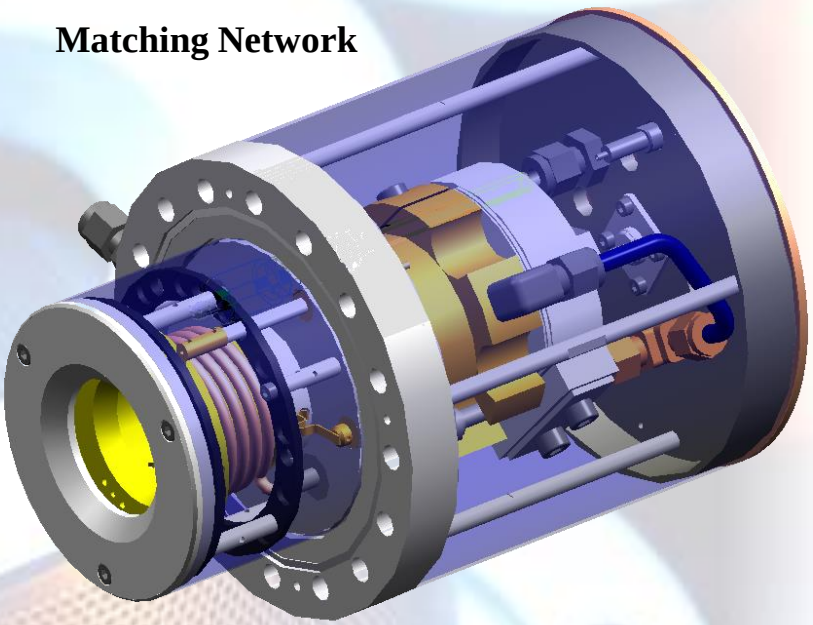
RF Broad Beam Ion Sources

RF/F 40 and RF/I 40



Flange mounted RF/F 40 Ion Source

Key Design Features

- **Filamentfree source operation** based on a simple, rugged **inductive power coupling**
- **Compact impedance matching** inside the source housing
- **Internal and external** mounting configurations
- **Functional ceramics** for easy and quick maintenance
- Special **grid insulation and adjustment** system

Advantages

- Fully noble gas, oxygen, and other reactive **gas capability**
- **Grid systems** from different shape and material for optimum process adaptation
- RF power supply via 50 Ω cable **without additional matching unit**
- **Minimum maintenance** and long lifetime

The unique solution for filament free ion beam processing !

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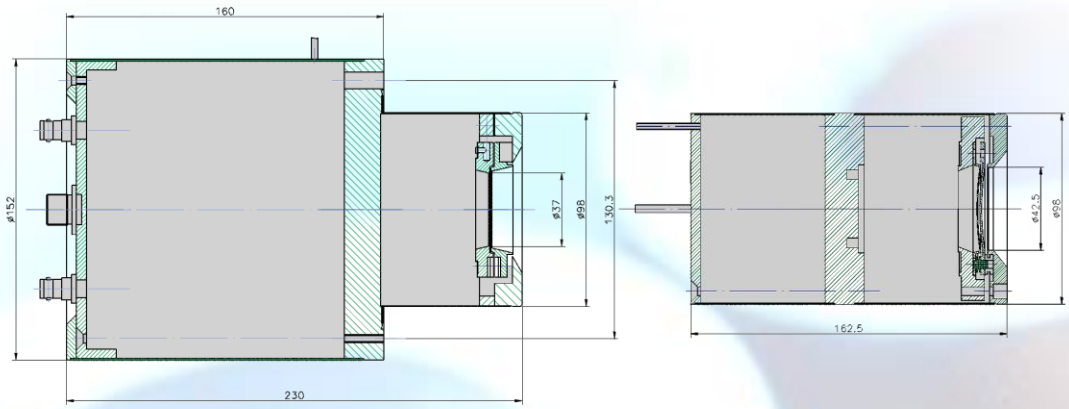
Dimensions / Size



RF/F 40 **RF/I 40**

Technical Specification

	RF/F 40	RF/I 40
Type:	Flange mounted RF excited ion source with multiapertur extraction grids	Internally mounted RF excited ion source with multiapertur extraction grids
Source materials:	Discharge lining: Al_2O_3 Grids: C or Mo RF coil: Silver plated and water cooled Cu Permanent magnets: AlNiCo Housing: Stainless steel RF-matching components: Cu and Al_2O_3	
Grid types:	2 or 3 grid system 3 standard systems with different focusing length	
Size:	See Fig. above (without neutralisation)	
Weight:	~1.8 kg	~1.2 kg
Flange:	DN 100 CF	3 DN 40 CF media feedthroughs
RF power	~75 to 300 W at 13.56 MHz	
Ion current:	Maximum 50 mA (Dependent on grid type and operation condition)	
Ion energy:	~50 to 2000 eV	
Accelerator voltage:	0 to –1000 V	
Process gases:	Noble gases, O_2, N_2, C_XH_Y (No restrictions) Halogen containing gases (Grid lifetime reduced)	
Gas flow :	1 to 10 sccm Fitting: 6 mm Swagelock	1 to 10 sccm Fitting: 1/8” Swagelock (Air and vacuum)
Cooling water:	1.5 l/min Fitting: 6 mm Swagelock	1.5 l/min Fitting: 6 mm Swagelock (Air and vacuum side)
Electrical connections:	RF: Coaxial type N DC: BNC	RF: Coaxial type N (Air and vacuum) DC: BNC (Air side), Power push on (Vacuum side) 0.5 m vacuum cables

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