WASH TUNNEL
The variable modular system

Christ
WASH SYSTEMS

We are here to advise you!

We are only able to scratch the surface of our comprehensive offer in this brochure.

Our professional consultants are happy to work with you personally in creating an individual site analysis.

Should you have any questions or inquiries, please do not hesitate to contact us.

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einfahrt
WILLKOMMEN

SOAKING ZONE

Pre-spray systems

Good weather means wash time and rush hour at the wash tunnel. Hot vehicle surfaces are cooled down before the wash takes place, making the following manual or automatic high-pressure pre-cleaning even more effective. In winter operation, road salt dirt remnants are dissolved.

Pre-spray device, aluminum premium arch, illuminated, passage height 3.550 mm

Pre-spray device, aluminum premium arch, non-illuminated, passage height 3.550 mm

Pre-spray device, stainless steel arch, non-illuminated, passage height 3.550 mm

MANUAL PRE-WASH ZONE

Manual pre-wash systems

Manual vehicle pre-cleaning with a pre-cleaner and high-pressure is the classic concept of a full-service wash tunnel. Wash customers view vehicle pre-cleaning by hand as being an added bonus for even more thorough wash results. This service in turn is also rewarded by a higher average wash price.

Supply device, high-pressure
Powerful high-pressure supply for vehicle pre-cleaning with cold water (employment of customer provided warm water up to 55°C is possible). Pump pressure variants: 85 bar or 120 bar.

Deck rotary head
For comfortable high-pressure hose guidance all around the vehicle. A single or a double deck rotary head can be used depending on space available in the pre-wash zone.

High-pressure lance
The main tool for pre-wash personnel with its light-weight design and handy pistol grip, make pre-cleaning work easier. Available lance lengths: 650 mm or 1.050 mm.

Lance holster
For storing the high-pressure lance. Pump activation through integrated lance contact switch. Drainage of the water via an integrated drain, circulated for frost protection purposes.

MANUAL PRE-WASH ZONE

Manual pre-wash systems

Pre-spray device, manual

For application of fly and rim chemicals including a chemical spray lance, storage tank and chemical injection in the supplied water. Hose guidance via a deck rotary system or wall installation.

Sales counter

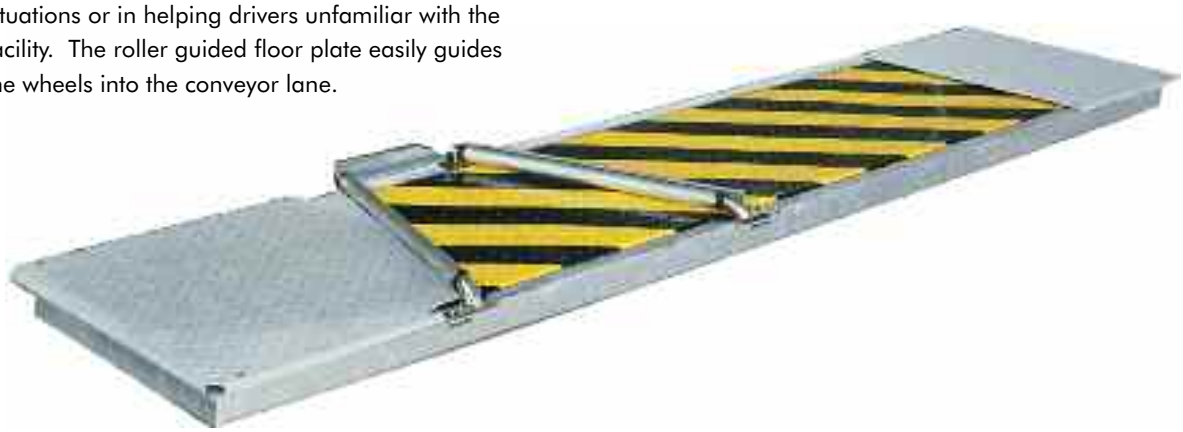
A combination of mobile cabinet with cash drawer and integrated user terminal. The user terminal is available as a high-end touch screen version or rugged version with stainless steel buttons. An integrated thermal printer is included and can print company name, greeting, chosen program, price, GST and date. The lockable cash-drawer and extra storage for accessories and giveaways is also integrated in this mobile cabinet.

CONVEYOR EQUIPMENT

Entry aid and push-on system

Wheel correlator

This entry aid in the chain conveyor system is a necessary accessory in overcoming difficult entry situations or in helping drivers unfamiliar with the facility. The roller guided floor plate easily guides the wheels into the conveyor lane.



Feed-in conveyor system, plastic
For wash tunnels with customer corridor.

The vehicle is driven over the wheel correlator and stopped on the feed-in conveyor (wheel carrier is located on top in centre position as a brake barrier).

Feed-in succeeds following program selection on the control console. The feed-in conveyor is initiated and the wheel carrier pushes the right front wheel forward until the left front wheel is in the main conveyor (double chain conveyor or plate conveyor). At this point, the vehicle is taken over and pulled by the main conveyor.

CONVEYOR EQUIPMENT

Double chain conveyor

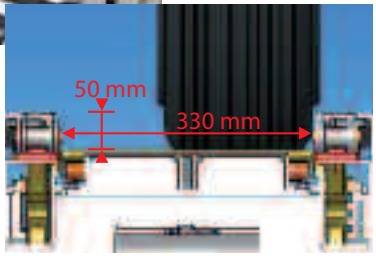
Double chain conveyor

Vehicles are conveyed through the vehicle wash unit by means of chain driven rollers moving at a constant speed. A frequency controlled gearless drive is construed according to the chain length and is used as the drive unit. This drive sits directly on the motor shaft.

An integrated overload protection device switches the drive off during an emergency. Therefore, a shearing pin is no longer necessary. The conveyor speed can be regulated and the respectively required capacity can be adjusted to.

Additional rim protection

Rim damages in the conveyor device are minimized by use of protective caps.



Conveyor dimensions:

Maximum wheel width: 330 mm

Over-ground conveyor height: 50 mm

CONVEYOR EQUIPMENT

Plate conveyor

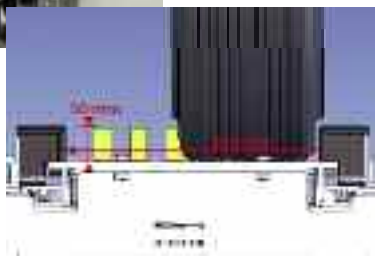
Plate conveyor, plastic

The vehicles are conveyed through the wash stations by the wheel carriers integrated in the plastic plates. Plastic plates with increased material thickness are delivered for conveyor lengths starting at 36.325 mm.

The left wheels stand during the drag process on the band (no rolling movement). A frequency controlled gearless drive is used as a drive unit just as with the double chain conveyor. The conveyor speed can be adjusted to correspond to the required capacity.

Additional rim protection

Employment of plastic plates prevents rims from being damaged in the conveyor device. The upturn beams are integrated in the band and move with the wheel and serve for wheel protection and stabile guidance.



Conveyor dimensions

Maximum wheel width: 360 mm
Above-ground conveyor height: 50 mm

AUTOMATIC PRE-WASH ZONE

Pre-spray systems

Foam spray / pre-spray device, aluminum premium arch, illuminated, program indication

Eye-catching entrance portal made from powder-coated aluminum with vehicle and height identification system. Front side with translucent, labeled plastic plates.
Illuminated system:
1 Lamp compartment in lateral beam, 1 lamp compartment in left and right side beam, up to 6 additional illuminated LED-program indications in left side beam,

Foam arch design:
Foam jets with foam reactor, dosing pumps
Pre-spray arch design:
Spray jet device, dosing pump

Running program display:
For indication of advertising or quotation texts. With PC-software for free text programming. Available in orange or blue.

AUTOMATIC PRE-WASH ZONE

Pre-spray systems

Foam spray / pre-spray device, aluminum premium arch, non-illuminated
Front side covered with labeled plastic plates

Rim spray device, free-standing
A special rim cleaner is exactly applied at the right time to the rims by means of a special dosage system controlled by a light barrier. Rim dirt is optimally softened in order to be removed by the following wheel wash devices.

AUTOMATIC PRE-WASH ZONE

Pre-wash systems

High-pressure pre-wash system, JET STREAM, stainless steel arch

An effective and powerful automatic high-pressure wash is strongly recommended for express wash concepts in order to prepare the vehicle for the subsequent brush wash.

The JET STREAM powerfully sprays the vehicle with it's oscillating high-pressure jet devices (0° point of spray jets). A working pressure of approx. 50 bar at approx. 138 ltr./min. can be achieved in combination with two piston membrane pumps (recycled water up to 250 μm particle size). An optimized front and rear wash is guaranteed by the directional adjustment of its work angle.

You have the choice:

Hydraulic drive devices for the spray head available

Electric drive devices for the spray head available

Supply device for JET STREAM

Two piston membrane pumps for a working pressure of approx. 50 bar.

Medium-pressure pre-wash system, stationary, stainless steel arch, non-illuminated
The rectangular pre-wash arch made for the vehicle medium-pressure wash is made from stainless steel and is designed as a stationary portal frame.

The valves, the manometer and the piping are mounted inside so that they can be easily accessed.

AUTOMATIC PRE-WASH ZONE

Wheel wash systems

Wheel / sill wash device, longitudinal

For intensive cleaning of the wheels and the lower vehicle side parties by horizontal wash cylinders on the left and right sides. Both horizontal wash cylinders pivot in the driving direction, mounted in a stand construction and adjust to the exact width of each vehicle.

The wheel wash principal remains the same: The wheel area is washed by the wheel turning while passing the wash cylinder (left wheels turn on double chain conveyor along the cylinder).

The frame is serially designed in stainless steel.

You have the choice:

- Hydraulic drive devices for cylinders available
- Electric drive devices for cylinders available

Wheel wash device,
wheel following
Both wheel wash brushes are
synchronously and pneumatically
guided on the wheel pair to be washed. Correct control of the applied brush pressure as well as correct inner irrigation of the brush guarantees a thorough rim wash. The wheel washer is activated via a light barrier system. Starting at this point it runs frequency controlled 1.000 mm with the wheels.

The frame is serially designed in stainless steel.

Wheel wash device
Stabile linear guidance of the inner, irrigated wheel wash brushes. High cleaning performance through pulsating brush grip and rotation direction change. Wheel recognization via light barrier.

AUTOMATIC PRE-WASH ZONE

Wheel wash systems

Wheel / sill wash device HP-ROTATION, accompanying

Effective high-pressure cleaning for sill and rim areas. HP-ROTATION is especially designed for installation and application following the wheel brush wash unit. Two oscillating high-pressure devices wash dirt off of each side (0° jets) of the vehicle in an accompanying movement (1.000 mm).

The vehicle front and rear are washed by a pneumatic pivoting movement. A working pressure of approx. 50 bar at approx. 69 ltr./min can be achieved in combination with two recycled water suitable piston membrane pumps (up to 250 μm particle size).

The frame is serially designed in stainless steel.

Wheel / sill wash device HP-MATRIX, accompanying
For high-pressure cleaning of sill and rim areas and especially wheel arches. This aggregate is the ideal complement for wash tunnels with an express wash concept. Large dirt particles are thoroughly removed and the vehicle is ideally prepared for the following wash stations. Two oscillating high-pressure devices wash dirt off of each side (0° jets) of the vehicle in an accompanying movement (1.000 mm). The vehicle front and rear are washed by pneumatic pivoting. A working pressure of approx. 50 bar at approx. 138 ltr./min can be achieved in combination with two recycled water suitable piston membrane pumps (up to 250 μm particle size).

The frame is serially designed in stainless steel.

Supply device for HP-MATRIX
Two piston membrane pumps for a working pressure of approx. 50 bar

AUTOMATIC PRE-WASH ZONE

Wheel wash systems

Wheel / door sill wash device HP-TIREJET for JETSREAM, stainless steel

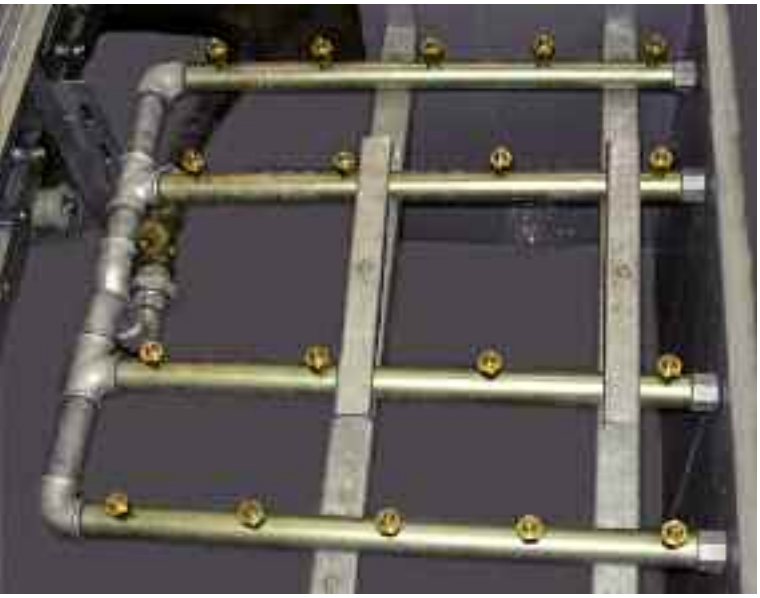
The HP-TIREJET is compactly mounted in the foot of the JETSTREAM. This device cleans the sill and wheel area using high-pressure. Two motorically driven, 360° rotating high-pressure devices spray each side of the vehicle and release stuck-on dirt. In combination with the fitting supply device, a working pressure of approx. 51 bar at approx. 69 ltr./min. can be reached.

AUTOMATIC PRE-WASH ZONE

Under-chassis wash systems

Medium-pressure spray device for front, under-body and rear, floor installation above-ground

Designed for touchless cleaning of the lower front and rear surfaces with medium-pressure. The water jets overlap underneath the vehicle in the wash program “under-chassis wash”. This aggregate is capable of being retrofitted in wash tunnels with existing foundations, due to its above-ground installation. With the respective supply device, the device can be operated with a working pressure of approx. 15 bar at approx. 100 ltr./min..



Under-chassis wash unit,
stationary nozzle fitting below-ground

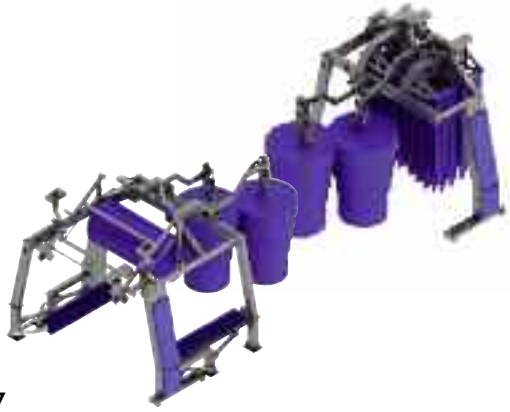
Additional program for cleaning the under-body area of the vehicles. The nozzle fittings are mounted below-ground in the foundation recess. Grid covering and an installation frame are included in the scope of delivery. In combination with the fitting supply device, a working pressure of approx. 13 bar at approx. 125 ltr./min. can be reached.

MAIN WASH ZONE

Hybrid technology

Definition "Hybrid"
In technical terms, the word "hybrid" refers to a system in which two technologies are combined.

Christ hybrid technology
This technology is employed in our high-performance wash tunnels made from stainless steel (from Christ AG). **The wash cylinder drives are available in hydraulic or in electric design in connection with frequency converters** for setting the cylinder rotation speed. High-performance conveyor drives allow for speeds up to 14 mtr./min., eliminating excessive waiting queries.



You have the choice:

Hydraulic cylinder drive devices available

Electric cylinder drive devices available

Frame system COMPACT-HYBRID
Diverse wash cylinder systems can be integrated in the COMPACT-HYBRID stainless steel frame systems.

Roof cylinder extension system KINEMATIC
KINEMATIC is the doctrine of the movement of bodies in a space. Our KINEMATIC roof cylinder moves without aid of lifting mechanics over the horizontal vehicle surfaces and around the rear of the vehicle, washing these surfaces easily and flawlessly. A counter weight is used for balancing and a pneumatic cylinder for safety reasons.

Best results and optimum wash safety are achieved by changing the brush rotation direction.

Best wash results and optimum wash safety are achieved by the **brush rotation direction change** – even when washing with textile wash material.

MAIN WASH ZONE

Hybridtechnik Waschaggregate

Frame system COMPACT-HYBRID
The frame layout enables diverse Christ wheel wash systems to be installed directly under the roof cylinder KINEMATIC, i.e. under the wash mitter.

All-around wash extension system, 2 cylinders, mounted on rear
The all-around washer is the core wash aggregate. Both rear mounted brushes thoroughly clean the front, sides and rear by means of a cross-over, wrap-around wash movement.

All-around washer extension system, 2 cylinders, mounted on frontside
This central wash aggregate can also be mounted on the front side. The two front mounted brushes clean well the front, sides and rear by performing a cross-over, wrap-around movement.

Wash mitter extension system
This is an alternative to the roof cylinder and can be integrated in the frame (crosswise). The swinging textile strips reach the horizontal surfaces of the vehicle. A polishing spray device can be mounted in front of the swinging wash element.

MAIN WASH ZONE

Hybrid technique wash aggregates

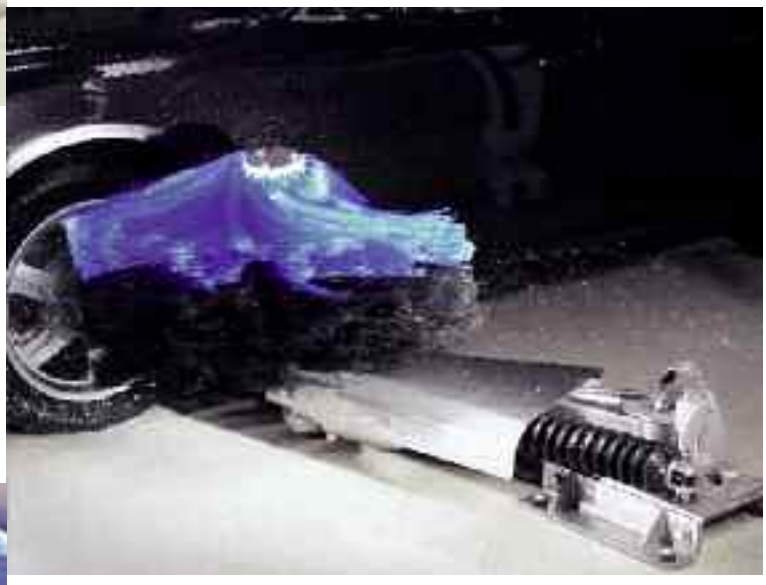
FLEX-EXPRESS free-standing

The special aggregate for wash tunnels with high wash throughput and for express wash tunnels. Both all-around wash cylinders are mounted in a free-standing stainless steel portal frame. By means of an additional joint (with air control), the cylinder can also pivot-in on the rear of the vehicle during the all-around wash process, perfectly cleaning not just the front and side vehicle areas but also the rear areas – and that at a conveyor speed of up to 12 mtr./min..

FLEX-EXPRESS extension system

The successful concept of the FLEX-EXPRESS has been transferred as an add-on kit to the standard hybrid technique wash portal. This enables the all-around wash cylinders to also be able to pivot-in on the rear of the vehicle in shorter hybrid technique wash tunnels. One cylinder is mounted on the rear of the first portal, the second cylinder of the cylinder pair is attached to the front side of the second wash portal. Parallel to the free-standing FLEX-EXPRESS, the second jointed arm (pneumatically controlled) pivots in on the vehicle's rear. This substantially improves the rear wash - even at a conveyor speed of up to 12 mtr./min..

Contour wash unit KONTEX-HYBRID,
2 Cylinders, WH 1.100mm
A substantial component of the wash tunnel. This unit is used for washing the sill and fender surfaces as well as the lower side surfaces. The frame is made from stainless steel.
Side wash height: 1.100 mm.



Contour wash unit MINI-KONTEX-HYBRID,
2 Cylinders, WH 500 mm
Special aggregate for the sill area, the lower side surfaces and the rims. Slanted position can be adjusted. Frame made from stainless steel.
Side wash height: 500 mm.

Contour wash unit VAN-KONTEX-HYBRID,
2 Cylinders, WH 1.900 mm
Can be used for washing vehicle side surfaces as well as a side polishing aggregate in the polishing zone (profiled cylinder trimming). Frame made from stainless steel. Side wash height: 1.900 mm.

MAIN WASH ZONE

Contour technology wash components

Contour technology washes vehicles gently and thoroughly. This tried and true wash technology has proven to be just as recommendable for new sites as for sites to be modernized.

Wash portal contour technology, ROTEX-2, 2-cylinders

The stabile, galvanized and painted portal frame is cladded with plastic elements. Pneumatically controlled and oscillating side cylinders guarantee a most effective function. The side cylinders adapt to the vehicle's front and rear area as well as to the window areas by means of the slanting cylinder positioning. The wash portal's side cylinders can be equipped with the patented, unique jointed brush device from Christ AG, so that even the upper and lower side parties of rounded vehicle side surfaces are completely washed.

Optional
MINI-KONTEX-HYBRID
(s. S. 22)

Wash portal contour technology, ROTEX-3, 3-cylinders
The ROTEX-3 portal is the main wash aggregate in the contour technology wash tunnel from Christ AG. The stabile, galvanized and painted portal frame is cladded with plastic elements. Integrated irrigation with a shampoo dosing pump ensures full-coverage surface pre-rinse before the wash cylinders. The side cylinder system is as per the wash portal ROTEX-2 and can also be optionally extended with the patented jointed brush device from Christ AG.
This portal combined with a pneumatic rear-following horizontal wash cylinder forms a compact wash tunnel component, which can be optimally integrated between existing elements for wash tunnel modernisations.
A second ROTEX-3 or ROTEX-2 portal can and should (where space allows) be subsequently installed following the first ROTEX portal. The portals are positioned off the centre of the wash axis to obtain a centre cross-over wash by the side cylinders.

More wash power on problematic zones
The rear following horizontal wash cylinder (roof cylinder) has longer contact on the front and rear.

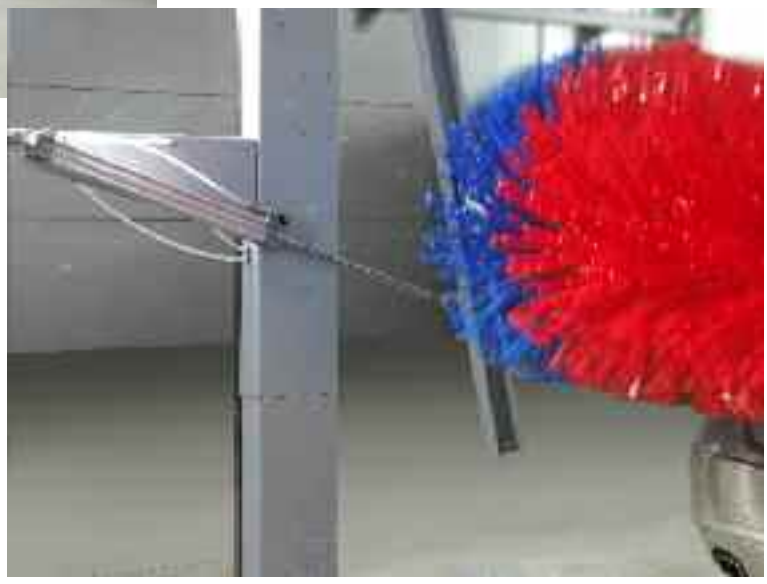
MAIN WASH ZONE

Contour technology

Wash portal contour technology ROTEX-1, 1 roof cylinder

Rear-following roof cylinder mounted on self-contained portal frame. Portal frame made from stainless steel, galvanized and painted. The roof cylinder washes the front, hood, roof, trunk and rear.

Can also be used as a polishing roof cylinder (rub-in of previously applied foam gloss polish). In order to ensure side surface polishing of vehicles, we recommend free-standing contour cylinders following the roof cylinder (see page 22).



Pneumatic cylinder ensures the rear-following movement of the roof cylinder on the vehicle's rear

MAIN WASH ZONE

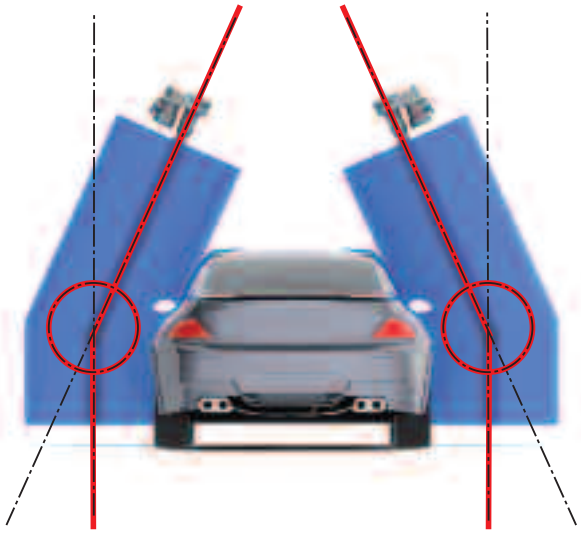
Contour technology

Jointed brush device for ROTEX-2 / ROTEX-3
The tried and true patented jointed brush device has been a best-seller for over 15 years.

Perfect for all vehicle forms
The side cylinders adjust optimally to the given vehicle side surfaces through the angled form.

An even submersion depth of the brushes guarantees a gentle cleaning. All dirtied areas including the side surfaces are optimally washed, from top to bottom.

The jointed brush device lays the best foundation for the employment of the new gentle wash materials.



MAIN WASH ZONE

Polishing spray device

Polishing spray device, aluminum premium arch, illuminated

The polishing spray device is a highly recommended modern wash tunnel component. A wash program package with additional vehicle polishing increases the draw and the profitability of a wash tunnel.
The polishing spray device includes a foam jet device with a foam reactor on the dosing pump. The front side of the powder-coated aluminum arch is attractively covered with translucent, labeled plastic shelling and lights up when selecting a wash program with polish application. Lighting system: 1 lamp compartment cross beam, 1 lamp compartment left side piece, 1 lamp compartment right side piece.
The following wash elements (e.g. wash mitter, wash portals) are required in order to massage the water based polishing agent into the vehicle's surface. Additionally mounted textile drying elements (cylinder dryer contour technique, 3-cylinders) subsequent to the drying blowers are recommended for the best possible vehicle gloss finish.

Profitability increase

Increase your average wash price with the right additional programs and active sales promotions.

MAIN WASH ZONE

Wash mitter free-standing

Wash mitter, swinging crosswise, free-standing
Hanging lamb fleece strips swing across the vehicle's hood, roof, upper side surfaces and trunk. The textile strips, mounted in rows, swing cross-wise to the conveyor direction. A polishing spray device can be mounted on the front side of the wash mitter.

Wash mitter, swinging lengthwise, free-standing
The textile strips swing across the vehicle's hood, roof and trunk lengthwise to the conveyor direction. These strips are employed supplementary to the crosswise Wash mitter for tunnel operators who prefer to wash without roof cylinders. A polishing spray device can be mounted on the front side of the wash mitter.

You have the choice:
Frame design in stainless steel available

MAIN WASH ZONE

Transversaltechnik Waschaggregate

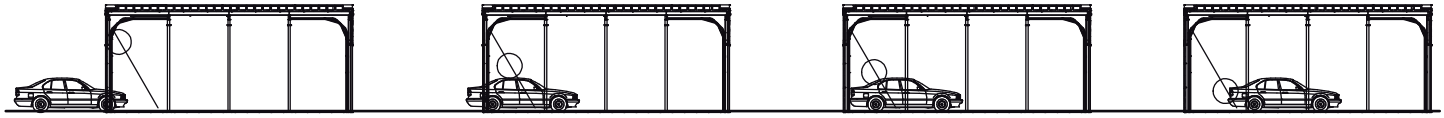
Basic version TRANSVERSAL, 6-cylinders

The basic version TRANSVERSAL consists of a solid, hot-dip, galvanized steel frame construction, equipped with two roof cylinders and 4 side cylinders (including shampoo and dosing pump.) The basic version can be combined with contour cylinders KONTEX and wheel / door sill wash devices (excluding disc brushes). Spray devices for foam, polishing and clear rinse are integrated. Christ's modular system allows for all wash tunnel elements to be employed before and after the basic TRANSVERSAL version.

Roof cylinder 1





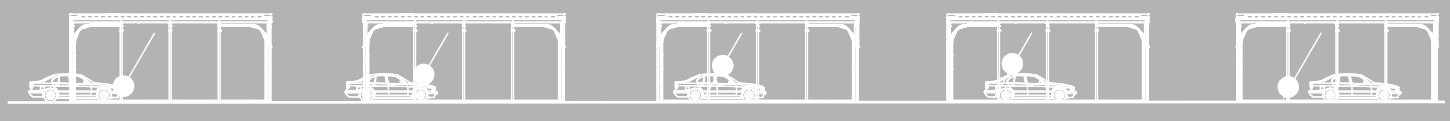


The first roof brush angled towards the driving direction washes the complete roof area, rear window, trunk and rear of the vehicle. The electronic, active power measurement ensures exact scanning of all horizontal vehicle contours to be washed. Diagonal guidance of the roof brush enables it to follow vehicle surfaces to be washed in each of its downward movements in the driving direction. This guarantees increased contact, resulting in an intensified wash, particularly on the rear window and the rear of the vehicle.

Roof cylinder 2





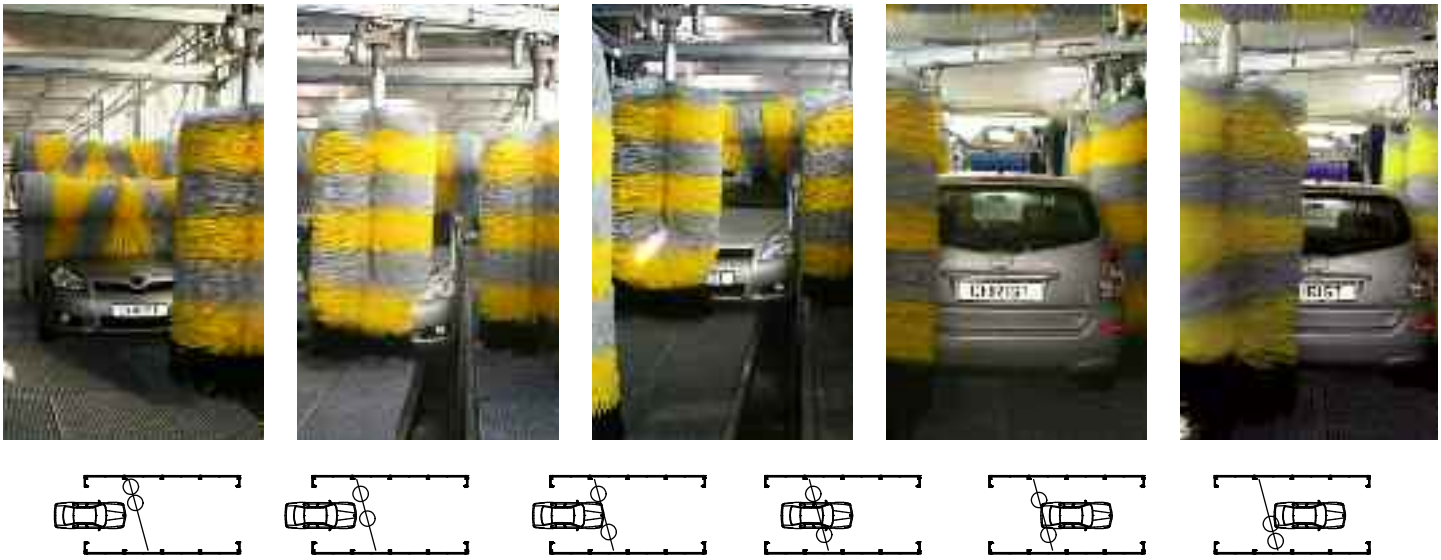


The second roof brush angled towards the driving direction washes the complete front area, motor hood, front window and roof of the vehicle. The electronic, active power measurement ensures exact scanning of all horizontal vehicle contours to be washed. Diagonal guidance of the roof brush enables it to follow vehicle surfaces to be washed in each of its downward movements in the driving direction. This guarantees increased contact, resulting in an intensified wash, particularly on the front window and front of the vehicle.

MAIN WASH ZONE

Transversal technology wash components

Side brush pair 1



The first side brush pair's inner-most situated brush angled towards the driving direction washes the complete front of the vehicle in one transversally running direction from left to right. Thereafter, this brush washes the complete right side of the vehicle. The outer-most situated brush angled towards the driving direction washes the complete left side and then transversally moves to the right side during which the complete rear of the vehicle is washed in one pass. Once this procedure is concluded, both brushes simultaneously move from right to left back to their starting position. Brush control succeeds electronically by means of an active power measurement, which allows the brushes to perceptively adjust to each vehicle's contour in order to achieve maximum efficiency.

Side brush pair 2

The second side brush pair's inner-most situated brush angled towards the driving direction washes the complete front of the vehicle in one transversally running direction from right to left. Thereafter, this brush washes the complete left side of the vehicle. The outer-most situated brush angled towards the driving direction washes the complete right side and then transversally moves to the left side during which the complete rear of the vehicle is washed in one pass. Once this procedure is concluded, both brushes simultaneously move from left to right back to their starting position.

Attachment system rear-following roof cylinder, for basic TRANSVERSAL model
For dorsal extension of the basic TRANSVERSAL model as wash cylinder or polishing cylinder for horizontal surfaces.

A polishing spray device must be installed on the frame in front of the roof cylinder (separate sales item). We recommend free-standing VAN-KONTEX following the roof cylinder in order to enable side surface polishing of vehicles.

Wash programs with vehicle polishing increase the draw of a wash tunnel and the average wash program price.

CARE ZONE

Conservation systems

Clear rinse device stainless steel arch, non-illuminated

All portals located in front of the clear rinse arch are generally supplied with recycled water. For this reason, vehicles must be rinsed with fresh water before wax application or drying.

Conservation spray device, aluminum premium arch, illuminated

For spraying chemical drying aid via an integrated dosing pump. The arch is made of powder-coated aluminum and is mounted on the front side with translucent, labeled plastic shelling. The arch can receive up to two further wax devices. The corrosion resistant spray pipes are easily accessible from outside, mounted on the rear side of the arch.

Lighting system: 1 lamp compartment cross beam, 1 lamp compartment left side beam, 1 lamp compartment right side beam

This arch can also be obtained without lighting. The exterior design of the arch without lighting is similar to that of the foam arch depicted on page 8.

Osmosis spray device, mirror area

For rinsing out the inner sides of the mirror with osmosis water, so that the water running off does not leave any spots. Separate piping with spray jets for the outer vehicle mirror, mounted on the rear side of the aluminum premium arch.

DRYING ZONE

Separation systems

Separation system, swinging doors

In order to prevent moisture from entering the drying zone from the wash area, both of these areas are split by a separation system. The separation system can be attached flush to the side of the wash hall wall with an integrated man door.
The depicted separation system can also be delivered without swinging doors.

We also offer a rapid action door for splitting the wash area and the drying zone alternatively to the swinging doors. The Christ rapid action door is pictured on page 44.

Rapid action door

Opens and closes precisely in front of and behind the vehicle via a light barrier system at a speed of 0,5 mtr./sec..
The rapid action door can be designed to be flush to the hall on the sides and with an integrated escape door when desired.
It can also be installed at the wash tunnel exit.

DRYING ZONE

Drying blowers

With the new blowing dryer generation **AEROFLEX** from Christ AG, the drying zone can be individually configured according to the individual requirements of each wash tunnel operator. Irrelevant whether a new construction or a retrofit in an already existing unit.
The basic frame made from galvanized and painted steel is composed of two side pieces and a cross piece for the roof cylinder drying device. The straight side jets are built onto the rear side of the basic frame.
Should the AEROFLEX be used as a roof dryer (pre-dryer), then the side dryers are omitted.

Drying blower AEROFLEX-2
Roof drying device: Contour-following telescopic roof jet with 2 blowing motors
Side drying: 2 Straight side jets, per side jet on blowing motor

3 Various stages of extension are available as roof drying device:
AEROFLEX-1: Rigid roof jet (no lifting or sinking)
AEROFLEX-2: Contour-following telescopic roof jet. The roof jet follows the vehicle contour (lifting/sinking) through touchless scanning via an integrated light barrier system.
AEROFLEX-3: Contour-following and up to 25° pivoting roof jet. Lifting, sinking and pivoting succeeds through touchless scanning via an integrated light barrier system. The blowing motors are directly integrated in the roof jet with this variant (no telescopic jets for air guidance required).

Drying blower AEROFLEX-3
Roof drying device: Contour-following and up to 25° pivoting roof jet with 2 integrated blowing motors, pivoting movement on vehicle's front and vehicle's rear.
Side drying: 2 rigid side jets, one blowing motor per side jet.

Drying blower AEROFLEX-1
Roof drying device: Rigid roof jet with 2 blowing motors.
Side drying: 2 Rigid side jets, one blowing motor per side jet.

You have the choice:
Frame design in stainless steel available.

DRYING ZONE

Drying blower

Pre-drying blower AEROPRO

Front side extension set made from galvanized and painted steel, designed for the basic frame of the drying blower AEROFLEX. An AEROPRO consists of two pivoting pre-drying devices with integrated blowing motor (pivoting sequence through frequency controlled electromotor).

The pre-drying devices are additionally equipped with pneumatic air vent flaps for air stream guidance. The air stream is initially directed from above against the vehicle's front. The pre-drying devices pivot offset with the vehicle and align the air emission angle against the vehicle's rear. The pivoting sequence enables the air stream to be held longer on the vehicle, which in turn achieves optimum drying results.

Start setting:
Air stream directed against vehicle's front

End setting:
Air stream directed against vehicle's rear

Pre-dryer: Mirror, sides and rear
This additional pre-drying system improves drying results behind the mirror, the sides or on the rear areas of the vehicle in connection with the setting parameters through the variable setting possibilities in height, inclination and angle.

VAN Dryer
For drying optimization on the upper side areas of higher vehicles (can be switched on according to the height of the vehicle). The VAN Dryer is mounted on the basic frame of the drying blower AEROFLEX between the roof blower and the side blower. It consists of two blowing devices, each with a blowing motor and can be manually set in height, inclination and angle.

DRYING ZONE

Hybrid technique

Cylinder dryer hybrid technique, 2 cylinders, including drying mitter swinging crosswise

This combi-device based upon the stainless steel frame conception COMPACT-HYBRID includes two front side built-on all-around cylinders, which are trimmed with drying strips. A drying mitter swinging crosswise is built onto the frame as a drying device for the horizontal surfaces.

A roof cylinder system KINEMATIC with drying textile can also be used in place of a drying mitter.

The cylinder drives can be designed to be either hydraulic or electric in connection with frequency transformer (for setting the cylinder rotation speed).

DRYING ZONE

Contour technique

Cylinder dryer contour technology, 3 cylinders
Following the ventilator drying, two vertical side cylinders and one horizontal roof cylinder, all trimmed with cloth elements; soak in any remaining water droplets. The vertically guided roof cylinder follows the vehicles' contours with a pneumatically controlled movement to the rear area. A noticeable polish and gloss effect is achieved, pleasing the consumer.

DRYING ZONE

Drying mitter, free-standing

The suction power, softeness and elasticity of the textile strips meets the consumer's expectations of perfect vehicle care. The swinging drying elements from Christ AG are switched on for removing any remaining water droplets.

You have the choice:

Frame design in stainless steel available.

Drying mitter, swinging crosswise, free-standing
The hanging, swinging drying textile strips reach the motor hood, the roof, the upper side surfaces and the trunk hood of the vehicles. The textile strips of material are ordered in rows and move crosswise to the conveyor direction of the vehicle.

Swinging drying element, carousel, free-standing
Rotating in a circular movement, the textile strips move around the vehicle and in the process dry the vehicle's hood, roof, upper side, trunk and rear surfaces.
The textile strip material arranged on the mounted wheel moves circularly in relation to the conveyor direction of the vehicle.

DRYING ZONE

Safety Systems

Anti-collision device

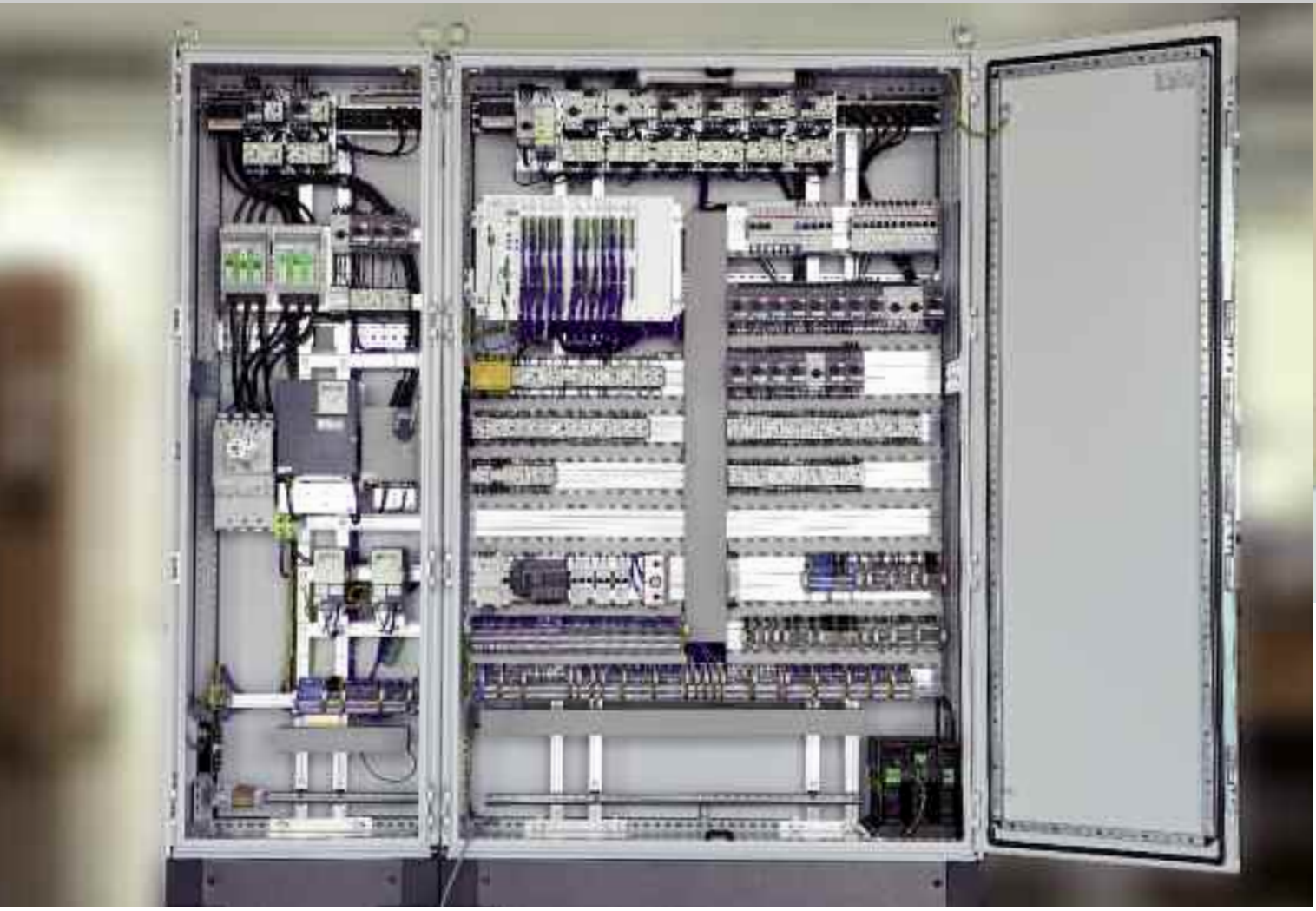
If a vehicle does not leave the exit zone in time and the following car is closing up, the station and the infrared light barrier system release an emergency stop of the conveyor chain.

Accident prevention device

This prevents the unauthorised entry of persons or vehicles from exiting the wash tunnel. Should both light barriers be interrupted, in the opposite sequence to the normal moving direction the entire unit will be put out-of-operation. Operation personnel is notified by an alarm signal and can restart the unit through use of a key switch.

CONTROL TECHNOLOGY

Switchgear center and unit control



Control cabinet

A guarantee for secure unit control and unit monitoring. The free stored programmable control (SPC) can easily be altered or updated at any time. The SPC, the complete wired 400V-electric power section, the motor protection switch and the frequency converter are protected and contained in a painted sheet steel switchgear cabinet.

User terminal
(rugged version with steel buttons)

User terminal

The user terminal for wash tunnels is available as rugged version with a stainless steel casing and illuminated stainless steel buttons or as a high-end touchscreen version. Both versions include a stainless steel case and are available with wall mount or foot mount (for dowelling).

User terminal
(high-end version witch touchscreen)

CONTROL TECHNOLOGY

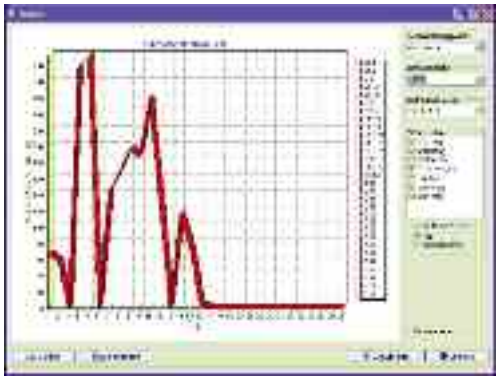
Wash Tunnel PC-System with Software WASH-OFFICE

Wash tunnel PC-System

Complete PC-System, adjusted for operation in wash tunnels and installation of the software CHRIST WASH-OFFICE. The system includes PC with monitor, keyboard, mouse and printer. The PC-System is connected with the wash tunnel control.

Software CHRIST WASH-OFFICE

Software characteristics: wash data registration, error diagnosis, configurations and settings in service areas.



CHECKOUT SYSTEM / CUSTOMER LOYALTY

WASH-MANAGER

Wash Manager Station
This mobile stainless steel counter comes with an integrated touchscreen, electrical cash drawer and a fully integrated desktop PC incl. the wash manager software for cashiers. Readers for barcodes and transponder cards are also included. A backoffice version of the software can be installed on a second PC to analyze sales and turnover.

Wash-Manager WS – Checkout system and customer loyalty in one
Mobile stainless steel service counter with integrated 15" touch screen, electric cash drawer, additional drawer and integrated desktop PC-System with operation software for checkout personnel/pre-wash personnel.
Reading devices: Card reader for transponder cards and additional barcode reader for recognisation of items with barcode. Additionally including complete back-office administrative server with software packet Christ Wash-Manager.

The Checkout system can also be obtained without service counter as "drive-in-checkout".

Features of service counter software:
- Simple servicing/operation oriented for pre-wash personnel
- Direct program selection of main and additional wash programs
- Program is directly transferred to the wash tunnel (sequence program)
- Price group administration for sales items with printed barcode
- Calculation/statement safe turnover recording, either as bar payment (is booked with personnel chip) or as customer card turnover.

Features of software packet Christ Wash Manager
(Back office administration server):
- Company and private customer address maintenance
- Active turnover checkup and evaluation
- Price and bonus scaling, happy-hour function
- Targeted marketing actions, comprehensive statistics
- Data safety through personalized customer cards

Back office administration server with software packet

Service/Operation guidance developed for cashier

Basic view – screen locked

Register with personal chip

Price group selection
(e.g. Happy-Hour))

Program selection + additional program

Payment with cash

Cash register opens automatically

Alternative payment:

Series: per customer card

Optional: per EC-/Credit card

Customer card valorization

Input valorization amount

Confirmation valorization amount

GENERAL COMPONENTS

Hydraulic drive station
The three hydraulic pumps located in the hydraulic station are driven by a central drive motor. One hydraulic circuit can supplied per hydraulic pump. The hydraulic oil is kept in circulation by the hydraulic pump via corresponding supply lines and return lines.

Up to 3 hydraulic circuits can be supplied with a Christ hydraulic station.

The hydraulic pump circuit's working pressure can be directly monitored on the hydraulic station. The rotation speed of the hydraulically driven wash cylinders can be adjusted.

Program display with LED price indicator
At the end of each wash the wash program and the price are being displayed for each client. Also available without price indicator.

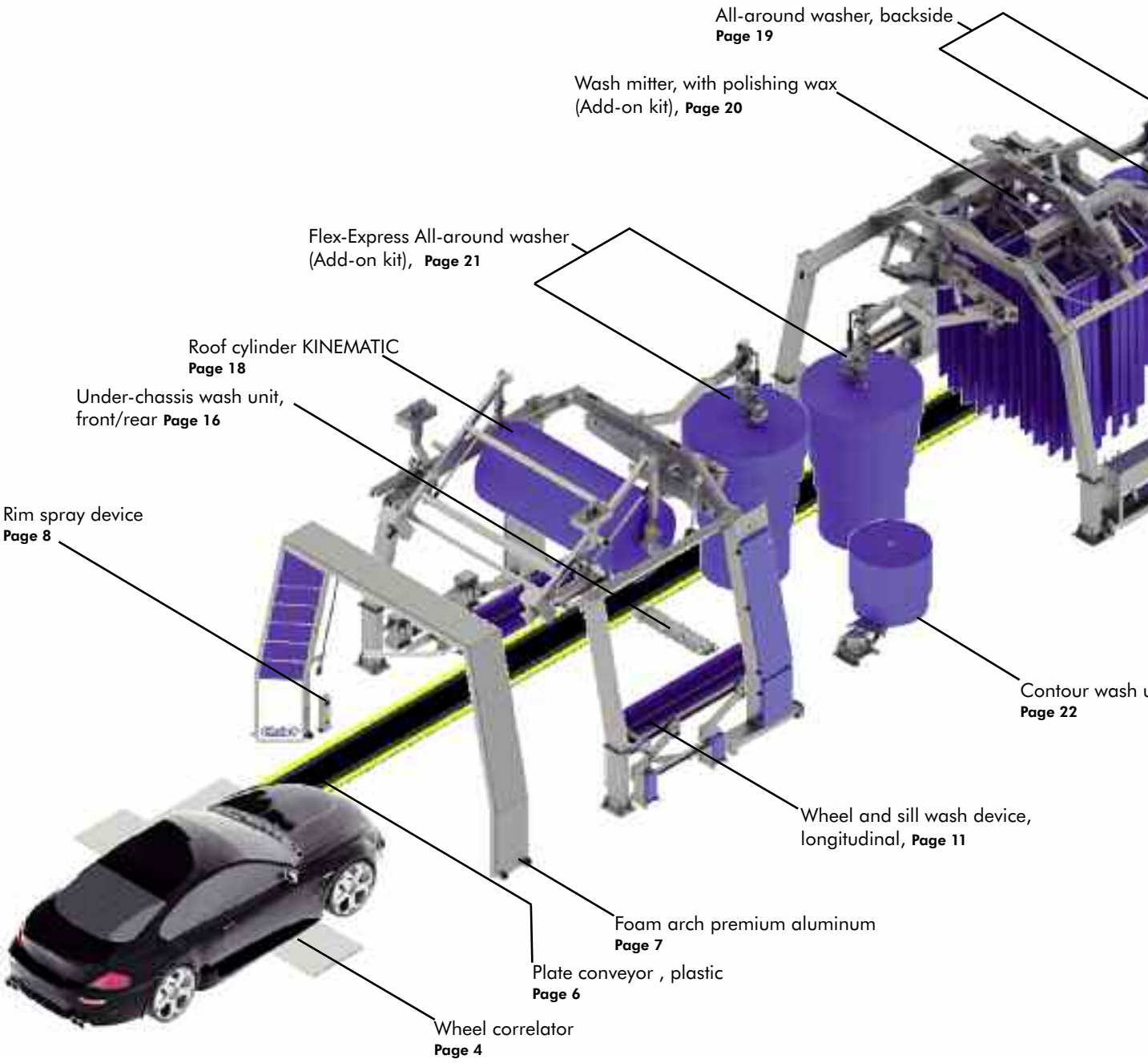
LED-illuminated pylon "exit light" with integrated light.
Indicates to the driver when he should exit the wash tunnel.

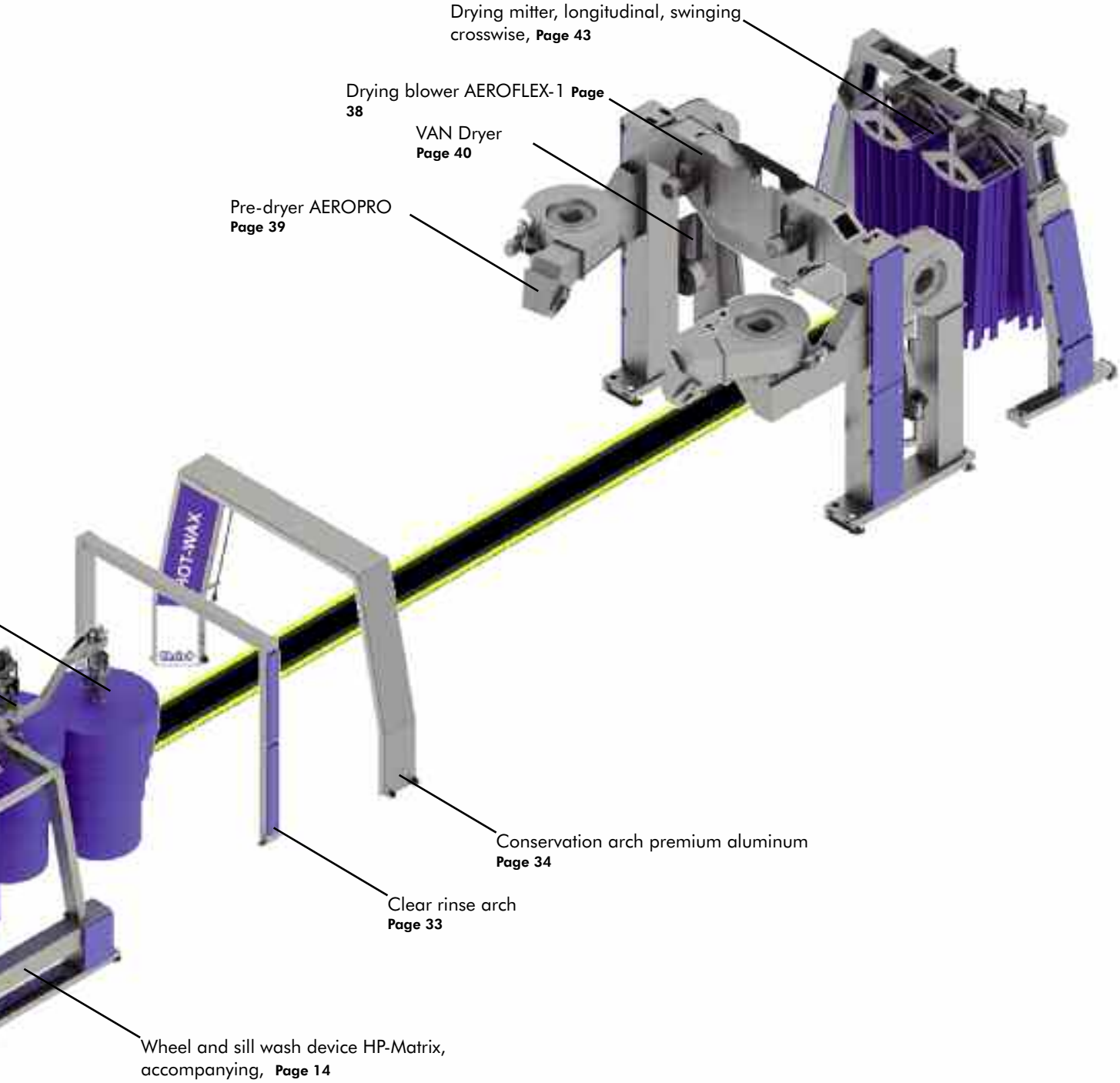
Christ Hybrid Technology

Premium design

Pit length: 28.200 mm (or longer)

Operational concept: Service performance wash tunnel





unit

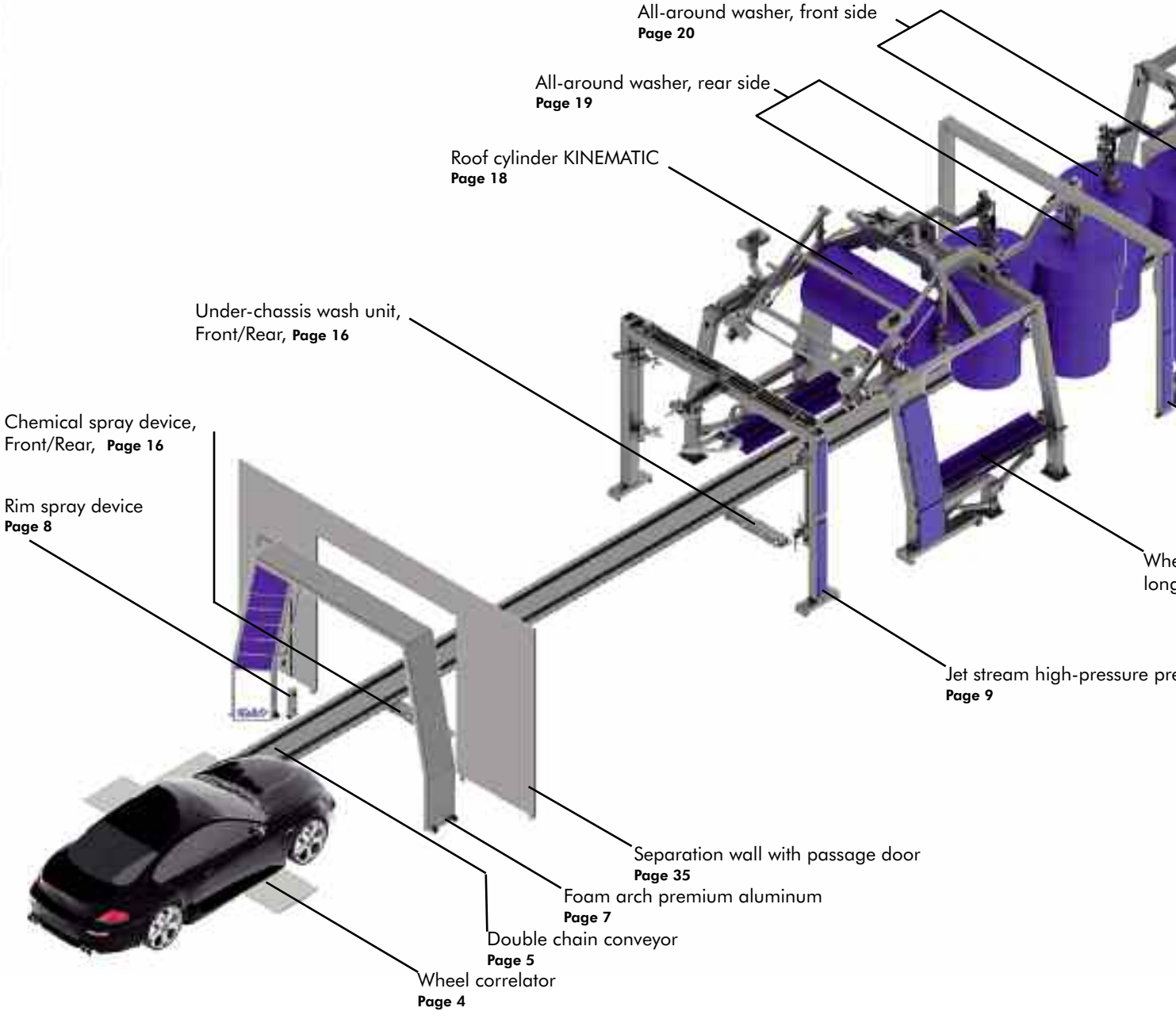
Christ
WASH SYSTEMS

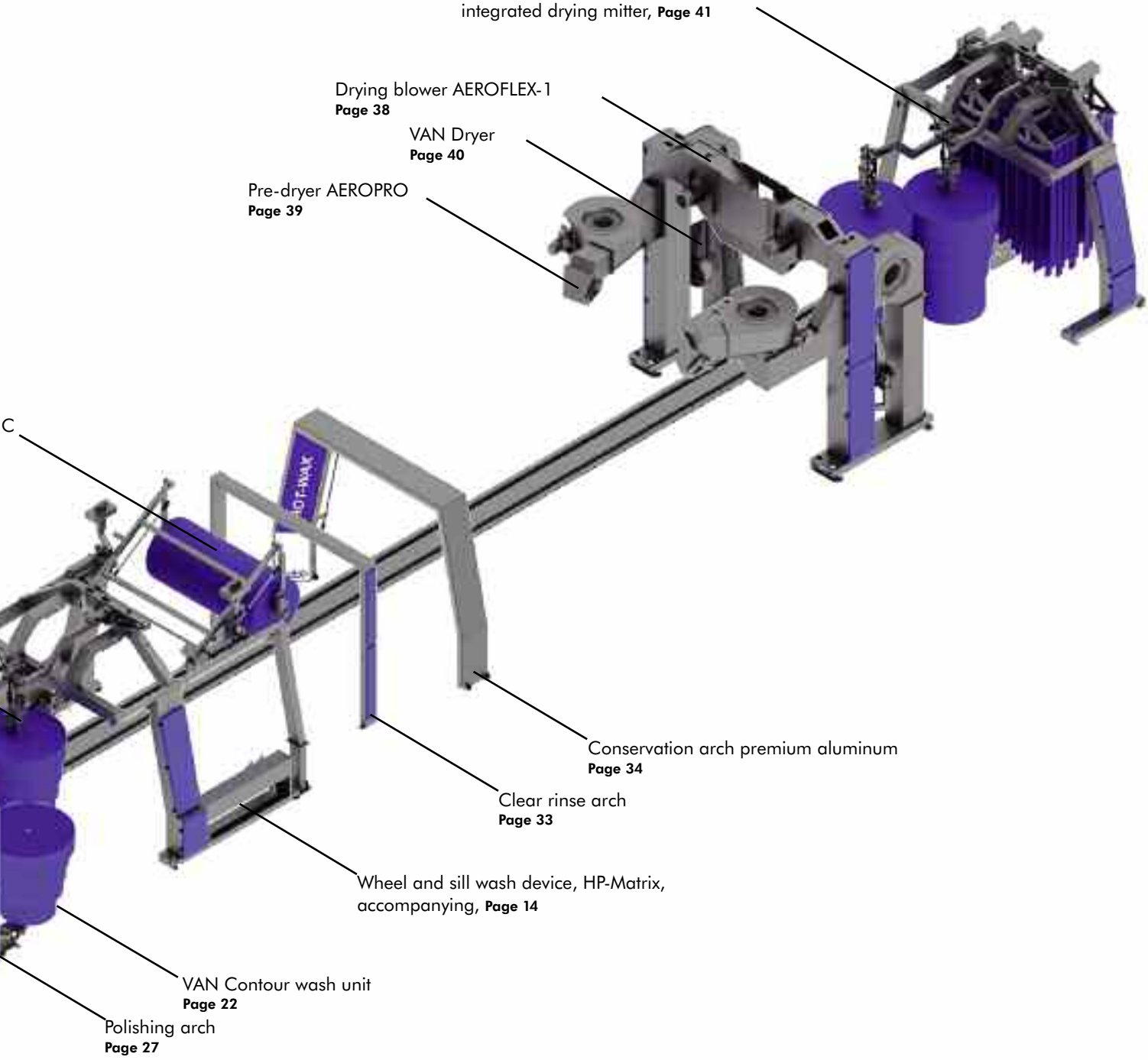
Christ Hybrid Technology

Premium design

Pit length: 36.325 mm (or longer)

Operation concept: Express wash tunnel





Hybrid technology cylinder dryer with integrated drying mitter, **Page 41**

Drying blower AEROFLEX-1
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VAN Dryer
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Pre-dryer AEROPRO
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Conservation arch premium aluminum
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Clear rinse arch
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Wheel and sill wash device, HP-Matrix, accompanying, **Page 14**

VAN Contour wash unit
Page 22

Polishing arch
Page 27

eel and sill wash device,
gitudinal **Page 11**

e-wash system

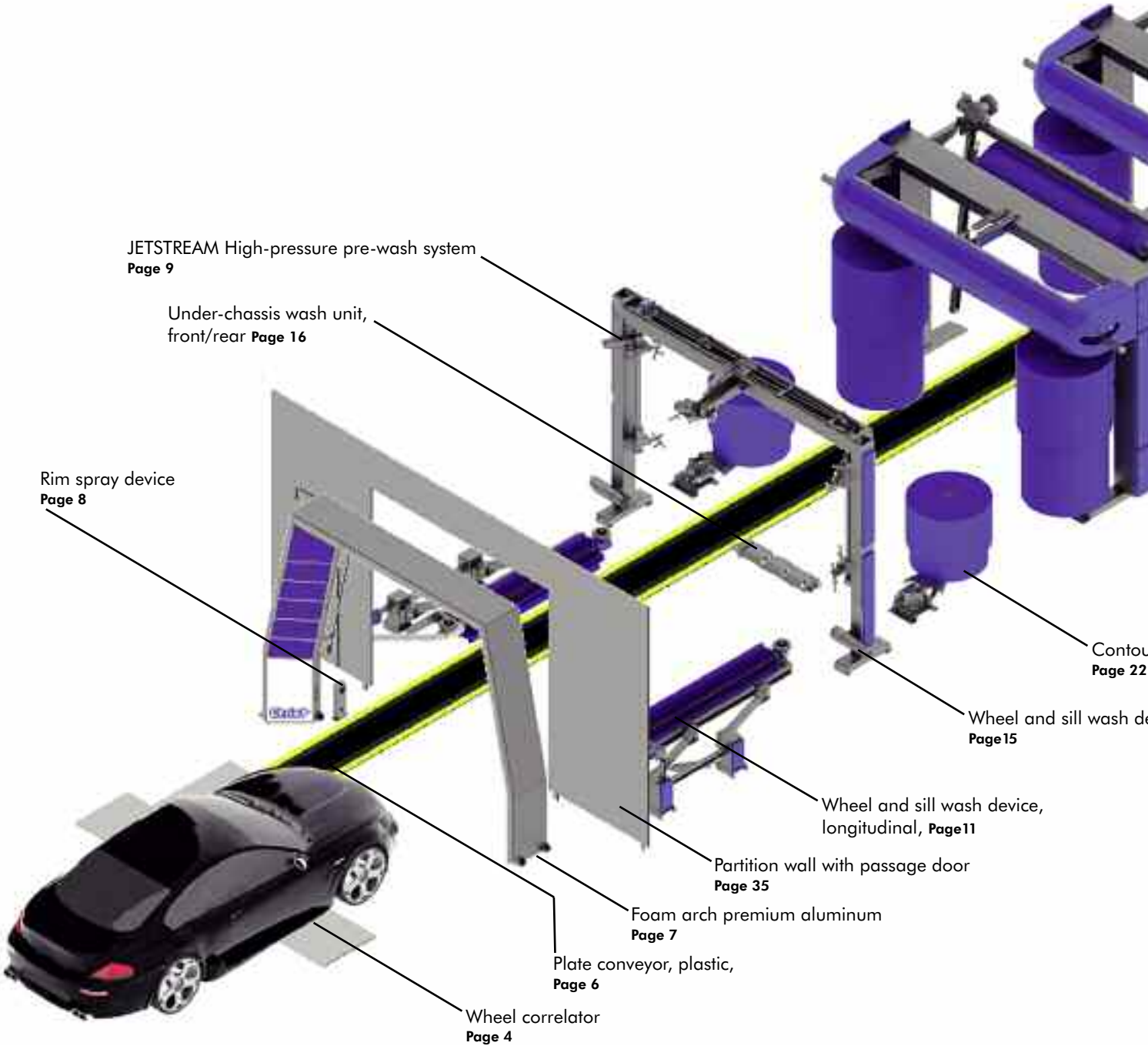
Christ
WASH SYSTEMS

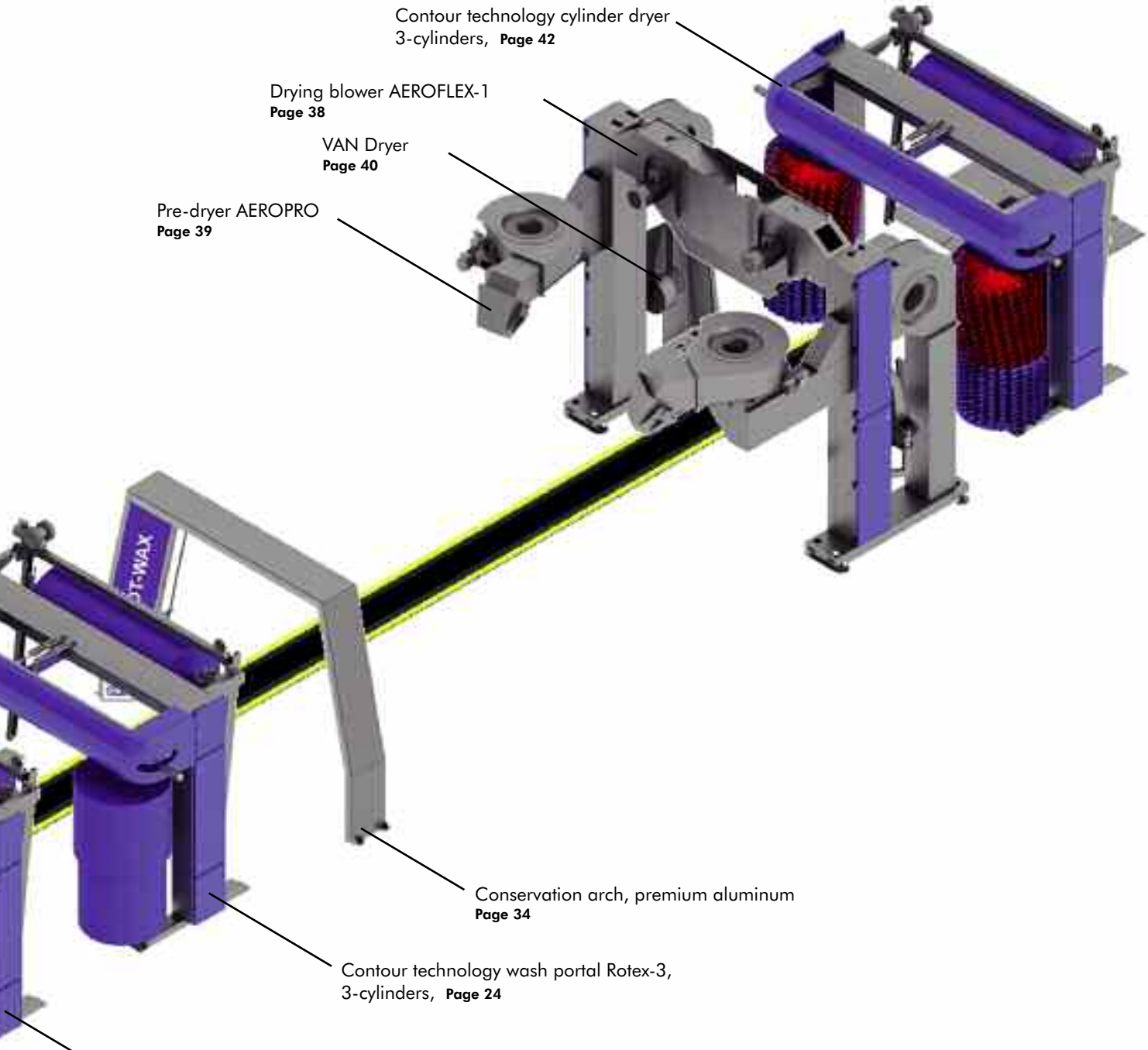
Christ Contour Technology

Premium design

Pit length: 28.200 mm (or longer)

Operation concept: Service performance wash tunnel





ur wash unit
2

evice, HP-TIREJET

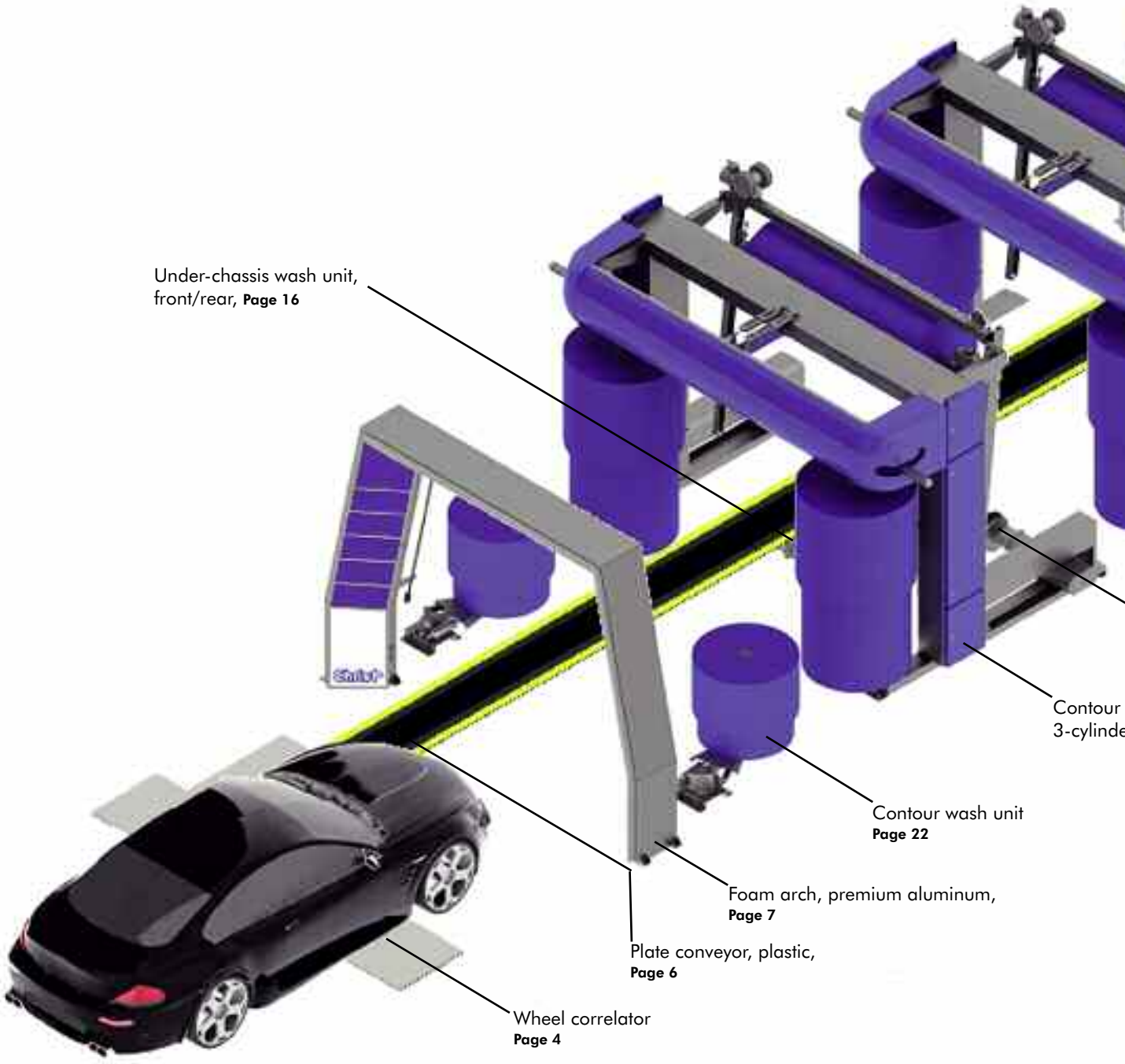
Christ
WASH SYSTEMS

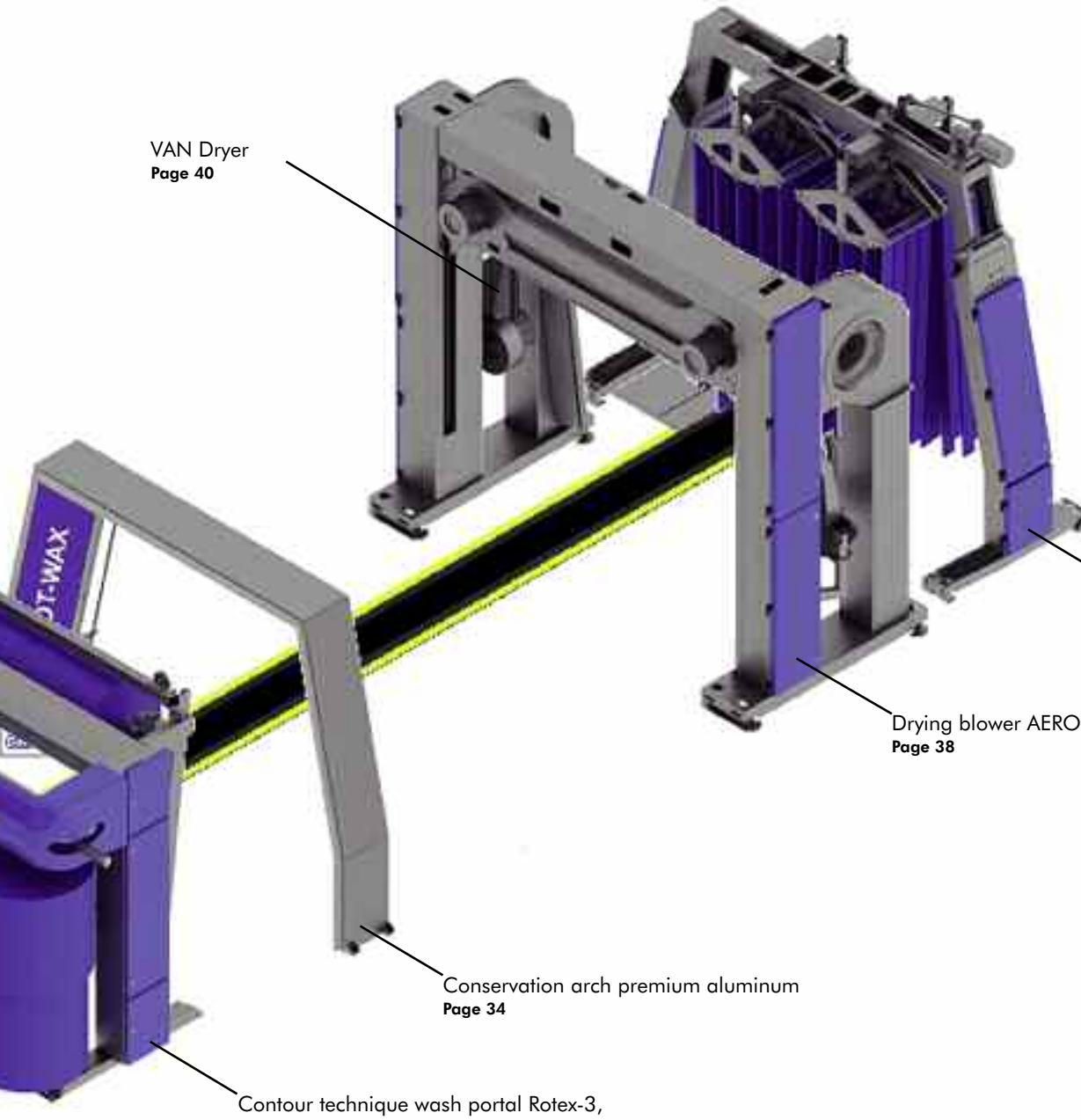
Christ Contour Technology

Short wash tunnel

Pit length: 18.450 mm (or longer)

Operation concept: Service performance wash tunnel





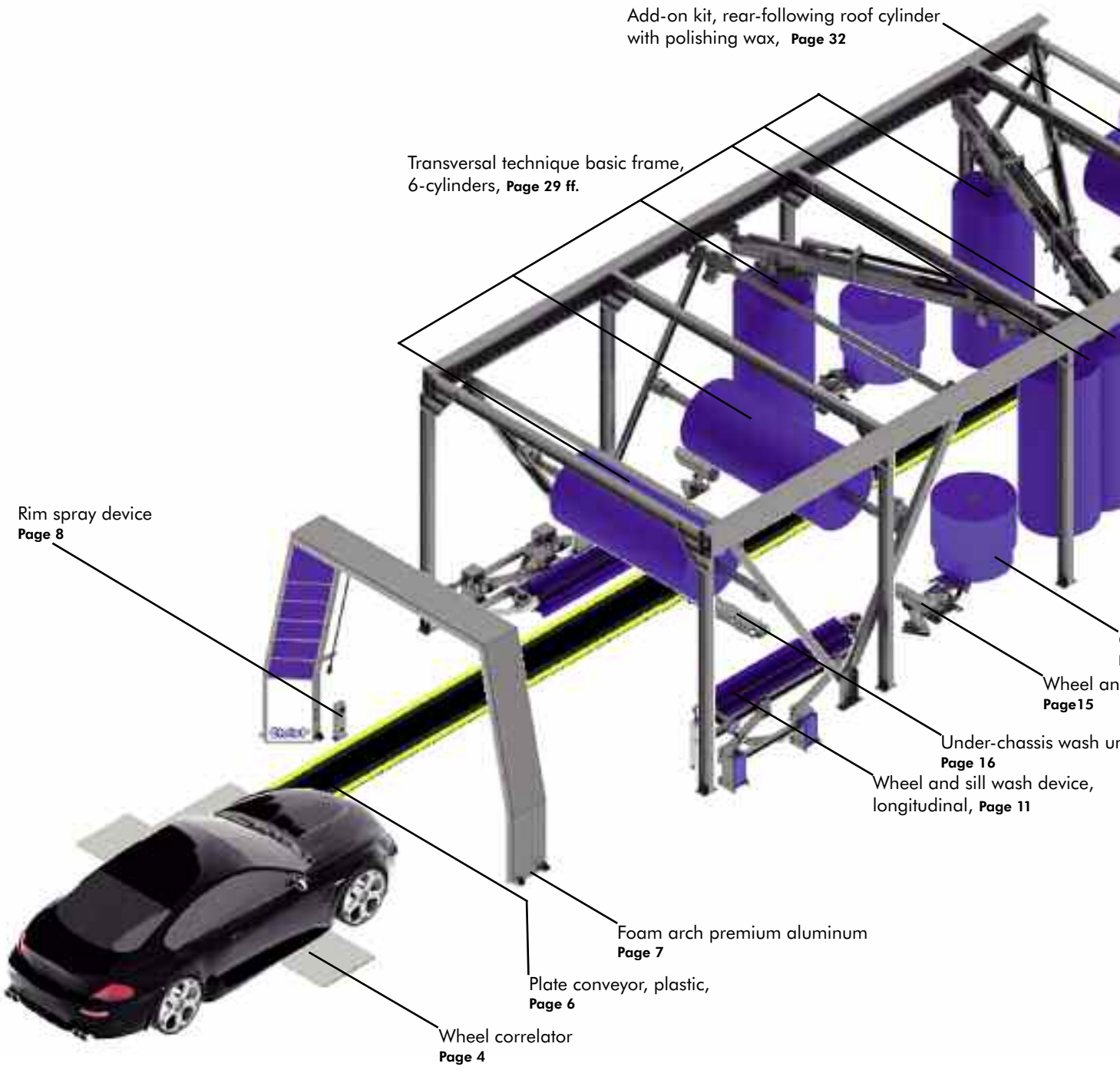
Christ
WASH SYSTEMS

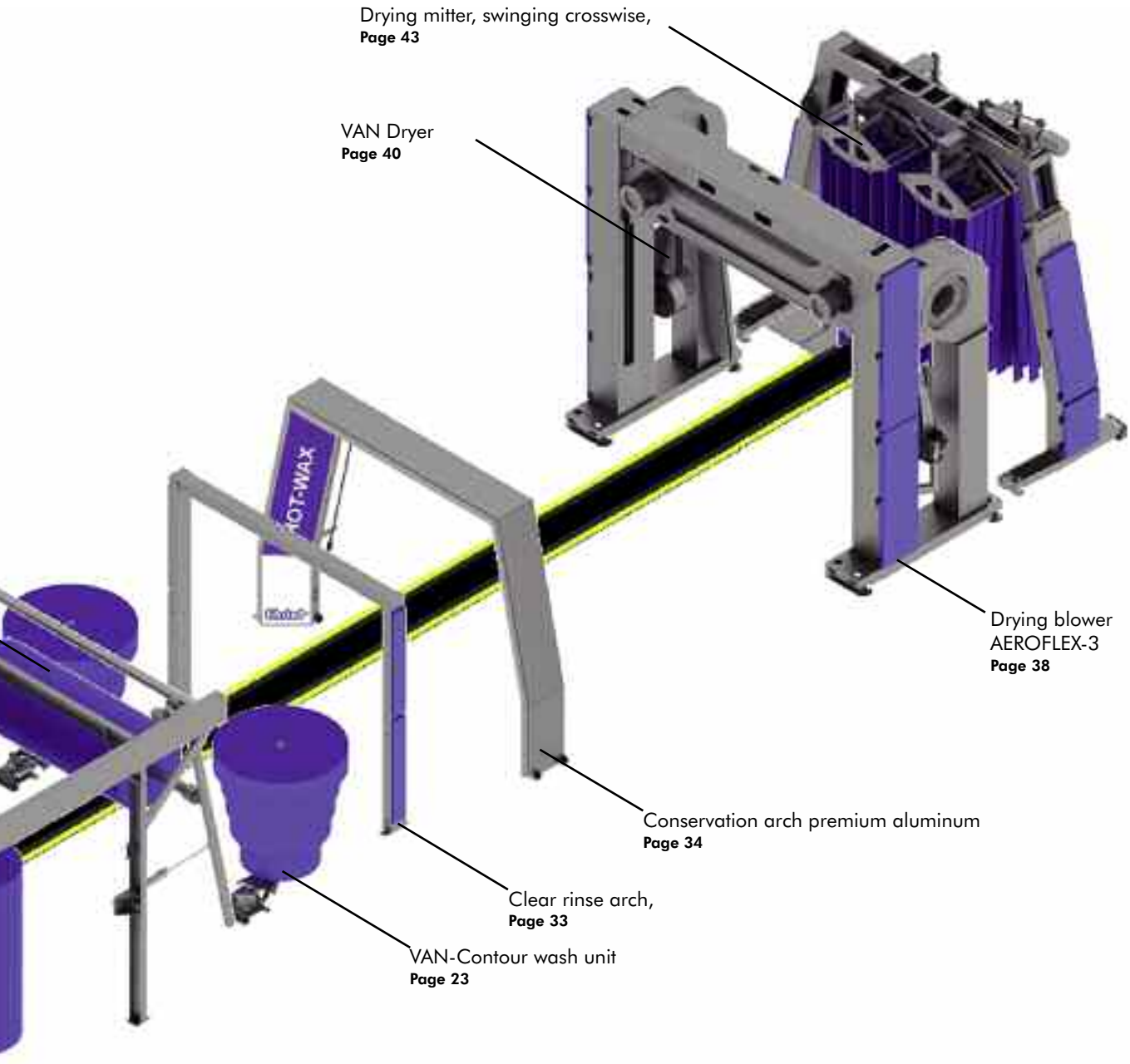
Christ Transversal Technology

Premium design

Pit length: 24.950 mm (or longer)

Operation concept: Service performance wash tunnel





Contour wash unit
Page 22
d sill wash device, HP-TIREJET,

nit, front/rear,

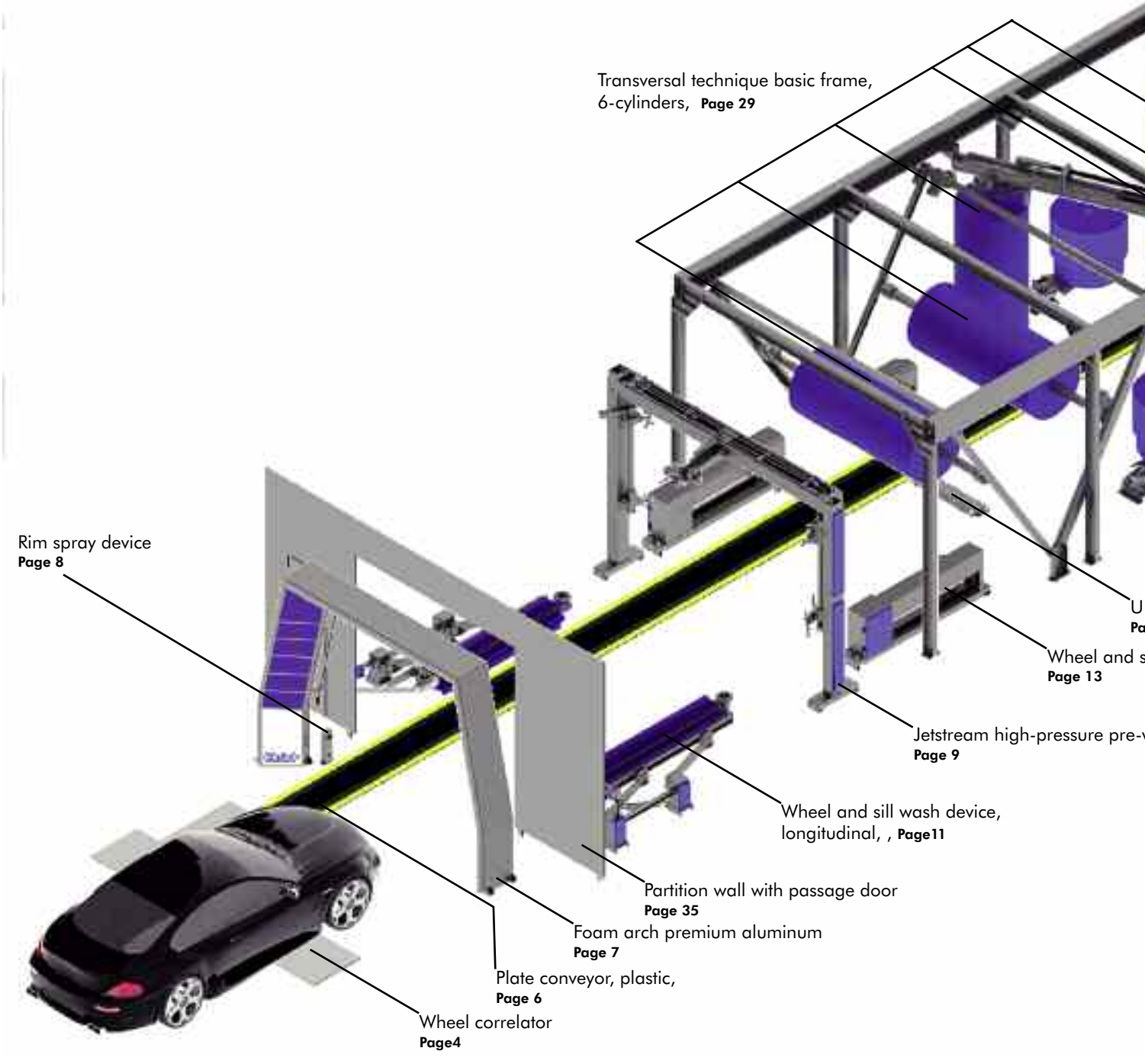
Christ
WASH SYSTEMS

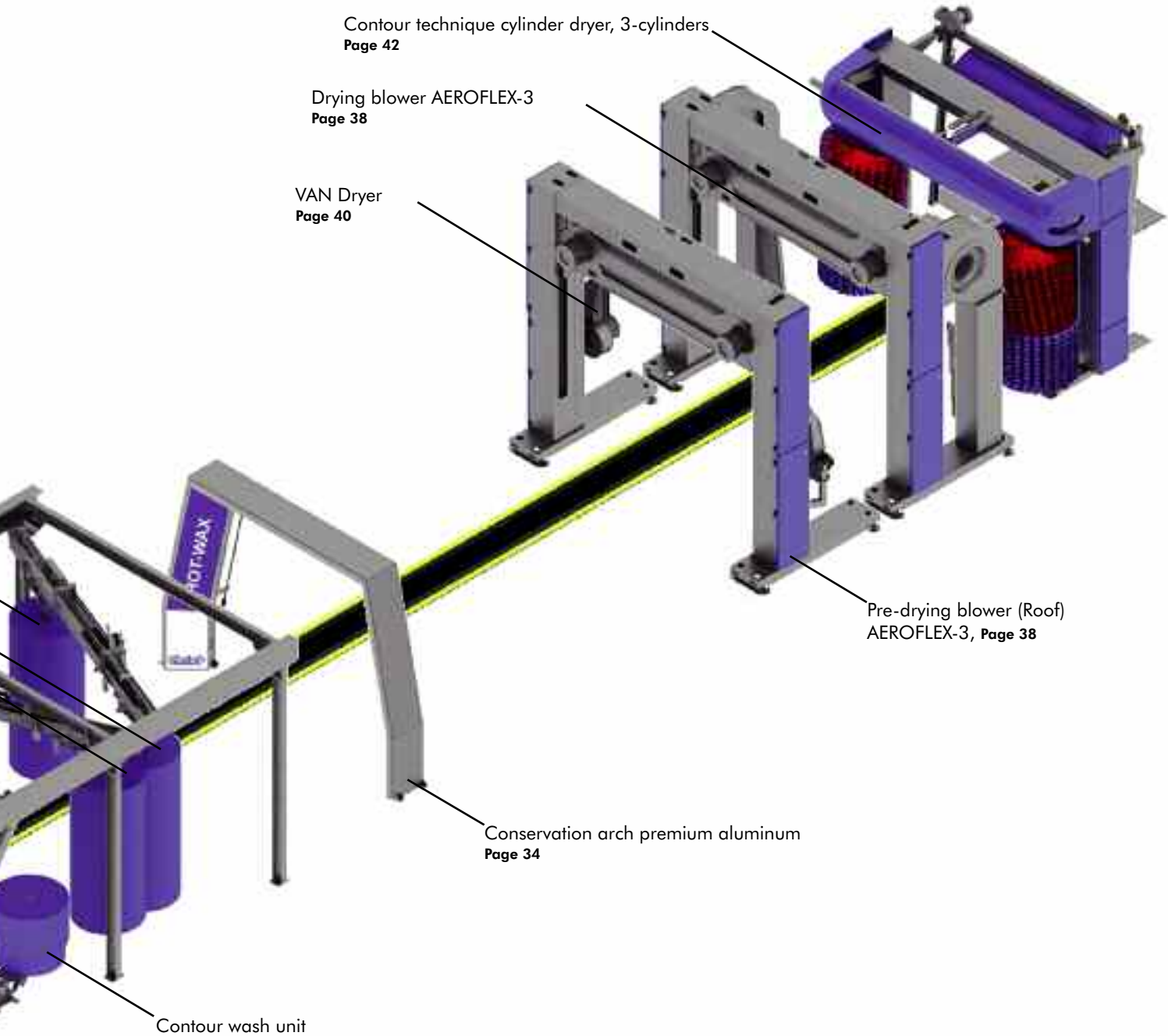
Christ Transversal Technology

Premium design

Pit length: 31.450 mm (or longer)

Operation concept: Service performance wash tunnel





nder-chassis wash unit, front/rear,
age 16

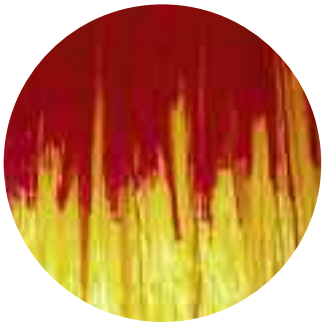
sill wash device, HP-ROTATION,

wash system,

Christ
WASH SYSTEMS

GENERAL COMPONENTS

Wash materials for Christ Wash Tunnel Technique



POLYETHYLENE Brush

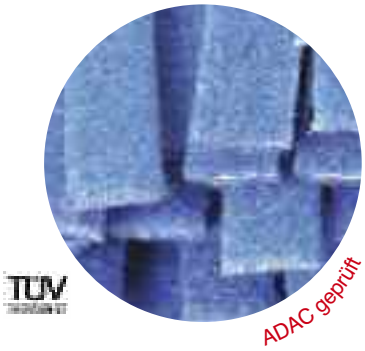
For unit concepts where simple and cost-effective wash technology is of main importance.

- Normal material strength
- Highest cleaning performance
- Average material abrasion on the vehicle's surface
- Satisfactory gloss degree
- Available in a wide array of colors

SENSOFIL+ (foamed polyethylene)

For unit concepts where gentle washing is of main importance.

- Increased material strength
- Good cleaning performance
- Low material abrasion on the vehicle's surface
- Satisfactory gloss degree



SENSOTEX+ (needled polyethylene)

For unit concepts where high quality with textile wash technology is of main importance.

- Increased material strength
- Increased cleaning performance
- No material abrasion on the vehicle's surface
- Highest gloss degree
- May be advertised as "Textile Car Wash"

SENSOTEX-PREMIUM

For unit concepts where highest quality with textile wash technology is of main importance.

- Characteristics of SENSOTEX+, but with
- Padded fiber structure (three-dimensionality)
- Lowest sound development
- Especially developed for high-performance wash tunnels

TEDDYTEX® (Microfiber-Textile)

For unit concepts where highest quality with textile wash technology is of main importance.

- Open fiber structure (three-dimensionality)
- Increased material strength
- Highest cleaning performance
- No material abrasion on the vehicle's surface
- Highest gloss degree
- May be advertised as "Textile Car Wash"
- **Marketing advantage in comparison to competitor wash tunnels with standard textile**

Everything from one hand from Christ's wash factory

Our assortment:

- Roll-over wash units
- Wash tunnels
- Water recycling units
- Self-service wash systems
- Truck wash units
- Wash units for rail vehicles
- Self-service vacuum cleaners
- Advertising material and accessories for car washing
- Car wash and care products

Our services:

- Limited site analysis
- Profitability calculation
- Projection assistance
- Operator trainings
- Financing concepts
- Marketing assistance

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- **Our area-wide service network guarantees fast help.**
- **Fast supply of wear and tear and replacement parts**

Christ
WASH SYSTEMS

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