

(1) **EC Prototype Test Certificate**

(2) Equipment and protective systems intended for use
in potentially explosive areas - **Directive 94/9/EC**

(3) EC Prototype Test Certification number:
PTB 01 ATEX 2012 X

(4) Equipment: sensor head type UFS 500 F/.../...-EEx and ULS 500
F/.../...-EEx

(5) Manufacturer: Krohne Altometer

(6) Address: NL-3313 LC Dordrecht

(7) This equipment and any acceptable version thereof are specified in the
documentation section of this certificate.

(8) The Physikalisch-Technische Bundesanstalt, body number 0102 in accordance
with Article 9 of the Council Directive 94/9/EC from 23 March 1994, certifies that
this equipment has been found to comply with the essential health and safety
requirements relating to the design and construction of equipment and
protective systems intended for use in potentially explosive areas specified in
Appendix II of the directive.

The test results are logged in the confidential report PTB Ex 01-20265.

(9) Compliance with the essential health and safety requirements has been
assured via compliance with:

EN 50014:1997+A1+A2

EN 50020:1994

(10) An "X" located after the certificate number indicates special conditions for the
safe use of the equipment listed in the documentation of this certificate.

(11) This EC Prototype Test Certificate relates only to the design and construction of
the specified equipment in accordance with Directive 94/9/EC. Further
requirements of this directive apply to the manufacture and supply of this
equipment.

(12) The equipment must be marked with the following information:

II 2 G EEx ib IIC T6 / T4/T3/T1

Certification department for explosion protection
by order of

Braunschweig, 20 March, 2001

Dr.-Ing. U. Johannsmeyer
Governing body director

(13) **Schedule**

(14) **EC-Type Examination Certificate PTB 01 ATEX 2012 X**

(15) Description of the equipment

The sensor head type UFS 500 F/.../...-EEx (alternative type designation ULS 500 F/.../...-EEx) is used as a measured value recorder for the determination of the flow of flammable and non-flammable liquid media using the ultrasonic process. Three different variants of the sensor head are produced:

- UFS (ULS) F-EEx for general applications
- UFS (ULS) F/5STR-EEx for increased precision
- UFS (ULS) F/HT-EEx for extended medium temperature range

The permissible ambient temperature range is -40°C to +60°C.

The electrical data, ignition protection type and assignment of temperature class to the permissible medium temperature range for the individual models are to be taken from the following table:

Type	UFS F-EEx	UFS F/5STR-EEx	UFS F/HT-EEx
Ignit. prot. Type	EEx ib IIC T6 / T3	EEx ib IIC T6 / T4	EEx ib IIC T6 / T1
Electrical data			
Sensor circuit in ignition protection type intrinsic safety EEx ib IIC for connection to certified intrinsically safe circuits only			
Maximum values:			
U _i [V]	13.1	13.1	13.1
I _i [mA]	600	600	600
C _i [nF]	7.7	3.9	7.7
L _i [µH]	134	38.3	134
Temperature class			
	permissible medium temperature range		
T6	-50 °C to +80 °C	-20°C to +80 °C	-200 °C to +80 °C
T5	-50 °C to +95 °C	-20°C to +95 °C	-200 °C to +95 °C
T4	-50 °C to +130 °C	-20°C to +120 °C	-200 °C to +130 °C
T3	-50 °C to +180 °C	-	-200 °C to +195 °C
T2	-	-	-200 °C to +290 °C
T1	-	-	-200 °C to +440 °C

(16) Test report PTB Ex 01-20265

(17) Special conditions for safe use

The connection for the bonding conductor is to be connected securely to the potential equalization of the potentially explosive area.

(18) Essential health and safety requirements

Fulfilled by above mentioned standards.

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Braunschweig, 20 March, 2001

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