

# BAG302

# Bayard-Alpert Hot Ion Gauge

The INFICON single Bayard-Alpert Hot Ion Gauge BAG402 covers a wide measurement range from  $1.3 \times 10^{-9}$  to  $6.7 \times 10^{-2}$  mbar ( $1 \times 10^{-9}$  to  $5 \times 10^{-2}$  Torr). The compact All in one Hot Ion gauge BAG302 offers an easy to exchange dual filament sensor, a built in OLED display, set-point relay and a log-linear analog output as well as an integrated RS485 digital interface for increased integration flexibility.

These features combined with the rugged design makes the BAG302 an affordable and repeatable process to base pressure measurement instrument of its own and provides a high value/ low cost of ownership choice.



### **ADVANTAGES**

- Wide measurement range from  $1.3 \times 10^{-9}$  to  $6.7 \times 10^{-2}$  mbar (1  $\times$  10<sup>-9</sup> to 5  $\times$  10<sup>-2</sup> Torr)
- Two long-life yttrium oxide coated iridium filaments
- Tungsten filaments on special order
- All-in-One active gauge with built-in display, set-point, analog output and standard integrated RS485 digital interface
- Bright digital OLED display with keypad for simple setup, operation and programming
- User programmable set point relay
- User programmable display units in mbar, Torr or Pa

- User selectable Auto-ranging of emission current
- Mechanical strength and ruggedness
- Choice of various flange options
- Easy to exchange sensing element
- Compliance & standards: CE, RoHS
- Direct drop in replaces Granville-Phillips<sup>®</sup> 354 Micro-Ion<sup>®</sup> Module – identical control functions including software commands (RS485)

#### **APPLICATIONS**

- Pressure measurement in semiconductor process and transfer chambers
- Industrial coating
- General vacuum measurement and control in the low to ultra high vacuum range

# **ORDERING INFORMATION**

Туре	BAG302 Gauge	Replacement Sensor	
(Yt <sub>2</sub> 0 <sub>2</sub> coated iridium filaments)	OLED, SP, analog output, RS485		
DN 16 ISO-KF	352-050	352-060	
DN 25 ISO-KF	352-051	352-061	
DN 40 ISO-KF	352-052	352-062	
DN 16 CF-R	352-053	352-063	
DN 40 CF-R	352-054	352-064	
3/4" tube	352-055	352-065	
8 VCR female	352-056	352-066	

## **SPECIFICATIONS**

			BAG302	
Measurement range	)	mbar	$1.3 \times 10^{-9} \dots 6.7 \times 10^{-2}$	
		Torr	$1 \times 10^{-9} \dots 5 \times 10^{-2}$	
		Pa	1.3 × 10 <sup>-7</sup> 6.7	
Accuracy (N <sub>2</sub> ) <sup>1)</sup>	1.3×10 <sup>-8</sup> 6.7×10 <sup>-2</sup> mbar	% of reading	±15	
	1×10 <sup>-8</sup> 5×10 <sup>-2</sup> Torr	% of reading	±15	
Repeatability 1)		% of reading	±5	
Degas <sup>2)</sup>	$p < 6.7 \times 10^{-5}$	mbar	electron bombardment, 2 min (default)	
	p < 5.00 × 10 <sup>-5</sup>	Torr	(programmable between 2 10 min)	
Temperature				
Operation (ambie	nt)	°C	0 +40	
Storage		°C	-40 +70	
Bakeout at flange	e (sensor only, electronics remo	ved) °C	200	
Supply voltage		V (dc)	+20 +28 <sup>3</sup> )	
Output signal analog	g	V	0 +9 (log-linear)	
Voltage vs. press	ure	V / Decade	1	
Setpoint relay			1 (single-pole double-throw relay (SPDT)	
			1 A at 30 V (dc) resistive, or V (ac) non-inductive	
Digital functions			degas, filament on/off and emission control	
Interface (digital)			RS485	
Emission control			manual	
Filament			two Yt <sub>2</sub> O <sub>2</sub> coated Ir	
Filament status			display / digital output	
Electrical connection			D-Sub, 9-pin, male for analog	
			D-Sub, 9-pin, female for RS485	
Materials exposed t	o vacuum		Yt <sub>2</sub> O <sub>3</sub> , Ir, W, Ta, stainless steel, glass, Ni	
Mounting orientation	n		any	
Internal volume		cm <sup>3</sup> (inch <sup>3</sup> )	16.4 (1.0)	
Weight KF / CF		g (lb)	270 (0.6)	

1) typically

2

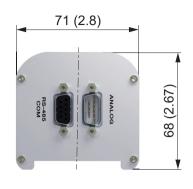
<sup>2)</sup> Reduced accuracy during degas

 $^{\rm 3)}$   $\,$  30 W protected against power reversal and transient over-voltages

### DIMENSIONS

#### mm (inch)





Dimension A	mm	(in)
DN 16 ISO-KF	37	(1.45)
DN 25 ISO-KF	37	(1.45)
DN 40 ISO-KF	37	(1.45)
DN 16 CF-R	47	(1.85)
DN 40 CF-R	33	(1.7)
8 VCR female	65	(2.58)
3/4" tube	55	(2.16)

#### ACCESSORIES

Power supply for BAG302 1)



Input power:	V (ac)	100 240
Ouput power:	V (dc)	+24 @ 2.5 A (60 W)
Cable length:	m (ft)	2 (6)

352-075

 The IEC 60320 AC power entry receptacle allows use with any user supplied AC mains cord set available worldwide



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