

# VACUUM COMPONENTS

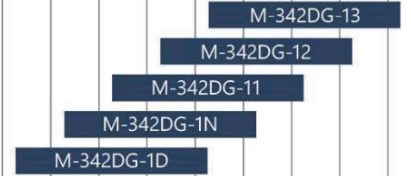
## Transducer Vacuum Gauge Series

### measurement range

|      | Ultra-High Vacuum |           |           | High Vacuum |           |           | Medium Vacuum |           |           | Low Vacuum |    |        |        |        |        |
|------|-------------------|-----------|-----------|-------------|-----------|-----------|---------------|-----------|-----------|------------|----|--------|--------|--------|--------|
| (Pa) | $10^{-9}$         | $10^{-8}$ | $10^{-7}$ | $10^{-6}$   | $10^{-5}$ | $10^{-4}$ | $10^{-3}$     | $10^{-2}$ | $10^{-1}$ | 1          | 10 | $10^2$ | $10^3$ | $10^4$ | $10^5$ |

### Capacitance Diaphragm Gauge M-342DG

- High precision, stable pressure measurement
- Excellent zero point stability
  - Has low temperature dependence providing excellent stability without the need of a temperature adjustment mechanism
  - Excellent anti-vibration noise performance



### Crystal Gauge M-320XG

- Crystal gauge is a vacuum gauge with no source of heat (filament)
- Enables measurement with excellent repeatability from atmospheric pressure to  $1 \times 10^{-1}$  Pa
  - High stability
  - Enables safe handling without affecting process gas



### Pirani Gauge M-350PG (W Filament)

#### M-351PG (Ni Filament)

- Good repeatability and low cost
- From  $5 \times 10^{-2}$  Pa to atmospheric pressure
- Suitable for low to medium vacuum range measurements



### Cold Cathode Gauge M-370CG

- Cold cathode gauge that does not use hot filament
- Good startability under high vacuum
  - Eliminating undischARGE and discharge delay



### Cold Cathode Pirani Gauge M-361CP

- Wide range measurement is realized by just one gauge
- Combination gauge combining pirani gauge measuring atmospheric pressure to medium vacuum and cold cathode gauge measuring high vacuum to ultra-high vacuum



### Ion Gauge M-311HG

- Wide pressure measurement range
- Four emission current setting modes can be selected based on the application to improve filament life during use in high pressure range



### Crystal Ion Gauge M-336MX

- High precision with excellent repeatability in the low vacuum range
- Combination gauge combining crystal gauge with miniature B-A gauge
  - From ultra-high vacuum to atmospheric pressure



### Display (1ch type / 3ch type) M-601GC / 603GC

1. Gauge auto recognition
2. Large digital LCD
3. Standard equipped with RS232C interface
4. Excellent operability
5. Capable of simultaneous display (3ch)
6. Easy to view 3 type display (3ch)
  - Digital display
  - Trend graph (up to 18H)
  - Analog meter



M-601GC (1ch type)



M-603GC (3ch type)

# VACUUM COMPONENTS

## Quadrupole Mass Spectrometer

### M-070QA-TDF, M-101QA-TDF M-101/201QA-TDM (transducer type)

- Selectable measurement range
  - M-070QA : 1 to 70 m/z
  - M-101QA : 1 to 100 m/z
  - M-201QA : 1 to 200 m/z
- Line-up of standard model and high sensitivity model



### M-080QA-HPM Process Gas Monitor (transducer type)

- Operating pressure range : 2.0 Pa and lower
- Detecting H<sub>2</sub> with high sensitivity in deposition process
- Both sputtering process monitoring and residual gas analysis



### M-401QA-MG/U

- High-speed Measurement (M-401QA-MGS □/MUS□)  
Obtains *m/z* 1 to 410 data at 1-second intervals
- High-sensitivity (M-401QA-MGH □/MUH□)  
Minimum detectable partial pressure  $\leq 1.0 \times 10^{-12}$  Pa  
8-digits dynamic range (M-401QA-MGH □)



※The square at the end of the model name differs depending on the filaments.

## Helium Leak Detectors

### Features

- Simple operation
- Excellent measurement stability, sensitivity and response
- Portable
- Tablet type controller (option)



M-212LD

M-222LD

M-232LD



# VACUUM COMPONENTS

## Sealed Transmissive Microfocus X-Ray Source Series

### X-Ray Source Unit for 2 micron AXI

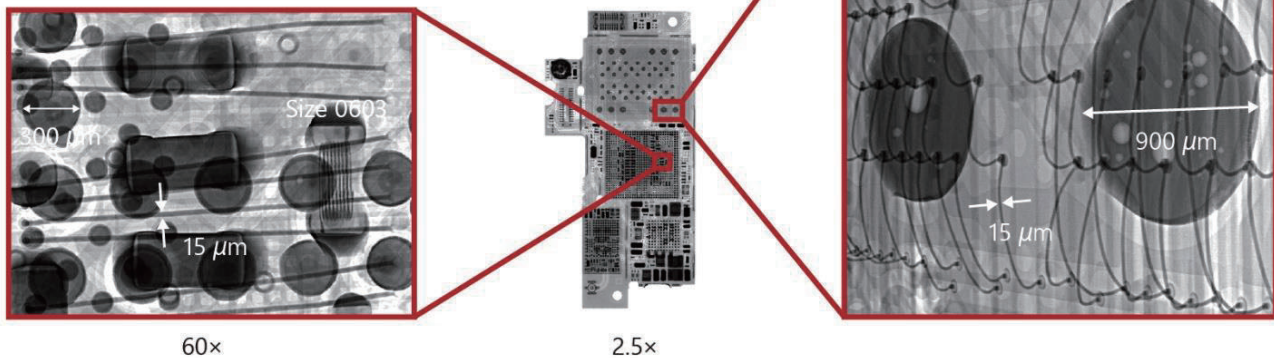
#### Features

- Maintenance-free target , Long-term storage is possible
- Self-diagnosis of X-ray tube lifetime
- Widely dealing with analysis of semiconductors and electronic components
- Provide the most suitable X-ray source to a use



#### Image examples

##### PCB for Music player



##### Mini-LED

