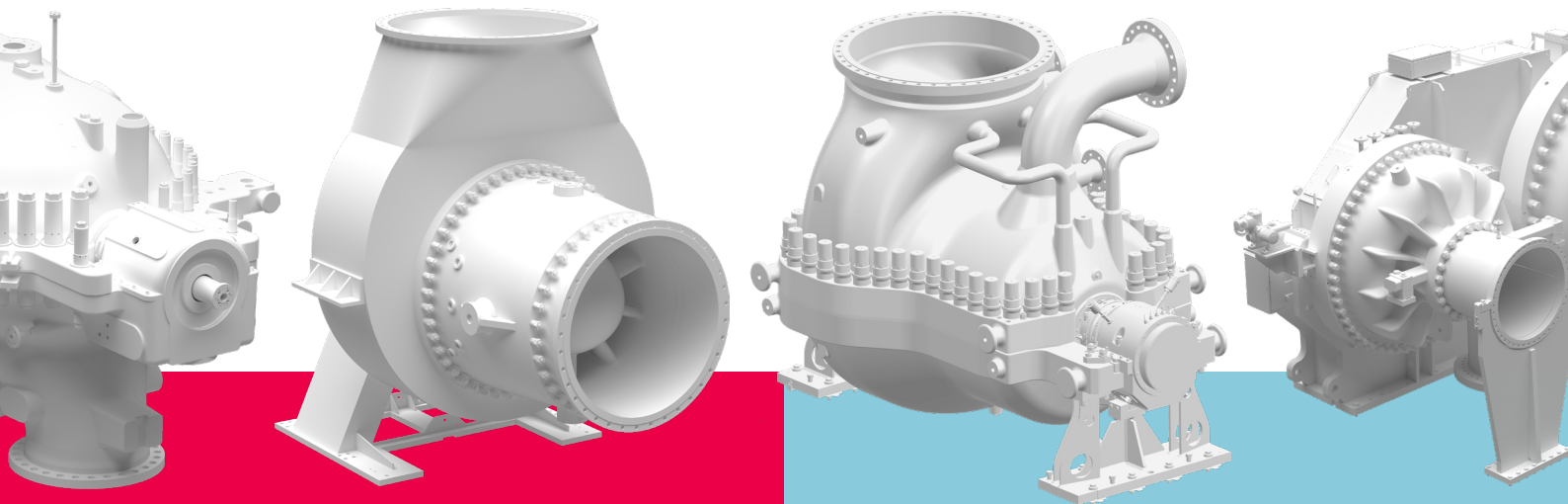


A broad portfolio for industrial
power recovery solutions

Industries

Expanders



Efficient, powerful energy recovery

In many industrial processes, valuable energy contained in process and residual gases is lost. Everllence expanders recover this energy and convert it into reliable power, improving overall plant efficiency.

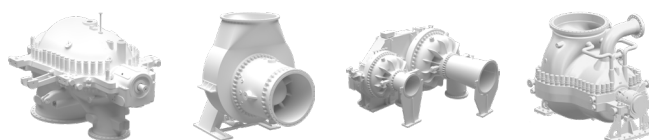
Benefits at a glance

- Compact design for easy integration
- High inlet temperature capability
- Multiple process, side, and extraction streams
- Efficient energy recovery

Everllence

Expander models: EN / EH / ER / MXT

A broad portfolio for industrial power recovery solutions



Technical data

	Unit	EN	EH	ER	MXT
Single stage		+	+	+	
Multi stage		+	+	+	+
Variable stator vanes		+		+	+
Horizontally split		+	+		+
Vertically split		+	+	+	
Integral gear		+		+	
Max. mass flow rate	kg / h	600,000	600,000	560,000	1,500,000
Max. allowable working pressure (MAWP)	bar	16	16	24	140
Temperature	°C	540	760	to 500	540
Expansion ratio	per stage / stage group	15	10	5	140
Max. input power	kW	60,000	45,000	50,000	180,000
Max. speed	rpm	20,000	24,000	50,000	16,500

General

Everllence expanders are specifically designed for energy recovery. They enable the utilization of excess power or heat to drive separate power generation units or turbomachinery in power recovery trains, achieving maximum process efficiency.

Matching your requirements, Everllence expanders are available in single-stage and multi-stage designs, equipped with either axial blading or radial impellers. Our expanders can be connected to a power generator or directly integrated into a compression train. They are designed for seamless integration into your process, supported by Everllence's extensive experience in multi-machine train configurations.

Contribution to decarbonization

By recovering energy that would otherwise be lost in industrial processes, Everllence expanders significantly improve overall plant efficiency and reduce primary energy demand. This directly contributes to lowering CO₂ emissions and operating costs.

Expanders play an important role in forward-looking applications such as carbon capture, utilization and storage (CCUS) and energy storage systems, where efficient energy management is essential for sustainable industrial processes.

Proven track record

Everllence expanders are built on decades of turbomachinery experience and a broad installed base across multiple industries. Our engineering expertise covers aerodynamic design, rotor dynamics, and mechanical integrity, supported by numerous reference projects across a wide range of industrial applications.

This proven track record ensures reliable performance, operational stability, and long service life – even under demanding process conditions.

Modular configuration and engineered-to-order design

Everllence offers a wide range of modular configurations, from pre-designed expanders and expander packages based on standardized modules for applications with recurring parameters, to fully tailored solutions engineered to meet specific process and project requirements.

Proven components and established design standards enable shorter lead times and cost efficiency, while special materials and customized designs address individual process demands.

Features

- Everllence expanders comply with international design and manufacturing standards (e.g. API 617)
- Flow control via variable inlet guide vanes or suction throttling
- Combined solutions available with expander and compressor in one casing
- Reheat and multiple side streams possible
- Broad range of material options depending on gas composition and inlet temperature

Typical applications

- Nitric acid
- Purified terephthalic acid
- Fluid catalytic cracking (FCC)
- Top gas recovery
- CCUS
- Heat pumps
- Energy storage

Contact

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