



# RAZOR<sup>®</sup>

## RAZOR<sup>®</sup> XR-7

TOUCH-FREE  
VEHICLE WASH SYSTEMS



**WASHWORLD<sup>®</sup>**

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## MISSION STATEMENT

Washworld, Inc. will provide the most user friendly, technologically advanced and consistently reliable in-bay automatic car wash systems available. Our highly trained, experienced professionals will strive to exceed our customers' expectations while creating employee, distributor and customer relationships that will last a lifetime.



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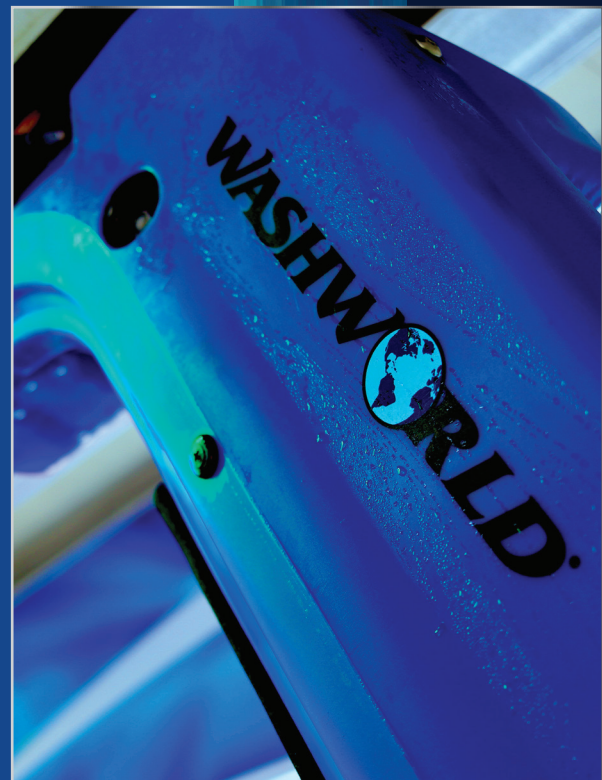
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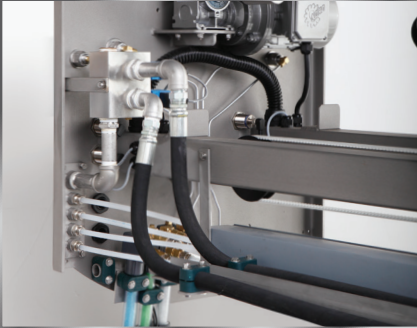


# RAZOR®

Washworld's best selling Razor® has earned the reputation of a proven system for its quality, dependability and longevity. With an emphasis on simplicity of use, reduced maintenance, and stainless steel throughout, Razor is built to last.



## STANDARD ON RAZOR



### STAINLESS STEEL

Without a doubt, the most durable material for use in a car wash. When other manufacturers are using cheaper, less durable materials in their machines, Washworld refuses to compromise on quality and uses stainless steel throughout the Razor wash system.



### ADVANCED DRIVE MOTION TECHNOLOGY

Razor's belt drive utilizes multiple variable frequency drive technology with a clean and simple design. Radial motion provides a smooth, precise application of all solutions and water. What does this mean for you? Fewer moving components, less weight, reduced maintenance and a quicker return on investment!



### ENERGY CHAIN

Razor's revolutionary cable carrier protects moving cables and hoses from abrasion and entanglement. Energy chain also provides controlled bend radius of cables and hoses to prevent pinching or kinking. Energy chain's non-metallic construction ensures quiet performance, longer cable life and extended supply line life.



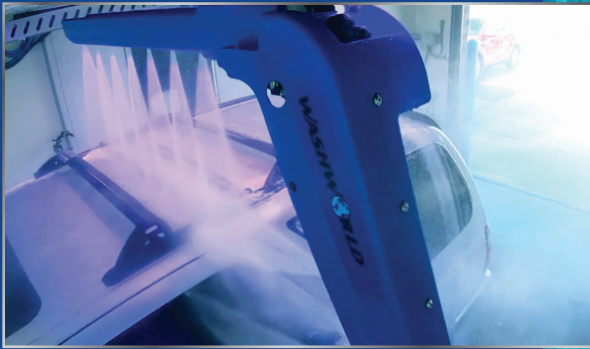
Your customers will appreciate the wide open feel of the wash bay. Razor's VS<sup>2</sup> is a safe, simple and reliable vehicle positioning system which provides your customers with a friendly, open wash bay without guide rails, floor treadles or T-bars. To increase customer comfort, Razor utilizes a bay guide reflector system to outline vehicle travel, day or night. Razor's VS<sup>2</sup> provides exceptional cleaning by consistently measuring front, rear and both sides of vehicles to maintain the optimum distance between the arch and the vehicle for most effective cleaning. Smooth radial wash motion ensures complete vehicle coverage.



This stainless steel, angled flood style pods and overhead 6 nozzle stainless steel manifold delivery system applies up to 8 different applications to the entire vehicle (top, sides, front and rear). Each product can be applied to the vehicle in a single pass. Anything that can be put through the arch can be put through the Flex Pass. Applications can be programmed from front to rear or rear to front, minimizing machine movement. Speeds are adjustable individually in both directions. Since the arch does not rotate around the car, it results in a substantial savings in time as well as reduced product cost.



## STANDARD ON RAZOR



### CUTTING EDGE SPRAY ARCH COVER

The vibrant blue, rotationally molded polyethylene arch cover catches the eye of the customer while 7 top and 14 side nozzles provide excellent coverage that they will appreciate. Protective polyethylene cross-link face foam gives added protection.



### VISORCLEAN

Stainless steel VeeJet nozzles are strategically placed on the spray arch to clean even the hardest of places...under the rear window visor!



Washworld's patented Virtual Attendant® technology enables the Razor to maneuver around obstacles such as wide mirrors, rear mounted bike racks and extended trailer hitches which often render other washes inoperable. Virtual Attendant automatically compensates for the obstacle thereby allowing the wash to be completed. This means no down time, no attendant and no more trips to the site to reset the wash! Best of all...it's standard on every Razor wash!



Waterproof hand held RF remote control for manual movement and machine functions

**WASHVIEW**  
— HMI ON-SITE

With Razor's standard Washview® On-Site, a color touch screen gives you complete access to Razor, including programming, maintenance, diagnostics and wash counts. No on-site PC or laptop is needed to configure your wash. Razor also features a comprehensive integrated notification system which can monitor auto cashiers, doors, fluid levels and more. In addition, the Wash Package Storage capability allows for up to 12 wash packages to be retained, which can be quickly copied to the immediate wash setup.



## STANDARD ON RAZOR



### VOICE PROMPTS

Your customers will never need to guess what to do next with Razor's voice prompts. Audible instructions and information are linked to Razor's instructional signage. Standard on Razor, the voice prompt is in English, however is customizable for other languages.



### BUY-UP OPTION

Four customizable buy-up options allow your Auto Cashier to up-sell for you which renders greater wash package flexibility and maximized profits!



### EYE CATCHING LED'S

For can't miss customer attraction, brilliant LEDs illuminate Razor. These striking, long lasting LEDs are standard on all Razor wash systems.



Washworld is launching an all out war on bugs and salt residue with our extra step vehicle preparation Bug A'Salt. This unique concentrated attack targets bugs and salt film which leaves vehicles cleaner and your customers happier.





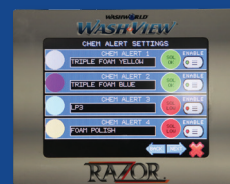
Washworld has consistently been on the cutting edge of car wash technology. At Washworld, we are continually striving to provide technologies that improve the efficiency and quality of our wash systems while keeping them simple to operate and maintain. As a company of car wash owners ourselves, Washworld fully understands the daily challenges of running a car wash business. These challenges are the inspiration for all our technologies and are implemented for the benefit of our customers and their increased profitability.





## POWER TOWER WHEEL CLEANER

Effective wheel cleaning that will keep your customers coming back! The 40" high tower features 4 stainless steel zero degree rotating turbo nozzles, providing intense cleaning as well as great customer appeal. Power Tower Wheel Cleaner manifolds are fabricated completely from stainless steel and wrapped in a vibrant blue, rotationally molded polyethylene cover. Available with or without eye-catching blue LEDs. Not only is the Power Tower Wheel Cleaner effective for wheel cleaning, but it is great for removing snow and ice from rocker panels and running boards!



Monitoring your chemical levels has never been easier! Washworld's chemical monitoring system allows you to remotely monitor up to 16 different product levels by utilizing an adjustable capacitive sensor that is mounted to each chemical container. The adjustable low level triggers an alert on the Washview® and a notification is conveniently sent via email or text. Monitoring your chemical levels helps you to reduce system downtime and ensures your car wash is running smoothly.



## BIG SHOT CHEMICAL TIRE APPLICATION

Big Shot chemical tire applicator is constructed from stainless steel and specifically designed to target your tires/wheels for impeccable results. Pre-charged solution and air manifolds are photo-eye activated and software controlled with customizable settings. Two application towers with 3 applicator nozzles on each tower per side (driver and passenger side) provide complete coverage. Top and bottom nozzles have a 10-degree angle adapter for precise application adjustment. Each application tower can deliver a different tire/wheel cleaning product (high pH and low pH) or a dual application of the same product. No matter what size tires, Big Shot has it covered!



## SPECTRA RAY+

SpectraRay+™ works in conjunction with SpectraRay™ to take the spectacular LED light show to the next level! SpectraRay+ includes an adjustable stainless steel stationary wall mounted system, bringing the intense light show to eye level. When purchased as a stand alone option, SpectraRay+ is fully programmable. The colors can sequence through flashing colors for an intense experience, switch to a steady color at any point to coincide with your wash package and even coordinate with your in-bay instruction sign. When paired together, SpectraRay+ and SpectraRay synchronize to flood the wash bay with red, magenta, blue and green creating an ultimate light show that customers won't forget!



## OPTIONAL ON RAZOR



### TRI-COLOR FOAM

There is simply no better Tri-Color foam application available! Washworld's Tri-Color foam features completely adjustable nozzles for coverage the way you want it, where you want it. Foaming heads can be positioned individually allowing unlimited flexibility.



### TRI-COLOR FOAM FREEZE PROTECTION

Finally, a cost effective means of protecting your Tri-Color foam system utilizing heat and weep or heat and blow down capabilities to prevent freezing without the typical extreme water usage of other systems.



More show, more shine, more revenue with Washworld's Foam 'n Flow® application system! Complete with full, dramatic product enhancing LED back-lighting. Foam 'n Flow can be used with most Carnauba, hot wax, polish and conditioning products on the market.



### UNDERCARRIAGE & ROCKER PANEL BLASTER

The undercarriage and rocker panel blaster is specially designed to thoroughly attack any dirt, debris and snow on the lower portion of your vehicle. The undercarriage and rocker panel blaster consists of 11 stainless steel nozzles; 3 on the undercarriage and 4 on each rocker panel blaster.



Washworld's optional Washview® Mobile provides virtually the same technologies as Washview® On-Site (standard), however it allows you to access and control Razor from anywhere in the world via a high speed Internet connection. Washview Mobile uses the Vijeo Design'Air app (purchased separately) for your smart phone or tablet to give you mirror image access of your HMI. It even gives you the ability to receive text or email notifications to keep you fully informed!

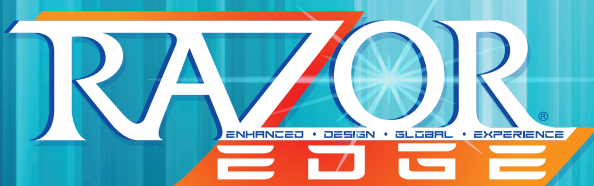




## CUSTOM GRAPHICS

Promote your brand with custom graphics! Make a memorable impression on your customers, distinguishing yourself from your competitors by customizing your Razor cover graphics to be consistent with your brand.





ENHANCED DESIGN GLOBAL EXPERIENCE. Meet the perfect combination of speed and user experience in car wash technology. The Razor® EDGE comes equipped with all of our reliable Razor® components but also includes an intense customer experience featuring: HyperFlex™ and SpectraRay™.

HyperFlex and SpectraRay are available as individual options on a standard Razor and Razor Double Barrel. EDGE package is available on Razor and Razor Double Barrel.





## HYPER FLEX

HyperFlex heightens the dynamic cleaning experience of Razor EDGE. HyperFlex consists of an overhead rain manifold and side mounted angled flood style pods that can be used in conjunction with Razor standard Flex Pass to simultaneously apply multiple products dramatically reducing wash time. Programming HyperFlex with SpectraRay creates a blanket of color for the ultimate experience!



## SPECTRA RAY

A spectacular array of 4,528 LEDs fill the wash bay with SpectraRay! The red, magenta, blue and green LEDs are fully programmable to add splashes of various colors during any or all of the product applications to accentuate the entire wash process. The colors can sequence through flashing colors for an intense experience, switch to a steady color at any point to coincide with your wash package and even coordinate with your in-bay instruction sign. Even when idle, SpectraRay can sequence through color to draw attention to the wash bay with an eye catching light show making it unique and memorable for perspective customers!





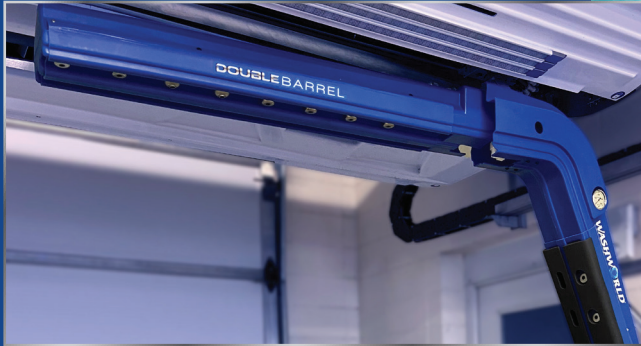
# RAZOR®

## DOUBLE BARREL

New to Washworld's touch-free vehicle wash line-up is Razor® Double Barrel, specifically designed with two spray arch manifolds, one high pressure and one low pressure, to intensely maximize the wash your car receives. Double Barrel's power blasts away pesky bugs and dirt leaving your car exceptionally clean. Like Razor EDGE, Razor and Razor XR-7, Razor Double Barrel provides a safe, consistently reliable car wash system upholding the highest standards in quality and efficiency.



## STANDARD ON RAZOR DOUBLE BARREL



The vibrant blue, rotationally molded polyethylene arch cover catches the eye of the customer while protective cross-link face foam gives added protection. For added convenience, a high pressure gauge has been mounted onto the spray arch for monitoring nozzle pressure.



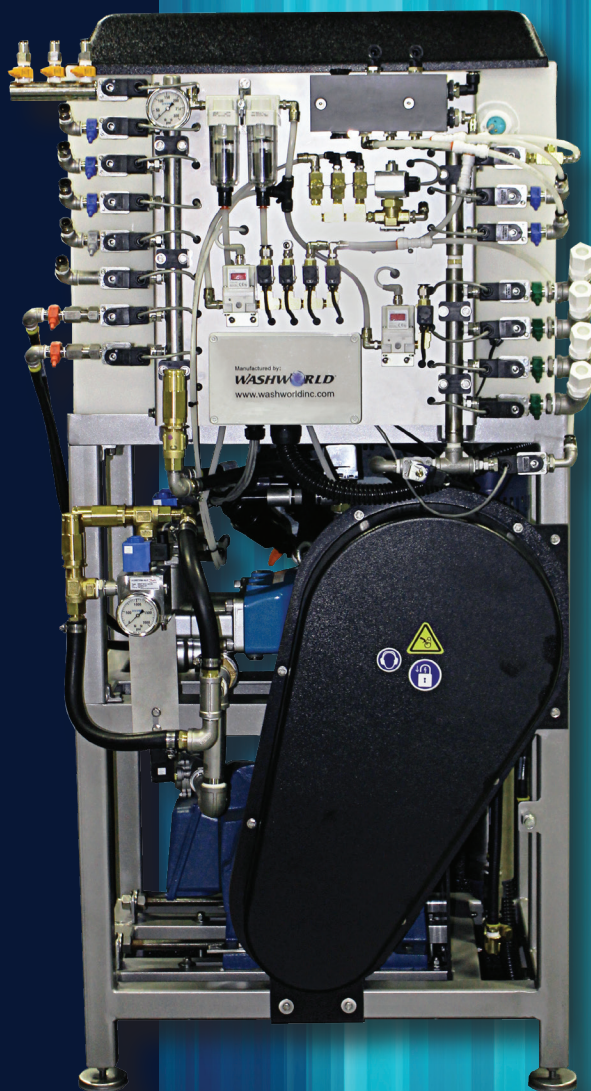
Double Barrel encompasses two spray arch manifolds to give an intense cleaning that is sure to get customers talking. The stainless steel low pressure manifold includes 8 top and 14 side VeeJet nozzles, while the stainless steel high pressure manifold includes 8 top and 14 side stainless steel zero degree rotating turbo nozzles.

The Double Barrel arch face cover incorporates dual cross linked polyethylene replaceable nozzle protectors. The face cover can easily be removed for direct access to both the VeeJet and stainless steel zero degree rotating turbo nozzles.



The Double Barrel carriage height has been raised by 4" to accommodate the stainless steel zero degree rotating turbo nozzles to maintain a 7' vehicle clearance. The side arch has been extended out by 12" to maintain the optimal cleaning distance. Customers will appreciate the robust sound of Double Barrel's intense spraying power as it blasts away bugs and dirt.





## STANDARD FEATURES

- Space saving design, simple installation, easy to maintain
- Heavy duty powder coated frame utilizes proven protective primer
- Cat 3535 Pump with deluxe oil change kit allows easy access for service
- Electronic air regulator - Allows for each foaming application to have it's own pre-set air pressure
- 3 Separate pre-soak application system
- 2 High pressure sealant / drying agent applications
- 1 Low pressure drying agent / protectant application
- One piece rotationally molded corrosion proof MDPE tank
- Programmable dual low pressure inlet (hot and cold incoming)
- Resource conservation system lowers water consumption
- Direct feed solutions system provides more control and reduces chemical costs significantly
- Stainless steel chemical manifold
- Stainless steel / composite direct feed chemical delivery system
- Flex Pass® application system

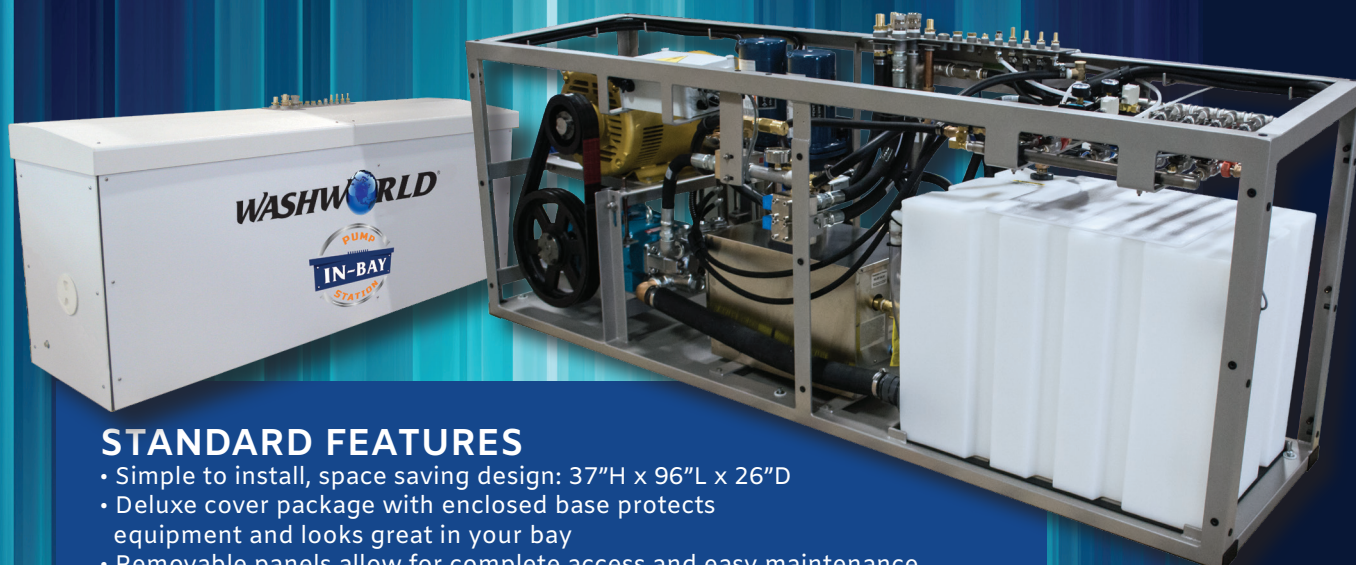
## OPTIONS

- Tri-Color foam application system
- Foam 'n Flow® application system
- HyperFlex™ application system
- Spot free re-pressurization system
- Reclaim system adapter kit
- High capacity 12kw electric water heater
- Instantaneous natural gas water heater
- Cold climate package - heat and weep
- Cold climate package - heat and air blow down
- Cold climate package - weep only
- Cold climate package - heat only

## HEAVY DUTY PUMP STATION

Washworld's Pump Station features a poly tank, three pre-soaks, one additional low pressure product application and two high pressure product applications standard, CAT pump complete with remote oil drain kit, leveling feet, easy tilt wiring access panel and much more.





## STANDARD FEATURES

- Simple to install, space saving design: 37"H x 96"L x 26"D
- Deluxe cover package with enclosed base protects equipment and looks great in your bay
- Removable panels allow for complete access and easy maintenance
- Heavy duty powder coated frame utilizes proven protective primer
- CAT 3535 pump with deluxe oil change kit allows easy access for service
- Electronic air regulator - Allows for each foaming application to have it's own pre-set air pressure
- 3 Separate pre-soak application system
- 2 High pressure sealant / drying agent applications
- 1 Low pressure drying agent / protectant application
- One piece rotationally molded corrosion proof MDPE tank
- Programmable dual low pressure inlet (hot and cold incoming)
- Stainless steel top feed and discharge manifold
- Resource conservation system lowers water consumption
- Direct feed solutions system provides more control and reduces chemical costs significantly
- Stainless steel chemical manifold
- Stainless steel / composite direct feed chemical delivery system
- Flex Pass® application system

## OPTIONS

- Tri-Color foam application system
- Foam 'n Flow® application system
- HyperFlex™ application system
- Built in spot free re-pressurization system
- Reclaim system adapter kit
- Built in high capacity 12kw electric water heater
- Cold climate package - heat and weep
- Cold climate package - heat and air blow down
- Cold climate package - weep only
- Cold climate package - heat only

## IN-BAY PUMP STATION

For locations without an equipment room, the In-Bay Pump Station offers the same cutting edge technology incorporated in a space saving design to be located directly in your wash bay. Featuring one piece heavy duty construction, it is designed for long life in even the harshest of conditions.





## STANDARD FEATURES

### IN-BAY WALL MOUNT SYSTEM - STAINLESS STEEL

- Stainless steel travel rails (27' 4" overall length)
- Stainless steel wall mounting hardware
- Floor mounted blue reflectors for visual guidance
- Wash bay stop / backup loading eye wall mounting kit - Standard bays

### OVERHEAD CARRIAGE AND TROLLEY FRAME - LASER CUT STAINLESS STEEL

- Variable frequency controlled belt drive carriage and trolley movement
- Stainless steel contouring spray arch with variable frequency control
- VS<sup>2</sup>® (Vehicle Sizing System)
- Virtual Attendant® - Maneuvers around wide mirrors and trailer hitches
- Visorclean - Nozzles strategically placed to clean under rear visor
- Spray arch cover - Rotationally molded polyethylene composite material
- Replaceable nozzle protector - Cross linked polyethylene foam
- Stainless steel carriage, totally enclosed climate proof motors and gearboxes with precise movement and minimal rolling resistance
- Energy chain - No festoon, overhead cross brace or overhead swivel
- Flex Pass® carriage manifold
- Triple pass technology for optimal front and rear cleaning
- Bug A'Salt™ technology for additional seasonal cleaning
- Arch mirror detailing - Arch will turn to clean and rinse side mirrors
- Attention grabbing blue LEDs highlighting the entrance cover

### SOLUTION DELIVERY SYSTEM - POWDER COATED CARBON STEEL PUMP STATION

- Cat 3535 Pump / 25 HP premium high efficiency ODP motor
- Variable flow and pressure with water conservation system
- High flow multiple stage solution delivery pump system
- Composite direct injection / No drift chemical metering system
- Electronic air regulator - Allows for each foaming application to have its own pre-set air pressure
- 3 Separate pre-soak applications
- 2 High pressure sealant / Drying agent applications
- 1 Low pressure drying agent / Protectant application
- Dual inlet low pressure source selection (hot and cold)

### ULTIMATE CONTROL CABINET

- Electrical control panel 208VAC (soft start and stop variable frequency motor controls on carriage, trolley and arch)
- Washview® On-Site control interface (complete programming flexibility)
- Complete on-site programming and diagnostic capability
- Wash activation buy-up compatibility
- Comprehensive integrated notification system
- In-bay voice module to communicate Razor® actions to customer
- Waterproof hand held RF remote control for manual movement and machine function
- Auto home feature



## STANDARD FEATURES

Razor® EDGE comes equipped with all of the standard Razor® features as well as the following:

- **HyperFlex™** - 2 product applications applied at the same time when paired with Flex Pass®
- **SpectraRay™** - 4,528 LED lights - red, magenta, blue and green light show during the wash process or while idle



## STANDARD FEATURES

Razor® Double Barrel comes equipped with all of the standard Razor® features as well as the following:

- Stainless steel low pressure manifold with 22 VeeJet nozzles
- Stainless steel high pressure manifold with 22 stainless steel zero degree rotating turbo nozzles
- Arch mounted high pressure gauge





## OPTIONAL FEATURES

### RAZOR® SYSTEM OPTIONS

- Razor On-Board Dryer system options
  - 30 HP (4 - 7.5 HP motors)
  - 30 HP (3 - 10 HP motors)
  - 40 HP (4 - 10 HP motors)
  - 45 HP (3 - 15 HP motors)
- In-bay horizontal pump station with composite covers and in-bay stainless steel ultimate control cabinet
- UCC power conversion kit (converts standard UCC for use with 240 VAC 3 phase 60 Hz incoming power supply)
- Free standing frame (stainless steel or powder coated)
- Wash bay stop / backup loading eye pedestal mounting kit - Free standing frame or non-standard bays

### WASH OPTIONS

- Tri-Color foam application system
- Tri-Color foam application system with cold climate protection
- Foam 'n Flow® application system
- HyperFlex™ - 2 product applications applied at the same time when paired with Flex Pass®
- SpectraRay™ - 4,528 LEDs - red, magenta, blue and green light show during the wash process or while idle
- SpectraRay+™ - 5,568 LEDs (red, magenta, blue and green) Mounting options: wall, pedestal mount or OBD free standing frame
- Medium pressure R.O. pump (13 GPM @ 110 psi) includes wall mount bracket and motor starter
- Spot free (R.O.) reject water reclaim system
- Reclaim system adapter kit
- Cold climate package - Heat and weep
- Cold climate package - Heat and air blow down
- Cold climate package - Weep only
- Cold climate package - Heat only
- Primary HS / Washview® MOBILE - High speed DSL or cable Internet connection capability - Internet access without a static IP address
- Secondary HS / Washview® MOBILE - Additional high speed DSL or cable Internet connection at same location for multi-bay sites
- Chem Alert™ - Chemical monitoring system
- Water heater, on demand, direct vent, tank-less, natural gas
- Water heater, 12kw high capacity electric, stainless steel tank
- Undercarriage and Rocker Panel Blaster - 11 stainless steel nozzles; 3 on the undercarriage and 4 on each rocker panel blaster
- Power Tower Wheel Cleaner® - 4 rotating nozzles per tower - Available with or without blue LEDs
- Big Shot™ - Chemical tire application
- Custom voice option for in-bay voice module
- Through wall stainless steel bulkhead manifold - For electrical and plumbing from mechanical room to wash bay
- Dual port injector system - To replace single injector for low pressure application (order per injector)
- Premium door controls - Includes eyes
- Ultimate door controls - Includes eyes





**WALL MOUNT WASH BAY DIMENSIONS\***

	OPTIONS	PREFERRED	*MINIMUM	MAXIMUM
RAZOR HEIGHT	13' 4" - 16' 8" (4064 - 5080mm) Bay Widths 16' 9" - 18' 0" (5105 - 5486mm) Bay Widths	12' (3658mm) 12' (3658mm)	10' 8" (3251mm) 11' 4" (3454mm)	N/A
RAZOR DOUBLE BARREL HEIGHT	14' 0" - 16' 8" (4267 - 5080 mm) Bay Widths 16' 9" - 18' 0" (5105 - 5486 mm) Bay widths	12' 4" (3759 mm)	11' 0" (3353 mm) 11' 8" (3356 mm)	N/A
RAZOR WIDTH	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	15' (4572mm)	13' 4" (4064mm)	18' (5486mm)
RAZOR DOUBLE BARREL WIDTH	27' 4" Rails (8331 mm) (standard) 30' 4" Rails (9246 mm) (OBD) 25' 4" Rails (7722 mm) (optional)	15' (4572mm)	14' (4267mm)	18' (5486mm)
RAZOR AND RAZOR DOUBLE BARREL LENGTH	25' 4" Rails (7722mm) (Optional) 27' 4" Rails (8331mm) No Dryer	28' (8534mm) 30' (9144mm)	25' 8" (7823mm) 27' 8" (8432mm)	N/A
	27' 4" Rails (8331mm) Razor and Dryer w/Covers	42' (12802mm)	31' 4" (9550mm)	N/A
	30' 4" Rails w/On-Board Dryer (9246mm)	42' (12802mm)	31' 4" (9550mm)	N/A

\*NOTE: Minimum dimensions are from nearest inside obstructions entrance to exit, and bay floor to ceiling, i.e. door tracks, counterweights, etc. Add in additional length for these items.

**FREE STANDING FRAME DIMENSIONS\***

	OPTIONS	PREFERRED	*MINIMUM	MAXIMUM
RAZOR HEIGHT	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	12' (3658mm)	11' 9" (3581mm)	N/A
RAZOR DOUBLE BARREL HEIGHT	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	12' 4" (3759 mm)	12' 1" (3683mm)	N/A
RAZOR AND RAZOR DOUBLE BARREL WIDTH	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	15' (4572mm)	14' 4" (4369mm)	N/A
RAZOR AND RAZOR DOUBLE BARREL LENGTH	25' 4" Rails (7722mm) (Optional) 27' 4" Rails (8331mm) No Dryer	28' (8534mm) 30' (9144mm)	25' 8" (7823mm) 27' 8" (8432mm)	N/A
	27' 4" Rails (8331mm) Razor and Dryer w/Covers	42' (12802mm)	31' 4" (9550mm)	N/A
	30' 4" Rails w/On-Board Dryer (9246mm)	42' (12802mm)	31' 4" (9550mm)	N/A

\*NOTE: Minimum dimensions are from nearest inside obstructions entrance to exit, and bay floor to ceiling, i.e. door tracks, counterweights, etc. Add in additional length for these items.

**RAZOR MINIMUM UTILITY REQUIREMENTS**

Water: .....25 GPM @ 35 PSI (2.4 bars @ 94.6 l/m) minimum at pump station  
Air: .....11 SCFM @ 100 PSI (6.89 bars @ 311 l/m) includes optional Tri-Color foam  
Electrical: 208/230 VAC, 3 PH, 60 Hz (Five wire, three phase with neutral and ground)

VOLTAGE	UCC CABINET	RAZOR PUMP STATION	OPTIONAL COLD CLIMATE PACKAGE	EACH DRYER MOTOR	
208	23 Amps	73 Amps	14 Amps	10 HP 27 Amps	15HP 40 Amps
230	20 Amps	62 Amps	12 Amps	10 HP 24 Amps	15HP 35 Amps
380/415 (50HZ)	17 Amps	38 Amps	10 Amps	10 HP 15 Amps	15HP 22 Amps
460	N/A	31 Amps	N/A	10 HP 12 Amps	15HP 17 Amps
575	N/A	24.5 Amps	N/A	10 HP 9.12 Amps	15HP 13.6 Amps

Note: Specifications Subject to Change Without Notice. The decibel level of the dryer (measured at 1.6 meters from the floor and 1 meter from the surface) is 94dB. The decibel level of the pump station (measured at 1.6 meters from the floor and 1 meter from the surface) is 94dB. Decibel levels are impacted by surrounding materials and conditions and will vary.





# RAZOR



TOUCH-FREE VEHICLE WASH SYSTEMS - RAZOR

## QUICKER RETURN ON INVESTMENT

Energy efficient motors save on operating costs, sealed gearboxes eliminate the need for oil changes and reduced rolling resistance results in improved efficiency. No wasted product, reduced water consumption, increased throughput, reduced maintenance and lower operating costs all add up to a higher and faster return on investment.



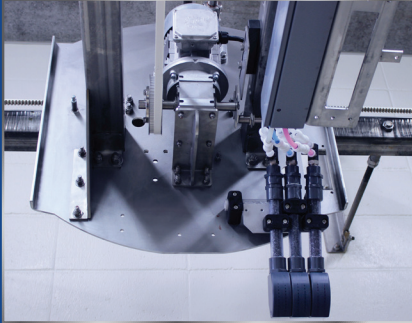


# RAZOR<sup>®</sup> XR-7

Washworld's Razor<sup>®</sup> XR-7 has all of the best of what makes Razor<sup>®</sup> unique, but at a lower price point. Razor XR-7 keeps costs down however still maintains the highest standards of quality. For longevity, stainless steel is an important part of Razor XR-7. With a wide range of options available, Razor XR-7 is the complete package!

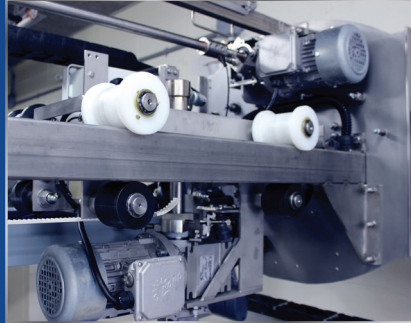


## STANDARD ON RAZOR XR-7



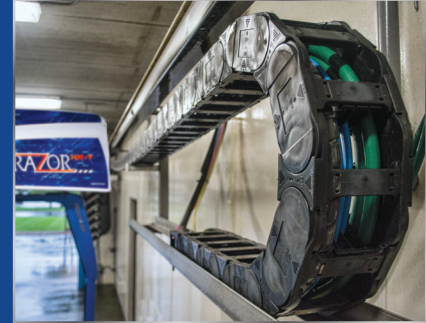
### STAINLESS STEEL

Without a doubt, the most durable material for use in a car wash. When other manufacturers are using cheaper, less durable materials in their machines, Washworld refuses to compromise on quality and uses stainless steel throughout the Razor XR-7 wash system.



### ADVANCED DRIVE MOTION TECHNOLOGY

Razor XR-7's belt drive utilizes multiple variable frequency drive technology with a clean and simple design. Radial motion provides a smooth, precise application of all solutions and water. What does this mean for you? Fewer moving components, less weight, reduced maintenance and a quicker return on investment!



### ENERGY CHAIN

Razor XR-7's revolutionary cable carrier protects moving cables and hoses from abrasion and entanglement. Energy chain also provides controlled bend radius of cables and hoses to prevent pinching or kinking. Energy chain's non-metallic construction ensures quiet performance, longer cable life, and extended supply line life.



Your customers will appreciate the wide open feel of the wash bay. Razor XR-7's VS²® is a safe, simple and reliable vehicle positioning system which provides your customers with a friendly, open wash bay without guide rails, floor treadles or T-bars. To increase customer comfort, Razor XR-7 utilizes a bay guide reflector system to outline vehicle travel, day or night. Razor XR-7's VS² provides exceptional cleaning by consistently measuring front, rear and both sides of vehicles to maintain the optimum distance between the arch and the vehicle for most effective cleaning. Smooth radial wash motion ensures complete vehicle coverage.



### REDUCED MAINTENANCE

Sealed gearboxes eliminate the need for oil changes. Reduced weight and less motion equal less wear and tear. High quality, premium components and materials withstand the harsh wash bay conditions resulting in a longer life. No wasted products, reduced maintenance and increased throughput provide a quicker return on investment.



## STANDARD ON RAZOR XR-7



### CUTTING EDGE SPRAY ARCH COVER

The vibrant blue, rotationally molded polyethylene arch cover catches the eye of the customer while 7 top and 14 side nozzles provide excellent coverage that they will appreciate. Protective polyethylene cross-link face foam gives added protection.



### VISORCLEAN

Stainless steel VeeJet nozzles are strategically placed on the spray arch to clean even the hardest of places...under the rear window visor!



### BUY-UP OPTION

Four customizable buy-up options allow your Auto Cashier to up-sell for you which renders greater wash package flexibility and maximized profits!



Washworld's patented Virtual Attendant® technology enables the Razor XR-7 to maneuver around obstacles such as wide mirrors, rear mounted bike racks and extended trailer hitches which often render other washes inoperable. Virtual Attendant automatically compensates for the obstacle thereby allowing the wash to be completed. This means no down time, no attendant and no more trips to the site to reset the wash! Best of all...it's standard on every Razor XR-7 wash!



Push Button Control Enclosure



With Razor XR-7's standard Washview® On-Site, a color touch screen gives you complete access to Razor XR-7, including programming, maintenance, diagnostics, and wash counts. No on-site PC or laptop is needed to configure your wash. Razor XR-7 also features a comprehensive integrated notification system which can monitor auto cashiers, doors, fluid levels and more. In addition, the Wash Package Storage capability allows for up to 12 wash packages to be retained, which can be quickly copied to the immediate wash setup.





## QUICKER RETURN ON INVESTMENT

Energy efficient motors save on operating costs. Reduced rolling resistance results in improved efficiency. No wasted product, reduced water consumption, increase throughput, and lower operating costs all add up to a higher and faster return on investment!



## OPTIONAL ON RAZOR XR-7



### UNDERCARRIAGE & ROCKER PANEL BLASTER

The undercarriage and rocker panel blaster is specially designed to thoroughly attack any dirt, debris and snow on the lower portion of your vehicle. The undercarriage and rocker panel blaster consists of 11 stainless steel nozzles; 3 on the undercarriage and 4 on each rocker panel blaster.



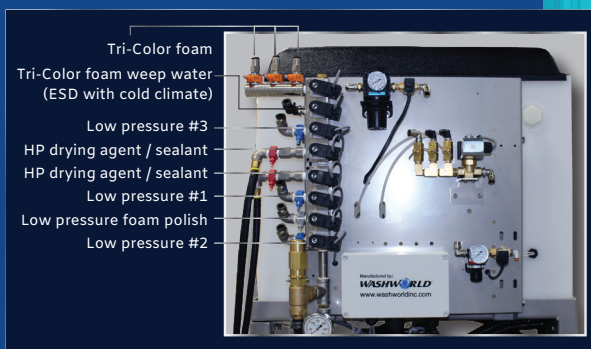
### TRI-COLOR FOAM

There is simply no better Tri-Color foam application available! Washworld's optional ESD/Tri-Color foam features completely adjustable nozzles for coverage the way you want it, where you want it. Foaming heads can be positioned individually allowing unlimited flexibility.



### TRI-COLOR FOAM FREEZE PROTECTION

For cold climates there is the Tri-Color foam with freeze protection option that also includes additional single HP and LP applications. Finally, a cost effective means of protecting your Tri-Color foam system utilizing heat and weep or heat and blow down capabilities to prevent freezing without the typical extreme water usage of other systems.



### ESD - EXTENDED SOLUTIONS DELIVERY

ESD provides the optional extra services your customers will rave about and be an easy up-sell option to increase your revenue stream. ESD includes an additional single low pressure and single high pressure application and Tri-Color Foam. Adding Washworld's ESD option to your Razor XR-7 is an easy decision to make!



### POWER TOWER WHEEL CLEANER

Effective wheel cleaning that will keep your customers coming back! The 40" high tower features 4 stainless steel zero degree rotating turbo nozzles, providing intense cleaning as well as great customer appeal. Power Tower Wheel Cleaner manifolds are fabricated completely from stainless steel and wrapped in a vibrant blue, rotationally molded polyethylene cover. Available with or without eye-catching blue LEDs. Not only is the Power Tower Wheel Cleaner effective for wheel cleaning, but it is great for removing snow and ice from rocker panels and running boards!





#### VOICE PROMPTS

Your customers will never need to guess what to do next with Razor XR-7's voice prompts. Audible instructions and information are linked to Razor XR-7's instructional signage. The voice prompts come standard in English, however is customizable for other languages.



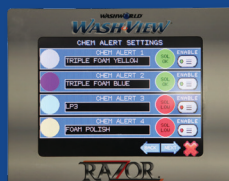
#### SPECTRARAY+

SpectraRay+™ floods the wash bay with red, magenta, blue and green creating an ultimate light show that customers won't forget! It includes an adjustable stainless steel stationary wall mounted system and can be programmed to sequence through flashing colors for an intense experience or switch to a steady color at any point to coincide with your wash package.



#### CHEM ALERT

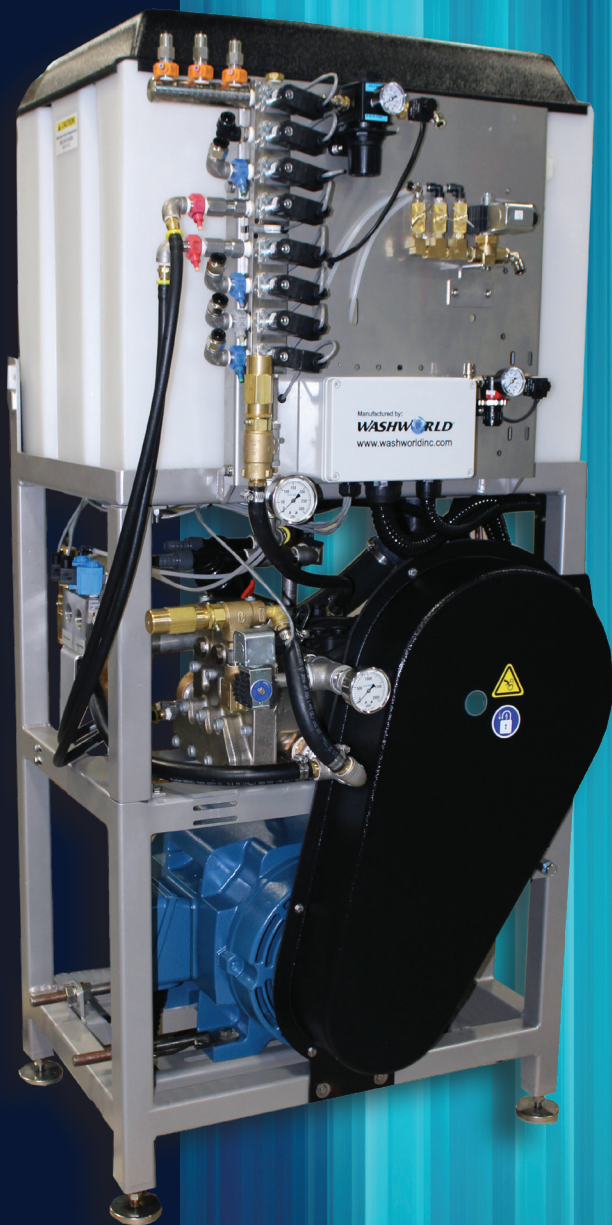
Monitoring your chemical levels has never been easier! Washworld's chemical monitoring system allows you to remotely monitor up to 16 different product levels by utilizing an adjustable capacitive sensor that is mounted to each chemical container. The adjustable low level triggers an alert on the Washview® and a notification is conveniently sent via email or text. Monitoring your chemical levels helps you to reduce system downtime and ensures your car wash is running smoothly.



#### WASHVIEW MOBILE

Washworld's optional Washview® Mobile provides virtually the same technologies as Washview® On-Site (standard), however it allows you to access and control Razor XR-7 from anywhere in the world via a high speed Internet connection. Washview Mobile uses the Vijeo Design'Air app (purchased separately) for your smart phone or tablet to give you mirror image access of your HMI. It even gives you the ability to receive text or email notifications to keep you fully informed!





## STANDARD FEATURES

- Space saving design, simple installation, easy to maintain
- Heavy duty powder coated frame utilizes proven protective primer
- General Pump - Emperor HTCK40
- Two pre-soaks, additional single low pressure, single high pressure applications available
- One piece rotationally molded corrosion proof MDPE tank
- Resource conservation system lowers water consumption
- Direct feed solutions system provides more control
- Stainless steel chemical manifold
- Stainless steel / composite direct feed chemical delivery system
- 25 HP premium high efficiency ODP motor

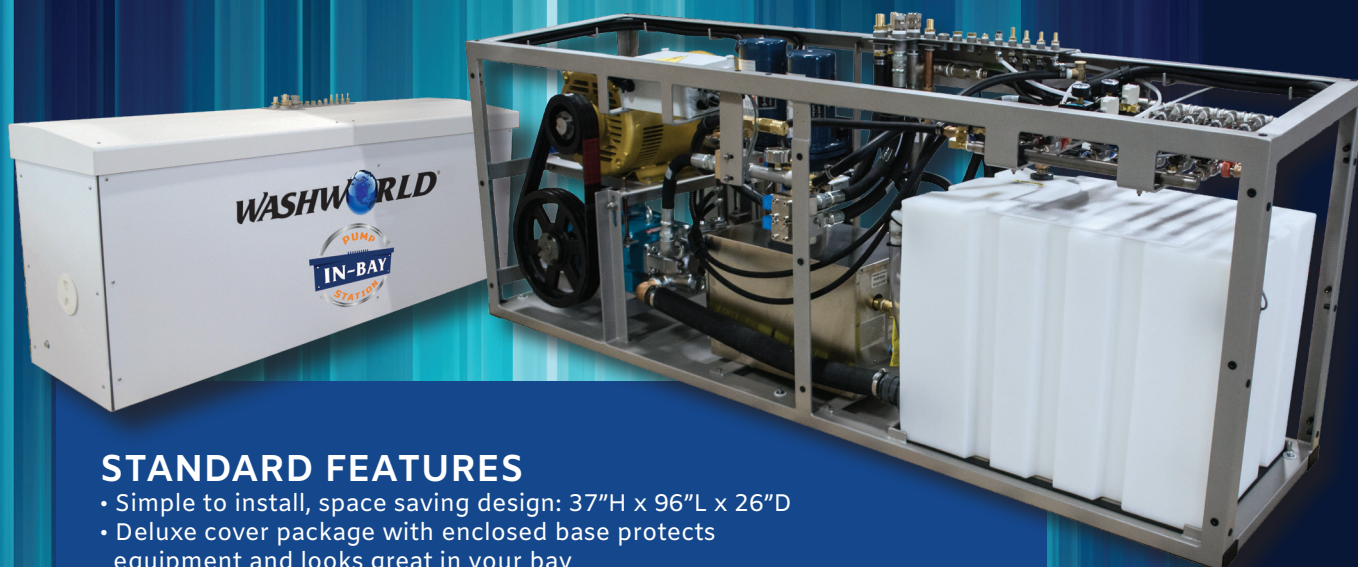
## OPTIONS

- Cat 3535 pump option (replaces General Pump - Emperor HTCK40)
- ESD - Extended Solution Delivery option includes: Tri-Color foam, (1) additional low pressure, (1) additional high pressure for sealant / drying agent applications
- Cold climate package - heat and weep
- Cold climate package - heat and air blow down
- Cold climate package - weep only
- Cold climate package - heat only
- Dual inlet low pressure source selection valve and control hot and cold
- Spot free re-pressurization system
- Reclaim system adapter kit
- Dual port injector system

## HEAVY DUTY PUMP STATION

Washworld's Pump Station features a poly tank, two pre-soaks, one additional low pressure product application and one high pressure product application standard.





## STANDARD FEATURES

- Simple to install, space saving design: 37"H x 96"L x 26"D
- Deluxe cover package with enclosed base protects equipment and looks great in your bay
- Removable panels allow for complete access and easy maintenance
- Heavy duty powder coated frame utilizes proven protective primer
- General Pump - Emperor HTCK40
- Two pre-soaks, additional single low pressure, single high pressure applications available
- One piece rotationally molded corrosion proof MDPE tank
- Stainless steel top feed and discharge manifold
- Resource conservation system lowers water consumption
- Direct feed solutions system provides more control
- Stainless steel chemical manifold
- Stainless steel / composite direct feed chemical delivery system

## OPTIONS

- Cat 3535 pump option (replaces General Pump - Emperor HTCK40)
- ESD - Extended Solution Delivery option includes: Tri-Color foam, (1) additional low pressure, (1) additional high pressure for sealant / drying agent applications
- Cold climate package - heat and weep
- Cold climate package - heat and air blow down
- Cold climate package - weep only
- Cold climate package - heat only
- Dual inlet low pressure source selection valve and control hot and cold
- Built in spot free re-pressurization system
- Reclaim system adapter kit
- Dual port injector system

## IN-BAY PUMP STATION

For locations without an equipment room, the In-Bay Pump Station offers the same cutting edge technology incorporated in a space saving design to be located directly in your wash bay. Featuring one piece heavy duty construction, it is designed for long life in even the harshest of conditions.





## STANDARD FEATURES

### IN-BAY WALL MOUNT SYSTEM - STAINLESS STEEL

- Stainless steel travel rails (27' 4" overall length)
- Stainless steel wall mounting hardware
- Floor mounted blue reflectors for visual guidance
- Wash bay stop / backup loading eye wall mounting kit - Standard bays

### OVERHEAD CARRIAGE AND TROLLEY FRAME - LASER CUT END PLATES

- Variable frequency controlled belt drive carriage and trolley movement
- Stainless steel contouring spray arch with variable frequency control
- VS<sup>2</sup>® (Vehicle Sizing System)
- Virtual Attendant® - Maneuvers around wide mirrors and trailer hitches
- Visorclean - Nozzles strategically placed to clean under rear visor
- Spray arch cover - Rotationally molded polyethylene composite material
- Replaceable nozzle protector - Cross linked polyethylene foam
- Stainless steel carriage, totally enclosed climate proof motors and gearboxes with precise movement and minimal rolling resistance
- Energy chain - No festoon, overhead cross brace or overhead swivel
- Triple pass technology for optimal front and rear cleaning

### SOLUTION DELIVERY SYSTEM - POWDER COATED CARBON STEEL PUMP STATION

- General Pump - Emperor HTCK40 / 25 HP premium high efficiency motor
- High flow multiple stage solution delivery pump system
- Composite direct injection / No drift chemical metering system
- 2 Separate pre-soak application systems
- 1 High pressure sealant / Drying agent application
- 1 Low pressure drying agent / Protectant application
- Variable flow and pressure with water conservation system

### ULTIMATE CONTROL CABINET

- Electrical control panel 208VAC (soft start and stop variable frequency motor controls on carriage, trolley and arch)
- Washview® On-Site control interface (complete programming flexibility)
- Complete on-site programming and diagnostic capability
- Wash activation buy-up compatibility
- Comprehensive integrated notification system
- Auto home feature







## OPTIONAL FEATURES

### RAZOR® XR-7 SYSTEM OPTIONS

- In-bay horizontal pump station with composite covers and stainless steel in-bay ultimate control cabinet option
- UCC power conversion kit (converts standard UCC for use with 240 VAC 3 phase 60 Hz incoming power supply)
- Free standing frame (stainless steel or powder coated)
- Wash bay stop / backup loading eye pedestal mounting kit - Free standing frame or non-standard bays

### WASH OPTIONS

- Cat 3535 pump option (replaces General Pump - Emperor HTCK40)
- ESD - Extended Solution Delivery option without cold climate protection - Includes: Tri-Color foam, (1) additional low pressure, (1) additional high pressure for sealant/drying agent applications
- ESD - Extended Solution Delivery option with cold climate protection - Includes: Tri-Color foam with cold climate protection, (1) additional low pressure, (1) additional high pressure for sealant/drying agent applications
- Dual inlet low pressure source selection valve control hot and cold
- Medium pressure R.O. pump (13 GPM @ 110 psi) - Includes wall mount bracket and motor starter
- Cold climate package - Heat for VS<sup>2</sup>® sensors, carriage and rail travel surfaces, belt drive system, weep for arch
- Primary HS / Washview® MOBILE - High speed DSL or cable Internet connection capability - Internet access without a static IP address
- Secondary HS / Washview® MOBILE - Additional high speed DSL or cable Internet connection at same location for multi-bay sites
- Chem Alert™ - Chemical monitoring system
- Reclaim adapter (plumbing inlet and controls for external reclaim system)
- Water heater, on demand, direct vent, tank-less, natural gas (wall mount)
- Water heater, 12kw high capacity electric, stainless steel tank
- Undercarriage and Rocker Panel Blaster; 11 stainless steel nozzles; 3 on the undercarriage and 4 on each rocker panel blaster
- Undercarriage cold climate - Includes control valves and wiring on pump station
- Power Tower Wheel Cleaner® - 4 rotating nozzles per tower - Available with or without blue LEDs
- Through wall stainless steel bulkhead manifold - For electrical and plumbing from mechanical room to wash bay
- Dual port injector system - To replace single injector for low pressure application (order per injector)
- Premium door controls - Includes eyes
- Ultimate door controls - Includes eyes
- SpectraRay+™ - 5,568 LEDs (red, magenta, blue and green) Mounting options: wall, pedestal mount or OBD free standing frame
- Voice prompts



**RAZOR XR-7 WALL MOUNT WASH BAY DIMENSIONS\***

	OPTIONS	PREFERRED	*MINIMUM	MAXIMUM
HEIGHT	13' 4" – 16' 8" (4064 – 5080 mm) Bay widths 16' 9" – 18' 0" (5105 – 5486 mm) Bay widths	12' (3658mm) 12' (3658mm)	10' 4" (3150mm) 11' 4" (3454mm)	N/A
WIDTH	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	15' (4572mm)	13' 4" (4064mm)	18' (5486mm)
LENGTH	25' 4" Rails (7722mm) (Optional) 27' 4" Rails (8331mm) No Dryer	28' (8534mm) 30' (9144mm)	25' 8" (7823mm) 27' 8" (8432mm)	N/A
LENGTH	27' 4" Rails (8331mm) Razor XR-7 and Dryer w/Covers	42' (12802mm)	31' 4" (9550mm)	N/A
LENGTH	30' 4" Rails w/On-Board Dryer (9246mm)	42' (12802mm)	31' 4" (9550mm)	N/A

\*NOTE: Minimum dimensions are from nearest inside obstructions entrance to exit, and bay floor to ceiling, i.e. door tracks, counterweights, etc. Add in additional length for these items.

**RAZOR XR-7 FREE STANDING FRAME DIMENSIONS\***

	OPTIONS	PREFERRED	*MINIMUM	MAXIMUM
HEIGHT	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	12' (3658mm)	11' 9" (3581mm)	N/A
WIDTH	27' 4" Rails (8331mm) (Standard) 30' 4" Rails (9246mm) (OBD) 25' 4" Rails (7722mm) (Optional)	15' (4572mm)	14' 4" (4369mm)	N/A
LENGTH	25' 4" Rails (7722mm) (Optional) 27' 4" Rails (8331mm) No Dryer	28' (8534mm) 30' (9144mm)	25' 8" (7823mm) 27' 8" (8432mm)	N/A
LENGTH	27' 4" Rails (8331mm) Razor XR-7 and Dryer w/Covers	42' (12802mm)	31' 4" (9550mm)	N/A
LENGTH	30' 4" Rails w/On-Board Dryer (9246mm)	42' (12802mm)	31' 4" (9550mm)	N/A

\*NOTE: Minimum dimensions are from nearest inside obstructions entrance to exit, and bay floor to ceiling, i.e. door tracks, counterweights, etc. Add in additional length for these items.

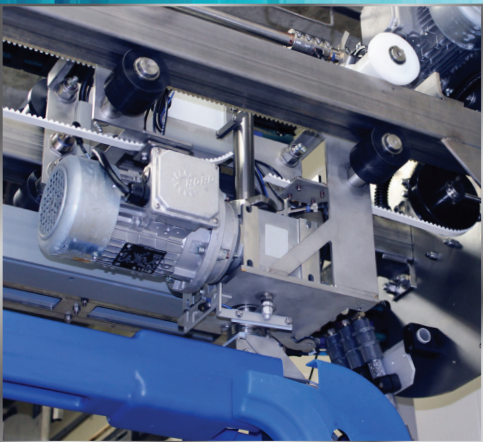
**RAZOR XR-7 MINIMUM UTILITY REQUIREMENTS**

Water: .....25 GPM @ 35 PSI (2.4 bars @ 94.6 l/m) minimum at pump station  
Air: .....11 SCFM @ 100 PSI (6.89 bars @ 311 l/m) includes optional Tri-Color foam  
Electrical: 208/230 VAC, 3 PH, 60 Hz (Five wire, three phase with neutral and ground)

VOLTAGE	UCC CABINET	RAZOR PUMP STATION	OPTIONAL COLD CLIMATE PACKAGE	EACH DRYER MOTOR	
208	23 Amps	73 Amps	14 Amps	10 HP 27 Amps	15HP 40 Amps
230	20 Amps	62 Amps	12 Amps	10 HP 24 Amps	15HP 35 Amps
380/415 (50HZ)	17 Amps	38 Amps	10 Amps	10 HP 15 Amps	15HP 22 Amps
460	N/A	31 Amps	N/A	10 HP 12 Amps	15HP 17 Amps
575	N/A	24.5 Amps	N/A	10 HP 9.12 Amps	15HP 13.6 Amps

Note: Specifications Subject to Change Without Notice. The decibel level of the dryer (measured at 1.6 meters from the floor and 1 meter from the surface) is 94dB. The decibel level of the pump station (measured at 1.6 meters from the floor and 1 meter from the surface) is 94dB. Decibel levels are impacted by surrounding materials and conditions and will vary.





RAZOR XR-7





## STANDARD FEATURES

- Safe touch-free drying
- All aluminum, stainless steel and composite construction with welded impellers
- Stainless steel inlet / outlet screens
- Noncorroding composite producer housings
- Completely adjustable producer housings for enhanced drying coverage
- Stainless steel mounting hardware
- Energy efficient industrial 7.5 HP, 10 HP, or 15 HP TEFC motors

## OPTIONS

- Aluminum cross beam and brackets for interior wall mount
- Powder coated aluminum frame for exterior (building face) wall mount or for interior / exterior (free standing) floor mount
- Energy conserving dryer shut-off kit
- Center producer shut off kit - When passing over the bed of a pickup truck contents of the truck bed aren't affected by the center dryers
- Sound reduction package
- Dryer image package (front / rear covers)
- Custom graphics
- Blue LED dryer cover lighting
- Dryer cover with LED wash instruction signage
- LumenDry™
- LED countdown timer with stand or wall mount
- Dryer motor starter panel with stagger start controls
- VFD - Variable frequency drive motor starter control center
- Available in international voltages, including 380-415/50 Hz and 575/60 Hz

## HIGH VELOCITY OSCILLATING NOZZLE

- Performance enhancing
- Available on single and dual nozzle dryer producers
- Pneumatic cylinder controlled, no in-bay wiring, fewer moving parts
- Stainless steel diverter gate (dual gate on a single producer, quad gate on a dual producer)
- Airflow channeled in a 50 degree sweeping motion



Standard Arch  
3 Producers



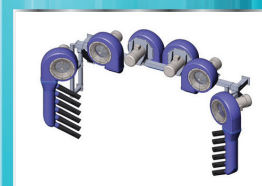
Standard Arch  
4 Producers



Standard Arch  
4 Producers, Dual  
Nozzle, E-Trunks  
w/ Brackets



Standard Arch  
5 Producers,  
E-Trunks w/  
Brackets



Interior or Exterior  
Wall Mount



Progressive  
Drying System

## HIGH VELOCITY® VEHICLE DRYING SYSTEMS

The Washworld High Velocity® Free Standing and Wall Mount Vehicle Drying Systems incorporate proven energy efficient air producer designs. All of that power wrapped in our optional dryer image package make your wash stand out from your competitors...and keep your customers coming back for more!





## STANDARD FEATURES

- Consistent, controlled touch-free drying
- Stainless steel On-Board Dryer frame
- Producers are constructed from stainless steel, composites and aluminum with welded impellers
- Stainless steel inlet / outlet screens
- Three or four producer configuration
- Energy efficient, space saving design
- Premium dryer image package - front and rear covers
- Totally enclosed fan cooled industrial 7.5 HP, 10 HP, or 15 HP motors
- Pre-wired and assembled energy chain for power supply
- On-Board drying process can initiate in either the front or rear of vehicle and can be programmed to run multiple drying passes
- On-Board Dryer can be programmed to continue operation in a fixed position as the vehicle exits for additional drying
- cETLus listed, CE compliant



## ADDITIONAL STANDARD FEATURES

- Euro channel bottom cover design prevents dripping on vehicle
- Quick release makes servicing fast and simple
- Completely enclosed design significantly reduces noise

## OPTIONS

- Available in 4 different configurations:
  - 30 HP (4 - 7.5 HP motors)
  - 30 HP (3 - 10 HP motors)
  - 40 HP (4 - 10 HP motors)
  - 45 HP (3 - 15 HP motors)
- Dryer motor starter panel with stagger start controls
- VFD - Variable frequency drive motor starter control center
- Sound reduction package
- Custom graphics available
- Available in international voltages, including 380-415/50 Hz and 575/60 Hz
- On-Board Dryer center producer shut off kit - When passing over the bed of a pickup truck, the center producers can shut off to not affect the contents of the truck bed. Once the truck bed is cleared, the center producers re-engage to complete the drying process.

## HIGH VELOCITY OSCILLATING NOZZLE

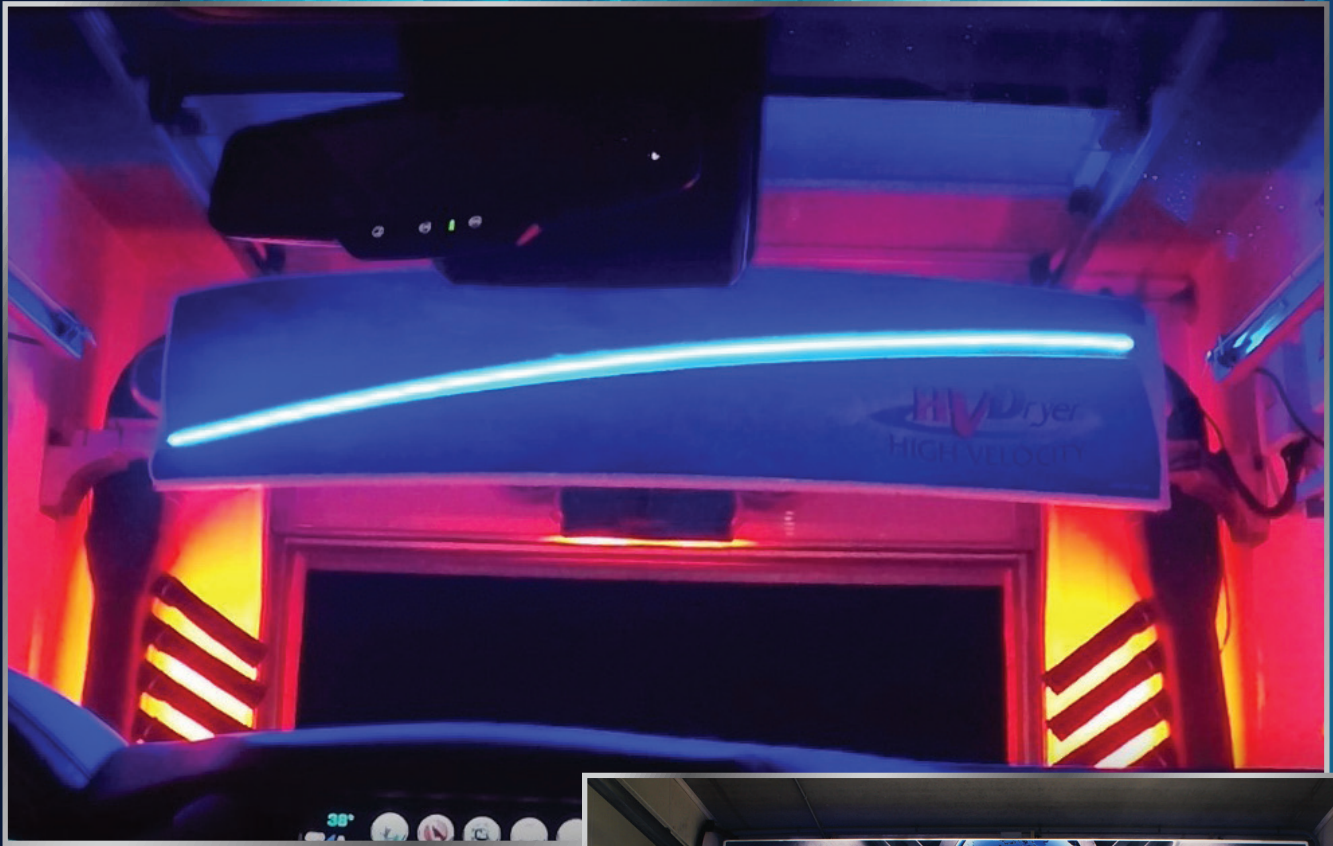
- Performance enhancing
- Available on single and dual nozzle dryer producers
- Pneumatic cylinder controlled, no in-bay wiring, fewer moving parts
- Stainless steel diverter gate (dual gate on a single producer, quad gate on a dual producer)
- Airflow channeled in a 50 degree sweeping motion



## ON-BOARD DRYING SYSTEM

The Washworld Razor® and Razor® XR-7 On-Board Vehicle Drying Systems provide controlled and consistent drying which results in greater customer satisfaction. The On-Board system moves together with the wash carriage while the customer's vehicle remains stationary for uniformly even drying.





# LumenDry™

Elevate your customer's car wash dryer experience with LumenDry! When the High Velocity dryer is activated, radiant red LEDs engulf the wash bay and blanket the vehicle as it passes through the dryer signifying the warmth of the drying process. The extra pizzazz emanating from LumenDry is sure to be a memorable experience! LumenDry, available on Washworld High Velocity Free Standing and Wall Mount Vehicle Drying Systems, contains one LED assembly for each producer housing and four LED assemblies for each set of elephant trunks and air knives.





## DRYER COVER LIGHTING

Enhance your dryer cover with brilliant blue LEDs. The addition of long-lasting LEDs brings the drying experience to the next level. Dryer cover lighting can be added to any High Velocity Dryer image package.





## DRYER COVER WITH LED WASH INSTRUCTION

Avoid any confusion during the wash process with Washworld's dryer cover with LED wash instructions. Coinciding with the wash process, voice prompts and other in-bay signage, LEDs illuminate in clear view on the dryer cover indicating the wash instructions, including stop, drive forward, back up, cleaning, washing, tri-foam, sealant, spot free and drive slowly.





### 12V SIGNS

Washworld's 12V LED signs are fabricated from stainless steel and have fully customizable sign faces. The eight panel LED signs are available with the protectant or Tri-Color foam panel. The stop / drive forward sign is available with or without wash progress, which informs the customer waiting of the estimated remaining wash time.



### 24V SIGNS

Washworld's 24V signs have a LED back-lit face with a fiberglass housing and can be customized with your logo on the bottom fiberglass portion of the sign. The eight panel LED signs are available with or without Tri-Color foam panel.



### 12V CAR WASH OPEN/CLOSED SIGN

Easily inform your customers whether your car wash is open or closed. Washworld's stainless steel 12-volt LED open/closed car wash signs are not only energy efficient but also built to last. The open/closed status changes automatically based on the wash ready/out of service signal from the car wash equipment.





CLEARANCE SIGN

Washworld's clearance signs are available in hanging or ground mounted options to fit the site's needs.



HANGING LIGHTED CLEARANCE SIGN

The LED back-lit clearance sign face is customizable to compliment the site's branding and can be hanging or ground mounted to fit the site's needs.



WASH BAY LED GUIDE LIGHTING

Washworld offers floor mounted guide lighting (sold in pairs) to help assist through the wash process. The guide lighting illuminates red or green in accordance with the in-bay instructional signage.



## SPOT FREE REVERSE OSMOSIS

### STANDARD FEATURES

- 2400, 4800 or 7200 GPD systems (Based on 77°F incoming water supply)
- Stainless steel frame
- 4"x 40" thin film high efficiency membranes
- Mounting options:
  - Adjustable feet for floor mount
  - Stainless steel wall mount bracket for (optional) mounting
- Audible and visual alerts/alarms
- Continuous electronic TDS (totally dissolved solids) monitoring
- Activated carbon pre-filter tank with programmable automatic backwashing
- VROC digital R.O. control with TDS display
- High TDS audible alarm with adjustable setting
- Large diameter, easy to read inlet, pump and membrane pressure gauges
- Durable extruded stainless steel membrane housings
- cETLus listed, CE compliant
- Automatic inlet water shut-off valve
- Permeate (product) and concentrate (reject) flow meters
- Automatic membrane flushing
- Easily replaceable 2.5" x 20" cartridge style pre-filters on all systems
- Low pressure automatic restart
- Re-plumbed water test port

### OPTIONS

- Water storage tanks (UV rated)
- Re-pressurization pumps with mounting brackets



## WATER SOFTENING SYSTEM

### STANDARD FEATURES

- Systems from 30,000 grain capacity (single tank) to 600,000 grain capacity (twin alternating)
- Twin alternating systems provide continuous soft water 24/7
- Check valves
- Professional series resin tanks
- Incoming operating water - pressures from 30 -100 PSI
- Incoming operating water temperatures from 35°F-100°F
- cETLus listed, CE compliant
- Simple, fully programmable controller maximizes efficiency and reduces operating costs
- Retains custom program settings in the event of power interruption
- Brine tanks sized to match system requirements
- Electronic control interlock for multiple tank synchronization
- Space saving footprint
- Noryl® composite valve body eliminates corrosion
- PVC hub and lateral distribution system

### OPTIONS

- Iron filtration
- Custom, tri-plex or over-sized systems to meet your specific site needs



## SPOT FREE R.O. SPECIFICATIONS

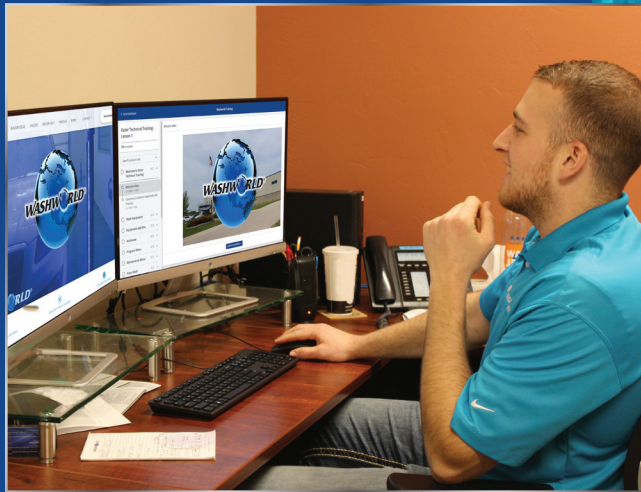
MODEL	WW 2110	WW 2111	WW 2112
GALLONS PER DAY	2400	4800	7200
NO. OF MEMBRANES	1	2	3
PUMP H.P.	1 HP	1 HP	2 HP
ELECTRICAL REQUIRED	230 VAC 1 Phase 9.6 Amps and 120 VAC 1 Phase 19.2 Amps	230 VAC 1 Phase 9.6 Amps and 120 VAC 1 Phase 19.2 Amps	230 VAC 1 Phase 13 Amps and 120 VAC 1 Phase 26 Amps

## WATER SOFTENING SYSTEM SPECIFICATIONS

MODEL	TYPE	SYSTEM GRAIN CAPACITY	PEAK FLOW	CU. FT. OF RESIN
WW 2100T-1	Twin Alternating	60K	14 GPM	2
WW 2101T-1	Twin Alternating	150K	17 GPM	5
WW 2102T-12	Twin Alternating	180K	33 GPM	6
WW 2103T-15	Twin Alternating	300K	62 GPM	10
WW 2104T-15	Twin Alternating	420K	62 GPM	14
WW 2105T-2	Twin Alternating	300K	85 GPM	10
WW 2106T-2	Twin Alternating	420K	85 GPM	14

Note: Specifications subject to change without notice.





#### FREE ONLINE TECHNICAL TRAINING

The Washworld Customer Care Program leads the industry in customer service. Washworld takes that commitment to customer satisfaction very seriously by offering Free Online Technical Training to improve operator proficiency. The training is presented by several Washworld technicians and engineers whom have years of experience with Washworld equipment as well as the car wash industry as a whole. Some of the items covered in this comprehensive course include wash components and their function, system installation, quick reference start up, routine maintenance, Washview® programming and troubleshooting.



#### TECHNICAL SUPPORT

Washworld is known for our world class customer service. Our Technical Support Department can assist operators day or night, 24/7, through Washworld's exclusive Washview® Remote. Washworld's Washview Remote makes it possible for you and our technical professionals to track your wash site performance from anywhere in the world often preventing the need for an on-site service call. Best of all, there is never a charge for our customer support after the sale. At Washworld, we stand behind our vehicle wash systems and strive to provide the assistance you, our customer, need so that you're never alone. Our 24/7 technical support is yet another example of our motto, "Our World Revolves Around Your World" in action.



#### REPLACEMENT PARTS

Keeping your vehicle wash system running is a priority for Washworld. Operators can purchase parts locally from any Washworld distributor or order factory direct for same day shipment worldwide.



*Washworld backs our equipment with a written warranty,  
which sets the bar in the car wash industry. Don't take our  
word for it, ask any Washworld customer!*

## WASHWORLD EQUIPMENT LIMITED WARRANTY

Washworld Inc., a Wisconsin Corporation ("Washworld") warrants to the original purchaser of Washworld car wash equipment that the equipment will be free from defects in materials and workmanship for a period of 400 days from date of shipment, with the exception of the Cat Pump which is warranted for two (2) years. Claims under this warranty must be asserted in writing to Washworld within 10 days of discovery or before the end of the applicable warranty, whichever occurs first, and must follow the Washworld "RMA" (Returned Materials Authorization) process.

Any component or part alleged to be defective in materials or workmanship shall, at the option of Washworld, be returned with shipping cost prepaid. If upon examination such component or part is found to be defective in workmanship or materials, Washworld, at its option, will either repair or replace such component or part and ship such repaired or replaced component or part via standard ground. Expedited shipping costs (if requested) shall be the responsibility of purchaser. The cost of such replacement or repair (less any labor charges) shall be the exclusive remedy for any breach of any warranty and Washworld shall not be liable to any person for consequential damages for injury or commercial loss resulting from any breach of any warranty. This warranty does not cover any labor installation cost, either with respect to the original equipment or with respect to the repaired or replaced component or part which is found to be defective in workmanship or materials. Washworld does not warrant loss of income, or consequential damages, should there be any, during the time repairs are being made.

This warranty does not apply to damage resulting from components or parts that have been misused, altered, neglected, or not installed, adjusted, maintained, or used in accordance with applicable codes and ordinances and in accordance with Washworld's or manufacturer's recommendations. This warranty does not apply to damage resulting from improper operation or abuse, exceeding the rated capacities of the unit, running foreign particles or non-related solutions through pumps or valves, using acidic solutions, improper installation or maintenance, operational neglect, neglect of manufacturer's recommended maintenance, use of water containing solids in excess of twenty microns in diameter or 2000 PPM, damage caused by customer, unjustifiable nuisance calls or acts of God.

This warranty is in lieu of all other warranties, express or implied, and there are no warranties against infringement, of merchantability, of fitness for a particular purpose, or arising from course of dealing or usage of trade. Washworld shall not be liable for direct, indirect, incidental, special or consequential damages under any circumstances, including but not limited to: damage or loss resulting from inability to use the products, increased operating costs, or loss of sales, lost profits, punitive damages, or any other damages. Compliance with any laws or regulations relating to the sale, location, use or operation of the equipment, or its use in conjunction with other equipment shall be the sole responsibility of the purchaser. The rights and obligations of the parties shall be governed by the laws of the State of Wisconsin.

Washworld reserves the right to change or modify this Limited Warranty at any time without notice.





**WASHWORLD**

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