

# MODEL 481 HIGH VOLTAGE ELECTRICAL SWIVEL (HVES)



The Model 481 High Voltage Electrical Swivel (HVES) utilizes environmentally friendly gaseous insulation to accommodate operating voltages of up to 170 kV. Typical applications are long distance offshore interconnects like power to shore (PtS) or power from shore (PFS) arrangements requiring a swivel stack (FPSO, floating wind platform, or similar).

The overall dimensions and inner bore diameter are variable, adapting to the requirements of the specific application. The HVES is designed to be low maintenance and provide realtime health indicators that can be monitored remotely. Large access hatches are supplied standard such that inspection and maintenance can be performed on-site as required.

Moog Focal has been producing highly reliable MV power swivels for the FPSO market since 1990, with over 32 units in the field and a demonstrated uptime greater than 99.92%. This HVES design incorporates Focal's experience and proven, industry leading technology, further verified by prototype qualification tests at a certified laboratory.

LFAC and HVDC swivels are also available and employ the same technology.



## PHYSICAL CHARACTERISTICS

- Design Life: 30 years
- Ambient: -25°C to +45°C (-13°F to 113°F)
- External Materials: AISI 316, 316L or similar
- Maximum Continuous Rotation Speed: 1 RPM
- Ingress Rating: IP66, IP68-20m

## INDEPENDENT VERIFYING BODY

- Det Norske Veritas (DNV), others possible

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- Marking: Ex db pxb IIB T4 Gb
- Suitable for Zone 1 IIB T3 environment

## CODES ADHERED TO

- ASME BPVC
- DNV-RP-C203
- DNV-OS-D201
- EN/IEC 60079 Series
- IEC 60071-1
- IEC 60529
- IEC 61892-2
- IEC 62271 Series
- NORSOK M-601 and M-630

## Electrical Characteristics:

- Three-phase, three-wire
- Voltage: 170 kVAC
- Current: 1000 A typical
- Power: 300 MVA
- BIL: 750 kV
- Dielectric: Gaseous
- Connections: Connectors IAW IEC 62271 Series

## Mechanical Characteristics:

- 2914 mm [114.7"] Height x 4877 mm [192.0"] Diameter
- Through bore of 2184 mm [86.0"]
- Estimated weight: 31 000 kg [98 300 lb]
- Estimated torque: 97 200 N-m [71 700 lb-ft]

## Supplementary Items:

- Live monitoring of condition via PLC system (supplied in Ex db enclosure)
- Visual monitoring of gas pressure / density
- Access hatches with viewing windows
- Gas handling equipment supplied loose
- Self-sealing gas fittings provided
- Protection covers for connectors supplied
- Hoist rings for lifting supplied IAW ASME B30.26



For product information, visit [www.moog.com/focal](http://www.moog.com/focal)

For more information or the office nearest you, contact us online, [rotarysolutions@moog.com](mailto:rotarysolutions@moog.com)

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Moog High Voltage Electrical Swivel (HVES) Technical Data Sheet  
MCM/Rev. -, November 2023, Id. CDL67545 -en