ACCUMATION

BATTERY PRODUCTION MACHINERY
AND SPECIAL MACHINERY

Product catalogue

Good reasons for ...

- \+ Experience in in the battery production sector (finishing production systems from acid filling) **since 1990**
- \+ **Fastest plug screw on the market** (12 batteries/min)
- \+ **Long-lasting, solid construction** for surrounding conditions containing sulphuric acid
- \+ Combination of **solid engineering** and the **latest control technology**
- \+ **Individual solutions**
- \+ **Service and remote maintenance**
- \+ **Synergy effects** (assembly, construction, software, start-up) through integration into the Pütz Group

- \+ Established in 1988, approximately 90 employees
- \+ Many years of industrial experience
- \+ Central capital base / local flexibility with the greatest degree of freedom and responsibility

Machines for the production of

- Starter batteries
- Traction batteries
- Industrial batteries

Advice + Analysis

- On-site in your company

Technical service + Customer service

- Remote maintenance
- Worldwide

Accumation GmbH
Lindenstraße 3
65555 Limburg-Offheim
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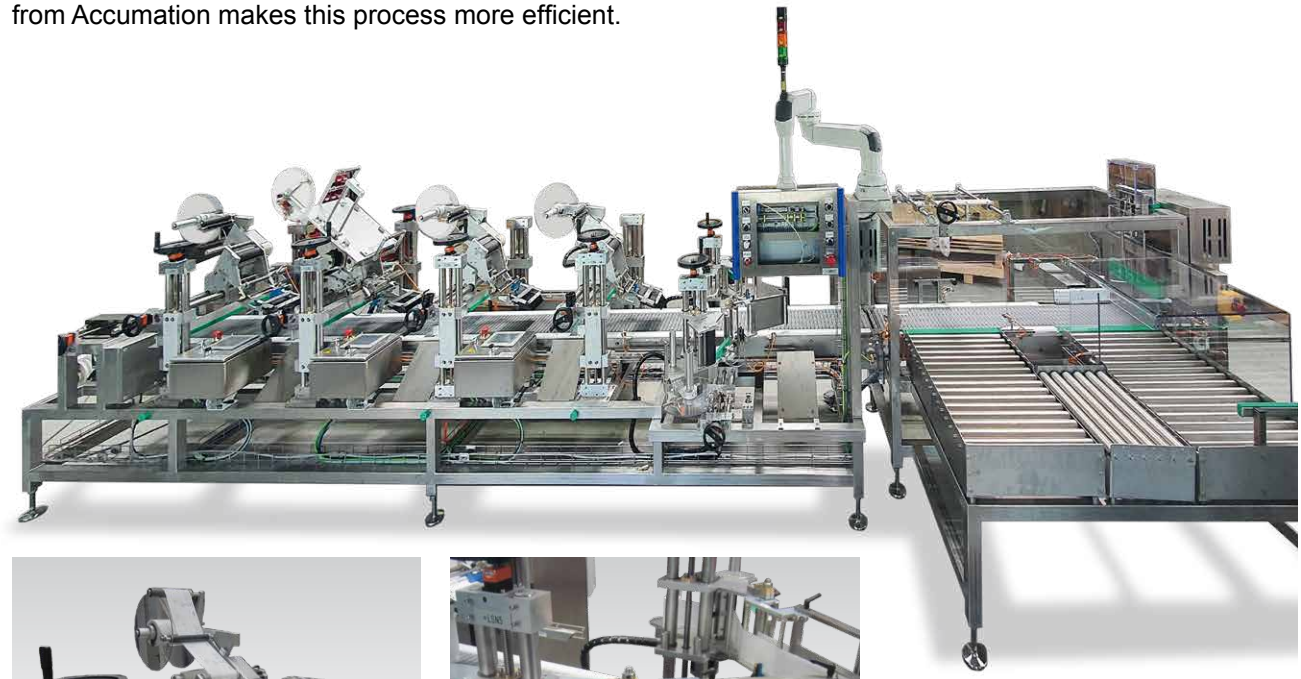
Phone: +49 6431 285650-0
www.accumation.de

Battery-labelling machine

QUALITY MADE IN GERMANY
Special machines for your production

Nowadays, labels contain much more than just product information or manufacturer‘s data. Manufacturing companies must be able to print and apply a wide variety of labels, including those with variable, machine-readable codes, during the production run – keyword Industry 4.0. The battery-labelling machine from Accumation makes this process more efficient.



Your benefits:

- **High performance**
  Labelling takes place during the production run, on up to 20 batteries/min.
- **Flexibility**
  Labelling on the front, back and top, printing with barcodes or other data
- **A wide range of formats**
  Roll sizes up to 400 mm, booklets up to 3 mm, widths up to 150 mm
- **Precision**
  Exact label positioning (+/- 1,5 mm)
- **Automatic barcode verification**
  during the production run
- **The latest technical standard**
  for optimum quality, available with Siemens or Allen Bradley controllers

Battery-labelling machine

Technical details:

Machine type	Labelling machine
Usable battery types	for all common car and truck batteries
Throughput	max. 20 batteries/min.
Dimensions of batteries	
Length	175 mm – 562 mm
Width	125 mm – 280 mm
Height	150 mm – 280 mm
Weight	12 – 65 kg
Dimensions of the machine	
Length	8,000 mm
Width	2,225 mm
Height	2,150 mm (varies depending on equipment)
Electrical connection	3 x 400 V AC / N / PE, 50 Hz
Control voltage	24 V DC
Connection power	8 kW
Operating pressure	6 bar
Weight of the machine	approx. 1,500 kg

Everything from a single source:
Thanks to our integration into the **Pütz Group** and the resulting **synergy effects** we are able to offer you not only battery production machines but also the appropriate testing technology to test surfaces, for dimensional accuracy and completeness.

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Acid filling machine

for initial acid filling of batteries

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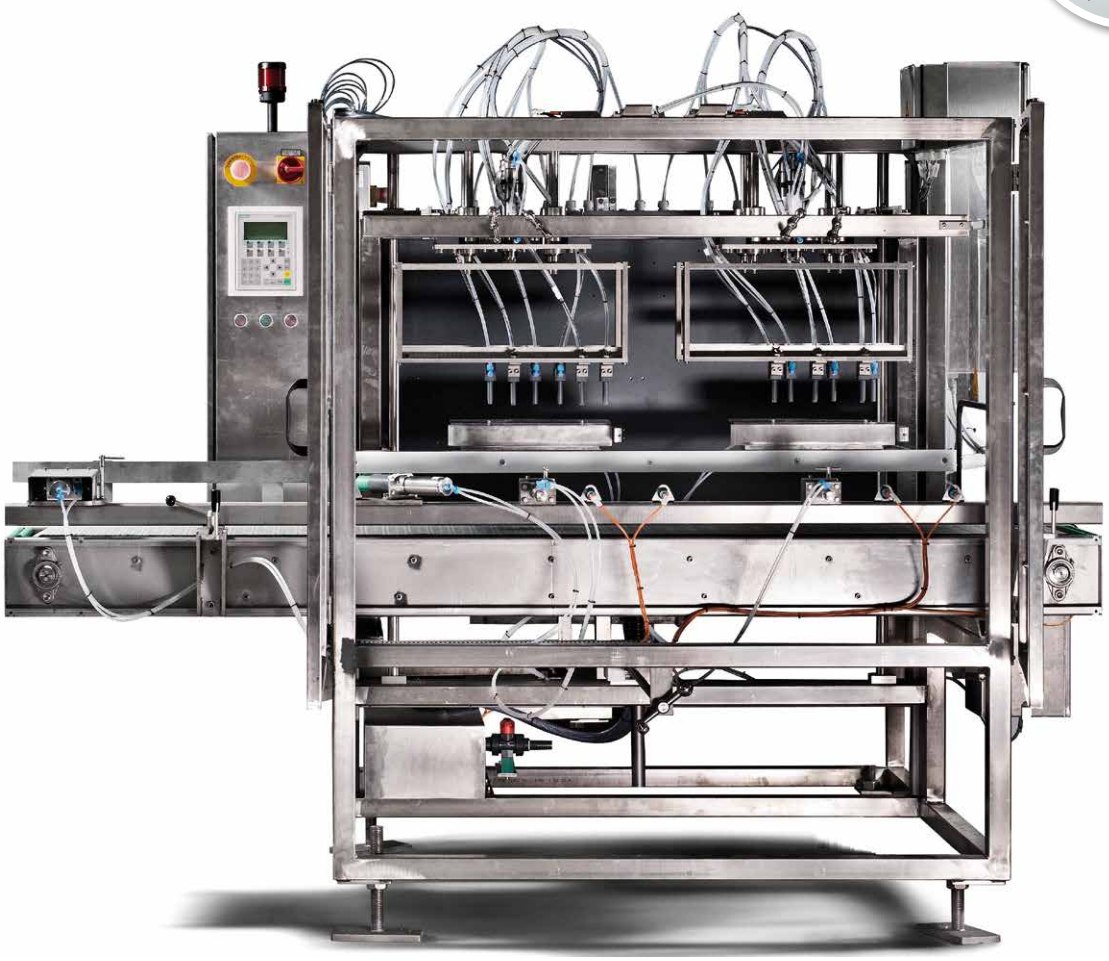
Special machines for your production



Your benefits:

- **High precision volumetric metering system**
- **Fully automatic**
  PLC controlled filling process
- **Single head and double head machine**
  available
- **Amount of acid is adjustable**
  in the menu of the operator panel
- **Quick change over**
- **100% acid resistant**
- **Conveyor**
  with adjustable battery guide- and stop system

Acid filling machine

Technical details:

Battery types	automotive batteries
Battery dimensions (L x W x H)	max.: 525 mm x 285 mm x 280 mm min.: 175 mm x 125 mm x 125 mm
Total dimensions (L x W x H)	2,500 mm x 1,530 mm x 2,100 mm
Weight	1,500 kg
Conveyor height	850 mm +/- 50 mm
Conveyor width	200 mm – 300 mm
Accuracy	+/- 1 mm
Capacity	Up to 8 batteries/min.
Control voltage	24 V
Power consumption	Approx. 3 kW
Compressed air	6 bar
Material	completely acid-resistant, stainless steel acid resistant plastics
Control	Siemens / Allen Bradley

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Formation bottles mounting

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Special machines for your production

Your benefits:

- **Sensor controlled transport and separation** by an adjustable battery guide and stop system
- **Feeding in correct position and separation** of formation bottles
- **Exakt positioning** by a linear servo unit
- **Automation** of the mounting
- Test station checks **attendance and exact position** of the formation bottles (height)
- **Rejection** of batteries whose formation bottles are not duly mounted

Formation bottles mounting

Technical details:

Max. dimensions (L x W x H)	4,000 mm x 2,800 mm x 2,400 mm
Battery dimensions (L x W x H)	max.: 400 mm x 125 mm x 283 mm min.: 175 mm x 200 mm x 165 mm
Battery weight	12 – 45 kg
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	200 mm (usable width)
Capacity	8 Batteries/min.
Material	V4A steel, plastics
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Control	Siemens / Allen Bradley

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Acid levelling machine

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Special machines for your production

Your benefits:

- **Final acid filling and levelling of batteries**
- **Exact levelling accuracy** by optical level sensor
- **PLC controlled fully automatic levelling process**
- **Single head and double head machines** available
- **Quick change over**
- **100% acid resistant**
- **Conveyor with adjustable battery guide- and stop system**

Acid levelling machine

Technical details:

Battery type	automotive batteries
Battery dimensions (L x W x H)	max.: 525 mm x 285 mm x 280 mm min.: 175 mm x 125 mm x 125 mm
Total dimensions (L x W x H)	2,500 mm x 1,530 mm x 2,240 mm
Weight	1,500 kg
Conveyor height	850 mm +/- 50 mm
Conveyor width	200 mm – 300 mm
Accuracy	+/- 1 mm
Capacity	up to 8 batteries/min.
Control voltage	24 V
Compressed air	6 bar
Material	completely acid-resistant, stainless steel acid resistant plastics
Control	Siemens / Allen Bradley

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Plug setting machine

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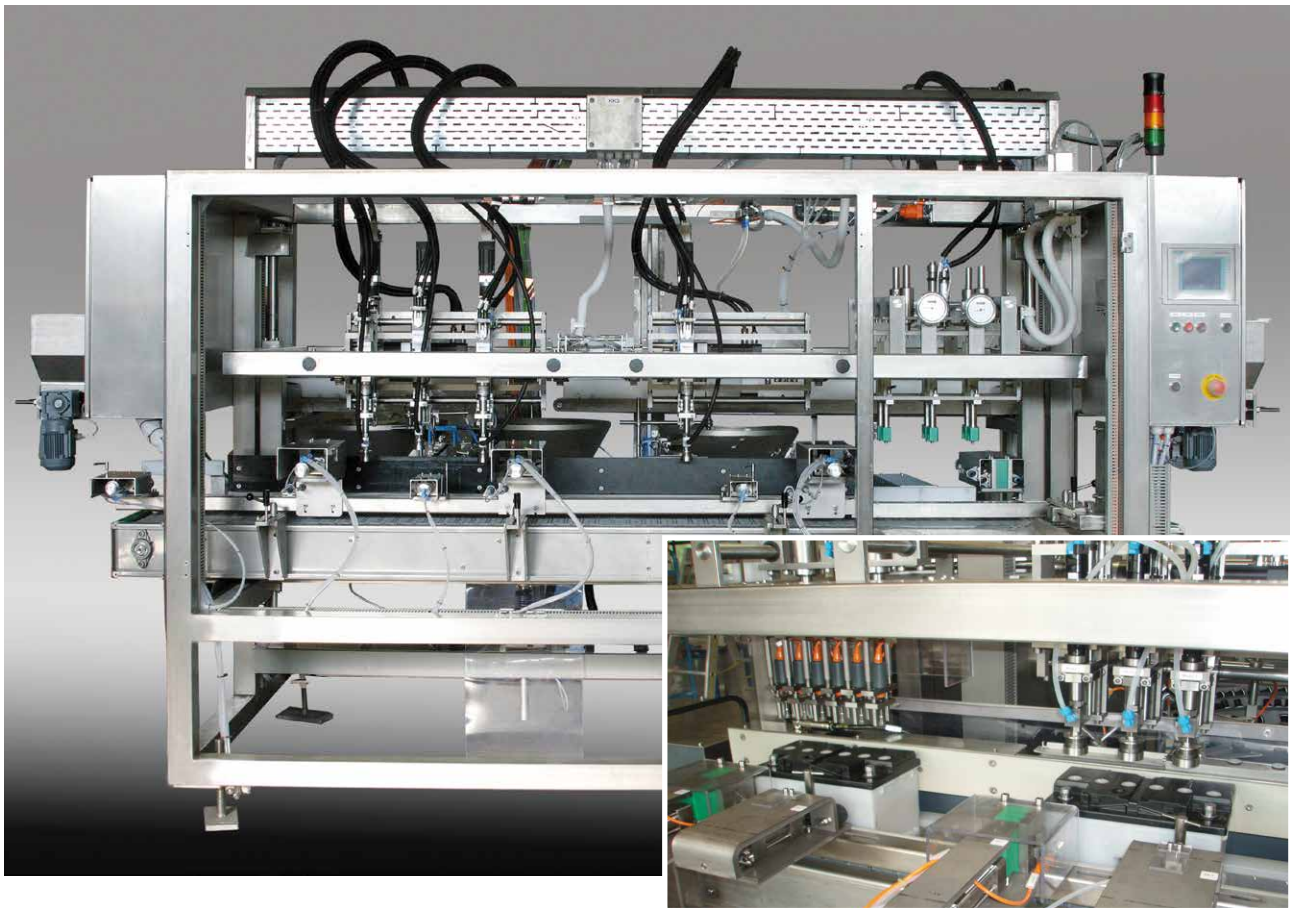

Your benefits:

- **Processing of various plugs in a machine feasible**
- **Automatic sealing of accumulators** using screw plugs or pushplugs
- **100% control** of screw closure via a separate checking station
- **Exclusion station for reject batteries**
- **Servo electric positioning system**
- **Quick change over**
- **Pneumatic or electric screw drivers** available
- **100% acid resistant**

Plug setting machine

Technical details:

Battery type	all vehicles
Plug types	all plug types possible
Capacity	up to 12 batteries/min. (2-head) up to 8 batteries/min. (1-head)
Dimensions (W x D x H)	3,000 x 2,000 x 2,400 mm
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	200 mm – 300 mm
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	completely acid-resistant, stainless steel acid resistant plastics
Control	Siemens / Allen Bradley

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Highspeed plug setting machine

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- Up to 14 batteries/min.
- Electric screw drivers
- High precision torque adjustment
- Independent control station
- Very low air consumption
- Electric vacuum pump
- Low noise emission

Highspeed plug setting machine

Technical details:

Battery type	all vehicle types
Capacity	max. 14 batteries/min.
Precision	70 – 300 Ncm
Battery length	175 – 520 mm
Battery width	125 – 280 mm
Battery height	125 – 300 mm
Battery weight	12 – 75 kg
Plugs	all plug types are possible
Machine dimensions (L x W x H)	4,000 x 1,800 x 2,500 mm
Construction	completely acid-resistant; high-grade steel 1.4571, 1.4539; plastic PP and PVC, special protection of not acid-resistant components
Control voltage	24 V DC
Connection power	35 kW
Operating pressure	6 bar
Controo	Siemens / Allen Bradley

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Highly efficient and environmentally friendly:

Washing tunnel of the latest generation

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Special machines for your production

Our washing tunnel reliably removes lead dust, acid and other possible contamination. The extra powerful fan in combination with the heater ensures absolutely dry batteries. Our designers pay particular attention to high efficiency as well as low water and energy consumption.

So only cleaned and acid-free batteries leave your production!

Equipment features:

- *Spray unit**
- *Blowing-off nozzles**
- *Conveyor belt**
- *Stable, durable tightly doors*
- *Optional:*
  available with brushes

** made of corrosion and acid resistant stainless steel*

Your benefits:

- **Highly effective cleaning performance**
- **Low water consumption** thanks to a cascade system
- **Complete drying** of the batteries after cleaning
- **Robust and corrosion resistant** entirely made of stainless steel 316Ti
- **Low energy consumption**
- **Environmentally friendly without the use of chemicals**

Washing tunnel of the latest generation

Technical details:

Battery type	automotive batteries
Battery dimensions (L x W x H)	550 x 300 x 320 mm
Speed	2-4 m/min., adjustable
Process steps	1. Washing (spray process) 2. Rinsing (spray process) 3. Drying (circulating air process)
Total dimensions (L x W x H)	8,500 x 2,500 x 3,000 mm
Temperature cleaning	55°C – 75°C, depending on the parts to be cleaned and the chemistry used
Temperature drying	adjustable up to 95°C, dependent on parts
Heating output washing	bath 30 kW / sink unit 30 kW / dryer 12 kW
Output exhaust	air fan 1.5 kW / circulating air fan 2.2 kW
Capacity exhaust	air fan 8 m^3/min. / circulating air fan 50 m^3/min.
Pump units cleaning and rinsing	20 m^3/h 2 bar / 3 kW
Tanks for cleaning and rinsing medium	approx. 1,000 l
Material	stainless steel (1.4571)
Control	Siemens / Allen Bradley

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High rate discharge test machine (PLT)

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- **Automatic high rate discharge testing** of automotive batteries
- **Safe contact using tongs**
- **Various test devices available**
- **Exclusion station for reject batteries**
- **Various expansion stages up to fully automated available**
- **Automatic polarity switch available**
- **Use of acid-resistant materials**

High rate discharge test machine (PLT)

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	2,500 x 2,000 x 2,100 mm
Capacity	8 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	300 mm
Max. discharge current (PLT)	up to 3,000 A
Voltage range (PLT)	7 – 14 V
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

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High-voltage leakage testing machine (HVT)

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Special machines for your production

Your benefits:

- **Automatic high-voltage leakage testing** of vehicle batteries
- **Reliable detection of leaks between cover and battery**
- **Reliable detection of leaks on battery base using special contact strips**
- **Microprocessor-controlled high-voltage electronics**
- **Exclusion station for reject batteries**
- **Various expansion stages up to fully automated available**
- **Use of acid-resistant materials**

High-voltage leakage testing machine (HVT)

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	2,500 x 2,000 x 2,100 mm
Capacity	8 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	200 – 300 mm
Testing voltage	0 – 18 kV AC
Measuring range	0.1 – 50 mA
Transformer capacity	500 VA
Short circuit current	> 200 mA
Test range	weld between cover and base
Electrical connection	400V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

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Multifunctional test machine for car and truck batteries

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Special machines for your production

Example system:

** individual station also possible*

With the multifunctional test machine you can carry out several tests in one space-saving system. Various expansion stages give you the opportunity to customize your own individual system. You have the choice of different modules – from the additional lubrication station to the fully automated type changing system.

Your benefits:

- **Modular structure**
- **Any combination**
  of HRD, HVT, pole brushing and pole oiling available
- **Sturdy design – Quality made in Germany**
  Made with acid-proof materials
- **Microprocessor-controlled high voltage electronics**
- **Different test devices available**
- **Reject station for NOK batteries**
- **No lead dust contamination**
  thanks to a powerful extraction system
- **Time-saving**
  Automatic polarity switching saves having to convert the test cables
- **High throughput speed**
  10 car batteries/min.
  6 truck batteries/min.
- **Available for different pole types**

Multifunctional test machine for car and truck batteries

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	8,000 x 2,000 x 2,100 mm
Capacity	10 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	300 mm

Brushing unit:

Strong exhaust; standard DIN terminals / jide terminals /japanese style terminals

PLT:

Electrical connection (PLT)	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley
Max. electricity discharge (PLT)	3,000 A
Voltage range (PLT)	7 – 14 V

HVT:

Testing voltage	0 – 18 kV AC
Measuring range	0.1 – 50 mA
Transformer capacity	500 VA
Short circuit current	> 200 mA
Test range	weld between cover and base

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OCV-testing machine

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Your benefits:

- **Automatic OCV-testing** of vehicle batteries
- **High-resolution metrology electronics**
- **Adjustable limiting values**
- **Automatic generation of a floating average and hamonisation with the actual metrology value**
- **Storage of reject metrology values**
- **Rejection system**
- **Data interfaces to control computer**
- **Use of acid resistant materials**

OCV-testing machine

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	2,500 x 2,000 x 2,100 mm
Capacity	8 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	200 – 300 mm
Measuring range	1 – 14 V
Electrical connections	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

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Battery terminal brushing machine

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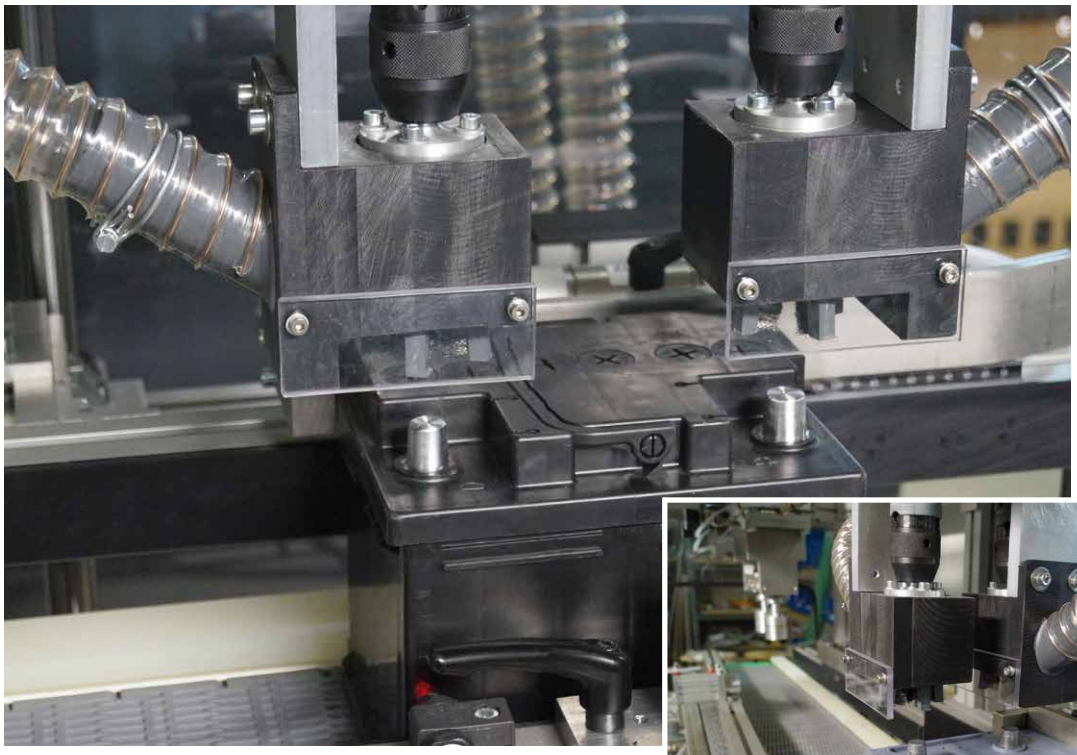

Your benefits:

- Automatic brushing of battery terminals
- Electrically driven brush heads
- Adjustable RPM and stroke speed
- Special brushes for blank battery terminals
- Suitable for car and truck batteries
- No lead dust contamination thanks to an efficient vacuum system
- Manual and automatic adjustment available

Battery terminal brushing machine

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	2,500 x 1,500 x 2,000 mm
Capacity	8 – 10 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel frame and conveyor, acid-resistant plastic, aluminium profiles
Control	Siemens / Allen Bradley

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Battery terminal lubrication machine

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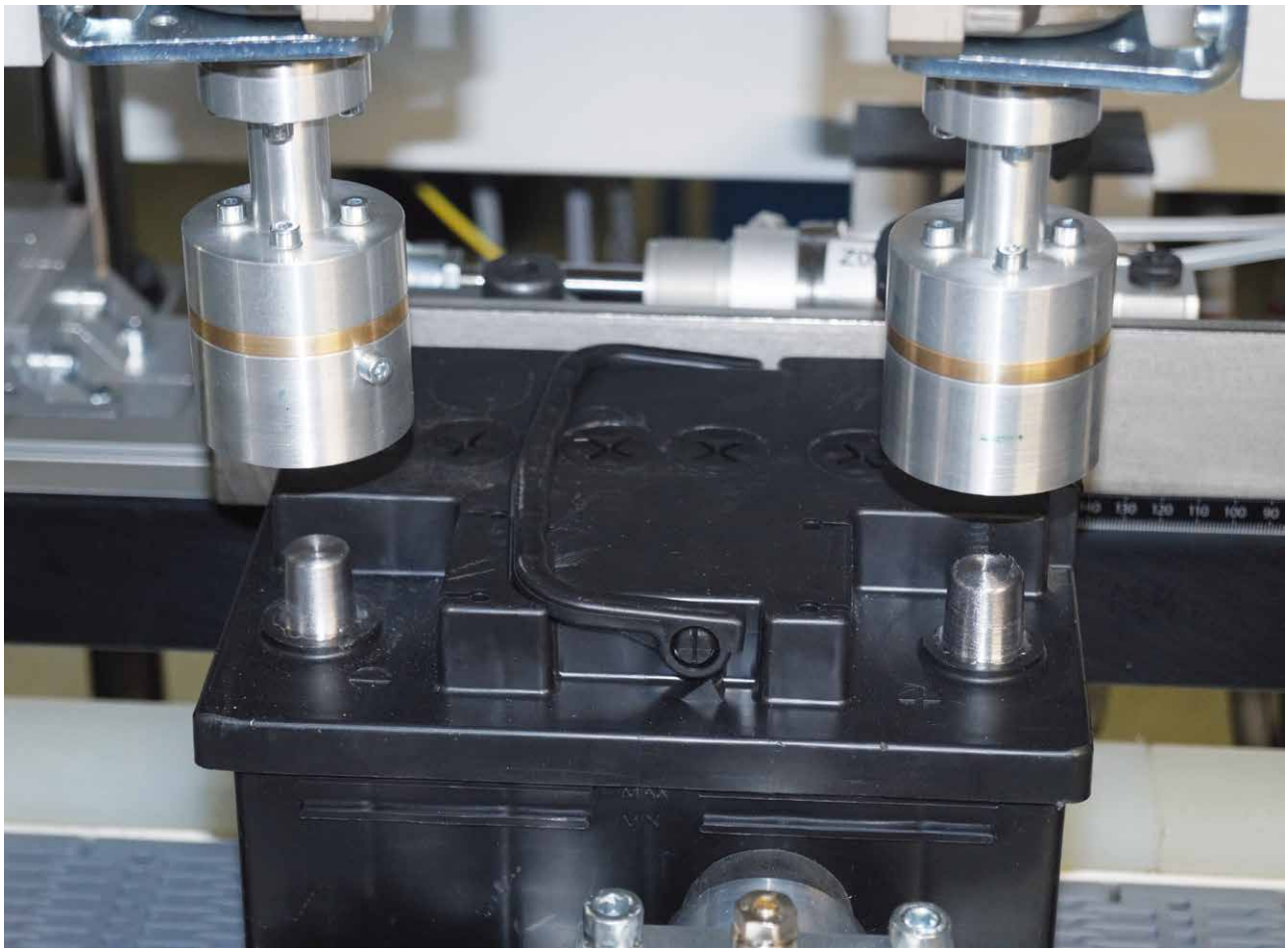

Your benefits:

- **Automatic lubricating of battery terminals**
- **Suitable for car and truck batteries**
- **Manual or automatic adjustment available**
- **Precise dosing by a lubricant storage and dosing system**

Battery terminal lubrication machine

Technical details:

Battery type	all vehicles
Battery dimensions (W x D x H)	max. 515 x 285 x 250 mm
Capacity	10 – 12 batteries/min.
Max. dimensions (W x D x H)	2,000 x 1,200 x 2,000 mm
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	300 mm
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

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Battery terminal brushing and lubrication machine

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Your benefits:

- Automatic brushing and lubrication of battery terminals
- Electrically driven brush heads
- Adjustable RPM and stroke speed
- Special brushes for blank battery terminals
- No lead dust contamination thanks to an efficient vacuum system
- Manual or automatic adjustment available
- Precise dosing by a lubricant storage and dosing system
- Suitable for car and truck batteries

Battery terminal brushing and lubrication machine

Technical details:

Battery type	all vehicles
Max. dimensions (W x D x H)	3,050 x 1,500 x 2,000 mm
Capacity	10 – 12 batteries/min.
Conveyor belt height	850 mm +/- 50 mm
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel frame and conveyor, acid-resistant plastic, aluminium profiles
Control	Siemens / Allen Bradley

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Battery air blast device

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Special machines for your production

Your benefits:

- **Automatic blowing out of remaining water** of the degassing well
- **Stable, adjustable battery guide and stopper system** ensures that the batteries are fed to the station individually and positioned precisely
- **Air blast station for blowing out the openings** by compressed air, strength and duration are adjustable

Battery air blast device

Technical details:

Battery type	all vehicles
Capacity	8 batteries/min.
Battery length	175 – 400 mm
Battery width	125 – 200 mm
Battery height	165 – 283 mm
Battery weight	12 – 25 kg
Dimensions total (L x W x H)	2,000 x 1,100 x 2,400 mm
Wight	550 kg
Material	completely acid-resistant stainless steel 1.4571, 1.4539; plastics PP und PVC, special protection of all non-acid-resistant components
Control voltage	24 V DC
Consumption	2 kW
Compressed air	6 bar
Control	Siemens / Allen Bradley

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Antistatic spray machine

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Your benefits:

- **Automatic spraying of batteries with anti-static fluid**
- **Low consumption** using sensor-controlled spray nozzles
- **Even all-round anti-static coating** of battery surfaces
- **Encasing of spray space**
- **No re-tooling needed if a battery is changed**
- **Use of acid-resistant materials**

Antistatic spray machine

Technical details:

Battery type	all vehicles
Battery dimensions (W x D x H)	max. 515 mm x 285 mm x 250 mm min. 320 mm x 170 mm x 175 mm
Capacity	10 – 12 batteries/min.
Max. dimensions (W x D x H)	2,000 x 1,200 x 2,000 mm
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	300 mm
Electrical connection	400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

We offer comprehensive services and know how:

Machines for the production of

- Starter batteries
- Traction batteries
- Industrial batteries

Advice + Analysis

- On-site in your company

Technical service + Customer service

- Remote maintenance
- Worldwide

Everything from a single source:
Thanks to our integration into the **Pütz Group** and the resulting **synergy effects** we are able to offer you not only battery production machines but also the appropriate testing technology to test surfaces, for dimensional accuracy and completeness.

Accumation GmbH
Lindenstraße 3
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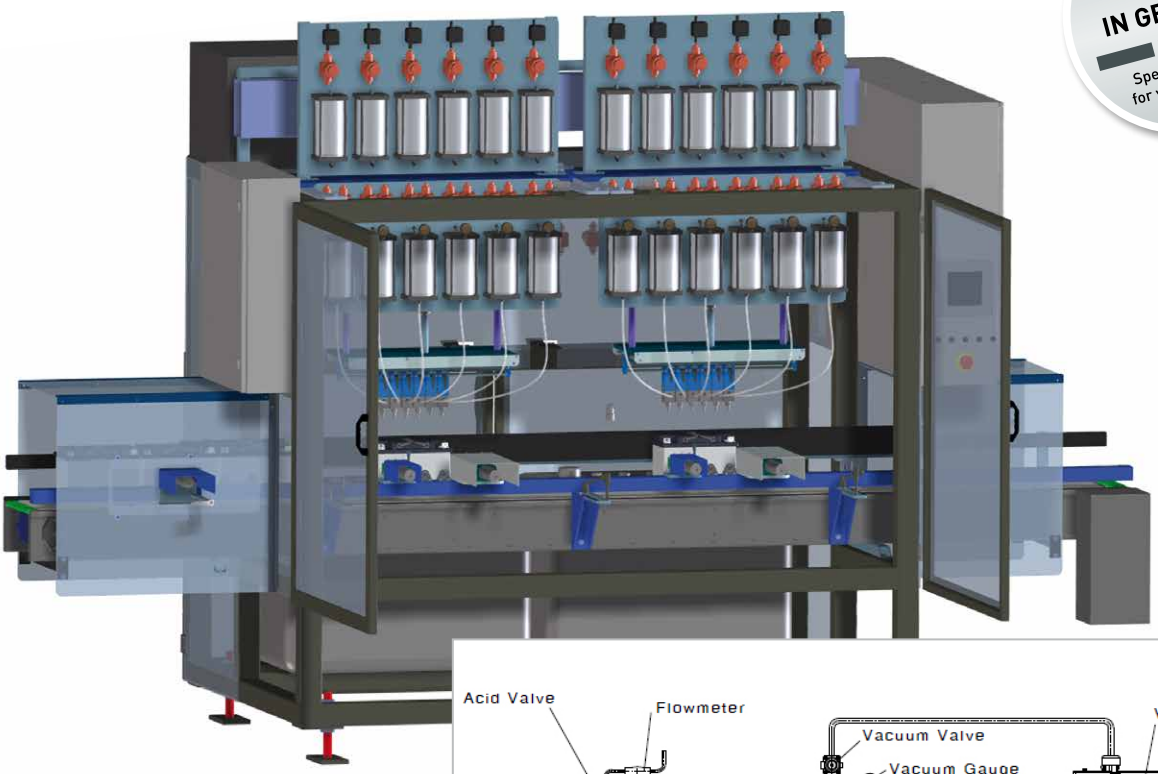
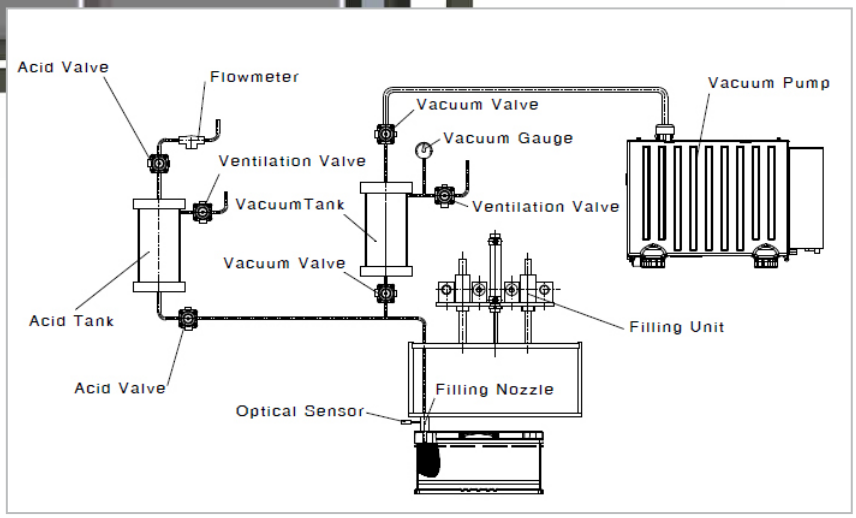
Phone: +49 6431 285650-0
www.accumation.de

AGM acid filling machine

QUALITY MADE IN GERMANY
Special machines for your production





Your benefits:

- Filling of AGM batteries
- Perfect absorption of the acid into the groups by special vacuum system (adjustable)
- Adjustable battery guide- and stop system
- Volume is controlled by flowmeters or volumetric dispensing pumps
- Accuracy +/- 0,75% or less
- Use of 100% acid resistant materials
- Available for automotive and industrial batteries

AGM acid filling machine

Technical details:

Battery type	all automotive and industrial batteries
Battery dimensions (L x W x H)	max. 550 mm x 280 mm x 360 mm min. 175 mm x 125 mm x 175 mm
Capacity	up to 4 AGM batteries/min., depending on battery size and group compression
Accuracy	+/- 0,75% or less
Dimensions (L x W x H)	approx. 3,000 x 1,850 x 2,200 mm
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	200 mm or 300 mm
Wight	2,000 kg
Material	stainless steel, acid-resistant plastic
Control voltage	24 V
Electrical connection	400 V, 50 Hz
Verbrauch	approx. 6 kW
Compressed air	6 bar R 1⁄4”
Visualisierung	Touch Panel
Control	Siemens / Allen Bradley

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Adapter screw machine

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- **Automatic setting of adapters** for acid circulation formation
- **Available for various adapter types**
- **Push and screw adapters possible**
- **Quick format changeover**

Adapter screw machine

Technical details:

Battery type	all vehicles
Capacity	up to 6 batteries/min.
Precision	90 – 190 Ncm
Battery length	200 – 520 mm
Battery width	133 – 285 mm
Battery height	175 – 360 mm
Battery weight	5.5 – 70 kg
Number of adapters	2 different adapters, 3/6 adapters/battery
Machine dimensions (L x W x H)	3,100 x 2,000 x 2,500 mm
Construction	completely acid-resistant; high-grade steel 1.4571, 1.4539; plastic PP and PVC, special protection of not acid-resistant components
Control voltage	24 V DC
Connection power	15 kW
Operating pressure	6 bar
Control	Siemens / Allen Bradley

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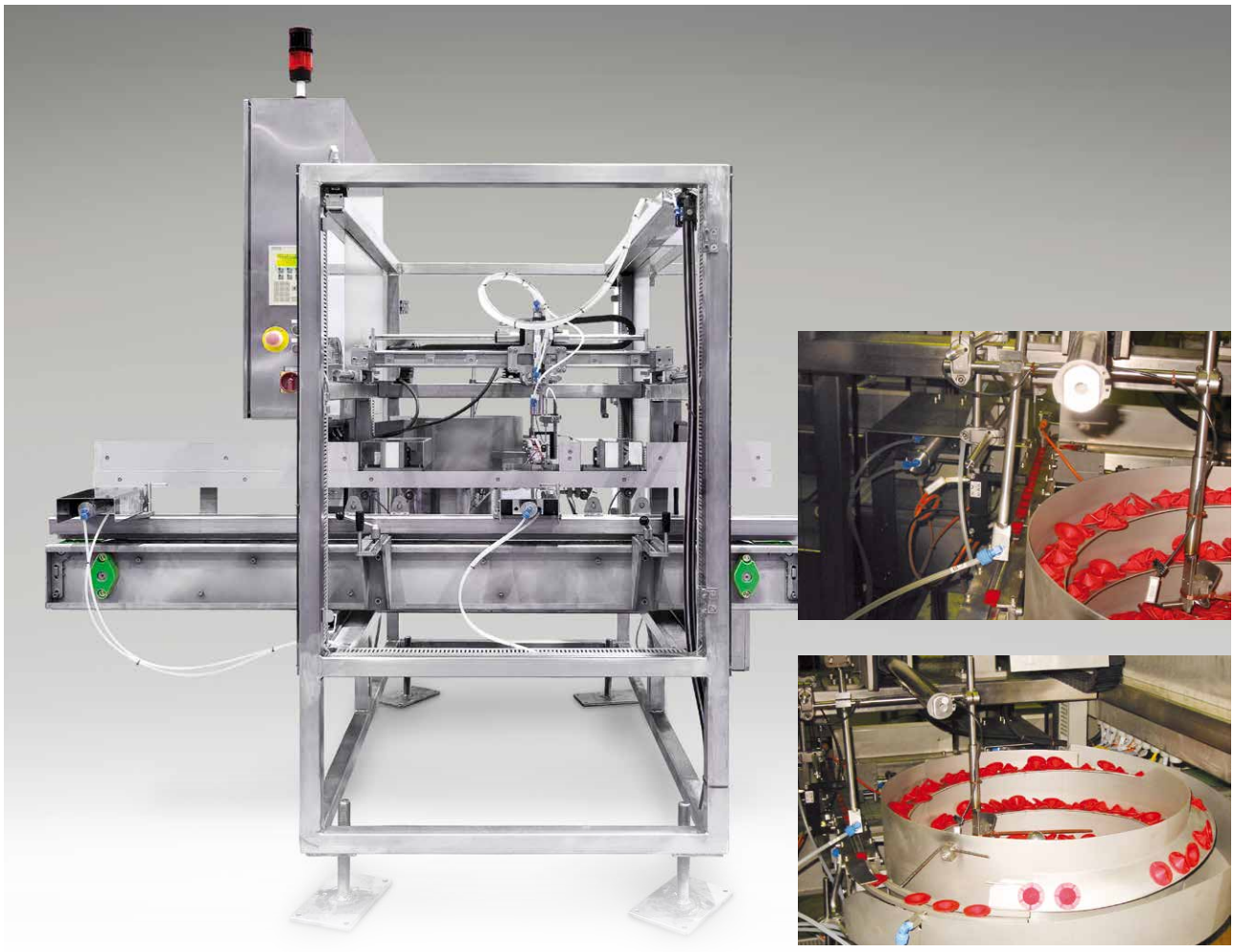
Ventilation cap installation machine

QUALITY MADE IN GERMANY
Special machines for your production



Your benefits:

- **Automatic installation of degassing caps** on vehicle batteries
- **Extremely short re-tooling times through installation head servo-positioning system**
- **For all standard battery types**
- **Use of acid-resistant materials**

Ventilation cap installation machine

Technical details:

Battery type	all vehicles
Battery dimensions (W x D x H)	max. 515 mm x 285 mm x 250 mm min. 320 mm x 170 mm x 175 mm
Capacity	6 batteries/min.
Max. dimensions (W x D x H)	2,000 x 1,200 x 2,000 mm
Conveyor belt hight	850 mm +/- 50 mm
Conveyor belt width	300 mm
Control voltage	24 V
Electrical connections	400 V, 50 Hz
Compressed air	6 bar
Material	stainless steel, acid-resistant plastic
Control	Siemens / Allen Bradley

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Advice + Analysis

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Acid dumping machine

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- The purpose of the machine is to dump the formation acid out of the battery container
- Batteries get fixed on the inside conveyor
- Conveyor rotates 180° +/- 20°
- Variable dumping time
- Possibility to shake the batteries while they are on top
- Controlled draining of the acid
- 100 % acid resistant materials
- Available for all automotive batteries

Acid dumping machine

Technical details:

Battery type	all vehicles
Capacity	variable, depends on battery type
Change-over time	less then 5 minutes
Dimensions (W x D x H)	approx. 2,535 x 1,500 x 2,200 mm
Conveyor belt hight	850 mm
Conveyor belt width	300 mm
Weight	approx. 2,000 kg
Material	stainless steel, acid-resistant plastic
Power consumption	approx. 12 kW
Compressed air	6 bar
Visualization	Touch Panel
Control	Siemens / Allen Bradley

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Gel filling machine

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- Filling of AGM- or gel batteries
- Volume is controlled by flowmeters or volumetric dispensing pumps
- Vacuum supported filling process
- Accuracy +/- 0,5 % or less
- Use of 100 % acid resistant materials
- Available for all automotive and industrial batteries

Gel filling machine

Technical details:

Battery type	all automotive batteries, also industrial types
Capacity	up to 8 batteries/min.
Change-over time	less then 5 minutes
Dimensions (W x D x H)	approx. 2,750 x 1,500 x 2,200 mm
Conveyor belt hight	850 mm
Conveyor belt width	300 mm
Material	stainless steel, acid-resistant plastic
Control voltage	24 V DC
Power consumption	approx. 3 kW
Compressed air	6 bar
Visualization	Touch Panel
Control	Siemens / Allen Bradley

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Hole punch for batteries

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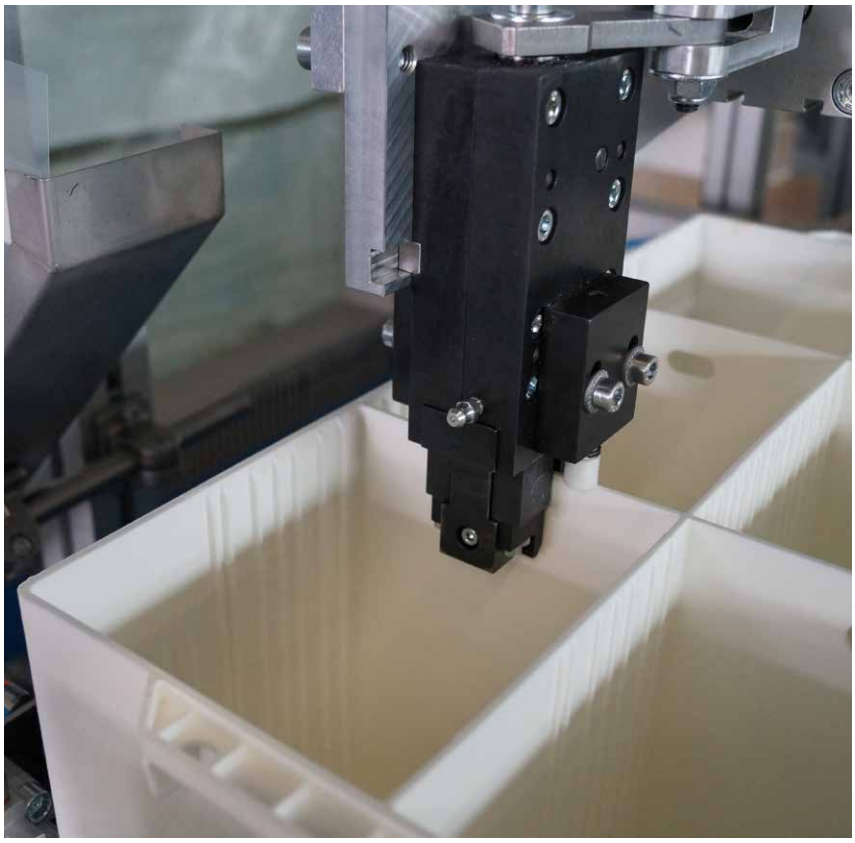
Special machines for your production



Your benefits:

- **Automatic punching of battery cases**
  - Car battery cases: 6 cells in series
  - Truck battery cases: 2 x 3 cells in series with alternative perforation
- Battery cases are **singled and precisely positioned on the conveyor belt**
- **Pneumatically driven hole punch** is connected via a rotation module (90 °) with a three-axes portal. All axes are driven by servo motors
- **At least 30 stored recipes** for different battery types can can be retrieved depending on type
- **The hole geometry can be varied** by exchanging piercing punches and matrices
- **Punching wastes are disposed via a special discharge chute into a collection container**

Hole punch for batteries

Technical details:

Battery type	all vehicles
Max. dimensions (L x W x H)	4,000 mm x 1,500 mm x 2,700 mm
Weight	1,500 kg
Conveyor belt height	850 mm +/- 50 mm
Conveyor belt width	500 mm (usable width)
Capacity	5 batteries/min.
Repeatability	> 0,1 mm
Electrical connection	3 x 400 V, 50 Hz
Control voltage	24 V
Compressed air	6 bar
Control	Siemens / Allen Bradley

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- Starter batteries
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Advice + Analysis

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Technical service + Customer service

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Assembly and testing workplace for aluminium strips

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- **4 worktables of aluminium sectioning** (arranged in a U shape) for specific work steps
- **At the assembly workplace** manually controlled pneumatic and hydraulic tools are used to assemble functional elements in pre-processed aluminium extrusion pressed sectioning
- **The Control system releases tools as the product dictates** Tools are individually suspended on flexible spring balancers
- **Successful assembly is checked at the weighing workplace** by weighing the parts before and after assembly
- Each part is then labelled **at the marking workplace**
- **A flexible tensioning system ensures that items to be worked on are tensioned reproducibly**

Assembly and testing workplace for aluminium strips

Technical details:

Dimensions (W x D x H)	approx. 3,500 mm x 3,850 mm x 2,200 mm
Total weight	approx. 600 kg
Capacity	approx. 1.2 kW
Pneumatic connections	max. 6 bar
Control	Siemens SIMATIC S7

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Cap installation and lubrication device for longitudinal drive shafts

QUALITY MADE IN GERMANY
Special machines for your production

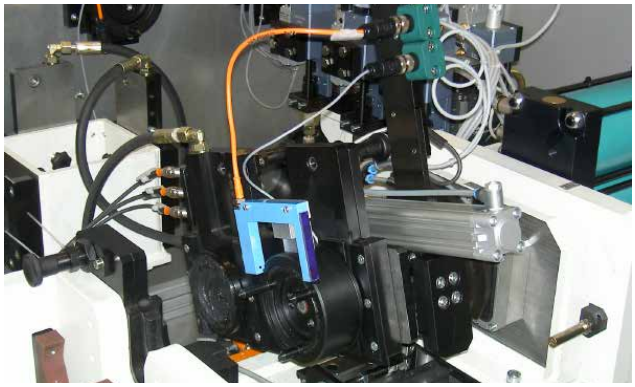
Your benefits:

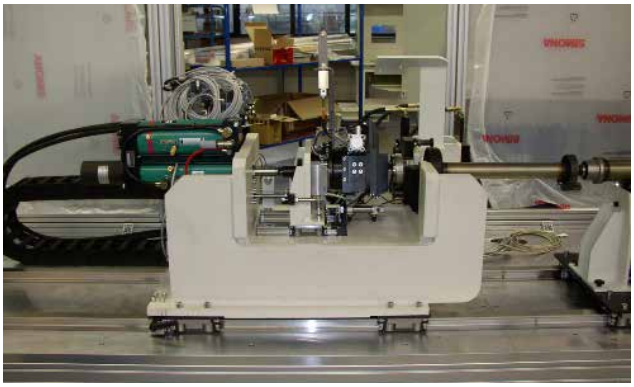
- **The machine serves to install caps and lubricate joints**
  of longitudinal drive shafts with or without torsional vibration absorbers
- **Easy operation via operator panel**
- **A stop light system inform the operator about the status of machine and workpiece**

Cap installation and lubrication device for longitudinal drive shafts

Technical details:

Dimensions (W x D x H)	approx. 1,100 mm x 900 mm x 2,200 mm
Total weight	approx. 300 kg
Pneumatic connections	max. 6 bar





We offer comprehensive services and know how:

Machines for the production of

- Starter batteries
- Traction batteries
- Industrial batteries

Advice + Analysis

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Technical service + Customer service

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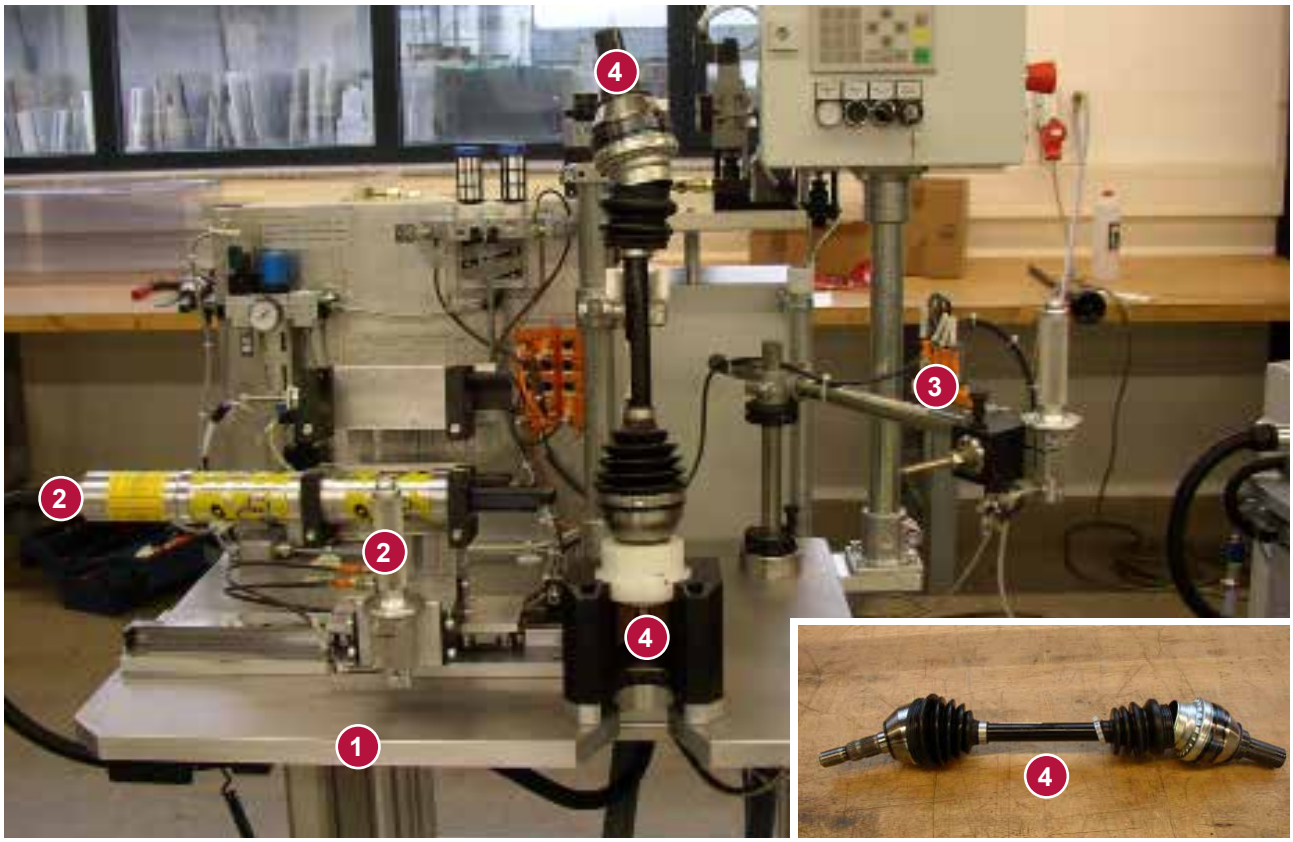
Residual grease and binder closure device for universal shafts

QUALITY MADE IN GERMANY
Special machines for your production

The machine lubricates universal shafts and closes collar binders.



Equipment features:

1. **Table with working panel**
   can be continously vertically adjusted
2. **Two binder closure tongs**
3. **Lubrication nozzle**
4. **Tensioning pickup**

Residual grease and binder closure device for universal shafts

Technical details:

Dimensions (W x D x H)	approx. 1,200 mm x 1,000 mm x 2,100 mm
Total weight	approx. 300 kg
Pneumatic connections	max. 6 bar
Lubricant connection	max. 250 bar

We offer comprehensive services and know how:

Machines for the production of

- Starter batteries
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- Industrial batteries

Advice + Analysis

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Technical service + Customer service

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- Worldwide

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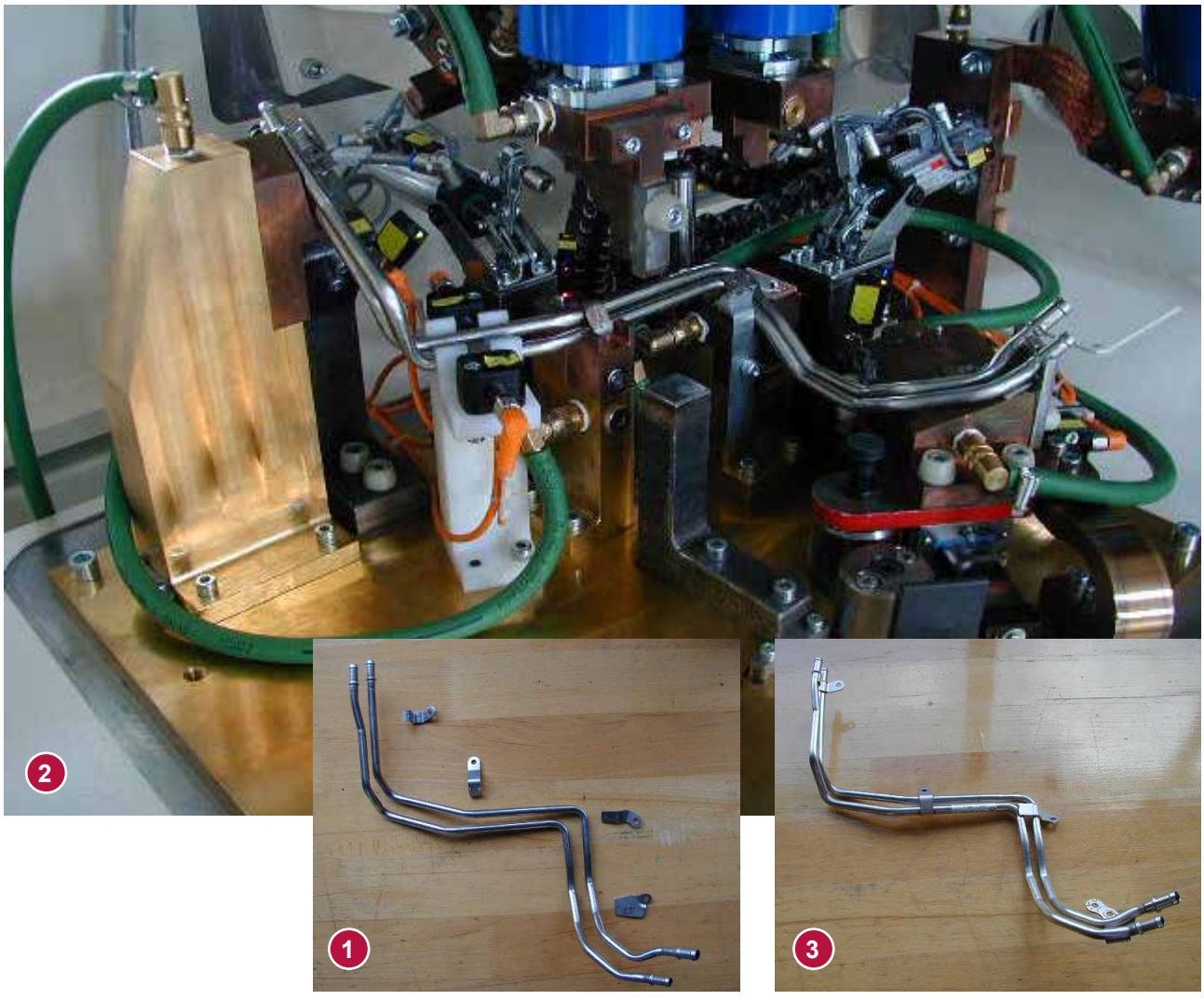
Special Welding device for fuel lines

QUALITY MADE IN GERMANY
Special machines for your production



Function:

The **individual parts** 1 are inserted in the **resistance welding device,** 2 fixed in place, tensioned, then welded into finished fuel lines. 3

Finally, a **tolerance check** is carried out.

Special Welding device for fuel lines

Technical details:

Cyclic production sequence	approx. 15 sec.
Sec. noise level	< 80 dB (A)
Dimensions (W x D x H)	approx. 2,650 mm x 1,000 mm x 2,600 mm
Total weight	approx. 2,450 kg
Degree of protection	IP 54
Control	Siemens SIMATIC S7/CPA 312-C
Control panel	OP 3
Supply pressure/mains	min. 6.0 bar/max. 10.0 bar
Working pressure/pneumatics	approx. 6.0 bar
Cooling water temperature	min.16°C/max. 23°C
Cooling water operating pressure	approx. 2.5 bar
Through flow quantity per cooling circuit	approx. 5.0 l/min

We offer comprehensive services and know how:

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- Starter batteries
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Load testing stand for window corner drives and fittings

QUALITY MADE IN GERMANY
Special machines for your production

Function:

- The stand checks wether the material can withstand a set number of movement cycles
- The motor moves the fixtures and fittings back and forth
- An cylinder is used to simulate the desired loads
- The force movement is recorded for each movement cycle
- After 100,000 cycles the recorded force movements are analysed and possible material changes checked

Load testing stand for window corner drives and fittings

Technical details:

Noise level	approx. 75 dB (A)
Dimensions (W x D x H)	approx. 1,500 mm x 1,500 mm x 2,000 mm
Total weight	approx. 600 kg
Control	Beckhoff
Control panel	CP 6921-0001-000

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Assembling device for particle filters

QUALITY MADE IN GERMANY
Special machines for your production

Particle filter

General view of the plant

Your benefits:

- **Assembly of the individual parts: inlet, centre section and outlet**
- **For various types of particle filters**
- **Exact positioning of the parts**
- **The individual parts are seated in the assembling device, brought into defined positions and manually screwed**
- **The individual assembly steps are displayed at the control unit** and are activated by operating the two-handed start control
- **Reduces the physical strain on assembly personnel**

Assembling device for particle filters

Technical details:

Filter dimensions	Lenght: 200 – 800 mm / diameter: 200 – 400 mm
Filter weight	12 – 45 kg
Machine dimensions (L x W x H)	1,200 x 1,200 x 2,500 mm
Electrical connection	3 x 400 V AC / N / PE, 50 Hz
Control voltage	24 V DC
Power rating	1.5 kW
Operating pressure	6 bar
Weight	approx. 1,000 kg
Control	Siemens Simatic S7
Visualization	WinCC Flexible
Operation	Operator Panel

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Drilling device

QUALITY MADE IN GERMANY
Special machines for your production

Your benefits:

- Used to make three holes of 8 mm diameter, offset 120 degrees, in the curved steel inner tube or piping
- Part-specific insertion can handle, fix in place and drill three different interior tubes or pipes alternately

Drilling device

Technical details:

Dimensions (W x D x H)	ca. 1,800 mm x 1,000 mm x 2,300 mm
Total weight	approx. 1600 kg
Pneumatic connection	max. 6 bar

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ACCUMATION

BATTERY PRODUCTION MACHINERY
AND SPECIAL MACHINERY

Contact

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