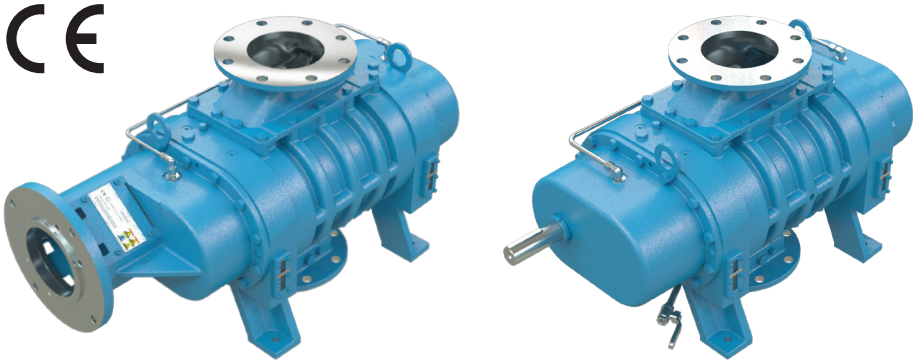
MD-Kinney

EX ATEX Solutions

For Rotary Positive Displacement Blowers & Vacuum Boosters



MD-Kinney | www.md-kinney.com | (800) 825-6937

EX ATEX Market Solutions

Starting in 2019, MD-Kinney started manufacturing equipment intended for use in industrial facilities with potentially explosive environments. In these applications, our PD Plus line of blower and booster products has set the industry standard for quality, reliability, and durability. Our new EX ATEX Series further enhances these capabilities by meeting the requirements for explosion protection regulation in Directive 2014/34/EU.

The MD-Kinney EX ATEX Series is designed to perform with high-quality standards in hazardous areas. A hazardous area is defined as an area in which potential or existing explosive atmospheres are present in quantities that require special precaution for the construction and use of equipment.

The EX ATEX Series is certified to perform in these types of environments. Together with the correct installation methods, safety devices, and use of VBXpert Portal design software which utilizes your conditions of service, MD-Kinney provides a comprehensive solution to help you meet your critical service requirements.

Markets

Chemical

Petrochemical

Oil and Gas

Energy and Power

Pharmaceutical

Plastics

Applications

- Bio-gas treatment/ compression
- Pneumatic conveying
- Freeze drying
- Vacuum coating
- Heat treatment
- Degasification
- Steam compression
- Vapor recovery
- Soil vapor extraction
- Process gas boosting
- Sorbent / activated carbon injection

ATEX Solution Process

Within the ATEX regulations, the user has the responsibility to analyze the specific process conditions and to define appropriate explosion protection zones both for the equipment itself and its surroundings. The user is to identify if the gas mixtures which could appear inside these areas are explosive and how likely an explosion is to occur. VBXpert Portal* allows you to input conditions of service in order to determine the suitable options and selection for your application. Our tools and support will guide you in your material assessment process.

External Classification

Zone: 1 or 2
Gas Group: IIA, IIB, or IB+H2
Temp Class: T3, T2, or T1

Internal Classification

Available for systems with P1 less than 100 mbar and temp classes T3 to T1. Gas group must be verified at time of quotation.

We meet the ISO and ATEX requirements for manufacturing processes and controls to ensure each of our units meet your needs and expectations. Your evaluation of the installation environment, guidelines, and requirements ensure the Compliance EX ATEX Directive is achieved.

**For further information on the requirements to access VBXpert Portal, visit us at www.mdpneumatics.com.*

EX ATEX Features
(EX5500 Model Shown)

2. FLANGE PORTS

For tight, secure connections.
DIN is standard; imperial is available.

1. EXTERIOR TUBING

Stainless steel crossover tubing connections between the oil sumps come standard on EX models.

14. DRIVE OPTIONS

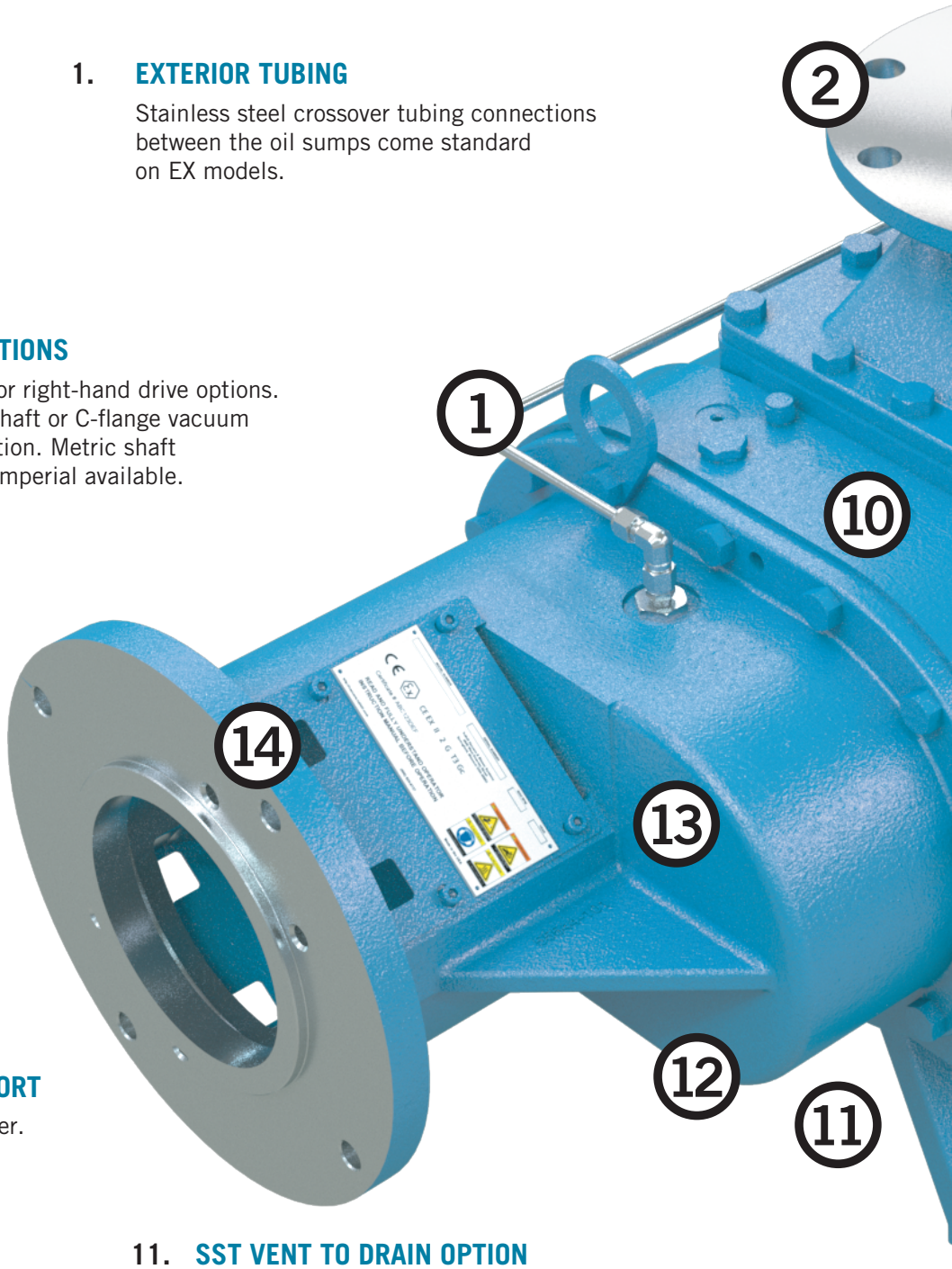
Left-hand or right-hand drive options. Standard shaft or C-flange vacuum booster option. Metric shaft standard; imperial available.

13. COOLING COILS

All EX ATEX models come standard with copper cooling coils to provide cooling of MD lubricating oil with I.9 LPM (.5 GPM) cooling water for high performance applications. Stainless steel cooling coils are an option available for all units.

12. COOLING COIL INLET PORT

Located on bottom of cover.



11. SST VENT TO DRAIN OPTION

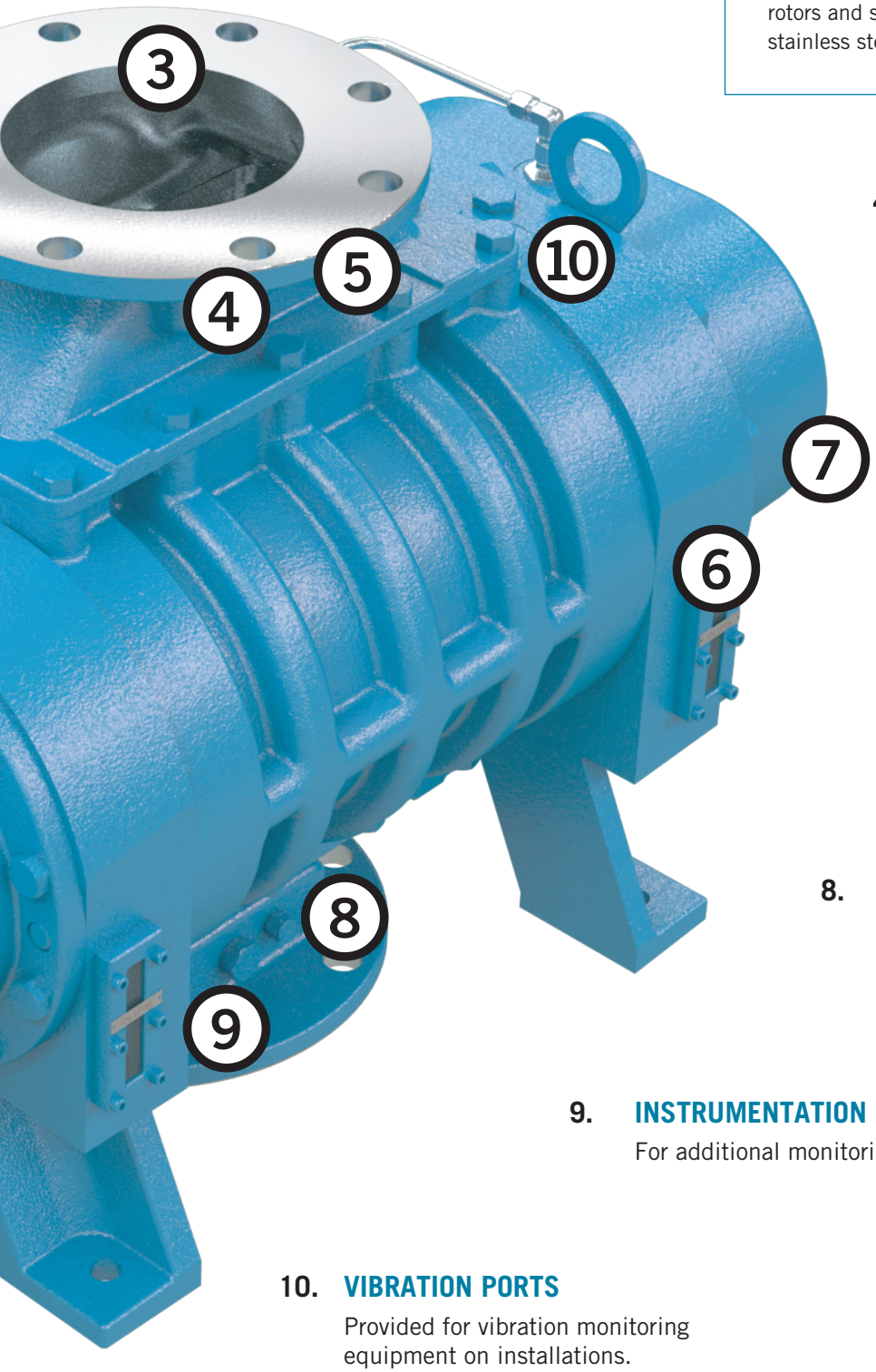
Allows easy draining of condensation build-up.

3. VERTICAL FLOW

Design to reduce internal process build-up.

SPECIAL MATERIALS

Standard construction materials include cast iron housing, end plates, end covers with port fittings, and ductile iron rotors and shafts, while special materials available include stainless steel or ductile iron models.



4. & 5. INLET INSTRUMENTATION PORT

For monitoring equipment processes.

6. OIL SIGHT GLASS

Visual indication of oil level.

7. COOLING COIL DISCHARGE PORT

Located on bottom of cover.

8. DISCHARGE TEMP PORT

To enable EX ATEX safety shut off feature at 177°C (350°F).

9. INSTRUMENTATION PORT

For additional monitoring equipment processes.

10. VIBRATION PORTS

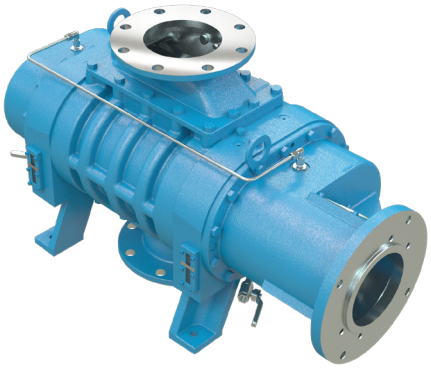
Provided for vibration monitoring equipment on installations.

MD-Kinney EX ATEX Series

The EX ATEX Series is a long-established line of premium, heavy duty, industrial blowers, and vacuum boosters that are renowned for their quality, dependability, and outstanding performance in critical applications.

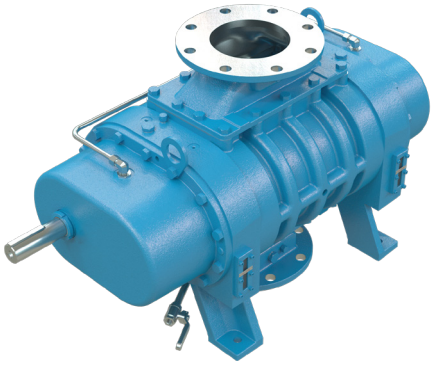
M-D Pneumatics Blowers

The EX ATEX blower series serves a variety of applications where high-pressure, high-volume air is required in applications up to 2.34 bar (34 psig) mawp.



Kinney Boosters

Vacuum boosters are used to "supercharge" vacuum pumps including piston, liquid ring, dry vacuum, and vane pumps. This allows for much faster pumping speeds that significantly reduce pump down time and allow for deeper vacuum levels in the toughest applications including the manufacture of chemicals, petrochemicals, plastics, semiconductors, and wood composites as well as food processing, vacuum furnace applications, and many other applications that require extensive safety specifications.



Standard Testing

Hydrostatic testing to 10.34 bar g (150 PSIG), and pressure gas seal testing to 2.34 bar g (34 PSIG).

Vertical Flow, Double-Envelope Mechanical Seal

The EX series is built to laboratory standards where virtually complete sealing is required. Vertical flow provides the best configuration to prevent process materials from getting trapped in the unit.

Optional Motor Mounting Flanges

All metric booster models are available with flange adapters for mounting an IEC B5 C-flange motor directly to the vacuum booster, eliminating the need for a separate base mounted assembly and coupling guard for the vacuum booster. NEMA connections are available for non-metric versions.

Hydrogen Service Applications

Ductile Iron construction is available for units designated for use in hydrogen service applications in which the hydrogen content is greater than 0.5% by volume and operating suction and discharge pressure is > 100 Torr.

Oxygen Service Applications

MD-Kinney EX ATEX series units are available for use in oxygen service applications in which the oxygen content is at least 23.5%.

ATEX Classification Sample

CE Ex II 2 G Ex h IIB H2 T3 Gb X

- CE — Complies with European Directive
- Ex — Specific Marking for Explosive Protection
- II — Surface Equipment
- 2 — **Equipment** Category 2 *Zone 1 & 2*
- G — **Environment** Gas
- Ex — Explosive Area
- h — Mechanically Protected
- IIB — Gas Group
- H2 — Hydrogen
- T3 — Temperature Class
- Gb — Equipment Protection Level
- X — Special Considerations *Necessary for Safe and Proper Use*

M-D Pneumatics MD Lubrication

M-D Pneumatics positive displacement blowers and Kinney® boosters are known worldwide for superior quality and performance. MD full synthetic lubricants are specifically formulated for use in M-D Pneumatics' high-performance blowers and Kinney boosters and is the only lubricant recommended. All EX ATEX Series units ship with MD PLUS full synthetic lubricant that provides significantly better thermal and oxidation stability at higher temperatures.

Service and Repair

MD-Kinney Springfield, Missouri, USA is here to help. Call 1-800-825-6937 or visit us online at www.md-kinney.com to be connected to a MD-Kinney application engineer.

MD-Kinney also has a network of Authorized Service Centers offering local support to our customers. All centers are staffed with factory-trained personnel to ensure your equipment performs to factory specifications. EX ATEX Series repairs are only available via an Authorized Service Center.

To find the your nearest Authorized Service Center call us directly at 1-800-825-6937.

MD-Kinney

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