ERWEKA® DT 800

The modular design of the DT 800 generally offers 8 USP Vessels (1000, 2000 or 4000 ml) in combination with 3, 6, 7 or 8 stirrers. Due to its functions it is the perfect dissolution tester for stand-alone and offline-system configurations. To fulfill all user requirements, the unit is available either in "low evaporation version" (Low-Head) or "easy access version" (High Head). Using the alphanumeric keypad, up to 40 product monographs can be entered, stored and recalled for testing. To eliminate the need for an external logbook, the DT 800 stores the last 600 users together with ON/OFF time and date. Access to the unit is password protected (three different user levels plus administrator). As an option, the DT 800 offers automated OQ Check of the units USP/EP compliance, automated USP/EP compliant sampling as well as temperature measurement for each vessel.

ERWEKA® DT 700

The DT 700 series (Low-Head or High-Head version) is the standard ERWEKA dissolution tester with 8 or 16 USP vessels (1000, 2000 or 4000 ml) and 3, 6, 7, 8, 12 or 14 stirrers. The design of the unit eliminates most influences of different users to guarantee effective testing: automatic vessel centring, automatic height adjustment of stirrers etc. In addition the height adjustment of the stirrers, RPM, temperature, validation, calibration and service intervals may be constantly checked and the condition will be displayed by the integrated "OQ Traffic Light". The OQ menu helps the user to create the System-Suitability Test for all parameters. Results will be entered via the numeric keypad, a documentation protocol can be printed out.

ERWEKA® DT 600

Especially for quality and price concerned customers ERWEKA offers the DT 600 series dissolution testers (8 USP Vessels, 6, 7 or 8 stirrers, 1000 or 2000ml) in "easy access" High-Head configuration. The DT 600 is of the same quality as the upgraded products, but is downgraded in terms of functionality. Even so, the DT 600 offers: external flow through heating to eliminate vibration transfer, moulded PET water bath, automatic vessel centring, membrane sealed low-evaporation vessel covers, stirrers with automatic USP/EP/JP height adjustment, optical and acoustic manual sampling reminder, user specified configuration of various unit parameters etc.
The OQ menu helps the user to create the System-Suitability-Test. The user is guided step by step through the procedure by the unit, all results can be entered onto the unit and on completion documentation can be hard copied using a printer. The optional System Suitability Tools with interface allow the user to download the results directly from the tool to the unit via the OQ interface (DT 700/800) without user interference. The FDA submenu enables external auditors to print all important information from the unit with the touch of a single button.

The “OQ Traffic Light” offers the ability to check the USP/EP/JP compliance of the unit at a single glance. Where a parameter is measured outside of the specified tolerances, the Traffic-Light shows RED, in case of a minor error a YELLOW light appears. Automatic OQ is available for rotation speed of the stirrers (optional, second high precision measuring system), temperature (standard, PT 100) and height adjustment of the stirrers (optional, sensors).

To eliminate all height adjustment of the stirrers, ERWEKA created for its dissolution testers the “UNISHAFT” system. The stirrers are unscrewed from the shaft and replaced by the other stirrers (i.e. baskets).

The whole process is performed without any intervention by the user and there is therefore no data manipulation involved. The system complies with all known regulations including 21 CFR Part 11. The system uses state of the art software such as MS.Net, ASP.Net and MS SQL-server controls the whole process and makes this system revolutionary.
Up to 24 sampling intervals may be stored using the ERWEKA FRL 700/800 Dissolution Offline System in combination with the absorption-free, high precision 8-channel Glass-Syringe Pump. The samples may be stored in either 10 ml or 25 ml glass tubes as well as unsealed or sealed (FRL 800 only) HPLC Vials (1.2 or 4.0 ml). In addition to the basic FRL 700 System, the FRL 800 offers media replacement to remain within the USP/Ph.Eur./JP specified volume tolerances inside the dissolution vessel and automated dilution of the stored sample (sample preparation) as standard. Also the FRL 800 in combination with one SP 840 Glass-Syringe Pump offers the possibility to store samples from two independent Dissolution Testers (max. 12 sampling intervals each), incl. media replacement and automated dilution of the samples. ERWEKA Dissolution Offline Systems are controlled by the Dissolution Tester itself ("i"-version). This not only reduces costs, but also saves lab-space and eliminates the need for computer and software validation.

The 8-channel Syringe Pump is the heart of ERWEKA Dissolution Systems. The Hamilton® Glass/Teflon Syringes offer high accuracy of dosing (typically ± 0.1 ml), elimination of absorbance and, when required, easy exchange. The integrated 4-way valves offer unprecedented system flexibility. For the first time using only one pump it is possible to store samples, replace the withdrawn sample with fresh media, dilute and mix the samples (up to 1:10) as well as transfer the diluted samples to a UV-VIS Spectrophotometer.

Due to the integrated motor driven sturdy 4-way valves with large inner diameter, the system is extremely robust and flexible. Experience has shown that these valves, in contrast to magnetic valves, offer enough switching power to deal even with sticky media and media where particles are involved.

The racks are placed on a platform with a drawer mechanism. This mechanism allows you to load, remove or exchange the rack very easily. Different racks can be used with ERWEKA Auto-Samplers: for 10 ml glass tubes (24x8), 25 ml glass tubes (16x8), 4.0 ml and 1.2 ml HPLC-Vials (24x8).

For HPLC membrane piercing the FRL 800 uses cut membranes. This membrane eliminates any problems with filling into sealed HPLC-Vials.

The media replacement and dilution containers in the back of the FRL 800 are connected to a 1-channel peristaltic pump which refills the containers after each media replacement or dilution process.

The clear layout of the tubing (Teflon, Verderprene or PEEK) allows short lengths to be used requiring less media in the tubing and therefore high accuracy of the dosing volume.
High flexibility to meet every user demand is offered by this system which incorporates an ERWEKA FRL 800 Autosampler into the standard Online Dissolution System. Samples may be stored (glass tubes or unsealed/sealed HPLC Vials), automatically diluted if required and transferred to a UV-VIS Photometer. Where no dilution is required, samples may be directly transferred to the UV-VIS Photometer. The system offers in addition functions such as media replacement, high precision sampling, dilution and HPLC Vial membrane piercing as well as absorption-free sample transfer using only one 8-channel Glass-Syringe Pump.

Now even automated variable dilution is offered using a Perkin Elmer Photometer with 16 position cell changer.

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Now even automated variable dilution is offered using a Perkin Elmer Photometer with 16 position cell changer.

The Dual Online System with 2 pumps (either absorption-free Glass-Syringe Pumps or Peristaltic Pumps with Verderprene tubing), Perkin Elmer Photometer with 16 position cell changer and ERWEKA Dissolution Software allows two independent tests to run (different products, test starts, sampling intervals, wave length etc.) using only one Photometer and PC. This not only lowers costs and saves space, but additionally eliminates the validation of a second complete Dissolution System.
ERWEKA® HPLC Dissolution ONLINE Systems

ERWEKA offers Online HPLC Dissolution solutions for HPLC Systems of Shimadzu and Waters. Whereas the Autosampler on the Shimadzu System is external and therefore the HPLC System can also be used stand-alone, on the Waters System the Autosampler is built-in but offers the functions of handling 2 independent Dissolution Testers with only one HPLC System.

ERWEKA® ZEISS ONLINE
Fibre Optics System

The most sophisticated Online Dissolution System is now available. This novel system uses fibre optics that offer the benefits of direct in-situ analysis. This eliminates all the problems associated with sample transfer e.g. adsorption, media loss etc. In addition the measurement inside the vessel allows faster measurement and therefore a "real-time" dissolution curve. Different path lengths for automated dilution are available simply by exchanging the “Tips” of the sensors. The ERWEKA-ZEISS System offers a unique feature: calibration of the system before each test without disassembly of the sensors. This saves time, eliminates the introduction of air-bubbles and incorrect results caused by changing conditions during the test.

CALEVA

The CALEVA BioDis complies with USP method 3 and for this reason offers the possibility to change the kind of media up to 6 times (6 rows, each 6+2 vessels).

The new design guarantees easy access and visibility to the vessels and fast exchange of complete rows of vessels as well as easy handling by the numeric keypad.

The unit can either be used stand-alone or in combination with a sample withdrawal system, pump, fraction collector or Spectrophotometer and software package.

CALEVA RRT 9
**ERWEKA** Flow-Through-Cell Dissolution Tester

The basic ERWEKA Flow-Through-Cell Dissolution Tester comprising of USP 4 compliant 6-channel Teflon/Ceramic Piston-Pump and 6 station Tester offers flexibility (automated flow-volume adjustment) easy handling (automated deaeration of the system) and sturdy operation (a valve-free pump design, accuracy of flow-volume 5%). All described cells, as well as a pH-change valve are available.

**ERWEKA** Flow-Through-Cell Dissolution System

The ERWEKA Flow-Through-Cell Offline System comprises of the HKP 60, DFZ 60T and FRL 704 Fraction Collector. This system allows you to sample an average of the media into 25 ml glass tubes. Up to 16 sampling intervals may be stored. The complete system including media change Switch-Box can be controlled by the System Control Unit, Type SE and therefore eliminates the need for software validation. The System Control Unit allows you to control the automated Media Change Valve Unit (up to 3 media changes), HKP 60 USP 4 compliant piston pump and Fraction Collector FRL 704 as well as display media temperatures inside the vessel (DFZ 60T only). The System Control Unit allows you to store test-run parameters for up to 40 different products which may be recalled for testing. The Unit comes with alpha-numeric membrane keypad and illuminated LC display. For documentation purposes a standard printer may be connected.

**Detergence Testing**

The RT 700 is a versatile laboratory test equipment with which the washing process of a common washing machine/dishwasher can be simulated. The unit may be equipped with 6 or 7 test stations, 1,000 ml or 2,000 ml glass vessels. The temperature range is 10.0 - 45.0°C, agitation speed up to 300 min⁻¹. The direction of rotation can be changed after a freely adjustable break, and thus the washing process is simulated optimally.
Chewing Gum Dissolution

Test equipment with 1 to 6 test stations to masticate chewing gums, especially medicated chewing gums for the in vitro release of substances from the samples into a surrounding liquid medium.

Up and down strokes of the lower jaw in combination with a revolving movement of the upper jaw which provides mastication of the chewing gum and at the same time an adequate agitation of the test medium. The lower jaw with the test cell (volume 20-70 ml) is moving up and down by a device for vertical movements while the upper jaw is revolving without up and down movements. For manual sampling, emptying and cleaning process the lower jaw with the test cell can be lowered into the down position. Test cell, upper and lower jaw can be easily removed. The temperature will be controlled by a water circulation system and can be regulated from 25 to 45° C. The test cells are double-walled and made of glass to allow visual inspection during the test. For easy transport of the whole equipment it will be delivered on a mobile aluminium carrier.

Tablet Friability-/Abrasion Testing

The TA, available for holding 1, 2 or 4 USP/EP friability or abrasion drums, is the basic USP/EP compliant ERWEKA unit for testing friability and/or abrasion.

The rotation speed complies with USP/EP (25 min⁻¹). The test duration can be entered either in time or revolutions using the numeric keypad. For larger samples the drum/s can be adjusted to the USP/EP required 10° position. A printer, connected to the standard serial RS 232 interface, allows you to hard copy the test documentation (speed and time). During the test, revolution speed and remaining run time are shown on the illuminated 4-line LC display.

In contrast to the TA, the ERWEKA TAR series, available to hold 1 or 2 test drums, offers the flexible adjustment of the drum rotation speed between 20 and 100 min⁻¹. In addition using the TAR, the friability drum/s do not have to be removed and opened for loading and emptying. Loading takes place through an opening in the drum, through which the samples are removed on completion of the test automatically.

A semi-automatic friability test system which includes display and documentation of revolution speed, test parameters, weight of the samples before and after the test as well as lost of weight in percent, is offered by the TDR 100 (for holding one drum) with an analytical balance connected (Mettler or Sartorius).

Similar to the TAR, loading and emptying in a container is performed through an opening in the friability drum which does not effect test results. For large samples the drum can be adjusted to the USP/EP required 10° position. During the test, revolution speed and remaining run time are shown on the illuminated 4-line LC display.
The new ERWEKA TBH x20 is the basic ERWEKA hardness- and combination tester series for measuring up to 4 parameters (weight/thickness/diameter/hardness). It was developed for those customers who require robust design, easy handling and fast validation without fulfilling 21 CFR 11 regulations.

Similar to all ERWEKA hardness testers the TBH x20 measures the hardness of samples under either “Constant Speed” or “Constant Force” measurement principle.

Via a standard parallel printer interface a hard-copy documentation of test run results and statistics may be received. The serial RS 232 interface allows you to connect the optional ERWEKA 21 CFR 11 compliant software.

In addition the TBH 320 comes with integrated memory for general data for up to 20 products. Via the numeric membrane keypad with alpha-numeric sub-function the nominal values in combination with 2 individual plus/minus tolerances and remarks may be stored and recalled for testing.

The TBH x50 series is the CFR 21/11 compliant ERWEKA hardness and combination tester series for manual and semi-automated measurement of up to 4 parameters (weight/thickness/diameter/hardness). The TBH includes a control unit with 3.5” colour TFT monitor, Windows CE based user menu for control and display of statistics and results, “OQ-Traffic-Light”, calibration-alarm (adjustable), CFR 21/11 compliant user entry and Audit Trail as well as Dual-Mode hardness testing (“Constant Speed” and “Constant Force”). Test run and product information can be entered by the alpha-numeric touch-screen keypad. Results can either be hard-copied (printer interface) or transferred to a connected PC with our CFR 21/11 compliant software package (network connection available).

In addition the TBH 350 series offers storage of test run parameters and nominal results including 3 plus/minus tolerances (T3 = pass/fail limit).

The TBH 450 series is equipped with an automated 10-station star feeder and therefore offers semi-automatic testing of round and most odd shaped samples.

A WinCFR software package for download of Audit Trail, results, product data and user management is available.
The MultiCheck V allows fully automatic testing of weight, thickness, hardness and diameter/length of round, odd shaped and sugar coated samples. Operation and cleaning of the transport-system is fully automatic and self-adjusting. An optional 12-station batch feeder allows testing of up to 12x 100 samples. An optional alignment tool even deals with hard-to-position samples. For storage of unbroken samples an integrated 12-position collection tray is available. The unit is handled by an external PC (network connection available) and optional Windows-based CFR 21/11 compliant software package.

ERWEKA hardness testers can be calibrated either the traditional way using weights or dynamically with the ERWEKA AutoCal system. Using the AutoCal System, the unit will automatically adjust the internal load cell against the external certified load cell of AutoCal. Afterwards AutoCal will calibrate the internal load cell for up to 50 values throughout the measuring range. In addition to this advanced feature, AutoCal reduces calibration time by approx. 90% in comparison with traditional calibration. The Windows based AutoCal Software allows storage and printout of calibration results in various graphical forms.

01. Validation Tablets, st. steel
02. ERWEKA PQ Tablets
03. Calibration Weights
04. Oblong Test Jaws
05. End Blocks
The basic ERWEKA disintegration tester is the ZT 500 series, available with 1, 2, 3 or 4 USP/EP compliant basket rack assemblies. The test duration is entered via the numeric keypad, the remaining time shown on the illuminated 4-line LC display. An immersion thermometer (optional certified) shows the actual temperature of the warming solution. On request, an alarm can be chosen to sound upon completion of the preset time. Heating of the warming solution in the moulded 1-piece PET water bath is performed by means of an integrated flow through heating system. The top of the water bath is removable for cleaning purposes. Lift in and lift out of the basket rack assembly/ies (optional with quick clean function) is done manually.

In addition the ZT 300 series offers functionality and comfort. In contrast to the ZT 500 series every test station (up to 4) is controlled separately. For each test station an individual test duration can be set via the numeric keypad. The temperature of the warming solution is shown on the illuminated 4-line LC display/s (PT 100 temperature sensor). Lift in and lift out are manual, optional it is performed motorised to ensure the tested samples will be removed from the media at completion of the preset runtime. The user can select an alarm to appear on completion of the test duration of each test station. No tools are needed for a fast and easy disassembling and assembling of the USP/EP compliant basket rack assembly/ies for cleaning from tablet debris such as coating materials or gelatine leftovers. The unit offers external control or printer connection via the (optional) serial RS 232 interface for documentation of duration, temperature etc.
Disintegration Testing

For automated determination of the disintegration time of each sample, ERWEKA offers the ZT 70 series, available with 1 to 4 basket rack assemblies.

The determination of the disintegration time is performed by a ring magnet in the disintegration disc and a sensor under each test station. In contrast to automated Disintegration Testers of other brands, the ZT 70 can also test samples which leave debris such as coating materials of gelatine leftovers by entering the remaining thickness in 0.1 mm steps.

A routine for samples which require media (pH) change is integrated as standard. Results and statistics can be shown on the large LCD or print out together with temperature, date, time and other product information when a standard printer is connected to the parallel printer port. On request, Windows based disintegration software is available to store and process the test results.

Pack Integrity Testing

A Leak Tester for blisters and other packaging forms is offered in the form of the ERWEKA Vacuum Leak Tester, VDT. The packaging form will be entered into a vacuum container (150, 200 or 250 mm diameter), which is filled with a methylene blue bath. The pump integrated into the control unit of the VDT creates a vacuum in the container (adjustable from -100 to -800 mbar). At the moment when the vacuum pump is switched off, air is sucked into the container and methylene blue water sucked into any imperfectly sealed packaging units.
ERWEKA offers flow testers for granulates and powders in 3 different versions:
On the GT, a balance is integrated into the unit to determine flow time of a sample weight or a pre-specified sample volume as well as sample weight which flows within a specified flow time and angle according to List and Müller (mass/time). In addition, test results can either be hardcopied when a printer is connected to the parallel printer port or transferred to a PC using the serial RS 232 interface.
To measure the angle of repose according to Prengle, the GTB is equipped with a driven laser which measures the built-up cone. Optionally a speed adjustable stirrer is available for the hopper for testing granulates and powders with poor flow characteristics.

The ERWEKA GTL is the basic ERWEKA unit for testing the flow characteristics of powders and granulates. It is equipped with an exchangeable stainless steel hopper (200 ml) with an exchangeable outlet nozzle (3 sizes of nozzle standard 10.0, 15.0 and 25.0 mm; 3 different sizes optional). The pre-weighted sample is filled into the hopper and a light sensor located under the outlet of the hopper measures the flow time. When determination of flow time of the sample volume is requested, two additional stainless steel hoppers with different volumes (100 ml, 480 ml) are available as an option.

Tapped Density Testers according to USP method 1 (300 strokes/min., stroke height 15 mm) and USP method 2/EP/DIN ISO EN 787/11 (250 strokes/min., stroke height 3 mm) for holding 1 or 2 glass cylinders (100, 250 or 500 ml) are available from ERWEKA. The test duration can be entered in format of time or total strokes via the numeric keypad. The remaining test duration is shown on the illuminated 4-line LC display.
ERWEKA Quality Control equipment for suppositories are available to test hardness, melting point, penetration, disintegration time and dissolution rates (by the Langenbucher Flow-Through-Cell dissolution tester). All units comply with the latest USP/EP specifications. The ST 30 suppository Disintegration Tester comes with 3 test stations (suppository holders), each in a separate 4 litre flat-bottom vessel wherein the media may be stirred by a magnetic stirrer (optional). Every 10 minutes the suppository holder is automatically turned 180°.

To meet all customers requirements, the automatic analytical balance is modular. The integrated memory allows storage of the nominal values and 3 tolerances of up to 49 products. Using the standard CWS, up to 50 samples can be entered. They will be individualised automatically and the weight determined (accuracy ±0.5 mg or optional ±0.1 mg). If requested, after weighing, the samples can be sorted in accordance with their tolerance. The CWS-M allows you to load up to 10 different kinds/batches of samples (each max. 50 pieces) for automatic weighing. Optionally, after weighing, the samples can be sorted either according to kind/batch (10 station magazine) or according to kind/batch and tolerance (20 station magazine). Especially for those customers who require a 100% quality control the CWS-BU was developed. Max. 5000 samples can be loaded to a container (BU) from which they are transported automatically to the CWS. Samples out of tolerance can be diverted optionally.
Inhaler Testing

The ERWEKA Vacuum Pump VP 1000 used for testing MDI’s and DPI’s employs a Rotary Vane Vacuum Pump rated at 250 litres/min. free air (210 Litres/min. when used with the control valve). The unit is supplied complete with an Electronic Digital Flow Meter as standard.

The air-flow is controlled by means of the screw valve on the front of the pump. The screw valve itself creates a restriction to the air flow such that the minimum flow rate achievable is approximately 210 litres/min.

The Digital Flow Meter has been especially designed for use with the instrumentation employed in testing pharmaceutical inhalers. Main features of the DFM are: highly visible digital LED readout direct in Litres/minute. Rang: 20-120 litres/minute. Full calibration certificate supplied with each unit.

With Dry Powder Inhalers, both the emitted and fine particle dose are affected by the strength and duration of the patient's inspiration. The ERWEKA Valve-Box allows the user to adjust the air flow from the Vacuum pump in such a way, that it complies with the latest pharmacopoeial specifications. If required hard-copy documentation of the test-parameters can be created.

The ERWEKA Dosage Unit Sampling App. For MDI’s and DPI’s have been designed for the sampling and testing ofMetered Dose- and Dry Powder Inhalers. They are used to perform those tests specified by the relevant compendial standards, namely “Total Number of Discharge per Container or Inhaler”, “Dose Uniformity” and “Dose Uniformity over the entire contents” as well as those tests designed to simulate the performance of the inhaler during actual use.

The Glaxo Single Stage Impactor has been designed for particle size determination. The unit is relatively simple, easy to use and rugged in construction and is ideal for routine Quality Control applications. The Glass Single Stage Impinger comes complete with stainless steel clad base plate and appropriate clamps, boss heads and fittings as standard.
The Andersen Type Multi-Stage Cascade Impactor, which is designed for determining the particle size (aerodynamic size distribution) in accordance with the specifications laid down in USP 24 and EP 2000, is available in two different Types: Type ACI-MDI 1000 for testing of MDI’s and Type ACI-DPI 1000 which includes a Preseparator between Induction Port and Stage 0 in order to collect large masses of non-inhalable powder prior to their entry into the impactor for DPI’s. The standard unit is designed for operation at 28.3 l./min. Conversion kits are available for operation at 60 l./min. and 90 l./min.

Andersen Type Cascade Impactor

The Fisons Single Stage Impactor has been designed for particle size determination. The principle of operation is similar to that of the glass impinger in that the unit splits the aerosol cloud into the respirable fraction that effectively passes through to the final filter stage and the non-respirable fraction that is trapped in either the throat or on the sintered glass disc of the stage plate.

The “Andersen” Type Multi-Stage Cascade Impactor, which is designed for determining the particle size (aerodynamic size distribution) in accordance with the specifications laid down in USP 24 and EP 2000, is available in two different Types: Type ACI-MDI 1000 for testing of MDI’s and Type ACI-DPI 1000 which includes a Preseparator between Induction Port and Stage 0 in order to collect large masses of non-inhalable powder prior to their entry into the impactor for DPI’s. The standard unit is designed for operation at 28.3 l./min. Conversion kits are available for operation at 60 l./min. and 90 l./min.

Optional Accessories

Leak Test Kit
All impactors should be periodically tested to check that there is no external leakage. The Leak Test Kit provides a fast and effective means of running a health check on the impactor. Simply connect the leak check system between a suitable vacuum pump and the impactor - the leak test takes approx. 60 seconds.

Mouth Piece Adaptors
Mouthpiece Adaptors customised to particular Inhalers are available on request. Their purpose is to provide an airtight seal between the mouth of the test apparatus and the inhaler being tested.
Tablets and odd shaped products with diameters up to 20 mm can be manufactured with this cam driven tablet press. It operates automatically i.e. the tablets are filled, pressed and ejected continuously. The material in the filling shoe is agitated to ensure precision metering. The pressure (up to a max. of 3 tons) and filling depth are easy to adjust. Single punch and die sets are supplied for tablets with a diameter from 10 to 20 mm, double punch and die sets for tablets from 8 to 9 mm and triple punch and die sets from 4 to 7 mm. Throughput is max. 3,000 strokes per hour.

High Tech Rotary Tablet Press in table top design for R&D and small batch production. The modern 16 Station tooling “B” or 8 Station tooling “D” Tablet Press fully conforms with GMP and the safety requirements of BG Chemical. All machine settings can be performed by hand-wheels with position indicators at the front of the unit. The drive is provided by an inbuilt three-phase motor with frequency regulation (inverter). The compression force can be adjusted up to 4.0 tons. A Rotary-Force Feeder with adjustable speed as well as a pre-compression station using rollers (up to 0.5 tons) are included as standard. Instrumentation for measuring compression and ejection force and special software for analysis is available as an option.

- For round- and odd shaped tablets
- TRB 16 max. diameter/length 18 mm, TRD 8 max. diameter/length 25 mm
- Max. Filling Depth 17 mm
- Up to 38,000 tablets/h (TRB 16), up to 19,000 tablets/h (TRD 8); real capacity at 70% of max. output.

Fluid Bed Processes are gentle and yet very effective for measured modifications in the physical and functional properties of bulk materials. For flexible process development, ERWEKA offers the multifunctional PP 50 (container size 50 to 300 g) and PP 500 (container 250 to 1,000 g) with the patented Hüttlín technology that includes many advantages when compared with conventional fluid bed technology (e.g. patented Turbojet gas distributor bottom, a bottom spray system with three-component nozzle and dynamic filter set). This innovative unit can bottom spray and, by exchanging the nozzle, top spray too. The ERWEKA PP 50 / PP 500 is a universal laboratory unit in which fluid bed processes can be carried out, e.g.: mixing, drying, cooling, granulation, coating, spray drying, pelletizing, instantization.
The well known ERWEKA All-Purpose-Equipment is the ideal tool for development and small batch production in the pharmaceutical, chemical and cosmetic industry. The modular design saves lab space and makes the units affordable. The AR 402 and the heavy duty AMD version motor drives can be connected to many attachments for stirring, kneading, mixing, granulating, tabletting, coating, polishing, grinding, homogenising, filling and dosing as well as sieve analysis.