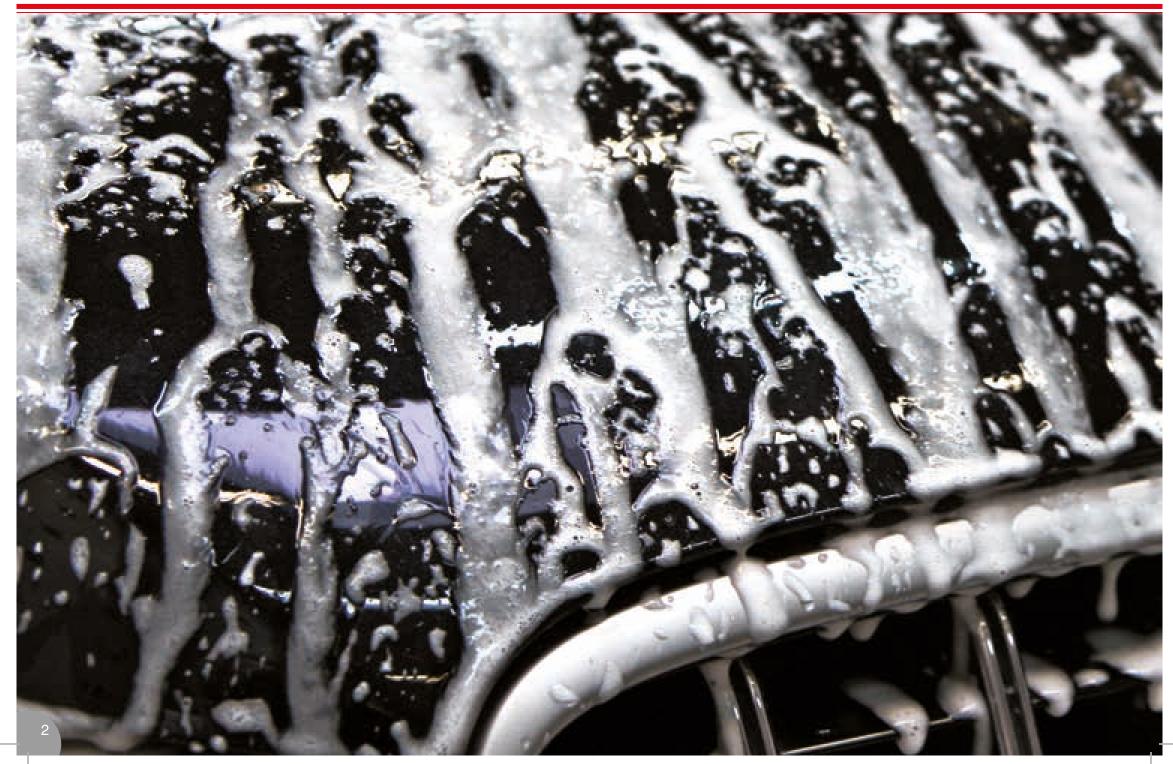


CarWash 2013/14

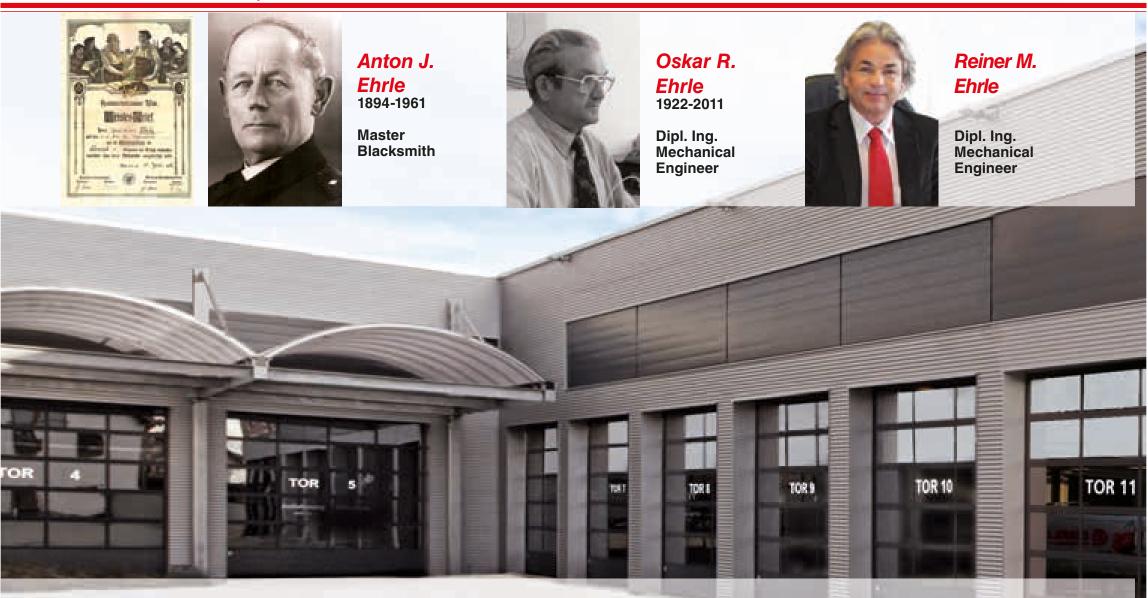




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EHRLE - The CarWash Factory, customised carwashes made for our customers...



Tradition since 1927 - CarWash Factory since 2012

EHRLE self-service CarWash systems are produced in the Bavarian town of Illertissen. The self-service automatic carwash systems are made using state-of-the-art processes and a very good production depth. The self-service carwash factory has also been in operation since January 2012 with a production capacity of approx. 2000 wash bays per year. Quality made in Germany for customers throughout Europe and for you.





Wash and care programmes - optimum cleaning and care







Wash and care programmes

The EHRLE CarWash system is based on 4 wash programmes:

Cleaning with ActivePower Pearl MicroPowder

The self-service high-pressure wash with *ActivePower Pearl MicroPowder* guarantees the best wash results without using brushes! A powdered cleaning agent is always freshly mixed with the high-pressure jet. The tensides in the MicroPowder work like thousands of little sponges guaranteeing that the vehicle surface is cleaned pore-deep in combination with hot and softened water.

Rinsing

The clear rinse step rinses the residues of the *ActivePower Pearl MicroPowder* cleaning agent and loosens dirt using clear water. This is the basis for the next care stages. The clear rinse programme can also be operated with descaled, demineralised osmosis water as an option.

3

Paint protection with UltraProtection®

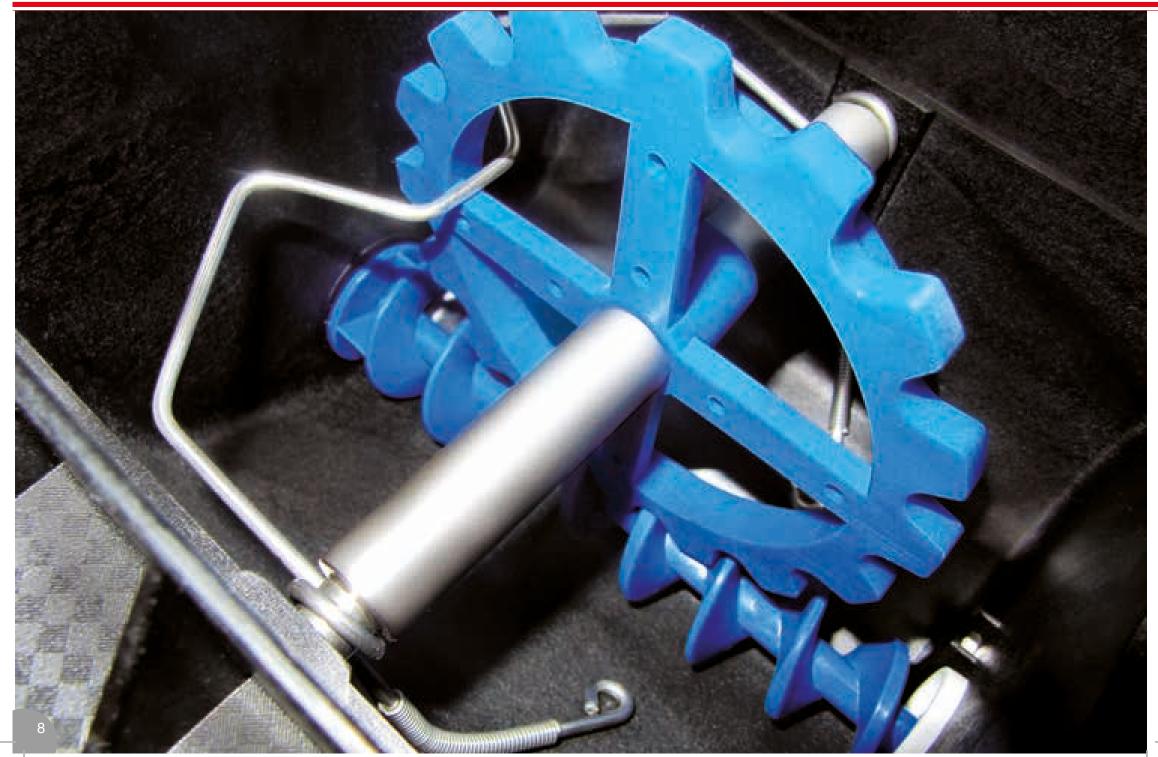
UltraProtection[®] is sprayed onto the vehicle surface with the water jet with the help of descaled and hot water. The vehicle surface is given optimum protection and the water runs off the sealed paint surface. The synthetic ingredients of **UltraProtection**[®] also prevent smearing when the windscreen wipers are used in rainy conditions.



Smudge-free high gloss drying with SuperFinish®

As a final care programme, EHRLE recommends gloss drying with descaled, demineralised osmosis water mixed with *SuperFinish*[®]. The final wash uses chemicals to remove all mineral deposits such as salt and similar minerals. This wash results in a perfect vehicle shine.

Ultimate cleaning with MicroPowder dosing and *ActivePower Pearl MicroPowder*







Ultimate cleaning with MicroPowder dosing

Self-service vehicle washes with *ActivePower Pearl MicroPowder* guarantee the best wash results without the use of brushes.

A powdered cleaning agent is always freshly mixed with the high-pressure jet during cleaning.

The perfectly tuned combination of active wash substances as well as non-ionic and anionic tensides work together with the *ActivePower Pearl MicroPowder* complexing agents like thousands of little sponges guaranteeing that the vehicle surface is cleaned pore-deep in combination with hot and softened water.

Based on the basic physical rule of kinetic energy, which states that energy increases at the square of speed, the impact velocity is minimised by binding the active wash substances in molecular form to the water jet, achieving a cleaning and care result that is gentle on the paint finish.

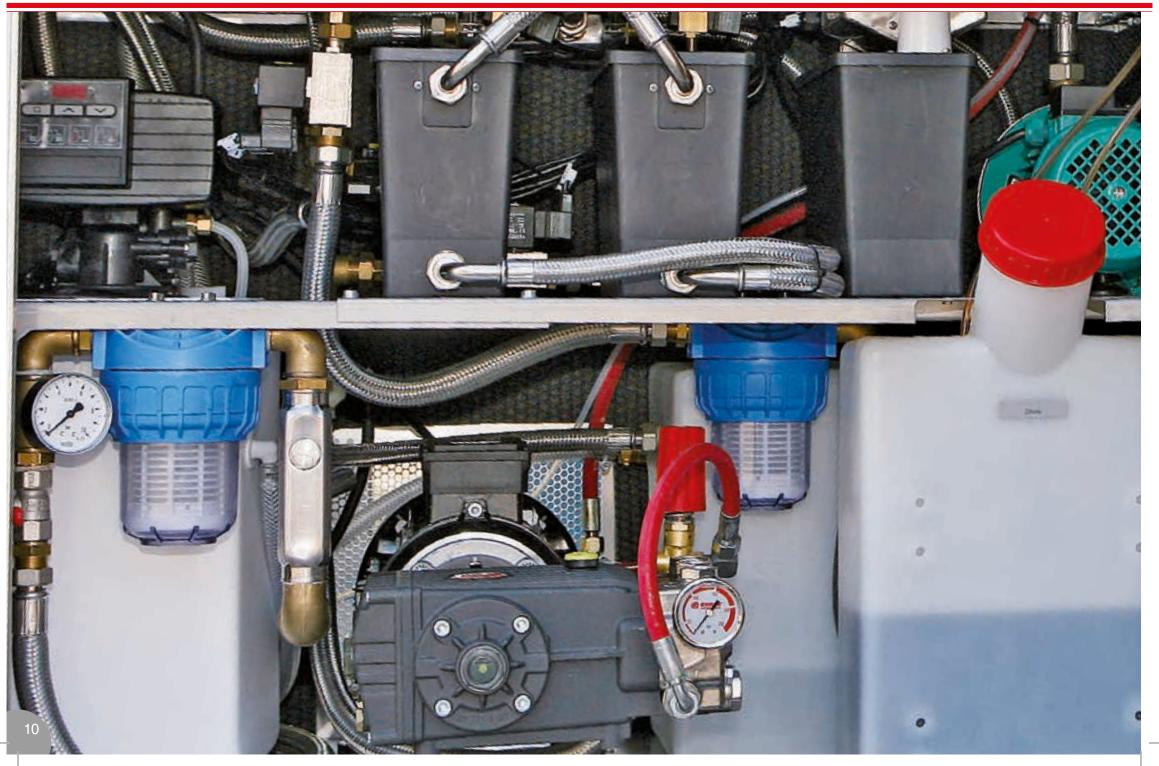
An abrasive effect when cleaning with *ActivePower Pearl MicroPowder* can therefore be ruled out.

A special ceramic nozzle directs the high-pressure jet onto the surface to be cleaned.





SmartWash / SmartWash Plus





Picture:



SmartWash/ SmartWash Plus

This is particularly suitable as a single self-service wash system for petrol stations. The unit is made completely of rust-free stainless steel.



4 wash and care programmes

Programme 1 Cleaning: High-pressure wash with hot, softened water and ActivePower Pearl MicroPowder **Programme 2 Rinsing:** Clear rinse with cold, fresh water **Programme 3 Paint Protection:** Paint protection with hot, softened water and UltraProtection® **Programme 4 High Gloss:**

SmartWash: gloss drying with hot, softened water and SuperFinish® SmartWash Plus: gloss drying with demineralised water and SuperFinish®

Technical data:	Unit	
Water consumption per wash bay	l/h	660
Working pressure	bar/MPa	130/13
Heating energy		Diesel/Elektric
Hot water	°C	60
Heating power	kW	35 (12 el. heating)
Water softening capacity	m³/ °dH	32
Permeate capacity R/O system*	I/d	2400
Osmosis tank volume*	I	100
Micropowder dosing system volume	I	15
UltraProtection [®] volume	I	10
SuperFinish [®] volume	I	10
Power type	Ph/V/Hz	3/400/50
Connection power	kW	4,5 (16,5 el. heating)
Dimensions L x W x H	cm	120x75x325 / 120x105x325*
Weight	kg	560 kg/650*
Part No.		536/ 536003*

The water softening system, installed as standard, in combination with the Micro-Powder dosing already offers the best wash results in the SmartWash version.

The unit version SmartWash Plus is optionally equipped with an osmosis water treatment system. Sufficient osmosis water is always kept available in a large-sized storage tank. This achieves a smudge-free drying result on the vehicle surface.

The entire unit is made of stainless steel and thus provides optimum corrosion resistance to operating and weather influences.

The LED spots integrated in the arm illuminate the wash bay in the dark.



* only for SmartWash Plus

JetWash / JetWash Plus







JetWash / JetWash Plus

JetWash self-service wash systems with MicroPowder dosing for 1-2 wash bays are the perfect introduction to the professional car wash business.



Carwash customers can select their own wash programme using 4 illuminated programme buttons. The self-service carwash system is activated by coins, chips or customer credit keys. The remaining wash credit is clearly shown on a 4-digit display. The entire wash technology is neatly arranged in an elegant stainless steel housing. The JetWash and JetWash Plus series of units are oil or gas-heated or supplied with electric heating.

Water softening is based on the proven ion exchanger softener principle.

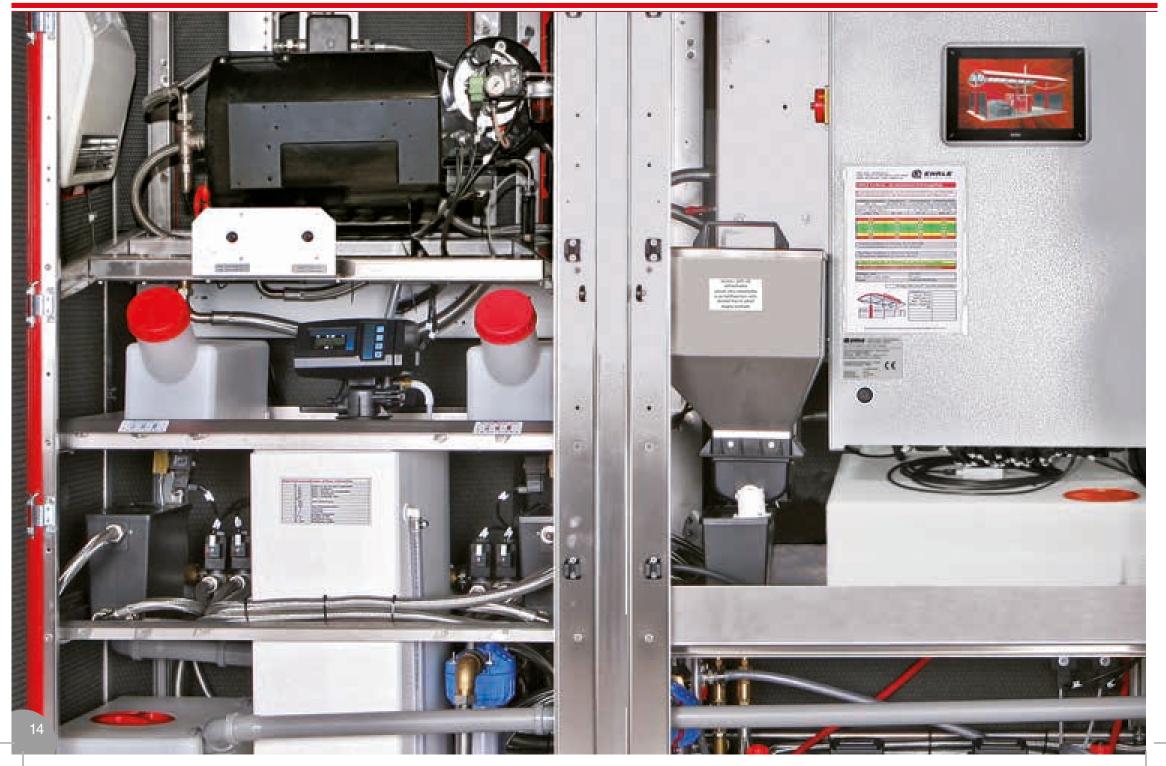
In the JetWash Plus version, an additional osmosis water treatment system in combination with an 800 I osmosis tank ensures a smudge-free drying result and operational safety, even with above-average customer wash frequency.

An integrated TFT-Touch-Flat-Screen provides information on all important operating parameters as well as a detailed wash turnover analysis.

Technical data:	Unit	1 WB*	2 WB*
Water consumption per wash bay	l/h	660)
Working pressure	bar/MPa	130/	13
Heating energy		Gas/Diesel/E	El. heating
Hot water	°C	60	
Heating power	kW	35 (18**)	50 (24**)
Water softening capacity	m³/ °dH	120)
Permeate capacity R/O system*	l/d	7200	
Osmosis tank volume*	Ι	800	
Micropowder dosing system volume	Ι	35	
UltraProtection [®] volume	I	10	
SuperFinish [®] volume	Ι	10	
Power type	Ph/V/Hz	3/400/50	3/400/50
Connection power	kW	6,8/25 **	9/33**
Dimensions L x W x H	cm	213x80x209	313x80x209
Weight	kg	670	850
Part No.		521	522
*wash bay ** electrically heated	l *** only	for JetWash Plus	

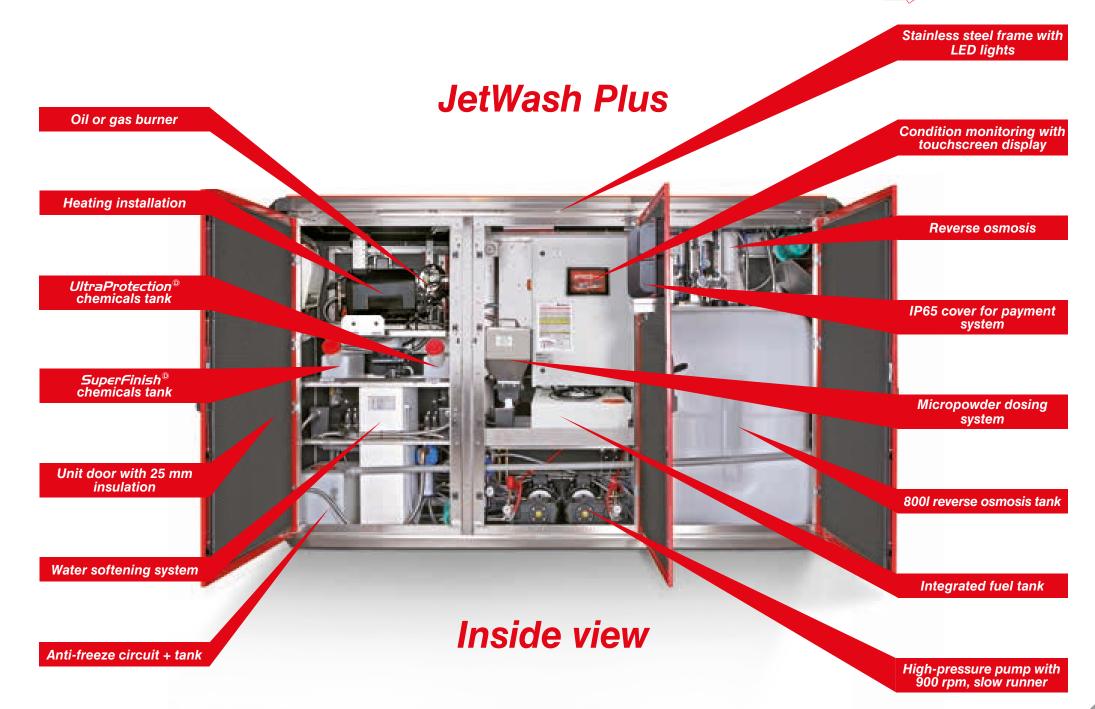


JetWash / JetWash Plus



JetWash Plus inside view





CarWash Outdoor/ AquaClean







Condition

Monitoring

CarWash Outdoor / AquaClean

Self-service carwash system with MicroPowder dosing and reverse osmosis for 2 to 3 wash bays.

The entire technical equipment is located between the wash bays. Different selfservice carwash system variations can be designed by combining several CarWash technology and AquaClean modules.

The advantage of this system is the spacesaving arrangement of the self-service wash bays. The space for a CarWash technology container is not required. This arrangement is particularly preferred for tight or angular plots.



Technical data:	Unit	1WB*	2WB*	3WB*
Water consumption per wash bay	l/h		660	
Working pressure	bar/MPa		130/13	
Heating energy		G	as/ Diesel/ El. heatin	g
Hot water	°C		60	
Heating power	kW	35/18**	50/24**	74/36**
Water softening capacity	m³/ °dH		2 x 120	
Permeate capacity R/O system*	l/d		7200	
Osmosis tank volume*	I		800	
Micropowder dosing system volume	I		35	
UltraProtection [®] volume	I	10		
SuperFinish [®] volume	I		10	
Power type	Ph/V/Hz	3/400/50	3/400/50	3/400/50
Connection power	kW	6,8/ 24,8**	9/ 33**	11,2/ 47,2**
Dimensions L x W x H	cm		472x80x209	
Weight	kg	1.360	1.450	1.540
Part No.		500	501	506

The CarWash outdoor modules

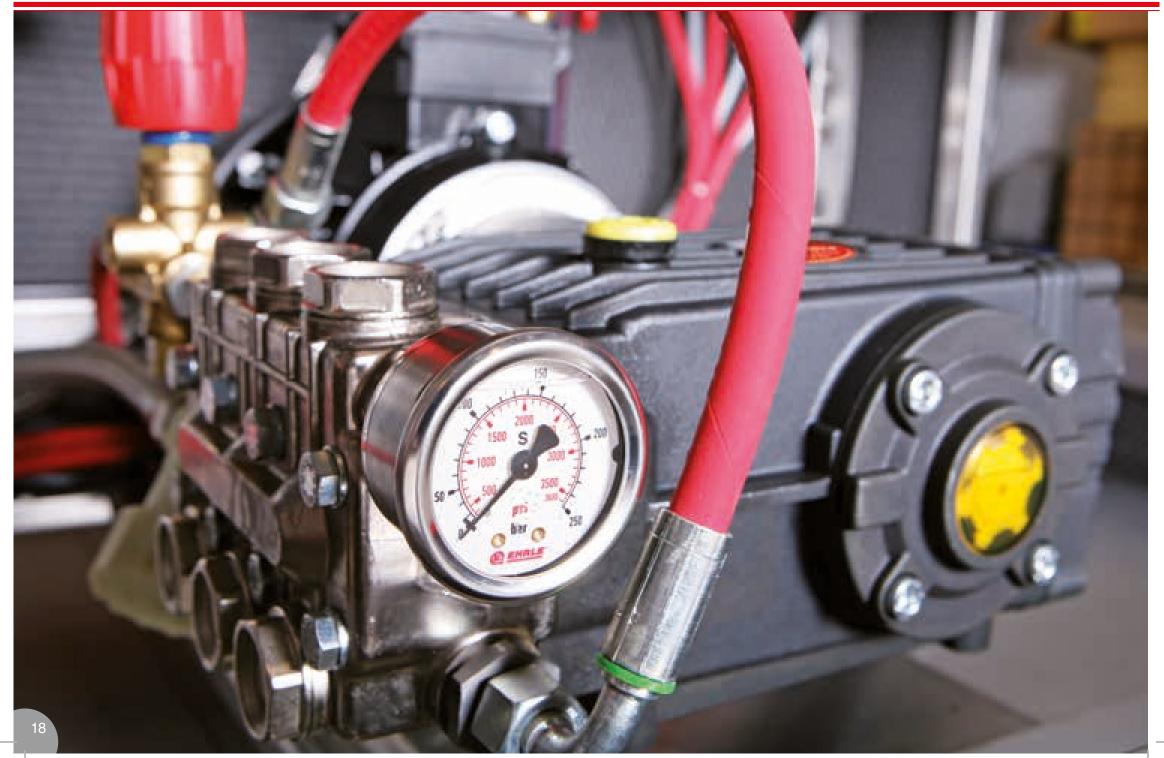
consist of a technology pump module with micropowder dosing and an AquaClean module for washing water treatment. The technology pump module is available in versions with 2 or 3 wash bays.

A double softening system is installed in the AquaClean module, which supplies a constant water quality even with 24 hour operation. The osmosis system ensures sufficient osmosis water and a smudge-free drying result. The CarWash Outdoor series of models is oil or gas-heated or supplied with electric heating.

The modules can be expanded in the modular system so that any number of self-service wash bays can be realised. If you would like to extend your self-service wash bays later on, this is no problem with CarWash Outdoor modules.

*wash bay **depending on el. heating power

CarWash Outdoor/ AquaClean



CarWash Outdoor inside view





CarWash Indoor ModulLine







ModulLine

CarWash Indoor ModulLine

Compact advanced technology in a single space. With MicroPowder dosing for 3 to 12 wash bays.

The individual ModulLine high-pressure units are simply installed in series in the planned technology space and connected with the media via a pipe distribution system.

The hot water heating module, storage tank charging module and foam generator can be arranged in the same system setup.

All system modules are standardised with respect to the installation dimensions and therefore also match up visually - your technology space is setup professionally.

Another application area for the EHRLE ModulLine system is redevelopment of self-service wash systems.

Investors can decide for themselves which system components should be

replaced and which should be kept. The EHRLE ModulLine system can easily be expanded at any time.

All the modules are linked with each other via an Ethernet/Lan connection and provided with information via a main control. A serial connection based on RS485 is setup between the wash bays and the individual technology modules.

Condition monitoring 1, included in the scope of supply, offers access to all pump modules in connection with wash turnover analysis for the last 24 hours, week, month, year and total via a TFT-Touch-Screen. This system leaves nothing to be desired in terms of controlling management.



Technical data:	Unit	
Water consumption per wash bay	l/h	660
Working pressure	bar/MPa	130/13
Micropowder dosing system volume	I	18
UltraProtection [®] volume	I	10
SuperFinish [®] volume	I	10
Power type	Ph/V/Hz	3/400/50
Connection power	kW	2,6
Dimensions L x W x H	cm	74x60x216
Weight	kg	195
Article no.		516

Water softening/reverse osmosis



The water softening system and reverse osmosis are two important system components which are are clearly installed and supplied on a wall board produced in the factory.

The wall board is simply mounted in the planned position in the technology range as a complete assembly and connected with the downstream CarWash systems.

Complicated on-site installation work is a thing of the past. The individual system components are available in various power classes and perfectly matched to each other.

Technical data:	Unite	Water softening			
		1-3 WB*	4-6 WB*	5-7 WB*	6-10 WB*
Туре		DF 120	DF 200	DF 300	DF 400
Capacity	m ³	2x120	2x200	2x300	2x400
Pressure tank	Units/inch	2x10"x35"	2x10"x54"	2x13"x54"	2x14"x52"
Max. flow rate	m³/h	3,8	4,2	4,5	6,8
Nominal width	inch	3/4"	1"	1 1/4"	1 1/2"
Salt water container	Ι	100	200	250	300
Article no.		600000000007	60000000008	600000000009	6000000000010

Technical data:	Unite	Reverse osmosis	
		1-6 WB*	5-10 WB*
Туре		Osmosis 300	Osmosis 450
Power	l/d	7200	10800
Pressure pipe	Material	Stainless steel 1.4304	Stainless steel 1.4304
Membrane	Units/type	1xESPA1 4040	2x ESPA1 4040
Article no.		6000000000013	6000000000014

*Waschplatz



LCE/SLM – hot water heating systems



LCE gas 20-85 kW

The basic hot water heating module from EHRLE with stainless steel boiler can supply up to 4 self-service wash bays with hot washing water.

The modulating gas burner is combined with the latest condensing technology for maximum efficiency and energy savings.





LCE gas 30-160 kW

The power hot water heating module from EHRLE with stainless steel boiler can supply up to 8 self-service wash bays with hot washing water.

The modulating gas burner is combined with the latest condensing technology for maximum efficiency and energy savings. The integrated booster pump supplies the wash bays with hot washing water as required. A second service water inline pump feeds the floor heating heat exchanger.

Technical data:	Unite		
Heating energy		g	as
Hot water	°C	6	60
Burner power	kW	20-85	30-160
Efficiency level	%	bis 106*	bis 106*
Power type	Ph/V/Hz	3/400/50	3/400/50
Connection power	kW	0,75	1,0
Dimensions L x W x H	cm	74x100x216	200x100x150
Weight	kg	230	250
Article no.		62200000000002	6000000000451

*depending on the modulation level and washing water temperature



LCE oil 50-74 kW

As a hot water heating module with oil firing, EHRLE supplies the tried-and-tested heating coil technology made of stainless steel with a highly efficient triple line combustion chamber.

The washing water heated this way is kept in a depressurised, insulated boiler.

Technical data:	Unite	LCE oil 50-74 kW
Heating energy		oil
Hot water	°C	60
Burner power	kW	50-74
Power type	Ph/V/Hz	3/400/50
Connection power	kW	1,0
Dimensions L x W x H	cm	74x100x216
Weight	kg	270
Article no.		600000000003

SLM - storage tank charger module 50-160 kW

Alternative heat generators such as oil or gas heating boilers, district heating transfer stations, solar thermal systems and the necessary floor heating with system separation for winter operation can be connected to the SLM storage tank charger modules.

Another advantage is the simple connection to existing heating systems.

Technical data:	Unite	SLM I	SLM II	SLM III
		1-3 WB*	4-5 WB*	6-8 WB*
Heat exchanger capacity	kW	75	105	160
Heating circuit**	m³/h	2,1	3,0	4,7
Heating circuit nominal width	DN	25	25	32
Washing water circuit***	m³/h	3,2	4,5	6,9
Power type	Ph/V/Hz	3/400/50	3/400/50	3/400/50
Connection power	kW	0,65	0,75	1,15
Dimensions L x W x H	cm		74x100x216	
Weight	kg		350	
Article no.		620000000001	620000000002	620000000003
*wash bay **∆	Γ = 30 K	***ΔT = 20	К	







Foam generator

The low-pressure foam generator serves as a system expansion for your CarWash centre.

A perfect wash and care foam is produced by a mechanical dosing pump and compressed air using a dosing valve. The foam is simply applied to the vehicle being cleaned using a separate foam brush.

The system works extremely efficiently. Approx. 1.5-2 % chemical additives are sufficient to produce a strong soft foam with the help of water and air. The foam generators are available for 2-12 wash bays. A frequency-controlled booster pump guarantees that the same pressure conditions are always achieved, irrespective of the number of wash bays and programme requirement. The water-chemicals mixing ratio can be precisely adjusted in 0.5% steps using a mechanical dosing pump. The soft foam is always available ready to use via a separate air/water distribution system.

Each individual wash bay can be individually adjusted using stainless steel dosing valves. Foam actions with liquid foam from 0.5 mm up to 50 mm soft foam can be produced with the EHRLE foam generator. Various foam colours can also be produced as a customer highlight.

Technical data:	Unite	
Water consumption per wash bay	l/h	40
Air flow rate	l/min	10
Working pressure	bar/MPa	4/0,4
Power type	Ph/V/Hz	3/400/50
Connection power	kW	1,5
Dimensions L x W x H	cm	74x100x216
Weight	kg	135
Article no.		CMN2-CMN8









CarWash technology container

The entire CarWash technology such as water treatment, heating, pump units and money changer systems are integrated in one place in a technology container. The individual wash bays are supplied from here. The CarWash technology containers are available in various versions.







-		



Technical data:	Unite	Stainless steel sandwich technology container with heat insulation	Pre-fabricated concrete technology container	Pre-fabricated concrete technology container with full heat protection
Outer dimensions L x W x H	cm	670x244x280	650x300x311	664x314x313
Inner dimensions L x W x H	cm	642x220x252	630x280x254	630x280x254
Wall thickness	mm	60 frame + 60 sandwich panel	100	170
Base plate, thickness	mm	80	330	330
Floor design		Stainless steel/aluminium	Concrete	Concrete
Weight	kg	1.800	27.130	27.800
C-value	W/m ² K	0,37	5,7	0,52
Safety doors		ALU WK2	ALU WK2	ALU WK2

The integrated access doors are made of high-quality aluminium system profiles. The system is locked with a triple lock system. The safety door cannot be levered out. This means that the EHRLE CarWash technology container can be insured against break-in theft. The pre-fabricated concrete technology containers are placed on an on-site gravel bed without foundations being necessary. The sandwich technology containers are placed on an on-site strip foundation.

Precast concrete wash-plates and coin-vacuum extraction system







Precast concrete wash-plates and coin-vacuum extraction system

Offer your customers a secure footing and simultaneously ensure your daily receipts in a safe container by a coin-vacuum extraction system.

After the CarWash technic container is exactly installed in the specified place with the help of a mobile crane, the precast wash plates are simultaneously delivered by our concrete precast plant and laid precisely on a split bed prepared for it.

The construction of precast concrete wash plate includes special technical details and features, which are essential for the safe operation of a self-service CarWash. In the neutral zone PEX floor-heating pipes are laid, preventing during freezing conditions ice and snow on the surface of the wash plates. This floor-heatig is connected to the heating plant in the technic container and there regulated energy saving by a special control mechanism. The washing plates are provided on the underside with a 80mm insulation around the heat energy is not discharging it into the soil, but to the wash plate surface where snow and ice must be prevented.

A large sink with a stainless steel grid is incorporated in the center of the wash plate with the required incline. The used wash water can be thus flow into a pre-sludge container and finally in the oil-separator. A special manufacturing process, the surfaces are highly compressed and extremely robust.







To provide you with maximum security, a coin-vacuum extraction system can be installed in the concrete bars between the wash plates. This coin-vacuum system transports the cash through an underground pipe system made of stainless steel in the technic container. There, the cash can be stored safe and secured for transport.



Standard steel structure







the West office @ summer office

(dist

Standard steel structure

The standard steel structure design serves as a robust and visually attractive version, which offers carwash customers a wash bay protected from the influences of weather over many of years.

The steel construction is made of DIN 10210 MSH steel square tubes. The perfect protection against corrosion and the influences of weather is guaranteed with subsequent galvanisation. The roof structure is made of galvanised and then plastic-coated steel trapezoidal sheets.

The standard steel structure is produced with a 2.1 kN/m2 snow load. Special snow loads of up to 4.2 kN/m2 are available on request.

An attractive fascia serves an advertising board and shows your carwash customers the entrance to the wash boxes.

CarWash

The fascia is also made of galvanised and then plastic-coated steel plate.

CarWash

The centrally positioned carwash information signs can also be designed as illuminated advertisements on request. The nighttime design is thereby even more noticeable and contributes as an advertising medium towards above average carwash turnover. The steel structure simultaneously provides weather protection for the carwash technology container. The individual wash bays are separated by extremely durable, flat partition walls. The partition walls offers space for an attractive carwash advert and clear operating instructions for your carwash customers.

CarWash

SmartLine steel structure







SmartLine steel structure

The SmartLine steel structure can be put together according to customer requirements. All options can be selected individually and independently of each other. The SmartLine steel structure gives your self-service car wash system an individual, unique character.

Polycarbonate roof – elegant curved design

The polycarbonate roof made of 10 mm thick double sheets reinforced with aluminium support profiles is elegantly mounted onto the SmartLine steel structure with EPDM lip seals. Rainwater is drained away between the light strips. The polycarbonate roof has a special coating, provides a self-cleaning effect in rainy conditions and is protected against hailstones.

Elliptic-shaped fascia – galvanised and powder-coated

The elliptic shaped fascia gives your system a unique visual highlight. The fascia is simply suspended in the fascia support provided in the steel structure and secured to be windproof so that the inner rain gutter technology components can be elegantly concealed.

Illuminated advertisements – individual and customised

You can receive an individual advertisment tailor-made for you on request. Any type of font or customer logo can be integrated in the SmartLine fascia with various colour designs.

LED tube lights instead of neon advertisements

Modern LED tube lights can be fixed to the lower edge of the SmartLine fascia. LED tube lights can save up to 90% more energy than standard neon advertisements. LED tube lights are supplied with 24 V DC (low voltage). The temperature for use is between -30 and +60 °C. Your carwash system shines through the dark autumn and winter months with the visually attractive lighting design

Glass partition walls – high strength made of safety glass

The individual wash bays are separated by glass partition walls with 12 mm thick laminated safety glass. The glass panes are clamped in powder-coated and anti-vandalism aluminium window frames. The glass partition walls are particularly recommended for your self-service carwash for top boxes and design-orientated systems. The glass partition walls and aluminium frames are available in various RAL colours.



DesignPro[®] steel structure







DesignPro[®] steel structure

With the DesignPro[®] steel structure concept, EHRLE is setting new standards in the field of steel structures for self-service carwash technology.

The exceptional design offers a distinctive look, which sets it apart from the usual system constructions and thereby continually appeals to new customers. Our wash-bays are generously sized and additionally heated by a floor heating to prevent freezing in winter. The operation for the customer and investor is very simple, only the safe-terminals and the detergents must be checked regularly.

The DesignPro® steel structure offers the operator and customer a professional and particularly high-quality appearance. This top design in combination with the MicroPowder wash leads to increasing turnover figures with higher average prices.



EHRLE ConditionMonitoring

The condition monitoring system CM1, CM2 or CM3 monitors your entire self-service carwash system. Business analyses are no longer left to chance.



not only provides a complete overview of your carwash system, but also operational safety and customer satisfaction with a convincing wash and care result. Do not leave anything to chance: all system parameters can be viewed using a TFT touchscreen monitor and are easy to set. Self-explanatory user guidance offers you the option of monitoring the entire system, identifying any weak points in advance and addressing them in good time.

CarWash ConditionMonitoring controlling

Unforeseeable downtimes can almost always be prevented. Basic setting details such as the time, quantity of chemicals, water temperatures, anti-freeze, opening hours, happy hour, wash prices, filling levels for cleaning agents and osmosis can be viewed and changed easily on the TFT screen.

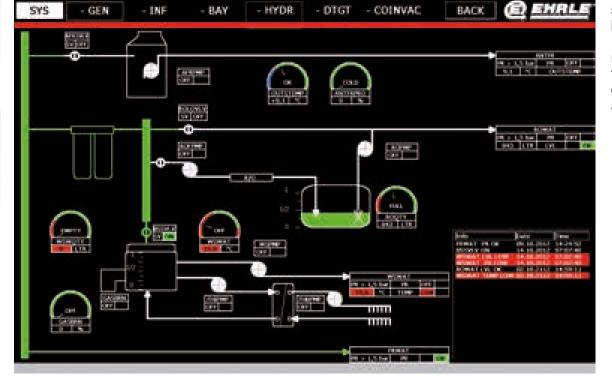
Service settings facilitate all maintenance work on your self-service carwash. Manipulation by carwash customers and service personnel are a thing of the past.

A financial analysis section not only illustrates the turnover generated separately from chips or cash-free customer payments, but can also calculate the trend in comparison to previous wash days according to your requirements.

With the ConditionMonitoring 2 and 3 extensions, you can view and change these settings and data at any time via an internet browser from anywhere in the world. It is not even a problem to view the information on your smartphone or portable tablet computer. A simple ISDN/DSL connection on your self-service system with a fixed IP address is all it takes.

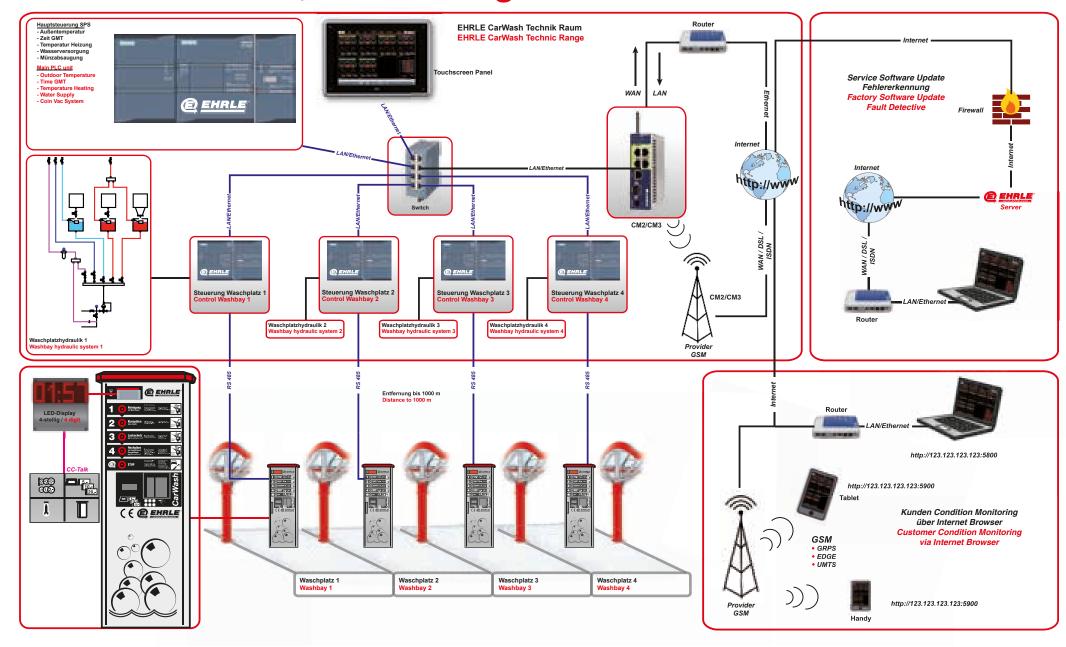


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Communication, networking and data transmission



ConditionMonitoring version CM1, CM2 and CM3



Communication options

EHRLE offers its investors optimum controlling options. From the ModulLine expansion level CM 2, all specific system information can be retrieved by smartphone or tablet computer in real time. Only a DSL/ISDN line is required. This information can also be sent via a GSM modem (option) as a text message. SYSTER



ConditionMonitoring 1 - basic version

In the ConditionMonitoring 1 (CM 1) basic version, all relevant system data such as opening times, happy hour, current system status, operating status and wash turnover can be read out. All important system parameters can be read out on-site and adapted simultaneously.



ConditionMonitoring 2 - (option)

In the ConditionMonitoring 2 (CM 2) expansion level, all functional processes in your self-service carwash system are illustrated additionally in clear, graphic function illustrations on the display (12" TFT). Media pressure monitoring constantly checks the pressures of the fresh water supply, osmosis, anti-freeze and washing water. Sensors immediately report any deficiency or malfunction in the system with the date and time.



ConditionMonitoring 3 - (option)

With the ConditionMonitoring 3 (CM 3) expansion level, all high-pressure pumps are additionally monitored separately from each other and illustrated on an analogue display. All storage tanks for additives and micropowder are monitored and clearly illustrated. The system operator can gain an overview of the consumption and the volumes of wash and care products to be refilled at any time.



Carwash turnover analysis (standard)

All customer carwash turnover is illustrated and analysed individually. You have the possibility of reading out the carwash turnover per wash bay in the last 24 hours, week, month, year and total. An analysis program shows you the exact trend of carwash turnover based on the history of your self-service wash bay.



Remote diagnosis - by internet browser



LED multifunctional display

CarWash

Reinigung mit ActivePower Pearl MicroPulver

Klarspülen

ohne Zusatz

Lackschutz

Mit Taste Toeginnen

Mit der Lanze Fahrzeng rundherum einsprühen, dann gründlich von oben nach unten reinigen. Bei Bedarf Bürste einsetem Har bekennen in selkaktes, kolles Wasser stil Attentione Pagel Harofolge

Alle Schmutz- und Reinigungsmittelreite gründlich abspalen. Mair ferbienenen für Baller, klarer Watter

In 2 zügigen Durchgängen das Fahrzeig rundherum einsprüten





LED multifunctional display

An oversized multifunctional display also offers your carwash customers all the information they need for perfect cleaning and care.

The display shows the carwash customer whether the system is in operation or whether the washing process is not possible at present. The wash time is immediately calculated as soon as cash is inserted. Your carwash customers can choose in advance whether the amount is enough or whether they need to insert more money. The time only starts to count down once the wash programme has been selected, meaning that your customer does not waste any time and that there is enough time to think about the purchased washing time or wash programme selection.

The time starts running when the programme is selected. The customer can see the remaining wash time at any distance from the operating pillar. The wash time counts down in seconds.

The remaining wash time is often incorrectly estimated by the customer and the result is a rushed and unsatisfactory wash and care result. With this system,

the customer can calmly allocate the wash time without any stress.

When a customer credit key is used, the system initially checks whether the customer key is valid for this self-service wash system or is rejected when the key is inserted. This system means that you avoid credit keys from other self-service wash systems being used on your system.

Once approved, the remaining wash credit on the customer credit key is shown on the display. The lowest set sales value is charged to the key by pressing the charge button and the purchased wash time is calculated.

The carwash customer can make further charges to his wash key at any time. Before the remaining amount is fully charged, the customer can see that the wash key needs to be topped up before the next wash.



CarWash 8459

LCE SafePillar - ModuleLine SafePillar



LCE operating terminal

The interface between carwash customers and self-service wash technology – clear, self-explanatory and easy to operate

The LCE operating terminal serves as a basic version of the operation control for the customer and wash bay. All the necessary operating elements are clearly organised in this operating terminal.



The terminal offers space for coin checkers and the customer key system as well as the large four-digit LED display. These customer payment systems are given perfect protection with a stainless steel cover with shock-resistant Perspex. The illuminated LED program buttons give customers optimum information about the wash and care program stages to be selected:

Programme 1 Cleaning: High-pressure wash with hot, softened water and *ActivePower Pearl MicroPowder*

Programme 2 Rinsing: Clear rinse with cold, fresh water

Programme 3 Paint Protection: Paint protection with hot, softened water and *UltraProtection*[®]

Programme 4 High Gloss: Gloss drying with demineralised water and **SuperFinish**[®] The LCE operating terminal is made of rust-free stainless steel. Integrated heating prevents freezing in frosty conditions and thus also allows the system to be opened to remove the money in wintertime. The operating door has triple locks and offers very high protection against vandalism. Even better vandalism security can be achieved with a padlock. The LCE operating terminal is simply connected with the ModulLine pump unit using a serial RS485 cable and communicates all operating stages online.



ModulLine SafePillar

The EHRLE CarWash SafePillar serves as an interface between the carwash customers and the self-service wash technology. All wash programmes can be clearly selected using waterproof, shockproof and illuminated programme buttons.

The SafePillar is made of rust-free stainless steel, just like all other components from EHRLE.

Carwash customers can insert coins and customised chips in the basic version. The large 4-digit display shows the purchased wash time and the remaining time after the programme start.

Customer-friendly user guidance with wash and care instructions gives your carwash customers the optimum overview of information and is self-explanatory.

LED lighting means that the customer information can be read well in the dark and allows your SafePillar to be perfectly illuminated.



CarWash 84.59

An additional, waterproof switchbox inside the SafePillar provides optimum protection for payment and operating units. Integrated heating prevents the door from freezing over and keeps the temperature inside the SafePillar above the freezing point.

The SafePillar is equipped with a fivepoint locking system with concealed hinges and PZ semi-cylinder as well as a further security option with a padlock.

*Key system/ note reader optional



Customer payment systems

EHRLE offers variable payment systems for all carwash customers: Cash - Chips - CarWash CustomerKey

Key System

You can offer your loyal carwash customers an attractive customer loyalty system with the CarWashKey.

With the CarWashKey customer system, carwash customers can top up their wash keys by any amount at a key machine. You can offer any attractive customer bonus you like depending on the top-up amount.

Your customers can obtain all services cash-free by simply charging them to the CarWashKey. Customer also have the option of receiving receipts for tax purposes at the key machines.

Coin Slot

With payment using the coin checker, all carwash customers can pay for their wash simply and quickly with coins or special chips.

The coin slot accepts all pre-set and approved coins after an electronic check and activates the specified wash time.

Special credit chips with your own advertising print can also be activated at any time. Ask your responsible EHRLE CarWash sales advisor. Up to 3 different currencies with the corresponding wash times can be inserted. Each country has its own currency ID - the coins can be precisely differentiated using a cctalk protocol and recorded in the economics analysis programme.

Note reader

Note readers can also be installed alongside the coin checkers. The integrated Etronic 4 board can register, operate and analyse several payment systems at the same time.

It makes sense to install note readers in countries with a relatively low coin value. The note readers have an integrated and lockable stacking box in which the notes are accurately deposited and securely stored. Access is only permitted to authorised persons. This means that manipulation can be ruled out.







Accessories for the perfect EHRLE self-service CarWash

Every EHRLE CarWash system can be equipped with a number of accessories depending on which options the investor decides on.

Payment systems

Customers can decide for themselves whether they want to wash with cash, chips or the CarWashKey (credit key). A receipt printer is integrated in the coin or key machinesand can print out receipts for tax purposes for business customers.

CarWashKeys

The CarWashKey can be purchased at the key machines with a specific wash credit applied or can be topped up later. The credit on the key can be used at any self-service wash box or self-service vacuum to pay for the respective service. The CarWashKey provides the operator with a reliable customer loyalty system and allows carwash customers to be given interesting offers.

Coin vacuum system and safe

Coins and chips can be vacuumed into a safe in the CarWash technology container using the coin vacuum system. The carwash operator can safely pick up payment amounts and transport them away without being watched.

CarWash technology container

The CarWash technology container is completely configured, built and tested for your wash bay in the EHRLE CarWashFactory. Special trucks are used to transport it from the manufacturing plant to the respective wash bay site. The technology container is quickly and simply placed on the prepared space on your building site and only needs to be connected with the media. This means that assembly times on-site can be reduced to a minimum.

Steel structure assembly

The galvanised steel structure components are assembled on-site by our trained steel structure team. All associated work is carried out professionally and on schedule.









EHRLE Innovationen



EHRLE innovations

The LCE stainless steel boiler was designed and developed by EHRLE engineers especially for heating carwash water in self-service wash bays. With a perfectly aligned pipe heat exchanger system with turbulators, EHRLE guarantees maximum effectiveness and offers hot water from the very first carwash customer. The entire LCE boiler is made of INOX stainless steel and offers the best possible corrosion resistance.



The EHRLE LCE stainless steel boiler achieves the heat rating range in connection with a modulating gas fan burner. In the heating mode, the water contained in the gas and combustion air condenses and therefore achieves an effective firing level of up to 106%. This system has a beneficial effect on the profitability of your self-service carwash particularly in view of today's increasing energy prices.



Depending on the number of customers using your EHRLE self-service carwash system, the gas burner is regulated with modulation. The power control has a range of 5-100%. The higher the number of customers in the wash boxes, the higher the gas burner power driven. This prevents the burner from cycling and guarantees long running times at basic load. The overall efficiency level is increased positively once again, which will in turn be noticed in the increase in profitability of your self-service carwash system.



The EHRLE ConditionMonitoring system gives you an overview of the entire self-service carwash system. All relevant system parameters and situations can be viewed in real time and adjusted as required on a TFT touchscreen. You can also analyse your self-service carwash system financially at any time. Changes in turnover are immediately identified and can be evaluated.

We at EHRLE CarWash do not leave anything to chance. Remote data transmission via any DSL or GSM connection from expansion level CM2 is possible at anytime without additional costs. You can view your self-service carwash system at anytime from anywhere using a PC, smartphone or tablet computer.





Highly efficient solar thermal collectors are installed on the flat roof of the selfservice carwash system facing the sun. The solar system is incorporated in the heating system via a separate solar boiler with an intelligent solar system. The solar power is channelled directly into the washing water in the wash mode when the sun shines and therefore achieves maximum efficiency.

When the system is not in use or only at a low level, the energy is channelled into the boiler and stored for the next washes. Between 30 and 40% are proven to be saved depending on the position and the number of hours of sunshine. Save on costs while being an ecological role model; these are the ecological principles of a future-orientated society.

EHRLE also offers alternative heating systems and energy-saving solutions that exceed the future-orientated energy savings guidelines in a number of points. These are offered in cooperation with leading manufacturers. Just ask!



The wash plates produced in our factory for pre-fabricated concrete already have an integrated waste water drainage system with initial filter. Wash plate heating with anti-freeze for cold winter days is also provided in the wash plate. 80 mm insulation applied to the underside prevents heat from being uncontrollably transferred to the ground and keeps the wash plate free of ice in frosty conditions.



The low-pressure foam generator serves as a system expansion for your CarWash centre.

The system works extremely efficiently. Approx. 1.5-2 % chemical additives are sufficient to produce a strong soft foam with the help of water and air. The foam generators are available for 2-12 wash bays.









Self-service vacuum

High-performance self-service vacuums are part of the overall concept of a self-service wash system

Strong vacuum power - extremely quiet

- Three-phase current turbine with side channel compressor
- Side channel compressor speed: 2800 rpm
- Noise level: 66 dB(A) at a distance of 5 mn in the standard design
- Noise level: 57.5 dB(A) at a distance of 5 m with soundproofing (extra accessory)

Perfect hose guidance system

- Overhead hose guidance system
- Simple vacuum hose handling from above
- No ground contact and therefore low wear and soiling of the vacuum hose and vacuum nozzle
- Large sized vacuum hose holder on the side

Technical data	Unite	Mono	Duo
Vacuum power	l/min	1700	2x1700
Vacuum	mbar	230	2x230
Dirt container volume	I	70	2x70
Vacuum hose length	cm	500	2x500
Noise level	dB(A)	66/57,5*	
Power type	Ph/V/Hz	3 /400/50	3 /400/50
Connection power	kW	2,3	4,6
Dimensions L x W x H	cm	120 x 80 x 300	
Weight	kg	400	450
Article no.		19702	19801

Stainless steel as an option

- Entire unit housing made of polished stainless steel
- Stainless steel vacuum pipe with 180° rotation
- Stainless steel dirt container

*with soundproofing

Wash and care detergents

Cleaning and care deteregts from EHRLE are perfect for guaranteeing your CarWash customers a perfect wash and care result. You can also ensure that the value of your Self-Service CarWash system is maintained with products precisely adapted to the EHRLE technology



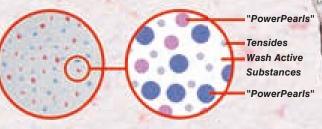
ActivePower Pearl MicroPowder

EHRLE ActivePower Pearl Micro-Powder was specially developed for use in Self-Service CarWash systems by specialists from our chemicals department and has been consequentially improved and adapted to environmental conditions over the years.

The first stage of vehicle cleaning is cleaning with *ActivePower Pearl MicroPowder*. This is the basis for all further care steps and a guarantee for satisfied CarWash customers of your Self-Service CarWash system.

The high ratio of tensides and active wash substances combined with the red and blue ActivePower Pearls provide a perfect cleaning result while simultaneously protecting the environment. The ActivePower Pearls not only remove general dirt, but can also effortlessly remove the so-called traffic film from the vehicle surface.

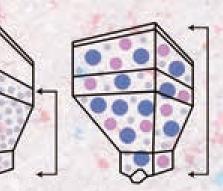
In connection with warm and soft water, the tensides and complexing agents of the EHRLE *ActivePower Pearl MicroPowder* work like thousands of little sponges and guarantee pore-deep and thorough vehicle surface cleaning without damaging or scratching it. The perfect foam and high dispersion capacity together with an intensively fresh fragrance make cleaning child's play and conveys the optimum cleaning result to your CarWash customers.



ActivePower Pearl MicroPowder and the constant flowability guarantee precise dosing in the high-pressure spray jet. The product is extremely gentle on materials and also contains a corrosion-protection component. Furthermore, ActivePower Pearl MicroPowder is free from silicates and does not leave any residues behind on vehicle paints, glass and plastic.







The *ActivePower Pearl MicroPowder* capacity is higher than a standard cleaning agent in powder form with the same mass. Due to the ActivePower Pearls the EHRLE cleaning agent is particularly economical in consumption because the volume is tran

20 kg normal powder

20 kg ActivePower Pearl MicroPowder

EHRLE UltraProtection® paint protection

Specially developed for EHRLE Self-Service CarWashes, EHRPORT portal systems and EHRLE high-pressure cleaners.

- Preserves and intensively cares for paint, rubber and plastic surfaces
- Outstanding shine on paint and plastic surfaces
- Very long-lasting protection against weather and other environmental influences such as UV radiation
- Impregnation effect for a maximum water and dirt-repellent
- Free from mineral oils and hydrocarbons

EHRLE SuperFinish® high gloss dryer

Specially developed for EHRLE Self-Service CarWashes, EHRPORT portal systems and EHRLE high-pressure cleaners.

- Very explosive water film rupture
- Water and dirt-repellent shine effect
- For use with all water types with a pH value < approx. 8 (hard, soft, demineralised and rainwater etc.)
- Free from mineral oils and hydrocarbons
- Suitable for rinsing after wax care









EHRPORT chemicals

EHRLE XFT FoamPre-cleaner

Special cleaner for commercial vehicles and touchless cleaning.

The very high foam, highly alkali cleaning agent shows the best results in contact-free high-pressure and commercial vehicle cleaning

- Maximum cleaning performance on traffic dirt, insects and brake abrasion on wheel rims
- Particularly good at dissolving mineral dirt
- Produces a very high volume and adhesive foam
- Pleasant fragrance
- Extremely highly concentrated

EHRLE IS IntensiveShampoo

"Brush shampoo", which is particularly kind to paint as it is pH neutral.

The "brush shampoo" can be used in wash systems with standard PE brushes as well as with textile materials.

- Compatible with drying aids and waxes in the recycling water as only non-ionic, low -foam tensides are used
- The high content of active wash substances allows economical consumption.

EHRLE DP ShinePolish

This product can be used as a deep-clean foam polish as well as a nourishing brush shampoo and for hand washing.

- Cleans and cares without soiling the brushes
- Also for use in systems with connected water recycling
- Perfect for convertible car care
- Improves the drying result
- Free from mineral oils and hydrocarbons For use as a foam polish:
- Intensive care of paint, rubber and plastic surfaces
- Excellent shine result
- Impregnation effect with excellent water and dirt-repellent properties. The effect lasts at least 6-8 brush washes
- Long-lasting protection against weather and environmental influences (e.g. UV radiation)









EHRLE TS HighGlossDryer

Drying aid for use in portal systems and Self-Service CarWash systems.

The excellent properties and effect of the product are as follows:

- Very explosive rupture
- Extremely few micro-pearls remaining at the end of the drying process, even in systems with a low fan power and/or quickly running systems
- · Achieves a water and dirt-repellent shine effect
- Extremely low costs per vehicle with minimum consumption due to high product concentration
- For use with all water types with a pH value < approx. 8 (hard, soft, demineralised and rainwater etc.)
- · Free from mineral oils and hydrocarbons
- Also suitable for rinsing after wax care

EHRLE RN ShinePreserver

High level gloss preserver with protection formula

- Preserves and provides particularly intensive care for paint, rubber and plastics surfaces and therefore contributes towards maintaining the vehicle value
- Particularly outstanding shine on paint and plastic surfaces with a perfect look
- Very long-lasting protection against weather and other environmental influences such as UV radiation for example
- Impregnation effect that ensures maximum water and dirt-repellent effect
- Perfect for convertible car care
- Excellent driving result without the use of additional drying aids, even in systems with a low fan power and/or quickly running systems
- · Low costs per vehicle with minimum consumption due to high product concentration
- Free from mineral oils and hydrocarbons
- Pleasant fragrance

EHRLE SaltTablets

Ion exchanger systems are frequently used to soften water. These systems exchange the troublesome calcium ions in the water for sodium ions. Salt is used for regenerating and backwashing the systems (sodium chloride).



From the concept to realisation of your own Self-Service CarWash system

Step-by-step



1. The thought or idea

You are sure to have thought about washing your own vehicle at the beginning of the weekend. There are a few different options of course, but you are certain to have considered whether to wash the vehicle yourself or take it to an automatic CarWash. Weighing up the advantages and disadvantages, a new vehicle, scratches caused by a brush CarWash or a Self-Service CarWash system are legitimate questions. You are not alone. These issues occupy millions of car drivers every day. Where should I wash my vehicle? Where can I find a good CarWash that protects the paintwork? How far do I need to drive?

Once you have arrived at the CarWash, you see the queue of vehicles in front of you, and you wait and wait, and you think, "Why don't I invest in my own Self-Service CarWash and make use of the demand among increasing numbers of self-washers who want to gently clean and care for their vehicles?"



2. EHRLE is available to assist you with help and advice

You have come to the right place if you want to check whether your idea can be turned into reality. There is a long road between having the idea of building a new Self-Service CarWash system and opening it. We at EHRLE will join you on the journey. Our advice is not only based on theory, but also includes essential practical assistance. Every single investor can count on our years of experience in providing specialist advice with respect to the location, choice of the right plot and system size. After all, we at EHRLE have installed more than 5000 Self-Service wash systems and handed them over to our customers in the past years.



3. The location of your CarWash system

There are 3 reasons to choose a specific site; location, location, location. It is important to choose a site on a main road, or near to a shopping centre or fast food restaurant as this will ensure that you always have a high customer frequency level and everyone can see that vehicles are washed here. The success of the Self-Service CarWash system is inseparably linked to the site and the wash and care result. We advise you with our know-how, plan with precision and build your wash system as if we were building it for ourselves. We would be happy to provide you with a site analysis and concept for the entire project.



4. Planning and implementation

Our architects and planners are available to assist you in turning your personal EHRLE Self-Service CarWash system into reality. Our years of experience and the confident way we deal with the authorities keep the approval process down to a minimum. We are particularly dedicated to environmental protection, energy efficiency and especially the profitability of your Self-Service CarWash system.





5. Financing

We also have plenty of experience to assist you with this issue. It is important for you to choose the best and most affordable financing option. Leasing, hire-to-buy and financing funds from starter loans or investment loans can be selected from the portfolio. We can support talks with your tax advisor by providing facts and choose the perfect financing option together.



6. Building work

The CarWash technology container is positioned on the prepared ground after building permission has been granted and civil engineering work has been completed. The pre-fabricated wash plates are then laid to fit and connected with the central beams.



7. Final installation and customer handover

Our own assembly team performs all other work; setup of the steel structure, installation of the entire CarWash electrics as well as lighting and assembly of the customer operating terminal. The individual wash boxes are hydraulically connected to the CarWash technology container and then started up with an extensive unit test. The system is handed over to our customers and explained in detail once the assembly and installation work has been successfully completed. We hope you enjoy your system and have plenty of satisfied CarWash customers.



System examples used by satisfied customers







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System examples used by satisfied customers









































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