

# elocab Ultra High Vacuum Flat- and Round Cables

## Maximum Precision for Critical Environments

BizLink elocab is your partner for high-precision, dynamic, and durable connection technology, especially in semiconductor manufacturing and vacuum applications.

**When your systems require maximum dynamics, extreme purity, and outstanding service life, we offer the custom-made solution.**

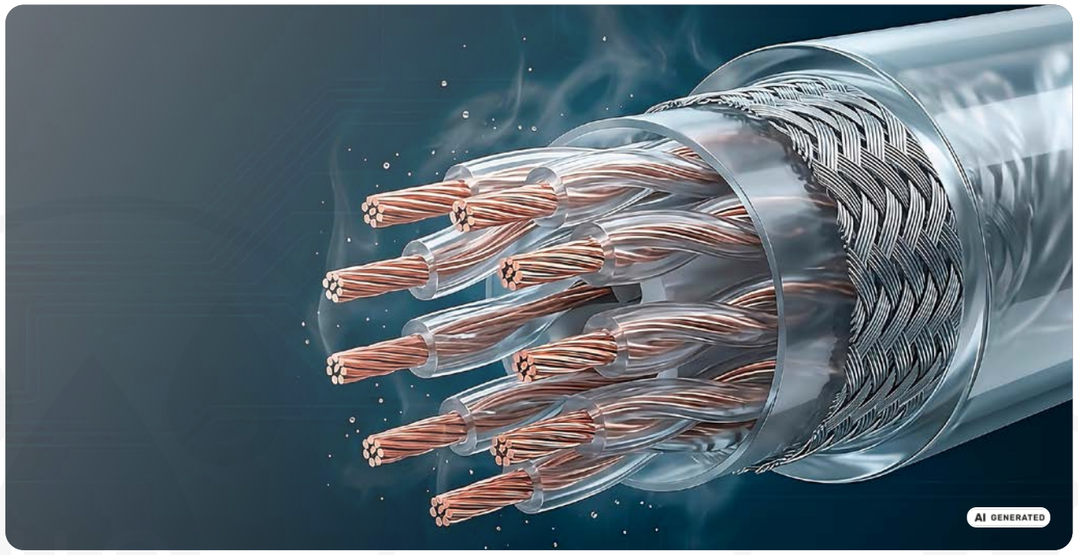
### Quick Facts at a Glance

| Specification | HPF-Technology (Flat Cable) | Round Cable |
|---|---|---|
| **Application** | Dynamic application – suitable for highest positioning accuracy and speed. | Static / fixed installation. |
| **Vacuum Suitability** | Ideal for vacuum applications due to low outgassing values and selected materials (Grade 2). | Trouble-free application in ultra-high vacuum (UHV) (Grade 1). |
| **Particle Cleanliness** | Minimal abrasion through tested materials and certified according to ISO Class 14644-1. Guarantees clean processes and reduces downtime due to contamination. | |
| **Molecular Cleanliness** | Proprietary cleaning processes, verifiable by residual gas analysis (RGA). | |
| **Design Flexibility** | Power, data, signal, fiber, and tubes in one system. | Custom hybrid / round cables. |
| **Special Feature** | Space-saving installation due to self-supporting system up to 150 cm. Custom brackets and clamps available. UL-Style. | Special shielding against magnetic interference guarantees safe operation. UL-Styles. |
| **High Voltage** | Greater than 40 kV DC | Greater than 80 kV DC |

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# Outgassing & RGA Measurement at BizLink elocab




**Comprehensive quality control**
We use mass spectrometers to verify the outgassing of every single assembly. Residual Gas Analysis (RGA) ensures that no hydrocarbons negatively impact your application.

| Outgassing rate Grade 1 (mbar x l/sec x cm²) | |
|---|---|
| $H_2O$ (AMU* 18) | 6.00e-10 |
| $C_xH_yv$ (volatile, AMU* 45–100) | 2.00e-12 |
| $C_xH_ynv$ (non-volatile, AMU* 101–200) | 5.00e-13 |

| Outgassing rate Grade 2 (mbar x l/sec x cm²) | |
|---|---|
| $H_2O$ (AMU* 18) | 7.00e-9 |
| $C_xH_yv$ (volatile, AMU* 45–100) | 2.00e-10 |
| $C_xH_ynv$ (non-volatile, AMU* 101–200) | 3.00e-11 |

*AMU = Atomic Mass Units



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# elocab HPF Technology – High Performance Flex

**The connection technology for high-precision, dynamic, and durable systems.**
The HPF (High Performance Flex) technology is a guideless and customized flat cable solution designed for absolute peak performance in highly dynamic applications such as wafer platform and robot handling.

**Typical Applications (HPF)**
- Electron-beam lithography
- Testing (high voltage) & measuring systems
- Wafer platform & wafer handling robot
- Etching equipment

## Your Detailed Advantages (HPF) 〉

- **EXTREME DURABILITY:** Designed for over 150 million cycles at the tightest bending radii.
- **GUIDELESS SOLUTION:** Supports free travel distances of up to 1.5 meters without additional guiding systems.
- **CUSTOMIZED SOLUTION:** Combination of power, data, signal, optical fibers, and tubes in a flexible system according to your requirements.
- **GUARANTEED PURITY:** Specific cleaning, outgassing, and particle reduction steps ensure minimal outgassing, verified by RGA analysis.
- **SPACE-SAVING & MODULAR:** Custom, weight-optimized designs with customer-specific brackets and clamps.

## Specifications (HPF) 〉

| Property | Vacuum (to cleanliness Grade 1) | Non-Vacuum (to cleanliness Grade 4) |
|---|---|---|
| Jacket material | PTFE or ePTFE / PFA | ePTFE / PUR |
| Jacket color | Transparent & white | White |
| Cable types | Signal, power, compressed air, media | Signal, power, optical fiber, compressed air, media |
| Max. cable width | 200 mm | 320 mm |
| Min. bending radius | > 10 × OD* | > 7.5 × OD* |
| Max. acceleration | > 40 m/sec² * | > 40 m/sec² * |
| Speed | > 3 m/sec* | > 3 m/sec* |
| Life cycles | 50+ million* | 150+ million* |
| Temperature range | –30 °C to +240 °C * | –20 °C to +80 °C * |
| Free of particulate contamination | ✔ | ✔ |
| Certifications | UL | UL |

*depending on the customer application

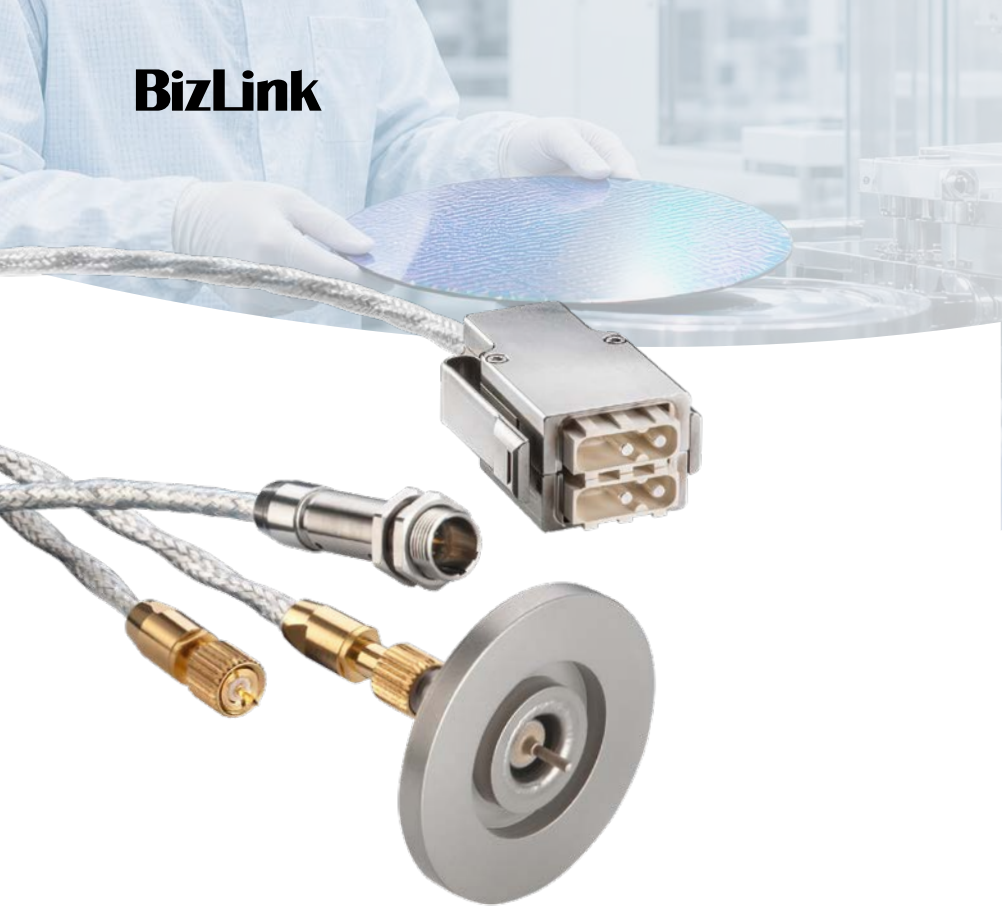


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# elocab Vacuum Cables

**The special cables for ultra-high vacuum (UHV) and the most extreme purity requirements.**
elocab Vacuum Cables are custom round and hybrid cables developed for the most demanding and critical applications in vacuum systems. They guarantee the highest process reliability through the use of emission-free, thermally treated materials.

**Typical Applications (Round Cables)**

- Semiconductor Production
- Vacuum chambers and systems in ultra-high vacuum (UHV)
- Precise measurement systems and sensors
- Research and Development

## Your Detailed Advantages (Round Cables) 〉

- **USE IN ULTRA-HIGH VACUUM (UHV):** Reliable performance where conventional cables fail. Prevents contamination of critical processes.
- **EMISSION-FREE MATERIALS:** Silicone-free, PFAS-free, and other emission-free variants. Proven highest outgassing purity through RGA analysis.
- **LOW-PARTICLE PRODUCTION:** Manufacturing under controlled cleanroom conditions for an exceptionally high degree of purity.
- **MINIMIZATION OF INTERFERENCE:** Special design to minimize magnetic field interference for precise measurements and sensitive sensors.

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