

## Environmental Testing

The cLEAN System is the World's Toughest System. More than just a claim – we performed several tests to ensure the cLEAN System's ultimate performance in harsh environments. These tests included dust & water ingress protection, submerged water ingress protection, thermal cycling performance test, and salt fog corrosion test. We weren't surprised at all by the results—the cLEAN Motor and KSS performed flawlessly! Check out the results!



## Thermal Cycling Performance Test

**CERTIFICATION ACHIEVED:** Internal

**UNITS TESTED:** KSS\_CLM502

**TEST PROCEDURE:**

Static test:

- Taken through 3 cycles of drastic temperature changes
- From an oven set to 176°F for 30 minutes to an ice bath of 39.2°F for 5 minutes.

**OBSERVATIONS:** No water or condensation in motor or gearbox.

**PASS/FAIL:** PASS



## Dust & Water Ingress Protection

**CERTIFICATION ACHIEVED:** IP69K, ISO 20653

**UNITS TESTED:** KSS\_CLM502

**TEST PROCEDURE**

Water – While running, units were sprayed with:

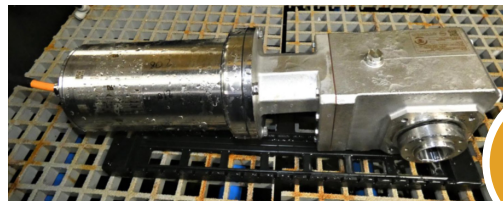
- 176°F water
- 1,450 PSI
- Flow rate of 3.7- 4.2 gal/min
- Nozzle angle of 30°
- 10-15cm distance from the unit for 2 minutes

Dust – While running, units were coated with:

- 20 cycles of 6 seconds of dust movement at 0.14oz/yd<sup>3</sup> at a flow rate of 4.9ft/s with 15 minutes settling.

**OBSERVATIONS:** No water or dust in motor or gearbox

**PASS/FAIL:** PASS



## Salt Fog Corrosion Test

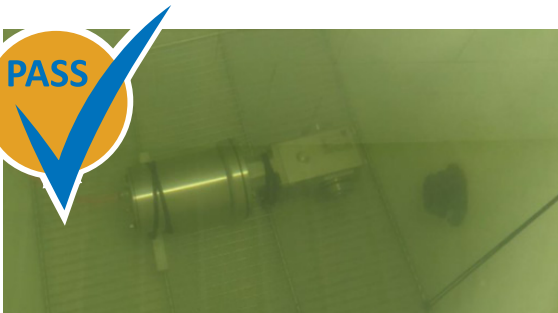
**CERTIFICATION ACHIEVED:** ASTM B117-9

**UNITS TESTED:** KSS\_CLM502

**TEST PROCEDURE** Placed unit in **77°F environment** **100% relative humidity** with an average **salinity of 4.93%.**

**OBSERVATIONS:** No water, rust, or dust in motor or gearbox

**PASS/FAIL:** PASS



## Submerged Water Ingress Protection

**CERTIFICATION ACHIEVED:** IP68, IEC 60529

**UNITS TESTED:** KSS\_CLM502

**TEST PROCEDURE:** While running, units were submerged in 4.9ft of water for 30min.

**OBSERVATIONS:** No water or dust in motor or gearbox

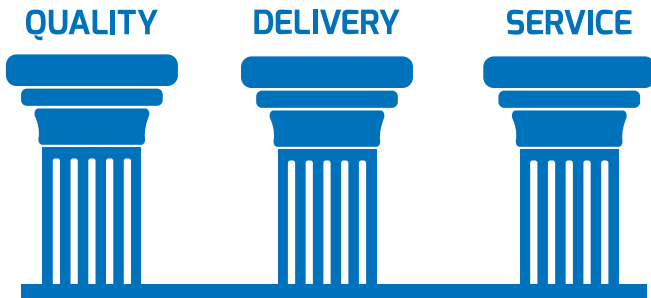
**PASS/FAIL:** PASS



# STOBER

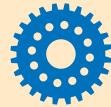
## Our Three Pillars

STOBER is your **trusted partner** in providing the ultimate customer experience. From unsurpassed quality to rapid response support to fast delivery, we are the **gold standard** for gearboxes.



**STOBER**   
CONFIGURATOR

With the new STOBER Configurator, engineers and designers will save time in product selection and designing. Everything is a simple click away!



World's Toughest Gearbox  
Best components and quality



Quick Delivery  
Build & Ship in 1 Day



24/7, 365 Support  
Real people all the time

## 9.1 YEARS

Average mean time to failure for STOBER gearboxes in 24/7 harsh environment application.

Asset reliability means you can depend on a STOBER gear reducer for years, increasing profits and surpassing plant efficiency and targets.

