

Train Wash

The complete programme

www.christ-ag.com



The Real Train Wash Factory



„Quality remains - long after the price has been forgotten.“

Gottlieb Daimler, founder of the >>Daimler-Motoren-Gesellschaft DMG<<

We at the Otto Christ AG see ourselves as one of the leading, most innovative car wash manufacturers worldwide. Owned by the family Christ for over 139 years, our company values our organic growth and the continuous improvement of our products.

Our main focus is and has always been innovation. We perceive changes as chances and are proud to produce a high tech product that is nevertheless durable and of the highest quality. Our machines offer unique features for each segment of the market and we are proud to always strive to develop them further. Our customers, our distributors and our suppliers are an integrated part of our innovation process and enable us to meet the market demands of tomorrow.

We are looking forward to supporting you in your successful wash business and being a part of your success story.

Otto Christ
C.E.O.



Headquarter of the Otto Christ AG,
Administration and production on over 35.333 m² roofed area



Christ production plant 2 - special equipment engineering



Parts-production in Pilsen (CZ) with over 29.082 m² roofed production space

Index

Overview

Your local contact	4 - 5
Colours	6
Washing materials	7
C1000 SOA	8 - 9
C5400 SOA	10 - 13
C7000 SOA	14 - 17
Product overview	18 - 19

TRAIN WASH C1000 SOA

A stationary wash unit for trains with or without pantographs, without being restricted by the length of the train.

TRAIN WASH C5400 SOA

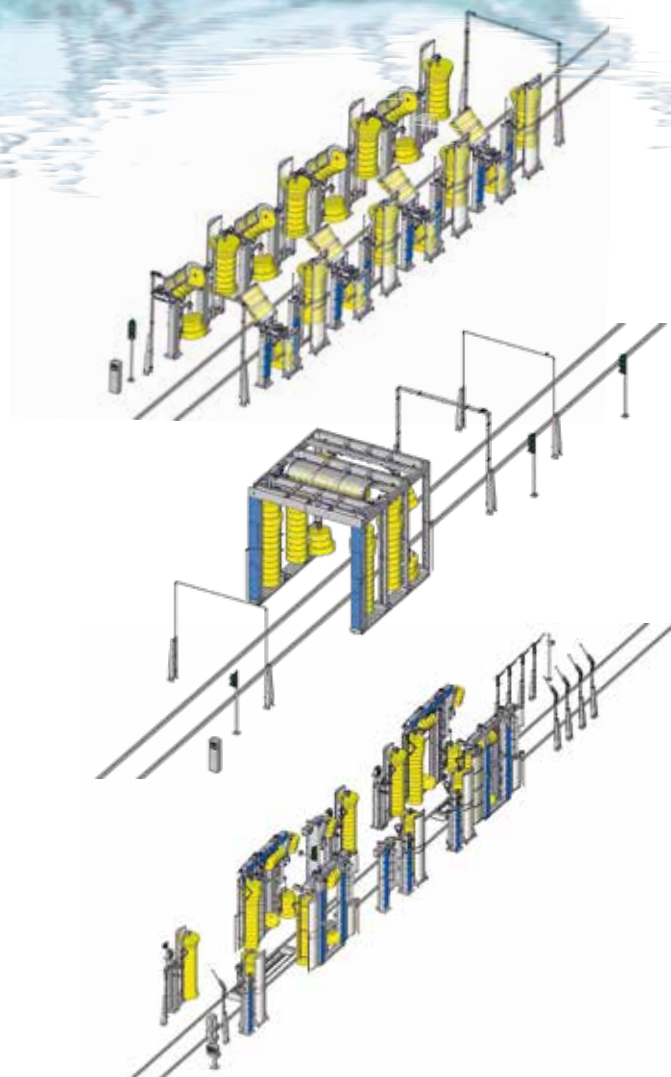
The C5400 SOA is a flexible wash concept for trains either as a stationary, semi-stationary or mobile wash without pantographs.

TRAIN WASH C7000 SOA

The train wash unit is a catenary wash concept for trains and trams with pantographs, either for semi-stationary or mobile washing.

TRAIN WASH C7000 SOA

The automatic cleaning of trains operating regionally and nationwide requires distinctly designed wash technique. Several factors such as the shapes and combinations of trains, their varying design dependent on their drive system, the varying type of surface dirt (insects, diesel smut, abrasions by the pantographs, etc.) make high demands on the cleaning performance and efficiency of the equipment. In addition, the right choice of cleaning agents to be used and the amount of exposure time before the physical brush wash is of paramount importance with regards to the final wash result.



Your local contacts

We offer high performance systems that are at the cutting edge of the industry. One of the reasons of our international success is our network of over 43 trusted distributors and 8 subsidiaries.

Wherever you are, one of our representatives will be happy to assist you. Each country has its unique culture, people and challenges. This is also true for the wash business. With our global



experience we are able to face all requirements: Even if you are facing unusual local demands, we will take up the challenge and develop new technologies to assist you in your business. Either

you contact our local representative or us directly by:

phone: +49/8331/857-0 or by

e-mail: sales@christ-ag.com



Christ
WASH SYSTEMS

Colours

Be creative!

All models are colour-customizable. The steel frame is always galvanized and powdercoated in RAL 9007 for all machines.



Name	Plastic cladding	PE-BRUSH	PA-BRUSH
Ultra marine blue RAL 5002	✓	✓	✗
Sky blue RAL 5015	✓	✓	✓
Fire red RAL 3000	✓	✓	✓
Yellow green RAL 6018	✓	✓	✗
Traffic light green RAL 6024	✓	✓	✗
Traffic light yellow RAL 1023	✓	✓	✓
Traffic light orange RAL 2009	✓	✓	✗
Pure white RAL 9010	✓	✓	✓
Telegrey 4 RAL 7047	✓	✗	✗
White aluminium RAL 9006	✓	✗	✗
Grey aluminium RAL 9007	✓	✓	✗
Jet black RAL 9005	✓	✓	✓
SVG-Design	✗	✓	✗

Please note that colours and pictures might differ from the actual colours on the machine. The indication of the RAL colour tones are only approximations and may vary on different surfaces and materials.

Brush Materials

For each application the right material



POLYETHYLENE BRUSH (Standard brush included with all systems)

We recommend this proven washing material for plant concepts which are designed for train and tram wash.



Features:

- Normal stability
- Maximum cleaning efficiency
- Average material abrasion on the vehicle paint
- Multi-layered colour design options
- Optimum wash result for rough surfaces

Available for:

| C1000 SOA

| C5400 SOA

| C7000 SOA

POLYAMID BRUSH

Polyamid is a harder material which is more suitable for washing trains.
(Increased dirt)



Features:

- Maximum stability
- Maximum cleaning efficiency
- Average material abrasion on the vehicle paint
- Optimal wash result for rough surfaces

Available for:

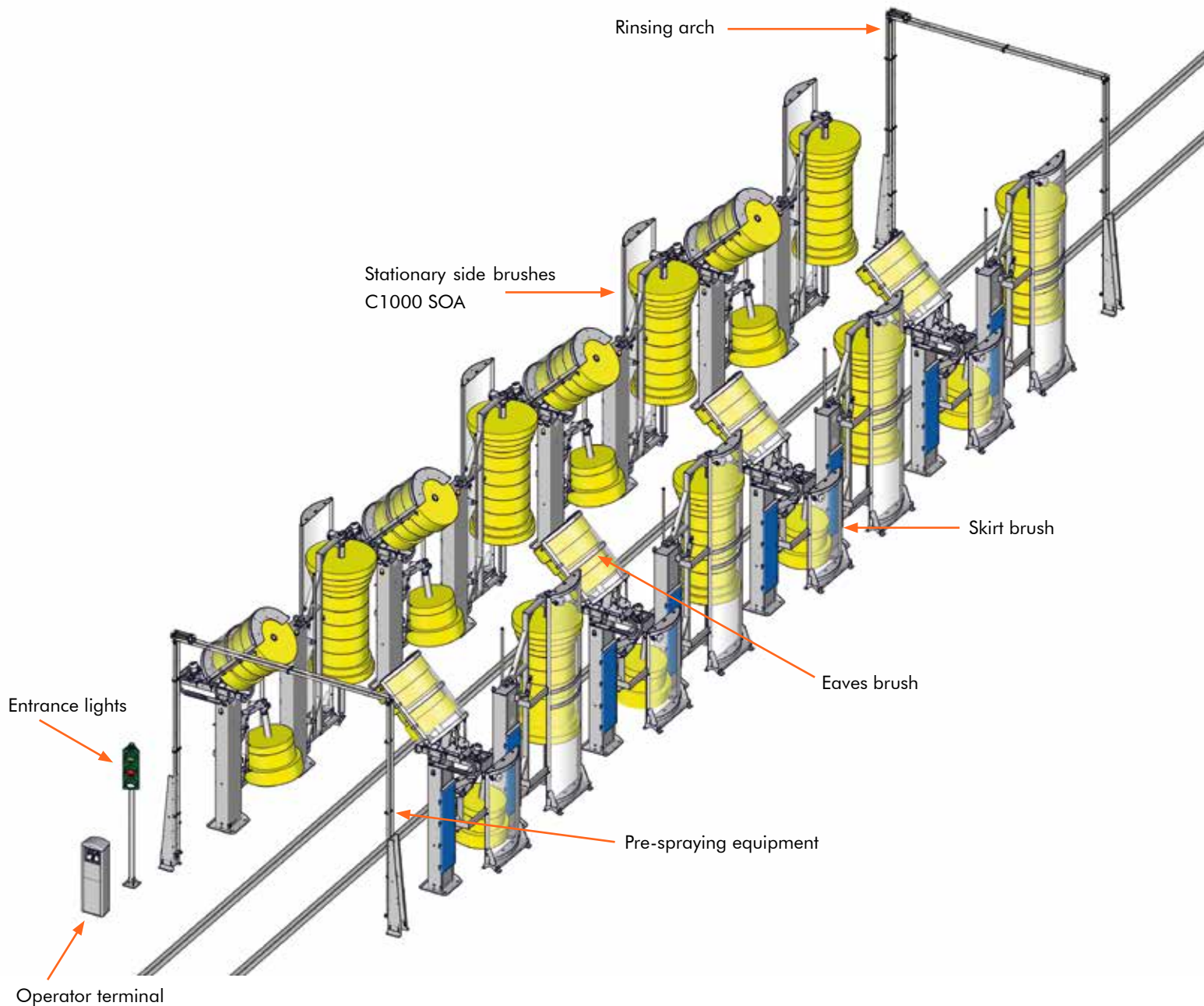
| C1000 SOA

| C5400 SOA

| C7000 SOA

C1000 SOA

Stationary wash concept



The train wash unit model C1000 SOA can be designed as a stationary wash unit for trains with or without pantographs, without being restricted by the length of the train. The side surfaces and alternatively the slanted roof surfaces can be cleaned during the drive-through process (with additional wash cylinders at a

surcharge). Depending on the speed at which the train drives through the wash unit, the unit is designed with a respective amount of cylinder pairs for applying the wash chemicals and washing off the dissolved grime. The unit is completed with free-standing spray and rinse stands.

Stationary wash for trains with or without pantographs



This wash unit concept can be installed outdoors as well as in drive-through wash halls. The frame construction of the Train Wash C1000 SOA comes in the standard colour RAL 9007 grey aluminium and is powder-coated.

The vehicle passes through the wash, self-propelled, for the side wash. Front and rear wash is not possible.

Features:

- Ideally suited for short and long vehicles (unlimited wash length)
- Short washing times
- Short washing hall/washing bay possible

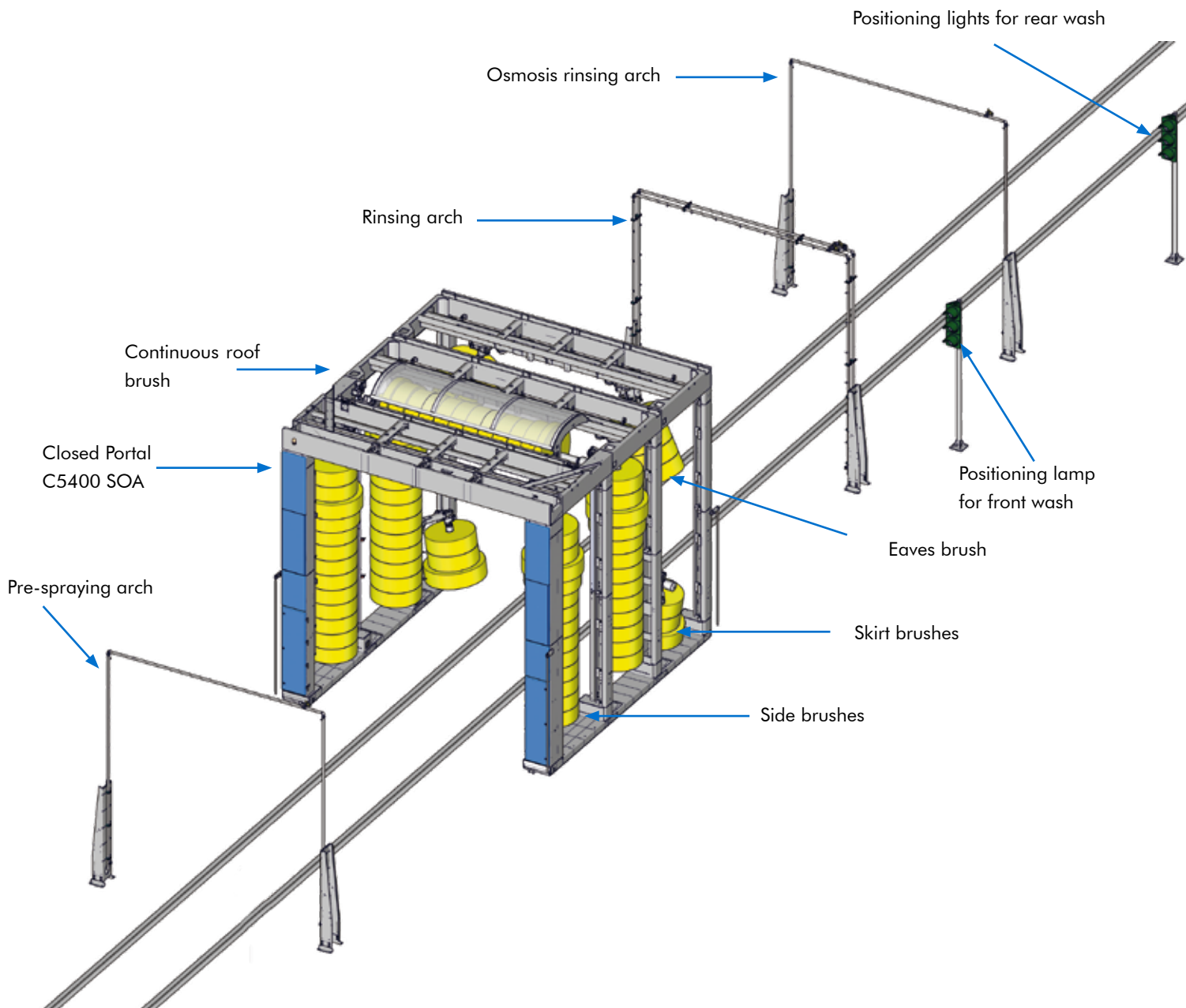


C5400 SOA

Flexible wash concept

The TRAIN WASH unit C5400 SOA can be designed as a stationary, semi-stationary or mobile wash for trains without pantographs. The TRAIN WASH C5400 SOA can be individually designed.

The train is positioned before or after the washing system for front/rear wash and the vehicle passes through the wash, self-propelled, for the side wash. The roof wash is optional.



Stationary wash, semi-stationary wash, mobile wash for rail vehicles

The basic model can be upgraded with skirt cylinders as well as eaves brushes for the lower side areas of the train at a surcharge.



Our systems are all standardly equipped with a PLC unit. Through intelligent power measuring the side rollers ensure a consistent, thorough washing result.

C5400 SOA

Flexible Wash Concept



This wash unit concept can be implemented in a wash hall as well as outdoors.

The frame construction of the Train Wash C1000 SOA comes in the standard colour RAL 9007 grey aluminium and is powder-coated.

Stationary wash features:

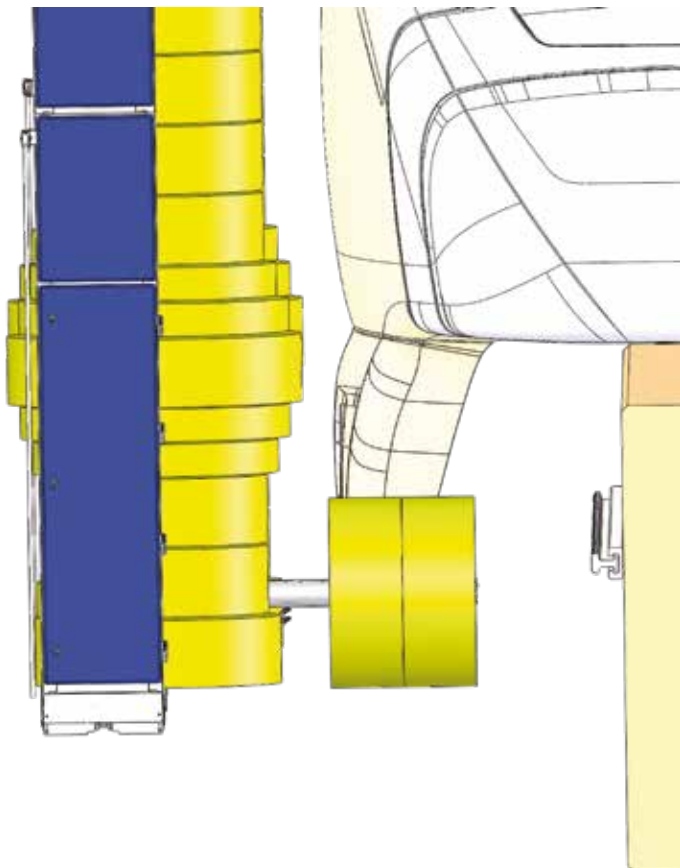
- All washing areas possible
- Medium to long washing times depending on vehicle length and washing sequence
- Appropriate length of wash hall/wash plates required

Features semi-stationary wash:

- All washing areas possible
- Short to medium washing times depending on vehicle length and washing sequence
- Short wash hall/washing plates possible

Stationary wash, semi-stationary wash, mobile wash for rail vehicles

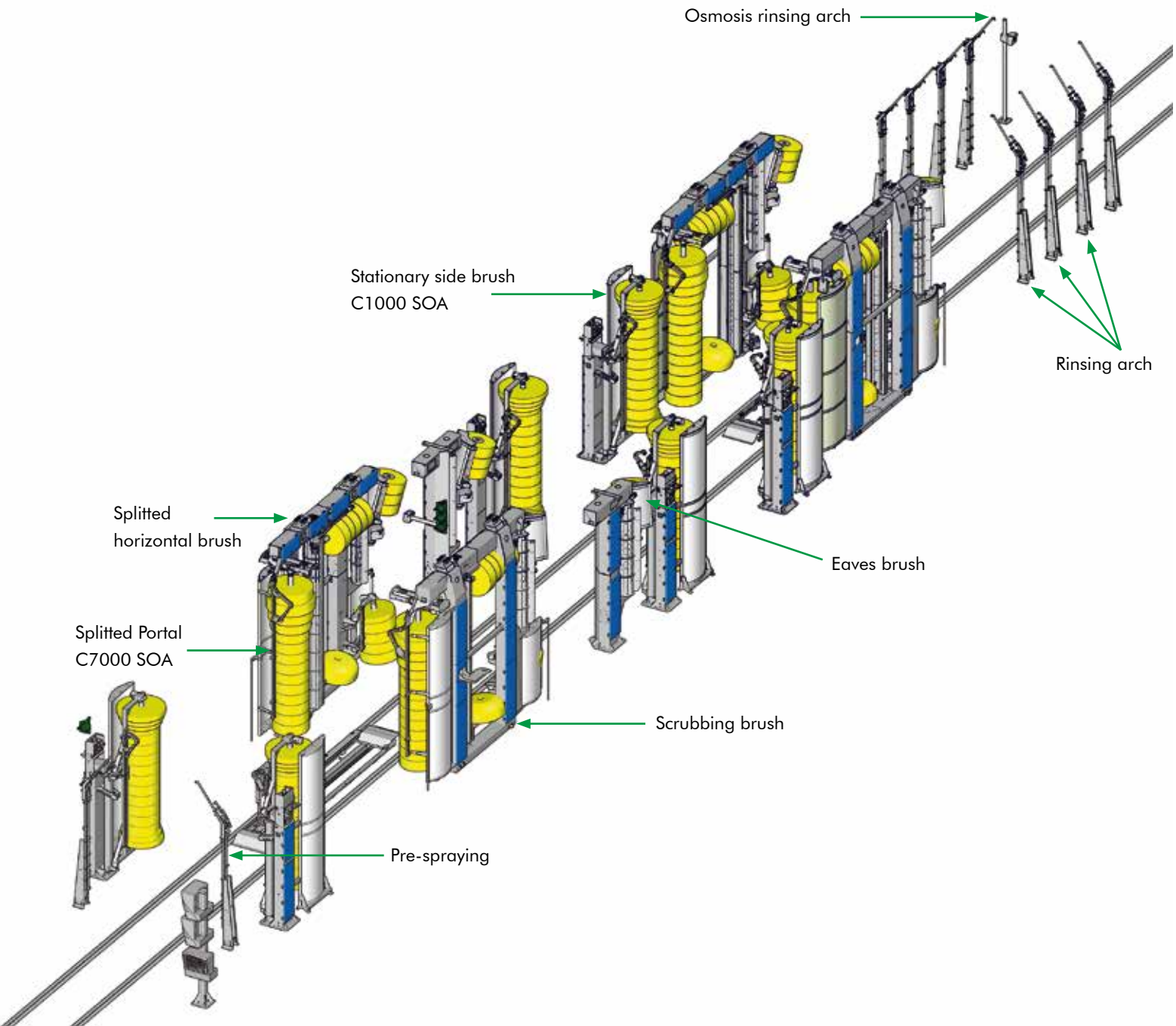
Christ distinguishes itself from the others by the fact that our engineers find solutions for even the rare and difficult applications. As can be seen from the picture on the right, we have constructed a train wash for a monorail train. In principle, this was a challenge because the „track bed“ has a completely different structure and this had to be respected in accordance with the dimensions and movements of the system's engineering.



Another challenge arose with this project – the train runs on supports and the carriages are strongly curved downwards - therefore the bottom part of the train plays a much stronger role than in normal trains and must be more intensively cleaned. Our technical designers developed a special version of the skirting cylinder cleaning system which is up to the task.

C7000 SOA

Flexible Wash Concept



The train wash unit model C7000 SOA can be designed for stationary, semi-stationary or mobile washing of trains and trams with pantographs.

This are 2 lateral units without traverse. The concept C7000 SOA could adapted with additional stationary sidebrushes model C1000 SOA.

TRAIN WASH C7000 SOA

Catenary Wash Concept

The round front and rear surfaces can also be cleaned by the hinged, swivelling, split, horizontal brushes.

The frame construction of the TRAIN WASH C1000 SOA comes in the standard colour RAL 9007 grey aluminium and is powder-coated.



The side cylinders are controlled by an active power measurement for even and thorough wash results. Even slightly curved side panels are cleaned perfectly by the different trimming lengths of the brush shaft.

C7000 SOA

Flexible Wash Concept

The vehicle wash can still be carried out despite the pantograph being folded out with the 2 swivelling split horizontal wash cylinders.

Even rounded vehicle front surfaces are spotlessly cleaned due to both brush halves being able to be adjusted to various angles.

Drying blowers are also optionally available for the TRAIN WASH at a surcharge.



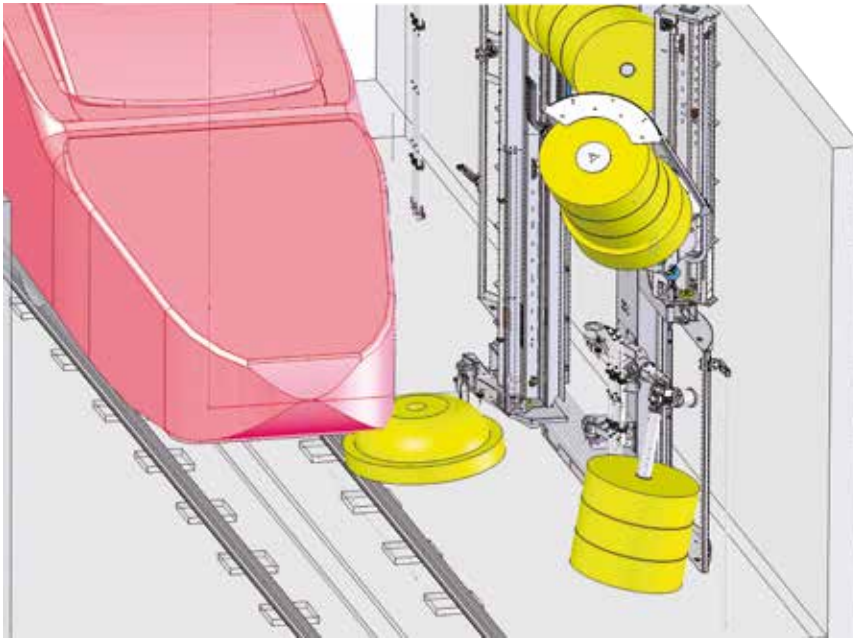
The control panel is available in different heights.

Stationary wash features:

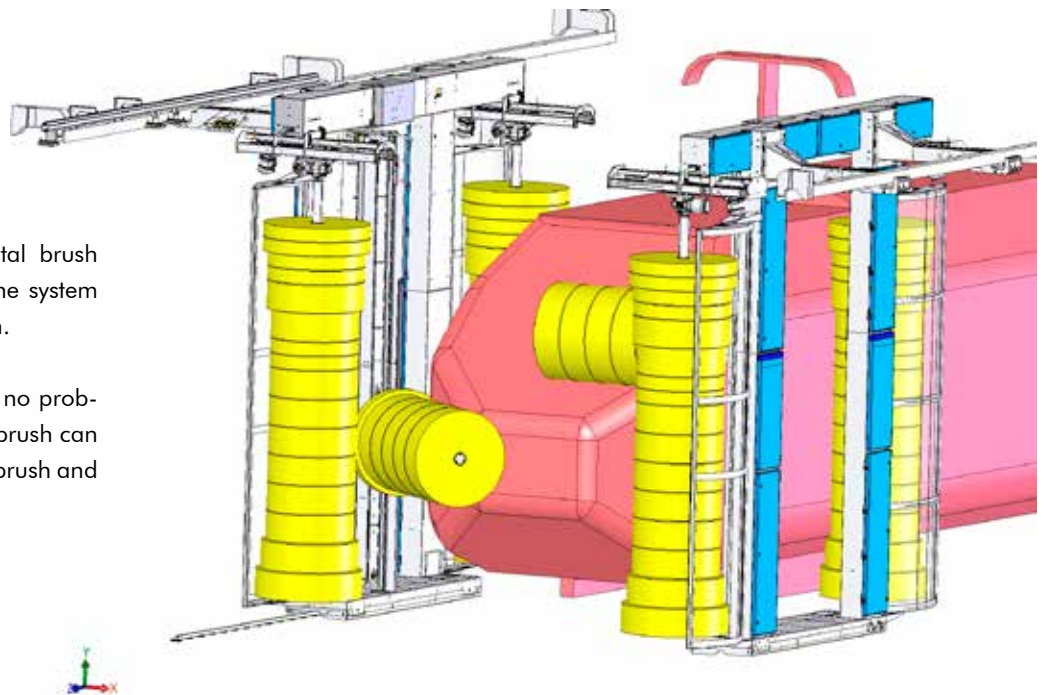
- All washing areas possible
- Medium to long washing times depending on vehicle length and washing sequence
- Appropriate length for wash hall / wash plates necessary

Semi-stationary features:

- All washing areas possible
- Short to medium washing times depending on vehicle length and washing sequence
- Short washing hall / wash plates possible



The TRAIN WASH can be equipped with a so-called spoiler/scrubbing brush to wash the contours of the train.



In addition to the split horizontal brush there is the possibility to have the system equipped with an OPTI 3D brush.

Particularly difficult contours are no problem for the OPTI 3D brush. The brush can also be placed as a roof slanted brush and well as a skirting brush.

All the products at a glance:



Wash tunnels EVOLUTION

The flexible modular construction system for your car wash, whether short-wash or high-performance system. The focus of the EVOLUTION series is on quality, operator-friendliness and optimized washing processes. A wide range of alternative technologies and components opens up numerous combination options and offers the optimum solution for everyone's needs.



Wash park SKYLINE

The modular SKYLINE wash bay is the right choice for any location. Two roof designs and outer cladding that can be configured in many ways offer the operator the option to customise. When creating the SKYLINE system, emphasis was placed on energy-efficient technology that optimised operating costs. The equipment can be freely configured so that add-on programs for increasing turnover can be incorporated.



Wash park SKYWING

SKYWING is the eye-catcher in the wash bay area. The attractive roof design, bathed with light, provides appeal from afar and offers car washers a welcoming atmosphere. In doing so, SKYWING also offers the same flexible options for configuration in setup and wash bay equipment as the SKYLINE wash bay.



Commercial vehicle wash units for trucks

Christ also offers highly specialised wash systems for trucks. Technical solutions, such as the automatic mirror bypass for trucks or JETSTREAM wraparound high-pressure wash with oscillating nozzles, are only offered by Christ wash systems. Special solutions for forwarding agents, contract washing companies and public transportation companies ensure the best washing result at low operating costs.

Roll over wash units

We offer the right car wash for every need. With more than ten different models, we can provide the perfect solution for any application. From our basic models, which promise reliability at a low price, to our top models, which will help your wash business stand out from the crowd with its functions that are unique in the market. Each of our roll over wash units can be fitted with a number of innovative options and technologies to offer the perfect solution for your car wash business.



Vacuuming System

For large car washing centres with a high demand for vacuuming places Christ offers the central suction Hurricane for the vacuuming of up to 20 cars. Depending on the particular model, this can either be offered for free, included in the cash wash, or to be paid for. Hurricane is a flexible system which can be adapted perfectly to local conditions.



Christ CAR CARE - Heavy Duty Line

TRAM PRECLEAN is a strongly acidic special cleaner for pre-cleaning rail vehicles. It is applied with a dedicated spraying device in the wash system. The mineral dirt (e.g. overhead line dust) dissolved in this way can be washed off more easily during the subsequent brush washing.

TRAM WASH is a strongly alkaline special brush shampoo, which has been developed for thoroughly cleaning rail vehicles. It is either dosed directly into the train/tram wash system for brush washing, or applied via a chemical pre-spraying device before the main wash.



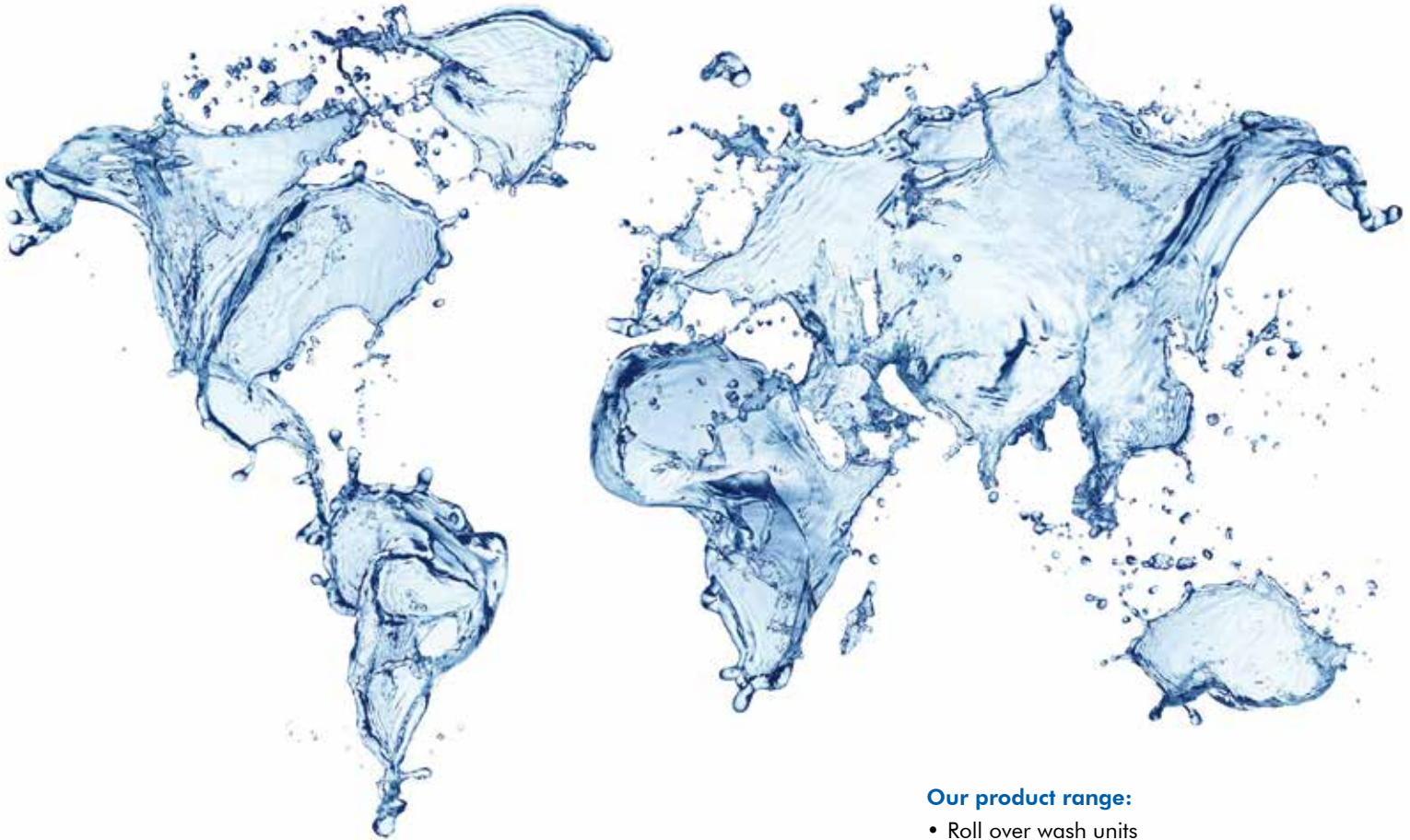
Xpress

www.christ-carwash-shop.com

Christ Xpress is the point of access for all car wash equipment. The catalogue and online shop offer Xpress users everything they need for washing businesses, from extra units to work clothes and detergents, to a comprehensive assortment of advertising materials.



Everything from a single source ...from Christ Wash Systems



Our nation-wide customer service guarantees fast help.

- Nation-wide on-site service
- Service central with hotline
- Quick supply with expendable and spare parts already in the service vehicle

Our services:

- Location analysis
- Profitability calculations
- Project planning
- Operator workshops
- Financing concepts
- Marketing help

Our product range:

- Roll over wash units
- Wash tunnels
- Water preparation units
- Self-service wash systems
- Commercial vehicle wash units
- Self-service vacuum cleaners
- Advertising material and accessories about the car wash
- Car wash and care products
- Customer retention system and video surveillance

