

ESP High-Voltage Electrical Surface Choke Panel

Protect ESP controllers and operations personnel while enabling downhole monitoring

 **Operating temperature range:**
-22 to 122 degF [-30 to 50 degC]

Applications

- ESP monitoring
- Oil and gas locations on land or offshore

How it improves wells

Downhole sensors are used to monitor ESP performance and operating parameters, delivering data to surface controllers through the ESP cable, which carries high-voltage power as well as low-voltage data. The surface choke panel protects surface controllers and operators from high voltage without affecting data signals to and from downhole monitoring systems. This minimizes the risk of electrical damage to sensitive electronics in the surface controller while enabling real-time optimization of the ESP via communication with Phoenix* artificial lift downhole monitoring systems.

Additional information

The choke panel is available with or without an enclosure rated to IP 66 and NEMA 4X. It has terminal access for connection to each of the three downhole transformer terminals.

It has two configurations: three-phase surface choke and single-phase surface choke. The three-phase surface choke can be used with a delta- or wye-connected secondary side of a step-up transformer. The single-phase surface choke is for only wye-connected secondary side of a step-up transformer having an accessible neutral point. The main advantage of the single-phase surface choke is its smaller footprint.



Single-phase and three-phase surface choke panels prevent high-voltage alternating current from reaching the ESP surface controller while allowing data signals to pass, enabling ESP monitoring and control applications.

Surface Choke Specifications

Model	Three-Phase Without Enclosure	Three-Phase With Enclosure	Single-Phase Without Enclosure	Single-Phase With Enclosure
Voltage, kV	5	5	1	1
Dimensions (height × width × depth), in [mm]	13.78 × 21.65 × 7.93 [350 × 550 × 201.5]	15.67 × 23.54 × 9.11 [398 × 598 × 231.5]	15.35 × 13.97 × 5 [390 × 355 × 127]	15.67 × 23.54 × 9.11 [398 × 598 × 231.5]
Weight, lbm [kg]	46.29 [21.0]	57.54 [26.1]	26.45 [12.0]	37.70 [17.1]
Operating temperature range, degF [degC]	-22 to 122 [-30 to 50]	-22 to 122 [-30 to 50]	-22 to 122 [-30 to 50]	-22 to 122 [-30 to 50]
Storage temperature range, degF [degC]	-40 to 167 [-40 to 75]	-40 to 167 [-40 to 75]	-40 to 167 [-40 to 75]	-40 to 167 [-40 to 75]
Regulatory compliance	UL recognized, UL 347 and CSA C22.2 No. 253-16, E497917	UL recognized, UL 347 and CSA C22.2 No. 253-16, E497917	UL recognized, UL 508 and CSA C22.2 No. 14, E510421	UL recognized, UL 508 and CSA C22.2 No. 14, E510421