CALIBRATION CERTIFICATE

Certificate No.:21047

Customer Name: Schwyz GmbH Shenzhen Branch

Customer Address:

Instrument:

Description:	Gauge Block Set
Manufacturer:	Schwyz
Model:	47G1
Serial Number:	26442
Inspection Method:	SMQ044

Date of Calibration: 08/04/2015

Environment: Air Temperature (20.6ºC ±1ºC)
Relative Humidity (52 %)

Stamp:

Authorized by He Chongquan

Signature

Calibrated by Liu Yizhuang

Signature

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Important Statement

1. Our academy/station is a legal metrology verification organization established by the Shenzhen Municipal Government and authorized by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ). Our academy/station has been accredited according to ISO/IEC 17025 by CNAS with the certificate.
2. All verifications and tests made by our academy/station are traceable to the International System of Unit (SI).
3. Copying or using select parts, or tampering with this document without the permission of our academy/ station is forbidden.
4. The results presented in this document applies only to the calibrated instrument.
5. Copies of this certificate without an official stamp of calibration are not valid.

Main Standards of Measurement Used

Equipment Name / Characteristics	Equipment No.	Certificate No.	Date of Calibration
Hygro-Thermometer	HT-014	HXwh2011-14512	23/10/2014
GBCD-250 Gauge Block Comparator	SB056	091319513	16/10/2014
Gauge Block Set / 87 pes DIN 861 grade 00	SB3581	091320953	13/09/2014

Calibrated by: Checked by:

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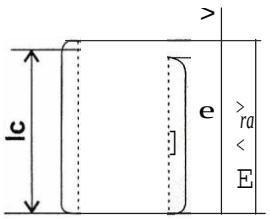
RESULTS OF CALIBRATION



Nominal Length	ln	Maximum Deviation	dmax=lmax-ln
Central Length	le	Minimum Length	lmin
Central Deviation	de=le-ln	Minimum Deviation	dmin=lmin-ln
Maximum Length	lmax	Variation	v=lmax-lmin

Nominal Lenght	Serial No.	Central Dev. de	de toleranees DIN 861 / ISO 3650	Max. Dev. dmax	Min. Dev. dmin	Var. v	v Tolerances DIN 861 / ISO 3650
1.005mm	06415	+0.06µm	±0.20µm	+0.07µm	O.OOµm	0.08µm	0.16µm
1.01mm	10767	+0.12µm	±0.20µm	+0.12µm	+0.04µm	0.09µm	0.16µm
1.02mm	20318	+0.15µm	±0.20µm	+0.16µm	+0.11µm	0.07µm	0.16µm
1.03mm	16915	+0.13µm	±0.20µm	+0.18µm	+0.08µm	0.08µm	0.16µm
1.04mm	13445	+0.10µm	±0.20µm	+0.13µm	+0.06µm	0.07µm	0.16µm
1.05mm	17047	-0.05µm	±0.20µm	+0.03µm	-0.07µm	0.10µm	0. 16µm
1.06mm	36924	O.O2µm	±0.20µm	+0.05µm	-0.03µm	0.08µm	0.16µm
1.07mm	46409	-0.05µm	±0.20µm	-0.01µm	-0.07µm	0.06µm	0.16µm
1.08mm	93743	+0.12µm	±0.20µm	+0.14µm	+0.09µm	0.05µm	0.16µm
1.09mm	41515	+0.10µm	±0.20µm	+0.12µm	+0.06µm	0.06µm	0.16µm
1.1mm	07503	+0.03µm	±0.20µm	+0.12µm	+0.01µm	0.11µm	0.16µm
1.11mm	47950	+0.09µm	±0.20µm	+0.13µm	+0.05µm	0.08µm	0.16µm
1.12mm	17036	-0.03µm	±0.20µm	+0.02µm	-0.05µm	0.07µm	0.16µm
1.13mm	11085	+0.02µm	±0.20µm	+0.06µm	-0.02µm	0.08µm	0.16µm
1.14mm	73361	-0.06µm	±0.20µm	+0.03µm	-0.07µm	0.10µm	0.16µm
1.15mm	26414	-0.08µm	±0.20µm	-0.02µm	-0.11µm	0.09µm	0.16µm
1.16mm	44572	+0.10µm	±0.20µm	+0.13µm	+0.05µm	0.08µm	0.16µm
1.17mm	12748	+0.11µm	±0.20µm	+0.14µm	+0.08µm	0.06µm	0.16µm
1.18mm	39137	-0.02µm	±0.20µm	+0.03µm	-0.05µm	0.08µm	0.16µm
1.19mm	93028	+0.13µm	±0.20µm	+0.15µm	+0.08µm	0.07µm	0.16µm
1.2mm	25105	-0.03µm	±0.20µm	+0.04µm	-0.05µm	0.09µm	0.16µm
1.3mm	45290	+0.09µm	±0.20µm	+0.11µm	+0.01µm	0.10µm	0.16µm
1.4mm	80358	+0.09µm	±0.20µm	+0.13µm	+0.06µm	0.07µm	0.16µm
1.5mm	93332	+0.04µm	±0.20µm	+0.08µm	+0.01µm	0.07µm	0.16µm
1.6mm	47008	-0.07µm	±0.20µm	-0.01µm	+0.10µm	-0.11µm	0.16µm
1.7mm	45103	+0.02µm	±0.20µm	+0.05µm	-0.01µm	0.06µm	0.16µm
1.8mm	42741	+0.15µm	±0.20µm	+0.16µm	+0.07µm	0.09µm	0.16µm

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Nominal Lenght	Serial No.	Central Dev. de	de toleranees DIN 861 / ISO 3650	Max. Dev. dmax	Min. Dev. dmin	Var. v	v Toleranees DIN 861 / ISO 3650
1.9mm	46808	O.OOµm	±0.20µm	+0.05µm	-0.03µm	0.08µm	0.16µm
1mm	97211	+0.01µm	±0.20µm	+0.06µm	-0.01µm	0.07µm	0.16µm
2mm	78228	+0.16µm	±0.20µm	+0.18µm	+0.10µm	0.08µm	0.16µm
3mm	91720	+0.06µm	±0.20µm	+0.09µm	-0.01µm	0.10µm	0.16µm
4mm	48219	-0.04µm	±0.20µm	+0.01µm	-0.07µm	0.08µm	0.16µm
5mm	11711	+0.17µm	±0.ZOµm	+0.18µm	+0.09µm	0.09µm	0.16µm
6mm	47531	-0.05µm	±0.20µm	-0.01µm	-0.08µm	0.07µm	0.16µm
?mm	55348	O.OOµm	±0.20µm	+0.04µm	-0.05µm	0.09µm	0.16µm
8mm	44562	-0.05µm	±0.20µm	-0.0Zµm	-0.10µm	0.08µm	0.16µm
9mm	53783	O.OOµm	±0.20µm	+0.03µm	-0.06µm	0.09µm	0.16µm
10mm	33731	+0.13µm	±0.20µm	+0.17µm	+0.07µm	0.10µm	0.16µm
20mm	50051	+0.08µm	±0.30µm	+0.11µm	+0.05µm	0.06µm	0.16µm
30mm	56322	-0.02µm	±0.40µm	+0.04µm	-0.05µm	0.09µm	0.18µm
40mm	42114	-0.12µm	±0.40µm	-0.06µm	-0.15µm	0.09µm	0.18µm
50mm	37010	+0.12µm	±0.40µm	+0.14µm	+0.06µm	0.08µm	0.18µm
60mm	46050	+0.15µm	±0.50µm	+0.17µm	+0.07µm	0.10µm	0.18µm
70mm	38575	-0.23µm	±0.50µm	-0.17µm	-0.30µm	0.13µm	0.18µm
80mm	18864	+0.32µm	±0.60µm	+0.36µm	+0.22µm	0.14µm	0.20µm
90mm	75010	+0.30µm	±0.60µm	+0.36µm	+0.24µm	0.12µm	0.20µm
100mm	39189	+0.16µm	±0.60µm	+0.21µm	+0.11µm	0.10µm	0.20µm

Expanded Uncertainty: $(0.06 + 0.5L / 1000)\mu m$ (L = Nominal Length) L:mm

NOTES:

The uncertainty presented above is based on a standard uncertainty multiplied by a coverage factor of k=2, which provides a confidence leve! of approximately 95%. The standard uncertainty has been determined in accordance with EA-4/02:1999 - Expression of the uncertainty of measurement in calibration.

The results apply to the reference temperature of 20°C.
For correction of the thermal expansion, an expansion coefficient of the gauge block of $(11.5\pm1.0)x10^{-6} / {}^{o}C$ is used.

Calibrated by: Checked by:

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L0579)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Academy of Metrology and Quality Inspection

.L&ngzhu Middle Avenue; Nanshan District. Shenzhen, Guangdong, China

to ISOllEC 17025:2005 Gene:ra rRequirements for the Competence of Testing and Calíbration.Laboraories(CNAS:c;eo-1Accreditation Criteria for the Competence o(Tes'ting and Calibtaiion Laboratories) for the competence in thefield of testing and calibration.

The scope of accreditation is detailed in the atta celséhedule bearing the same accreditation number as abov:e;-The schedule f orms an integral part of this certificate.

Date of Issue: 2013-01-05

Date of Expiry: 2016-01-04

Date of Initial Accreditation: 1998-11-30

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatary to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatary to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).