

Vacuum Gauges

Vacuum components

Ionization vacuum gauge



CANON ANELVA CORPORATION

Vacuum Gauge Series

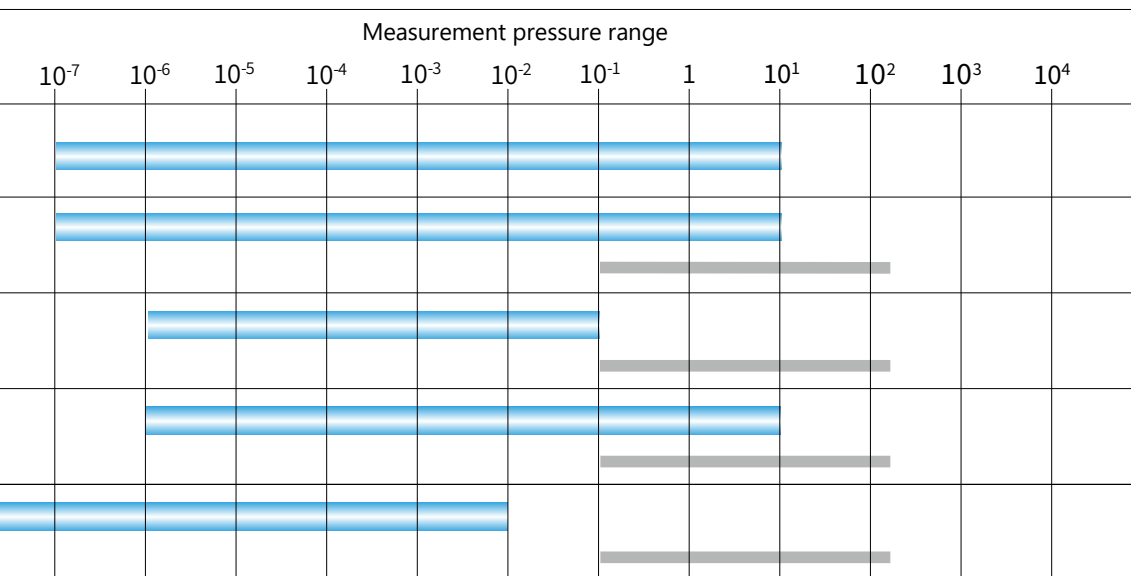


Summary

We offer a wide range of vacuum gauges, from low vacuum to ultra-high vacuum, to suit a variety of applications.

Selection guide

Control unit	Measurement gauge	Pa			10 ⁻⁸
Wide range ionization vacuum gauge M-431HG	Miniature B-A Gauge MG-2 Series				
Wide range ionization vacuum gauge M-833HG	Miniature B-A Gauge MG-2 Series (Thermocouple Gauge TG-550C option)				
Wide range ionization vacuum gauge M-723HG	B-A Gauge UGD-1S (Thermocouple Gauge TG-550C option)				
Wide range ionization vacuum gauge M-823HG	Wide Range B-A Gauge BRG-1B (Thermocouple Gauge TG-550C option)				
Wide range ionization vacuum gauge M-923HG	Nude Ion Gauge NIG-2F/NIG-2TF (Thermocouple Gauge TG-550C option)				



Wide Range Ionization Vacuum Gauge

M-431HG

CE

RoHS

Summary

M-431HG is a vacuum gauge control power supply exclusively for the miniature gauge series.

Features

1. External I/O and RS-232C communication functions equipped as standard.
2. Wide input voltage.
3. CE marking Rocompliant.

Applications

- Automated vacuum equipment pressure measurement.
- Sputtering process pressure measurement and control.
- Multi-chamber system pressure measurement.
- General vacuum equipment pressure measurement.



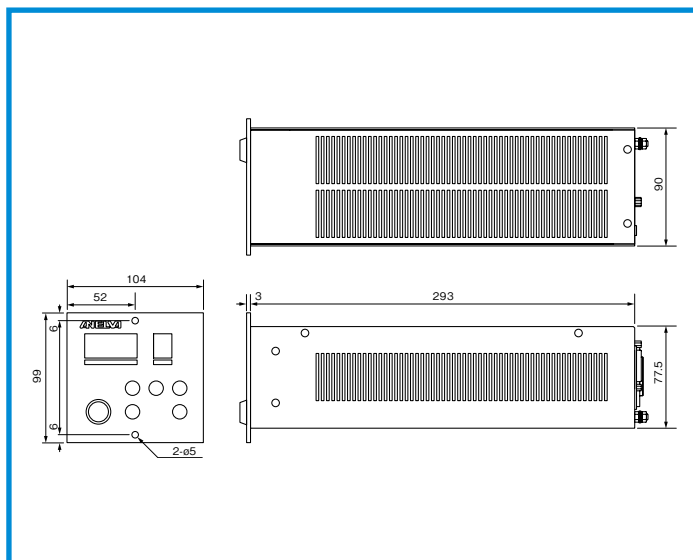
Specifications

Type	M-431HG
Measurement gauge	Miniature B-A Gauge MG-2 Series
Pressure display range	$0.01 \times 10^{-7} \sim 13.2 \times 10^0 \text{ Pa}^{\ast 1}$
Pressure display	Digital, measurement range auto switch
Set point	Standard equipped with 2 points (with hysteresis)
D / A output	Switch between LOG or combined output (0 to 10 V)
Analog output	0 to 10 V (APC compatible output)
External control function (Remote operation)	IINPUT: Filament ON/OFF, parameter LOCK, filament switching, degas ON/OFF, range hold OUTPUT: Set points 1, 2, Filament ON/OFF status degas status, filament 1/2 status
Communication function	RS232C standard equipped (9600, 4800, 2400, 1200 bps)
Dimensions (mm)	W104 mm × H99 mm × D296 mm
Weight	1.2 kg
Power consumption	50 VA 90 to 240 V AC 50/60Hz $\ast 2$
Emission current	10 μA , 100 μA , 1 mA (auto switched, or fixed)
Degas	Grid electrical heating method, 3 min timer
Filament switching	Key and remote I/O control
Filament protection	Filament turns off at $13.3 \times 100 \text{ Pa}$ or above. Over range setting or emission current $\pm 50\%$ variation
Standard configuration	Vacuum gauge main unit (measurement gauge and cables not included)
Conformity	RoHS, CE marking

$\ast 1$. Refer to the section on measuring gauge MG-2 for the measurement range.

$\ast 2$. The cable included with the M-431HG is for use at 100V. Please contact us when using at 200V.

■ Dimensions diagram



■ Accessories

Cables

- Dedicated gauge cable (80°C heat-resistant temperature)
Standard length 5 m, 10 m, 15 m, 20 m
- Bakable cable also available (250°C heat-resistant temperature)
Standard length 5 m, 10 m, 15 m, 20 m

■ Ordering information

Part Number	Model	Discription	Remarks	Code
8B1-0016-083	430-901	Cable for Miniature B-A Gauge (5 m)	For MG-2/2F	21672
8B1-0016-094	430-902	Cable for Miniature B-A Gauge (10 m)	For MG-2/2F	21673
8B1-0016-084	430-903	Cable for Miniature B-A Gauge (15 m)	For MG-2/2F	21674
8B1-0012-887	430-904	Cable for Miniature B-A Gauge (20 m)	For MG-2/2F	21675
8B1-0013-952	430-911	Bakable Cable for MG-2 (5 m)	Maximum operating temperature range 250°C	21676
8B1-0013-953	430-912	Bakable Cable for MG-2 (10 m)	Maximum operating temperature range 250°C	21677
8B1-0013-562	430-913	Bakable Cable for MG-2 (15 m)	Maximum operating temperature range 250°C	21678
8B1-0013-563	430-914	Bakable Cable for MG-2 (20 m)	Maximum operating temperature range 250°C	21679
8B1-0014-590	M-431HG	Wide Range Ion Gauge	For MG-2	21685

Refer to the measuring gauge ordering information for measurement gauges

Wide Range Ionization Vacuum Gauge

M-833HG

CE

RoHS

Summary

The M-833HG is a control unit made exclusively for miniature B-A gauges. Optional expansion boards supporting versatile gauge and data output are available.

The combination of a miniature B-A gauge and TC gauge (option) and the use of an auto filament for auto gauge switching enables highly accurate vacuum measurement from atmospheric pressure to ultra-high vacuum. The M-833HG is ideally suited for installation on high to ultra-high vacuum equipment.

Features

1. Easy-to-read liquid crystal display. Pressure values and messages are displayed on the LCD.
2. Automatically switched pressure range.
3. Variety of external control functions enabling fully remote operation.
4. Two set points equipped as standard.
5. Highly expandable supporting up to four option boards.
6. Compliant with RoHS and CE marking.



Applications

- Automated vacuum equipment pressure measurement.
- Sputtering process pressure measurement and control.
- Multi-chamber system pressure measurement.
- General vacuum equipment pressure measurement.

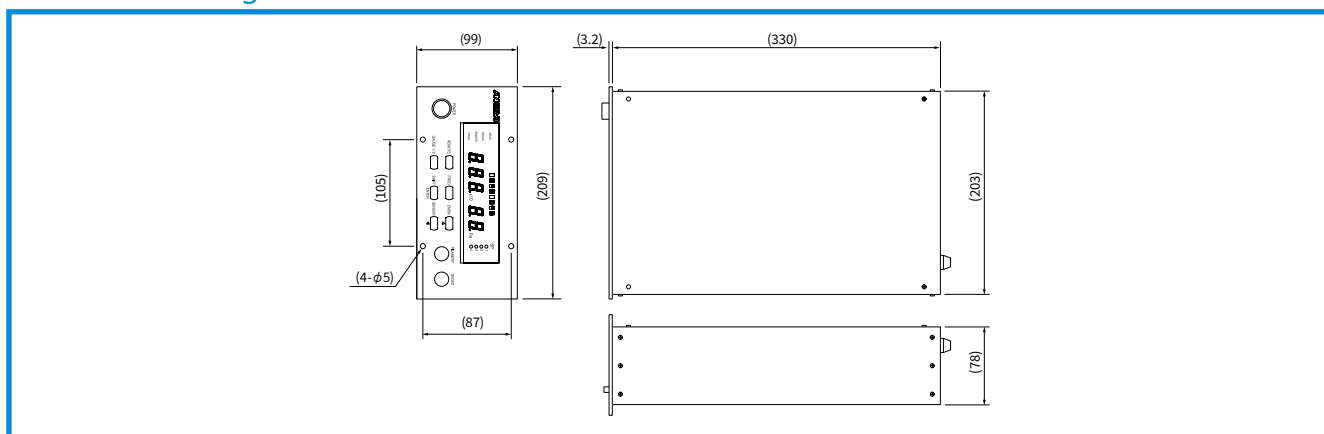
Specifications

Type	M-833HG
Measurement gauge	Miniature gauge MG-2 Series
Pressure display range	$0.01 \times 10^{-7} \sim 1.32 \times 10^1$ Pa ※ ¹
Pressure display	Measurement range auto switch
Set point	Two set points equipped as standard (open collector)
D/A output	Mantissa output, Exponent output, Combined output (LOG, Linear)
Analog output	When set to APC mode (0.1 to 2.5 V)
External control function (Remote operation)	INPUT : Filament ON/OFF, Degas ON/OFF, Filament inhibit ON/OFF, Range hold 1 ON/OFF, Range hold 2 ON/OFF, Filament 1/2 switching, Gauge select (when option is in use) OUTPUT : Filament ON/OFF, Degas ON/OFF, Remote/Local, Set point (2 Points), Gauge select status (when option is in use), Power ON/OFF, Filament 1/2, Alarm
Dimensions	W209 mm × H99 mm × D330 mm
Weight	1.9 kg (without option boards installed)
Power supply	100 ~ 240 V AC 100 VA or less 50 / 60 Hz ※ ²
Emission current	10 μA, 100 μA, 1 mA (auto switched or fixed)
Degas	Grid electrical heating method
Filament switching	Key and remote I/O control
Filament protection	Over range setting or emission current ±50% variation
Standard configuration	Vacuum gauge main unit (measurement gauge and cables not included)
Conformity	CE marking , RoHS

※ 1. Refer to the section on measuring gauge MG-2 for the measurement range.

※ 2. The cable included with the M-833HG is for use at 100V. Please contact us when using at 200V.

■ Dimensions diagram



■ Accessories

Cables

- Dedicated gauge cable (80°C heat-resistant temperature)
Standard length 5 m, 10 m, 15 m, 20 m
- Bakable cable also available (250°C heat-resistant temperature)
Standard length 5 m, 10 m, 15 m, 20 m

■ Expansion function options

※ Refer to the section on the M-723HG, M-823HG, and M-932HG accessories for the option board combinations

TC gauge board	Combination of thermocouple gauge and B-A gauge enables measurement from roughing pressure to ultra-high vacuum. Two TG-550Cs can be measured with one board. However, the standard configuration is one TG-550C1 and one cable.
BCD output board	Enables BCD output of pressure values.
Set Points Board	Expansion and relay output of pressure set points are possible.
RS-232C board	For external control (600, 1200, 2400, 4800, 9600, 19200 bps)
Gauge selector box	Capable of connecting and selecting between two miniature B-A gauges.

■ Ordering information

Parts Number	Model	Description	Remarks	Code
8B1-0015-014	M-833HG	Wide Range Ion Gauge	Miniature gauge dedicated power supply, cable/no measurement gauge	21734
8B1-0036-818	722-TC (R)	TC Gauge Board	TG-550C for M-723HG, 823HG, 833HG, 923HG with 5 m cable	21491
8B1-0015-378	722-BCD (R)	BCD Output Board	With connector for M-723HG, 823HG, 833HG, 923HG	21492
8B1-0015-377	722-SPB	Set Points Board	With connector for M-723HG, 823HG, 833HG, 923HG	21480
8B1-0015-376	722-232C (R)	RS-232C Board	With connector for M-723HG, 823HG, 833HG, 923HG	21495
8B1-0015-381	831-331 (R)	Gauge Selector Box for M-833HG	No cable, for MG-2	21777
8B1-0016-749	831-323	Gauge Selector Box for MG-2	For M-833HG, including cable (5 m between main unit, 2 m between gauge)	21775
8B1-0016-083	430-901	Cable for Miniature B-A Gauge (5 m)	For MG-2/2F 用	21672
8B1-0016-094	430-902	Cable for Miniature B-A Gauge (10 m)	For MG-2/2F 用	21673
8B1-0016-084	430-903	Cable for Miniature B-A Gauge (15 m)	For MG-2/2F 用	21674
8B1-0012-887	430-904	Cable for Miniature B-A Gauge (20 m)	For MG-2/2F 用	21675
8B1-0013-952	430-911	Bakable Cable for MG-2 (5 m)	Maximum operating temperature range 250°C	21676
8B1-0013-953	430-912	Bakable Cable for MG-2 (10 m)	Maximum operating temperature range 250°C	21677
8B1-0013-562	430-913	Bakable Cable for MG-2 (15 m)	Maximum operating temperature range 250°C	21678
8B1-0013-563	430-914	Bakable Cable for MG-2 (20 m)	Maximum operating temperature range 250°C	21679

Refer to the measuring gauge ordering information for measurement gauges

Ionization Vacuum Gauge

M-723HG, M-823HG, M-923HG

■ Summary

This series includes the most common B-A ionization vacuum gauges, with abundant expansion board selection supporting a variety of gauges.

A remote control function necessary for process control of vacuum equipment and a range hold function effective for APC (auto pressure control) are equipped as standard.

Combining a wide range B-A gauge and a thermocouple gauge and the use of an auto filament for auto gauge switching, the M-823HG enables highly accurate vacuum measurement from atmospheric pressure to ultra-high vacuum.



■ Features

1. Automatically switched pressure range.
2. Pressure values and messages are displayed on the LCD.
3. Variety of external control functions enabling fully remote operation.
4. Two set points equipped as standard.
5. D/A output equipped as standard (four outputs: mantissa, exponent, composite, and LOG) for recorder output.
6. Convenient range hold function for APC (auto pressure control) equipped as standard.
This feature enables fixing/releasing to/from the set pressure range. In addition, a high response analog output (electrometer output) separate from the D/A output is provided as a signal for APC.
7. The M-823HG is equipped with an auto filament function that automatically switches from roughing gauges such as TC and CM to a B-A gauge.
8. The relative sensitivity can be set by gas type.
9. In addition to 100V AC, power supply voltages of 115V AC, 200V AC, and 230V AC are also available by special order.
10. Functions can be enhanced using a variety of options.

■ Applications

- Automated vacuum equipment pressure measurement.
- Sputtering process pressure measurement and control.
- Multi-chamber system pressure measurement.
- General vacuum equipment pressure measurement.

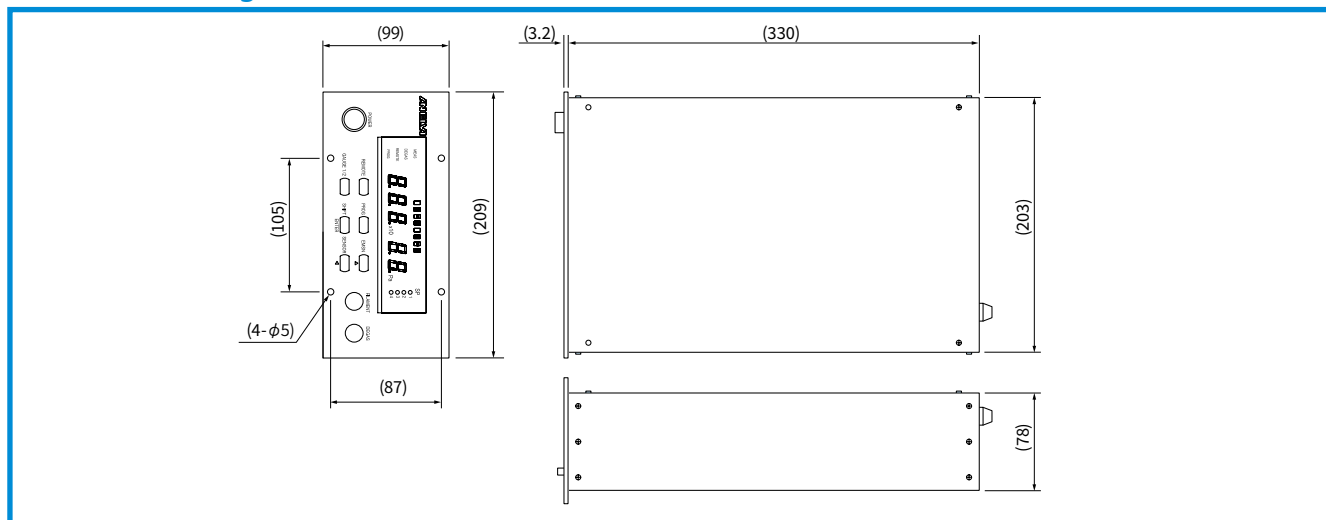
Specifications

Type	M-723HG	M-823HG	M-923HG
Measurement gauge head	UGD-1S B-A gauge	BRG-1B wide range B-A gauge	NIG-2F/NIG-2TF Nude Ion Gauge
Pressure display range	$0.01 \times 10^{-6} \sim 1.32 \times 10^{-1} \text{ Pa}$ ※1	$0.01 \times 10^{-6} \sim 1.32 \times 10^{-1} \text{ Pa}$ ※1	$0.01 \times 10^{-9} \sim 1.32 \times 10^{-1} \text{ Pa}$ ※1
Range switching	Auto switching (range hold possible)		
Set point	Two set points set as standard (open collector)		
D/A output	Mantissa output, Exponent output, Combined output (LOG, Linear)		
Analog output	When set to APC mode (0.1 to 2.5 V)		
External control function (Remote operation)	INPUT: Filament ON/OFF, Degas ON/OFF, Filament-inhibit, Range hold 1, Range hold 2, Filament 1/2 switching, Gauge select (when option is in use) OUTPUT: Filament ON/OFF, Degas ON/OFF, Remote/Local status, Set point (2 points), Gauge 1/2 select (when using the gauge selector option), Power ON/OFF, Filament 1/2, Alarm		
Dimensions	W209 mm × H99 mm × D330 mm		
Weight	5.4 kg (without option boards installed)		
Power requirements	90 ~ 110 V AC 200 VA or less 50/60 Hz (also supports 115/200/230 V AC) ※2		
Degas	Grid electrical heating		Electron bombardment
Filament switching	Key and remote I/O control (Except M-823HG)		
Filament protection	Over range setting or emission current ±50% variation		
Standard configuration	Vacuum gauge main unit (measurement gauge and cables not included)		

※ 1.Refer to the section on measuring gauge MG-2 for the measurement range.

※ 2. The cable included with the M-723/M-823/M-923HG is for use at 100V. Please contact us when using at 200V.

Dimensions diagram



Accessories

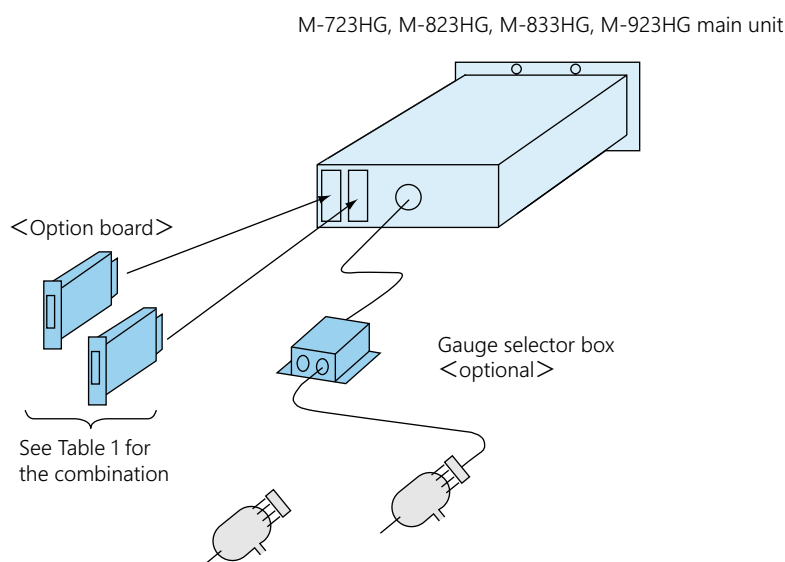
Option board combinations

Functions can be enhanced using an option board.

Table 1

	Set point board	TC gauge board	BCD output board	RS-232C board	Gauge selector box
Set point board		○	○	○	○
TC gauge board	○	○	○	○	○
BCD output board	○	○		○	○
RS-232C board	○	○	○		○
Gauge selector box	○	○	○	○	

○: Combination allowed
 \: Combination not allowed



Set point output	Expansion and relay output of pressure set points are possible. 4 points 100 V AC 1 A, 30 V DC 1A
TC gauge board	Enables measurement from roughing pressure to ultra-high vacuum by combining a thermocouple gauge with a B-A gauge. Two units can be measured with one board. However, the standard configuration is one TG-550C and one cable.
BCD output board	Enables BCD output of pressure values.
RS-232C board	For external control (600, 1200, 2400, 4800, 9600, 19200 bps)
Gauge selector box	Capable of connecting and selecting between two B-A gauges.

Cables

Standard length 5 m, 10 m, 15 m, 20 m and bakable cables are available.

Refer to the ordering information.

Measurement gauge

Refer to the section on measurement gauge for details.

(Refer to the control unit specifications for the available gauge.)

■ Ordering information

Parts Number	Model	Description	Remarks	Code
8B1-0015-935	M-723HG	Ion Gauge	JIS rack type	21704
8B1-0015-944	M-823HG	Wide Range Ion Gauge	JIS rack type	21728
8B1-0015-427	M-923HG	UHV Vacuum Gauge	JIS rack type	21747
8B1-0017-634	921-303	Gauge Selector Box (for M-922HG)	For M-923HG, including cable (5m between main unit, 2m between gauge)	21745
8B1-0036-818	722-TC (R)	TC Gauge Board	For M-723HG/823HG/833HG/ 923HG with TG-550C and 5 m cable	21491
8B1-0015-378	722-BCD (R)	BCD Output Board	For M-723HG/823HG/833HG/923HG with connector	21492
8B1-0015-377	722-SPB (R)	Set Points Board	For M-723HG/823HG/833HG/923HG with connector	21480
8B1-0015-376	722-232C (R)	RS-232C Board	For M-723HG/823HG/833HG/923HG with connector	21495
8B1-0016-447	820-901	Cable for B-A Gauge (5 m)	M-723HG/823HG, standard 5 m	21645
8B1-0016-487	820-902	Cable for B-A Gauge (10 m)	M-723HG/823HG, standard 10 m	21646
8B1-0016-491	820-903	Cable for B-A Gauge (15 m)	M-723HG/823HG, standard 15 m	21647
8B1-0016-496	820-904	Cable for B-A Gauge (20 m)	M-723HG/823HG, standard 20 m	21648
8B1-0016-165	921-901	Cable for Nude Ion Gauge (5 m)	For M-923HG, 5 m	21750
8B1-0013-530	921-902	Cable for Nude Ion Gauge (10 m)	For M-923HG, 10 m	21751
8B1-0016-170	921-903	Cable for Nude Ion Gauge (15 m)	For M-923HG, 15 m	21752
8B1-0016-171	921-904	Cable for Nude Ion Gauge (20 m)	For M-923HG, 20 m	21753
8B1-0013-529	921-911	Bakable Cable for Nude Ion Gauge (5 m)	For M-923HG, 5 m	21754
8B1-0016-596	921-912	Extension Cable for Nude Ion Gauge (5 m)	For 921-911 extension, 5 m	21755
8B1-0013-559	921-913	Extension Cable for Nude Ion Gauge (10 m)	For 921-911 extension, 10 m	21756
8B1-0013-560	921-914	Extension Cable for Nude Ion Gauge (15 m)	For 921-911 extension, 15 m	21757
8B1-0413-470	921-801	Rack Mount Panel	For M-723HG·823HG·833HG·923HG	21765

Refer to the section on measuring gauge MG-2 for the measurement range.

Ionization Vacuum Gauge

M-723HG-CC, M-823HG-CC, M-833HG-CC, M-923HG-CC



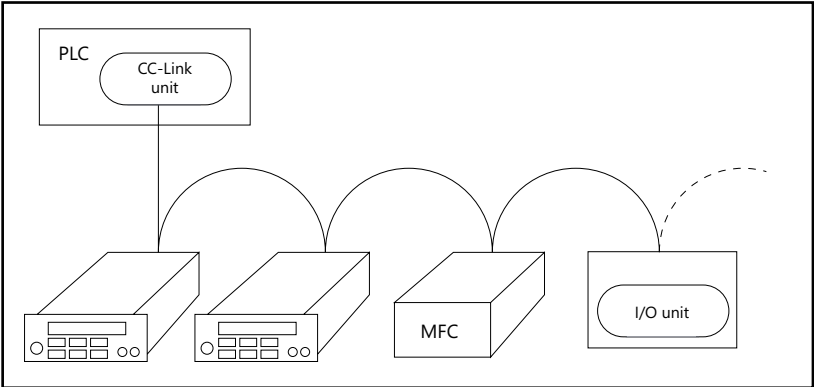
Specifications

The popular ionization vacuum gauges M-723-HG/ M-823HG/M-833HG/and M-923HG support CC-Link communication control.

CC-Link is a field network recommended by the CCLink.

Association for efficient wired FA control. CCLink enables multiple connections with a single unit.

CC-Link connection schematic



Accessories

Combination with other option boards
Only one option board can be added.

TC gauge board	Gauge selector board	Set point board	BCD output board	RS-232C board
⊙	⊙	○	○	×

⊙ :Communication with CC-Link allowed ○:Combination allowed ×:Combination not allowed

Ordering information

Parts Number	Model	Description	Remarks	Code
8B1-0019-628	M-723HG-CC	Ion Gauge (CC-Link)	For UGD-1S	21708
8B1-0017-609	M-823HG-CC	Wide Range Ion Gauge (CC-Link)	For BRG-1B	21729
8B1-0015-278	M-833HG-CC	Wide Range Ion Gauge (CC-Link)	For MG-2 series	21735
8B1-0016-034	M-923HG-CC	UHV Vacuum Gauge (CC-Link)	For NIG-2F series	21748

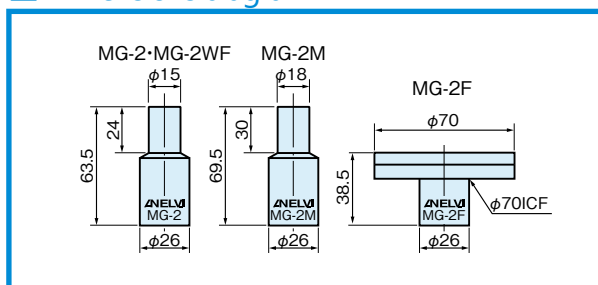
Measurement gauge

Miniature Gauge MG-2, MG-2M, MG-2I, MG-2F, MG-2WF

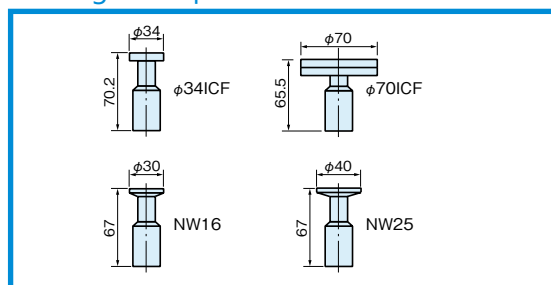
The miniature B-A gauge MG-2/MG-2M/MG-2F is a small metal gauge designed to replace the large, breakable glass gauge of previous gauges. The small size enables the mounting location to be easily selected. Moreover, the reduced size (approx.1/20 that of previous products) does not sacrifice any sensitivity or measurement range. Pressure from ultimate pressure to process pressure (measurable to 1Pa range), such as for sputtering, can be measured with a single gauge. The MG-2 and MG-2M are connected to a gauge adapter (O-ring insertion type). The MG-2 is for $\phi 15\text{mm}$ and the MG-2M is for $\phi 18\text{mm}$. With its emphasis on measuring ultimate pressure, the MG-2F is mounted directly to the $\phi 70\text{ICF}$.



■ Dimensions diagram



■ Flange examples



■ Specifications

Type		MG-2	MG-2M	MG-2I /NW16, 25	MG-2I / ϕ 34 ICF, ϕ 70 ICF	MG-2F	MG-2WF
Body material		SUS304					
Maximum pressure measurement ^(Note 1)		13 Pa					1.3×10 ⁻¹ (Note 3) Pa
Minimum pressure measurement ^(Note 2)		Approx. 10 ⁻⁶ Pa			Approx. 10 ⁻⁷ Pa		Approx. 10 ⁻⁵ (Note 4) Pa
Sensitivity		0.045 Pa ⁻¹					
Filament		Two filaments built-in Filament material: Yttria coated iridium wire					Two filaments built-in Filament material: Tungsten
Measurement gauge capacity		Approx. 12 cc					
Power require-ments	Filament	2.3 W					2.5 W
	Grid degas	1.0 W					1.0 W
Degassing method		Grid electrical heating					
Attachment method		Can be welded to ϕ 15 gauge adapter or various flanges	ϕ 18gauge adapter	NW25, NW16	ϕ 34 ICF, ϕ 70 ICF	ϕ 70 ICF Connected to flange	Can be welded to ϕ 15 gauge adapter or various flanges

Note 1) Linearity limit.

Note 2) The practically measurable lower limit pressure depends on the flange shape.

Note 3) Inert gases such as nitrogen and argon can be measured up to 13Pa.

Note 4) The lowest measurable value of MG-2W/F is one order of magnitude higher than the standard MG-2.

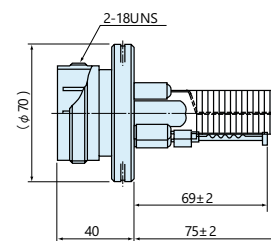
■ Ordering information

Parts Number	Model	Description	Remarks	Code
8B1-0010-405	MG-2	Miniature B-A Gauge Head	$\phi 15$ type	21160
8B1-0010-408	MG-2F	Miniature B-A Gauge Head	With $\phi 70\text{ ICF}$	21161
8B1-0010-410	MG-2M	Miniature B-A Gauge Head	$\phi 18$ type	21162
8G1-0505-480	MG-2I/NW16	Miniature B-A Gauge Head	With NW16	21163
8B1-0018-082	MG-2I/NW25	Miniature B-A Gauge Head	With NW25	21164
8G1-0505-482	MG-2I/ICF34	Miniature B-A Gauge Head	With $\phi 34\text{ ICF}$	21165
8B1-0018-045	MG-2I/ICF70	Miniature B-A Gauge Head	With $\phi 70\text{ ICF}$	21166
8B1-0010-494	MG-2F/WF	Miniature B-A Gauge Head	Tungsten filament type, With $\phi 70\text{ ICF}$	21167
8G1-0501-693	MG-2WF	Miniature B-A Gauge Head	Tungsten filament type, for $\phi 15$ gauge port	21170

Nude Ion Gauge NIG-2F/NIG-2TF

This gauge directly mounts a B-A type electrode on a flange. This is directly attached to the equipment making it ideally suited for ultra-high vacuum measurement without any errors due to feedthrough. Platinum-clad molybdenum wires are used for the grid to minimize errors due to gas contamination.

A connector type (Canon plug type) cable connection is used to provide a simple, firm and safe connection. The NIG-2F uses a tungsten filament. In addition, the NIG-2TF uses a yttria coated filament, which lowers the operating temperature, suppresses degassing, and improves ultra-high vacuum measurement.



NIG-2F/2TF Dimensions Diagram

Specifications

Type	NIG-2F 954-7902	NIG-2TF 954-7903
Gauge Type	Nude Type B-A	
Shape	Nude Type	
Connection with measured vacuum chamber	φ 70ICF	
measurement range	$10^{-9} \sim 10^{-1}$ Pa	
Standard sensitivity	0.19 Pa^{-1} with respect to N_2	
X-ray limit	Approx. 2.7×10^{-9} Pa	
Baking temperature	400°C	
Filament	Filament Material: Tungsten (x2)	Filament Material: Tungsten (x2)
Supported vacuum gauge power supply	M-923HG	
Applications	Up to 10^{-9} Pa / Ultra-high vacuum equipment (for bakable equipment)	

Ordering information

Parts Number	Model	Description	Remarks	Code
8G1-0528-648	954-7902	NIG-2F Nude Ion Gauge Head	Canon pluggable	21120
8D1-0500-823	954-7903	Nude Ion Gauge (Yttria Coat Filament)		21119
8G1-0550-155	954-7905	Filament Kit for Nude Ion Gauge	For NIG-2F	21140
8G1-0498-142	954-7906	Yttria Coat Filament Kit	For NIG-2TF	21142

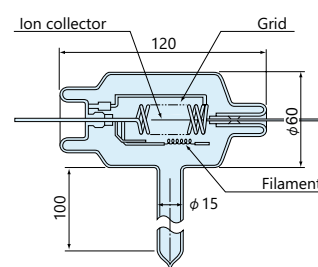
B-A Gauge UGD-1S

This is a sealed glass tube type B-A ionization vacuum gauge measurement for measuring pressure in the 10^{-2} Pa and under range.

The UGD-1S is a Kovar glass sealed B-A gauge.

The filament is a tungsten wire.

Degassing is performed by grid electrical heating. Therefore, pressure can be measured even during degassing.



UGD-1S Dimensions Diagram

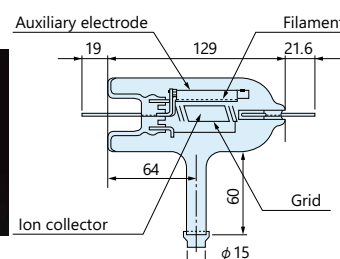
Wide Range B-A Gauge BRG-1B

This is an improved B-A gauge with a wider measurement range at high pressure. Degassing is performed by grid electrical heating similar to the UGD-1S. A thorium coated iridium filter is used to enable high pressure measurement.

A connector type (socket type) cable connection is used to enable easy and secure attachment and removal.

The connection with the vacuum equipment uses a φ 15 adapter or is glass sealed to a glass adapter with φ 70 ICF attached.

* Patent No. JP1623097



BRG-1B Dimensions Diagram

Specifications

Type		UGD-1S	BRG-1B
Gauge Type		B-A Gauge	Range B-A Gauge
Shape		Glass tube	
Connection with measured vacuum chamber		ϕ 15 gauge port (O-ring)	
measurement range		$10^{-6} \sim 0.1$ Pa	$10^{-6} \sim 10$ Pa
Standard sensitivity		0.075 Pa^{-1} with respect to N_2	
X-ray limit		Approx. 1.3×10^{-8} Pa	
Baking temperature		400°C (150°C or less with O-ring seal)	
Material	Filament	Tungsten (x2)	Thoria coated iridium (x1)
	Body	Kovar glass (vacuum sealed)	Tungsten glass (open)
Supported vacuum gauge power supply		M-723HG	M-823HG
Applications		General vacuum use	B-A gauge, sputter etc. measurable up to high pressure (10 Pa)

Options

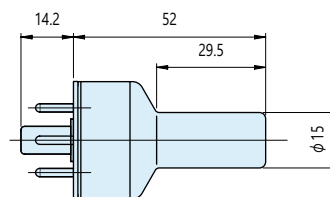
ϕ 15 glass tube of each glass gauge (UGD-1S, BRG-1B) can be cut to your specified length, so please contact us for this.

Ordering information

Parts Number	Model	Description	Remarks	Code
8G1-0501-490	BRG-1B	BRG-1B Wide Range B-A Gauge Head	For ϕ 15 gauge port	21225
8G1-0528-644	UGD-1S	B-A Gauge Head	For ϕ 15 gauge port	21121

Thermocouple Gauge TG-550C

SUS304 is used for the material. This gauge can be used from atmospheric pressure and is installed with a ϕ 15 adapter.
(The maximum heating temperature is 150°C with the connectors removed.)



TG-550C Dimensions Diagram

Specifications

Type		TG-550C
Gauge Type		Thermocouple Gauge
Shape		Metal vessel
Connection with measured vacuum chamber		ϕ 15 gauge port (O-ring)
Measurement range		$10^{-1} \sim 200$ Pa
Material	Body	Stainless steel (SUS304)
Supported vacuum gauge power supply		M-012DM ^{※1} M-723HG/823HG/833HG/923HG ^{※2}
Applications		For measurement during roughing pump

※ 1. Sales ended in December 2021.

※ 2. The extended function option "722-TC(R) TC gauge board" is required.

Ordering information

Parts Number	Model	Description	Remarks	Code
8B1-0015-240	TG-550C	Thermo-Couple Gauge Head	For ϕ 15 gauge port	21015

Sensitivity calibration of the measurement gauge

The accuracy of the measurement gauge varies for each gauge and also by time. The sensitivity is calibrated for a standard vacuum gauge. We can calibrate the measurement gauge upon request regardless of whether it is new or used.

April 2025

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Canon ANELVA Corporation is constantly improving its products, hence specifications
are subject to change without notice.

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