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6-Way Quartz Crystal Sensor Head

Product Data Sheet: PQCH-6

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Thin Film Solutions Ltd have recently launched a new high stability 6 way Quartz Crystal Sensor Head for precision film thickness monitoring in vacuum deposition: designation Precision Quartz Crystal head 6 [PQCH-6].



This device is designed as a replacement / upgrade of the Balzers QSK610 / 621 and Leybold Crystal 6 head. The new head retains the same vacuum interface for ease of retrofit but features manufacturing with direct water-cooling of the sensor housing.

The improved cooling of the sensor compared with original six-way crystal heads has resulted in significantly reduced thermal drift, particularly in hot processes. The new design also provides greater electrical noise immunity and crystal rotation accuracy.

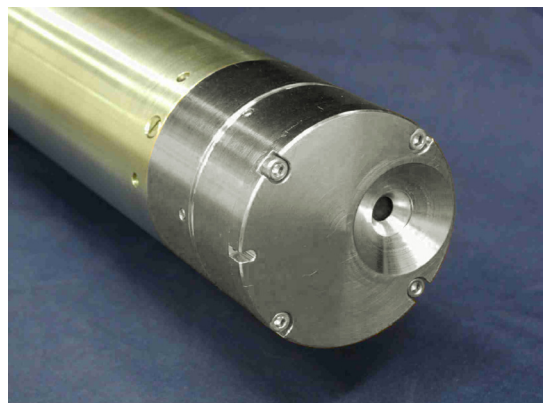
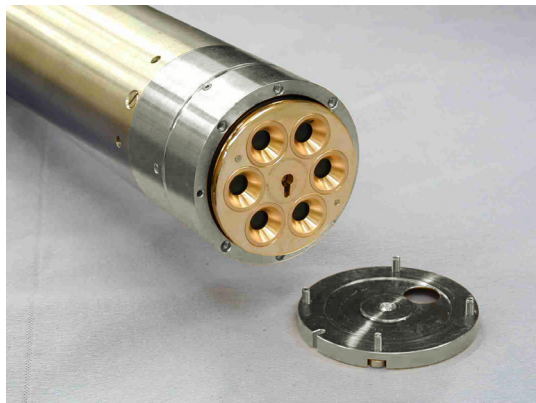
These additional design enhancements provide significant improvement in achievable thickness control precision and deposition run to run reproducibility.

The head is compatible with existing crystal magazines but the sensor crystal position has been revised to bring its surface closer to the front of the device therefore minimising any shadowing effects.

The head can be provided for operation with a wide range of control systems including Balzers, Leybold, Inficon and Maxtek. Crystal head provided with a rotation controller [XCC101] operable in manual or fully automatic mode in conjunction with the crystal/ deposition control system.

Specification

Standard Dimensions (nom):	60 mm diameter, 427+192 long [height within vacuum chamber adjustable]
Max process temperature:	350°C
Max external temperature:	50°C
High vacuum compatible:	Fully Helium leak tested: $<5 \times 10^{-8}$ mbar.l.s⁻¹
Cooling water:	20°C (hot water $<60^\circ\text{C}$) Max 7 bar
Crystal location:	Opto-sensor feedback control to ensure on rotation of crystal cassette newly exposed crystal accurately centred
Electrical:	Compatible with wide variety of controllers
Sensor:	Quartz type: Various including Inficon, Maxtek & Thin Film Solutions.
Options:	Special Body length Mounting flange Crystal position control module Thermal radiation shield



Related Products

Service Kit PQCH-6	Contains insulators, contact strips, O-rings and seals.
PQCH-6 front cover	Replacement front cover for PQCH-6
Magazine	Replacement crystal sensor magazine