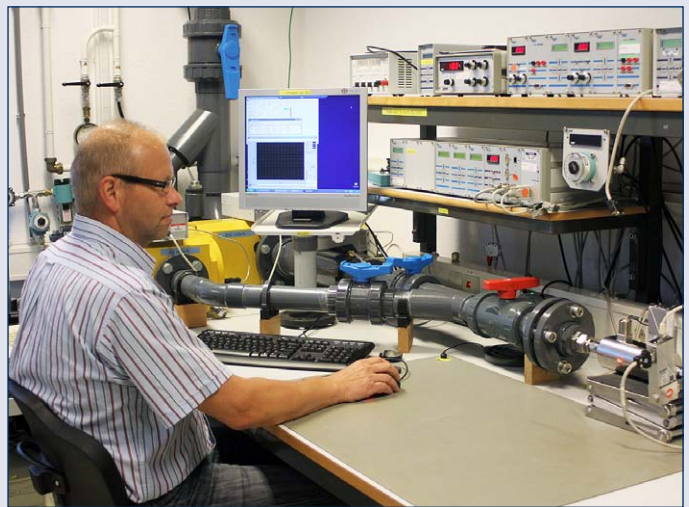


# Bronkhorst Calibration Centre

ISO/IEC 17025:2005 accredited

## > Gas flow calibrations and adjustments

Bronkhorst High-Tech B.V. manufactures a wide variety of thermal Mass Flow Meters and Controllers. All instruments are factory calibrated using highly accurate calibration devices, traceable to international standards. Accredited calibrations may be required for various reasons, e.g. to meet specific demands from authorities, or for instruments that will be used as reference standards. The Bronkhorst Calibration Centre has been awarded ISO/IEC 17025:2005 by the Dutch Accreditation Council (RvA). Calibration services, including adjustments can be offered in the range of 0.7 ml<sub>r</sub>/min up to 6,200 l<sub>r</sub>/min for both new and existing Bronkhorst gas flow meters / controllers and gas flow calibration devices. In addition the calibration centre can also perform gas flow calibrations for volumetric type of flow meters and other brands of mass flow meters/controllers.



Dual rotary meter calibration bench



## > Benefits

- ◆ Accredited gas flow calibrations in the following ranges (based on Air):
  - Volume flow: 0.7 ml/min up to 6,650 l/min
  - Mass flow: 0.7 ml<sub>r</sub>/min up to 6,200 l<sub>r</sub>/min
- ◆ Actual gas calibrations
- ◆ Accuracy to the highest level across the world
- ◆ Customer convenience: "one-stop service" for purchasing flow measuring instruments with accredited calibration
- ◆ Short delivery time
- ◆ Cost effective service
- ◆ Qualified staff with a "quality-first" approach and an eye for customers needs
- ◆ Gas flow calibrations for other brands possible
- ◆ On request Bronkhorst offers calibration training courses and workshops



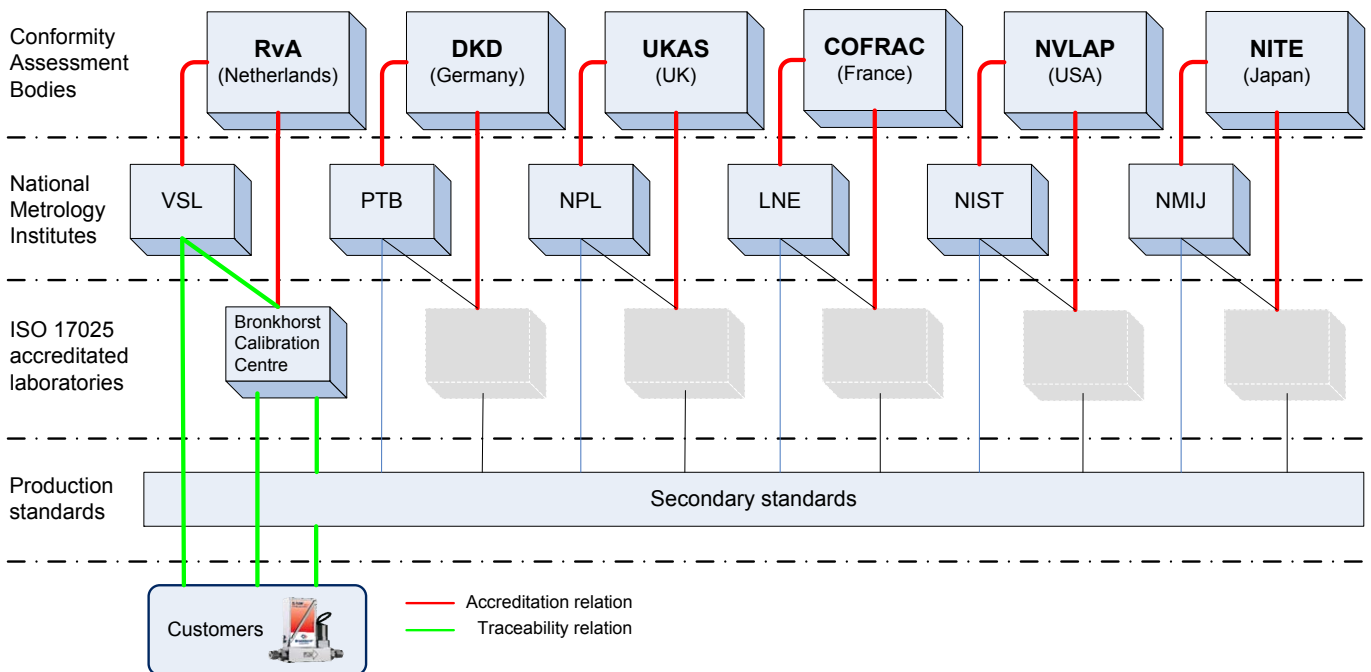
## > Scope

Gas MASS flow range (Air)	Gas VOLUME flow range (Air)	Gas MASS flow range (N <sub>2</sub> , Ar, CO <sub>2</sub> , He, H <sub>2</sub> )	Gas VOLUME flow range (N <sub>2</sub> , Ar, CO <sub>2</sub> , He, H <sub>2</sub> )	CMC <sup>1)</sup> (k=2)
(at 21 ± 2°C and 50 ± 20% RH)	(at 21 ± 2°C and 50 ± 20% RH)	(at 21 ± 2°C and 50 ± 20% RH)	(at 21 ± 2°C and 50 ± 20% RH)	(in % of Reading)
0.66 ml <sub>r</sub> /min – 3.3 ml <sub>r</sub> /min <sup>2)</sup>	0.71 ml/min – 3.5 ml/min <sup>2)</sup>	0.66 ml <sub>r</sub> /min – 3.3 ml <sub>r</sub> /min <sup>4)</sup>	0.71 ml/min – 3.5 ml/min <sup>4)</sup>	0.43%
3.3 ml <sub>r</sub> /min – 15.5 ml <sub>r</sub> /min <sup>2)</sup>	3.5 ml/min – 16.6 ml/min <sup>2)</sup>	3.3 ml <sub>r</sub> /min – 15.5 ml <sub>r</sub> /min <sup>4)</sup>	3.5 ml/min – 16.6 ml/min <sup>4)</sup>	0.31%
15.5 ml <sub>r</sub> /min – 25 l <sub>r</sub> /min <sup>2)</sup>	16.6 ml/min – 26.8 l/min <sup>2)</sup>	15.5 ml <sub>r</sub> /min – 25 l <sub>r</sub> /min <sup>4)</sup>	16.6 ml/min – 26.7 l/min <sup>4)</sup>	0.25%
5.04 l <sub>r</sub> /min – 1,008 l <sub>r</sub> /min <sup>2)</sup>	5.41 l/min – 1,082 l/min <sup>2)</sup>	-	-	0.21%
1,008 l <sub>r</sub> /min – 6,202 l <sub>r</sub> /min <sup>3)</sup>	1,082 l/min – 6,645 l/min <sup>3)</sup>	-	-	0.22%

<sup>1)</sup> Calibration and Measurement Capability: Demonstrated measurement uncertainty, with coverage probability of 95% in a given measurement point or measurement range.

<sup>2)</sup> at 1...8 bar a / <sup>3)</sup> at 1...7 bar a / <sup>4)</sup> at 1...10 bar a

## > Accreditation and traceability relations



## > Bronkhorst High-Tech BV

Bronkhorst High-Tech B.V. offers the most extensive product range of thermal mass flow meters and controllers on the market. Numerous styles of both standard and bespoke instruments can be offered for applications in laboratory, industrial and hazardous areas. The measuring range for these instruments can be selected between 0-1 ml<sub>r</sub>/min and 0-10000 m<sup>3</sup><sub>r</sub>/h for gases and 0-30 mg/h up to 0-20 kg/h for liquids. Bronkhorst High-Tech is a truly world-wide organisation with its Headquarters being located in the town of Ruurlo (Netherlands) and with an extensive global network of subsidiaries, distributors, licensees and service centres.



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