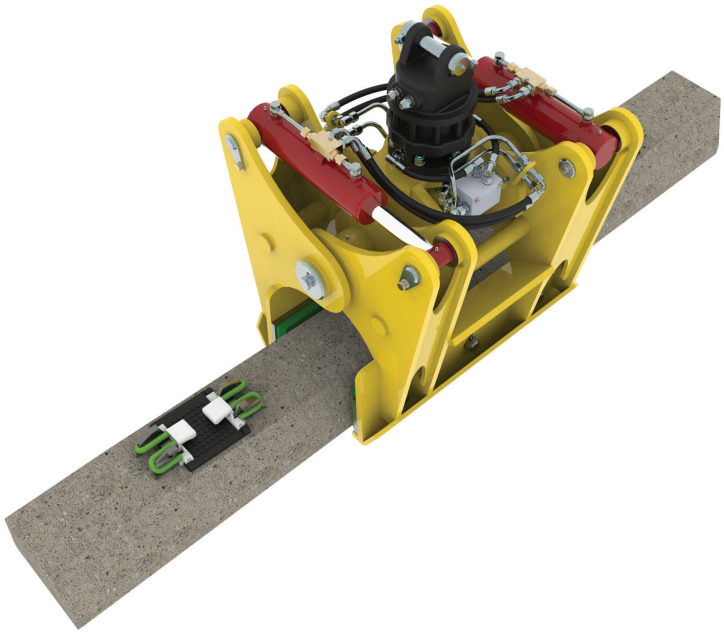
# PG16-400 PLATE GRAB
# for Concrete and Timber Sleepers & Rail



## A Heavy Duty Attachment for Handling Individual Sleepers and Rail Lengths

## Specification Document
## Issue 1

## September 2016


Document Number: PG16-400-SPEC Issue: 02 Date: JULY 2022

THOMSON ENGINEERING DESIGN
A KAL SYSTEMS COMPANY

# Contents and Issue Record



## Issue Record

| | |
|---|---|
| First Issue | November 2016 |
| Issue 2: New Factory Address | July 2022 |

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# Introduction

*The PG16-400 Plate Grab has been designed as a heavy-duty solution for handling and delivering railway sleepers or short rail lengths using a truck mounted crane or excavator.*

The robust design and high grip force combine to give a useful, multi-purpose addition to delivery fleets.

In combination with the Thomson Truck Crane Quick Change system it can provide reliable, safe handling without the need to climb on and off a truck and at very reasonable cost.

The key features of this new design are:

- Double cylinder hydraulic system
- Check valves on cylinders
- Grease points at all joints
- Built in rotator or quick change adapter options
- Available without rotator if required
- High grip force
- Removeable urethane pads to protect sleeper surfaces
- Steel toes for rail handling

Weighing 575 kg (plus adapter head) it can be used on the truck cranes or excavators whilst a grip force of up to 5 tonnes per jaw (depending on system pressure) means that sleepers are securely held.

Soft urethane pads spread the grip force across the face of the sleeper to prevent marking or damage.

Computer Aided Engineering techniques have been used extensively to verify the strength and durability of all components.




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# Specifications

*A general arrangement drawing of the PG16-400 Plate Grab is given on page 6 showing the standard model with rotator.*

Other general specifications are as follows:

| | |
|---|---|
| Overall Dimensions | 708 mm (L) |
| | 800 mm (W) |
| | 1025 mm (H) (inc rotator) |
| Overall Weight (with rotator) | 575 kg |
| Overall weight (grab only) | 530 kg |
| Safe Working Load | 1,250 kg |

## Grab Hydraulic System

| | |
|---|---|
| Max. Inlet Pressure | 300 Bar |
| Recommended System Pressure | 200 Bar |
| Min. Inlet Pressure | 150 Bar |
| Grip Force Per Jaw at Max. Pressure | 96.5 kN at jaw tip |
| Grip Force Per Jaw at Max. Pressure | 118.8 kN at middle of pad |
| Grip Force Per Jaw at Min. Pressure | 68.9 kN at jaw tip |
| Grip Force Per Jaw at Min. Pressure | 84.9 kN at middle of pad |
| Cylinder Bore | 80 mm |
| Cylinder Stroke | 250 mm |
| Rod Diameter | 40 mm |
| Pin Diameter | 30 mm |
| Hose Burst Protection | 2PO Check Valve |

## Rotator Hydraulic System (when fitted)

| | |
|---|---|
| Rotator | Baltrotor GR105 |
| Max. Inlet Pressure | 250 Bar |
| Torque at Max. Inlet Pressure | 2,500 Nm |

## Grab Pads

| | |
|---|---|
| Material | Polyurethane |
| Hardness | 80 / 85 Shore A |
| Min. Thickness | 25 mm |
| Mounting | Bonded to steel Backing Plate |
| Pad Length | 790 mm |
| Pad Width | 140 mm |




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## Grab Bushing

DX Teflon lined

## Standard Options

Grab only

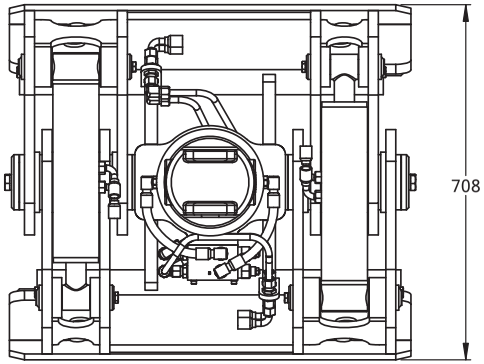
Grab with Quick Change Adapter Head

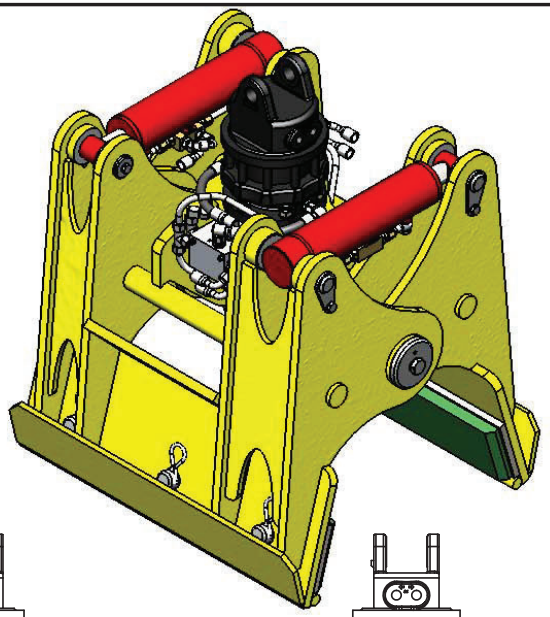
Grab with Rotator

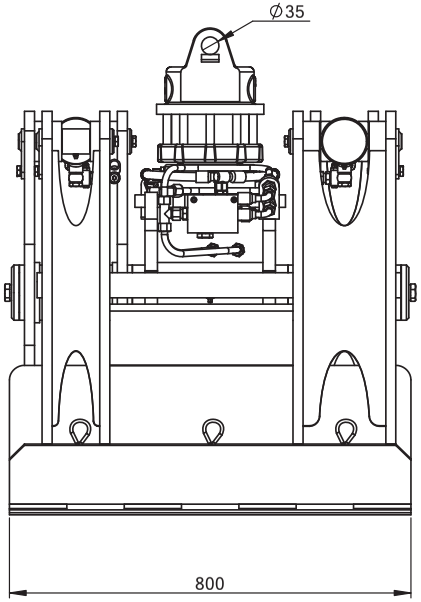
Grab with Rotator and Adapter Head

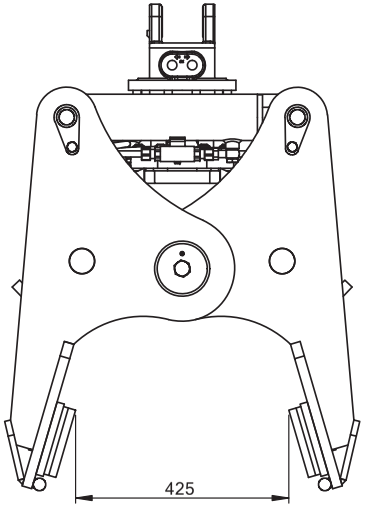
## Key Dimensions

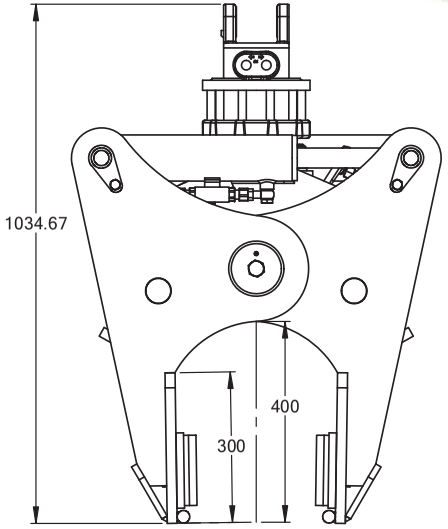
| | |
|---|---|
| Max. Gap Between Toes | 544 mm |
| Min. Gap Between Toes | 0 mm |
| Max  Gap Between Pads | 425 mm |
| Min. Gap Between Pads | 0 mm |
| Min. Depth | 300 mm |
| Rotator Top Pin Diameter | 35 mm |
| Rotator Head Width | 80 mm |

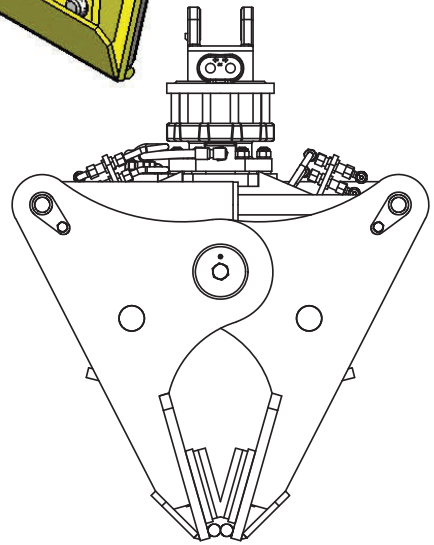




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | PROJECT | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: +0.5 / -0.5mm ANGULAR: +/- 0.5deg | FINISH: AS PARTS | | DEBUR AND BREAK SHARP EDGES | DO NOT SCALE DRAWING | REVISION 01 | |
| | | | COLOUR: | | | The information contained in this drawing is the sole property of THOMSON ENGINEERING DESIGN Ltd. Reproduction in part or as a whole is prohibited | | |
| Stock Size | | | SOURCE: | | | | | |
| Stock Length | | | NAME | ORGANISATION | DATE | TITLE: | | |
| Vendor | | DRAWN | D. Thomson | Thomson ED Ltd | 26/09/2016 | GENERAL ARRANGEMENT | | |
| Vendor No. | | CHK'D | | | | | | |
| Where Used | | APPV'D | | | | | | |
| Configuration | OPEN | MFG | | | | | | |
| Q'TY REQ'D | 1 | Q.A | | | | MATERIAL: | DWG NO. PG16-400-01 | A3 |
| Client | THOMSON ENGINEERING DESIGN LTD | Third angle Projection | | | | WEIGHT: 564.83 | SCALE:1:10 | SHEET 1 OF 1 |

# Contact Details

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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.




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# Application Images




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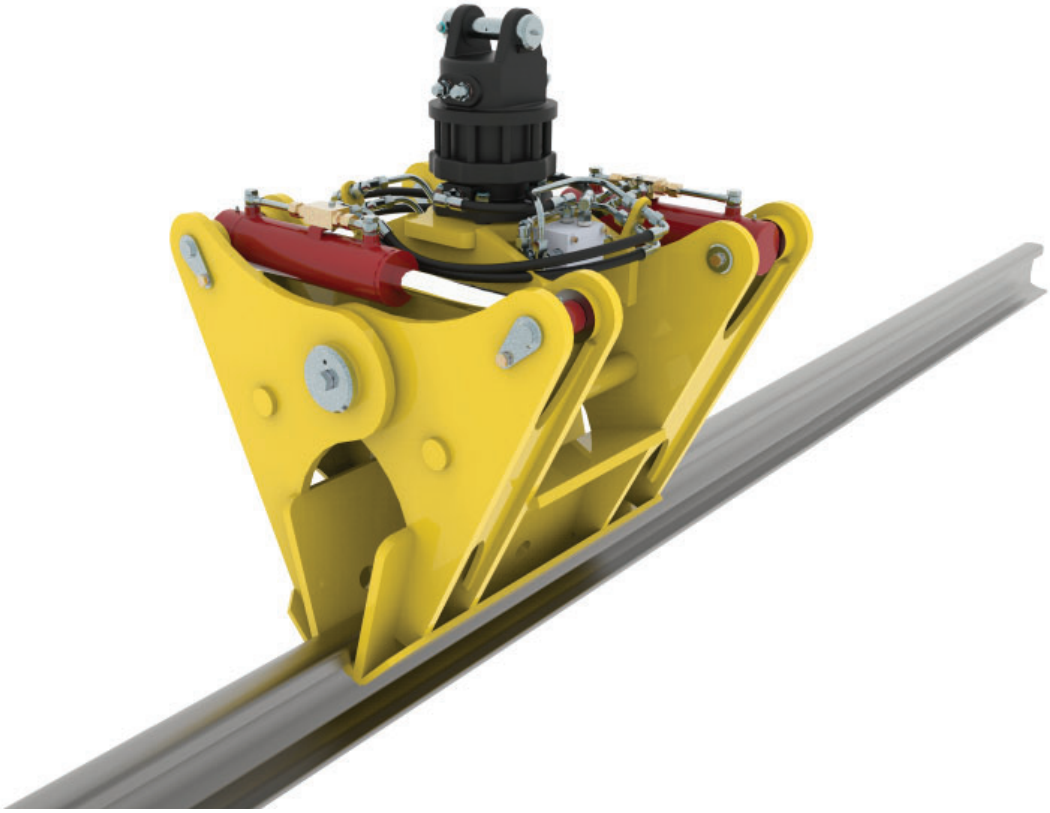

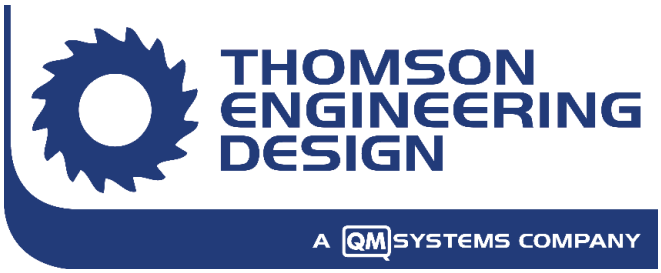


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