



Spec Sheet XRD 18

Specimen Holders for X-ray Diffraction **Proper sample handling for better results**

X-ray diffraction is the non-destructive analytical method which determines the structural properties of solid or fluid matter on a micron and a nm length scale. In contrast to various complementary methods X-ray diffraction does not require any complex sample preparation. However, depending on e.g. sample consistency, volume, or other property, an appropriate specimen holder is required. Fixing the material under investigation precisely in the measurement position is mandatory for obtaining accurate analytical results.

Bruker AXS offers numerous dedicated solutions for the different types of specimen. These are fitted to the analytical requirements and guarantee best possible data quality. This spec sheet gives an overview of the different compatible specimen holders for the D8 family and the D2 PHASER with single position sample stage, their applications and order numbers.

This document does not present all available specimen holders and samples stages. Upon request tailored solutions can be realized to further optimize the analytical results.



Solutions for Powder specimen



C79298A3244D82/D84

Set of 10 specimen holder, PMMA or steel, 8.5 mm height, sample reception \varnothing 25 mm, for [1][2][3][7].



C79298A3244D83/D85

Set of 10 specimen holder, PMMA or steel, 8.5 mm height, sample reception \varnothing 40 mm, for [1][2][3][7].



C79298A3244D86

Set of 10 specimen holder, PMMA, 20 mm height, sample reception \varnothing 40 mm, for [1][3].



C79298A3244D81

Set of 10 specimen holder rings for transmission, for [2][3].



C79298A3244D97

Set of 10 specimen holder PMMA, 8.5 mm height, **airtight**, sample reception \varnothing 25 mm, 1 mm depth, for [1][2][3][7].



C79298A3244D98

Set of 10 specimen holder PMMA, 8.5 mm height, **airtight**, sample reception \varnothing 25 mm, 4 mm depth, for [1][2][3][7].



C79298A3244D88/D89

Set of 10 specimen holder rings made of PMMA or steel for **back loading** sample preparation. For [1][2][3][7].



A100D16

Set of 10 specimen holder rings for \varnothing 25 mm **filter samples**, 8.5 mm height, for [1][2][3][7].



A100D13

Set of 10 specimen holder rings for **clays**. The PMMA made ring carries a height adjustable glass slide, on which the clay is prepared. For [1][2][3][7].



C79298A3244B249

Si **low background** sample holder for small sample amounts, \varnothing 51.5 mm, \varnothing 24.5 mm Si crystal, for [1][2][3][7].



C79298A3244B261

Si **low background** sample holder, \varnothing 51.5 mm, with \varnothing 20 mm x 0.5 mm sample cavity, for [1][2][3][7].



A13B77

SRM 1976b based **Corundum standard** sample supplied by the NIST fitted in a steel ring. Used for instrument performance verification.



A100B33

Airtight specimen holder with dome like x-ray transparent cap, for environmentally sensitive materials, sample reception \varnothing 25 mm, 1 mm depth, for [2][7].



A100B36/B37

Low background, airtight specimen holder for small amounts of environmentally sensitive material. Sample reception is a 20 mm diameter silicon wafer without (B36) or with (B37) cavity.



A100B138-B141

Low background, airtight specimen holder for small amounts of environmental sensitive materials. The dome like cap is equipped with a knife edge beam stop.



C79298A3158B187/B188

Low background sample holder for rotating sample stage, with a 25 mm diameter silicon wafer.



C79298A3244D96

Set of 9 specimen holder rings steel, sample reception \varnothing 20 mm, airtight, for [1][2][7].



C79298A3158B64

Universal sample cup for rotating sample stage, for samples up to 51.5 mm diameter and 40 mm height, minimum 2Theta is 0° without sample rotation, 20° with rotation.



C79298A3158B65

Universal sample cup for rotating sample stage, for samples up to 51.5 mm diameter and 40 mm height, allows measurements with sample rotation down to 3° 2Theta.



A24B95

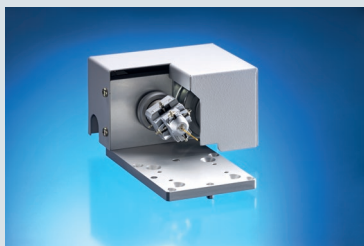
Transmission sample cup for rotating sample stage with a powder-on-foil sample preparation tool and a glass alignment slit, allows transmission measurements from -10° to 110° 2Theta.



7KP90018BS

Steel ring with 51,5 mm diameter. Sample reception \varnothing 35 mm Height: 8,5 mm.

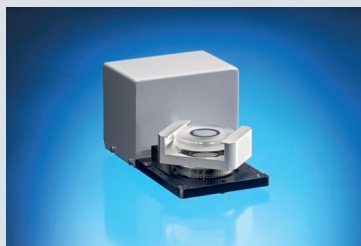
Solutions for solid specimen



A100B38

Capillary spinner

Device enabling permanent spinning for capillary investigations with diffraction system equipped with Eulerian cradles [4][5][6][9].



A24D294

Fast sample spinner

Device for continuous spinning with 30 rpm, mounted on UMC stages or Eulerian cradles [4][5][6][9].
Max. sample dimension:
51.5 x 8.5 mm².



A24D295

Wobbler

Device for continuous oscillation of a solid sample. Mounted on UMC stages or Eulerian cradles [4][5][6][9].
Max. sample dimension:
51.5 x 8.5 mm².



A19B57

Clamp holder

Device for mounting irregular bulk samples. The position of the clamp jaws can be adapted to the shape of the sample, for [4][5][6][8][9].



A19B56

Thin film sample holder

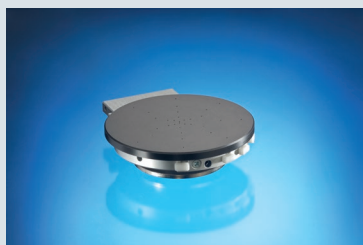
This nozzle enables holding of small thin film samples through vacuum, for [8]. For mounting on [4][5][6][9] the adapter plate A19B59 is required to pass the vacuum.



A24D225/D226

Tilt stage

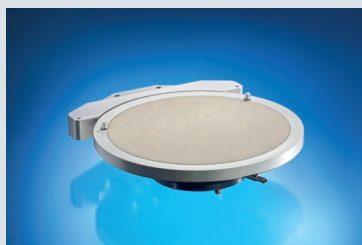
Device for mounting and motorized aligning of thin film samples for IP-GID, HRXRD, or XRR, for [4][5][6][9].
Optionally with Knife Edge Collimator (D226).



A24D221

5" Vacuum chuck

Device for precise mounting of wafers, glass plates or other flat samples by vacuum [4][5][6][9].



A24D223

6" Laminar chuck

Laminar sucking chuck for accurate mounting of flat samples. The micro-porous sucking plate allows simultaneous fixing of a number of small samples. For [4][5][6][9].



A19B210/B200

Wafer Chuck

Devices for stress free mounting of 2 – 6 inch (B210) wafers with [4][5][6].
Or for 2 – 12 inch (B200) wafers on [4][6].

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- [1] D8 ENDEAVOR, 66 sample magazine
- [2] FLIP-STICK
- [3] AUTO CHANGER
- [4] ¼-circle Eulerian cradle
- [5] Centric Eulerian cradle
- [6] UMC and XYZ stages
- [7] D2 PHASER, single position sample stage
- [8] Compact Cradle^{plus}
- [9] Compact UMC stage