



펠릿 프레스 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.

장점

- | 소형 벤치탑 모델
- | 최대 40 톤까지 개별 압력 조절
- | 스틸 링, 알루미늄 컵 및 자연 압출 가능
- | 다양한 직경의 압출 도구
- | 반복 응용을 위한 10 개의 표준 운영 절차 정의 및 저장 가능
- | 화면을 통한 간편한 조건 설정
- | 자동 압력 제어

STABILIZING PRESSED PELLETS

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.



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유사분야 적용사례



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.

펠렛 프레스 PP 40

기술 데이터

응용 분야	분광 분석용 시료 준비
응용분야	건축 재료, 유리 / 세라믹, 지질학 / 야금, 화학 / 플라스틱, 환경 / 재활용
최대 압력	40 t, 자동 압력
압력	0 - 40 t (1 - 400 kN)
압력 증가 / 유지 / 감소 시간	고정 램프 / 1 - 99 s / 고정 램프
파라미터 조합	10
Steel rings (external Ø / internal Ø)	40 mm / 32 mm (max. pressure force 15 t) 40 mm / 35 mm (max. pressure force 15 t) 51.5 mm / 35 mm (max. pressure force 30 t)
Aluminium cup (external Ø)	32 mm (max. pressure force 25 t) / 40 mm (max. pressure force 40 t)
전원 공급 데이터	100-120 V, 50/60 Hz; 220-240 V, 50/60Hz
전원 연결	단상
폭 x 높이 x 깊이	335 x 495 x 570 mm
중량	120 kg
표준	CE

작동 원리

스틸 링 또는 알루미늄 컵이 PP 40의 압축 도구에 삽입되며 시료가 투입구를 통해 투입됩니다. 준비가 완료되면 압축 플레이트 아래로 압축 도구를 밀어 넣고 압축이 시작됩니다.

압력의 상승 중 시료의 밀도가 상승합니다. 입자 간의 접착력이 최대한 발휘되도록 최대 압력이 일정 기간 유지되며 이에 따른 시료의 최대 안정성이 보장됩니다. 압축은 최대 3 단계로 진행되며 압력의 상승이 안정적인 펠렛을 만들어 냅니다.

www.retsch.com/pp40

주문 정보

(프레싱 툴을 별도로 주문해 주시기 바랍니다.)

20.757.0001



PP 40

110-120 V, 50/60 Hz

EVACUABLE PRESSING TOOLS FOR PELLET PRESS PP 40

22.458.0018		스틸 링 외경 40 mm Ø, 내경 32 mm Ø 용 프레싱 툴
22.458.0019		스틸 링 외경 40 mm Ø, 내경 35 mm Ø 용 프레싱 툴
22.458.0028		Pressing tool for steel rings 51.5 mm outer Ø, 35 mm inner Ø
22.458.0020		알루미늄 컵 Ø 32 mm 용 프레싱 툴(알루미늄 컵 미 사용 프레싱 가능)
22.458.0021		알루미늄 컵 Ø 40 mm 용 프레싱 툴(알루미늄 컵 미 사용 프레싱 가능)

PP 40 액세서리

22.458.0003			스틸 링 외경 40 mm Ø, 내경 32 mm Ø, 1 개
22.458.0004			스틸 링 외경 40 mm Ø, 내경 35 mm Ø, 1 개
22.458.0005			스틸 링 외경 51.5 mm Ø, 내경 35 mm Ø, 1 개
22.005.0001			알루미늄 컵, 경사형 벽, 직경 32 mm 펠릿 용, 1000 개
22.005.0002			Aluminum cups, sloping walls, for pellets with 40 mm diameter, 1000 pieces
22.458.0006			알루미늄 컵, 직각형 벽, 직경 40 mm 펠릿 용, 1000 개
22.868.0003			알루미늄 컵 Ø 32 mm 및 Ø 40 mm 용 펀넬 튜브 (탬퍼 포함)
22.458.0025			Extraction tool 56 x 32 mm
22.440.0001			Licowax® C 마이크로파우더, 250 g (스틸 링에 사용 불가)
22.440.0003			Spektromelt® C20, 셀룰로오스 정제, 5 kg