

Cold Cathode Gauge Series

Cold Cathode Gauge Series

Vacuum Components

M-370CG Cold Cathode Gauge

M-361CP Cold Cathode Pirani Gauge



Cold Cathode Gauge

M-370CG

■ Summary

It is a robust cold cathode gauge that does not use hot filament. Stable pressure measurement from high vacuum to ultra-high vacuum is realized.

■ Features

- Excellent measurement stability*
Reducing measurement stop due to undischage and fluctuation of pressure indication value
- Good startability under high vacuum*
Eliminating undischage and discharge delay
- Simple maintenance
Only maintenance kit exchange

*The ignition of CC gauge may be delayed significantly under conditions of high partial pressure of active gas such as H₂ and O₂, or large volume use of these gases. Please contact us when using the gauge under conditions of these gases.

■ Specifications

Type	Cold Cathode Gauge	
	M-370CG-SP	M-370CG-RS
Pressure measurement range	1×10 ⁻⁷ to 1×10 ⁰ Pa	
Accuracy	±30% : 1×10 ⁻⁶ to 1×10 ⁰ Pa	
Repeatability	±5% : 1×10 ⁻⁶ to 1×10 ⁰ Pa	
Input voltage	DC+15 to 30V	
Power consumption	2.4W	
Analog output	0 to 10V	—
Set point	2 contact output (DC30V 1A)	
Interface	—	RS485
I/O connector	D-sub 9 pin	
Maximum cable length	300m (1mm ²)* ¹	
Operating temperature range	5 to 55°C	
Storage temperature range	-20 to 70°C (not operating)	
Sensor type	CC1	
Sensor material (main component)	Electrode : Mo Insulator : Al ₂ O ₃ Case : SUS304	
Dimensions (mm)	50 x 50 x 110 (NW25)	
Flange shape	NW25, NW40, φ 70ICF	
Protection standard	CE, RoHS, IP40	

*1 The maximum length of the gauge cable is 100m when connecting an M-601/603GC display unit.

■ Ordering information

Parts Number	Model	Description	Remarks	Code
0160-12811	M-370CG-SP/N25	Cold Cathode Gauge	With NW25 flange	22806
0160-12829	M-370CG-SP/N40	Cold Cathode Gauge	With NW40 flange	22807
0160-12837	M-370CG-SP/C70	Cold Cathode Gauge	With φ 70ICF flange	22808
0160-12845	M-370CG-RS/N25	Cold Cathode Gauge (RS485)	With NW25 flange	22809
0160-12853	M-370CG-RS/N40	Cold Cathode Gauge (RS485)	With NW40 flange	22810
0160-12861	M-370CG-RS/C70	Cold Cathode Gauge (RS485)	With φ 70ICF flange	22811
0160-24379	-	M-361CP/370CG Maintenance kit	Pole piece, Mesh	22790

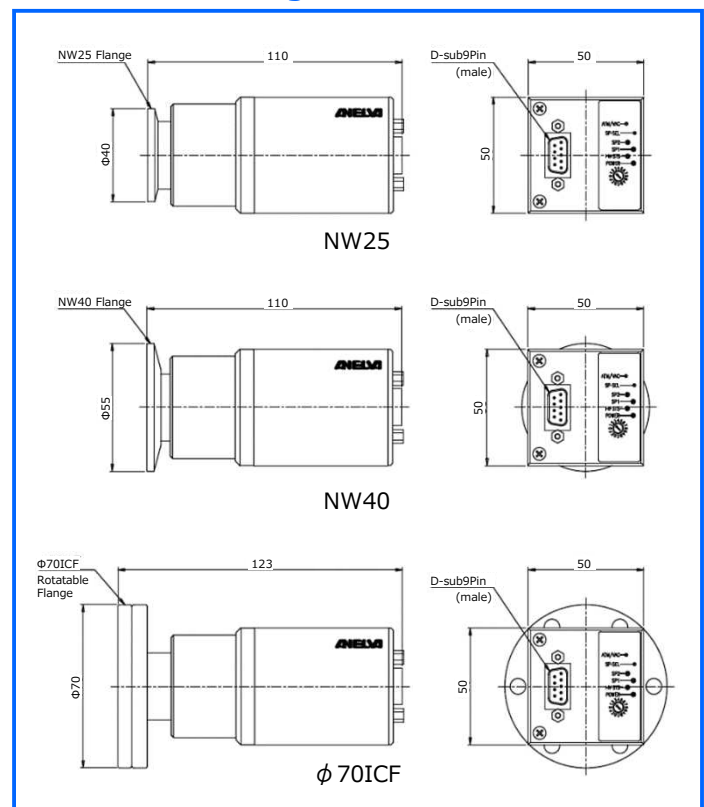


■ Applications

Widely applicable for vacuum measurements from 1Pa to ultra-high vacuum

- vacuum evaporation, sputtering, ion implantation, MBE
- SEM, SIMS, AES, XPS, surface/gas analysis, mass spectrometry
- aneal, dissolution, soldering, reflow, electron beam welding
- accelerator, cyclotron

■ Dimensional diagram



Cold Cathode Pirani Gauge

M-361CP

■ Summary

M-361CP is a combination gauge combining pirani gauge measuring atmospheric pressure to medium vacuum and cold cathode gauge measuring high vacuum to ultra-high vacuum. Wide range measurement is realized by just one gauge. 2in1 ; Contributing to system cost reduction

■ Features

- Excellent measurement stability*
Reducing switching fault of pirani and cold cathode, measurement stop due to undischage and fluctuation of pressure indication value
- Excellent atmospheric pressure detection
Good measurement around the atmospheric pressure area by pirani gauge. Responsiveness is equal to diaphragm gage
- Simple maintenance
Only maintenance kit exchange for the cold cathode gauge

*The ignition of CC gauge may be delayed significantly under conditions of high partial pressure of active gas such as H₂ and O₂, or large volume use of these gases. Please contact us when using the gauge under conditions of these gases.

■ Specifications

Type	Cold Cathode Pirani Gauge	
	M-361CP-SP	M-361CP-RS
Pressure measurement range	1×10 ⁻⁷ to 1×10 ⁵ Pa	
Accuracy	±30% : 1×10 ⁻⁶ ~ 1×10 ⁴ ±50% : 1×10 ⁴ ~ 1×10 ⁵	
Repeatability	±5% : 1×10 ⁻⁶ ~ 1×10 ⁴ Pa	
Input voltage	DC+15 to 30V	
Power consumption	2.4W	
Analog output	0 to 10V	-
Set point	2 contact output (DC30V 1A)	
Interface	-	RS485
I/O connector	D-sub 9 pin	
Maximum cable length	300m (1mm ²)*1	
Operating temperature range	5 to 55°C	
Storage temperature range	-20 to 70°C (not operating)	
Sensor type	CP2	
Sensor material (main component)	Filament : W Electrode : Mo Insulator : Al ₂ O ₃ Case : SUS304	
Dimensions (mm)	50 x 50 x 110 (NW25)	
Flange shape	NW25, NW40, φ70ICF	
Protection standard	CE, RoHS, IP40	

*1 The maximum length of the gauge cable is 100m when connecting an M-601/603GC display unit.

■ Ordering information

Parts Number	Model	Description	Remarks	Code
0160-12463	M-361CP-SP/N25	Cold Cathode Pirani Gauge	With NW25 flange	22800
0160-12471	M-361CP-SP/N40	Cold Cathode Pirani Gauge	With NW40 flange	22801
0160-12489	M-361CP-SP/C70	Cold Cathode Pirani Gauge	With φ70ICF flange	22802
0160-12497	M-361CP-RS/N25	Cold Cathode Pirani Gauge (RS485)	With NW25 flange	22803
0160-12502	M-361CP-RS/N40	Cold Cathode Pirani Gauge (RS485)	With NW40 flange	22804
0160-12510	M-361CP-RS/C70	Cold Cathode Pirani Gauge (RS485)	With φ70ICF flange	22805
0162-24379	-	M-361CP/370CG Maintenance kit	Pole piece, Mesh	22790

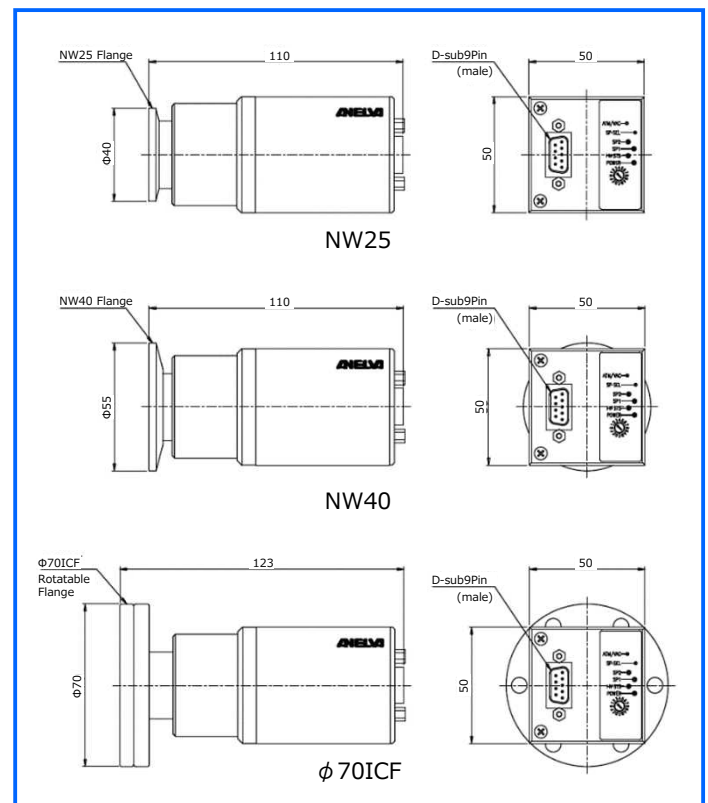


■ Applications

Widely applicable for vacuum measurements from atmospheric pressure to ultra-high vacuum

- vacuum evaporation, sputtering, ion implantation, MBE
- SEM, SIMS, AES, XPS, surface/gas analysis, mass spectrometry
- aneal, dissolution, soldering, reflow, electron beam welding
- accelerator, cyclotron

■ Dimensional diagram



■ About cold cathode gauge and pirani gauge

Cold Cathode Gauge - Measurement range: High Vacuum to Ultra-High Vacuum(UHV)

Use the ionization phenomenon. Ionize gas molecules by magnetron discharge and measure their ion current.

Pirani Gauge - Measurement range: Atmospheric Pressure to Medium Vacuum

Use gas transport phenomenon. Measure heat conduction by gas molecules

Combination Gauge "Cold Cathode Pirani Gauge"

By combining the two principles of pirani gauge and cold cathode gauge, it is possible to measure a wide pressure range from atmospheric pressure to UHV in a single unit.



■ Lineup of transducer type vacuum gauge series

•M-370CG/361CP are compatible with series display units. M-361CP is fully compatible with old model (M-360CP).

Gauge name	(Pa)	10^{-7}	10^{-5}	10^{-3}	10^{-1}	10	10^3	10^5
Cold Cathode gauge M-370CG NEW								
Cold Cathode Pirani Gauge M-361CP NEW								
Capacitance Diaphragm Gauge M-342DG								
Pirani Gauge M-350PG/M-351PG(corrosion-resistant)								
Ion Gauge M-311HG								
Crystal Ion Gauge M-336MX								



1ch display unit
M-601GC



3ch display unit
M-603GC

Gauge auto recognition

Large digital LCD

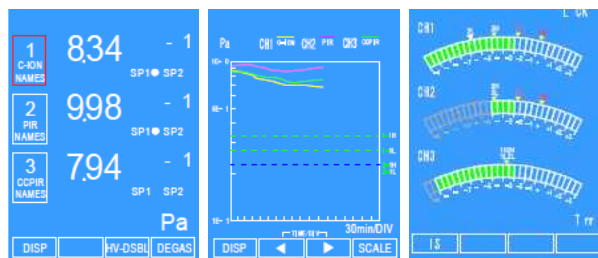
RS232C interface

3-type display(M-603GC)

Digital display

Trend graph

Analog meter



March 2019

Canon CANON ANELVA CORPORATION

Component Sales Dept. of Head Office

5-1 Kurigi 2-chome, Asao-ku, Kawasaki-shi, Kanagawa 215-8550, Japan

Canon U.S.A., Inc

3300 North First Street San Jose, CA 95134, U.S.A.

Canon Europa N.V.

Bovenkerkerweg 59, 1185 XB Amstelveen, The Netherlands

Canon Semiconductor Engineering Korea, Inc.

Canon BS Tower,11F, 607, Teheran-ro, Gangnam-gu, Seoul, 06173, Korea

Canon Semiconductor Equipment Taiwan, Inc.

9F, No.25, Pu-Ding Road, Hsinchu, 300, Taiwan

Canon Singapore Pte. Ltd. Anelva Products Department

1 Fusionopolis Place #15-10, Galaxis Singapore 138522

Canon Optical Industrial Equipment (Shanghai)Inc.

18F, Urban City Center, No.45 Nanchang Road Shanghai 200020,China

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

TEL : +81-44-980-3503

FAX : +81-44-986-4361

TEL : +1-408-468-2000

FAX : +1-408-468-2343

TEL : +31-20-545-8545

FAX : +31-20-545-8222

TEL : +82-2-6445-0013

FAX : +82-2-6445-0069

TEL : +886-3-668-6600

FAX : +886-3-668-6969

TEL : +65-6799-8888

FAX : +65-6271-4226

TEL : +86-21-2316-3200

FAX : +86-21-2316-3222

<http://www.canon-anelva.co.jp/english>