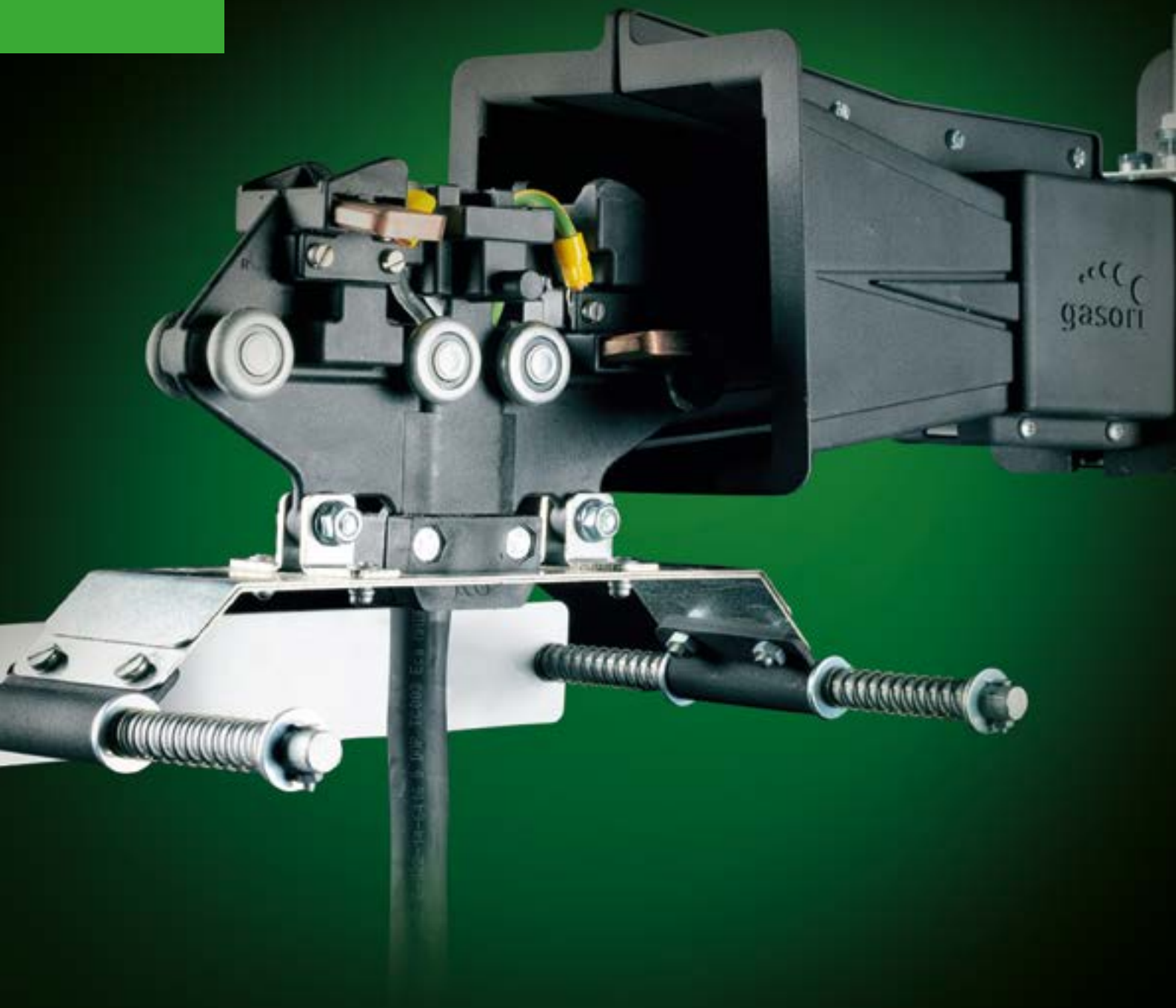
RG



MODUCTOR®

MULTICONDUCTOR MODULAR SYSTEM

INDEX


CERTIFICADO DE CONFORMIDAD DEL CONTROL DE PRODUCCIÓN EN FÁBRICA


ANEXO CERTIFICADO DE CONFORMIDAD DEL CONTROL DE PRODUCCIÓN EN FÁBRICA


CERTIFICADO DE APROBACIÓN


Certificado de Aprobación

GASORI, S.L.

RG APPLICATIONS

The MODUCTOR protected line consists of a modern, anti-accident system with adjustable power outlets, for supplying mobile equipment: cranes, hoists, conveyor belts, textile lines, chain conveyors, automated warehouses, etc.

Adapted to national and international standards, the MODUCTOR line offers maximum guarantee against unwanted accidental contact, allowing rapid assembly and safe, reliable performance.

The bars are supplied with copper strip conductors housed in the isolated housing, for assembly in consecutive sections. The electrical conductors are joined between bars, by means of connecting copper plates locked with nuts and bolts. This assembly is protected with the corresponding isolated plastic joint.

Curved tracks are available against order; just send us a simple sketch with radius and angles. Minimum manufacturing radius: 1 meter.

The bars are manufactured in standard lengths of 4m, with 4 or 5 copper conductors in 6 different sections (from 25 A to 140 A). Other lengths, on demand. Installations with more than 5 conductors and currents in excess of 140 A can be obtained by consecutively assembling several housings connecting them in parallel.

FEATURES

RG

SAFETY:

Line protected by its external isolation. First on the market with coextruded sealing strips.

SPACE:

The MODUCTOR line occupies minimum space compared with other conventional electrical power supply systems.

EXPANSION / CONTRACTION:

The system absorbs length differences caused by expansion / contraction at each joint of the bar, without the need for "special" expansion / contraction joints.

ENLARGEMENTS:

Being a modular system, the installation can be enlarged or reduced by adding or removing sections.

ASSEMBLY:

Quick and simple: a single assembly track leaves the line ready for service.

ELECTRICAL SUPPLY:

At the beginning of the line or at any of the joints between bars (connections).

REPAIRS:

Sections of the already assembled line can be replaced without the need of moving the rest of the line.

VOLTAGE:

Up to 600 V

OPERATIONAL TEMPERATURE:

From -30ºC to +55ºC.

OUTDOOR INSTALLATIONS:

We recommend installing sliding supports made stainless steel (RG01-I). Also, we recommend protecting the line from solar radiation, using adequate protection.

DEGREE OF PROTECTION:

IP 23.

RG LINE CALCULATIONS

To choose the most suitable line required for a certain current and to define the location of the supply point/s, add up all the currents of any motors that could be in simultaneous operation, as well as any foreseeable voltage drop.

The simultaneity of Starting currents (IA) and Service currents (IN) will be added.

The following table is a guideline for supplying one or several units.

NUMBER OF UNITS	MOST POWERFUL MOTOR	2ND MOST POWERFUL MOTOR	3RD MOST POWERFUL MOTOR	4TH MOST POWERFUL MOTOR
1	I_A	I_N	-	-
2	I_A	I_N	I_N	-
3	I_A	I_A	-	-
4	I_A	I_A	I_N	-

STARTING CURRENT (I_A) is that used by the motor when its rotor is stopped. This detail is characteristic of the motor and is measured during the tests of the motors, and according to the REBT in its first Instruction ITC-BT-47 this should not exceed, in alternative current the following values:

POWER MOTOR	I_A / I_N
From 0,75 Kw to 1,5 Kw	4,5
From 1,5 Kw to 5 Kw	3
From 5 Kw to 15 Kw	2
More than 15 Kw	1,5

NOMINAL CURRENT (I_N) is that used by the motor when it develops its nominal power, connected to nominal voltage. This value is obtained with the following formula:

$$I_N = \frac{P}{\sqrt{3} \cdot V \cdot \cos \varphi}$$

I_N = Nominal current in amps.
P = Power in watts
V = Voltage between phases
Cos φ = Power factor

The power factor or **Cos. φ** is an "electrical quality factor" of the motor. The greater this is, less current will be absorbed to develop the same power. Its value tells us the "quality" of the motor regarding its consumption; we consider its value as 1.

LINE CALCULATIONS

The voltage drop for alternative three-phase current is calculated by means of this formula:

$$\Delta U = \sqrt{3} \cdot I \cdot L \cdot Z$$

$$\Delta U(\%) = \frac{\Delta U \cdot 100}{U}$$

ΔU = Voltage drop (Volts)
I = Current (Amps)
L = Considered length (meters).
Z = Impedance of conductors (Ω/m)

Value L (length considered in meters) varies according to the location of the power supply:

- With a supply at one end: L = length of the line
- With a central supply: L = length of the line / 2
- With supply at both ends: L = length of the line / 4
- Supply at 1/6 from each end: L = length of the line / 6

This value is also reduced when considering the width of mobile machines , and increases when taking into account the length of the cable from the supply to the line to the electricity control panel.

POWER		THREE-PHASE				CURRENT
		230V		400V		
CV - HP	Kw	I_N	I_A	I_N	I_A	
0,75	0,55	1,73	7,80	1	4,49	
1	0,74	2,31	10,40	1,33	5,98	
1,5	1,10	3,47	15,61	1,99	8,97	25 A
2	1,47	4,62	13,87	2,66	7,98	
3	2,21	6,94	20,81	3,99	11,97	
4	2,94	9,25	27,75	5,32	15,95	
5	3,68	11,56	34,68	6,65	19,94	40 A
7,5	5,52	17,34	34,68	9,97	19,94	
10	7,36	23,12	46,24	13,29	26,59	60 A
13	9,57	30,06	60,12	17,28	34,57	
15	11,04	34,68	69,36	19,94	39,88	80 A
20	14,72	46,24	69,36	26,59	39,88	
25	18,40	57,80	86,71	33,24	49,86	100 A
30	22,08	69,36	104,5	39,88	59,83	
40	29,44	92,49	138,73	53,18	79,77	
50	36,80	115,61	173,41	66,47	99,71	140 A
60	44,16	138,73	208,09	79,77	119,65	
70	51,52	161,85	242,77	93,06	139,60	

RG SPECIAL INSTALLATIONS

LINES WITH CURVED SECTIONS

A simple sketch of the installation is needed for manufacturing the line, indicating radiuses and angles as well as lengths of the straight sections. The minimum manufacturing radius is 1 m.

PARALLEL ASSEMBLY

Installations requiring currents above 140 A or more than 5 conductors, need a parallel installation of several lines.

INSTALLATIONS IN AGGRESSIVE ENVIRONMENTS

We recommend using stainless steel nuts and bolts and metallic components with epoxy treatment for installations in aggressive environments.

ELECTRIC LINES WITH ISOLATING SECTIONS

Installations requiring interruption of current, as required, on a certain section of the line, require the assembly of a isolating section breaker RG 12 and double current collector.(e.g. Creation of a revision-repair area for cranes, isolated from the rest of the layout.)

LINEAS TRANSFER

Possibility of creating installations with switching and transfer points.

ISOLATED HOUSING

RG

MATERIAL

PVC rigid self-extinguishable UNE-EN 60695-2-10 and UNE-EN 12608, y and sealing strip made from pultrusioned plasticized rubber.

ELECTRICAL CHARACTERISTICS

Dielectric resistance	25 KV/mm
Transversal resistivity	$1x10^{16}$ Ω/m

MECHANICAL CHARACTERISTICS

Resistance to flexion	780 Kg/cm^2
Resistance to torsion EN-ISO 527	430 Kg/cm^2
Resistance to traction EN-ISO 527	> 430 Kg/cm^2
Resistance to impact EN-ISO 179	No ruptura

OPERATIONAL TEMPERATURE

From -30ºC to +55ºC (from -22ºF to +131ºF)	
Degree of Vicat , 5 Kg. (ISO R 306)	80ºC (176ºF)

RESISTANCE TO CHEMICAL AGENTS

Mineral oils and greases	Yes
Dissolvent	Yes, except aromatic, ketonic and chlorine dissolvent
Hydrochloric acid	No
Concentrated sulphuric acid	No
Diluted sulphuric acid at 50%	Yes
Caustic sosa at 50%	Yes, at less than (104ºF)
Density en-iso 1183	1,44 g/cm^3
Expansion / contraction coefficient	0,05 mm/m/ºc
Flammability (UL 94)	vo.
Water absorption	Undetectable <0,07%

RG CONDUCTORS

MATERIAL

Electrolyte copper strip, according to EN 13599 standards and certified Cu-ETP quality

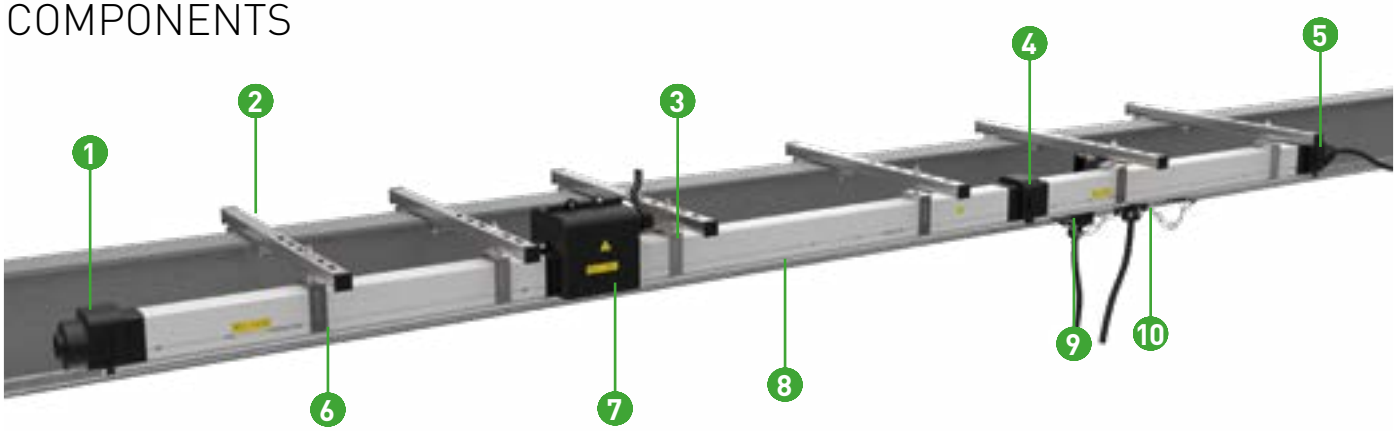
Expansion / contraction coefficient	0,0165 mm/m/°C
Resistivity	0,0172 Ω/m/mm²
Density	8,9 g/cm³
IACS conductivity	100

CURRENT A	VOLTAGE V	IMPEDANCE Ω / m.	SECTION mm²	VOLTAGE DROP V / m / A	WEIGHT g/m
25	500	$2{,}2\times10^{-3}$	7,75	0,00388	68,98
40	500	2×10^{-3}	9,3	0,00346	82,77
60	500	$1{,}75\times10^{-3}$	12,4	0,00303	110,36
80	500	$1{,}18\times10^{-3}$	17,05	0,00204	151,74
100	500	1×10^{-3}	21,7	0,00173	193,13
140	500	$0{,}75\times10^{-3}$	31	0,00123	275,90

"Voltage drop" values considered at 20°C (68°F), Cos φ=1 and E.D. (movement factor) 80% in alternative three phase current.

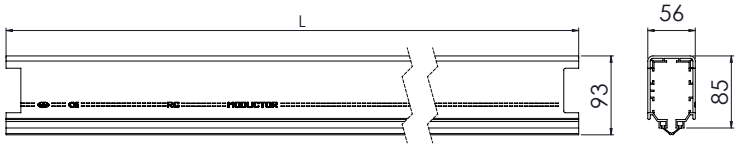
- With temperatures of 30°C (86°F) apply correction factor of 1.04
- With temperatures of 40°C (104°F) apply correction factor of 1.08
- With temperatures of 50°C (122°F) apply correction factor of 1.12
- With movement factor E.D. 60%, apply correction factor of 0.77

SCHEMATIC DESCRIPTION OF COMPONENTS



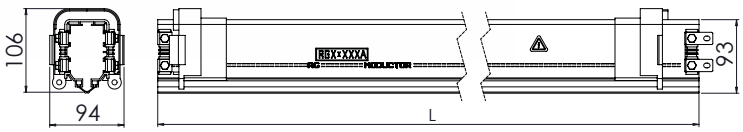
1. END CAP RG04
2. UNIVERSAL SUPPORT
3. FIXED POINT RG05N
4. JOINT RG02
5. END FEED RG03
6. SLIDING SUPPORT RG01N
7. LINE FEED RG07
8. MODUCTOR BAR
9. TOWING ARM RG06
10. CURRENT COLECTOR RG14

MODUCTOR PROFILE Ref. 3020RGPM4 o 3020RGPM5 (for 4 or 5 poles)



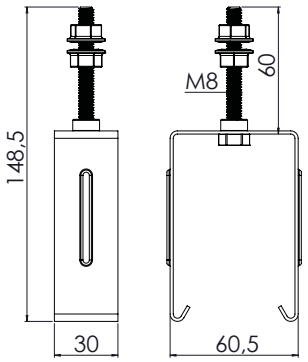
MODUCTOR BAR Ref. RG4X o RG5X (for 4 or 5 poles)

Includes a RG02 joint.



DESCRIPTION	REFERENCE	WEIGHT / m.
4 conductors bar 25 A	RG4x25A-L	1,78 Kg.
5 conductors bar 25 A 25 A	RG5x25A-L	1,85 Kg.
4 conductors bar 25 A 40 A	RG4x40A-L	1,84 Kg.
5 conductors bar 25 A 40 A	RG5x40A-L	1,92 Kg.
4 conductors bar 25 A 60 A	RG4x60A-L	1,95 Kg.
5 conductors bar 25 A 60 A	RG5x60A-L	2,06 Kg.
4 conductors bar 25 A 80 A	RG4x80A-L	2,15 Kg.
5 conductors bar 25 A 80 A	RG5x80A-L	2,31 Kg.
4 conductors bar 25 A 100 A	RG4x100A-L	2,32 Kg.
5 conductors bar 25 A100 A	RG5x100A-L	2,51 Kg.
4 conductors bar 25 A 140 A	RG4x140A-L	2,65 Kg.
5 conductors bar 25 A 140 A	RG5x140A-L	2,93 Kg.

SLIDING SUPPORT Ref. RG01N



Designed to support the Conductor bars allowing their movement with expansions or contractions due to temperature.

Casing made from galvanized steel fitted with plastic cover screwed to the metal sheet to impede the bar coming out of the support.

It is supplied pre-assembled on the conductor bar.

Lines of 25 A, 40 A and 60 A. assembly every 2 m.

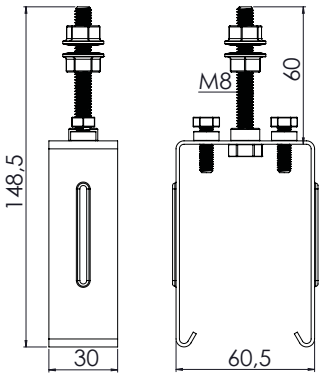
Lines of de 80 A, 100 A and 140 A assembly every 1,33 m.

Assembly on the structure, adjustable in height, by M8 screws and nuts.

Weight: 157 g.

Available in Stainless Steel RG01N-I

FIXED POINT Ref. RG05N



Necessary to avoid line movement, assuring the fixing and controlling unit expansions and contractions.

Casing made from galvanized steel sheet with epoxy treatment.

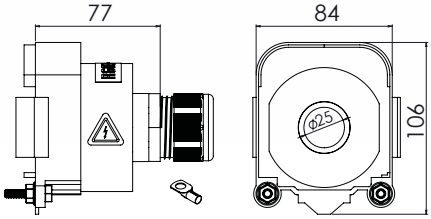
Assembly on the structure, adjustable in height, by M8 screws and nuts.

When assembling, assure its fixing to the PVC profile by tightening the M6 bolts.

Weight: 168 g.

Available in Stainless Steel RG05N-I

END FEED Ref. RG03

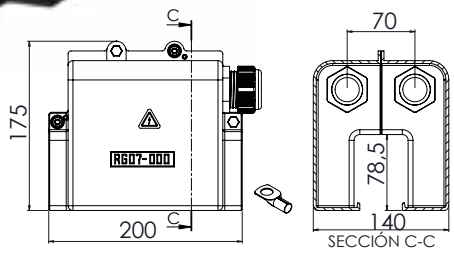


Designed for feeding the line at its end. In insulating material. Equipped with connection terminals and glands for round cable. Push-in tab and M6 nut-bolt (2 pieces) bar joint connection on bottom part.

Weight: 140 g.

CONDUCTORS	AMPS	REFERENCE
4	25 - 40 – 60	RG03-460
5	25 - 40 – 60	RG03-560
4	80 – 100	RG03-4100
5	80 – 100	RG03-5100
4	140	RG03-4140
5	140	RG03-5140

LINE FEED Ref. RG07

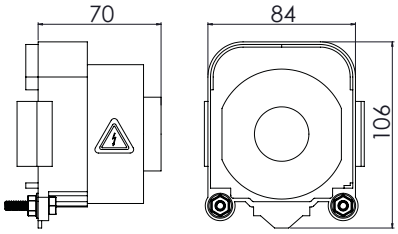


To supply the line at any bar joint, as well as acting as a joint. Made from isolation material Equipped with connection terminals and glands for round cable.

Weight: 265 g.

CONDUCTORS	AMPS	REFERENCE
4	25 - 40 – 60	RG07-460
5	25 - 40 – 60	RG07-560
4	80 – 100	RG07-4100
5	80 – 100	RG07-5100
4	140	RG07-4140
5	140	RG07-5140

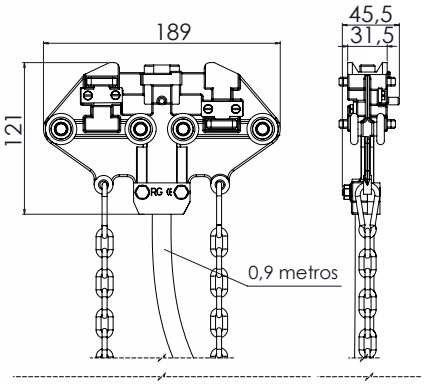
END CAP Ref. RG04



Assures and protects the sealing of the line at its end. Made from isolation material Fixing to bar joint with pressure tab and nut and screw (2 pieces.) M6 at its lower part.

Weight: 95 g.

CURRENT COLLECTOR Ref. RG14



Body made from insulating material and 4 metal-graphite brushes N-51 with stainless steel 302 springs. It moves by means of metallic ball bearings. To avoid any mistake when connecting the phases, the trolley only fits in one position for moving through the inside of the housing: one side of the collector has an anti-reverse round stop.

It is supplied connected to the brushes with round cable 4G4 mm^2.

Equipped with 2 towing chains for its fixing to the towing arm.

Maximum speed: 160m/min. In curves 90m/min.

The corresponding towing arm is ref. RG 06

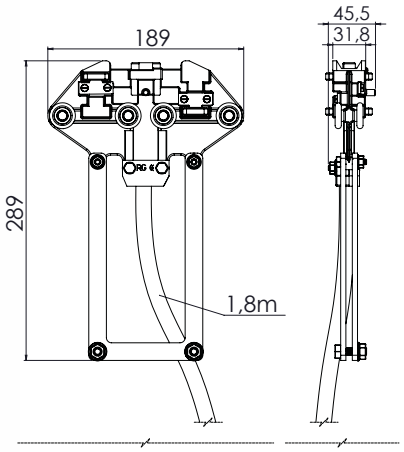
Weight: 738 g.

CURRENT COLLECTOR Ref. RG15

Same characteristics as current collector ref. RG 14, but with 5 brushes. Round hose 5G4 mm^2.

Weight: 820 g.

CURRENT COLLECTOR FOR PULLEY Ref. RG14POL



Body made from isolating material and 4 metal-graphite brushes N-51 with stainless steel 302 springs. It moves by means of metallic ball bearings.

To avoid interchanging phases, the collector only has one position to move inside the housing: one side of the collector has an anti-inverter round stop.

It is supplied connected to the brushes with 1.6 m of round cable 4G 2.5 mm^2 .

Maximum speed: 160m/min. In curves 90m/min.

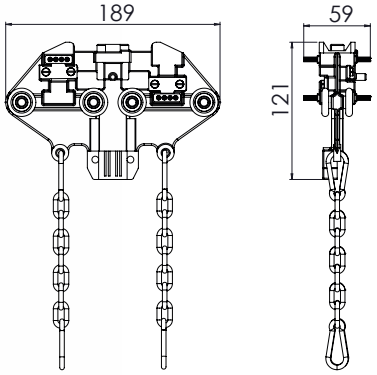
The corresponding towing arm is ref. RG 06-POL.

Weight: 850 g.

5 POLE CURRENT COLLECTOR Ref. RG15POL

Same characteristics as RG14POL but with 5 brushes and hose 5G2,5 mm^2

POLE CLEANING COLLECTOR Ref. RG16



Made from isolating material and 4 nylon cleaning brushes of 0.5 mm with stainless steel 302 springs. It moves by means of metallic ball bearings. To avoid interchanging the phases, the collector has only one position for moving inside the housing: one side of the collector has a round anti-inverter stop.

Equipped with 2 towing chains for its fixing to the towing arm.

Maximum speed: 160m/min. In curves 90m/min.

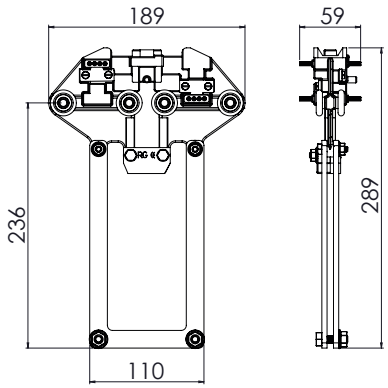
The corresponding towing arm is ref. RG 06

Weight: 690 g.

5 POLE CLEANING COLLECTOR. Ref. RG17

Same characteristics as cleaning collector ref. RG 16, but with 5 brushes. **Weight:** 702 g.

CURRENT COLLECTOR FOR PULLEY Ref. RG16POL



Body made of insulating material and 4 x 0.5mm nylon cleaning brushes with stainless steel 302 springs. It travels by means of metal ball bearings. The trolley only has one position for travelling through the inside of the profile, given that one of the trolley's sides has an anti-reverse stop.

Equipped with with two U-plates to allow towing.

Maximum speed: 160m/min. In curves 90m/min.

The corresponding towing arm is ref. RG06POL

Weight: 802 g.

CURRENT COLLECTOR FOR PULLEY Ref. RG17POL

Same characteristics as cleaning collector ref. RG16POL, but with 5 brushes.

Weight: 814 g.

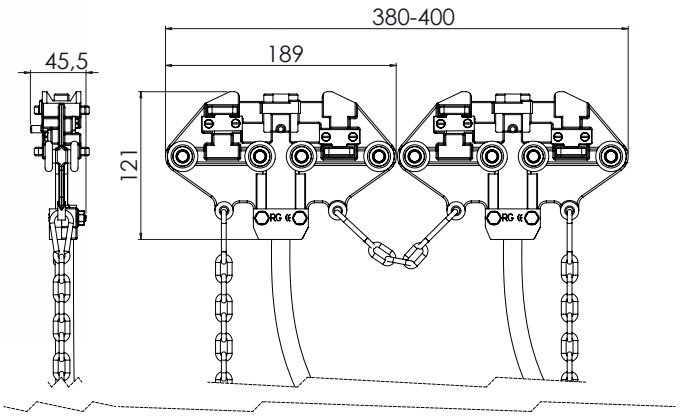
DOUBLE CURRENT COLLECTOR Ref. RG24

Necessary for currents between 35 A. and 70 A. Also, a double collector should be assembled in installations that require isolating section ref. RG 12. Consisting of the joint, with the chain, and two current collectors

Maximum speed: 130m/min. In curves 70m/min.

The corresponding towing arm is Ref. RG 08

Weight: 1.526 g.



DOUBLE CURRENT COLLECTOR Ref. RG25

Consisting of the joint, with the chain, and two double current collectors ref. RG 15

Maximum speed: 130m/min. 70m/min in curves. The corresponding towing arm is ref. RG 08

Weight: 1.690 g.

DOUBLE COLLECTOR FOR PULLEY Ref. RG24POL

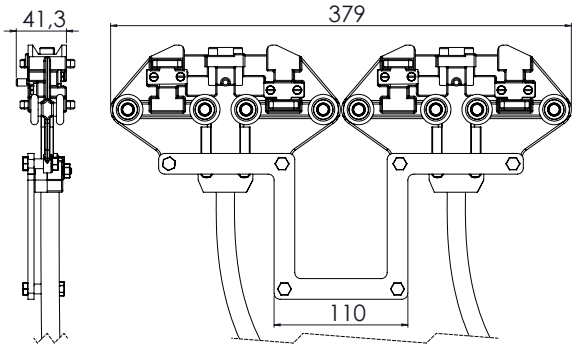
Body made of insulating material and 4 x metal graphite N-51 brushes with stainless steel 302 springs. It travels by means of metal ball bearings.

To prevent swapping phases, the trolley only has one position for travelling through the inside of the profile: one of the trolley's sides has a round anti-reverse stop.

It is supplied connected to the brushes with 1.6 m round cable 4G2,5 mm².

Maximum speed: 160m/min. In curves 90m/min.
The corresponding towing arm is Ref. RG06POL.

Weight: 850 g.



DOUBLE COLLECTOR FOR PULLEY Ref. RG25POL

Same characteristics as RG24POL but with 5 brushes and hose 5G2,5 mm².

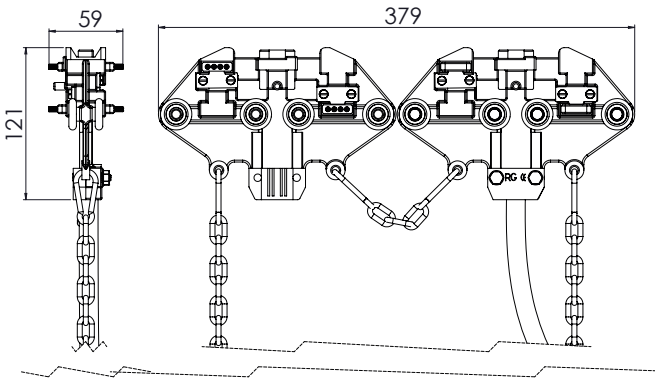
DOUBLE CLEANING COLLECTOR 4X35 A Ref. RG26

Consisting of the joint, with the chain, of a current collector ref. RG 14 and a cleaning collector ref. RG16

Maximum speed: 130m/min. In curves 70m/min.

The corresponding towing arm is Ref. RG 08

Weight: 1.430 g.



DOUBLE CLEANING COLLECTOR 5X35 A Ref. RG27

Consisting of the joint, with the chain, of a current collector ref. RG 15 and a cleaning collector ref. RG17
Maximum speed: 30m/min. In curves 70m/min. The corresponding towing arm is ref. RG 08.
Weight: 1.454 g.

TOWING ARM Ref. RG06

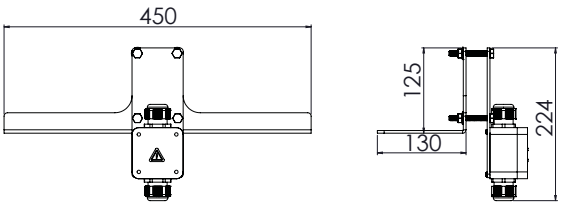
In galvanized steel. Necessary for towing the collector trolley (ref. RG 14, RG15, RG16 or RG 17) for displacement along the line.

To be fitted by means of a steel plate with nuts and bolts, making sure it is centred and correctly aligned under the line.

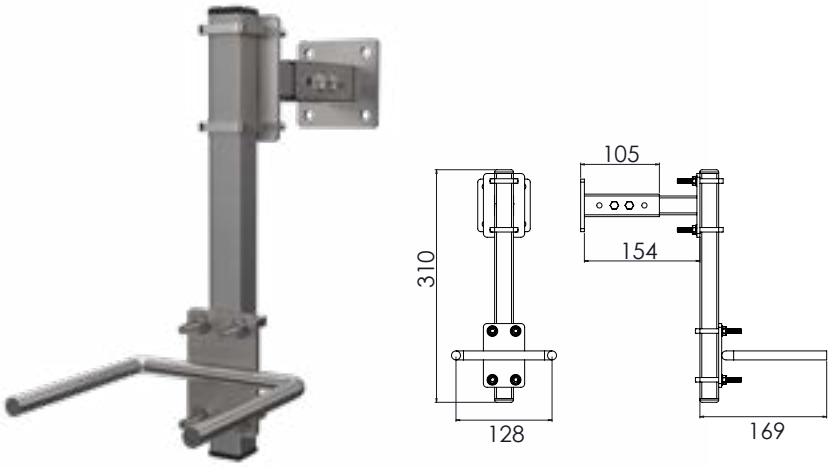
Fitted to the current collector by means of chains, to allow horizontal and vertical deviations along the installation.

Includes a connection box with terminals and 2 glands (one inlet gland and another outlet one).

Weight: 1.600 g.



TOWING ARM FOR HOISTS Ref. RG06POL



Suitable for collecting vehicles RG14 POL and RG15 POL.

Designed to obtain both horizontal and vertical optimal regulation in a small space.

Its installation requires welding the regulation tube to one of the hoist sides (see drawing).

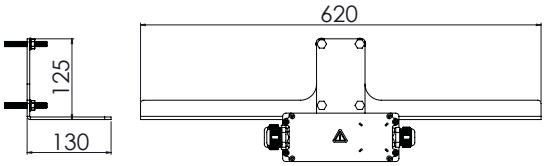
Weight: 3.200 g.

TOWING ARM FOR COLLECTOR Ref. RG08

Necessary for towing the current collector (ref. RG 24, RG 25, RG26 or RG27) for its displacement along the line.

Same characteristics as the arm ref. RG 06, but longer and includes connection box with terminals for greater section and 3 glands (2 for inlet and 1 for outlet).

Weight: 2.050 g.



RIGHT/LEFT TRANSFER GUIDE Ref. RG50-R/RG50-L

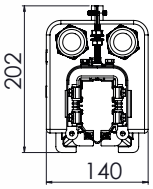
Part of the Transfer Guide Assembly that is attached to the end of the fixed sections to allow the current collector trolley to be inserted on the line.

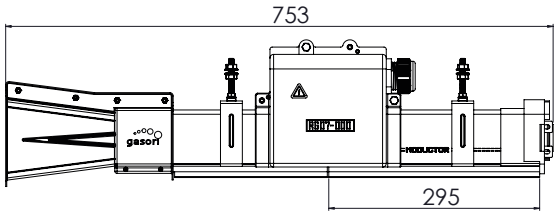
Made up of an insertion funnel, an intermediate supply and a joint, as well as two MODUCTOR sections with two fixed points.

It is supplied in a right or left version depending on the position of the earth line.

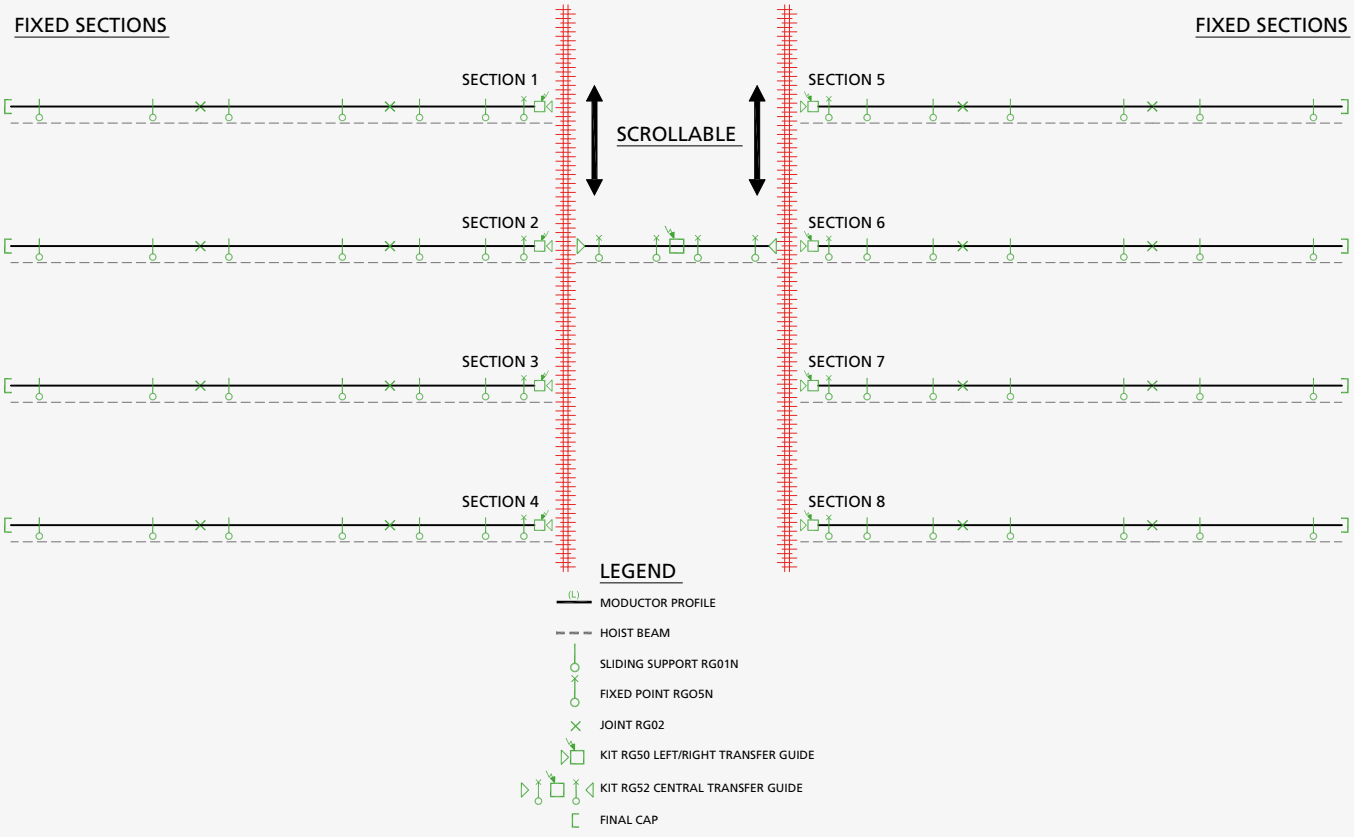
Weight: 2,600 g.

Available for 5-pole lines with references RG50-5P-R/RG50-5P-L

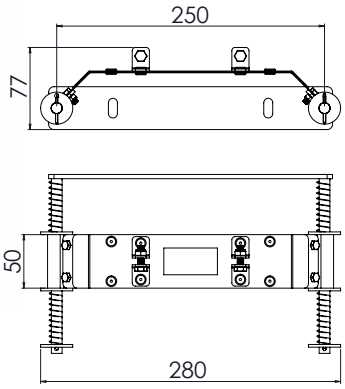




TRANSFER GUIDE DIAGRAM RG50



TRANSFER GUIDE TOWING ARM Ref. RG51



Towing arm suitable for systems with RG50 and RG52 transfer guides. Designed to achieve a perfect line change. It has 4 springs to absorb horizontal play, and two plates that work like a leaf spring to absorb vertical play.

Stainless steel support with pre-galvanized steel leaf springs, galvanized mechanical fasteners and polyamide bushings (optional stainless steel bushings)

Weight: 0,860 g.

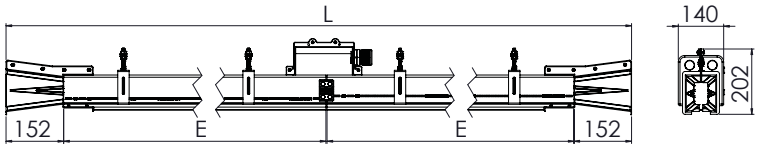
INNER TRANSFER GUIDE Ref. RG52-L

Part of the Transfer Guide Assembly that is fitted on the moving line section to allow the current collector trolley to be inserted on the line.

Made up of of two funnels, one on each side, an intermediate supply and a number of fixed points determined by the following table, in addition to two MODUCTOR profile sections of suitable length for each installation.

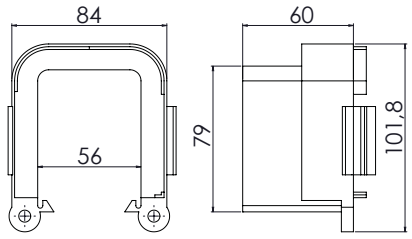
Weight: In terms of "L".

Available for 5-pole lines with references RG50-5P-L



TOTAL NUMBER OF FIXED POINTS	
E (mm)	**UNITS (x 2 sides)**
E < 300	1 x 2 = **2**
300 ≤ E < 850	2 x 2 = **4**
850 ≤ E < 1250	3 x 2 = **6**
1250 ≤ E < 1650	4 x 2 = **8**
1650 ≤ E	As per installation characteristics

HALF JOINT Ref. RG02-1



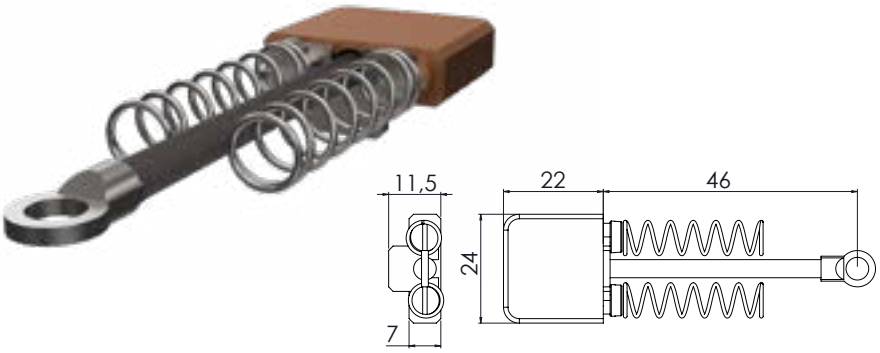
Made from insulating material to protect and isolate the copper conductor connections. Supplied pre-assembled on the bars (half-joint at each end).

Manual joint for both halves, by pressure clips.

For special installations, and for greater safety, They can also be joined with M6 nuts and bolts (2 pieces.) at their lower part.

Weight: 117 g.

CARBON BRUSH Ref. RG11



Made of N-51 quality graphite and copper, it transports electrical current from the MODUCTOR profile to the cables that feed the motor. Stainless steel springs exert pressure on the conductors for the line. This is a replacement part, since it suffers wear due to friction while operating.

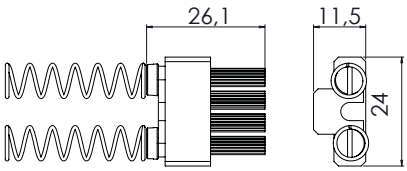
Complies with standards: UNE-EN 20027-1:1978 and IEC 276:1968 + A1:1997

Weight: 24 g.

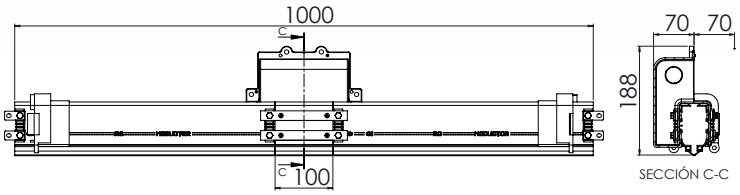
CLEANING BRUSH Ref. RG13

Made from 0.5 mm nylon, pressing on the conductors by means of stainless steel 302 springs. This element has to be replaced after wear. It is supplied with the springs.

Weight: 12 g.



ISOLATING SECTION Ref. RG12



Necessary for interrupting, at will, the electricity current flow in a certain section of the line. Double collectors should be used for this type of installations. It can be assembled and connected between two modular bars. It is supplied ready for connecting to modular bars.

Total length: 1 m.

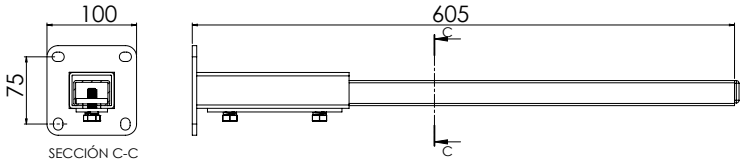
Weight: Variable due to number of conductors and current (to be indicated in your order).

WALL SUPPORT Ref. RG20

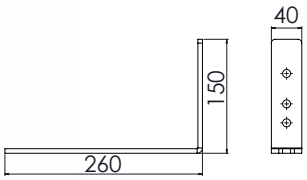
Assembly system for wall fixing and supports for the line RG 01 and the fixed point RG05N. Eliminates welding and allows corrections for good supply of the system.

Recoverable in case of change of location or re design of the line. Galvanized steel. Standard profile length: 600 mm. (can be supplied in other lengths on demand)

Weight: 2.200 g.



WALL SUPPORT Ref. RG20MX-1 / RG20MX-2

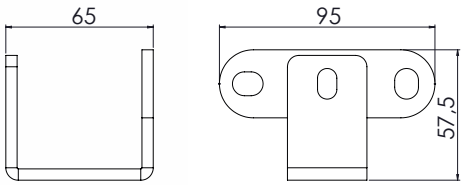


Assembly system for fixing the RG01N and RG05N line supports to the wall. Eliminates welding work and allows corrections for correct system alignment. Recoverable should the line be transferred or redesigned.

Available in 4mm thick pre-galvanized steel sheet (ref.RG20MX-1), or 6mm thick steel sheet (RG20MX-2) post galvanized.

Weight: RG20MX-1: 420 g.
Weight: RG20MX-2: 630 g.

CEILING SUPPORT Ref. RG21



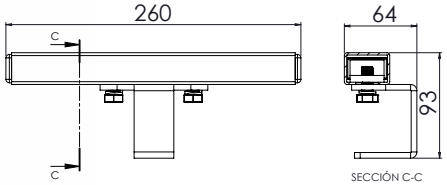
Assembly system for ceiling installation of the supports for the line RG01N and the fixed point RG05N.

Eliminates welding. Can be re-used in the case of displacement or re-design of the line.

Galvanized steel

Weight: 250 g.

SLIDING CEILING SUPPORT Ref. RG23



Represents an option for assembly to install a ceil ing support for line RG01N and fixed point RG05N. Eliminates welding and this model allows perpendicular corrections of the line for good alignment of the system. Recoverable in case of change of location or re-design of the line.

Galvanized steel

Standard profile length: 250 mm.

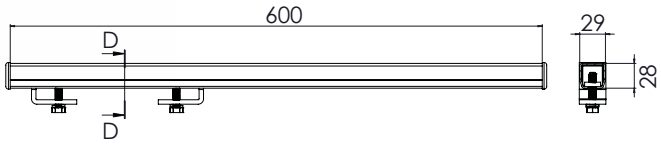
Weight: 850 g.

(can be supplied in other lengths on demand).

UNIVERSAL SUPPORTS

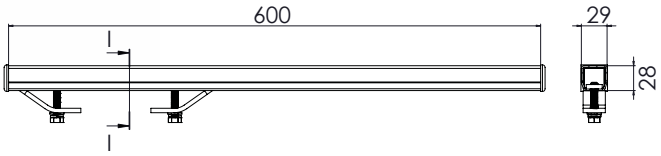
Ref. SUN-600

For beams with flange thickness e<10mm, it is made up of a section of perforated galvanized profile and two RG2812 galvanized flanges.



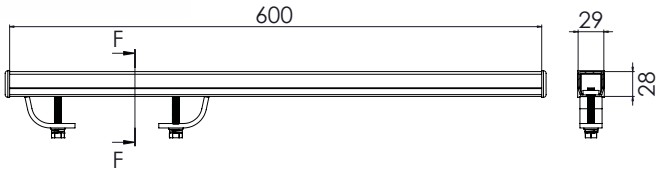
Ref. SUNG-600

For beams with flange thickness 10<e<20mm, it is made up of a section of perforated galvanized profile and two RG2821 galvanized flanges.



Ref. SUNV-600

For beams with flange thickness e>20mm, it is made up of a section of perforated galvanized profile and two RG2830 galvanized flanges.



This represents a mounting option for installing the supports of the RG01N line and the RG05N fixed point anchored to the flanges of standard IPN, IPE, IPS, IPR, HEB, HEA or HEM profiles.

Eliminates welding and allows corrections for good system supply.

Recoverable in case of change of location or redesigning the line.

Standard profile length: 600 mm.

(can be supplied in other lengths on demand).

Weight SUN-600: 1.292 g
Weight SUNG-600: 1.432 g
Weight SUNV-600: 1.500 g

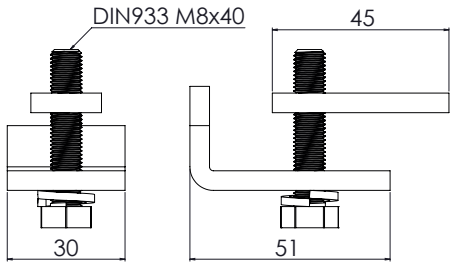
Available in Stainless Steel

Ref. SUN-600-INOX

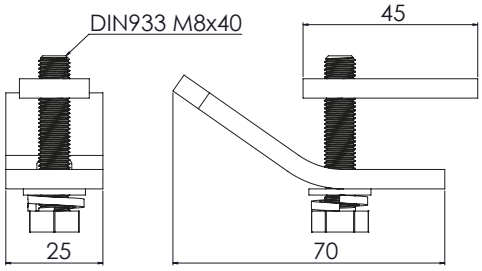
Ref. SUNG-600-INOX

Ref. SUNV-600-INOX

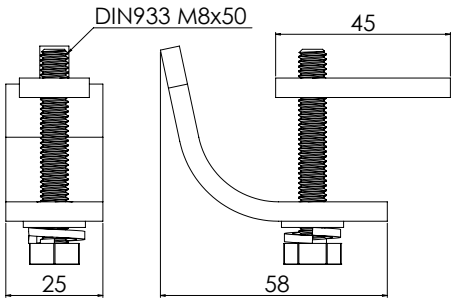
BEAM CLAMP FOR FLANGE e<10 Ref. RG2812



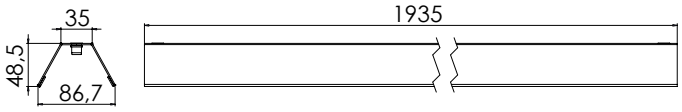
BEAM CLAMP FOR FLANGE 10<e<20 Ref. RG2821



BEAM CLAMP FOR FLANGE e>20 Ref. RG2830



OUTDOOR COVER RG93



Recommended for protecting the MODUCTOR system from exposure to weather such as sunlight, rain, snow, etc..

Made of galvanized steel and painted white, this accessory is always fitted with RG01N line supports with 1.33 m spacing.

There are 3 types of section: one with a hole for RG05N fixed point, and another two that allow the aforementioned support spacing to be achieved. The sections are fixed to each other by means of two types of bolted joint: one for the joint located in the centre of the MODUCTOR bar, and the other located on the RG02 joint, partially covering it.

Length of each section: 1.935m.

Weight: 1,95 Kg/m.

RG MODUCTOR LINE ASSEMBLY INSTRUCTIONS

STEP 1

Prepare the universal supports (or any other type), pre-assembling its components before the definite installation. **(Photo 1)**

STEP 2

When installing the RG01N sliding supports, place the supports (in this case Universal Supports) on the rail beam, spacing them as indicated for each amperage:

- for 25 A, 40 A. and 60 A. every 2 m.
- for 80 A, 100 A and 140 A every 1,33 m.

Fit one more support for installing the RG05N fixed point, next to the power supply, approximately 0.3m away from it. **(Photos 2 and 3)**

STEP 3

Position the conductor bars screwing the sliding supports RG01N to the universal supports. Make sure you place all the bars in the same position, that is to say, the Earth line marked on the PVC profile, and the "RG" sticker should be located **ALWAYS ON THE SAME SIDE LADO**. **(Photos 4 and 5)**

STEP 4

Joining 2 consecutive bars is done by connecting phase to phase the conductors, using the supplied connection plates and brass screws. **(Photo 6)**

STEP 5

Cover the connection, sliding the joints RG02 (both halves) until completely closed (click) using the pressure tabs **(Photos 7, 8 and 9)**. On outdoor lines, it is advisable to fit two M6 nuts and bolts on the bottom part of the joint (not part of the supply).

STEP 6

The electrical connection can be located either at one end of the line (End Power Supply RG03 **(Photo 14)**, or on any joint of sections along the installation (Intermediate Power Supply RG07) **(Photo 15)**. This is done by connecting each of the phases **(Photo 10)** and then fitting the cover. **(Photos 11 and 12).**

STEP 7

Install a fixed point RG05N next to the end feed **(Photos 13 and 14)**, or two fixed points, one at each side, in the case of line feed **(Photo 15)**. The distance for installing in both cases will be approx.

STEP 8

Introduce in the end of the line, or using any housing joint, the collector trolley, by manually pressing the brushes, taking into account it only has **ONE POSITION:** The brush marked as "Earth " has to be located on the side of the PVC profile indicated with black and white stripes, and with an "RG" sticker **(Photos 16 and 17)**.

Then close the line either using the end cap RG04 **(Photo 18)**, or the joint between housing, according to the indicated in steps **4** and **5**.

STEP 9

Fit the corresponding towing arm (RG06 on single trolleys) **(Photo 19)**, RG08 on double trolleys, or RG06POL on trolleys for hoists **(Photo 20)**, aligning it with the central axis of the conductor bars, and slightly lower than the collector trolley. It is very important that the pulling is parallel to the axis of the line. The collector trolley cable should be installed forming sufficient loop, to not cause any torsion of the trolley. **(Photos 19 and 20)**

STEP 10

Before making the connection to the mains of the line manually check that the collector trolley moves freely along the installation, without any abrupt movements, paying special attention to the joints between bars.

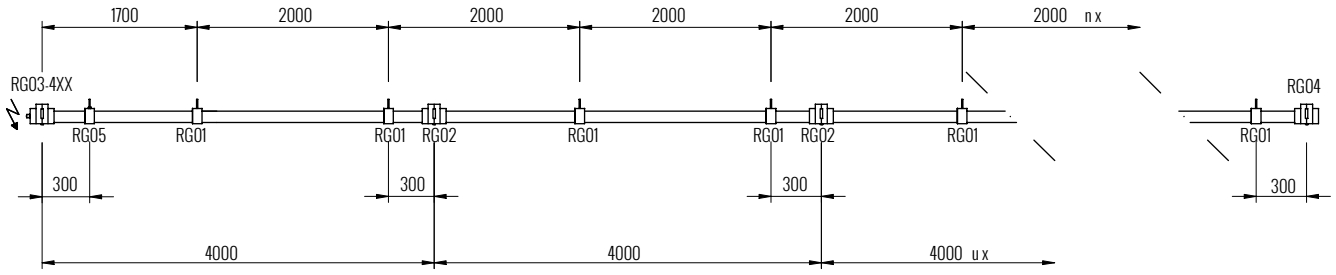
STEP 11

Make the connection to the mains, and check that the installation works correctly.

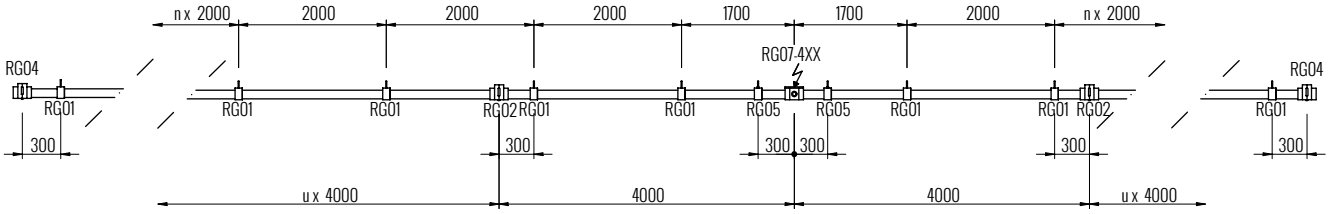
RG MODUCTOR LINE ASSEMBLY DRAWINGS

FOR LINES 25 A, 40 A and 60 A (supports every 2 m.)

With end feed

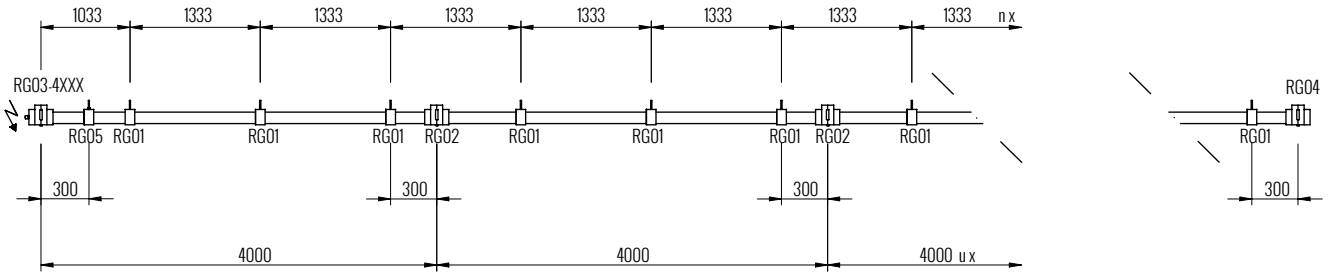


With line feed

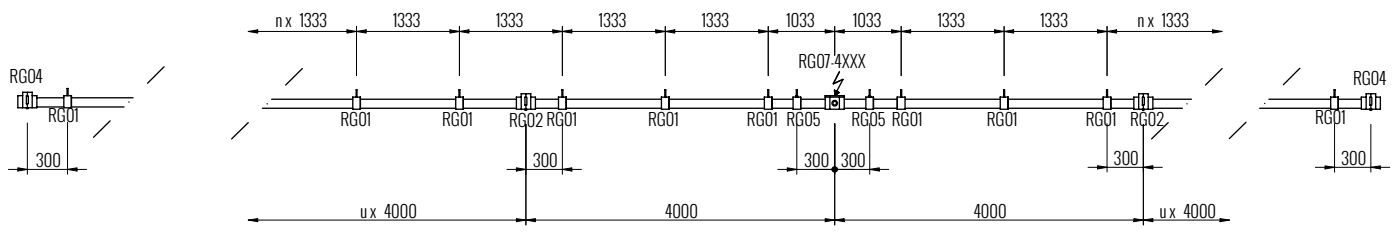


FOR LINES 80 A, 100 A and 140 A (supports every 1.33 m.)

With end feed



With line feed



QUESTIONNAIRE

QUESTIONNAIRE FOR COLLECTING DATA FOR PREPARING THE OFFER

Company: ..... **Contact person:** .....

Tel.: ..... **Date:** .....

E - mail: .....

01 **Number of machines to be supplied:**

02 **Length (m):**

03 **Voltage (V) and Frequency (Hz):**

04 **Necessary Conductors:**

☐ Single Phase ☐ 3+T ☐ 3+T+N ☐ Others

05 **Environmental Temperature (ºC):**

☐ Minimum: ☐ Maximum:

06 **Type of installation:**

☐ Indoors ☐ Outdoors ☐ Mixed

07 **Special operational conditions:**

☐ Humidity ☐ Chemical agents (indicate which)

☐ High dust levels ☐ Others (Indicate):

08 **Line power supply:**

☐ End ☐ Intermediate ☐ Multiple

09 **Operational speed (m/min):**

10 **Line assembly layout:**

☐ Double T (Indicate type and size):

☐ Others (send diagram):

11 **Do you need our universal supports to avoid welding?** ☐ Yes ☐ No

12 **Maximum voltage drop admitted over nominal voltage (%):**

13 **Consumption of the motors to be supplied (Complete the table):**

MOTORS	CRANE Nº1				CRANE Nº2				CRANE Nº3			
	KW	NOMINAL CONSUMPTION	STARTING CONSUMPTION	MOTOR TYPE*	KW	NOMINAL CONSUMPTION	STARTING CONSUMPTION	MOTOR TYPE*	KW	NOMINAL CONSUMPTION	STARTING CONSUMPTION	MOTOR TYPE*
Elevation												
Bridge movement												
Trolley movement												
Others												

***Motor: type**

J = Squirrel cage motor.
A = Slip-ring motor.
V = Motor in frequency converter.
X = Others.

Send the finished questionnaire to: **ventas@gasori.com**

RG

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