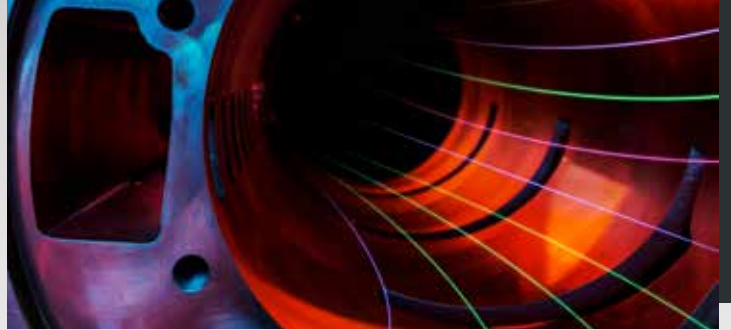




# RVX

**55 | 75 | 90 kW**

FIXED-SPEED ROTARY VANE AIR COMPRESSORS



The **MATTEI® Rotary Vane Xtreme (RVX) Series** represents the next frontier in the XTREME revolution of energy efficient fixed-speed air compressors. These 50 hertz, direct-drive compressors use a solid-state electronic starter to slowly come up to speed. Also referred to as a “soft starter” it softens the shock to the drive train upon starting to reduce stress and wear on the components. In operation, our legendary “bearingless” airends rotate at just 1.500 rpm without the use of high maintenance belts or energy robbing gears.

The slower a compressor runs, the longer it lasts. **RVX Series** runs about 50% slower than what you’ll find in most competitive fixed-speed air compressor designs. Discover RVX Series, the next generation of long-lasting, single-stage, 55÷90 kW, fixed-speed air compressors from Mattei - the world leader in rotary vane technology.

**THE FORCE TO BE RECKONED WITH**

**Lowest Lifecycle Cost**

**Highest Eco-Sustainability**

**Xtreme Technological Advancements**



**THINK GREEN**

## GET YOUR “VANE GAIN”

**VANE GAIN = LOWER ENERGY COSTS**



Only Mattei’s exclusive rotary vane technology is proven to be even more energy efficient the longer it runs.

**We call it VANE GAIN.**

Third party testing confirms that our compressor begins to consume less energy from the moment you turn it on as the blades season.

What does that mean to you? Simple.

Our VANE lets you GAIN lower energy costs over time - an exclusive benefit found ONLY in Mattei’s proprietary rotary vane technology.

**“Simply Different”**

## MATTEI'S EXCLUSIVE XTREME TECHNOLOGY SUITE

- ▶ Patented Xtreme Injection Technology provides a quantum leap in compression process efficiency.
- ▶ Xtreme Thermal Management Technology balances the cooling system processes to maximize temperature stability in climes to +45°C/113°F.
- ▶ Xtreme Communications Technology leverages IoT Industry 4.0 ready Maestro XC controller to maximize energy efficiency and deliver real-time communications globally via Mattei Cloud.



### XTREME COMMUNICATIONS TECHNOLOGY

IoT Industry 4.0 ready Maestro XC, 10" touchscreen control panel combines with Mattei Cloud to deliver real-time operational and historical data communications globally.



### XTREME INJECTION TECHNOLOGY



Innovative blanket of atomized synthetic V-Life Xtreme lubricant fog slashes oil circulation by 50% while delivering a quantum leap in energy efficiency and eco-sustainability.



### XTREME LUBRICANT RECOVERY TECHNOLOGY

Maintenance free scavenged oil return system leverages an intelligent solenoid valve to enhance energy efficiency and slash recirculation losses while improving air quality.



### XTREME THERMAL MANAGEMENT TECHNOLOGY

Big 45°C/113°F rated coolers combine with servo-controlled electronic thermostatic valve and independent variable speed cooling fan as directed by IoT Industry 4.0. Maestro XC controller to ensure precise operating temperature control across a broad range of ambient temperatures and capacities.

## REVOLUTIONARY DESIGN

RVX Series benefits from Mattei's technological trifecta of innovations first introduced in our **RVXi Series** awarded the **2021 Product of the Year<sup>(1)</sup> Silver Medal**. Led by freshly patented XTREME Injection Technology, it established RVXi as world leader in performance. Those same energy advantages delivered by our **XTREME Technology trifecta** positions the 50 hertz RVX Series amongst the most energy efficient, standard class, air compressors in the world.

*(1) As voted by the Engineering Community of Plant Engineering Magazine*

## AIREND TECHNOLOGY: VANE VS SCREW

Rotary vane technology is Simply Different. Air moves latitudinally. Centrifugal force propels the vanes/blades outward and keeps the tips stable against the stator wall to ride upon a thin film of lubricant. By design, the single-rotor vane compressor is completely devoid of thrust forces that cause traditional ball or roller type bearings to wear. This allows Mattei to engineer a compressor that uses white metal bushes in lieu of bearings. Therefore, you never need to rebuild or overhaul a Mattei rotary vane airend because there are simply no tolerances to wear or, bearings to wear out.

In rotary screw compressors, air moves longitudinally. Where the blades in a vane ride on a thin film of lubricant along the stator wall, helical screw rotors cannot touch the cylinder walls. Screw compressors rely on oil flooding to fill the cylinder and endplate gaps. By design, the screw compression process creates thrust forces in one direction when building pressure. Then, each time it unloads, the pressure equalizes across the length of the rotors. The Loading/Unloading cycles cause the bearings to wear as the screws chuck back-and-forth. Tolerance losses increase internal recirculation which can make it run hotter and draw more energy. When it is time to rebuild the screw airend, you learn it is going to cost about 50% of what you originally paid to buy that air compressor and, the cycle begins anew.

# RVX

55 - 75 - 90



## 1. AIR/OIL SEPARATOR

Nested deep-pleated air/oil separator elements limit oil carryover to 1-3 mg/m<sup>3</sup>.



## 2. FLANGED CONNECTIONS

Durable leak free flanged fluid connections feature o-ring seals for fast, safe and easy maintenance.



## 3. OVERSIZED COOLERS

Engineered for dependable service in hot, humid climates. Rated for 45°C/113°F ambient. Optimal temperature control across a broad range of operating conditions.



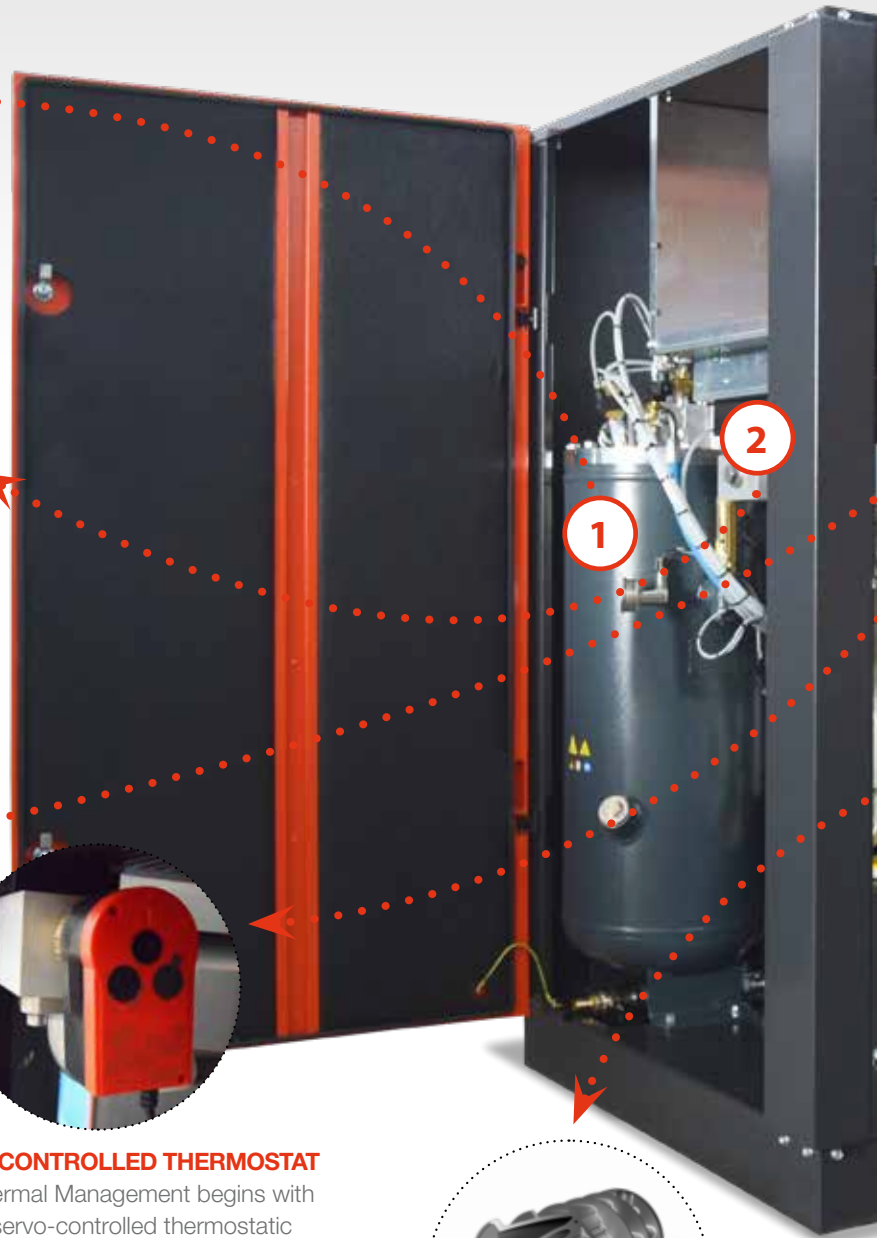
## 4. SERVO-CONTROLLED THERMOSTAT

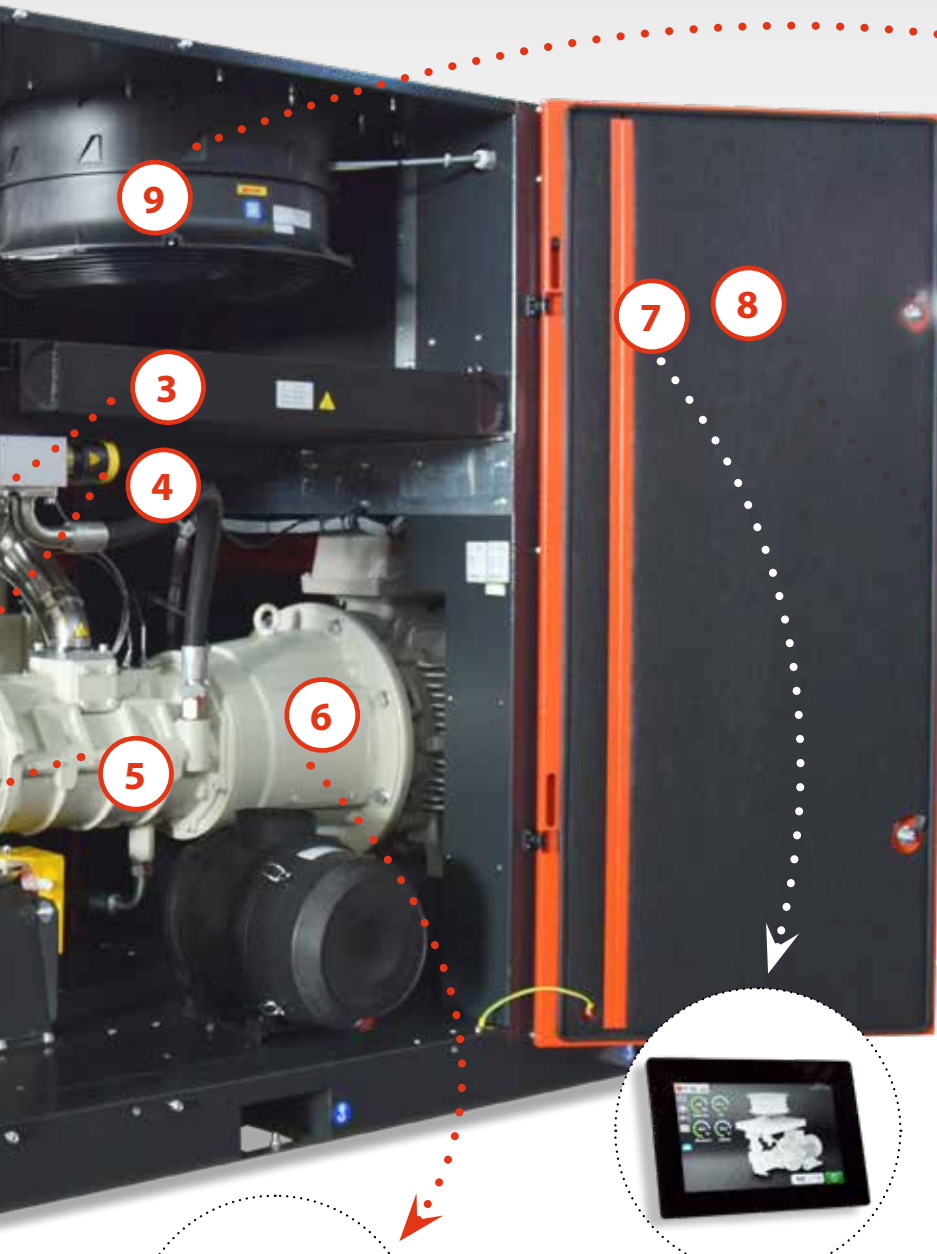
Xtreme Thermal Management begins with electronic servo-controlled thermostatic valve. Heats up fast and keeps water out of the oil— a Mattei exclusive!



## 5. ROTOR STATOR UNIT (RSU)

Proprietary “bearing-less compressor.” Zero wear vanes. Zero wear bushes. Zero thrust forces. Rated >100,000 hours of operation without an airend overhaul.





**9. VARIABLE SPEED FAN**

Maestro XC manages the electronic thermostatic valve first then, the variable-speed fan for precision thermal management and energy efficient operation.



**SOFT-STARTER**

Compared to wye-delta starters, electronic solid-state starters gently accelerate the motor to 1.500 rpm to remove the shock of starting. Benefits include less mechanical stress and wear and tear to the drive train.



**7. MAESTRO XC CONTROLLER**

IoT, Industry 4.0 ready, 10" touchscreen controller directs, manages, and monitors system logic and communicates globally via Mattei Cloud. Programmable Start/Stop timers, Maintenance Reminders, Phase Reversal Protection— all standard.

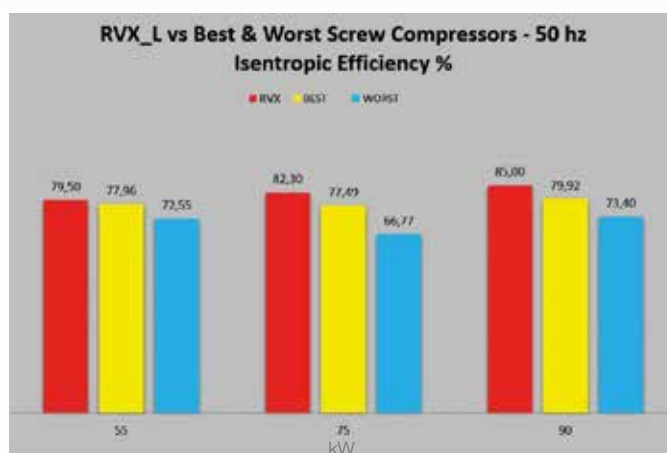


**6. DIRECT-DRIVE COUPLING**

Easy-access flexible coupling ensures perfect shaft alignment, low-noise, long life, and eliminates power robbing gear or belt losses and their associated high maintenance costs.

## SPECIFIC ENERGY & ISENTROPIC EFFICIENCY

These are the “**key indicators**” on the level of energy efficiency delivered by an air compressor. In essence, the more energy efficient these numbers are in the machine you purchase, the less you will pay your electric service provider for electricity to **a) “start”** (demand charge-based inrush current) **b) “to run”** (your normal energy charge) for your compressor of choice. **Specific Energy** is a calculation that refers to the total amount of input power (kW) that goes into a compressor package vs how much air (m<sup>3</sup>/min) comes out. The lower the specific energy number, the more energy efficient the machine, the lower your electric bill. This number will vary depending upon the operating pressure (bar) of the package. **Isentropic Efficiency** is a calculation that neutralizes the pressure variant in defining how close to 100% mechanical efficiency is achieved in each compressor. Here, the higher the number, the more energy efficient the compressor is with 100% being perfection.



Energy Cost over 5 years period  
Assumes 24/7, 2 Euro/kWh

		Competitive Comparison <sup>(1)</sup>		RVX 55 L		
55 kW	Specific Energy Advantage <sup>(2)</sup>	Rate of flow	Relation to Full Rated Capacity	5 Year Energy Cost	Energy Efficiency Advantage	Energy Saved with RVX 55 L
<b>RVX 55 L</b>	0,0%	9,4 m <sup>3</sup> /min	87,0%	€ 399.524	0%	€ -
Best Screw	-5,1%	9,4 m <sup>3</sup> /min	92,8%	€ 418.916	4,6%	€ 19.392
Worst Screw	-12,9%	9,4 m <sup>3</sup> /min	100%	€ 441.930	9,6%	€ 42.407

		Competitive Comparison <sup>(1)</sup>		RVX 75 L		
75 kW	Specific Energy Advantage <sup>(2)</sup>	Rate of flow	Relation to full rated capacity	5 Year Energy Cost	Energy Efficiency Advantage	Energy Saved with RVX 75 L
<b>RVX 75 L</b>	0,0%	11,86 m <sup>3</sup> /min	81,9%	€ 491.251	0%	€ -
Best Screw	-9,4%	11,86 m <sup>3</sup> /min	99,2%	€ 525.302	6,5 %	€ 34.052
Worst Screw	-27,0%	11,86 m <sup>3</sup> /min	100%	€ 606.350	19,0 %	€ 115.099

		Competitive Comparison <sup>(1)</sup>		RVX 90 L		
90 kW	Specific Energy Advantage <sup>(2)</sup>	Rate of flow	Relation to full rated capacity	5 Year Energy Cost	Energy Efficiency Advantage	Energy Saved with RVX 90 L
<b>RVX 90 L</b>	0,0%	15,53 m <sup>3</sup> /min	91,5%	€ 613.061	0%	€ -
Best Screw	-9,7%	15,53 m <sup>3</sup> /min	97,1%	€ 667.576	8,2 %	€ 54.516
Worst Screw	-19,4%	15,53 m <sup>3</sup> /min	100%	€ 722.260	15,1 %	€ 109.199

(1) At identical rate of flow  
(2) At full rated capacity

## TECHNICAL DATA

Model	Flow		Sound pressure level	Power	Isentropic Efficiency	Length		Width		Height		Weight	
	8 bar L	10 bar H				mm	inch	mm	inch	mm	inch	kg	lbs

### 55-90 KW - RVX SERIES SPECIFICATIONS

Model	8 bar L (m³/min)	10 bar H (m³/min)	Sound pressure level (db(A))	Power (kW)	Isentropic Efficiency (%)	Length (mm)	Length (inch)	Width (mm)	Width (inch)	Height (mm)	Height (inch)	Weight (kg)	Weight (lbs)
<b>RVX 55 (*)</b>	10,8	9	68	55	79,5	2420	95,3	1245	49	1890	74,4	1720	3792
<b>RVX 75 (*)</b>	14,5	11,4		75	82,3	2420	95,3	1245	49	1890	74,4	1720	3792
<b>RVX 90 (*)</b>	17	14,5		90	85,0	2420	95,3	1245	49	1890	74,4	1910	4211
<b>RVX 55 PLUS (*)</b>	10,8	9	68	55	79,5	2420	95,3	1245	49	1890	74,4	1880	4145
<b>RVX 75 PLUS (*)</b>	14,5	11,4		75	82,3	2420	95,3	1245	49	1890	74,4	1880	4145
<b>RVX 90 PLUS (*)</b>	17	14,5		90	85,0	2420	95,3	1245	49	1890	74,4	2070	4564

(\*) Available with energy recovery system (R) or in water-cooled version (W).

F.A.D. in accordance with ISO 1217, annex "C" - Sound pressure level according to ISO 2151, tolerance ± 3dB(A) - Working pressure: 7,5 bar for version 8 bar - 9,5 bar for version 10 bar

## OPTIONS

### WATERCOOLED VERSION

RVX 55-90 W compressors are equipped with water-cooled plate style heat exchangers. One is an oil cooler and the other an aftercooler. A dedicated cooling fan provides heat exchange for the cabinet.

### PLUS INTEGRATED REFRIGERANT DRYER

RVX 55-90 Plus compressor models include an integrated noncycling refrigerated air dryer. PLUS models include a condensate separator with zero-loss automatic drain, which is an option on all RVX i base models.

### MOISTURE SEPARATOR & ZERO LOSS DRAIN

Moisture separator removes 65% of all condensable moisture via electronic Zero Loss condensate drain valve. Dry alarm contacts provide peace of mind.

### INTEGRATED ENERGY RECOVERY SYSTEM

RVX 55-90 R are air-cooled compressors with an integrated Heat Recovery System for process water heating. Recovers up to 80% of mechanical energy (equivalent to more than 70% of electricity consumption required at mains) into hot water. Maximum outlet water temperature: 65-70°C/149-158°F.

### INTEGRATED OIL QUALITY SENSOR

Real-time Industry 4.0 ready predictive maintenance modeling of lubricant acidity. Interfaces with Maestro XC controller programed to manage sensor output. Lubricant condition can be monitored remotely by customer or distributor via Mattei Cloud.

## MATTEI MYCARE 6

With RVX 55-90 you can benefit from the MyCare 6 extended warranty plan, this provides cover for 6-years of service assistance and any repair required.



**GET MYCARE 6 PLAN.** You will benefit from monetary savings and a defined cost for easier budget planning.



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