Our All-Purpose Solution

AR 403

ERWEKA

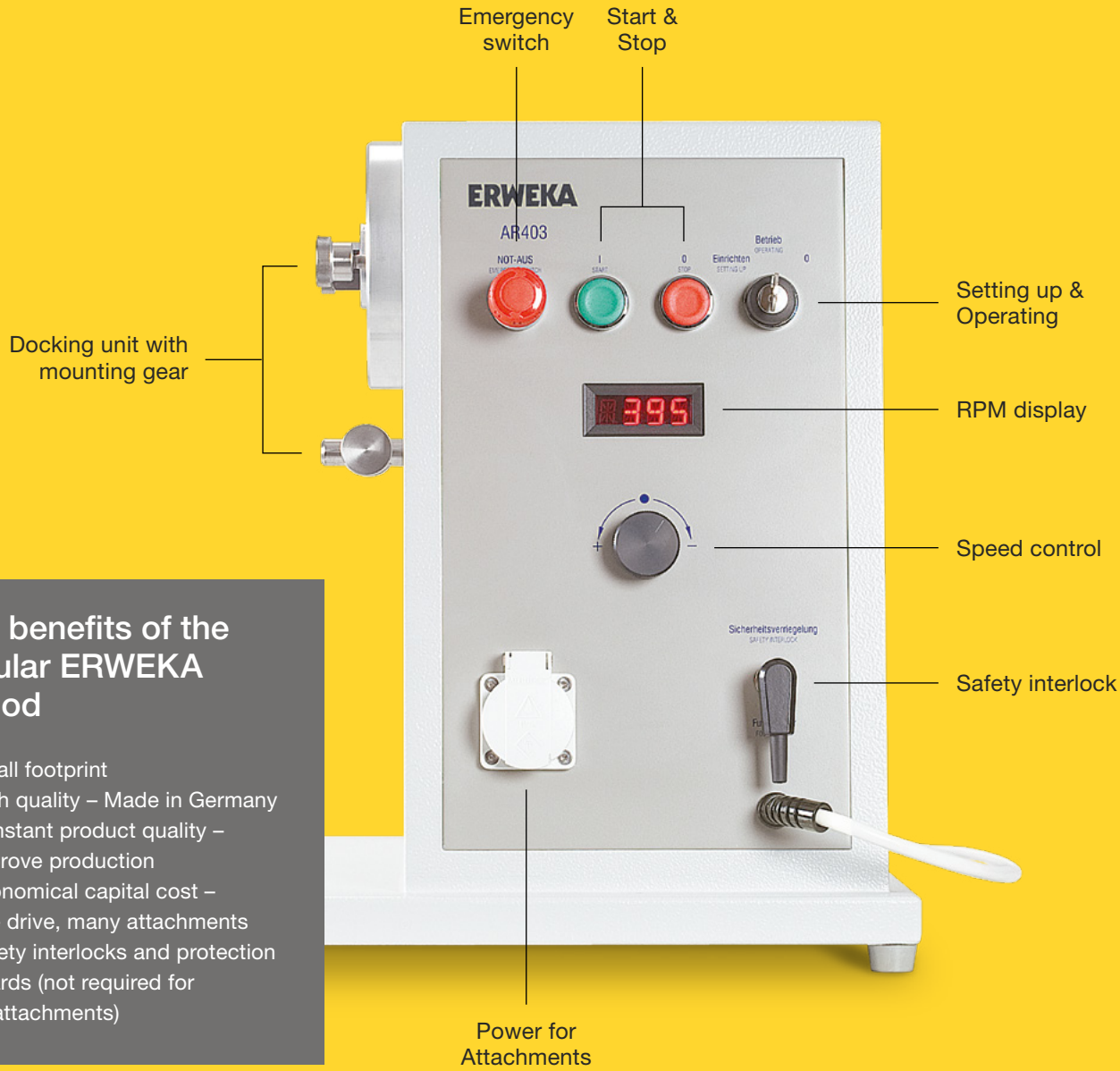
Ideal for R&D and small scale production

ERWEKA's All-Purpose equipment is ideal for small scale production in the pharmaceutical, chemical, cosmetic and food industries. In addition, it fits perfectly into R&D and the development of powder tablets, ointments, creames and more.

The modular design is compact, economical and offers a powerful motor drive with a wide range of easily interchangeable attachments for various purposes.

The different possibilities are as follows:

- Stirring
- Kneading
- Mixing
- Granulating
- Coating
- Polishing
- Milling
- Filling
- Dosing



Main benefits of the modular ERWEKA method

- Small footprint
- High quality – Made in Germany
- Constant product quality – improve production
- Economical capital cost – one drive, many attachments
- Safety interlocks and protection guards (not required for all attachments)

The ERWEKA All-Purpose system is based on a powerful drive unit available in two versions. The various attachments can be easily and quickly connected by means of a coupling.

The drive unit AR 403 is equipped with a three-phase AC motor.

The sturdy ball bearing worm gear drive is completely maintenance free and provides an output torque of max 23 Nm. The unit features variable electronic speed control between 20 and 400 rpm. A digital dial regulates the speed. A special setup mode limits the rotations per minute to 20 rpm to ensure save installation of the attachments.

Through permanent nominal/actual adjustment the preselected speed is maintained, even under varying load.

The AR 403-S is similar to the AR 403 but has a different drive train for higher torque transmission.

Available options:

- Foot switch
- USB interface for print-out
- IQ/OQ documents

Technical Specifications

	AR 403 **AR 403-S (higher torque transmission)**
Voltage/ Frequency	230 V 50/60 Hz 115 V - 127 V 50/60 Hz
Width	450 mm
Length	400 mm
Height	440 mm
Weight	30 kg
Motor Type	three-phase AC motor
Power	750 W
Tropics insulation	class F
RPM	20-400 rpm
Tolerance rpm (coasting)	+/– 1 rpm
Gear type	worm gear
Gear max. torque	23 Nm
Efficiency	89 %
Possible Set Time	hours/minutes
Set Time (max)	9 h 59 min
Tolerance timer	+/– 1 sec
Emergency Stop button	✓

AR 403 Attachments

ERWEKA UG Version 2 – Universal Gear

The new Universal Gear uses a modernised CNC machined aluminium design for improved durability. It is required for adjusting the angle of operation (±40°) and reduction of speed (1:5,75).

The UG is required for the operation of

- Ball mills (KM)
- Cube Mixer (KB 15/20)
- Double Cone Mixer (DKM)
- Pelletizer (GTE)
- Coating pan (DKE)
- Polishing drum (PT)

ERWEKA CM 60/UD – Conical Mill

The CM is designed for homogenization of dry products to a specified particle size, reduction of oversized particles to the desired size and milling of agglomerates back to the initial size. A set of shims to adjust the clearance between the rotor and screen (0.5 mm to 3.0 mm) is supplied. It allows a flow rate of up to max 40 kg/h with a rotor speed of 0 - 1200 rpm. A safety interlock helps to prevent injuries.

ERWEKA KM – Ball Mill

The Ball Mill is used for grinding crystalline materials and for mixing dry, or under certain circumstances, moist materials. The drum is available with 5 l volume.

The balls are made of porcelain with a diameter from 30 to 50 mm. The drum is sealed airtight with a lid and is delivered including a frame for the drive unit. The drum and balls can be sterilized in water. For using the ball mill, a drive support is needed, which is optionally available in a lengthened version for the simultaneous use of two mills of the same size (KM 5 l volume, working capacity max. 40 %).

ERWEKA KB – Cube Mixer

The Cube Mixer uses a tumbling motion to produce a homogenous blend within a short time. The mixing action is assisted by three stainless steel rods positioned inside the cube. The device is attached to the drive unit via the ERWEKA Universal Gear UG, which permits operation at various angles for optimal efficiency. Our cube mixers are available in the following versions:

- **KB 15** cube mixer made of acrylic glass, 3.5 l volume, opt. working capacity: 40%
- **KB 20** cube mixer made of acrylic glass, 8 l volume, opt. working capacity: 40%
- **KB 20 S** cube mixer made of stainless steel, 8 l volume, opt. working capacity: 40%

ERWEKA RM – Drum Hoop Mixer

Drum Hoop Mixer with diagonal placement of the drum within the hoop, available with 5 volumes. The rotation of the hoop itself produces a uniform, three-dimensional displacement of the material to be processed and hence a tumbling mixing action.

The mixer consists of two parts: the drive support and drum hoop with acrylic mixing drum. As an option, an extended drive support for simultaneous use of two mixers of the same size is available in lengthened version (RM 5 liter volume, working capacity max. 40 %).

Ball Mill drums are available as optional accessories.

ERWEKA DKM – Double Cone Mixer

The Double Cone Mixer allows mixing of free flowing powders and granules.

The arrangement of the mixer in combination with the angle adjustment of the universal gear UG allows a multi-dimensional mixing process.

The mixing vessel (11,9 liter volume, working capacity 50 %) is made of stainless steel.

ERWEKA SW 1/S – Laboratory High Speed Mixer

The Laboratory High Speed Mixer operates with the plough-share principle for mixing of powders, granules and other products of fibrous nature.

Different quantities can be mixed homogeneously in only a few minutes.

The mixing drum (5 liter volume, working capacity max. 70 %) offers a removable cover and can be rotated upside down for charging and emptying. A safety switch ensures that the drive unit AR 403 is switched off when the cover is removed.

All parts coming into contact with the product are made of stainless steel.

ERWEKA VB-3 – V-Mixer

The mixer VB-3 uses V-shaped stainless steel vessel for gentle mixing of solid well flowing materials (bulk materials).

The rotary motion of up to 140 rpm results in an even more homogenous mixture of possible and suitable sensitive materials. It is equipped with three capacious openings for easy filling, emptying and cleaning.

Volume of mixing container: 3 liter, recommended working conditions: minimum 0.2 liter to maximum 2 liter and 10-14 rpm.

All parts coming into contact with the product are made of stainless steel.

ERWEKA PRS – Planetary Stirrer

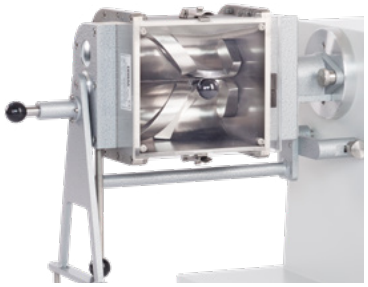
Planetary stirring unit for mixing of ointments creams, pastes, moist powders and liquids.

This powerful mixing attachment comes with various mixing / stirring accessories e.g. kneading hook, mixing paddle, whisk and a fluoropolymer scraper for removing any product adhering to the side of the bowl, thus ensuring a homogenous mixing in the shortest possible time.

The stirring/mixing accessories and vessel (5 liter volume, working capacity 60 %) are made out of stainless steel. Optionally an electric heated bowl DER or a double jacket bowl DW for heating and cooling by water are available.

An emergency stop helps to prevent injuries.

ERWEKA LK 5 – Laboratory Kneader



Laboratory Kneader with stainless steel kneading vessel (5 liter volume, working capacity 65 %) housing two z-shaped kneading blades running at different speeds in opposing directions.

The asynchronous mixing action intensifies and considerably accelerates the kneading process. The kneading vessel is fitted with a plexiglas cover to monitor the kneading process. A thermostatically controlled heating jacket (LK 5 DER) for the kneading vessel is available as an optional extra.

An emergency stop helps to prevent injuries.

ERWEKA DKE/DKS – Coating Pan

The universal gear is required to attach the coating pan to the motor drive. This allows adjusting the angle of the pan and getting an optimal result from the coating process.

- **DKE**, stainless steel pan, volume 9,5 l, max. capacity 30 % 275 mm outside diameter.

ERWEKA FDS II – Salve Filling Machine

Dosing Machine FDS is suitable for filling precise quantities of ointments, lotions, emulsions and similar products into tubes, cans, bottles etc..

The standard unit has a dosing range of 10-200 ml. Quick removal of the pump and hopper (19 liter volume) for cleaning. Filling nozzles of 2, 4 and 8 mm are part of the standard package.

An additional cylinder unit to accommodate the filling range from 0.5 to 25 ml together with dispense heads with different apertures and special heads for filling tubes are available on request.

The FDS can be operated with a foot switch.

ERWEKA GTE – Pelletizer

The pelletizer GTE (300 mm diameter) is attached to the AR 403 via the Universal Gear UG which enables the operator to adjust the operating angle to the optimal position during operation.

The material can be fed in manually or continuously. The rotary movement of the pan carries the product to the top of the pan and then flows down the pan in an even stream to the base. By addition of the requisite amount of liquid, this process can be converted into the formation of pellets. The angle of the pan and the amount of liquid added determines the pellet size. When the pan is full, the pellets will continuously roll over the edge of the pan into a waiting container.

All parts coming into contact with the product are made of stainless steel.

ERWEKA PT – Polishing Drum

Polishing Drum to polish coated tablets. The drum is covered with interchangeable felt parts.

The cover has a 120 mm diameter opening for observation of the polishing process and addition of the polishing agent during the production process.

The polishing drum has 2 l volume with a working capacity of max. 40%.

The device is attached to the drive unit via the ERWEKA Universal Gear UG, which permits operation at various angles for optimal results.

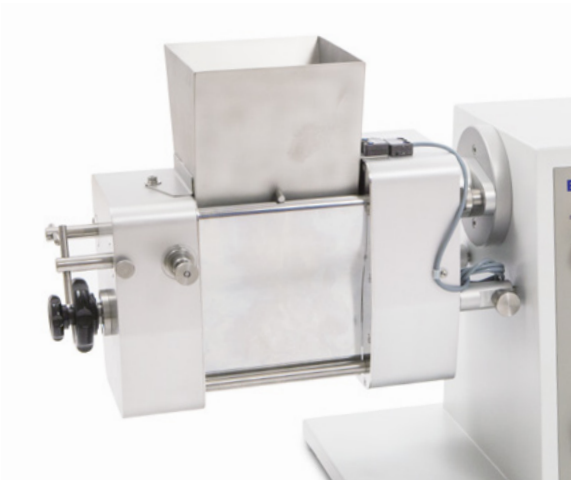
ERWEKA TG 2000 – Double Roll Crusher

Double Roll Crusher with two driven rollers running in opposing directions from the inside to the outside.

The rollers are 70 mm long and made of stainless steel. They are equipped with teeth to produce a powerful grinding action by forcing the material against a series of braking combs. All parts coming into contact with the product are made of stainless steel. The maximum capacity of the double roll crusher is 20 kg / hour.

An emergency stop helps to prevent injuries.

ERWEKA FGS II – Wet Granulator



Wet Granulator with oscillating rotor for the production of wet granules.

The granules can be produced in varying sizes depending on the employed sieve mesh.

All parts coming into contact with the product are made of stainless steel. Working capacity is max. 30 kg / h depending on the material and mesh width of the sieve used. The unit is supplied as standard with two sieves 1.0 mm and 1.6 mm MW respectively. The following mesh sizes are also available: 0.315, 0.63, 0.8, 1.0, 1.25, 1.6, 2.0, 2.5 and 3.15 mm. Other special sieves are available on request.

An emergency stop helps to prevent injuries.

Attachment Specifications

Unit	Type	Volume Max.	Capacity Output Max.	VT required	UG required	Liquids	Salves / Creams	Powders	Granules	Pellets	Tablets/ Dragees
Conical Mill	CM		30 kg					■	■		
Ball Mill	KM 5	5 l	40 %					■	■		
Cube Mixer	KB 15	3.5 l	40 %		■			■	■		
	KB 20	8 l	40 %		■			■	■		
	KB 20 S	8 l	40 %		■			■	■		
Double Cone Mixer	DKM	11.9 l	50 %		■			■	■		
Drum Hoop Mixer	RM 5	5 l	40 %					■	■		
Laboratory H. S. Mixer	SW 1/S	5 l	70 %					■	■		
V-Mixer	VB-3	3 l	2 l					■	■		
Planetary Stirrer	PRS	5 l	60 %			■	■	■			
Laboratory Kneader	LK 5	5 l	65 %				■				
Coating Pan	DKE	9.5 l	30 %		■						■
Salve Filling Machine	FDS II	19 l	1.000 / h			■	■				
Pelletizer	GTE	9,5 l			■					■	
Polishing Drum	PT	2 l	40 %		■						■
Double Roll Crusher	TG 2000		20 kg / h						■	■	■
Wet Granulator	FGS II		30 kg					■			

Tablet Press

EP-1

The EP-1 is the ideal desktop tablet press for R&D purposes. The single punch eccentric Tablet Press EP-1 can manufacture tablets and odd shaped products with a diameter of up to 20 mm. It operates automatically i.e. the die is filled with powder or granule, the material compressed and the tablet ejected continuously. The compression force of up to 3 tons and the filling depth of up to 17 mm are easy to adjust.

All components are either covered with hard chrome, or made of stainless steel AISI 304 or acrylic glass for the front door. The throughput is max. 4.000 tablets per hour. Frame parts (plates) are made of 1.0332 StW22 and are bright chrome-plated.

Technical Data

- Press speed infinitely variable
- Max. tablet diameter 20 mm
- Max. filling depth 17 mm
- Max. compression force 3 t
- Max. tablet output 4.000 tablets/hour
- Net weight 135 kg
- Dimensions press 425/385/695 mm (L/W/H)
- Dimensions with attachment parts 503/408/797 mm (L/W/H)
- Power supply 240V -15%+10%/50-60Hz
- Electrical load 2.2 kVA

Options

- Data transfer option
- Data logging software
- Standard data export via RS232 interface
- EP-1 single punch tablet press with compression force
- Support table in stainless steel
- Single punch and die set, 4.0 mm to 20.0 mm diameter, type STR 1, for round tablets
- Single punch and die set, 4.0 mm to 20.0 mm diameter, type STS 1, for shaped tablets
- Transformer for EP-1 (from 230 V to 115 V)
- IQ/OQ documents EP-1 without compression force

Contact

Are you curious and want to find out more?
Head over to our website and download our product brochures, watch videos of our equipment in action or find the ERWEKA dealer of your country.

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