

Report No.: 13930
Date: 15.08.2012
Contact: MB

Task:

Application field: Medicine / Pharmaceuticals

Material: CaSO₄, CaCO₃, Tripalmitin, 1% Gentamicin

Feed size: ~ 6mm

Feed quantity: about 500g (see EasySieve report)

Material specification(s): (9%)

Customer requirements(s): Comparative sieving using the AS 400 control and AS 450 basic

Subsequent analysis: Particle size analysis

Solution

Selected Instrument(s): Horizontal Sieve Shaker AS 400 control
 Vibratory Sieve Shaker AS 450 basic

Configuration(s) Item nos.:

- 1 x AS 450 basic, 230 V, 50 Hz incl. clamping device "standard"
- 1 x Collecting pan, stainless steel, 400 mm Ø, height 65 mm
- 1 x Test Sieve, ISO 3310/2, 400x65mm, 1.00mm, stainless steel, perforated plate, round hole
- 1 x Test Sieve, ISO 3310/2, 400x65mm, 3.15mm, stainless steel, perforated plate, round hole
- 1 x Test Sieve, ISO 3310/2, 400x65mm, 5.00mm, stainless steel, perforated plate, round hole

optional:

- 1 x AS 400 control, 100-240 V, 50/60 Hz, incl. test report acc. EN 10204 2.2
- 1 x Clamping device "comfort" for test sieves 400 mm Ø

Please note: Other electrical versions of the instrument(s) are available with different item numbers.

Parameter(s): AS 400 control: revolution speed 230 rotations/min.
 AS 450 basic: Amplitude: level 8; 10 s interval

Time: AS 400: 9 min.
 AS 450: 6 min.

Achieved result(s): See the attached EasySieve reports:
 Sieving / measuring of the particle size distribution creates almost identical results.
 There is no noticeable difference between horizontal and vibratory sieve shaker.

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Remark(s):

The sample was split into two representative subsamples of about 500 g (492 g / 501 g) each using the sample splitter RT 12,5.

AS 400:

The first test sieving was done with a speed of 200 rotations/minute. After 15 minutes, however, too much material had collected on the 3,15mm sieve, because the sample did not move sufficiently. For the following test the rotational speed was set to 230 rotations/minute and the sample sieved for 5 minutes. After writing down the weight of each sieve, the sample was sieved for an additional minute and the weight checked again to find out if the process had completed. This step was repeated multiple times. After 9 minutes no further change in weight was measurable and the sieve analysis had been completed (according to DIN 66165). Each fraction was packed separately for customer evaluation.

AS 450:

Sieving was done with a subsample at vibration height level 8 and at 10 second intervals. Again, the sieving process was continued until a constant weight for each sieve had been reached. After 6 minutes no further change in weight was measurable and the sieve analysis had been completed (according to DIN 66165). Each fraction was packed separately for customer evaluation.

Particle size distribution was almost identical for both machines. There is no noticeable difference between horizontal and vibratory sieve shaker.

For a precise comparison both results were evaluated and compared with our EasySieve software (only \"control\" sieve shakers are controllable by this software. The AS 450 basic requires manual start, adjust and stop processes).

Recommendation:

The horizontal sieve shaker AS 400 control and the vibratory sieve shaker AS 450 basic are suitable to analyse the sample material under the above mentioned conditions.

Plansiebmaschine AS 400 control

Firma:	Retsch		
Bearbeiter:	Batzke		
Ergebnisdatei:	...aten\EasySieve\SIEVEDAT\13930 CaSO4 CaCO3.afg\13930 CaSO4 CaCO3.afg_001.rdf		
Siebaufgabe:	13930 CaSO4 CaCO3.afg	Siebsatzdatei:	13930_CaSO4_CaCO3.gkl
Siebdatum:	15. 8.2012 15:04	Siebdauer [mm:ss]:	09:00
Siebmaschine:	AS 400 control	Drehzahl [1/min]:	230.0
Manuelle Gewichtseingabe			

Material: CaSO₄, CaCO₃

Siebqutmenge [g]: 492.00

Rückwaage [g]: 492.00

Siebverlust [%]: 0.00

Probenahme:

Probenvorbereitung: Probenteilung mit RT12,5

Siebverfahren: horizontal AS 400

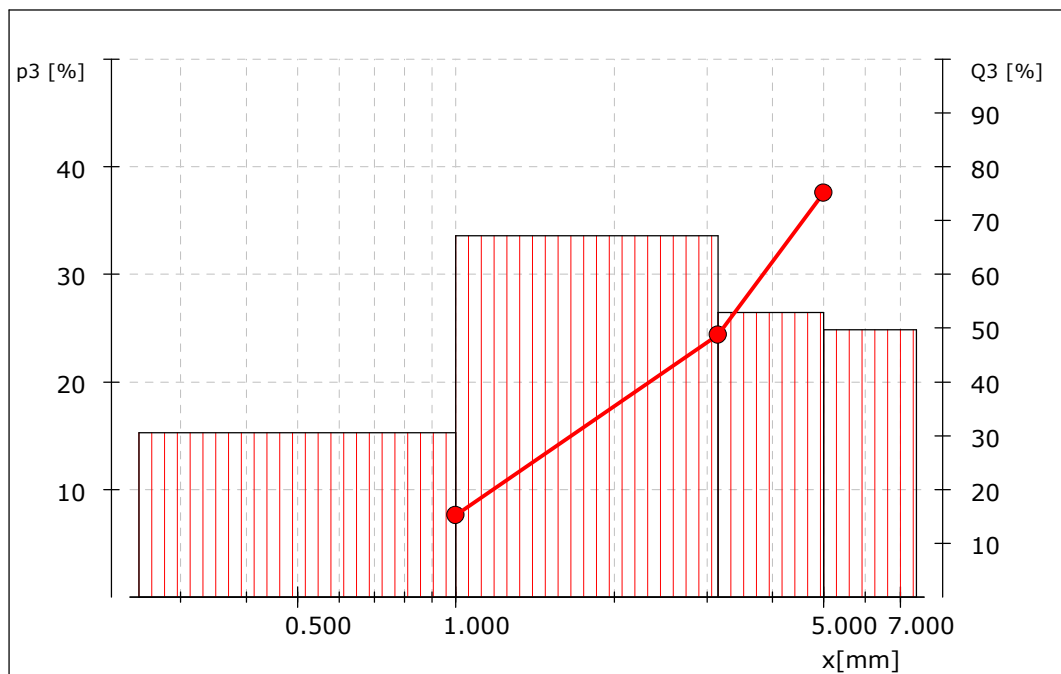
Siebaröße: 400 x 65 mm

Siebnorm: DIN ISO 3310-2

Siebhilfen:

Kommentar:

Kornklasse [mm]	p3 [%]	Q3 [%]
< 1.000	15.2	15.2
1.000 - 3.150	33.5	48.8
3.150 - 5.000	26.4	75.2
> 5.000	24.8	100.0



Kenngößen:

Q3 [%]	x [mm]
10.0	0.656
50.0	3.235
90.0	6.492

Bearbeiter:

Vibrationssiebmaschine AS 450 basic

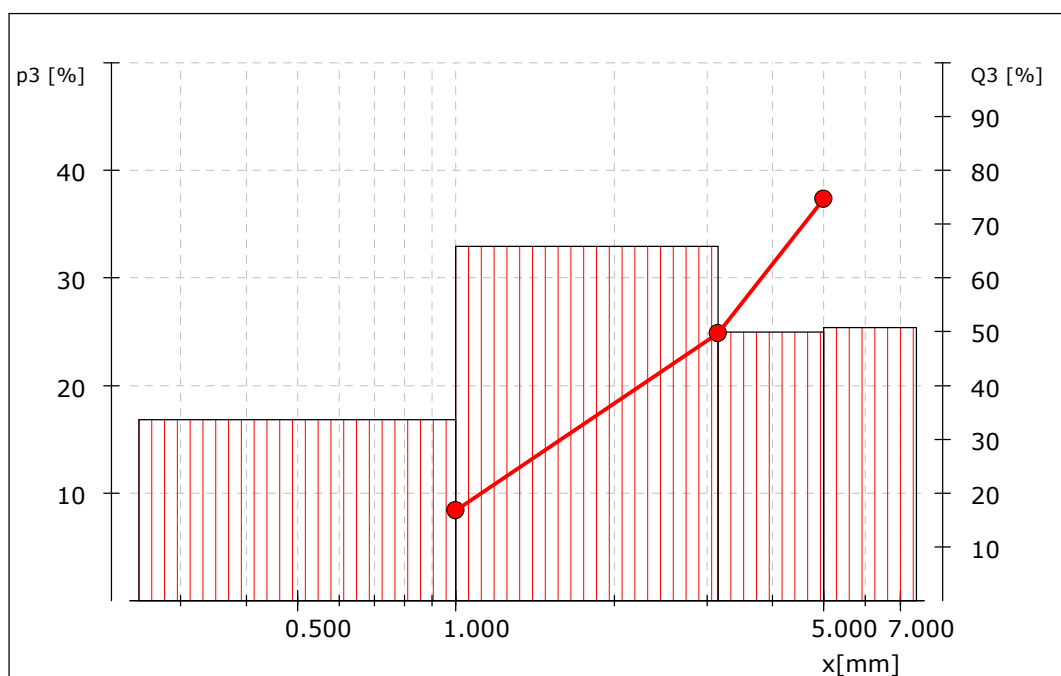
Firma:	Retsch		
Bearbeiter:	Batzke		
Ergebnisdatei:	...aten\EasySieve\SIEVEDAT\13930 CaSO4 CaCO3.afg\13930 CaSO4 CaCO3.afg_002.rdf		
Siebaufgabe:	13930 CaSO4 CaCO3.afg	Siebsatzdatei:	13930_CaSO4_CaCO3.gkl
Siebdatum:	15. 8.2012 15:08	Siebdauer [mm:ss]:	06:00
Siebmaschine:	AS 450 control	Amplitudenwert [mm]:	2.0
Intervallbetrieb		Intervallzeit [s]:	10.0
Manuelle Gewichtseingabe			

Material: CaSO4, CaCO3

Siebtutmenge [g]:	501.00	Rückwaage [g]:	501.00
Siebverlust [%]:	0.00		

Probenahme:		Probenvorbereitung:	Probenteilung mit RT12,5
Siebverfahren:	dreidimensional AS 450	Siebaröße:	400 x 65 mm
Siebnorm:	DIN ISO 3310-2	Siebhilfen:	
Kommentar:	Amplitude: Stufe 8, keine Millimeterangabe		

Kornklasse [mm]	p3 [%]	Q3 [%]
< 1.000	16.8	16.8
1.000 - 3.150	32.9	49.7
3.150 - 5.000	25.0	74.7
> 5.000	25.3	100.0



Kenngrößen:

Q3 [%]	x [mm]
10.0	0.596
50.0	3.172
90.0	6.514

Bearbeiter:

Messwertdiagramm:
...4_CaCO3.afg\13930_CaSO4_CaCO3.afg_001.rdf (13930_CaSO4_CaCO3.afg)

