

**TEXTILE  
SOLUTIONS.**

**Textile  
Care  
Solutions.**

**CHT**  
SMART CHEMISTRY  
WITH CHARACTER.

**SMART**

**UV POWER**

## **SMART UV POWER**

**UV-C TECHNOLOGY MAKES  
WASHING PROCESSES  
REVOLUTIONARY**

### **SUSTAINABLE AND CLEAN WASHING WITH UV-C ENERGY**

The innovative washing system from the R&D department of the CHT Group exploits the power of the UV-C technology. With SMART UV POWER your washing results will be excellent, especially on textiles which undergo great stress.

Thanks to the innovative UV-C technology the effluent load can be reduced in the washing process and water can be saved in the rinsing process. Make use of the smart power and wash your laundry with the sustainable synergies of physics and chemistry.

- ▶ Optimum stain removal
- ▶ High whiteness degrees
- ▶ Fibre protecting
- ▶ Reduces the COD and TOC values in the wastewater
- ▶ Improves the quality of the rinsing water
- ▶ Saves water
- ▶ Prevents microbial contamination in batch tunnel washers
- ▶ Supports the disinfectant protection (double safety)

## THE NEW DIMENSION OF WASHING

"Smart washing" is the success formula for innovative washing processes. Based on its many years of know-how in textile chemistry and its sensitivity for its customers' needs the CHT Group recently developed a revolutionary solution for sustainable washing processes.

With SMART UV POWER washing processes can be decisively optimised to save valuable resources and to reduce the impact on the environment. The intelligent combination of chemistry and physics opens up a completely new dimension for the complete industrial washing process.

## SYNERGIES OF PHYSICS AND CHEMISTRY

The UV-C reactor is a unit which can be integrated quickly and easily in each modern batch tunnel washer. Due to its simple handling and dosage the UV-C reactor can be optimally included in the standard washing process.

During the washing process a reactor activates the washing liquor in the clear wash zone with UV-C energy. During this process the liquor circulates several times in the tank before it enters the main wash process.

The effective soil removal in the clear wash leads to:

- ▶ a high quality of the rinsing water
- ▶ a lower effluent load
- ▶ reduced COD and TOC values

### PARTICULARLY FIBRE PROTECTING

The optimum combination with the Smart Chemistry solutions of the CHT Group additionally makes washing processes as fibre protecting as possible.

## GOOD FOR FIBRES AND FOR THE ENVIRONMENT

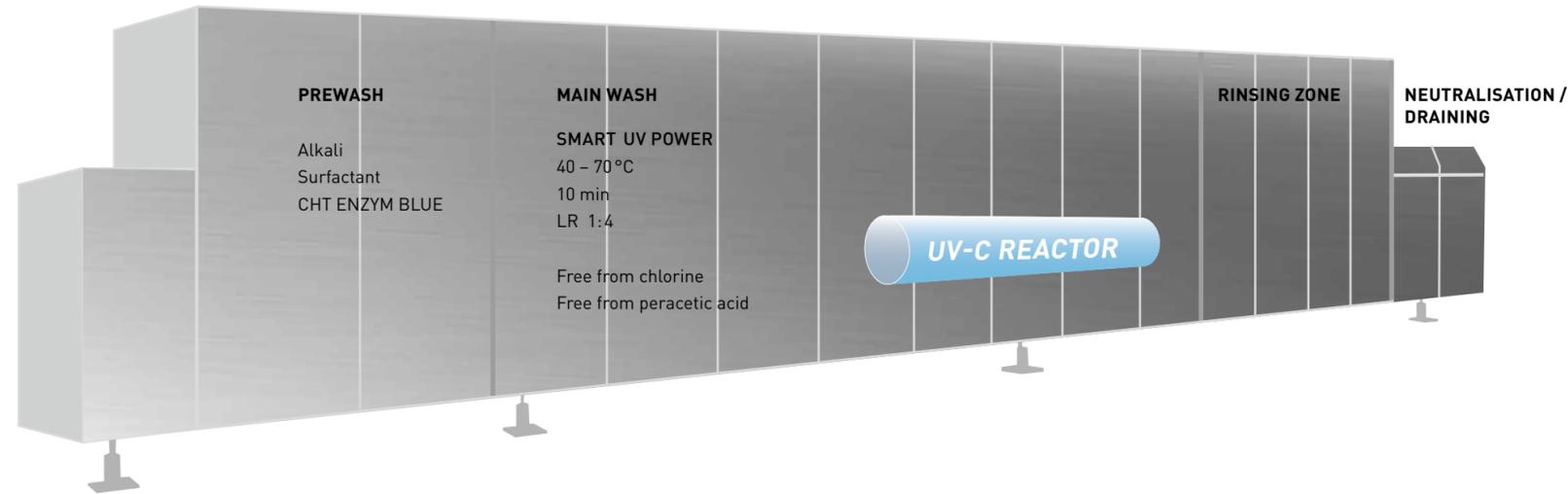
SMART UV POWER makes washing processes revolutionary, also in terms of the durability of textiles. The persistent abandonment of chlorine clearly increases the durability of textiles.

The measuring process of the average depolymerisation value shows that the damaging factor decreases in multiple washing trials. A cotton fibre has e.g. excellent values even after 50 cycles with SMART UV POWER. A clean-cut affair, also in economic terms.

## EXCELLENT SOIL REMOVAL

# 01

**PREWASH**  
with special enzymes.



# 02

**MAIN WASH**  
The UV-C reactor activates the complete washing liquor on the base of hydrogen peroxide. Free from chlorine and peracetic acids.

### EVALUATION OF THE Y VALUES WITH THE SPECTROPHOTOMETER

| Stain types               | Bed linen, washed at 60 °C with peracetic acid | Bed linen, washed at 60 °C with the UV-C technology based on H <sub>2</sub> O <sub>2</sub> |
|---------------------------|--|--|
| Wool grease, CO           | 50   | 57   |
| Motor oil, CO             | 54   | 60   |
| Soot / mineral oil, CO    | 35   | 38   |
| Blood, CO                 | 71   | 78   |
| Sebum, CO                 | 59   | 69   |
| Whole egg, CO             | 59   | 74   |
| Starch, CO                | 44   | 50   |
| Milk with cocoa, CO       | 44   | 56   |
| Vegetable fats / milk, CO | 82   | 85   |

The higher the so-called Y value, the better the stains can be removed.

### VARYING WASHING TEMPERATURES

With SMART UV POWER your washing results will be excellent at flexible and varying temperatures.

### ADDITIONALLY ENSURES THE DISINFECTANT PERFORMANCE

Thanks to its high stain and soil removal SMART UV POWER has an additional disinfectant effect. Moreover, the innovative washing solution efficiently prevents the microbial contamination of the machines.

# 03

**RINSE AND NEUTRALISE**  
Due to the high soil removal in the main wash we achieve an efficient rinsing process (water savings).

Brilliantly white, clean laundry with optimum stain removal. This is the new dimension of textile care with SMART UV POWER.



|   | Terry cloth Q1 | Terry cloth Q2 | WGK* | CO poplin |
|---|----------------|----------------|------|-----------|
| <b>Average depolymerisation value of the original material</b>            | 2017           | 2064           | 2039 | 2038      |
| <b>Average depolymerisation value after 50 cycles with chlorine</b>       | 1016           | 1048           | 971  | 914       |
| <b>S factor</b>   | 1.0            | 1.0            | 1.1  | 1.0       |
| <b>Average depolymerisation value after 50 cycles with SMART UV POWER</b> | 1888           | 1873           | 1818 | 1838      |
| <b>S factor</b>   | 0.1            | 0.1            | 0.1  | 0.1       |

\* wash cycle control strip

| S factor (damaging factor) |                       |
|----------------------------|-----------------------|
| 0.01 - 0.20                | very good, undamaged  |
| 0.21 - 0.30                | good, gently bleached |
| 0.31 - 0.50                | slightly damaged      |
| 0.51 - 0.75                | damaged               |
| > 0.75                     | strongly damaged      |

# POWER



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