TRANE

CLCF Climate Changer™ for comfort applications

Next generation air handling performance from Trane

Ingersoll Rand

Customized performance and maximum comfort at minimum cost

For many years Trane has been a global leader in air handling innovation and solutions. Now after our significant investment in air handling technology, design, innovation, development and new manufacturing facilities throughout the Middle East, Africa, India, and Europe, Trane introduces the next generation CLCF Climate Changer™ for comfort applications.

Superior performance

Designed and developed through full understanding of customer insights and Trane's worldwide professional expertise, each component of the Trane CLCF Climate Changer has been chosen for superior performance in **office, retail, hotel and other commercial comfort applications**.

- 12 sizes for inline units
- 7 sizes optimized for stacked heat recovery
- **Airflow ranges from 1,000 m³/h to 45,000 m³/h.**
- Wide array of **fan and coil options**
- Trane experts pre-select and install optimal combination of control components to ensure system reliability and consistency.

The CLCF Climate Changer for comfort applications combines the best characteristics of a standardized, packaged air handling system with the flexibility and features of a custom line.

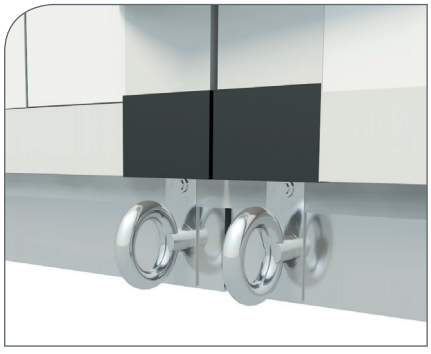
Trane's **advanced design selection software** is Eurovent Certified and helps determine the correct machine design and component mix, to achieve Eurovent best in Energy Class A (EN 1886/EN 13053).

Eurovent-certified casing mechanical characteristics	Values	Eurovent Class
Casing Air Leakage	0.15 l/s/m² under -400 Pa 0.22 l/s/m² under +700 Pa	L1
Casing Strength	4 mm/m	D1 (D2 for MW)
Filter Bypass Leakage	0.5% under 400 Pa	F9
Thermal Transmittance	1 w/m³.K	T2
Thermal Bridging Factor	0.6 factor	TB2

Lower installed costs

The Trane CLCF Climate Changer air handler includes many features designed to reduce installation time and costs:

- **Lifting lugs are integrated** on the robust base frame and all units ship with a skid designed for forklift transport.
- **Quick, unique and reliable tool-less mechanical connection system** is built into the unit when the machine is delivered on-site in multiple pieces. Together with the **integrated gasket**, this unique tool-less connection ensures best in class air-tightness integrity.



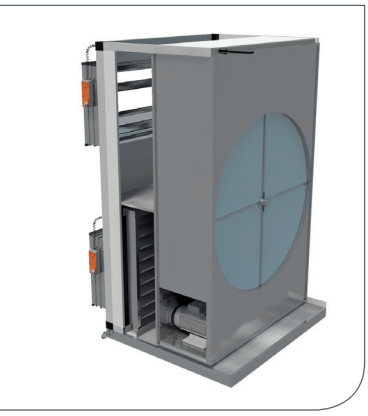
Built-in removable lifting lugs

Quick and reliable connection system

The Climate Changer for comfort applications offers:

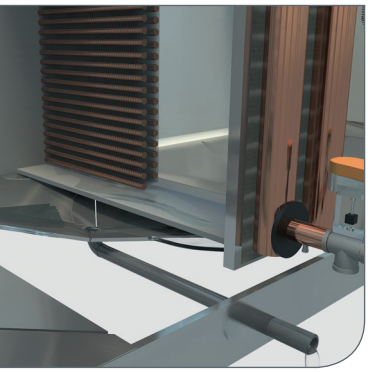
- *Superior performance*
- *Lower installed costs*
- *High energy efficiency*
- *Reliable indoor air quality*

Designed to promote operating efficiency and energy conservation



Heat recovery wheel

EPDM seamless gasket



4-point inclined floor

High energy efficiency

- Fans are responsible for significant operating costs in a machine. **Trane's expansive fan options (different sizes, types and technologies: forward, backward, plug fan)** provide the best fan assembly based on application requirements.
- Additional **energy recovery options** exist such as heat recovery wheels, plate heat exchangers and coil loops, which can increase the **energy efficiency performance of the machine by up to 90%.**
- A **high-strength casing design** offers better insulation and minimizes leakage rates.
- **Innovative EPDM seamless gasket seals** integrated into the door panels, result in industry leading low leakage rates, and sustains machine air tightness.

- **Unitized structured panel design** minimizes the number of seams that could introduce air leak paths.

Reliable indoor air quality

- **4-point inclined floor** serves as an **integrated drain pan**.
- **Vertical and natural drainage** inhibits bacterial growth.

Factory-installed controls for optimized performance

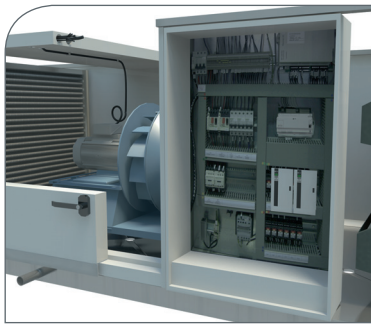
The CLCF Climate Changer™ is equipped with fully integrated, factory-installed Trane controls, optimized to **maintain peak performance and secure lower costs of ownership**. These control options have been designed specifically by Trane for the CLCF Climate Changer.

Manufactured, tested and installed in a regulated environment, controls offer improved reliability by minimizing external factors that can impair performance.

When controls are factory-installed:

- Trane pre-selects and installs the optimal combination of control components to **ensure system reliability and consistency**.
- **No additional case drilling** is necessary and casing integrity is maintained, leakage rate potential is minimized and less time is spent by the installer to get the machine running.
- **Segregated cable channel** (main power and controls) is integrated into the top panel of the machine, providing easy service access and a protected, clean, and reliable cabling system.

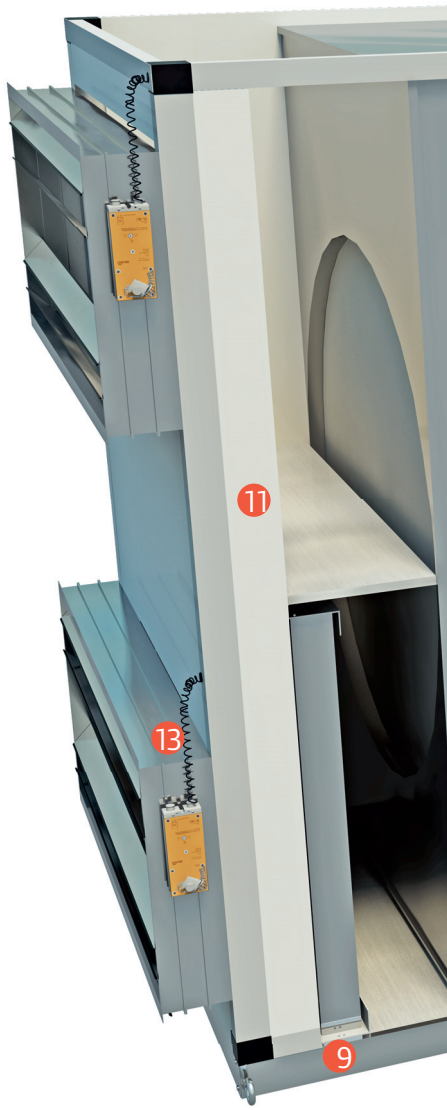
- **Quick connect cabling and wiring** is done in-factory which minimizes installation costs and provides wiring integrity between sections without having to identify or check continuity.
- All machine main power components (fan motors, electric heaters, etc.) are connected to the main control box, creating a **single power source**.
- Connectivity to a **Building Management System** is smoother and therefore service and maintenance are simplified.
- **Open protocol**
- Factory-engineered, mounted, and tested controls ensure that sensors and sequences deliver optimal operating efficiencies and that casing openings have been properly sealed.
- Air handler commissioning guarantees the air handler performance and expected integrity. **Trane technicians provide full commissioning** of the Climate Changer when equipped with factory-mounted controls.



Segregated cable channel and factory-installed control panel

Intuitive control dashboard

Climate Changer for comfort applications features:



1. **Frameless casing** (available in galvanized steel, painted galvanized steel, aluminium, or stainless steel 304 or 316) has no block-off, and dimensions are based on universal filter dimensions, which reduce pressure drops up to 50%.

2. Unit is versatile for **outdoor applications**, with roof and rain hood options.

3. 50 mm **polyurethane foam-injected panels** ensure less energy leakage and a sustainable thermal class over time (PU λ = 0,022 W/m.K, which is up to two times better than mineral wool). Homogenous, inert/non-fibered polyurethane insulation is not affected by water or humidity, which minimizes sweating and bacterial growth within the machine.

4. **Internal thermal breaks** and standard thermal break access doors. The no-through metal design delivers thermal performance that helps ensure condensation will not form on the casing exterior, even with 12°C supply air temperature and unit external conditions of 35°C DB/40% HR, ensuring increased maintenance safety.

5. **4-point inclined floor** serves as an integrated drain pan.

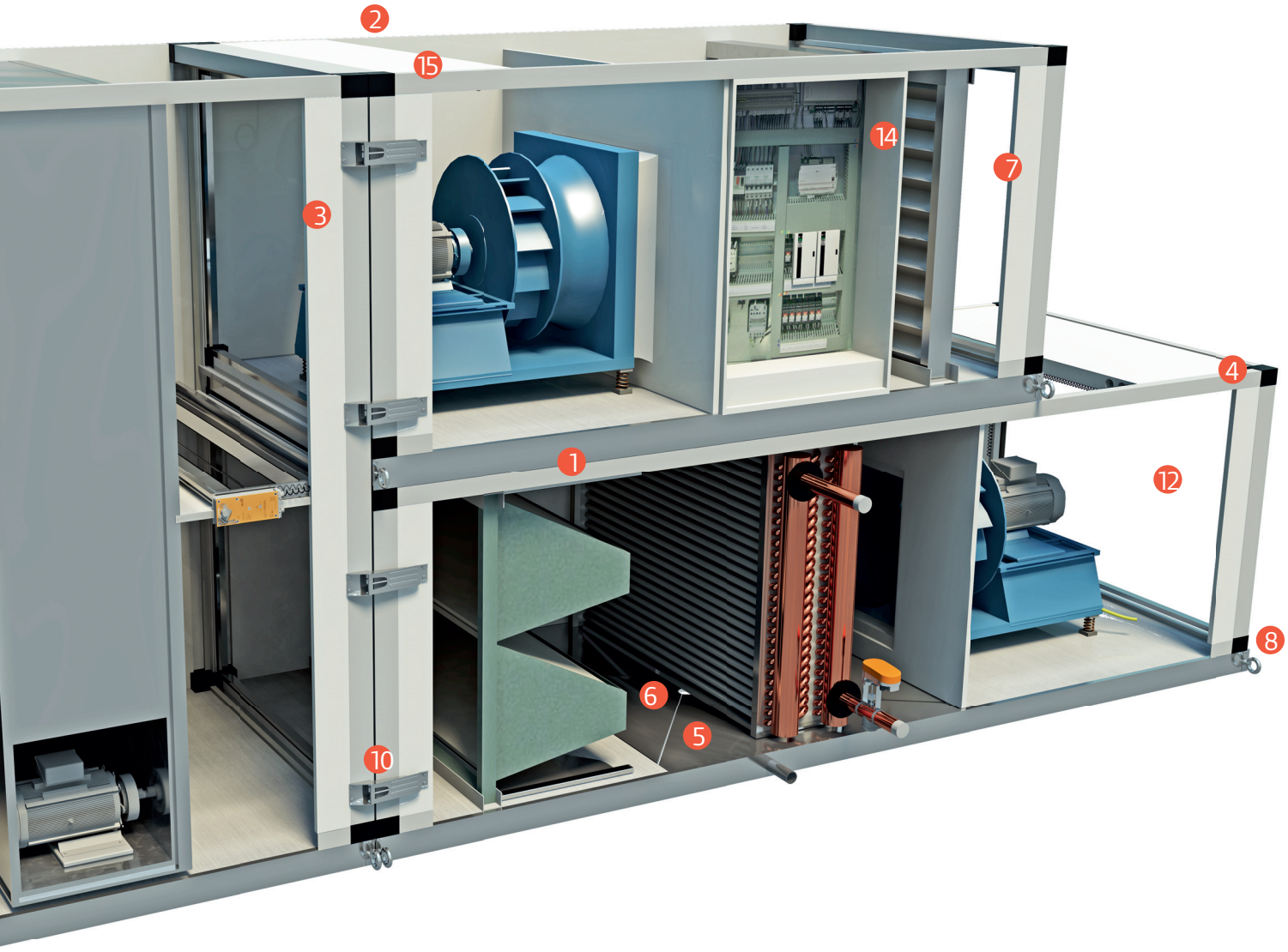
6. **Centralized vertical drain.**

7. **High density rockwool insulation**, 80 kg/m³ with 2.0 mm double skinned panel thickness provides high quality sound attenuation, estimated to exceed 40dB for acoustically sensitive applications.

8. **Lifting lugs** are integrated on the base frame.

9. Full perimeter **integrated base frame**.

10. **Reliable tool-less mechanical connection system.**



11 **High casing strength value**, best in class reflection maximum of 4 mm/meter.

12 **EPDM seamless gasket seals** integrated into the door panels (photo page 4).

13 **Quick connect wiring:** cabling and wiring is done in-factory which minimizes installation costs and provides wiring integrity between sections without having to identify or check continuity (integrated controls only).

14 All machine main power components (fan motors, electric heaters, etc.) are connected to the main control box, creating a **single power source** (integrated controls only).

15 **Unitized structured panel design** minimizes the number of seams that could introduce air leak paths.

Trane global presence

Europe-Middle East-India-Africa region:

- **3 Trane-owned air handling manufacturing facilities**
- 109 business and service locations
- Over 1,000 sales engineers and service technicians
- Over 3,000 start-ups conducted per year
- Local support: engineering expertise, application assistance, service, parts and financial solutions
- Trane local offices provide knowledge of business practices, building codes, and country regulations.

The single source for building needs

Trane understands customer needs and provides performance sustainability in:

- Equipment selection and manufacturing
- Controls integration
- Full commissioning-Trane assumes responsibility for equipment performance certifications and results
- Service and maintenance
- Continued monitoring and system optimization

Once the project has been fulfilled, it is easy to get assistance from Trane experts and manage system fluctuations and fine tuning. This is possible by working in sync with the Trane teams that originally developed the units, controls and systems. This ensures service continuity as well as efficiency in answering any request for system improvement or adaptation throughout the life of the machine.

Trane expertise

Trane is a pioneer in the HVAC industry and has consistently led the industry in providing solutions for ever changing needs. With a portfolio of proven equipment and controls, system-focused solutions, leading industry experts and highly trained sales engineers, Trane has the experience and expertise to design, manufacture, install and service an HVAC system that will meet environmental, business and building performance goals.

Ingersoll Rand

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TRANE THERMO KING Ingersoll Rand Club Car

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