

RWP20.50-G-HPP Radio-wave touch probe

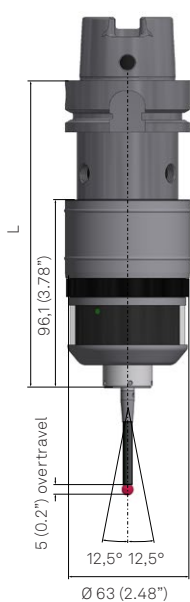
Highly accurate radio-wave touch probe for the most precise results

The RWP20.50-G-HPP is Hexagon's most accurate touch probe for machine tools. It deploys laser-triangulation inside the measurement unit to achieve extremely high repeatability, low pre-travel variation and low 3D form error. Many applications, for example the measurement of freeform shapes or checking machine kinematics, need extremely precise measurement results in 2D and 3D. These are best achieved by deploying Hexagon's patent-pending lasertriangulation technology inside the RWP20.50-G-HPP radio-wave touch probe.

- Highly accurate results
- Extremely precise in 2D and 3D
- Robust and durable
- Workshop-oriented handling

Accuracy performance

Unidirectional repeatability = $0,25 \mu\text{m } 2\sigma$
 Pre-travel variation = $\pm 0,25 \mu\text{m}$
 3D form errors, total = $\pm 1 \mu\text{m}$

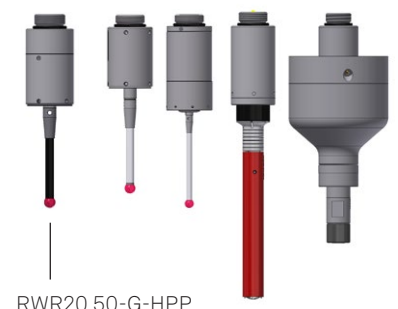


Technische Daten	
Transmission Frequency	2400-2483,5 MHz (2,4GHz)
Transmission/Reception Range	Up to 18 m
Power supply	1 x 9 V battery block, 6LR61, lithium: 1200 mAh, Alkaline: 550 mAh
Material	Stainless Steel, POM
Weight without Shank	Approx. 920 g
Temperature Range	Storage: 5 °C – 70 °C, Operation: 10 °C – 50 °C
Protection class	IP68: EN60529
Sensing Directions	$\pm X; \pm Y; -Z$
Maximum Stylus Overtravel	XY = $\pm 12,5$; Z = -5 mm
Tripping force* with 50 mm stylus	XY = 0.1 N (typical value), Z = 2.5 N (typical value)
Trigger force* with 50 mm stylus (probing feedrate 254 mm/min)	XY = $0,5 \pm 0,1$ N Z = 7 N $\pm 10\%$
Recommended Probing Feedrate	100 - 500 mm/min
Maximum Probing Feedrate	1000 mm/min
Unidirectional Repeatability (deflection from one direction)	Max. $0.25 \mu\text{m}$ (2 Sigma) with 50 mm stylus and 254 mm/min probing feedrate
Maximum Battery Life with Lithium Battery	Operation: 180 h, Standby: 1 year

RWP20.50-HPP | Measuring unit HPP41.10



HPP41.10 Measuring unit



RWR20.50-G-HPP

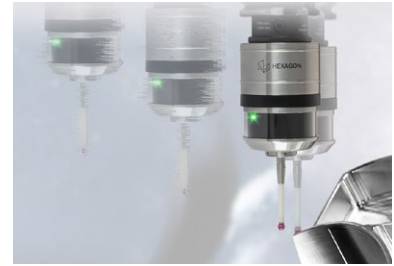
* Tripping force = Force when the probing signal is tripped at the touch point not influenced by the machine dynamics (stops without delay when the touch point is reached)

* Trigger force = Force after passing the touch point influenced by the machine dynamics (positioning speed, delay)

State-of-the-art

Reliable radio-wave transmission in the 2.4 GHz range

The MDR (Multi Data Rate) technology makes it possible to transmit high data rates and large data sets in the shortest possible time. In AFS (Automatic Frequency Select) technology, the frequency ranges of the radio bandwidth are continuously scanned and partial frequencies free from interference are automatically selected. This technology not only ensures fast and interference-free independent transmission, but also prevents interference from WLAN systems or other radio sources.



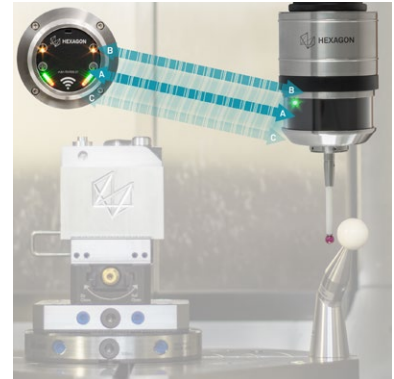
The probes moves at high speed, so that measurement times are significantly reduced.

Innovative pairing options

- Pairing via NC control – allows the machine manufacturer to provide an NC program for automatic pairing; the end customer merely has to start the NC program.
- Pairing via serial number and radio signal – entry of the receiver's serial number on the touch probe, radio transmission of the settings to the receiver.
- Pairing via infrared (IR) interface – previous standard

ITE-technology and One-Touch-Strategy

The radio wave probe moves at top speed to the measuring point, so that it can reliably probe at constant measuring speed with only one touch.



The system components transmit data with innovate AFS technology. This ensures highest process reliability.

Enhanced activation options

In addition to the proven, reliable mechanical activation options, the RWP20.50 also offers the option of bidirectional activation. This is done using separately coded signals and is therefore not inferior to mechanical methods with regard to reliability.'

Reliable radio-wave transmission

The RWR95.51 radio-wave receiver communicates with radio-wave touch probes in the 2.4 GHz range and can be easily mounted in the machine room. The receiver supports bidirectional communication for up to 8 probes on the same machine and can, thanks to Dual-Probe technology, process data from 2 probes in simultaneous use, for example on double spindle machines. This way, the number of maximum supported probes can be raised to up to 16 devices. Innovative pairing options making it simple to install new or additional probes and sensors.



Dual-probe technology allows simultaneous measurement on both spindles of double-spindle machines having two RWP20.50s and one RWR95.51.

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit [hexagonmi.com](https://www.hexagonmi.com).

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