PFEUFFER

Product line

Technologies for Professional Quality Assessment

www.pfeuffer.com

DVB 200 / 300

Process sampler for down pipes

Automatic removal of representative average samples

- Service-friendly design
- Robust, safe and reliable
- Compliant with the ISTA rules
- Extremely versatile
- ATEX version available

Usage area

The type DVB samplers are used for the product mixture made in the factory or for outgoing deliveries (loading of transport containers or vehicles), for example. The sampler is installed in a vertical down pipe (pipe incline = 25°). It can take samples in various locations in the process automatically and without a great deal of effort.

Function

Sampling takes place through a small cassette-like funnel, which has a removal gap at the top. This opening is automatically led through the flow of product over the entire width of the down pipe. A correct sample is taken across the entire cross-section when this occurs, not just at the sides or in the middle. The time between the individual samples is infinitely adjustable.

Variants

DVB 200, down pipe diameter 50 mm, inlet/outlet 200x200 mm with clamping rings
DVB 300, down pipe diameter 76 mm, inlet/outlet 300x300 mm with counter flanges

Technical data

Model	Version	Voltage	Output	Weight	Item number
DVB 200	with control	3x400 V, 50 Hz	0.09 kW	36 kg	1710 0080
DVB 200	without control	3x400 V, 50 Hz	0.09 kW	36 kg	1710 0280
DVB 200	ATEX with control	3x400 V, 50 Hz	0.09 kW	36 kg	1710 4980
DVB 300	with control	3x400 V, 50 Hz	0.16 kW	85 kg	1710 0081
DVB 300	without control	3x400 V, 50 Hz	0.16 kW	85 kg	1710 0281
DVB 300	ATEX with control	3x400 V, 50 Hz	0.16 kW	85 kg	1710 4981

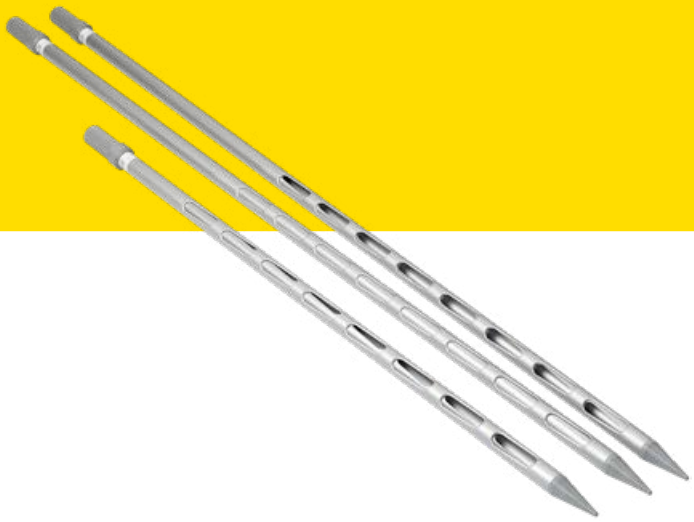
Accessories

Accessories	Item number
Sampling slot for DVB 200 with 12.0 mm	1710 0090
Sampling slot for DVB 200 with 8.0 mm	1710 0088
Sampling slot for DVB 200 with 14.0 mm	1710 0091
Sampling slot for DVB 300 with 14.0 mm	1710 0314
Sampling slot for DVB 300 with 30.0 mm	1710 0330
Sampling slot for DVB 300 with 12.0 mm	1710 0312

Further slots on request!

PNS sample spear

Alloy version of sample spear



For simple manual sampling of grain and seeds from the vehicle or stored in large storage facilities

- Spirally opening chambers
- Robust design
- Easy to dismantle
- Outlet opening in handle

Function

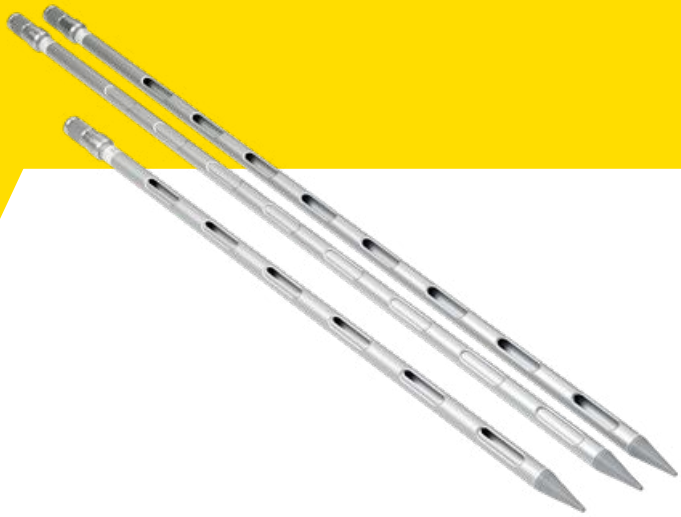
The spear is pushed into the product to be tested in the closed condition. When the handle is rotated, the removal slots open in an offset order from bottom to top. These spiral openings ensure that the sample material does not mainly fall into the spear through the upper openings. The spear is open towards the rear in the handle so that all of the removed sample (400-600 g) runs out. The spear can be easily pulled apart for cleaning using an internal notch in the screw cap.

Technical data

Model	Length	External diam.	Weight	Item number
PNS84	1.45 m	38 mm	2.0 kg	1720 0300
PNS88	2.00 m	38 mm	2.5 kg	1720 0310
PNS88	2.50 m	38 mm	3.0 kg	1720 0315
PNS88	3.00 m	38 mm	3.5 kg	1720 0318
Pellet	1.30 m	50 mm	2.3 kg	1720 0320

Pfeuffer sample spear

Mechanical sample spear



Removal of average samples up to a depth of 2 m

- Evenly opening chambers
- Robust design
- Easy to dismantle
- Outlet opening in handle
- Light weight

Function

Insert the closed spear into the bulk material. Open the chambers by rotating the handle and then turn it back again. The specially shaped openings prevent grains from being cut up. The original broken grain part is not increased. The spear consists of two anodized aluminum tubes and can easily be pulled apart for cleaning.

Technical data

Product	Length	External diam. / openings	Weight	Sample quantity	Item number
Pfeuffer sample spear	1.50 m	40 mm / 6	1.8 kg	600 g	1720 0500
Pfeuffer sample spear	2.00 m	40 mm / 8	2.3 kg	800 g	1720 0510

Vario sample divider

Sample divider equipment range for quickly reduced laboratory samples

The standard machine for grain recording

- The quickest way of dividing samples in a representative way
- Large filling funnel
- Infinitely adjustable dividing ratio
- Models for 1 to 8 subsamples
- Extremely good static distribution of the different sample parts

Usage area

The sample divider is the most neglected device in the quality evaluation chain of agricultural grain when delivery takes place. Collection samples are produced in accordance with a fixed number of sampling points. The sample that is acquired in this way usually weighs 5–8 kg. Modern analysis devices required between 300–1000 g.

Function

Switch on sample divider and put the sample into the feed funnel. The surrounding distributor pipe passes the eight variably adjustable openings inside the device. The sub-samples are taken to the collection trays alternately via a tube system. The excess material flows through the middle and can be collected in a collection container or taken away via a pneumatic transportation system. The yellow scale on the front of the sample divider indicates the dividing ratio.

The Vario 1G sample divider is also available with a built-in electric actuator (actuation cylinder) and associated PC software. The device can be used in a single work operation to divide the initial sample, whereby either the size of the sub-sample or a fixed divided sample / subsample can be chosen.

Technical data

Model	Number of samples	Voltage / output	Dimensions	Weight	Item number
Vario 1G	1	230 V, 50 Hz / 60 W	492x465x800 mm	65 kg	1745 0057
Vario 2H	2	230 V, 50 Hz / 60 W	492x485x840 mm	60 kg	1745 0050
Vario 4/8	4 or 8	230 V, 50 Hz / 60 W	492x550x840 mm	72 kg	1745 0053

Accessories

Accessories	Item number
Standard funnel Ø 48 mm	3331 0500
Extension funnel for capacity of 8 kg	3331 0510
Funnel diam. 30 mm (9 kg/min)	3331 0520
Different funnel inserts	By request
Stainless steel hook-in plates for changing the dividing ratio	3331 0530
PVC collection tray, 2 liters	3110 0050

Accessories	Item number
Stainless steel collection pan, 2 liters	3351 0500
Stainless steel collection pan, 3.5 liters	3331 9015
Stainless steel continuous sample pan	1740 0081
Side funnel for Vario 2H model	3321 4020
Agitator for non-free-flowing products	1745 0065
For Vario 4/8 only: Stainless steel collection pan, 2 liters	3331 9010

Sample divider

Sample dividing into 8 or 32 subsamples in a single operation

Divider for round robin tests and test series

- 8 or 32 subsamples in a single work operation
- Fixed dividing ratio
- Suitable for large sample containers and quantities
- Three funnel sizes available

Usage area

The model 8 / model 32 sample divider is used to produce homogeneous round robin test samples. It is also used to prepare internal control samples, which are needed for regular comparative measurements.

Function

Switch on sample divider and put the sample into the feed funnel. The surrounding distributor pipe distributes the sample among the 8 or 32 sample outlets. The sample is fully distributed, which means that there is no surplus quantity. Because of the large number of openings that are coated when the sample is passing through, the sample divider achieves extremely good statistical distribution of the different sample parts.

Technical data

Product	Number of samples	Voltage / output	Dimensions	Weight	Item number
Model 8	8	230 V, 50 Hz / 60 VA	540x540x695 mm	38.5 kg	1745 0055
Model 32	32	230 V, 50 Hz / 60 VA	530x480x575 mm	51 kg	1745 0056

Accessories

Accessories	Item number
Extension pipe (for model 32 only)	2330 0390
Extension funnel for capacity of 8 kg	3331 0510
Funnel diam. 30 mm (9 kg/min)	3331 0520
Different funnel inserts	By request

Riffle sample divider

Mechanical sample divider product range

Made from stainless steel

- Available in four sizes: 3, 5, 10 and 18 liters
- Three different numbers of slots: 10, 18 and 34
- Different slot widths: from 9.8 to 29.0 mm
- Also suitable for granulates, flour and powder

Function

The initial sample is put into the attached container and closed by tilting it (dividing ratio 50:50). If the sample is to be divided again, depending on the model a drawer can be relocated or the contents of a drawer put into the attached container and the procedure repeated.

Deliverable containers

Container type 1 is supplied with 2 collecting containers, has a closed attached container and is optimum for halving the initial sample quantity. Container type 2 is supplied with 3 identical collecting containers. It has an attached container with an opening for sliding in and for quick relocating of the collecting container. It also has a flap that opens just before the highest point and minimizes the amount of dust. The closed structure is therefore particularly suitable for multi-stage dividing of dusty samples, flour, granulates and powder. Container type 3 has an additional flap for alternative use with or without a collecting container.

Technical data

Maximum sample quantity	Container type	Number of slots	Slot width	Weight	Item number
3 liters	1	10	19.2 mm	8.0 kg	1745 0020
3 liters	1	18	10.3 mm	8.5 kg	1745 0021
5 liters	1	18	19.1 mm	13.0 kg	1745 0022
3.5 liters	2	18	19.1 mm	13.0 kg	1745 0023
5 liters	1	34	9.8 mm	13.5 kg	1745 0019
3.5 liters	2	34	9.8 mm	13.5 kg	1745 0024
10 liters	1	10	29.0 mm	15.0 kg	1745 0025
10 liters	3	10	29.0 mm	15.0 kg	1745 0018
10 liters	1	18	15.2 mm	15.5 kg	1745 0026
10 liters	3	18	15.2 mm	15.5 kg	1745 0027
18 liters	3	18	28.2 mm	23.6 kg	1745 0028
18 liters	3	34	14.5 mm	24.0 kg	1745 0029

MLN sample cleaner

Sieve machine with aspiration and deawner

The cleaning procedure essentially corresponds to that of a normal process cleaning machine

- Fully automatic cleaning
- With deawner and aspiration
- Quick sieve change
- Maintenance-free

Usage area

The proportion of impurities (coarse particles, fine particles, aspiration discharge) and the proportion of quality grain can be determined directly upon receipt using a sample. This makes it possible to accept quality grain and reject batches that do not fulfill the contractual conditions in a targeted way.

Function

Put in sample and start the cleaning process. If necessary, the sample is first deawned for a preselectable time. Then the deawner opens automatically and the sample falls through the aspiration chamber. The lightweight dirt such as dust is extracted by the aspiration and deposited in the dust bag by the cyclone. The sample runs over the straw sieve, which removes bigger impurities, and then runs over the sand sieve. Sand and small impurities such as weed seeds fall through the sand sieve. The impurities, sand and weed seeds run into the left-hand collection pan, and the quality grain runs into the right-hand collection pan. A feed funnel is available as an accessory. This means that the sample cleaner can be used for large sample quantities such as for seed cleaning for trial plots.

Technical data

Model	Number of sieves	Voltage	Output	Weight	Item number
MLN	2	230 V, 50 Hz	0.37 kW	55 kg	1740 0020

Accessories

Accessories	Item number
Feed funnel (5 kg capacity)	1740 0080
Stainless steel collection pan for flow	1740 0081
Bag holder, 1-way	1740 0082
Bag holder, 2-way	1740 0083
Stainless steel collection pan	3351 0500
PVC collection pan	3110 0050
Dust bag holder and dust bag	1740 0100
Different sieves with round and elongated holes	By request

Standard sieves for MLN

Sieve	Dimensions	Item number
Straw sieve	4.5x20 mm / 300x350 mm	3115 6088
Sand sieve	1.5x3.5 mm + Ø 2.0 mm / 300x350 mm	3115 6999

SLN sample cleaner

Sieve machine with sorting sieve

The cleaning procedure essentially corresponds to that of a normal process cleaning machine

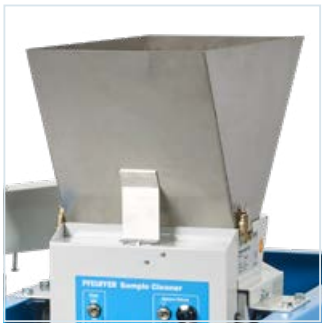
- Fully automatic cleaning
- With deawner and aspiration
- Quick sieve change
- Additional sorting sieves for sorting out shriveled and small grain
- Sorting sieve system with cleaning balls

Usage area

The proportion of impurities (coarse particles, fine particles, aspiration discharge) and the proportion of quality grain can be determined directly upon receipt using a sample. This makes it possible to accept quality grain and reject batches that do not fulfill the contractual conditions in a targeted way.

Function

Put in sample and start the cleaning process. If necessary, the sample is first deawned for a preselectable time. Then the deawner opens automatically and the sample falls through the aspiration chamber. The lightweight dirt is extracted by the aspiration and deposited in the dust bag by the cyclone. The sample runs over the straw sieve, which removes bigger impurities and then runs over the sand sieve. Sand and small impurities fall through the sand sieve. The sample is finally led through the sorting sieve (model SLN4 = 2 sorting sieves). Rubber balls prevent the sorting sieve from clogging. The impurities run into the side collection pan. The shriveled and small grain is collected in the left-hand tray and the quality grain in the right-hand tray. For accessories see the MLN sample cleaner.



Technical data

Model	Number of sieves	Voltage	Output	Weight	Item number
SLN3	3	230 V, 50 Hz	0.37 kW	85 kg	1740 0040
SLN4	4	230 V, 50 Hz	0.37 kW	85 kg	1740 0050

Standard sieves for brewing barley SLN3

Sieve	Dimensions	Item number
Top sieve (straw sieve)	4.5x20 mm / 300x350 mm	3115 6088
Sand sieve	1.5x3.5 mm + Ø 2.0 mm/ 300x350 mm	3115 6999
Sorting / grading sieve	2.5x20 mm / 300x470 mm	3115 8057

Standard sieves for brewing barley SLN4

Sieve	Dimensions	Item number
Top sieve (straw sieve)	4.5x20 mm / 300x350 mm	3115 6088
Sand sieve	1.5x3.5 mm + Ø 2.0 mm/ 300x350 mm	3115 6999
1st Sorting / grading sieve	2.2x20 mm / 300x470 mm	3115 8046
2nd Sorting / grading sieve	2.5x20 mm / 300x470 mm	3115 8057

Auto Sample Cleaner

Dockage testing, sorting and weighing

For a wide range of grains and seeds

- With aspiration and deawner
- Self-cleaning sorting sieve through ball cleaning system
- Low noise operation
- Touch screen display
- Integrated printer and LAN interface

Function

The Auto Sample Cleaner weighs an initial sample of grain or seeds (approx. 1.5 liters) in a single operation, starts the SLN 3 sample cleaner, carries out the deawning, opens and closes the deawner floor, performs the cleaning in a time-controlled manner and automatically weighs the two fractions of small grain and quality grain (cleaned sample). The modern operating software shows the determined masses and the corresponding percentages on the display. If required, the result can be printed out immediately or later. The result consists of the cleaning loss (aspirator discharge, straw and sand sieve) and the quality grain and small grain content. The weighed samples can be taken in collecting trays for further analysis or fall into a large material container (volume approx. 90 litres). The Panel PC stores all results. It has two USB interfaces for barcode scanner, keyboard or USB data storage. For easy processing with MS Excel® the results can be exported to a USB data memory. In addition, the Panel PC has a network connection (RJ45, LAN) for fast, automatic transfer of results to a ERP or merchandise management system. A sample cleaner SLN 3 is required for operation of the Auto Sample Cleaner. Optionally, a pneumatic transport system can be used for automatic sample disposal.

Illustrations show Auto Sample Cleaner together with sample cleaner SLN 3.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Auto Sample Cleaner	230 V, 50 Hz	0.40 kW	790x720x1650 mm	135 kg, without SLN3	1740 0072

Accessories

Accessories	Item number
Collection pan for flow	1740 0081
Mounting frame for sample divider	2350 0775
Bar code scanner	1920 0900

Milomat

Laboratory mill

Ideal for sample grinding for moisture determination with the HE 60 / HE 90 moisture meters

- High sample throughput – fast grinding
- Less force required than grinding with a hand mill
- Easy to clean
- Compact design

Function

The Milomat impact mill effortlessly grinds almost any agricultural grain crop. Add the sample (20 ml). When the metering handle is turned, the product runs into the grinding chamber. The product is ground between a stationary and a rotary metal pin ring (impact effect). The ground material falls via the outlet connection directly into the bottom of the measuring cell of the HE 60 / HE 90 moisture meter. Powerful airflows and heating are avoided during the grinding work so that the actual moisture content is not affected.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Milomat	230 V, 50 Hz	70 VA	280x160x300 mm	10 kg	1520 0700

Pellet mill

Laboratory mill

Crushing of feedstuffs in the form of pellets, bruised grain, cake and granulate

- Low noise
- High grinding capacity 100-200 kg/h
- 3 kg grinding capacity in a single pass
- Collection tray with a capacity of 5 liters
- Also suitable for pellets rich in fat

Function

The sample material to be crushed is put into the funnel and falls through the filling facility into the grinder. The sample material is ground between the grinding pins or the rotating pin roller and the stationary grinding comb in the grinder. The coarsely ground mill material falls through a safety grating into the drawer. The mill material is intended for further quality control by a suitable analyzer. The pellet mill can also be used for the representative determination of continuously acquired process samples in combination with a Vario sample divider and a DVB sampler.

Insect sieve

Sieve box with drawer

Determination of insect attack during acceptance and storage

Function

Add a representative sample of approx. 100 g and sieve by hand for one minute making movements to and fro. Then check the removable white drawer for the presence of beetles or insects. The effect can be increased by heating the sample.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Pellet mill	400 V, 50 Hz	0.55 kW	360x440x560 mm	25 kg	1520 0300

Technical data

Product	Sample quantity	Dimensions	Weight	Item number
Insect sieve	approx. 200 g	250x250x80 mm	1 kg	1290 0010

Handheld test sieves

Standard-compliant analysis sieves for grain crops

Classic method for manual total dockage determination

- Compliant with DIN EN ISO 5223
- Stainless steel
- Sample quantity approx. 100 g

Function

The well-tried handheld test sieves consist of a robust stainless steel sieve frame with a high degree of form stability and glued-in perforated plates. No openings are cut into the edge area of the sieves. Sieve diameter Ø 200 mm, effective height 25 mm. A lid and a base are available as accessories. DIN EN ISO 5223 determines the features for analysis sieves which are used to determine dockage in grain samples in accordance with DIN EN 15587.

Technical data

Sieve	Elongated hole	Round hole	Item number
Fine sieve	1.00x20 mm	-	1290 5040
Rye	1.80x20 mm	-	1290 5060
Durum wheat	1.90x20 mm	-	1290 5062
Wheat	2.00x20 mm	-	1290 5065
Barley	2.20x20 mm	-	1290 5070
Brewing barley	2.50x20 mm	-	1290 5075
Brewing barley	2.80x20 mm	-	1290 5067
Chaff	3.55x20 mm	-	1290 5090

Sieve	Elongated hole	Round hole	Item number
Rapeseed	-	ø 0.50 mm	1290 5208
Rapeseed	-	ø 1.80 mm	1290 5260
Rapeseed	-	ø 3.00 mm	1290 5280
Maize	-	ø 4.50 mm	1290 5295
Cover			1290 5005
Base			1290 5010

Filling funnel

Sample bag tripod

The filling funnel makes the filling of retained samples in bags quick and easy

Function

The height of the bag tripod is variable, and can be adapted to the size of the bag. The aluminum funnel is easy to clean and can also be sterilized if necessary.

Balance

Compact, robust and practical

Used in agriculture

- Easy to operate
- High precision
- Value for money

Usage area

Balances must be compact, robust and practical for use in agriculture, without having to tax the budget or make concessions with regard to accuracy. These balances with their striking design are versatile, easy to operate and portable. Automatic shut-off after 5 minutes (mains adapter optional). Three models with different load capacities and accuracies are available.

Technical data

Product	Funnel diam.	Bag length	Dimensions	Weight	Item number
Filling funnel	310 mm	up to 310 mm	200x275x500 mm	3.4 kg	1745 0080

Technical data

Product	Version	Power supply	Dimensions	Weight	Item number
Balance	5000 g / 2 g	3x1.5 V batteries (AA Mignon)	193x135x39 mm	470 g	1610 0052
Balance	2000 g / 1 g	3x1.5 V batteries (AA Mignon)	193x135x39 mm	470 g	1610 0053
Balance	200 g / 0.1 g	3x1.5 V batteries (AA Mignon)	193x135x39 mm	470 g	1610 0054

Granolyser

NIR analyzer for grain, oil seeds and legumes

Determines all of the parameters for your sample quickly and accurately

- Large sample volume of 600 ml
- NIR (near infrared) diode array technology
- 1500 individual scans per sample
- Corresponds to the current Standard Weights and Measures Law in Germany and Austria.
- Touch screen display and built-in printer

Function

Pour the sample (600 ml) into the Granolyser. The start and settings for the measurement are carried out on the touch screen. The transport wheel ensures that the density is consistent during the measurement. The sample is continuously moved past the detector, and the reflection of the sample in the NIR range is measured. The built-in spectrometer scans within the range of 950 to 1540 nm (NIR). The spectrums recorded by the detector are processed by the evaluation electronics. The analysis parameters are optically determined in less than one minute. Different parameters are determined depending on the selected product: Moisture, protein, sedi, gluten, oil content and starch. The measurement result is displayed and can be printed out.

Connectivity

The Granolyser has a network connection and a USB interface for a bar code scanner, keyboard or USB data memory. It can store measuring data in the LAN of an MS Access® database using the Granolyser Data Server application. A database connection can be established quickly using an interface. For simple processing using the PC (e.g. with MS Excel®), all measurement data can also be exported onto a USB data memory.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Granolyser	100-240 V, 50/60 Hz	70 VA	370x450x380 mm	23 kg	1180 0000

Accessories

Accessories	Item number
Beaker 0.5 liters	3112 8605
Rolls of thermal paper (5 pieces)	3262 8601
Bar code scanner	1920 0900
Granolyser Data Server database application for MS Access®	1180 0100

Granolyser HL

NIR analyzer with bulk density module

Increase the efficiency of your grain analysis

- All NIR parameters and bulk density
- Corresponds to the current Standard Weights and Measures Law in Germany and Austria.
- Results in less than 60 seconds
- User-friendly software, available in 18 languages
- Touch screen display and built-in printer

Function

The Granolyser HL supplements the well-tried NIR analysis device with a module for bulk density. A large sample (600 ml) is poured in. The touch screen is used to start the measurement and make the required settings. A long-life halogen lamp with controlled light intensity illuminates the sample. The sample material is continuously transported, the reflection of the sample is scanned in the NIR range and the material is then poured into the bulk container. The weight of a 500 ml sample is determined using an integrated weighing system. As well as different grain types (wheat, rye, barley and maize) oil seeds (rapeseed and sunflower seeds) can also be measured. Cereal legumes such as peas and broad beans can also be measured. The important parameters of moisture, protein, sedi, gluten, oil content and starch are supplemented by the hectoliter weight (bulk density) in the Granolyser HL. The measurement result is shown on the display and printed out. The Granolyser HL with LAN and USB interfaces also has the same connectivity as the Granolyser.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Granolyser HL	100-240 V, 50/60 Hz	70 VA	500x349x507 mm	31 kg	1180 0005

Accessories

Accessories	Item number
Beaker	3112 8605
Rolls of thermal paper (5 pieces)	3262 8601
Bar code scanner	1920 0900
Granolyser Data Server database application for MS Access®	1180 0100

Granomat

Whole grain moisture meter

Quickly and accurately determines moisture and bulk density

- Large sample volume of 600 ml
- Sample does not require crushing
- Integrated printer
- Fully automatic
- Corresponds to the current Standard Weights and Measures Law in Germany, Austria and other European countries

Usage area

All types of grain, legumes, oil seeds, maize and malt can be examined with the Granomat. Up to 200 different calibrations can be stored in the internal memory. Ask for an overview of the available measuring curves!

Function

The Granomat measures the capacity (dielectric constant), weight and temperature of the sample over the entire grain. It determines both the product moisture and the bulk density (kg/hl). The sample does not have to be crushed. Pour in the sample, select the sample type and press the measuring key. The Granomat fills the measurement cell fully automatically. This guarantees that there is a consistent bulk density. A scraper removes the grains that are not needed for the measurement and ensures that there is a constant volume. The sample is measured within a very short time. The measurement cell is then emptied and the sample falls into the drawer. The measurement result is displayed and can be printed out.

Connectivity

The Granomat has two serial interfaces and one parallel interface for connecting an external printer and for transferring data to IT systems.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Granomat	230 V, 50/60 Hz	50 VA	420x360x390 mm	18 kg	1195 0011

Accessories

Accessories	Item number
Beaker 0.5 liters	3112 8605
Rolls of thermal paper (5 pieces)	3262 8601
Granocom PC software	1195 0500
Granocom serial cable	2295 1200
USB-to-serial adapter	2820 1522

HE 60 / HE 90

Moisture meter with grinding in the storehouse

A measuring method that has been tried and tested thousands of times – reliable and accurate for harvesting, drying and storage

- Easy to operate
- Exact measuring results
- Automatic temperature correction
- Corresponds to the current Standard Weights and Measures Law for moisture in Germany
- Also suitable for flour and bruised grain

Usage area

The moisture meters are used to measure the majority of grain crops. A total of 200 different calibrations are available. Crush the sample (20 ml) with the hand mill or optionally with the Milomat lab mill. Then screw in the top of the measuring cell as far as it will go. The homogeneous press cake is the guarantee of consistently high measuring accuracy. Select product, and after 30 seconds the exact measurement result appears in the display. The sample temperature is measured and taken into consideration automatically.

HE 60 for mobile use

The HE 60 moisture meter is suitable for use in the field or in field offices, and is the guarantee of high precision on site. The built-in battery makes a measuring time of up to 10 hours possible, independently of the power supply. The HE 60 can be programmed with up to 39 calibrations.

HE 90 with document printer

The HE 90 moisture meter is accommodated in a hard wood carry case, and is extremely robust. It contains an integrated document printer. The HE 90 can be programmed with up to 28 calibrations. A PC interface (RS232C) is optionally available via which the measurement results can be transmitted to a PC or a billing system.

Technical data

Model	Voltage	Dimensions	Weight	Configuration	Item number
HE 60	230 V, 50 Hz	470x250x120 mm	6 kg	Battery	1160 0019
HE 90	230 V, 50 Hz	540x270x130 mm	9 kg	Printer	1190 0019

HE 50

Grain moisture meter for agriculture

Precision for the most important reference variable in combine harvesting – reliability during threshing, drying and storage

- Easy to operate
- Fast measurement
- Automatic temperature correction
- Wide measuring range of more than 30 % moisture content
- 14 products can be read off directly

Function

Pour the sample (11 ml) into the bottom part of the measuring cell and screw the measurement cell together using the ratchet. Fit the measurement cell to the measuring instrument, turn the switch to the relevant product and press the measuring key. The HE 50 carries out the measurement in seconds, automatically corrects the temperature and displays the measurement result. The measurement cell, which has been specially developed for agriculture, allows a wide range of products to be measured. The homogenization of the sample in the measurement cell provides the optimum prerequisites for accurate moisture measurement. The HE 50 is therefore extremely reliable with freshly harvested grain up to the high measuring range. The HE 50 can be calibrated for more than 200 different products, and is therefore the most versatile moisture meter on the market. Calibrations for peanuts and false oat-grass, grasses and other grain crops are also available.

With the new HE 50 Grain Moisture app, the HE 50 BT (optionally available) can easily be remote-controlled.
Connect the device to the app and make measurements. The results with date, time, comments and the position of your smartphone (GPS coordinates) can be saved, forwarded and exported.

Technical data

Product	Power supply	Dimensions	Weight	Item number
HE 50	9 V monobloc battery	220x120x65 mm	1.7 kg	1150 0010
Bluetooth® (BT) adapter for HE 50				2250 0020

Accessories

Accessories	Item number
Measurement cell for floury products and hops	2150 0020

HE lite

Portable and robust moisture meter

The moisture content is crucial for determination of the correct harvesting time

- High measuring range
- Simple menu navigation
- Well-tried measuring principle
- Average calculation
- Adjusting facility

Function

The HE lite measures the conductivity and temperature of a crushed grain sample. State-of-the-art measurement technology calculates the exact moisture value from this. The integrated measurement cell of the HE lite is based on the Pfeuffer principle which has been well-tried for more than 45 years: The sample is crushed and homogenized at the same time by special grinding discs. The HE lite is therefore extremely reliable with freshly harvested grain. Pour the sample into the beaker built into the top of the measuring cell (11 ml) and put it into the grinding chamber. Fit top part and screw together as far as possible. Then switch on device, select type of grain and trigger a measurement. The measurement result appears on the display after a few seconds.

Average calculation

The HE lite automatically calculates the average of several measurements. Simply select the number of measurements and the displayed measured values under "Average" in the settings menu. The display of the HE lite then shows the average and the individual values after every measurement.

Adjusting facility

If necessary, the HE lite can be individually calibrated by the user. The measurements can be modified around a constant value and a multiplicative value can be modified for each product. The HE lite can therefore be optimally adjusted to individual requirements.

Technical data

Product	Power supply	Dimensions	Weight	Item number
HE lite	3x1.5 V batteries (AA Mignon)	200x82x85 mm	0.9 kg	1170 0000

Accessories

Accessories	Item number
Case	3111 0270

Pfeuffer HFM

Measuring lance for hay and straw moisture

Quick determination of moisture and temperature of pressed hay and straw

- Robust stainless steel lance, length 50 cm
- Moisture from 9 % to 50 %
- Temperature from -10 °C to +100 °C
- Quick display
- Holding, counting and average function

Usage area

The Pfeuffer HFM can be used in the hay and straw trade. You safeguard the quality of your feedstuffs with this device. The correct storage moisture and temperature gives you reliability during storage and protects from destruction by fungal attack and rotting. The Pfeuffer HFM has a continuous stainless steel probe for measuring, which is held by an ergonomically shaped wooden handle.

Function

The display shows the current moisture value during the measuring procedure. The measurement can be reliably taken within a few seconds on different locations in bales or a large number of bales – without pressing a button. The resolution of the device is around 0.1 %, and the accuracy in practical use is around +/-0.8 % points. Temperature measurement – switch the device to temperature mode and insert the measuring probe into the bale in the required location. Wait until the displayed value is stable before reading off the temperature. The Pfeuffer HFM has a highly sensitive temperature sensor which quickly adapts itself to the product.

Technical data

Product	Power supply	Dimensions	Weight	Item number
Pfeuffer HFM	9 V monobloc battery	772x70x48 mm	0.65 kg	1315 0015


PFEUFFER

Contador

Seed counter

Counting and filling of all seeds from 0.3 mm to 15 mm

- Fast counting speed
- Exact counting results
- Flexible due to easily changeable feed container
- All functions can be controlled via PC software
- Little inherent noise

Function

The Contador is an optical counter with integrated vibration channel. The counting speed is automatically controlled depending on the size of the material to be counted, so that the counting time is minimized and a high degree of counting accuracy is achieved. The feed container is held by a magnet and is easy to change. Both a sample change and a crop type change can therefore be carried out very quickly. The Contador can be controlled using the keyboard on the device or using the serial interface, e. g. with the SeedCount PC software which is available as an accessory.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Contador	115-230 V, 50/60 Hz	50 VA	430x235x380 mm	16 kg	1410 0011

Accessories

Accessories	Item number
Feed container no. 1 for rapeseed, seeds, fine seeds	2410 0101
Feed container no. 2 for grain and sunflower seeds	2410 0102
Feed container no. 3 for maize, broad beans and peas	2410 0103
SeedCount PC software for automatic processing of counting lists and printing labels	1410 0320

Contafill

Filling station for Contador seed counter

Effortless filling of small seed batches

- For all of the most popular paper and plastic bags
- Carousel for plastic and glass bottles
- Number of seeds and bags can be preselected
- Detection of missing bags or bottles
- Continuous operation or stop after one cycle

Function

Put the seeds into the feed hopper and fit bags to the carousel. Preselect the number of grains per bag on the Contador or using the PC software and start. The Contador starts and counts the required number of grains into the first bag. The bags can be circulated continuously or individually. In this way, the bags can be replaced at regular intervals, or the entire carousel can be reloaded at the end of counting. This procedure is made easier by the base for the carousel. This reduces the stop times during the filling procedure to a minimum. The Contador automatically detects the bags using a sensor so that no valuable seeds are wasted.

Technical data

Product	Voltage	Dimensions	Weight	Item number
Contafill	24 V (via Contador)	480x440x340 mm	16 kg	1410 0050

Accessories

Accessories	Item number
Base for supporting a carousel	2410 0650
Carousel for bags and bottles approx. 80 to 120 mm long for 10 filling positions	2410 0501

Contador 2

5-Channel seed counter

Increase the efficiency of your counting processes

- Count and fill at high speed
- Counting rates of up to 5000 grains/min
- Compact design, light weight
- Flexible due to easily changeable feed container
- All functions can be controlled via PC software

Function

The Contador 2 is a lightweight and compact seed counter with an extremely fast counting speed, short transport section and high counting speed. The attached feed container makes quick and flexible use for different types of seed possible. This makes quick sample changing possible without having to run the transport section empty. The new type of feed container and a counting algorithm that is coordinated with it are the guarantee of fast counting speed and accuracy. The Contador 2 can be controlled using either the function keys on the device or via the interface, e. g. with the SeedCount PC software that is available as an accessory.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Contador 2	230 V, 50 Hz	24 VA	375x168x185 mm	4.5 kg	1410 0019

Accessories

Accessories	Item number
Feed container no. 1 for rapeseed and small seeds	2410 0301
Feed container no. 2 for grain	2410 0302
Feed container no. 3 for maize and legumes	2410 0303
Feed container no. 4 for fine seeds	2410 0304
SeedCount PC software for automatic processing of counting lists and printing labels	1410 0320

Contafill 2

Filling station for Contador 2 seed counter

Effortless filling of small seed batches

- For all of the most popular bags and bottles
- Slimline design for free access
- Number of bags can be preselected
- Detection of missing bags or bottles
- Continuous operation or filling stop after one circulation of the carousel

Function

Put seed, e. g. rapeseed into the feed container of the Contador 2. Equip the carousel with bags, hang up and secure. Preselect number of grains per bag and start the counting process. Filled bags can be removed and empty bags fitted continuously in operating mode B. In operating mode P the Contafill 2 fills the first ten bags. If a second carousel is equipped with bags, the two carousels are swapped at the end of the filling procedure. Because of the electronic sensor in the Contafill 2, the Contador 2 automatically detects whether all bags are actually present and skips empty positions without a bag.

Technical data

Product	Voltage	Dimensions	Weight	Item number
Contafill 2	24 V (via Contador)	520x420x345 mm	11.5 kg	1410 0060

Accessories

Accessories	Item number
Base for supporting a carousel	2410 0650
Carousel for bags and bottles 80 to 200 mm long for 10 filling positions	2410 0502

Sortimat

Laboratory sorting machine

Sorting and appraisal of grain

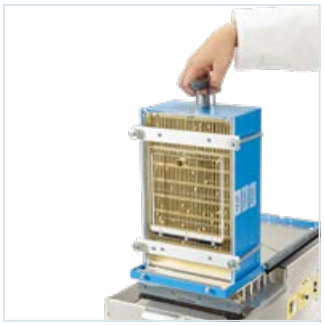
- Determination of the full barley proportion
- Tiltable sieve stack and sieve cleaning
- Available with 3, 4 or 5 sieves
- Robust and solid construction
- Official method in accordance with MEBAK, EBC and ICC

Usage area

The Sortimat is designed for sorting and classifying agricultural grain crops and products derived from them. The main focus of use is in the boldness determination of brewing barley. The Sortimat can be used to appraise the productive capacity of grain, legumes, oil seeds and pellets.

Function

The Sortimat is designed for a sample quantity of 100 g. The tiltable stack of sieves and the integrated sieve cleaning make it possible to carry out several samples within a minimal amount of time. Complicated dismantling and cleaning after every sorting. The laboratory sorting machine is available in three variants with three, four or five sieves. The Sortimat consists of a mechanical vibrating device with an electric motor and an electronic timer for controlling the sieving time.



Accessories

Separating device for wheat or for barley and rye: These plastic channels with milled recesses sort broken and round grain from the sample. They are inserted into the filling opening and held in place with a mounting bracket. A double tray is available for sorting malt. The sieves are exchangeable.

Technical data

Model	Number of sieves	Voltage / output	Dimensions	Weight	Item number
K3	3	230 V, 50 Hz / 40 VA	550x270x350 mm	28 kg	1240 0100
K4	4	230 V, 50 Hz / 40 VA	550x270x380 mm	29 kg	1240 0110
K5	5	230 V, 50 Hz / 40 VA	550x270x410 mm	30 kg	1240 0120

Accessories

Accessories	Item number
Broken and round grain separating device for barley and rye	2440 0020
Broken and round grain separating device for wheat	2440 0021
Collection tray for malt	2440 0022
Clamp for separating device	2440 0023
Various sieves made from brass or stainless steel (round or elongated hole)	By request

Friabilimeter

Measuring instrument for malt friability

Quick and easy evaluation of the brewing value of malt for breweries and malthouses

- Uncomplicated mechanical analysis
- Practical brewing value statement
- Simplification of the malt analysis
- Robust and solid construction
- Internationally recognized method (IM)

Usage area

Brewers need high-quality malt for producing beer. The brewing value of the malt can be determined quickly and easily in practice using the Friabilimeter. In the malthouse, the Friabilimeter makes it possible to monitor the quality of the malt immediately after drying. Irregularities during the malting procedure are detected and corrected. The brewery can determine the quality of the malt upon delivery and then adjust the malt mixtures so that they are consistent.

Function

A malt sample (50 g) is mechanically separated into its hard and crumbly constituents. The grains are pressed against a rotating sieve drum for 8 minutes by a roller with constant spring pressure. The crumbly parts fall through the wire braiding. Glassy grains and hard broken parts remain in the sieve drum. As far as the hard malt components are concerned, a distinction is made between partial hyaline and whole hyaline. The individual fractions are weighed and converted to a percentage. The percentage values are a constituent of the malt specification between breweries and malthouses. Excessive glassiness has a detrimental effect during the mashing and lautering process. Deficiencies occur in the brewing process in wort clarification, fermentation, maturing and filtration, whereby climate and variety-related influences can occur.

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Friabilimeter	230 V, 50 Hz	50 W	400x265x270 mm	12 kg	1810 0000

Accessories

Accessories	Item number
Pressure roll	2810 0080
Drive roll	2810 0030
Sieve drum	2810 0100
Can of test malt, 400 g	4898 0120
Can containing official EBC test malt	4898 0130

Hecto grain tester

Handy volume measuring device

Up to five times faster than conventional mechanical determinations

- Bulk density for barley, oats, rye and wheat.
- Robust design (stainless steel), 0.5 liters
- Simple and easy operation
- Mobile and power supply-independent
- Exact measurements

Function

Insert the cut-off slide into the Chondrometer. Insert plunger weight and pour in the grain sample. Pull out the cut-off slide quickly. The plunger weight and the grain fall into the bottom part of the Chondrometer. Cut the volume exactly using the cut-off slide. Pour out surplus grain and weigh the contents on the compact digital balance. The bulk density (kg/hl) of the different grain types is then determined on the basis of the provided calibration chart. Particularly suitable for farmers, universities and field testing. The Hecto grain tester is not compliant with the current Standard Weights and Measures Law in Germany!

Technical data

Product	Version	Case dimensions	Weight with case	Item number
Hecto grain tester	with balance	425x340x115 mm	4.5 kg	1745 1000
Hecto grain tester	without balance	425x340x115 mm	4.0 kg	1745 1001

Grain tester model 1938

Volume measuring device

Determination of the bulk of a liter of grain and conversion to EEC bulk density for trade

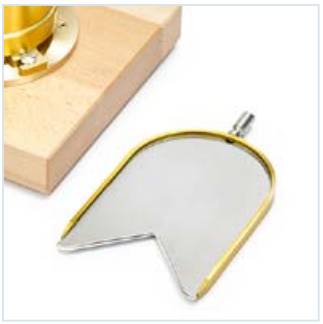
- Bulk density for barley, oats, rye and wheat.
- Robust design (brass), 0.25 liters or 1.0 liters
- Simple and easy operation
- Exact measurements
- Good reproduction

Usage area

The high-precision grain testers are used to measure the EEC bulk density (bulk per hectoliter, hectoliter weight) of barley, oats, rye and wheat. The bulk is determined with the aid of a balance. The ratio of bulk to volume results in the bulk density, which is corrected with the factors from the official tables for liter and quarter liter samples. A calibrated balance is required for determination in the trade, and is available as an accessory.

Function

Insert the skimming knife, insert the plunger weight into the measuring cylinder, fit the forward cylinder (1.25 liters) and pour in the grain sample. Pull out the skimming knife quickly. The plunger weight and the grain fall into the measuring cylinder (1.0 liter). Cut the volume exactly using the skimming knife. Pour out excess grain, remove the forward cylinder and weigh the contents on a calibrated precision balance. The bulk density (kg/hl) of the different grain types is then determined on the basis of the provided correction table.



Technical data

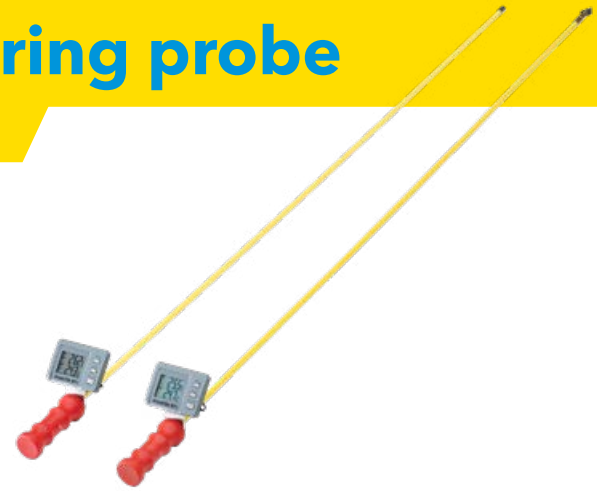
Product	Version	Weight	Item number
Grain tester 1938	0.25 liters	3.2 kg	1745 5010
Grain tester 1938	1 liters	6 kg	1745 5015


PFEUFFER

GT 1 temperature measuring probe

Monitoring the temperature in bulk material

Versatile assistant in agriculture and in small grain stores



- Large LCD display
- Temperature sensor in measuring tip and housing
- Robust probe made from GRP, 0.5 m to 2.8 m
- Conical or knife tip
- Simple and easy operation

Usage area

The GT 1 temperature measuring probe is suitable for measuring in batches at different depths and on the surface. It has two temperature sensors, one in the measuring tip and one in the display housing. The temperature measurement is within the range of -10 °C to +70 °C in loose agricultural bulk materials such as grain, silage, compost, hay and straw.

Function

Insert the GT 1 temperature measuring probe into the bulk material. Wait until the temperatures of the bulk material batch and the sensor in the measuring tip have equalized. The exact temperature value can be conveniently read off on the digital display.The GT 1, GT 1-2 and GT 1-3 are supplied with a robust conical tip made from stainless steel. The GT 1S, GT 1H and GT 1-3H contain a screw-on two-piece knife tip with a knife holder and a durable quality knife made from hardened and sharpened stainless steel. The knife is supplied in a separate case and can be unscrewed for transportation purposes. Weight: 350 g to 530 g depending on model; power supply: 1x1.5 V battery (AAA Micro)

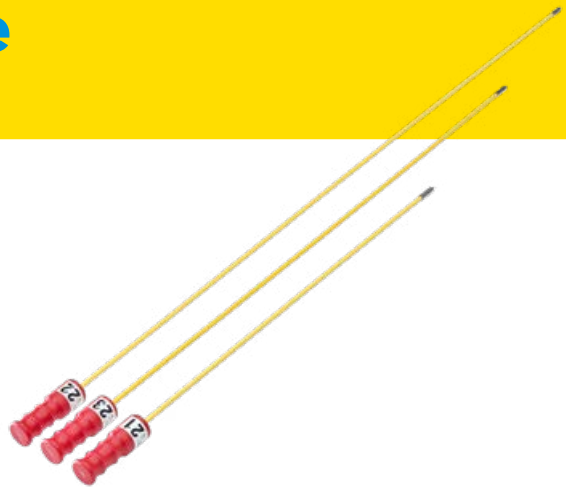
Technical data

Model	Products	Length	Item number
GT 1	Grain, oil seeds, grains	1.5 m	1332 1102
GT 1-2	Grain, oil seeds, grains	2.0 m	1332 1108
GT 1-3	Grain, oil seeds, grains	2.8 m	1332 1103
GT 1S	Silage	0.5 m	1332 1105
GT 1H	Hay, straw, compost	1.5 m	1332 1106
GT 1-3H	Hay, straw, compost	2.8 m	1332 1107

Wireless measuring probe

Data transmission via radio to a receiver

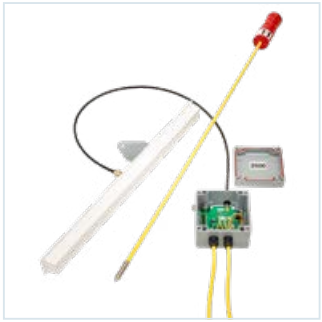
For the DuoLine STAR soft and link measuring systems



- Long radio range
- 4 measurements per hour
- Battery service life: >5 years (easy to change)
- Fully compatible with existing systems
- Up to 255 wireless measuring probes per system

System

Temperature measuring probes can be equipped with up to four temperature sensors. The flexible GRP material and the ergonomically shaped handle of the measuring probe make insertion into the bulk material easier. An LED which flashes during measurement is integrated in the handle for function checking purposes. There are no interfering cables which have to be unrolled and cleared away again. The measuring probes do not need to be assigned to receivers. The grain store receiver reports the detected wireless measuring probes, and the operator moves these to the usage location in the installation plan in the DLS soft PC software using drag & drop. The distance between the measuring probes can be varied. The wireless measuring probes transmit the measuring data (temperatures, ID number and battery status) to a receiver every 15 minutes. The receiver recognizes the assigned ID number and is connected to the DLS soft Gateway via the DLS bus cable. The current measuring data is transmitted whenever it is requested by the DLS soft PC software. A receiver covers a range of approx. 40x100 m with the supplied antenna.



Item

Model	Item number
Wireless measuring probe, 2 m, 2 sensors	1337 0202
Wireless measuring probe, 10 m, 4 sensors	1337 0410

Accessories

Accessories	Item number
Receiver	1337 0000
Control cable (bus cable)	3234 3151