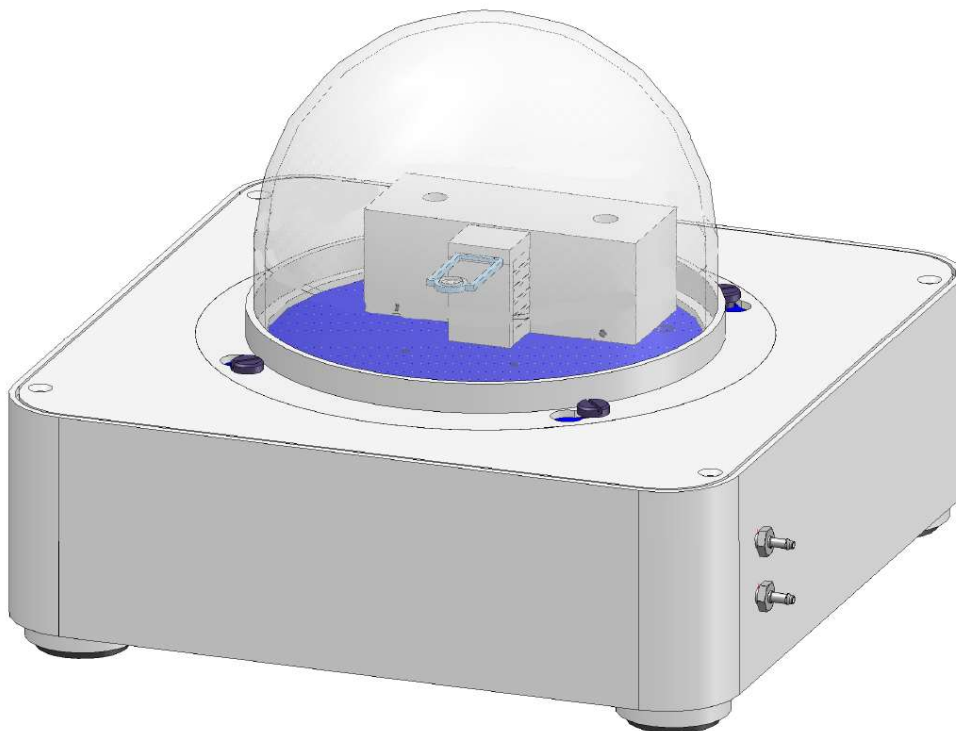


# How To Handle high pressure with Chip-DSC



Linseis Messgeräte GmbH

Gerlach

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## Index

1. General information.....	3
2. Requirements and installation .....	3
2.1 HP Chip-DSC .....	3
2.2 Pressure System .....	3
2.3 assemble System .....	4
2.4 usage of gases .....	4
2.5 test system .....	4
3. Measurement.....	5
4.1 preparation.....	5
4.2 measurement .....	5
4.3 release measurement system .....	5

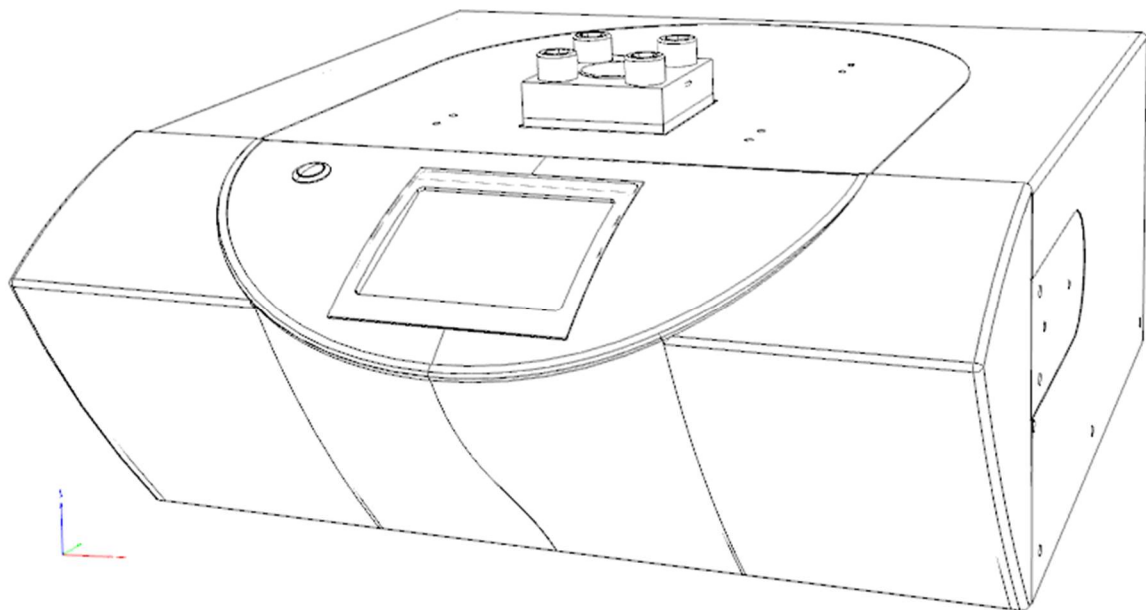
## 1. General information

This manual is a short description for handling high pressure measurements with the Chip-DSC. The presented options are the most common, that are usually used. However, the high-pressure options are mostly adapted for the special customer requirements. For more Information, read the other available instructions or specific manuals for the Chip DSC.

## 2. Requirements and installation

### 2.1 HP Chip-DSC

- A HP Chip-DSC 100 is initially needed (make sure your working bench where its placed fits to the safety requirements to perform measurements under high pressure)
- Approved connections for the specific pressure of the investigation including
- The tools required for use are supplied with your HP Chip-DSC

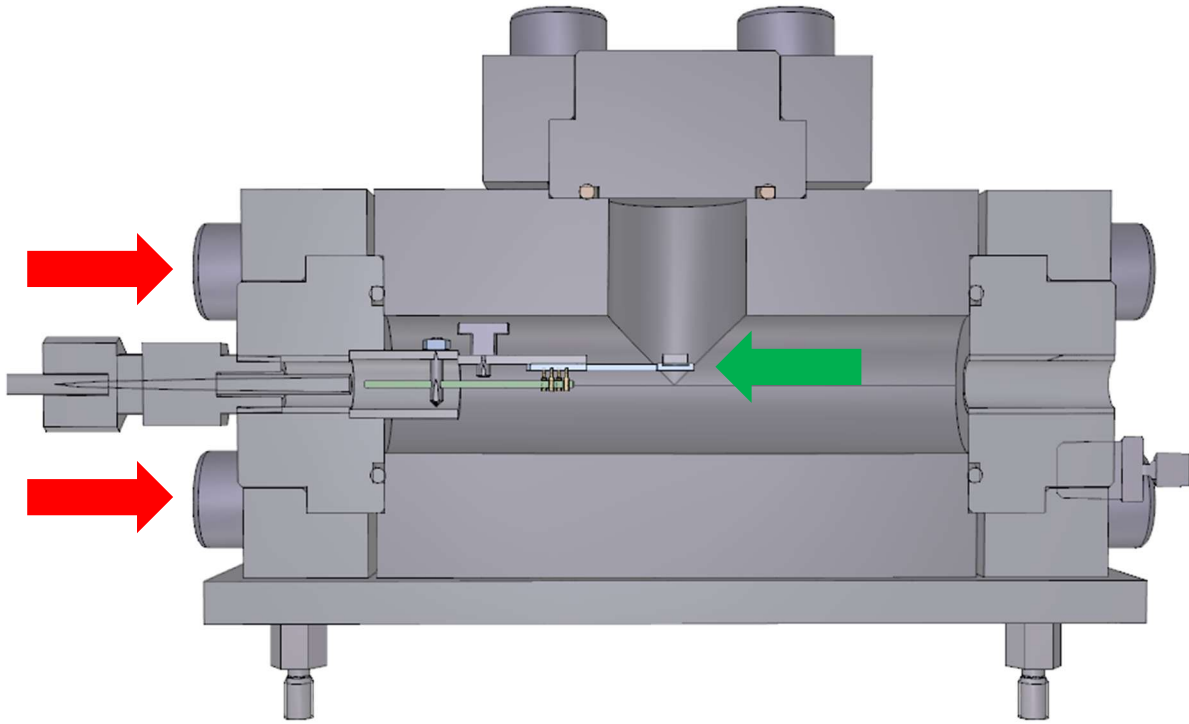


### 2.2 Pressure System

- For several specifications, different high-pressure systems are available, like manual pressure reducer, internal high pressure MFCs and external gas boxes
- Additionally, to the gas dosing system also a pressure source is needed, that could be a fixed high-pressure system or a high-pressure gas cylinder

### 2.3 assemble System

- Open the high-pressure measurement cell
- Insert the sensor, place a calibration crucible and close the measurement cell properly



- Start the Linseis Chip-DSC software and open the calibration menu
- Follow the instructions of *HowTo calibrate with Chip-DSC* especially according to the low temperature option. Instead of cooling the high-pressure is turned on after the "continue when sample 1 is ready" popup window appears
- After calibration release the overpressure carefully

### 2.4 usage of gases

- The atmosphere you are using affects the measurement
- For various purposes different gases could lead to better results
- In general gases with higher density are recommended to lower the influence of convection

### 2.5 test system

- Before first use its also recommended to test of the system is pressure tight
- Close all release valves, screws and fittings
- Let the overpressure carefully into the measurement cell
- Close the pressure source
- Check if the overpressure in the measurement cell gets lower over time

### 3. Measurement

#### 4.1 preparation

- Open the measurement cell
- Place the sample on the sensor
- Close the measurement cell and tighten the screws carefully

#### 4.2 measurement

- Setup the general settings and temperature profile of your measurement in Chip-DSC software
- If available setup the pressure profile in your gas settings. Otherwise put the measurement cell under high pressure
- Click start measurement

#### 4.3 release measurement system

- After your measurement finished, close high-pressure source.
- Release the overpressure carefully and slowly
- Open the measurement cell
- Remove the sample and replace with a new sample if necessary

