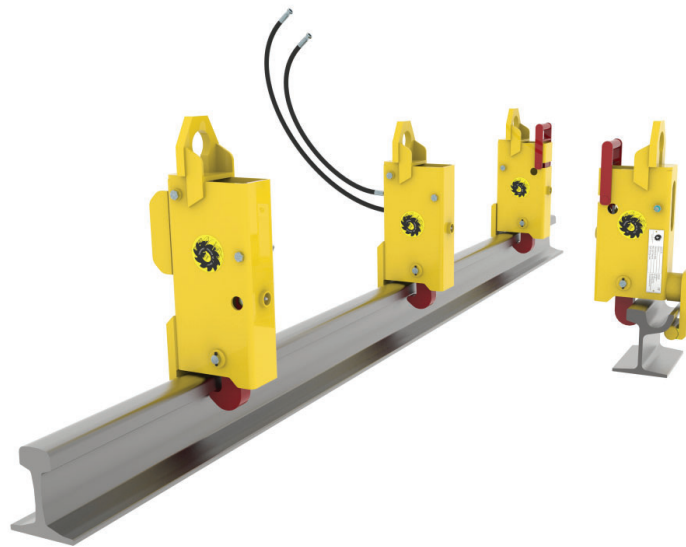


AUTOLOK

Heavy-Duty Rail Clamp



A cam operated rail clamp designed for use with excavators and cranes

Issue 4

June 2020

Introduction

The Autolok series of rail grabs from Thomson Engineering Design are the industry's most robust and hard working portable rail grabs and are available in an industry leading range of options.

The Autolok series was developed to fulfil an industry-wide requirement for a small portable rail grab capable of withstanding the high dynamic loads associated with handling rails using hydraulic machines.

The robustness of the basic design however means the Autolok has found favour in yard applications where their long, trouble-free working life is appreciated.

A simple cam mechanism is used to lock the jaw minimising the risk of joints seizing in hostile environments. The cam mechanism incorporates a 'red flag indicator' which makes it easy for the operator to confirm that the jaw is safely locked ready to lift.

Versions of the Autolok are available for all non-coated rail types including grooved and conductor rails and all Autoloks can be supplied in manual, hydraulic and electric versions making them ideal for cranes and lifting machines of all types.

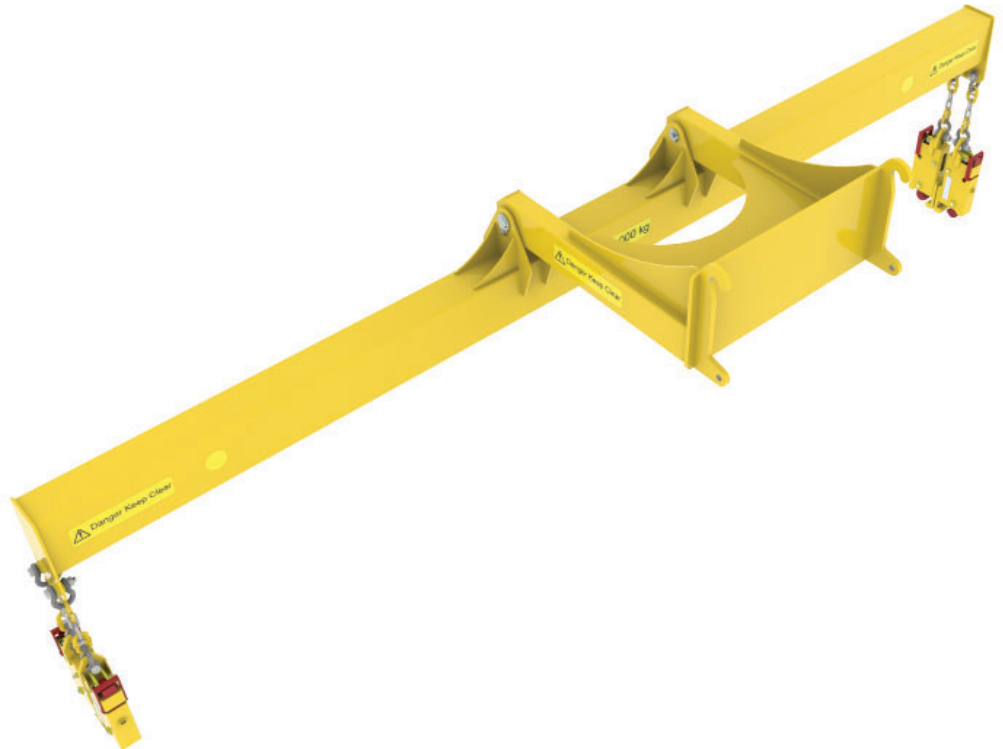
The Autolok A model has a special latch mechanism which grabs and releases the rail automatically and is actuated by the raising and lowering of the device.

For lifting short lengths of rail up to around 2m long a single Autolok may be used.

A single Autolok may also be used to align long welded rails or in rail changing operations.

For lifting longer rail sections, multiple Autolok units can be suspended from spreader beams and custom spreader beams can be provided by the manufacturer. Our Telehandler Rail Beam equipped with Autolok clamps makes light work of handling and loading rails up to 18.3m (60ft) in yards and sidings.

All Autoloks are CE Marked. All spare parts are available directly from the factory or from our agents.



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ISSUE RECORD

First Issue	April 2018
Issue 2: updated with details of Autolok P	January 2019
Update to branding	May 2020
Addition of Autolok A	June 2020

Autolok-M Manual Rail Clamp

The basic and most popular rail clamp in the Autolok range, the Autolok-M is a simple, robust rail clamp for general purpose applications.

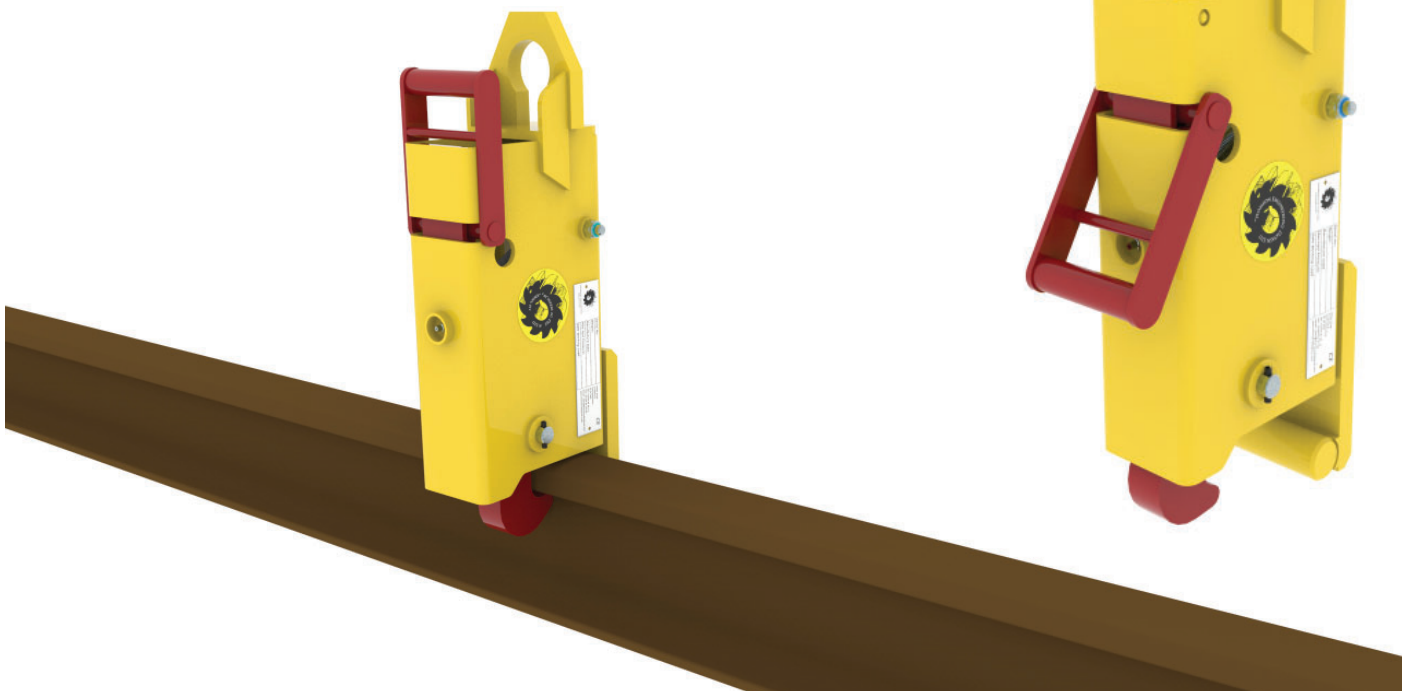
Small enough to be carried in a machine toolbox for general purpose rail handling operations and strong enough to take years of work the Autolok-M requires minimal maintenance and is always ready for use.

A simple handle operates the cam mechanism to open and close the grab jaw. Once fitted to the rail, each Autolok-M Rail Clamp can lift and carry 1,250kg of rail.

For handling long rail lengths, a number of Autoloks may be fitted to a spreader beam. Spreader beams can be supplied to order if required.

Special applications for the Autolok-M Manual Rail Clamp include handling rails using a telehandler with our special telehandler rail beam.

See the spreader Beams and Special Types on Page 16 for more details.



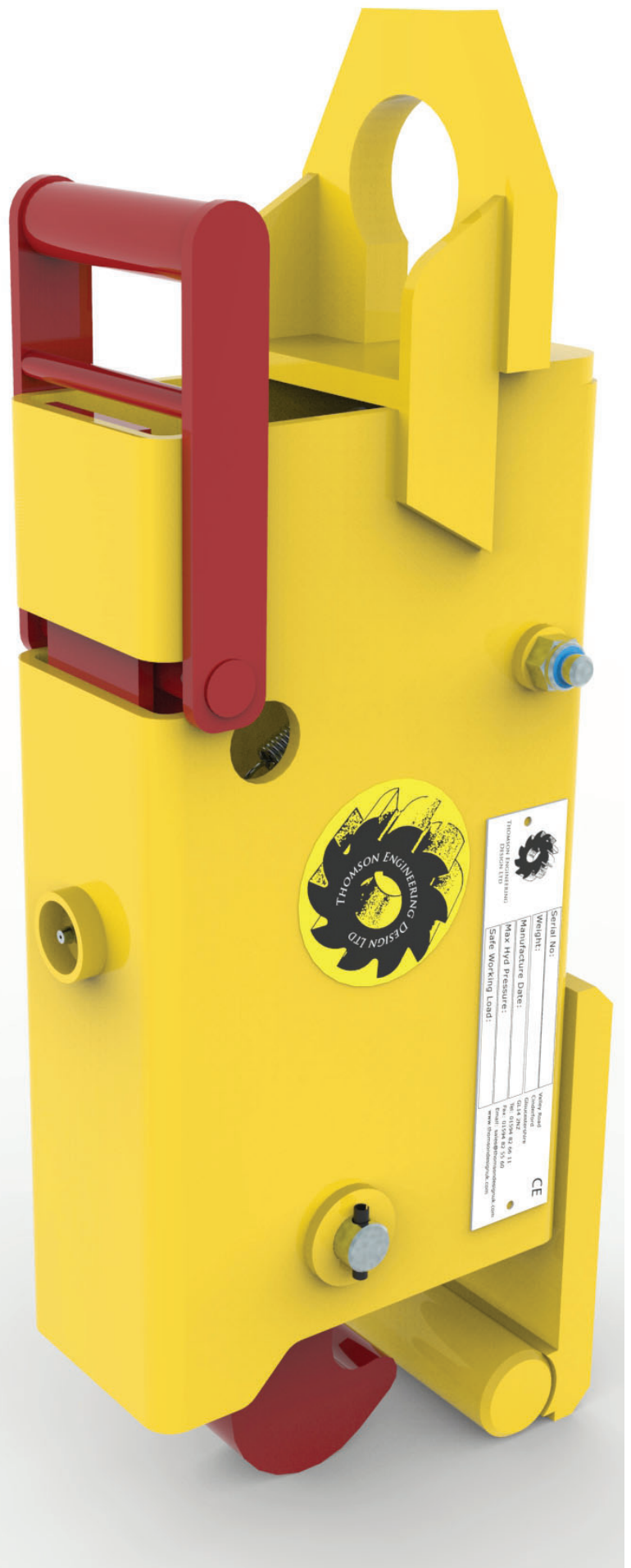
AUTOLOK-M SPECIFICATIONS

Operation	Manual Handle
Weight	24 kg
Working Load Limit (SWL)	1,250 kg
Hook Aperture Radius	31 mm
Hook Aperture Depth	91 mm
Overall Height	575 mm
Overall Width	140 mm
Overall Depth	230 mm
Working Depth ¹	355 mm
Maximum Jaw Opening	87 mm

APPLICATION

AUTOLOK-M	Running Rails
AUTOLOK-MC	Conductor Rails
AUTOLOK-MG	Grooved Rails ²

1 See dimensions on Page 18
 2 See Page 12 for more details



Autolok-H Hydraulic Rail Clamp

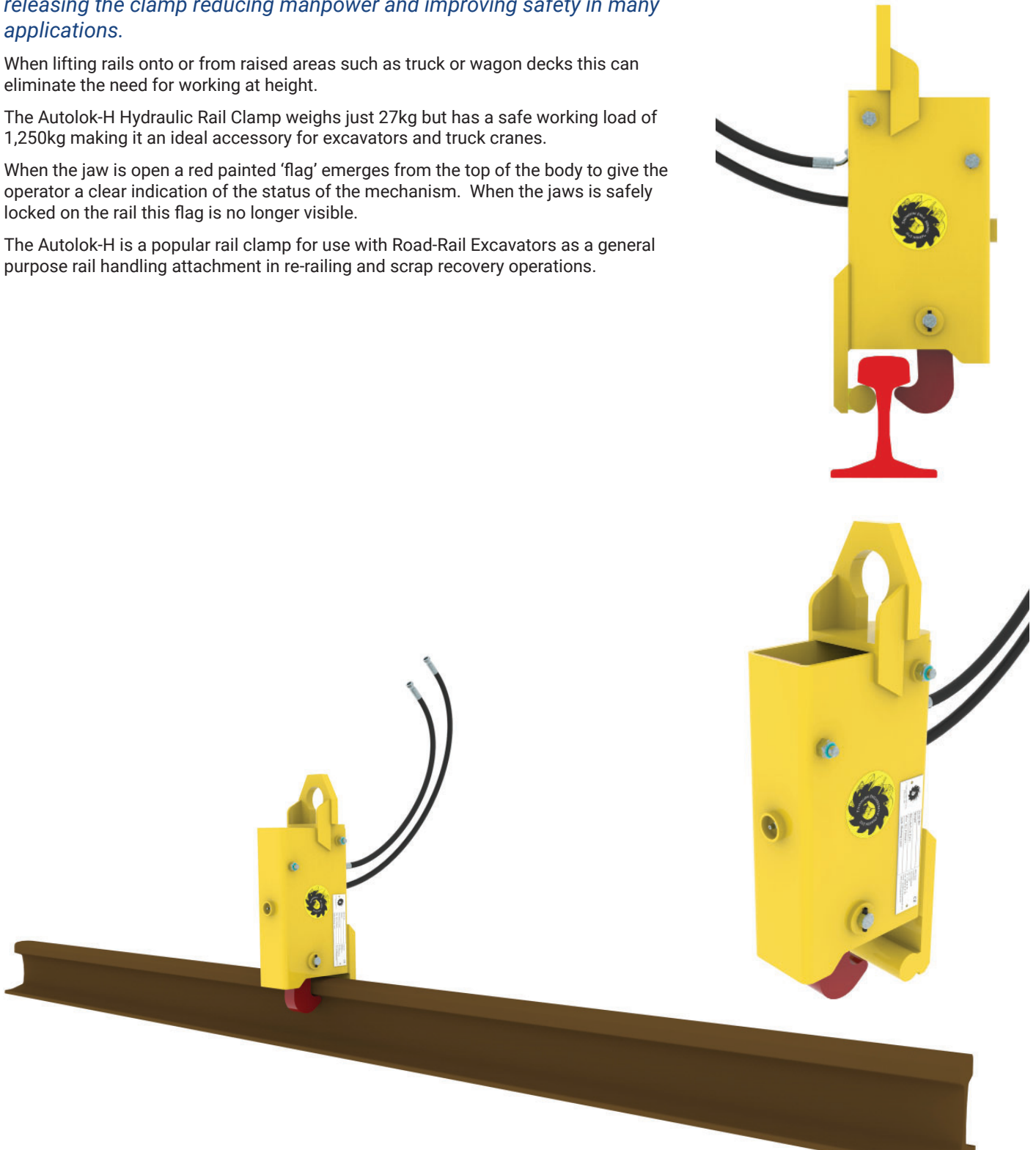
Controlling the mechanism of an Autolok hydraulically from the cab of the host machine removes the need for manually locking and releasing the clamp reducing manpower and improving safety in many applications.

When lifting rails onto or from raised areas such as truck or wagon decks this can eliminate the need for working at height.

The Autolok-H Hydraulic Rail Clamp weighs just 27kg but has a safe working load of 1,250kg making it an ideal accessory for excavators and truck cranes.

When the jaw is open a red painted 'flag' emerges from the top of the body to give the operator a clear indication of the status of the mechanism. When the jaws is safely locked on the rail this flag is no longer visible.

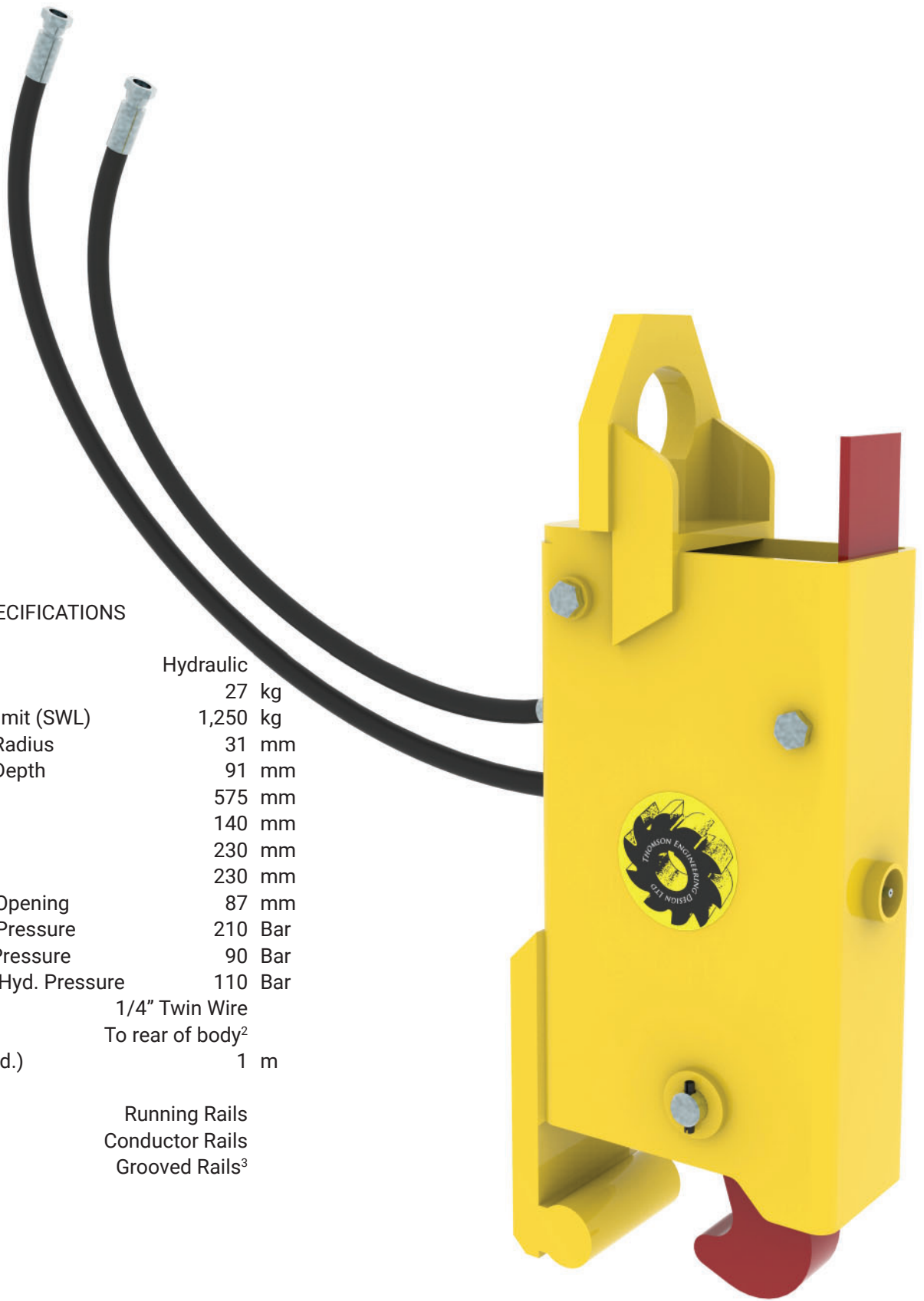
The Autolok-H is a popular rail clamp for use with Road-Rail Excavators as a general purpose rail handling attachment in re-railing and scrap recovery operations.



AUTOLOK-H SPECIFICATIONS

Operation	Hydraulic
Weight	27 kg
Working Load Limit (SWL)	1,250 kg
Hook Aperture Radius	31 mm
Hook Aperture Depth	91 mm
Overall Height	575 mm
Overall Width	140 mm
Overall Depth	230 mm
Working Depth ¹	230 mm
Maximum Jaw Opening	87 mm
Max. Hydraulic Pressure	210 Bar
Min. Hydraulic Pressure	90 Bar
Recommended Hyd. Pressure	110 Bar
Hoses	1/4" Twin Wire
Hose Position	To rear of body ²
Hose Length (std.)	1 m
APPLICATION	
AUTOLOK-H	Running Rails
AUTOLOK-HC	Conductor Rails
AUTOLOK-HG	Grooved Rails ³

-
- 1 See dimensions on Page 19
 - 2 Side hoses optional
 - 3 See Page 12 for more details



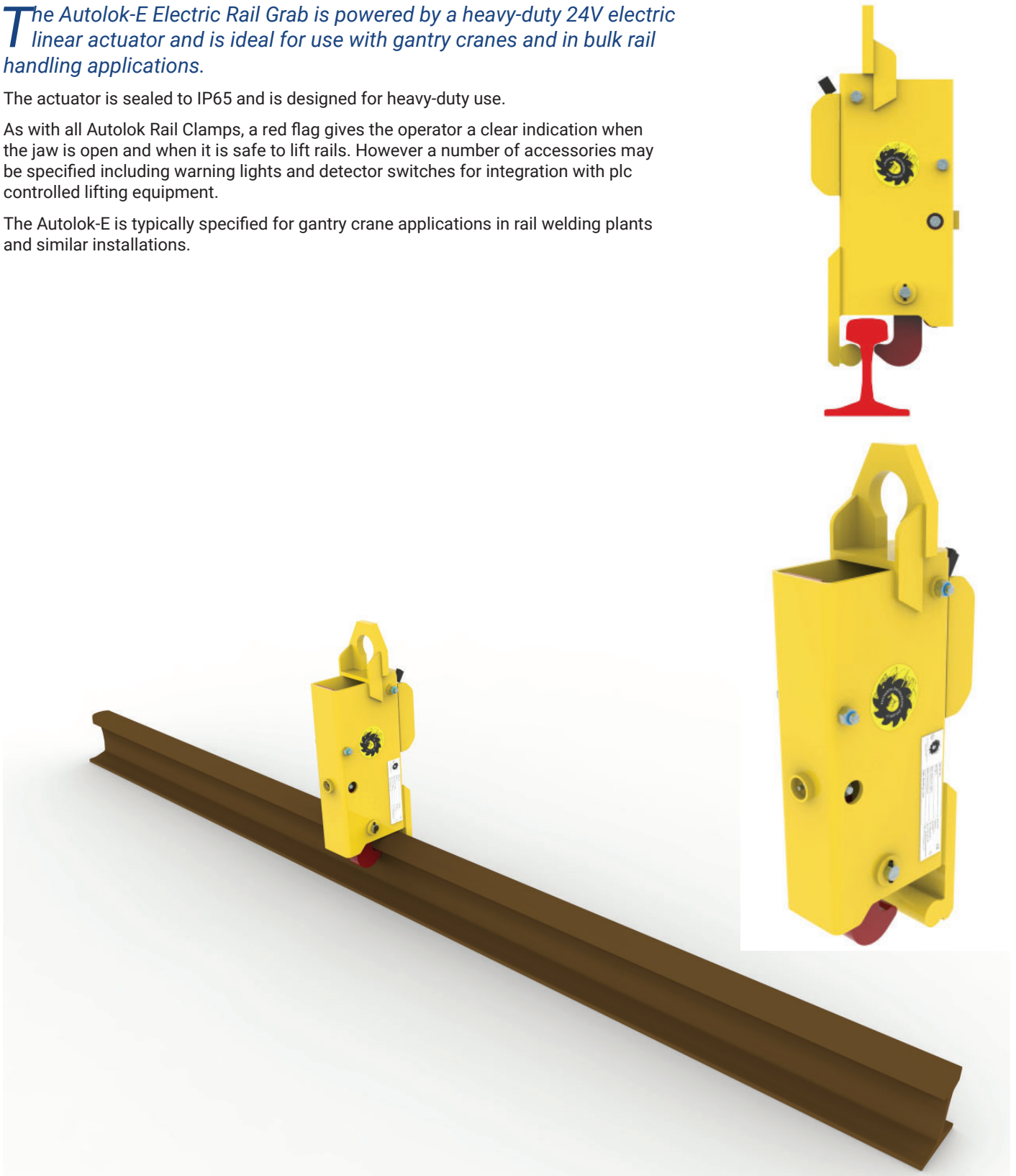
Autelok-E Electric Rail Grab

The Autelok-E Electric Rail Grab is powered by a heavy-duty 24V electric linear actuator and is ideal for use with gantry cranes and in bulk rail handling applications.

The actuator is sealed to IP65 and is designed for heavy-duty use.

As with all Autelok Rail Clamps, a red flag gives the operator a clear indication when the jaw is open and when it is safe to lift rails. However a number of accessories may be specified including warning lights and detector switches for integration with plc controlled lifting equipment.

The Autelok-E is typically specified for gantry crane applications in rail welding plants and similar installations.



AUTOLOK-E SPECIFICATIONS

Operation	24V DC
Weight	36 kg
Working Load Limit (SWL)	1,250 kg
Hook Aperture Radius	31 mm
Hook Aperture Depth	91 mm
Overall Height	635 mm
Overall Width	140 mm
Overall Depth	260 mm
Working Depth ¹	260 mm
Maximum Jaw Opening	87 mm
Motor	24V ² DC
Max. Current Draw	10 A
Sealing	IP65

APPLICATION

AUTOLOK-E	Running Rails
AUTOLOK-EC	Conductor Rails
AUTOLOK-EG	Grooved Rails ³



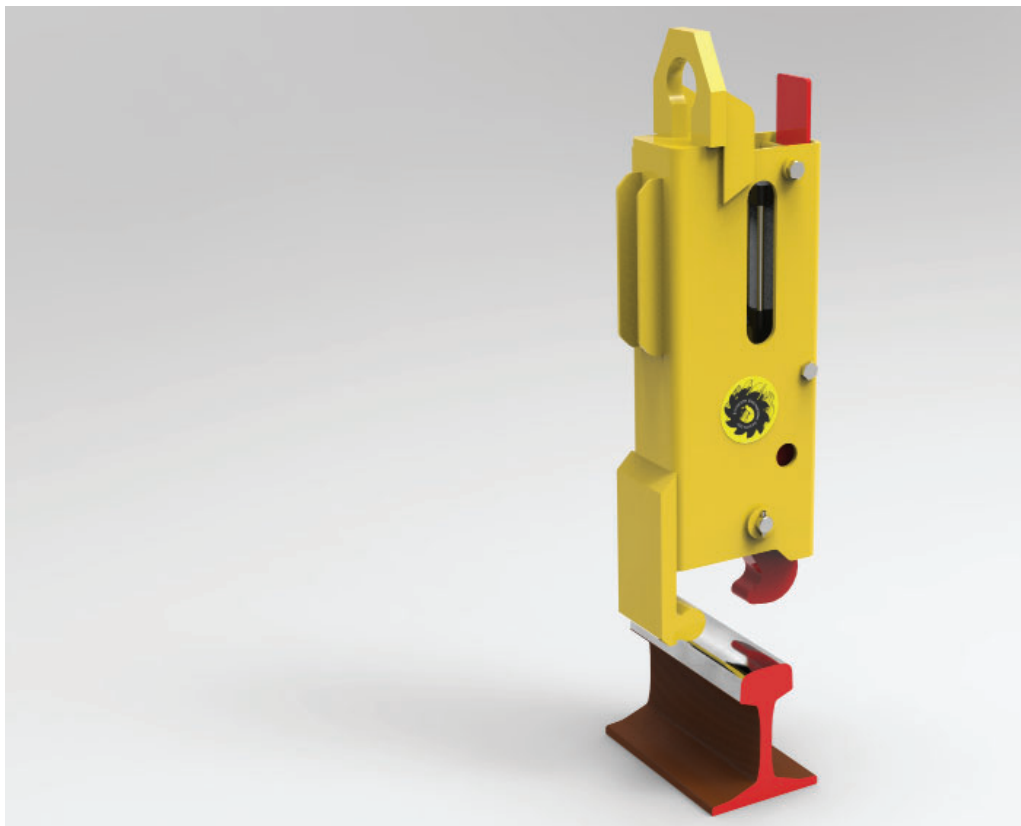
1 See dimensions on Page 20
 2 12V version available
 3 See Page 12 for more details

Autolok-P Pneumatic Rail Grab

The Autolok-P Pneumatic Rail Grab is powered by a 32mm bore double acting air cylinder and is ideal for use with system pressures of 4 to 9 Bar.

The body of the device is pierced on the side and rear faces and has an opening on the top to allow the air hoses to be coupled easily to almost any supply location. The basic unit contains just the cylinder but control valves can be specified if required.

As with all Autolok Rail Clamps, a red flag gives the operator a clear indication when the jaw is open and when it is safe to lift rails. However a number of accessories may be specified including warning lights and detector switches for integration with plc controlled lifting equipment.



AUTOLOK-P SPECIFICATIONS

Operation	Pneumatic
Weight	27 kg
Working Load Limit (SWL)	1,250 kg
Hook Aperture Radius	31 mm
Hook Aperture Depth	91 mm
Overall Height	700 mm
Overall Width	140 mm
Overall Depth	240 mm
Working Depth ¹	240 mm
Maximum Jaw Opening	87 mm
Cylinder Bore	32 mm
Min. Working Pressure	4 Bar
Max. Working Pressure	9 Bar

APPLICATION

AUTOLOK-P	Running Rails
AUTOLOK-PC	Conductor Rails
AUTOLOK-PG	Grooved Rails ²

¹ See dimensions on Page 22
² See Page 12 for more details



Autolok-G Series for Grooved Rails

Autolok Rail Clamps in manual, hydraulic and electrically operated versions, may be specified for handling grooved rails.

Grooved rail Autoloks have the same working loads and other characteristics but are fractionally heavier than standard Autoloks.

Note that grooved rail Autoloks can only be fitted to the rail one way round: with the fixed jaw on the groove side of the rail.

There are many different grooved rail section and when ordering Autolok-G series Rail Clamps the precise rail types for which it is to be used must be specified.



AUTOLOK-MG SPECIFICATIONS: Typical

Operation	Manual Handle
Weight	25 kg
Working Load Limit (SWL)	1,250 kg
Hook Aperture Radius	31 mm
Hook Aperture Depth	91 mm
Overall Height	575 mm
Overall Width	140 mm
Overall Depth	272 mm
Working Depth ¹	397 mm
Maximum Jaw Opening	87 mm

MODELS

AUTOLOK-MG	Manual Operation
AUTOLOK-HG	Hydraulic Operation
AUTOLOK-EG	Electric Operation



1 See dimensions on Page 21

Autolok-A Automatic Rail Clamp

The latest addition to the Autolok range, the Autolok A combines the robustness of the Autolok basic design with a unique jaw mechanism which allows the device to operate autonomously and without the need for any form of power .

When the Autolok-A is lowered onto the rail head the jaws are automatically locked and the rail may safely be lifted. When the rail is lowered and the weight is no longer supported by the Autolok-A the mechanism then automatically unlocks the jaws and the Autolok-A can be lifted clear of the rail.

Lowering the device onto the next rail section again locks the jaws and in this way rails can be continually loaded without any manual intervention and with no need for any form of power supply.



AUTOLOK-A SPECIFICATIONS: Typical

Operation	Mechanical Automatic
Weight	31 kg
Working Load Limit (SWL)	1,250 kg
Shackle Aperture Radius	28 mm
Shackle Aperture Depth	72 mm
Overall Height	531 mm
Overall Width	149 mm
Overall Depth	200 mm
Maximum Jaw Opening	78 mm

See dimensions on Page 23

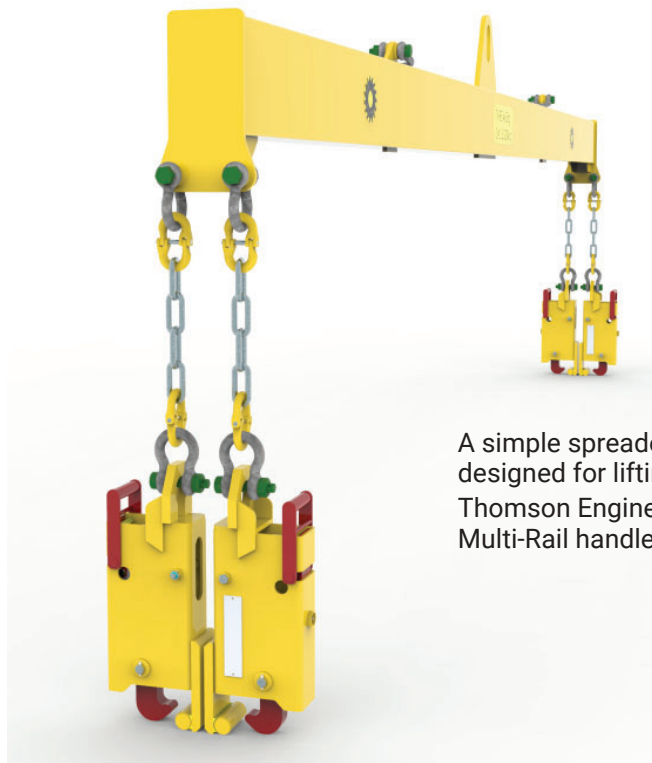


Spreader Beams and Special Types

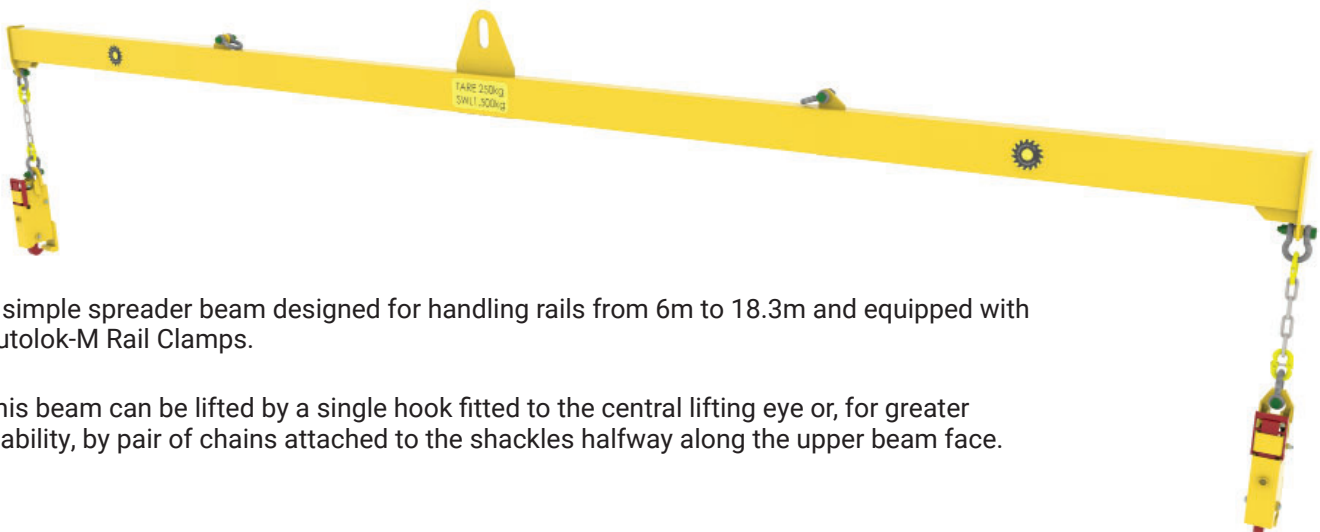
Autolok is the heart of many rail lifting systems and its versatility is extended further when multiple Autolok units are fitted to a suitable spreader beam system.

Thomson Engineering Design has been designing and building spreader beams and attachment systems since 1999 and in that time we have produced a wide variety of standard and specialised systems.

A few of these are illustrated here but many more have been designed and we always welcome enquiries for new applications.

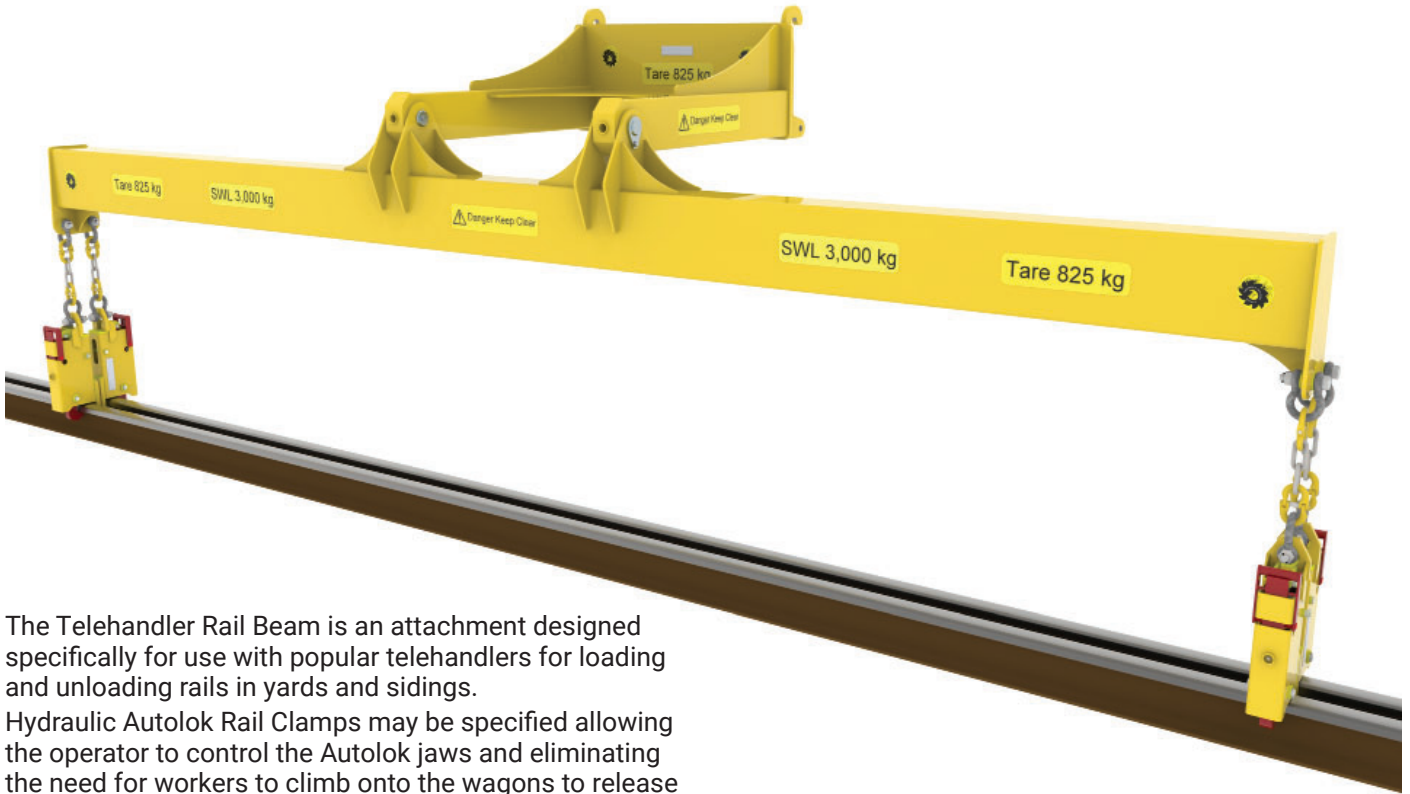


A simple spreader beam / Autolok combination designed for lifting rails two-at-a-time. Thomson Engineering Design also produce a range of Multi-Rail handlers for lifting up to twelve rails at once.

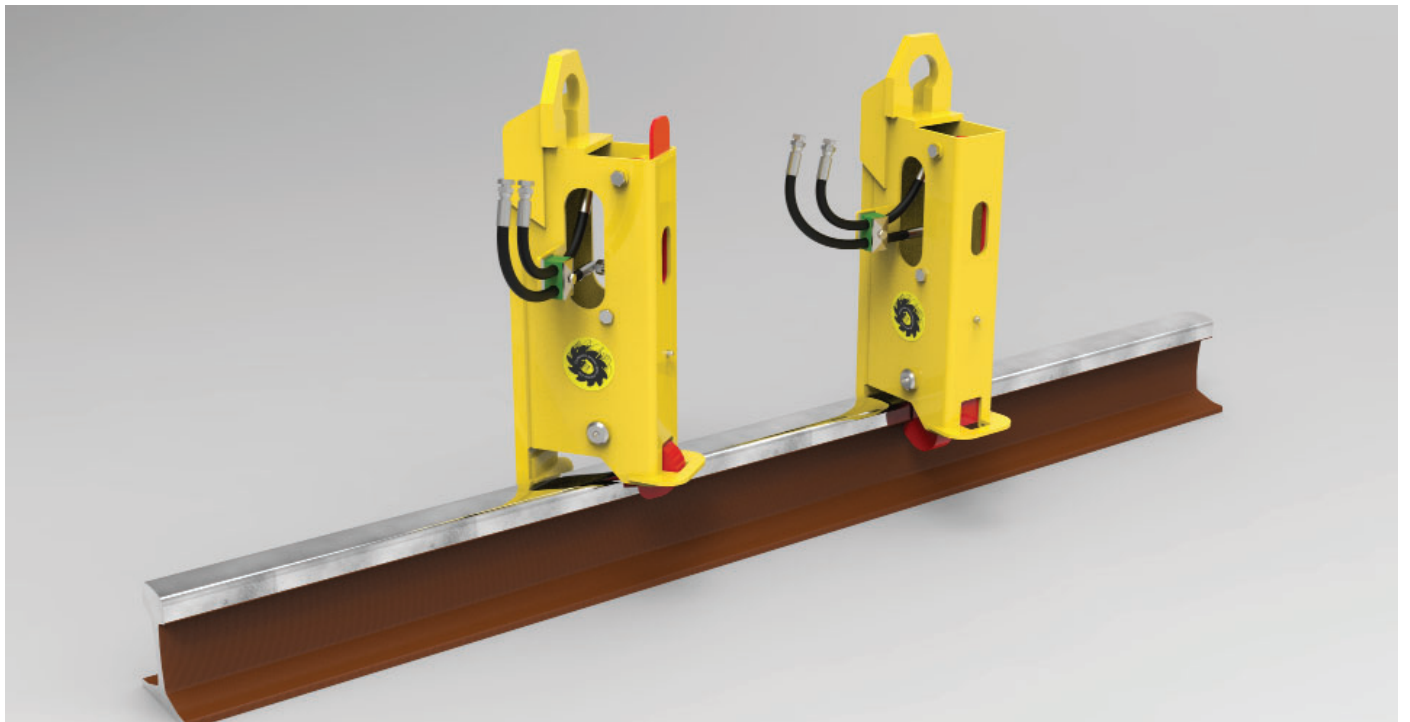


A simple spreader beam designed for handling rails from 6m to 18.3m and equipped with Autolok-M Rail Clamps.

This beam can be lifted by a single hook fitted to the central lifting eye or, for greater stability, by pair of chains attached to the shackles halfway along the upper beam face.

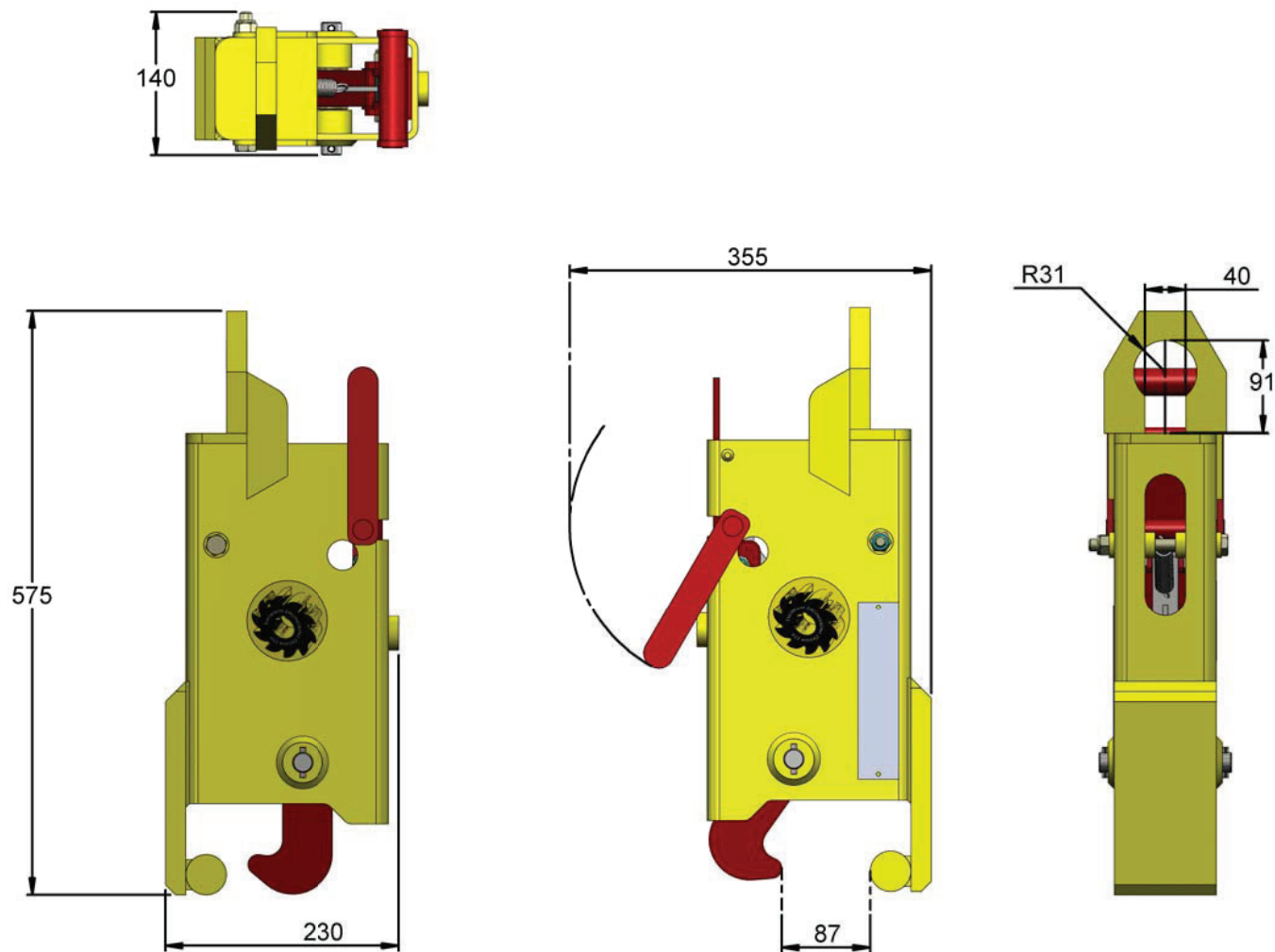


The Telehandler Rail Beam is an attachment designed specifically for use with popular telehandlers for loading and unloading rails in yards and sidings. Hydraulic Autolok Rail Clamps may be specified allowing the operator to control the Autolok jaws and eliminating the need for workers to climb onto the wagons to release the rails.



A specially designed version of the Autolok-H designed for handling both standard and widened web rail sections and having an extra wide jaw opening to accommodate greater misalignment of the grab when lowering onto the rail.

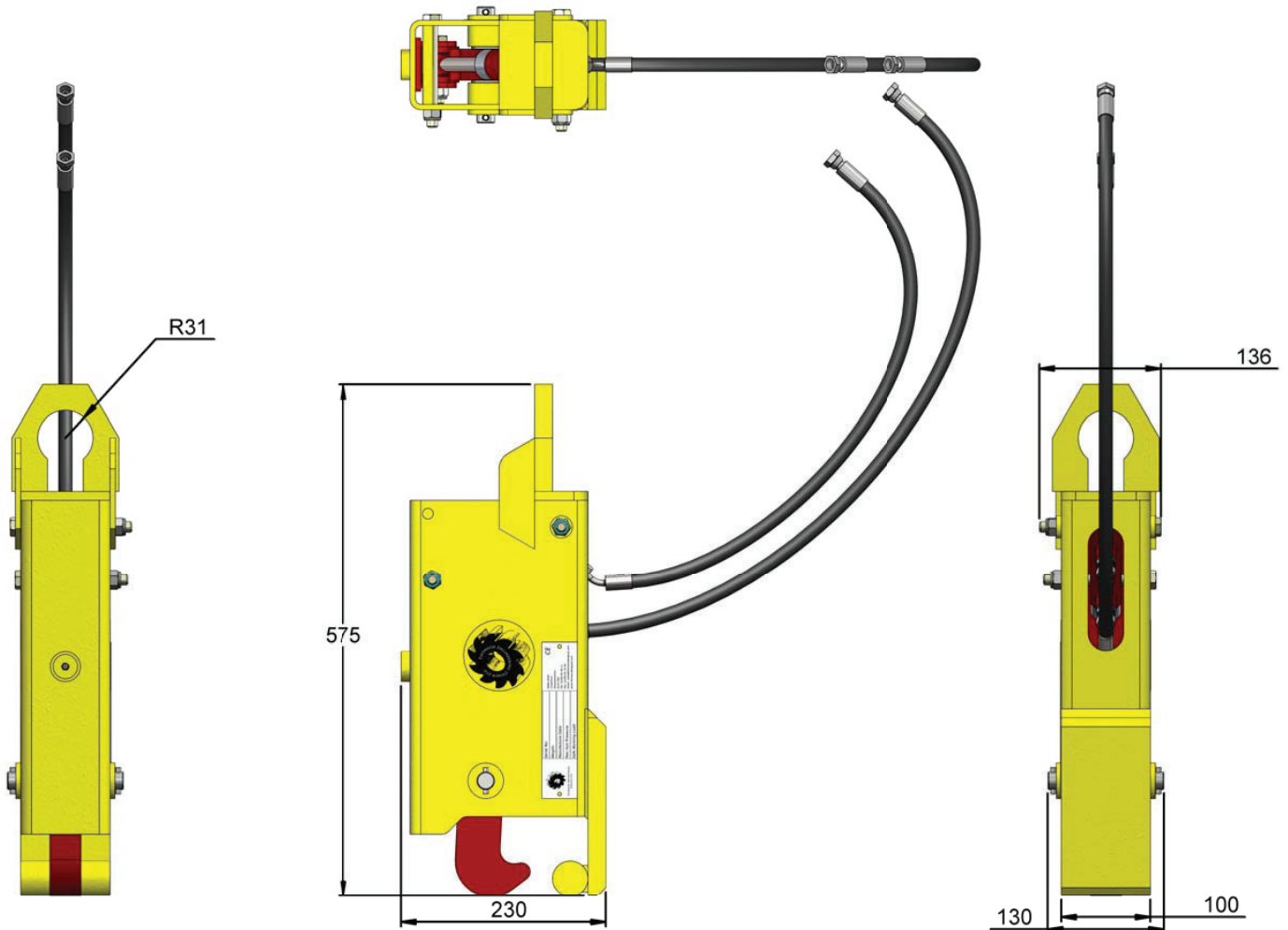
Dimensioned Drawing - AUTOLOK-M



Dimensions given are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Dimensioned Drawing - AUTOLOK-H



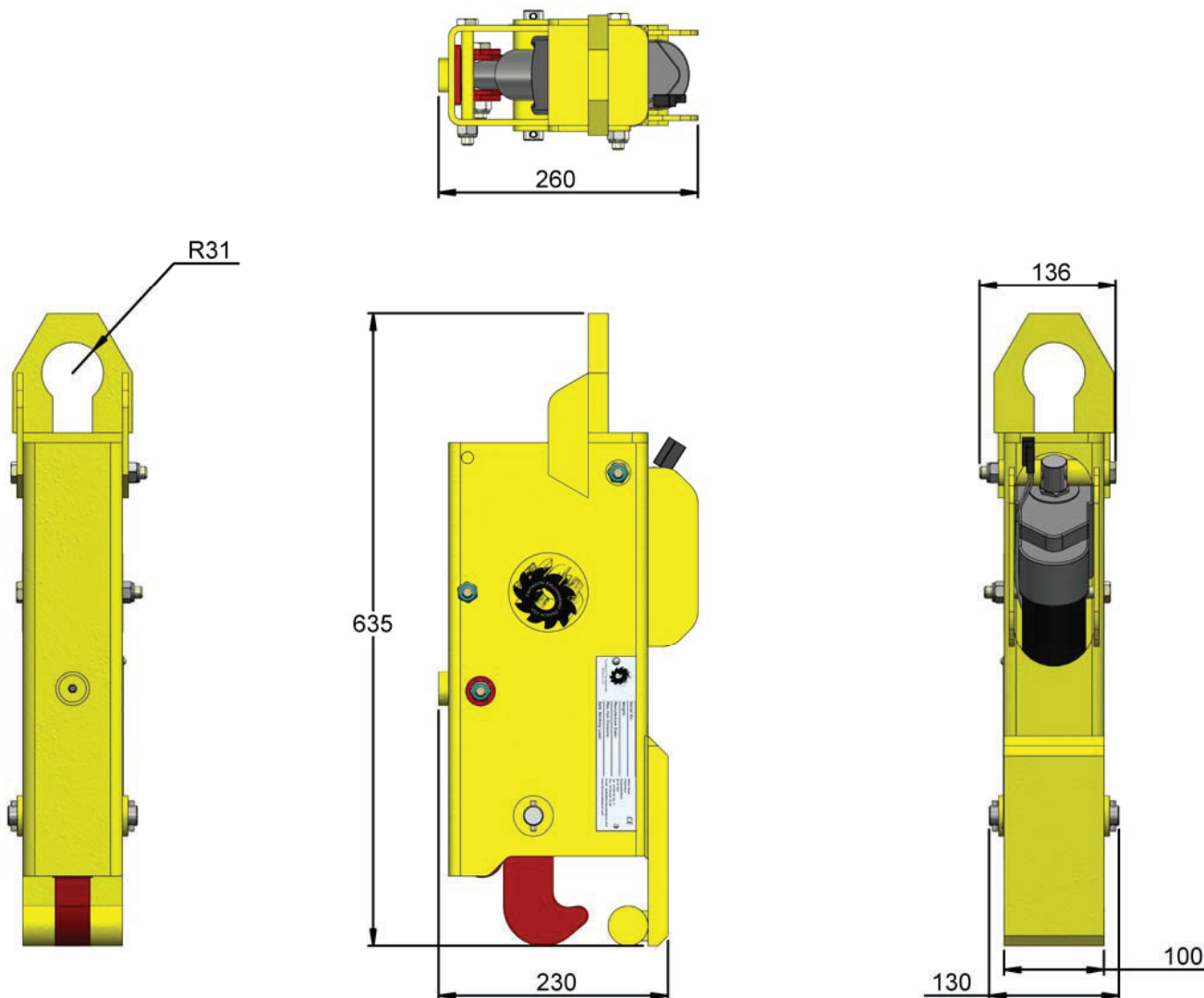
Dimensions given are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Standard hose are 1m long terminated with 1/4" BSP female hose ends. Other hose specifications can be provided if required.

Note that jaw opening dimensions are as Autolok-M.

Dimensioned Drawing - AUTOLOK-E

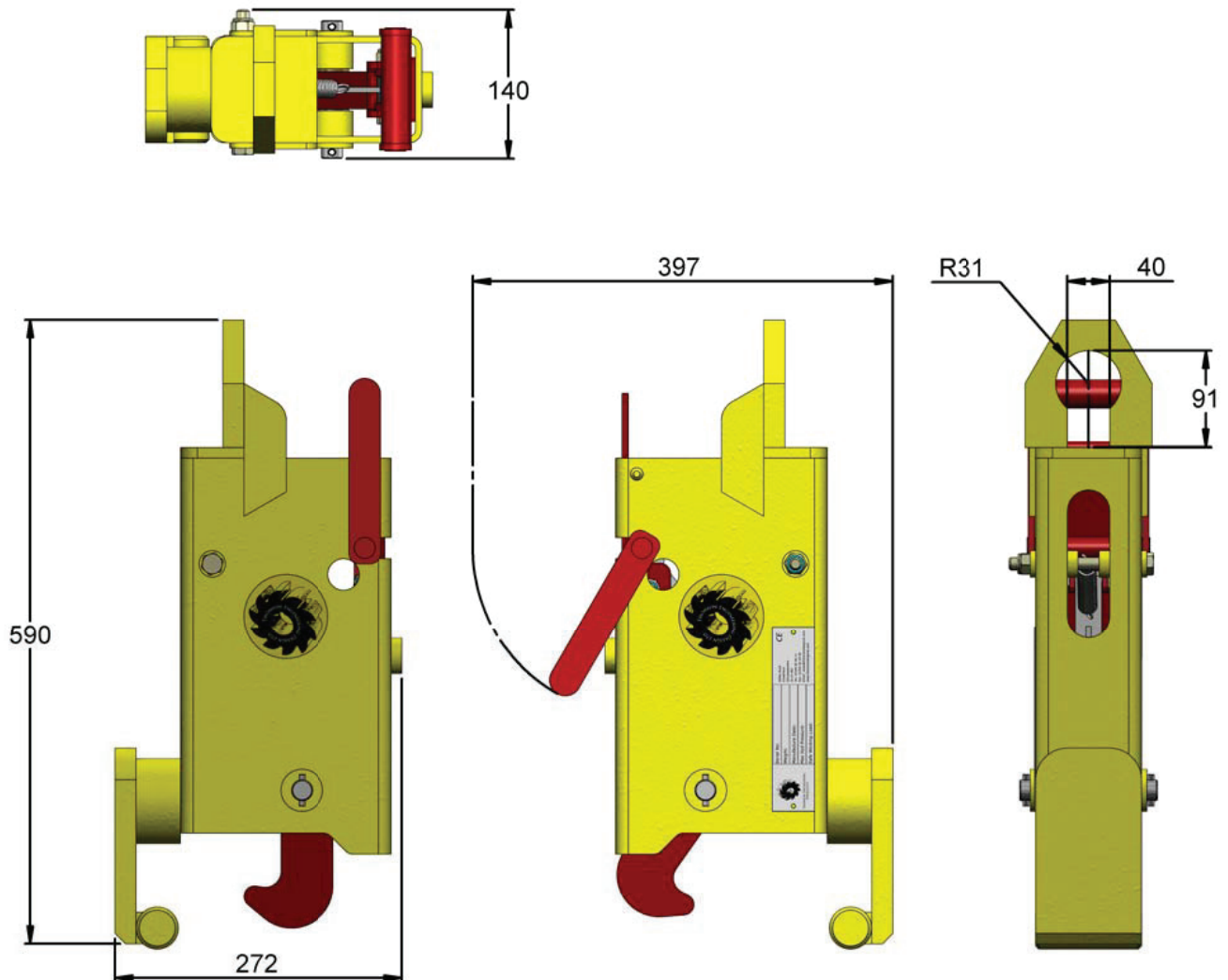


Dimensions given are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Note that jaw opening dimensions are as Autolok-M

Dimensioned Drawing - AUTOLOK-MG



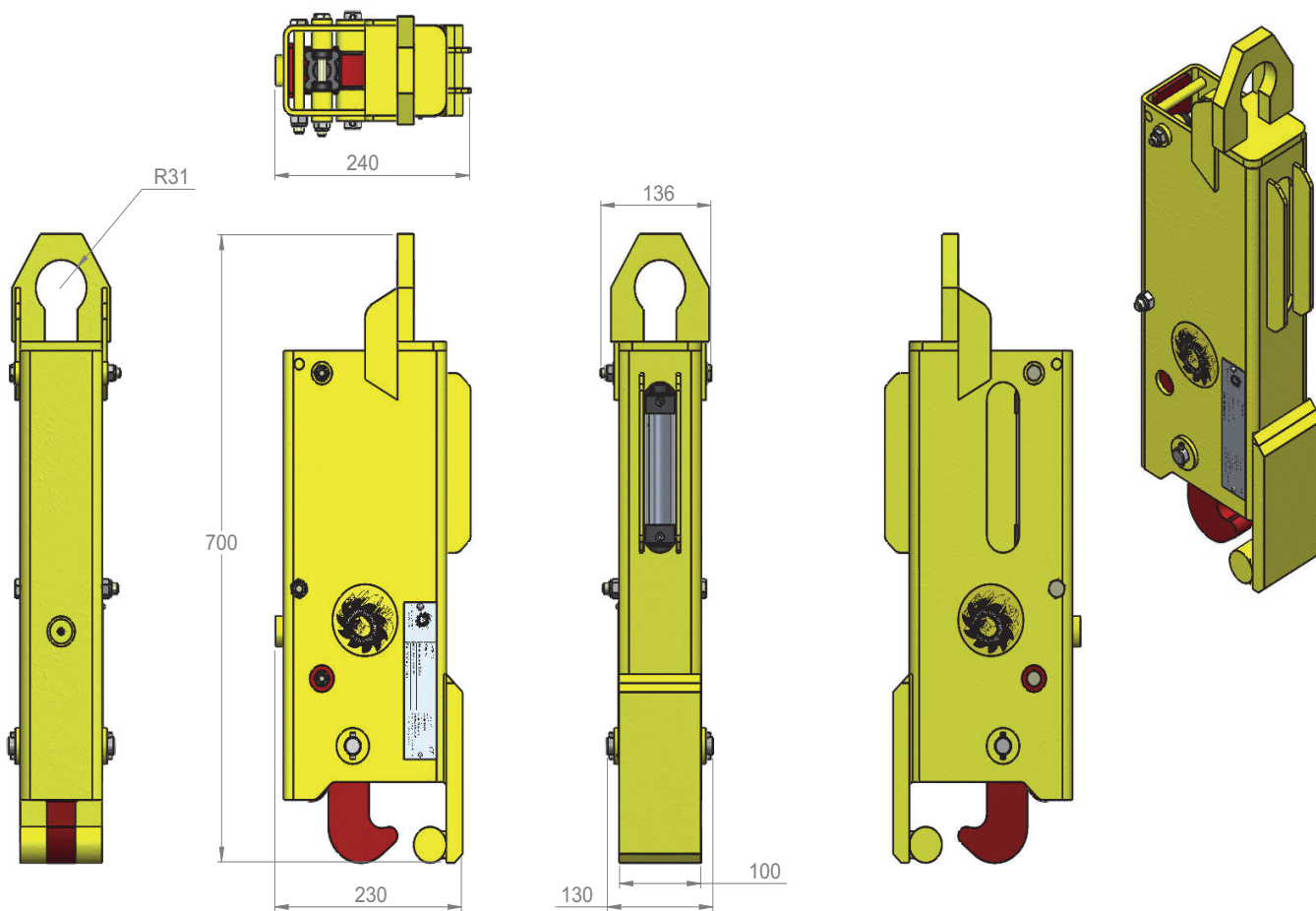
Dimensions given are typical for Autolok-MG suitable for most grooved rails and are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Thomson Engineering Design will be pleased to confirm suitability of the Autolok-G Rail Clamp for a particular application on receipt of a dimensioned drawing of the rail type to be handled.

Dimensions for hydraulic and electrically powered Autoloks for grooved and other rail types can be supplied upon request.

Dimensioned Drawing - AUTOLOK-P

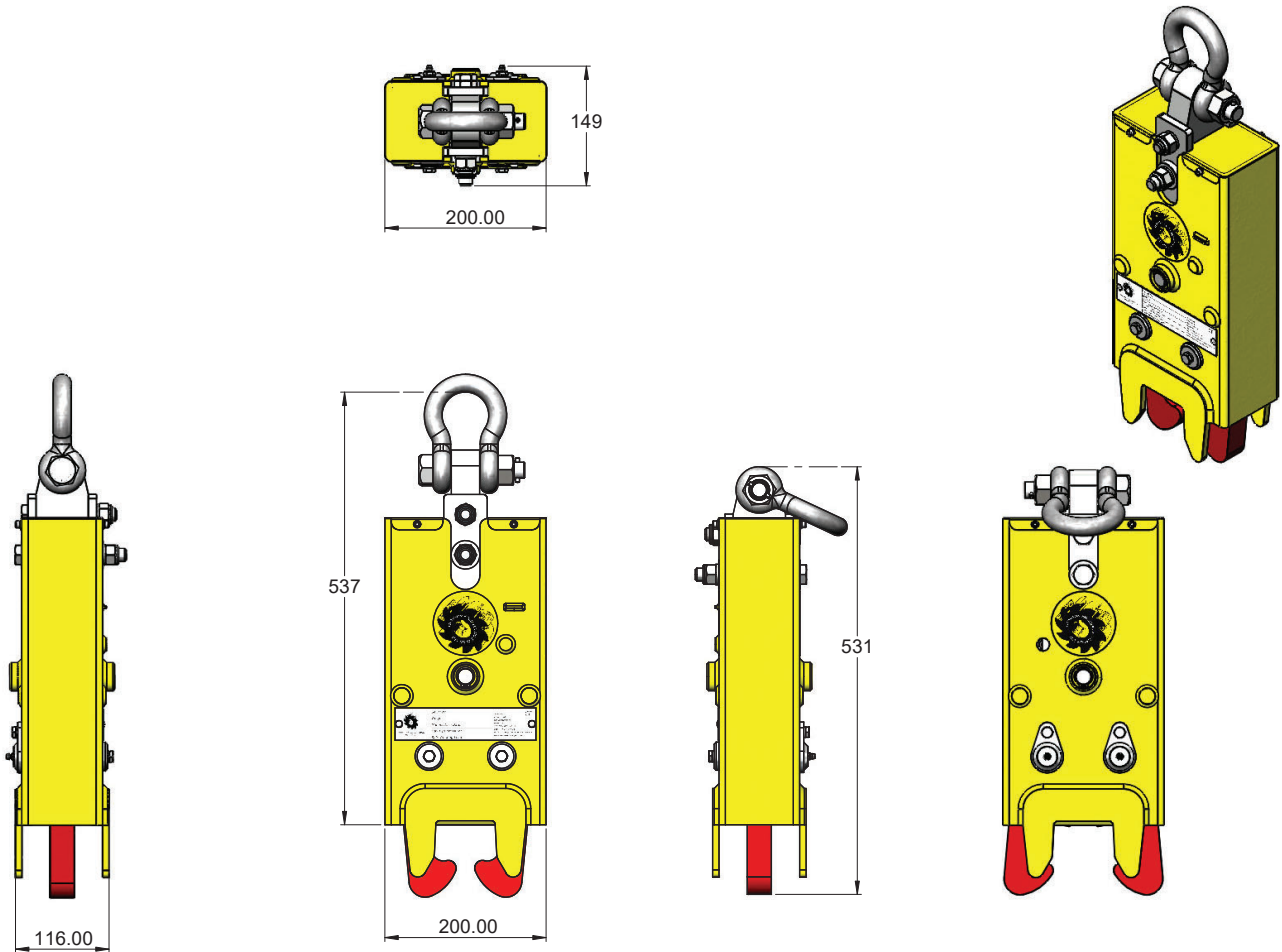


Dimensions given are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Note that jaw opening dimensions are as Autolok-M

Dimensioned Drawing - AUTOLOK-A



Dimensions given are correct at time of going to press however specifications may alter at any time without notice.

If dimensions or particular specifications are critical to your application, please contact the factory to confirm.

Using Autoloks to Handle Long Rails

Autolok Rail Clamps are ideal for use in long welded rail lifting systems. Each clamp can support 1,250kg so for most rails one Autolok Rail Clamp is required per 18.3m (60ft) of rail length.

The limiting factor is usually how much sag is permissible in the rail and smaller rail sections often require Autolok Rail Clamps to be placed closer together to improve control of the rail when lifting.

The type of crane used also affects the separation of the Rail Clamps. Hydraulic cranes can often move very quickly exerting high dynamic loads on both the rails and the lifting gear.

Deflection of the spreader beam under load must also be considered when specifying a lifting system for long welded rails.

For general applications we normally recommend that Autolok Rail Clamps are suspended from a rigid spreader beam with 9m between clamps.

Thomson Engineering Design will be pleased to advise on individual applications. Our technical department may be contacted by email to technical@thomsondesignuk.com.

Contact Details

All technical and sales enquiries should be directed to Thomson Engineering Design.

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PLEASE NOTE

Whilst every care is taken to ensure that the contents of this document are true and accurate, the specifications of our products and the scope of our services are constantly changing as part of our policy of continuous improvement.

We strongly recommend contacting the factory to ensure that details given are still current.

More than half our business comes from special products designed and built as one-off's and we are always pleased to discuss amended specifications should the product detailed here not meet your exact requirements.

