



PRESSA PASTIGLIATRICE PP 40

Solid, high-quality pellets are an important precondition for reliable and meaningful XRF analysis. With the PP 40, RETSCH offers a pellet press which produces strong pellets with a smooth surface. The PP 40 features individual pressure force regulation in the range of 0 to 40 t. It combines the advantage of a small benchtop unit with high press forces, which are built up automatically in three steps, ensuring that even difficult materials are pressed perfectly.

VANTAGGI PRODOTTO

- | modello da banco con piedini di supporto
- | Regolazione della pressione individuale fino a 40 ton
- | pressatura in anelli di alluminio, capsule o su polvere libera
- | strumenti di pressioni per diversi diametri
- | 10 programmi memorizzabili per lavorazioni di routine
- | setting dei parametri tramite display
- | controllo automatico della pressione

STABILIZING PRESSED PELLETTES

Applying, for example, forces of 10 tons, 20 tons, and 30 tons in sequential steps, each with a 20-second hold time, proves advantageous for pellet stability as particles have sufficient time to settle. Pressing the pellets in aluminum cups further augments their stability. Should these measures prove inadequate, incorporating a binder, such as Licowax, offers an effective stabilization method for challenging samples, including metal powders. Typically, a mixture of 10-15 g of the sample with 2 g of Licowax, pressed in three stages as outlined above, yields optimum results. For the mixing process, the Mixer Mill MM 400, equipped with an adapter for holding 8 conical centrifuge tubes, is highly effective. It ensures that samples are mixed uniformly, automatically, and reproducibly.



PRESSA PASTIGLIATRICE PP 40

ESEMPI APPLICATIVI



Wood 4g
Particle size 0.25 mm
Pressing tool 32 mm
20 s each at 10/20/30 tons



Cellulose 7 g
Particle size 0.15 mm
Pressing tool 40 mm
Aluminum cups 40 mm
30 s each at 10/20/30 tons



Slag 40 g
Particle size 0.25 mm
Pressing tool 40 mm
20 s 20 tons



FeSiMg-Granulate 12 g
plus 2 g licowax
Particle size 0.10 mm
Pressing tool 40 mm
Aluminum cups
60 s 15/25/35 tons

3 RECOMMENDATIONS TO OBTAIN RELIABLE XRF RESULTS

1. **Particle size reduction**

Pulverize the sample into a fine powder of < 100 µm or less, depending on the element to be detected, before pressing it into a pellet. This size reduction helps mitigate matrix effects, including grain size and texture variations, which can distort XRF results.

2. **Uniformity and homogeneity**

Press the sample into a pellet to ensure uniformity and homogeneity. This is crucial for XRF analysis which relies on consistent interaction between the X-rays and the sample to produce accurate and reproducible results. Homogeneity guarantees that the results represent the entire sample.

3. **Enhanced analytical precision and accuracy**

Create a dense and uniform pellet with a smooth and flat surface to enhance precision and accuracy of the XRF analysis. A smooth surface ensures consistent X-ray penetration and reduces the scatter, thereby improving the quality of the analytical results.

BENEFITS OF PELLET PRESSING FOR XRF ANALYSIS

Due to its ability to produce homogeneous, stable, and accurate samples efficiently and cost-effectively, pellet pressing is a widely adopted method for preparing samples for XRF analysis.

1. **Stability and handling**

Pellets are more stable and easier to handle compared to loose powders. This stability is particularly important for samples that might be hygroscopic or prone to segregation. Once pressed, the pellet can be easily placed into the XRF instrument for analysis without the risk of sample loss or contamination.

2. **Minimum use of chemicals**

Compared to other sample preparation methods such as fusion, pellet pressing requires no or minimal additional chemicals. This reduces the risk of introducing contaminants that could interfere with the analysis.

3. **Cost-Effectiveness**

Pellet pressing is a relatively simple and cost-effective method of sample preparation, especially when compared to more complex methods such as fusion. The fact that it requires less specialized equipment and consumables makes it an attractive option for any laboratory.

PRESSA PASTIGLIATRICE PP 40

DATI TECNICI

Applicazioni	preparazione di pastiglie per analisi spettroscopiche
Campo di applicazione	ambiente / riciclaggio, chimica / plastica, geologia / metallurgia, materiali da costruzione, vetro / ceramica
Max. pressione	40 t, pressa automatica
Forza di pressione	0 - 40 t (1 - 400 kN)
Pressione di incremento /mantenimento/rilascio	rampa fissa / 1 - 99 s / rampa fissa
Combinazione di parametri	10
Steel rings (external Ø / internal Ø)	40 mm / 32 mm (forza di pressione massima 15 t) 40 mm / 35 mm (forza di pressione massima 15 t) 51,5 mm / 35 mm (forza di pressione massima 30 t)
Aluminium cup (external Ø)	32 mm (forza di pressione massima 25 t) / 40 mm (forza di pressione massima 40 t)
Dati alimentazione elettrica	100-120 V, 50/60 Hz; 220-240 V, 50/60Hz
Potenza connessione	Monofase
W x H x D	335 x 495 x 570 mm
Peso netto	120 kg
Standard	CE

PRINCIPIO DI FUNZIONAMENTO

L'anello d'acciaio o la casula di alluminio viene inserita nell'utensile di pressatura della PP 40 e riempito con il campione grazie all'apposita tramoggia. Il tutto viene poi portato in posizione di pressatura tramite la slitta. Durante il processo di pressatura la densità della polvere aumenta. La pressione massima deve essere mantenuta per un determinato periodo di tempo in modo da garantire alla pastiglia una perfetta stabilità.

www.retsch.com/pp40

ARTICOLI

(ordinare lo stampo separatamente)

20.757.0001



PP 40

110-120 V, 50/60 Hz

UTENSILI DI PRESSATURA EVACUABILI PER LA PRESSA PER PELLET PP 40

22.458.0018		Utensili di pressatura per anelli in acciaio da 40 mm Ø esterno, 32 mm Ø diametro interno
22.458.0019		Utensili di pressatura per anelli in acciaio da 40 mm Ø esterno, 35 mm Ø diametro interno
22.458.0028		Utensile di pressatura per anelli in acciaio Ø esterno 51,5 mm, Ø interno 35 mm
22.458.0020		Utensili di pressatura per capsule di alluminio diam 32 mm (utilizzabili anche per pressatura manuale)
22.458.0021		Utensili di pressatura per capsule di alluminio diam 40 mm (utilizzabili anche per pressatura manuale)

ACCESSORI PP 40

22.458.0003		 Anello in acciaio 40 mm esterno Ø, 32 mm interno Ø, 1 pezzo
22.458.0004		 Anello in acciaio 40 mm esterno Ø, 35 mm interno Ø, 1 pezzo
22.458.0005		 Anello in acciaio 51,5 mm esterno Ø, 35 mm interno Ø, 1 pezzo
22.005.0001		 Capsule di alluminio con pareti inclinate, per pastiglie da 32 mm diametro, 1000 pezzi
22.005.0002		 Aluminum cups, sloping walls, for pellets with 40 mm diameter, 1000 pieces
22.458.0006		 Capsule di alluminio con pareti dritte, per pastiglie da 40 mm diametro, 1000 pezzi
22.868.0003		Tubo a imbuto con tamper per capsule in alluminio Ø 32 mm e Ø 40 mm
22.458.0025		Strumento di estrazione 56 x 32 mm

22.440.0001



Licowax® C micropolvere, 250 g (non per anelli in acciaio)

22.440.0003



Spektromelt® C20, compresse di cellulosa, 5 kg