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**ingenia**<sup>®</sup>

**MODULAR AIR HANDLERS**



**NEXT GENERATION**



## INGENIA'S MODULAR AIR HANDLING SOLUTIONS

Founded in 2004 by a well experienced group looking to reinvent the HVAC market, Ingenia quickly rose to become THE North American reference for air handling units of superior quality. Strong from its experience, and leveraging the commitment to innovation and quality, Ingenia continually strives to excel at providing the best value and service to its customers. We have revolutionized the industry by introducing the highest performance air handler.

Ingenia's modular air handlers give the designer unlimited capabilities within a pre-engineered air handler platform. The lean and versatile manufacturing process yields cost effective air handlers with the same features and options typically found in fully custom air handlers. Air quality and comfort are vital elements of all buildings; Ingenia delivers on both by distributing air that has been treated through many conditioning processes. Moreover, electrostatic antimicrobial powder coating applied to all of the AHU's interior surfaces and bacteria defeating UV lights are both examples of Ingenia's options to prevent contamination and produce a healthier living environment.



## MANUFACTURING TECHNOLOGIES

Ingenia's systems are engineered and built by our highly trained employees using the most precise design and automated manufacturing processes in the HVAC industry.

Ingenia's exclusive software offers a quick and easy way to design, select, price and fabricate the simplest to the most sophisticated AHUs. By including an extensive list of options, our software allows the designer to compare various configurations, monitor all cost variables and ultimately design the optimal configuration in record times.

Ingenia's team has streamlined the production cycle into a structured process where sales, engineering and manufacturing are totally integrated and fully automated to ensure repetitive and predictable accuracy.

With the introduction of manufacturing 4.0 digital technologies, Ingenia's production lines now offer state of the art sheet metal machine tools and robots to handle, shear, bend and powder coat all parts to perfection.

## AIR HANDLING UNIT DESIGN

Ingenia's software gives you the flexibility to simply build from our extensive library of options to meet your exact specifications. Any geometrical design can be divided into multiple workspaces to simplify the configuration process. Equipment options are modeled and built into the components' library to facilitate the design, integration, and preparation of the final AHU model. Ingenia's flexibility lets you build your units your way, making it the best solution for applications requiring special features.

Ingenia's air handlers are designed with cost effectiveness and quality features in mind. Superior construction methods deliver the industry's highest reliability standards, lowest leakage rates and best thermal performances. We assure design reliability and accuracy by providing lab-tested data throughout in-house prediction tools as well as by ARI, AMCA and ETL certified products.

## LOWEST TOTAL COST

Ingenia's innovative systems offer the lowest total cost to the end user by providing high efficiency thermal cabinets and air leakage rates lower than 0.5% of the peak airflow at 12 inches w.g. static pressure.

Ingenia's indoor and outdoor modular air handlers can range from 5,000 to 95,000 cfm. The cabinet construction materials include high quality injected polyurethane foam insulation and a variety of metal types combined with a perfect mechanical assembly and butyl seals. The cabinet panels incorporate an integral wall, floor and ceiling no-through metal construction resulting in a full thermal break which eliminates all potential sources of energy losses.

The combination of innovative manufacturing 4.0 digital technologies, superior cabinet materials, electrostatic powder coating, integral no-through metal cabinet construction, as well as extensive testing capabilities ensure that every Ingenia system is of the highest quality and longevity at the lowest initial and operating costs.



ICON LEGEND



CONTROLS



COOLING



DEHUMIDIFICATION



ELECTRICAL



ENCLOSURE



ENERGY RECOVERY



ENERGY SAVING



HEATING



FAN MOTORS



FILTRATION



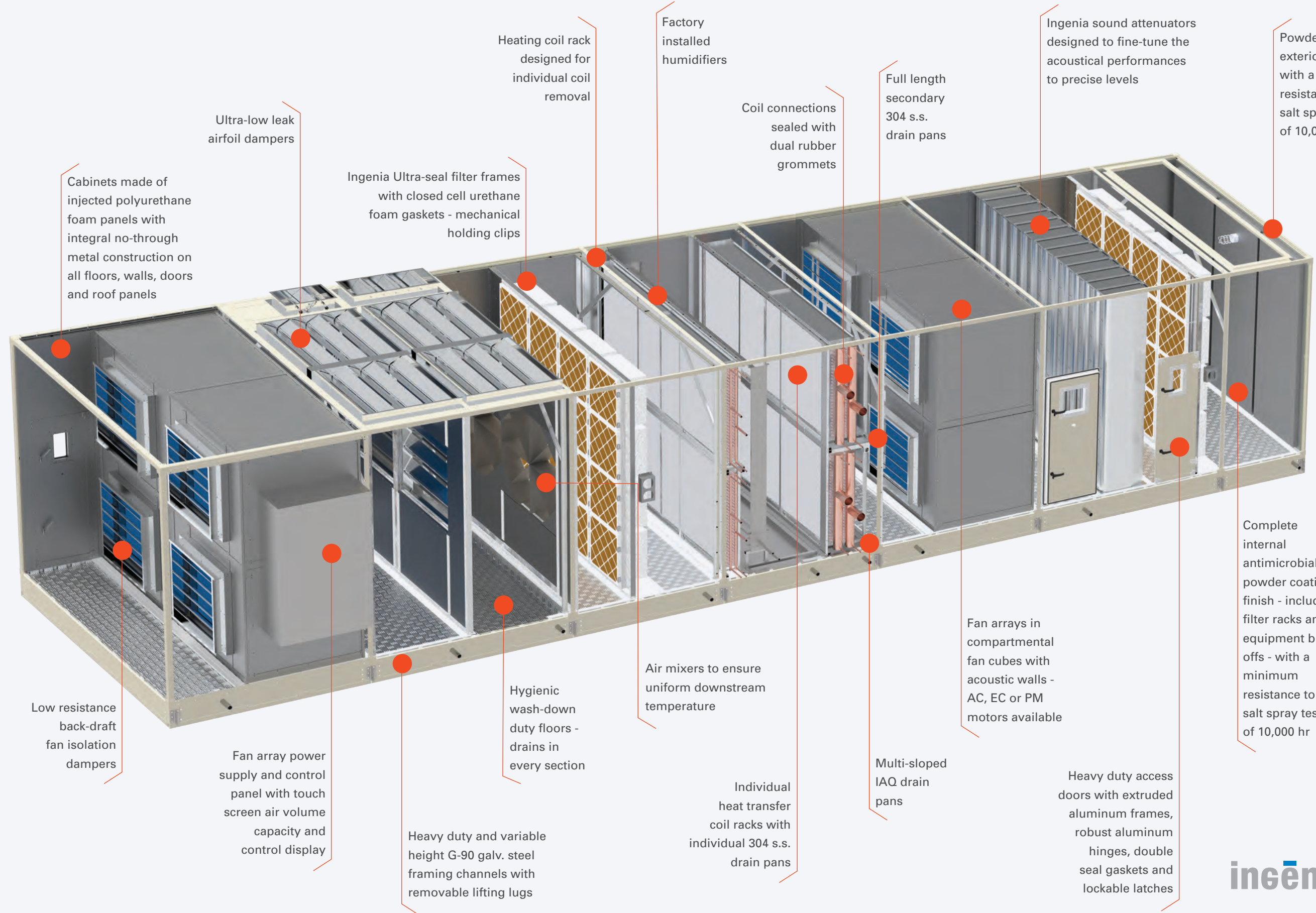
HUMIDIFICATION



MICROPROCESSOR



SOUND ATTENUATION





### MODULAR AIR HANDLERS WITH CUSTOMIZABLE FEATURES

Ingenia's flexible modular approach, built with advanced cabinet design features, provides the best solution to all air handling projects

- Indoor and outdoor units.
- Capacity range from 5,000 to 95,000 cfm.
- Cabinet with integral no-through metal construction at all locations including base frame, floors, walls and roof panels.
- Cabinet materials: G-90 galvanized steel, aluminum as well as 304 or 316 stainless steel or a combination of these materials.
- High-quality polyurethane injected foam insulation. Optional fiberglass insulation.
- Acoustic and thermal flexibility for any application: 2.0", 2.5", 3.0" and 4.0" wall thicknesses.
- Acoustical wall lining for high sound absorption applications.
- Air handlers are designed for up to 12" water column static pressure and a wall deflection less than 1/240 at rated cabinet pressure.
- Cabinet design exceeds the requirements of AHRI 1350 with the following minimum ratings: CT1 for thermal transmittance, CB0 for thermal bridging, CL1 for casing air leakage and CD1 for casing deflection.
- Single fans or fan arrays with internally mounted motors. Complete choice of fan and motor types.
- Outdoor units are built with an absolute weatherproof roofing system whereby the pressure seals and weather seals are completely independent from each other.
- Exceptional casing longevity with exterior and/or interior baked electrostatic powder coating with up to 10,000 hr resistance to the salt spray test.
- Powder coating is also available with an antimicrobial sterile coating agent.
- 24 pre-engineered modular sizes further configurable with Ingenia's Designer software.
- No-through metal access doors, door frames and inspection window frames with double seal gaskets.
- Wash-down hygienic cabinets have a smooth finish on the interior without fasteners on the interior surfaces.
- Wash-down duty floors include a complete water management system with recessed floors and floor drains in all sections.
- Multi-slope stainless steel drain pans.
- Coil rack assemblies are designed for individual coil removal for servicing purposes.
- Stacked cooling coils have individual drain pans.

### QUIET AIR MOVEMENT USING THE LEAST AMOUNT OF ENERGY

Ingenia's uniquely integrated fan array system uses high efficiency, electronically commutated (EC) motors that offer electrical power savings ranging from 10% at full airflow to 50% at partial duty flow. In most HVAC applications, average fan energy savings of 30% are easily achievable in conjunction with superior quality acoustical performances and fan redundancy. The Ingenia fan array system's high flexibility does not require variable frequency drives to control the fan RPM and offers more data gathering options than traditional fan systems. The intelligent design allows multiple EC motors to be controlled and monitored via an internet/modem interface using a 0-10 volt signal or optional BACnet MS/TP. The manual interface is a controllable touch screen. In the event of a malfunctioning fan, the speed of the remaining fans increases to compensate and also send an alarm to the BMS, therefore providing a notice and ample time for an easy replacement of the non-operating fan.



INGENIA SYSTEMS CAN BE CUSTOMIZED TO MEET THE MOST STRINGENT REQUIREMENTS FOR MANY APPLICATIONS

- Health care
- Education
- Pharmaceutical
- Biotechnology
- Museum and archives
- Food processing
- Commercial and industrial

