

Data Sheet

Type A Sensor for Quartz Crystal Deposition Controllers

Auto Crystal Switching Maximizes Production Time

The low-density materials and low deposition rates associated with OLED processes demand extraordinary accuracy and reliability from thin film deposition controllers and sensors. To maintain rate and thickness accuracy, continuous rate control is necessary.

To further minimize downtime, crystals can be preloaded into a second optional carousel, which can then be quickly and easily exchanged with the carousel containing the exhausted crystals, minimizing the time the system is open.

Make the Most of the Crystal Exchanger with INFICON Cygnus® 2

You will get the greatest benefit from the motorized crystal sensor when you use it with the Cygnus 2 thin film deposition controller. Developed by INFICON—the market leader in thin film instrumentation—Cygnus 2 is the only thin film controller designed specifically for OLED manufacturing. Up to six sources can be controlled simultaneously, independently, or in any combination. This means Cygnus 2 can maximize throughput for the most complex, demanding, and unique OLED applications.

Features

- Holds all crystals with robust, automatic switching to maximize process uptime by the stepping motor, which receives signals (pulses) from the motor driver
- Compact; smallest size in its class
- Easy-to-remove carousel allows fast replacement of all crystals
- Easy-to-remove front deposition shield protects the crystals and carousel from material accumulation, minimizing the need to remove the entire sensor for maintenance
- Precise position control for crystals with stepping motor
- Motor drivers for carousel and chopper are included; driver controller is excluded (motor drivers can control the stepping motors independently without driver controller)



Specifications

Maximum bakeout temperature without coolant	50°C (at motor surface)
Maximum operating isothermal environment temperature at minimum flow conditions	190°C (at carousel cover surface)
Product dimensions	See drawings below
Power supply voltage for motor operation	24 V (DC) (including stepping motor driver for carousel and chopper)
Water and air piping length	2000 mm standard
Coaxial cable length	1700 mm standard
Crystal exchange	Front mount

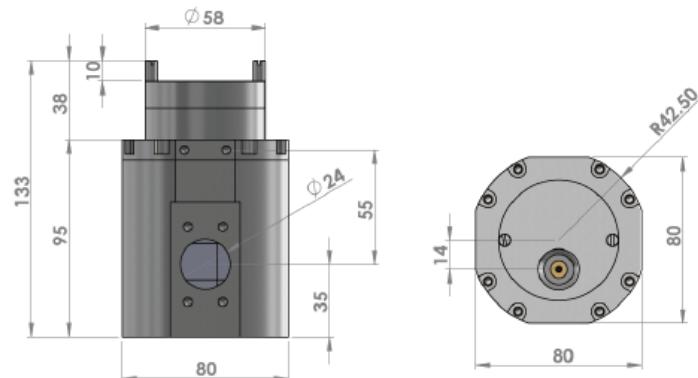
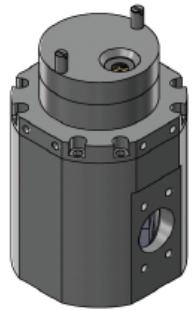
Materials

Mechanical parts, shields, choppers, bodies, carousels	SS304
Springs, electronic contacts, bearing covers	Gold-plated beryllium copper (Au-plated BeCu), gold-plated oxygen-free copper (Au-plated OFHC)
Connectors	SS304
Insulators	PEEK
Chopper couplings	Vespel
Magnetic fluid seals	SS304, SS630
Crystal	14 mm (0.550 in.)
Water, air piping	Teflon®

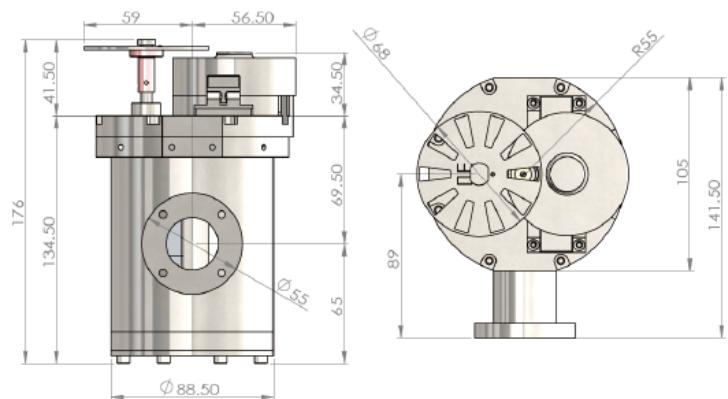
Dimensions

(Units in millimeters)

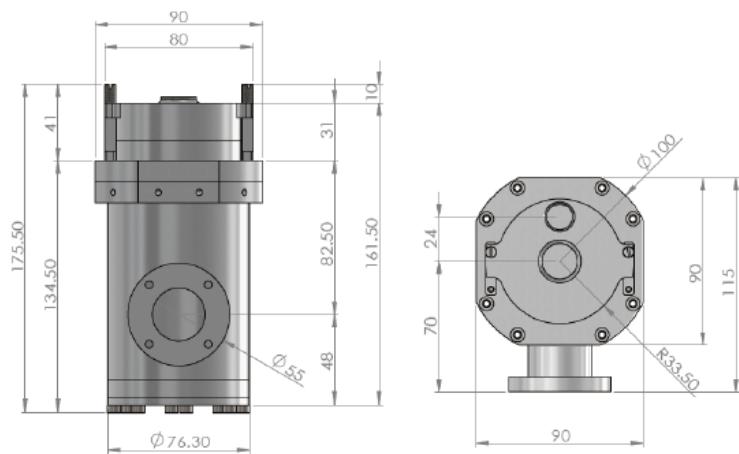
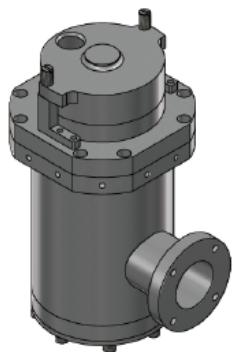
Type 5A Sensor without Chopper Dimensions



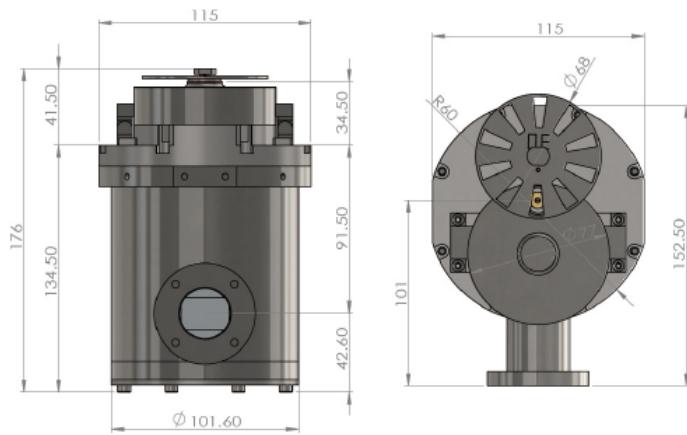
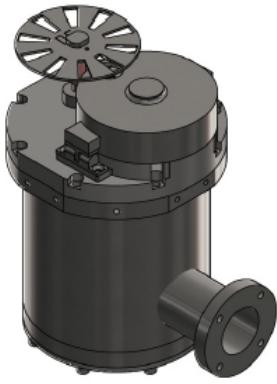
Type 10A Sensor with Chopper Dimensions



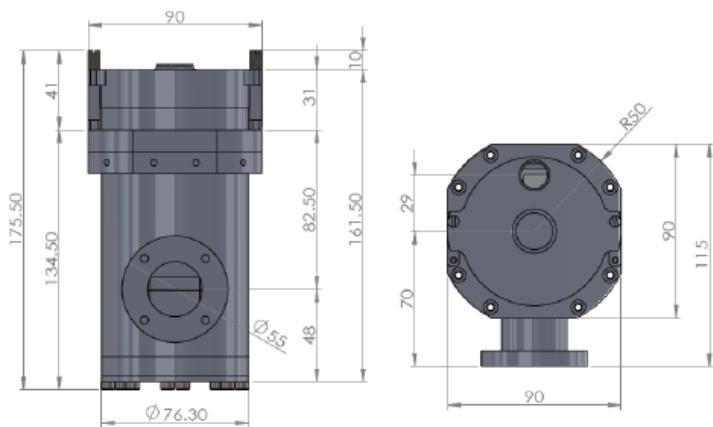
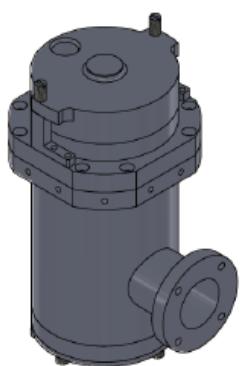
Type 10A Sensor without Chopper Dimensions



Type 12A Sensor with Chopper Dimensions



Type 12A Sensor without Chopper Dimensions



Configuration Options

Motorized Crystal Sensor

(Example: MC10101)

Type of sensor (includes motor driver, crystal sold separately)

Motor Crystal Exchanger 5 Sensor (no chopper type)
 Motor Crystal Exchanger 10 Sensor
 Motor Crystal Exchanger 12 Sensor

Chopper wheel

None
 Chopper wheel

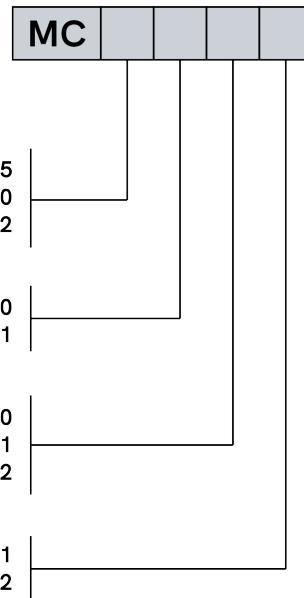
Signal cable length

Customer specific request
 1 m
 4 m

Bellows (with adapter*)

None
 0.5 m

*Bellows and adapter for installation



NOTE 1:
 Custom parts and other
 non-standard parts available -
 Consult factory

NOTE 2:
 Type 5A sensor - Chopper type
 is not available

