



ISO/IEC 17025

Service Catalog for Pressure and Flow Calibration

Cosmo Instruments

Cosmo Group Calibration Laboratory



Cosmo Instruments is a manufacturer specialized in industrial measuring instruments including Air Leak Testers, pressure gauges, and flow meters.

Cosmo Group Calibration Laboratory (CGCL)

CGCL was accredited for “pressure” and “flow” calibration in accordance with JIS Q 17025 (ISO/IEC 17025) by JAB (Japan Accreditation Board) who is a signatory to ILAC/MRA and APAC/MRA.



- Accredited for ISO/IEC 17025 pressure calibration of Air Leak Testers for the first time in Japan, we have been certified for the highest level of calibration and measurement capability (CMC) in Japan and overseas.
- ISO/IEC 17025 accreditation assures that CGCL provides internationally recognized and reliable calibration services and results.

Accreditation body	Accreditation no.	Accreditation scope	Accreditation program
Japan Accreditation Board (JAB)	RCL00350	Mechanical (Pressure/Flow)	Calibration
Air Leak Tester, Digital pressure gauge, Pressure sensor, Analog pressure gauge (Mechanical pressure gauge), Gas flowmeter, Rotameter, Leak Master, etc.			

Our ISO/IEC 17025 calibration services deliver:

- On-site 17025 calibration around the world.
- Compliance with **IATF 16949** 7.1.5.3.2: External laboratory.
- Compliance with UL, JIS, ISO 13485 (medical device), ISO 9001 and other standards.
- Equivalent compliance with Japan Calibration Service System (JCSS).



What is ISO/IEC 17025

< Overview >

- ISO/IEC 17025 is an **international standard** providing the general requirements for **testing** and **calibration** capabilities.
- The calibration certificates issued by ISO/IEC 17025 accredited CGCL are the global standard with high reliability.
(= **One-stop testing**)
- Many industries require calibration by ISO/IEC 17025 accredited calibration laboratories.
- Quality Management Systems for Automotive Industry (**IATF 16949**) requires **ISO/IEC 17025** calibration.

< Assurance by ISO/IEC 17025 Accreditation >

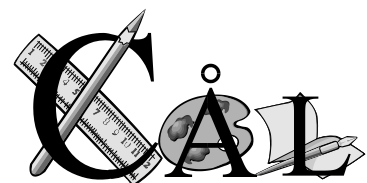
ISO/IEC 17025 accreditation assures the quality of our calibration results since we satisfy the following:

- Our calibration standards are traceable to national or international standards.
- Our calibration procedures are strictly specified for strict calibration.
- All our calibration engineers are qualified and highly competent by education and training.
- We have the technical ability to calculate measurement uncertainties.
- We operate with a quality system that meets the ISO 9001 standards (international quality assurance standard).

< Importance of Scope of Accreditation >

- 17025 accredited calibration laboratories have a “scope” of accreditation.
- The “scope” is a very important indicator of the “competence” of the laboratory.
 - Scope of measurement (17025 accredited calibration ranges of pressure and flow)
 - Measurement uncertainty CMC (A value that expresses how reliably a laboratory can measure.)

CMC: Calibration and Measurement Capability
Refer to our website for details.



Advantages of ISO/IEC 17025 calibration

< Advantages for Our Customers >

- 1 Proof of high quality**
We issue ISO/IEC 17025 calibration certificates with ilac-MRA and JAB symbols. These certificates are equivalent to those with JCSS or A2LA (American Association for Laboratory Accreditation) accreditation symbol.
- 2 International credibility**
Our technical capabilities have been proven based on the international Mutual Recognition Agreement (MRA).
- 3 Realization of one-stop testing**
Calibration certificates, even overseas ones, with the accreditation symbols prove that the calibration results are reliable. No calibration for confirmation required.
- 4 Traceability certificate (Diagram)**
Not required since the traceability to national or international standards is ensured.
- 5 Utilized in many industrial fields**
Advantageous in many fields including the automobile industry, UL and JIS certified factories, ISO 9001 and ISO 13485 (QMS standards for medical devices) certified companies.
- 6 On-site calibration**
We provide on-site calibration services around the world.

< Quality Assurance in Automotive Industry >

(IATF 16949 requirements) 7.1.5.3 Laboratory requirements, 7.1.5.3.2 External laboratory

External/commercial/independent laboratory facilities used for inspection, test, or calibration services by the organization must have a defined laboratory scope that includes the capability to perform the required inspection, test, or calibration. Also, organization must satisfy either of the following:

- the laboratory must be accredited to ISO/IEC 17025 or national equivalent and include the relevant inspection, test, or calibration service in the scope of the accreditation (certificate); the certificate of calibration or test report must include the mark of a national accreditation body; or
- there must be evidence that the external laboratory is acceptable to the customer.

The above means that the following are mandatory when outsourcing the periodic inspection of production facilities and test equipment to an outside contractor.

- The contractor has ISO/IEC 17025 accreditation.
- The contractor can perform ISO/IEC 17025 equivalent calibration and submit objective evidence.

ISO/IEC 17025 calibration specifications

Give us a call and then our calibration engineers will assist you in determining the specifications for ISO/IEC 17025 calibration. If you don't know who to contact, please contact our local offices.

< ISO/IEC 17025 Calibration Services >

- Give us the product information (model number, serial number, range). For products from other manufacturers, prepare the operation manuals, catalogs, etc.
- In-house calibration is performed in our permanent facilities. Please tell us if you prefer calibration outside our facility. The uncertainty of calibration outside our facility will be the on-site uncertainty. Also, notify us if the product is used as standard instrument. We will preform In-house calibration.
- For Cosmo's products, we will conduct inspection (including safety check and span adjustment) before ISO/IEC 17025 calibration. We recommend the calibration of not only the sensors of leak and flow but also the pressure gauges for measuring the test pressure.
- The prices listed in this catalog are for ISO/IEC 17025 calibration only. The fees for inspection, repair, and the travel expenses (for on-site calibration) will be charged separately.
- Specifications listed in this catalog are standard specifications. If any extra specifications are needed, we will discuss with you about the arrangements and then prepare the calibration specifications sheet. We will not prepare the calibration specifications sheet for the specifications listed in the catalog. **If additional calibration points are required, we will charge extra JPY 10,000 per another point. Note that some points are unavailable to calibrate due to the condition of standard instrument.**
- We will attach a calibration label to the calibrated instrument and issue a calibration certificate.
- We will use the same box as the one used to transport the instrument to us to send back the calibrated instrument. However, if we determine that the box is damaged, we will prepare a new box.
- For customers who wants the uncertainty, we are available to show uncertainty exceeding the CMC. Please tell us if you want the uncertainty to be close to the CMC.
- Contact us in advance if you would like to witness the calibration or tour our laboratory.
- Note that for absolute gas pressure, zero-point check and zero-point adjustment cannot be performed.
- If the display units of your instrument are only non-SI units, it cannot be calibrated.

< Calibration in Our Permanent Facilities (In-house Calibration) >

- The lead time of calibration is about 15 weekdays (excluding holidays), but it may change depending on the situation. Inform us if you want the calibration finished as soon as possible.
- If the instrument is either out of tolerance or does not move properly, we will have to stop the calibration. In that case, we will contact you immediately.

< Calibration Outside Our Permanent Facilities (On-site Calibration) >

- We will perform calibration under the following conditions.
 - Room temperature 5 to 40°C, Humidity 10 to 80% RH, Temperature change during calibration within 2°C
 - The fluctuation of the displayed value is within the range we specify.
- If the environmental conditions for calibration are not met (failure of facility or air conditioner, bad weather, etc.), we will stop the calibration. Even in that case, we will charge the travel expenses.
- If it is difficult to conduct calibration due to either the location issue or environmental issue, we may have to discuss with you to conduct calibration at a different location. In that case, please move the instrument to another location and turn on the power for at least 2 hours, at most a day before the calibration.
- We will send you the calibration certificate, calibration label, etc. by 15 weekdays (excluding holidays) after the calibration date. We will attach a pro formal calibration sticker to the instrument right after the calibration.

Pressure Calibration Outside Our Permanent Facilities

We will use working standard digital pressure gauges for on-site calibration.

◆ Cosmo's Products

Air leak Tester, DP Series / DM Series, Others

Pressure type: **Gas gauge pressure**

◆ Differential Pressure Sensor (DPS)

Calibration price: **JPY 40,000**

The basic calibration points are 4 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa)	Calibration range	CMC
3FFF	1 kPa	0.001	0.025 kPa to 1 kPa	0.006 kPa
3FFD	10 kPa	0.01	0.25 kPa to 10 kPa	0.03 kPa / 0.1 kPa

◆ Pressure sensor (PS)

◆ Analog pressure gauge (Mechanical pressure gauge)

◆ Digital pressure gauge (DP Series / DM Series)

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa)	Calibration range	CMC
3F12	1 kPa	0.001	0.025 kPa to 1 kPa	0.006 kPa
3F43	10 kPa	0.01	0.25 kPa to 10 kPa	0.03 kPa
3F44	10 kPa	0.1	0.1 kPa to 10 kPa	0.2 kPa
3F32	20 kPa	0.001	1 kPa to 20 kPa	0.004 kPa
3F33	20 kPa	0.01	1 kPa to 20 kPa	0.06 kPa
3F35	20 kPa	1	1 kPa to 20 kPa	1 kPa
3F64	100 kPa	0.1	10 kPa to 100 kPa	1 kPa
3F66	100 kPa	2	10 kPa to 100 kPa	2 kPa
3F84	200 kPa	0.1	10 kPa to 2000 kPa	2.0 kPa
3F87	250 kPa	5	40 kPa to 200 kPa	5 kPa
3F85	1000 kPa	1	10 kPa to 1000 kPa	1 kPa / 6 kPa
3F78	1000 kPa	20	100 kPa to 1000 kPa	20 kPa
3F75	2000 kPa	1	100 kPa to 2000 kPa	8 kPa / 12 kPa
3F79	2500 kPa	100	100 kPa to 2000 kPa	100 kPa
3F22	-1 kPa	0.001	-1 kPa to -0.025 kPa	0.006 kPa
3F52	-20 kPa	0.001	-20 kPa to -2 kPa	0.006 kPa
3F94	-90 kPa	0.1	-90 kPa to -10 kPa	0.8 kPa
3F95	-90 kPa	1	-90 kPa to -10 kPa	2 kPa
3F96	-90 kPa	2	-90 kPa to -10 kPa	2 kPa

Pressure type: **Gas absolute pressure**

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa abs)	Calibration range	CMC
3E04	110 kPa abs	0.01	90 kPa abs to 110 kPa abs	0.05 kPa abs

Pressure Calibration in Our Permanent Facilities (1/3)

◆ Air Leak Testers (Cosmo's Products)

Pressure type: **Gas gauge pressure**

For those built inside the Air Leak Testers (Digital specification).

The basic calibration points are 4 points within the calibration range.

◆ Differential Pressure Sensor (DPS)

Calibration price: **JPY 40,000**

Spec. no.	FS range	DUT resolution (kPa)	Calibration range	CMC
2FFF	1 kPa	0.001	0.025 kPa to 1 kPa	0.004 kPa
2FFD	10 kPa	0.01	0.25 kPa to 10 kPa	0.02 kPa / 0.1 kPa

◆ Pressure sensor (PS)

◆ Analog pressure gauge (Mechanical pressure gauge)

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa)	Calibration range	CMC
2F12	1 kPa	0.001	0.025 kPa to 1 kPa	0.004 kPa
2F43	10 kPa	0.01	0.25 kPa to 10 kPa	0.02 kPa / 0.1 kPa
2F33	20 kPa	0.01	1 kPa to 20 kPa	0.06 kPa
2F34	20 kPa	0.1	1 kPa to 20 kPa	0.4 kPa
2F35	20 kPa	1	1 kPa to 20 kPa	1 kPa
2F64	100 kPa	0.1	10 kPa to 100 kPa	0.6 kPa
2F65	100 kPa	1	10 kPa to 100 kPa	1 kPa
2F66	100 kPa	2	10 kPa to 100 kPa	1 kPa
2F84	200 kPa	0.1	10 kPa to 200 kPa	0.4 kPa
2F87	200 kPa	5	40 kPa to 200 kPa	5 kPa
2F78	1000 kPa	20	100 kPa to 1000 kPa	20 kPa
2F85	1000 kPa	1	10 kPa to 1000 kPa	5 kPa
2F75	2000 kPa	1	400 kPa to 2000 kPa	8 kPa / 12 kPa
2F79	2500 kPa	100	200 kPa to 2000 kPa	100 kPa
2F94	-90 kPa	0.1	-90 kPa to -10 kPa	0.6 kPa
2F95	-90 kPa	1	-90 kPa to -10 kPa	2 kPa
2F96	-90 kPa	2	-90 kPa to -10 kPa	2 kPa

◆ Digital pressure gauge: DP Series / DM Series

Pressure type: **Liquid gauge pressure**

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (MPa)	Calibration range	CMC
1051	5 MPa	0.0001	1 MPa to 5 MPa	0.0028 MPa
1052	5 MPa	0.001	1 MPa to 5 MPa	0.007 MPa
1053	5 MPa	0.01	1 MPa to 5 MPa	0.02 MPa
1101	10 MPa	0.0001	1 MPa to 10 MPa	0.005 MPa
1203	20 MPa	0.01	1 MPa to 20 MPa	0.02 MPa
1501	50 MPa	0.0001	1 MPa to 50 MPa	0.003 MPa / 0.015 %
1502	50 MPa	0.001	1 MPa to 50 MPa	0.003 MPa / 0.015 %
1503	50 MPa	0.01	10 MPa to 50 MPa	0.03 MPa
1504	50 MPa	0.1	10 MPa to 50 MPa	0.3 MPa

Pressure Calibration in Our Permanent Facilities (2/3)

◆ Digital pressure gauge: PK Series

Pressure type: **Gas gauge pressure**

The basic calibration points are 8 points for specification number K102 and K302, and 5 points for others.

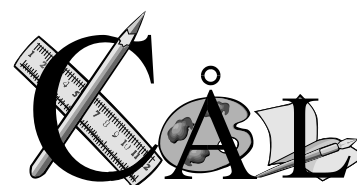
Calibration price (Spec. no. K102, K302): **JPY 80,000**

Calibration price (Others): **JPY 50,000**

Spec. no.	FS range	DUT resolution (kPa)	Main calibration ranges	CMC
K102	1 kPa	0.001	0.025 kPa to 1 kPa	0.003 kPa
K302	-1 kPa	0.001	-1 kPa to -0.025 kPa	0.007 kPa
K502	20 kPa	0.001	1 kPa to 20 kPa	0.003 kPa
K602	-20 kPa	0.001	-20 kPa to -2 kPa	0.005 kPa
K904	2000 kPa	0.1	200 kPa to 2000 kPa	0.3 kPa
K804	200 kPa	0.1	20 kPa to 200 kPa	0.3 kPa
K704	-90 kPa	0.1	-90 kPa to -10 kPa	0.3 kPa

◆ Calibration of Other Manufacturers' Products

If the instrument is made by other manufacturer, we will discuss with you about the instrument's specification and calibration process. If it is a new instrument, we will prepare a calibration specification sheet for you.



Pressure Calibration in Our Permanent Facilities (3/3)

◆ Digital pressure gauges: DP Series / DM Series, Others

Pressure type: **Gas gauge pressure**

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa)	Calibration range	CMC
2101	2 kPa	0.0001	0.001 kPa to 2 kPa	0.003 kPa
2102	2 kPa	0.001	0.025 kPa to 2 kPa	0.003 kPa
2002	10 kPa	0.001	0.1 kPa to 10 kPa	0.004 kPa
2202	10 kPa	0.001	1 kPa to 10 kPa	0.007 kPa
2203	10 kPa	0.01	1 kPa to 10 kPa	0.02 kPa
2502	20 kPa	0.001	1 kPa to 20 kPa	0.003 kPa
2503	100 kPa	0.01	4 kPa to 100 kPa	0.06 kPa
2403	100 kPa	0.01	10 kPa to 100 kPa	0.04 kPa
2404	100 kPa	0.1	10 kPa to 100 kPa	0.3 kPa
2504	100 kPa	0.1	20 kPa to 100 kPa	0.6 kPa
2803	200 kPa	0.01	20 kPa to 200 kPa	0.04 kPa
2804	200 kPa	0.1	20 kPa to 200 kPa	0.3 kPa
2A04	1000 kPa	0.1	100 kPa to 1000 kPa	0.6 kPa
2A05	1000 kPa	1	100 kPa to 1000 kPa	2 kPa
290A	1000 kPa	10	200 kPa to 1000 kPa	20 kPa
2A03	2000 kPa	0.01	100 kPa to 2000 kPa	0.052 kPa / 0.007 %
2903	2000 kPa	0.01	200 kPa to 2000 kPa	0.04 kPa / 0.052kPa
2904	2000 kPa	0.1	200 kPa to 2000 kPa	0.3 kPa
2905	2000 kPa	1	400 kPa to 2000 kPa	3 kPa
2301	-10 kPa	0.0001	-10 kPa to -0.01 kPa	0.003 kPa
2302	-10 kPa	0.001	-10 kPa to -0.01 kPa	0.007 kPa
2303	-10 kPa	0.01	-10 kPa to -1 kPa	0.02 kPa
2602	-20 kPa	0.001	-20 kPa to -2 kPa	0.005 kPa
2603	-20 kPa	0.01	-20 kPa to -2 kPa	0.03 kPa
2702	-90 kPa	0.001	-90 kPa to -10 kPa	0.014 kPa
2703	-90 kPa	0.01	-90 kPa to -10 kPa	0.04 kPa
2704	-90 kPa	0.1	-90 kPa to -10 kPa	0.3 kPa

Pressure type: **Gas absolute pressure**

Calibration price: **JPY 30,000**

The basic calibration points are 3 points within the calibration range.

Spec. no.	FS range	DUT resolution (kPa abs)	Calibration range	CMC
2B03	120 kPa abs	0.01	20 kPa abs to 120 kPa abs	0.03 kPa
2B04	120 kPa abs	0.1	20 kPa abs to 120 kPa abs	0.3 kPa
2D03	700 kPa abs	0.01	20 kPa abs to 700 kPa abs	0.05 kPa
2E02	110 kPa abs	0.001	90 kPa abs to 110 kPa abs	0.005 kPa
2E03	110 kPa abs	0.01	90 kPa abs to 110 kPa abs	0.05 kPa
2E04	110 kPa abs	0.1	90 kPa abs to 110 kPa abs	0.6 kPa

Flowmeter Calibration Outside Our Permanent Facilities

For calibration outside our permanent facilities (on our or our distributor's premises), we will handle it as on-site calibration.

- ◆ Digital flow meters
- ◆ Air Flow Testers
- ◆ Mass flow gauges / Laminar flow gauges
- ◆ Leak Master Checkers

For calibration of instruments manufactured by us, select from the following.

If the instrument's temperature setting is at 0 Celsius and changeable, we will change it at 20 Celsius during the calibration.

Calibration price: **JPY 70,000**

Spec. no.	FS range	Calibration range	Basic calibration points	CMC
6231	20 mL/min	1 mL/min to 20 mL/min	Any 3 points in each range shown on the left	From 1 mL/min to less than 2 mL/min: 3.3% 2 mL/min or more: 1.8%
	50 mL/min	10 mL/min to 50 mL/min		
	100 mL/min	10 mL/min to 100 mL/min		
	200 mL/min	10 mL/min to 200 mL/min		
	500 mL/min	100 mL/min to 500 mL/min		
	1 L/min	0.06 L/min to 0.3 L/min		
	1 L/min	0.2 L/min to 1 L/min		
	2 L/min	0.1 L/min to 0.6 L/min		
	2 L/min	0.4 L/min to 2 L/min		
	5 L/min	0.3 L/min to 1.5 L/min		
	5 L/min	1 L/min to 5 L/min		
	10 L/min	0.6 L/min to 3 L/min		
	10 L/min	2 L/min to 10 L/min		
	20 L/min	1 L/min to 6 L/min		
	20 L/min	4 L/min to 20 L/min		
	30 L/min	1 L/min to 9 L/min		
	30 L/min	6 L/min to 30 L/min		
	50 L/min	3 L/min to 15 L/min		
	50 L/min	10 L/min to 50 L/min		
	100 L/min	6 L/min to 30 L/min		
100 L/min	20 L/min to 100 L/min			
200 L/min	10 L/min to 50 L/min			
200 L/min	40 L/min to 200 L/min			

The specification no. is for 3-point calibration.

Example.

For 4-point calibration, the specification no. will be 6241

For 5-point calibration, the specification no. will be 6251.

Flowmeter Calibration in Our Permanent Facilities

For calibration outside our permanent facilities (on our or our distributor's premises), we will handle it as on-site calibration.

- ◆ Digital flow meters
- ◆ Air Flow Testers
- ◆ Mass flow gauges / Laminar flow gauges
- ◆ Leak Master Checkers

For calibration of instruments manufactured by us, select from the following.

If the instrument's temperature setting is at 0 Celsius and changeable, we will change it at 20 Celsius during the calibration.

Calibration price: **JPY 70,000**

Spec. no.	FS range	Calibration range	Basic calibration points	CMC
5131	20 mL/min	1 mL/min to 20 mL/min	Any 3 points in each range shown on the left	From 1 mL/min to less than 2 mL/min: 3.1%
	50 mL/min	10 mL/min to 50 mL/min		
	100 mL/min	10 mL/min to 100 mL/min		
	200 mL/min	10 mL/min to 200 mL/min		
	500 mL/min	100 mL/min to 500 mL/min		
	1 L/min	0.06 L/min to 0.3 L/min		
	1 L/min	0.2 L/min to 1 L/min		
	2 L/min	0.1 L/min to 0.6 L/min		
	2 L/min	0.4 L/min to 2 L/min		
	5 L/min	0.3 L/min to 1.5 L/min		
	5 L/min	1 L/min to 5 L/min		From 2 mL/min to 10 mL/min: 1.6%
	10 L/min	0.6 L/min to 3 L/min		
	10 L/min	2 L/min to 10 L/min		
	20 L/min	1 L/min to 6 L/min		
	20 L/min	4 L/min to 20 L/min		
	30 L/min	1 L/min to 9 L/min		
	30 L/min	6 L/min to 30 L/min		
	50 L/min	3 L/min to 15 L/min		
	50 L/min	10 L/min to 50 L/min		
	100 L/min	6 L/min to 30 L/min		
100 L/min	20 L/min to 100 L/min			
200 L/min	10 L/min to 50 L/min			
200 L/min	40 L/min to 200 L/min			
500 L/min	30 L/min to 150 L/min			
500 L/min	100 L/min to 500 L/min			

The specification no. is for 3-point calibration.

Example:

For 4-point calibration, the specification no. will be 5141

For 5-point calibration, the specification no. will be 5151.

17025 Flow Calibration

◆ Leak Masters

Leak Masters: **LM-1B, LM-1C, etc.**

Specify the flow range and the test pressure.

We can calibrate other manufacturers' orifices within the flow and test pressure ranges below.

Flow range, In-house calibration: 1 mL/min to 500 L/min, Others: 1 mL/min to 200 L/min

Test pressure range (-90 kPa to 2 MPa)

When calibrating in our permanent facilities (In-house calibration):

Calibration price: **JPY 35,000**

Spec. no.	FS range	Calibration range	Basic calibration points	CMC
5110	20 mL/min	1 mL/min to 20 mL/min	Any 1 point in each range shown on the left	See Note 1.
	200 mL/min	20 mL/min to 200 mL/min		
	500 mL/min	200 mL/min to 500 mL/min		
	2 L/min	0.1 L/min to 2 L/min		
	20 L/min	1 L/min to 20 L/min		
	200 L/min	10 L/min to 200 L/min		
500 L/min	100 L/min to 500 L/min			

Note 1: From 1 mL/min to less than 2 mL/min: 3.1%, From 2 mL/min to 10 mL/min: 1.6%
Greater than 10 mL/min: 1%

When calibrating outside our permanent facilities (on our or our distributor's premises)

Calibration price: **JPY 35,000**

Spec. no.	FS range	Calibration range	Basic calibration points	CMC
6210	20 mL/min	1 mL/min to 20 mL/min	Any 1 point in each range shown on the left	See Note 2.
	200 mL/min	10 mL/min to 200 mL/min		
	500 mL/min	100 mL/min to 500 mL/min		
	2 L/min	0.1 L/min to 2 L/min		
	20 L/min	1 L/min to 20 L/min		
	200 L/min	10 L/min to 200 L/min		

Note 2: From 1 mL/min to less than 2 mL/min: 3.3%, 2 mL/min or more: 1.8%

◆ Calibration of Other Manufacturers' Products

If the instrument is made by other manufacturer, we will discuss with you about the instrument's specification and calibration process. If it is a new instrument, we will prepare a calibration specification sheet for you.

< **General gas flow gauges** >

Calibration price: From **JPY 120,000**

We evaluate the uncertainty of general gas flow gauge made by other manufacturers.

< **Rotameters** >

Calibration price: From **JPY 50,000**

We calibrate rotameters (floating flow meters) by measuring the flow at the outlet without test pressure in principle. We evaluate the measurement of standard flow by reading the points when the float and the scale is aligned with each other. Please contact us so we could discuss the specifications of the flow meter.

17025 Flow Calibration

◆ Calibration for ranges of 1 mL/min or less

Leak Masters: **LM-1B, LM-1C**, etc.

Calibration for these instruments is only available at our permanent facilities.

Specify the flow range and the test pressure.

Calibration of the ranges below 1 mL/min is available at test pressure as follows.

-90 kPa to 2 MPa

When calibrating in our permanent facilities (In-house calibration):

Calibration price: **JPY 70,000**

Spec. no.	FS range	Calibration range	Basic calibration points	CMC
5110	1 mL/min	0.05 mL/min to 0.1 mL/min	Any 1 point in each range shown on the left	25.0%
		0.1 mL/min to 0.2 mL/min		12.5%
		0.2 mL/min to 0.3 mL/min		6.3%
		0.3 mL/min to 1 mL/min		5.0%

◆ Calibration of Other Manufacturers' Orifices

Flow calibration of other manufacturers' orifices for ranges below 1 mL/min is also newly available. We will calibrate according to the calibration specifications determined through discussions with our customers. In the case of a request for completely new specification, we will prepare a calibration specification sheet.

For more details including prices, contact our staff.

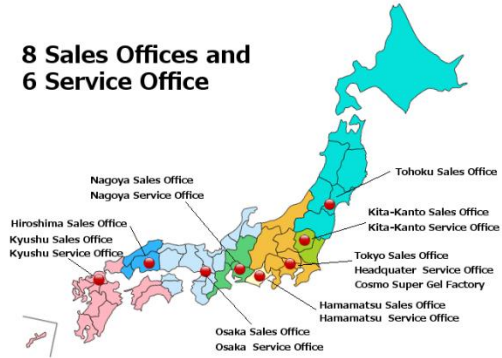
Cosmo Group Calibration Laboratory & Offices in Japan

Cosmo Instruments Co., Ltd. Cosmo Group Calibration Laboratory

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◆ Staff members of Cosmo Group Calibration Laboratory are stationed.

Cosmo Group Calibration Laboratory's Worldwide Network

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