



## AUTOMATIC REVOLVING DOOR RS-COLOR



### DESCRIPTION

The automatic revolving door **RS-COLOR** by **Grupsa** has been designed for an intensive use and can be installed on escape routes if emergency sides doors are included. In its design, the central axis has been removed, creating a very transparent solution for the passage of people.

The automatic revolving door **RS-COLOR** by **Grupsa** is associated to the drive unit **GSRD-05** by **Grupsa**, which includes a colour tactile display with the operation modes of the door and through its settings menu operating parameters of the drive unit can be verified or modified without having to dismantle any element of the door.

The drive unit **GSRD-05** by **Grupsa** is tested and certified complying with European and Spanish Standards and it is integrated inside the canopy.

Depending on the 3 or 4 door leaves version and the chosen diameter it enables the transit between 30 and 120 persons per minute. It has optional elements both in safety and functionality and closing.

### STANDARDS

Quality Management System	EN ISO 9001
Environmental Management System	EN ISO 14001
Low Tension	2014/35/UE
Electromagnetic Compatibility	2014/30/UE
Machines	2006/42/CE
Construction products	89/106/CE
Pedestrian automatic doors	EN 16005



### MATERIALS AND SURFACE FINISHES

The range of revolving doors **ROTARY SYSTEM** by **Grupsa** is based in aluminium profiles designed to high transit of users revolving doors.

Made in an extrusion of Aluminium with alloy Magnesium Silicon **6063** which is excellent for extrusion, has a good mechanical resistance, high resistance for rust, good surface finish and special to be anodized, being its most common uses the architectural.

With termical treatment **T5**. Tempering termical treatment from the extrusion temperature and artificial maturation. Applied to the semi-products that from the extrusion temperature receive a cooling with forced air in an enough speed



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(tempering) so that with an artificial maturation afterwards its mechanical properties are increased. Included in this state the products that after being cooled are subjected to a flattening or traction straightening, without noticeable effects on mechanical properties.

**Anodized:** Anodizing consists in a protective surface layer generated in an electrolytic process. The thickness of the anodized is in accordance with the Standard **EN ISO 7599**

**Powder coated:** The powder-coated is a protective coating of polymerized plastic Paint in oven at 200°C in any colour of **RAL K-7** chart.

### CHEMICAL COMPOSITION OF ALUMINIUM

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others	Al
Min.	0,30	0,10			0,40					
Max.	0,60	0,30	0,10	0,30	0,60	0,05	0,15	0,20	0,15	Rest

### MECHANICAL PROPERTIES OF ALUMINIUM

Treatment	Breaking load Rm N/mm2	Yield strength Rp 0,2 N/mm2	Elongation A <sub>50</sub> mm%	Fatigue limit N/mm2	Shear strength N/mm2	Hardness Brinell (HB)
T5	175	130	6	150	135	60

### PHYSICAL PROPERTIES OF ALUMINIUM

Elastic modulus N/mm2	Density g/cm3	Melting range °C	Linear exp. coefficient 1/10 <sup>6</sup> K	Thermal conductivity W/mK	Electrical resistivity μΩcm	Electrical conductivity %IACS	Potential dissolution V
69500	2,70	615 - 655	23,5	T5 - 209	T5 - 3,1	T5 - 55,5	-0,80

### DRIVE UNIT GSRD-05

The drive unit **GSRD-05** by **Grupsa**, is completely integrated inside the canopy of the revolving door.

Its main elements are:

- Servomotor-reducer, of direct attack to the central shaft.
- Servodriver, programmable according to the version of 3 or 4 door leaves of the door and safety elements.
- Tactile and colour functions display with door operation modes.

### SERVOMOTOR-REDUCER GSRD-05

Grupsa's **GSRD-05** servo reducer allows the actuation from the lightest to the heaviest doors. Its special design and reduced dimensions allow it to integrate seamlessly into both the canopies and the ditches of the range of revolving doors by **Grupsa**.

The limitation of the turning force is done by electronic regulation by the operator's servodriver, so that it does not exceed safe values for people.



### Technical Specifications

Type	<b>GKS04-3S HAR 06FC41</b>
Motor	<b>MCS 06F41LRS0B0</b>
Motor type	<b>MCS syn. Compact servo motor</b>
Power supply	<b>230 VAC</b>
Gearbox mounting (flange)	<b>Direct mounting (mot. Integr.)</b>
Nominal power	<b>0,51 Kw</b>
Nominal torque	<b>1,2 Nm</b>
Rated speed	<b>4050 rpm</b>



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Output speed	31,4 rpm
Output torque	147 Nm
Relation	128,874
Load capacity	1,15
Nominal voltage	165 VAC
Nominal current	2,9 A
Nominal frequency	270 Hz
Power factor	0,85
Moment of inertia	0,298 Kg/cm <sup>2</sup>
Lubricant type CLP	CLP HC 320
Degree of protection	IP54
Insulation class	F
Motor protection	KTY

### SERVODRIVER GSRD-05

Grupsa's GSRD-05 servodriver allows for a level of functionality and optimal behavior. Provides precisely tailored solutions.

Grupsa's GSRD-05 servodriver represents a solution for controlling speed by position, as well as positioning and timing of the operator, so that it does not exceed values safe for people.



### Technical Specifications

Power supply	Input	1/N/PE AC 230/240 V, 50/60 Hz, 5,3A
	Output	3/PE AC 0-230/240 V, 0-599 Hz, 3,0A
Current overload		150% (60s), 200% (3s)
Operation temperature		From -10°C to +55°C
Degree of protection		IP20
Functions		DC brake function.
		Flight restart circuit, PID controller.
		Vector control without sensors.
		Power saving function "VFC eco".
		Sensorless control of synchronous motors (SLPSM).
		Management for brake control with low wear rate.
		Logical functions, comparator, counter, arithmetic function.
		Bloques de función libremente interconectables.
		Point-to-point positioning (with and without feedback).
		Speed ramps for smooth acceleration and deceleration.
		Servocontrol for synchronous and asynchronous motors.
		Electric shaft with adjustable relation (electronic gearbox).
		Positioning sequence control.
		Evaluation of KTY temperature sensor.
	Interfaces	
		DIP switch for CAN open.
		Integrated brake chopper.
		External supply to 24V
		Digital inputs/outputs (8/4), analog inputs/outputs (2/2), relay.
		Slot for EtherCAT communication module, EtherNET/IP, PROFIBUS or PROFINET.
		PTC / Thermal Contact Input.
		Resolution input and multiple encoder input.
		Axle bus (for cross communication, synchronization)



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Feedback systems	Coder incremental HTL (200 kHz), coder incremental TTL Resolution Encoder SinCos (1Vss), Hiperface SinCos, SSI Encoder Digit frequency input / output.
Safety Engineering	Safe torque off (STO), certified according to EN 13849-1 (Cat. 4, PL e), IEC 61508 / EN 62061 (SIL 3)
Approvals	CE, cUL, EAC, RoHS

### TOUCH SCREEN CONTROL TSC-43

The drive unit **GSRD-05** by **Grupsa** has as standard the Touch Screen Control **TSC-43**. On it you can select any of the five operation modes of the revolving door:

- Closed.
- Automatic.
- Continuous turn.
- Exit only.
- Manual.



When we select an operating mode, it lights up green.

When selecting the "Secure Closed" mode the display requests a key, complies with **EN 16005** by protecting the "secure closed" operation mode by means of an access code, so that only authorized personnel can make changes.

It has a screen lock to prevent it from being manipulated or can be changed any mode of operation without authorization.

It has a user menu and installation by means of codes. In the user menu, you can set the date and time. The installation menu allows the installer to be able to adjust the drive unit installation parameters without having to access the inside of the canopy for its adjustment.

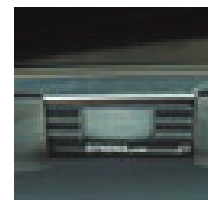
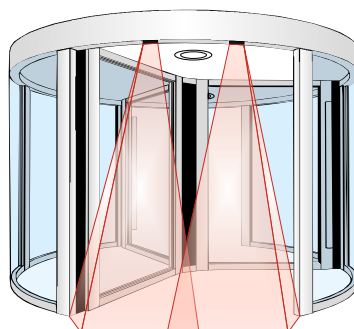
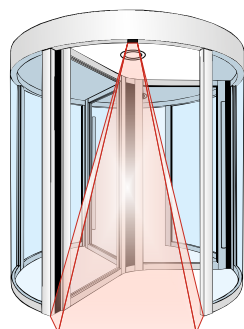
The **TSC-43** Touch Screen Control displays in real time the number of turns that the **GSRD-05** drive unit by **Grupsa** have been made.

As standard it is installed on the inner right strut of the revolving door, and can be installed outside the door (reception desk, security zone, control, etc.) at a distance of up to 100 m.

### ACTIVATION SENSORS

The activation sensors that are installed with the drive unit **GSRD-05** by **Grupsa** are embedded in the canopy slot, passing completely unnoticed, both by the outside access and inside.

Depending on the diameter of the door, one is installed on the passage shaft or two spread out so that the activation is covered throughout the passage area.





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### SAFETY SENSORS AND DEVICES

The **GSRD-05** drive unit by **Grupsa** can be equipped with both electro-sensitive protective equipment (**EPES**) and pressure sensitive protective equipment (**EPSP**) in compliance with the **EN 16005** on the protection of dangerous points on doors.

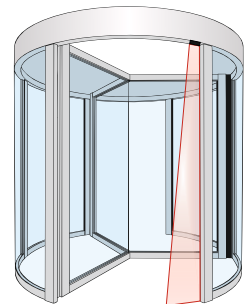
The choice of the type of protective equipment to install, will depend on the type of users of the door, bearing in mind that if a large proportion of users are older people, reduced mobility, with disability or young children, there may be no contact between the door and the user.

The electro-sensitive protective equipment (EPES) that the **RS-COLOR** revolving door by **Grupsa** that can be installed are:

- **POINT SAFETY SENSOR**

The point safety sensor is installed inside the canopy, glued to the right strut at both entrance and exit.

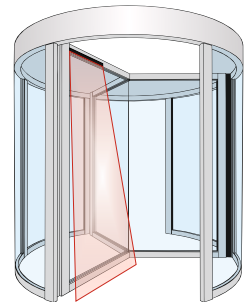
The detection height can be adjusted, depending on the free passage height of the revolving door. The safety stop distance is adjusted by means of the **TSC-45**, adjusting the dimension to be between the door leaf and the right entry strut and exit, preventing the door from touching the user at all times..



- **GP-27 SAFETY SENSOR**

The **GP-27** safety sensor is installed in the upper horizontal profile of each door leaf of the revolving door.

The detection height can be adjusted, depending on the clear opening height of the revolving door and the width to be covered, until the entire width of the door is reached. At the moment the sensor detects the user, it sends the safety stop signal to the drive unit, reverting on every moment that the door touches the user. At the moment the sensor stops detecting the obstacle that caused the door to stop, it stops sending the signal and the door continues with the operation mode used before.

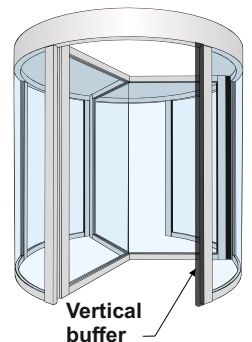


The pressure sensitive protective equipment (EPSP) that the **RS-COLOR** revolving door from **Grupsa** that can be installed are:

- **VERTICAL BUFFER**

The vertical active buffer is installed on the right vertical profile of the door in the entrance area. Simply press, so that the drive unit **GSRD-05** stops the rotational movement. It is installed both inside and outside.

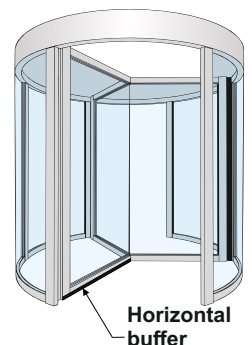
Optionally, inactive or passive buffers can be installed on the left strut both inside and outside, aesthetically to create symmetry in the entrance area of the door.



- **HORIZONTAL BUFFER**

The horizontal active buffer is installed in the horizontal lower profile of each one of the door leaves of the revolving door. Just make a simple pressure, for that the drive unit **GSRD-05** by **Grupsa** stops the turning movement.

Once the pressure on the buffer disappears, the drive unit checks the security system and depending on the time it has established, it continues with the operation that is performing at the time of activation. It is installed both inside and outside.





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### ADDITIONAL SAFETY SPECIFICATIONS

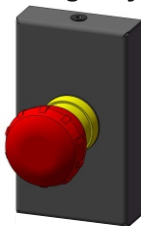
The **GSRD-05** drive unit by **Grupsa** has a number of additional safety features such as:

**- Connection to the fire system:**



The drive unit **GSRD-05** by **Grupsa** is able to manage the signal coming from the fire control plant of the installation, so that in case of fire, the movement of the door stops and the door is released, allowing a safe evacuation of the building.

**- Emergency stop:**



The drive unit **GSRD-05** by **Grupsa** has as standard an Emergency stop pushbutton located at the right door exit strut from the inside.

In the event of an emergency situation, simply press it so that the door stops immediately and is released.

Until the pushbutton is reset, the door will not continue to its programmed operating mode.

**- Reduced speed pushbutton:**



The drive unit **GSRD-05** by **Grupsa**, incorporates as standard a reduced speed pushbutton located in the right strut of the access, both outside and inside.

When pressed, the door rotates at reduced speed during the time scheduled by the drive unit, to allow access and exit of people with reduced mobility.

When the set time comes to an end, the door returns to operation at the scheduled speed depending on the operating mode you have set at that time.

### LIGHTING

The automatic revolving door **RS-COLOR** by **Grupsa** is provided optionally with inner led spotlights.

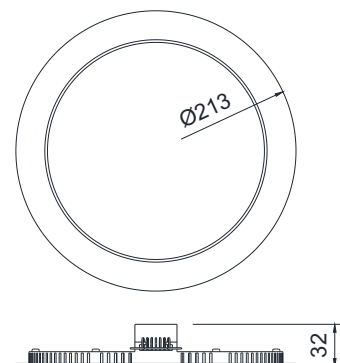
Depending on the diameter of the door, assemble one or two downlights in the input sector and one or two in the output sector, thus achieving a comprehensive and uniform lighting throughout the interior of the revolving door.

The LED downlight body is made of aluminum with oven-coated paint coating. The optics provide homogeneous illumination throughout its surface, with a minimum thickness of the luminaire.

It includes driver built into the luminaire itself suitable for the type of lamp and power to be used. Modules composed of 49 Leds with a total power of 20W. The estimated service life is 35.000 hours.

### CARACTERÍSTICAS TÉCNICAS

Lamp	<b>LED</b>
Equipment	<b>Driver 700 mA</b>
Power	<b>20 W</b>
Consumption	<b>20 W</b>
Service life	<b>35.000 h</b>
Color temperature	<b>4.000 °K</b>
Degree of protection	<b>IP 44</b>
Reprod index. Crom. IRC	<b>80</b>
Dimensions	<b>Ø213 x 32 mm (Ø x H)</b>
Diameter of the machining	<b>Ø195 mm</b>





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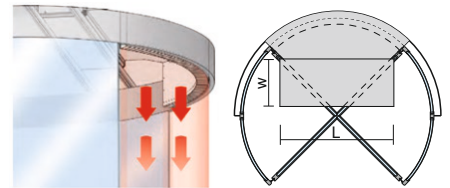
### AIR CURTAIN RD-AC

The revolving door **RS-COLOR** by **Grupsa** can optionally mount an air curtain on the inner half of the canopy.

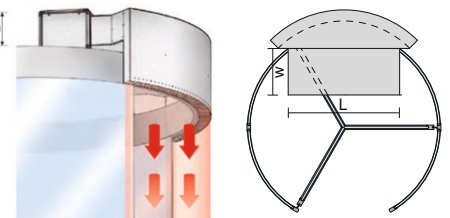
The air curtain **RD-AC** by **Grupsa** is an additional complement to place inside those buildings where high control overheat energy is required.

The air curtain **RD-AC** by **Grupsa** installed in the revolving door **RS-COLOR** by **Grupsa** creates a comfortable environment inside the hall, avoiding the entry of cold air currents, optimizing the temperature and manages to save the general costs of maintenance and air conditioning of the building.

- The model **RD-ACI** by **Grupsa** it's a curtain of air integrated in the canopy of the rotary door with a flow of air what flows through of the grid directly about the inner clear passage, covering the most critical entrance of cold or hot air from the outside.



- The model **RD-ACM** by **Grupsa** it's a curtain of air circular installed over the canopy of the revolving door and covers the inner entrance perimeter with download of air, creating a warm environment for the customers and visitors. It adapts perfectly to the design of the doors, in new facilities and in new adaptations y reforms.



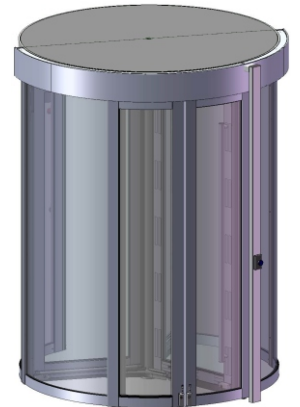
### NIGHT CLOSING

The revolving door **RS-COLOR** by **Grupsa** can optionally install a night lock on the outside of the door.

A double canopy is generated on the outside and between two curved manual sliding doors, closing the entire passage area once the installation is closed to the public.

The fixing of the night lock is done with two mechanical locks, one on each sliding door leaf, anchoring the locks to the floor.

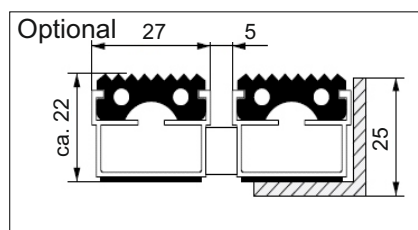
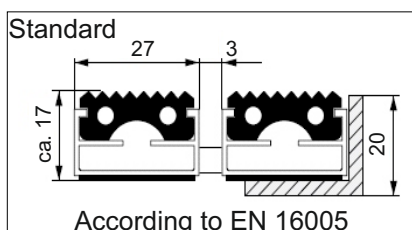
When the night lock is installed on the revolving door **RS-COLOR** by **Grupsa**, the reduced speed outer pushbutton is installed on the night-lock post intended to house any element, both drive and safety.



### FLOORMAT

The revolving door **RS-COLOR** by **Grupsa** can optionally install a floormat. There are two possibilities of floormat that are detailed below.

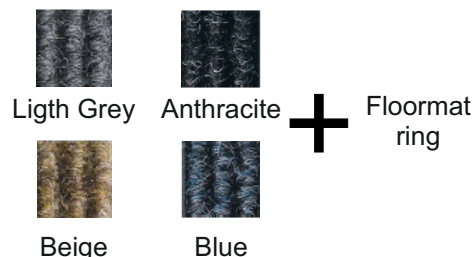
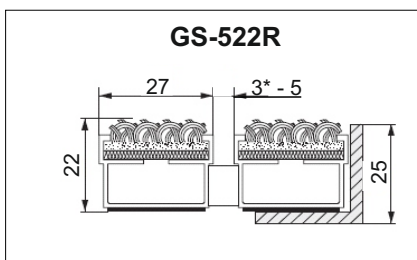
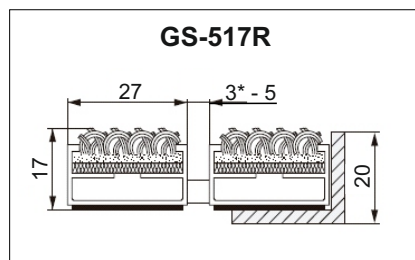
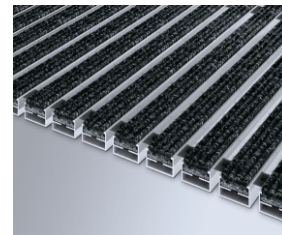
- The entrance rubber floormat **GS-517G** and **GS-522G** for doors **Grupsa** is suitable for the installation in outside areas. Extremely resistant to be placed on the floor. It is made to adjust perfectly to the specifications of wide and depth of displacement, without the need of alignment profiles. It is available in any geometric shape. Profiles assembled over acoustic insulation on the base. With recessed surface, robust, resistant to weather conditions. Tested rubber insertions. Connection by means of Stainless-Steel wire coated with plastic.





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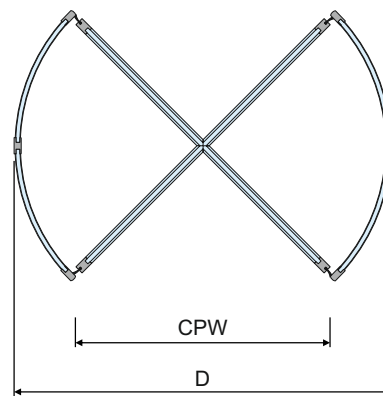
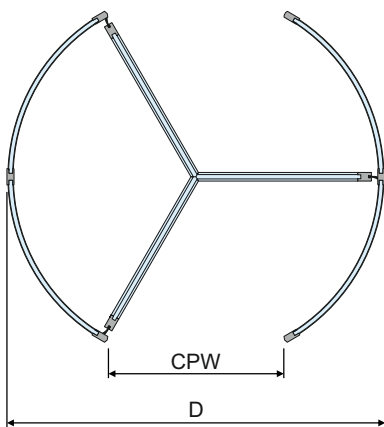
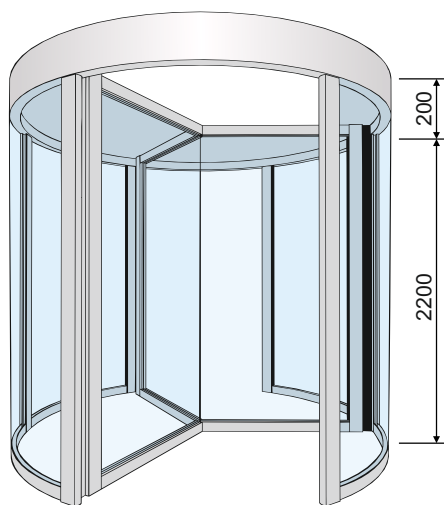
- The entrance textile floormat **GS-517R** and **GS-522R** for doors **Grupsa** is suitable for the installation in outside areas. Formed by profiles of support in aluminum against twisting provided of strips robust of fiber textile replaceable, resistant to wear, rotproof and absorbents in 4 colors standard to choose. Profiles assembled over acoustic insulation on the base. Union between profiles by cable of steel galvanized of 2,5mm of thickness within of pvc sheath of PVC.



\*According to EN 16005 for revolving doors

### DIMENSIONS

The revolving door **RS-COLOR** by **Grupsa** is manufactured as standard with the following dimensions.



REF.	D	CWP	SG	LG
RSC1803	1800	830	4.4.2	4.4.1
RSC2003	2000	930		
RSC2203	2200	1030		
RSC2403	2400	1130		
RSC2603	2600	1230		
RSC2803	2800	1330		
RSC3003	3000	1430		
RSC3203	3200	1530		
RSC3403	3400	1630		
RSC3603	3600	1730		
RSC3803	3800	1830		
RSC4003	4000	1930		

Standard dimensions en mm.

REF.	D	CWP	SG	LG
RSC1804	1800	1210	4.4.2	4.4.1
RSC2004	2000	1350		
RSC2204	2200	1490		
RSC2404	2400	1630		
RSC2604	2600	1770		
RSC2804	2800	1910		
RSC3004	3000	2050		
RSC3204	3200	2190		
RSC3404	3400	2330		
RSC3604	3600	2470		
RSC3804	3800	2610		
RSC4004	4000	2750		

Standard dimensions en mm.

HT-PGAUTRSC05-ES N&D-0820



**NOTE:**

The specifications shown in this document are for informational purposes and are not binding. We reserve the right for modifications without previous notice.