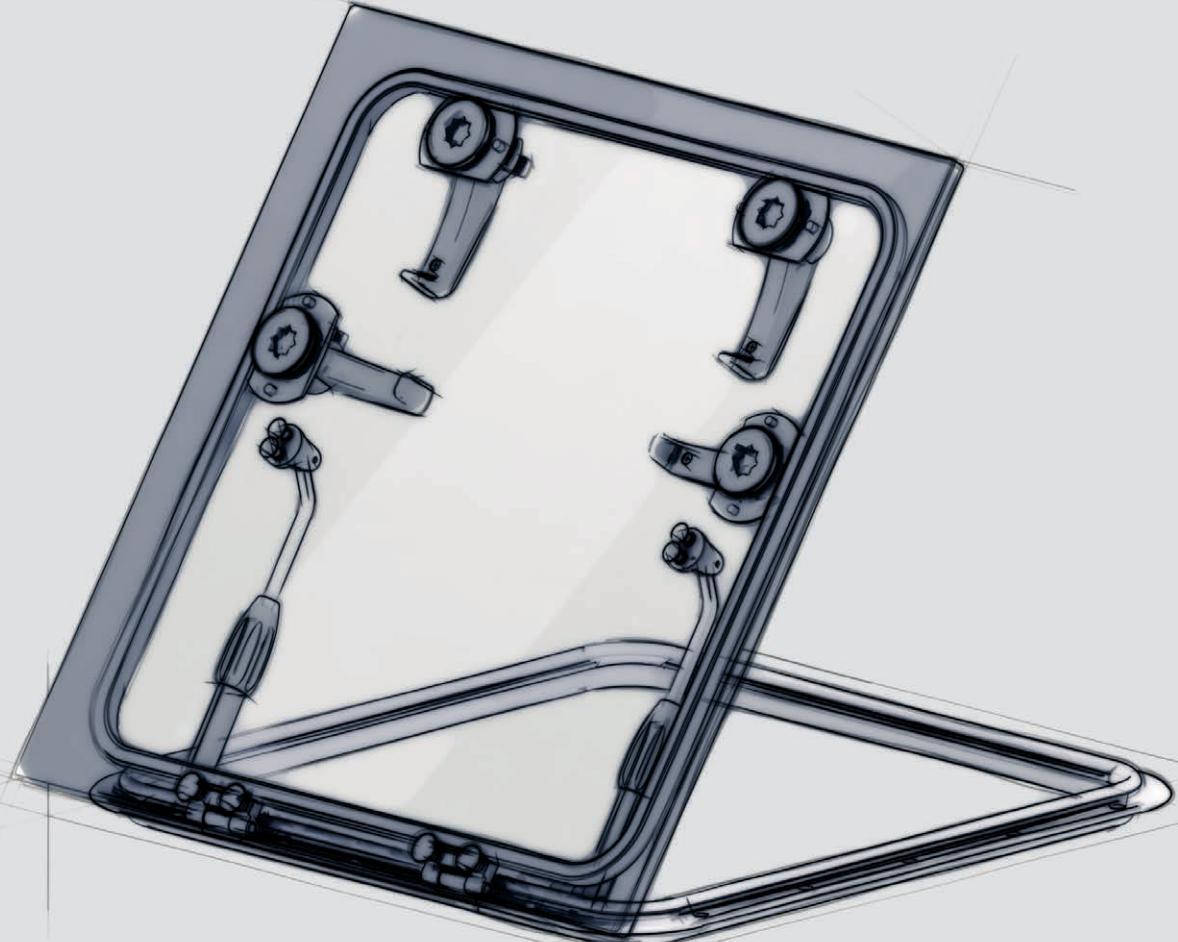




Glazing systems



Glazing systems

Overview

Portholes / Portlights see page 307 - 311



PL



PW



PM



PZ



PA



PX



PMS



PWS



PQ

Escape and ventilation hatches see page 311 - 316



PLA



ALT



LIB



FGH



FGHF



MAG



Escape and ventilation hatches

see page 317

NEW!



LING

Hatch trims with mosquito screen

see page 318



HCM



HMB

Custom made glazing products



FBH

Windscreen wipers, arms and blades



WBB



HDM



ORW12SET

Clear view screens

see page 327



SLR

Accessories

see page 329 - 330



HDS



WPANEL



RWPANEL2

Glazing systems

VETUS has produced glazing products for almost 60 years. Over these years we have gained a huge amount of knowledge and experience, giving us the ability to offer the best quality at the most competitive price. To maintain this leadership position we are constantly monitoring and improving the production processes.

When you need a hatch or porthole in different dimensions than standard, please contact our glazing team.



Why use VETUS glazing products?

- We provide a complete solution to all your marine glazing requests
- Competitive price/quality ratio
- We offer a wide range of standard and custom made windows, portholes and hatches
- All portholes are delivered with a mosquito screen as a standard
- High quality marine wipers featuring a powerful electric motor and separate worm wheel transmission
- Uniform appearance of all glazing components
- All hatches and portholes are CE marked in accordance with the Recreational Craft Directive
- All windows, doors and cabin entries have been tested according to ISO 12216



CE marking

VETUS hatches and portlights are certified and CE marked in accordance with the European Recreational Craft Directive (2013/53/EU). The conformity assessment is based on ISO 12216, which sets specific requirements for components such as hatches and portlights.

- Area I
- Area II
- Area III
- Area IV



For detailed information regarding the location area, please refer to the applicable ISO standard.



Portholes / Portlights

Aluminium portholes / portlights

VETUS offers a wide range of aluminium portholes / portlights in categories AI and AIII. The 10 mm 'smoke' coloured opening pane is set in a satin anodized or a black powder coated aluminium frame. The clamp fixing ensures that no fasteners are visible from either inside or outside. The portholes / portlights can be held open in any position due to the friction type hinges.

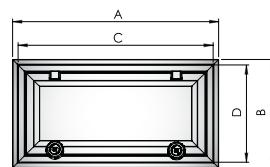
The porthole / portlight can be fitted in a surface with a minimum thickness of 2 mm and a maximum thickness of 18 mm. As standard a mosquito screen is supplied. Replacement knobs (2 pieces) suitable for type PL, PM, PZ, PW and PX (VP000044) available.

The frequent requested options are listed below the porthole types.

Portlight type PL Series (AI)

Ultra-low profile portlights

PL series portlights are so flush that they resemble fritted glass and are suitable to be installed into a variety of materials. Despite their slimness, they are still location area AI CE approved, which means they are usable for all areas listed in the ISO standard! These ultra slim portlights can handle panel thicknesses ranging from 2 up to 20 mm.



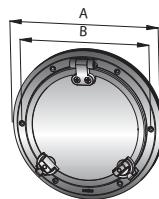
PL

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Replacement mosquito screen
PL711	303 x 156	323 x 176	HOR711
PL721	347 x 171	367 x 191	HOR721
PL731	429 x 171	449 x 191	HOR731
PL741	626 x 171	646 x 191	HOR741
PL751	429 x 244	449 x 264	HOR751

Special order only

Type	Code	Example
Clear anodized	Type code + A	PL711A
Fixed	Type code - 1 + F	PL71F
Clear anodized fixed	Type code - 1 + F + A	PL71FA

Porthole type PW (AI)



PW

Type	Cut-out dimensions B (mm) Ø	External dimensions A (mm) Ø	Replacement mosquito screen
PW201	174	198	HOR2013
PW211	196	220	HOR2113
PW221	236	260	HOR2213

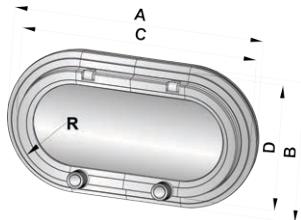
Special order only

Type	Code	Example
Black powder coated	Type code + P	PW201P
Fixed	Type code - 1 + F	PW20F
Black powder coated fixed	Type code - 1 + F + P	PW20FP

Glazing systems

Portholes / Portlights

Portlight type PM (AI)



PM

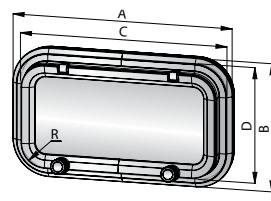
Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Replacement mosquito screen
PM111	220 x 122	244 x 146	61	HOR11
PM121	270 x 148	294 x 172	74	HOR12
PM131	320 x 174	344 x 198	87	HOR13
PM141	338 x 122	362 x 146	61	HOR14
PM151	366 x 196	390 x 220	98	HOR15
PM161	375 x 175	399 x 199	87	HOR16
PM171	598 x 173	622 x 197	86	HOR17

Special order only

Type	Code	Example PM111
Black powder coated	Type code + P	PM111P
Fixed	Type code - 1 + F	PM11F
Black powder coated fixed	Type code - 1 + F + P	PM11FP



Portlight type PZ (AI)



PZ

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Replacement mosquito screen
PZ611	277 x 140	301 x 164	54	HOR61
PZ621	344 x 155	368 x 179	61	HOR62
PZ631	598 x 173	622 x 197	61	HOR63
PZ641	373 x 173	397 x 197	61	HOR64
PZ651	375 x 166	399 x 190	54	HOR65
PZ661	375 x 210	399 x 234	54	HOR66
PZ671	427 x 250	451 x 274	54	HOR67

Special order only

Type	Code	Example PZ611
Black powder coated	Type code + P	PZ611P
Fixed	Type code - 1 + F	PZ61F
Black powder coated fixed	Type code - 1 + F + P	PZ61FP





Portholes / Portlights

Portlight type PA (AIII)

The low profile portlights

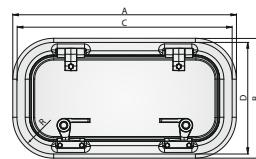
The ergonomic closures are easy to open and close and with the included interior trim you can have the same level of finish as our other products. On the outside the beautiful anodized aluminium frame gives the PA series a premium look and feel, with a slightly different finish compared to other portholes. The portlights come with a stylish 10 mm 'smoke' coloured, unframed opening pane. Fasteners are invisible from inside or outside and the windows are held open by friction type hinges. The portlights are suitable for appliance location Area III.



PA



Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Replacement mosquito screen	Replacement white trim
PA3016	297 x 162	315 x 180	57	WSP00K	WTP00W
PA3517	350 x 175	368 x 193	57	WSP01K	WTP01W
PA4116	407 x 162	425 x 180	57	WSP02K	WTP02W
PA4317	435 x 175	453 x 193	57	WSP03K	WTP03W
PA6317	634 x 175	652 x 193	57	WSP04K	WTP04W



Portlight type PX and PXF (AIII)

Medium duty portlights

These portlights are suitable for use in the coachroof side. They come with a 10 mm 'smoke' coloured, unframed opening pane.



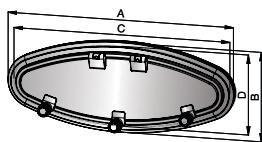
PX



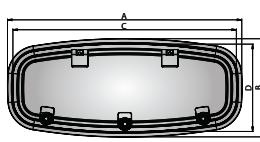
PXF

Special order only

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Replacement mosquito screen	Type	Code	Example PX45
PX45	417 x 155	441 x 179	HOR45	Black powder coated	Type code + P	PX45P
PX46	468 x 172	492 x 196	HOR46	Fixed	Type code + F	PX45F
PX47	520 x 193	544 x 217	HOR47	Black powder coated fixed	Type code + F + P	PX45FP
PXF	498 x 195	522 x 219	HORPXF			



PX



PXF



Glazing systems

Portholes / Portlights

Stainless steel (AISI 316) portholes / portlights

VETUS offers a range of stainless steel (AISI 316) portholes / portlights in categories AI and AII. They come with a stainless steel (AISI 316) inner frame, "smoke" coloured 8 mm acrylic and a mosquito screen.

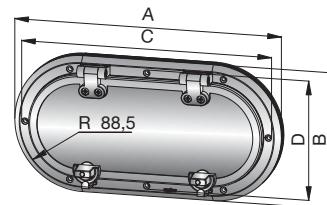
Portlight type PMS (AI)

These AISI 316 portlights are suitable for a panel thickness from 3 up to 18 mm. Screws for different wall thicknesses can be ordered separately. Comes with an anodised aluminium mosquito screen as standard.



PMS

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Replacement mosquito screen
PMS23A1	322 x 177	346 x 199	HOR23S



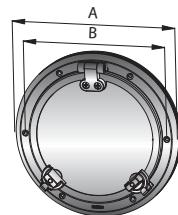
Porthole type PWS (AI)

These portholes (AISI 316) are suitable for a panel thickness from 3 up to 18 mm. Screws for different wall thicknesses can be ordered separately. Comes with an anodised aluminium mosquito screen as standard.



PWS

Type	Cut-out dimensions B (mm) Ø	External dimensions A (mm) Ø	Replacement mosquito screen
PWS31A1	198	220	HOR31S
PWS32A1	238	260	HOR32S





Portholes / Portlights

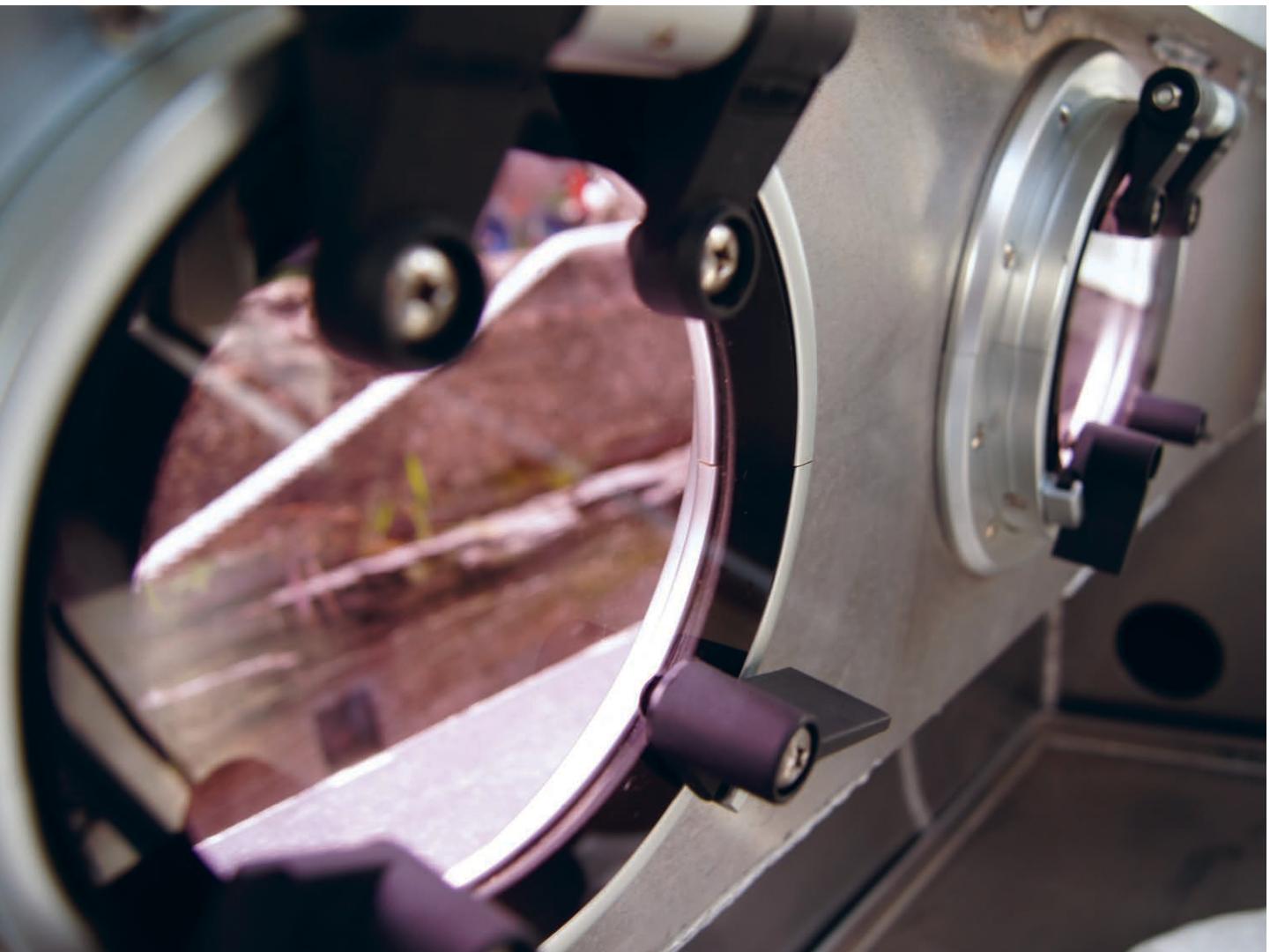
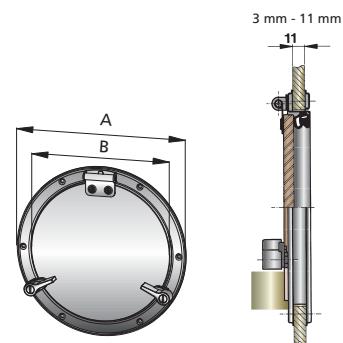
Porthole type PQ (AII)

These (AISI 316) portholes are suitable for a panel thickness from 3 up to 11 mm and include a counter flange.



PQ

Type	Cut-out dimensions B (mm) Ø	External dimensions A (mm) Ø	Replacement mosquito screen
PQ51	126	158	HORPQ51
PQ52	151	184	HORPQ52
PQ53	176	210	HORPQ53



Glazing systems

Escape and ventilation hatches

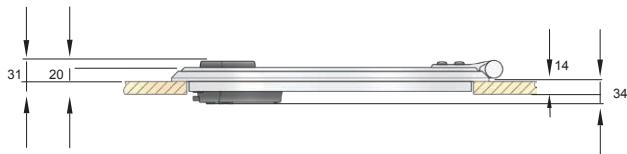
Type PLANUS (AII)

Stylish budget model

These hatches have a satin sheen anodised aluminium frame with a 75 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. A friction hinge allows the hatch to remain open at any angle up to 180°. Type PLANUS is suitable for appliance location Area AII.



PLA



Escape hatches

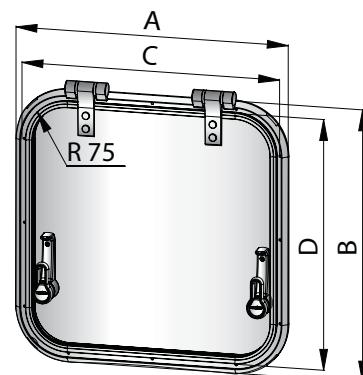
Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
PLA50L	471 x 471	521 x 521	2
PLA45L	424 x 424	474 x 474	2

Deck hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
PLA40L	374 x 374	424 x 424	2
PLA32L	424 x 294	474 x 344	2

Ventilation hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
PLA34L	340 x 210	390 x 260	1
PLA30L	300 x 230	350 x 280	1
PLA23L	230 x 230	280 x 280	1



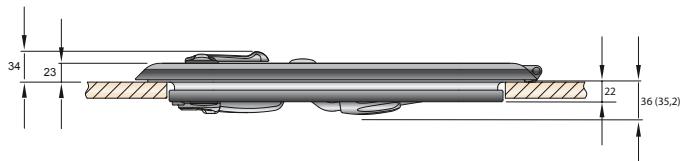


Escape and ventilation hatches

Type ALTUS (AII)

One of the best midrange hatch

ALTUS is made of a sturdy aluminium profile (height 21 mm) with a satin sheen anodised frame and is suitable for appliance location Area II. The acrylic has a thickness of 10 mm and is 'dark smoke' coloured. These hatches come with adjusters which are stylish and easy to operate, allowing the lid to be held open at almost any angle up to 90°. Type ALTUS can be fitted on deck and opened from the inside or outside. It has a ventilation position and can be locked completely watertight.



ALT

Escape hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Model	Number of handles
ALT6363SL	627 x 627	701 x 701	1	2
ALT5151SL	507 x 507	581 x 581	1	2
ALT4747SL	470 x 470	544 x 544	1	2
ALTR520SL	Ø 518	Ø 592	3	2

Deck hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Model	Number of handles
ALT4242SL	421 x 421	495 x 495	1	2
ALT5038SL	507 x 377	581 x 451	1	2
ALT4633SL	457 x 327	531 x 401	1	2
ALTR420SL	Ø 417	Ø 491	3	2

Ventilation hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Model	Number of handles
ALT2626SL	260 x 260	334 x 334	1	1
ALA3520L	347 x 202	421 x 276	1	1

Trapezium hatch

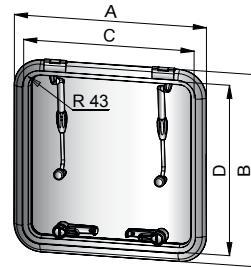
Type	Cut-out dimensions C x D x F (mm)	External dimensions A x B x E (mm)	Model	Number of handles
ALA46TL	464 x 607 x 378	543 x 681 x 447	4	2

Trapezium hatch special order

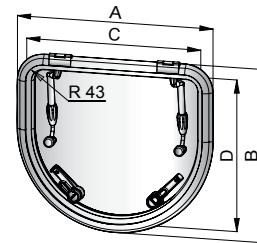
Type	Cut-out dimensions C x D x F (mm)	External dimensions A x B x E (mm)	Model	Number of handles
ALA41TL	434 x 528 x 362	513 x 602 x 431	4	2
ALA56TL	557 x 588 x 436	636 x 659 x 500	4	2
ALA80TL*	804 x 644 x 497	898 x 718 x 500	4	2

* Black powder coated

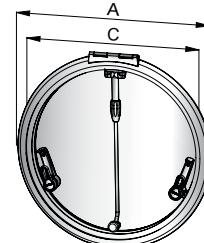
Model 1



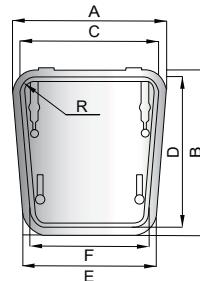
Model 2



Model 3



Model 4



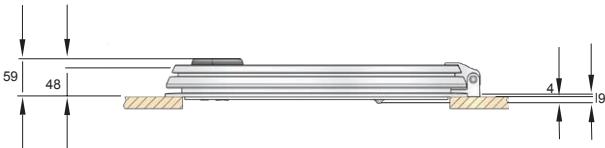
Glazing systems

Escape and ventilation hatches

Type LIBERO (AII)

The classic

These hatches have a hand polished and anodised aluminium frame with a 32 or 55 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. The escape and deck hatches come with adjusters allowing the lid to be held open at almost any angle up to 90°. A special friction hinge allows the ventilation hatches to remain open at any angle up to 180°. Type LIBERO is suitable for appliance location Area II.



LIB

Escape hatches with adjusters up to 90°

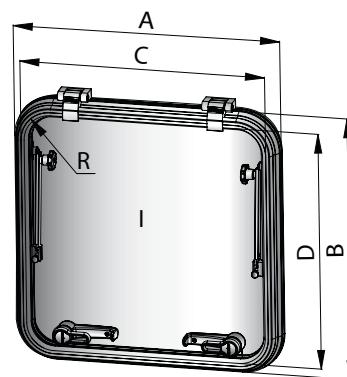
Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Number of handles
LIB6232L	620 x 620	680 x 680	32	2
LIB6255L	620 x 620	680 x 680	55	2
LIB5032L	500 x 500	560 x 560	32	2
LIB5055L	500 x 500	560 x 560	55	2

Deck hatches with adjusters up to 90°

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Number of handles
LIB3732L	500 x 370	560 x 430	32	2
LIB3755L	500 x 370	560 x 430	55	2
LIB3232L	450 x 320	510 x 380	32	2
LIB3255L	450 x 320	510 x 380	55	2
LIB4155L	410 x 410	470 x 470	55	2

Ventilation hatches with friction hinge up to 180°

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Cut-out radius R (mm)	Number of handles
LIB3432L	340 x 195	400 x 255	32	1
LIB2032L	200 x 200	260 x 260	32	1



Different colors available. Consult your VETUS dealer.



Escape and ventilation hatches

FGH(F) Series (AII)

Stylish flush hatches

The FGH and the FGHF are specifically designed for new boats. Both are suitable for new builds because the need of a recess in the deck. After fitting the FGH(F), the hatch is completely recessed into the deck creating a smooth and flush look.

The FGHF differs from the FGH by its fully flush bolts and handles. Larger sizes FGHF hatches are equipped with a socket in the handle, so they can be opened from the outside with the help of a winch handle.

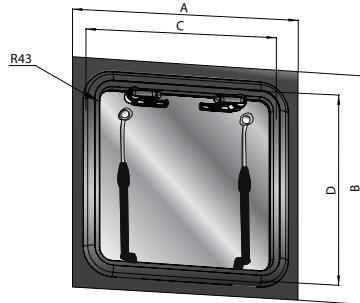
Type FGH (appliance location area AII) hatch is available in six sizes, while the fully flush type FGHF (also location Area II) hatch is available in four sizes. Both FGH and FGHF are made of 12 mm thick 'dark smoke' acrylic with a maintenance-free polished and anodised aluminium frame.

FGH Escape hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
FGH6363	627 x 627	700 x 700	5
FGH5151	507 x 507	580 x 580	4
FGH4633	457 x 327	527 x 397	2
FGH5139	507 x 392	580 x 465	2

FGH Deck hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
FGH2626	260 x 260	330 x 330	1
FGH4444	442 x 442	515 x 515	3



FGHF Deck hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
FGHF2626	260 x 260	330 x 330	1
FGHF4444	442 x 442	515 x 515	3
FGHF5151	507 x 507	580 x 580	4
FGHF6363	627 x 627	700 x 700	5



FGH



FGHF

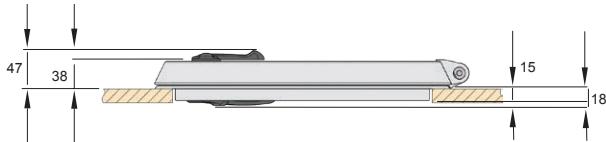
Glazing systems

Escape and ventilation hatches

Type MAGNUS (AI)

Heavy duty ocean hatch

MAGNUS hatches have a satin sheen anodised frame profile with a 10 mm thick 'dark smoke' coloured acrylic and are designed for ocean use, appliance location area AI. Because of the friction hinges, these hatches can remain open at any angle up to 180°. They have a ventilation position and can be locked completely watertight from the inside and outside.



MAG



Escape hatches

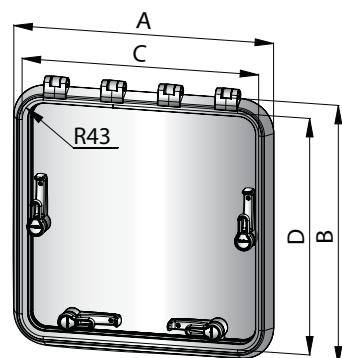
Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
MAG6363SL	627 x 627	679 x 679	4
MAG5151SL	507 x 507	559 x 559	4
MAG4747SL	470 x 470	522 x 522	4

Deck hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
MAG4242SL	421 x 421	473 x 473	2
MAG5038SL	507 x 377	559 x 429	2
MAG4633SL	457 x 327	509 x 379	2

Ventilation hatches

Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	Number of handles
MAG2626SL	260 x 260	312 x 312	1
MAA3520L	347 x 202	399 x 254	2



VETUS strongly advises against using MAGNUS hatches as an AI escape hatch in the underside of a multihull. Due to the flexible nature of these type of vessels, water tightness cannot be guaranteed unless the hatch is installed on a flat and rigid structure.

Different colors available. Consult your VETUS dealer.



Escape and ventilation hatches

NEW!

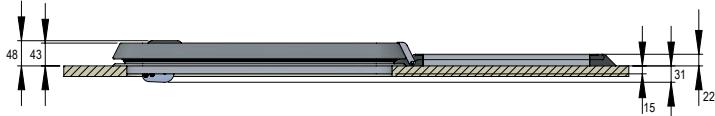
Sliding hatch type LINGUA (AII a)

With this new VETUS sliding hatch, you approach the ultimate convertible feeling. These aluminium sliding hatches are available in four sizes up to a size of 720 x 770 mm.

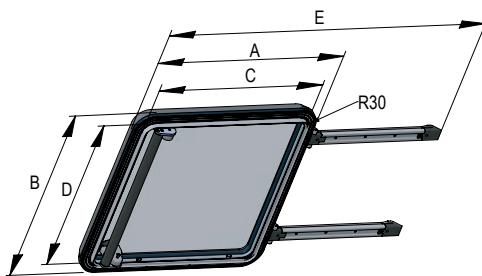
They are designed for use on the wheelhouse and ensuring ventilation and light entry. The "dark smoke" coloured acrylic has a thickness of 10 mm and is located in a black anodized frame. The operation is done by a single bar. Type LINGUA is suitable for appliance location Area II a.



LING



Type	Cut-out dimensions C x D (mm)	External dimensions A x B (mm)	E (mm)
LING7277	720 x 770	773 x 823	1388
LING6060	600 x 600	653 x 653	1148
LING5670	560 x 700	613 x 753	1068
LING5050	501 x 501	554 x 554	950



Glazing systems

Hatch trims

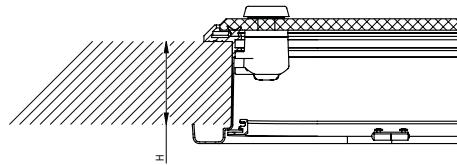
Type HCM - Hatch trims with mosquito screen

Neat finish and protection against insects

The complete range of hatches can be supplied with an adjustable depth trim complete with mosquito screen. These white synthetic trims are designed to cover the space between the hatch and the headlining inside the boat. The depth of the flange can be cut to size to suit the thickness of the deck. An integral and hinged mosquito screen is included.

Type	Hatch	Type	Hatches			Type	Hatch	Type	Hatch
HCM23	PLA23L	HCM2626	MAG2626SL	ALT2626SL	FGH(F)2626	HCMD420	ALTD420SL	HCM2020	LIB2032L
HCM30	PLA30L	HCM4242	MAG4242SL	ALT4242SL		HCMD520	ALTD520SL	HCM3420	LIB3432L
HCM32	PLA32L	HCM4444			FGH(F)4444	HCMR420	ALTR420SL	HCM4141	LIB4155L
HCM34	PLA34L	HCM4633	MAG4633SL	ALT4633SL	FGH4633	HCMR520	ALTR520SL	HCM4532	LIB3255L
HCM40	PLA40L	HCM4747	MAG4747SL	ALT4747SL				HCM5037	LIB3755L
HCM45	PLA45L	HCM5038	MAG5038SL	ALT5038SL				HCM5050	LIB5055L
HCM50	PLA50L	HCM5139			FGH5139			HCM6262	LIB6255L
		HCM5151	MAG5151SL	ALT5151SL	FGH(F)5151				
		HCM6363	MAG6363SL	ALT6363SL	FGH(F)6363				

Deck thickness H (mm)
PLANUS 40 - 64
ALTUS 44 - 72
FGH(F) 78 - 105
MAGNUS 24 - 65
LIBERO 15 - 54



HCM

Type HMB - Roller blind/mosquito screen

Swipe to your ideal cabin condition

The HMB is a mosquito screen and roller blind in-one. Designed to go unnoticed on your hatch and fitted with an easily adjustable spring to manually reset the tension of the screens. Suitable for the hatches mentioned in the overview.

Type	Suitable for hatch
HMB2626	ALT2626SL / MAG2626SL / FGH(F)2626
HMB4242	ALT4242SL / MAG4242SL
HMB4444	FGH(F)4444
HMB4633	ALT4633SL / MAG4633SL / FGH4633
HMB5038	ALT5038SL / MAG5038SL
HMB5139	FGH5139





Custom-made boat glazing

MAREX

Marex is a brand long associated with high-quality, custom made marine glazing products. The aluminium frames withstand a 1000-hour salt spray test without any observable damage. In addition, verification tests, according to ISO 12216, Design Category A and Area IIa, were performed on samples of each window type during the design process. This all ensures that your glazing will look like new for a long time.

To meet your needs, we offer three different window profiles: screw-on, comfort and exclusive. In addition we can provide cabin entries and doors. All products are made to measure.

The following frame finishes are available: Clear anodised, powder coated in black (RAL 9005) or white (RAL 9010). Other colours are available on special order.

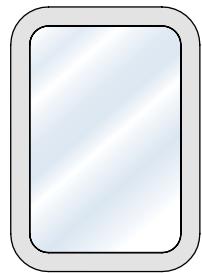
Sliding and half drop type windows can be provided with a mosquito screen.



Supplied with a strip to cover the screws.

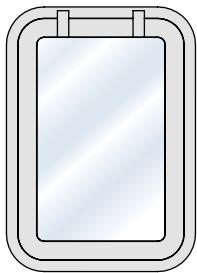


Exclusive double glass
Comfort single glass and
double glass
Screw-on single glass
Fritted glass



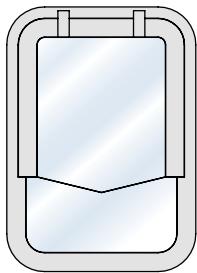
FIXED

Exclusive double glass
Comfort single glass and
double glass
Screw-on single glass



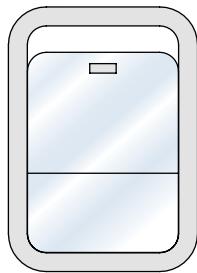
HINGED

Comfort single glass



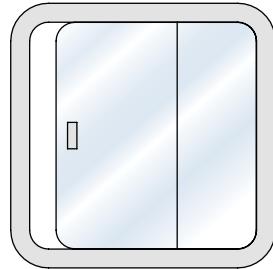
HALF HINGED

Comfort single glass
Screw-on single glass



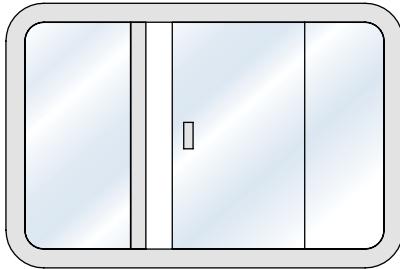
HALF DROP

Screw-on single glass
Comfort single glass



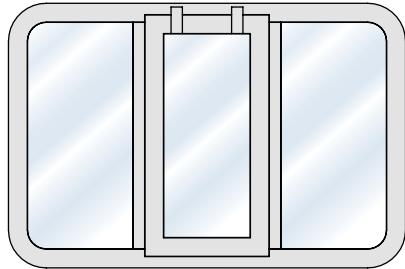
SLIDING

Screw-on single glass
Comfort single glass



COMBINATION FIXED/SLIDING

Comfort single and double glass
Exclusive double glass



COMBINATION FIXED/HINGED

Glazing systems

Custom made boat glazing

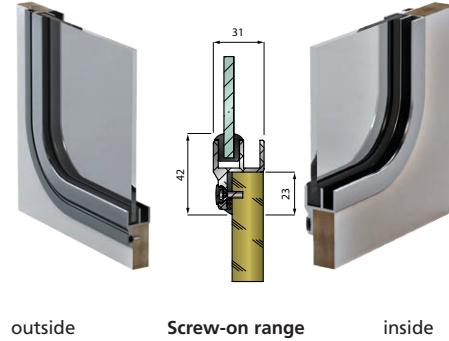
MAREX



Screw-on range

Specifications

- Particularly suitable for wooden superstructures
- Suitable for all panel thicknesses
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Glass thickness: 6 mm or 8 mm



Cover strip

outside

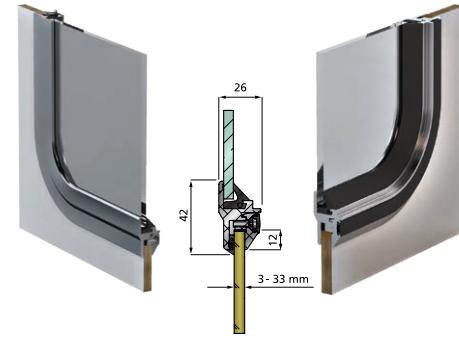
Screw-on range

inside

Comfort range

Specifications

- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses between 3 and 33 mm (fixed glass), 3 and 37 mm (sliding glass) or 3 and 42 mm (double glass)
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Available glass thicknesses: 6, 8 and 10 mm for single glass or combined for double glass



Cover strip

outside

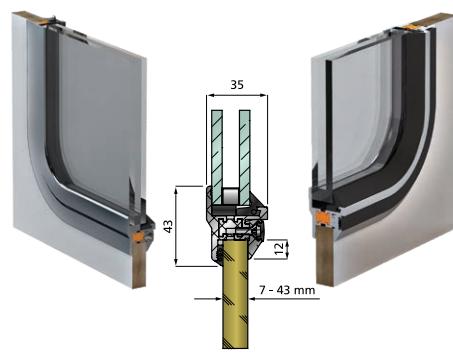
Comfort range

inside

Exclusive range

Specifications

- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses of 7 to 43 mm
- Supplied with a black, white or grey strip to cover the screws and a seal for fitting
- To prevent condensation on the inside glass pane and window frame, the Exclusive range has an insulation bridge thermal break between the inner and outer frames
- Available as fixed or fully hinged versions with double glass only
- With corner radii (75*, 90 or 105 mm) or mitred corners
- Available glass thicknesses (6, 8 and 10 mm) can be combined for the double glass. The standard is two panes, each 6 mm thick



outside

Exclusive range

inside

*Except hinged windows

Cover strip



Custom made boat glazing

MAREX

Hopper Windows

Fresh air without a catch

These round windows with removable double glazed panes are designed with canal boats in mind, that are particularly cozy, with almost no room to spare. The round design of the hopper blends in perfectly with the trusted look of authentic canal boats.

Available in two diameters of 380 mm or 459 mm, our double glazed hopper porthole is easy to clean and provides an unimpeded view. Ergonomic clamps press the window firmly into the rubber seal, making it suitable for design Area III locations.

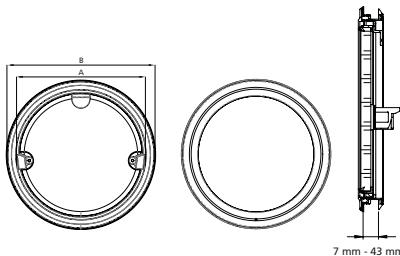
Features

- Polished and anodised aluminum frame with thermal break
- Sturdy aluminium tab at the top of the glass panel can be used to wall-mount it
- Easy to clean and maintenance-free design
- Suitable for design AIII locations

Type	Description	A Cut-out dimensions (mm)	B External dimensions (mm)
HOP380	Round 380 mm double glass hopper with anodised aluminium frame and rubber seal	Ø 380	Ø 410
HOP459	Round 459 mm double glass hopper with anodised aluminium frame and rubber seal	Ø 459	Ø 489



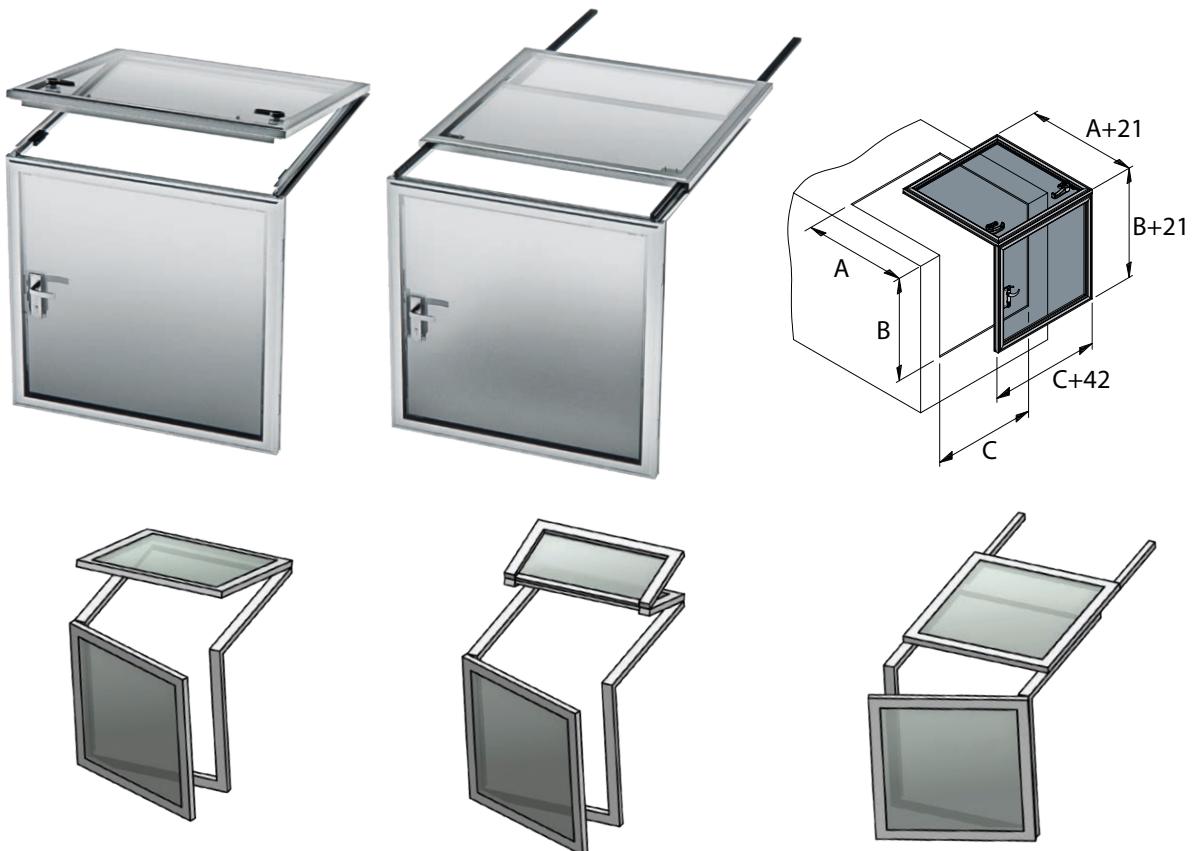
HOP



Cabin entries

Made to your dimensions

Both the hinged door and the top cover (hinged or sliding) are made to order to your required dimensions. The cabin entries can also be supplied without a door and the doors can be ordered without a hatch. Max. size 1500 x 1000 mm per part (A or B x C).



Glazing systems

Custom made boat glazing

MAREX

Sliding cabin entry

Easy sliding!

Equipped with bearing runners this single unit cabin entry opens and shuts very easily. In order to keep the sliding door in its open position an end-lock is mounted. Available with mitred corners, acrylic pane and angles from 90-180 degrees.

All cabin entries are suitable for appliance location area AIV.



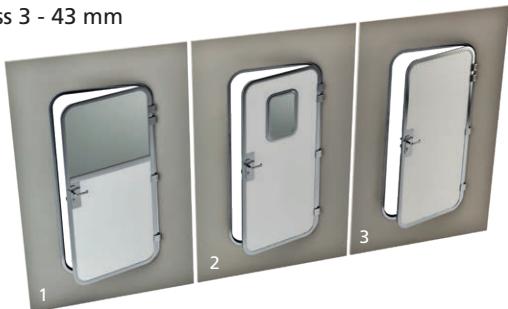
Hinged doors

For boating in heavy weather, these hinged doors are fitted with a double seal for protection against flooding. The doors upper section can be double glazed (picture 1), with an aluminium framed window with single or double glass (picture 2) or just white honeycomb panel (picture 3). Available with mitred or rounded corners.

All doors are suitable for appliance location area AIII.

Specifications

- Corner radius 130 mm
- Door thickness 20 mm
- Panel thickness 3 - 43 mm



Type FBH - Fly Bridge Hatch

Slim and sleek design

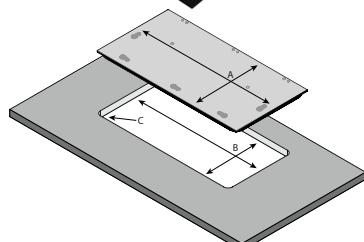
To cover the opening between the deck and fly bridge we offer you: the FBH (Fly Bridge Hatch). The slim and sleek design of the FBH fits perfectly on modern type boats. This FBH can be tailor-made up to 630 mm width and 1300 mm long and features 12 mm dark smoke acrylic on a polished and anodised aluminium frame. With style and flair it merges flawlessly on the fly bridge of your vessel.

Specifications

- Privacy tinted fly bridge hatch
- 12 mm thick 'dark smoke' acrylic
- Polished and anodised high grade aluminium frame
- Ergonomic and precision engineered handles
- Hatches are available in both rectangular and square shapes
- Easy to clean and maintenance-free design
- Suitable for appliance location area AII



FBH



Type	Cut-out dimensions B (mm)	External dimensions A (mm)	Radius C (mm)
FBH	up to 630 x 1300	up to 703 x 1373	43



Custom made boat glazing

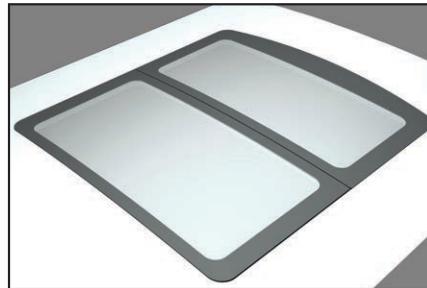
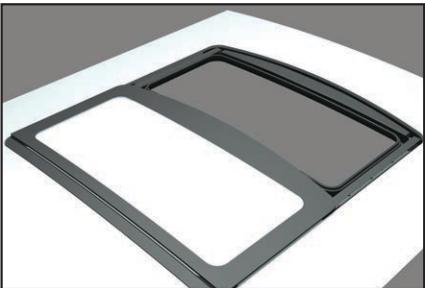
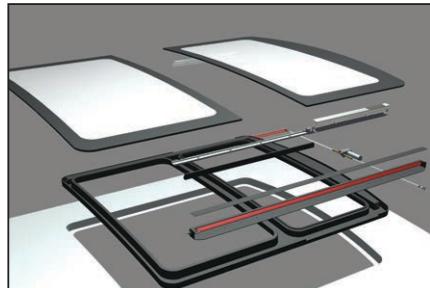
MAREX

Flush Panoramic Sunroof

Ultimate benefits of a solid glass roof

Our panoramic sunroof is produced using the latest state-of-the-art techniques, components and materials, operating both silently and smoothly.

You can enjoy the sun and the ocean breeze by opening the panoramic roof (measuring 2000 x 2150 mm) or keep the weather out by simply closing it.



Model	Flush Panoramic Sunroof
Outside dimensions	2000 x 2150 mm
Roof radius	12 m
Weight (excl. glass)	85 kg
Weight (incl. glass)	175 kg
Voltage	230 V / 260 W



Glazing systems

Windscreen wiper, arms and blades

Windscreen wiper motor type RW and DIN

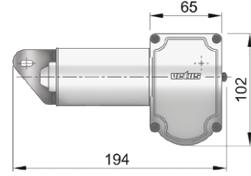
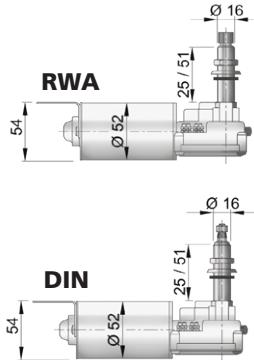
Ideal wiping for almost any window shape and size

These high quality marine windscreen wipers feature a powerful but quiet two speed electric motor and a worm gear transmission. The wiping angle can be adjusted to eight different settings. Type RW has a parallel, knurled connection. Type DIN has a tapered and knurled connection with a securing nut providing a stronger connection between the wiper arm and the motor drive shaft resulting in a longer life span for both parts. Both types are self-parking and meet the EMC requirements.

Specifications

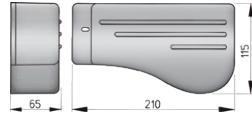
- Available for 12 or 24 VDC supply
- Output 30 Watt
- Suitable for panel thickness from 3 to 13 mm (25 mm, short shaft) or 3 to 38 mm (51 mm, long shaft)
- Type RW with parallel knurled stainless steel shaft end of Ø 13,5 mm, 72 teeth
- Type DIN with tapered and knurled stainless steel shaft according to DIN 72783
- Optional: screen washer kit, 3-position switch, protective synthetic cover, control panel

Type	Description
RW01A	Wiper motor 12 VDC, 51 mm shaft with parallel end
RW02A	Wiper motor 24 VDC, 51 mm shaft with parallel end
RW08A	Wiper motor 12 VDC, 25 mm shaft with parallel end
RW09A	Wiper motor 24 VDC, 25 mm shaft with parallel end
DIN1250	Wiper motor 12 VDC, 51 mm shaft with DIN tapered end
DIN2450	Wiper motor 24 VDC, 51 mm shaft with DIN tapered end
DIN1225	Wiper motor 12 VDC, 25 mm shaft with DIN tapered end
DIN2425	Wiper motor 24 VDC, 25 mm shaft with DIN tapered end



Synthetic cover for wiper type RW and DIN

By installing the synthetic cover, you will reduce the maximum indicated panel thickness by 3 mm, complete with bottom plate.

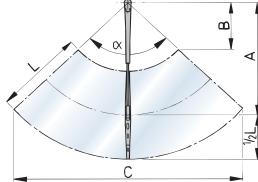


RWCG



How to choose wiper arms and blades (single arm)

When ordering: the voltage, shaft length and shaft end type must be stated. The table below shows the required wiping angle for almost any window. Wiper arms and blades should be ordered separately (see page 326).



Single arm adjustable from 280 mm to 366 mm

	L: 305		L: 410		L: 508	
α°	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 280	366	280	366	280	366
	B: 120	201	70	151	24	105
	C: 296	355	332	391	365	424
50	A: 280	366	280	366	280	366
	B: 116	193	68	146	24	102
	C: 366	438	410	483	451	524
60	A: 280	366	280	366	280	366
	B: 110	185	65	139	24	97
	C: 433	519	485	571	534	620
70	A: 280	366	280	366	280	366
	B: 104	175	61	132	23	92
	C: 496	595	556	655	613	711
80	A: 280	366	280	366	280	366
	B: 98	164	57	123	20	86
	C: 556	667	624	734	686	797
90	A: 280	366	280	366	280	366
	B: 90	151	53	114	18	79
	C: 612	733	686	808	755	877
100	A: 280	366	280	366	280	366
	B: 82	137	48	103	17	62
	C: 663	794	743	875	818	925
110	A: 280	366	280	366	280	318
	B: 73	122	43	92	15	37
	C: 709	849	795	935	875	937

Single arm adjustable from 395 mm to 481 mm

	L: 305		L: 410		L: 508	
α°	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 395	481	395	481	395	481
	B: 228	309	179	259	132	213
	C: 375	433	410	469	444	503
50	A: 395	481	395	481	395	481
	B: 220	298	172	250	128	206
	C: 463	535	507	580	549	621
60	A: 395	481	395	481	395	481
	B: 210	284	165	239	122	197
	C: 548	634	600	686	649	735
70	A: 395	481	395	481	395	481
	B: 199	269	156	226	116	186
	C: 628	727	688	787	745	843
80	A: 395	481	395	481	395	481
	B: 186	252	146	211	108	140
	C: 704	814	771	882	834	888
90	A: 395	481	395	481	395	481
	B: 171	232	134	195		
	C: 774	896	849	970		
100	A: 395	481	395	434		
	B: 156	211	122	147		
	C: 839	971	919	979		
110	A: 395	481	395			
	B: 139	188	109			
	C: 897	1038	983			

Single arm adjustable from 473 mm to 559 mm

	L: 305		L: 410		L: 508	
α°	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 473	559	473	559	473	559
	B: 301	382	252	333	206	287
	C: 428	487	464	523	497	556
50	A: 473	559	473	559	473	559
	B: 290	368	243	321	198	276
	C: 529	601	573	646	614	687
60	A: 473	559	473	559	473	559
	B: 278	352	232	307	190	264
	C: 626	712	678	764	727	813
70	A: 473	559	473	559	473	500
	B: 263	333	220	290	179	202
	C: 718	816	778	876	834	865
80	A: 473	559	473	542		
	B: 246	311	205	258		
	C: 804	915	872	960		
90	A: 473	559	473	482		
	B: 227	287	190	196		
	C: 885	1006	959	972		
100	A: 473	559	473	482		
	B: 206	261				
	C: 958	1090				
110	A: 473	530				
	B: 184	217				
	C: 1025	1118				



Windscreen wiper, arms and blades

How to choose wiper arms and blades (dual arm)

When ordering, the voltage, shaft length and shaft end type must be stated. The table below shows the required wiping angle for almost any window. Wiper arms and blades should be ordered separately (see following page).

Dual arm, adjustable from 308 mm to 393 mm 45+

α°	L: 305		L: 410		L: 508	
	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 308	393	308	393	308	393
	B: 182	262	129	209	80	160
	C: 211	269	211	269	211	269
50	A: 308	393	308	393	308	393
	B: 172	249	119	196	70	147
	C: 260	332	260	332	260	332
60	A: 308	393	308	393	308	393
	B: 159	233	107	180	58	131
	C: 308	393	308	393	308	393
70	A: 308	393	308	393	308	393
	B: 145	214	92	162	43	113
	C: 353	451	353	451	353	451
80	A: 308	393	308	393	308	393
	B: 128	194	76	141	27	92
	C: 396	505	396	505	396	505
90	A: 308	393	308	393	308	393
	B: 110	170	58	118	9	66
	C: 436	556	436	556	436	556
100	A: 308	393	308	393	308	393
	B: 90	145	38	93	0	16
	C: 472	602	472	602	498	536
110	A: 308	393	308	393	308	393
	B: 69	118	17	65		
	C: 505	644	505	644		

Dual arm, adjustable from 386 mm to 471 mm 45+

α°	L: 305		L: 410		L: 508	
	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 386	471	386	471	386	471
	B: 255	335	203	283	154	335
	C: 264	322	264	322	264	322
50	A: 386	471	386	471	386	471
	B: 242	319	190	267	141	319
	C: 326	398	326	398	326	398
60	A: 386	471	386	471	386	471
	B: 227	300	174	248	125	300
	C: 386	471	386	471	386	471
70	A: 386	471	386	471	386	471
	B: 209	278	156	226	107	177
	C: 443	540	443	540	443	540
80	A: 386	471	386	471	386	471
	B: 188	253	136	201	87	126
	C: 496	606	496	606	496	562
90	A: 386	471	386	471	386	471
	B: 165	226	113	173	64	66
	C: 546	666	546	666	546	550
100	A: 386	471	386	471	386	471
	B: 141	195	88	119		
	C: 591	722	591	722		
110	A: 386	471	386	471	386	471
	B: 114	163	61	66		
	C: 632	772	632	772		

Dual arm, adjustable from 308 mm to 393 mm 45 -

α°	L: 305		L: 410		L: 508	
	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 308	393	308	393	318	393
	B: 92	172	39	119	0	70
	C: 211	269	211	269	218	269
50	A: 308	393	308	393	330	393
	B: 82	159	29	106	0	57
	C: 260	332	260	332	279	332
60	A: 308	393	308	393	345	393
	B: 69	143	17	90	0	41
	C: 308	393	308	393	345	393
70	A: 308	393	308	393	365	393
	B: 55	124	2	72	0	23
	C: 353	451	353	451	419	451
80	A: 308	393	326	393	390	393
	B: 38	104	0	51	0	2
	C: 396	505	419	505	501	505
90	A: 308	393	354	393		
	B: 20	80	0	28		
	C: 436	556	501	556		
100	A: 308	393	389	393		
	B: 0	55	0	3		
	C: 472	602	596	602		
110	A: 345	393				
	B: 0	28				
	C: 565	644				

Dual arm, adjustable from 386 mm to 471 mm 45 -

α°	L: 305		L: 410		L: 508	
	Min.	Max.	Min.	Max.	Min.	Max.
40	A: 386	471	386	471	386	471
	B: 165	245	113	193	64	144
	C: 264	322	264	322	264	322
50	A: 386	471	386	471	386	471
	B: 152	229	100	177	51	128
	C: 326	398	326	398	326	398
60	A: 386	471	386	471	386	471
	B: 137	210	84	158	35	109
	C: 386	471	386	471	386	471
70	A: 386	471	386	471	386	471
	B: 119	188	66	136	17	87
	C: 443	540	443	540	443	540
80	A: 386	471	386	471	390	437
	B: 98	163	46	111	0	36
	C: 496	606	496	606	501	562
90	A: 386	471	386	471		
	B: 75	136	23	83		
	C: 546	666	546	666		
100	A: 386	471	386	471		
	B: 51	105	0	29		
	C: 591	722	596	665		
110	A: 386	471				
	B: 24	73				
	C: 632	772				

Custom chosen combination - in case of not using the table:

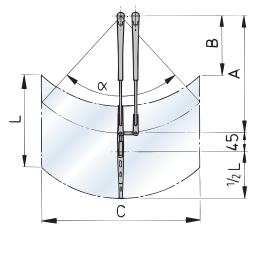
In order to prevent overloading the wiper motor, the right combination of arm length mm x blade length mm x wiping angle in degrees is essential. The result of this multiplication should not exceed 17.800.000.

Example

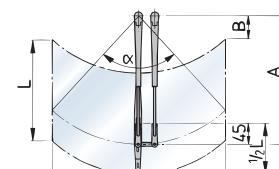
- Blade length = 410 mm
- Arm length = 366 mm
- Wiping angle = 120°

$$410 \times 366 \times 120 = 18.007.200$$

Therefore this combination is not allowed.



Wiper blade fitted to lower bayonet on the arm



Wiper blade fitted to upper bayonet on the arm

Glazing systems

Windscreen wipers

Wiper arm types RWA and DINP

Adjustable single / dual wiper arms

These wiper arms are made of high-gloss polished AISI 316 stainless steel and black components of top-grade synthetic materials. Both types are available in several sizes (see below). All dual wiper arms are supplied with an idle shaft and connection set.

Single wiper

- Sizes: S from 280 to 366 mm / L from 395 to 481 mm / X from 473 to 559 mm
- Bayonet 7,2 x 2,5 mm

Dual wiper

- Sizes: D from 308 to 393 mm / DX from 386 to 471 mm
- Shaft centres 45 mm
- Bayonet 7,2 x 2,5 mm

Type	Arm	Length (mm)	Motor type
RWAS	Black single arm	280 - 366	RW
RWAL	Black single arm	395 - 481	RW
RWAX	Black single arm	473 - 559	RW
RWAD	Black dual arm set	308 - 393	RW
RWADX	Black dual arm set	386 - 471	RW
DINPS	Black single arm	280 - 366	DIN
DINPL	Black single arm	395 - 481	DIN
DINPX	Black single arm	473 - 559	DIN
DINPD	Black dual arm set	308 - 393	DIN
DINPDX	Black dual arm set	386 - 471	DIN



Wiper blade type WBB and WBS

Fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet

The metal parts of these blades are made of AISI 316 stainless steel, either high-gloss polished or black coated. These blades will fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet. They are available in lengths of 305, 410 or 508 mm.

Type	Wiper blade	Finish	Length (mm)
WBB30	Stainless steel	Coated black	305
WBB41	Stainless steel	Coated black	410
WBB51	Stainless steel	Coated black	508
WBS30	Stainless steel	Gloss polished	305
WBS41	Stainless steel	Gloss polished	410
WBS51	Stainless steel	Gloss polished	508



Wiper arm type SSA and DINs

Strong, durable and stylish!

These arms are entirely made of strong and durable high-gloss polished AISI 316 stainless steel. In combination with VETUS polished wiper blades they will enhance the appearance of any boat!

Type	Arm	Length (mm)	Motor type
SSAS	Single arm, stainless steel	280 - 366	RW
SSAL	Single arm, stainless steel	395 - 481	RW
SSAX	Single arm, stainless steel	473 - 559	RW
SSAD	Dual arm set, stainless steel	308 - 393	RW
SSADX	Dual arm set, stainless steel	386 - 471	RW
DINSS	Single arm, stainless steel	280 - 366	DIN
DINSL	Single arm, stainless steel	395 - 481	DIN
DINSX	Single arm, stainless steel	473 - 559	DIN
DINSD	Dual arm set, stainless steel	308 - 393	DIN
DINSDX	Dual arm set, stainless steel	386 - 471	DIN





Windscreen wipers

Wiper type ORW12SET

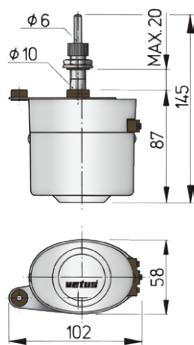
Supplied as a complete set comprising motor, arm and blade

The arm length is adjustable from 280 to 366 mm. The motor is self-parking, has a single speed and a wiping angle of 80° or 110°. The wiper blade is made of black synthetic and also fits other makes of wiper arms with a 7,2 x 2,5 mm bayonet. Type ORW12SET meets all the EMC requirements.

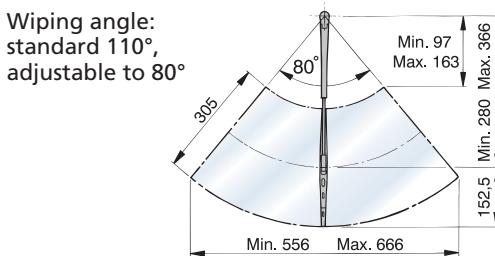
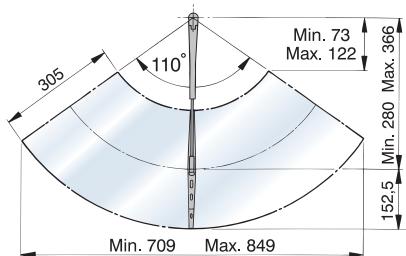
Specifications

- Available for 12 VDC
- Max. current consumption 2A
- Max. panel thickness 20 mm
- Blade length 305 mm

Type	Description
ORW12SET	Wiper motor set, incl. wiper motor, arm and blade (12 VDC)
WBB30	Replacement wiper blade, stainless steel, coated black
ORW12WA	Replacement wiper arm



ORW12SET



Clear view screens type SLR

Completely clear vision at all times

The centrifugal force caused by the rotating toughened glass, which reaches its maximum revolutions per minute within 25 seconds, instantly clears the screen from rain, snow and spray. Even dirt and salt will not cause any smears. Type SLR is available in two sizes and meets all the EMC requirements.

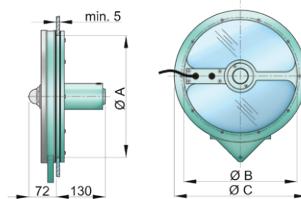
Specifications

- Type 300 (screen Ø 300 mm) / type 350 (screen Ø 350 mm)
- Both types available for 12 or 24 VDC
- Max. current consumption 2,7A (12 VDC) / 1,4A (24 VDC)

Type	Description
SLR30012	Clear view screen Ø 300 mm o.a. 12 VDC
SLR30024	Clear view screen Ø 300 mm o.a. 24 VDC
SLR35012	Clear view screen Ø 350 mm o.a. 12 VDC
SLR35024	Clear view screen Ø 350 mm o.a. 24 VDC



SLR



Dimensions			
Type	Cut-out Ø A (mm)	Ø B (mm)	Ø C (mm)
Type 300	275	250	300
Type 350	326	300	350

Glazing systems

Windscreen wipers heavy duty (HDM)

This quiet windscreen wiper is interchangeable with previous models HDM (A, B and C). It has a thermal cut-out which will protect the electric motor in case of excessive operating temperature. Type HDM is self-parking on either side, has two speeds and is available with two different shaft lengths. The wiping angle is fully adjustable between 62° and 92°. To determine the optimum wiping surface of each specific window, please see tables below for detailed specifications. All visible parts of the mechanism are made of stainless steel and meet the EMC requirements.

Specifications

- Available for 12 or 24 VDC
- Power 75 Watt
- Weight (without arm and blade) 2,5 kg

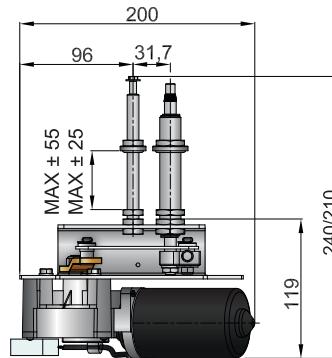
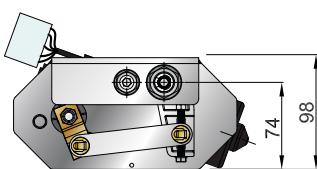


HDM..DS

Short shafts

HDM..DL

Long shafts



HDMCOVER



Type	Description
HDM12DL	Heavy duty wiper motor, long shaft, adjustable wipe angle, 12 VDC
HDM24DL	Heavy duty wiper motor, long shaft, adjustable wipe angle, 24 VDC
HDM12DS	Heavy duty wiper motor, short shaft, adjustable wipe angle, 12 VDC
HDM24DS	Heavy duty wiper motor, short shaft, adjustable wipe angle, 24 VDC
HDMCOVER	Synthetic cover for HDM motors

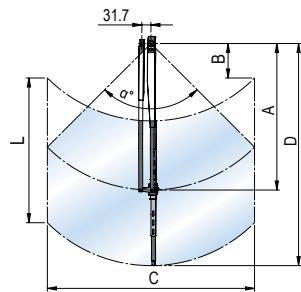
Type	Description	Length (mm)
SHDA400	Stainless steel AISI 316 dual wiper arm	401 - 486
SHDA500	Stainless steel AISI 316 dual wiper arm	508 - 593
SHDA760	Stainless steel AISI 316 dual wiper arm	677 - 762

Wiped areas of heavy duty windscreen wiper assemblies with HDM motors

SHDA760

L: 460 L: 560 L: 660

α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	677	762	677	762	677	762
	B	350	423	300	373	250	323
	C	697	785	697	785	697	785
	D	907	992	957	1042	1007	1092
92	A	677	762	677	762	677	762
	B	240	299	190	249	140	199
	C	974	1096	974	1096	974	1096
	D	907	992	957	1042	1007	1092



SHDA500

L: 460 L: 560 L: 660

α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	508	593	508	593	508	593
	B	205	278	155	228	105	178
	C	523	611	523	611	523	611
	D	738	823	788	873	838	923
92	A	508	593	508	593	508	593
	B	123	182	73	132	23	82
	C	731	853	731	853	731	853
	D	738	823	788	873	838	923

SHDA400

L: 460 L: 560 L: 660

α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	401	486	401	486	401	486
	B	114	187	64	137	14	87
	C	413	501	413	501	413	501
	D	631	716	681	766	731	816
92	A	401	486	401	486	401	486
	B	49	108	-1	58	-51	8
	C	577	699	577	699	577	699
	D	631	716	681	766	731	816



SHDA..



Windscreen wipers

Wiper arms and blades type WB and SHDA

Heavy duty stainless steel wiper arms and blades for wiper motor HDM

These heavy duty wiper arms and blades are made from AISI 316 stainless steel, ensuring a long and trouble free life. They are available in a high gloss polished finish or coated black.

Type	Description	Length (mm)
WBS46H	Wiper blade, made of high-gloss polished stainless steel AISI 316	460
WBS56H	Wiper blade, made of high-gloss polished stainless steel AISI 316	560
WBS66H	Wiper blade, made of high-gloss polished stainless steel AISI 316	660
WBB46H	Wiper blade, made of stainless steel AISI 316, coated black	460
WBB56H	Wiper blade, made of stainless steel AISI 316, coated black	560
WBB66H	Wiper blade, made of stainless steel AISI 316, coated black	660

WBS..H



Accessories

Complete screen washer kit type WWFR

Always a clear view

Type WWFR includes a reservoir with integral pump, tubing with non-return valve, rotary switch and a unique long double spray nozzle to reach over thick windscreens frame profiles and wiper blades. An extension kit (code HDSXTB) consisting of a second double spray nozzle, additional tubing and a T-piece is available and recommended to maintain sufficient flow and pressure.

Specifications

- Available in 12 or 24 VDC
- Max. current consumption 1,8A (12 VDC) / 0,9A (24 VDC)
- Tubing length 3 m
- Reservoir capacity 1,5 L
- Pump output 0,88 L/min.

WWFR..



Three-position switch

For two-speed wiper motors

Available as rotary or rocker type switch. Suitable for two-speed wiper motors RWS, DIN and HDM. Not suitable for type ORW.

Type	Max. panel thickness (mm)	Max. switch current (A)
HDMSW	7	20
HDMSW2	6	20



HDMSW

HDMSW2

Glazing systems

Accessories

Screen washer

Suitable for all VETUS wiper types

This screen washer is fed by a pressurised, fresh water system. The screen washer comes with a hose, solenoid valve (12 or 24 VDC) and switch, hose pillars, spray nozzles and skin fittings and is easy to install.

Type	Description	Voltage (DC)
HDS12B	Screen washer kit	12
HDS24B	Screen washer kit	24
HDSXTB	Extension screen washer kit for additional windscreens	

HDS



Type WPANEL

Completely pre-wired motor wipe panel for up to five windscreens wipers

Type WPANEL can control up to five wiper motors to run synchronously at high or low speed. Each wiper motor is individually switched, so you can select which wipers are operational. They also feature a combination switch for screen wash/wipe activation, speed selection and interval wipe delay. The wiper motors to be connected must have a two speed motor and an automatic parking position. It is optional to connect up to three MARBO (1 x MARBO and 2 x MARBO2) rain sensors to the control unit. The rain sensor function can be activated by the supplied switch panel and can activate all connected wipers simultaneously.

Type WPANEL is supplied with

- One control unit with electronic overload protection (can be DIN rail mounted)
- Five wiper motor switches
- One combined switch for wash/wipe and speed selection
- One mounting plate with room for six switches and two blind plates

Specifications

- Available for 12 or 24 VDC supply
- Power consumption in stand-by mode approx. 10 mA
- Maximum power per wiper motor 120 W
- Internal fuses 10 A each wiper motor, 5 A for screen wash pump or solenoid valve
- Dimensions control panel 49 x 24 x 37,5 mm, control unit 159 x 90 x 58 mm

Type	Description
WPANEL	Windscreen wiper control panel for up to five wipers, 12/24 VDC, incl. switches

WPANEL



Automatic rain-sensor for wiper activation

(Not suitable for double glass)

Type	Description
MARBO	Rain sensor incl. switch, suitable for WPANEL
MARBO2	Additional rain sensor, suitable for WPANEL/RWPANEL2



MARBO

MARBO2

Type RWPANEL

Control panel for up to three windscreens wipers

This panel will control up to three switched windscreens wipers synchronously and also activate a screen wash system. The wipers can be set to run at high or low speed at one of five interval wipes and will self-park when they are switched off. It is possible to connect up to three rain sensors (type MARBO2) for automatic operation of the wipers.

Specifications

- Panel is suitable for 12 or 24 VDC supply
- Dimensions control panel 85 x 85 mm, control unit 159 x 90 x 58 mm
- Built-in depth 40 mm

Type	Description
RWPANEL2	Windscreen wiper control panel for up to three wipers, 12/24 VDC, incl. control panel



RWPANEL2