

LLOYD'S REGISTER TYPE APPROVAL

Issued by: Rotterdam Technical Support Office

Issued to: VAF Instruments B.V.

For: TSense and TTsense, Torque measurement system

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 03 (July 2017) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

PB-660-GB-0119 T-Sense Product Bulletin

TIB-661-GB-0319 T-Sense Optical Torque Measuring systems valid for T-Sense serial numbers 13.1204 and higher

PB-663-GB-0119 TT-sense Product Bulletin

TIB- 674-GB-0320 TT-Sense Optical Torque and Thrust measuring systems valid for TT-sense serial numbers 18.2652 and higher

KSD.2.8 Procedure software release

KSD 2.8.A Flow chart software release

Test program TT-Sense rev C

TEST REPORTS

2156301.0501-EMC EMC test report for an Optical Torque measurement system, model T-Sense (Control box 0399-0403, Rotor 200 to 1000mm) dated 06-05-2015

2156301.0502-EMC Environmental test report for an Optical Torque measurement system, model T-Sense (Control box 0399-0403, Rotor 200 to 1000mm) dated 28-02-2013

Final test report T-Sense Test report of the Optical Torque measurement system model T-Sense (Control box 0399-0403) Rotor 200 to 1000 mm dated 25-07-2013

IP4- test Rotor Enclosure IP44 T-Sense dated 27-05-2014

M10.0002-2010.7123 Vibration test on an optical torque sensor according to the IEC 60068-2-6 dated 2-12-2010

Factory audit form

M18.005-P18.004 Climate test reports dated 30-11-2018

272892-2018-AQ-NLD-RvA Management System Certificate ISO9001:2015 dated 5 November 2018

18C00990RPT02 Electromagnetic Compatibility Test Report dated 08-04-2019

Functional test TT-Sense dated 17-04-2019

Functional test TT-Sense dated 29-10-2018

Rotor Enclosure IP44 TT-Sense test dated 19-11-2015

M18.004-P18.003 Vibration test report dated 21-11-2018

M19.001-P19.001 Vibration test report dated 05-02-2019

Product Quality assesment form dated 10-09-2020

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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.