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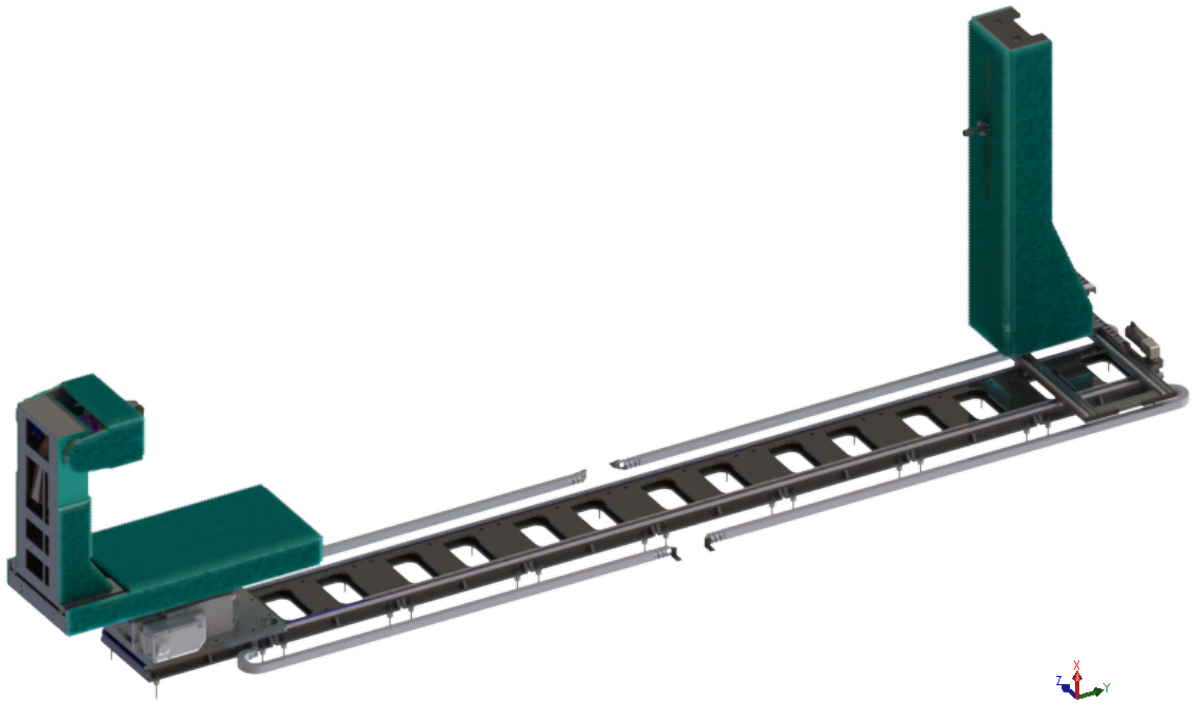
Antenna positioning system

The maturo Antenna Positioning System APS is especially designed for antenna measurements in near-field or far-field existing of an APTL (Azimuth Polarisation Tilt Linear Positioner) and of an EAP (Electrical Antenna Positioner). Both are mounted on linear rails
The positioners are covered with absorbers, which allows it to be used in applications where minimal reflections and blockage are important.



Features:

- High accurate antenna measurement capabilities for both, near-field and far-field data acquisition
- 5G NR FR1 / FR2 OTA testing capabilities
- Ideal for Antenna-Under-Test (AUT) like satellite dishes or massive MIMO base station-antennas
- Spherical Great-Circle Cut system
- 5G NR FR1 / FR2 OTA testing capabilities
- Independent rotations of all motion axis
- Variable speed adjustments at all axis
- Possibility of operation in manual, semi-automatic and simultaneous remote-control mode via LAN (TCP/IP) with the FCU$^{3.0}$ or NCD controller using fibre optic control
- Readout by high accurate encoders
- Positioning accuracy up to 0.05°
- Use of reliable, long-lasting and maintenance-free components
- Integrated rotary joint for DUT and antennas available upon request
- Easy installation and implementation in existing chambers

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1) Technical data of the APTL:

Load capability Distance center of gravity of DUT to mounting flange	max. 50 kg 150 mm
Rotating angle azimuth (x-axis) electrically	+/- 90°
Speed azimuth adjustable	0.5°/s – 18°/s
Rotating angle polarization (y-axis) electrically	+/- 60°
Speed polarization adjustable	0.5°/s – 30°/s
Polarization axis height above floor	1.5 m
Tilting angle (z-axis) electrically	-45 ° (down) to + 60° (up)
Speed tilting adjustable	0.5°/s – 18°/s
Positioning accuracy in each axis	+/- 0.05°
Linear movement range (y-axis) manually (manually lockable)	approx. 2 m
Positioning accuracy linear	+/- 1 mm (indicated by scale)

2) Technical data of the EAP:

Load capability	max. 15 kg
Rotating angle polarization (y-axis) electrically	0° - 135°
Speed polarization adjustable	0.5°/s – 18°/s
Polarization axis height electrical adjustable	1.0 m – 2.0 m
Positioning accuracy	+/- 0.5°
Linear movement range (y-axis) manually (manually lockable)	approx. 2 m
Linear movement range (z-axis) electrically	+/- 500 mm
Speed linear (z-axis) adjustable	1 cm/s – 10 cm/s
Positioning accuracy linear	+/- 1 mm

3) General technical data:

Overall dimensions (L x W x H) in m	approx. 8.4 x 2.5 x 2.5
Motors	Synchronous servo motors
Drives	High accurate gears
Voltage	380 VAC – 480 VAC, 50 Hz / 60 Hz three phases
Current consumption	max. 32 A
Required RCD	300 mA
Control cable Remote control via	Fiber optic lines LAN (TCP/IP); (IEEE only with NCD)
Interference suppression	20 dB under limits DIN EN 55011:2018-05 class B
Operating temperature	10° C – 35 ° C
Total weight	approx. 4300 kg
Accessories	Wooden plates for absorber mounting Absorbers for covering Mounting plate for antennas and DUT Power supply cable Service manual

Other specifications available upon on request

Information presented enclosed is subject to change as product enhancements are made regularly. Pictures included are for illustration purposes only and do not represent all possible configurations.