

Compressor Shaft Durability Test Rig

Mecelec Design has designed & supplied a test rig that simulates & test the durability performance of the shafts used within our customers compressors.

The test rig consist of a tooling plate on which various compressor shafts can be mounted using interchangeable tooling. The tooling can then simulate the various rotational speeds, torque ripple characteristics & end loads that the compressor shafts are likely to see in operation & which are set out by our customers test specifications. The tooling also consist of devices for monitoring the applied end loads, compressor shaft torque etc which are then fed back to the control system.

Another aspect of the test was the ability to carry out the testing of the compressor shafts up to temperatures of 150°C so therefore the tooling plate is enclosed in an environmental chamber which can achieve this but at the same time shields all the important test tooling. In the future there may be the need to test to -30°C & the test rig has been designed to allow for the additional equipment to be added to achieve this at a later date. The environmental chamber also acts to sound proof the testing operation to meet our customers noise restriction requirements.



Technical Data

Electrical Power Supply	3 Phase 415VAC @ 32A
Pneumatic Supply	5 to 8 Bar
Temperature Control Range	-30 to +150°C
Rotational Speeds	Up to 4000rpm
End Loads	Up to 1KN
Torque Ripple	Up to 1000Nm
Dimensions	1950mm x 1400mm x 2000mm
Control System	NI CompactRIO Real Time
Control Software	NI LabView

