hvGridtech

A USi COMPANY

Accessories for Self-Contained Low Pressure Oil Filled Cable Systems, 69kV – 345kV

- STRAIGHT JOINTS
- TERMINATIONS
- PRE-PRESSURIZED DIELECTRIC FLUID RESERVOIRS
- MISCELLANEOUS COMPONENTS
- ENGINEERING SERVICES FOR OIL FILLED CABLE SYSTEMS

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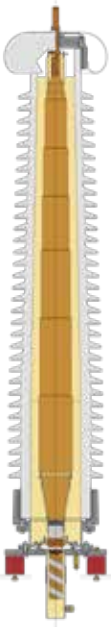
Accessories for SCFF/LPOF Cable Systems 69 kV - 345 kV

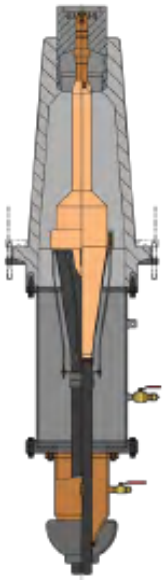
hvGrid-tech is a market leader in design and manufacture of cable accessories and engineering solutions for self contained fluid filled (SCFF)/low pressure oil filled (LPOF) cable systems offering a complete range of accessories from 69kV to 345kV with over 50 years of successful operating history.

hvGrid-tech originated as the EHV Cable Accessory Division of Canada Wire & Cable (CW&C) in the early 1960's and has continued to develop, manufacture and supply high voltage cable accessories worldwide as a primary supplier or on an OEM replacement basis.

As a competence centre for oil filled cable system accessories and engineering services, hvGrid-tech supports and enables oil filled cable system operators to maximize the performance and operating life of their cable systems. Our oil filled cable accessory offerings include a complete range of joints, terminations, pre-pressurized fluid reservoirs and miscellaneous ancillary components.

hvGrid-tech's accessory designs can be tailored to work on any oil filled cable, and hence can serve as replacement or spare parts for any oil filled cable system applications regardless of the original cable and/or accessory manufacturer. All hvGrid-tech cable accessories are supplied with comprehensive and detailed installation instructions, which can be supplied in a variety of languages to suit the specific market requirements.





ACCESSORIES FOR OIL FILLED CABLE SYSTEMS INCLUDE:

Straight Joints
- Sectionalized and non-sectionalized
- Conductor sizes up to 4500 kcmil
- Lead sheath or aluminum sheath
- Stranded and segmental conductors
- Aluminum and copper conductors
- Custom joints for the dissimilar cable cross sections and conductor sizes
- Custom extended body joints to replace failed/damaged joints

Terminations
- Outdoor/GIS Type/Oil Immersed
- Lead Sheath or Aluminum Sheath
- Stranded and segmental conductors
- Aluminum and copper conductors
- Stress cone or condenser cone
- Custom baseplates to match any existing mounting designs

Pre-Pressurized Dielectric Fluid Reservoirs
- Range of pre-pressurization levels
- Range of working fluid volumes from 30 litres to 210 litres per tank
- Mild steel or stainless steel tank construction
- Custom sizes and performance characteristics available

Miscellaneous Components
- Oil Line insulators
- Bi-metallic stems
- Impregnated paper rolls
- Oil cross-over cabinets

Engineering Services
- System hydraulic calculations for circuit diversions
- Dielectric fluid reservoir capacity analysis
- Hydraulic transient pressure calculations

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Straight Joints for SCFF/LPOF Cables 69 kV - 345 kV

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hvGrid-tech's Straight Joints for SCFF/LPOF cables are based upon a proven design with over 50 years of service around the world in operating voltages from 69 kV up to 345 kV.

They are designed to suit a wide range of standard and custom hydraulic applications, and can withstand nominal operating pressures of 100 psig (690 kPa) and maximum transient pressures of up to 150 psig (1035 kPa).

Standard design Straight Joints can be supplied for sectionalized and non-sectionalized applications, and can accommodate lead or aluminum sheath SCFF/LPOF cables, Cu or Al stranded or segmental conductors up to 4500kcmil/2250mm². All hvGrid-tech Straight Joints utilize a two piece copper casing with cable sheath bonding and hydraulic treating/filling features, and a cast epoxy insulator is utilized for sectionalized (shield break) applications.

STRAIGHT JOINT (SECTIONALIZED)

DESIGN FEATURES - STRAIGHT JOINTS FOR SCFF/LPOF CABLES 69 KV - 345 KV	
Cable Construction	Aluminum sheath or Lead sheath
Conductor Material	Copper or Aluminum
Conductor Type	Stranded or Segmental
Conductor Size	Up to 4500kcmil (2250mm²)
Electrical Stress Relief	Factory designed/field installed impregnated paper roll stress relief cone. Stress relief profile template included
Operating Hydraulic Pressure	Nominal operating pressures up to 100 psig (690kPa) and maximum transient pressures up to 150 psig (1035kPa)
Dielectric Fluids	Designed and manufactured for compatibility with a wide range of dielectric fluids
Cable Cross Sections	Custom joints for dissimilar cable cross sections and conductor sizes
Replacement Joints	Custom extended body joints to replace failed or damaged joints and/or cables
Joint External Protection	Factory applied PVC coating on copper joint casing rated to withstand 25kV DC
Compression Dies	Included in all Joint Kits supplied

hvGrid-tech can design and supply custom Straight Joints for any SCFF/LPOF cable requirement, including dissimilar cable cross sections, dissimilar cable constructions, as well extended body joints to replace a localized joint or cable failure. All Joint Kits are supplied with detailed installation instructions, which can be provided in a variety of languages.

Terminations for SCFF/LPOF Cables 69 kV - 345 kV

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GIS TYPE TERMINATION

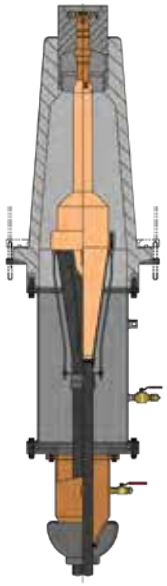
GIS Type Terminations are available for gas insulated switchgear (GIS) applications and are available in operating voltages from 138 kV up to 230 kV. The Termination utilizes a cast epoxy bushing specifically designed to be mounted within a metal clad switchgear and the inner construction is similar to that of an Outdoor Termination. The Termination GIS interface and the associated components are designed in accordance with IEC 60859.

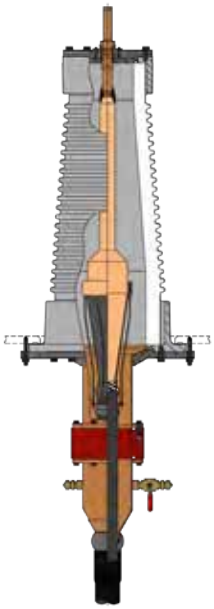
OIL IMMERSED TERMINATION

Oil-immersed (cubicle) Terminations are available in operating voltages from 138 kV up to 345 kV. The Termination utilizes a porcelain bushing specifically designed to be mounted within a metal cubicle filled with dielectric oil, typically inside transformers. The mounting plate of the Termination can be custom designed to suit the specific requirements of the cubicle interface.

OUTDOOR TERMINATION

Outdoor Terminations are available in operating voltages from 69 kV up to 345 kV. The standard Outdoor Termination utilizes a porcelain bushing with a medium level pollution creepage distance as classified by IEC 815. Extended creepage insulators are available for demanding environmental locations. Optional items include 4-hole NEMA pad, universal type aerial lugs, and cast epoxy or porcelain mounting insulators.





DESIGN FEATURES - TERMINATIONS FOR SCFF/LPOF CABLES 69 KV - 345 KV	
Cable Construction	Aluminum sheath or Lead sheath
Conductor Material	Copper or Aluminum
Conductor Type	Stranded or Segmental
Conductor Size	Up to 4500kcmil (2250mm²).
Electrical Stress Relief	Stress Cone or Capacitance Type Condenser Cone
Operating Hydraulic Pressure	Nominal operating pressures up to 100 psig (690kPa) and maximum transient pressures up to 150 psig (1035kPa)
Dielectric Fluids	Designed and manufactured for compatibility with a wide range of dielectric fluids

hvGrid-tech custom designs and supplies Terminations that match a variety of mounting arrangements. This allows our Terminations to be a compatible replacement for any brand or manufacturer. All Termination Kits are supplied with detailed installation instructions, which can be provided in a variety of languages.

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Pre-Pressurized Reservoirs

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hvGrid-tech manufactures the EHV range of AC Type pre-pressurized dielectric fluid reservoirs for self contained fluid filled (SCFF) cable applications. AC Type pre-pressurized dielectric fluid reservoirs permit a positive dielectric fluid pressure to be maintained along a SCFF circuit during normal and extreme operating conditions.

Dielectric fluid feeding is accomplished through the use of nitrogen pressurized cells, surrounded by the dielectric fluid within the tank. The pressure-volume characteristic of each reservoir is determined by the amount of gas in the cells as well as the pressurization level. The size and pressure setting of the reservoir is determined by the cable system profile and operating parameters.

The standard reservoir shell is made of mild steel and coated with an epoxy resin paint. A stainless steel tank can also be supplied for corrosive environments, and for direct buried applications. Reservoirs can be supplied with wide range of dielectric fluids subject to specific customer requirements.

PRE-PRESSURIZED AC TYPE RESERVOIRS EHV SERIES					
Size	**Nominal Gas Volume**	**Working Fluid Volume (Approx.)**	**Height**	**Diameter**	**Weight (with oil)**
EHV-30	140 L (37 gal)	90 L (24 gal)	1156 mm (45-1/2")	527 mm (20-3/4")	238 kg (525 lbs)
EHV-40	190 L (50 gal)	120 L (32 gal)	1435 mm (56-1/2")	527 mm (20-3/4")	283 kg (625 lbs)
EHV-50	235 L (62 gal)	150 L (40 gal)	1734 mm (68-1/4")	527 mm (20-3/4")	386 kg (850 lbs)
EHV-60	280 L (74 gal)	180 L (48 gal)	2013 mm (79-1/4")	527 mm (20-3/4")	431 kg (950 lbs)
EHV-70	330 L (87 gal)	210 L (56 gal)	2311 mm (91")	527 mm (20-3/4")	545 kg (1200 lbs)

Standard Reservoir sizes shown. Custom sizes and performance characteristics available upon request.

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ISO 9001:2015
CERTIFIED

hvGrid-tech is an ISO 9001-2015 certified company.