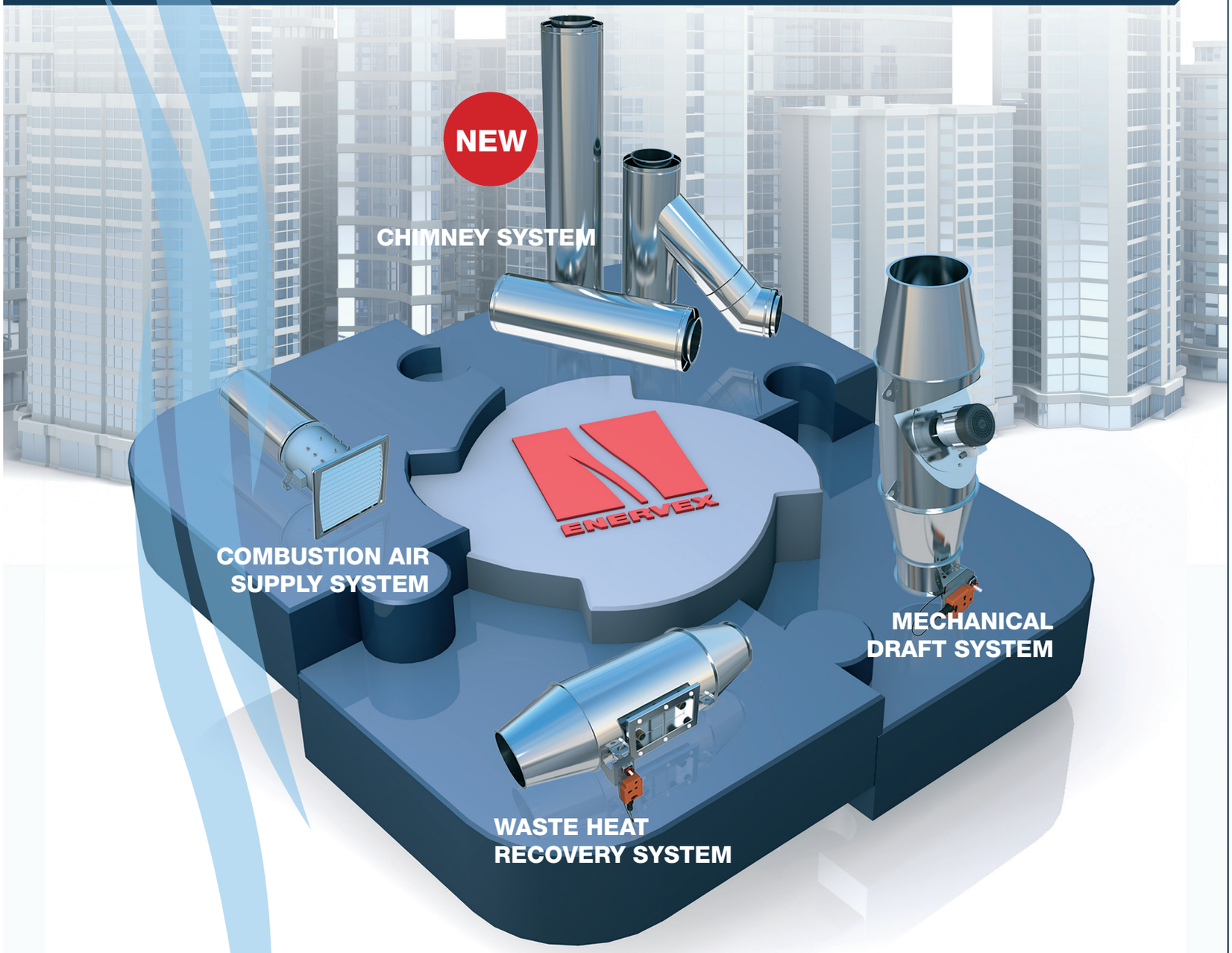
THE ULTIMATE VENTING SYSTEM

INTEGRATED CHIMNEY VENTING SOLUTION FOR BOILERS & WATER HEATERS



ENERVEX®
VENTING DESIGN SOLUTIONS

T: +1 800.255.2923 · www.enervex.com

VENTING SOLUTIONS. REINVENTED

SINGLE-SUPPLIER RESPONSIBILITY. FROM BOILER OUTLET TO TERMINATION.

ENERVEX has reinvented the way you design and install chimney systems for your projects.

No need to deal with a chimney supplier, draft fan supplier, economizer supplier, and combustion air supplier separately.

”Was it the fan, the controller, or the boiler?

WHO can help me solve this problem?

THE ENERVEX ULTIMATE VENTING SYSTEM IS A COMPLETELY INTEGRATED VENTING SOLUTION.

– that combines ALL of the products and accessories you’ll need to complete a project, from boiler outlet to chimney termination. Backed by the best performance guarantee in the business.

Simple. Seamless. Smart.

ELIMINATE THE ‘BLAME GAME’

ONE DRAWING TO CREATE, ONE SHIPMENT TO SEND, ONE SUPPLIER TO CALL

CONFIDENCE THAT ALL COMPONENTS WILL FIT TOGETHER

LOWER COST

SHORTER LEAD TIMES

EASIER INSTALLATION

GUARANTEED PERFORMANCE & SUSTAINABILITY FOR ENTIRE SYSTEM

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MORE OF WHAT ENGINEERS & CONTRACTORS LOVE

LESS GUESSWORK.

Engineers like the Ultimate Venting System's one-stop design because it provides a guaranteed fit for any type of building, any application, any appliance – condensing or non-condensing. Better performance, easier installation, better specs, fewer drawings, and no inspection issues. Because all components were meant to work together as a complete system.

BANG FOR THE BUCK.

Contractors love that ENERVEX owns 100% responsibility for great fit and great performance – which means less administrative coordination and logistics costs are stolen from their busy day. In addition, fittings and transitions are seamless. And if something doesn't go as planned, we straighten it out. Fast. Without excuses or runaround.

DESIGN FLEXIBILITY.

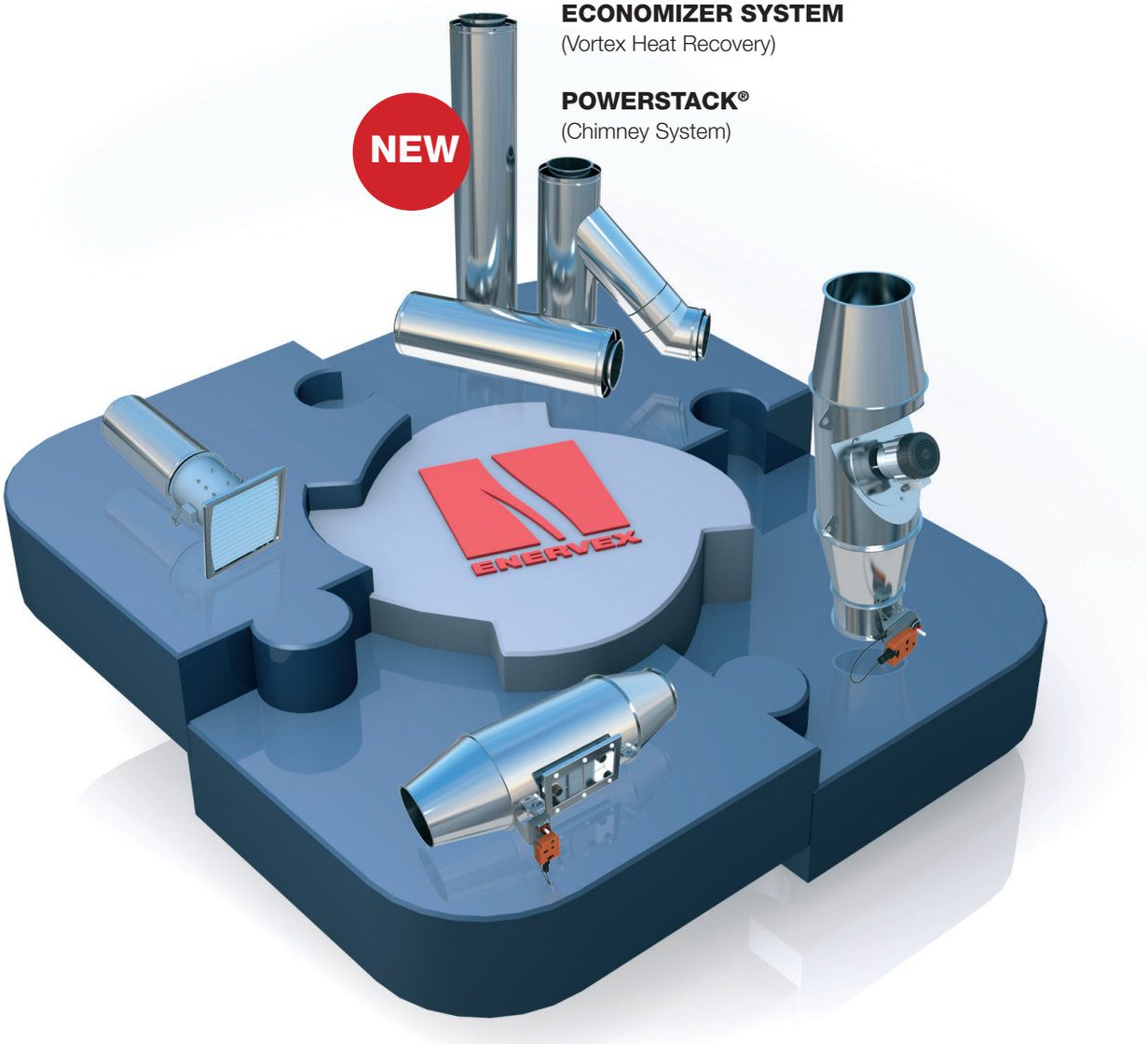
ENERVEX's Ultimate Venting System is the industry's only truly comprehensive system offering a one-stop-design that makes chimney design super-easy for any type of application or appliance, condensing or non-condensing. The Ultimate Venting System is uniquely made up of five modular components:

MECHANICAL DRAFT SYSTEM
(Fan based and Damper based)

COMBUSTION AIR SUPPLY SYSTEM
(Direct or indirect)

ECONOMIZER SYSTEM
(Vortex Heat Recovery)

POWERSTACK®
(Chimney System)



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A COMPLETELY INTEGRATED SOLUTION

Build your system any way you need it. Our one-stop design allows you to choose the component(s) you need, then add systems as you need them. And because ENERVEX designs all products under a single, highly respected name, we take full responsibility for operational excellence. That's the ENERVEX performance guarantee, and the reason why our brand has been trusted by some of the most successful projects in the world.

Simply choose your component(s). Then add what you need, when you need it:

FLEXIBLE, ONE-STOP DESIGN

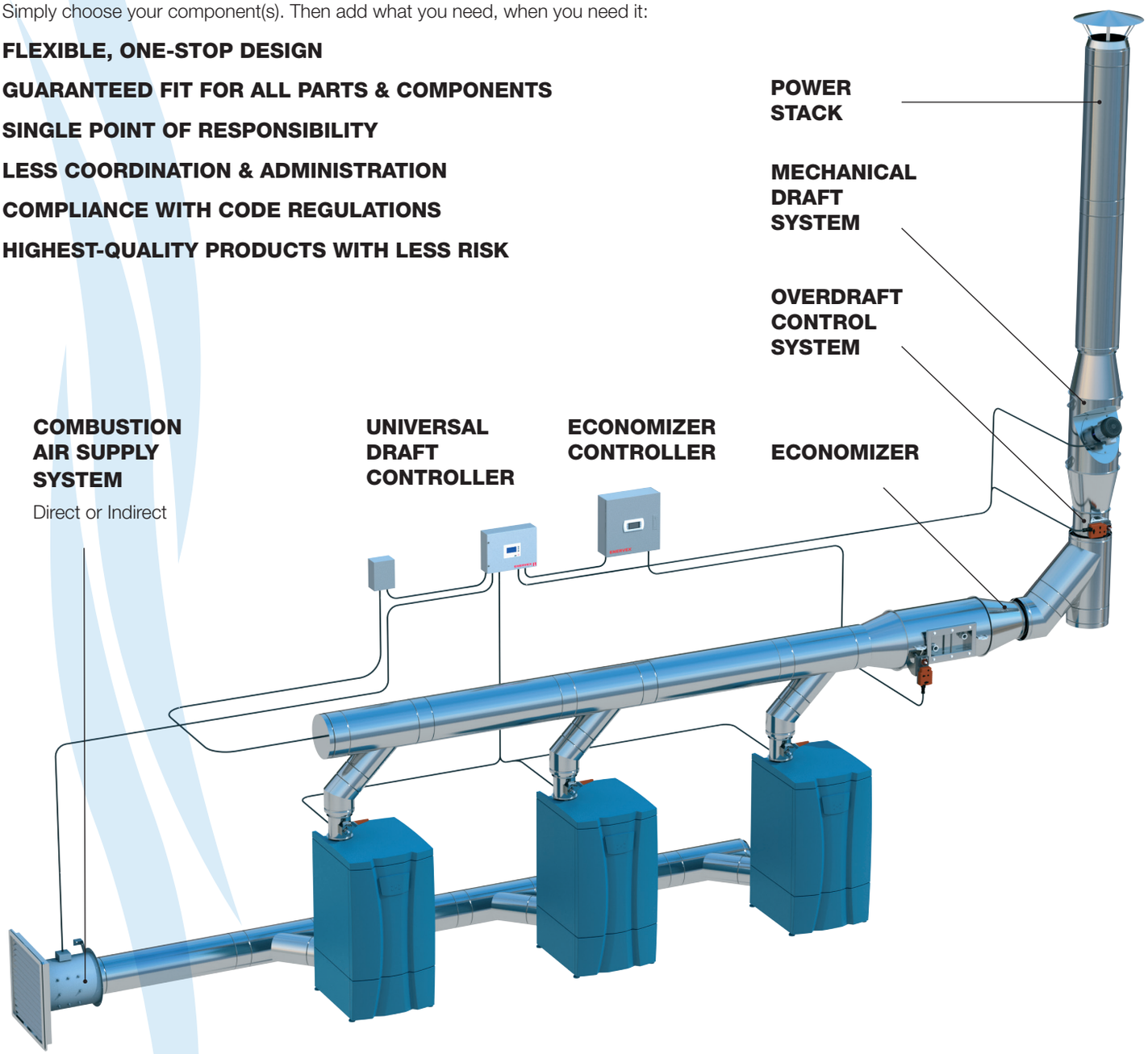
GUARANTEED FIT FOR ALL PARTS & COMPONENTS

SINGLE POINT OF RESPONSIBILITY

LESS COORDINATION & ADMINISTRATION

COMPLIANCE WITH CODE REGULATIONS

HIGHEST-QUALITY PRODUCTS WITH LESS RISK



MECHANICAL DRAFT SYSTEM

(Fan based)

A demand-controlled exhaust system designed for commercial boilers and heaters which optimizes any heating appliance's efficiency by actively controlling draft. Its high temperature variable-speed draft fan and motor controls regulate draft by modulating the fan.

PERFECT DRAFT – at all firing rates (less maintenance, longer equipment life)

FULLY PACKAGED, COMPACT SYSTEM

INCLUDES OPERATING CONTROLLERS

REDUCES EMISSIONS

CONDENSING & NON-CONDENSING APPLICATIONS

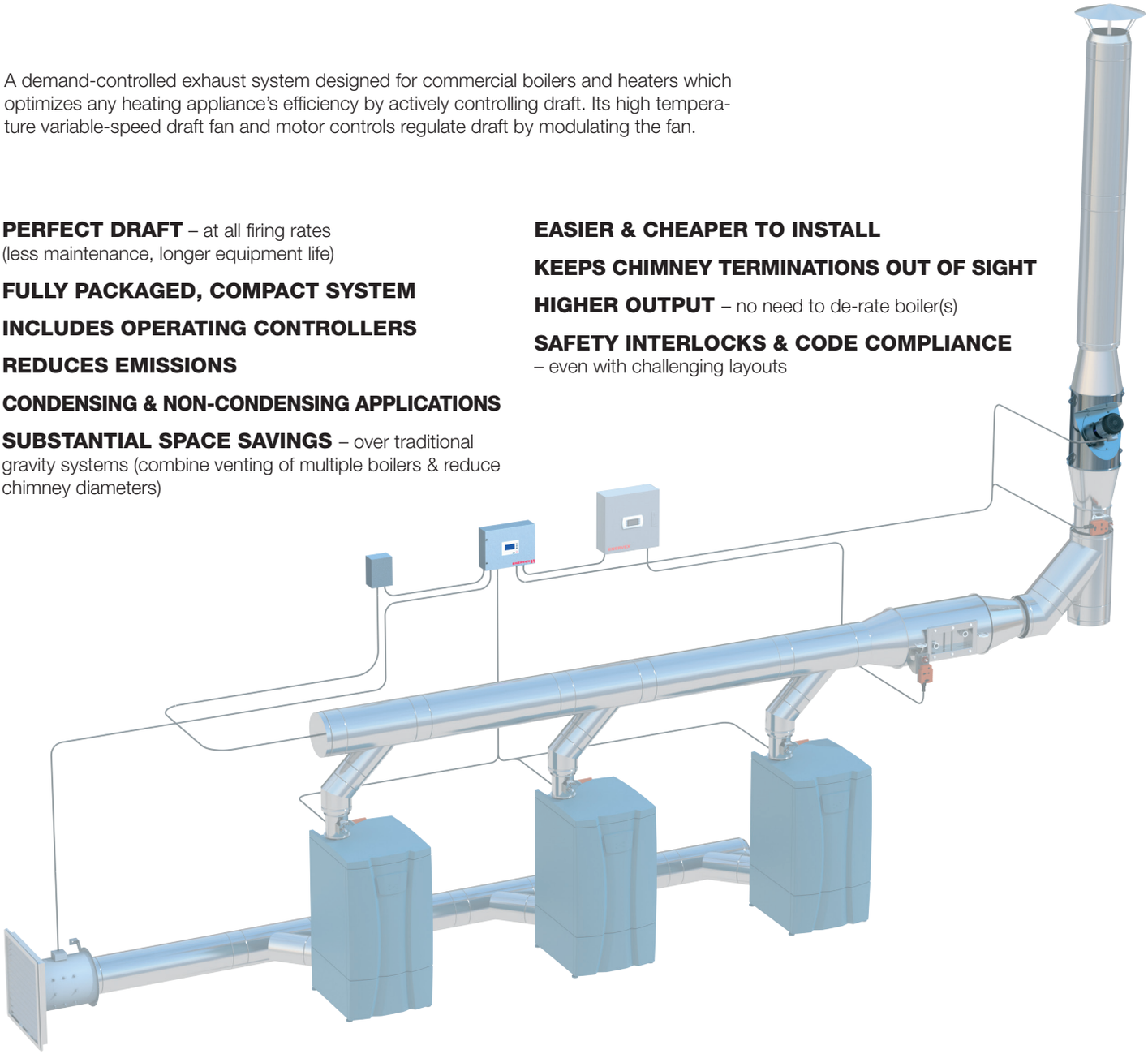
SUBSTANTIAL SPACE SAVINGS – over traditional gravity systems (combine venting of multiple boilers & reduce chimney diameters)

EASIER & CHEAPER TO INSTALL

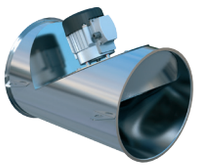
KEEPS CHIMNEY TERMINATIONS OUT OF SIGHT

HIGHER OUTPUT – no need to de-rate boiler(s)

SAFETY INTERLOCKS & CODE COMPLIANCE – even with challenging layouts

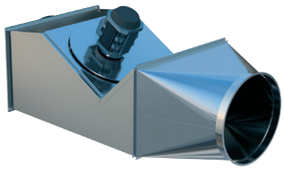


TDF



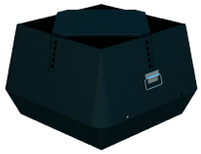
True inline mechanical draft fan in 316L-PCM stainless steel with capacities of 30,000+ CFM. Variable speed permanent magnet (EC) hi-temp motors and stainless steel 316L-PCM impellers. UL listed to UL378 ULC/ORD-C375 and ULC/ORD2162 for temperatures up to 1000°F. Also listed to UL705 and CSA C22.2 No. 113-12.

IPBV



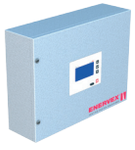
True inline mechanical draft fan in 316L-PCM stainless steel with capacities of up to 5,500 CFM. Inverter-duty hi-temp induction motors and cast aluminum impellers. Intertek listed to UL378 and UL705 for temperatures up to 575°F.

RSV



Termination-mounted mechanical draft fan in cast aluminum with capacities up to 4,000 CFM. Variable speed or inverter-duty hi-temp induction motors and cast aluminum impellers. Intertek listed to UL378 and UL705 for temperatures up to 575°F.

EBC



Modulating draft controller for use with the mechanical draft fans. Control fans, overdraft damper and combustion air supply simultaneously. Wireless access and CO-monitoring optional. Intertek listed to UL378 for draft equipment and UL508 for industrial controls.

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MECHANICAL DRAFT SYSTEM

(Damper-based)

A demand-controlled modulating overdraft damper system designed for heating appliance efficiency in commercial boilers and water heaters, the Overdraft Control System actively controls the draft in chimney systems with excessive draft due to vertical length. Its high-temperature multi-blade draft damper and monitoring controls modulate the positioning of the damper blade.

FULLY PACKAGED, COMPACT SYSTEM

PERFECT DRAFT – at all firing rates (less maintenance, longer equipment life)

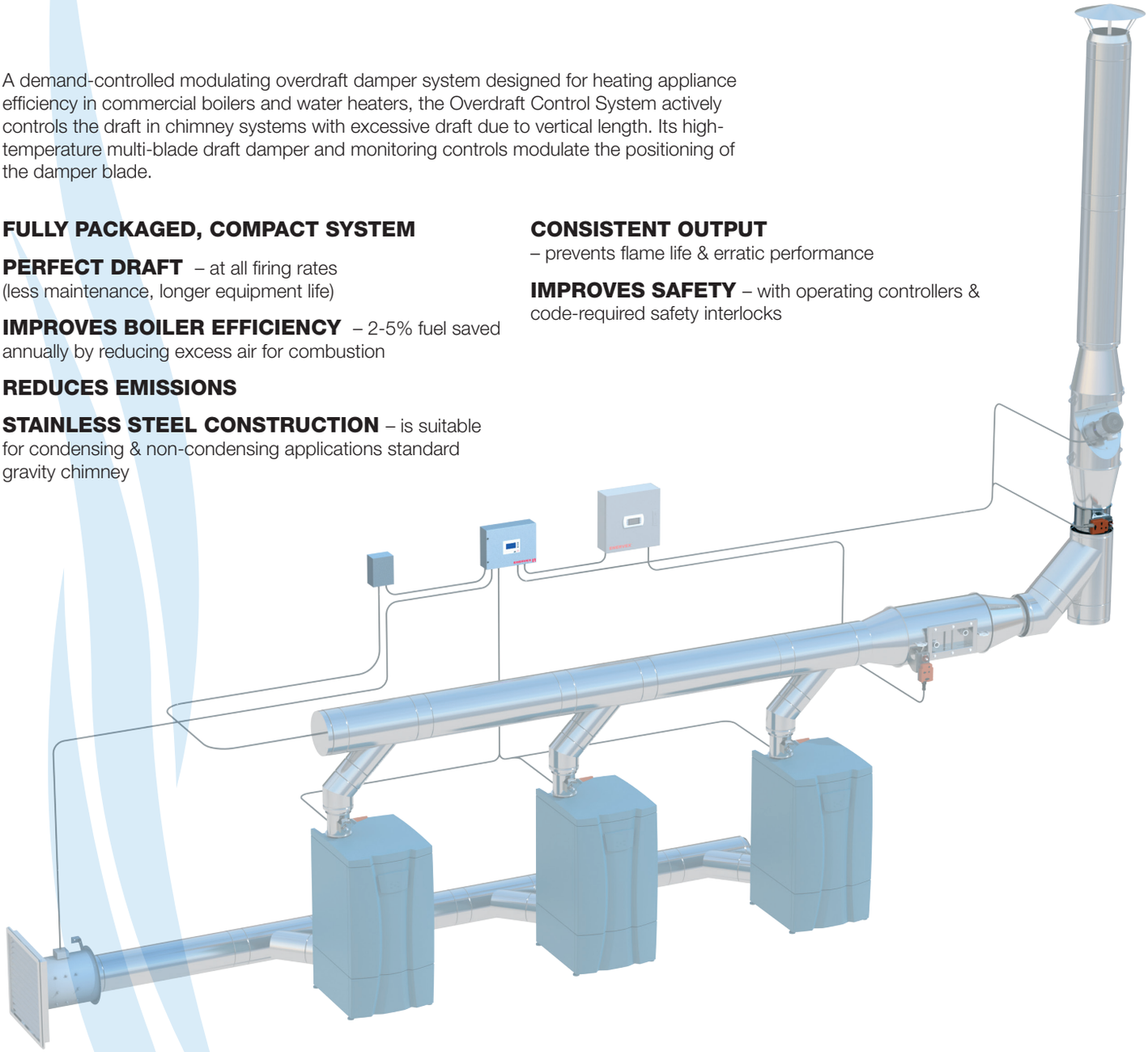
IMPROVES BOILER EFFICIENCY – 2-5% fuel saved annually by reducing excess air for combustion

REDUCES EMISSIONS

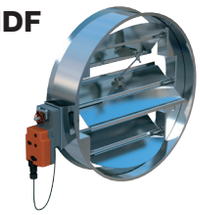
STAINLESS STEEL CONSTRUCTION – is suitable for condensing & non-condensing applications standard gravity chimney

CONSISTENT OUTPUT
– prevents flame life & erratic performance

IMPROVES SAFETY – with operating controllers & code-required safety interlocks

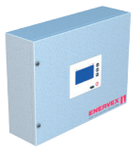


MDF



Motorized modulating, multi-blade damper in stainless steel 316L-PCM with ½" flanged connections.
UL listed to UL378 for temperatures up to 1400°F.

EBC



Modulating draft controller for use with the modulating dampers. Control fans, overdraft damper and combustion air supply simultaneously. Wireless access and CO-monitoring optional. Intertek listed to UL378 for draft equipment and UL508 for industrial controls.

COMBUSTION AIR SUPPLY SYSTEM

(Direct or Indirect)

A demand-controlled system designed for commercial boilers and water heaters which actively controls the supply of combustion air to individual boilers (or the mechanical room in general). It is a fully packaged, compact system – the variable-speed supply fan and monitoring controls maintain air supply via the modulating fan speed.

INCLUDES OPERATING CONTROLLERS
– with code-required safety interlocks

SAFE – efficient alternative to standard gravity i ntakes (louvers)

INDEPENDENT OF BOILER ROOM LOCATION
– supplies combustion air directly to each appliance or the mechanical room in general

SMALL AIR INTAKE

COMBUSTION AIR PRE-HEATING

DIRECT/INDIRECT AIR SUPPLY

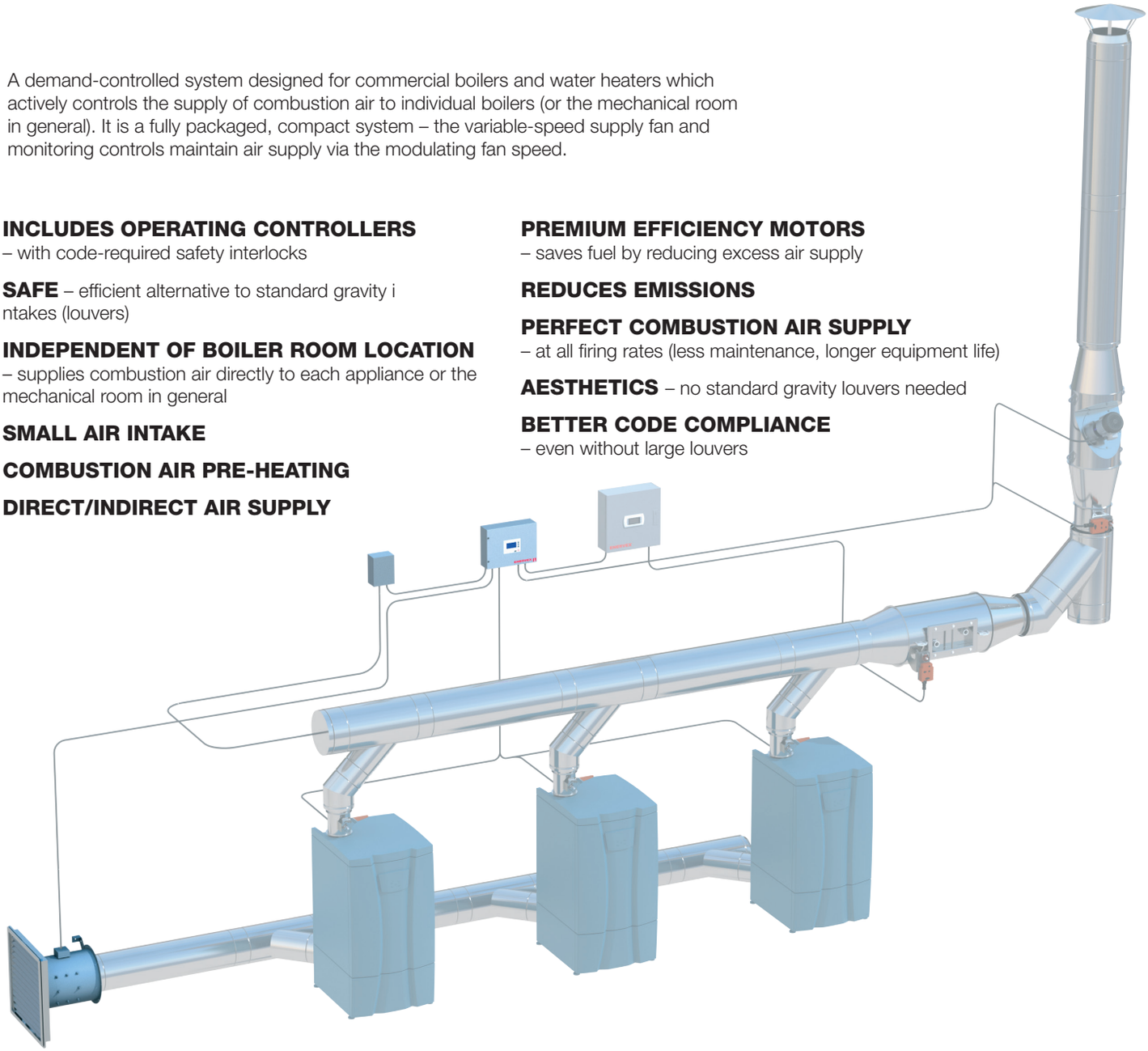
PREMIUM EFFICIENCY MOTORS
– saves fuel by reducing excess air supply

REDUCES EMISSIONS

PERFECT COMBUSTION AIR SUPPLY
– at all firing rates (less maintenance, longer equipment life)

AESTHETICS – no standard gravity louvers needed

BETTER CODE COMPLIANCE
– even without large louvers



BEF

Inline box ventilator in galvanized steel and insulated housing with capacities in excess of 6,000CFM. Variable-speed permanent magnet (EC) motors and aluminum impellers. UL listed to UL705.

SFTA

Tube-axial fan in stainless steel with capacities up to 20,000 CFM. Variable-speed permanent magnet (EC) motors and aluminum axial vanes. UL Listed to UL705.

EBC

Modulating draft controller for use with the supply fans. Can control fans, over-draft damper, and combustion air supply simultaneously. Wireless access and CO-monitoring optional. Intertek listed to UL378 for draft equipment and UL508 for industrial controls.

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ECONOMIZER

(Vortex Heat Recovery)

A highly versatile and efficient flue gas economizer for single OR multiple boilers of atmospheric, fan-assisted, or forced-draft design. The Vortex is a fully packaged, lightweight, round configuration with integrated modulating bypass. Its efficient hybrid microchannel/plat heat exchanger allows extremely high heat transfer capability and low flow resistance.

ANY BOILER TYPE – vertical or horizontal installation

CAN SAVE 10+% FUEL ANNUALLY – depending on the application

316L STAINLESS STEEL HOUSING & HEAT EXCHANGER – condensing & non-condensing applications with no modification

SPACE SAVINGS – light and compact design saves valuable space

COMPACT – lightweight, round-chimney design looks great & saves space

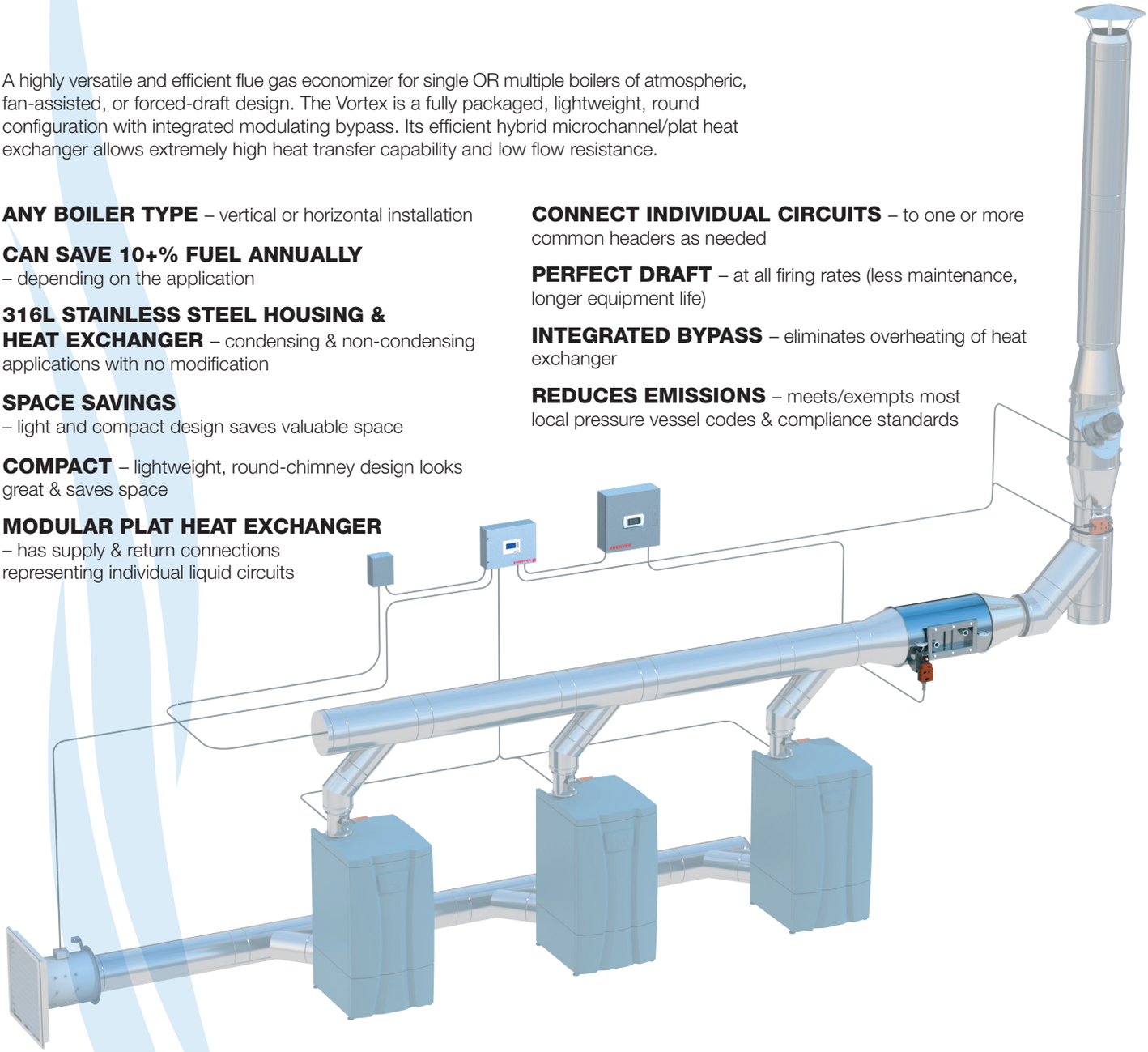
MODULAR PLAT HEAT EXCHANGER – has supply & return connections representing individual liquid circuits

CONNECT INDIVIDUAL CIRCUITS – to one or more common headers as needed

PERFECT DRAFT – at all firing rates (less maintenance, longer equipment life)

INTEGRATED BYPASS – eliminates overheating of heat exchanger

REDUCES EMISSIONS – meets/exempts most local pressure vessel codes & compliance standards



VHX

Single-row, double-row, and stacked-row economizers in 316L stainless steel with capacities from 500,000 Btu/hour up to 40,000,000+ Btu/hour. Includes modulating bypass.

HRC

Controller that monitors inlet/outlet water and flue temperatures; maintains desired outlet water temperature while maximizing heat recovery and efficiency. Can be used in conjunction with EBC controllers.

EBC

Modulating draft controller for use with mechanical draft fans. Can control fans, over-draft damper, and combustion air supply simultaneously. Wireless access and CO-monitoring optional. Intertek listed to UL378 for draft equipment and UL508 for industrial controls.

POWERSTACK®

(Chimney System)

A state-of-the-art, multi-application chimney exhaust product designed to convey gases, particles, fumes, smoke, grease and products of combustion from a wide range of equipment under negative, positive, or neutral pressure.

NEW

ONE-TYPE-FITS-ALL – prefabricated stainless steel construction

INNER LINING – bespoke 316L-PCM stainless steel

OUTER JACKET – 304 polished stainless steel, insulated by a 1" standard high-density, body-soluble calcium silicate blanket

22 INTERNAL DIAMETERS AVAILABLE
– from 4-48" (100-1200 mm)

SINGLE- OR DOUBLE-WALL CONFIGURATION
– with three available insulation thicknesses

CONDENSING OR NON-CONDENSING APPLICATIONS

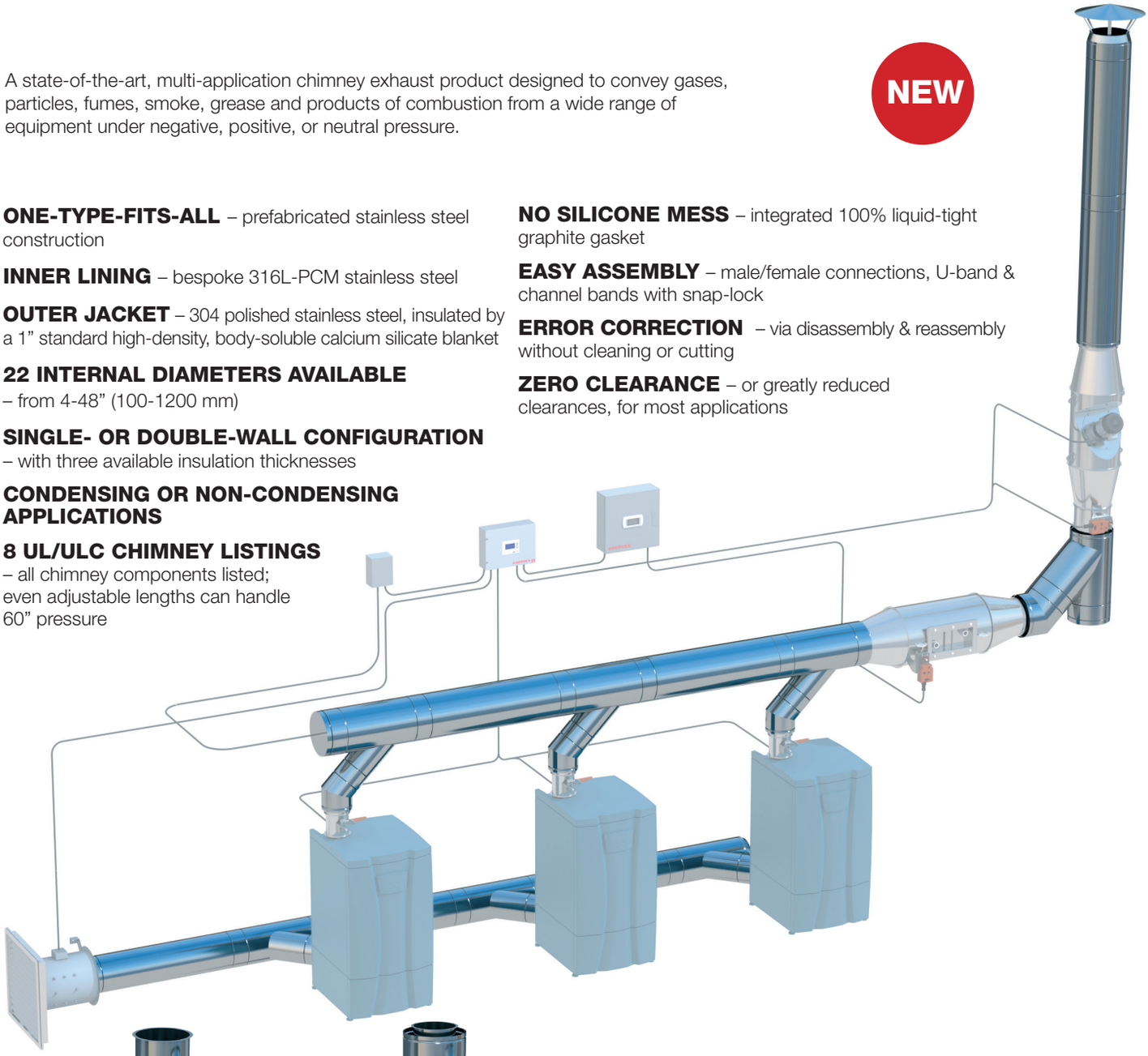
8 UL/ULC CHIMNEY LISTINGS
– all chimney components listed; even adjustable lengths can handle 60" pressure

NO SILICONE MESS – integrated 100% liquid-tight graphite gasket

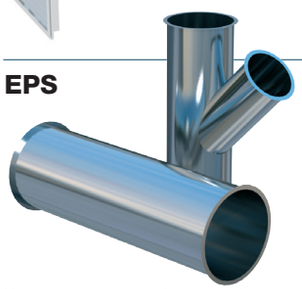
EASY ASSEMBLY – male/female connections, U-band & channel bands with snap-lock

ERROR CORRECTION – via disassembly & reassembly without cleaning or cutting

ZERO CLEARANCE – or greatly reduced clearances, for most applications



EPS



Single-wall chimney for use with Cat. I, II, III and IV appliances. UL listed to UL103, UL1738, and ULCS636. Also listed as a liner under UL1777 and ULCS635.

EPS1, 2 & 4

Double-wall chimney for use with Cat. I, II, III and IV appliances. Available with 1", 2" and 4" insulation. UL listed to UL103, UL1738, UL2561, ULC/ORD C959 and ULS636-08.

EBC

Draft monitoring safety control interlocks with the boiler(s)' safety controls. Wireless access is optional. Intertek listed to UL378 for draft equipment and UL508 for industrial controls.

ADF/BBF

Motorized or manual vent and balancing damper in stainless steel 316L-PCM for use with gas and oil applications. UL listed to UL378 and UL103 for temperatures up to 1400°F.

ENERVEX® VENTING DESIGN SOLUTIONS

EXPLORE OUR WORK

VENTING THE WORLD'S TALLEST STRUCTURE

Burj Khalifa Tower, Dubai, United Arab Emirates

The Project:
Formerly Burj Dubai Tower – designed by Skidmore, Owings and Merrill in Chicago.

Mixed-use tower featuring world's first Armani Hotel Dubai and Armani Residences, alongside corporate suites, residences, retail and leisure facilities.

Location: downtown Burj Dubai, a 500-acre mega-development by Emaar Properties.

At 2,716 ft. (828 m), it's the world's tallest structure.

ENERVEX Solution:
• Six demand-controlled inline Mechanical Draft Systems for the building's water heaters and steam boilers.

• Heating appliances are exhausted via six chimney flues, each with an integrated inline Mechanical Draft System.

• Chimney flues mostly running horizontally through building, terminating to the outside via sidewalls and through the ground for aesthetics.

• Systems provide ventilation to the mechanical room by maintaining an air exhaust rate while controlling the chimney flue draft, as well as the combustion air intake.

MAKING SOME ELBOW ROOM

Heinz Stadium
Pittsburgh, Pennsylvania

The Project:
Intricate field heating system with domestic water heaters running both horizontally and vertically.

Many elbows involved.

´ENERVEX Solution:
• Eight Thermal Solution EVH-2000 boilers, vented with a demand-controlled Mechanical Draft System.

• Termination-mounted demand-controlled Mechanical Draft System controls draft for two A.O. Smith 4,000MBH domestic water heaters.

• Two water heaters on the concourse levels are also vented with demand-controlled Mechanical Draft Systems.

REDUCED ENERGY USE BY 21% FOR ILLINOIS' FIRST LEED GOLD-CERTIFIED HOSPITAL

Lutheran General Hospital,
Park Ridge, Illinois

The Project:
Newly constructed US $201M, eight-story, 192-bed patient care tower designed by OWP/P and CannonDesign.

First hospital in Illinois to achieve LEED Gold certification and one of only a handful in U.S. with this designation.

Long horizontal and vertical chimney sections with many elbows.

Sustainability and patient/staff safety were key objectives.

Allows boilers to operate at their rated efficiencies.

ENERVEX Solution:
• Two banks of Aerco Benchmark 3.0 boilers with seven and eight boilers, respectively, exhausted by redundant demand-controlled Mechanical Draft Systems.

• Building's mechanical and electrical systems reduced energy use by 21%.

• Supplies critical HVAC system with two redundant systems – one for each bank of boilers.

• Each consists of two ENERVEX Power Venters with modulating over-draft dampers and a redundant control system with redundant VFDs, Modulating Draft Controls, pressure sensor, etc. and redundant logics.

• Perfect draft for boiler efficiency, plus assurance that if any of these components fail, system automatically switches to a redundant component while alarming building management.

SHOWING FISH, NOT FANS

Georgia Aquarium, Atlanta, Georgia

The Project:
One of the largest aquariums in the world. 55,000+ fish, 500+ species and 10M gallons of fresh/salt water.
Water's boiler system had to operate efficiently with appropriate ventilation. Boiler system located under parking structure.

ENERVEX Solution:
• Demand-controlled Mechanical Draft System.

• Fans were installed in an enclosed casing, out of sight, on top of the parking building.

CONTINUOUS LOOP DESIGN SAVES MILLIONS IN REPAIRS

The Westin Diplomat Resort & Spa, Ft. Lauderdale, Florida

The Project:
Main heating plant originally located across Highway A1A used a dual Kewanee boiler system that supplied the resort across the street through underground pipes.

Pipes started leaking; repairs estimated to run into the millions (USD).

ENERVEX Solution:
• New boiler system on 4th floor of parking garage (same side as hotel property).

• 11 Hydrotherm KN20 2,000 MBtu High-Efficiency condensing boilers.

• Vertical flue system was not practical; owner decided to exhaust horizontally, but didn't want a 22" pipe in front of building.

• Dual Mechanical Draft System uses two ENERVEX Power Venters, vented through AL29-4c systems.

• Continuous loop design draws air from outside and feeds all direct air intakes for the boilers.

• Makes a 180° loop and picks up the exhaust of each boiler, ultimately tying in to the dual Power Venters.

• Exhausts to the outside through a plenum with decorative louver to hide termination.

CHIMNEY INSTALLATION SAVES $10,000 AND VALUABLE HOTEL SPACE

Khalidiya Palace Rayhaan by Rotana Khalidiya, United Arab Emirates

The Project:
Five-star property with 443 modern rooms/suites; first property to open in Abu Dhabi under Rayhaan Hotels & Resorts by Rotana.

Hotel's laundry facility is served by three BIB Cochran Wee Chieftain steam boilers.

Originally boilers would be individually vented with a 16" chimney flue, but long horizontal runs and space restraints made this impossible.

ENERVEX Solution:
• Redesigned chimney flue to connect all three boilers to a common 20" chimney flue, powered by a modulating draft controller and inline Power Venter.

• Reduced chimney flue diameter from a 30" to 20".

• Discharge located in a small housing right above the entry to the garage.

• Saved valuable space AND chimney flue material.

• US $10,000+ savings in materials alone (including demand-controlled Mechanical Draft System).

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ABOUT ENERVEX

WHY ENERVEX?

Quality Components. Superior Technology. Experienced Personnel.

PERFORMANCE GUARANTEE

ECONOMIC SAVINGS

SUSTAINABILITY

AESTHETICS & SPACE-SAVING DESIGNS

SAFETY & CODE COMPLIANCE

3-STEP DESIGN PROCESS
– customized pre-sales analysis; system design considerations; engineering & installation support including wiring diagrams.

BORN GREEN

Unlike many manufacturers, we didn't have to come up with "new" green building solutions. ENERVEX has actively promoted low-energy installations, savings, indoor air quality and recycling for decades – long before green building became "in."

LONG-TIME PARTICIPANT IN EUROPEAN LEGISLATION PROCESSES

MEMBER OF U.S. GREEN BUILDING COUNCIL (USGBC) since 2005

ALL SYSTEMS QUALIFY FOR LEED POINTS UNDER THE ENERGY & ATMOSPHERE (EA), Materials & Resources (MR), Indoor Environmental Quality (EQ) and Innovation & Design Process (ID) sections.

LEARN MORE ABOUT THE ULTIMATE VENTING SYSTEM

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