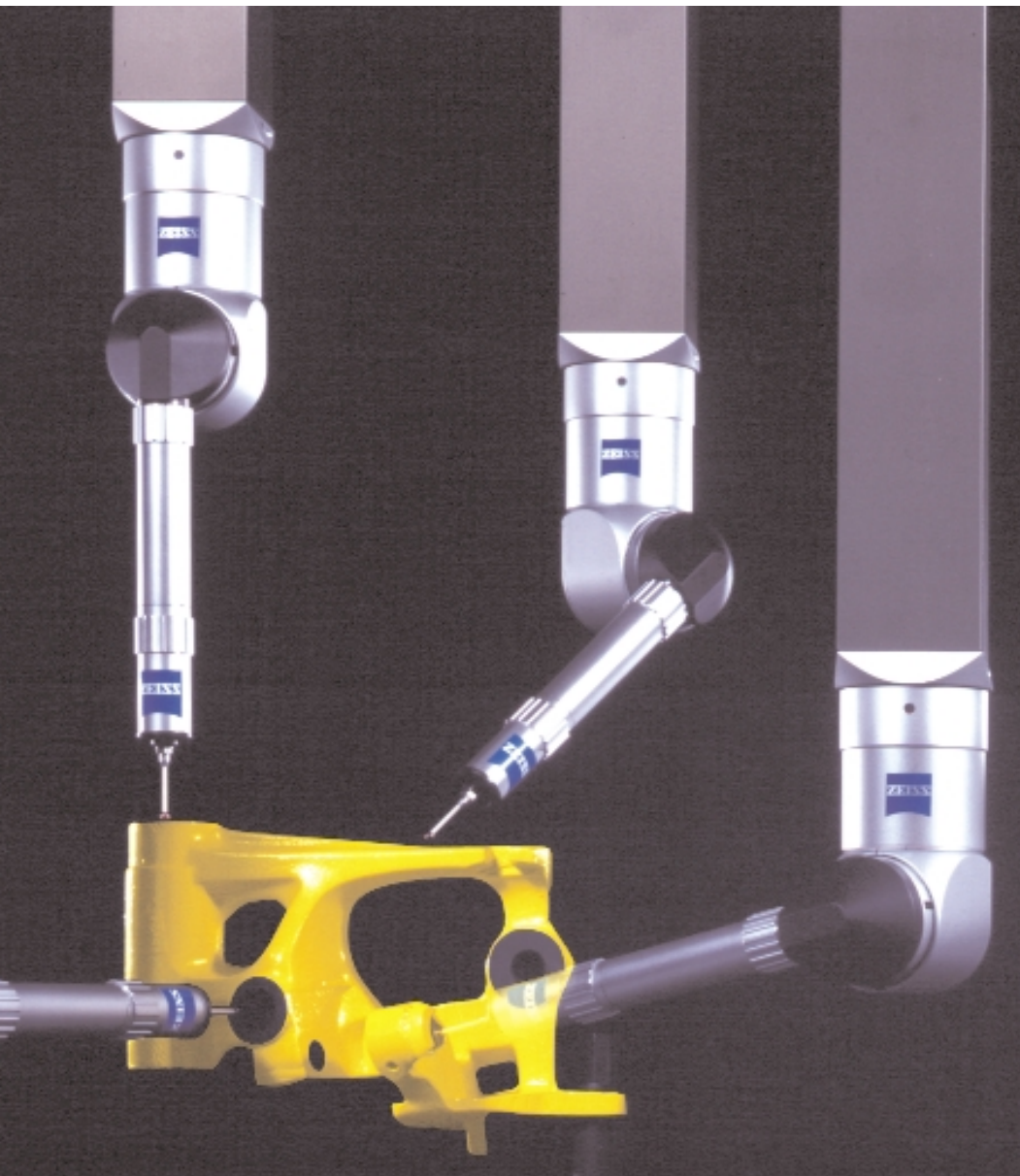


RDS. Articulating Probe Holder.



Range of applications

You won't find a simpler or more versatile technology.

The Zeiss RDS makes it possible, for the first time ever, to reach virtually all angles with an extremely large number of discrete positions.

This is especially beneficial for measuring intricate parts that normally require probes configured for many special directions.

The RDS knows no bounds.

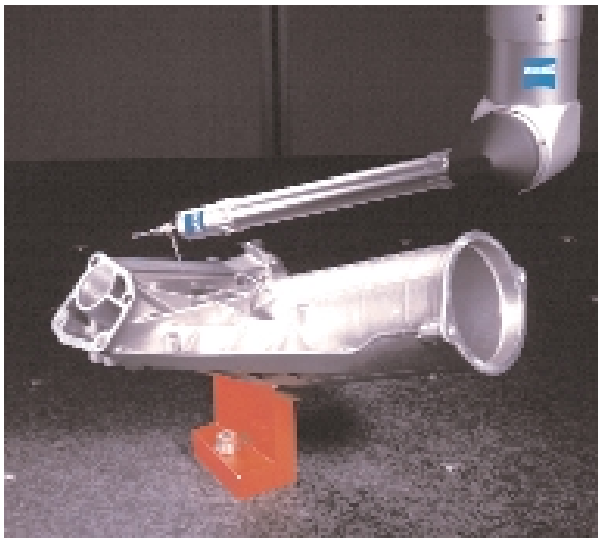
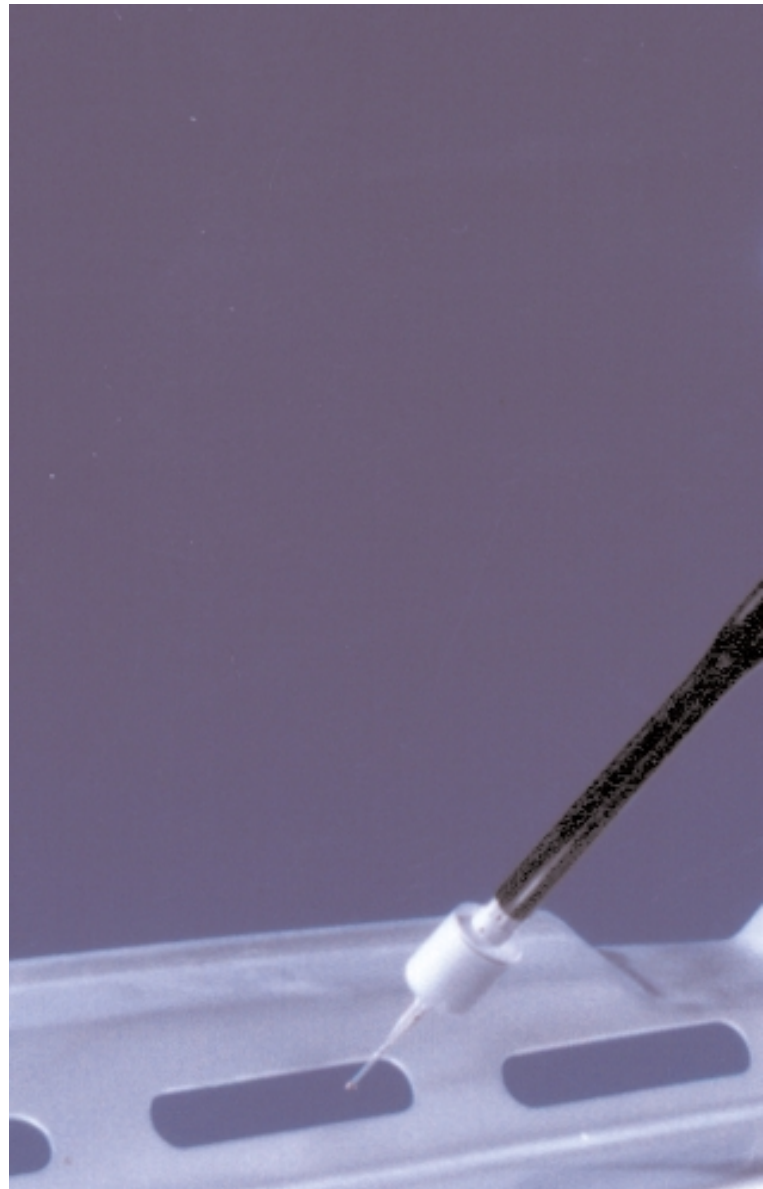
A part is checked in its entirety using only one probe and one clamping setup.

Short set-up times.

No complicated probe combinations means simple parts programming.

Fast measuring run.

In most cases, no probe change is required. This increases your throughput rate and reduces idle times.





Measuring deep bores.

Deep sloped bores can be probed without shaft contact. The RDS provides steps as small as 2.5°!

Ease of operation.

During programming, the joysticks of the control panel can be used to position the RDS. This greatly simplifies operation, reducing programming times and eliminating collisions.

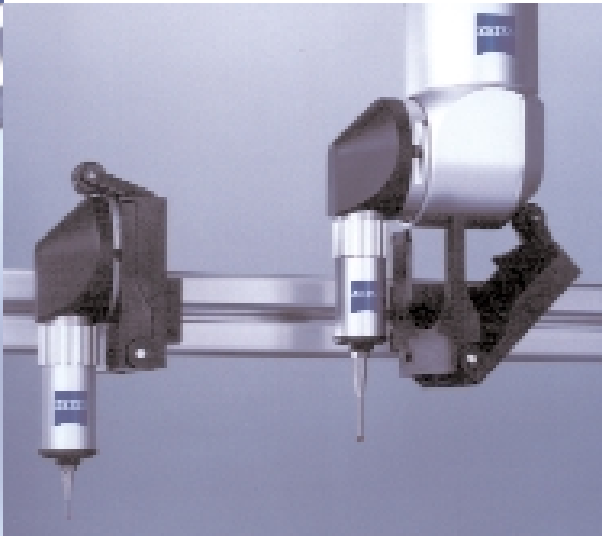
Due to full integration in the Zeiss software the RDS is able to be driven with the aid of joysticks in the workpiece coordinate system. Conventional systems only are able to be driven in the CMM coordinate system.

No inaccessible zones due to complete rotation about the axes.

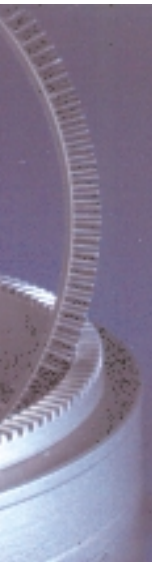
The two axes of rotation are arranged laterally and perpendicularly to each other; this ensures $\pm 180^\circ$ of rotation in either axis. The lateral position of the second axis results in optimum utilization of the CMM measuring range. In addition, the wide bearing base delivers high rigidity.

Manual or automatic probe change.

Different probe systems can be exchanged – even with extensions. CNC-change permits automatic operation.



Technology



The RDS owes its generally recognized Zeiss accuracy and reliability to a number of special features.

Small indexing steps of 2.5° and high precision yield a vast number of positions.

The wide base of the Hirth-type serration and the great number of teeth guarantee utmost positioning accuracy and minute step widths.

144 x 144 – 20.736 positions with ± 1 second accuracy.

Thermal stability due to external energy siting.

The control electronics are integrated in the CMM away from RDS. No separate housing unit is needed. The serration is decoupled pneumatically and positioning is performed by low-energy motors.

High probing accuracy.

The double-trigger principle of the piezo-electric RST sensor makes the system independent of the probing position and direction, and permits extensions of up to 300 mm (12 in.) and probes of up to 90 mm (3.6 in.) in length.

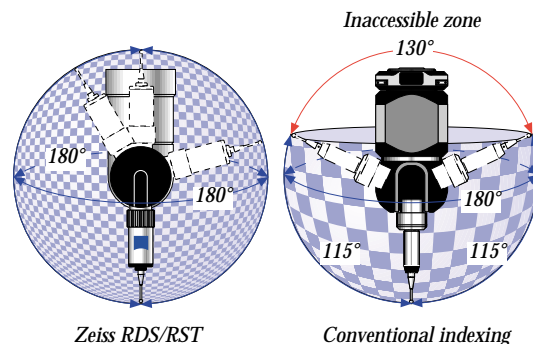
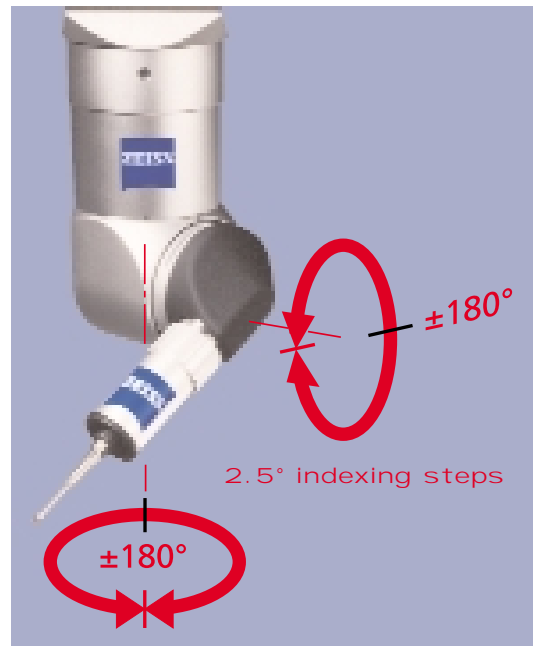
The Renishaw TP6 and TP2 sensors are manually or CNC changeable via a special probe-changer adapter plate with high reproducibility.

Inherent reliability.

Efficient collision protection comes from the RST sensor and disengagable adapter plate with drop protection. Active contacting delivers automatic sensor identification.

Featured ...

... in the standard initial setup or as a retrofitting option in all Zeiss CMMs with an ST3 probe head.



The RDS can reach 20,736 positions at 2.5° indexing steps. Other articulating probe holder only reach 720 positions ($180^\circ/115^\circ$ with angular increments of 7.5°).



Specifications

General		RDS
Mounting on CMM	Reproducible 3-point mount (ST3)	
Sensor reception	Standard:	Manual change via push of a button at the control panel (electromagnetic reception)
	Option:	CNC change in connection with probe magazine and control software
Dimensions, Weights		
Overall dimensions		
	Diameter in mm (in.)	64 (2.5)
	Height in mm (in.)	140 (5.5)
Weight (approx.)	kg (lb)	1 (2.2)
Performance Data		
Max. articulating range	Rotary axis	± 180°
	Swivel axis	± 180°
Increments	2.5°	
Positions available	20.736 (144 x 144)	
Maximum torque	(Nm)	0.5
Maximal extension for RST		
	in mm (in.)	300 (12)
Positioning repeatability	± 1"	
Cycle time for 90° movement	(s)	< 3
Probe mounting repeatability	± 1"	
Supply Data		
Air supply	Via air supply of CMM	
Permissible environmental Conditions		
Ambient operating temperature	+5 °C to +40 °C (41 °F to 104 °F)	
Sensors		
RST		
General	RST direction-independent dynamic probe head. Double-trigger principle by combining a mechanical switch and a piezoelectric sensor.	
Performance data		
	Repeatability in µm (in.)	0.5 (0.000 020) at a probe length up to 20 mm (0.8 in.)
	Mounting position	Freely selectable
	Minimum probe tip dia. in mm (in.)	0.5 (0.02)
Permissible sound level	75 dBA at sinusoidal excitation 80 dBA noise	
Weights, dimensions		
Overall dimensions		
	Diameter in mm (in.)	26 (1)
	Length in mm (in.)	56 (2.2)
Weight	in g (oz.)	40 (1.4)
Extensions	Diameter in mm (in.)	26 (1)
	Max. length in mm (in.)	300 (12)
Renishaw	TP6, TP2	Mounted on a special probe-changer adapter plate; CNC-changeable from/to a magazine.



60-20-109-e Printed in Germany. IIV/99 Noo
Subject to technical modification and to changes in scope and design.
Printed on chlorine-free paper.
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