



# PRÜFTECHNIK

## RS35HS

### Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Ижевск (3412)26-03-58	Мурманск (8152)59-64-93	Санкт-Петербург (812)309-46-40	Череповец (8202)49-02-64
Казань (843)206-01-48	Набережные Челны (8552)20-53-41	Саратов (845)249-38-78	Ярославль (4852)69-52-93

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# First rate products through reliable eddy current testing

## » Inspection before and after production

- Rod, wire, tube
- Diameters up to 35 mm (1.375")

## » High speed testing

12 000, 9 000 or 6 000 rpm

## » High sensitivity

Min. detectable notch depth: 0.05 mm (0.0012")  
depending on surface conditions

## » Compact and ergonomic

- Userfriendly operation
- Easily accessible for service
- Optional remote control

## » Short changeovers

- External diameter adjustment
- Tool-free changeover of guide sleeves

## » Increased operating safety

All settings are performed externally  
and without tools

### Variable drive speed

The rotating system can be run at speeds of 6000, 9000 or 12000 rpm, as appropriate for the production speed. The higher the rotational speed, the shorter the minimum detectable defect.



## When is a rotating system required?

The rotating system is essential in production lines where longitudinal defects (cracks, seams, laps, etc.) in the material surface are of major concern. Eddy current probes rotating around the material detect even the smallest defects depending on the surface quality. Due to its high resolution and transverse movement across the crack (rather than along it), the rotating system finds defects sometimes missed by conventional encircling coils.



### Convenient guide sleeve changeover

In advance of a change in the test material size, the guide sleeve holders can be equipped with new guide sleeves of the correct diameter. Tools are not required to screw the guide sleeve holder in place.



### Ergonomic operation

The useful display shows the probe gap and operating status of the equipment. The user can adjust the probe gap without opening the equipment by using the two push buttons below the display.

## Quick size change without tools

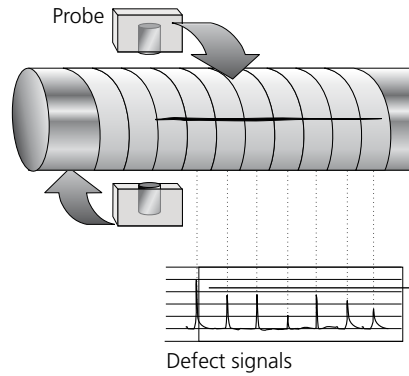
No matter whether you are adjusting the diameter or testing, the system stays closed. All procedures can be performed from the outside and without tools, increasing operating safety and reducing change-over times.



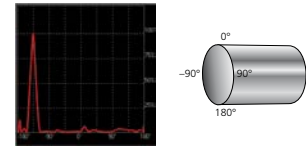
### Rapid probe adjustment

In just a few steps, the probe gap can be quickly set to the required diameter without having to open the system or requiring tools.

## How the rotating system works

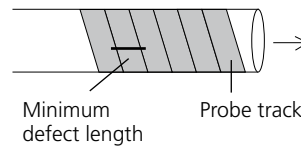


The rotating system scans the test piece in a helical pattern. Every time a probe crosses a crack, it generates a defect signal. In doing so, the rotating system produces a great number of consecutive signals that identify the flaw as a crack. The defect signals appear on the screen as they occur. An angular display shows the position of the defect on the circumference of the test piece.



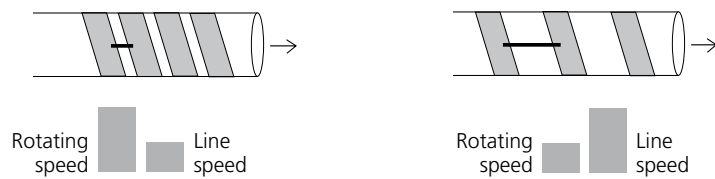
## Minimum defect length

The shortest defects can be detected if there is no gap between the probe tracks



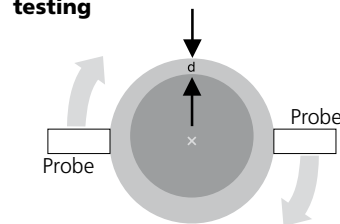
The length of the shortest detectable defect depends on how the test piece is scanned. Testing is ideal if the probes cover every part of the test piece as they pass over it without leaving any untested zones. This depends on the rotational speed of the rotating system and the production speed. The shortest defects are detectable at a high rotational speed and low production speed.

### Effect of rotational speed and line speed on detectable defect length



## Lift-off compensation

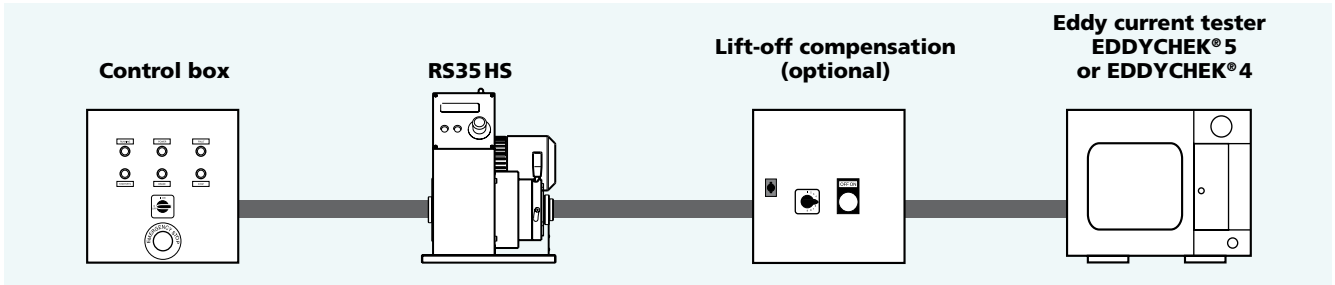
The option for high precision testing



- Gap control range
- Test piece
- x** Center of probe path
- d** Gap (distance between probe and test piece)

The optional lift-off compensation corrects distorted signals that arise from a varying gap between the probe and test piece. The smaller the gap, the larger the defect signal. If the test pieces are off-center, defects of the same size produce different signal amplitudes, resulting in inaccuracies in the defect evaluation. The lift-off compensation system corrects this effect and ensures reliable test results.

# System configuration



## Throughput of material passing through rotating system (m/s)\*

Fab-Nr.	RPM	Complete surface testing	Partial surface testing											
		4 mm	Minimum defect length											
			6 mm	8 mm	10 mm	12 mm	14 mm	16 mm	18 mm	20 mm	25 mm	30 mm	35 mm	40 mm
Throughput (m/s)														
LAB 6400	6000	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4	5	6	7	8
LAB 6403	9000	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6	7.5	9	10.5	12
LAB 6405	12000	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8	10	12	14	16

\*Throughput for two probes (1 per arm) = Number of probes x minimum defect length (mm) x rpm / 60 000

### Technical data

- Offline, inline, continuous
- Any application in which longitudinal surface flaws are prevalent
- Tubing, pipe, bar, wire, valve spring wire, heading wire
- All metals
- Size range: Ø 2–35 mm (0.078"–1.375")
- Temperature of inspected material: 0–70°C (32–160°F)
- Weights: rotating system 77 kg (169.4 lb); control box 17.4 kg (38.3 lb); lift-off compensation 16.4 kg (36.1 lb)

### Production line

- Continuous production with cut-off
- Continuous production without cut-off (e.g. drawing line)
- Testing of cut lengths (inline and offline)

### Defect resolution

- Min. defect length: depends on production speed and probe
- Min. def. depth: 0.05 mm (0.0012") dep. on surface conditions

### Probes

- 2 differential probes with lift-off compensation
- Probe type selected according to throughput and surface condition

**Guidance system** Internal, with bushings;  
external guidance system recommended.

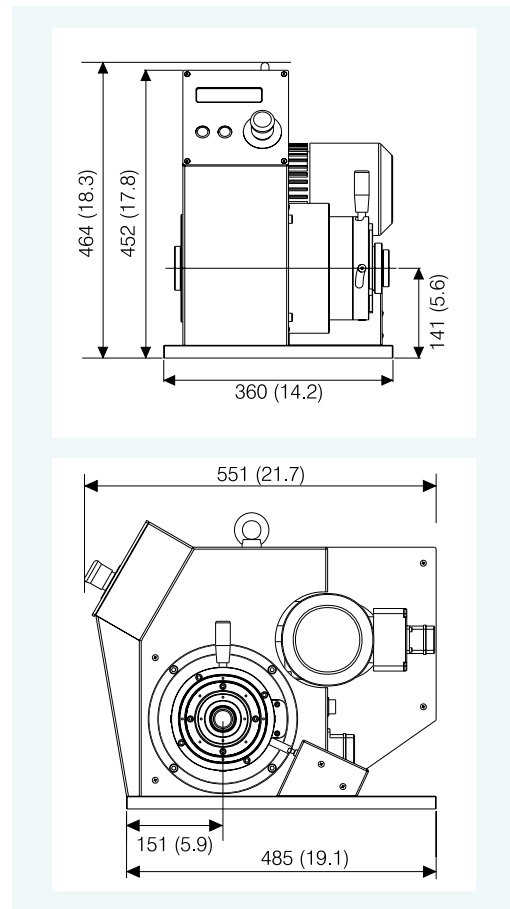
**Spindle bearings** Hybrid bearings with a long service life

**Revolutions per minute** 6 000, 9 000 or 12 000 rpm

### Motor and power supply

- Three-phase asynchronous drive
- 3-phase, 400 V, 50 Hz; max. power rating: 500 VA  
Altern.: 3-phase, 440 V, 60 Hz; max. power rating: 500 VA

**Eddy current instrument** EDDYCHEK®4, EDDYCHEK®5





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