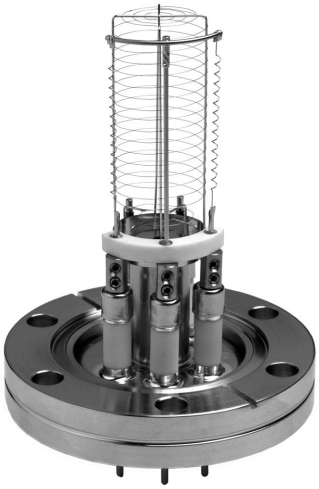
Bayard-Alpert Ionization Gauges

SRS nude and glass tubulated ionization gauges



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: ThO_2/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 and allow the user to mount the gauge in any orientation. Dual-filament assemblies provide security against filament burnout if the system cannot be brought to atmosphere to change the gauge.

NIST Traceable Calibration

SRS offers NIST traceable gauge calibration on all of the gauges we sell. Calibration data is stored on a memory card, and is used in conjunction with the IGC100 Ion Gauge Controller. We offer a 6 % accuracy, full-range calibration and a high-precision, 3 % accuracy calibration.

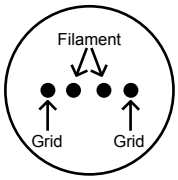


Figure 1.
Glass Tubulated Gauge
Single ThO_2/Ir Filament
IGC100 Cable: **O100C1**

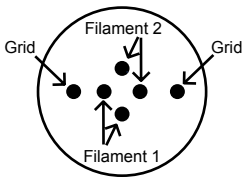


Figure 2.
Glass Tubulated Gauge
Dual Tungsten Filaments
IGC100 Cable: **O100C2**

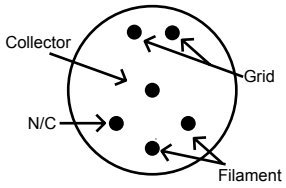


Figure 3.
Nude Gauge
Single ThO_2/Ir Filament
Bi-Filar Helical Anode Grid
IGC100 Cable: **O100C3**

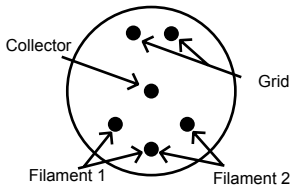


Figure 4.
Nude Gauge
Dual ThO_2/Ir or W Filament
Closed End Anode Grid Cage
IGC100 Cable: **O100C3**

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

Type	Filament	Connection	Pin config.	SRS part #	Granville-Phillips	ETI	Duniway Stockroom	Kurt J. Lesker	Varian
Glass tubulated	ThO_2/Ir (single)	Kovar (0.75" dia. tube)	Fig. 1	**GR-075K**	274003	4336K	I-075-K	G075K	K2471305
Glass tubulated	ThO_2/Ir (single)	Pyrex (0.75" dia. tube)	Fig. 1	**GR-075P**	274002	4336P	I-075-P	G075P	K2471304
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 dia.	1"	N/A	N/A
Envelope	Nonex 7720 glass, 2.25" dia. × 5.25" long	Nude	Nude
Mounting position	Any, vertical preferred (*2)	Any	Any
Collector	Tungsten, 0.05" dia.	Tungsten, 0.05" dia.	Tungsten, 0.05" dia.
Filament	Single ThO_2/Ir (*4) or dual tungsten	Single ThO_2/Ir (*4) 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: Glass-to-metal transition*
**2: Vertical orientation provides strain relief for electrode structures increasing long-term stability.*
**3: Direct current (DC) bias and supply voltages are recommended for all electrical connections.*
**4: Single filaments are hair-pin shaped and spring loaded to eliminate sagging.*

Ordering Information

GR-075K	Kovar, 0.75" side tube, single ThO_2/Ir	$125
GR-075P	Pyrex, 0.75" side tube, single ThO_2/Ir	$110
GR-100F	2.75" CF, 1" side tube, single ThO_2/Ir	$190
GW-100F	2.75" CF, 1" side tube, dual tungsten	$180
Option 01	6 % NIST calibration (glass gauges)	$195
Option 02	3 % NIST calibration (glass gauges)	$750
NR-F	Nude, bi-filar, single ThO_2/Ir	$430
NR-F-UHV	Nude, closed cage grid, dual ThO_2/Ir	$450
NW-F-UHV	Nude, closed cage grid, dual tungsten	$430
Option 01	6 % NIST cal w/ nipple (nude gauges)	$295
Option 02	3 % NIST cal w/ nipple (nude gauges)	$850
O100RFADW	Dual tungsten replace. fil. for NW-F-UHV	$130
O100RFASR	Single ThO_2/Ir replace. fil. for NR-F	$130
O100RFADR	Dual ThO_2/Ir replace. fil. for NR-F-UHV	$155
O100C1	10' cable for glass, single filament gauges	$125
O100C1/1	25' cable for glass, single filament gauges	$155
O100C2	10' cable for glass, dual filament gauges	$125
O100C2/1	25' cable for glass, dual filament gauges	$155
O100C3	10' cable for nude or glass gauges	$125
O100C3/1	25' cable for nude or glass gauges	$155
O100CA1	Adapter for Micro-Ion® gauge	$25