



This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate supersedes certificate number 17/20075 (E1) issued on 06.02.2018 which is hereby cancelled.

This certificate is issued to:

DESCRIPTION Mass flow meters TYPE KROHNE Tokyo Keiso Comments designation designation Sensor for mass flow with MFC 010: MFS 1000 N/A /x15, /x25, /x40, /x50 MFS 7000 N/A MFS 1000 N/A /x06, /x10, /x15, /x25, /x40, /x50 MFS 7000 N/A /x06, /x10, /x15, /x25, /x40, /x50 /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium) Sensor for mass flow with MFC 400F: MMC 400F: MFS 1000 MMS 1000 /x15, /x25, /x40, /x50 /x100, /x150, /x250, /x400 MFS 2000 MMS 2000 /x100, /x15, /x25, /x40, /x50 /x100, /x15, /x25, /x40, /x50, /x100, /x15, /x25, /x40, /x50, Certificate No. 17/20075 (E2) Issue Date 06 March 2018 Issue Date 06 March 2018 Thorsten Wolff Expiry Date 12 July 2022 Thorsten Wolff Sheet 1 of 3 Thorsten Wolff Hamburg Technical Support Office Lloyd's Register EMEA Thorsten Wolff	PRODUCER	KROHNE Norwa Dept. KROHNE 1 Strømtangveien 2 3950 Brevik Norway	Marine 1		
designation designation Sensor for mass flow with MFC 010: MFS 1000 MFS 1000 N/A /x15, /x25, /x40, /x50 MFS 7000 N/A /x06, /x10, /x15, /x25, /x40, /x50, /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium) Sensor for mass flow with MFC 400F: MMC 400F: MMC 400F: MFS 1000 MFS 1000 MMS 1000 /x15, /x25, /x40, /x50 MFS 2000 MMS 2000 /x100, /x150, /x250, /x400 MFS 6000 MMS 6000 /x08, /x10, /x15, /x25, /x40, /x50, /x80, /x100, /x150, /x250, /x300 MFS 7000 MMS 7000 /x06, /x10, /x15, /x25, /x40, /x50, /x80, /x100, /x150, /x250, /x300 MFS 7000 MMS 7000 /x06, /x10, /x15, /x25, /x40, /x50, /x80, /x100, /x150, /x25, /x40, /x50, /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium) Certificate No. 17/20075 (E2) Thorsten Wolff Issue Date 06 March 2018 Thorsten Wolff Expiry Date 12 July 2022 Thorsten Wolff Sheet 1 of 3 Thorsten Wolff Hamburg Technical Support Office Thorsten Wolff Hamburg Technical Support Office Thorsten Wolff	DESCRIPTION	Mass flow meters	5		
MFS 1000 MFS 7000N/A/x15, /x25, /x40, /x50 , x06, /x10, /x15, /x25, /x40, /x50, , /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium)Sensor for mass flow with MFC 400F: MFS 1000MMC 400F: MFS 1000/x15, /x25, /x40, /x50 , /x100, /x150, /x250, /x400 MS 2000MFS 2000MMS 1000 MFS 2000/x15, /x25, /x40, /x50 , /x100, /x150, /x250, /x400 MFS 6000MFS 7000MMS 1000 MFS 6000/x08, /x10, /x15, /x25, /x40, /x50, , /x100, /x150, /x250, /x400 MFS 7000MFS 7000MMS 7000 MMS 7000/x06, /x10, /x15, /x25, /x40, /x50, , /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium)Certificate No.17/20075 (E2) Issue DateInorsten Wolff Hamburg Technical Support OfficeExpiry Date12 July 2022Inorsten Wolff Hamburg Technical Support OfficeSheet1 of 3Thorsten Wolff Hamburg Technical Support Office	ТҮРЕ			Comments	
 MFC 400F: MMC 400F: MFS 1000 MMS 1000 /x15, /x25, /x40, /x50 MFS 2000 MMS 2000 /x100, /x150, /x250, /x400 MFS 6000 MMS 6000 /x08, /x10, /x15, /x25, /x50, /x80, /x100, /x150, /x200, /x250, /x300 MFS 7000 MMS 7000 /x06, /x10, /x15, /x25, /x40, /x50, /x80 (x may be S: Stainless, H: Hastalloy, or T: Titanium) Certificate No. 17/20075 (E2) Issue Date 06 March 2018 Expiry Date 12 July 2022 Thorsten Wolff Hamburg Technical Support Office Lloyd's Register EMEA Sheet 1 of 3 Thorsten Wolff Hamburg Technical Support Office 		MFS 1000	N/A	/x15, /x25, /x40, /x06, /x10, /x15, /x80 (x may be S:	/x25, /x40, /x50, Stainless, H:
 MFS 1000 MFS 2000 MFS 2000 MFS 6000 MMS 1000 MFS 6000 MMS 2000 MMS 6000 X100, X150, X250, X400 X08, X10, X15, X25, X50, X80, X100, X150, X200, X250, X300 MMS 7000 MMS 7000 X06, X10, X15, X25, X40, X50, X80 (x may be S: Stainless, H: Hastalloy, or T: Titanium) Certificate No. 17/20075 (E2) Issue Date 06 March 2018 Expiry Date 12 July 2022 Sheet 1 of 3 					
Issue Date 06 March 2018 Thorsten Wolff Expiry Date 12 July 2022 Lloyd's Register EMEA Sheet 1 of 3 Thorsten Wolff		MFS 1000 MFS 2000 MFS 6000	MMS 1000 MMS 2000 MMS 6000	/x100, /x150, /x2 /x08, /x10, /x15, /x100, /x150, /x20 /x06, /x10, /x15, /x80 (x may be S:	50, /x400 /x25, /x50, /x80, 00, /x250, /x300 /x25, /x40, /x50, Stainless, H:
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Sheet 1 of 3 Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / / / / / / / / / / Image: Lloyd's Register EMEA 1 / / / / / / / / / / / / / / / / / / /	Issue Date	06 March 2018		Support Office	Lloyd's Register
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TYPE (continues)	Option: MFS 6000	MMS6000	short stem or extended stem, ref. drawing 2911922089 A-001, 3912192089 C-001, 3912992089 A-001, 2911912089 A-001, 3912192089 C-001, 3912982089 A-001	
	Flow Converter: MFC 400F	MMC 400		
	Flow Converter: MFC 010	N/A	Mounted on sensor.	
APPLICATION	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV5 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – July 2015.			
STANDARD	Manufacture specification			
RATINGS	Power supply:		MFC 010= 12VDCMFC 400F= 24V AC/DC or 220VACMMC 400F= 24V AC/DC or 220VAC	
	Communication in Size:	terfaces:	Foundation Fieldbus ⁽¹⁾ Profibus PA and DP ⁽²⁾ Modbus, HART® ⁽³⁾ ⁽¹⁾ , ⁽²⁾ , ⁽³⁾ + Current output, Pulse output DN 6 to 400	
OTHER CONDITIONS	Ratings for application in hazardous areas are to be obtained from the applicable Ex Certificates.			
PLACE OF PRODUCTION	KROHNE Ltd 34-38 Rutherford d Wellingborough United Kingdom	lrive		
Certificate No.	17/20075 (E2)			
Issue Date		Thorsten Wolf Hamburg Tech	f Inical Support Office	
Expiry Date	12 July 2022	Lloyd's Regis		
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The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 36633-18 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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