
Calibration and Preventative Maintenance Requirements

for the Arthrex Angel® Concentrated Platelet-Rich Plasma (cPRP) System

October, 2019

Dear Angel Customer:

The Arthrex Angel system was designed for minimal preventative maintenance and for the elimination of calibration of any active components within the system. The active components of this device include the LEDs in the fluid sensor, the centrifuge drive, the fluid pump drive, and the valve assembly drive.

- The LEDs in the fluid sensor are automatically adjusted for the correct relative intensity for each new disposable processing set prior to the initiation of each processing cycle. If an LED fails to meet specifications, the Angel machine will produce a light sensor calibration failure alert and will not allow processing. This light sensor calibration alert is described in chapter 5 of the Angel Operator's Manual.
- The centrifuge drive is constantly monitored for the correct centrifuge speed during operation. If the centrifuge drive fails to meet specifications, the machine will alert, shut down the centrifuge drive, and produce either a centrifuge over speed or a centrifuge under speed alert. These alerts are described in chapter 5 of the Angel Operator's Manual. The centrifuge motor for this machine is a brushless DC motor that eliminates the need for replacement brushes, extending the life of the centrifuge drive.
- The fluid pump drive is constantly monitored for the correct speed during operation. If the pump drive fails to meet specifications, the machine will alert, shut down the pump drive, and produce either a pump over speed or a pump under speed alert. These alerts are also described in chapter 5 of the Angel Operator's Manual.
- The valve assembly drive is monitored for valve position during operation. If the valve fails to achieve specification before the pump is operated, the valve position error alert is displayed and the processing cycle is stopped. The alert is described in chapter 5 of the Angel Operator's Manual.

Based on the internal system monitoring of each active component that occurs before and during each processing cycle, calibration of these active components is not required.

Preventative maintenance of the Angel machine is described in chapter 6 of the Angel Operator's Manual. This section describes the routine cleaning and visual inspection of the device prior to operation.

Other technical data and information can be found in chapter 7 of the Angel Operator's Manual.

Should you require further assistance, please contact your Arthrex Customer Service Representative or the Arthrex Customer Service Response Center:

Telephone: 1(800)-391-8599

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