



**Test Report No. 212086600-1**

**Submersible Pumps series RC21, RC22, RD21, RW21, RM21,  
RS21, RS22, D 8021.xxx, D 8022.xxx, D 8024.xxx and H 8021.xxx**

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This Test Report contains the test results related to the sample(s) tested. The tests results cannot be used for any statement related to the quality of the equipment from running production.

## 1 Standards applied

Samples of the equipment as described under (2) below were subjected to the requirements and tests of the following standards:

EN 60079-0 : 2006  
EN 60079-1 : 2007  
EN 60079-7 : 2007  
EN 13463-1 : 2001  
EN 13463-5 : 2003

The assessment was conducted from November 2008 to December 2008.

## 2 Description of the equipment

Submersible Pumps series RC21, RC22, RD21, RW21, RM21, RS21, RS22, D 8021.xxx, D 8022.xxx, D 8024.xxx and H 8021.xxx powered by three-phase motors of a type as listed below, made of cast iron, stainless steel or duplex stainless steel with permanently connected cable. The submersible pumps can be provided with the facility for connecting a certified water detection transmitter in type of protection intrinsic safety EEx i.

<u>Motor type</u>	<u>Pump type</u>		
MSF135-BB:	RW2110BB, RC2110BB, RS2210BB, D 8021.290 1.5kW,	RW2120BB, RC2210BB, RS2213BB, D 8022.290 1.5kW,	RS2110BB, RC2215BB, D 8021.090 1.5kW, H 8021.090 1.5kW
MSF135-BD:	RW2110BD, RC2210BD, RS2213BD, D 8022.290 2.2kW,	RW2120BD, RC2215BD, D 8021.090 2.2kW, H 8021.090 2.2kW	RS2110BD, RS2210BD, D 8021.290 2.2kW,
MSF135-BE:	RW2110BE, RD2110BE, RC2215BE, D 8021.090 2.6kW, H 8021.090 2.6kW	RW2120BE, RC2110BE, RS2210BE, D 8021.290 2.6kW,	RS2111BE, RC2210BE, RS2213BE, D 8022.290 2.6kW,
MSF135-DC:	RW2112DC, RS2112DC, RS2210DC,	RW2130DC, RM21DC, D 8022.292 1.5kW,	RW2140DC, RC2215DC, D 8024.290 1.5kW
MSF135-DD:	RW2112DD, RW2140DD, D 8022.292 2.2kW,	RW2122DD, RM21DD, D 8024.290 2.2kW	RW2130DD, RC2215DD

Ambient temperature range -20 °C to +40 °C.

### Electrical data (at 50Hz)

Motor type	MSF 135-BB			MSF 135-BD		
Rated output (kW)	2,1			2,8		
Rated voltage (V)	220	380	660	220	380	660
Rated current (A)	6,1	3,5	2,0	8,2	4,8	2,7

Motor type	MSF 135-BE			MSF 135-DC			MSF 135-DD		
Rated output (kW)	3,5			2,1			3,1		
Rated voltage (V)	220	380	660	220	380	660	220	380	660
Rated current (A)	10	5,9	3,4	6,6	3,8	2,2	9,1	5,3	3,0

Any voltage from 220 V up to and including 660 V is allowed. The rated current shall be calculated proportionally to the rated voltage.

### 3 Marking of the equipment

 II 2 G Ex d e IIB c T4

### 4 Test documentation

Project no. 2022167 (initial certification)

EC-type Examination certificate PTB 00ATEX1034U  
Certificate of conformity PTB Nr. Ex-82/3317X  
PTB Nr. Ex-82/3318X  
PTB Nr. Ex-82/3360

dated

Drawing no. ATEX9150-1 24.06.2003  
ATEX9150-2 08.04.2003

Hazard analysis according to EN13463-1 08.04.2003

Project no. 2074632 (Amendment 1)

Drawing no.	ATEX9150-1	17.05.2004
	ATEX9150-3	17.05.2004

Project no. 2085329 (Amendment 2)

Drawing no.	713-210	11.2004
	713-212	11.2004

Project no. 2105278

Drawing no.	ATEX9150-2, rev. A	07.2006
	ATEX9150-4	07.2006
	713-220	08.2007

Project no. 212086600

EC-type Examination Certificate KEMA 07ATEX0168X

Drawing no.	713-208, rev. E	09.2008
	713-210, rev. A	09.2008

**5 Instructions for installation and use**

The manual provided with the equipment shall be followed in detail to assure proper and safe operation.

**6 Test results**

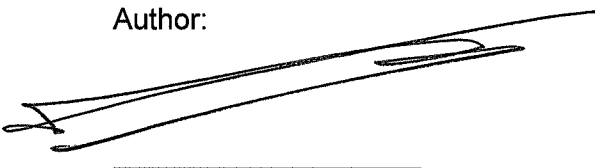
The detailed test results are laid down in confidential files nos. 2022167, 2074632, 2085329, 2105278 and 212086600. There were no deviations from, additions to or exclusions from the applicable test methods as described in the standards mentioned under (1) above. Where applicable, the estimated uncertainty of measurement meets the requirements of IECEx Operational Document OD012.

**7 Conclusion**

The equipment as described under (2) above met all applicable requirements of the standards as mentioned under (1) above. Certification of this equipment is therefore recommended.

Author:

Reviewer:



H.B.A. Vleeming

H.J.G. de Wild

**END OF TEST REPORT**