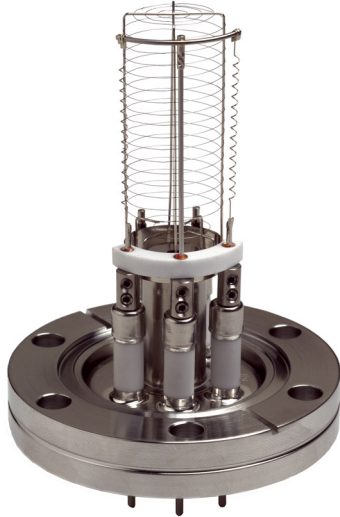


Bayard-Alpert Ionization Gauges

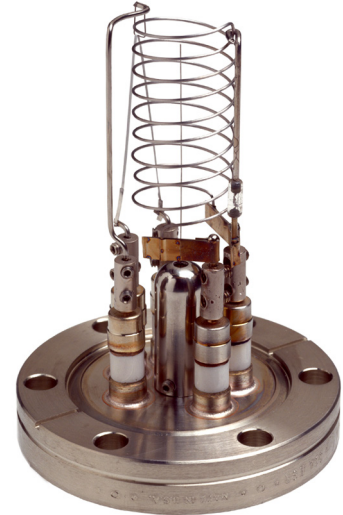
SRS nude and glass tubulated ionization gauges



Nude-UHV Gauge



Glass Tubulated Gauge



Nude Gauge

SRS Ion Gauges

To select the appropriate gauge, follow the steps below using the Model Numbers / Selection & Cross-Reference Table (next page).

- 1) Select the type of gauge: glass-tubulated, nude or nude-UHV
- 2) Select filament type: ThO₂/Ir or tungsten, single or dual
- 3) Note the SRS part number

Once you have selected a gauge, choose the appropriate cable using the pin connector diagram.

SRS offers three types of gauges for the IGC100 Ion Gauge Controller: glass tubulated, nude, and nude-UHV Bayard-Alpert ionization gauges. We also supply convection-enhanced Pirani gauges.

Single and Dual Filaments

All single, hair-pin shaped filaments used in SRS gauges are spring tensioned to eliminate filament sag. This allows the user to mount the gauge in any orientation. Dual-filament assemblies provide security against filament burnout.

Bayard-Alpert Gauge Specifications

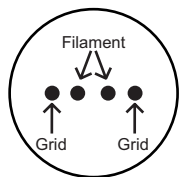


Figure 1.
Glass-Tubulated Gauge
Single ThO₂/Ir Filament
IGC100 Cable: **O100C1**

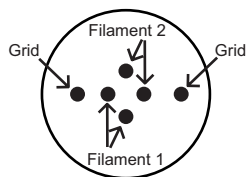


Figure 2.
Glass-Tubulated Gauge
Dual-Tungsten Filaments
IGC100 Cable: **O100C2**

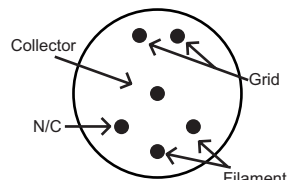


Figure 3.
Nude Gauge
Single ThO₂/Ir Filament
Bi-Filar Helical Anode Grid
IGC100 Cable: **O100C3**

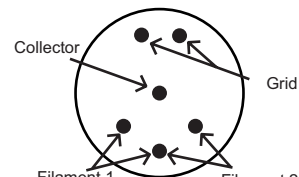


Figure 4.
Nude Gauge
Dual ThO₂/Ir or W Filament
Closed-End Anode Grid Cage
IGC100 Cable: **O100C3**

Bayard-Alpert Gauge Model Numbers / Selection and Cross-Reference Table

| Type | Filament | Connection | Pin config. | SRS part # | Helix | ETI | Duniway | Kurt J. Lesker | Varian |
|-----------------|-------------------------------|------------------------------|-------------|-----------------|--------|----------|------------|----------------|-----------|
| Glass-tubulated | ThO ₂ /Ir (single) | 2.75" CF (1" dia. side tube) | Fig. 1 | GR-100F | 274008 | 4336F/1 | I-CFF-275 | G100F | K2471303 |
| Glass-tubulated | tungsten (dual) | 2.75" CF (1" dia. side tube) | Fig. 2 | GW-100F | 274018 | 4336TF/1 | T-CFF-275 | G100TF | K7360307 |
| Nude | ThO ₂ /Ir (single) | 2.75" CF (bi-filar helix) | Fig. 3 | NR-F | 274028 | 8140 | I-NUDE-BAC | G8140 | L5150-302 |
| Nude UHV | ThO ₂ /Ir (dual) | 2.75" CF (closed-end cage) | Fig. 4 | NR-F-UHV | 274023 | 8130 | I-NUDE-F | G8130 | 971-5007 |
| Nude UHV | tungsten (dual) | 2.75" CF (closed-end cage) | Fig. 4 | NW-F-UHV | 274022 | 8130T | T-NUDE-F | G8130T | 971-5008 |

| | Glass-Tubulated | Nude | Nude-UHV |
|---|---|---|---|
| Physical | | | |
| Connection | Side tube or 2.75" CF flange | 2.75" CF flange | 2.75" CF flange |
| Side tube diameter | 1" | N/A | N/A |
| Envelope | Nonex 7720 glass, 2.25" dia. × 5.25" long | Nude | Nude |
| Mounting position | Any, vertical preferred [1] | Any | Any |
| Collector | Tungsten, 0.05" dia. | Tungsten, 0.05" dia. | Tungsten, 0.05" dia. |
| Filament | Single ThO ₂ /Ir [2] or dual tungsten | Single ThO ₂ /Ir [2], replaceable | Dual ThO ₂ /Ir or dual tungsten |
| Grid | Tungsten, bi-filar helix configuration | Tungsten, bi-filar helix configuration | Tantalum and Pt/Moly support, closed-end "squirrel" cage |
| Overall length (max.) | 6.0" | 4.13" | 4.13" |
| Insertion length (max.) | N/A | 3.30" | 3.00" |
| Operating | | | |
| Operating pressure | 2×10^{-10} to 1×10^{-3} Torr | 4×10^{-10} to 1×10^{-3} Torr | 2×10^{-11} to 1×10^{-3} Torr |
| Sensitivity for N ₂ , (nom.) | 10/Torr | 10/Torr | 25/Torr |
| X-Ray limit | 2×10^{-10} Torr | 4×10^{-10} Torr | 2×10^{-11} Torr |
| Degas power (@500 V) | 70 W (nom.), 100 W (max.) | 70 W (nom.), 100 W (max.) | 40 W (max.) |
| Resistance heated degas | 6.3 to 7.5 V @ 10 A | 6.3 to 7.5 V @ 10 A | N/A |
| Bakeout temperature | 250 °C | 450 °C | 450 °C |
| Electrical [3] | | | |
| Anode grid bias voltage | 180 VDC | 180 VDC | 180 VDC |
| Collector bias voltage | 0 VDC | 0 VDC | 0 VDC |
| Filament bias voltage | 30 VDC | 30 VDC | 30 VDC |
| Filament supply current | 4 to 6 A | 4 to 6 A | 4 to 6 A |
| Filament supply voltage | 3 to 5 VDC | 3 to 5 VDC | 3 to 5 VDC |

[1] Vertical orientation provides strain relief for electrode structures, and increases long-term stability.

[2] Single filaments are hair-pin shaped and spring loaded to eliminate sagging.

[3] Direct current (DC) bias and supply voltages are recommended for all electrical connections.

Ordering Information

| | | |
|----------|---|-------|
| GR-100F | 2.75" CF, 1" side tube, single ThO ₂ /Ir | \$500 |
| GW-100F | 2.75" CF, 1" side tube, dual tungsten | \$500 |
| NR-F | Nude, bi-filar, single ThO ₂ /Ir | \$700 |
| NR-F-UHV | Nude, closed-cage grid, dual ThO ₂ /Ir | \$700 |
| NW-F-UHV | Nude, closed-cage grid, dual tungsten | \$700 |