



150-300 kV DC electron-beam gun HV cable

HXC Electron-Beam High-Voltage Cable

150 kV to 300 kV DC 3/4-core electron-beam welding, EBM & accelerator gun HV cable



150 – 300 kV DC

Cathode + Filament + Wehnelt

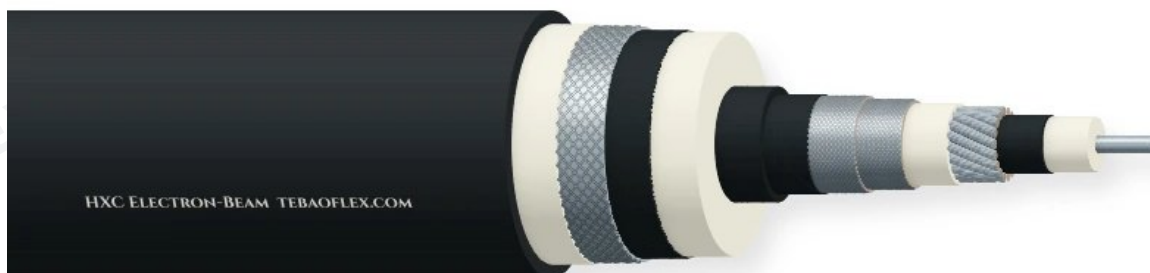
R24 / R30 / Custom Cone

Application

Ultra-high-voltage multicore electron-beam cable (HXC Electron-Beam) rated 150 kV, 175 kV, 200 kV, 225 kV and 300 kV DC with 3 or 4 central cathode, bombarder filament and Wehnelt grid-bias conductors, stress-graded EPR/silicone HV insulation, and dual.

Typical uses: Vacuum Electron-Beam Welding (EBW) Machines, Electron-Beam Powder-Bed Additive Manufacturing (EBM), Electron-Beam Sterilization & Polymer Cross-Linking, 225 kV & 300 kV Industrial Cargo / Casting X-Ray, Ion & Electron Accelerator Injector Guns

Construction



Cross-section, not to scale

- 1 Central cathode filament, bombarder & Wehnelt cores
- 2 Inner semiconductive stress-equalising core
- 3 Ultra-clean 150–300 kV EPR / Silicone HV OEM
- 4 Outer semiconductive stress-control layer
- 5 Low-inductance heavy tinned copper braid
- 6 Heavy-duty PUR, PVC or Silicone outer jacket

Technical data

Typical values

Rated DC working voltage	150 kV, 175 kV, 200 kV, 225 kV, 250 kV & 300 kV DC	Central core-to-core voltage	5.0 kV DC standard · 8.0 kV DC (high-bias Wehnelt option)
Heater / filament current	Up to 35 A continuous per filament core (4.0 mm ²)	Factory DC routine proof test	1.3 × to 1.5 × rated U _{DC} (up to 400 kV DC) for 15 min
Partial discharge level	≤ 5 pC at rated stress	Nominal capacitance	95 pF/m to 125 pF/m
Operating temperature (EPR/PUR)	−25 °C to +85 °C	Operating temperature (Silicone)	−40 °C to +150 °C
Central conductor layout	3×2.5, 4×2.5, 3×4.0 or (2×4.0 + 2×1.5 mm ²)	Min. bend radius	6 × OD static · 10 × OD moving-gun gantry
Vacuum oil & SF6 compatibility	Compatible with transformer oil & SF6 gun tanks	Flame & abrasion resistance	IEC 60332-1-2 · Tear-resistant PUR outer sheath
Standards	ISO 14744		

Sizes

12 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Central Gun Conductors	Rated U _{DC} kV DC	Core-Core kV DC	OEM OD mm	Overall OD mm	Capacitance pF/m	Weight kg/km
150 kV to 200 kV DC Electron-Beam Welding (EBW) & EBM Additive Gun Cables 6 sizes							
☐ HXC-EB-150KV-3X2.5	3 × 2.5 mm ² (5 kV Core-Core)	150	5.0	23.5	29.0	115	1,120
☐ HXC-EB-150KV-4X2.5	4 × 2.5 mm ² (5 kV Core-Core)	150	5.0	24.2	29.8	118	1,185
☐ HXC-EB-150KV-2X4+2X1.5	2×4.0 + 2×1.5 mm ² (8 kV Grid)	150	8.0	25.0	30.8	122	1,270
☐ HXC-EB-175KV-3X2.5	3 × 2.5 mm ² (5 kV Core-Core)	175	5.0	26.5	32.5	108	1,390
☐ HXC-EB-175KV-2X4+2X1.5	2×4.0 + 2×1.5 mm ² (8 kV Grid)	175	8.0	27.5	33.8	112	1,510
☐ HXC-EB-200KV-4X2.5	4 × 2.5 mm ² (8 kV Core-Core)	200	8.0	30.0	36.5	105	1,760
225 kV to 300 kV DC Industrial Accelerator & R30 High-Energy Cables 6 sizes							
☐ HXC-EB-225KV-3X2.5-R24	3 × 2.5 mm ² (R24/R30 Cone)	225	5.0	32.5	39.2	102	2,040
☐ HXC-EB-225KV-2X4+2X1.5	2×4.0 + 2×1.5 mm ² (8 kV Grid)	225	8.0	33.5	40.5	105	2,190
☐ HXC-EB-250KV-4X2.5-R30	4 × 2.5 mm ² (8 kV Core-Core)	250	8.0	36.0	43.5	98	2,520
☐ HXC-EB-300KV-1X10-COAX	1 × 10 mm ² Coaxial HV Bus	300	0.0	38.5	46.0	95	2,840
☐ HXC-EB-300KV-3X2.5-R30	3 × 2.5 mm ² (5 kV Core-Core)	300	5.0	40.5	48.5	96	3,150
☐ HXC-EB-300KV-2X4+2X1.5	2×4.0 + 2×1.5 mm ² (8 kV Grid)	300	8.0	41.5	49.8	98	3,340

– Custom vulcanised R24, R30 and proprietary electron-beam welding gun boots with integrated damping resistors are assembled to customer drawing.

Standards and approvals

- ✓ ISO 14744 Electron-Beam Welding HV Supply Compliant
- ✓ IEC 60522 R24 / R30 High-Voltage Cone Compatible

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/electron-beam-high-voltage-cable



Typical values for this cable type, based on IEC 60522 (R24 / R30) / IEC 60502-2 / ISO 14744. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.