BRAKES CATALOGUE

PERFORMANCE
FOR MORE THAN 50 YEARS

RIMA S.R.L.
RAIL BRAKE TM

APPLICATIONS
These rail clamps are static storm brakes suitable for small to medium forces: from 25 to 800 kN. These rail clamps are to be considered as parking devices (safety against the movement caused by wind) that work pressing on rail sides. They are spring actuated (the spring generate the closing force) while an hydraulic cylinder fed by a suitable hydraulic unit provides the opening. Each rail clamp is composed substantially of one steel frame, two rail guides and two jaws operated by springs trough suitable levers.

The rail guides are placed into the frame in such a way to follow side displacement between crane and rail. The guides are constituted by plates properly shaped acting on side of the rail. In particular cases, rollers acting on the top of the rail can be used.

OPERATING RESTRICTIONS
Braking shoes of our rail clamp have been designed to work on common market rails whose hardness is between 200 and 270 HB (= 70 to 90 daN/mm²). The certification of TÜV is referred to above given values of rail hardness.

DETAILS

MAIN FEATURES
- Rail clamp
- Installation: side bolted
- Vertical float = ± 7,5 mm
- Horizontal float = ± 30 mm
- Tolerance respect to nominal width of the rail = ± 1.5 mm
- Opening time (signal for operation) = 4 seconds
- Closing time = adjustable from 4 to 12 seconds
- Standard painting =240 micron, RAL 9019
- Limit switch that signals clamp open

OPTIONS
- Hand Pump
- Working temperature different from standard (-20° +40°)
- Double side flanges or upper flange (with hydraulic unit supplied separately from rail clamps)
- Flange for buffer fixing
- Hydraulic unit suitable to operate with more rail clamps
- Electrical board (on plate or box IP55)
- Limit switch which signals rail clamps closed
- Mechanical limit switch instead of inductive
- Wider horizontal and vertical float
- Security side storage pins to be inserted into suitable socket on the quay

 HAND PUMP

Flange for buffer fixing
Wider horizontal and vertical float
Electronic board (on plate or box IP55)
Limit switch which signals rail clamps closed
Mechanical limit switch instead of inductive
Wider horizontal and vertical float
Security side stowage pins to be inserted into suitable socket on the quay

MANUFACTURING ACCORDING Q.C.P.
- Manufacturing according Q.C.P. different from our standard (Nuclear plan or special application)
- With special teeth for vertical force
- Language of documentation different from standard
- Certificates of materials (EN 10204-3.2, EN 10204-3.1 or EN 10204-3.2) for all main components

EMERGENCY MANUAL OPENING DEVICE
- The rail clamps are supplied with suitable tierods complete with nuts. Acting on two tierods by a common tool-key it is possible to open the rail clamps in case of emergency (lack of electric energy or hydraulic unit broken)
- Presence and shape of eventual Fish plates (rail joints) must be communicated (this could impede the regular functioning of rail clamps)
- In case of different values we must be informed at order.

Max misalignment of 1mm

Rev. 05/19
<table>
<thead>
<tr>
<th>CODE</th>
<th>HOLDING FORCE</th>
<th>WEIGHT</th>
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<tbody>
<tr>
<td>TM06-100-A</td>
<td>100 kN</td>
<td>135 kg</td>
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<tr>
<td>TM11-200-A</td>
<td>200 kN</td>
<td>760 kg</td>
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<td>TM21-400-A</td>
<td>400 kN</td>
<td>810 kg</td>
</tr>
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<td>TM31-600-A</td>
<td>600 kN</td>
<td>1000 kg</td>
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<tr>
<td>TM41-800-A</td>
<td>800 kN</td>
<td>1140 kg</td>
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</table>

* Forces and dimensions indicated are referred to maximum head width of rail 120 mm. For rails with head width greater than 120 mm please contact our technical office.

<table>
<thead>
<tr>
<th>CODE</th>
<th>HOLDING FORCE (A)</th>
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<th>F</th>
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**CALIBRATION**

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**HYDRAULIC UNIT**

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<td>S0-TM06-01</td>
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<td>0.75 kW/400V/49Hz</td>
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<td>1.5 kW/400V/50Hz</td>
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All dimensions in mm
Alterations reserved without notice.
### TM TECHNICAL DETAILS

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<tr>
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<th>G</th>
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<th>Screws</th>
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All dimensions in mm
Alterations reserved without notice.
RAIL CLAMP SELF-BLOCKING TYPE TA

APPLICATIONS
As storm brakes the self-blocking rail clamp even in working position starts really to work, pressing the rail sides, only if the wind force overcomes the gantry brakes capacity. When this happens and the crane tends to move, the rail clamps pressing on the rail sides with a force proportional to the wind force deducted the gantry brakes force.

DETAILS

MAIN FEATURES
- Rail clamp self-blocking type
- Minimize the friction contacts and consequently the rail guides wear
- Wide gap between rail guides and rail
- Installation: Bolted side flange
- Vertical float = ± 12 mm
- Horizontal float = ± 40 mm
- Tolerance respect to nominal width of the rail = ± 1.5 mm (or more upon request)
- Opening time [signal for operation] = 4.5 s
- Closing time = adjustable from 5 to 18 s
- Duty = 24 hours full operation
- Standard painting = 240 micron, RAL 5019
- Emergency Manual opening device
- Minimize the friction contacts and consequently the rail guides wear
- Wide gap between rail guides and rail
- Installation: Bolted side flange
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- Emergency Manual opening device

OPTIONS
- Hand Pump
- Working temperature different from standard (-20°, +40°)
- Double side flanges or upper flange (with hydraulic unit supplied separately from rail clamps)
- Hydraulic unit suitable to operate with more than one rail clamps
- Electrical board (on plate or box IP55)
- Limit switch which signals „rail clamps closed”
- Horizontal and vertical clearance increased
- Security side stowage pins
- Manufacturing according Q.C.P. different from our standard
- Language of documentation different from standard
- Certificates of materials (EN 10204-2.2, EN 10204-3.1 or EN 10204-3.2) for all main components

OPERATING RESTRICTIONS
Braking shoes of our rail clamp are suitable to work on rails commonly on the market whose hardness is between 200 and 270 HB (= 70 to 90 daN/mm²). The certification of TÜV are referred to above given values of rail hardness. In case of different values we must be informed at order, because this could affect the rail clamp functioning.

Presence and shape of eventual Fish plates (rail joints) must be communicated this could impede the regular functioning of rail clamps.

Max misalignment of 1mm
RAIL CLAMPS SELF-BLOCKING TYPE TR

APPLICATIONS
As storm brakes the self-blocking rail clamp even in working position starts really to work, pressing the rail sides, only if the wind force overcomes the gantry brakes capacity. When this happens and the crane tends to move, the rail clamps pressing on the rail sides with a force proportional to the wind force deducted the gantry brakes force.

DETAILS

MAIN FEATURES
- Rail clamp self-blocking type
- Minimize the friction contacts and consequently the rail guides wear
- Wide gap between rail guides and rail
- Installation: Bolted side flange
- Vertical float = ± 25 mm
- Horizontal float = ± 30 mm
- Tolerance respect to nominal width of the rail = ± 1.5 mm (or more upon request)
- Opening time (signal for operation) = 4.5 s
- Closing time = adjustable from 5 to 18 s
- Duty = 24 hours full operation
- Standard painting = 240 micron, RAL 5019
- Emergency Manual opening device

OPTIONS
- Hand Pump
- Working temperature different from standard (-20°, +40°)
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- Emergency Manual opening device
- Rev. 06/19

EXECUTIONS:
TR20-500 GL:
- Absence of rail guides. (No contact between any part of the rail clamp and the rail).
- Advantage: No need to replace rail guides due to wear. (Advantage particularly important for fast continuously moving gantry cranes, like for example ASC)
- Wide horizontal float (± 30 mm) and vertical float (± 25 mm) without need of part in contact with the rail (like sliding guides or rollers).

TR20-500T RG:
- Wide tolerance on the rail head (+ 1 mm - 10 mm)
- Advantage: 11 mm of tolerance allows these clamps guaranteeing their performances also on sites where rails are old or anyhow in wear / misshape condition; this happens quite frequently for reasons of wear or overload on rails.
- There are also special TR (requested from Japanese market) where the friction coefficient is 0.25 and the rail head tolerance is + 1 - 10 mm.
- There is the possibility to open the brakes, in case of earthquake, even in the absence of power voltage.
- For both type: Option with Opening by thruster. Advantage: Absence of hydraulic unit, hoses, cylinder.

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### TR TECHNICAL DETAILS

| TYPE    | Force (kN) | A  | B  | C  | D  | E  | F  | G  | H  | I  | L  | M  | N  | O  | P  | Q** | R  | Weight (kg) |
|---------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|-------------|
| TR20-0500-GL | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±30 550 |
| TR20-0500-RG | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±40 550 |

| TR40-0750 | 750 | 700 | 605 | 252 | 105 | 120 | 50 | 510 | 90 | 40 | 895 | 500 | 930 | 1175 | 1300 | N’8 Ø36 (M33) 880 35 750 |
| TR50-1100 | 1100 | 770 | 655 | 322 | 105 | 130 | 50 | 550 | 90 | 47 | 915 | 500 | 960 | 1195 | 1510 | N’8 Ø42 (M39) 1090 40 1100 |

**NOTE:** ALL THE PROTECTION PANELS ARE REMOVABLE  
(*) VARIABLE WITH VERTICAL FLOAT  
(**) CONNECTION SCREWS CLASS 10.9 ARE TO BE FORSEEN

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**Hydraulic Unit (GL - guides less, RG - roller guides)**

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All dimensions in mm  
Alterations reserved without notice.

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### TR TECHNICAL DETAILS

| TYPE    | Force (kN) | A  | B  | C  | D  | E  | F  | G  | H  | I  | L  | M  | N  | O  | P  | Q** | R  | Weight (kg) |
|---------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|-------------|
| TR20-0500-GL | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±30 550 |
| TR20-0500-RG | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±40 550 |

| TR40-0750 | 750 | 700 | 605 | 252 | 105 | 120 | 50 | 510 | 90 | 40 | 895 | 500 | 930 | 1175 | 1300 | N’8 Ø36 (M33) 880 35 750 |
| TR50-1100 | 1100 | 770 | 655 | 322 | 105 | 130 | 50 | 550 | 90 | 47 | 915 | 500 | 960 | 1195 | 1510 | N’8 Ø42 (M39) 1090 40 1100 |

**NOTE:** ALL THE PROTECTION PANELS ARE REMOVABLE  
(*) VARIABLE WITH VERTICAL FLOAT  
(**) CONNECTION SCREWS CLASS 10.9 ARE TO BE FORSEEN

---

**Hydraulic Unit (GL - guides less, RG - roller guides)**

---

All dimensions in mm  
Alterations reserved without notice.

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### TR TECHNICAL DETAILS

| TYPE    | Force (kN) | A  | B  | C  | D  | E  | F  | G  | H  | I  | L  | M  | N  | O  | P  | Q** | R  | Weight (kg) |
|---------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|-------------|
| TR20-0500-GL | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±30 550 |
| TR20-0500-RG | 500 | 700 | 640 | 240 | 105 | 95 | 50 | 400 | 86 | 35 | 980 | 850 | 955 | 40 | 930 | N’8 Ø33 (M30) ±40 550 |

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**NOTE:** ALL THE PROTECTION PANELS ARE REMOVABLE  
(*) VARIABLE WITH VERTICAL FLOAT  
(**) CONNECTION SCREWS CLASS 10.9 ARE TO BE FORSEEN

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**Hydraulic Unit (GL - guides less, RG - roller guides)**

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All dimensions in mm  
Alterations reserved without notice.
RAIL BRAKE TP

APPLICATIONS
Rail brakes, suitable for medium forces from 130 to 500 kN (securing cranes against the wind force) work pressing down on the top of rail by disk springs. Brakes are hydraulically released. Usual parking utilisation requires a few closing/opening cycles per day. They are usually installed in the middle of crane gantry travel (One or two per crane corner).

OPERATING RESTRICTIONS
Brake shoes of our rail brakes have been designed to work on common market rails whose hardness is between 200 and 270 HB (= 700 to 900 N/mm²). The certification of TÜV are referred to above given values of rail hardness.

DETAILS
MAIN FEATURES
- Rail brake
- Installation: upper flange
- Horizontal float = ± 25 mm (depending on rail type)
- Opening time (signal for operation) see drawings
- Vertical float see drawings
- Closing time = adjustable from 4 to 16 s
- Hydraulic unit supplied separately
- Standard painting = 240 micron, RAL 5019
- Inductive limit switch for signals "brakes open"
- Suitability to operate on rail with flat or curved top surface
- Removal emergency device
- Emergency Manual opening device

OPTIONS
- Hand Pump
- Working temperature different from standard (-20° +40°)
- Manufacturing according Q.C.P. different from our standard
- Suitability to double rail
- Electrical board (on plate or box IP55)
- Pressure switch to signal "brakes open" (instead of limit switch)
These brakes are devoted to parking utilization, securing the crane, in stowed condition, against the wind force; therefore, in their normal utilization they have to be closed when the crane is completely stopped. In emergency condition they can be operated also as dynamic brakes to stop the crane. The brake shoes, push on the two sides of a wheel, actuated by springs and released by hydraulic power.

### APPLICATIONS

These brakes are devoted to parking utilization, securing the crane, in stowed condition, against the wind force; therefore, in their normal utilization they have to be closed when the crane is completely stopped. In emergency condition they can be operated also as dynamic brakes to stop the crane. The brake shoes, push on the two sides of a wheel, actuated by springs and released by hydraulic power.

### DETAILS

#### MAIN FEATURES

- Wheel brake
- Maximum axial movement of the wheel: ± 1.5 mm
- Opening time: Upon client request (usually 2 - 4 s) (from the opening command to signal of brakes opened)
- Closing time = adjustable from 1 s to 12 s (approx.)
- Standard painting = 240 micron, RAL 5015
- Limit switch that signals clamp open
- Emergency Manual opening device
- Hydraulic unit suitable to operate with more brakes

#### OPTIONS

- Hand Pump
- Working temperature different from standard (-20° +40°C)
- Language of documentation different from standard
- Certificates of materials (EN 10204-2.2, EN 10204-3.1 or EN 10204-3.2) for all main components

#### DESIGN BRAKING FORCE

- FR01 = 30 kN
- FR11 = 60 kN
- FR21 = 80 kN
- FR41 = 120-150 kN

### MAXIMUM AXIAL MOVEMENT OF THE WHEEL

± 1.5 mm

### OPENING TIME

Upon client request (usually 2 - 4 s) (from the opening command to signal of brakes opened)

### CLOSING TIME

Adjustable from 1 s to 12 s (approx.)

### STANDARD PAINTING

240 micron, RAL 5015

### LANGUAGE OF DOCUMENTATION

Different from standard

### HAND PUMP

- Hand Pump
- Working temperature different from standard (-20° +40°C)
- Language of documentation different from standard
- Certificates of materials (EN 10204-2.2, EN 10204-3.1 or EN 10204-3.2) for all main components

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Different from standard

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### DESIGN BRAKING FORCE

- FR01 = 30 kN
- FR11 = 60 kN
- FR21 = 80 kN
- FR41 = 120-150 kN
### FR TECHNICAL DETAILS

#### FORCE (kN)

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All dimensions in mm

Alterations reserved without notice.

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#### FR TECHNICAL DETAILS

**N°1 WHEEL BRAKE: OPENING TIME 1 s**

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<tr>
<th>Type</th>
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<td>FR41-120/150</td>
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**DIFFERENT OPENING TIMES AND NUMBER OF SUPPLIED BRAKES ON REQUEST**

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### ELECTRIC MOTOR - M01

- From 0.75kW to 3 kW - 400V - 50Hz

### ELECTROVALVE - YV031

- 24V - DC

### GEAR PUMP

- From 1.6 to 9 l/min

### OIL TANK

- Other supply voltage on request

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