INSTRUMENTS

Pressing technology

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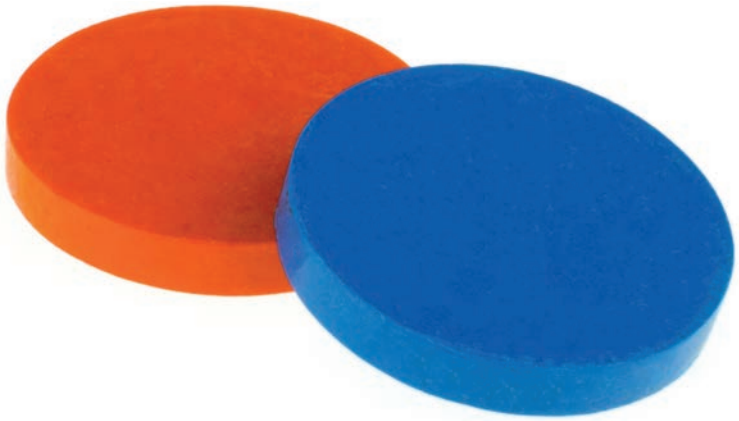
Sample preparation:

While preparing a sample for X-ray fluorescence analysis, the following options are available:

- a sample as loose powder with the use of cups and films
- a sample pressed with a press
- a sample fused by means of a fusion machine

You do not know how to prepare your samples?

Call us or send us an e-mail and we will choose a method depending on your needs and time. We may also test the process of pressing or fusing of your samples to make sure the choice is correct.



Pressing technology

If...

You need a fast method of verifying chemical composition of your sample, e.g. during a technological process, and samples are analysed by means of an X-ray fluorescence method, we recommend a pressed sample.

To prepare a sample of a pressed pellet, one needs:

- a sample
  depending on the friability of a sample and chosen preparatory method, to choose:
  - binders
  - rings
  - aluminium molds
- press
- die

We offer top-bench hydraulic presses

Hercules:

- automatic or manual version
- used in different applications (e.g. cement, sands, ferroalloys, raw materials)
- automatic versions are equipped with a touchscreen
- maximum pressure force of 25t or 40t – pressure regulated from 0
- dies enabling to form pellets of different diameters
- lighting in the press chamber
- possibility of using die in various preparatory techniques
- microprocessor controlled (automatic versions)
- regulated pressing time (automatic versions)

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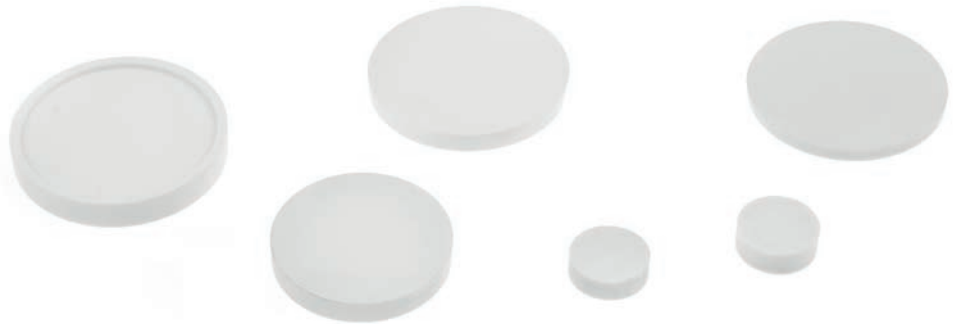
Technical data	Hercules 40t	Hercules 25t	Hercules 25t manual
Maximum pressure	40t	25t	25t
Distance between pressing faces	70 – 170 mm	70 – 170 mm	70 – 170 mm
Dimensions (W x D x H)	555 x 390 x 660 mm	555 x 390 x 660 mm	450 x 390 x 660 mm
Weight	125 kg	120 kg	110 kg
Voltage	230V AC/50Hz	230V AC/50Hz	230V AC/50Hz for LED lighting
One-step pressing/three-step pressing	✔	✔	-
Regulation of pressing time	✔	✔	-
7″ touchscreen	✔	✔	-
Microprocessor controlled	✔	✔	-
Automatic saving of pressing parameters	✔	✔	-
Door-lock system while pressing (optional)	✔	✔	-
Signal at the end of pressing (optional)	✔	✔	-
LED lighting in the press chamber	✔	✔	✔



Die:

In order to receive a pellet, we need a die. Dies with diameter of 32 mm or 40 mm are used most frequently. They produce pressed pellets with 32 mm or 40 mm of diameter. Dies with other diameters are also available, e.g. 15 mm, 50 mm and dies, in which rings for sample stabilizing are used. Please, ask for further details.

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Binder:

In order to press a sample, sometimes binding material is needed which keeps the sample in the form of a stable pellet.
The following materials might serve as binding:

- cellulose
- wax
- boric acid

Symbol	Description
SO-press001	Boric acid, powder - 1.5kg
SO-press0011	FreeBORE powder – Substitute for boric acid - 0.8kg
SO-press004	Licowax® C micropowder (Hoechst wax), wax - 0.75kg
SO-press0041	Licowax® C micropowder (Hoechst wax), wax - 5kg
SO-press0042	Licowax® C micropowder (Hoechst wax), wax - 20kg
SO-press002	Cellulose powder - 0.8kg
SO-press00325	Cellulose tablets; 250mg - 500 tablets
SO-press00333	Cellulose tablets; 330mg - 500 tablets
SO-press005	MIX55 - 0.75kg
SO-press00525	MIX55 tablets;250mg - 500 tablets
SO-press00550	MIX55 tablets;500mg - 500 tablets
SO-press00525K	MIX55 tablets;250mg - 5000 tablets
SO-press00550K	MIX55 tablets;500mg - 5000 tablets

To protect a sample from impurity during pressing, we recommend special pellet film. Such film should be placed between faces which press a sample in the die, as a result of which the die is not in direct contact with a sample.

SO-PF32	Pellet Film 32mm - 500 szt.
SO-PF40	Pellet Film 40mm - 500 szt.

Aluminium cups:

Aluminium cups also called capsules are used to stabilize a sample when binder cannot be applied. Such a mold should be placed in the die, a sample should be poured in and pressed. The molds have diagonal or straight walls and their diameters are adjusted to the dies.

Symbol	Description
SO-S32	Aluminium capsules with straight walls 30 x 8mm - 1000 caps
SO-S40	Aluminium capsules with straight walls 38.5 x 9.5mm - 600 caps
SO-T40	Aluminium capsules with diagonal walls 39.8 x 9.5mm - 600 caps
SO-S40H	Aluminium capsules with straight walls 39.8 x 7.5mm - 600 caps
SO-S40H2	Aluminium capsules with straight walls 39.8 x 7.5mm - 600 caps
SO-T32	Aluminium capsules with diagonal walls 31,8 x 9mm - 1000 caps
SO-T35	Aluminium capsules with diagonal walls 35 x 8mm - 1000 caps
SO-S33	Aluminium capsules with straight walls 33 x 8mm - 1000 caps
SO-S40	Aluminium capsules with straight walls 38.5 x 9.5mm - 600 caps

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Some pressing techniques demand preparing foundation from binder. To this end, a tool for filling a binder is used:

SO-FL032	32mm a tool for filling a binder
SO-FL040	40mm a tool for filling a binder

Storage of samples:

Pressed or fused samples may be stored for a longer period of time. We recommend single boxes for pellets and gathering boxes with lids, in which the whole calibration set may be stored. Both powder reference materials, as well as pressed and fused ones, should be stored in exsiccator to ensure environment free from impurities and dampness. We have at our disposal cabinet exsiccators with drawers, drying agent and hytherograph.

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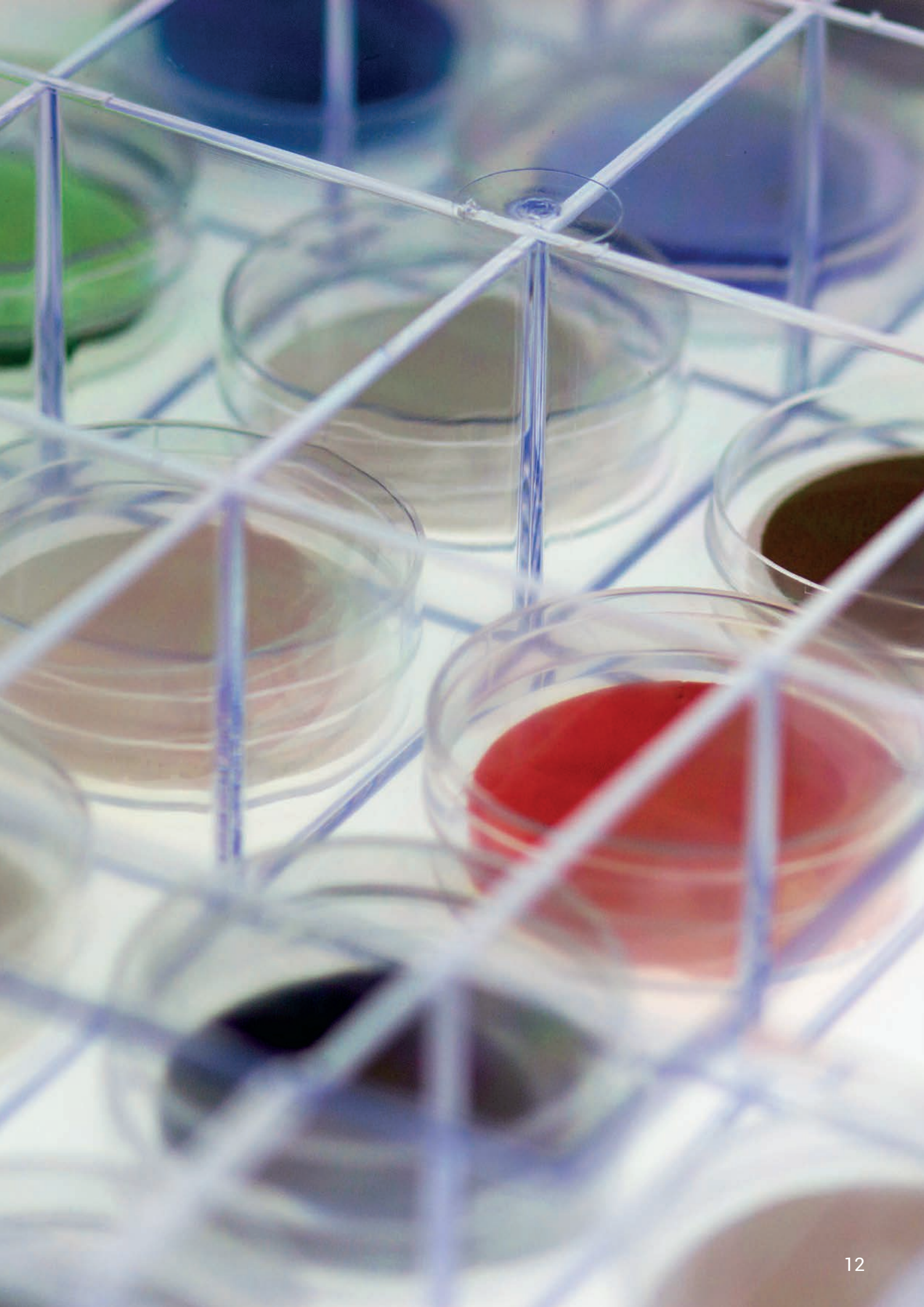
Symbol	Description
PDI-EKS1	Exsiccators with drying agent and hytherograph 35 x 41 x 34 cm (D x S x W)
PDI-EKS2	Exsiccators with drying agent and hytherograph 64 x 41 x 55 cm (D x S x W)
PDI-BOX	Gathering box with a lid and compartments for pellets 33 x 22 x 5,3 cm (D x S x W)
PDI-SZA	Cabinet with 5 drawers and 5x25 compartments for pellets
PDI-SOTB001	Single box for a pellet with dimensions ø4,5 x 1,2 cm ø4,5 x 1,2 cm

Should you have any questions concerning pressed pellet samples for X-ray fluorescence analysis, contact us and we will provide you with information and help.



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