

## DC Stator End Turn Issue: GSM/X20 and SLM/G060

Power draw can be calculated using the following formula:

$$\text{Power} = \text{Voltage} * \text{Current}$$

For a given frame size and stack length, all stators tend to draw approximately the same power regardless of the voltage rating of the stator. That given, higher voltage (230V to 460V) AC stators consume significantly less current than lower power (24V to 48V) DC stators. By holding power constant, it is easy to see from the above formula that the current required for a DC stator is significantly higher than an AC stator.

Higher current draw requires heavier gauge (larger diameter) magnet wire, resulting in longer winding end-turns at each end of the stator. Most configurations are designed with sufficient internal clearance to accommodate the extended end-turn length of the DC stators. In addition, to handle the higher current to operate the actuator, the size of the power connector may need to increase in frame size. If this is the case it will be show on actuator drawings provided from Exlar.

Unfortunately, we have discovered two DC stator product configurations, GSX/M20 with 3" stroke and all SLM/G060 configurations, where there is insufficient internal clearance to allow reliable manufacturing. Therefore as of the date of this Tech Note, Curtiss-Wright will be implementing the following exceptions to our standard catalog offering:

- Orders will no longer be accepted for DC stator GSX/M20, 2 stack, 3" stroke or any SLM/G060 configurations with the catalog standard overall length
- Orders will be accepted for existing configurations provided the customer can accept an increase in overall length of 12 mm (.47")
- All new DC stator configurations for GSX/M20, 2 stack, 3" stroke or SLM/G060 will require the submission and acceptance of a Special Product Request (SPR) form prior to acceptance of an order

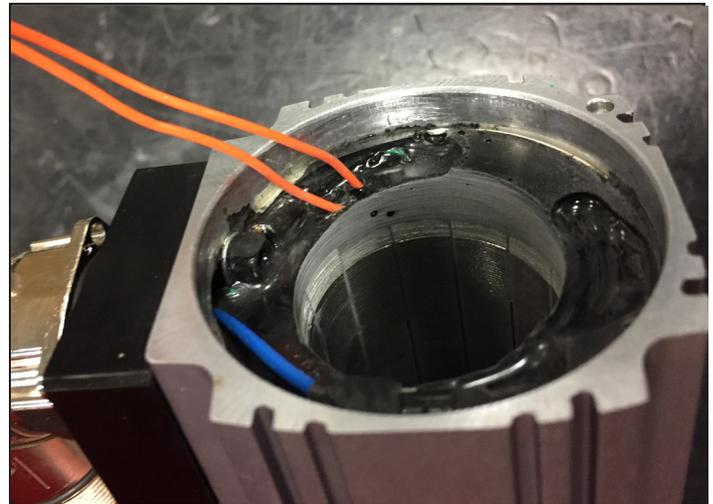


Figure 1. GSX20, 3" Stroke, 2 Stack Stator

### Configurations No Longer Available with Standard Catalog Dimensions:

GSX/M20, 3" Stroke, 2 Stack DC Stator

SLM/G060, DC Stator

*Please contact your Regional Sales Manager for additional details and information.*