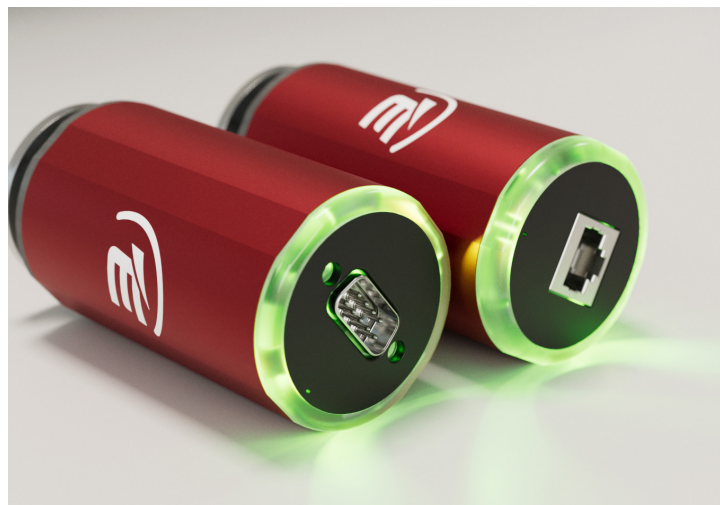


# ACTIVE WIDE RANGE GAUGE WRG200

edwardsvacuum.com

**The Active Wide Range Gauge WRG200 offers the capability of single port pressure measurement in the range atmosphere to  $10^{-9}$  mbar with a linear output.**

The WRG200 is a compact and efficient solution that significantly reduces the required space and hardware for connectivity. Its compact design makes it ideal for various applications. This gauge has undergone numerous technical improvements such as its innovative striker design, a 360° LED light ring, easy push-button calibration, integrated set-point controls, and comprehensive diagnostics. The WRG200 offers cost-effectiveness as a vacuum management solution, either when used with an Edwards controller or directly integrated into the system controls. This gauge is perfect for monitoring pressure in systems that are rapidly pumped down from atmospheric pressure to high vacuum levels.



## Benefits

- 1 Our advanced wide range gauge uses a two key principle to achieve its wide measuring range, inverted magnetron and cold cathode. Not only has the core of the gauge been redesigned, the features on board the gauge have too! With requirements for set-points, digital interfaces, adaptive visual aids and faster ignition rates. Our new WRG200 pushes the boundaries further than ever before in a compact package meeting all your needs.
- 2 Everyone desires a reliable vacuum process that operates effectively regardless of usage frequency, be it constant or occasional. Our advanced wide range gauge WRG200 offers exactly that. The WRG200, with its cold cathode and inverted magnetron measuring cell, enables us to measure more widely and accurately while maintaining consistent performance throughout the gauges lifetime. This is a crucial aspect of the gauges effectiveness.
- 3 As standardisation gains prominence in the vacuum industry, having replacement parts that can be easily swapped with minimal impact is a crucial advantage. This is achieved through the modular design of our WRG200 gauge. Our digital gauges have the same dimensions as their analogue counterparts, providing hassle-free future upgrades.
- 4 The end of a gauges lifetime is a critical aspect to consider. To minimise downtime and ensure low cost of ownership, we have a straightforward model for replacing the electronics and measuring cells. This makes it easy to make changes when necessary, ensuring minimal disruption to your operations.

## Applications

### Analytical instruments

By constantly exploring the limits of what can be achieved with vacuum technology, ensuring that the process is optimised and consistent is critical in the pursuit of excellence.

### Semiconductor

Renowned for their challenging duties, it is crucial to ensure that your Fab operates nonstop, even in harsh environments. Regular monitoring of all components can guarantee maximum uptime.

### Medical

In medical and medical-related procedures, vacuum levels play a crucial role at various stages of the process. To guarantee consistent results, it is crucial to measure these levels precisely and dependably.

### Features

#### 1 360° LED light ring visual pressure indicator

The LED light ring not only displays basic adaptive “working/not working” information, it also gives the user precise pressure feedback via the light rings pulsing patterns. The indicator is also used to help guide you through the menu setup.



#### 5 Wide range power supply

This gauge boasts a broad power input range of 15-48Vdc, making it one of the most versatile options in the market. Integration into your systems is made effortless and stress-free, as there is no need for an additional power supply unit



#### 2 Reduced footprint

The WRG200 is compact in size, therefore making it a perfect choice of gauge in those applications where real-estate is at a premium.



#### 6 Drop in compatible

We know the last thing you want to do is change software/carry out lengthy qualification or have to start changing your set-ups. Therefore we have made sure that we provide variants to cover the most commonly used outputs so upgrading is even easier.



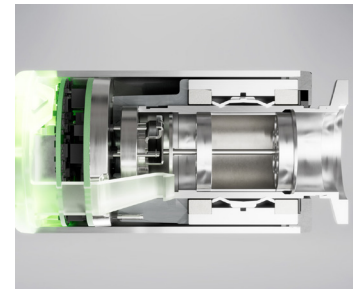
#### 3 Filament technology

Our new cold cathode filament technology will provide you reliable solution no matter your environment or application. The additional striker allows the gauge to strike in heavily contaminated environments therefore making this gauge the perfect choice for dirty processes.



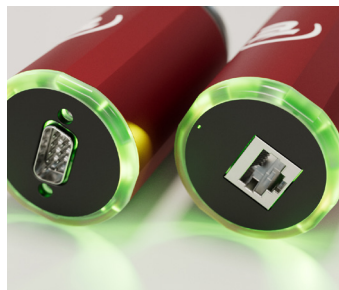
#### 7 New magnets

The advanced magnets have allowed us to reduce our stray field making the WRG200 reliable and safe to use in environments where the gauge is in close proximity to sensitive equipment, especially when measuring over a wider range.



#### 4 Analogue/digital

A choice of D-Sub or RJ45/ FCC68 for our analogue variants for processes that prefer a “lockable” connector to our digital gauges that sit in the same footprint, making it easy for you to upgrade at a later date should more data collection/control be required.

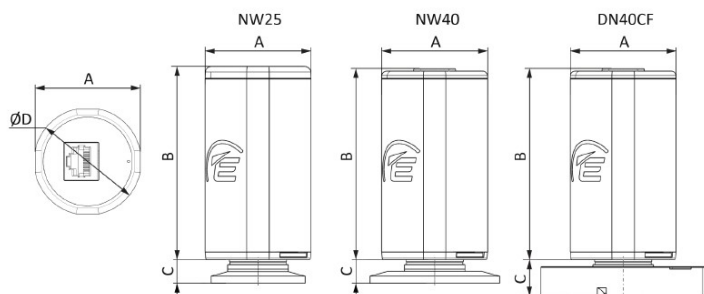


#### 8 Set-point relay

For the first time on an Edwards gauge we have a dedicated set-point relays available, enabling you to trigger a wide range of knock on actions.



## DIMENSIONS



|        | Dimensions (mm) |       |      |    |
|--------|-----------------|-------|------|----|
| Flange | A               | B     | C    | D  |
| NW25   | 45              | 82    | 10   | 46 |
| NW40   | 45              | 81.5* | 10   | 46 |
| DN40CF | 45              | 81.5* | 15.5 | 46 |

\*The 9 pin D-SUB (female) connector is 0.5 mm shorter than the RJ45 variant.

## TECHNICAL SPECIFICATIONS

|                                       | WRG200                                                                                                                       |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Measurement type                      | Inverted magnetron + Pirani                                                                                                  |
| Measuring range (mbar)                | 1x10 <sup>-9</sup> up to 1000mbar                                                                                            |
| Accuracy (N <sub>2</sub> )            | "<30% measured value from 1x10 <sup>-8</sup> to 1x10 <sup>-2</sup><br><15% measured value from 1x10 <sup>-2</sup> to 50mbar" |
| Supply voltage                        | 15-48V                                                                                                                       |
| Electrical connection                 | RJ45, and 9 pin D-Sub                                                                                                        |
| Analogue output (D3G0**1***)          | 0-10V                                                                                                                        |
| Serial output (D3G0**5***/D3G0**0***) | RS232 or RS485                                                                                                               |
| Set-point                             | 0 or 1                                                                                                                       |
| Range                                 | 1x10 <sup>-9</sup> up to 1000mbar                                                                                            |
| Relay contact rating                  | 48 V dc max, 500mA                                                                                                           |
| Status indicator                      | 360° Bright LED ring                                                                                                         |
| Max cable length                      | 100m                                                                                                                         |
| Operating temp                        | 0 to 50°C                                                                                                                    |
| Bake out temp                         | 150°C WITH ELECTRONICS REMOVED                                                                                               |
| Max relative humidity                 | 80% RH up to 31°C decreasing linearly to 50% RH at 40°C and above                                                            |
| Materials exposed to vacuum           | Stainless Steel 316L and 304L, Tungsten, Glass, Molybdenum, Trace of Nickel and Nickel iron                                  |
| Dead volume                           | 20cm <sup>3</sup>                                                                                                            |
| Weight (NW25)                         | 350grams                                                                                                                     |
| IP rating                             | IP40                                                                                                                         |
| Certifications                        | UKCA, CE                                                                                                                     |
| Compatible controllers                | TIC, ADC, TAG                                                                                                                |
| Sealing                               | Glass/metal                                                                                                                  |
| Comms                                 | Analogue or digital RS232/485 variants                                                                                       |
| Admissible pressure                   | 10 Bar                                                                                                                       |
| Backwards compatibility               | yes                                                                                                                          |
| Dimension (NW25)                      | 92x45x45                                                                                                                     |
| Software                              | LABVIEW DRIVERS                                                                                                              |
| Output matching                       | Yes                                                                                                                          |
| Flanges                               | NW25, NW40, DN40CF                                                                                                           |
| Service                               | Replaceable measuring tube, replaceable electronics/magnet assembly                                                          |

## PART NUMBER MATRIX

| Prefix | - | Set-point                       | Flange     | Comms                    | Connector               | Output                             | Other        |
|--------|---|---------------------------------|------------|--------------------------|-------------------------|------------------------------------|--------------|
| D3G    | 0 | 0 = No Set point <sup>[2]</sup> | 2 = NW25   | 0 = RS485 <sup>[1]</sup> | 1 = RJ45 <sup>[3]</sup> | 0=Edwards standard 2.00 to 10.00 V | 0=standard   |
|        |   | 1 = 1 Set point                 | 3 = NW40   | 1 = 0-10V                | 2 = 9 Pin D-Sub         | 2 = 1.4 to 8.60 V                  | C=calibrated |
|        |   |                                 | 4 = DN40CF | 5 = RS232 <sup>[1]</sup> |                         | 4 = 1.50 to 6.9375 V               |              |

| Tube |   |           |            |       |           |        |       |
|------|---|-----------|------------|-------|-----------|--------|-------|
|      | - | Set-point | Flange     | Comms | Connector | Output | Other |
| ZD3G | 0 | A         | 2 = NW25   | A     | A         | A      | 0     |
| ZD3G | 0 | A         | 3 = NW40   | A     | A         | A      | 0     |
| ZD3G | 0 | A         | 4 = DN40CF | A     | A         | A      | 0     |

| Electronic |   |                                 |        |                          |                         |                                    |       |
|------------|---|---------------------------------|--------|--------------------------|-------------------------|------------------------------------|-------|
|            | - | Set-point                       | Flange | Comms                    | Connector               | Output                             | Other |
| ZD3G       | 0 | 0 = No Set point <sup>[2]</sup> | A      | 0 = RS485 <sup>[1]</sup> | 1 = RJ45 <sup>[3]</sup> | 0=Edwards standard 2.00 to 10.00 V | 0     |
| ZD3G       | 0 | 1 = 1 Set point                 | A      | 1 = 0-10V                | 2 = 9 Pin D-Sub         | 2 = 1.4 to 8.60 V                  | 0     |
| ZD3G       | 0 |                                 | A      | 5 = RS232 <sup>[1]</sup> |                         | 4 = 1.50 to 6.9375 V               | 0     |

<sup>[1]</sup> only available with 9 pin D-Sub

<sup>[2]</sup> select for backwards compatible transistor output

<sup>[3]</sup> only with analogue 0-10V

## FREQUENTLY USED PART NUMBERS

| Product description             | Order no:  |
|---------------------------------|------------|
| WRG200- NW25                    | D3G0021200 |
| WRG200- NW25- RS485- 9Pin D-Sub | D3G0021100 |
| WRG200- DN40CF                  | D3G0041100 |

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