

It's easy

# Dosing technology and production data acquisition







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# Automatic dosing systems for every field of application

The hygiene, quality, safety and cost reduction demands of professional laundries are rising steadily.

That is why Kreussler's product range offers modern, high-yielding products and processes which work economically and efficiently, ensuring uncompromising cleanliness and hygiene for many different types of goods. Highly concentrated products however also require the user to precisely adhere to the dosing volumes and process parameters. Key product benefits can be lost, unrealised, if these are not observed. That is not expedient, neither economically nor from an ecological perspective.

Kreussler offers individual dosing systems adapted to operating conditions and the size of the plant for the optimum dosing of liquid products. They support the economical dosing of detergents and washing additives adapted to the type and level of soiling, for achieving a high level of wash quality without compromising the structure of the linen.

Against this background of ever-increasing economic efficiency and safety requirements, data acquisition along with visualising of the procedures and processes are also a necessity. Kreussler's visualisation represents the processes and plants individually and to scale. The operating interface is intuitive to use. Faults can be identified in a timely manner and rectified directly. Ongoing, computer-based process control is based on modern database technology that also establishes transparency and identifies previously unrecognised optimisation potential.

The right dosing technology ensures a smooth process and error-free operation with optimum washing results and competitive washing costs. With preconfigured programs, the dosing technology adds exactly the components and quantities required for optimum washing results to the washing process at the right time.

Centralised and decentralised dosing systems along with numerous modular expansion options and accessories offer a tailor-made solution for every need.





# Dosing technology – made by Kreussler

Dosing technology and control units are core Kreussler competencies.

A department dedicated to dosing technology development and production was established in 2005. Over the years, this department has grown into a competent team of computer experts, technicians, electricians and mechatronics engineers who develop our own control units, production data acquisition (PDA) and visualisations of operating processes for our customers.

Our specialists program and build control cabinets, dosing racks and pump blocks for our own dosing technology. New ideas are incorporated into further development of the technical systems thanks to ongoing networking with our washing experts and customers.

The company's know-how not only offers tremendous flexibility, in particular for individual customer solutions. Fast and reliable service as well as problem resolution by our own technicians with internal know-how are also guaranteed in case of technical issues.

We emphasise the use of high-quality single components in the development and production of our dosing systems in order to produce highly reliable systems and simultaneously ensure the worldwide availability of replacement parts.

Our convincing high-performance dosing systems are extremely efficient, offering a high level of process security and comprehensive production data acquisition with visualisation.

Kreussler is one of the few companies developing and producing its own dosing technology on site in Wiesbaden. Premium quality – made in Germany. From the conceptual design and detailed planning to the adaptation or integration of existing plants into your new dosing concept, our specialists work for your success and find the best solution for your operation.



- Benefits of Kreussler dosing technology:**
- In-house dosing technology development and production, visualisation and PDA
  - Our employees are intimately familiar with our own dosing technology, visualisation and PDA
  - Fast problem resolution by in-house specialists
  - No dependency on external service providers
  - Quality made in Germany



# Decentralised solutions for single machines

From decentralised solutions using peristaltic or membrane pumps for single machines to dosing technology for washing machine series to automated washing systems of any size with a central control unit – everything is possible.

## The right solution for everyone

For smaller to medium-sized laundries, textile cleaning with an adjacent laundry, and OPL operations (e.g. fire brigades, nursing homes, smaller hotels etc.), we offer modular dosing systems in the form of peristaltic and membrane pumps that are flexible in combination and can be assembled according to individual requirements.

## Peristaltic pumps (Brightwell WL und WH series)\*

- WL (low flow) and WH (high flow) series
- 2 to 8 pumps for 2 to 8 products

## Membrane pumps (Brightwell WHD series)\*

- Minimal maintenance and no hose replacement costs
- Flow rate up to 1.5 l/min (water)
- Dosing of viscous formulations is possible

## Both pump systems are expandable with:\*

- Empty notification
- Program selection switch
- Flushing unit



Brightwell WL series with 3 pumps\*



Brightwell WHD series with 3 pumps\*



Accessories or expansion\*

\*Example illustration – manufacturer may vary by country

# Centralised dosing technology – what they all can do

## Common features of the EASY S, EASY and EASY T

Our EASY series of dosing systems are suitable for various customer groups. From smaller OPL operations to industrial laundries, the different EASY systems can be used in applications ranging from a single washer extractor to large CBW in an industrial laundry.

1 All EASY dosing systems are equipped with **low-maintenance, high-performance membrane pumps**, keeping the maintenance cost for these systems extremely low.

Access to the pump configuration can be provided and the pump parameters can be adapted according to the type of goods and the requirements of the automated washing systems. 99 dosing programs with up to 6 dosing steps can be selected.

2 The **integrated flushing system** ensures clean and clear lines. Intermediate flushing is performed after each product dose. The products are flushed to the machine one after the other through a hose with intermediate water flushing. Short dosing times are therefore supported by the control unit, with no need to additionally extend the washing programs.

In the sequence of priorities, the “dosing” action ranks higher than the “flushing” action so that short dosing times are consistently assured. While water flushing to one machine is still in progress, dosing to another machine can already commence. Additional flushing is always performed with viscous products to prevent faults and avoid residues in the dosing lines.

Flushing times can also be established individually.

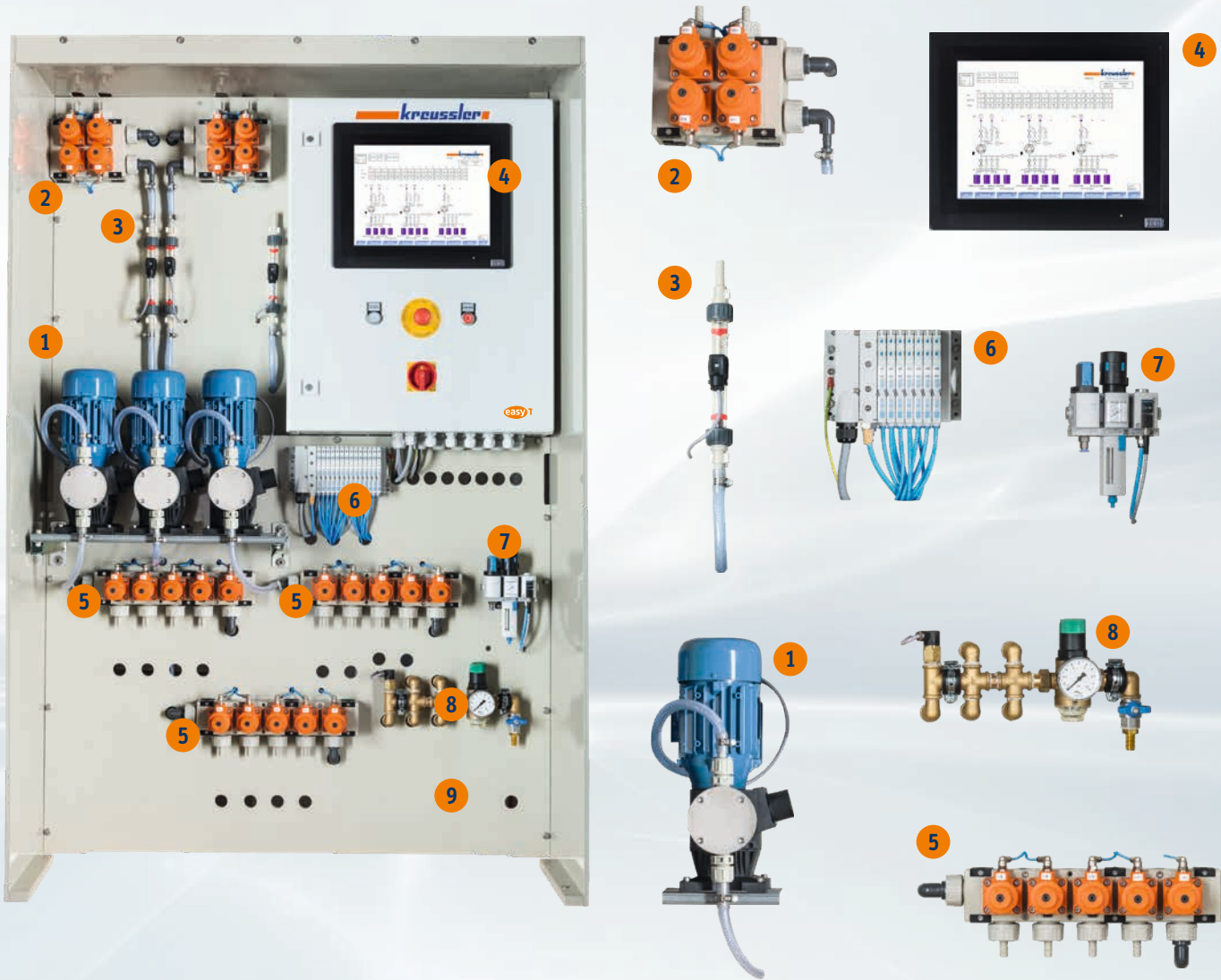
3 **Flowmeters of high quality** improve process security. They are installed by default in all EASY systems. Flowmeters monitor the product flow and verify product dosing.

All components in contact with liquids are made using special, chemical-resistant plastics to improve the reliability of our dosing technology.

4 All EASY systems have a user-friendly **touch screen display** to visually and audibly indicate dosing, output fault messages, and request container changes, and permit manual operation at any time. Errors and alarms that may occur are acknowledged and documented by the laundry employee after eliminating the cause.

All program and dosing data are reliably recorded in a CSV file by default with all EASY dosing systems. This data can be transferred to a PC at any time using a USB stick, for analysis and visual presentation in a spreadsheet.

Every EASY system can also be expanded with production data acquisition (PDA).



- 1

Membrane pumps: the pump is flushed with water before and after each product.
- 2

Target valves and external flushing valves (PLC-controlled target valves, flushing with separate membrane valves)
- 3

Flowmeter
- 4

15" touchscreen PC und prozess visualisation
- 5

Product intake manifold with integrated flushing valve: up to 4 products can be connected to each intake manifold
- 6

Valve cluster (compressed air): pneumatic valve control
- 7

Compressed air regulator with pressure switch
- 8

Water distributor with pressure regulator and pressure switch
- 9

Pump block with control cabinet and all required components



# Centralised dosing technology at a glance

Illustration

easy S



easy



easy T

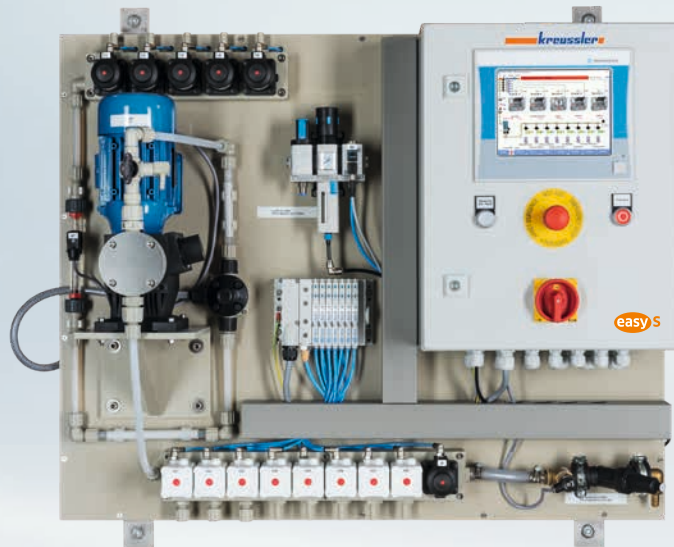


Dimensions H x W x D (in mm)	800 x 1,000 x 330	1,800 x 1,200 x 550	1,800 x 1,200 x 550
Customer segments	Smaller to midsize laundries OPL operations (fire brigades, nursing homes, hotels) Larger textile cleaning operations with laundry	Smaller to midsize laundries Larger textile cleaning operations with laundry Industrial laundries	Industrial laundries
Machine type	Washer extractor	Washer extractor	CBW
Machine capacity	Up to approx. 50 kg	20–200 kg	CBW
Number of machines and products	Up to 5 washer extractors Up to 12 products	Up to 10 washer extractors Up to 12 products	1 CBW Up to 12 products (up to 3 targets per pump)
Number of dosing pumps	1 pump (50 l / 27 l / 14 l)	2 pumps (50 l / 27 l / 14 l)	3 pumps (50 l / 27 l / 14 l) + 1 pump for high-volume dosing (e.g. starch/finish)
Special features	<ul style="list-style-type: none"> <li>Space-saving dosing technology for wall mounting</li> <li>Distance between dosing technology and machine &lt; 15 m</li> </ul>	<ul style="list-style-type: none"> <li>Dosing technology in high-quality cabinet</li> <li>High fail-safety with 2 pumps</li> <li>Turbopump increases the capacity when both pumps are active simultaneously</li> <li>External flushing (from target valve to machine)</li> <li>8.5" touch screen operation</li> <li>Improved process security thanks to clear safety screens</li> </ul>	<ul style="list-style-type: none"> <li>Dosing technology in high-quality cabinet</li> <li>Network-compatible, 15" touch screen operation</li> <li>Visualisation of operating states</li> <li>Program transfer via time signal</li> <li>Binary code or MTS (HELMS)</li> <li>Dosing volume monitor with oval wheel counter/inductive flowmeter (optional)</li> <li>Improved process security thanks to clear safety screens</li> </ul>

## Overview of benefits offered by all EASY systems

- Efficient dosing of liquid products
- Use of low-maintenance membrane pumps
- Dosing of up to 12 products
- Integrated flushing system for clean lines
- Ongoing function monitoring (dosing performance, empty notification, flushing)
- Straightforward touch screen operation
- Visualisation on operating display
- Password-protected system prevents incorrect dosing
- Audible & visual fault indication (including documentation with date and time)
- Integrated language setting permits display in all common, standard European languages
- Reliable recording of all program and dosing data in a CSV file
- Transfer of laundry load weight via washing machine (integrated scale required)
- Control and documentation of disinfection processes (additional hardware required)
- Manual operation possible at any time

# EASY S – space-saving solution for washer extractors



Dimensions (H x W x D): 800 x 1,000 x 330 mm

## Target group:

The EASY S (small) system is mainly suited for smaller to midsize washing plants, OPL operations (fire brigades, hotels, nursing homes) and larger textile cleaning operations.

An optimum solution for operations with a machine capacity of up to 50 kg.



## Features and functional principle:

Systems in the EASY S line can supply up to 5 washer extractors with up to 12 liquid products using only one pump. An 8.5" touch screen monitor is used to control the system.

Note that the distance between the dosing technology and machine should not exceed 15 m with the EASY S, since this system does not have external flushing. Integrated flushing will flush the lines up to the machines within the system.

## Benefits at a glance:

- High-quality dosing technology with a good price-performance ratio
- Compact, space-saving dosing technology for wall mounting
- For up to 5 washer extractors
- Dosing of up to 12 products
- Short installation time thanks to low installation effort
- Minimal maintenance and service cost



# EASY – complete solution for washer extractors



Dimensions (H x W x D): 1,800 x 1,200 x 550 mm

## Target group:

The EASY is the standard for commercial and industrial laundries operating multiple washer extractors with a moderate to larger washing capacity (> 75 kg). However, it is also suited for smaller to midsize laundries, nursing homes, sheltered workshops, midsize hotels and textile cleaning with an adjacent laundry – typical OPL operations in other words.

## Features and functional principle:

The EASY system readily controls all dosing cycles for up to 10 washer extractors and supplies the machines with up to 12 products. This conceptual design of the dosing system ensures short dosing times to the machines.

Each machine has its own dosing line and is controlled independently via target valves. Punctual dosing of the required products in up to 99 dosing programs with up to 6 dosing steps is ensured with only two low-maintenance, high-performance pumps. The EASY is also highly fail-safe. If one pump fails, for example due to a fault, exact dosing is taken over by the second pump. An 8.5" touch screen monitor is used to control the system. The operating states of pumps, valves and dosing can also be represented clearly online and read directly.

The EASY dosing technology is laid out for the maximum number of washer extractors being operated and also for the chemicals. If the number of machines is not yet fully utilised, new washer extractors can be readily integrated with very few accessory parts (valves, hoses etc.). All other hardware and software components are also laid out for the maximum number of washer extractors being operated. An efficient and cost-effective solution if your laundry is growing!

## Benefits at a glance:

- Compact and robust dosing technology in a high-quality cabinet
- For up to 10 washer extractors
- Dosing of up to 12 products
- Number of pumps: 2 pumps (50 l / 27 l / 14 l)
- 2 pumps for high fail-safety
- External flushing (of target valves to machines) for short dosing times
- Clear splash protection panes





# EASY T – the solution for continuous batch washers (CBW)



## Target group:

The EASY T (tunnel) is the latest generation and was developed for industrial laundries with CBWs. One dosing system controls and doses the detergents for one automated washing system.

## Features and functional principle:

The control unit operates 3 low-maintenance pumps for dosing up to 12 liquid products to the automated washing system.

The dosing programs are transferred to the CBW via an interface or can be controlled using time signals.

A 15" monitor serves to fully visualise and operate the system. This monitor shows the operating states of the individual valves and pumps as well as the current dosing volumes online.

Up to 99 programs can be configured. Individual loads in the chambers can be represented visually. The dosing volume is entered in g/kg. Since the respective operating state of the valves and pumps can be represented visually, the current dosing being carried out by each pump is apparent on the screen at all times. The dosing volume is shown online in a text field.

To measure and document the temperatures at the start and end of the disinfection zone, the signals can be captured via external temperature sensors. Thus proof can be provided that the disinfection conditions were met for each load. Fault messages are listed chronologically with the error that occurred. At what time the error was corrected is documented as well.

Optionally the washing program, customer number and load weight can be transferred from the CBW via an interface.

The system visualisation can be set up on an external network computer. This permits the plant manager to monitor all loads in the CBW online.

## Benefits at a glance:

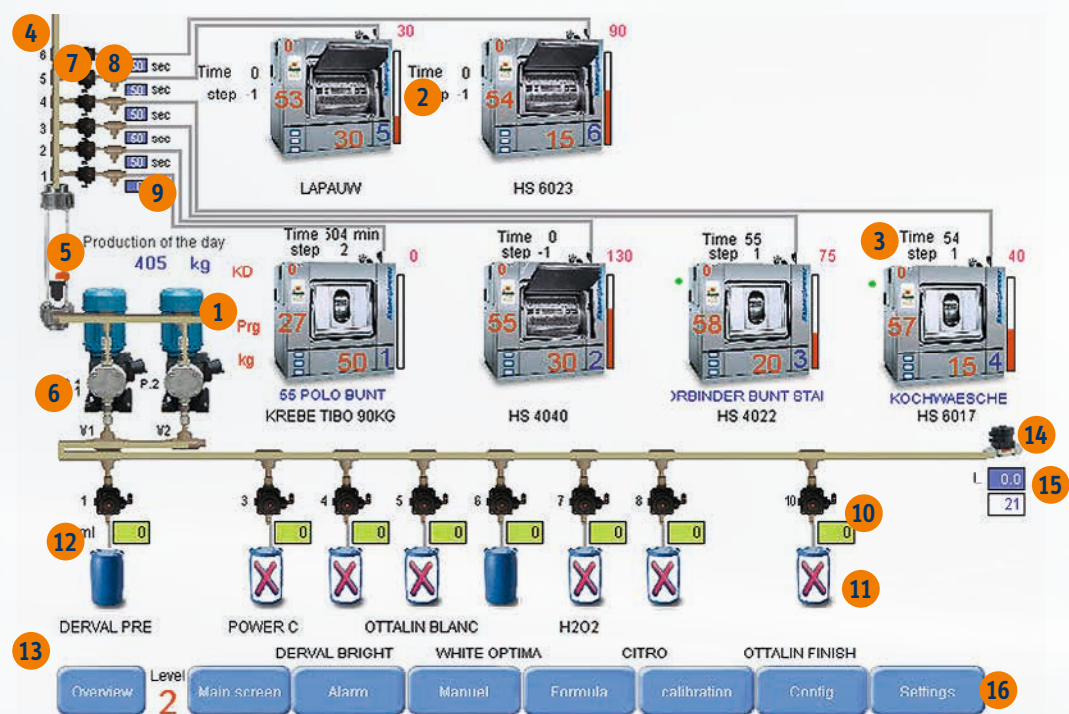
- Network-compatible dosing technology in high-quality cabinet
- Dosing of up to 12 products
- Number of pumps: 3 pumps (50 l/27 l/14 l) + 1 pump for high-volume dosing (e.g. starch/finish)
- Program transfer via time signal, binary code or MTS (HELMS)
- Network-compatible
- User-friendly 15" touch screen display with visualisation
- Clear panes improve process security and serve as splash protection
- Shorter installation times since only 4-6 hoses are needed



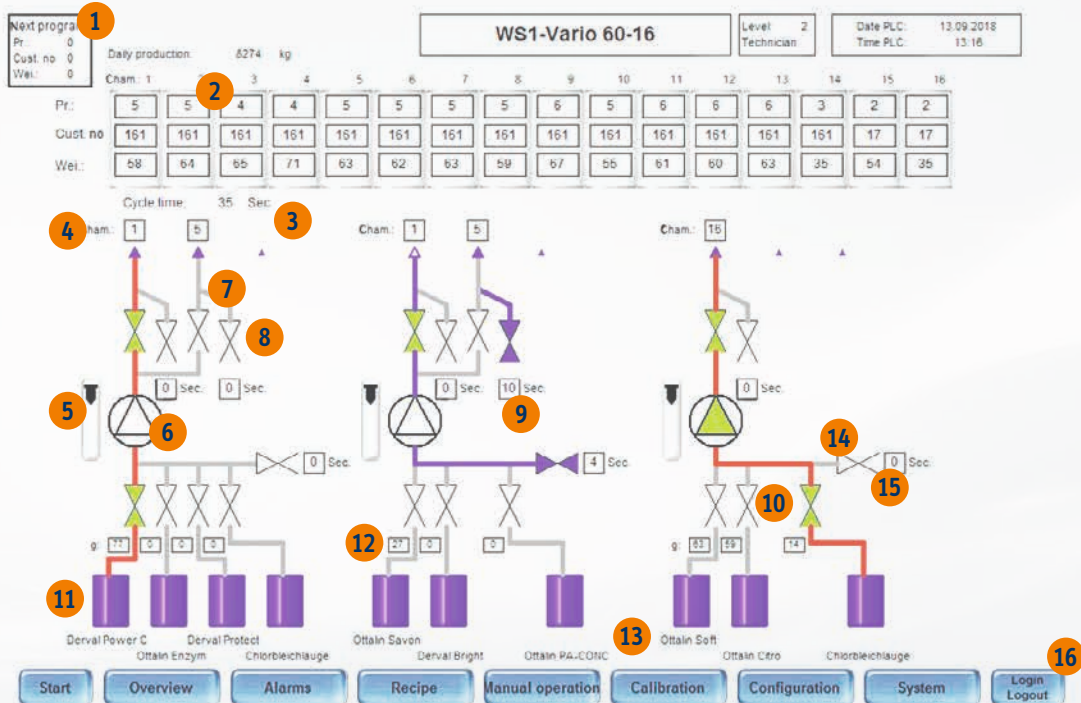
Dimensions (H x W x D): 1,800 x 1,200 x 550 mm



# Production data acquisition and process visualisation



Visualisation of EASY and EASY S on 8.5" touch screen display



Visualisation of EASY T on 15" touch screen display

Only with the knowledge of all important process sequences and performance figures is a laundry able to optimise its processes, identify errors and initiate corrective actions. Production data acquisition (PDA) and visualisation ensure process transparency and make it easy to safely control the process sequences in real time, with the reliable documentation of all operating processes.

Customer requests, such as expanding the dosing system with production data acquisition, do increase the cost but help structure the operation. PDA makes online control possible and helps the plant manager monitor consumption data and production or perform their own calculations quickly.

Transparency in operation is improved with PDA. It helps in case of faults and with troubleshooting, and supports process flow optimisation.

With Kreussler process visualisation, all components connected to the system (such as dosing systems, pumps, valves, empty notification and all washer extractors and automated washing systems) can be visualised on the monitor.

Load-specific values are recorded and can be transferred to an analysis module (such as a spreadsheet program). The visualisation and analysis modules can be individually adapted to the respective customer needs and requirements.

Kreussler PDA supports multiple washer extractors and automated washing systems. It measures dosing volumes and various process parameters online, such as the pH value, water volumes, temperatures and washing times. The analysis is performed individually for each load of laundry.

Adherence to listing parameters, for example in disinfection procedures are documented. Customer addresses are administered in a database. Costs and consumption data for each type of goods are recorded at the customer level, facilitating cost calculation. Faults are automatically recognised by the system and documented with the date and time. This makes it possible for plant management to identify operating process deviations at any time and initiate corrective measures in a timely manner.

The dosing systems, control units, PDA and visualisation are adapted to each other thanks to the modular design of the components. This means that Kreussler production data acquisition can also be expanded as needed. Technical systems can therefore be adapted to current needs quickly and grow with the operation.

- |  |   |   |
|--|---|---|
| 1 Program selection switch data: program, customer no. and weight for the next program | 5 Flowmeter activity, flow rate control   | 12 Current product dosing                 |
| 2 Automated washing system overview, number of chambers and data per chamber           | 6 Active membrane pump                    | 13 Product name                           |
| 3 Current washing cycle time   | 7 Active target valve                     | 14 Internal flushing valve                |
| 4 Chamber assigned to the valve  | 8 External flushing valve                 | 15 Remaining runtime of internal flushing |
|  | 9 Remaining runtime of external flushing  | 15 Navigation buttons                     |
|  | 10 Product valve activity (suction valve) |   |
|  | 11 Fill level control                     |   |



# Remote maintenance – remote access

Remote maintenance or remote access is also possible with network-compatible PDA. A smartphone, tablet or similar device permits access to the system around the clock.

When help is requested from our technical field service, the laundry manager can enable external access to the system for our laundry technicians.

The system permits password-protected external access in remote mode, so that our technicians can intervene quickly in case of problems and contribute to trouble-free operation in the laundry.



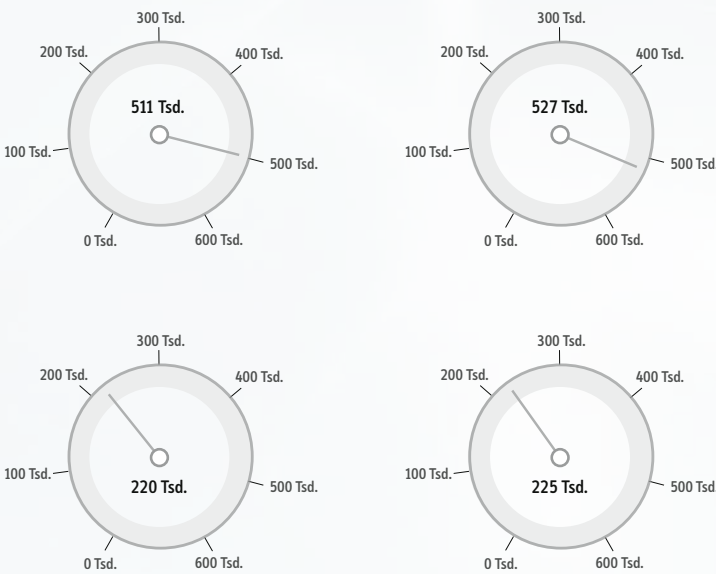
# How EASY benefits you

The innovative, modular and compact design of the EASY dosing technology offers ultimate flexibility, especially when the laundry is growing. Our EASY dosing systems can be readily expanded and adapted to your needs, without having to replace all the dosing technology or restricting operations due to long installation times. The EASY systems are suitable for machines with intelligent control, but older machines can also be integrated and readily operated with a program selection switch. That saves time and money!



Our EASY dosing systems are central dosing units that set themselves apart with tremendous ease of use, flexibility and a high-quality PLC (programmable logic controller) for fast dosing times – whether you choose the EASY S, EASY or EASY T.

- Benefits at a glance:**
- Reliable, low-maintenance dosing technology
  - Transparency in the laundry with visualisation and PDA
  - Straightforward and reliable process control in real time
  - Real-time overview of machine productivity
  - Documentation of process parameters with straightforward data export
  - Review and analysis of operational performance figures possible at any time
  - Data to improve the earning power of your laundry
  - Earning power transparency at the customer or process and product level
  - PDA for better margins and quality assurance
  - Clear analyses for the laundry operator
  - Predefined reports and analyses available
  - Easy and flexible handling and application



Example PDA:  
washed laundry in kg  
(per time unit and per machine)

# We stand for extraordinary, individual service

## SERVICE

- A reliable partner by your side
- Outstanding application technology service
- Flexibility for individual customer solutions
- Comprehensive consulting for the preparation of a laundry concept
- Optimisation of your laundry operation
- Textile and wastewater analysis by the Kreussler laboratory
- Customer seminars in the Kreussler Technical Centre
- Employee training on site

## EFFICIENCY AND QUALITY

- Outstanding product performance
- Highly concentrated products for low dosing volumes
- DIN EN ISO 9001:2015 certified quality

## DOSING TECHNOLOGY

- In-house development and production in Wiesbaden
- Dosing technology to meet customer needs
- Quality made in Germany

## EXPERTISE

- Decades of know-how in the commercial laundry field, wet cleaning and textile cleaning
- Trained and experienced application engineers with technical know-how
- In-house research and development on site

## PRODUCTS AND PROCESSES

- Broad product range for individual customer solutions
- Variety of washing processes
  - Low-temperature process
  - High-temperature process
  - Disinfecting washing process
  - Premium washing process in the OPL segment
- Various fields of application
  - Industrial laundry
  - OPL
  - Textile cleaning
  - Lanadol wet cleaning
  - Ecological textile cleaning with SYSTEM K4

## ECOLOGY

- All products are free of phosphates, EDTA and NTA
- All products are dermatologist tested and rated "very good"
- Established environmental management according to DIN EN ISO 14001

It's EASY.  
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Kreussler was founded in 1912. The family business is currently managed by the fourth generation and has two divisions: Pharma and Textile Care. Environment-friendly and future-oriented innovations, highest quality and responsibility for the conservation of resources are an integral part of our corporate philosophy. Our high-quality detergents and washing auxiliaries do not contain phosphates, zeolites, EDTA or NTA.

As an internationally oriented enterprise, Kreussler has three subsidiary offices in France, Italy, and the USA as well as technical field services in many other countries. For the deliveries to approximately 70 countries, Kreussler operates a network of competent partner companies. Production is exclusively at the corporate headquarters in Wiesbaden where the in-house R&D department is also located.

All the details given are correct to the best of our knowledge. They must be adjusted to suit operating conditions. We accept no liability in respect of this information.

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