

Contact Details Registration No. HOKLAS 077 Page 1 of 1

South China National Centre of Metrology

華南國家計量測試中心

ADDRESS : No. 30, Songbaidong St., Guangyuanzhong Road, Guangzhou, China

地址 中國廣州市廣園中路松柏東街30號

ENQUIRY : Mr CHEN Minghua, Chief Engineer

查詢 陳明華先生

TELEPHONE : (86) 20 2629 7220

電話

FAX : (86) 20 8659 6502

傳真

E-MAIL : <u>cmh@scm.com.cn</u>

電郵

WEBSITE ADDRESS : <u>www.scm.com.cn</u>

網址

CLIENTELE: Public服務對象公眾

Last updated on: 11 April 2016



Page 1 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

ADDRESS : No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

地址 中國廣州市廣園中路松柏東街 30 號

ACCREDITED TEST

CATEGORY 認可測試類別 : Calibration Services 校正服務



Page 2 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Angle		
- Angle gauge	Verification for angle in accordance with JJG 70-2004 over the following range:	
- Grade 0	0° to 360°	0.9 second of arc
- Grade 1 and 2	0° to 360°	1.4 seconds of arc
- Angular polygon	Verification for angle in accordance with JJG 283-2007 over the following range:	
	0° to 360°	0.4 second of arc
- General bevel protractor	Verification for angle in accordance with JJF 1959-2021 over the following range:	
- Resolution: 2'	0° to 320°	1 minute of arc
- Resolution: 5'	0° to 360°	3 minutes of arc
- Level	Verification for angle to horizontal level using parallel light tube in accordance with JJG 425-2003 over the following range:	
- Bubble level		
- Grade DS1	-30' to +30'	2.0 seconds of arc
- Grade DS3	-30' to +30'	2.7 seconds of arc
- Automatic level - Grade DSZ1	-30' to +30'	2.0 seconds of arc
- Grade DSZ3	-30' to +30'	2.4 seconds of arc

Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 3 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

ITEM TESTED OR MEASURED	Calibration Dervices 12 11 11 11 11	Calibration Services 校正服務		
測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*		
ength and related measurement				
Angle				
Level	Verification for angle using small angle measurement machine in accordance with JJG 103-2005 over the following range:			
- Coincidence level	-5 mm/m to +5 mm/m	0.002 mm/m		
- Electronic level - Resolution: 0.001 mm/m	-5 mm/m to +5 mm/m	0.002 mm/m		
- Resolution: 0.01 mm/m	-5 mm/m to +5 mm/m	0.02 mm/m		
Level	Verification for angle using level tester in accordance with JJF 1084-2002 over the following range:			
 Frame level Resolution: 0.02 mm/m, 0.05 mm/m and 0.10 mm/m 	0.02 mm/m to 1.5 mm/m	4 %		
- Strip level - Resolution: 0.02 mm/m, 0.05 mm/m and 0.10 mm/m	0.02 mm/m to 1.5 mm/m	4 %		
Level ruler	Verification for angle in accordance with JJF 1085-2002 over the following range:			
- Resolution: 5 mm/m and 10 mm/m	0.5 mm/m to 10 mm/m	8 %		

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 4 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [@] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Angle		
- Optical theodolite	Verification for angle using parallel light in accordance with JJG 414-2011 over the following range:	
- Class DJ ₁	0° to 360°	0.33 second of arc
- Class DJ ₂	0° to 360°	0.54 second of arc
- Class DJ ₆	0° to 360°	2.0 seconds of arc
- Precise angle dividing table	Verification for angle in accordance with JJG 472-2007 over the following range:	
- Class 0	0° to 360°	0.09 second of arc
- Class 1	0° to 360°	0.11 second of arc
- Class 2	0° to 360°	0.13 second of arc
- Square (Cylindrical, rectangular, triangular, knife cast-iron, wide-stand, straight square)	Verification for squareness in accordance with JJG 7-2004 over the following range:	
- Length: 63 mm to below 300 mm	0 to 300 μm	1.8 μm
- Length: 300 mm to below 500 mm	0 to 300 μm	2.4 μm
- Length: 500 mm to 1000 mm	0 to 300 μm	5.0 μm

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 5 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Form		
- Optical flat	Verification for flatness in accordance with JJG 28-2019 over the following range:	
- Diameter: 30 mm	0 to 0.2 μm	0.008 μm
- Diameter: 45 mm	0 to 0.2 μm	0.008 μm
- Diameter: 60 mm	0 to 0.2 μm	0.009 μm
- Diameter: 80 mm	0 to 0.2 μm	0.014 μm
- Diameter: 100 mm	0 to 0.2 μm	0.017 μm
- Optical parallel - Thickness: 15.00 mm to 91.00 mm	Verification for the following parameters in accordance with JJG 28-2019 over the following range:	
	- Flatness 0 to 0.2 μm	0.02 μm
	- Parallelism	
	0 to 2 μm	0.2 μm
- Roughness comparison sample	Verification for roughness in accordance with JJF 1099-2018 at the following values:	
	0.1 μm 0.2 μm 0.4 μm 0.8 μm 1.6 μm 3.2 μm 6.3 μm	6.8 % of reading 5.8 % of reading 4.9 % of reading 4.2 % of reading 4.2 % of reading 4.2 % of reading 4.2 % of reading

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 6 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [@] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Form		
- Straight edge	Verification for straightness in accordance with JJF 1097-2021 over the following range:	
- Length: 800 mm	0 to 1 mm	0.6 μm
- Length: 1000 mm	0 to 1 mm	0.6 μm
- Length: 2000 mm	0 to 1 mm	1.0 μm
- Length: 3000 mm	0 to 1 mm	1.3 μm
- Surface plate and surface table	On-site verification for flatness in accordance with JJG 117-2013 over the following range:	
- Dimensions: 300 mm x 300 mm, 400 mm x 300 mm, 400 mm x 400 mm	0 to 70 μm	0.6 μm
- Dimensions: 500 mm x 500 mm, 600 mm x 450 mm, 630 mm x 400 mm	0 to 90 μm	0.9 μm
- Dimensions: 800 mm x 500 mm, 800 mm x 600 mm	0 to 100 μm	1.2 μm
- Dimensions: 1000 mm x 630 mm, 1000 mm x 750 mm, 1000 mm x 800 mm	0 to 120 μm	1.5 μm
- Dimensions: 1500 mm x 1000 mm	0 to 150 μm	1.8 μm
- Dimensions: 3000 mm x 2000 mm	0 to 200 μm	6.0 µm

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 7 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
Form		
- Toolmaker's straight edge	Verification for straightness in accordance with JJG 63-2007 over the following range:	
- Length: 75 mm, 125 mm, 175 mm	0 to 5 μm	0.3 μm
- Length: 225 mm, 300 mm	0 to 5 μm	0.6 μm

Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 8 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [@] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Caliper	Verification for length in accordance with JJG 30-2012 over the following ranges:	
- Dial type		
- Scale division: 0.01 mm	0.5 mm to 70 mm Above 70 mm to 150 mm Above 150 mm to 200 mm	0.004 mm 0.004 mm 0.005 mm
	Above 200 mm to 300 mm	0.008 mm
- Scale division: 0.02 mm	0.5 mm to 70 mm Above 70 mm to 150 mm Above 150 mm to 200 mm	0.004 mm 0.005 mm 0.006 mm
	Above 200 mm to 300 mm	0.009 mm
	1100 (0 200 mm) to 500 mm	
- Scale division: 0.05 mm	0.5 mm to 70 mm	0.006 mm
	Above 70 mm to 150 mm	0.007 mm
	Above 150 mm to 200 mm	0.008 mm
	Above 200 mm to 300 mm	0.010 mm
D: 2. 1.		
Digital typeResolution: 0.01 mm	0.5 mm to 450 mm	0.01 mm
- Resolution: 0.01 mm	Above 450 mm to 600 mm	0.01 mm 0.02 mm
	Above 430 mm to 1500 mm	0.02 mm
	Above 1500 mm to 2000 mm	0.04 mm
	100 ve 1300 mm to 2000 mm	
- Vernier type		
- Scale division: 0.02 mm	0.5 mm to 300 mm	0.01 mm
	Above 300 mm to 600 mm	0.02 mm
	Above 600 mm to 1500 mm	0.03 mm
	Above 1500 mm to 2000 mm	0.04 mm
Scale division: 0.05	0.5 mm to 500 mm	0.02 mm
- Scale division: 0.05 mm	0.5 mm to 500 mm Above 500 mm to 1000 mm	0.02 mm 0.03 mm
	Above 1000 mm to 1500 mm	0.03 mm 0.04 mm
	Above 1500 mm to 1500 mm Above 1500 mm to 2000 mm	0.04 mm 0.05 mm
	7100 VC 1500 Hilli to 2000 Hilli	0.05 mm

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 9 of 20

Issue Date: 3 December 2024 Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Dial gauge	Verification for length in accordance with JJG 34-2022 over the following range:	
- Scale division or resolution: 0.001 mm	0.001 mm to 1 mm Above 1 mm to 2 mm Above 2 mm to 5 mm	1.2 μm 1.8 μm 3.5 μm
- Scale division or resolution: 0.01 mm	0.01 mm to 10 mm Above 10 mm to 30 mm Above 30 mm to 50 mm	5 μm 7 μm 10 μm
		'

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Scope of Accreditation Registration No. HOKLAS 077 Page 10 of 20

Issue Date: 3 December 2024 Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Digital indicator	Verification for length in accordance with in-house method FFC9907-2009 over the following ranges:	
- Resolution: 0.001 mm	0.5 mm to 50 mm Above 50 mm to 100 mm	1 μm 2 μm
- Resolution: 0.01 mm	0.5 mm to 100 mm	10 μm
- Feeler gauge	Verification for length in accordance with JJG 62-2017 over the following range:	
	0.02 mm to 1.00 mm	1 μm



Page 11 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Grade 3 gauge block	Verification for length using electronic comparator in accordance with JJG 146-2011 over the following range:	
	0.5 mm to 100 mm	$(0.05 + 0.7 \times 10^{-6} L) \mu m$ where L is the length in mm
	Verification for length using interferometer in accordance with JJG 146-2011 over the following range:	
	125 mm to 500 mm	$(0.05 + 0.7 \times 10^{-6} L) \mu m$ where L is the length in mm
- Grade 4 gauge block	Verification for length using length measurement machine in accordance with JJG 146-2011 at the following values:	
	600 mm 700 mm 800 mm 900 mm 1000 mm	0.8 μm 0.9 μm 1.1 μm 1.2 μm 1.3 μm

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 12 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [@] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Height caliper	Verification for height in accordance with JJG 31-2011 over the following ranges:	
- Dial height caliper		
- Scale division: 0.01 mm	10 mm to 300 mm	0.009 mm
	Above 300 mm to 500 mm	0.013 mm
	Above 500 mm to 600 mm	0.016 mm
	Above 600 mm to 1000 mm	0.025 mm
	Above 1000 mm to 1500 mm	0.043 mm
	Above 1500 mm to 2000 mm	0.063 mm
- Digital height caliper		
- Resolution: 0.01 mm	10 mm to 300 mm	0.01 mm
	Above 300 mm to 600 mm	0.02 mm
	Above 600 mm to 1000 mm	0.03 mm
	Above 1000 mm to 1500 mm	0.05 mm
	Above 1500 mm to 2000 mm	0.07 mm
- Vernier height caliper		
- Scale division: 0.02 mm	10 mm to 300 mm	0.01 mm
	Above 300 mm to 600 mm	0.02 mm
	Above 600 mm to 1000 mm	0.03 mm
	Above 1000 mm to 1500 mm	0.05 mm
	Above 1500 mm to 2000 mm	0.07 mm
- Scale division: 0.05 mm	10 mm to 600 mm	0.03 mm
	Above 600 mm to 1000 mm	0.04 mm
	Above 1000 mm to 1500 mm	0.05 mm
	Above 1500 mm to 2000 mm	0.07 mm

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 13 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Inductive micrometer	Calibration for length in accordance with JJF 1331-2011 over the following range:	
- Pointer type - Scale division: 0.1 μm	-3 μm to 3 μm	0.03 μm
- Scale division: 1 μm	-30 μm to 30 μm	0.23 μm
- Scale division: 10 μm	-300 μm to 300 μm	2 μm
- Digital type - Resolution: 0.01 μm	-10 μm to 10 μm	0.02 μm
- Resolution: 0.1 μm	-100 μm to 100 μm	0.3 μm
- Resolution: 1 μm	-500 μm to 500 μm	2 μm
- Level rod	Verification for length in accordance with JJG 8-1991 over the following ranges:	
	0.01 m to 3 m Above 3 m to 5 m	0.6 mm 0.9 mm

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 14 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Micrometer		
- External digital type	Verification for length in accordance with JJG 21-2008 over the following range: 5.12 mm to 25 mm Above 25 mm to 50 mm Above 50 mm to 75 mm Above 75 mm to 100 mm	0.7 μm 0.8 μm 0.9 μm
	Above 75 mm to 100 mm Above 100 mm to 125 mm Above 125 mm to 150 mm Above 150 mm to 175 mm Above 175 mm to 225 mm Above 225 mm to 250 mm Above 250 mm to 300 mm Above 300 mm to 325 mm Above 325 mm to 350 mm Above 350 mm to 375 mm Above 375 mm to 400 mm Above 400 mm to 425 mm Above 425 mm to 475 mm Above 475 mm to 500 mm	1.0 µm 0.9 µm 1.0 µm 1.1 µm 1.2 µm 1.3 µm 1.4 µm 1.5 µm 1.6 µm 1.7 µm 1.8 µm 1.9 µm 2.0 µm 2.1 µm

[®] Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 15 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Micrometer		
- External vernier type	Verification for length in accordance with JJG 21-2008 over the following range:	
	5.12 mm to 25 mm Above 25 mm to 50 mm Above 50 mm to 75 mm Above 75 mm to 100 mm Above 100 mm to 125 mm Above 125 mm to 150 mm Above 150 mm to 175 mm Above 175 mm to 200 mm Above 200 mm to 225 mm Above 225 mm to 250 mm Above 250 mm to 275 mm Above 275 mm to 300 mm Above 300 mm to 325 mm Above 300 mm to 325 mm Above 375 mm to 350 mm Above 375 mm to 400 mm Above 400 mm to 425 mm Above 425 mm to 450 mm Above 450 mm to 475 mm Above 475 mm to 500 mm	0.7 μm 0.8 μm 0.9 μm 1.1 μm 1.2 μm 1.4 μm 1.7 μm 1.9 μm 2.4 μm 2.6 μm 2.8 μm 3.1 μm 3.3 μm 3.5 μm 3.5 μm 4.0 μm 4.3 μm 4.5 μm 4.7 μm 5.0 μm
- Internal type	Verification for length in accordance with JJG 22-2014 at the following values: 100 mm 200 mm 300 mm 600 mm 1200 mm 1500 mm 2000 mm	2 μm 2 μm 2 μm 4 μm 5 μm 6 μm 7 μm 10 μm

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 16 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Numerically controlled machine tool	On-site calibration for length in accordance with JJF 1251-2010 over the following range:	
	0.01 mm to 10 m	$(0.8 + 5.9L) \mu m$ where L is the length in m
- Projector	On-site calibration for length in accordance with JJF 1093-2015 over the following range:	
	0.01 mm to 200 mm	$(1.2 + 2.0 \text{ x } 10^{-6} \text{L}) \mu\text{m}$ where L is the length in mm
- Steel rule	Verification for length in accordance with JJG 1-1999 over the following range:	
	0.5 mm to 150 mm Above 150 mm to 1000 mm Above 1000 mm to 2000 mm	0.05 mm 0.05 mm 0.07 mm
- Steel tape	Verification for length in accordance with JJG 4-2015 over the following range:	
	0.001 m to 200 m	(0.15 + 0.015L) mm where L is the length in m

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 17 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

ITEM TESTED OR MEASURED	SPECIFIC TEST OR	CALIBRATION AND MEASUREMENT
測試或量度項目	PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CAPABILITY (CMC)* 校準和測量能力*
ength and related measurement		
Length		
- Thickness gauge		
- Coating thickness gauge		
- Eddy current type	Verification for thickness in accordance with JJG 818-2018 over the following range:	
	12 μm to 982 μm	$(0.3 + 0.004H) \mu m$ where H is the thickness in mm
- Magnetic resistance type	Verification for thickness in accordance with JJG 818-2018 over the following range:	
	12 μm to 982 μm	$(0.3 + 0.004H) \mu m$ where H is the thickness in mm
- Ultrasonic type	Calibration for thickness in accordance with JJF 1126-2004 over the following range:	
- Resolution: 0.01 mm	0.5 mm to 200 mm	0.02 mm
- Resolution: 0.1 mm	0.5 mm to 200 mm	0.1 mm
- Film thickness gauge		
- Dial type	Calibration for thickness in accordance with JJF 1255-2010 over the following range:	
- Scale division: 0.001 mm	0.1 mm to 1 mm	1.0 μm
- Scale division: 0.01 mm	0.1 mm to 10 mm	2 μm
- Scale division: 0.1 mm	0.1 mm to 30 mm	0.01 mm

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 18 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

No. 30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, China

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related measurement		
- Length		
- Length - Three coordinates measuring machine	On-site calibration for length in accordance with JJF 1064-2010 at the following values: 30 mm 125 mm 150 mm 200 mm 250 mm 300 mm 400 mm 500 mm 700 mm 800 mm 900 mm 1000 mm	0.5 μm 0.6 μm 0.7 μm 0.8 μm 0.9 μm 1.2 μm 1.5 μm 1.7 μm 2.0 μm 2.2 μm 2.5 μm 2.8 μm

Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 19 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [@] 特定測試或量度的特性 [@]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Temperature measurement		
- Digital thermometer	Calibration for temperature in accordance with in-house method FFR 9903-2014 over the following ranges:	
- Resolution: 1 °C	-40 °C to 5 °C Above 5 °C to 95 °C Above 95 °C to 250 °C	1.0 °C 1.0 °C 1.2 °C
- Resolution: 0.1 °C	-40 °C to 5 °C Above 5 °C to 95 °C Above 95 °C to 250 °C	0.2 °C 0.2 °C 0.2 °C
- Resolution: 0.01 °C	-40 °C to 5 °C Above 5 °C to 95 °C Above 95 °C to 250 °C	0.024 °C 0.023 °C 0.044 °C

[@] Unless otherwise specified, accredited activities are conducted at the laboratory.

The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.



Page 20 of 20

Issue Date: 3 December 2024

Ref: HOKLAS077-34

South China National Centre of Metrology

華南國家計量測試中心

Calibration Services 校正服務		
ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED [®] 特定測試或量度的特性 [®]	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Verification of toy testing tool and fixture		
- Accessibility probe A & B,	Verification for the following parameters in accordance with in-house method FFC 0003-2009:	
	- Length - Radius	0.02 mm 0.008 mm
- Bite test clamp	Verification for the following parameters in accordance with in-house method FFC 0005-2009:	
	- Length - Radius - Angle	0.05 mm 0.02 mm 5 minutes of arc
- Rattle test fixture	Verification for the following parameters in accordance with in-house method FFC 0004-2009:	
	- Length - Radius	0.009 mm 0.005 mm
- Sharp point tester	Verification for the following parameters in accordance with in-house method FFC 9812-2009:	
	- Length - Force	0.005 mm 0.05 N
- Small parts cylinder	Verification for length in accordance with in-house method FFC 0002-2009	0.006 mm

Unless otherwise specified, accredited activities are conducted at the laboratory.

^{*} The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.