

EIRICH Intensive Mixer

economic efficiency - reliability - low maintenance



The advantages of an innovative system

EIRICH intensive mixers were developed for the most diverse jobs in the processing of raw materials, mechanical mixtures and compounds. Variable setting of machine components and the energy range ensures a high degree of efficiency.

Three components determine the characteristics of these mixers:

- 1. A rotating mixing pan**
- 2. A rotating mixing tool**
- 3. An adjustable multi-purpose wall-bottom scraper**

The advantages resulting for the user are considerable:

- **Optimum homogenization of the process material**
- **Shortest mixing times**
- **Excellent, constant quality of process material**
- **Little wear**
- **Low-maintenance design**
- **Continuous or batchwise mode of operation**



The spectrum of applications covered by EIRICH intensive mixers is as varied as the range of industrial processing operations in the fields of production and environmental protection.

Conventional EIRICH mixers are used for mixing under atmospheric pressure whereas EVACTHERM® mixers are used for mixing under vacuum and/ or for combining complex preparation processes. Processing steps can be performed either singly or in combinations in one machine.

They include:

mixing, reacting, dispersing, dissolving, slurring, plasticizing, deaerating, fiberizing, solubilizing, agglomerating, disagglomerating, pelletizing, granulating, kneading, moistening, drying, heating, cooling, stripping, impregnating, coating, waterproofing.



The pioneering mixing principle

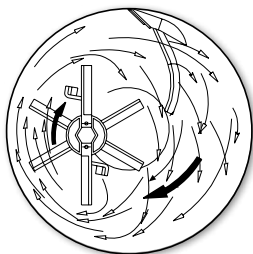
EIRICH intensive mixers can be set up for either counter-current or cross-current operation.

This design provides optimum performance in both batch and continuous operation, using state-of-the-art processing technology to meet today's special production requirements.

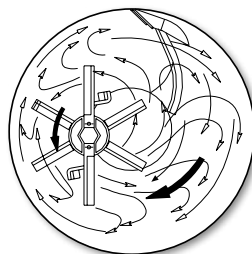
The mixer's excellent processing efficiency is achieved by the following features:

- A rotating mixing pan that continually transports the material to the rotating mixing tool, inducing counter-flowing currents of material with a high velocity differential.
- In addition, an inclined arrangement of the rotating mixing pan achieves high vertical flow rates.*
- A multi-purpose wall-bottom scraper designed to prevent residue accumulations on the walls and bottom surface of the mixing pan and to accelerate material discharge at the end of the mixing cycle.

**depending on the type of mixer*



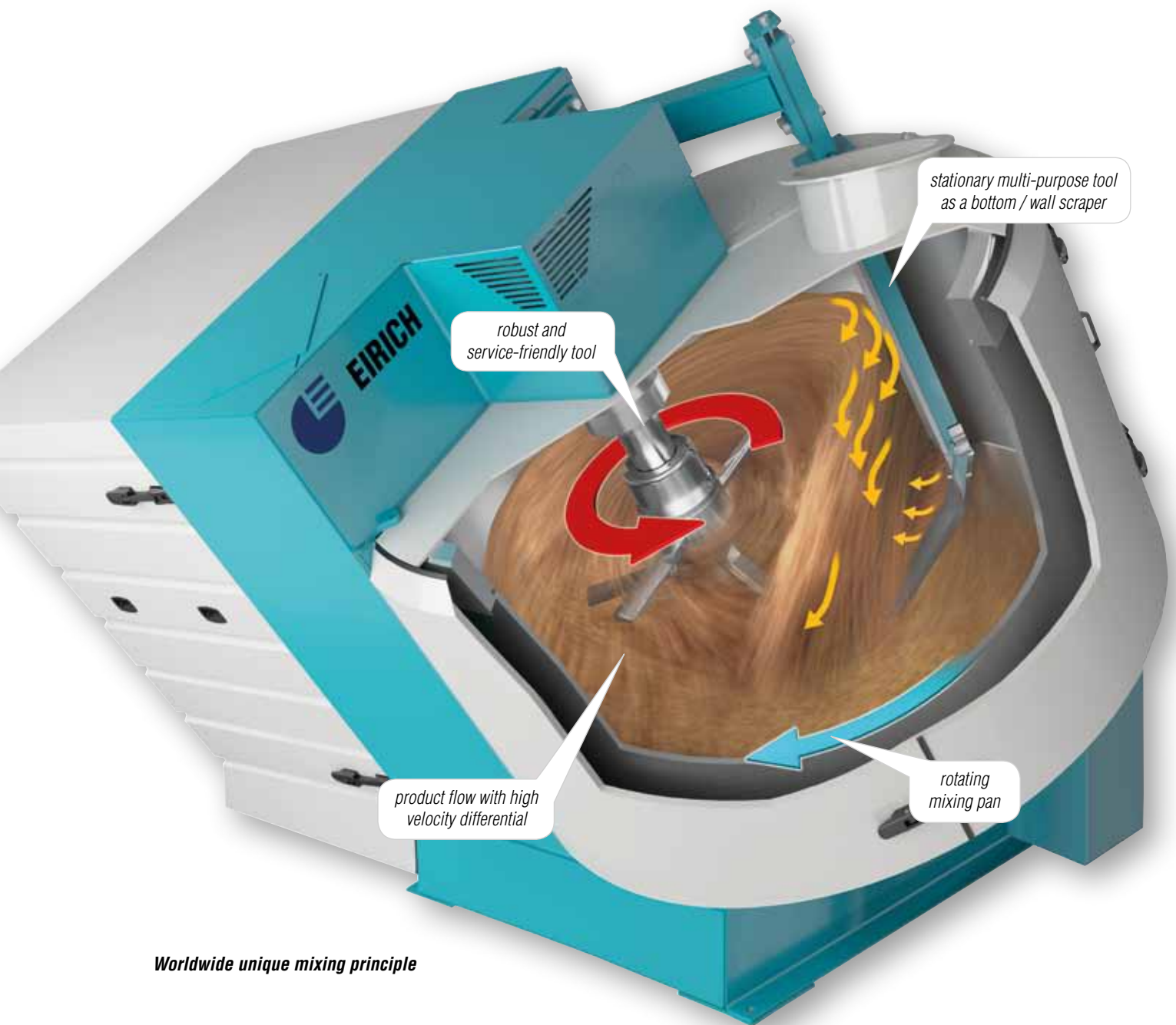
Flow pattern of the cross-current principle



Flow pattern of the counter-current principle



Current of material



Worldwide unique mixing principle

The design features

With EIRICH intensive mixers it is possible to work under atmospheric pressure and under vacuum over a wide range of temperature. The mixers are subject to minimum wear and they require minimum maintenance.

- The rotating mixing pan is enclosed by a static case.
- The seals of the moving parts do not come into contact with the process material.
- The mixing chamber is easy to reach. Access to the pan varies according to its size.

EVACTHERM®

Mixers in vacuum-tight design for the combination of several process steps.

The mixer series currently comprises types with load capacities ranging from 1-5 liters (e. g. for the laboratory) to 12,000 litres.

Drives

Power requirement, speed and the type of power transmission are chosen in accordance with the particular application:

- Friction wheels or gear rim for the mixing pan.
- Standard motor with V-belt, and/ or gear unit or geared motor for the rotating mixing tool, alternatively also high-torque motor*

Motors

Matched to the local conditions.

Mixing pan

Bottom, cover and side walls with smooth finished surfaces for easy cleaning.

Mixing tool

Rugged and minimum-maintenance design. Easy replacement of mixing blades. The shape and the number of mixing blades are adapted to the process material.

Feeding and discharge

Individually designed according to the product parameters and the conditions of installation.

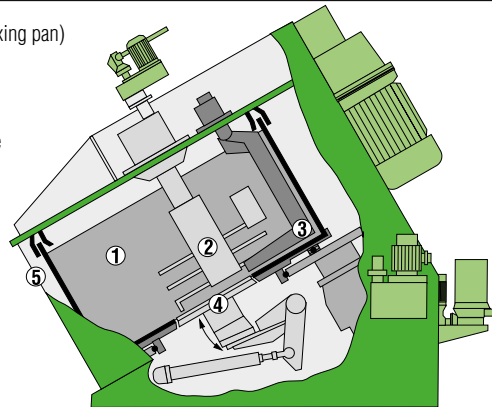
**depending on the type of mixer*



EVACTHERM® mixer type R02VAC



- 1 = mixing chamber (rotating mixing pan)
- 2 = mixing tool
- 3 = multi-purpose tool
- 4 = discharge opening
- 5 = stationary, vacuum-tight case



EVACTHERM® mixer type RV32VAC
 Cross section of an EVACTHERM® mixer
 Mixer type R28
 Easy access through large inspection doors
 Quick-acting closure
 Mixer type R16W



The range of high-performance types



EL1 with raised mixing tool



EL5 Eco with raised mixing tool



D23 with service doors open

Type ¹⁾	Capacity ²⁾		Working principle		Operating modes	
	liters	kg max.	batch	continuous	normal atmosphere	under vacuum
EL1	1	-	■		■	
EL5 Eco	3-5	8	■		■	
EL5 Profi	3-5	8	■		■	
EL5 Profi Plus	3-5	8	■		■	
EL10 Profi	8-10	12	■		■	
EL10 Profi Plus	8-10	12	■		■	
R02VAC	3-5	8	■		■	■
R02VAC VR	1	-	■		■	■
R05T ^{3) 4)}	15-40	65	■		■	
R08	75	120	■		■	
R08W ³⁾	75	120	■		■	
R08VAC	75	120	■		■	■
R09	150	240	■		■	
R09W ³⁾	150	240	■		■	
R09T ^{3) 4)}	150	240	■		■	
R11VAC	250	400	■		■	■
RV11VAC	375	600	■		■	■
R12	250	400	■	■	■	
RV12	400	650	■	■	■	
R12W ³⁾	250	400	■		■	
RV12W ³⁾	400	650	■		■	
RLV12	400	650	■		■	
R15VAC	500	800	■		■	■
RV15VAC	750	1200	■		■	■
R16	600	960	■	■	■	
RV16	900	1440	■	■	■	
R16W ³⁾	600	960	■		■	
RV16W ³⁾	900	1440	■		■	
R19	1125	1800	■	■	■	
RV19	1500	2400	■	■	■	
RV23VAC	3000	4800	■		■	■
R24	2250	3600	■	■	■	
RV24	3000	4800	■	■	■	
RLV24	3000	4800	■		■	
D23/1500	1500	2400	■		■	
D23/2250	2250	3600	■		■	
D23/3000	3000	4800	■		■	
R28	4000-5500	6400-8800	■	■	■	
R33	6000-8000	9600-12800	■	■	■	
R32VAC	5250	8400	■		■	■
RV32VAC	7000	11200	■		■	■
DW40	12000	19200		■	■	

1) All types can be designed to operate at temperatures up to 180°C. Higher temperatures of individual mix components are possible during addition.

2) Product-specific

3) Cover and tool can be raised

4) Mixing pan can be tilted

Practice-orientated accessories

You can also select from among a range of proven supplementary components for your system. These accessories let you optimize your technology with special machine components and extensive automation.

Protection against wear

The materials and coatings used to manufacture those components that come into contact with abrasive substances are specifically selected for each individual application.

The EIRICH range lets you choose from among a number of proven materials for inhibiting wear:

- High quality steels as base material
- Bonded rubber seals and special synthetics
- Seals made of PTFE, Viton, etc.
- Armor coatings
- Hard metal plating
- Stainless steel
- Non-ferrous metals
- Ceramic tiles



*Carbide tipped mixing blades
Ceramic tile lining on all surfaces
Mixing pan with rubber covering
Mixing blades with armoring*



Automation

Open and closed-loop control is based on reliable systems for monitoring the parameters of mix quality and machine technology. You can benefit from the experience that EIRICH has gathered in designing countless solutions for special applications - experience that pays off in the form of thoroughly reliable systems.

- Level monitoring based on ultrasonic sensors, motor performance, electro-mechanical sensors and force monitors
- Temperature sensors
- Moisture sensors
- Residual water extraction systems
- Mixing pan cleaning equipment (dry and wet)
- Discharge aids, speed monitors for the pan and the mixing tool
- Central lubrication system
- Tooth flanks spray unit



*Retractable moisture sensor
Wet cleaning
EIRICH SmartFix –
quick-change system for mixing blades*

Customized peripherals



Special systems are also available for incorporating the EIRICH intensive mixer into the larger production process. These systems are precisely matched to machine size in order to provide optimum performance and ensure complete utilization of the mixer's full potential.

- Formulas must be strictly observed if product quality is to be maintained
- This means that all of the components have to be added in precisely the right sequence and quantities.
- The product should display maximum consistency when it leaves the mixing pan on its way to subsequent processing operations

EIRICH offers a complete range of products for storing, transporting, weighing, metering and controlling the entire process.

- Storage containers for granular substances or for fluids
- Conveyors based on belt, screw, and pneumatic technology, also skip hoists
- Electromechanical scales
- Feeding units featuring electropneumatic control systems
- Measuring devices, open and closed-loop control and process data technology, including self-regulating CIM-compatible systems

Building and silos of a plant for adhesive mortar



Scale assembly
Additive storage and feeding
Mixer with Quicklift feeding unit
Mixer operator panel with touch display

Testing and optimizing in the EIRICH test center



Mixing trials and material analysis at the EIRICH test center



Machinery and equipment are available to test actual material response characteristics under a wide range of processing conditions. The effective capacities are designed for accurate simulation to ensure trouble-free full-scale operation. We can also provide units for materials that require explosion protection or need to be processed under vacuum.

A very special feature: We can supply a fully automated control system capable of maintaining optimum process conditions – automatically. The system can also record the trials for graphic display. These features reduce the effort in designing your production facilities.

From advice to production

Everything from one source



EIRICH offers you a comprehensive range of services. These start with the initial consultations and trials, and extend to include system design, measurement and control technology, transport, assembly and training. We can even help you when you start production. Our Customer Service ensures reliable access to spare parts, around the globe. Modern procedures help us find the most economical solution for you.

Plant for refractory concrete



Complete plant for dry mortar

Industrial Mixing and Fine Grinding Technology

Tradition and innovation since 1863

EIRICH stands worldwide for a comprehensive range of products and services in the field of preparation technology. Its particular focus is on mixing and fine grinding technology, with know-how developed over 150 years of close cooperation with industrial users, universities and research institutions.

Pursuing a corporate philosophy of operating internationally and thereby ensuring close proximity to every customer, the EIRICH Group has secured its place in all the key economic regions of the world.

The focus is on innovative technology for machinery and systems engineering designed to offer solutions for high-standard preparation tasks from a single source.

Applications and process technology with own test centers, a high vertical range of production and comprehensive after-sales service provide the ideal basis for the development of modern and economical processes for a multitude of industries.

**Building materials – Ceramics – Glass – Carbon paste – Battery paste
Friction linings – Metallurgy – Foundries – Environmental protection**

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