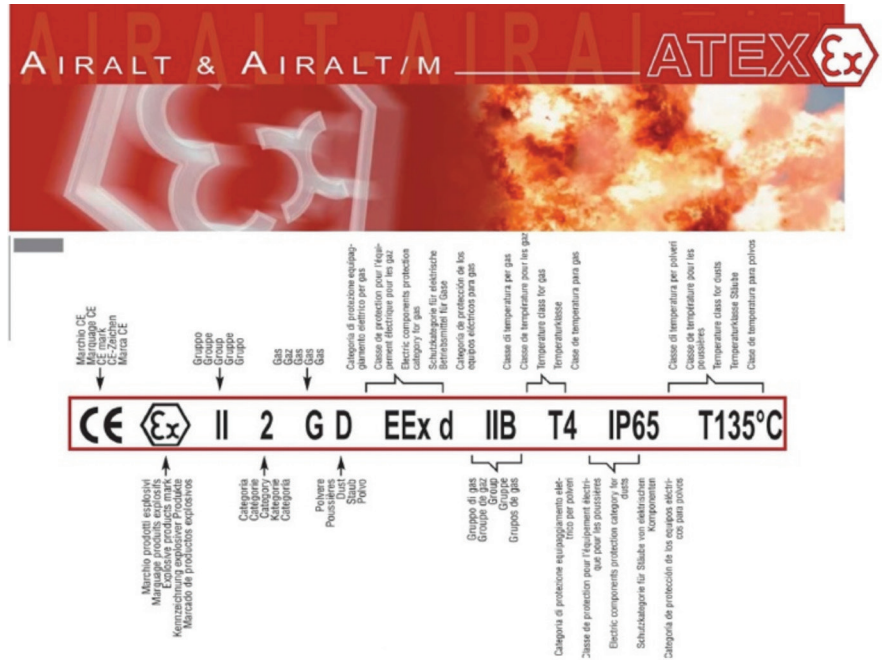
The classification that is commonly adopted divides combustible dusts into four hazard classes, in relation to the violence of the explosion as expressed by the value of the constant K_{st} . The following table shows the correlation between the K_{st} value and the class to which the dust is assigned:

Explosion class	K_{st} [bar * m/s]		Type of explosion
St0	0		None
St1	0<	<200	Weak
St2	200<	<300	Strong
St3	300<		Very strong

Explosive Zone Classes

TABLE 2			
↑ SENSITIVITY	DANGER ZONE	GASSES, VAPOURS OR MISTS (G)	DUSTS (D)
	Zone in which an explosive gas mixture is continuously present		ZONE 0
Zone in which an explosive gas mixture may be present during the system's normal function		ZONE 1	ZONE 21
Zone in which an explosive gas mixture is not normally present and, if present, will not remain for an extended period of time		ZONE 2	ZONE 22

AIRALT ATEX



STUDIES HAVE DEMONSTRATED THAT THE FILTER MAY BE SUITABLY PROTECTED USING DEVICES COMPLIANT WITH ATEX 94/9/EC AND EN 1127-1. THE USER WILL BE RESPONSIBLE IN ACCORDANCE WITH 99/92/EC (ATEX 137) IF SUCH PROTECTIVE DEVICES ARE NOT ORDERED AND/OR INSTALLED.

The AIRALT Ex is a very high efficiency dry powder filtering machine. It is specifically designed to work in environments where high explosion protection is required in accordance with ATEX 94/9/EC.

Its necessary high structural resistance is the result of FEM (Finite Element Method) analysis design and complies with UNI EN 288-4 specifications for welding processes and consistency of the project complying with 97/23 (PED) rule. The elevated design and production standards implemented by Coral have been maximised to develop a standard model (with Pred=1 barg) and a special version (with Pred=2 barg). AIRALT Ex filters can be used in the presence of class ST3 powder thanks to their excellent mechanical resistance to excessive pressure. Used in combination with explosion detection and suppression systems, AIRALT Ex is the best that the filtering market can offer today in terms of technology and safety.

AIRCOMPACT



The **CORAL AIRCOMPACT** cartridge filter with reverse pulse compressed air washing is composed of cartridge filtering elements enclosed in a central hermetic sealed unit, and is designed for use in depressure systems.

The dust air enters through the coupling at the base of the hopper and, due to the sharp decrease in speed and pre-fragmentation on impact, the particles with the highest granulometry settle down and end up in the collection bin.

The finer or lighter particles rise in the unit, containing the cartridge filters, the polluted air passes through the cartridge filters, from the outside towards the inside, so that the dust deposits externally whereas the air returns upwards through the cartridges and exits purified. This progressive depositing of dust means that the cartridge filters must be cleaned periodically: a jet of compressed air allows reverse pulse washing and subjects the cartridge filters to a high frequency oscillating motion.

This jet referred to as "shock wave", obviously favours the blowback washing process.

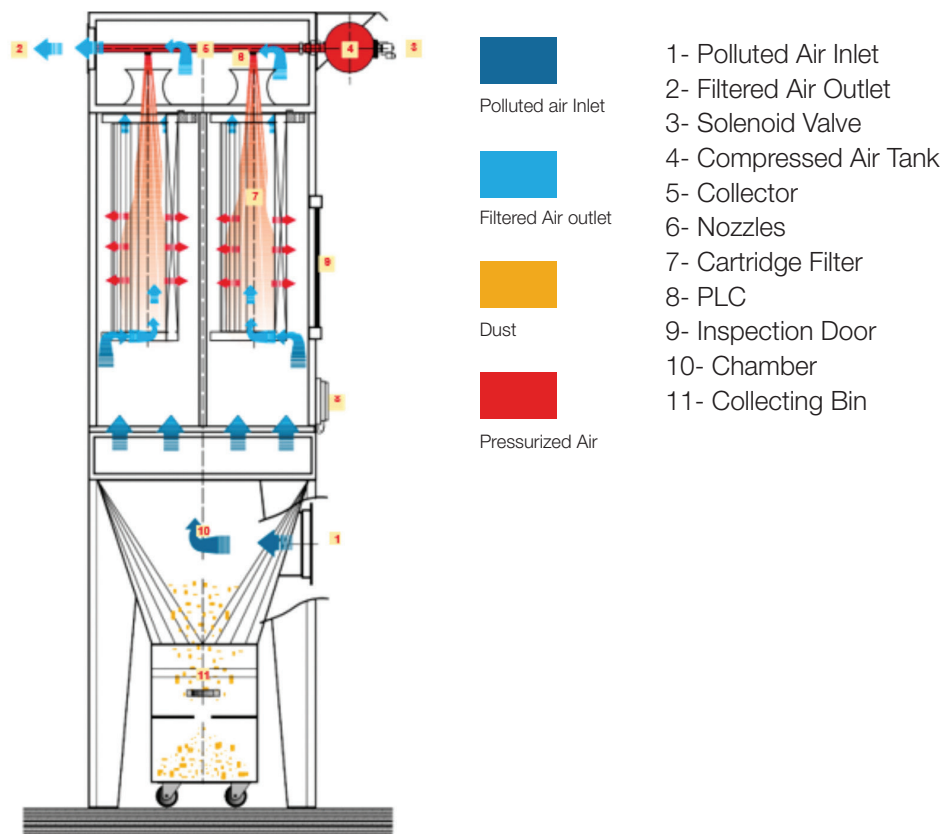
The filters are cleaned by sector, through membrane solenoid valves, controlled by a cycle timer that sets the pauses or running times with a PLC.

This permanently maintains the filter efficiency status at maximum levels.

This type of cleaning, extremely reliable, after an initial running period, means that the filter reaches a stable pressure loss value that remains practically constant throughout its working life cycle.

Standard filter cartridges are made of polyester 270g/m² BIA certified and USG tested. As optional are available various types of filtering media depending on applications: teflon coated polyester - aluminated/antistatic - oil/water repellent, cellulose fabric, BIA certified & USG, C or USG tested.

Pls. contact our Technical department to select the filtering media suitable for your needs



PULSOTRONIC



The research and the experience of Coral S.P.A. has lead to the development of the pulsotronic filter.

This modern high-pressure unit of exceptional efficiency is designed for the aspiration of dusts deriving from the dry sanding of foundations, stuccos and composite materials, stone and marble processing and even metal grinding operations. compatible with centralised systems, its modularity

provides for superior usage versatility, offering solutions capable of satisfying any operational requirements.

For maximum operational efficiency, the Pulsotronic unit is equipped with an compressed-air cleaning system, managed by a state-of-the-art electronic control unit which is capable of autonomously modifying its own settings based on the degree to which the filter cartridges are obstructed.

This provides for optimised compressed-air consumption, less mechanical stress upon the filtering elements and, therefore, reduced life cycle costs. The standard system also offers the possibility of viewing the ratio

to which the filters are clogged. The Pulsotronic unit can even be furnished with a frequency inverter driven

by a pressure stabiliser (optional), capable of modulating the motor's speed in order to optimise its electrical consumption and its suction efficiency for any usage conditions. The unit's designers have also focused their attention on noise control, confining the pump and the cleaning system within a soundproof chamber

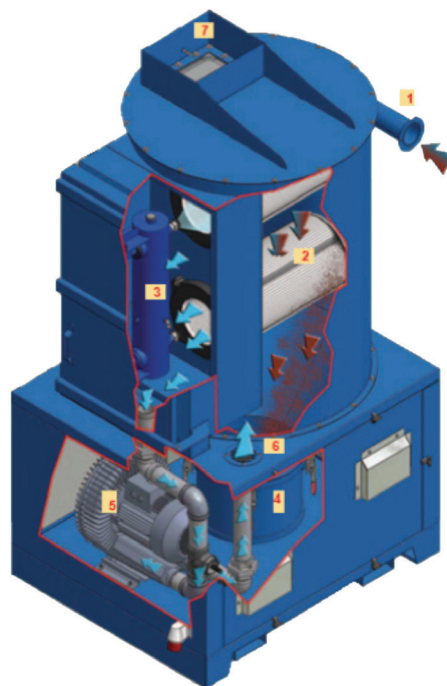
and thereby bringing the level of noise emissions well below the limits required by the current regulations (72 db).Base on the study performed, the filter can be properly protected using the protection devices offered, in compliance with the ATEX 94/9/EC directive.Should these not be requested and installed, the user shall bear all responsibility as defined under the 99/92/EC directive (ATEX 137).

The ATEX version of the Pulsotronic filter has been expressly designed to function in environments which require a higher degree of explosion protection, based on that which is prescribed by the ATEX

94/9/EC directive. Its superior structural resistance is the result of a finite element method product design (FEM ANALYSIS), respect for the UNI EN 288-4 directive for the welding processes and respect for design coherence in accordance with the 97/23 (PED) standard. These high design and

production standards have allowed Coral S.p.A. to develop a standard product with a Pred value equal to 1 barg, and a special version with a Pred value equal to 2 barg. These superior mechanical pressure-resistance values even allow for the PULSOTRONIC filter to be employed with ST2 class dust.

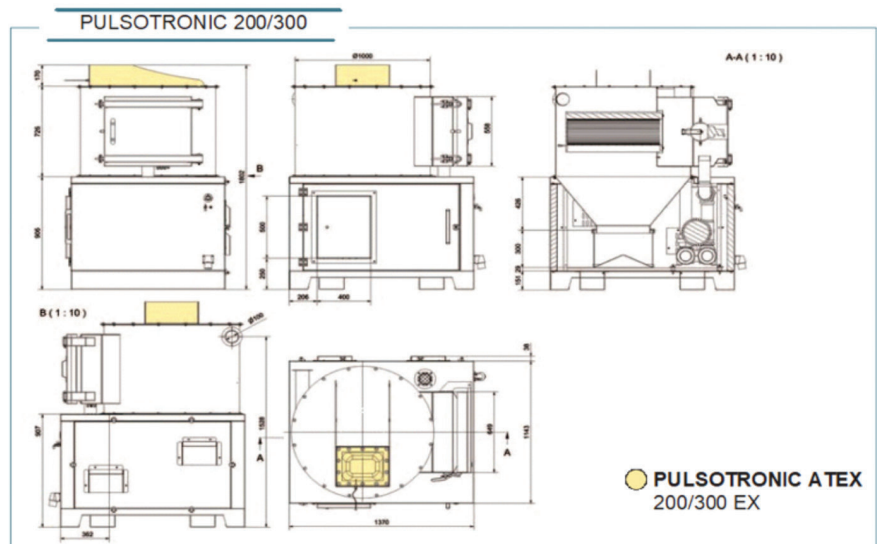
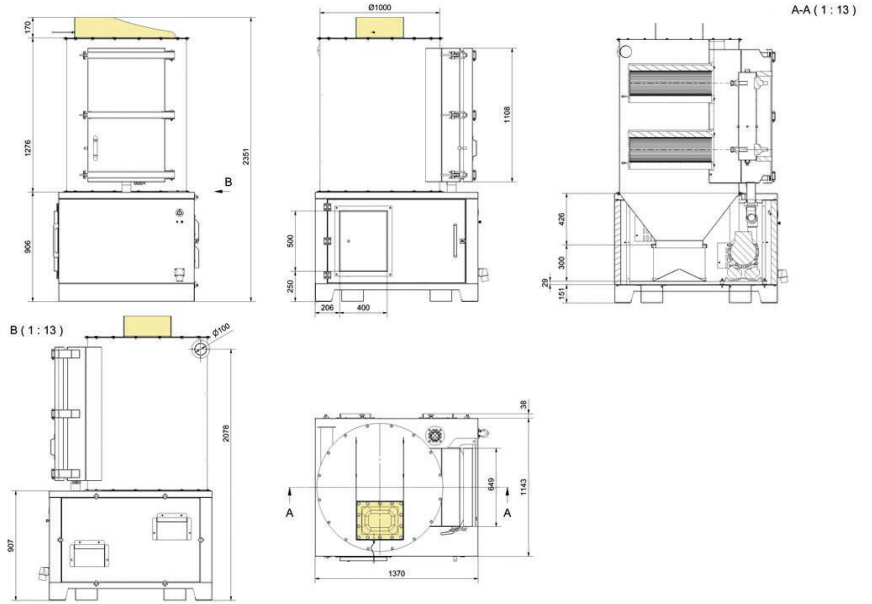
Working Principle



- 1. Polluted Air Inlet
- 2. Polyester fiber filtering cartridges
- 3. Compressed air tank
- 4. Collecting bin
- 5. Vacuum pump
- 6. Clean air outlet
- 7. Venting atex (Optional)

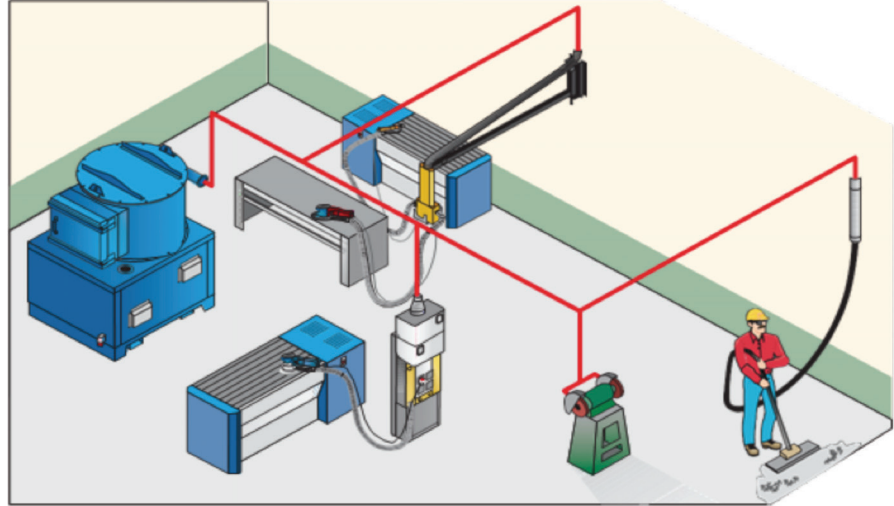
PULSOTRONIC

Dimensions



PULSOTRONIC

Example of an Installation



PULSOTRONIC	200	300	400	600	1000	200EX	300EX	400EX	600EX	1000 EX INDOOR/OUTDOOR
Filtering Surface m2/sq.ft	11/118	11/118	22/236	22/236	22/236	11/118	11/118	22/236	22/236	22/236
Max. Airflow m3/h	260	350	420	650	1000	260	350	420	650	1000
Pump power	3	4	5,5	7,5	18,5	3	4	5,5	7,5	18,5
Number of Cartridges	1	1	2	2	2	1	1	2	2	2
Cartridge dimensions	Ø325 - H700 mm / Ø325 - H700 mm									
BIA CLASS	USG, C (M)					USG, C (M) Alüminyum Kaplama				
Max. Pressure (mbar)	250	250	300	300	350	250	250	300	300	350
Compressed air pressure(Bar)	7	7	7	7	7	7	7	7	7	7
Valve Dimension / Quantity	1" / 1	1" / 1	1" / 2	1" / 2	1" / 2	1" / 1	1" / 1	1" / 2	1" / 2	1" / 2
Compressed air tank capacity (lt)	7,3	7,3	14	14	14	7,3	7,3	14	14	14
Collecting Bin (lt)	30	30	30	30	100	30	30	30	30	100
Weight (kg)	465	465	560	560	-	485	485	580	580	-

Electrostatic Filter



The EF by CORAL range consist of modular unit for electrostatic filtering of air from pollutants, such as oil mist, powder, welding fumes and industrial fumes in general. The modular features of the range concern:

Modular capacity : the standard units can handle air delivery from 2,000 m³/h each, can handle over 48,000m³/h.

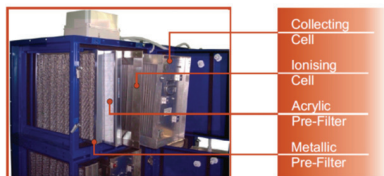
Modular system construction: the electrostatic filtering units can be connected to mechanical pre-filtering modules (pocket, labyrinth, drip separators, etc.) for filtering coarse sized pollutants, active carbon post-filtering units for 100% comparable results and modules fitting fans for moving the air.

The EF by CORAL range units are made of environment-friendly oven painted, bolted, special bent steel. The units are tough and suitable for fitting also in the open air, if the need to save indoor space arises.

All units are equipped with a pre-drilled flange for easily connecting to the suction system. Supporting feet and eyebolts are provided on the upper part of the filter for fastening.

The range units present horizontal and vertical development and are suitable for both dry (powder) or wet (oil mist) filtering. In the latter case, the units are equipped with a collection system and drain hole.

The particles, flowing through the ionizing area A (consisting of tungsten wires powered at 10KV D.C hanging between earthened electrodes) pick up a single-pole electrical charge. carrying on, the particles enter the collecting area B (consisting of pure aluminium plates, powered at 5 KV / 3.5 KV D.C. alternate with earthened plates) where they are rejected by the charged plates and thrown towards the earthened ones, by which they are firmly retained. The particles retained on the filter can be periodically removed by an easy operation of maintenance.



Features

The electrostatic filters ensure the purification of air from polluting elements such as fumes, dust, motes, products, from weldings processes ,oily fogs etc. generated by industrial processing.

Such pollutants can have a granulometry ranging in value from 10 to 0.01 micron.

The loss of charge of the electrostatic filter can vary from 40 pa (clean filter) to 80 pa (dirty filter)

The concentration of pollutants can reach up to 50 mg/ m³.

The temperature of the fluid should not exceed 60C and the relative humidity can vary from 20 to 99%

Control Panel

All electrostatic wires are powered with direct current (10 KV at the ionizing section and 5 KV at the collecting section) through a high voltage circuit equipped with earthing discharge of the voltage, remaining in the filters when the power is cut off.

The high voltage circuit is protected against accidental short-circuits and possible jump sparks between the electrodes. Each module is equipped with a safety micro on the door and an electronic control panel run/ stop

The panel is equipped with: on/off switch, current on warning light, signalling light for the filter circuit check, adjustable electronic circuit for filter performance with switch-over relay for a possible external warning light indicating the intervention time for the cleaning.

The EF 8 and higher models are equipped with the exclusive ACC (Aernova Check Control) device for continuously monitoring filtering parameters. This device can interface with a PLC and is available as an optional device in all standard modules.

HOSE REEL WITH MECHANICAL REWIND



HOSE REEL WITH MECHANICAL REWIND

APT Model

Spring driver hose reel for gas extraction from Small cars and motorcycles. Adapted for wall or ceiling installation. Simple, lightweight but reliable, thanks to the high quality of the materials used. The APT model is equipped with a locking mechanism to stop the hose at the desired height. It can be fitted on either the wall or the ceiling. Thanks to its compact size, is ideal for use with cars and motorcycles. Suitable for centralized extraction system. Complete with flexible hose mod. T-GAS, adjustable safety stop ATS, nozzle BNT, hose-clamp and with rubber covers.

APTC Model

Spring driver hose reel for gas extraction of medium and high powered cars. Adapted for wall or ceiling installation. Lightweight but extremely sturdy, thanks to the high quality of the materials used. It is equipped with a locking mechanism to stop the hose at the desired height. It can be fitted on either the wall or the ceiling. Complete with flexible hose mod. TGAS, adjustable safety stop ATS, nozzle BNT, hose-clamp and with rubber covers. Suitable for centralized extraction system. On request, could be supplied with automatic exhauster starting device.

AM Model

Spring driver hose reel suitable for gas extraction of High-powered cars and industrial vehicles. Adapted for wall or ceiling installation. With flexible hose, lightweight but extremely sturdy, thanks to the high quality of the materials used. It is equipped with a locking mechanism to stop the hose at the desired height. It can be fitted to either the wall or the ceiling and, on request, equipped with an adjustable safety stop (ATS). Suitable for centralized extraction system. On request it could be supplied with automatic exhauster starting device.

AM-MAXI Model

King size spring driver hose reel suitable for gas Extraction of high-powered cars and industrial Vehicles. Adapted for wall or ceiling installation. Lightweight but extremely sturdy, thanks to the high quality of the materials used. It is equipped with a locking mechanism to stop the hose at the desired height. It can be fitted to either the wall or the ceiling and, on request, equipped with an adjustable safety stop (ATS). Suitable for centralized extraction system. On request, it could be supplied with automatic exhauster starting device

Model	Hose Diameter (mm)	Hose Type	Hose Length (m)	Weight (kg)	Code
APT 75/7	Ø 75	T-GAS	7	43	51100707
APT 75/10	Ø 75	T-GAS	10	46	51100710
APTC 75/13	Ø 75	T-GAS	13	50	51100713
APTC 100/7	Ø 100	T-GAS	7	50	51101017
APTC 100/10	Ø 100	T-GAS	10	63	51101010
AM 100/13	Ø 100	T-GAS	13	55	51101013
AM 125/10	Ø 125	T-GAS	10	59	51101210
AM 125/13	Ø 125	T-GAS	13	61	51101213
AM 150/10	Ø 150	T-GAS	10	55	51101510
AM MAXI 125/15	Ø 125	T-GAS	15	60	51111215
AM MAXI 125/17	Ø 125	T-GAS	17	62	51111217
AM MAXI 150 /13	Ø 150	T-GAS	13	60	51111513
AM MAXI 180/10	Ø 180	T-GAS	10	60	51111810
AM MAXI 200/10	Ø 200	T-GAS	10	65	51112010

POWER-DRIVEN REWINDING REELS



Power Driven Rewinding Reels

AE/AER Model

Electrical-driven rewinding reel : Motor driven hose reel with push button for the rollup And the roll-down of the flexible hose for Extraction.suitable for wall or ceiling installation. Complete with electric saftey stop and remote start And stop of the centralized fan (centralized as Optional). Operation by pushbutton panel (AE) or remote control (AER), both 24V as CE regulations. The electric geared motor is equipped with an adjustable electromechanical safety stop for both raising and lowering. It can be fitted on either the wall or the ceiling, also for eight of over 5 metres. Suitable for centralized extraction systems.

AE-MAXIAER-MAXI Model

Electrical-driven rewinding reel: Motor driven hose reel with fan and with push button For the roll-up and the roll-down of the flexible Hose for extraction.suitable for wall or ceiling Installation. Complete with electric safety stop and Remote start and stop of the centralized fan (Operation by pushbutton panel or remote control). Operation by pushbutton panel (AE-MAXI) or remote control (AER-MAXI), both 24V as CE regulations. The electric geared motor is equipped with an adjustable electromechanical safety stop for both raising and lowering. It can be fitted on either the wall or the ceiling, also for eight of over 5 metres. Suitable for centralized extraction systems.

Model	Hose Diameter (mm)	Hose Type	Hose Lenght (m)	Weight (kg)	Code
AE/AER -75/7	Ø 75	T-GAS	7	56	51200707
AE/AER-75/10	Ø 75	T-GAS	10	58	51200710
AE/AER-75/13	Ø 75	T-GAS	13	61	51200713
AE/AER-100/7	Ø 100	T-GAS	7	60	51201007
AE/AER-100/10	Ø 100	T-GAS	10	63	51201010
AE/AER-100/13	Ø 100	T-GAS	13	66	51201013
AE/AER-125/7	Ø 125	T-GAS	7	65	51201207
AE/AER-125/10	Ø 125	T-GAS	10	68	51201210
AE/AER-125/13	Ø 125	T-GAS	13	71	51201213
AE/AER-125/17	Ø 125	T-GAS	7	75	51201217
AE/AER-125/20	Ø 125	T-GAS	20	78	51201220
AE/AER-150/10	Ø 150	T-GAS	10	73	51201510
AE/AER-150/15	Ø 150	T-GAS	15	78	51201515
AE/AER-150/17	Ø 150	T-GAS	17	80	51201517
AE/AER MAXI-125/15	Ø 125	T-GAS	15	75	51211215
AE/AER MAXI-125/17	Ø 125	T-GAS	17	77	51211217
AE/AER MAXI-150/13	Ø 150	T-GAS	13	79	51211513
AE/AER MAXI-180/10	Ø 180	T-GAS	10	75	51211810
AE/AER MAXI-200/10	Ø 200	T-GAS	10	78	51212010

Regarding to 400 C T- SPECIAL 4 and for 1000 C T-SPECIAL 10 should be used on demand.

POWER-DRIVEN REWINDING REELS



Power Driven Rewinding Reels with Fan

AEV/AERV Model

Motor driven hose reel with push button for the roll-up And the roll-down of the flexible hose for Extraction, suitable for wall or ceiling installation. Complete with electric safety stop and remote start And stop of the centralized fan (centralized as

Optional). Differs from "AE/AER" model in the coupling with an "LAM" series electric exhauster; this model provides excellent extraction even with a flexible hose up to 13 metres long. It is particularly suitable for use in workshop where autonomous workstations are needed. Exhausters switchon/ off is automatically regulated by the lowering/raising controls of the hose.

AEV/AERV-MAXI Model

Motor driven hose reel with fan and with push button For the roll-up and the roll-down of the flexible Hose for extraction, suitable for wall or ceiling installation. Complete with electric safety stop and Remotee start and stop of the centralized fan (Operation by pushbutton panel or remote control).

Differs from "AE/AER-MAXI" model in the coupling with an "LAM" series electric exhauster. This model provides excellent extraction even with a flexible hose up to 17metres long. It is particularly suitable for use in workshop where autonomous workstations are needed. Exhausters switch-on/off is automatically regulated by the Lowering/raising controls of the hose.

Model	Hose Diameter (mm)	Hose Type	Hose Length (m)	Power	Weight (kg)	Code
AEV/AERV -75/7	Ø 75	T-GAS	7	0,5	56	51300707
AEV/AERV-75/10	Ø 75	T-GAS	10	0,5	58	51300710
AEV/AERV-75/13	Ø 75	T-GAS	13	0,5	61	51300713
AEV/AERV-100/7	Ø 100	T-GAS	7	0,5	60	51301007
AEV/AERV-100/10	Ø 100	T-GAS	10	0,5	63	51301010
AEV/AERV-100/13	Ø 100	T-GAS	13	0,5	66	51301013
AEV/AERV-125/7	Ø 125	T-GAS	7	1	65	51301207
AEV/AERV-125/10	Ø 125	T-GAS	10	1	68	51301210
AEV/AERV-125/13	Ø 125	T-GAS	13	1	71	51301213
AEV/AERV-125/17	Ø 125	T-GAS	7	1,5	75	51301217
AEV/AERV-125/20	Ø 125	T-GAS	20	1,5	78	51301220
AEV/AERV-150/10	Ø 150	T-GAS	10	1	73	51301510
AEV/AERV-150/15	Ø 150	T-GAS	15	1	78	51301515
AEV/AERV-150/17	Ø 150	T-GAS	17	1,5	80	51301517
AEV/AERV MAXI-125/15	Ø 125	T-GAS	15	1,5	75	51311215
AEV/AERV MAXI-125/17	Ø 125	T-GAS	17	1,5	77	51311217
AEV/AERV MAXI-150/13	Ø 150	T-GAS	13	1,5	79	51311513
AEV/AERV MAXI-180/10	Ø 180	T-GAS	10	1,5	75	51311810
AEV/AERV MAXI-200/10	Ø 200	T-GAS	10	1,5	78	51312010

Regarding to 400 CT- SPECIAL 4 and for 1000 CT-SPECIAL 10 should be used on demand.

FLEXIBLE HOSES

T-GAS



Crush-proof nylon coil black reinforced hose for max temperature of 200°C. Suitable for fitting on reels and for duct or floor-mounted systems. strongly recommended for its great flexibility, lightness and resistance.

T-SPECIAL4



Aluminised glass fabric flexible hose incorporating a high tensile steel helix sewn externally. colour: Silver grey with black scuffstrip. operating temperature: 400°C. Suitable for fitting on rewinding reels and on stationary systems. not crush-proof

Hose Diameter (mm)	Hose Length (m)	T-Gas Model	T-Gas Code	Special 4 Model	Special 4 Code
Ø 75	2,5	75,2,5	51700702	-	-
Ø 75	5	75/5	51700705	-	-
Ø 75	7,5	75/7,5	51700707	-	-
Ø 75	10	75/10	51700710	-	-
Ø 75	13	75/13	51700713	-	-
Ø 75	15	75/15	51700715	-	-
Ø 75	20	75/20	51700720	-	-
Ø 75	40	75/40	51700740	-	-
Ø 100	2,5	100/2,5	51701002	100/2,5	51721002
Ø 100	5	100/5	51701005	100/5	51721005
Ø 100	7,5	100/7,5	51701007	100/7,5	51721007
Ø 100	10	100/10	51701010	100/10	51721010
Ø 100	13	100/13	51701013	-	-
Ø 100	15	100/15	51701015	-	-
Ø 100	20	100/20	51701020	-	-
Ø 100	40	100/40	51701040	-	-
Ø 125	2,5	-	-	125/2,5	51721202
Ø 125	5	125/5	51701205	125/5	51721205
Ø 125	7,5	125/7,5	51701207	125/7,5	51721207
Ø 125	10	125/10	51701210	125/10	51721210
Ø 125	13	125/13	51701213	-	-
Ø 125	15	125/15	51701215	-	-
Ø 125	17	125/17	51701217	-	-
Ø 125	20	125/20	51701220	-	-
Ø 125	40	125/40	51701240	-	-
Ø 150	2,5	-	-	150/2,5	51721502
Ø 150	5	150/5	51701505	150/5	51721505
Ø 150	7,5	150/7,5	51701507	150/7,5	51721507
Ø 150	10	150/10	51701510	150/10	51721510
Ø 150	13	150/13	51701513	-	-
Ø 150	15	150/15	51701515	-	-
Ø 150	20	150/20	51701520	-	-
Ø 180	2,5	-	-	180/2,5	51721802
Ø 180	5	-	-	180/5	51721805
Ø 180	7,5	-	-	180/7,5	51721807
Ø 180	10	180/10	51701810	180/10	51721810
Ø 180	20	180/20	51701820	-	-
Ø 200	2,5	-	-	200/2,5	51722002
Ø 200	5	-	-	200/5	51722005
Ø 200	7,5	-	-	200/7,5	51722007
Ø 200	10	200/10	51702010	200/10	51722010
Ø 200	20	200/20	51702020	-	-

Nozzles

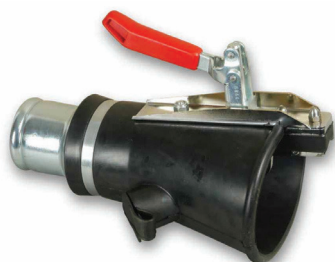
Complete accessories for exhaust fume suction devices for every different application.



BN Model

Rubber nozzle with intake for C.O.(Ø 32 mm).

Model	Flexible Hose (mm)	Nozzle Diameter (mm)	Code
BN-75/140	Ø 75	Ø 140	51800714
BN-75/200	Ø 75	Ø 200	51800720
BN-100/140	Ø 100	Ø 140	51801014
BN-100/200	Ø 100	Ø 200	51801020
BN-125 /140	Ø 125	Ø 140	51801214
BN-125/200	Ø 125	Ø 200	51801220
BN-150/200	Ø 150	Ø 200	51801520
BN-180/200	Ø 180	Ø 200	51801820
BN-200/200	Ø 200	Ø 200	51802020



BNPM Model

Rubber nozzle with manual locking gripper and intake for C.O. (Ø 32 mm)

Model	Flexible Hose (mm)	Nozzle Diameter (mm)	Code
BN-75/140-PM	Ø 75	Ø 140	51810714
BN-100/140-PM	Ø 100	Ø 140	51811014
BN-125/140-PM	Ø 125	Ø 140	51811214
BN-100/200-PM	Ø 100	Ø 200	51811020
BN-125 /200-PM	Ø 125	Ø 200	51811220
BN-150/200-PM	Ø 150	Ø 200	51811520
BN-180/200-PM	Ø 150	Ø 200	51811820
BN-200-200-PM	Ø 200	Ø 200	51812020



BS Model

Stainless steel nozzle with closing flap and, on request, intake for C.O. standard model. BSS

Model	Flexible Hose (mm)	Nozzle Diameter (mm)	Code
BS-75/100	Ø 75	Ø 100	51820710
BS-100/100	Ø 100	Ø 100	51821010
BS-100/140	Ø 100	Ø 140	51821014
BS-100-160	Ø 100	Ø 160	51821016
BS-125/140	Ø 125	Ø 140	51821214
BS-125/180	Ø 125	Ø 180	51821218
BS-150/180	Ø 150	Ø 180	51821518
BS-180/180	Ø 180	Ø 180	51821818



BNA-P Model

Oval rubber nozzle for double exhausts with manual locking gripper and intake for C.O. (Ø 20 mm)

Model	Flexible Hose (mm)	Nozzle Diameter (mm)	Code
BNA-75-P	Ø 75	Ø 165x88	51830700
BNA100-P	Ø 100	Ø 165x88	51831000

EXHAUST SUCTION SYSTEMS WITHOUT REELS



ETA ONE

Fixed wall-mounted extraction system for gas control technology for small and medium size vehicles. Designed for use in small and medium-sized workshops, the ETA ONE is extremely compact and easy to install. Complete of an "ASP" aluminium electric exhauster, n° 1 crushproof flexible hose "T-GAS" L: 5 meters Ø 75, n° 1 neoprene rubber nozzle and n. 1 wall bearing for hose storage.

ETA TWO

Fixed wall-mounted extraction system for gas control technology for small and medium size vehicles.

Designed for use in small and medium-sized workshops, the ETA TWO is extremely compact and easy to install. Complete of an "ASP" aluminium electric exhauster, n. 2 crushproof flexible hoses "T-GAS" L: 5 mt Ø 75, n. 2 neoprene rubber nozzles and n. 2 wall bearings for hose storage



Model	Airflow (m3/h _v)	Motor Power (Kw)	Hose Length (m)	Diameter (mm)	Code
ETA UNO 75/5	350	0,35	5	Ø 75	51017505
ETA UNO 75/7,5	350	0,35	7,5	Ø 75	51017507
ETA UNO 75/10	350	0,35	10	Ø 75	51017510
ETA DUE 75/5	350	0,35	5	Ø 75	51027505

TOTAL SLIDING SYSTEMS



Complete exhaust extraction system with aluminium track etb and sliding carriages. Fan and predisposition for sliding fixing point are included. Pratical, easy and quick to install. It is the ideal solution for exhaust gas extraction near the car without the need for a fixed position or bulky additional hoses.



Model	Rail Length (m)	Hose Length (m)	Model C Code (Q75 Hose - 1hp Power)	Model T code (Q100 Hose -1,5 HP Power)
TTS-AK-6/1	6	7	51410607	51420607
TTS-AK-9/1	9	7	51410907	51420907
TTS-AK-12/1	12	7	51411207	51421207
TTS-AK-15/1	15	7	51411507	51421507
TTS-AK-18/1	18	7	51411807	51421807
TTS-AK-21/1	21	7	51412107	51422107



Model	Rail Length (m)	Hose Length (m)	Model C Code (Q75 Hose - 1hp Power)	Model T code (Q100 Hose -1,5 HP Power)
TTS-AK-6/2	6	7	51430607	51440607
TTS-AK-9/2	9	7	51430907	51440907
TTS-AK-12/2	12	7	51431207	51441207
TTS-AK-15/2	15	7	51431507	51441507
TTS-AK-18/2	18	7	51431807	51441807
TTS-AK-21/2	21	7	51432107	51442107

UNDERGROUND EXHAUST SUCTION SYSTEMS



Model POZ,

Floor trap in tin-plated sheet steel equipped with elbow under the floor for use with internal hideaway hoses. Floor trap in tin-plated sheet steel (10 mm thickness) equipped with elbow under the floor for use with internal hideaway hoses. This under-floor elbow enables quick insertion of flexible hose and easy connection to the system piping in PVC. For cars and commercial vehicles of medium power, we recommend the POZ 140 model, and for lorries and tractortrailers the POZ 180.

Model POZ	A (xB) mm	Ø D mm	Ø E mm	G mm	Ø C mm	Ø C mm	Kod
Model POZ 140	350	140	75/100	582	350	350	51510140
Model POZ 180	350	200	75/100	582	350	350	51510180



Model FL

Floor trap in tin-plated sheet steel equipped with elbow connection for external hoses above the floor. Floor trap in tin-plated sheet steel equipped with elbow connection for external hoses above the floor. System very economical, as it is not necessary to have a hose and nozzle for each trap, so that a single elbow connection can be moved where needed. For cars and commercial vehicles of medium power, we recommend the FL 75 or FL 100 model, and for lorries the FL 125 or mod. FL 150

Model	Ø A mm	Ø B mm	Kod
FL-75 CURVA	75	99	51520075
FL-100 CURVA	100	99	51520100
FL-125 CURVA	125	119	51520125
FL- 150 CURVA	150	149	51520150



Model Poz



Model FL

HLE



How Does It Work

Operating principle, the suction arm which is up to 6 meter length is mounted to the suction car which moves along the locomotive (max. 24m) nearby the wall side and with the 180 degree movement ability suction arm is positioned on the exhaust outlet and the exhaust fume is discharged.

In some applications, when the hood is required to move up and down, an optional 4 m vertical movement mechanism can be added.

Suction fan capacity is calculating according to the locomotive motor power.

The filter unit can optionally added to the system when it is desired to discharge the exhaust fume due to environmental conditions.

The system is controlled manually with the remote control or with the control panel. The fan is switched on or off from the control panel or remote control.

Systems are designed as turnkey projects which assembled, tested and trained before delivery.

MODEL MODEL	KAPASİTE CAPACITY m ³ /h	EMİŞ KOLU EXTRACTION ARM DIAMETER mm	ARABA ÖLÇÜLERİ TROLLEY DIMENSIONS
HLE 40	3000 / 4500	Ø 250	1000 x 400 x 250
HLE 60	4500 / 6500	Ø 300	1000 x 485 x 300
HLE 80	6500 / 9000	Ø 500	1300 x 750 x 450

MODELLER / MODELS

	Ray Yerleşimleri Rail Position		Emiş Şekli Suction Shape
O	Ortadan raylı Rail on top	UD	Üsten Davlumbaz Top Hood
S	Sabit Kollu Fixed arm	RB	Ray Başlarından End Hood
C	Krayn Crane Type	AD	Arkadan Davlumbaz Side Hood
Y	Yandan Raylı Rail on Side		

HAREKET TİPLERİ MOVEMENT TYPES

A	Aşağı Yukarı Hareket Up and Down
S	Sağa - Sola Hareket Side Movement
K	180° Dönen Kol 180° Swing Arm

ÜRÜN KODU PRODUCT CODING

HLE 50/UD-YK gibi / like

HLE-80/RB-CXSA gibi / like

Ray uzunluğu min. 6 mt max. 24mt dir.

Yerin yapısına, durumuna göre özel projeler ve çözümler yapılır.

Rail length is 6 m, can be maximum 24 m. we can make special solutions for different applications

RENEWABLE ENERGY PRODUCTS

Sky Tunnel 170 - 175

Green-Vent Solar 176 - 177

Green-Vent Wind 178- 179

DAYLIGHTING SYSTEMS (Sky Tunnel)

By making an environmental choice and utilising this renewable energy, you will be helping to reduce the consumption of our environments precious resources, and saving money at the same time. Available in 3 sizes, 343mm, 457mm & 535mm diameters, there is a size to suit any application. Sky Tunnel™ sizes offer more actual light area than a typical 350mm, 450mm or 550mm tubular skylight available on the market. A little extra light, can go a long way!

SG Eco Industries is the manufacturer of the Sky Tunnel™ and do not compromise on quality, design, materials or structural integrity. Adhering strictly to the structural requirements set out by both the British Board of Agrément and Australian Standards. Raw materials are sourced from all over the globe to ensure only the best quality materials are incorporated into the Sky Tunnel™ product.

Tested by time, Sky Tunnel™ is designed to withstand the rigors of use in commercial buildings and for this reason construction companies have been using them for over 20 years. For commercial buildings, the energy savings can be quite easily calculated, and the return on your investment is often under 2 years,

when including: Savings in energy costs, increased human productivity and improvement in quality control leading to reduced re-works.

Sky Tunnel™ has a 7 Year Manufacturers Warranty!



Features

- No Lighting Brownouts
- No Running Costs
- No Heat Load on Building
- 100% Color Rendition
- Very Low Maintenance
- Fast Return on Investment
- Improves Occupants Comfort
- Manufacturers Warranty
- Environmentally Friendly
- Improves Human Productivity

Application Fields

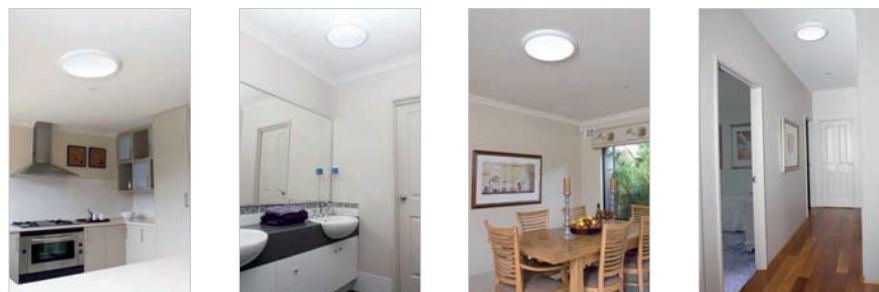
Commercial Application

Sky Tunnel is suitable for almost any Industrial or Commercial Application where you see electric lights being operated during daylight hours. This includes applications such as Warehouses, Factories, Offices, Reception Areas, Gymnasiums, Retail Shops etc.

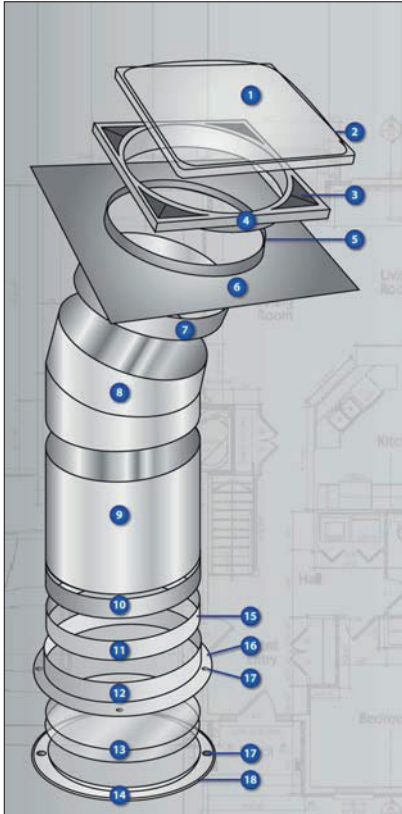


Residential Applications

Suitable Domestic application such as Bathrooms, Entrances, Kitchens, Hallways.....



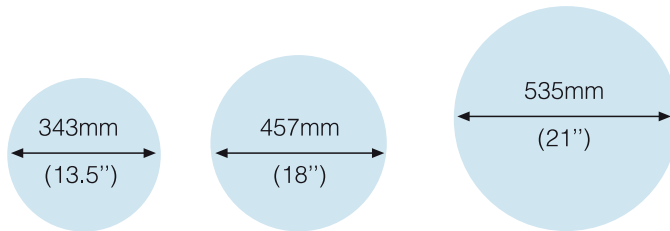
DAYLIGHTING SYSTEMS (Sky Tunnel)



Component Specifications

- 1) DOME - U.V. Stabilized Grade 1 Acrylic (Altuglas – HFI7) or Specialised UV Grade Polycarbonate (Sabic SLX).
- 2) SCREWS x 8 - to fasten Dome (Class 3 corrosion resistant).
- 3) VENT/SOLID TABS - ASA Polymer (Luran S 778 T).
- 4) BREATHER FRAME - ASA Polymer (Luran S 778 T).
- 5) SEAL - Construction Grade Polyurethane (Bostik Seal'N'Flex 1).
- 6) SOAKER TRAY - 0.55mm Corrosion Resistant Steel (Colorbond).
- 7) UPPER RING - Rigid98 (Miro Silver).
- 8) ANGLE ADAPTOR: upto 45° or 90° - Rigid98 (Miro Silver).
- 9) RIGID LENGTHS: 625mm or 1250mm - Rigid98 (Miro Silver).
- 10) LOWER RING - Rigid98 (Miro Silver).
- 11) LOCKING RING - White ABS Thermoplastic (BASF GP22).
- 12) CEILING FRAME -White ABS Thermoplastic (BASF GP22).
- 13) DIFFUSERS x 2 - 3mm PMMA (Acrylic) with Seadrift texture.
- 14) DIFFUSER HOLDER - White ABS Thermoplastic (BASF GP22).
- 15) SCREWS - to retain Flexi-tube Locking Ring to Ceiling Frame.
- 16) SCREWS - to fasten Ceiling Frame, includes lock lug and cover cap.
- 17) MAGNET - N45 Grade / Rare Earth (Neodymium Iron Boron).
- 18) FOAM SEAL -3mm x 6mm Foam.
- 19) REFLECTIVE RING - 0.45mm 430BA Stainless Steel.
- 20) TAPE - PVC Duct Tape (TESA 4050).
- 21) FLEXI-TUBE - Composite 3 layers including metalized polyester, aluminium foil and spring wire.

Dimensions



Diameter = Actual Daylight Area

sky tunnel diameters	Lighting Area	
	Rigid98 Tube	Flexi -Tube
343mm	4x4m or 16m ²	3x3m or 9m ²
457mm	5x5m or 25m ²	4x4m or 16m ²
535mm	6x6m or 36 m ²	5x5m or 25m ²

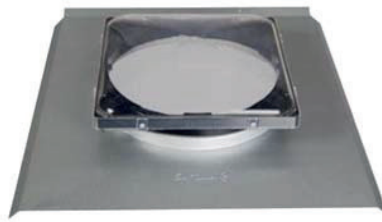
* For 3m tube length

DAYLIGHTING SYSTEMS (Sky Tunnel)

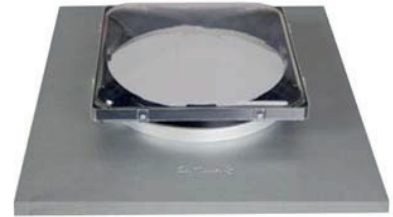
Dome Types

Sky Tunnel is available with either an Acrylic or Polycarbonate Dome. The Acrylic material is Altuglas HFI7 and suitable for almost all applications and is standard material used in Sky Tunnel™ Kits. This Acrylic is impact modified, UV stabilized, Grade 1 virgin material with a visible light transmittance of 93%. This material has been used in the Sky Tunnel product for over 20 years.

In applications where higher impact resistance is critical, the Polycarbonate Dome should be used. This polycarbonate material is SABIC SLX and has exceptional impact resistance, is UV Stabilized and has a visible light transmittance of 87%.



Custom Orb (CGI)



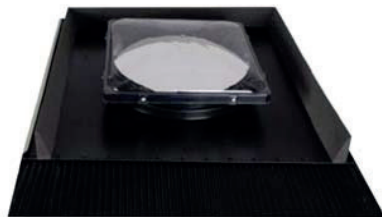
Dek



Hob (Curb) Mount



Flat (Shingle)



Tile



Slate

Attic Parts

Rigid98 Tubing is recommended for almost all commercial applications. The superior performance of this tubing ensures you get the maximum performance where you need it. Rigid98 Tubing is used in all commercial applications with no ceilings such as warehouses, factories, gymnasiums etc. Flexi-tube™ is predominantly used in residential applications. In commercial applications the use of Flexi-tube is in areas where higher luminance levels are not required such as toilets, change rooms, locker rooms etc.

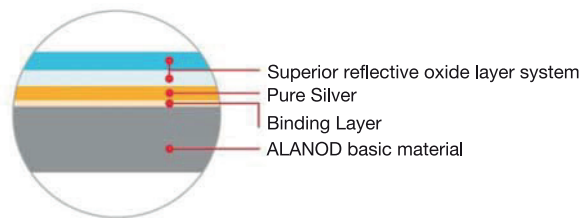
Rigid98 Tube

SKY TUNNEL's Rigid98 Tubing is fabricated from Miro-Silver, a premium quality aluminium product manufactured by ALANOD in Germany. MIRO - SILVER the next generation, has a total reflectivity of 98%. Normal anodised aluminium lighting grades have total reflectivity of up to 87%. To increase or enhance this total reflectivity to a higher level, several nanometer-thin optical coatings must be applied to the aluminium surface in a vacuum.

MIRO-SILVER delivers high efficiency luminance with little light transmission loss and the light stays completely white with no colour spectrum shift - even after numerous reflections. It is also extremely durable and will not fade or lose reflectivity.



MIRO-SILVER® Layer system

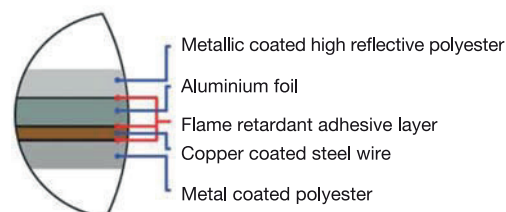


Flexi-Tube™

Flexi-tube™ is a tubing system that can be used in certain applications up to 3m in length. With up to 86% reflectivity, Flexi-tube™ is a cost effective alternative to Rigid98 Tube providing adequate light when applied in suitable applications. Installation of a Sky Tunnel™ with Flexi-tube™ is very easy as the flexibility allows the installation of the Roof Parts and Ceiling Parts to be off centre, so avoiding obstructions in the attic space is simple. Manufactured in house, from the highest quality local and imported materials, you can be sure our Flexi-tube™ will stand the test of time. After all, it already has for 20 years!



Flexi-tube™ Layer system



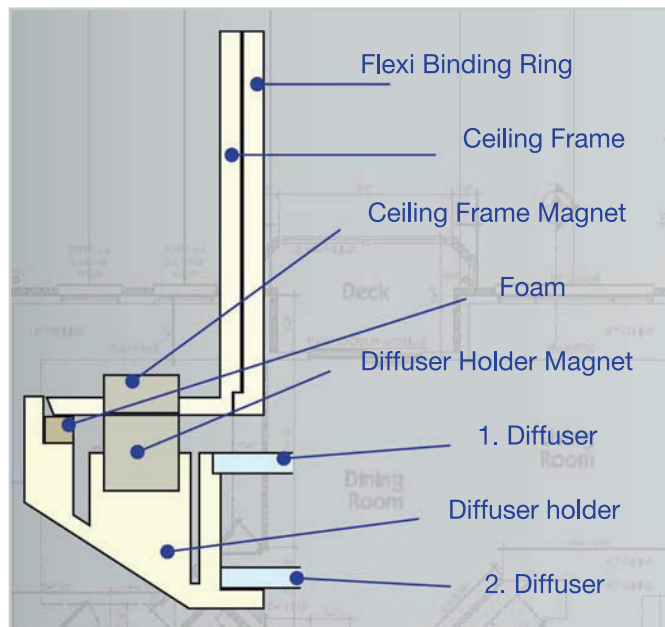
DAYLIGHTING SYSTEMS (SKY TUNNEL)



Ceiling Parts

With Sky Tunnel a double glazed diffuser is a standard feature, not an optional extra. This provides a more energy efficient daylighting unit in all climates.

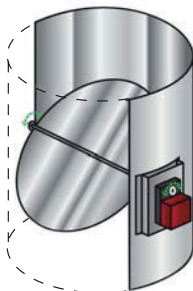
This double glazed diffuser is held in place by magnets sticking to other magnets in the surface of the ceiling frame. The double glazed diffuser also includes a foam seal, already installed for maximum energy efficiency.



Accessories

Vari-light

The Vari-light for the Sky Tunnel XL2 allows you to control the amount of daylight entering the room, all by remote control. The Vari-light runs on 12V DC Electricity, and with a 2W motor uses almost no power to operate. The remote control has 3 buttons - Open, Close & Stop. Press the open or close button once to start the Vari-light, and when you get to the desired level of daylight - press Stop. When the unit is closed the unit will still allow a minimal amount of light to enter the room. The Vari-light can be controlled by the MARCS remote system.

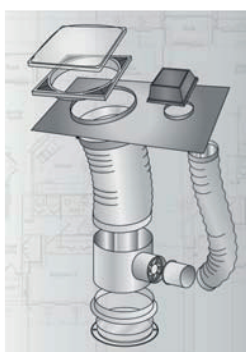


Exhaust Fan

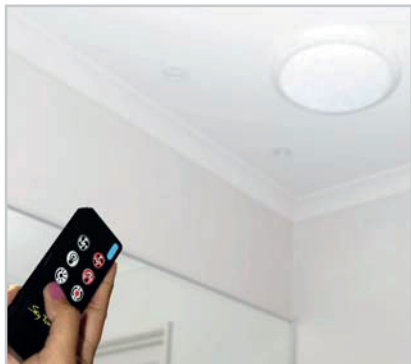
The Power Kit - Exhaust Fan for the Sky Tunnel XL2 is a ventilation system ideal for small bathrooms, toilets or anywhere you need to exhaust air from a room which also requires daylighting. The Vari-light runs on 12V DC Electricity, and with a 18W motor uses approx Php0.22 (less than USD0.01) per hour.

The Exhaust Fan is located in the stainless steel take off unit just above the ceiling. The exhausted air is pushed up through a 150mm diameter flexible tube and out through a cowl on the roof parts of the Sky Tunnel™. The design of this system means you only have one roof penetration and one ceiling fixture that provide your ventilation & daylighting solution.

The Power Kit can be controlled by the MARCS remote system.



Sky Tunnel



Multiple Accessory Remote Control System (MARCS)

1. Vari-light

A single flap damper system allowing full control of the amount of daylight entering the room. 3 buttons on the remote - OPEN, CLOSE & STOP give you the option of setting the exact amount of daylight you want.

2. Power Kit-Exhaust Fan

Designed for use in bathrooms, toilets etc. allowing for the extraction of air from the room through the Sky Tunnel system. Two buttons on the remote for the fan - ON & OFF.

3. Electric light

A low voltage (12V) lighting system may be installed inside the Sky Tunnel for night time use. This is not the electric light shown in this brochure, but may be able to be purchased locally. Two buttons on the remote for the light - ON & OFF.

The system uses a "Learning" type remote allowing single or multiple units to be controlled by the one handheld remote control - the choice is yours.

The Receiver Input is 12V with a maximum load of 70W. The Exhaust Fan draws 18W, the Vari-light draws 2W and an LED Lighting System should be approx 20-30W. Transformer Input 110V-240V, 50/60hz.

Application



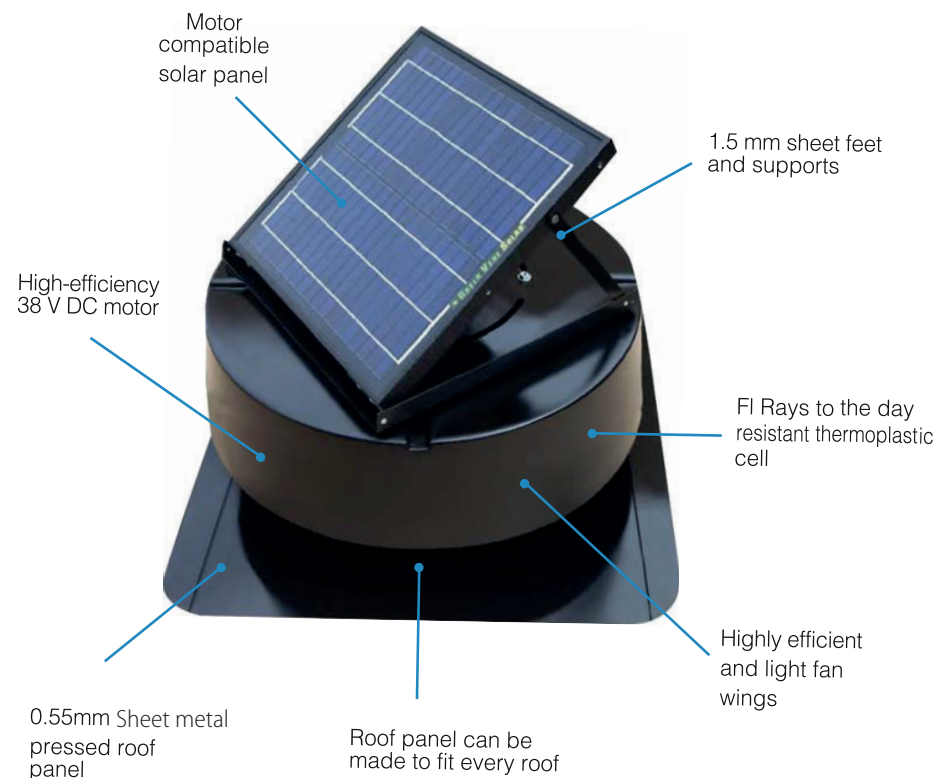
SOLAR POWERED ROOF FAN - GREEN VENT SOLAR

On a hot summer day, heat builds up inside your roof/attic space and Works its way through your ceiling and into the house. Prevent the heat from ever building up, by Removing the warming air with the Green-vent Solar Attic Eraction Fan. During winter, any moisture trapped inside your roof or attic space will condense in the cooler air resulting in the growth of mold and mildew. Circulating clean fresh air, especially in winter will reduce the occurance of this and prolong the life of your roof. Temperatures inside your roof/attic space can exceed 70C (170F). This increases the Temperature of your air-con ducting, meaning the air-con has to work much harder to deliver you the same result. This equates toextra energy costs. Green-vent Solar uses no electricity itself and reduces the temperature – thus reducing costs. The Green-vent Solar includes a high performance 38V motor that generates very little noise. Coupled with the fact the Green-vent Solar is installed on the roof, in most installations you will nerver hear it operating. Everything is already assembled and ready to install, so its just a simple roof penetration adjust the Solar panel to the right orientation and the unit is up and running. Suitable for areas where mold and mildew are not an issue in winter, and You want the Green-vent Solar to turn off when the temperature drops below 18C. The thermostat is factory fitted, and can easily be bypassed by the installer if not required.

Features

- Reduce your energy cost
- Keep your house cooler in summer
- Fully adjustable solar panel – tilts& rotate
- Quick and easy installation – less than 30 min.
- Thermostat included
- Extremely quiet operation

Code: **56200000**



Green-Vent Solar



Environment Control System (Optional)

The ECS is an automated system for running the fan when environmental Conditions demand it. The ECS runs on the 12V power of the Solar Panel, so if there is no sun the ECS will not operate. Alternatively, you can plug the ECS into mains power using a transformer (purchased seperately). The fan will then Run on Solar Power the fan will run for 8 mins every half hour. The setting for The ECS are as follows:

Temperature Control: Turns fan ON at 27 C & OFF at 25 C.

Humidity Control: Turns fan ON at 75% RH & OFF at 65% RH.

Code: **56200010**



Floor Area of roof attic space	Low angle pitch up to 18°	Med angle pitch up to 33°	High angle pitch up to 45°
100 m ²	1 aspirator	1 aspirator	2 aspirator
150 m ²	1 aspirator	1 aspirator	2 aspirator
200 m ²	1 aspirator	2 aspirator	3 aspirator
250 m ²	2 aspirator	2 aspirator	3 aspirator
300 m ²	2 aspirator	3 aspirator	4 aspirator

Wind Driven Roof Fans (Green-Vent Wind)

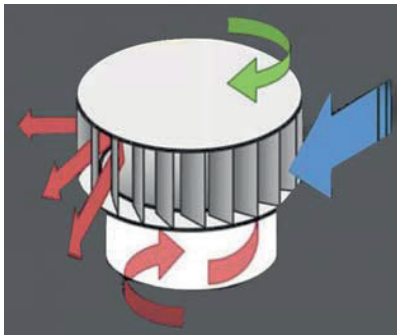
Green-vent Wind utilizes the renewable energy of the Wind to create a positive flow through the ventilator. Even the slightest wind speeds will cause the head to spin. An area of low pressure is created on the leeward side of the Green-vent Wind and the air drawn out between the vanes on the head of the ventilator feed this low pressure zone.

This process allows for a continuous air flow through the Green-vent Wind. The centripetal forces created by the rotation of the Green-vent Wind will expel the air outwards from the edge of the vanes and this hot and stale air is replaced by cooler and fresh air from outside the building. Thermal currents and temperature differentials will also allow the ventilation process to occur with Green-vent, even with no wind.

The design has proven to resist leakage during the heaviest of rainfalls.

Features

- Vertical Vane Technology for greater performance at all wind speeds.
- Up to 3 times the exhaust capacity of round shaped ventilators.
- Light weight, high strength aluminium construction means no rust.
- Three different sizes for cost efficiency.
- Performance without any Electricity.
- Year-round ventilation.
- High Precision - Quality Bearings.
- Larger exhaust openings on all sizes for better ventilation results.
- 15 Year Manufacturers Warranty.



What are the Basic Principles for Ventilating a Building?

For any ventilation system to work effectively there must also be an appropriate amount of inlets vents, relative to the amount of Roof Ventilators, in order to access the cooler and fresher air on the outside of the building.

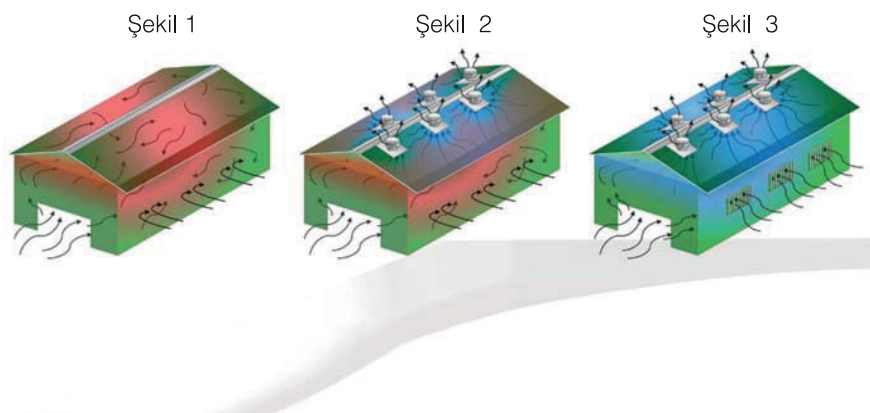


Diagram 1: This would be considered a non ventilated building, with hot and stale air remaining inside.

Diagram 2: This could be considered a ventilated building, but the building will not get the full benefits

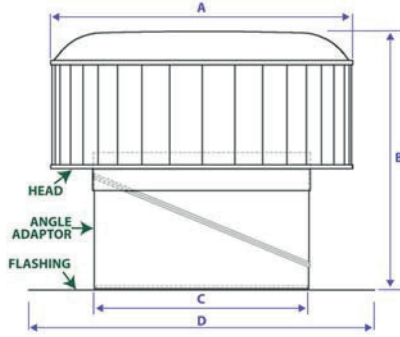
of the Green-vent Wind as their is insufficient inlets to allow enough fresh air to enter.

Diagram 3: A properly ventilated building utilizing Green-vent Wind with adequate inlets, allowing fresh

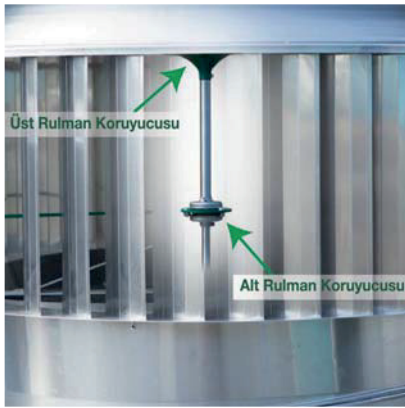
and cooler air to enter and hot & stale enter to exit.

Green-Vent Wind

Dimensions



Aspirator	A	B	C	D	Code
	Diameter	Height	Tube Diameter	Flange Dimension	
GVW150	340 mm	475 mm	150 mm	400 mm x 360 mm	56101500
GVW300	480 mm	480 mm	300 mm	500 mm x 600 mm	56103000
GVW600	770 mm	720 mm	600 mm	900 mm x 900 mm	56106000
GVW900	1100 mm	940 mm	900 mm	1200 mm x 1200 mm	56109000



Üst rulman koruma standart olarak bütün ünitelerde bulunur, Green-vent Wind 900 mm, alt rulman için ayrıca paslanmaz çelik rulman koruyucusunu standart olarak içerir.

Material Specifications

Vanes: Aluminium 5005 H34
 Plates: Aluminium 5005 H34
 Angle Adaptor: Aluminium 5005 H34
 Flashing: Aluminium 5005 H34
 Dome: Aluminium 1200 H0
 Brackets: Aluminium 6060 T591
 Tri-bracket: Powdercoated Mild Steel
 Shaft: 304 Stainless Steel
 Upper Bearing: Double row ball bearing - BWF30-119Z
 Lower Bearing: Single row ball bearing – SB204-12C
 Upper Bearing Assembly: Glass reinforced ASA
 Upper Bearing Protector: Aluminium 1200 H0
 Lower Bearing Protectors: 304 Stainless Steel
 ** Tri-bracket & Lower Bearing only used on GVW900

Tube Area

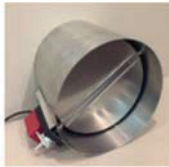
GVW150= 0.018 m²
 GVW300= 0.071 m²
 GVW600=0.283 m²
 GVW900=0,636 m²

Total Weight

GVW150= 2,5kg
 GVW300= 5kg
 GVW600=12 kg
 GVW900=25 kg

12V Motor Operated Damper

With this damper, you can switch off or turn off the Green-Vent Wind ventilator with the remote control to reduce or keep the heat loss in the space during winte



Efficiency Table

Aspiratör	Shooting capacity at variable wind speeds (m3 / h)		
	1,66 m/s	3,33 m/s	4,44 m/s
GVW150	396	756	997
GVW300	970	1720	2230
GVW600	2230	3970	5110
GVW900	5610	9720	12450

ELECTRIC HEATERS

- Electric Panel Heaters 182-183
- Heaters With Fan 184-185
- Storage Heaters 186
- Hydronic Base Unit Heater 187-188

PH and PHT Series

PH series



PHT series



Features

- Two power option in all the models with the exception of PH-075 and PH-075T
- Frost protection mode.
- Built-in ambient thermostat $\pm 0,5^{\circ}\text{C}$
- Thermal safety cut out
- Switch indicator of consumption
- Daily programmer in PHT models
- Protection IP 24, splash proof
- Controls protection cover made in polycarbonate.
- Powder coated RAL 9010 steel structure
- Fitted with 1,5 m mains cable.
- Unique wall fixing brackets included

PH series

Model	Input power	Voltage (V)	Dimensions (mm)	Weight (kg)	Code
PH-075	750 W	230	410 x 410 x 80	5,5	60060756
PH-125	1250 W (750 + 500)	230	560 x 410 x 80	6,5	60061256
PH-150	1500 W (750 + 750)	230	635 x 410 x 80	7	60061506
PH-200	2000 W (1000 + 1000)	230	785 x 410 x 80	8	60062006

PHT series

Model	Input power	Voltage (V)	Dimensions (mm)	Weight (kg)	Code
PH-075 T	750 W	230	410 x 410 x 80	5,5	60060757
PH-125 T	1250 W (750 + 500)	230	560 x 410 x 80	6,5	60061257
PH-150 T	1500 W (750 + 750)	230	635 x 410 x 80	7	60061507
PH-200 T	2000 W (1000 + 1000)	230	785 x 410 x 80	8	60062007

PHM Series

PHM line includes an ON—Off switch and a built-in ambient thermostat to control manually the temperature desired in every moment.



Features

- Input from 750W to 2000W
- Frost protection mode
- Built-in ambient thermostat $\pm 0,5^{\circ}\text{C}$
- Thermal safety cut out.
- Switch indicator of consumption
- Protection IP2X
- Powder coated RAL 9010 steel structure
- Fitted with 1,5m mains cable
- Unique wall fixing brackets included

Model	Input power	Voltage (V)	Dimensions (mm)	Weight (kg)	Code
PHM-075 M	750 W	230	410 x 410 x 80	5	60060758
PHM-125 M	1250 W (750 + 500)	230	560 x 410 x 80	6	60061258
PHM-150 M	1500 W (750 + 750)	230	635 x 410 x 80	7	60061508
PHM-200 M	2000 W (1000 + 1000)	230	785 x 410 x 80	8	60062008

RF Series

Thermal radiators are designed to meet all the needs of spaces with many functions. While conventional heaters do not allow for perfect temperature control, the RF series provides very precise control and saves energy.



Features

Built-in electronic ambient thermostat $\pm 0,1^{\circ}\text{C}$.

Digital temperature selector for displaying real temperature, set up temperature, clock and other messages.

Three-level temperature selector: Comfort, Economy and

Frost-protection.

Thermal safety cut out.

Ratings from 375 to 1500 W

Stylish aluminium body finished in epoxy powder coating

Unique wall fixing brackets included

Weekly and daily programmer

Built-in On-Off switch

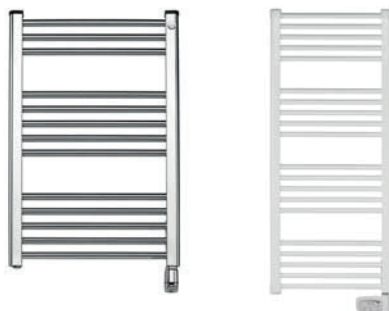
EcoFluid technology (No risk of

Input Power (W)	Voltage (V)	Dimensions (mm)	Weight (kg)	RFF Code	RFE Code	RFP Code
375	230 - 240	335 x 100 x 580	7.5	60701003	60702003	60703003
500	230 - 240	415 x 100 x 580	9.5	60701005	60702004	60703004
625	230 - 240	495 x 100 x 580	11.5	60701006	60702005	60703005
750	230 - 240	575 x 100 x 580	13.5	60701007	60702006	60703006
1000	230 - 240	735 x 100 x 580	17.5	60701010	60702008	60703008
1250	230 - 240	895 x 100 x 580	21.5	60701012	60702010	60703010
1500	230 - 240	1055 x 100 x 580	25.5	60701015	60702012	60703012
2000	230 - 240	1215 x 100 x 580	29.5	60701020	60702020	60703020

Input Power (W)	Voltage (V)	Dimensions (mm)	Weight (kg)	RFF Code	RFE Code	RFP Code
500	230 - 240	415 x 100 x 580	9	60701104	60702105	60703104
750	230 - 240	575 x 100 x 580	12	60701106	60702107	60703106
1000	230 - 240	735 x 100 x 580	15	60701108	60702110	60703108
1250	230 - 240	895 x 100 x 580	18	60701110	60702112	60703110
1500	230 - 240	1055 x 100 x 580	21	60701112	60702115	60703112

TOWEL RAIL RADIATORS / TBB and TBC Series

TB and TBC these high quality towel rails will provide warmth for the bathroom, dry or warm up delicate garments or even keep your towels warm whilst at the same time, helping to reduce moisture and mildew.



Control box for TBB series

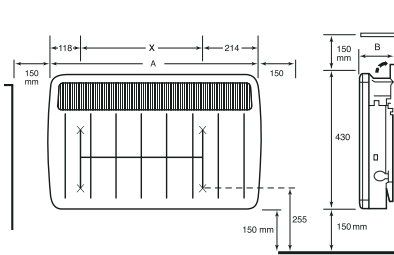
Features

- Digital towel rail with weekly and daily programmer
- Blue backlight LCD display
- Digital temperature selector for displaying real temperature, set up temperature, programming and other information.
- Different operating modes can be set up such as Comfort, Eco, Frost protection, 2 hours Timer, Chrono and Pilot wire.
- Thermal safety cut out.
- IP44 protection, against splashing water.
- Safety wall fixing brackets.
- Low density thermal fluid.

Model	Color	Power (W)	Dimensions (mm)	Ağırlık (kg)	Kod
TBB-8i	Beyaz	300	87 x 50 x 8	10.5	60800130
TBB-12i	Beyaz	600	128 x 50 x 8	11.5	60800160
TBC-8i	Krom	300	87 x 50 x 8	10.5	60800230
TBC-12i	Krom	600	128 x 50 x 8	11.5	60800250

Ultra Slim Panel Convactor Heaters

The all new PLX range is a popular choice for specifiers, home owners and contractors who demand stylish, space saving and efficient electric heating systems. PLX panel heaters are often used to heat areas such as bedrooms, bathrooms, kitchens and other areas, which only require heating for short periods of the day.



Features

- Convected heat for rapid warm-up.
- Suitable for domestic or commercial use.
- Choice of models with or without timers.
- All models splashproof (IPX4 rated) for use in bathrooms and other wet areas.
- High accuracy adjustable thermostat responds to very small changes in room temperature to reduce temperature drift. *
- Frost protection setting. **
- PLX TI models have programmable 24-hour timers.
- Option of 7-day timer on 2kW and 3kW models.
- Front air outlet grille for efficient heat circulation.
- Lockable dust cover protects controls.
- Detachable hinged wall mounting frame for fast installation and easy cleaning.
- PLX NC models with no built-in controls for use with remote controllers.
- *PLX TI, PLX TX models or PLX NC models fitted with appropriate external thermostat/timer.
- ** Not applicable to PLX NC range

Model No	Capacity	Width (A)	Height	Derinlik (B)	X	Color	Weight	Code
Thermostat Only Models								
PLX500	0.5 kW	450 mm	430 mm	108 mm	117 mm	Willow White	4.8 kg	60060501
PLX750	0.75 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60060751
PLX1000	1.0 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60061001
PLX1250	1.25 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061251
PLX1500	1.5 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061501
PLX2000	2.0 kW	860 mm	430 mm	108 mm	527 mm	Willow White	8.0 kg	60062001
PLX3000	3.0 kW	860 mm	430 mm	143 mm	527 mm	Willow White	10.0 kg	60063001
24 Hour Timer Models								
PLX500TI	0.5 kW	450 mm	430 mm	108 mm	117 mm	Willow White	4.8 kg	60060502
PLX750TI	0.75 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60060752
PLX1000TI	1.0 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60061002
PLX1250TI	1.25 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061252
PLX1500TI	1.5 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061502
PLX2000TI	2.0 kW	860 mm	430 mm	108 mm	527 mm	Willow White	8.0 kg	60062002
PLX3000TI	3.0 kW	860 mm	430 mm	143 mm	527 mm	Willow White	10.0 kg	60063002
PLX500WTI	0.5 kW	450 mm	430 mm	108 mm	117 mm	White	4.8 kg	60060503
PLX1000WTI	1.0 kW	620 mm	430 mm	108 mm	287 mm	White	6.2 kg	60061003
PLX1500WTI	2.0 kW	690 mm	430 mm	108 mm	355 mm	White	6.6 kg	60061503
PLX2000WTI	2.0 kW	860 mm	430 mm	108 mm	527 mm	White	8.0 kg	60062003

Ultra Slim

Model No	Capacity	Width (A)	Height	Derinlik (B)	X	Color	Weight	Kod
7 Day Timer Model								
PLX2000TX	2.0 kW	860 mm	430 mm	108 mm	527 mm	Willow White	8.0 kg	60062004
PLX3000TX	3.0 kW	860 mm	430 mm	143 mm	527 mm	Willow White	10.00 kg	60063004
No Control Models								
PLX500NC	0.5 kW	450 mm	430 mm	108 mm	117 mm	Willow White	4.8 kg	60060505
PLX750NC	0.75 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60060755
PLX1000NC	1.0 kW	620 mm	430 mm	108 mm	287 mm	Willow White	6.2 kg	60061005
PLX1250NC	1.25 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061255
PLX1500NC	1.5 kW	690 mm	430 mm	108 mm	355 mm	Willow White	6.6 kg	60061505
PLX2000NC	2.0 kW	860 mm	430 mm	108 mm	527 mm	Willow White	8.0 kg	60062005

A Series Industrial Fan

Multi-purpose A series fan heaters that can be mounted securely on the wall are suitable for commercial and industrial applications. These model heaters provide fast heating at the desired time and location. A series fan heater versions are 4kW,6kW,9kW and 12Kw



Features

- Steel coated heating element
- Contactora included for all models
- Prob thermostat
- Delay thermostat
- Safety thermostat
- Fan switch
- Adjustable wall fixing brackets included
- Strong body in epoxy powder coating

Model	Input Power (kW)	Voltage	Air flow rate (m ³ /h)	Dimensions (mm)	Weight (kg)	Code
A-4	4	230 V	400 m ³ /h	370 x 270 x 380	10	60404040
A-6	6	400 V/3N	600 m ³ /h	430 x 270 x 420	11	60404060
A-9	9	400 V/3N	750 m ³ /h	430 x 370 x 450	15,5	60404090
A-12	12	400 V/3N	900 m ³ /h	430 x 370 x 450	16,5	60404120

XL/XLS Series Storage Heaters

The XL and XLS are suitable for a wide range of domestic and commercial applications. The heating level of XL range is adjusted by means of a variable input control, which the occupant sets in line with the changing weather conditions. XLS series improves comfort level with advanced automatic charging system and provides more economical use. This advanced control system balances the amount of heat stored in different weather conditions without user intervention. Patented Twin sensor provides automatic charge.

Features

- Less than 150mm deep
- XL range features manually adjustable charge regulator to control the amount of heat stored during the charge period.
- XLS range features automatically adjustable charge regulator to control the amount of heat stored during the charge period.
- Running cost savings of up to 15% can be achieved using automatic controller (XLS) compared to manual static (XL) storage heaters.
- Room temperature boost control increases heat output when required and may be used automatically or manually.
- Easy to use controls, out of sight of young children.
- Frontal grille for efficient heat distribution.
- Secure wall fixings for safety.
- Feet may be fitted under carpet or on top of a suitable floor covering.
- Drip proof construction (IPX2 rated)

Model	Input power (kW)	Charge capacity (kWh)	Weight (kg)	Dimensions (mm)	Code
XL 6	0.85	5.95	41	700 x 332 x 170	60080106
XL 12	1.70	11.90	76	706 x 565 x 146	60080112
XL 18	2.55	17.85	109	706 x 793 x 146	60080118
XL 24	3.40	23.80	144	706 x 1021 x 146	60080124
XLS 6	0.85	5.95	41	700 x 332 x 170	60080206
XLS 12	1.70	11.90	76	706 x 565 x 146	60080212
XLS 18	2.55	17.85	109	706 x 793 x 146	60080218
XLS 24	3.40	23.80	144	706 x 1021 x 146	60080224



BUH Series

The hydronic BUH range is designed specifically for use on 'wet' heating systems.

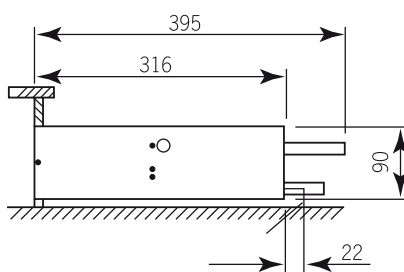
Small and compact, the BUH fits discreetly into the base of kitchen units, reception desks, shop counters and even stair risers. The BUH will heat a room much faster than a traditional radiator many times its size, but will not occupy valuable wall space.

Maximum output of 2.0kW (6824 Btu/h). With choice of low and boost settings. Automatic low temperature cut out thermostat.

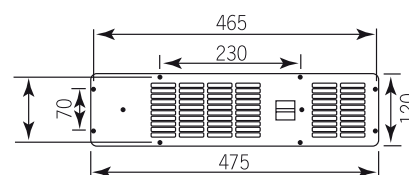
Fan only option for cool air circulation(boost or normal speed). Supplied with a choice of brown, white or stainless steel grilles to suit any plinth unit

Model	Colour	Code
BUH 19 S	Stainless Steel	60321901
BUH 19 B	Brown	60321902
BUH 19 W	White	60321903

Side view



Front view



Color Options



Stainless Steel



Brown



White



BFH Series

The BFH range has been designed to fit neatly and unobtrusively into fitted furniture, display units, fascias or false walls. These heaters are ideal for incorporating into plinths of kitchen or bedroom base units or shop display units.

Maximum output of 2.4kW with switching for 800W and 1600W outputs.

Variable thermostat for selection of room temperature.

Neon indicator glows when the unit is switched on.

Fan only option for cool air circulation.

Choice of brown, white or stainless steel models to suit any plinth unit.

Models BFH24TW (white), BFH24TB (brown) and BFH24TS (stainless steel) have integral controls for ease of installation.

Models BFH24RW (white), BFH24RB (brown) and BFH24RS (stainless steel) are supplied with a remote switch panel, for positioning convenient to user.



Color Options



Stainless steel



Brown



White

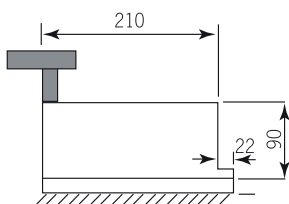
Integral Control

Model	Colour	Code
BFH 24 TS	stainless steel	60312411
BFH 24 TB	Brown	60312412
BFH 24 TW	White	60312413

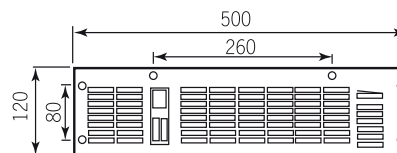
Remote Switch Panel

Model	Colour	Code
BFH 24 RS	stainless steel	60312421
BFH 24 RB	Brown	60312422
BFH 24 RW	White	60312423

Side view



Front view





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