

World's Best Wiper Systems

# **Exalto Wiper Systems**

## The Best Wipers in the World

### **Get a Clear View With Exalto Wipers!**

Exalto makes the world's best professional marine wiper systems. Our high level of technical know-how combined with our expertise in the market for many years, have resulted in our famous, high quality systems. The Exalto wiper systems are specifically designed for use in all marine environments. We can guarantee you a clear view for many years!



### **Design Support**

Exalto Wiper Systems are made of high quality materials to assure many years of reliable work. The systems are designed by our own Research & Development specialists. Of course, the wipers have undergone intensive testing.

### On Time Delivery

In our large workshop we are able to assemble the reliable systems that suit the demands of the market. Because we assemble the wipers in-house, we can be flexible to the customer's demands. We are also well-known for our on time delivery of the wiper products.

### **Complete Range of Quality Products**

We offer a wide range of wiper systems for all types of vessels, both leisure and commercial. For the leisure market we cover all windows with our light and heavy duty wipers. For commercial use we have our heavy duty wipers to offer perfect wiping and we also developed linked wiper systems.

### **Customer Specific Equipment**

A durable and reliable wiper system can make the difference during rough weather conditions. An Exalto wiper system includes:

- Wiper Motor(s)
- Wiper Arm(s)
- Wiper Blade(s)
- Wiper Control
- Washing System



The size and shape of the glass that has to be wiped determines which motor, arm and blade is needed. The larger the wiping area, the larger arms and blades have to be to cover the area. And the larger the arms and blades are, the stronger the motor has to be.

In this brochure we have grouped our products in typical wiper systems. The window size is the decisive factor in this.

### Easy!

Choosing a prefect wiper system can look daunting. Don't worry! Our Wiper Specialists are here to help you! For your ease we have made an one page questionnaire. Just fill this in and let us recommend the very best system for your application.

You can find the questionnaire online at www.exaltowipers.com in the download section. Of course you can also request one by e-mailing us at wipers@exalto.com.

We can also work with your 2D / 3D models to detail the working model.

### **Aftersales Support**

We have an excellent after sales support. Our wiper specialists can provide a comprehensive advice to ensure the system works accurately and to your wishes. Should problems occur with the product, it is always our main priority to solve it quickly and accurately.



Sea Kay

# Exalto H.D. Wiper Motors

## 223-series / small & medium windows



These Heavy Duty wiper motors are so called "open" motors. They can cover small and medium sized windows up to 1100 mm (43") in height in demanding weather conditions.

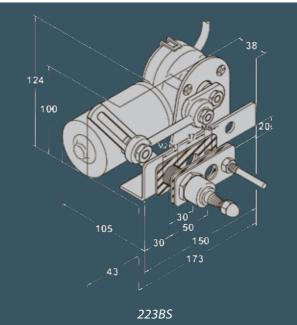
The main difference between the BS and the BD/BDS models is the way the wiping arc is adjusted. If you already know which wiping arc must be installed, we can preset it for you on the 223BD/BDS models. The 223BS has a steplessly adjustable wiping arc.

The 223BDS is the same motor as the 223BD, but has only one shaft.

For the 223BD/BDS an optional cover in black or white is available to protect the motor and keep all moving parts out of reach.



223BD & 223BDS



223BD

Type 223BDS has the same dimensions, but only one shaft. Therefore this wiper needs pendulum arms. All other wipers can have pantograph PU arms.

**PU Arms** 

For these wiper motors (except for 223BDS) the the pantograph Exalto PU arms are designed. They are made of stainless steel 316 and have brass attachment heads. You can easily adjust the spring pressure on the window and the arms can be placed in fixed position away from the windshield (toggle back feature). This makes it easier to mount the arms, replace the blades or clean the window. The position of the blade in relation to the window configuration can be adjusted by means of a swiveling blade clip.

The PU arms are available with one or two adjustable springs. A black coating is applied to prevent reflection. The PU arms are also available in high polished stainless steel.

The pantograph PU arms are available in three adjustable lengths. They can handle blades with a length between 300 and 800 mm.

Technical specs	223BD	223BDS	223BS
Voltage	12 and 24	12 and 24	12 and 24
Torque	23 Nm	23 Nm	23 Nm
Power Consumption	36W	36W	36W
Insulated Earth Return	Optional	Optional	Optional
Negative Earth	Yes	Yes	Yes
Standard Bulkhead Thickness	20, 35, 55, 75 mm	20, 35, 55, 75 mm	20, 35, 55, 75 mm
Max. Arm Length	750 mm	750 mm	750 mm
Max. Blade Length	800 mm	800 mm	800 mm
Two speeds	Yes	Yes	Yes
Self-parking	Yes	Yes	Yes
Wiping Arc 40°-90°	5° increments	5° increments	Stepless
Drive Shaft Sleeve	20 mm	20 mm	20 mm
Idler spindle / sleeve	8 mm	N/A	8 mm
Centre Distance	50 mm	N/A	50 mm
Driven Shaft(s)	Single	Single	Single

# Exalto H.D. Wiper Motors

## 230-series / small & medium windows

### 232BD, 233BD & 235KG

These Heavy Duty wiper motors are "closed" motors for small and medium sized windows up to 1100 mm (43") in height. "Closed" means that all moving parts are covered by means of a durable housing. This makes these models clean, safe and maintenance-free.

The 235KG type is suitable for glass mounting, the others for bulkhead mounting. The main difference between the 232BD and 233BD, is that the 232BD has a stronger torque. So when very heavy weather conditions are suspected, the 232BD will be a better choice, although all wipers perform excellent in rough weather!

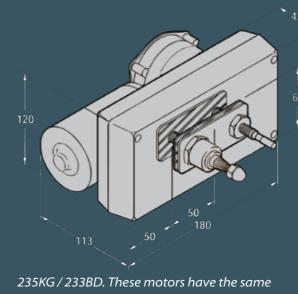
Like all Exalto wipers they have stainless steel 316 shafts, bolts and nuts. The drive shafts run in self-lubricating brass bearings. If the wiping arc is already known when ordering one of these wiper motors, we will be glad to set it for you.

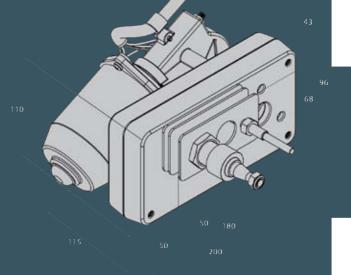


232BD









dimensions.

232BD

### **PU Arms**

Like the 223-series, these wiper motors also need the Exalto PU arms. With these stainless steel 316 arms, you can easily adjust the spring pressure on the window. The arms can be placed in fixed position away from the windshield. This makes it easier to mount the arms, replace the blades or clean the window.

The PU arms have one or two adjustable springs and a black coating for durable finish. The PU arms are also available in high polished stainless steel.

The pantograph arms are available in three adjustable lengths. Please, note that the glass mounted 235KG can drive arms with a maximum length of 450 mm, where the bulkhead mounted 232BD and 233BD can drive arms with a maximum length of 750 mm.



# Exalto H.D. Wiper Motors

For large windows

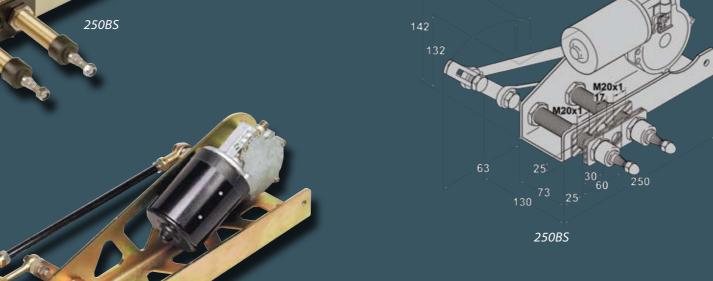
### 250BS & 280BS

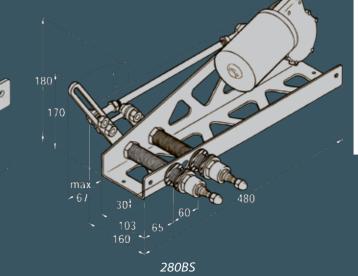
These strong wiper motors are the premier systems for windows larger than 1100 mm (43") in height. They can easily drive robust wiper arms and blades and endure the rough weather conditions at sea. Adjustable pantograph arms and wiping arcs give customized coverage.

The 250BS can power arms up to 1000 mm with 1200 mm blades. His big brother, the 280BS, is the strongest of all Exalto H.D. wipers. It can power arms up to 1500 mm in length in combination with blades of 1200 mm maximum. This means that windows up to 2100 mm in height are cleared without any trouble!

Both motors have stainless steel 316 shafts, bolts and nuts. The two driven shafts run in self-lubricating bronze bearings. Like all Exalto H.D. wipers they feature two speeds and are self-parking as standard fitting.

P 3	-9-	
Technical specs	250BS	280BS
Voltage	12 and 24	24
Torque	50 Nm	80 Nm
Power Consumption	30W	95W
Insulated Earth Return	Yes	Optional
Negative Earth	No	Yes
Standard Bulkhead Thickness	35, 65 mm	25 mm
Max. Arm Length	1000 mm	1500 mm
Max. Blade Length	1200 mm	1200 mm
Two speeds	Yes	Yes
Self-parking	Yes	Yes
Wiping Arc 40°-90°	Stepless	Stepless
Drive Shaft Sleeve	20 mm	27 mm
Idler spindle / sleeve	20 mm	27 mm
Centre Distance	60 mm	60 mm
Driven Shaft(s)	Dual	Dual
Compatible arms	P10	P12





#### P10 and P12 Arms

Exalto has designed special pantograph arms for these two motors. The P10 arms suit wiper motor 250BS. They are available in two types: for blades from 300 to 800 mm and for blades from 900 to 1200 mm. The arms are adjustable in length, with a minimum length of 750 mm and a maximum length of 1000 mm.

The P10 arms are available with two fixed or two adjustable springs. A black coating is applied on the arms to prevent reflection. The P10 arms with fixed springs can be folded back and are also available in high polished stainless steel.

For the 280BS, the P12 arms are designed. They can be supplied in any required fixed length, with a maximum of 1500 mm. These black coated arms have two adjustable springs.

Both P10 and P12 arms are made of stainless steel 316 and have brass attachment heads. With the swiveling blade clip you can easily adjust the position of the blade in relation to the window configuration.

For both models we advice the use of Exalto H.D. blades.

# **Blades**

## Standard and Heavy Duty Blades

### High performance

For Exalto H.D. wiper motors standard and heavy duty (H.D.) blades are available. The H.D. blades have a lower profile than the standard blades and they have a reduced lift. This makes them perfect for applications where a little more pressure is required.

The Heavy Duty blades are also more screenfriendly, due to the use of plastic lower bridges. In case of damaged rubber, these plastic bridges will not damage the screen.

All Exalto blades are manufactured of stainless steel 316. To prevent reflection, a black polyester epoxy coating is applied on all metal parts. The H.D. blades are also available in a high polished stainless steel variant.

The standard blades are available from 250 mm in length, in 50 mm increments and a maximum length of 800 mm. The H.D. blades start with a length of 610 mm and especially for the 250BS and 280BS they are available up to a length of 1200 mm.

Standard Blade

H.D. blade

Polished H.D. Blade

## Improving Visibility

To always keep a clear view, a washing system is necessary. It improves your vision through the window and the function of the wiper blades. We offer a great variety of washing systems. Exalto washing jets can be fitted to the wiper arm or directly to the deck or bulkhead. When using an Exalto wiper control or switch, the wipe / wash feature can be controlled by the control or switch.

### Reservoirs and Solenoid Valves

You can use the on-board pressurized fresh water system. Then you will only need a solenoid valve that will open the water flow when it gets the signal to do so from a wiper control.

If you don't have a pressurized water system, water can be supplied from a reservoir. For vessels operating in freezing conditions this is

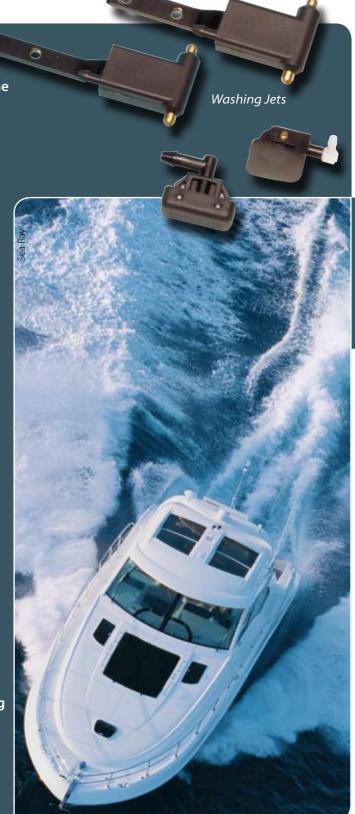
also the best option, because you can easily add anti-freeze to the water. The reservoirs include one or three built-in pumps to supply water from the tank to the window.

### **Fittings and Tubing**

Exalto offers fittings like elbows, T-couplings, bulkhead connectors, etcetera for non-pressurized as well as for pressurized systems.

We also offer different tubings for your washing system.

Our wiper specialists can tell you exactly what washing system suits your application best.



Washing systems

# **Controls & Switches**

## For Exalto H.D. Wipers

### **Easy operation**

To operate your wiper system, we have designed a range of electronic wiper switches and controls. They offer multiple operating speeds, synchronized wiping and self-parking.



Most switches and controls incorporate the smart wipe / wash program. With this program you can clear your windshield with a single touch of a button. The smart function starts the spray of washing fluid, adjusts the operating speed, continues wiping for a few seconds after the spraying has stopped and returns to the speed that was selected before starting the smart wipe / wash program. The switches and controls mentioned on these pages can be connected to all Exalto Heavy Duty wiping systems.

### Electronic Switches

These most basic switches offer two speeds and self-parking. This switch is available in three types. The two speed switch can be

supplied to connect
one or two H.D
wipers to it. The
third type is a
combination
switch for one
wiper, which

incorporate an

adjustable intermittent wipe as an extra option.

### **Micro-controller Based Switches**

The compact, intelligent micro-controller based switches incorporate many operational features. They offer two continuous speeds and

three intermittent levels of two, four and eight seconds delay. LED's indicate the selected mode. The switches feature the smart wipe / wash program and perfect self-parking. The multivolt switches are available for one or two wipers. With the model for operating two wipers, both wipers will run synchronized in each speed setting.



### CT3EX wiper control

This electronic wiper control can operate up to three Exalto H.D. wipers. The wipers can be switched on individually or in any combination, and they run synchronized in each speed setting. The CT3EX provides two continuous speeds and three intermittent levels with two, four and eight seconds delay. Lights indicate the active wipers, the selected speed setting and the smart wipe / wash



program. This wiper control consists of a smart touch panel, relay box and plug-and-play connection cable. A dual station version is also available.



### 210-series Controls

In the 210-series controls are available for operating two, three, four and five wipers. They offer five operating speeds: low, high and three intermittent levels of 2.5, 5 and 10 seconds delay. In each speed setting the selected wipers run synchronized. The controls feature indicator lights for active wipers, speed setting and smart wipe / wash. The control consists of a smart touch panel, relay box and four meters connection cable. Optional a dual station control for maximum three wipers is available.



# Light Duty Wiper Systems

For the Leisure Market

### **Less demanding conditions**

Our Light Duty wiper systems are designed for non-commercial use on small and medium sized windows. When weather conditions are not that demanding, this system is a good and cost effective alternative for our H.D. wipers. With the L.D. wiping systems you can choose between three wiper types, pendulum and pantograph arms, matching wiper blades and a control.

### Wiper Type 008

This basic 12V wiper is suitable for small windows on recreational vessels. It has a wiping arc of 90° and comes complete with a 350 mm pendulum arm and blade.

### 🄼 L.D. Arms

Special arms are designed for the light duty wipers type 009 and 0095. You can choose between the longer, black coated models or the shorter, polished types. Both types are made of stainless steel and available as pantograph and pendulum model. The black coated L.D. arms are stronger than the polished ones, have bronze heads and more adjustability. These wiper arms can take the standard Exalto blades till 600 mm. For the polished arms, special L.D. blades are designed. They are available in three fixed lengths.



## Wiper Type 009 and 0095

These wipers are technical almost identical.
They are available in 12V and 24V, have two
speeds and are self-parking. The wiping arc is

adjustable in 83°, 100°, 110° and 120°. The only difference is the cover on the 0095; it hides all moving parts. These wiper motors are supplied for use with pendulum arms as a standard, but with a special bracket, pantograph arms can also be fitted.



Type 0095







Exalto offers an electronic wiper control for maximum four L.D. wipers. The wipers can be switched in two groups, which can be controlled individually or together. This dual voltage control offers one continuous speed, three-step intermittent wipe and a wipe / wash feature. In the intermittent mode, all wipers run synchronized.

All Exalto H.D. wiper controls are also suitable for the light duty wiper systems.



# Linked Wiper Systems

## **For Commercial Use**

### **Solutions for Wide Windows**

For the commercial market, Exalto has developed the linked wiper systems. Especially for vessels with wide windshields, the type KW is the perfect solution. This system is custommade, so for almost every application a system can be offered. The KW wipers are easy to install, have stainless steel shafts, bolts and nuts and self-lubricating brass bearings.

One KW-wiper can drive four arms maximum. For this linked wiper system special pendulum arms are designed: type E. The stainless steel 316 type E black coated arms are easily adjustable in length. They have a swivelling blade clip, so in self-parking position the blade is parallel to the edge of the glass.





Technical specs	KW2	KW3	KW4
Voltage	12 and 24	12 and 24	24
Torque	23 Nm	50 Nm	80 Nm
Power Consumption	36W	30W	96W
Standard Bulkhead Thickness	20, 35, 55, 75, 100, 125 mm	20, 35, 55, 75, 100, 125 mm	20, 35, 55, 75, 100, 125 mm
Max. Arm Length	600 mm	750 mm	750 mm
Max. Blade Length	700 mm	750 mm	750 mm
Insluated Earth Return	Yes	Yes	Yes
Two speeds	Yes	Yes	Yes
Self-parking	Yes	Yes	Yes
Max. Wiping Arc	100°	100°	100°

# **World Wide Dealers**



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13	Dual station CT3EX	216324.DCP
13	Electronic wiper control for max. 2 HD wipers, 12V	2102012
13	Electronic wiper control for max. 2 HD wipers, 24V	2102024
13	Electronic wiper control for max. 3 HD wipers, 12V	210312
13	Electronic wiper control for max. 3 HD wipers, 24V	210324
13	Electronic wiper control for max. 4 HD wipers, 12V	210412
13	Electronic wiper control for max. 4 HD wipers, 24V	210424
13	Electronic wiper control for max. 5 HD wipers, 12V	210512
13	Electronic wiper control for max. 5 HD wipers, 24V	210524
13	Dual control panel for max. 3 HD wipers, 12V	210312.DCP
13	Dual control panel for max. 3 HD wipers, 24V	210324.DCP
14	LD wiper 009, 25 mm shaft, 12V	211001
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rage	Description	Cat. no.
14	LD wiper 009, 50 mm shaft, 12V	211002
14	LD wiper 009, 25 mm shaft, 24V	211011
14	LD wiper 009, 50 mm shaft, 24V	211012
14	LD wiper 0095, 25 mm shaft, 12V	211021
14	LD wiper 0095, 50 mm shaft, 12V	211022
14	LD wiper 0095, 25 mm shaft, 24V	211031
14	LD wiper 0095, 50 mm shaft, 24V	211032
14	LD wiper 008, 25 mm shaft, 12V	211051
14	Bracket with idler shaft	212220
14	LD pendulum arm polished 270-365 mm	212027
14	LD pantograph arm polished 310-390 mm	212014
14	LD pantograph arm polished 360-450 mm	212016
14	LD blade polished 280 mm	212211
14	LD blade polished 355 mm	212214
14	LD blade polished 406 mm	212216
14	LD pendulum arm black coated 270-640 mm	2107
14	LD pantograph arm black coated 270-640 mm	2108
15	Electronic wiper control for max. 4 LD wipers	210604
16	KW2 linked wiper, 20 mm bulkhead thickness, 12V	2123.02012
16	KW2 linked wiper, 35 mm bulkhead thickness, 12V	2123.02012
16	KW2 linked wiper, 55 mm bulkhead thickness, 12V	2123.05512
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16	KW2 linked wiper, 75 mm bulkhead thickness, 12V	2123.07512
16	KW2 linked wiper, 100 mm bulkhead thickness, 12V	2123.10012
16	KW2 linked wiper, 125 mm bulkhead thickness, 12V	2123.12512
16	KW2 linked wiper, 20 mm bulkhead thickness, 24V	2123.02024
16	KW2 linked wiper, 35 mm bulkhead thickness, 24V	2123.03524
16	KW2 linked wiper, 55 mm bulkhead thickness, 24V	2123.05524
16	KW2 linked wiper, 75 mm bulkhead thickness, 24V	2123.07524
16	KW2 linked wiper, 100 mm bulkhead thickness, 24V	2123.10024
16	KW2 linked wiper, 125 mm bulkhead thickness, 24V	2123.12524
16	KW3 linked wiper, 20 mm bulkhead thickness, 12V	2150.02012
16	KW3 linked wiper, 35 mm bulkhead thickness, 12V	2150.03512
16	KW3 linked wiper, 55 mm bulkhead thickness, 12V	2150.05512
16	KW3 linked wiper, 75 mm bulkhead thickness, 12V	2150.07512
16	KW3 linked wiper, 100 mm bulkhead thickness, 12V	2150.10012
16	KW3 linked wiper, 125 mm bulkhead thickness, 12V	2150.12512
16	KW3 linked wiper, 20 mm bulkhead thickness, 24V	2150.02024
16	KW3 linked wiper, 35 mm bulkhead thickness, 24V	2150.03524
16	KW3 linked wiper, 55 mm bulkhead thickness, 24V	2150.05524
16	KW3 linked wiper, 75 mm bulkhead thickness, 24V	2150.07524
16	KW3 linked wiper, 100 mm bulkhead thickness, 24V	2150.10024
16	KW3 linked wiper, 125 mm bulkhead thickness, 24V	2150.12524
16	KW4 linked wiper, 20 mm bulkhead thickness, 24V	2180.02024
16	KW4 linked wiper, 35 mm bulkhead thickness, 24V	2180.03524
16	KW4 linked wiper, 55 mm bulkhead thickness, 24V	2180.05524
16	KW4 linked wiper, 75 mm bulkhead thickness, 24V	2180.07524
16	KW4 linked wiper, 100 mm bulkhead thickness, 24V	2180.10024
16	KW4 linked wiper, 125 mm bulkhead thickness, 24V	2180.12524

Cat. no.

## Photo credits

Page Description

We want to thank Damen Shipyards, GrandBanks, Griffon Hovercrafts, Sea Ray, Tiara Yachts and Van Lent Shipyard for providing their photos.

# **Example 1** Marine Wipers

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