WMO OMM



World Meteorological Organization Organisation météorologique mondiale Organización Meteorológica Mundial Всемирная метеорологическая организация المنظمة العالمية للأرصاد الجوية 世界气象组织

Secrétariat

7 bis, avenue de la Paix – Case postale 2300 CH 1211 Genève 2 – Suisse Tél.: +41 (0) 22 730 81 11 Fax: +41 (0) 22 730 81 81 wmo@wmo.int – www.wmo.int

Form for Regular Reporting of Regional Instrument Centres

(please expand the cells as required to properly reflect your activities)

Terms of Reference for Regional Instrument Centres (RICs) are available under: <u>https://www.wmo.int/pages/prog/www/IMOP/instrument-reg-centres.html</u>

Regional instrument Centre - General Information				
Name of RIC	RIC Hamburg/Oberschleissheim			
RIC's website				
Institute hosting RIC	Deutscher Wetterdienst			
City	Hamburg and Oberschleissheim			
Country	Germany			
Regional Association	WMO RA VI			

Contact Person for the Regional Instrument Centre					
Courtesy Title	Mr				
First name	Holger				
Family name	Doerschel				
Street and number	Frahmredder 95				
Postal code	22393				
City	Hamburg				
State/Province	Hamburg				
Country	Germany				
Tel. number(s)	+496980626688				
Fax number(s)	+496980626699				
Email(s)	holger.doerschel@dwd	.de			
Has contact person ch report?	anged since your last	□ Yes	⊠ No		

If yes, provide the previous contact person?

RIC's staff

(Please specify the number of your managerial and technical staff)

- Managerial: One head, situated in Hamburg and one deputy head, situated in Oberschleissheim.
- Technical: six persons (3+3)

Interlaboratory Comparisons

Have you organized any interlaboratory comparison in <u>the last calendar year</u>? (If yes, please specify the event(s) and final reports, including their web links, if available):

•

Have you participated in any interlaboratory comparison in <u>the last calendar</u> <u>year</u>? (If yes, please specify the event(s) and the report(s), including their web links, if available):

- 2018 an interlaboratory comparison has been started on the initiative of Turkish State Meteorological Service (TSMS). The device is a vane anemometer.
- 2018 an interlaboratory comparison has been started on the initiative of Germany Calibration Service (DKD). The device is a vane anemometer.

Applied International Standards/Norms

Is your RIC accredited according to ISO/IEC 17025?

☑ **Yes** (please, specify the following):

Accreditation/certification body: DAkkS¹

Date of the last audit: 29.08.2018

Link to the Certificate of Accreditation: http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00

and the appendix: http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf

 \Box **No** (please, indicate if you have already applied any quality management system, and provide a reason for a lack of accreditation, if possible)

¹ DAkkS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

Assessment by a recognized authority other than accreditation body

Was your RIC assessed by a recognized authority other than an accreditation body? (e.g. certification body, NMI, another RIC)

 \Box **Yes** (please, specify the following):

Name of a recognized authority:

Date of the last assessment:

Standard against which the assessment was carried out:

⊠ **No** (please, explain why, if possible)

There has been no need until now. The NMI has been involved in the assessment performed by the accreditation body.

WMO/CIMO Evaluation Scheme (excel file)

Have you filled out the WMO/CIMO Evaluation Scheme (excel) and submitted it to the WMO Secretariat?

- ☑ **Yes** (please, specify when you submitted the most recent one): 2017-11-10
- □ **No** (please, explain why, if possible)

Calibrations of the Members' Instruments

Which calibration services, were provided by your RIC for other Members/countries in the last calendar year? (Please specify)

Year	Type of instruments	Number of calibrated instruments	WMO Member/Country
2018	Ultrasonic Windspeed and Winddirection Sensors	6	ARSO Slovenia

Capacity Development and Training Activities

Which capacity development/training activities have been carried out by your **RIC within the Region in <u>the last calendar year</u>?** (please specify events, WMO Members that participated and the number of participants)

•

Has your RIC provided services on capacity development and training outside the Region in <u>the last calendar year</u>? (If yes, please specify to whom and when)

 International Training in Wind Speed Measurements and Calibrations, 12th – 16th of November 2018, SMN Argentina, in Buenos Aires

Which guidance documents, standard procedures or other publications were developed and published by your RIC in <u>the last calendar year</u>? (Please, include full reference and web-link if available)

•

Utilization of Resources and Capabilities of the Region

(Have you collaborated with other RICs, RRCs, RTCs, NMHSs or NMIs on standardization of meteorological and other related environmental measurements in <u>the last calendar</u> <u>year</u>? If yes, please specify when and how)

•

Recent Changes in Circumstance

Have there been any changes in your RIC's capabilities in <u>the last calendar</u> year? (If so, please specify)

- reduced uncertainty 4-wire Pt100 from 50 mK to 30 mK
- extension of the measuring range down from 500 to 100 hPa absolute pressure

Have there been any significant changes in your RIC's infrastructure in <u>the last</u> calendar year? (If so, please specify)

• complete renew of 4-wire Pt100 calibration setup; now Fluke Superthermometer 1594A and Fluke bath 7341

Have there been any changes in your staffing in <u>the last calendar year</u>? (If so, please specify)

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Future Plans and any other relevant information

(Please provide plans/projects of your RIC for this calendar year, and add any other information you find relevant about your RIC)

Are you in agreement with publishing this reporting form on WMO/CIMO website?

 \boxtimes Yes

 \Box No

14th of February 2019

•

Date

Holger Dörschel Name and Signature of Person in Charge of RIC

ANNEX

(Following information will be a part of your RIC's website as published on the <u>WMO/CIMO website</u>)

Specific information on Instrument Calibration Capabilities						
Temperature Hamburg:						
Trotuumont		Calibration and	Calibration and	Traceability Equip	of Reference oment	
Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body	
4-Wire Pt100	-30 °C to 40 °C	IPRT Nr. 1 IPRT Nr. 2	0,03 K	11.2017 07.2018	DAkkS DAkkS	
Digital Thermometer	-30 °C to 40 °C	MBW T12 Thermometer	0,06 K	12.2017	SCS ²	
Status of accre	ditation (date	of the latest accreditat	tion): 15 th of Septe	ember 2017		

Link to the accreditation certificate:

http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00

and the appendix http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS)

Temperature Oberschleissheim:

Instrument			Calibration and	Traceability of Reference Equipment			
Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body		
4-Wire Pt100	-30 °C to 40 °C	SPRT Nr. 1 SPRT Nr. 2	0,03 K	03.2018 09.2016	DAkkS DAkkS		
Digital Thermometer	-30 °C to 40 °C	MBW T12 Thermometer	0,06 K	12.2017	SCS		
Status of accre	Status of accreditation (date of the latest accreditation): 15 th of September 2017						
Link to the accreditation certificate:							
http://www.da	kks.de/en/con	tent/accredited-bodies	-dakks?Regnr=D-	-K-11170-01-0	0		
and the append	dix <u>http://www</u>	v.dakks.de/as/ast/d/D	<u>-K-11170-01-00.p</u>	<u>odf</u>			

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS)

² SCS = Swiss Calibration Service

Instrument Undergoing Calibration RangeCalibration Reference Standard, EquipmentCalibration and Measurement Capability (CMC)*Traceability of Refere EquipmentDigital Hygrometer and Humidity Probes15 to 95 % @ 20 to 25 °CThunder 2500 Nr. 1 + MBW473 Nr. 1 (working standard)0,006 * U + 0,1 % but not less than 0,4 % of r.H.02.2019PTH 03.2018Thunder 2500 Nr.2 + MBW473 Nr. 2 (working standard)0,006 * U + 0,1 % but not less than 0,4 % of r.H.02.2019PTH 03.2018Status of accreditation (date of the latest accreditation): 15th of September 2017 ink to the accreditation certificate: wttp://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00 pate03.2018PTH 03.2018Status of accreditation certificate: wttp://www.dakks.de/as/ast/d/D-K-11170-01-00.pdfTraceability of Reference EquipmentTraceability of Reference EquipmentInstrument Undergoing CalibrationCalibration RangeReference Standard, EquipmentCalibration and Measurement Capability (CMC)*Traceability of Reference EquipmentInstrument Undergoing CalibrationCalibration RangeReference Standard, EquipmentCalibration and Measurement Calibration and Measurement Calibration and Measurement Calibration CalibrationTraceability of Reference EquipmentInstrument Undergoing CalibrationCalibration RangeReference Standard, EquipmentCalibration and Measurement Calibration and Measurement Calibration DateTraceability of Reference Equipment	trument dergoing
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Digital Hygrometer and Humidity Probes15 to 95 % @ 20 to 25 °CThunder 2500 Nr. 1 + MBW473 Nr. 1 (working standard) Thunder 2500 Nr.2 + MBW473 Nr. 2 (working standard)0,006 * U + 0,1 % but not less than 0,4 % of r.H.02.2019PTH03.201803.2018PTH03.2018PTH04 % of r.H.03.2018PTH05 tatus of accreditation (date of the latest accreditation): 15 th of September 201703.2018PTH05 tatus of accreditation certificate: ink to the accreditation certificate: attp://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-0000.00 ft06 the appendix http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS)Traceability of Reference EquipmentCalibration RangeCalibration RangeReference Standard, EquipmentCalibration and Measurement Capability (CMC)*Traceability of Reference Standard Calibration Body	libration
Humidity Probes @ 20 to 25 °C Thunder 2500 Nr.2 + MBW473 Nr. 2 (working standard) 0,4 % of r.H. 03.2018 PTH Status of accreditation (date of the latest accreditation): 15 th of September 2017 ink to the accreditation certificate: 0.4 % of r.H. 03.2018 PTH Status of accreditation (date of the latest accreditation): 15 th of September 2017 ink to the accreditation certificate: 0.4 % of r.H. 03.2018 PTH Status of accreditation certificate:	Digital rometer and
Status of accreditation (date of the latest accreditation): 15 th of September 2017 ink to the accreditation certificate: ittp://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00 ind the appendix http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS) Relative Humidity Oberschleissheim: Instrument Undergoing Calibration Reference Standard, Equipment Calibration Calibration Reference Standard, Calibration Date	idity Probes
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Calibration Range Equipment Capability Standard Body (CMC)* Calibration	strument
Date	libration
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Status of accreditation (date of the latest accreditation): 15 th of September 2017	rometer and nidity Probes
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and the appendix http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf	tus of accre

Atmospheri	<u>c pressure</u>	<u>Hamburg:</u>			
			Calibration and	Traceability Equi	of Reference
Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body
Digital Barometer	100 to 2500 hPa	DHI PG7601 Piston Gauge / AMH38 Automatic Mass Handler	2,0 *10 ⁻⁵ * Pabs + 0,0025 hPa	06.2014	РТВ
		CDG025D Vacuum Gauge		07.2017	РТВ
Status of accre	ditation (date	of the latest accredita	tion): 15 th of Septe	ember 2017	
Link to the accr	editation certi	ficate:			
<u>nttp://www.dal</u>	ks.de/en/cont	tent/accredited-bodies	-dakks?Regnr=D-	<u>-K-11170-01-(</u>	<u>)0</u>
and the append	lix <u>http://www</u>	.dakks.de/as/ast/d/D	-K-11170-01-00.p	<u>odf</u>	
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Accreditation be Fixed date for c Atmospher	ody: Deutsche calibration of p ic pressure	Akkreditierungsstelle iston gauge and vacu Oberschleisshe	GmbH (DAkkS) um gage at PTB: J im:	une 2019 Traceability Equir	of Reference
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Accreditation be Fixed date for c Atmospheri Instrument Undergoing Calibration	Calibration of p Calibration Range	Akkreditierungsstelle iston gauge and vacuu Oberschleisshe Reference Standard, Equipment Fluke PG7601 Piston Gauge / AMH38 Automatic Mass Handler + CDG025D Vacuum Gauge	GmbH (DAkkS) um gage at PTB: J im: Calibration and Measurement Capability (CMC)*	une 2019 Traceability Equip Standard Calibration Date 07.2015 05.2017	of Reference oment Calibration Body PTB PTB
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Wind Hamburg:						
Trateumant		Calibration and	Traceability Equip	of Reference oment		
Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body	
Cup- and Ultrasonic- Anemometer	0.15 to 50 m/s	Wind tunnel + 2D Laser Doppler Anemometer Burst Spectrum Analyzer	1,2 % of reference but not less than 0,1 m/s	10.2018 01.2019	PTB ³ DAkkS ⁴	
Ultrasonic- Anemometer and Wind-Direction Gauges	0 to 360 °	Wind tunnel + Laser Doppler Anemometer + Precision turntable transfer standard: angular encoder	0.9 °	03.2017	DAkkS	

Status of accreditation (date of the latest accreditation): 15th of September 2017

Link to the accreditation certificate:

http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00

and the appendix http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS)

Wind Oberschleissheim:

T			Calibration and	Traceability of Reference Equipment	
Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body
		Wind tunnel			
Cup- and Ultrasonic- Anemometer	0.15 to 50 m/s	2D Laser Doppler Anemometer	1,2 % of reference but not less than 0,1 m/s	01.2018	PTB⁵
		Burst Spectrum Analyzer		01.2019	DAkkS ⁶
Ultrasonic- Anemometer and Wind-Direction	0 to 360 °	Wind tunnel + Laser Doppler Anemometer + Precision turntable	0.9 °		
Gauges		transfer standard: angular encoder		03.2017	DAkkS
Status of accreditation (date of the latest accreditation): 15 th of September 2017					
Link to the acc	reditation certi	ficate:			
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Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkkS)

³ PTB = Pysikalisch Technische Bundesanstalt / The National Metrology Institute of Germany

⁴ DAkKS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

⁵ PTB = Pysikalisch Technische Bundesanstalt / The National Metrology Institute of Germany

⁶ DAkKS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

			Calibration and	Traceability of Reference Equipment	
Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body
eighing + tipping bucket precipitation gauge	intensity 0,1 … 10 mm/mm	Scale KERN PBJ 6200- 2M + mass pieces	0,01 mm / min	05.2017	DAkkS
weighing precipitation gauge	intensity 0,1 … 10 mm/mm	Scale KERN PBJ 6200- 2M + Pump ISMATEC MCP-CPF Process ISM919	0,01 mm / min	05.2017	DAkkS
recipitatio	n Obersch	leissheim:	• •• •• ••	Traceability	of Reference
Instrument		Peference Standard	Calibration and Measurement	Equip	oment
Calibration	Range	Equipment	Capability (CMC)*	Standard Calibration Date	Calibration Body
weighing + tipping bucket precipitation gauge	intensity 0,1	Scale KERN PBJ 6200- 2M + mass pieces	Capability (CMC)*	Uast Standard Calibration Date	Calibration Body DAkkS
weighing + tipping bucket precipitation gauge weighing precipitation gauge	intensity 0,1 10 mm/mm	Scale KERN PBJ 6200- 2M + mass pieces Scale KERN PBJ 6200- 2M + Pump ISMATEC MCP-CPF Process ISM919	0,01 mm / min	Last Standard Calibration Date 02.2017 02.2017	Calibration Body DAkkS DAkkS

Other (please specify if applicable):						
Tretwort			Calibration and	Calibration and	Traceability Equip	of Reference oment
Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Measurement Capability (CMC)*	Last Standard Calibration Date	Calibration Body	
Status of accre Link to the acc	ditation (date reditation certi	of the latest accredita ficate:	tion):			

* A **CMC (calibration and measurement capability)** is the smallest uncertainty (k=2) of measurement that can be expected to be achieved by the RIC during a calibration under normal conditions. This CMC is evaluated by the RIC itself and described in the scope of accreditation of the RIC, if available.