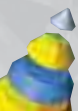


**RÖSLER**<sup>®</sup>  
*finding a better way ...*

[www.roslerusa.com](http://www.roslerusa.com)



*Fully Automatic Centrifugal  
Disk Finishing Machines*



# Centrifugal Disk Systems "Profi-Line" – Your parts will be well taken care of

High energy centrifugal disk finishing systems are gaining more and more importance in the field of mass finishing. To a very large extent this development is due to the significant innovations made by Roesler's engineers with their long experience in the field of high energy centrifugal disk finishing. The results – the best equipment technology on the market and by far the biggest market share. This means: with the **Profi-Line** from Roesler your parts will be well taken care of.



## With constant customer feedback into the future

Roesler's success is measured by the economic benefits we can give to our customers! This philosophy has made the Roesler group the leading provider of mass finishing goods and services in the world.

Our daily work is always determined by the finishing requirements and technical demands of our customers.

The focus on the specific product requirements of our customers is the basis for our problem solving activities. Our strength lies in our flexibility. This way we are a strong partner – today and in the future – for solving any kind of surface finishing problem our customers may present to us.



## Production of media and compounds

The Roesler product range of media and compounds is by far the most comprehensive in the world.

50 years of constant product development and improvement are the basis for over 6000 different compounds as well as ceramic and plastic grinding and polishing media. This wealth of problem solving products is available to our customers all over the world.



## Areas of application

Deburring, surface grinding, radiusing, and polishing of stampings, castings or machined parts with the speed of the centrifugal disk finishing technology: short processing times and a high degree of automation are the major benefits of this finishing technology.

It equally allows the finishing of thin spacers with a thickness of 0.2 mm as well as massive gear parts with a length of over 150 mm.

## How does it work?

The rotating spinner (60 – 250 RPM) accelerates the work piece/media mass to the wall of the stationary work bowl and pushes the mass upwards along the work bowl wall. With decreasing acceleration and increasing gravity the mass slides back down to the spinner where it is again accelerated. Depending on spinner RPM and the water level in the work bowl the finishing applications range from aggressive grinding to gentle high gloss polishing. The centrifugal disk finishing offers a grinding performance which is 10 to 30 times higher compared to vibratory finishing methods.



## Top of the line finishing technology

The Profi-Line centrifugal disk finishing systems are designed around the Roesler double-batch® concept. Double-batch systems® allow the automatic finishing of parts and simultaneous separation of parts and media

### 1 Processing Unit

- ▶ The precision bearings of the rotating spinner are protected against moisture
- ▶ Manual or automatic up and down adjustment of the rotating spinner
- ▶ Hot poured, highly wear-resistant polyurethane lining of spinner and work bowl
- ▶ Multifunctional circular supply ring provides work bowl with water for processing and rinsing
- ▶ Maintenance free electric drive with variable RPM

### 2 Intermediate vibratory hopper

- ▶ PLC controlled hydraulic up and down inclination for easy unloading
- ▶ Electromagnetic vibratory drive for precise dosing
- ▶ Anti-adhesion package to prevent thin, small parts from sticking to the surface (optional)

### 3 Vibratory screening machine with large screening area

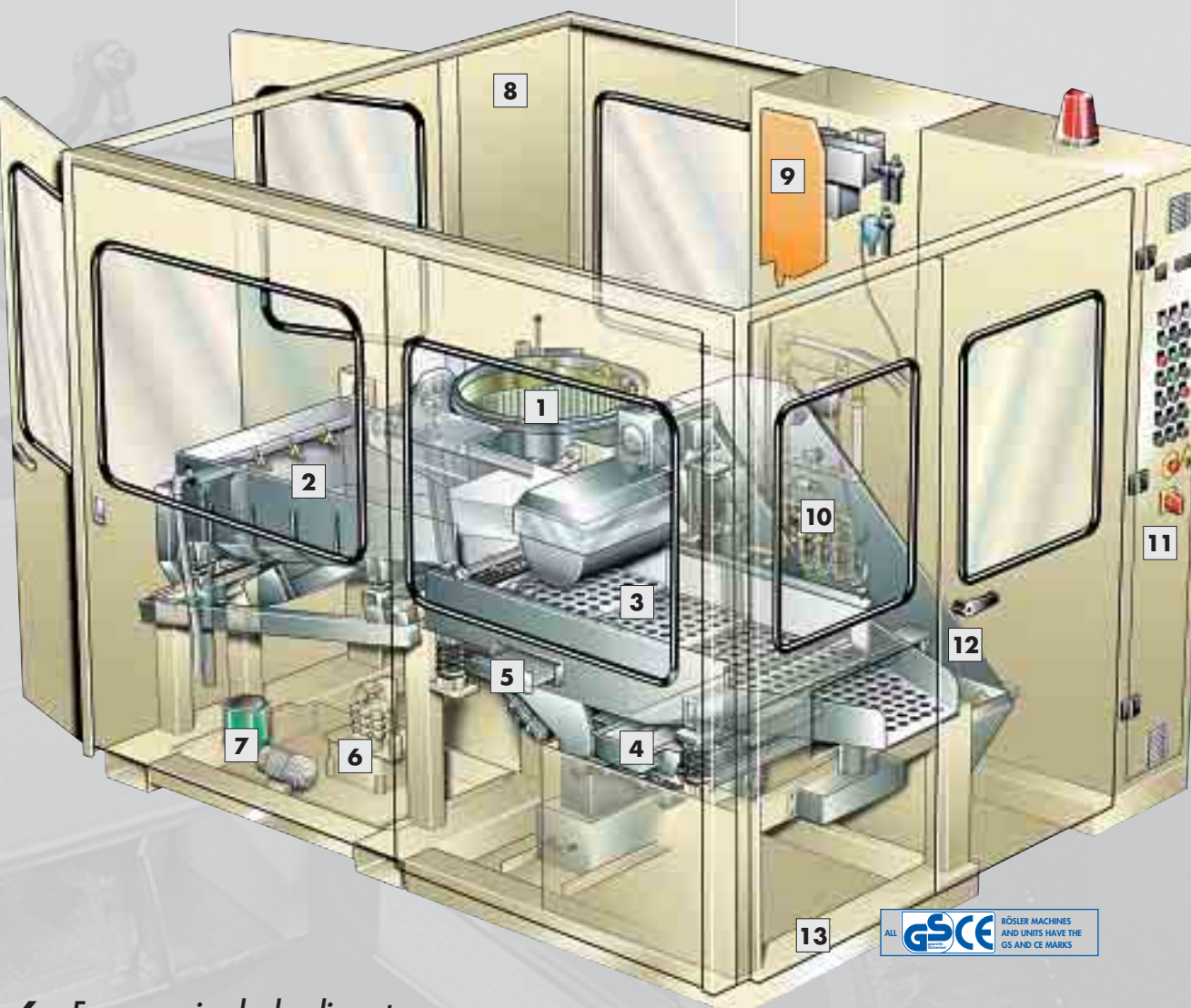
- ▶ Vibratory drive with variable motor RPM (optional)
- ▶ Multi-step, easy to exchange screens (no tools required for a screen change)
- ▶ Magnetic separation optional
- ▶ Extension of screening area available
- ▶ Undersize media classification (optional)

### 4 Vibratory media return conveyor

- ▶ Powerful vibratory media return conveyor with pneumatic lateral movement
- ▶ Optional removal of undersize media and other particles

### 5 Undersize media removal

- ▶ Easily accessible slide-in screen deck
- ▶ Recycling system for rinse water
- ▶ Pneumatically activated self-cleaning undersize screen (optional)



### 6 Energy saving hydraulic system

- ▶ Central hydraulic system for all lift and tip movements of hydraulic loader, work bowl and intermediate hopper

### 7 Central and automatic lubrication

- ▶ Electronically controlled on-demand supply of lubricant

### 8 Ergonomic protective cabin

- ▶ Wing and/or sliding doors with windows; Easily accessible and in compliance with safety regulations
- ▶ Noise dampening
- ▶ Requires minimal space

### 9 Pneumatic supply panel

- ▶ Includes all control functions
- ▶ Electronic valves

### 10 Process water supply

- ▶ Central supply of process water and compound
- ▶ Automatic control of the rinsing functions
- ▶ PLC controlled adjustment of the water level in the work bowl

### 11 Easy to operate electrical controls

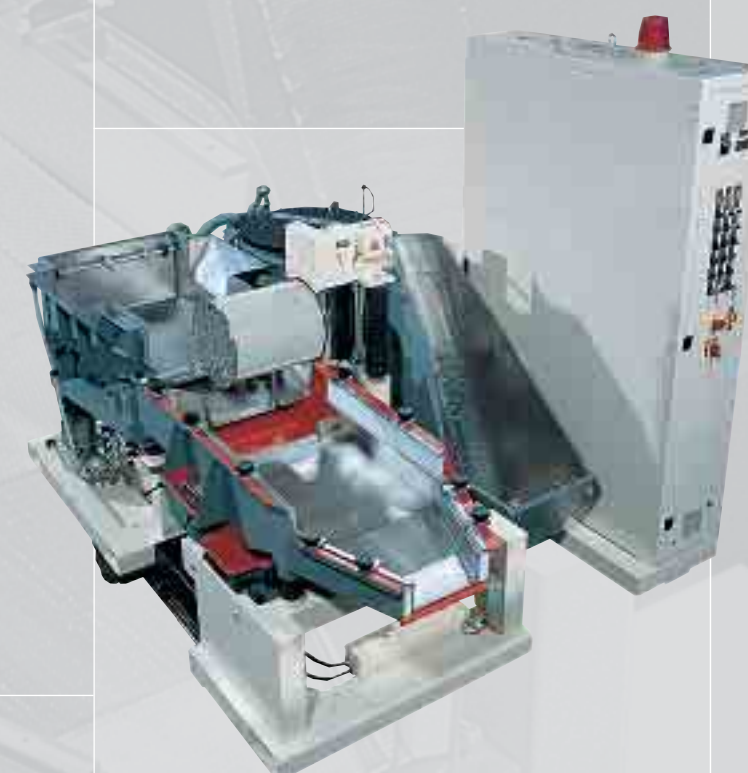
- ▶ Fully automatic system operation with PLC
- ▶ Multiple process programs
- ▶ Clear text display with error messages
- ▶ Variable spinner RPM with display of spinner speed

### 12 High volume hydraulic loader

- ▶ Gentle media and parts loading into the work bowl
- ▶ Anti-adhesion package with spray nozzles (optional)

### 13 Robust machine frame

- ▶ Maintenance free construction with corrosion protective powder coating
- ▶ Can be taken apart for easier transportation



## The Processing unit: *Perfect engineering, down to the last detail*

The **Profi-Line** from Roesler makes centrifugal disk finishing easy to operate and highly productive. The work bowl is the centerpiece of every centrifugal disk finishing machine, and its design and accessories play an essential role. The **Profi-Line** rotary spinner and stationary work bowl are specially designed for ease of movement and a minimum of wear. This ensures high quality finishing results at minimal cost.



### Technical features

- ▶ Highly wear-resistant polyurethane guarantees long life for the spinner and work bowl, even under the most difficult processing conditions.
- ▶ The special geometry of the rotating spinner and stationary work bowl produces an optimal movement of media and parts. It prevents parts from sticking to the work bowl wall and guarantees uniform processing results.
- ▶ The multifunctional circular water control and supply ring includes rinsing of the gap and the work bowl. It also incorporates a water overflow sensor.
- ▶ This ensures that no supply lines must be disconnected, when the work bowl is replaced.

### Sophisticated monitoring of machine functions and gap between spinner and work bowl

- ▶ Monitoring of the gap size
- ▶ Monitoring of the temperature in the gap area
- ▶ Overflow protection for the process liquid in the work bowl
- ▶ Monitoring of the water and compound flow
- ▶ Variable spinner speed
- ▶ spinner speed adjustable to the specific processing task

All safety features include an automatic stop function in case of a technical problem. This helps to prevent damage to the system or faulty parts.

### Gentle unloading of the finished parts

The finished parts are transferred to the intermediate hopper in a gentle manner, thus preventing parts damage. Protected by the media, the parts gently slide into the hopper



Effective reduction of the noise level



„Soft“ unload flap for very delicate parts



Unloading without large drop heights

### A wide variety of processing possibilities!

The PLC with automatic level control of the process water, allows processing possibilities from very gentle polishing to aggressive grinding.



Process water level control and monitoring of the temperature in the gap



### Proven a hundred times

The precision bearings of the rotating spinner are independent from the drive unit and specially sealed against moisture. They guarantee a gap setting of 0.15 mm over the total circumference of the spinner under any operating conditions. Setting of the gap is easy and can be done manually or automatically.

Vertical setting of the gap, either manually with simple turning device or hydraulically.



## Gentle separation of high value parts

The optimum separation of parts and media is a significant factor of system performance and parts quality. For this reason, the Profi-Line is equipped with specially engineered, large-area screens. This ensures perfect separation of delicate parts with complex geometries.



### Precise, flexible and fast

The separation station, consisting of an intermediate hopper and vibratory screening machine allows the simultaneous finishing and separation of two batches of media and parts according to the Roesler double-batch system.

- ▶ Programmable screening process over large-area screen deck
- ▶ Tumbling steps for total removal of media from cup-shaped parts
- ▶ Quick to install screens require no tools, allowing easy adaptation to any screening task
- ▶ The separation speed is determined by the delicacy of the parts.
- ▶ The separation speed is infinitely adjustable
- ▶ Built-in rinsing device for rinse cleaning of the finished parts

### Clean parts are a precondition to quality

- ▶ Rinse cleaning of media and parts during the screening process.



### Magnetic separation of media and parts

To separate ferrous parts which may be the same size as the media, or smaller than the media, the Profi-Line can be equipped with one or two magnetic separation drums.

#### Single unit operation:

High performance drum magnet, with height adjustment and variable rotary speed to prevent media carry-out.

#### Tandem operation:

Offers double operational safety. The optional, patented built-in demagnetizing device facilitates the parts transfer, at same time demagnetizing the parts.



Double drum operation



Single drum operation

### An engineering masterpiece

The intermediate hopper, equipped with a magnetic vibratory drive can be raised and lowered hydraulically. This ensures quick, easy, fully automatic separation of parts and media.



Intermediate hopper with double magnetic drum

### Large size media – small size parts

Non-ferrous parts which require a finishing process using larger media can be separated with a reverse screening unit. This ensures quick and total separation of media from parts.



Reverse separation

### Ready for the next batch!

The hydraulic loader offers enough volume to transfer a complete batch of parts and media into the work bowl.



Hydraulic loader with media return conveyor



Hydraulic loader in unload position

## High uptime and easy maintenance

The fully automatic Roesler double batch centrifugal disk finishing systems are known for their sturdiness and reliability. They combine high uptime and low maintenance cost. For troubleshooting you can call on our round-the-clock field and spare parts service.

### A safe working environment

Roesler Profi-Line high energy disc machines are delivered with a noise reducing cabin. Windows at every access door allow easy visual control of all mechanical functions of the complete finishing system.



### Easy to operate and maintain

The tilting movements of work bowl, hydraulic loader and vibratory intermediate hopper are activated by the hydraulic power pack. All hydraulic components, as well as the central lubrication, are easily accessible. For additional safety, they are placed in a protective floor pan.



### Compact design

Sliding and wing doors secure all system movements in line with prevailing safety regulations. In addition, they offer easy access for maintenance and cleaning.

### Minimize non-productive idle times

Media can be removed from the system while the finishing process takes place! A media bin can be placed below the media return conveyor – the rest is done automatically.



Media change

### Built-in experience

A slide-in undersize media classification screen removes undersize media which could impede the finishing process by lodging in the parts. The screen is easily accessible from the side. The special self-cleaning feature guarantees its continued reliability and minimal down time.



Undersize media classification with collecting bin

## Total process flexibility with intelligent controls

The PLC system manages the complete system. The panel displays the current operating status, function and processing times. Instructions can easily be entered.



State of the art controls

### Easy integration of multiple functions

Auxiliary functions like parts loading and post finishing treatment are easily managed by the central PLC controller. Multiple process programs make it possible to adapt the processing parameters to specific process requirements. This applies to spinner RPM, high water level in the work bowl, finishing and screening times, etc. All essential safety features are continuously monitored. For example:

- ▶ Temperature in the gap between spinner and work bowl
- ▶ Water and compound flow
- ▶ Machine running dry
- ▶ Gap size
- ▶ Compressed air supply
- ▶ Batch identification
- ▶ Maintenance schedule
- ▶ Water level

### It's the technical details that count

All pneumatic and process water controls like solenoid valves for process water, rinsing and cleaning systems, flow meters for water and compound dosing, are arranged for easy access and operation.



Pneumatic controls, process water and compound dosing system

## Tailor-made systems – to solve your specific finishing problems

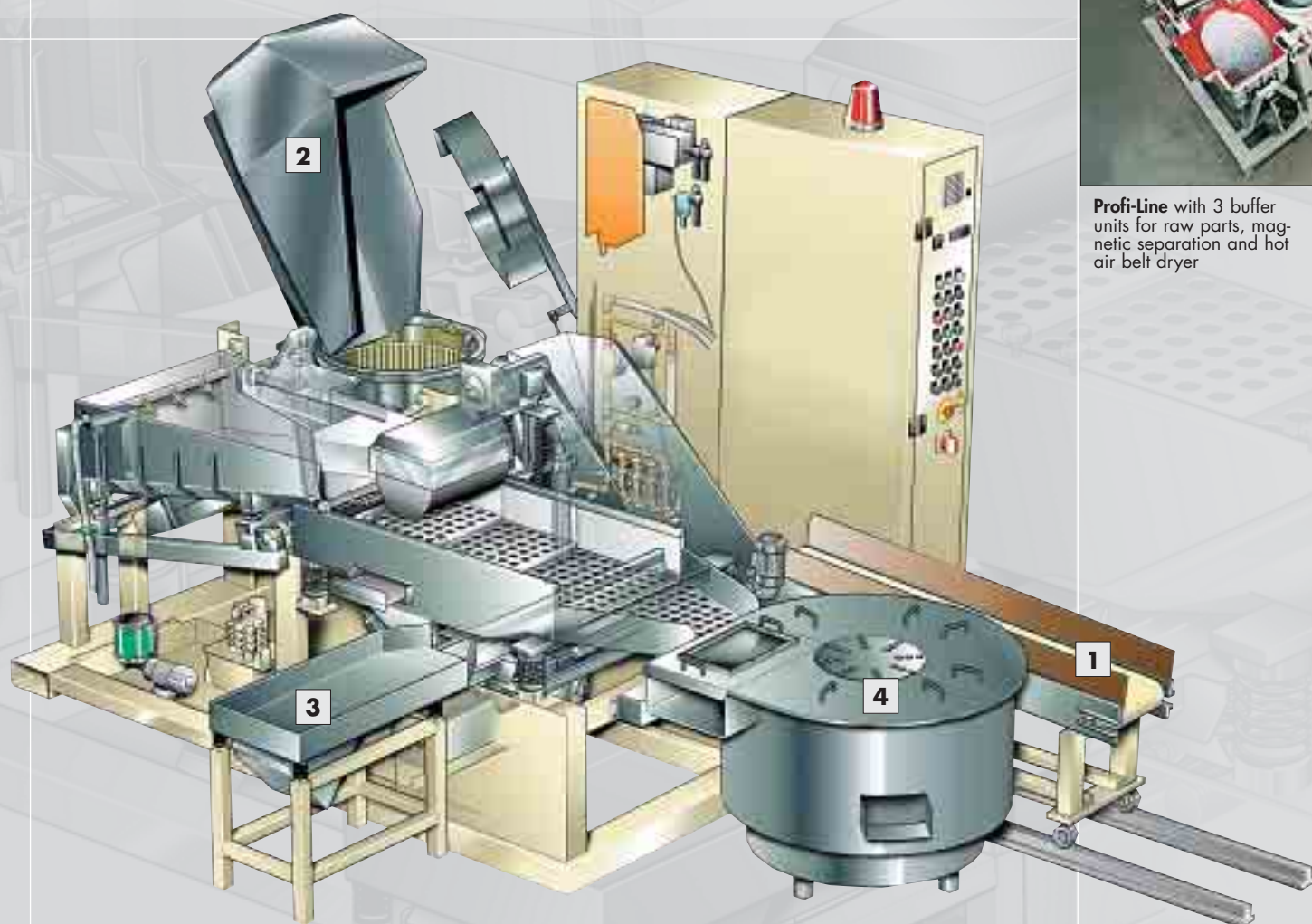
Whether fully or partially automated, the **Profi-Line** is most productive when parts loading and post treatment of the finished parts are directly linked with the basic disk finishing machine. Four basic linking modules allow a wide variety of individual interlinked processing systems.

### Loading of raw parts

Loading conveyor belt **1** lift and tip loader **2** and vibratory feed hopper **3** offer multiple possibilities of parts loading. A combination with weighing cells is easily integrated.

### Post treatment

Position **4** is exclusively utilized for post-treatment. Direct links with dryers, washing machines and passivation stations are easily implemented. Parts transport systems for transferring the finished parts into waiting parts bins round out the possibilities.



Profi-Line-Dual bowl tandem line with fully automatic parts handling



Profi-Line with vibratory hopper with weighing cells, conveyor belt, drying of finished parts in rotary dryer and roller conveyor with weighing cells



Profi-Line with 3 buffer units for raw parts, magnetic separation and hot air belt dryer



Profi-Line with vibratory hopper with weighing cells, roller conveyor and buffering of finished parts



Profi-Line with parts loading system, vibratory hopper with weighing cells, rotary dryer and automatic transfer of finished parts

Multiple stand-alone centrifugal disk finishing machines with automatic parts loading and unloading



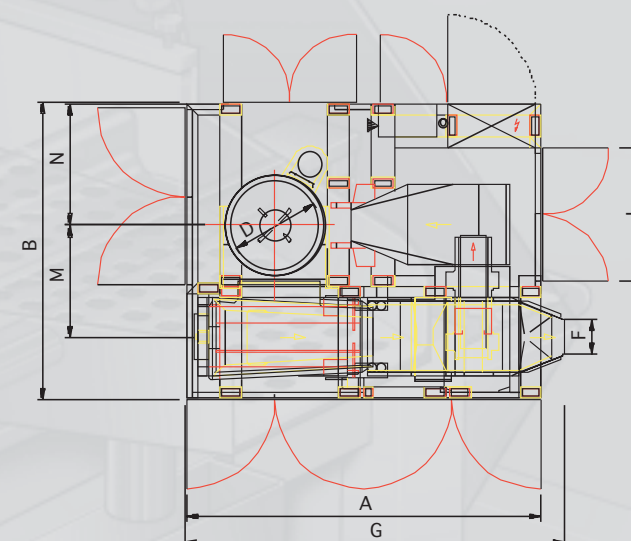
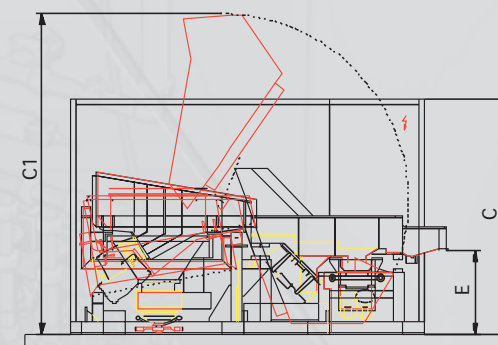
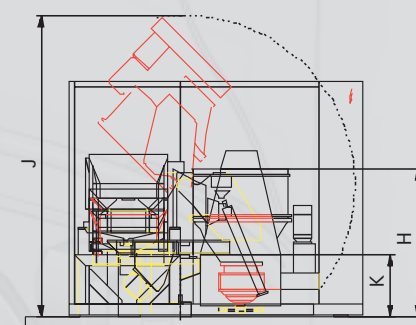
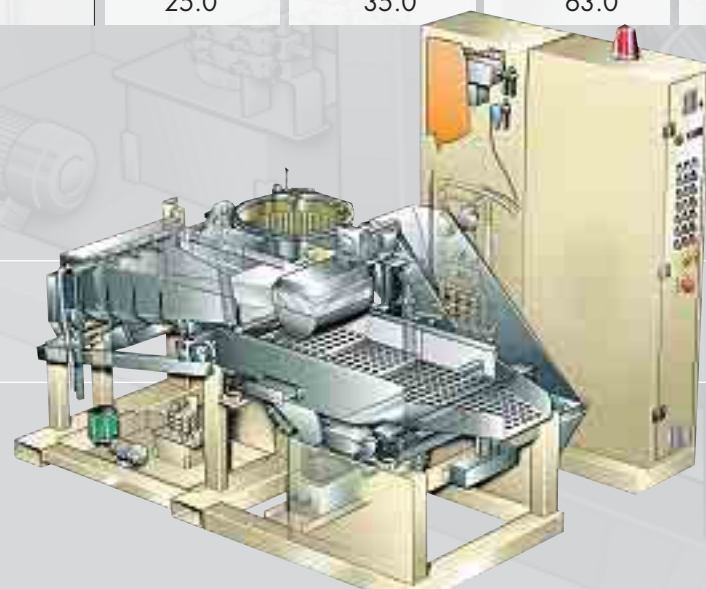
## High productivity with minimal space requirements

The Profi-Line high centrifugal disk finishing systems with the Roesler double-batch system® are available in 5 different sizes. There is a system available for every conceivable application.

Test our centrifugal finishing systems in one of our numerous demonstration centers at our home office, or at one of our sales branches.

### Automatic centrifugal disk finishing machines, model FKS, technical data

	FKS 06.1 A2	FKS 15.1 A2	FKS 35.1 A2	FKS 55.1 A2	FKS 65.1 A2
<b>A (inches)</b>	86.0	100.4	126.0	154.9	158.9
<b>B (inches)</b>	66.3	86.6	104.7	120.7	116.7
<b>C (inches)</b>	83.0	83.1	83.5	83.5	83.5
<b>C1 (inches)</b>	80.7	98.4	116.1	135.8	139.4
<b>D = Ø (inches)</b>	19.7	25.2	31.5	36.2	39.4
<b>E (inches)</b>	25.9	27.2	28.3	33.5	33.1
<b>F (inches)</b>	11.8	12.6	13.0	15.7	15.7
<b>G (inches)</b>	92.5	110.6	134.4	163.4	167.3
<b>H (inches)</b>	42.9	45.3	52.4	58.3	56.3
<b>J (inches)</b>	72.8	88.2	103.9	114.2	126.0
<b>K (inches)</b>	15.7	19.7	20.5	24.0	21.7
<b>L (inches)</b>	27.5	27.6	47.2	47.2	47.2
<b>Control panel</b>	E 21-06 A	E 21-15 A	E 21-35 A	E 21-55 A	E 21-65 A
<b>Electrics (V; Hz)</b>	230/400; 50	230/400; 50	230/400; 50	230/400; 50	230/400; 50
<b>Total installed power (kW)</b>	5.0	7.0	17.0	30.0	32.0
<b>Power rotary spinner (kW)</b>	2.2	4.0	11.0	18.5	18.5
<b>Rated amperage (A)</b>	10.0	17.0	45.0	65.0	70.0
<b>Fuse protection (A)</b>	25.0	35.0	63.0	80.0	80.0



### Clean environment – our commitment

A clean environment is an essential part of our company philosophy. In our production we use natural raw materials and recycled materials. Long maintenance intervals, the ease of maintenance of our equipment, concentrated compounds, and wear-resistant media, save valuable natural resources and contribute to a clean environment. The prevention of hazardous waste and the recycling of packing materials are an integral part of our production and sales policies.



### Quality – Made in Germany

For ROSLER the word quality has deeper meaning than just faultless, reliable and long living products. Quality is an essential part of our work philosophy and is expressed in the personal sense of duty and quality found in each of our employees. Certification according to DIN ISO 9001 is living proof of our commitment to quality.







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