## orcel avolving vision

## 2024

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2°C° PEOPLE arcel

SOCIAL RESPONSABILITY



 $\bigcirc$ 

SOLIDARITY



3<mark>60</mark>⁰ MANAGEMENT

Over 80 years of presence in the sector and positioning

4

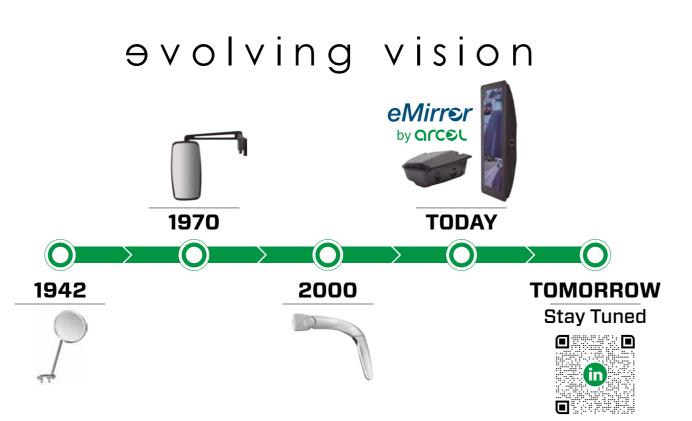


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	70

REAR-VIEW MIRRORS LEGISLATION 84

## HISTORY



## INDUSTRIES

## ģ

## Coach

Our extensive experience in this industry allows us to cover all needs for each customer. Aerodynamic products as a result of exclusive designs

## City Bus

Under the premises of safety and design together with the latest technology to get the best visibility in the cities



## Mini Bus

Innovation, security, design... adapted to smaller buses to achieve the maximum functionality within the cities

## 

## Motorhome

Concept of travel, enjoying the journey... that is adventure but without forgetting safety and design, comfort and functionality and of course the newest technology



## **Special Vehicles**

Strong and resistant products along with the latest technology also suitable for these vehicles: cameras and surveillance systems

## **D** Train / Tram

Special developments also suitable for the railway and tram industry. We do highlight the electrically folding systems, which become essential when arriving at the rail station

## **ABOUT US**

## R&D

Our R&D team has extensive experience focused on the development of the different products, from its conception to its launch. Always paying close attention to the detail with the aim of achieving customer satisfaction with high quality products. We complement it with firmware development. All our developments are homologated according to the applicable regulations.

## Design

Design based on innovations focused on product development needed to ensure road safety. Tailor made & exclusive products.



## Manufacturing & Production Processes

Industrial production with operational excellence, in-house flexible processes, high-quality products and short delivery times.

Internalization of operations and resources to offer the best range of products and solutions to our customers: 3D printing machines, new plastic injection machines, SMD production line, R&D test laboratory, climatic chamber,... Covering both mechanical and electronics Business Units needs.

## Quality

Compliance with manufacturing, communication and trade standards achieving the following certifications: ISO 14001:2015, ISO 9001:2015 and IATF 16949:2016.

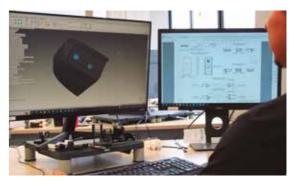
## Customer Service

Close customer support at all stages from product purchased and after sale.

## Evolving Technology & Safety

Commitment to technological evolution in products that support and guarantee greater road safety including ADAS developments: cameras, eMirror, Memory system and many more to come.











PRODUCTS



8

# PRODUCTS

- l eMirror
- | ADAS
- Cameras & monitors

- | Rear-view mirrors
- Roller Blinds
- School Signs

	COACH	RIES
	CITY BUS	NDUSTRIES
	MINI BUS	Z
	MOTORHOME	
	SPECIAL VEHICLES	
<b></b>	TRAIN / TRAM	

eMirror is the digital CMS (Camera Monitoring System) with high definition **cameras** (HD) that replaces mirrors.

It is an innovative product that provides improved vision under any weather conditions.

It optimizes the total cost of ownership and guarantees greater safety.

10

## Increased Safety



arcol.es/emirror



eMirror Playlist







HOMOLOGATION ACCORDING R46 - R10 - R118







eMIRROR

## **BENEFITS**

Design, development and manufacturing in house

Improve vision in all weather conditions

**Compact & streamline** design

No calibration needed

Better maneuverability. **Reduced** risk of collision



Conventional rear-view mirror



Automotive qualified parts (AECQ)

Wider field of view. Reduction of blind spots

Lightweight concept

Stand alone solution

Improved aerodynamics



Conventional rear-view mirror



eMirrer 🕜

**TECHNICAL SPECIFICATIONS** 





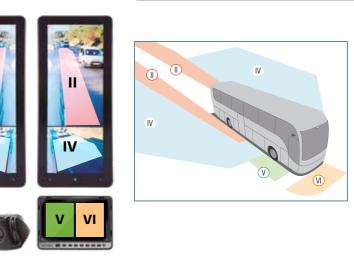


Jecor









CAMERA > **PAG. 24** Monitor > **PAG. 25** 

## RIGHT SIDE VERSION AVAILABLE

LH II/IV - RH II/IV/V/VI

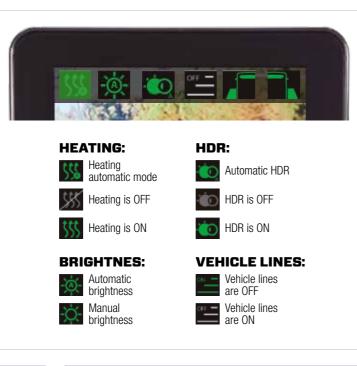
Jecor

## **ACCESSORIES**

## Joystick

This control is connected via Can-bus to the eMirror system to adjust the functionalities of heating, V/VI camera selection, brightness, vehicle lines.





## Support



- **Support** integrated in the *eMirror* display It can be located on the top or bottom of the display.
- Convenience for the driver by unifying images in the same zone/location/area.
- Easy installation in case you want to add an analog camera covering categories V and VI.

## eMirr⊙r **Protection Housing**



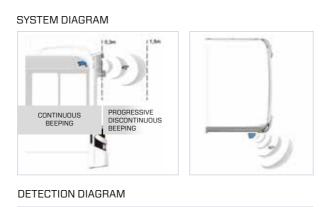
• Compact metallic solution that avoids damage to the camera from the impact of external elements.

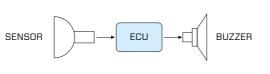
## eMirr⊙r **Collision Warning**

## Better maneuverability. **Reduced risk of collision.**

- Located under the right camera with an easy installation.
- It detects elements in its surroundings.



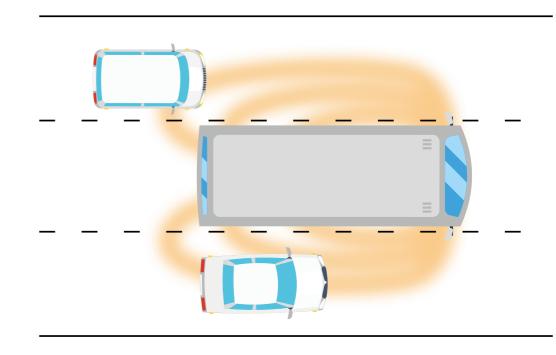




## **ADDITIONAL FUNCTIONALITIES**

## **Blind Spot**

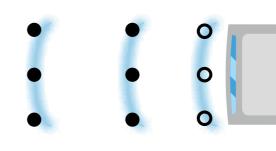
The *eMirror* monitor can alert of the detection of an object approaching to the vehicle.



MORE INFORMATION PAG. 20

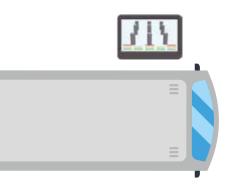
## **R158 Reverse Configuration & Visibility**

The monitor, in reverse gear, warns of object detections for collision-free manoeuvring.



MORE INFORMATION PAG. 21







## **ADAS** ADVANCE DRIVER ASSISTANCE SYSTEMS

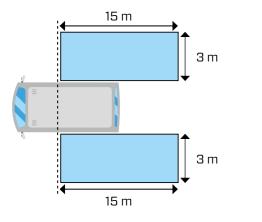




## Advanced Driver Assistance Systems (ADAS)

20





## **HOW DOES IT ALERT?**

Rear-view mirror led will be iluminated when there is an object approaching to the blind spot area of the vehicle. If the signal is activated, the buzzer will also beep (with the same frequency).

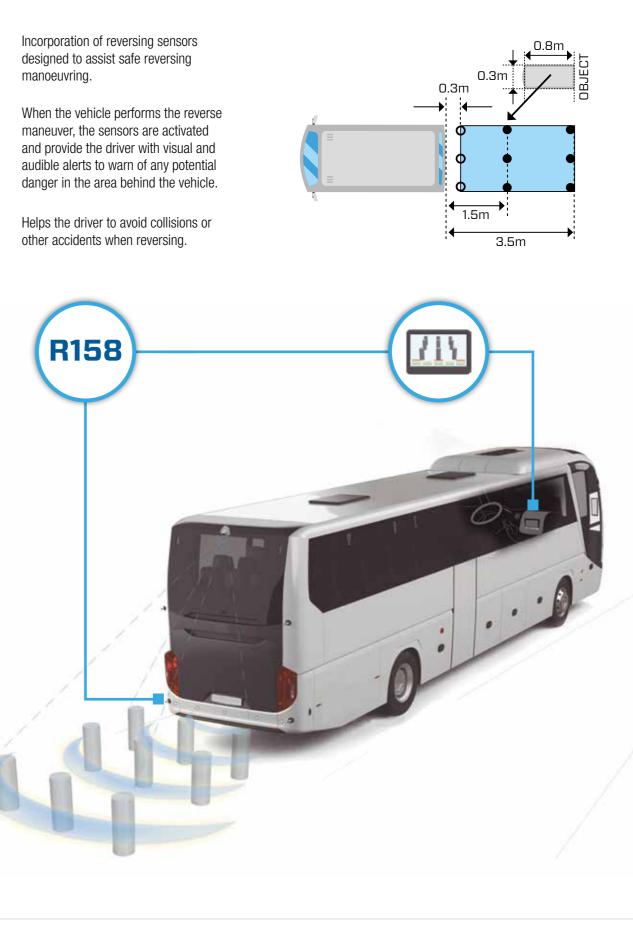
Rear-view mirror led and buzzer will standby (no activity) if there is no object approaching within blind area of your vehicle.

**BLIND SPOT:** Increase your driving security

## TECHNICAL SPECIFICATIONS

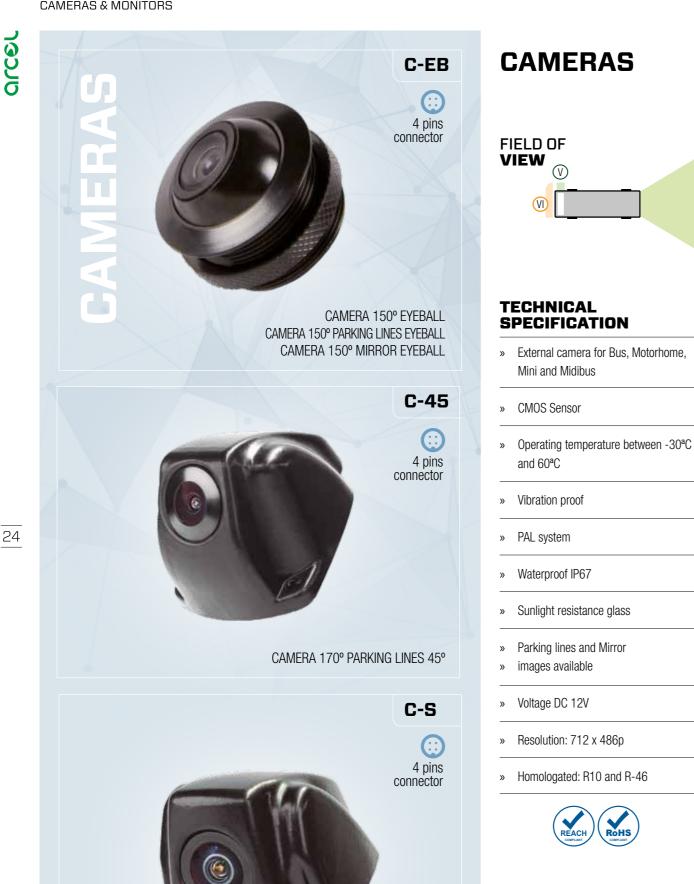
- » Operating frequency 24.0 - 25 GHz
- » Transmit Power (max.) 10 dBm
- » Speed Range 1 - 100 Km/h (differential speed)
- » Direction of movement Approached or overtaken by vehicles
- » Operating Voltage 12 – 24V
- » Working current < 200mA
- » Working temperature -40 °C + 85°C

## **R158 Rear Detection and Visibility**







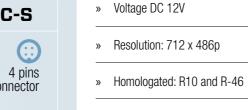




## **U-shape Bracket**



AVAILABLE IN DIFFERENT LENGTHS 6m - 8m - 10m - 15m - 20m - 30m



(V)

Mini and Midibus

and 60<sup>a</sup>C



CAMERA WITH HOUSING 170°

24



## MONITORS

Latest Technology in the driving assistance field

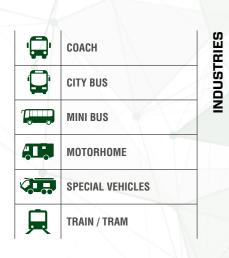
## **TECHNICAL SPECIFICATIONS**

- » Vibration proof » PAL/NSTC (Auto) System » Sunlight resistance glass » OSD Menu Optional Parking Lines » » Voltage DC12V-DC32V » Resolution 800x480 Pixel » 2 AV Inputs & 2 Trigger wires or 4 AV Inputs & 4 Trigger Wires » Operating temperature: -20°C to 70°C » Dimensions 177x122x26 mm » R10 · 2 Cameras Monitor System: E2\*10R06\*22066\*00 · 4 Cameras Monitor System: E2\*10R06\*22067\*00 » R46 · 2 Cameras Monitor System 160°: E9\*46R04/09\*16493\*00
- · 4 Cameras Monitor System 160°: E9\*46R04/09\*16492\*00



## ACCESORIES

- » In Dash Adapter
- » Stand Alone Bracket
- » U-Shape Bracket
- » Integrated Sunvisor
- » Remote Control



On the Diagonal Series each model equiped with the **blind spot icon** ensures full vision of everything moving around the vehicle and, therefore, a smarter, safer driving experience.

Design, comfort and safety in the same series

Memory Settings and Blind Spot icon

26

High-end design and finishes

Flexibility and adaptability for all industries

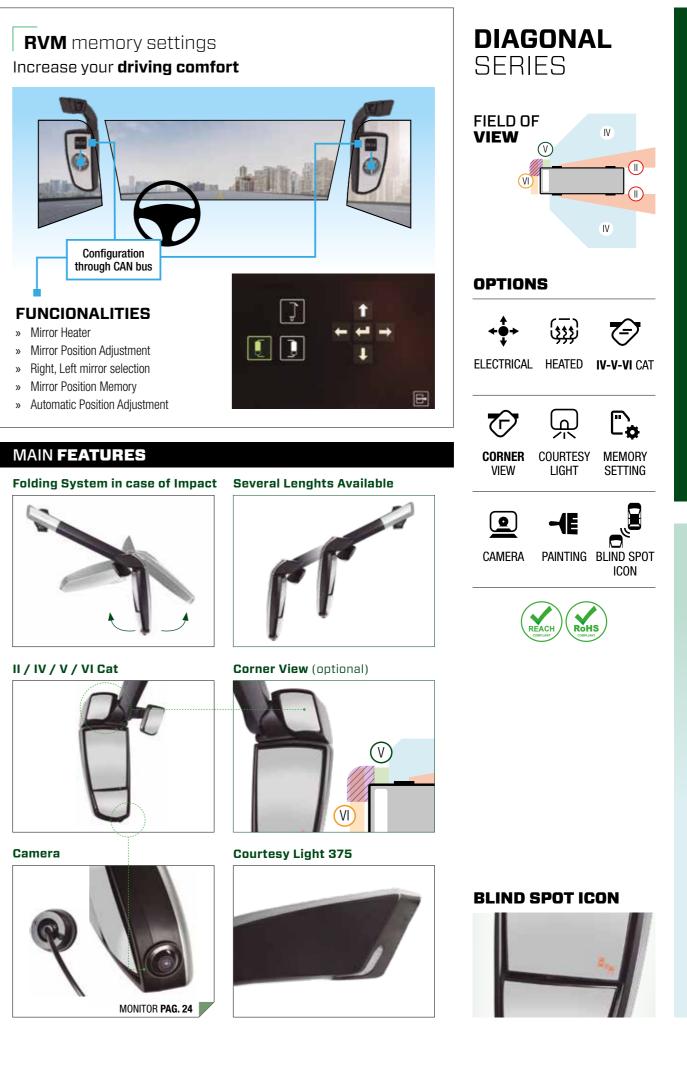
Up to Four mirrors

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# DIAGONAL







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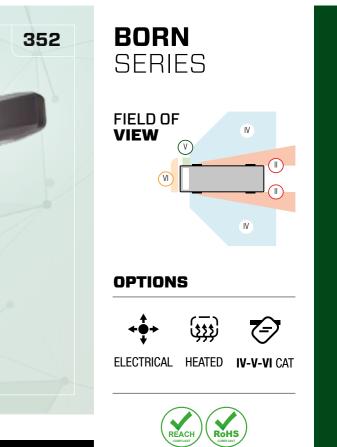
## MAIN FEATURES

Upper or Lower



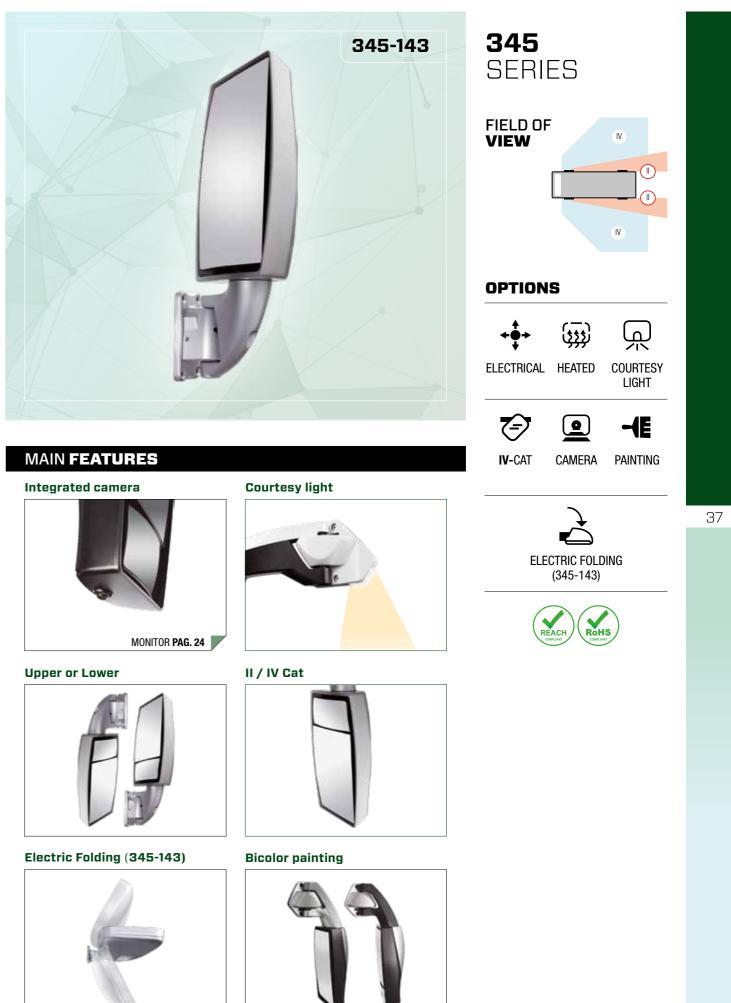
Folding Arm



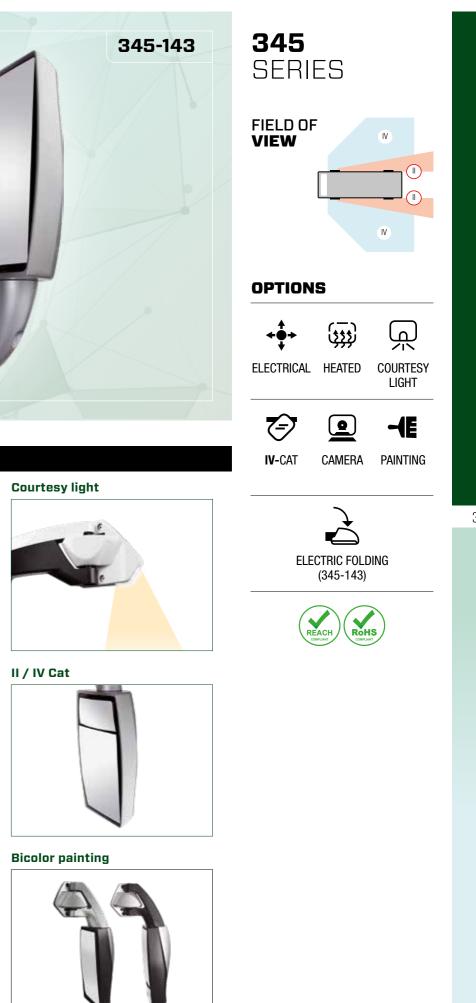






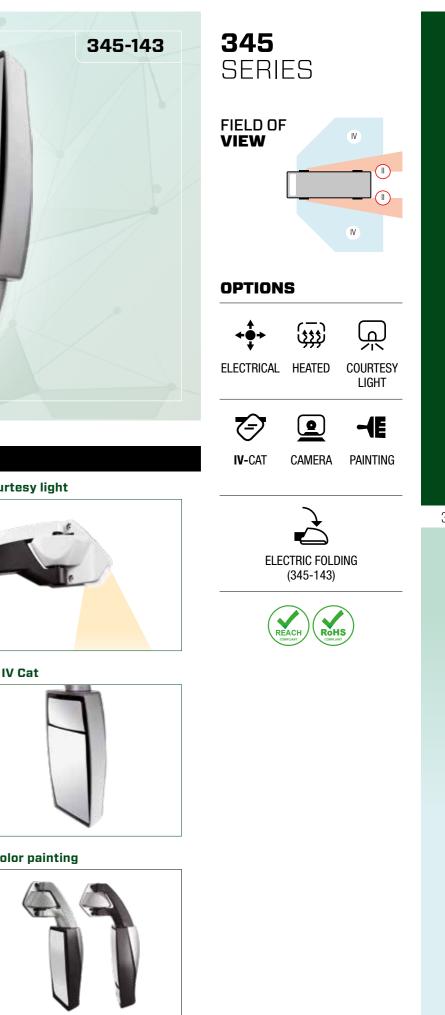










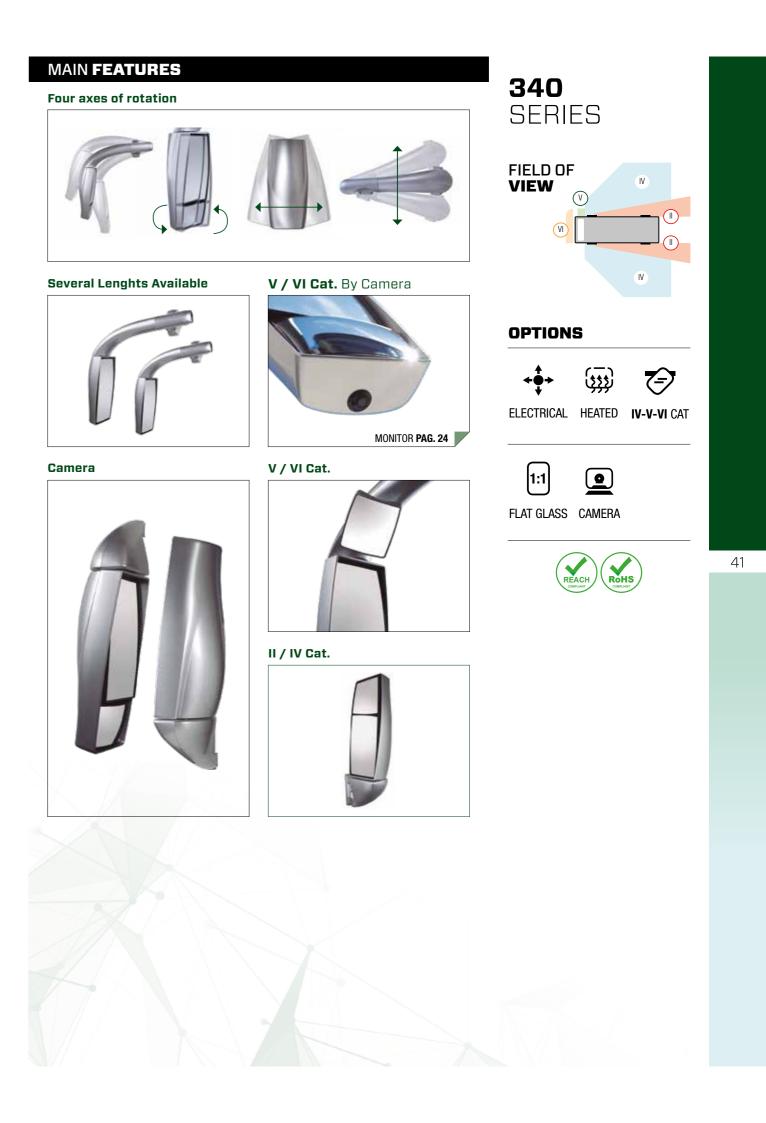


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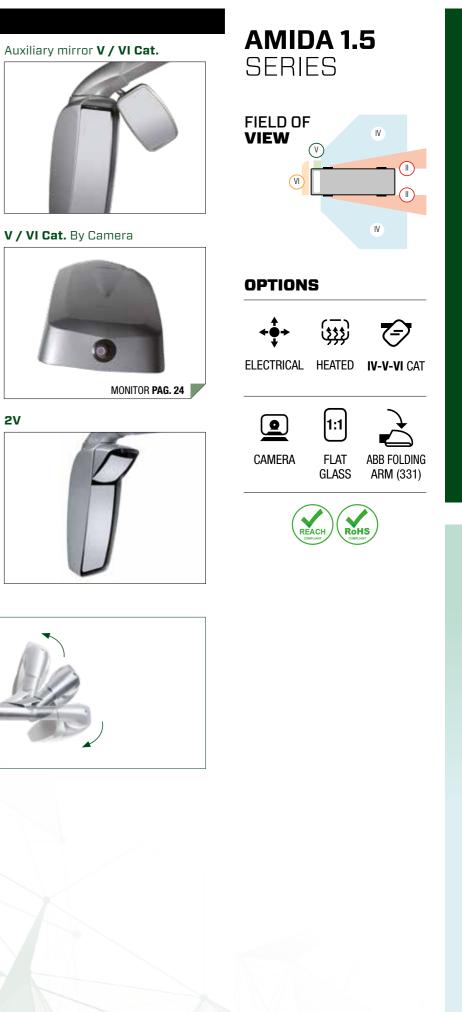


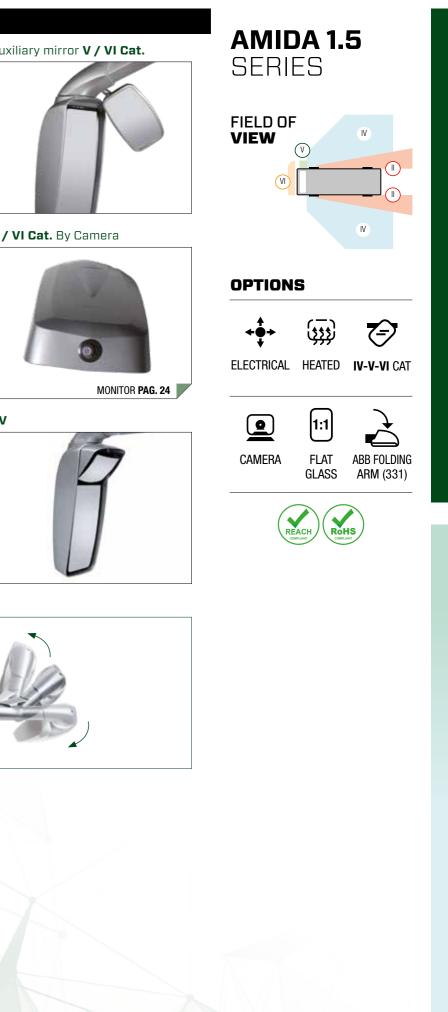


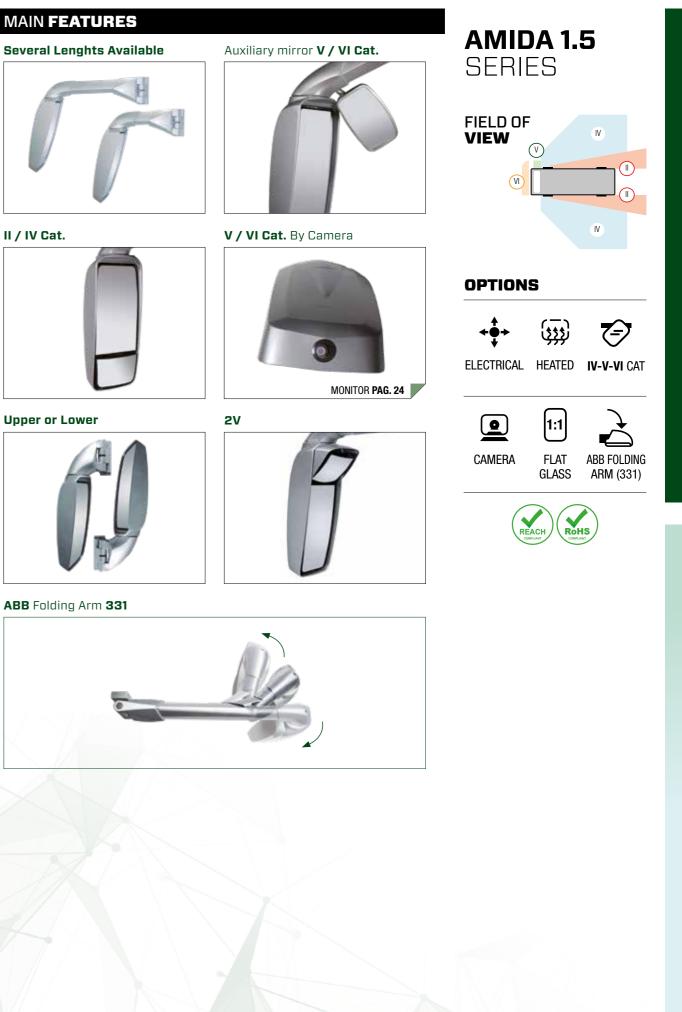
# **AMIDA 1.5**



# MAIN FEATURES Several Lenghts Available II / IV Cat. Upper or Lower 2V ABB Folding Arm 331

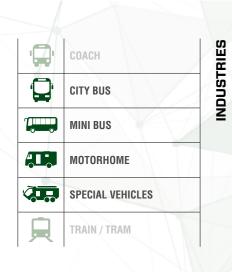








Jecor



Versatility and simplicity are the hallmarks of the **AMIDA** series.

The different arm lengths allow the AMIDA series to **offer a personalised product**, thus addressing our clients' multiple needs.

## A solution for **multiple needs**

46

Available different lengths as per customer request

1 or 2 glasses

Auxiliary mirror

Folding system, electrically as option

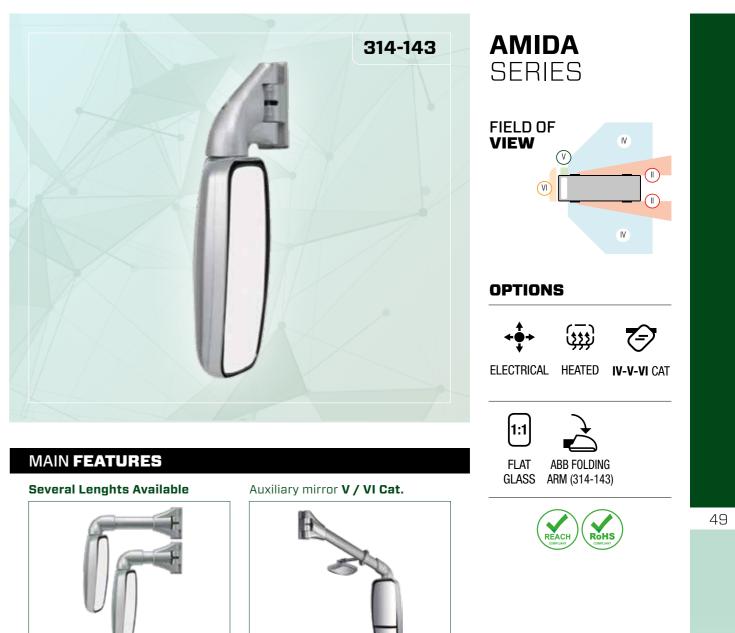




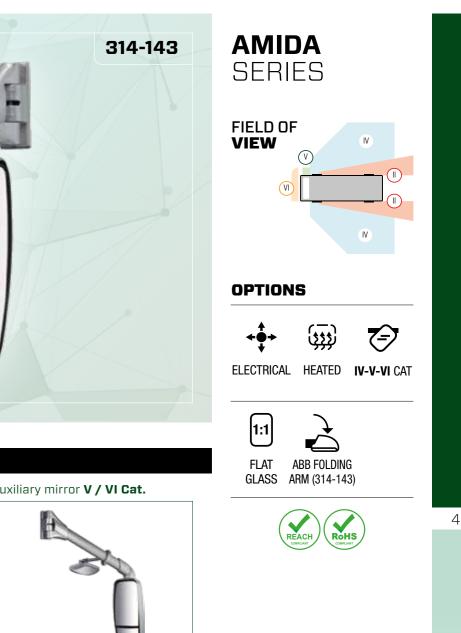












II / IV / V / VI Cat.

## Upper or Lower





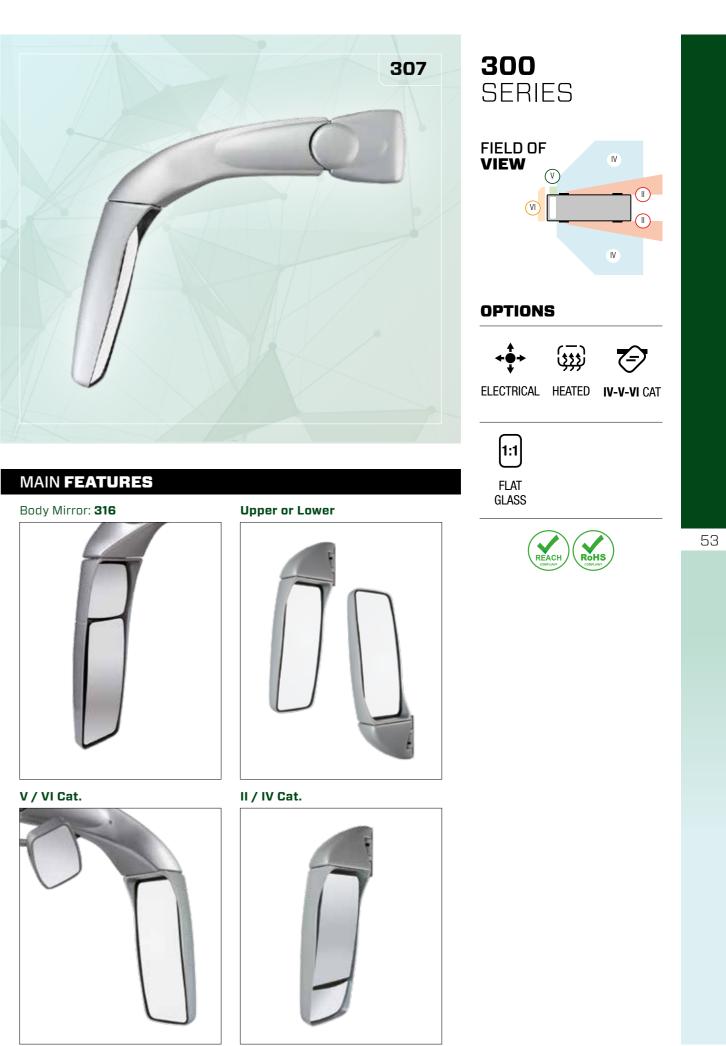
Electric Folding (314-143)



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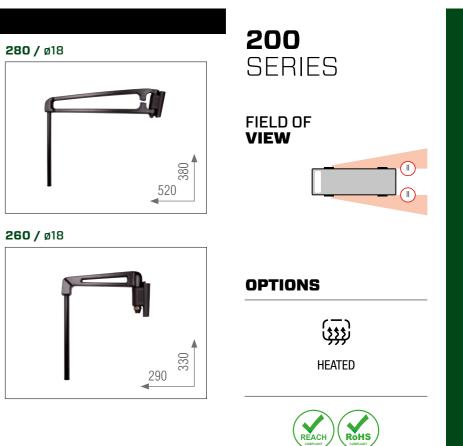
REAR-VIEW MIRRORS



## CAST ARMS. Exterior Arms

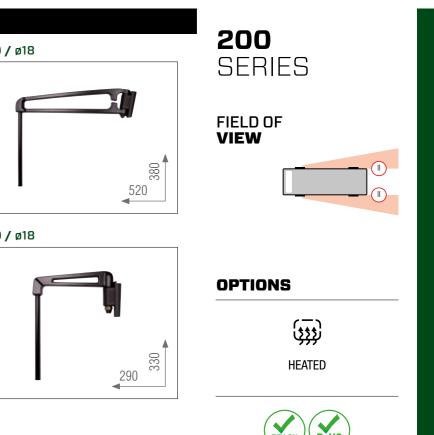
**540 /** ø18



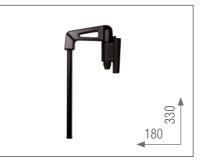


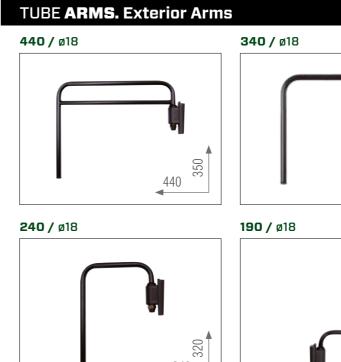
**360 /** ø18





**150 /** ø18

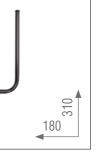


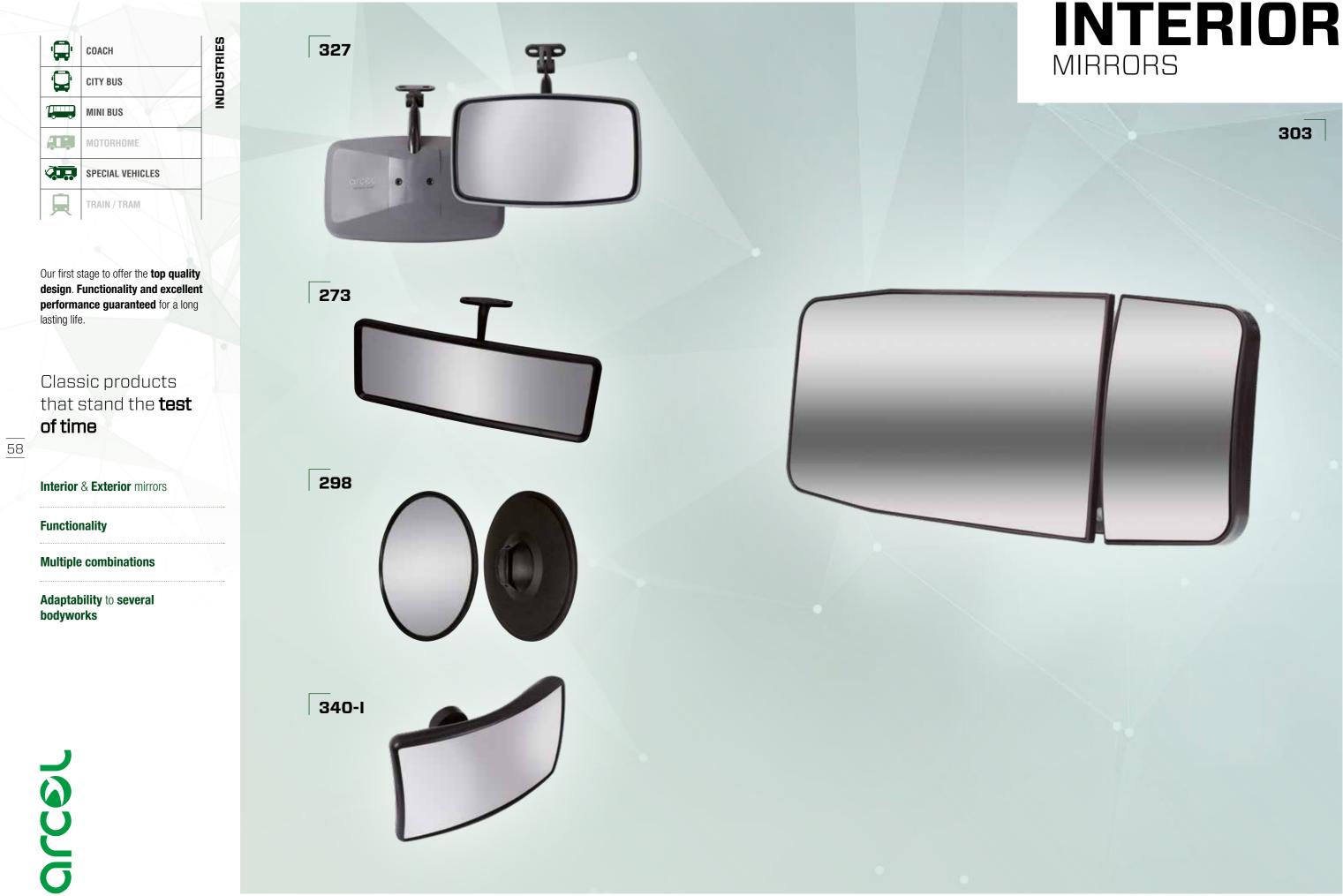


240

56







# INTERIOR

REAR-VIEW MIRRORS



80 \_\_\_\_\_ **\_** IT / ø18 IRM / ø18 ø 33 ▲ 200 **IG /** ø18 **IA /** ø18 230

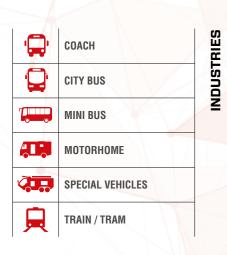
INTERIOR ARMS

IV / ø18

**I-36 /** ø18



ROLLER BLINDS



The ideal recommendation for sun protection, made under costumer specific requirements. High quality products with proven comfort and durability.

## **Comfort** and Durability are the key

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h	~
$\sim$	-

Made to measure Protection and safety Adaptability to all surfaces **New improvements** 

R-118, EN 45545, R-10

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Manual



Electrical

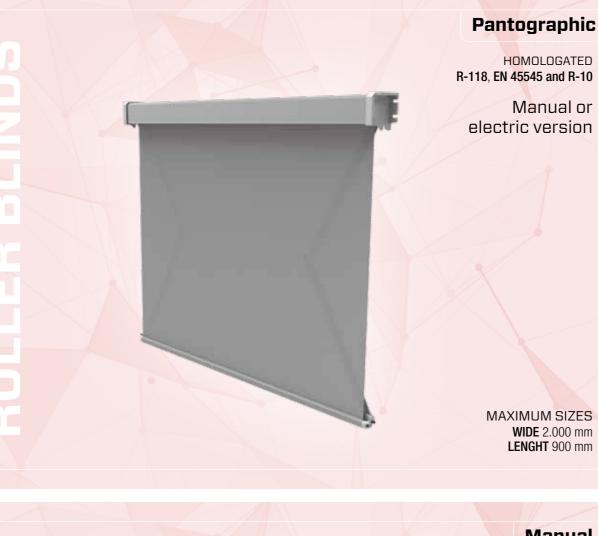


## Manual with hooks



# **ROLLER BLINDS**





## Manual

HOMOLOGATED R-118 and EN 45545

LENGHT 1.050 mm

Manual with hooks

MAXIMUM SIZES WIDE 2.000 mm

MAXIMUM SIZES **WIDE** 1.600 mm LENGHT 1.100 mm

## Electrical

## HOMOLOGATED R-118, EN 45545 and R-10



MAXIMUM SIZES WIDE 2.500 mm LENGHT 1.100 mm



## MAIN FEATURES

## SLIP RING

Innovative system of floating rings that allow the curtain to operate without the cables becoming twisted.



## AUTOMATIC **STOP SYSTEM**

## FEATURES

- » Improved safety system
- » Avoid motor overheating
- » Extend sunblind lifetime









TRANSLUCENT

OPAQUE



TRANSLUCENT WITH OPAQUE STRIP\*



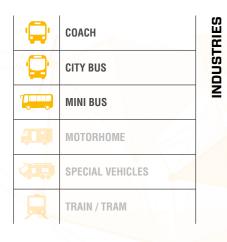
Standard sunblinds colour is grey.

(\*) The standard height of the opaque strip/ blind strip is 220mm, but this high can be as per client request.



HOMOLOGATED R-118 and EN 45545





Our **priority is to ensure the safety for the children** and so we have improved our reflectant School Transport Signs and with LED technology. Different sizes are available meeting the regulations requested from the most of markets.

## Child safety

66

is imp<mark>ortant</mark> to us all

## **Spanish regulations**

Led School signs
Safety
R-118, V10

## Standard Led



## **Pantographic Standard**



## Standard



# SCHOOL SIGNS



Jecor



### FEATURES

✓ INTERMITTENCE ✓ HOMOLOGATED R-118 and V10

## FLASH FUNCTION AND ERROR DETECTION DEVICE

FLASH DEVICE SCHOOL LED 12/24V

» For both 12V and 24V

» Minimize Led temperature

» Energy saving

- » Extend School sign lifetime
- » 3 different protection systems:
   » Against overvoltage
- » Short-circuit
- » Inverted polarity protection



## FEATURES

✓ HOMOLOGATED R-118 and V10

» 2 suction cups fixing system





## MAIN FEATURES







## Pantographic Standard

## SCHOOL SIGNS

FEATURES

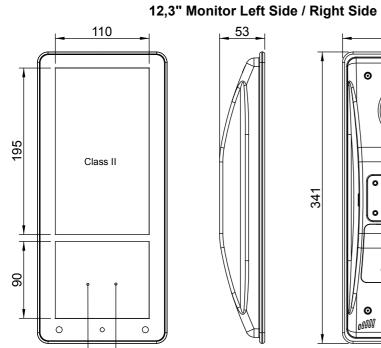
## PANTOGRAPHIC ✓ HOMOLOGATED R-118 and V10

» 2 suction cups fixing system for inferior design



## eMirror

Monitor Left Side / Right side LH II/IV



53

arcol 0 0 341 Fixing points VESA 35X75 mn Δ

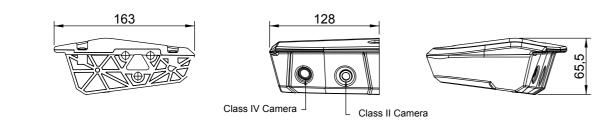
152

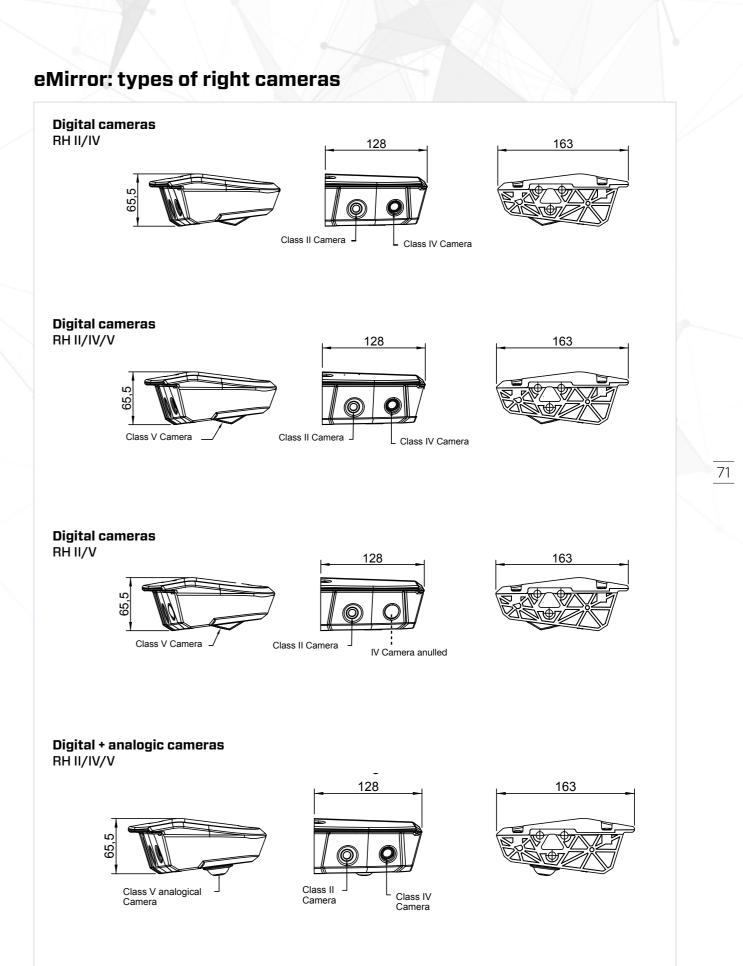
0

## **Digital cameras** LH II/IV

Left Side Class IV

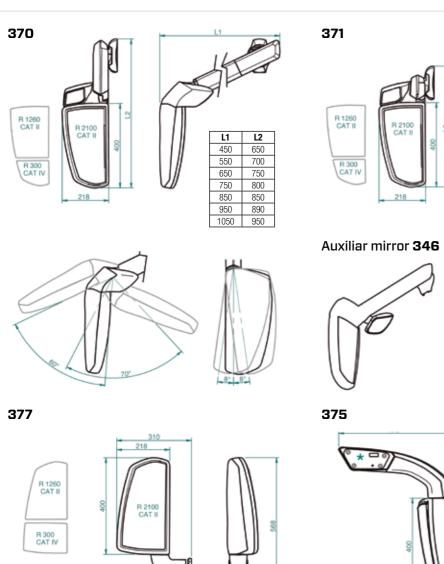
L Side Right Class V





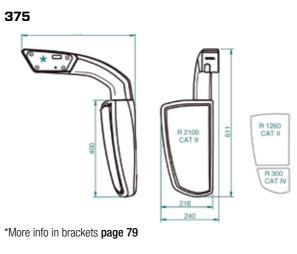
## Serie **Diagonal**

Hanging - Standing



Е

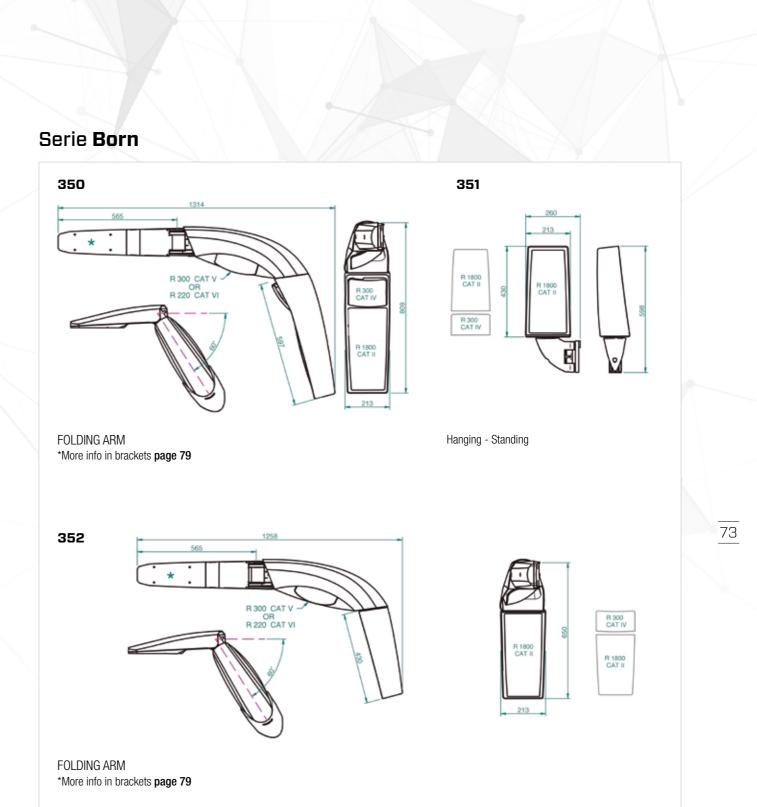
lo



R 220 CAT VI

or R 300 CAT V 122

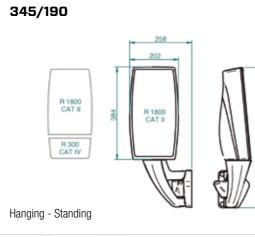
		ELECTRICAL	G	RA	) ANTENA	TESY LIGHT		JRY MIRROR	FIX	PULL OUT				
SERIE DIAGONAL	<2M	ELECT	HEATED	CAMERA	RADIO	COURTESY	BSD	MEMORY	BRAC	KETS	<u> </u>	CAT. OF VIEW		
BIAGONAL	, v				<u> </u>							IV	V	VI
370	~	OP	OP	OP	OP	-	OP	OP	-	~	~	OP	OP	OP
371	~	OP	OP	OP	OP	-	OP	OP	-	~	~	OP	OP	OP
375	~	OP	OP	OP	OP	OP	OP	OP	~	-	~	OP	-	-
377	~	OP	OP	OP	OP	-	OP	OP	-	~	~	OP	-	-
Auxiliar Mirror 346		-	OP	-	-	-	-	-	-			-	OP	OP



		ELECTRICAL	G	FIX	PULL OUT	FOLDING PULL-OUT					
	<2M.	ECI	HEATED		BRACKETS			CAT. OF VIEW			
SERIE BORN	V		<sup>±</sup>		DNAUKEIS		I	IV	V	VI	
350	-	OP	OP	~	-	-	~	~	RH	LH	
351	~	OP	OP	OP	~	OP	~	OP	-	-	
352	-	OP	OP	~	-	-	~	OP	RH	LH	

## Serie **345**



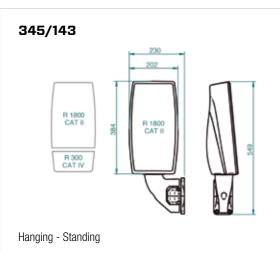


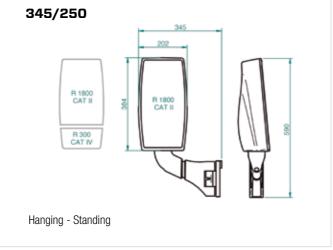
	_	TRICAL	Q	RA	ANTENNA	TESY LIGHT	FIX & Folding		
	ZM.	ECT	HEATED	A MER	ADIO	COURT	BRACKETS	CAT. 0	F VIEW
SERIE <b>345</b>	V		Т	3	<u> </u>	0	DIAONETO	II	IV
345	~	OP	OP	OP	OP	OP	~	~	OP
345/190	<b>~</b>	OP	OP	OP	OP	OP	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	OP

R 1800 CAT II

R 300 CAT IV

74





SERIE <b>345/143</b>	.2M.	ECTRICAL	HEATED	PULL OUT	FIX & FOLDING	FOLDING ELECT.	FIX	FOLDING PULL-OUT	CAT. 0	F VIEW
345/143	V		<u>۳</u>			BRACKETS			Ш	IV
345/143	~	OP	OP	~	OP	OP	OP	OP	~	OP
345/250	~	OP	OP	~	OP	-	OP	OP	~	OP

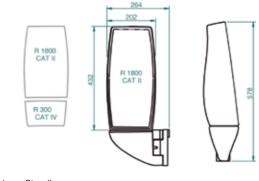
Serie 340

340



R 1800 CAT II 22

340/220



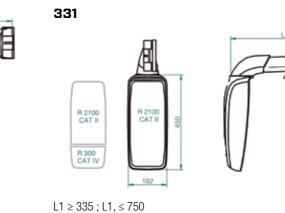
Hanging - Standing

	<2M.	ECTRICAL	ATED	AMERA	at glass II cat.	FIX	μημη ουτ		Cat. 0	If View	
SERIE <b>340</b>	Ň		뽀	C/		BRAC	KETS		IV	V	VI
340	~	OP	OP	OP	OP	-	~	~	OP	OP	OP
340/220	~	OP	OP	-	OP	OP	~	~	OP	-	-

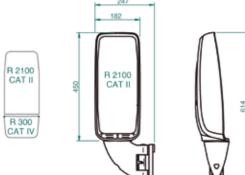
VI VI VI VI VI VI VI VI VI VI VI VI VI V	75

## Serie Amida 1,5



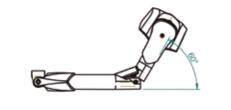






Superior - Inferior

## Folding Arm

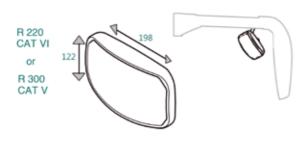


\*Only for model 331

Auxiliar mirror 346

2V Main Body

 $\geq$ 



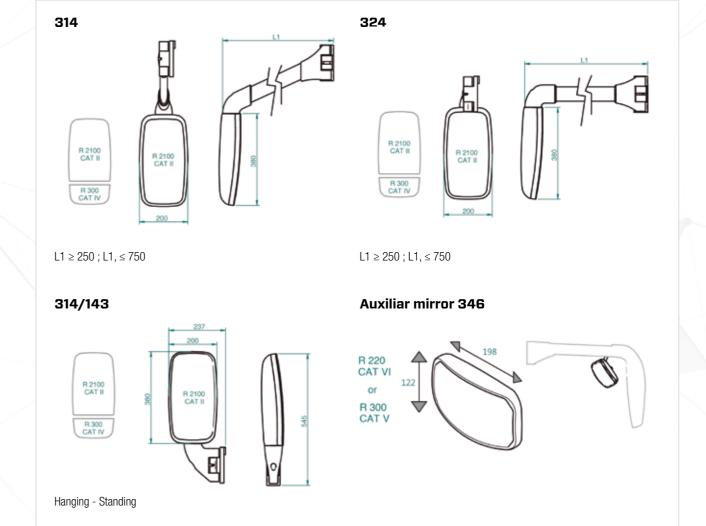
R 300 CAT V

R 1260 CAT II

\*Arm Max. length 500 mm.

SERIE		ELECTRICAL	HEATED	CAMERA	8		M Folding	at glass II cat.	Fix	Pull out	Folding Pull-Out		Cat. 0	f View	
AMIDA 1,5	<2m.		屮	2	ABB	2	ARM	FL/	I	BRACKET		11	IV	V	VI
330	~	OP	OP	OP	-	OP	-	OP	OP	~	OP*	~	OP	OP	OP
331	~	OP	OP	OP	OP	OP	OP	OP	OP	~	OP*	~	OP	OP	OP
330/183	~	OP	OP	-	-	OP	-	OP	OP	~	OP	~	OP	-	-
Auxiliar Mirror <b>346</b>		-	OP	-	-	-	-	-	-		-		-	OP	OP

Serie Amida

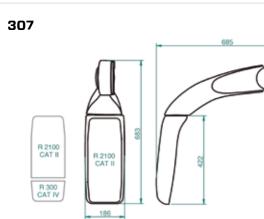


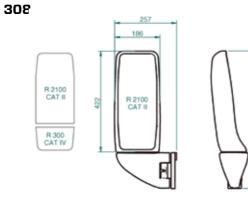
	<2M.	ELECTRICAL	HEATED	at glass II cat.	FIX	FIX & FOLDING	FOLDING ELECT.	PULL OUT	FOLDING PULL-OUT		CAT. 0	F VIEW	
SERIE <b>AMIDA</b>			=				BRACKETS				IV	V	VI
314	~	OP	OP	OP	OP	OP*	-	~	OP*	~	OP	OP	OP
324	~	OP	OP	OP	OP	-	-	~	OP*	~	OP	OP	OP
314/143	~	OP	OP	OP	OP	OP	OP	~	OP	~	OP	-	-
Auxiliar Mirror 346		-	OP	-	-	-	-		-		-	OP	OP

\*Arm Max. length 500 mm.

## Serie **300**

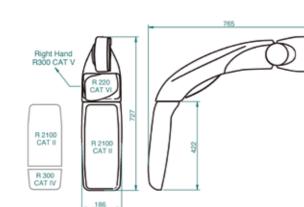
309

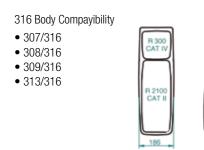


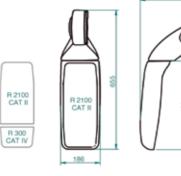


Hanging - Standing

313

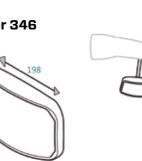






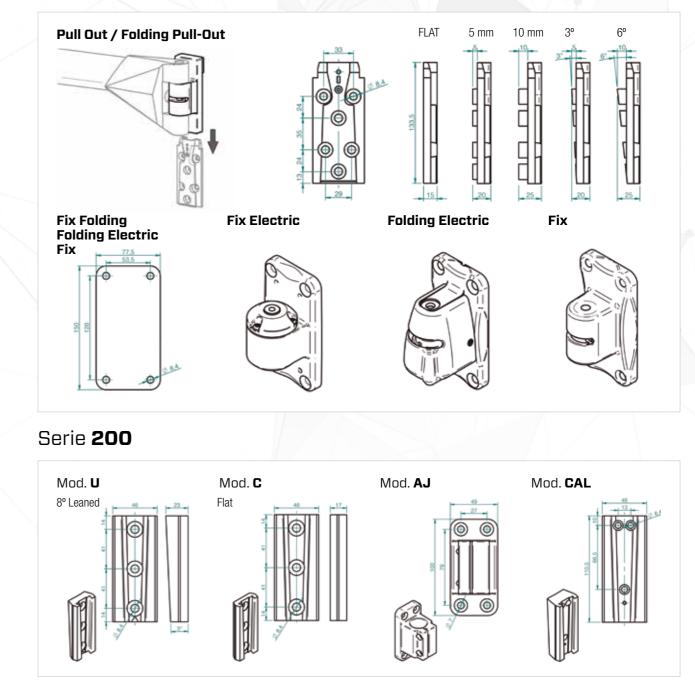
Auxiliar mirror 346

R 220 CAT VI or 122 R 300 CAT V

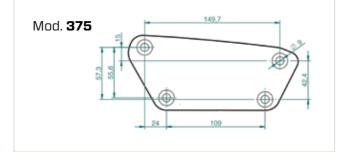


	<2M.	ELECTRICAL	НЕАТЕD	AT GLASS II CAT.	FIX	PULL OUT		CAT. 0	CAT. OF VIEW		
SERIE <b>300</b>	Ň		L I		BRAC	KETS	II	IV	V	VI	
307	~	OP	OP	OP	OP	~	~	OP	OP	OP	
308	~	OP	OP	OP	OP	~	~	OP	-	-	
309	~	OP	OP	OP	OP	~	~	OP	RH	LH	
313	~	OP	OP	OP	OP	~	~	OP	OP	OP	
Auxiliar Mirror 346		-	OP	-	-			-	OP	OP	

## **Brackets**

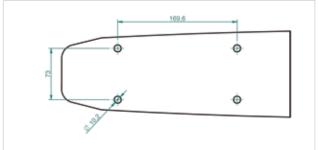


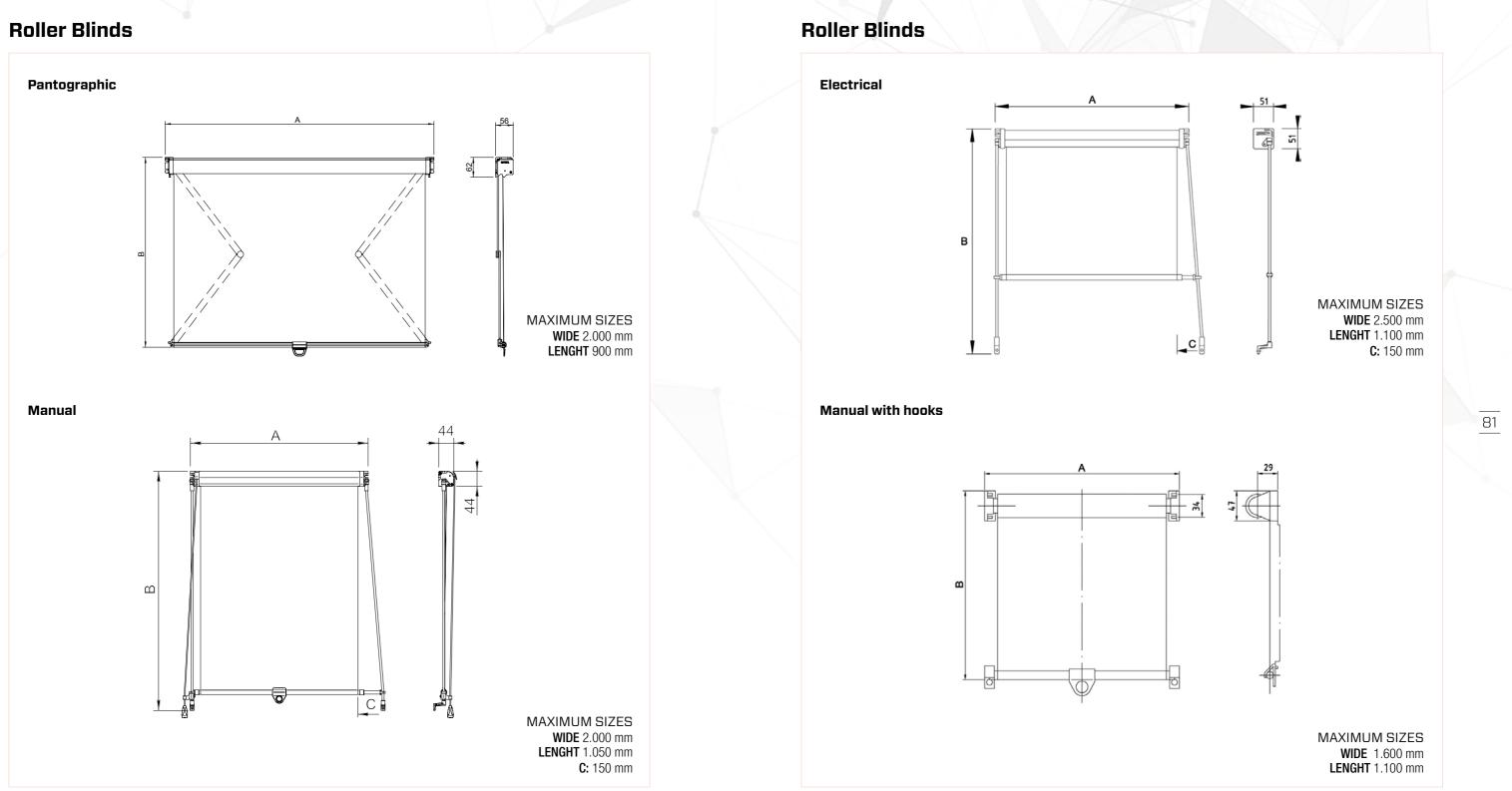
## Serie **Diagonal**



79

Serie **Born** 



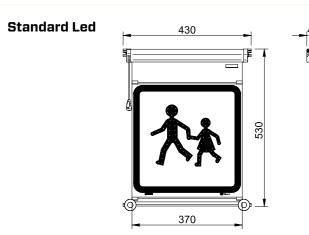


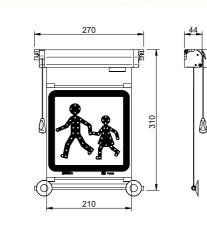
## Pantographic

Electrical	A**	450-570	580-670	680-7	680-770		780-870		30-970	980-1070	1080-2000
	B Max. ***	350	450	550		65	50		750	850	900
Manual	A**	480-570	580-670	680-770	780	)-870	880-9	970	980-107	0 1080-1170	1180-2000
	B Max. ***	350	450	550	6	650	750	)	850	950	1050

\*\* The dimension A increases in fractions of 10mm \*\*\*The dimension B increases in fractions of 50mm

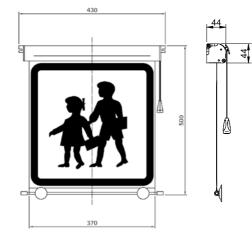
## School Signs

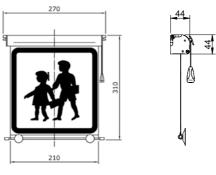




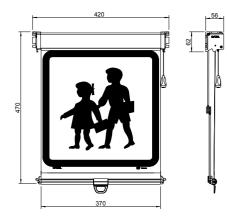
4

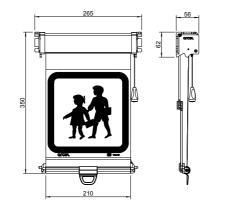
Standard





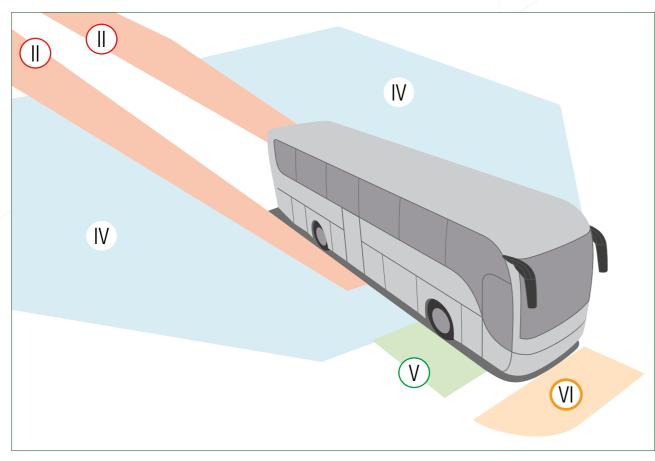
Pantographic Standard







## Rear-View Mirrors Legislation



## ECE Regulation No. 46 - Rev.6 -Devices for indirect vision

Vehicle Category	Category I Interior Mirror	Category II Primary Mirror (Side/Wing Mirror)	<b>Category III</b> Primary Mirror (Small Mirror)	Category IV Wide-Angle Mirror (Side/Wing Mirror)	Category V Proximity Mirror (Door Mirror)	Category VI Front Mirror	
M2/M3	Optional	Requiered	Not Permitted	Optional	Optional	Optional	
Driver's Side	-	<ul> <li>✓</li> </ul>	-	<ul> <li></li> </ul>	🖌 2m	🖌 🏂	
Passenger's Side	-	<ul> <li>✓</li> </ul>	-	<ul> <li>✓</li> </ul>	🖌 🏂	✓ 2m	
N2	Optional	Requiered	Not Permitted	Requiered	Requiered	Optional < 7,5t Requiered > 7,5t	
Driver's Side	-	<ul> <li>✓</li> </ul>	-	<ul> <li></li> </ul>	Optional 2m	i 🖌 2m	
Passenger's Side	-	<ul> <li></li> </ul>	-	<ul> <li></li> </ul>	🖌 2m	🖌 🏂	
N2	Optional	Requiered	Not Permitted	Requiered	Requiered	Requiered	
Driver's Side	-	<ul> <li>✓</li> </ul>	-	<ul> <li></li> </ul>	Optional 2m	i 🖌 2m	
Passenger's Side	-	<ul> <li>✓</li> </ul>	-	<ul> <li></li> </ul>	✓ 2m	✓ 2m	

**2** Fitter at least 2m above the ground.

Category M: Vehicles with at least 4 wheels designed to carry passengers.M2: More than 9 seats, mass below 5 tonnes.M3: More than 9 seats, mass over 5 tonnes.

**Category N:** Vehicles designed. **N2:** Mass between 3.5 to 12 tonnes. **N3:** Mass over 12 tonnes.







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