



imtra[®]

C O R P O R A T I O N



W I P E R S Y S T E M S

www.imtra.com



The Trusted Source for Quality Systems

With high quality products, unsurpassed service, and over sixty years of experience, Imtra is the known, reliable supplier to a wide range of commercial and recreational markets. We provide unique application solutions for boat owners, commercial marine customers, military and transportation departments, as well as oil and gas industries. To learn more about our full range of products, visit www.imtra.com.



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MARKETS WE SERVE

High performance wiper systems for a wide range of applications

Imtra is the source for quality wiper systems that can stand up to the harshest conditions – on land or sea. We have chosen the best equipment manufacturers such as Roca, Exalto and Decca to make up a comprehensive selection of pendulum, pantograph and straight-line wiper systems. Our products include high performance motors, innovative arms, durable blades, washing systems and switchgear. These are systems you can count on to provide many years of reliable service.

With our industry expertise and extensive product knowledge, Imtra has built a solid reputation as an industry leader, providing customized solutions across a range of industries. Here are some of the markets we serve:



Recreational Marine

In the yachting and leisure boating market, we offer wipers for windows of all sizes. Our systems feature intuitive control options and can be used on traditional or more contemporary yachts. Imtra's expertise includes new production and retrofit installations, where we can supply simple or comprehensive solutions. Imtra wiper systems are popular choices for large and small vessels, including:

- Sport cruisers
- Downeasters
- Mega yachts
- Trawlers
- Runabouts
- Center consoles



Government, Municipal & Patrol Boats

Imtra has extensive experience in small craft wiper systems for use in commercial and government markets, where heavy duty equipment is required for small window applications. We have provided cost-effective solutions to some of the largest Coast Guard response boats, including RB-S and RB-M boats. Other types of vessels include:

- Fireboats
- Pilot boats
- Patrol boats
- Small Tugboats





Large Commercial Craft

Imtra has wiper systems to meet the demands of larger vessels in a range of commercial applications. We have systems suitable for wide or tall windows, and where multiple window systems are required (such as offshore supply vessels). On push boats, where large single wipers are often used, we offer pantograph and straight-line external mounted solutions that provide reliable and continuous duty. Commercial vessels include:

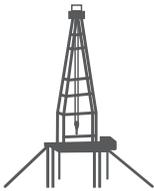
- Large Navy vessels
- Offshore supply and anchor handling
- Crew boats
- Tugs and push boats
- Wind farm support vessels



Transportation & Military

For many small scope production vehicles, a custom wiper solution is the best option. Imtra provides compact custom wiper systems to a range of industrial and military vehicles. With our deep knowledge, quick delivery and extensive warranties, Imtra is the ideal choice for transportation and government markets, including:

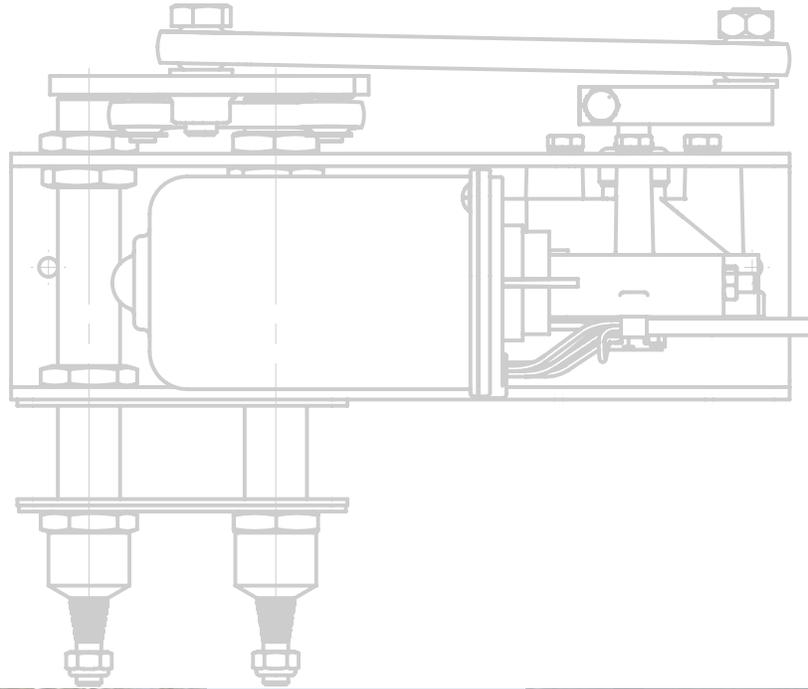
- Land-based RVs
- Humvees and military vehicles
- Buses
- Trains



Land and Offshore Industrial

For industrial and land-based customers, Imtra provides durable wiper systems suitable for large windows exposed to harsh environments in a wide range of climates. Our reliable and continuous duty equipment is easy to maintain and service. Imtra's experience includes the following applications:

- Land-based oil rigs
- Offshore oil platforms
- Cranes
- Mining equipment / draglines
- Fracking equipment



WIPER SYSTEM OVERVIEW

What you need to know before installing a wiper system

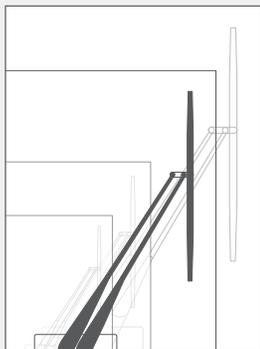
The importance of a quality wiper system is often overlooked – until you need it most. When visibility is poor and conditions are rough, a durable, fully-functional wiper system can make all the difference. Imtra can help you select the right equipment to satisfy all of your requirements. When evaluating a new wiper system, there are a number of factors to consider:

Window Size

While application is taken into account, the determining factor in choosing a wiper system is the size and shape of the glass to be cleaned. The larger the windshield, the longer the wiper arms and blades need to be. Since longer arms and blades create more friction, you will also need a stronger motor. The best solution for taller and broader windshields would be a larger wiper system capable of driving those longer arms and blades.

SIZING KEY

Each wiper system is sized based on the maximum arm and blade length. From these values we can determine the maximum reach and can generalize a size of the window. Use the icons featured on the coming pages to direct you to the right wiper system choice.



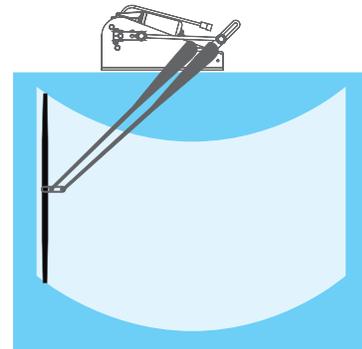
Motor Mounting Location

With each system, we strive to maximize the area of the windshield that will be cleared. However the most important area to clean is where the operator is most likely to be looking through; often this dictates the mounting location of the motor. Installation ease and service accessibility should be taken into consideration when choosing the location, and in some cases exterior styling can be an additional factor.

Wiper motors are usually fitted either directly below or above the window and equipment is available to mount the motor on the interior or the exterior depending on the application.

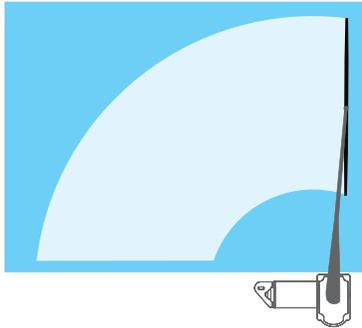
Wiper Type

We offer a variety of wiper types to meet customer requirements whether that be to maximize wiped area, simplify installation or to achieve a clean and unobtrusive position when the wipers are idle. If you have any questions about which system is right for you, please contact IMTRA for assistance.



Pantograph Wiper

A sweep pattern in which the blade stays parallel to the side of the glass. Pantograph wipers are typically used on windows that are taller than wide.



Pendulum Wiper

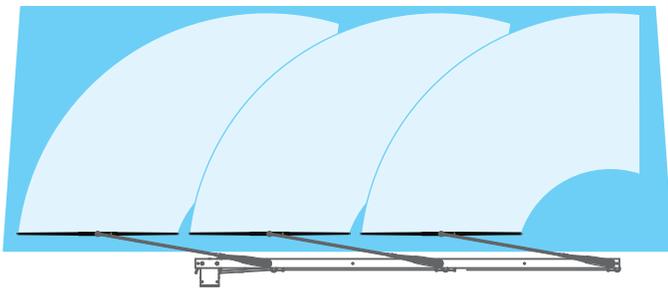
Also called an arced sweep pattern or “radial” wiper. This wiper system is typically used on windows that are wider than tall.



Control Systems

Operating your wiper system no longer means either “ON” or “OFF”. Like today’s automobile wiper systems, wiper control systems now offer a long list of features to make your experience more enjoyable and trouble-free.

Most of our wiper systems feature two-speed motors (low/high). Our controls take advantage of these two continuous speeds, as well as intermittent wiper operation. Most also allow for easy push-button control of a wiper washing system if one is installed. We offer individual switches or full-feature control panels with detailed LED displays to identify which motors are running and at what speeds. Many of our panels and switches will synchronize the wiping action of multiple wipers—even if they were turned on separately!



Linked System

A wiper motor with multiple shafts that are connected to the motor by a connecting rod.

Intermittent Control

Intermittent operation is when a wiper sweeps at preset time intervals with a gap in between. Common in most automobiles, it is now available for marine wipers. Intermittent operation is a function of the switch; we have intermittent switching options for all of our wiper motors. For details, see our many switching options beginning on page 28.



Straight Line System

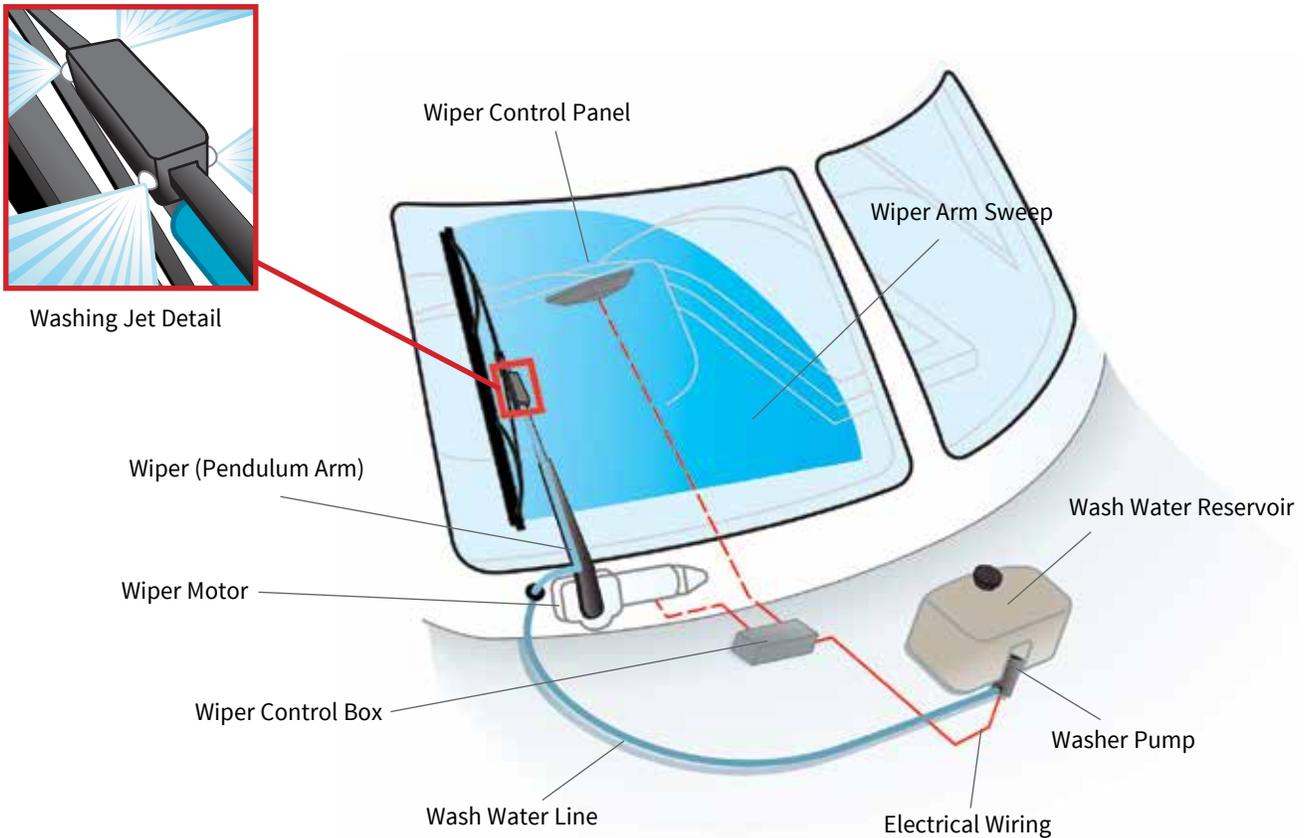
Designed specifically for use in commercial applications, straight line wipers are constructed to work in the worst conditions. Most frequently used on windows that are wider than tall and where maximum visibility is needed.

Synchronized Control

Synchronized switching keeps multiple wipers in the system sweeping in synch, each wiper starting every sweep cycle simultaneously. Without synchronized switching, differences in sweep area for each wiper will cause the motors to complete their sweep cycle at different time intervals. This causes the wipers to be at a different point in the sweep cycle; one wiper may be at the beginning of the sweep cycle, while another may be midway through the sweep cycle. Synchronized switching creates a cleaner, unconfused, and more enjoyable operating environment for pilot, navigator, and onlookers in the wheel house. We offer synchronized switching options for all of our wiper systems. For details, see our many switching options beginning on page 28.

WIPER SYSTEM OVERVIEW

SYSTEM OVERVIEW



Washing Systems

More and more wiper installations are being fitted with washing systems to help clear the glass from salt spray, pollen and obstructions. Systems can be adapted to run off a pressurized water system or be plumbed to a **stand-alone reservoir** with a simple DC pump. We have all the bits and pieces needed to plumb the system including solenoids, manifolds, washing jets and more.



Washing jets can be mounted to the bulkhead or directly to the end of the arm. Arm-mounted jets are popular as they direct the washing fluid right where it's needed with less wind interference.

Making it Easy

We want to help you select the wiper system that's best for your application. To streamline this process, we have a simple, one-page questionnaire that lets you provide us with the information we need to understand your specific requirements. From this information, we can recommend a wiper system just for you.

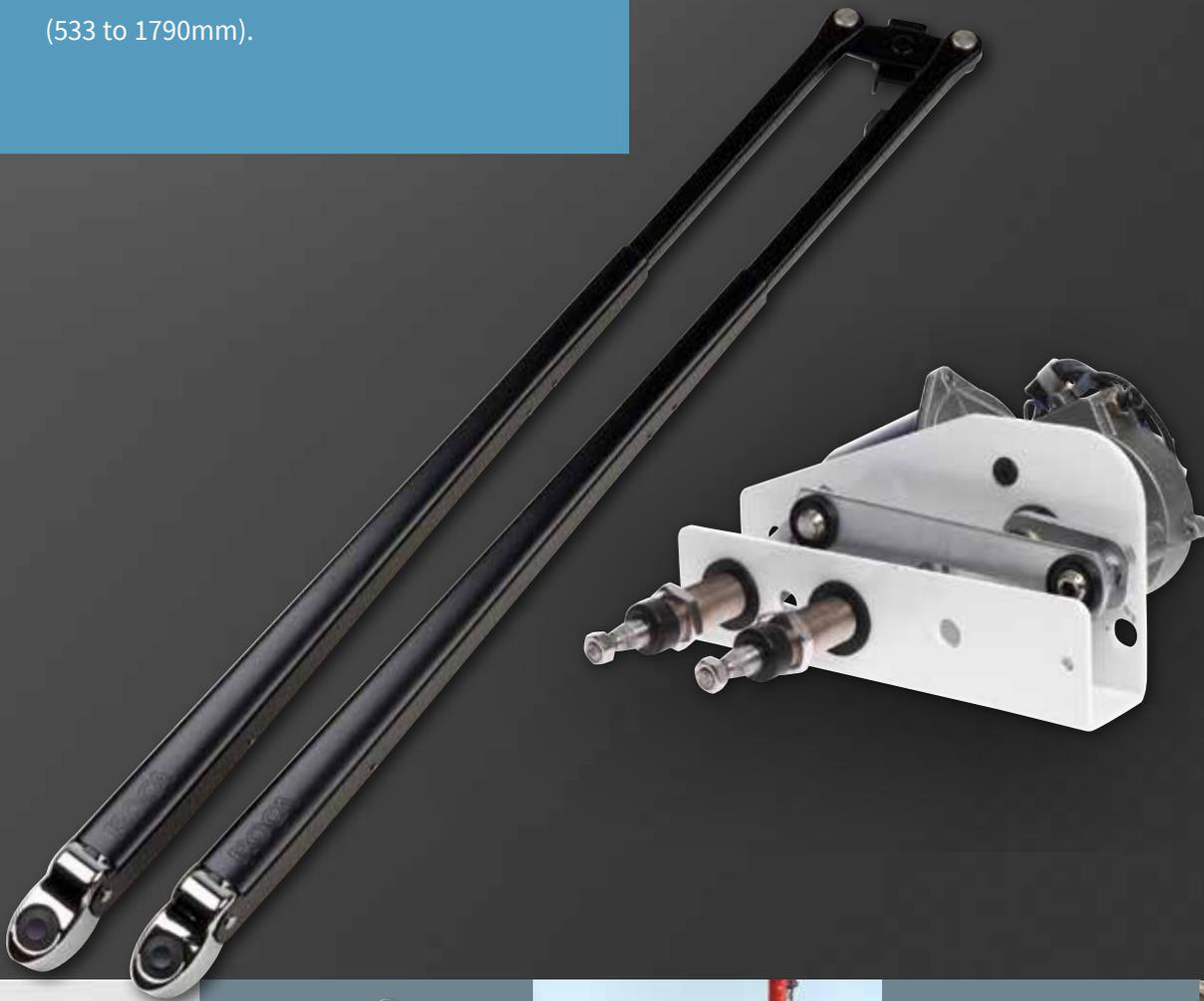
You can find this questionnaire on page 39 of this catalog or at www.imtra.com in the wipers section. Or, you can request one by emailing us at wipers@imtra.com. Email the completed form to us and we will respond with a detailed specification including recommended motor selection, arm and blade length, as well as details for a control and/or washing system.



With over 30 years of experience, Roca is one of the world's leading suppliers of wiper systems. Roca's mission is to design, develop and manufacture quality marine systems worldwide. Roca's wiper systems feature a maximum reach from 21" to 70.5" (533 to 1790mm).

ROCA WIPER SYSTEMS

- Designed in Sweden
- Expansive range suitable for all applications
- Innovative and stylish design
- Built with 304 stainless steel



W10/12 SERIES

A compact system for windows with a maximum reach of 35" (889mm).

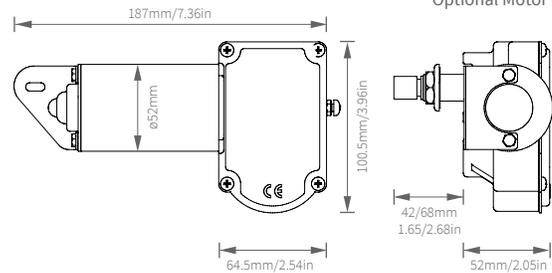
W10 Series Motors

- Three bulkhead thicknesses: 0.63" (16mm), 1.65" (42mm) or 2.68" (68mm) (1.5", 2.5", or 3.5" shaft length)
- Self-parking (right or left)
- Stainless steel drive shaft, mounting bracket and fasteners
- Solid brass, nickel-plated, knurled drive nut and bearing
- Proprietary motor magnets for quieter operation
- Optional motor cover (see inset)



W12 Series Motors

- Three bulkhead thicknesses: 0.63" (16mm), 1.65" (42mm) or 2.68" (68mm) (1.5", 2.5", or 3.5" shaft length)
- Self-parking (right or left)
- Stainless steel wiper shaft
- Integrated heat-sink fins for effective heat dissipation
- IP65 rated
- Insulated ground for metal, fiberglass and wooden boats
- Black finish optional

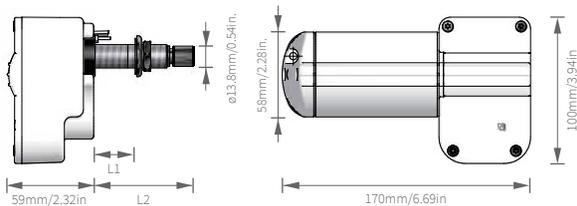


MOTOR SPECIFICATIONS

	W10	W12
Sweep angle adjustment	10° Increments	Stepless
Sweep angle range	40° - 110°	45° - 110°
Voltages	12V and 24V	
Amp draw	4A (12V); 2A (24V)	
Fuse size	5A (12V); 3A (24V)	
Torque	10Nm	12Nm
Sweeps per minute	35 (low); 55 (high)	
Max arm	24" (610mm)	
Max blade	22" (560mm)	



L1 = Bulkhead Thickness
L2 = Overall Shaft Length





W10 / W12 Series Arms

- Fits most motors with 0.54" (13.75mm) shaft diameter
- Accepts standard wiper blades only
- Constructed of 304 stainless steel and UV-stable synthetics
- Easy snap-in blade connection
- Adjustable length wiper arms
- Optional washing jet snaps onto pendulum or pantograph arm

W Series Blades

- Fits W Series and many other wiper arms
- Powder-coated steel with durable rubber insert
- Offered in lengths from 11 – 22"
- Easy to mount
- Includes mounting clips suitable for other attachment methods

W10 / W12 Series Heavy Duty Arms

- Fits most motors with 0.54" (13.75mm) shaft diameter
- Accepts heavy duty blades
- 316 stainless steel gallery, arms, springs and head
- Includes mounting plate with idler shaft (see inset)

W Series Heavy Duty Blades

- Fits only heavy duty arms
- All bridges constructed of 316 stainless steel
- 10", 12", 14", 16", 18", 20", 22" available
- Replacement rubber inserts available

ARM & BLADE SPECIFICATIONS

	Pantograph	Pendulum
Arm length range	12.8-23.3"(324-591mm)	12.8-23.3"(324-591mm)
Finish	Black or Electro-Polished	
Fixed or adjustable tip	Fixed	Both
Arm length type	Adjustable	
Accepted blade length	11-22" (280-560mm)	
Springs*	Fixed	
Blade attachment method	Hook-type	
Washing jet	Optional	

*Dual spring option available



EX21000.326
Optional Washing Jet
for W10/W12 Series
Wiper Arms

W10/12 Series Wiper Arms



Mounting Plate



EX2184
Optional Washing Jet
for W10/W12 Heavy Duty
Wiper Arm

W10 / W12 Heavy Duty Wiper Arm & Blade



W25 SERIES

A robust system for windows with a maximum reach of 45" (1140mm).

W25 Series Motors

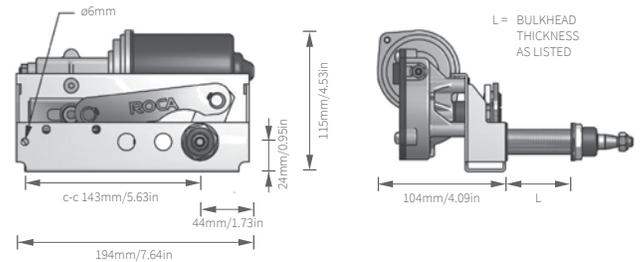
- Three bulkhead thicknesses: 1.1" (28mm), 2.1" (53mm) or 3.1" (78mm)
- Dynamically parks (right or left)
- Stainless steel 0.75" (20mm) drive shaft. Exterior idler-shaft part of mounting plate (standard with pantograph arm)

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	45° - 110°
Voltages	12V and 24V
Amp draw	7A (12V); 4A (24V)
Fuse size	25A (12V); 15A (24V)
Torque	25Nm
Sweeps per minute	35 (low); 55 (high)
Max arm / blade	30" (762mm)



W25 Series Motor



W25 Series Arms & Blades

- 304 stainless steel arm construction
- Adjustable-length wiper arms
- Arms fold back in a locked position for easy cleaning
- Pantograph arms supplied with polished stainless steel mounting plate
- Stainless steel wiper blades with anti-glare black coating

ARM & BLADE SPECIFICATIONS

	Pantograph	Pendulum
Arm length range	18.5-29.5" (470-750mm)	
Finish	Black or Electro-Polished	
Fixed or adjustable tip	Fixed	Adjustable
Arm length type	Adjustable	
Accepted blade length	22-30" (560-1000mm)	
Springs*	Fixed	
Blade attachment method	6mm Bolt	
Blade clip width	.63" (16mm)	
Washing jet	Standard	

* Pantograph arms feature dual springs



W25 Series Wiper Blade

W25 Wiper Arms

Washing Jet





W38 SERIES

Heavy duty motors, arms and blades with a maximum reach of 52.5" (1330mm).

W38 Series Motors

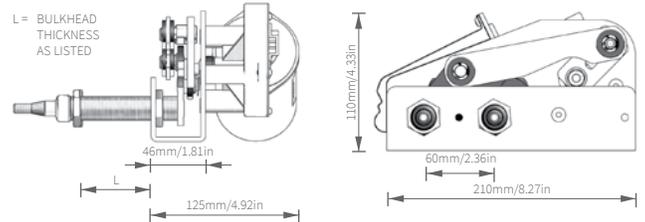
- Three bulkhead thicknesses: 1.1" (28mm), 2.1" (53mm) or 3.1" (78mm)
- Dynamically parks (right or left)
- Stainless steel 0.75" (20mm) drive shaft

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	45° - 110°
Voltages	12V and 24V
Amp draw	7A (12V); 4A (24V)
Fuse size	35A (12V); 20A (24V)
Torque	38Nm
Sweeps per minute	40 (low); 60 (high)
Max arm / blade	35" (890mm)



W38 Series Motor



W38 Series Arms & Blades

- 304 stainless steel arm construction
- Adjustable-length wiper arms
- Arms fold back in a locked position for easy cleaning
- Pantograph arms supplied with polished stainless steel mounting plate (see inset)
- Stainless steel wiper blades with anti-glare black coating
- Includes wiper blade attachment saddle to 0.63" (16mm)

ARM & BLADE SPECIFICATIONS

	Pantograph
Arm length range	18.5-35.4" (470-900mm)
Finish	Black or Electro-Polished
Fixed or adjustable tip	Fixed
Arm length type	Adjustable
Accepted blade length	28-35" (710-890mm)
Dual Spring	Fixed
Blade attachment method	6mm Bolt
Blade clip width	.63" (16mm)
Washing jet	Standard



W38 Series Blade

W38 Series Arms



Washing Jet



Mounting Plate





W50 SERIES

A modern-designed wiper system for windows with a maximum reach of 70.5" (1790mm).

W50 Series Motors

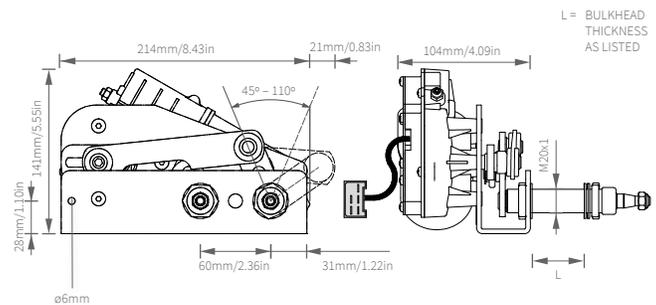
- Three bulkhead thicknesses: 1.1" (28mm), 2.1" (53mm) or 3.1" (78mm)
- Dynamically parks (right or left)
- Internal thermal switch for added safety

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	45° - 110°
Voltages	12V and 24V
Amp draw	10A (12V); 5A (24V)
Fuse size	40A (12V); 20A (24V)
Torque	50Nm
Sweeps per minute	30 (low); 47 (high)
Max arm / blade	47.25" (1200mm)



W50 Series Motor



W50 Series Arms & Blades

- 304 stainless steel arm construction
- Adjustable-length wiper arms
- Arms fold back in a locked position for easy cleaning
- Pantograph arms supplied with polished stainless steel mounting plate (see inset)
- Stainless steel wiper blades with anti-glare black coating
- Includes wiper blade attachment saddle to 0.63" (16mm)

ARM & BLADE SPECIFICATIONS

Pantograph arm length range	40-47" (1020-1200mm)
Finish	Black or Electro-Polished
Fixed or Adjustable Tip	Fixed
Arm length type	Adjustable
Accepted blade length	Up to 47.25" (1200mm)
Dual Spring	Fixed
Blade attachment method	6mm Bolt
Blade clip width	.63" (16mm)
Washing jet	Standard



W50 Series Wiper Blade

W50 Wiper Arm

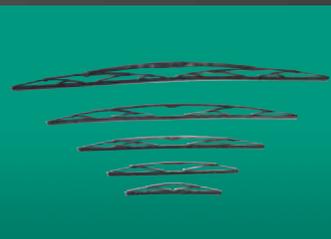
Mounting Plate



Exalto offers a premium all-weather wiper system. Built for the harshest environments and made of high quality materials, Exalto wiper systems feature 316 stainless steel components to provide many years of reliable service. Choose from a range of systems with a maximum reach from 46.9" to 88.5" (1190 to 2250mm).

EXALTO WIPER SYSTEMS

- Designed and assembled in the Netherlands
- Highest quality components used with the harshest conditions in mind
- Designed for continuous duty and serviceability
- Built with 316 stainless steel components
- Easily adjusted to create the ideal cleared area



TYPE 1 SERIES

A premier continuous-duty wiper system for windows under 46.9" (1190mm) in height.

Type 1 Series Motors

- Three bulkhead thicknesses: 0.75" (20mm), 1.375" (35mm) or 2.125" (55mm)
- Dynamically parks (right or left)
- 316 stainless steel drive (20mm) and idler (8mm) shafts
- Custom bulkhead thickness available

223BS Wiper Motor

- Stepless adjustable sweep angle from 40° – 90°
- Allows tuning of wiping angle to maximize cleared area

223BD Wiper Motor

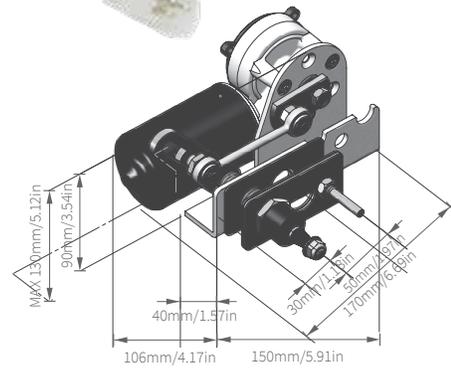
- Disk wiping angle adjustment in 5° increments from 40° – 90°
- Easily preset for production applications
- Optional wiper motor cover in UV-resistant white or black



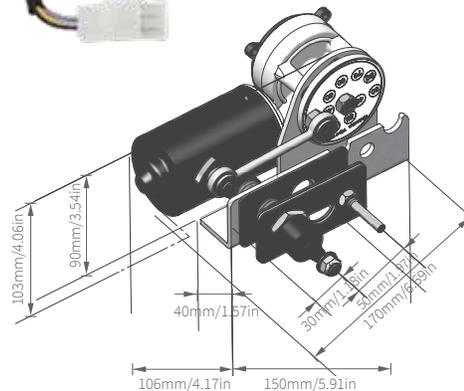
EX2115 EX2101
223BD Wiper Covers



223BS Wiper Motor



223BD Wiper Motor



MOTOR SPECIFICATIONS

	223BS	223BD
Sweep angle adjustment	Stepless	5° increments
Sweep angle range	40° - 90°	
Voltages	12V and 24V	
Amp draw	3A (12V); 1.5A (24V)	
Fuse size - slow-blow	6A (12V); 4A (24V)	
Torque	23Nm	
Sweeps per minute	40 (low); 60 (high)	
Max arm length	31.1" (790mm)	
Max blade length	31.5" (800mm)	



Type 1 Series Arms & Blades

- Fits 223BS & 223BD motors
- 316 stainless steel components with brass attachment heads
- Adjustable-length wiper arms
- Adjustable spring mechanism in drive gallery
- Arms can be folded back for cleaning
- Styled gallery covers for clean appearance
- Low-glare black polyester epoxy coating over sandblasted stainless steel surface for durable finish
- Two different optional washing jets available (see insets)
- Optional tubing retainer strip holds tubing to the arm (see inset)

Imtra offers **Standard Blades** and **Heavy Duty Blades** for use with Type 1 Series. Unlike most marine wiper manufacturers, Exalto blades feature replaceable rubber inserts, saving time and money.



Standard Blades

- 10" to 31.5" in approximately 2" increments
- All stainless steel bridges



Heavy Duty Blades

- 24", 25.5", 27.5", 29.5" and 31.5" lengths
- Durable stainless steel upper-bridges with high-impact polymer lower-bridges for optimal blade/glass contact

Replacement Blade Inserts

- Available in 39" and 47" lengths (can be cut to fit shorter blades)
- With extra clips, one longer insert can be cut to replace two shorter blades

ARM & BLADE SPECIFICATIONS

Pantograph arm length	14.8-20.7" (375-525mm) 20.7-25.6" (525-650mm) 26.6-31.1" (675-790mm)
Pendulum arm length	26.6-29.5" (650-750mm)
Finish	Black
Arm length type	Adjustable
Accepted blade length	Up to 31.5" (800mm)
Springs*	Adjustable
Blade attachment method	5mm Bolt
Blade clip width	.5" (12mm)
Washing jet	Optional

*Dual spring option available



Two different washing jet options are available on Type 1 arms:



EX2184 Washing Jet



EX2110 Washing Jet



Tubing Retainer Strip



Adjustable Spring Gallery



Fold Back Feature

Type 1 Wiper Arm

TYPE 1.5 SERIES

A powerful, compact system for windows up to 52.5" (1330mm) in height.

Type 1.5 Series Motors

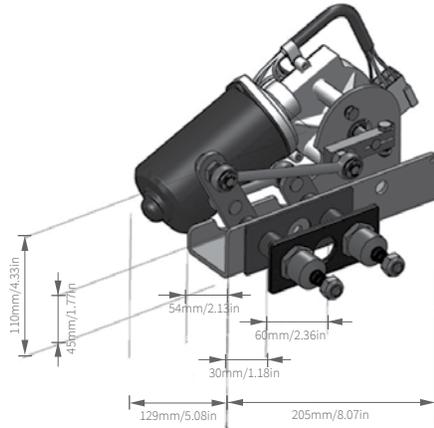
- One bulkhead thickness: 1.1" (28mm)
- Dynamically parks (right or left)
- 316 stainless steel 0.75" (20mm) drive shaft
- Custom bulkhead thickness available

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	40° - 90°
Voltages	12V and 24V
Amp draw	7A (12V); 4A (24V)
Fuse size - slow-blow	8A (12V); 6A (24V)
Torque	40Nm
Sweeps per minute	38 (low); 56 (high)
Max arm/blade length	35.4" (900mm)



240BS Wiper Motor



DYNAMIC PARK

With large windshields that require long arms and blades, the dynamic park feature is necessary to park the wiper in the correct location. The momentum created by the larger wiper systems can cause the wiper to coast past the park position if power to the wiper motor is simply shut off; this is what we call “Coast to Park” that is utilized on smaller wiper systems. The dynamic park function freezes the motor electrically when it reaches the park position by switching the power feed to the motor from positive to negative. This ensures an accurate park position every time the wiper is shut off. Dynamic park wipers require switching designed specifically for this feature.



Type 1.5 Series Arms & Blades

- Fits 240BS motor
- 316 stainless steel components with brass attachment heads
- Offered in two versions (“S” and “B”) to fit blades of different lengths and widths
- Arms can be folded back for cleaning
- Fixed-length wiper arms
- Styled gallery covers for clean appearance
- Two different optional washing jets available (see insets)

Imtra offers **Standard Blades** and **Heavy Duty Blades** for use with Type 1.5 Series. Unlike most marine wiper manufacturers, Exalto blades feature replaceable rubber inserts, saving time and money.



Standard Blades

- 10" to 31.5" in approximately 2" increments
- All stainless steel bridges



Heavy Duty Blades

- 24", 25.5", 27.5", 29.5" and 31.5" lengths
- Durable stainless steel upper-bridges with high-impact polymer lower-bridges for optimal blade/glass contact

Replacement Blade Inserts

- Available in 39" and 47.25" lengths (can be cut to fit shorter blades)
- With extra clips, one longer insert can be cut to replace two shorter blades

ARM & BLADE SPECIFICATIONS

	"S" Type Arms	"B" Type Arms
Pantograph arm length range	31.5", 33.5", 35.5" (800, 850, 900mm)	
Finish	Black or Polished	
Arm length type	Fixed	
Accepted blade length	19.7-31.5" (500-800mm)	33.5, 35.5" (850, 900mm)
Dual Spring	Fixed	
Blade attachment method	5mm Bolt	8mm Bolt
Blade clip width	.5" (12mm)	.75" (20mm)
Washing jet	Optional	



Type 1.5 Wiper Arm



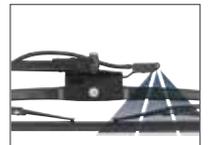
Type 1.5 arms are drilled to run washing system tubing conveniently inside the arm.

Two different washing jet options are available on Type 1.5 arms:



Washing Jet Option 1

Our **EX2185** (or left-handed EX2185L) snaps easily into the standard blade clip. Each jet features four adjustable nozzles. When using both jets, fluid is applied to both sides of the blade.



Washing Jet Option 2

The **EX2111** mounts under the blade clip and extends so fluid is applied from six nozzles (three on each side of the blade).



Galleries feature 316 stainless steel construction, brass heads and protective head covers.



Dual Spring



TYPE 2 SERIES

The ultimate system for windows up to 65" (1650mm) in height.

Type 2 Series Motors

- Two bulkhead thicknesses: 1.375" (35mm), 2.5" (65mm)
- Dynamically parks (right or left)
- 316 stainless steel 0.75" (20mm) drive and support shaft
- Tapered drive shaft for secure arm/motor connection
- Dual drive shafts
- Custom bulkhead thickness available



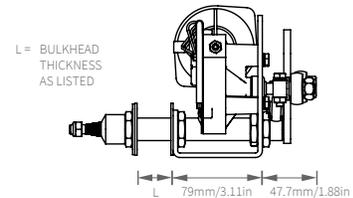
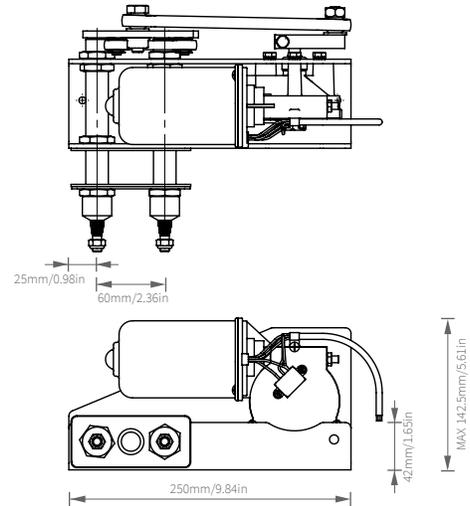
EX2115.55
255BS Wiper Covers

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	40°- 90°
Voltages	12V and 24V
Amp draw	2.5A (12V); 1.3A (24V)
Fuse size – slow-blow	8A (12V); 6A (24V)
Torque	55Nm
Sweeps per minute	38 (low); 60 (high)
Max arm length	37.75" (1000mm)
Max blade length	47.25" (1200mm)



255BS Wiper Motor



CUSTOM APPLICATIONS

In addition to the standard motors featured in this catalog, many of our motors can be special-ordered with custom bulkhead thicknesses to fit unusual mounting arrangements. We also offer a solution for explosion proof applications. Contact Imtra if you have a unique application, and we will work with you to develop a wiper solution to meet your requirements.



Type 2 Series Arms

- Fits 255BS motor
- 316 stainless steel components with brass attachment heads
- Adjustable-length wiper arms
- Offered in two versions (“S” and “B”) to fit blades of different lengths and widths
- Arms can be folded back for cleaning
- 10mm box section arm extensions with channel for washing system tubing
- Optional arm-mounted washing jets (see insets)



Type 2 Series Blades

- Standard and heavy duty blades available
- 24", 25.5", 27.5", 29.5", 31.5", 33.5", 35.5", 37.5", 39.5" and 47.25" lengths for Type 2 applications
- Durable stainless steel upper-bridges with high-impact polymer lower-bridges for optimal blade/glass contact

Replacement Blade Inserts

- Available in 39" and 47.25" lengths (can be cut to fit shorter blades)
- With extra clips, one longer insert can be cut to replace two shorter blades

ARM & BLADE SPECIFICATIONS

	“S” Type Arms	“B” Type Arms
Pantograph arm length range	29.5-39.4" (750-1000mm)	
Finish	Black	
Arm length type	Adjustable	
Accepted blade length	19.7-31.5" (500-800mm)	33.5-47.25" (850-1200mm)
Dual Spring	Fixed or Adjustable	
Blade attachment method	5mm Bolt	8mm Bolt
Blade clip width	.5" (12mm)	.75" (20mm)
Washing jet	Optional	

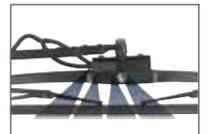


Type 2 Wiper Arm



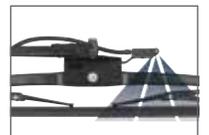
Type 2 arms are drilled to run washing system tubing conveniently inside the arm.

Two different washing jet options are available on Type 2 arms:



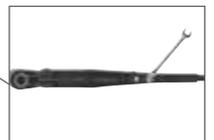
Washing Jet Option 1

Our **EX2185** (or left-handed **EX2185L**) snaps easily into the standard blade clip. Each jet features four adjustable nozzles. When using both jets, fluid is applied to both sides of the blade.



Washing Jet Option 2

The **EX2111** mounts under the blade clip and extends so fluid is applied from six nozzles (three on each side of the blade).



Type 2 arms adjust easily and securely to the optimum length for each installation.



Galleries feature 316 stainless steel construction, brass heads and protective head covers.



TYPE 3 SERIES

The largest pantograph system for window up to 88.5" (2250mm) in height.

Type 3 Series Motor

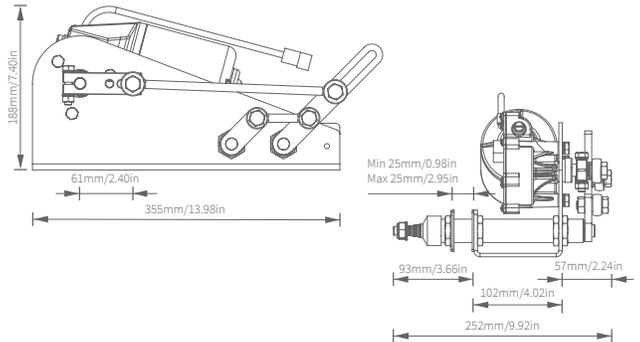
- One bulkhead thickness: 1" (25mm)
- Dynamically parks (right or left)
- Stainless steel shafts and fasteners with double brass bearings
- Dual drive shafts
- Custom bulkhead thicknesses are available

MOTOR SPECIFICATIONS

Sweep angle adjustment	Stepless
Sweep angle range	40°- 90°
Voltages	24V
Amp draw	3.2A
Fuse size - slow-blow	10A
Torque	85Nm
Sweeps per minute	25 (low); 40 (high)
Max arm/blade length	59" (1500mm)



285BS Wiper Motor



Type 3 Series Arms & Blades

- Fits 285BS wiper motor
- Stainless steel galleries and springs
- Fixed-length wiper arms
- Brass gallery heads
- Stainless steel arm extensions, end bracket, blade holder and fasteners
- 12mm box section arm extensions with channel for washing system tubing

ARM & BLADE SPECIFICATIONS

Pantograph arm length range	up to 59" (1500mm)
Finish	Black
Arm length type	Fixed
Accepted blade length	up to 59" (1500mm)
Dual Spring	Fixed or Adjustable
Blade attachment method	8mm Bolt
Blade clip width	.75" (20mm)
Washing jet	Optional (see page 19)



Type 3 Series Blade

Type 3 Series Arm



EXTERNAL SERIES

A durable, waterproof external motor with a maximum reach of 46.9" (1190mm).

External Series Motor

- Adjustable mounting brackets for various mounting-surface angles
- Dynamically parks (right or left)
- Stainless steel shafts and fasteners with double brass bearings
- Durable 316 stainless steel motor housing
- Long life in wet, corrosive environment – waterproof to IPx6
- Waterproof cable connection to motor housing

MOTOR SPECIFICATIONS

Sweep angle adjustment	5° increments
Sweep angle range	40°- 90°
Voltages	12V and 24V
Amp draw	3A (12V), 1.5A (24V)
Fuse size – slow-blow	6A (12V), 4A (24V)
Torque	23Nm
Sweeps per minute	40 (low); 60 (high)
Max arm length	31.1" (790mm)
Max blade length	31.5" (800mm)

External Series Arms & Blades

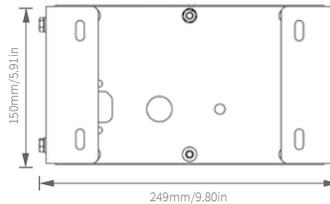
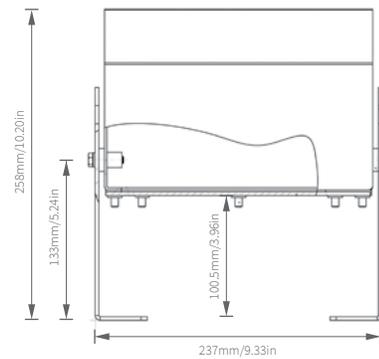
- Fits 223XBD wiper motor
- Stainless steel construction with brass heads
- Adjustable length wiper arms
- Arms fold back for easy windshield cleaning
- Coated with durable low-glare polyester epoxy

ARM & BLADE SPECIFICATIONS

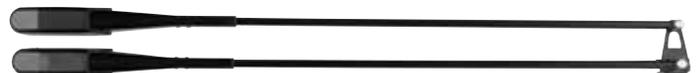
Pantograph arm length	14.8-20.7" (375-525mm) 20.7-25.6" (525-650mm) 26.6-31.1" (675-790mm)
Finish	Black
Arm length type	Adjustable
Accepted blade length	Up to 31.5" (800mm)
Springs	Adjustable
Blade attachment method	5mm Bolt
Blade clip width	.5" (12mm)
Washing jet	Optional (see page 17)



223XBD Wiper Motor



External Series Blade



External Series Arm





Built in Norway to survive the rigors of the North Sea, Decca Straight Line wiper systems have been installed in some of the harshest environments and the most demanding applications, including:

- US Navy vessels
- Energy and mining equipment
- Tugs and towboats
- Patrol and fireboats
- Bulk carriers
- North Sea offshore supply and handling vessels

DECCA WIPER SYSTEMS

- Externally mounted wiper system
- High quality materials and technical features provide unbeatable construction advantages
- Easy to install and operate





DECCA STRAIGHT LINE SERIES

A heavy duty, externally mounted system specifically for commercial applications.

Decca Straight Line Motors

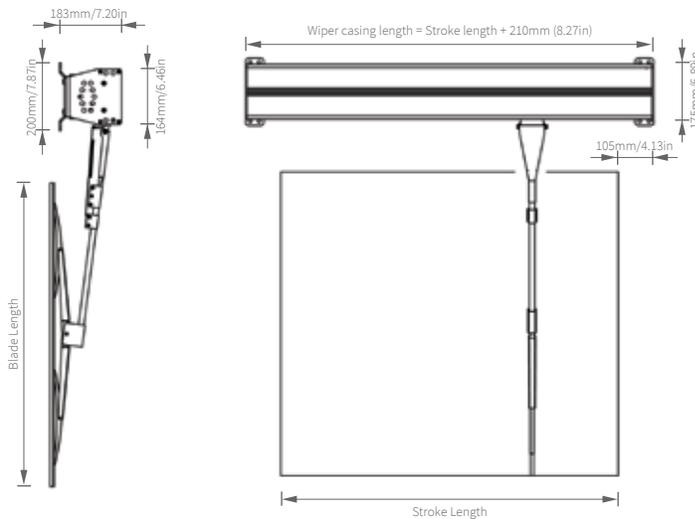
- Voltage: AC (110/220V) or DC (24V)
- Self-parking (right and left)
- Stroke length from 19.6" (500mm) to 98.4" (2500mm)
- Variable speed / variable interval control
- Optional water spray with air purge
- Single or double arm wipers available
- Up to 90% of the window can be wiped
- Heater option available on 110/220 VAC units
- Mirror-image units available

Decca Features & Benefits

- Self-adjusting polyamide track rollers
- Sealed stainless steel bearings
- Roller tracks in stainless steel
- Housing in seawater-resistant aluminum with powder coated surface for maximum weather resistance
- Unique carriage assembly does not weaken the drive belt
- Interlocking high performance PowerTwist Plus® belt for quick replacement



Decca Straight Line Wiper



DECCA WIPER CONTROLS

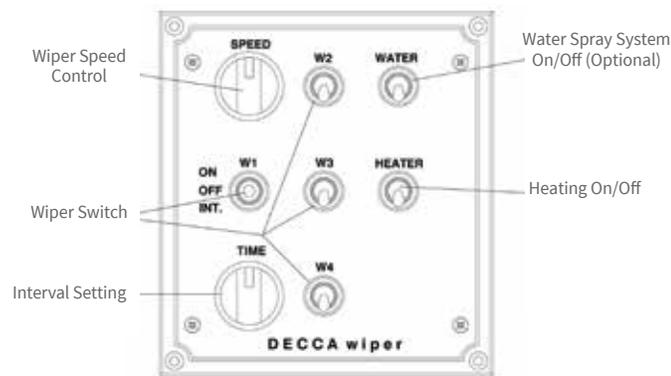
Wiper controls to meet the requirements for Decca Straight Line wiper systems.

Thor Controller Series

- Supports up to 40 wipers
- Supports 1 to 4 separate wiper groups
- Toggle wash function
- Optional air purge function
- Heater function with LED indicator
- Stepless motor speed control
- Stepless intermittent timer
- Heavy duty toggle switches
- Dimensions (HxW): 4.78" (121.5mm) x 4.4" (111.75mm)



Thor Controller Series Panel





Odin Controller Series

- Supports up to 100 wipers
- Supports 5 separate wiper groups
- Supports up to 5 water spray zones
- Built-in air purge function
- Heater function with LED indicator
- Adjustable speed and intermittent
- Soft-touch keypad
- LED-indicated speed setting for each group
- Dimmer (night mode) function
- Auto-resume function in standby mode



Rotary Switches

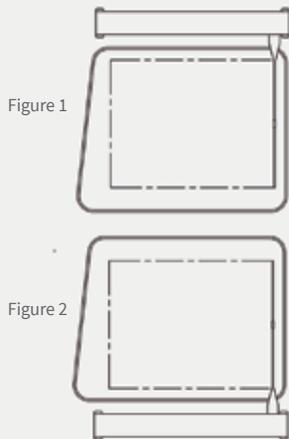
- Simple switching solution for 24V motors
- Variable intermittent time delay
- Continuous low and high speed
- Push-button wash function



TYPICAL INSTALLATIONS

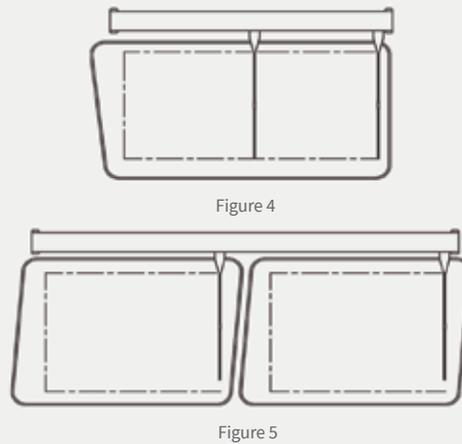
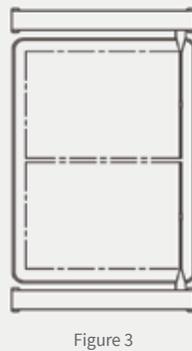
Single Wiper Installation Layouts

A standard wiper installation features a single arm wiper unit that is mounted above the window frame (Figure 1) or below the frame (Figure 2).



Dual Wiper Installation Layouts

Taller windows require two wipers to ensure maximum visibility, where one wiper unit covers the upper part and the other covers the lower part of the window (Figure 3). The wiper unit can also be supplied with two wiper arms, configured to cover one large window (Figure 4) or two smaller adjacent windows (Figure 5).



WIPER CONTROLS

Imtra offers a range of innovative switches and controls that let you customize your wiper system.

Use the chart below to determine the best controls for the type of wipers you have.

IMTRA WIPER CONTROLS

- Simple and intuitive switching options
- Multiple wiper synchronization
- Control includes wash functionality



WIPER CONTROLS	W10/12	W25	W38	W50	Type 1 223BD/BS	Type 1.5 240BS	Type 2&3 255BS/285BS	External 223XBD
CP4EX Wiper Control								
210 Series Control Panel								
CT3EX Wiper Control								
Quad Control Panel								
CT41/42*								
RC532 Series for W10 / W12								
RC532 Series W25 / W38								
RC532 Series for W50								
Simple Rocker Switch								
Combination Rotary Switch								
Simple Rotary Switch								

* High amp version is needed for Type 1.5, Type 2 & 3 Systems

CONTROLS

Full-featured electronic control panels.

CP4EX Control Panel

- Electronic control for two, three, four and five 12v or 24v wiper motors
- Consists of dashboard panel, separate relay box and plug-and-play connecting cable
- Five operating speeds: low, high, 3 intermittent levels
- Synchronized wiping at each operating speed
- Smart wipe-wash program
- ON/OFF switch
- Individual switches for each wiper
- Heater switch
- Single sweep button
- Back light dimmer (three level brightness)
- LED indicators to indicate speed setting
- Option to network multiple wipers within individual zones

Dimensions

- Panel: 4" H x 3.875" W x 1.5" D (100 x 98 x 39mm)
- Relay box: 7.52" L x 4.29" W x 1.57" H (191 x 109 x 40mm)

210 Series Control Panel

- Electronic control for two, three, four and five 12V or 24V wiper motors
- Consists of dashboard panel, separate relay box and plug-and-play connecting cable
- Five operating speeds: low, high, 3 intermittent levels (with 2.5-second, 5-second, 10-second delay)
- Synchronized wiping at each operating speed
- Smart wipe-wash program
- ON/OFF switch
- Individual switches for each wiper
- Indicator lights for active wipers, speed/intermittent settings and wipe-wash
- Low-fluid warning LED for washing system (requires tank sensor)
- Option to network multiple wipers within individual zones
- Option for dimming available

Dimensions

- Panel: 4" H x 3.875" W x 3" D (100 x 98 x 75mm)
- Relay box: 7.52" L x 4.29" W x 1.57" H (191 x 109 x 40mm)
- Connecting cable: 5 meter connecting cable between panel and control



CP4EX Series Control



210 Series Control

SMART WIPE-WASH

Controls that feature a **Smart Wipe-Wash Program** are able to clear your windshield with a single touch of a button. The smart function starts the spray of washing fluid (or water from ship's supply), adjusts the operating speed of the motors to continuous low speed, continues wiping for a few seconds after the spray stops, and then returns to the speed that was in effect before the washing cycle was initiated. Some of our controls allow the smart function to be customized by the operator.

CONTROLS

Simple switches or full-featured electronic control options.

CT3EX Wiper Control

- Electronic control for a maximum of three 12V or 24V wiper motors
- Consists of dashboard panel, separate relay box and plug-and-play connecting cable
- Five operating speeds: low, high, 3 intermittent levels (with 2-second, 4-second, 8-second delay)
- Synchronized wiping at each operating speed
- Smart wipe-wash program
- ON/OFF switch
- Individual switches for each wiper
- Indicator lights for active wipers, speed/intermittent settings and wipe-wash
- Warning system indicates a failing wiper or incorrect wiring
- Optional dual-station version available



CT3EX Wiper Control

Dimensions

- Panel: 2.875" H x 2.875" W x 2.56" D (72 x 72 x 65mm)
- Relay box: 3.125" L x 2.187" W x 1.375" H (80 x 55 x 35mm)
- Connecting cable: 8'2" with plug

Quad Control Panel

- Control panel for up to four 12V or 24V wiper motors
- Four operating speeds: low, high, 2 intermittent levels (with 5-second and 10-second delay)
- Synchronized wiping at each operating speed
- Smart wipe-wash program
- UV-safe ABS plastic
- Turn wiper groups on/off independently or together
- Self-parks all wipers
- Includes integral 15A fuse (no inline fuses required)



Quad Control Panel

Dimensions

- 3.5" H x 3.5" W x 2.375" D (90 x 90 x 61mm)

CT41/42 Electronic Wiper Switches

- Electronic switches for standard dashboard systems (such as Carlingswitch®)
- Available in one-wiper model (CT41) and two-wiper model (CT42)
- Five operating speeds: low, high, 3 intermittent levels (with 2-second, 4-second and 8-second delay)
- Multi-function switch for one or two wipers (10-30VDC)
- Smart wipe-wash program
- CT42 operates both wipers synchronized or independently
- Contact Imtra for high amp options



CT41/42 Electronic Wiper Switch

RC532 Series Electronic Wiper Switches

- Electronic switches that combine a remote-mounted electronic box and a single, momentary Carlingswitch to control all functions for three wiper motors
- Compatible with 12V or 24V motors
- Separate models for W10/W12, W25/W38, and W50 series
- Three operating speeds: low, high, intermittent
- Allows operation of a single primary wiper or synchronized operation of up to three wipers
- Compatible with 12V or 24V motors
- Operates wash solenoid or pump
- Illuminated Carlingswitch rocker switch and 3' (1m) connecting harness included



RC532 Series Electronic Wiper Switch and Control Boxes

Simple Rotary Switch

- Simple 2-speed rotary switch
- Compatible with 12V or 24V motors
- Dynamic park or coast to park
- Includes option for wash functionality



Simple Rotary Switch

Simple Rocker Switch

- Simple 2-speed rotary switch
- Compatible with 12/24V motors
- Dynamic park or coast to park



W10/W12 Simple Rocker Switch



W25/W38/W50 Simple Rocker Switch

Combination Rotary Switch

- 12V or 24V available
- Variable intermittent time delay
- Continuous low and high speed
- Push-button wash function
- Dynamic park or coast to park



Combination Rotary Switch

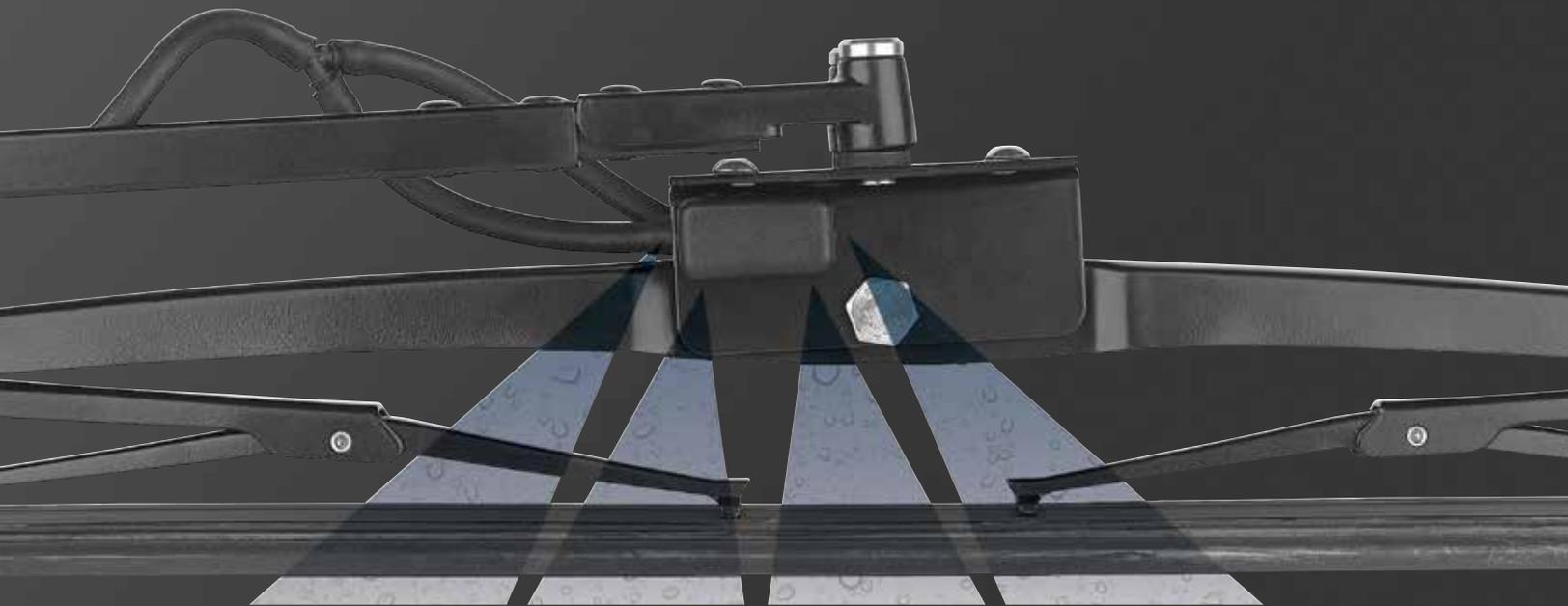
Optional cover plate available - Imtra or Exalto branded

WASHING SYSTEMS

A washing system is an important add-on which improves visibility and function of wiper blades, while also extending the life of wiper components. Our selection of washing jets, fittings, bulkhead connectors and tubing provide options for plumbing the entire washing system. Whether you use a pressurized water supply or a separate remote reservoir, Imtra has the components you need.

WASHING SYSTEMS

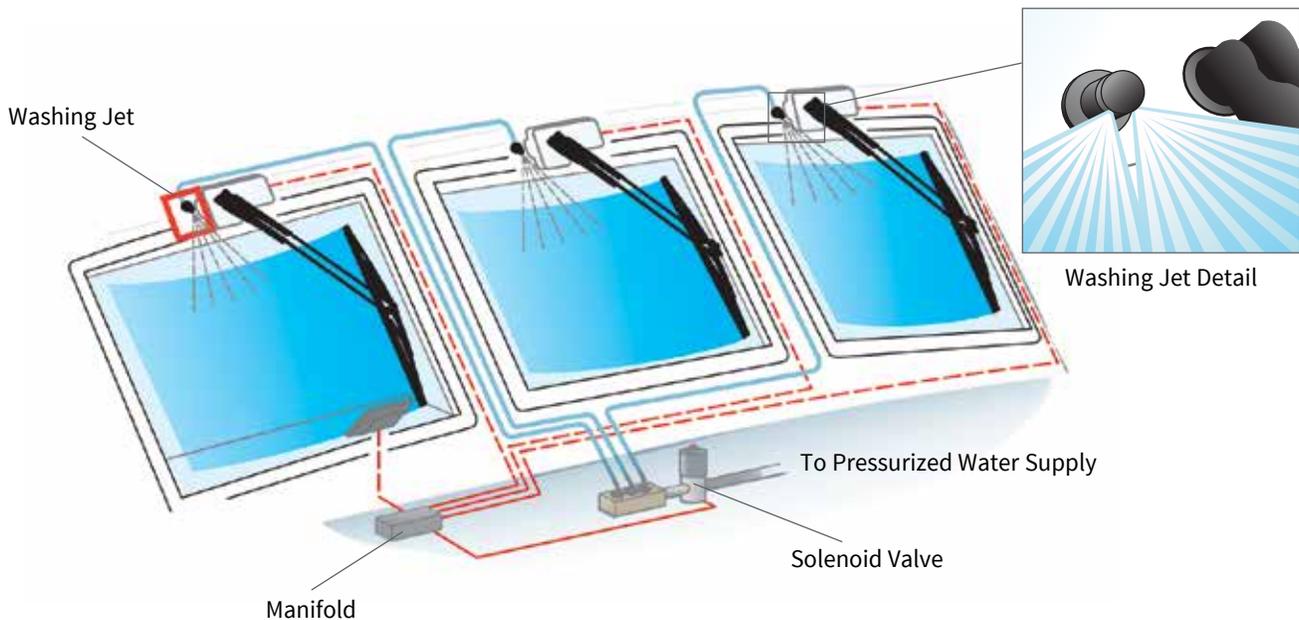
- Complete plumbing solutions from water source to washing jet
- Extensive offering for customized solutions
- Simple and reliable plumbing assemblies



WASHING SYSTEMS

Parts for a complete washing system, including solenoids, manifolds, tubing and bulkhead connectors.

PRESSURIZED WASHING SYSTEM



Washing Jets

Washing jets mount either on the wiper arm or directly to the mounting surface. Water is supplied to the jet and sprays out onto the glass through the jet. Most jets can have their spray angle adjusted with a pin if needed.

Bulkhead Fittings

Bulkhead fittings allow water to be passed through the mounting surface. They usually mount near the shafts of the wiper and include a nipple on the outside and an adjustable threaded-pipe on the inside.

Plumbing Fittings

Available in elbows, tees, straight connectors and stem fittings, these push-fit fittings allow you to cater your plumbing system to your requirements.

Tubing

We offer hard and soft tubing for our washing systems. Hard tubing is used inside and works best with push-fit plumbing fittings. Soft tubing is used for the run from the bulkhead fitting to the washing jet along the wiper arm, or on barbed fittings.

Solenoid Valves

A solenoid is used on washing systems that run off pressurized water systems. The solenoid will open the water flow when it gets a signal to do so from a wiper control.

Reservoirs

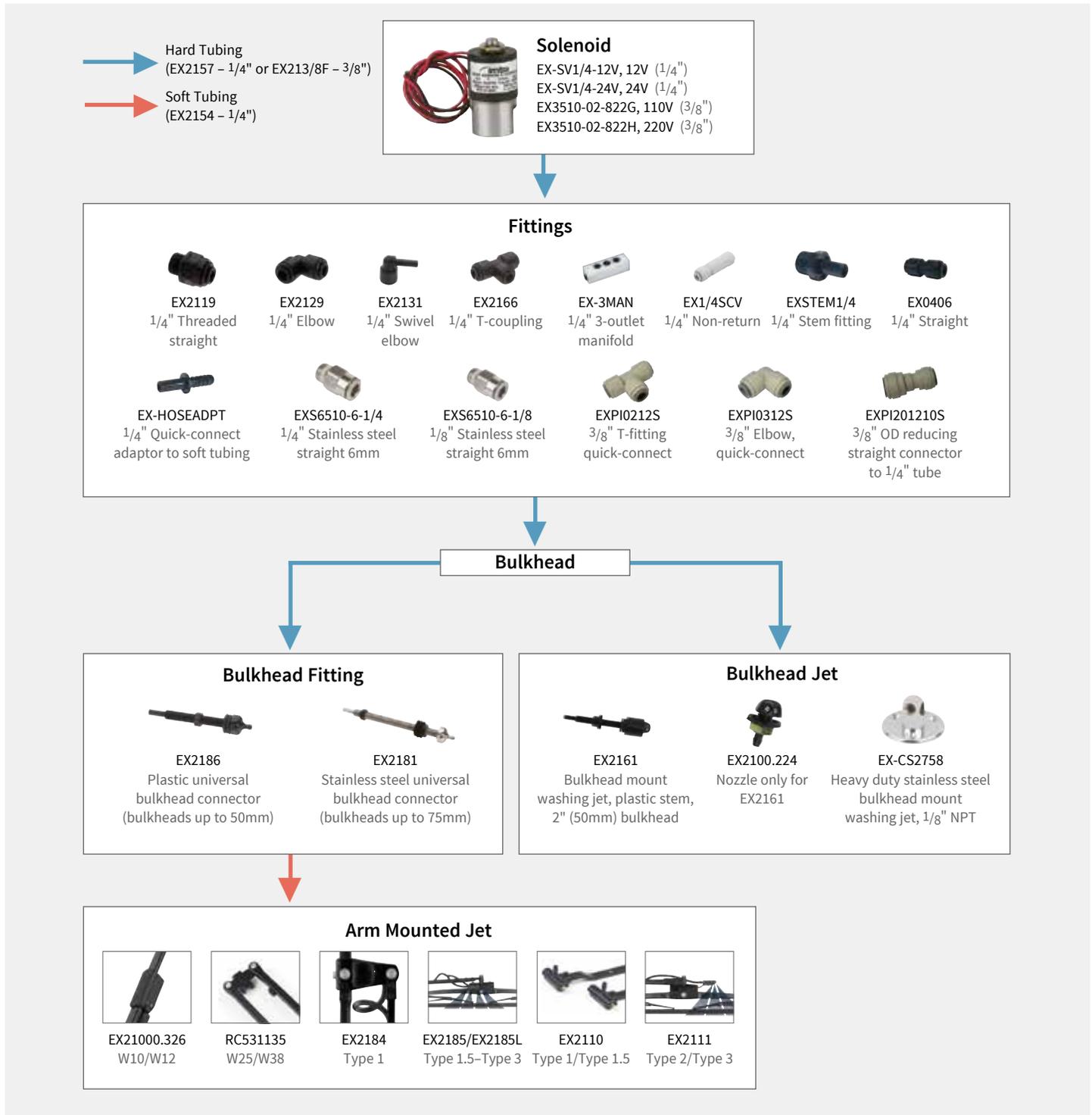
For systems in freezing conditions or without a pressurized water supply, a reservoir-based washing system is the best choice. Reservoirs include one to three pumps to supply fluid from the tank to the windows. Anti-freeze can be added to the washing solution for use in sub-zero conditions.

Manifolds

A manifold allows a single water supply to be branched off to three outgoing lines with even water pressure. You can gang manifolds together if needed.

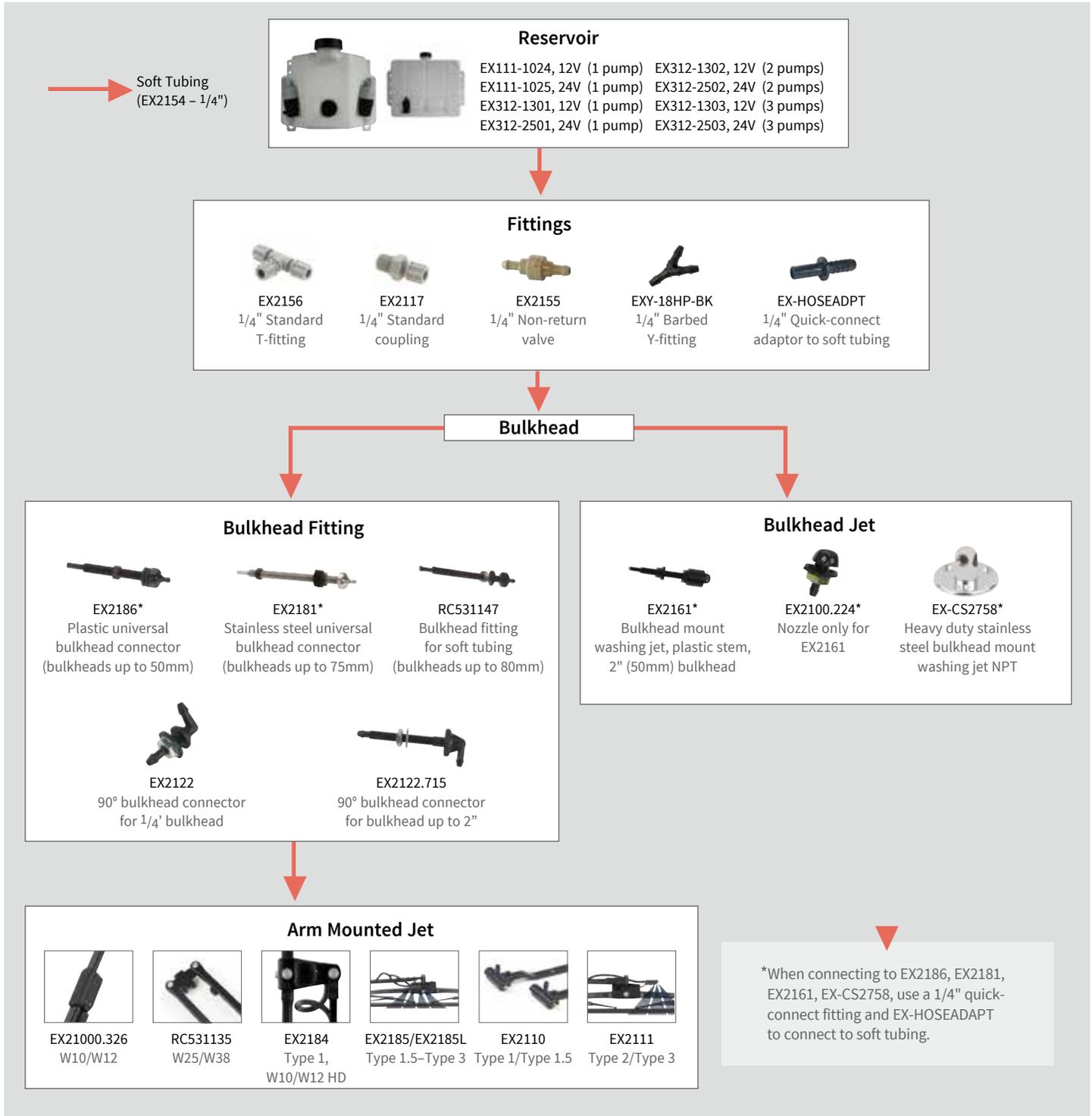
PRESSURIZED SYSTEM

Parts for a complete washing system from a pressurized water supply.



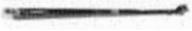
NON-PRESSURIZED SYSTEM

Parts for a complete washing system from a separate, remote reservoir.



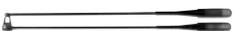
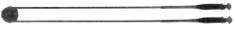
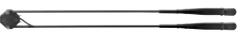


WIPER MOTORS		Voltage	Bulkhead Thickness		Item #
W10 Series 	12V	0.625"	(16mm)	RC525991 RC524991 RC525891	
		1.625"	(41mm)		
		2.625"	(66mm)		
	24V	0.625"	(16mm)	RC525992 RC524992 RC525892	
		1.625"	(41mm)		
		2.625"	(66mm)		
W12 Series 	12V	0.625"	(16mm)	RC533011 (white) RC533511 (black) RC533021 (white) RC533521 (black) RC533031 (white)	
		1.625"	(41mm)		
		2.625"	(66mm)		
	24V	0.625"	(16mm)	RC533012 (white) RC533512 (black) RC533022 (white) RC533522 (black) RC533032 (white)	
		1.625"	(41mm)		
		2.625"	(66mm)		
W25 Series 	12V	1.1"	(28mm)	RC531015 RC531025 RC531035	
		2.1"	(53mm)		
		3.1"	(78mm)		
	24V	1.1"	(28mm)	RC531016 RC531026 RC531036	
		2.1"	(53mm)		
		3.1"	(78mm)		
W38 Series 	12V	1.1"	(28mm)	RC531011 RC531021 RC531031	
		2.1"	(53mm)		
		3.1"	(78mm)		
	24V	1.1"	(28mm)	RC531012 RC531022 RC531032	
		2.1"	(53mm)		
		3.1"	(78mm)		
W50 Series 	12V	1.1"	(28mm)	RC531013 RC531023 RC531033	
		2.1"	(53mm)		
		3.1"	(78mm)		
	24V	1.1"	(28mm)	RC531014 RC531024 RC531034	
		2.1"	(53mm)		
		3.1"	(78mm)		

WIPER ARMS	Length	Description	Item #	Washing Jet
W10/W12 Series (Pendulum) 	12.8"-18" (324-460mm)	Fixed Spring, Electro-Polished, Adj. Tip	RC536218	EX21000.326
	18"-23.3" (545-591mm)	Fixed Spring, Electro-Polished, Adj. Tip	RC536224	
	12.8"-18" (324-460mm)	Fixed Spring, Black, Adj. Tip	RC538218	
	18"-23.3" (454-591mm)	Fixed Spring, Black, Adj. Tip	RC538224	
W10/W12 Series (Pantograph) 	12.8"-18" (324-460mm)	Dual Springs, Electro-Polished, Fixed Tip	RC536318	
	18"-23.3" (454-591mm)	Dual Springs, Electro-Polished, Fixed Tip	RC536324	
	12.8"-18" (324-460mm)	Dual Springs, Black, Fixed Tip	RC538318	
	18"-23.3" (454-591mm)	Dual Springs, Black, Fixed Tip	RC538324	
W10/W12 Series Heavy Duty (Pantograph) 	12"-23.6" (305-600mm)	Fixed Spring, Black, Fixed Tip	EX2108K	EX2184
W25 Series (Pendulum) 	18.5"-29.5" (470-750mm)	Fixed Spring, Black, Adj. Tip, w/Wash Jet	RC538230	RC531135
	18.5"-29.5" (470-750mm)	Fixed Spring, SS, Adj. Tip, w/Wash Jet	RC536230	
W25 Series (Pantograph) 	18.5"-29.5" (470-750mm)	Fixed Spring, Black, Fixed Tip, w/Wash Jet	RC538330	
	18.5"-29.5" (470-750mm)	Fixed Spring, SS, Fixed Tip, w/Wash Jet	RC536330	
W38 Series (Pantograph) 	24.4"-35.4" (620-900mm)	Fixed Spring, Black, Fixed Tip, w/Wash Jet	RC536335	
	24.4"-35.4" (620-900mm)	Fixed Spring, SS, Fixed Tip, w/Wash Jet	RC538335	
	18.5"-29.5" (470-750mm)		RC536430	
	18.5"-29.5" (470-750mm)		RC538430	
W50 Series (Pantograph) 	40"-47" (1020-1200mm)	Fixed Spring, Black, Fixed Tip, w/Wash Jet	RC536347	
	40"-47" (1020-1200mm)	Fixed Spring, SS, Fixed Tip, w/Wash Jet	RC538347	



WIPER MOTORS		Voltage		Bulkhead Thickness		Item #
Type 1 Series  223BS  223BD	12V	0.75"	(20mm)	EXA2167.30		
	12V	1.375"	(35mm)	EXA2167.32		
	12V	2.125"	(55mm)	EXA2167.35		
	24V	0.75"	(20mm)	EXA2168.30		
	24V	1.375"	(35mm)	EXA2168.32		
	24V	2.125"	(55mm)	EXA2168.35		
	12V	0.75"	(20mm)	EXA2165.30		
	12V	1.375"	(35mm)	EXA2165.32		
	12V	2.125"	(55mm)	EXA2165.35		
	24V	0.75"	(20mm)	EXA2166.30		
	24V	1.375"	(35mm)	EXA2166.32		
	24V	2.125"	(55mm)	EXA2166.35		
Type 1.5 Series 	12V	1.1"	(28mm)	EX211240.30		
	24V	1.1"	(28mm)	EX212440.30		
Type 2 Series 	12V	1.375"	(35mm)	EX211255.35		
	12V	2.5"	(65mm)	EX211255.65		
	24V	1.375"	(35mm)	EX212455.35		
	24V	2.5"	(65mm)	EX212455.65		
Type 3 Series 	24V	1.0"	(25mm)	EX2178.085		
	24V	Custom		EX2178.085SP		
External Series 	12V	Surface-Mount		EXA2165XBD		
	24V			EXA2166XBD		

WIPER ARMS	Length		Description	Item #	Washing Jet
Type 1 Series (Pantograph) 	14.8"-20.7"	(375-525mm)	Adj. Spring, Black, Adj. Tip	EX2133AS	EX2184 or EX2110
	14.8"-20.7"	(375-525mm)	Adj. Dual Springs, Black, Adj. Tip	EX2133AS2	
	20.7"-25.6"	(525-650mm)	Adj. Spring, Black, Adj. Tip	EX2136AS	
	20.7"-25.6"	(525-650mm)	Adj. Dual Springs, Black, Adj. Tip	EX2136AS2	
	26.6"-31.1"	(675-790mm)	Adj. Spring, Black, Adj. Tip	EX2139AS	
	26.6"-31.1"	(675-790mm)	Adj. Dual Springs, Black, Adj. Tip	EX2139AS2	
Type 1.5 Series (Pantograph) 	31.5"	(800mm)	Narrow Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.800.S	EX2185, EX2185L or EX2111
	33.5"	(850mm)	Narrow Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.850.S	
	35.5"	(900mm)	Narrow Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.900.S	
	31.5"	(800mm)	Wide Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.800.B	
	33.5"	(850mm)	Wide Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.850.B	
	35.5"	(900mm)	Wide Blade,* Adj. Dual Springs, Black, Adj. Tip	EX2140.900.B	
Type 2 Series (Pantograph) 	29.5"-39.4"	(750-1000mm)	Narrow Blade,* Fixed Spring, Black, Adj. Tip	EX2142.S	
	29.5"-39.4"	(750-1000mm)	Narrow Blade,* Adj. Spring, Black, Adj. Tip	EX2142.SAS	
	29.5"-39.4"	(750-1000mm)	Wide Blade,* Fixed Spring, Black, Adj. Tip	EX2142.B	
	29.5"-39.4"	(750-1000mm)	Wide Blade,* Adj. Spring, Black, Adj. Tip	EX2142.BAS	
Type 3 Series (Pantograph) 	Up to 59"	(Up to 1500mm)	Fixed Spring, Black, Adj. Tip	EX2144.SP	EX2185 or EX2111
External Series (Pantograph) 	14.8"-20.7"	(375-525mm)	Adj. Spring, Black, Adj. Tip, Reverse Head	EX2133.R	EX2184
	20.7"-25.6"	(525-650mm)	Adj. Spring, Black, Adj. Tip, Reverse Head	EX2136.R	
	26.6"-31.1"	(675-790mm)	Adj. Spring, Black, Adj. Tip, Reverse Head	EX2139.R	

*Narrow blade: 0.5" (12mm) up to 800mm. Wide blade: 0.75" (20mm) from 850-1500mm

WIPER BLADES	Length	Item #	Width at Connection	Fastener Diameter			
W Series (Standard) 	11" (280mm)	RC520911	0.59" (15mm)	6mm J-Hook Connection			
	12" (305mm)	RC520912					
	13" (330mm)	RC520913					
	14" (355mm)	RC520914					
	15" (380mm)	RC520915					
	16" (405mm)	RC520916					
	17" (430mm)	RC520917					
	18" (455mm)	RC520918					
	19" (480mm)	RC520919					
	20" (508mm)	RC520920					
	21" (533mm)	RC520921					
22" (560mm)	RC520922						
W Series (Heavy Duty) 	10.6" (250mm)	EX2170CN	0.59" (15mm)	5mm Bolt Connection			
	11.8" (300mm)	EX2171					
	13.8" (350mm)	EX2172					
	15.8" (400mm)	EX2173					
	17.7" (450mm)	EX2174					
	19.7" (500mm)	EX2175					
	21.7" (550mm)	EX2176					
W25/W38/W50 Series 	W25	22" (559mm)	0.59" (15mm)	6mm Bolt Connection			
		24" (610mm)					
		28" (710mm)					
		30" (760mm)					
	W38	32" (810mm)					
		33" (838mm)					
		34" (863mm)					
		35" (890mm)					
	W50	38" (965mm)					
		40" (1016mm)					
Type 1, Type 1.5, Type 2 and External Series (Standard) 		10.6" (250mm)	0.59" (15mm)	5mm Bolt Connection			
		11.8" (300mm)					
		13.8" (350mm)					
		15.8" (400mm)					
		17.7" (450mm)					
		19.7" (500mm)					
		21.7" (550mm)					
		23.6" (600mm)					
		25.6" (650mm)					
		27.5" (700mm)					
		29.5" (750mm)					
		31.5" (800mm)					
	Type 1, Type 1.5, Type 2, Type 3 and External Series (Heavy Duty) 	Type 1, Type 1.5, Type 2 and External			24" (610mm)	0.75" (20mm)	8mm Bolt Connection
					25.6" (650mm)		
					27.5" (700mm)		
		29.5" (750mm)					
		31.5" (800mm)					
Type 1.5, Type 2 and Type 3		33.5" (850mm)					
		35.5" (900mm)					
		37.5" (950mm)					
Type 3		39.5" (1000mm)					
		43.3" (1100mm)					
		47.5" (1200mm)					
	51.2" (1300mm)	EXT130S04/P01					
	59" (1500mm)	EXT150S04/P01					

Imtra's Limited Warranty

Imtra Corporation warrants the wiper products we offer to be free from defects in materials and workmanship for 3 years or 1 year (see products) from date of purchase. This warranty does not cover damages due to improper installation or use, damage attributable to unauthorized service or damage directly identified as the result of a power surge. Any product returned to Imtra during the warranty period that is deemed defective by Imtra will be repaired or replaced, at the option of Imtra, free of charge. The rubber portion of wiper blades wear under typical use and is therefore not covered under warranty. The foregoing is in lieu of all other express warranties.

Procedure

Products must be returned with an RA#, postage paid, to Imtra and should be accompanied by a return address, a brief statement of the malfunction, and a copy of the proof of purchase for either the product or the boat they were supplied on as new equipment.

Photo Credits

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E-mail: info@imtra.com





CONTACT INFORMATION

Name _____

Company _____

Address _____

City _____ State _____ ZIP _____

Tel _____ Fax _____

Email _____

Owner's Name _____

Project Name _____

Type of Application _____

Window Type



NOTE: Straight Line Wiper Systems are available. Please note window height and width in the comment field below for recommendations.

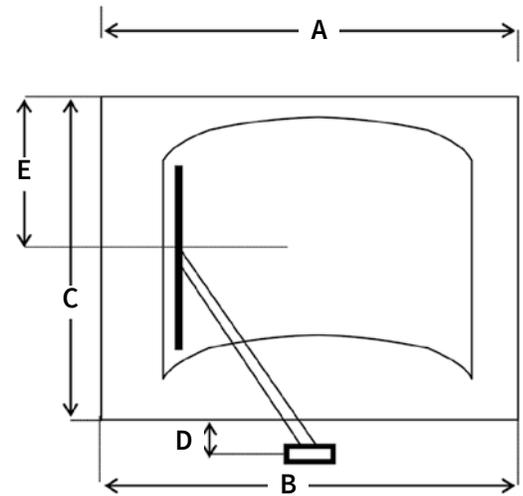
WINDOW DIMENSIONS

	Port	Port/ Center	Center	Starboard/ Center	Starboard
Window Type (see above)					
Window Height (C)					
Width of Glass/Top (A)					
Width of Glass/Bottom (B)					
Motor Setback* from Window (D)					
Eye Level (E)					
Bulkhead Thickness					

*The distance between the inside edge of the windshield frame and the center of the motor shaft. Please take into account the radius of any corner when measuring window dimensions.

Please check if wiper motor mounting position is not parallel with windshield. If known, what is the angle between them? _____

Comments:



Motor Voltage & Location

- 12VDC
- 24VDC
- Below Window
- Above Window
- External

Switchgear Selection

- Electronic Control Panel (Synchronized)
- Electronic Wiper Switch (Synchronized)
- Individual Switch with Intermittent
- Individual Switch without Intermittent
- No Switchgear Needed

Washing System Details

- Complete System from Ship's Supply
- Complete System from Reservoir
- Bulkhead Mounted Jet
- Arm Mounted Jet
- No System Required





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