

Hygiene Air Handling Unit

BA-H





Fresh air is essential for people to feel good and to increase the life of your computers and machines. By investing in an energy efficient ventilation system from Systemair you get a healthy indoor environment while reducing your operating costs. Additionally, it prepares you for future environmental requirements and thus increases the value of your property. In other words, pure profit.

Systemair provides professional ventilation solutions for all types of buildings, from single-family and multi-family buildings to shopping centers, hospitals and industrial facilities. We adapt the solution to your particular type of business. Regardless if it is a new construction or a retrofit project, our products are second to none in quality, reliability and length of service life. You can always trust that Systemair delivers energy efficient ventilation solutions for health, comfort and success.

Fresh air is pure profit.



Bringing fresh air to places

Systemair was founded in 1974 with a pioneering idea in developing and introducing the circular in line centrifugal duct fan which has simplified ventilation systems. Our motto "The straight way", has now extended from a product concept to a business philosophy. Our range has grown substantially to span a wide range of energy efficient fans, air handling units, air distribution products, air conditioning, air curtains and heating products. Our products are robust and easy to choose, install and use.

Today, our company is one of the global leaders having subsidiaries in 50 countries in Europe, North &

South America, Middle East, Asia and Africa. About 65 companies with 5,200 employees and 27 factories with a total manufacturing floor space of more than 300,000 m². The company is listed on the NASDAQ OMX Nordic Exchange

Operating from the core values of simplicity and reliability, our business concept is to develop, manufacture and market high-quality ventilation products. On the basis of our business concept and with our customers in focus, our aim is to be seen as a company to rely on, with the emphasis on delivery reliability, availability and quality.

Contents

Systemair worldwide.....	2-3
Systemair India.....	4-5

Technical data

BA-H overview.....	6-7
Components.....	8-15
Selection tools.....	16
Unit dimensions.....	17-18
Resulting Performance.....	19
Certifications.....	20-22
References.....	23-27

Systemair India

Systemair India (100% owned subsidiary of Systemair AB, Sweden) started operations in 2006. Today the company has its offices pan India in 9 cities- Noida, Hyderabad, Bengaluru, Chennai, Kochi, Kolkata, Pune, Mumbai & Ahmedabad. The team of 400 dedicated professionals are looking after- sales, technical support, production & logistics. The company has manufacturing area totaling to 15000 sq mts in its 2 ultra-modern factories located at Greater Noida & Hyderabad. The strategically located production units manufacture high quality products to support the local market needs with minimum possible time for delivery.

The **Greater Noida factory is a LEED Platinum certified building**, with modern laboratories the **ATD lab** (Air Terminal Devices) and **Acoustic laboratory**.

The **ATD lab** built in compliance with EN & ASHRAE standards boasts of high precise measuring equipments and an independent control software to determine air flow patters & velocity profile of air terminal devices. The **Acoustic lab** built in compliance with AMCA 210 & AMCA 300 standards uses AMCA nozzles for air flow measurement and AMCA specified pressure taps for pressure drop measurements. The lab can conducts test procedures for maximum air flow 45000 Cub. Mt./Hr. with a pressure handling capacity of 3000pa.

Certifications

- Axial fans certified as per AMCA international.
- BSI certificate of constancy of performance, EN12101-3: 2015 for Axial fans & AJR Jet Fans tested to 300°C/2hrs.
- Follows ETL testing lab U.S.A for performance testing of air distribution products like grilles & diffusers.
- Combination fire & smoke dampers certified & listed as UL555 for 90 min fire rating & UL555 S for Class 1 leakage.
- Fire damper series FSD-A-L, FSD-A-S certified as per UL555 for 90 min fire rating.
- Fire dampers certified by CBRI Roorkee (as per UL555 for 120 mins) and also certified as per BS-476 Part 20.
- Fusible link fire dampers certified for 1.5 hrs of fire rating as per UL555
- Sound attenuators certified in SRL, U.K for the static insertion loss as per BS 4718-1971.
- EUROVENT certified BA series of AHUs.
- EUROVENT hygienic certification for BA-H series of AHUs.
- BS/EN1886:2008 for casing strength, tightness, thermal resistance, thermal bridging & filter bypass leakage for AHU.
- EN13053 / 2006 for air flow-static pressure performance, heat transfer and heat recovery performance.

Product Range

The leading edge product range includes



Air Distribution & Fire Safety Products

Range of supply & exhaust diffusers, iris dampers, grilles & fire dampers.



Air Handling Units

Compact & modular AHU's used for industry, commerce, schools, hospitals etc. It also includes the Hygiene air handling units.



Fans

This includes circular & rectangular duct fans, roof fans, box fans & axial fans.



Greater Noida - India: **LEED certified Platinum rated** manufacturing facility.

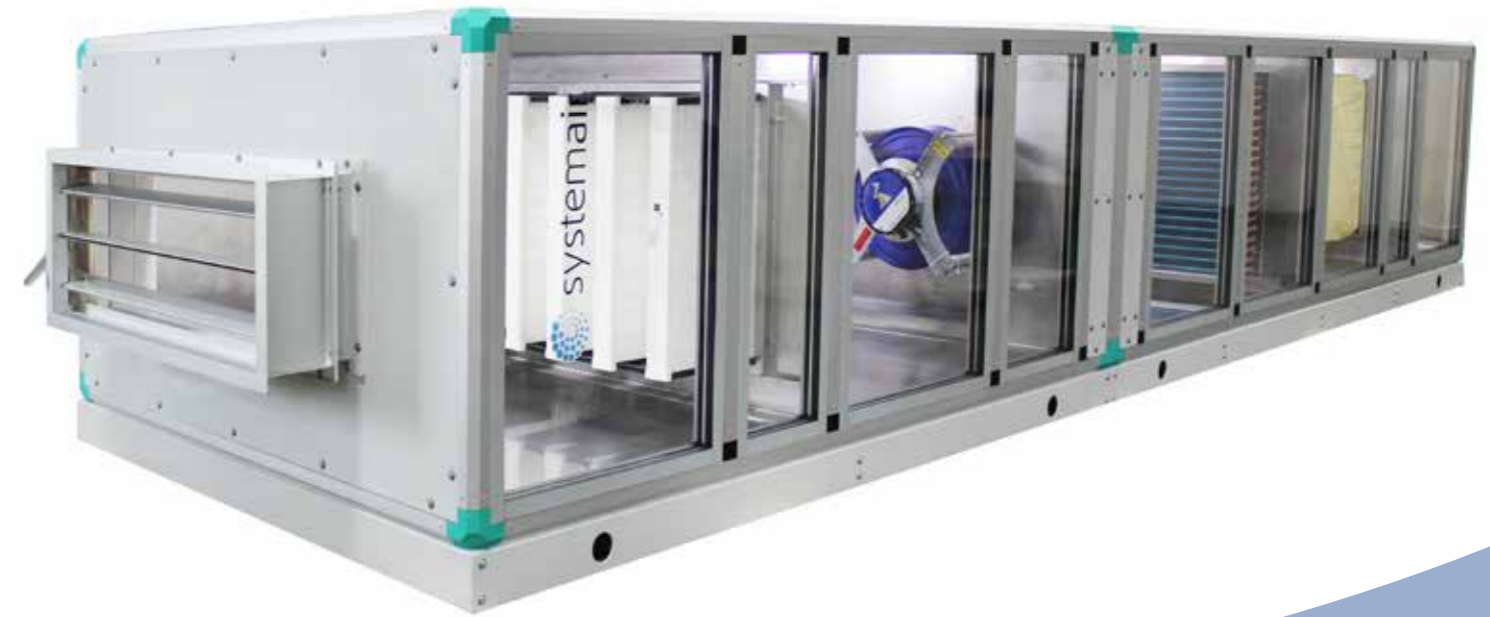
Are you aware...

What happens inside your air handling unit?

- Growth of microorganism colony on nonmetallic parts over the period of operation
- Metallic parts get corroded
- Dust & foreign materials get accumulated during construction & remains there
- Does not have sufficient space for cleaning its components
- High leakage rate
- Inefficient thermal bridging
- Low casing strength

Systemair designs a solution to all this...

India's first air handling unit indigenously developed & built as per international standards and certified by EUROVENT for Hygienic application.



BA-H

Modular & extremely adaptable

Systemair offers a wide range of hygiene air handling units for use in sterile areas, pharmaceutical industry, clean rooms, hospital etc. All the metallic components are either designed of corrosion free material or have been provided with special coatings to make it corrosion free. The non metallic components have been developed from materials which are tested and evaluated for negative growth of micro organisms/ fungi after completion of incubation cycle.

None of the components have been manufactured from hazardous materials and do not produce odor. For all items in the range, systems and components have been developed to satisfy stringent demands for low energy consumption. Heat exchangers, motors and fan units have all undergone extensive testing, both in the laboratory and out in the field, in order to comply with current and future demands for low energy consumption.

All products are also manufactured to comply with environmental requirements. To ensure easy installation, many of these units feature control systems enabled for plug-and-play, i.e. simple start-up.

BA-H units conform to following international standards in addition to EN -13053 & EN -1886



• EN ISO 846:1997 "Evaluation of the action of microorganisms" for all non metallic material.



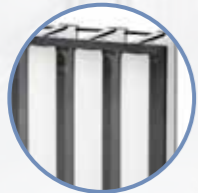
• EN 10088-3:2014 Standard 1.4301 / AISI 304 for "Stainless steel".



• EN 1993-1-2:2005 Eurocode 3: "Design of steel structures" for corrosion resistance.



• DIN 1946/4-6.5.1:2008 for Aluminium and coating properties.



• EN 779:2012 for medium and fine filters.
• EN 1822:2010 for high efficiency filters.

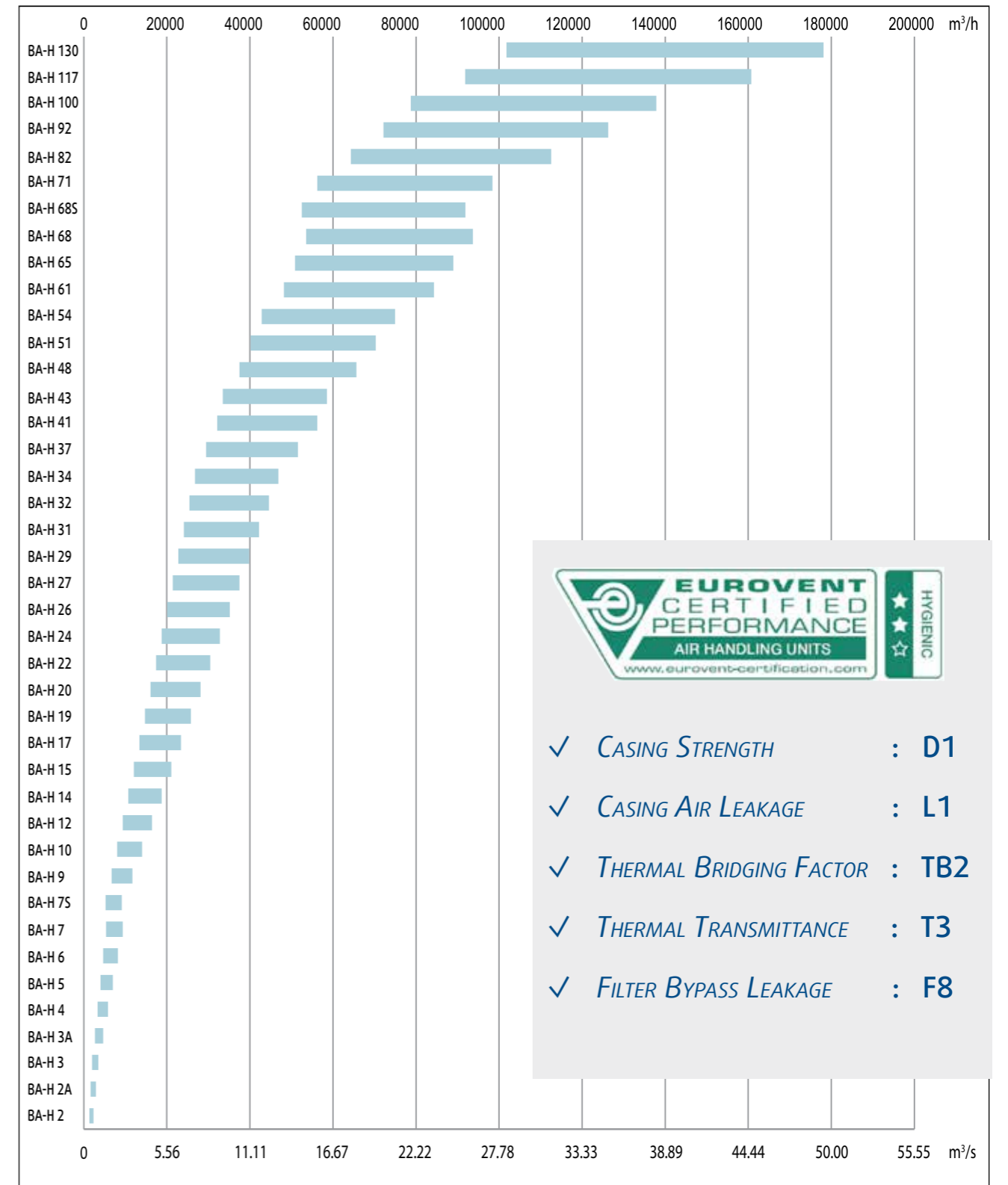


• EN ISO 12944-2:1998 for corrosion resistance.



• ASTM B 117-2016 for salt spray test.

BA-H Units



Examples Of Applications

The Hygiene air handling units are designed in modules. These modules can be configured for different applications to make up the heart of any air conditioning system. The flexibility makes it possible to optimize the air handling unit for specific requirement.



Pharmaceutical Solutions

Flexible solutions with regards to filtration stages as per customer needs. Factory assembled modules can be easily installed at site & eliminates site assembly issues.



Sterile Area Solutions

Excellent for sterile areas since materials used have very high resistance to corrosion and microbial growth.



Plug & Play Solutions

Integrated control systems. Our factory-integrated solutions are designed with various levels of equipment that can handle everything from the simplest requirement to the toughest demands.



Clean Room & Healthcare Solutions

Clean rooms can encompass numerous applications, everything from operating theatres to laboratories. Systemair's range of air handling units can satisfy all requirements relating to healthcare, whether these have to do with air cleanliness, noise levels or demand control.

Casing

The casing is of double skin construction complying with Eurovent standard for mechanical characteristics as per EN 1886. The structure is made of Extruded Aluminium sections with polyamide thermal break profile for ensuring thermal bridging performance. The polyamide strip is crimped to extruded aluminium sections for leak proof fitment. The structure is assembled using die cast Glass filled polyamide (PA6) joints to make a sturdy, strong & self-supporting frame work for various sections. The profile has built in coved aluminium profile having smooth curvature from inside to avoid dust accumulation.

Double Skin Panels is 50 mm thick constructed as follows

Outer skin

Pre painted Galvanised Sheet Steel with PVC guard film. Aluzinc Sheet.

Stainless Steel Sheet.

Inner skin

Stainless Steel Sheet.

Aluzinc Sheet.

Aluminium Sheet.



Door hinge



Door handle



View window

The outer and inner skin shall be sandwiched with self-extinguishing CFC - HFC free PUF/ PIR insulation (density 38 +2 kg/m³ with K factor not exceeding 0.02 Watt/m²) / Rockwool insulation (density not less than 96 kg/m³). The panels shall be screwed to the structure using soft EPDM gasket to make it leak proof. Air tight access doors/ panels with die cast zinc hinges shall be provided for access to various sections for maintenance.

The door shall be fitted with double wall inspection

window of 200 mm diameter and robust glass filled nylon handles operational from both sides with optional locking arrangement. Each section should have inspection doors with duly wired marine lights and on/off switch mounted on wall of the unit. The entire housing shall be mounted on powder coated GSS channel frame work with provision for handling the units at site.

Drain Pan shall be constructed of 18 G 304 Stainless Steel with dual slope to facilitate immediate discharge of condensate. Specially designed drain pan with all round edges allow complete cleaning & avoid microbial growth. The drain tray will be insulated externally with 19 mm nitrile rubber & extended at least 300 mm beyond the coil. Necessary arrangement will be provided to slide the coil in the drain pan.

Mixing Section

This has two openings, each of which contain a control damper. These dampers can be supplied with an extruded aluminium section construction. These damper models have an aluminium airfoil blades. The operating mechanisms for all dampers are installed in the channel frame. This allows air to circulate freely and facilitates installation in closed ducts. The mechanisms and fasteners are made of corrosion-resistant materials.

The operating mechanism of the dampers may be manual or equipped for motor-driven operation.

Filters

One of the purposes of the air handling unit is to ensure the purity of the room air. Air filtering is related to the quantity, variety and size of the suspended impurities, the existence of contaminant gases or odours, and the desired filtering efficiency. The various impurities that can exist in the air are discussed below.

The air contains numerous foreign substances caused by natural processes (e.g., wind erosion, sea evaporation, soil movements, volcanic eruptions) and by human activity (e.g., combustion). Atmospheric dust is a mixture of fog, combustion gases, fine dry particles and fibres. Air testing normally indicates the presence of soot and smoke, quartz, soil, residue from decomposed animals and vegetables, organic substances in the form of cotton and plant fibres, and metal fragments. The air also contains other organisms such as micro organisms, spores and pollen.

Particle size is expressed in microns (10-6 m). Air contains particles with a thickness of up to 0.01 microns

and other particles with a thickness similar to fibres, leaves, etc. Dust is generally understood to mean particles under 100 microns. The particle size distribution of particles in atmospheric dust can be measured in several ways. Traditionally, a variety of measurement methods have been used to determine the efficiency of the different types of filters and no classification system combining the various criteria in use existed. The first version of the Unified Standard EN 779 was issued to unify the classification criteria for all filters with an initial efficiency with atmospheric dust less than or equal to 98%, (Group G: coarsedust filters; Group F: fine-dust filters). Later, in 1998 the first version of Unified Standard EN-1822 unifying the classification criteria for HEPA and ULPA absolute filters was published. The initial efficiency of these filters with atmospheric dust is greater than 98%.

The standardised range for the BA-H Air Handling Unit includes minimum two air filtering sections which, combined with the wide variety of filtering materials, covering an extensive range of possibilities in filtering efficiency. The minimum filter level for hygiene units is M-5.

Flexible bag filters

The flexible bag filters allow a high filtering flow rate in relation to the front surface area. The filter has glass fiber media & moulded plastic frame.

Key features of Flexible filters are:

- Compliant to ISO 846/ VDI 6022 for microbial growth.
- Specially designed for food & life science applications.
- Lower energy consumption.
- Flat pressure drop curve.

These filters have a medium to high efficiency and correspond to Classes M6, F7 & F9 as per EN 779.



Flexible filter.



Rigid filter.



Absolute Hepa filters.

Rigid bag filters

Rigid bag filters have similar specifications as flexible bag filters with the following exceptions:

- Solid, sturdy construction for fast & easy installation.
- ABS frame.
- Polyurethane sealant

Both the flexible and rigid bag filters are recommended for:

- Pharmaceutical Industry.
- Food industries.
- Hospitals.
- Sterile Areas.

Absolute filters

Require careful installation that guarantees complete air-tightness of all gaskets. They are designed to eliminate virtually even the smallest particles in the air, i.e., those in continuous suspension (the smallest of these are only visible using electronic microscopes). Compliant to ISO 846/ VDI 6022 for microbial growth.

They are specially recommended for:

- Hospitals.
- Food industries.
- Pharmaceutical companies.
- Clean rooms.
- Absolute filtering of air in environments with controlled contamination.

They should be installed immediately before the space requiring this virtually sterile air that these filters can supply.

They correspond to Classes H13 and H14 of Group H: absolute filter, HEPA and ULPA, as per UNE-EN 1822.

Heat transfer coils

The cooling and heating units are composed in the enclosure described above, which contains the tube-and-fin heat transfer unit, mounted on a special joint cover.



For air cooling processes, units composed of copper pipes and aluminium fins (Cu/Al) are normally used. At the bottom, the cooling section has a aluminium/ stainless steel pan for collecting condensation and a small hose to drain the condensation toward the outside. The pan is slightly tilted for easier drainage, in order to prevent the proliferation of harmful bacteria such as Legionella pneumophila.

Direct expansion units are also used for cooling. These units can be equipped with one or two manifolds. For heating processes, the same type of copper/aluminium units used for cooling is normally used. If the air might contain corrosive chemicals, copper tube and fin (Cu/Cu) units should be used to improve the corrosion resistance of the equipment. This type of unit is more expensive than the copper/aluminium unit.

Moisture eliminator in stainless steel construction are provided upstream of cooling coil to avoid moisture carry over.

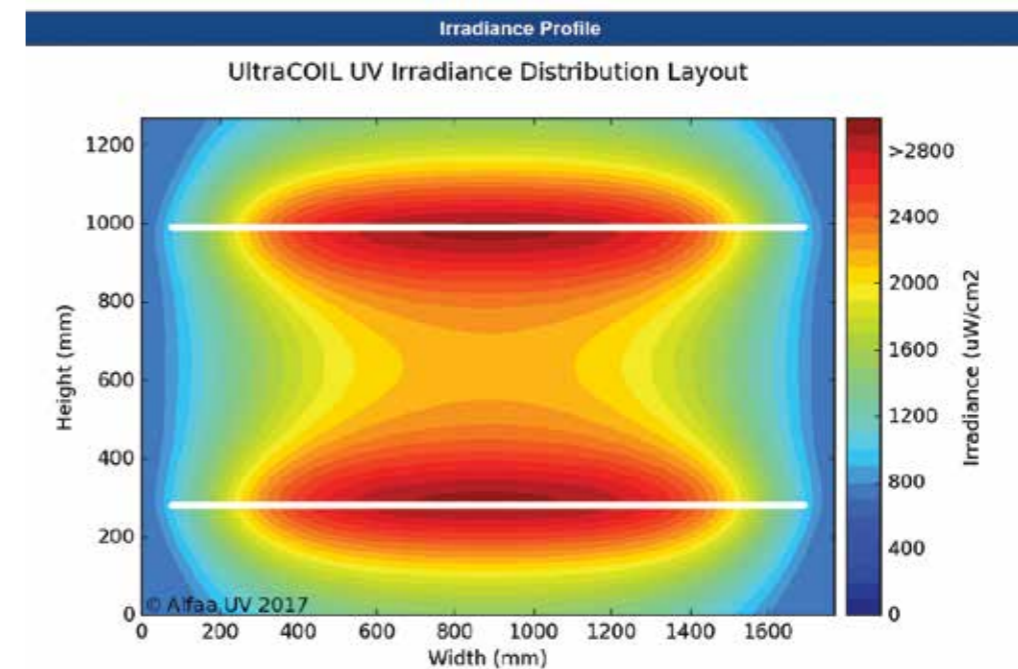
UL listed UVC Emitters

UVC emitters are installed downstream the cooling coil to avoid development of molds, fungus, bacteria etc. as standard accessory.

Each UV-C lamp will be attached to a reflector that will reflect the UV-C energy in order to effectively irradiate the HVAC coil surface and drain pan.

The reflector will be built from a high UV reflectivity material capable of withstanding air velocities of up to 2000 ft/min. without excessive noise, wobble, or vibration.

The frame work mounting the UV emitters shall be withdrawable type installed on rollers for easy removal for maintenance & cleaning.



Fans

Plug fan with AC motor

Plug fan built into an acoustically insulated air handling unit. A plug fan supplies air at the fan section outlet with a low and even air speed. In certain situations it can, therefore, be an advantage to position air handling components on the outlet side of the fan.

Single inlet plug fan with open outlet into the air handling unit. The fan impeller is fitted directly to the motor shaft. This fan type has low sound power levels in the lower frequencies. Efficiency up to 75%. The motor is supplied with a 1-speed motor. In order to regulate the fan speed to its actual operating point the motor must be fitted with a frequency converter to continuously control the fan speed and airflow. Power consumption can be greatly reduced by operating the fan at lower speed.

Operating temperatures:

Standard design: -10/+40 °C

Special design: -30/+60 °C.



Plug fan.

All fans are fully balanced both statically and dynamically. The fan and motor are built on a stable base frame that is connected to the unit casing with rubber vibration isolators. These are designed for high levels of vibration absorption. The fan inlet is flexibly connected to the unit casing. This ensures a good vibration absorption.

Plug fan with EC motor

The EC fan is equipped with a Single Inlet Centrifugal Impeller with High Efficiency Backward curved blades and external rotor EC (Electronically Commutated) motor, energy optimized for operation without spiral housing for high efficiency and favourable acoustic behaviour. The high efficiency backward curved impeller with rotating diffuser is made of high performance composite material /welded aluminum sheet material, with external rotor motor balanced together statically and dynamically according to DIN ISO 1940 Part 1.

The EC fan is capable of being fitted in horizontal or vertical position in the AHU, depending on the application. Inlet cone is provided with a nozzle for volume flow measurement of the fan.



EC fan.

Control System

BA-H AHU is available with preinstalled, preconfigured & fully integrated control system. It is a user friendly system where functions & parameters can be selected from the inbuilt Human machine interface (HMI) of the controller or through building management system. The operating data, set points, alarms, operating status & time settings are displayed on the controller. The control system is preloaded with design temperature, relative humidity, pressure drops etc., time settings & control sequence which simplifies field commissioning. The set points can be modified in the field if required. The control system is capable of performing various function such as

- Temperature control for supply air or room conditions.
- Relative humidity control
- Dew point control
- Constant air volume control for supply air
- Enthalpy control
- Excessive pressure drop alarm
- Heat recovery control
- Run around coil heat exchanger control
- Electric heater control
- Cooling/heating coil water flow control
- Integration of DX coil with outdoor condensing unit
- Fresh/return/bypass/mixing/supply air damper control
- Redundancy control for EC fans
- AHU shut off from external fire signal
- Open protocol (BACnet/Modbus over RS 485/LON) to communicate with all Building Management Systems.
- Possibility to access the control system remotely through WEB
- Possibility to add additional control/alarm points as per customer's need
- Logging of various parameters
- VAV integration



Selection Tools

We have developed this overview to make it easier for you to get an idea of which product best suits your specific needs. More detailed analysis or planning usually requires additional information, which is where the following tools come in.



Software Program

BA-H Selection Program named **SystemairBAAHU** is tested & certified by **EUROVENT**.

- customers can choose various construction/ manufacturing options viz. sheet thickness, insulating materials, fin material, manifolds material etc.
- customers can design unit sections based on required application viz. mixing section, filtration level, recovery section, cooling / heating section & choose fan/ motor of their choice.
- it actually lets customers decide sectional possibilities in order to decide the dimensions of space required to place a unit.
- Divide the equipment into modules, in accordance with the project requirements;
- Obtain all technical information for the equipment selected, including the curves for the selected fan and its operating point;
- Estimate the cost of the equipment.

The BA-H Selection Program is user-friendly and highly intuitive.



Product catalogue and specification data

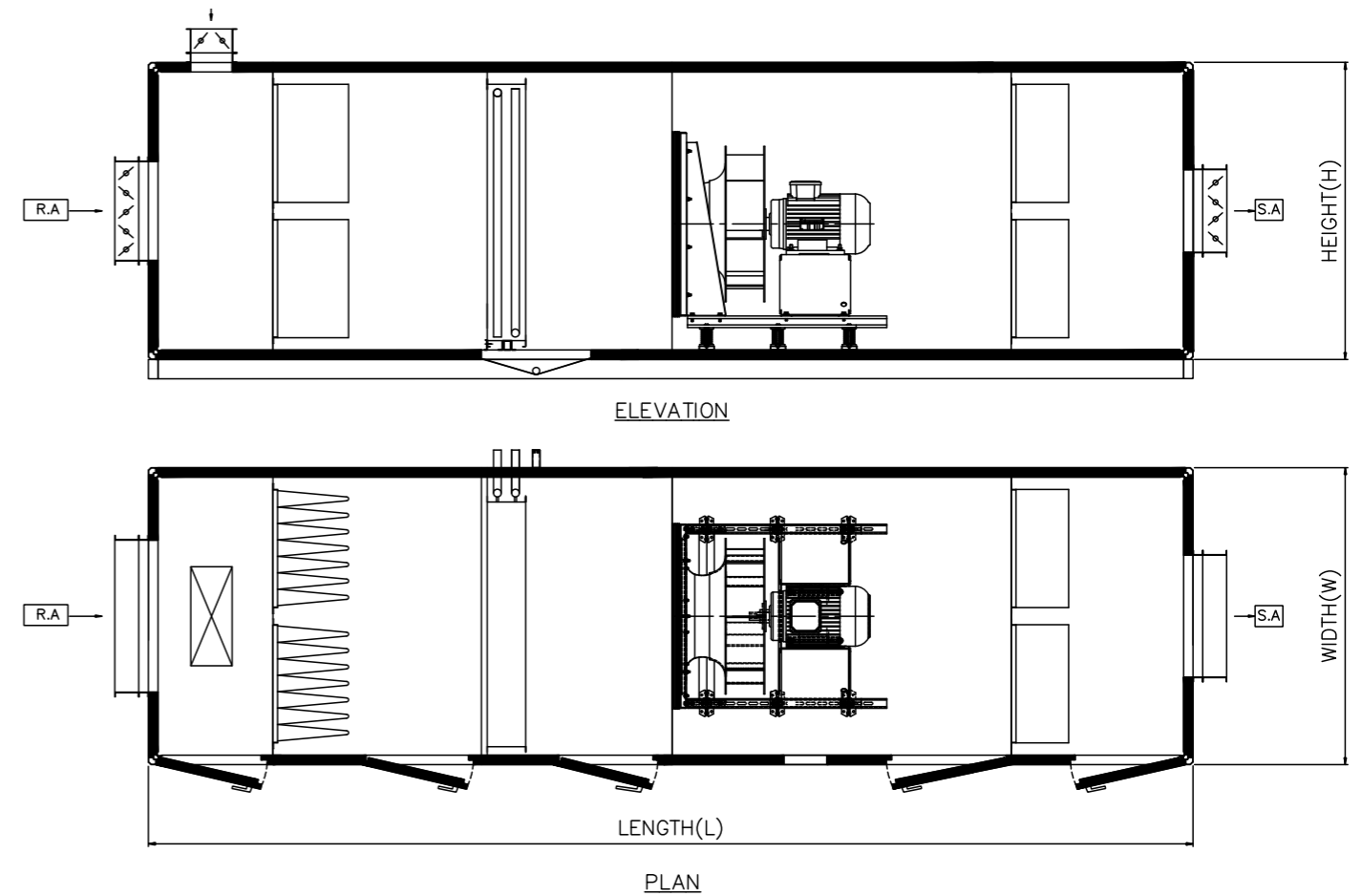
More detailed technical information, sufficient to carry out complete planning, is available in separate catalogues and specification data. These describe all incorporated functions, available accessories, and additional technical data.



General Unit Dimension Drawing

Important aspects in designing BA-H units broadly cover

1. Planning
2. Manufacture
3. Shipment
4. Metallic and non metallic material
5. General AHU arrangement.
6. Inner casing surface.
7. Filter specifications & maintenance
8. Casing Inspection, Maintenance & Cleaning (IMC)
9. Air treatment components specifications



OVERALL DIMENSION						
AHU MODEL (BA-H)	CAPACITY (CMH)	HEIGHT (H) mm	WIDTH (W) mm	LENGTH (L) mm	OPERATING WEIGHT Kg	NO OF MODULE
2	1700	700	800	5030	700	2
2A	2125	800	800	5060	770	2
3	2550	800	900	5060	820	2
3A	3400	850	950	5260	900	2
4	4250	850	1150	5840	1150	3
5	5100	850	1250	5840	1200	3
6	5950	850	1450	5840	1300	3
7	6800	850	1600	5840	1400	3
9	8500	1150	1550	6020	1550	3
10	10200	1200	1600	6080	1700	3
12	11900	1450	1650	6160	1800	3
14	13600	1450	1700	6210	2000	3
15	15300	1550	1800	6610	2200	4
17	17000	1550	1900	6690	2300	4
19	18700	1550	2100	6690	2400	4
20	20400	1550	2200	6690	2500	4
22	22100	1550	2450	6690	2600	4
24	23800	1550	2500	6690	2720	4
26	25500	1800	2250	6755	2750	4
27	27200	1550	2800	7035	3000	5
29	28900	1550	3100	7035	3100	5
31	30600	1800	2800	7035	3300	5
32	32300	1800	2800	7035	3300	5
34	34000	1800	2900	7035	3400	5
37	37400	2100	2800	7155	3600	5
41	40800	2100	2950	7155	3750	5
43	42500	2100	3100	7155	3800	5
48	47600	2100	3400	7155	4100	5
51	51000	2100	3600	7155	4300	5
54	54400	2100	3800	7155	4450	5
61	61200	2800	3100	8780	5200	6
65	64600	2800	3400	8780	5360	6
68	68000	2800	3400	8780	5500	6
71	71400	2800	3740	8780	5850	6
82	81600	2150	5350	8780	6000	6
92	91630	2450	5350	8780	6300	6
100	99960	2450	6000	8780	6500	6
117	116620	2800	6000	8780	6700	6
130	129200	3400	5450	8780	7000	6

Resulting Class according to EN 1886 : 2008

CASING STRENGTH : D1
CASING AIR LEAKAGE : L1
THERMAL BRIDGING FACTOR : TB2
THERMAL TRANSMITTANCE : T3
FILTER BY PASS LEAKAGE : F8

Performance Characteristics tested to EN 13053 standard for

AIR FLOW – STATIC PRESSURE DATA - POWER CONSUMPTION
HEAT RECOVERY
COOLING DUTY
HEATING DUTY
AIR – SIDE & WATER - SIDE PRESSURE DROP



**CERTIFICAT
E N°
18.02.004**



**Hygienic Air Handling Unit / Centrales de
traitement hygiéniques**

**Range Name / Nom de Gamme :
BA-H**

Granted on February 5, 2018 – *Date 1ère admission 5 février 2018*

This document is valid at the date of issue – Check the current validity on: *Document valable à la date d'émission – Vérifier la validité en cours sur :* www.eurovent-certification.com

Participant/Titulaire

SYSTEMAIR AB
Industrivägen 3
739 30 Skinnskatteberg,
Sweden

This certificate is issued by Eurovent Certita Certification according to the certification rules:

ECP HAHU – « Hygienic Air Handling Unit » in force at established date.

Pursuant to the decision notified by Eurovent Certita Certification, the right to use the mark ECP shall be granted to the beneficiary company for the above Range in the conditions defined by the certification program mentioned.

Unless withdrawn or suspended, this certificate remains valid as long as the requirements for the certification program framework are met. The validity of the certificate is to be verified on www.eurovent-certification.com

THIS CERTIFICATE HAS BEEN ISSUED ON 18/09/2019 THIS CERTIFICATE IS VALID UNTIL 31/12/2019



Organisme accrédité n° 5-0517
Certification Produits et Services selon
la norme NF EN ISO/CEI 17065:2012
Portée disponible sur www.cofrac.fr
Accreditation #5-0517 Products and
Services Certification according to NF
EN ISO/CEI 17065:2012 -
Scope available on www.cofrac.fr

COFRAC est signataire des accords MLA
d'EA et MLA d'IAF,
COFRAC is signatory of EA MLA and IAF
MLA,
list of EA members is available on

Ce certificat est délivré par Eurovent Certita Certification dans les conditions fixées par le référentiel :

ECP HAHU – « Centrales de traitement hygiéniques » en vigueur à date d'édition.

En vertu de la décision notifiée par Eurovent Certita Certification, le droit d'usage de la marque ECP, est accordé à la société qui en est bénéficiaire pour la gamme visée ci-dessus, dans les conditions définies par le programme de certification mentionné.

Sauf retrait ou suspension, ce certificat demeure valide tant que les conditions du référentiel du programme de certification sont respectées. La validité du certificat est à vérifier sur le site Internet www.eurovent-certification.com

*CE CERTIFICAT A ÉTÉ EMIS LE 18/09/2019
CE CERTIFICAT EST VALIDE JUSQU'AU 31/12/2019*

Paris, 18 septembre 2019

MANAGING BOARD MEMBER / MEMBRE

  **DIRECTOIRE**



**CERTIFICATE
N° 18.02.004**



Appendix / Annexe

Granted on February 5, 2018 – *Date 1ère admission 5 février 2018*

This document is valid at the date of issue – Check the current validity on: *Document valable à la date d'émission – Vérifier la validité en cours sur :* www.eurovent-certification.com

List of certified products and characteristics is displayed on:
La liste des références et caractéristiques certifiées est disponible sur le site : www.eurovent-certification.com

This certificate is valid for the following trade names:
Ce certificat est valide pour les marques commerciales suivantes:
Trade Name / Marque Commerciale

SYSTEMAIR

This certificate is valid for the following manufacturing places:
Ce certificat est valide pour les sites de production suivants:
Manufacturing Place / Site de Production

GREATER NOIDA, India

This certificate is valid for the following software:
Ce certificat est valide pour les logiciels de sélection suivants:
Software / Logiciel de sélection

SYSTEMAIR BAAHU 4.2.1

Quality Management ISO certificate



MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 176390-2015-AQ-IND-RvA	Initial certification date: 12, April, 2006	Valid: 12, April, 2018 - 11, April, 2021
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This is to certify that the management system of

Systemair India Pvt. Ltd.

HO & Unit 1: Plot No. 3, Ecotech-1, Sector-31, Kasna, Greater Noida – 201 308, Uttar Pradesh, India
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Design, development, manufacture, marketing, supply and service of HVAC products

Place and date:
Chennai, 09, April, 2018



MGMT. SYS.
RvA C 024

The RvA is a signatory to the IAF MLA

For the issuing office:
DNV GL – Business Assurance
ROMA, No. 10, GST Road, Alandur,
Chennai - 600 016, India



Sivadasan Madiyath
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance B.V., ZWOLSEWEG 1, 2994 LB, BARENDRECHT, NETHERLANDS. TEL:+31102922689. assurance.dnvgl.com



Certificate No: 176390-2015-AQ-IND-RvA
Place and date: Chennai, 09, April, 2018

Appendix to Certificate

Systemair India Pvt. Ltd.
Locations included in the certification are as follows:

Site Name	Site Address	Site Scope
Systemair India Pvt. Ltd.	HO & Unit 1: Plot No.3, Ecotech-1, Sector-31, Kasna, Greater Noida – 201 308, Uttar Pradesh, India	Design, development, manufacture, marketing, supply and service of HVAC products
Systemair India Pvt. Ltd.	Unit 2: Plot No. 8-84/14/11, Opp. Sai Geetha Ashram, Devaryamzal, Medchal Dist., Hyderabad – 500 078, Telangana, India	Manufacture, marketing, supply and service of HVAC products

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance B.V., ZWOLSEWEG 1, 2994 LB, BARENDRECHT, NETHERLANDS. TEL:+31102922689. assurance.dnvgl.com
Page 1 of 1

Few of our valued customers

Pharmaceuticals / Clean Room

1	ACG-Pithampur
2	ACME Formulation-Baddi
3	Actoverco-Iran
4	Agila Specialities Pvt. Ltd.
5	Ahlcon Parenterals India Ltd.
6	Akorn India Pvt. Ltd.
7	Aleor Dermaceuticals Ltd.
8	Alkem Laboratories, Baddi
9	Alpha Pharma Healthcare (I) Pvt. Ltd.-Thane
10	Apotex
11	Ashrae Clean Room, Hy'bad
12	Atra Pharmaceuticals
13	Avantis Pharma
14	BCG Vaccine Laboratories-Tamilnadu
15	Bengal Chemical, Kolkata
16	Biocon Pharma
17	Biocon SDN BHD-Malaysia
18	Biological E Limited-Hyderabad
19	BSL / German Remedies Ltd., Goa
20	Cipla Limited-Bengaluru
21	Cipla Limited-Pune
22	Cipla Limited-Sikkim
23	Cosmo Laboratories, Ludhiana
24	Dhanuka Laboratories Ltd.
25	Dr. Actoverco-Iran
26	Dr. Reddy's Laboratories
27	East African (India) Overseas
28	E-Biological, Pune
29	EISAI Pharmaceuticals India Pvt. Ltd.-Vizag
30	Elysium Pharmaceuticals Limited
31	Emami Limited-Dongari
32	Emami Limited-Vapi
33	Emami Research Park
34	Fresenius Kabi Oncology Ltd.
35	Goa Formulation Ltd.
36	Gufic-Ahmedabad
37	HBL Limited-Tamilnadu
38	Hellios Pharma, Baddi
39	Hindustan Liver Limited
40	Hospira, Vishakhapatnam

41	Immacule-Nalagarh
42	Innova Captab, Baddi
43	INTAS Pharmaceuticals, Ahmedabad
44	IPCA Laboratories Ltd.
45	Jodas Expoim Pvt. Ltd.-Hyderabad
46	Johnsons & Johnsons Ltd.
47	Life Pharma-Dubai
48	Mankind Pharma Limited
49	Marck Parenterals
50	Martin & Harris Labs Ltd.
51	Mayer Organics Pvt. Ltd.,
52	Medical Cyclotron Centre-Kolkata
53	MICO, B'lore
54	Morepan Lab. Baddi
55	Mylan Laboratories
56	Nabros Pharma Pvt. Ltd.
57	Neon Pharma
58	Nicolas Piramal, Mumbai
59	Okasa Remedies Daman
60	Optimus Pharma-Hyderabad
61	Pan Pharma, Baroda
62	Parsan Oversease (P) Limited
63	Perrigo API India Pvt. Ltd.
64	Pfizer, Mumbai
65	Project at Myanmar
66	Ranbaxy Laboratory-Dewas, Toansa, Baddi, Mohali, Poanta Sahib
67	Sangre-La Pharma
68	Scott Edil Adv. Reseach Lab & Education Ltd.
69	Sekh Saria Chemicals
70	Sequent Pharma
71	Serum Institute-Pune
72	Shree Ji Laboratory Pvt. Ltd.
73	Sidmak Laboratories (I) Pvt.Ltd.
74	Stelis Biopharma-Bangalore
75	Sudair Pharma
76	Sun Pharma Sikkim-II & Dadra
77	Sunpharma-Basaka
78	Swiss Garnier Genexiaa Sciences-Sikkim

79	Syngene International Ltd.
80	Teva-Gajraula, Malanpur
81	Torrent Pharmaceuticals Ltd., Dahej, Baddi, Ahmedabad, Indrad
82	Troikaa Pharmaceuticals Ltd.
83	Unichem Laboratories-Pithampur, Roha
84	USV Ltd., Baddi, Mumbai, Daman
85	Vitane-Iran
86	Watson Pharma Limited
87	West Pharma
88	Wockhardt Ltd.

30	Rajwest Power Plant
31	SAIL IISCO-Burnpur
32	SBC, Hyderabad
33	Scott Edil Advance Research Lab & Edu. Ltd.
34	Sekhsaria Chemicals
35	Serum Institute, Pune
36	Texas Instrument, B'lore
37	Thermax Solar Power Plant, Jaisalmer
38	Tmcb-2 Bombay Dyeing
39	Unitech Hi-Tech Structures Limited.-Kolkata
40	Vacmet India Ltd.
41	Warner Lambert

Industrial

1	Amway India Enterprises Pvt. Ltd.
2	Apollo Tyres
3	Asian Paints Ltd., Mumbai
4	BARC-Mysore
5	BHEL, Bhopal
6	Bosch Ltd.
7	British High Commission
8	CGPL, Mundra
9	Colgate, Baddi
10	ETA/Warner Lambert
11	Exxon Co./ Voltas Ltd., Bangalore
12	Godrej Hospital, Mumbai
13	HB Estate, Gurgaon
14	IEML, NOIDA
15	IGIB, NewDelhi
16	IOCL, Barauni ,Bihar
17	IOCL, Faridabad
18	IOCL, Medinipur, WB
19	JMI, New Delhi
20	JRRCL-Jaipur
21	Mars International India Pvt. Ltd.
22	MES-Manesar, Jabalpur, Shimla
23	NABARD, Lucknow
24	NCBS, Bangalore
25	Oberoi Airport Services, New Delhi
26	Om Kar Builder
27	Paradip Refinery IOCL
28	Price Water House, Calcutta
29	Punj Lloyd Ltd., Gurgaon

Hospital

1	AIIMS, New Delhi
2	Alexis Hospital-Nagpur
3	Apollo Hospital
4	Apollo Reach Hospital-Trichy
5	Cancer Hospital-Bathinda
6	Centre for Digestive & Kidney Disease, Mumbai
7	Dhanalakshmi Srinivasan Medical College & Hospital
8	Dr. L.H. Hiranandani Hospital,
9	EPR Centre (Vitane)
10	Escorts Heart Institute
11	ESIC Hospitals
12	Eternal Healthcare Centre & Research Institute Pvt. Ltd., Jaipur
13	Fortis Hospital, New Delhi
14	Godrej Hospital-Mumbai
15	Hiranandani Hospital-Mumbai
16	Jaypee Medical Center
17	Krishna Heart Institute, Amedabad
18	Manipal Medical Institute, Nepal
19	Mata Chanan Devi Hospital
20	Max Hospital, Shalimar Bagh, New Delhi
21	Sanjay Gandhi Hospital, New Delhi
22	Shillong Hospital
23	Sir Ganga Ram Hospital, New Delhi
24	Tata Memorial Cancer Hospital-Vizag
25	Trauma Center, New Delhi
26	Udgir Hospital
27	West Bengal Hospital

Hotels

1	Aakriti Hotel, Greater Noida
2	Bharat Hotel Limited, Jaipur
3	Botanix Resorts-Gurgaon
4	Dusit Devrana Hotel, New Delhi-I
5	Fortune Hotel, Gurgaon
6	Ganapath Hotel-Mysore
7	Garden-Galeria
8	Goa Hotels (Hyatt Goa) HRW
9	Grand Hyatt, Goa
10	Grand Hyatt-Cochin
11	Hotel Hyatt Regency, Calcutta
12	Hotel Intercontinental-Dhaka
13	Hotel Kaniska, New Delhi
14	Hotel Marriott, New Delhi
15	Hotel Shang RE-LA
16	Hotel Udaivilas, Udaipur
17	Hotel Yak & Yeti, Nepal
18	Hyatt Andaz-New Delhi
19	IBIS hotel, New Delhi
20	ITC Gardenia-Bangalore
21	ITC Green Bharat
22	ITC Ltd., Gurgaon
23	Jas Hotel at Amritsar
24	JW Marriot
25	KBJ Grand-Varanasi
26	Kenwood Hotel, Mumbai
27	Lemon Tree Hotel, Hyderabad
28	Malsi Hotel, Dehradun
29	MBD Hotels, Jalandhar
30	Novotel Hotel, Gurgaon
31	Piccadily Hotels Pvt. Ltd.
32	Powai Plaza, Mumbai
33	Radisson Hotel-Guwahati
34	Raj Chopra Mussoorie Hotel
35	Royal Orchid Hotel at Jaipur
36	Sheraton Hotel-Gr. Noida, New Delhi, Jaipur
37	Taj-Bangalore, Kolkata, Mumbai, Hyderabad
38	The Oberoi
39	Tip Top Hotel-Pune
40	Today Hotel
41	Waves Hospitality Pvt. Ltd.
42	Westin Hotel-Gurgaon

Commercial Office

1	Amanora Park Town-Pune
2	American Embassy School, New Delhi
3	Amity-Noida
4	Anjaneya Building-Bangalore
5	Ansai Plaza Mall, Ghaziabad
6	British High Commission
7	BSL/Eagelton -The Golf Village, Bangalore
8	BSNL, New Delhi
9	Callnet India Pvt. Ltd.
10	Cargo Complex, New Delhi
11	Cyber Park, Gurgaon
12	Cyber Walk, Manesar
13	Daksh Call Centre, Gurgaon
14	DHL Airfreight, Gurgaon
15	Era Infra Engineering Limited
16	Global Business Park, Gurgaon
17	Godrej IT Park, Mumbai
18	Golden Heights, Bangalore
19	IIL, Hyderabad
20	IIT, Kanpur
21	IIT-Mumbai
22	Inorbit Mall-Pune, Malad, Mumbai, Vasi
23	I-Park, Gurgaon (Amendment)
24	ISRO, Lucknow
25	Jaipur Central Developers P. Ltd.
26	Jaipur Stock Exchange
27	Jindal Saw, Gurgaon
28	JMI-New Delhi
29	Khalsa Heritage, Punjab
30	LIC Mumbai
31	LMT School of Management, Punjab
32	Lodha I Think-Mumbai
33	Manjeera Mall
34	Market City, Kurla
35	Mind Space Club, Mumbai
36	Mind Space, Hyderabad
38	Motherson Corporate Office, Noida
39	MTNL Mumbai
40	New District Court-Chandigarh
41	Orchid Agora, Gurgaon
42	Orchid Square, Gurgaon
43	Parinee, Mumbai

44	Park View Business Tower
45	Parliament Library, New Delhi
46	Pothys Textiles, Chennai
47	Power Finance Corporation
48	Prasar Bharti, New Delhi
49	PSP Projects Pvt. Ltd.-Gandhinagar
50	Punj Lloyd-Gurgaon
51	Raheja Building, 1A
52	RITES Ltd., Gurgaon
53	Ritnand Balved Education Foundation, Lucknow
54	Seawoods-Navi Mumbai
55	Shopat Mantri, Bengaluru
56	Shri Guru Ram Das Institute of Dental Science & Research
57	SRMT Mall-Kakinada
58	Star TV India-Mumbai
59	Thimphu Tech Park, Bhutan
60	TOD-Hyderabad
61	Trikaya Cultivation
62	Unitech Business Park, Gurgaon
63	Vatika-Tech Park, City, Hospitality
64	Vipul Business Park-Gurgaon
65	Voltas / TCS Salt Lake, Calcutta
66	WHO, Delhi
67	Windsor, Mumbai
68	YKK India

Infrastructure

1	Cochin International Airport Ltd.
2	Delhi Metro Rail Corporation
3	Shivaji Stadium, New Delhi
4	TN Assembly Building
5	Rashtrapati Bhawan
6	DU Commom Wealth Games
7	Airport Authority of India
8	IAAI Guwahati Airport, Calcutta
9	ULCC Infrastructure (P) Ltd.
10	Hyderabad International Airport
11	Delhi International Airport

IT / ITES

1	Accenture Services, Bengaluru
2	ARN IT Park, Greater Noida
3	CIS Udyog Vihar, Gurgaon
4	Cognizant Technology Service, Chennai
5	Computer Associates, B'lore
6	E-Serve International, Mumbai
7	Hughes Software, Gurgaon
8	I Gate-Pune
9	Infosys Ltd., Bengaluru, Mangalore, Pune, Trivenderum
10	IT Square, Greater Noida
11	Net Apps-Bangalore
12	Oxygen at Noida
13	Phillips Software, Bangalore
14	Phoenix Infocity Pvt. Ltd.
15	Pune Embassy Projects Pvt. Ltd.,
16	S.P. Infocity, Manesar
17	Tata Teleservices, New Delhi
18	TCS Salt Lake-Calcutta
19	TCS, Bangalore
20	Tidel Park, Chennai
21	Wipro Limited

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