The Appendix is an integral part of Certificate of Accreditation No. 93/2021 of 03/02/2021

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

TORQUE s.r.o. TORQUE Calibration Laboratory Prostřední Nová Ves 137, 507 81 Lázně Bělohrad

CMC for the field of measured quantity: Plane angle

Ord. number	Calibrated quantity / Subject of calibration	Nominal range					Parameter(s) of the	Lowest expanded	Calibration principle	Calibration procedure	Work-
		min.	unit		max.	unit	meas. quantity	uncertainty specified ²		identification ³	place
1	Rotation angle sensors	0 °		to	360	0		0.05 °	Comparison with a rotation angle sensor	MK-02-05-1 (VDI/VDE 2648-1)	
		0 °		to	360	0		0.1 °	Comparison with a rotation angle sensor	MK-02-06-1 (VDI/VDE 2648-1)	
2*	Rotation angle meters for torque meters, nutrunners with rotation angle measurement, nutrunner systems, torque wrenches with rotation angle measurement	0°		to	360	o		0.1 °	Comparison with a rotation angle sensor	MK-02-07-1 (VDI/VDE 2648-2) MK-02-08-1 (VDI/VDE 2648-2)	

¹ Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

² The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.

³ If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

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Accredited entity according to ČSN EN ISO/IEC 17025:2018:

TORQUE s.r.o. TORQUE Calibration Laboratory Prostřední Nová Ves 137, 507 81 Lázně Bělohrad

CMC for the field of measured quantity: Torque

Calibrated quantity / Subject of calibration	Nominal range					Parameter(s) of the meas.	Lowest expanded measurement	Calibration principle	Calibration procedure	Work-
	min.	unit		max.	unit	quantity	uncertainty specified ²	Summation principie	identification ³	place
Torque sensors and meters	0.01	Nm Nm	to to	1,600 1,600	Nm Nm		0.060 % 0.10 %	Comparative measurement using length arm and weights Comparative measurement using length arm and weights	MK-02-01-1 (EURAMET cg-14) MK-02-02-1 (EURAMET cg-14)	
Torque measuring devices, torque wrenches and screwdrivers	0.01	Nm	to	1,600	Nm		0.25 %	Comparative measurement using length arm and weights	MK-02-03-1 (ČSN EN ISO 6789-1, EN ISO 6789-2; ISO 5393)	
Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners	0.01	Nm Nm	to to	1,600	Nm Nm		0,25 %	Comparison with a torque sensor Comparison with a torque sensor	MK-02-03-1 (ČSN EN ISO 6789-1, EN ISO 6789-2; ISO 5393) MK-02-04-1 (ISO 5393)	
	Calibrated quantity / Subject of calibration Torque sensors and meters Torque measuring devices, torque wrenches and screwdrivers Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners	Calibrated quantity / Subject of calibration min. Torque sensors and meters 0.01 Torque measuring devices, torque wrenches and screwdrivers 0.01 Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners 0.01	Calibrated quantity / Subject of calibration Image: Nomi min. Nomi Torque sensors and meters 0.01 Nm 0.01 Nm Torque measuring devices, torque wrenches and screwdrivers 0.01 Nm 0.01 Nm Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners 0.01 Nm	Nominal raNominal raof calibrationmin.unitTorque sensors and meters0.01 Nmto0.01 Nm0.01 NmtoTorque measuring devices, torque wrenches and screwdrivers0.01 NmtoTorque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners0.01 Nmto0.01 Nmto0.01 Nmto	Nominal rangeCalibrated quantity / Subject of calibrationmin.unitmax.Torque sensors and meters0.01 Nmto1,6000.01 Nm0.01 Nmto1,600Torque measuring devices, torque wrenches and screwdrivers0.01 Nmto1,600Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners0.01 Nmto1,6000.01 Nmto1,6001,6001,6001,600	Nominal rangeImage: Selection of calibrationImage: Selection of calibrationImage: Selection of calibrationImage: Selection of calibrationTorque sensors and meters0.01 Nmto1,600 Nm0.01 Nmto1,600 Nm0.01 Nmto1,600 NmTorque measuring devices, torque wrenches and screwdrivers0.01 NmtoTorque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners0.01 Nmto0.01 Nmto1,600 Nm	Nominal rangeParameter(s) of the meas. quantityTorque sensors and meters0.01 Nmto1,600 NmParameter(s) of the meas. quantityTorque sensors and meters0.01 Nmto1,600 NmImage: Colored color	Calibrated quantity / Subject of calibrationNominal rangeParameter(s) of the meas. quantityLowest expanded measurement uncertainty specified2Torque sensors and meters0.01 Nmto1,600 Nm0.060 %0.01 Nmto1,600 Nm0.10 %0.10 %Torque measuring devices, torque wrenches and screwdrivers0.01 Nmto1,600 Nm0.25 %Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners0.01 Nmto1,600 Nm0.25 %0.01 Nmto1,600 Nm0.25 %0.25 %0.25 %	Calibrated quantity / Subject of calibration Nominal range Parameter(s) of the meas. quantity Lowest expanded measurement uncertainty specified ² Calibration principle Torque sensors and meters 0.01 Nm to 1,600 Nm 0.060 % Comparative measurement using length arm and weights 0.01 Nm to 1,600 Nm 0.100 % 0.010 % Comparative measurement using length arm and weights Torque measuring devices, torque wrenches and screwdrivers 0.01 Nm to 1,600 Nm 0.25 % Comparative measurement using length arm and weights Torque measuring devices, controlled nutrunners, nutrunner systems, torque wrenches and screwdrivers, pneumatic and electric nutrunners 0.01 Nm to 1,600 Nm 0.25 % Comparatise measurement using length arm and weights 0.01 Nm to 1,600 Nm 0.25 % Comparison with a torque sensor	Calibrated quantity / Subject of calibrationNominal rangeParameter(s) of the meas. quantityCalibration principleCalibration principleCalibration principle identification3Torque sensors and meters0.01 Nmto1,600 Nm0.060 Nm0.010 %Comparative measurement using length arm and weightsMK-02-01-1 (EURAMET cg-14)Torque measuring devices, torque wrenches and screwdrivers0.01 Nmto1,600 Nm0.25 %Comparative measurement using length arm and weightsMK-02-03-1 (ČSN EN ISO 6789-1, EN ISO 6789-2; ISO 5393)0.01 Nmto1,600 Nm0.25 %Comparison with a torque sensorMK-02-03-1 (ČSN EN ISO 6789-1, EN ISO 6789-2; ISO 5393)0.01 Nmto1,600 Nm0.25 %Comparison with a torque sensorMK-02-03-1 (ČSN EN ISO 6789-1, EN ISO 6789-1, EN ISO 6789-1, EN ISO 6789-1, EN ISO 6789-2; ISO 5393)MK-02-04-1 (ISO S393)

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