

Resource R5 Motor and mechanical apparatus subsystem

Resource R5.10 Motor

Resource R5.11 Mechanical apparatus

The motor hanger, shaft, shaft hanger, ball bearings, and retainer rings are best purchased from a single mechanical supplier (for tolerance matching); we have chosen the following WM Berg parts (catalog pages linked):

1. motor hanger (blank): [BC7-1C](#) (needs holes drilled),
2. shaft (1/4 in diameter, 4 in length): [s4-40](#),
3. shaft hanger (supports shaft through bearings): [BC17-12C](#),
4. ball bearings (2): [B1-9](#),
5. retainer rings (2): [Q4-62](#), and
6. split cylinder shaft coupler: [CO41S-2](#).

The split cylinder shaft coupler is a flexible coupler that helps with inevitable shaft misalignment.

The flywheel is the only custom-machined mechanical part. It is 304 stainless steel, one inch thick and 2.5 in diameter with a 0.25 in hole in the center for the shaft.

The Association of Electrical Equipment and Medical Imaging Manufacturers [NEMA](#) defines standards that many motor manufacturers use for mounting geometry.