IONIVAC Sensors IE 414 and IE 514

These passive sensors use hot cathode ionization technology.

IE 414

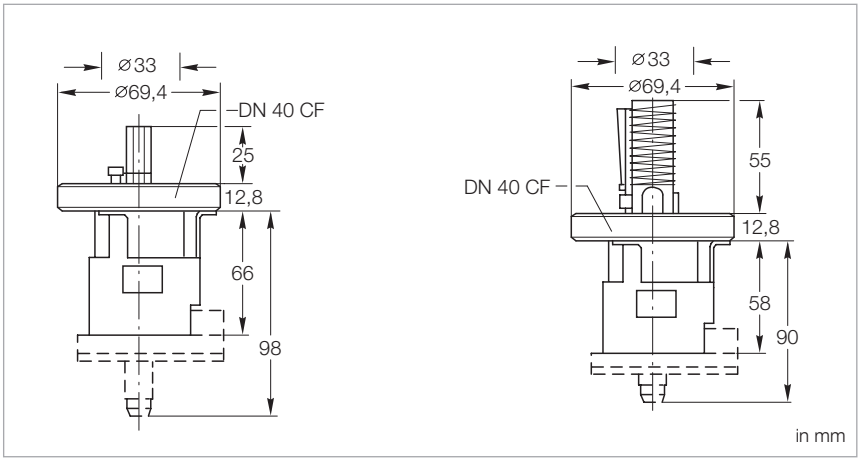
- Bayard-Alpert sensing system
- Measurement range to 2 x 10^{-11} mbar (1.5 x 10^{-11} Torr)
- Protection shield welded in place

IE 514

- Extractor sensing system
- Reliable to 1 x 10^{-12} mbar (0.75 x 10^{-12} Torr)
- Significant reduction of X-ray and ion desorption effects

Advantages to the User

- Exchangeable cathode
- High accuracy of the measurements due to individually calibrated sensing system



Dimensional drawing for the IE 414 (left) and IE 514 (right)

Technical Data

		IE 414	IE 514
Measurement range	mbar (Torr)	2 x 10^{-11} to 10^{-2} (1.5 x 10^{-11} to 10^{-2})	10^{-12} to 1 x 10^{-4} (10^{-12} to 7.5 x 10^{-5})
X-ray limit	mbar (Torr)	≤ 10^{-11} (≤ 10^{-11})	≤ 10^{-12} (≤ 10^{-12})
Operating temperature range	°C	0 to +80	0 to +80
Degassing temperature at the flange, max.	°C	250 [1] / 400 [2]	250 [1] / 400 [2]
Material			
Cathode		Iridium with yttric oxid coating	Iridium with yttric oxid coating
Feedthrough pins		NiFe 42	NiFe 42
Anode		Pt/Ir 90/10/pt wire	Mo and CoNiCr
Vacuum connection	DN	40 CF	40 CF
Adjustment data			
Ion detector potential	V	0	0
Cathode potential	V	80	100
Anode potential	V	220	220
Emission current	mA	0.06 to 0.6	1.6
Hot cathode current	A	1.4	1.4
Hot cathode voltage	V	2.7	3.7
Sensitivity for Nitrogen	mbar $^{-1}$	17.0	6.6
Bake out operation, Electron bombardment	V / mA	700 / 30	700 / 30
Operating units		IM 540, CM 52	IM 540, CM 52

Ordering Information

	IE 414	IE 514
	Part No.	**Part No.**
IONIVAC sensors	**158 66**	**158 67**
Replacement cathode	**158 63**	**158 61**

[1] With bakeable gauge head cable
[2] With gauge head cable detached