ingēniə®

JOBSITE ASSEMBLED SOLUTIONS

NEW GENERATION

INGÉNIA'S JOBSITE ASSEMBLED SOLUTIONS

Ingénia's jobsite assembled air handlers offer the perfect solution to replace existing air handlers. The precision of the design and the dimensional flexibility make it an ideal product for tight mechanical rooms. Ingénia's AHU site kits are specifically engineered to ensure all parts and pieces fit through field openings as well as ensuring that the weights meet field constraints. The advanced assembly and pressure seal method combined with the use of pre-engineered bolted technology offer a reduction of up to 60% of the labor required by traditional field assembled units offered by our competitors.

DESIGN PLANNING AND SELECTION

The success of every field assembled project relies on the initial planning and associated planning tools. Ingénia's field assembled site kits start with a thorough understanding of the field conditions and project schedule. To facilitate and accelerate the assembly of the project, site kits include digital 3D models of the air handler with complete and accurate dimensional data.

MANUFACTURING TECHNOLOGIES

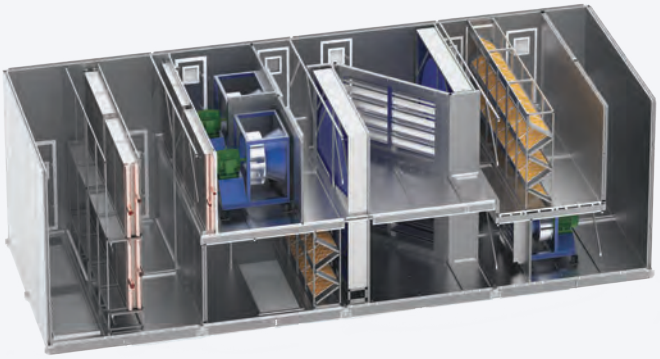
Ingénia's systems are engineered and built by our highly trained employees using the most precise design and automated manufacturing processes in the HVAC industry.

Ingénia's SystM1 exclusive software offers a quick and easy way to design the unit, select components, price and fabricate the simplest to the most sophisticated AHUs. By including an extensive list of suppliers, our software allows the designer to compare various configurations, monitor all cost variables and ultimately design the optimal configuration.

Ingénia's team has streamlined the production cycle into a structured process where sales, engineering and manufacturing are totally integrated and fully automated. With the integration of manufacturing 4.0 digital technologies, Ingénia's production lines now offer state of the art sheet metal machine tools as well as robots to handle, shear, bend and powder coat all parts to perfection.

INSTALLATION TRAINING AND DOCUMENTATION

Ingénia's air handling process is designed to adapt to the needs of its customers. Our field assembled air handlers include a complete set of digital 3D drawings and assembly instructions specifically developed for the project. Regular project specific Webinars are part of the installation planning. Factory visits are offered to supplement the installation training process.



ICON LEGEND

COOLING

DEHUMIDIFICATION

ENCLOSURE

ENERGY RECOVERY

ENERGY SAVING

FILTRATION

HEATING

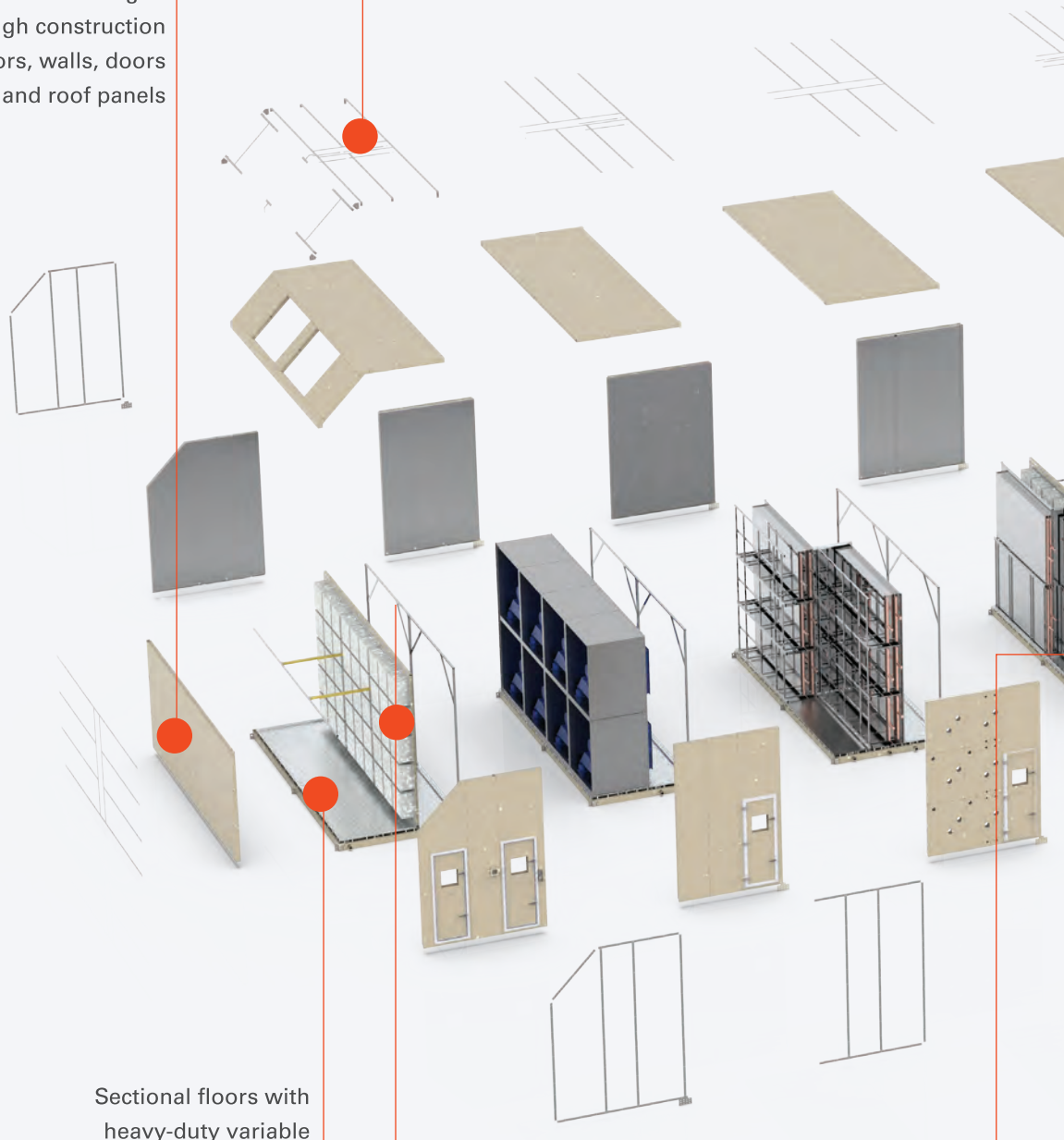
FAN MOTORS

HUMIDIFICATION

SOUND ATTENUATION

Typical external pressure seals - metal molding strips with butyl membrane and bolted hardware

Cabinet with integral no-through construction on all floors, walls, doors and roof panels



Sectional floors with heavy-duty variable height G-90 galv. steel framing channels with removable lifting lugs

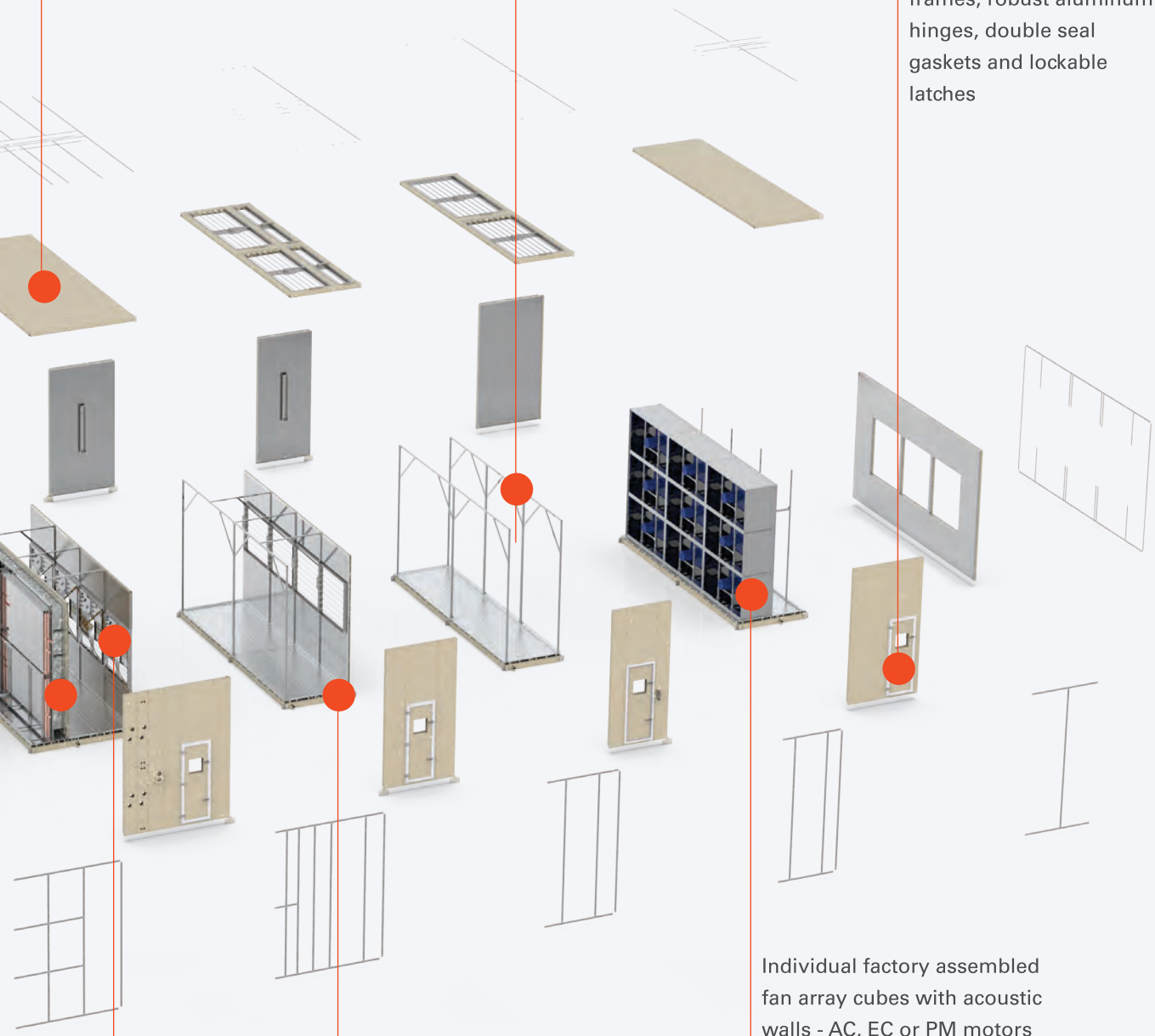
Ingénia Ultra-seal filter frames with closed cell urethane gaskets and prefabricated blank-offs - mechanical holding clips

Cooling coils preinstalled in individual coil racks

Individual fully assembled injected polyurethane foam panels with no-through metal construction

Internal structural supports with internal bolted hardware

Access door kit assembly with extruded aluminum frames, robust aluminum hinges, double seal gaskets and lockable latches



Individual factory assembled fan array cubes with acoustic walls - AC, EC or PM motors available

Individual AHU floor sections with built-in floor drains and connections

Air mixers with blank-offs and structural supports

Ingénia jobsite assembled air handlers are designed to easily meet the precise demands of any building's environmental conditions and physical constraints

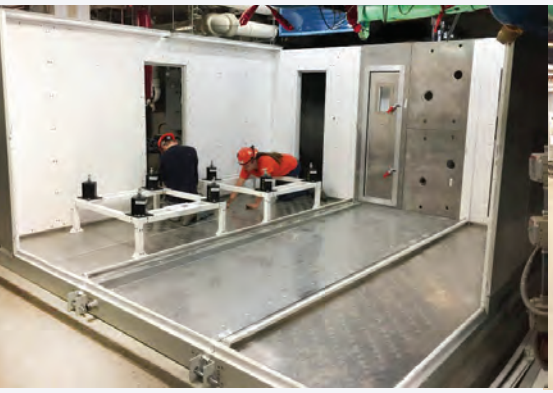
- Indoor and outdoor units.
- Capacity range from 5,000 to 200,000 CFM.
- Unlimited physical sizes.
- Cabinet with integral no-through metal construction at all locations, including walls, doors, floors and roof panels.
- Cabinet materials: G-90 galvanized steel, aluminum as well as 304 or 316 stainless steel or a combination of these materials.
- High-quality polyurethane injected foam insulation. Optional fiberglass insulation.
- Acoustic and thermal resistance for any application: 2.0", 3.0" and 4.0" wall thicknesses.
- Acoustical wall lining for high sound absorption applications.
- Air handlers are designed for up to 15" water column static pressure and a wall deflection less than L/240 at rated cabinet pressure.
- Cabinet design exceeds the requirements of AHRI 1350 with the following minimum ratings: CT_1 for thermal transmittance, CB_0 for thermal bridging, CL_1 for casing air leakage and CD_1 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.
- For maximum protection of the cabinet, the exterior and / or interior can be coated with an electrostatic powder paint with up to 10,000 hours resistance to the salt spray test in accordance with the ASTBM B117 method.
- Powder coating with antimicrobial agent preventing the growth of molds, bacteria and viruses also available.
- 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 surfaces.
- Multi-slope stainless steel drain pans.
- Wash-down duty floors include a complete water management system floor drains in all sections.
- Stacked cooling coils have individual drain pans.
- Coil rack assemblies are designed for individual coil removal for servicing purposes.

THE SIMPLICITY IS ALL IN THE EASINESS OF THE ASSEMBLY

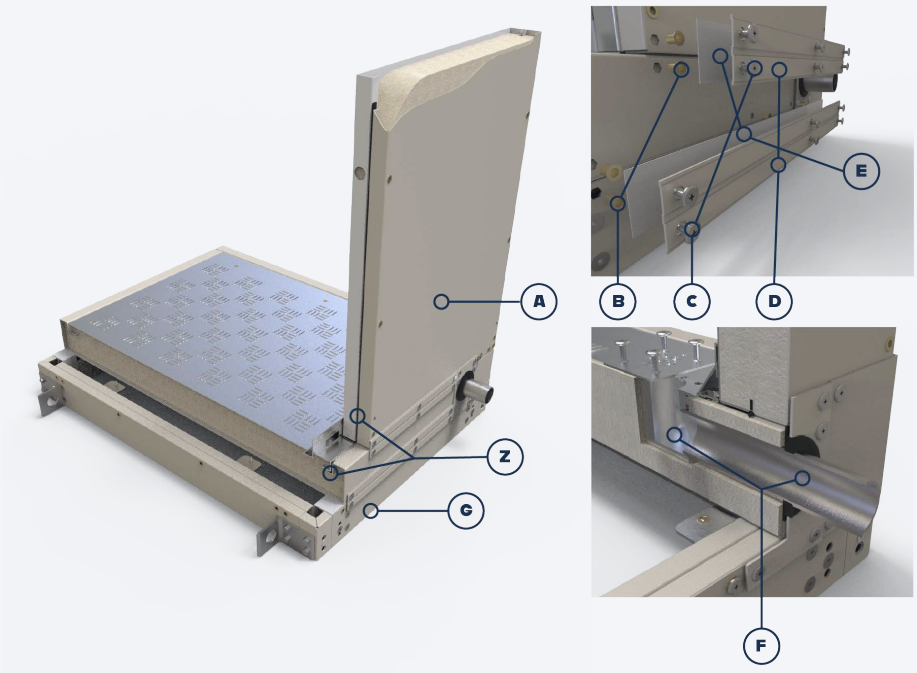
Ingénia's assembly method has revolutionized the industry by providing a complete pre-engineered kit with all the subassemblies ready to be bolted together in a simple and trouble-free manner.

PRECISION ASSEMBLY PARTS

Precision assembly parts and ultra-tight butyl pressure seals ensure an air leakage rate lower than 0.5% at up to 15 inches water column. The superior cabinet and assembly methodology is as easily implemented in field installations as it is at the factory thus guaranteeing an assembled unit of the same quality, wherever it is assembled.



WALL-TO-BASE CROSS-SECTIONAL DETAILS (NO-THOUGH METAL)



- **A** Wall and roof panels.
- **B** Panels are assembled to one another with 1/4 bolts - Nutserts®/ threaded inserts technology.
- **C** All cabinet bolts are 1/4 - 20.
- **D** Rigid compression moldings are installed over the butyl membrane gaskets.
- **E** The air pressure seal is done with 1/8'' X 2'' wide butyl membrane gaskets.
- **F** Stainless steel threaded drain connections with built-in aluminum water collector.
- **G** Structural perimeter frame. Height varies depending on unit size and field requirements. Material can be galvanized steel, aluminum or stainless steel.
- **Z** No-through metal panel construction.

18101 J. A. Bombardier,
Mirabel, Québec
Canada J7J 2H8
T. (450) 979-1212
F. (450) 979-8812

ingeniatechnologies.com