

Temescal 2CK Electron Beam Evaporator Using Genius Scan and Rotation Controls

The Ferrotec Genius is capable of driving the Temescal CK range of evaporators.

The High Voltage connection from the FPS is attached to the filament block in the normal way using high voltage straps from the Ferrotec feedthrough.



The scan connection is made at the front of the gun. The Temescal scan connection is via 4 wires, the Ferrotec scan control only uses 3 wires. To connect the Temescal scan coils, simply make a common -volts connection by connecting one terminal of each scan coil to the -volts of the Ferrotec scan coil feedthrough. This is easily achieved at terminals of the gun itself.



The X and Y scans are identified by the etching on the coil surround, the signals from the Genius can be inverted to ensure the beam is pushed in the correct direction in both the X and Y direction.

The rotation connection is made using a special Wordentec Rotator. This makes the Genius controller believe it is connected to a Ferrotec EVM8. This system uses the same opto sensors as the Ferrotec encoder.

There is a choice of set up, a version that has a fast rotation speed to ensure a multi-pocket evaporator can change pockets quickly.

The second version is a super slow set up. This features a special reduction gearbox that will allow the motor to run at reasonably high speed whilst the crucible rotates very slowly. At 50% rotation speed the crucible will be rotating at 1 revolution every 3 minutes. Ideal for SiO₂ evaporation.

This complete vacuum feedthrough is for 32mm chamber base ports, its vacuum seal is on the inside face and the motor / encoder section plugs directly into the ferrotec genius X118 port. The output shaft inside the chamber has the mating socket for the 2CK offset rotation shaft and pin. The Gun body must be positioned so that the drive socket is centrally aligned with a 32mm port.

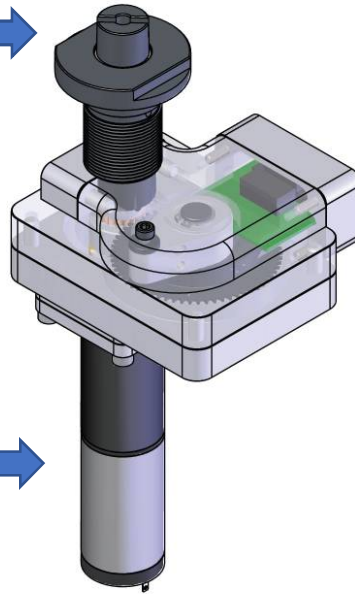
Feedthrough section



Encoder and positioning



Motor/gearbox section



| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|---------------------|---|------|
| 1 | 1050 01 001 | Feedthru Body | 1 |
| 2 | 608 | 8 x 22 x 7 Bearing | 2 |
| 3 | 10 x 22 x 7 R | 10mm Lip seal | 1 |
| 4 | 10 x 22 W | 8mm x 22 Washer | 1 |
| 5 | 22mm Circlip | | 2 |
| 6 | 1050 01 003 | Feedthru Driveshaft | 1 |
| 7 | 1050 01 004 | Bearing Spacer | 1 |
| 8 | 1050 01 005 | clamp spacer | 1 |
| 9 | CC5-8 | 8mm shaft collar | 1 |
| 10 | 1050 03 001 | Encoder Body 1 | 1 |
| 11 | 1050 03 005 | 16T 1 Mod Drive Gear | 1 |
| 12 | PCB 5 way opto | | 1 |
| 13 | 1050 03 004 | PCB Mount | 1 |
| 14 | 423-1731 mod | 8mm Jaw coupling | 1 |
| 15 | 423-1911 | Jaw Coupling Element 92 shore | 1 |
| 16 | 423-1731 | 8mm Jaw coupling | 1 |
| 17 | 1050 03 002 | Encoder Body 2 | 1 |
| 18 | 61801 ZZ | 12 x 21 x 5 bearing | 2 |
| 19 | d-type screw | | 2 |
| 20 | 1050 03 003 | Body Clamp | 1 |
| 21 | 1050 03 012 | Motor Adaptor | 1 |
| 22 | 1050 03 009 | Encoder Pivot | 1 |
| 23 | 1050 03 010 | Encoder Shaft | 1 |
| 24 | 1050 03 006 | Encoder Disc | 1 |
| 25 | 1050 03 011 | Pivot pin | 1 |
| 26 | 1050 03 008 | Disc Clamp | 1 |
| 27 | M4 x 8 Cap | | 1 |
| 28 | maxon motor gearbox | | 1 |
| 29 | 12mm Circlip | | 1 |
| 30 | m6x25cap | | 2 |
| 31 | m6x20cap | | 4 |
| 32 | M5 x 20 cap | STAINLESS STEEL M5 X 20MM CAP HEAD BOLT | 4 |
| 33 | M4 x 25 Bolt | | 4 |

