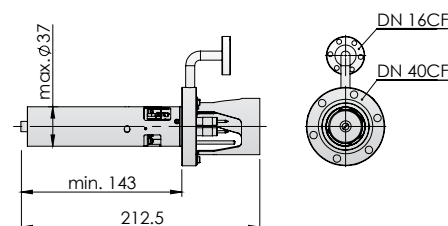
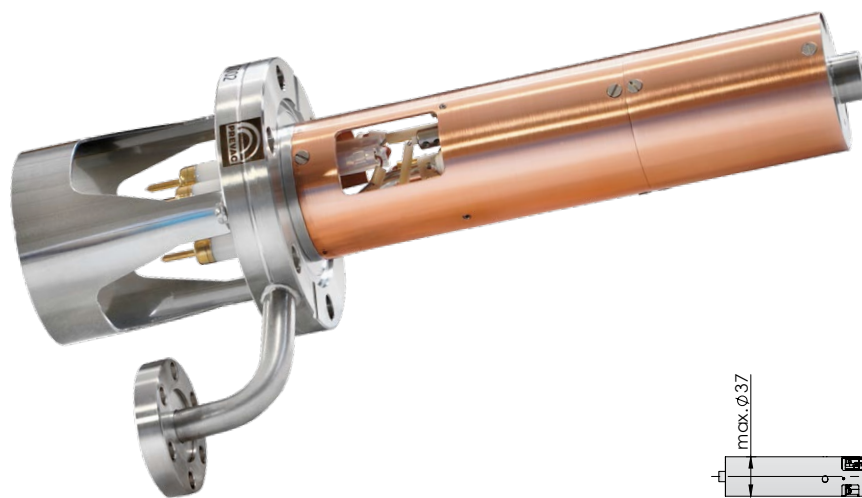


# IS 40F1

## ION SOURCE



SAMPLE CLEANING

### DESCRIPTION

The Ion Source IS 40F1 is a compact, easy-to-use extractor-type ion gun with a focus function. It is mainly used for sample surface cleaning, but the focus feature enables more possibilities. For example: it allows to cover different sample areas at the same sample distance, or to use source even when it's impossible to get the source closer to the sample. The source generates an ion current of  $>200 \mu\text{A}/\text{cm}^2$  (Argon) with a Gaussian beam profile. The source insertion length is adaptable to individual requirements (between 143 mm - 386 mm, other on request).

### FEATURES

- Beam focus function - possible beam concentration to 3 mm at all sample distances between 30 mm-150 mm
- High beam intensity at larger distances (due to the focus feature)
- Operation with inert (Ar) & reactive gases ( $\text{O}_2$ ,  $\text{H}_2$ , hydrocarbons with reduced lifetime)
- High ion beam current
- Long lifetime
- High stability

### OPTIONS

- Gas dosing system
- Customised insertion length
- Linear shift

### TECHNICAL DATA

Mounting flange	DN 40CF (non-rotatable)
Energy range	0.12 keV - 5 keV
Current density	$> 200 \mu\text{A} / \text{cm}^2$ (for distance 30 mm)
Shield	Cu, stainless steel (for reactive gases)
Cathode type	yttrium oxide coated iridium
Insertion length	min. 143 mm, other lengths possible OD: max. 37 mm
FWHM	dependent on ion energy and working distance (e.g. 1.4 mm for distance 60 mm, 3 mm for distance 150 mm)
Typical working distance	30 - 250 mm
Bakeout temperature	up to 250 °C
Working pressure	$10^{-5}$ - $10^{-6}$ mbar



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IS40F1

# IS40-PS

## ION SOURCE POWER SUPPLY

(IS 40F1 mode)



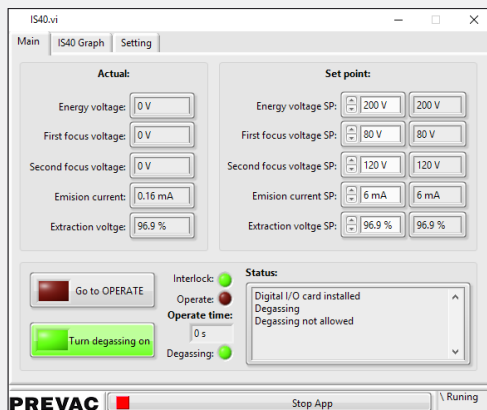
### DESCRIPTION

The IS40-PS power supply drives the IS40F1 Ion Source which is used for broad area UHV sample cleaning and preparation. The IS40-PS power supply allows fine adjustment of beam energy, ion density and focus voltage via digital encoders. All settings can be manually adjusted or can be stored and recalled automatically after unit switch on. The unit also features a built in timer and automatic standby mode. Easy firmware update via USB port. The unit can be remotely controlled via RS232/485 or Ethernet interfaces. The unit is equipped with autosave function (the device save your parameters, preset and apply them automatically after restart).

### OPTIONS

- Analog I/O card for vacuum measurement (1 gauge)

### ION SOURCE CONTROL APPLICATION



### TECHNICAL DATA

Supply voltage	100 - 240 V, 50-60 Hz, (power consumption max 250 W)
Beam energy ( $U_{eng}$ )	0.00 - 5.00 keV, resolution 0.01 keV, ripple <200 mV
Emission current ( $I_e$ )	0.01 mA - 10 mA, resolution 0.01 mA
Focus voltage	0 - 5000 V, resolution 1 V, ripple < 0.2 V <sub>pp</sub>
Timer	dual mode timer 0 s - 99 h 59 m
Vacuum measurement (optional)	CTR90, TTR91, TTR211, PTR225, PTR90, ITR90, ITR100, Baratron, ANALOG IN, MKS937A, PG105, MG13/14, PKR251/360/361, PCR280, ATMION
Communication interface	RS232/485, Ethernet
Communication protocol	MODBUS-TCP
User interface	7" TFT display with touchscreen, digital encoder
Interface languages	English, German, Polish
Dimensions	483 × 133 × 437 mm (W×H×D), 19" rack mountable
Weight (approx.)	9.2 kg



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