

# Quality concrete with EIRICH mixing technology

predictable product characteristics – reproducible results – lower reject rate



# A vision becomes reality: with the right expertise and the right mixing technology!

Clients and architects who construct modern buildings made of or with concrete want to be sure that the properties of the materials they use are predictable. With more than 100 years of mixing technology experience, EIRICH has the expertise to ensure this level of predictability.

## **The quality of your end product can never be better than the quality of the mix!**

The most essential piece of equipment in concrete production is the mixing system. It has a crucial influence on the ability to meet design, quality and cost-efficiency expectations. No matter what type of concrete is selected for the project, EIRICH mixers ensure that the concrete which is supplied will definitely have the target properties. Construction companies and producers who make a wide range of concrete products know that they can deliver predictable, consistent results with this production equipment. The quality of the mix can be verified and documented at any time at the EIRICH Test Center using original materials.

EIRICH concrete mixing technology has an excellent international reputation. Engineers and architects working on a large number of projects around the world know that they can rely on the dependability and versatility of EIRICH mixing systems. They can be confident that they will achieve highly efficient process flows.

EIRICH maintains a research partnership with many leading universities and technical colleges as well as training centers in the user industries.

We implement the latest research results in our Test Center operations and incorporate them into the process engineering design of our mixers. All of our users benefit from the state of the art in technology with no time lag. Existing mixing systems can be modified at any time to bring them up to date with the latest advances.

## **EIRICH mixing technology: Identical properties m<sup>3</sup> for m<sup>3</sup> for top quality!**

### **e.g.:**

Wind turbines  
High-performance concrete for concrete elements

Renovation of the facade of the LEO Haus, Frankfurt am Main  
Facade of white, fiber-reinforced high-performance concrete, prepared in an EIRICH mixer

Expansion of the Frankfurt/Main airport  
Concrete was used to produce precast elements for a bridge across the existing motorway

Residential buildings  
Concrete for the production of precast elements



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Picture: Fraport AG



# People who mix with EIRICH want quality

EIRICH mixers can easily produce concrete of any consistency. They can be adjusted to handle any type of raw material properties. They are synonymous with reproducible top-quality results for any type of concrete.

The list of products includes:

- concrete for roofing tiles
- facing concrete
- railroad tie concrete
- foamed concrete
- fiber concrete
- self-compacting concrete
- polymer concrete
- sulfur concrete
- high-strength concrete
- ultra high-strength concrete

Manufacturers of bricks, slabs, pipes, roofing products, large architectural elements, large items for power generation stations, bridges, stadiums and other infrastructure projects know:

**EIRICH mixers deliver predictable, top-quality results. Architects and clients will really appreciate that!**

## What EIRICH customers say:

"EIRICH mixers deliver fast, top-quality results no matter what the type or consistency of the concrete."

"Processing results are superior, and the concrete has less of a tendency to 'bleed'."

"We can often reduce the quantities of cement, pigment and chemical additives because distribution is better."

"Binders are activated. The initial and final strength of the concrete increases."

"The reject rate is much lower, particularly on visible surfaces."

"Little variation in product characteristics."



*EIRICH mixing technology is synonymous with reproducible top-quality results for any type of concrete.*



# Unique machinery technology for predictable process design

There is no known type of concrete in the market which cannot be processed with EIRICH mixers. Different types of concrete can be produced on the same mixer. So you can expand your portfolio and continue to grow your business systematically. The special EIRICH mixing principle ensures outstanding concrete processing results. In contrast to other systems, the transportation of the mix is separate from the actual mixing process. This division of work is achieved by a rotating mixing pan, which does the job of transporting the mix, and a mixing tool for mixing the material.

**As a result, production conditions are predictable. You get reproducible results from one type of concrete to the next along with high operational reliability:**

- This allows very high quality mixes to be produced
- Lightweight aggregates (e.g. expanded clay, pumice, expanded glass, etc.) are mixed in gently and homogeneously
- Fiber separation (e.g. mineral fibers, glass fibers, plastic fibers and steel fibers) is excellent
- Mixing without demixing effects; 100 % material recirculation during one rotation of the mixing pan
- The addition of binders, pigments and chemical additives can be reduced (by up to 10 %) thanks to enhanced homogenizing!
- Higher strength values, even higher early strength values can be obtained despite a reduced amount of binders added

- Pigments are completely broken down
- Fine materials dispersion is excellent
- Water is distributed quickly and very effectively
- A stable moisture signal is quickly reached
- Mixing times can often be substantially reduced

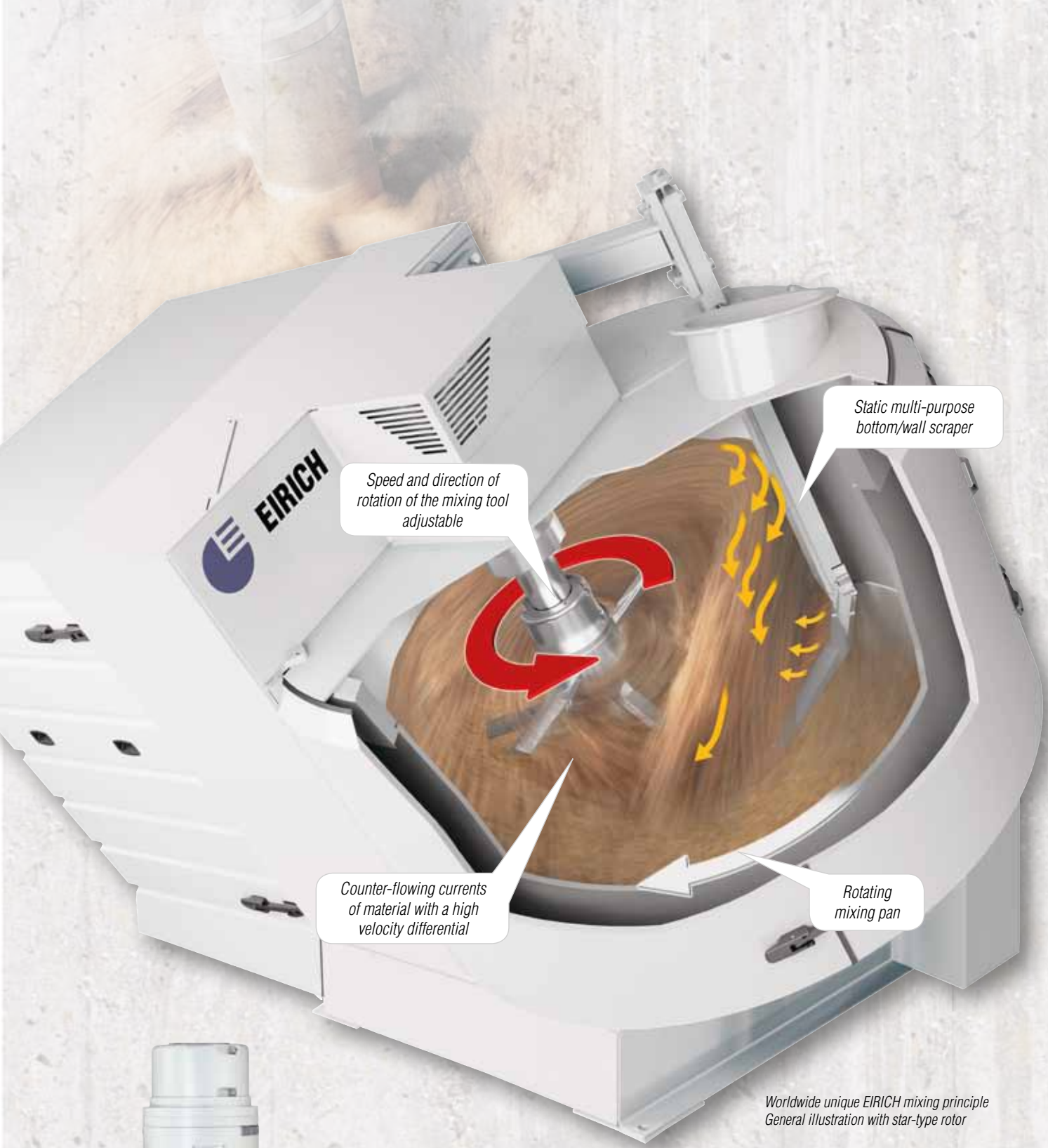
## Controlling concrete temperature

The temperature of the concrete can also be easily controlled in an EIRICH mixer if the required optional features are used. Material which is placed within the operating radius of the mixing tool (ice water, chopped ice, liquid nitrogen, hot vapor, etc.) is immediately drawn in and distributed in the mix. There is no local super-cooling in the freshly mixed concrete or thermal stress in the mixer.

**When quality is required, people mix with EIRICH!**



*Pin-type rotor*



Static multi-purpose bottom/wall scraper

Speed and direction of rotation of the mixing tool adjustable

Counter-flowing currents of material with a high velocity differential

Rotating mixing pan

Worldwide unique EIRICH mixing principle  
General illustration with star-type rotor



Star-type rotor  
Beaters in different wear protection designs

# Mixer program for the concrete industry

EIRICH mixers offer outstanding flexibility and performance. Service-proven mixing technology from EIRICH has been the trusted choice for leading concrete manufacturers for decades.

The EIRICH range of mixers covers a wide variety of sizes to meet user-specific requirements with great efficiency. For research and development also laboratory mixers from 1 to 150 liters.

Set concrete output approx. m <sup>3</sup> / batch*	Type of mixer	Fill quantities		Examples of mixer sizes for selected types of concrete				
		Liters	kg	Facing concrete	Coarse concrete	Concrete for factory use	SCC	UHPC
0.05	<b>R08</b>	75	120	■	■	■	■	■
0.1	<b>R09</b>	150	240	■	■	■	■	■
0,17	<b>R12</b>	250	400	■	■	■	■	■
0.33	<b>RV12**</b>	500	800	■	■	■	■	■
0.4	<b>R16</b>	600	960	■	■	■	■	■
0.6	<b>RV16</b>	900	1,440	■	■	■	■	■
0.75	<b>R19</b>	1,125	1,800	■		■	■	■
1	<b>RV19</b>	1,500	2,400	■		■	■	■
1.5	<b>R24</b>	2,250	3,600			■	■	■
1.8	<b>RV24</b>	2,750	4,400			■	■	■
2.6 / 3.3	<b>R28</b>	4,000 up to 5,000	6,400 / 8,000		■	■	■	■
4 / 5.3	<b>R33</b>	6,000 up to 8,000	9,600 / 12,800			■	■	■
1	<b>D23-1</b>	1,500	2,400		■	■		
1.5	<b>D23-2</b>	2,250	3,600		■	■		
2	<b>D23-3</b>	3,000	4,800		■	■		

\*Outputs may vary according to the specific formula \*\*from 2019



Selected installations (partially to replace planetary and ring trough mixers)





Mixer type D23



# Users who do their sums know that EIRICH is a good investment.

## High return on investment

The amount of money you invest is normally only part of the cost equation. The cost-efficiency of a concrete mixer only becomes apparent after you have run a number of long production cycles to gain reliable data for calculations, which in many cases highlight the advantages of an EIRICH concrete mixer. It is designed to take the punishment in the harsh production environment of a concrete mixing system, which means it keeps running for a long time. There is a wealth of user experience over a period of many decades to back up this claim.

EIRICH mixing technology has an enviable worldwide reputation which is based not just on the actual mixers, but also on the high-performance accessories. The combination of efficient EIRICH mixing technology and tailored peripheral devices delivers outstanding cost-efficiency.

## Mixer accessories

- moisture probes and temperature sensors
- mixing pan cleaning equipment (wet)
- mixing pan and mixing tool speed monitoring

## Wear protection

- vulcanized rubber coatings and special plastics
- armor coating and tungsten carbide plating
- multi-layer armor plates

## Peripherals to optimize your process

- belt conveyors, screw conveyors
- pneumatic conveyors and skip hoists
- electro-mechanical scales
- feeding units with electro-pneumatic control
- instrumentation, control and process data technology

## Concrete material processing services

- trials and process optimization at the EIRICH Test Center
- process engineering support
- training for your operators and maintenance team
- full service worldwide



EIRICH process control and instrumentation equipment



Moisture detection: Moisture sensor and transmitter



*Hardheim Test Center -  
partial view of mixing technology*

*Comprehensive range of services  
directly from the manufacturer*



# Modernization with EIRICH

## Use the possibilities

### Let the experts take a look at your production.

After all, they will take a very careful look at your preparation system. We use our expertise to the benefit of your efficiency with future-oriented consulting from our experts.

With our „conversion and modernisation“ service, we focus on your wishes.

### The advantages to you:

- Quick and straightforward conversion to new technology
- Increased efficiency thanks to technical improvement
- Tailored solutions

### The services for your project at-a-glance:

#### 1. Analysis phase

Analysis and identification of the potential of your EIRICH technology

#### 2. Development phase

Development of concepts for optimization, with a corresponding quotation

#### 3. Implementation phase

- Assembly and commissioning of new machine and system components
- Provision of documentation for the new components
- Training of your staff

## Examples

### TopClean

The high-pressure mixer cleaning system was designed by EIRICH as a retrofit to provide fast, effective cleaning on an existing mixer.

#### Features

- Modular retrofit kit, flexible, adaptable to individual needs
- Suitable for all standard production mixer types
- User-friendly operation
- Stand-alone control unit – no intervention in the mixer control system needed
- Communications with the existing control system can be enabled – interface provided

### SmartFix

The patented SmartFix quick-change system

- Replacement of individual beaters within shortest times
- Suitable for all EIRICH mixers\*, also suitable for retrofitting
- No need to replace the whole system, existing parts can continue to be used

#### Control solutions

For us, your requirements are always the number one priority!

- We work with you to develop the control and operation concept that is right for you
- from a service-proven standard to a high-end solution
- Easy and clear operability of the machine or system

\*except tabletop models



**TopClean**  
*The complete high-pressure  
cleaning as retrofit set*



**SmartFix**  
*Quick-change system*



# Complete system construction on request

## **EIRICH design systems to meet specific user requirements featuring single or multiple mixer lines as either a core package solution or a complete system.**

Depending on customer-specific requirements, our solutions feature tower systems, in-line systems or combination systems.

### **Engineering**

Data collected at the EIRICH test center is used as basis for selecting the right machines and equipment.

### **Systems engineering**

The machines and equipment developed and built by EIRICH itself but also products from efficient and experienced partners are used to turn the engineering into reality.

These include:

- raw material handling
- feeding, weighing
- mixing, granulating
- finished product handling
- engineering (steel structure, building and system infrastructure)

### **Control and process control**

Standardized systems with hardware and software developed by EIRICH itself are used for the control of stand-alone machines and for the process control of complete preparation plants. The range of products and services covers new installations as well as the modernization or extension of existing machines and plants. All components are exactly configured, i.e. tailor-made, to the user's needs – from the conventional keyboard control system and special batch controllers with formula management.

## **Control and process control systems from EIRICH ensure**

- easy connectivity to existing systems
- high operational reliability and availability with optimal operating conditions of the machines and equipment
- easy formula management
- reliable inventory of the materials used
- future-proof process design

### **Installation and commissioning**

An experienced service team is available for installation and commissioning. Local partners assist us, and the customer's personnel are instructed in the course of the work.

### **Training**

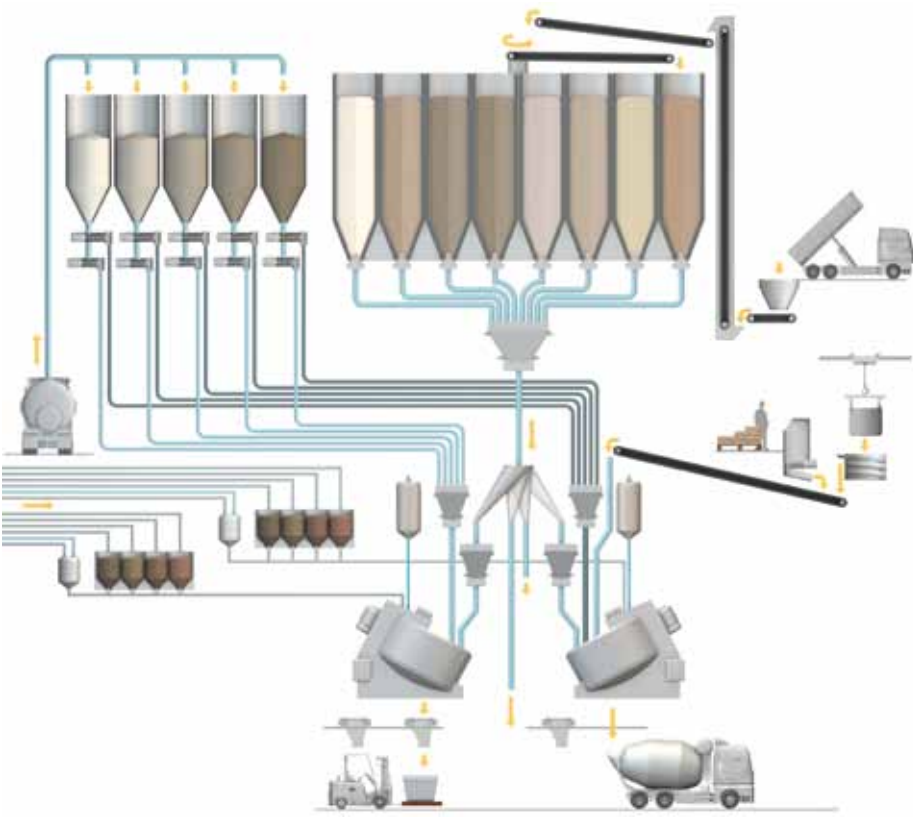
Training for your operating and maintenance team is provided by expert instructors to ensure that you get the most out of your investment over the long term. It includes instructions concerning the system's operation, safety regulations, process optimization, maintenance intervals and repair work.

### **Customer service**

EIRICH After Sales Service is your guarantee of expertise, high availability and comprehensive support. It includes the dependable delivery of original spare parts worldwide, prompt reaction to servicing needs, the fast repair of machines and system components, and expert advice if the process requirements should change. A particularly efficient option is remote diagnosis by data link (teleservice), which provides quick and cost-saving support if trouble occurs during operation. Software packages for condition monitoring and maintenance round off the service offering.

**Working with EIRICH has its advantages – use them!**

*From the control system, batching system and single mixer to the complete system – everything from one source – from EIRICH*



## 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**

#### The EIRICH Group worldwide:



Maschinenfabrik Gustav Eirich  
GmbH & Co KG  
Postfach 11 60  
74732 Hardheim, Germany  
Phone: +49 6283 51-0  
Fax: +49 6283 51-325  
E-Mail: [eirich@eirich.de](mailto:eirich@eirich.de)  
Internet: [www.eirich.com](http://www.eirich.com)



Eirich France SAS  
Saint-Priest, France



Eirich Impianti S.r.l.  
Milan, Italy



OOO Eirich Maschinentchnik  
Moscow, Russia



OOO Eirich Maschinentchnik  
Dnepropetrovsk, Ukraine



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