

# MHE ADLER BMU

*Safety.  
Sustainability.  
Reliability.*





The MHE Adler Building Maintenance Unit (BMU) is a product specifically designed for the mid to high segment market with a wide range of mast height and outreach configuration. All models are carefully defined to suit most buildings with typical outreach, parapet wall height and façade design features. This BMU range will also allow greater access to much wider range of building types and façade maintenance from residential, commercial or mixed-development projects.

From German and European origins that have been proven over 40 years in both manufacturing cranes and building maintenance units, TUV certified hoist unit in the MHE Adler are filled with proven components to ensure high degree of safety and performance.

Using MHE-Demag standard range of drives components extensively, it helps ensure high serviceability across MHE-Demag service network across the region and reduces the cost of ownership.



#### APPLICATIONS



Cleaning



Repair



Painting



Inspection and  
Replacement



Signage and Lighting  
Maintenance

# 360° CUSTOMER CARE

## MAKE THE MOST OF YOUR EQUIPMENT

This starts with proper usage of your equipment. Your operators will receive training covering all technical and safety aspects and procedures for operation and maintenance.

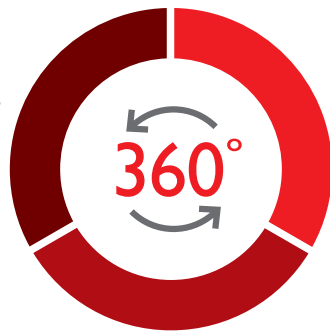
## WHAT YOU NEED, WHEN YOU NEED IT MOST

In need of repairs or replacements? More than 700 service engineers and technicians at over 70 regional service offices as well as a fleet of 300 service vans are at your service 24/7. We keep inventories of the most vital and frequently used parts to ensure you get exactly what you need when you need it most.

## PREVENTION THAT SAVES

Because prevention is more cost-efficient than correction, we are able to conduct equipment audits regularly or upon request. Detailed reports on the condition of your equipment help minimise equipment downtimes and hazards to optimise operating costs and keep employees safe.

Audits & Preventive Maintenance



Operational & Technical Training

Spare Parts, Repairs & Refurbishment



## SERVING WHERE IT COUNTS

**90%**  
UPTIME  
ON AVERAGE

**24/7**  
PARTS & REPAIR  
SERVICE

**70+**  
SALES & SERVICE  
OFFICES

## WHY CHOOSE OUR BUILDING MAINTENANCE UNIT

**1** Safe proven engineered design.

**2** Technical support by MHE-Demag local and regional BMU engineering specialist.

**3** Direct components support from Demag.

**4** BMU service supports across the region with more than 70 service locations.

# MHE ADLER BMU BASIC TECHNICAL SPECIFICATIONS

## STANDARD FEATURES

- Demag drives for hoisting
- Suspension wire rope with 3 copper conductors from Brugg, Switzerland
- Intercom System
- Spring-loaded power cable reeler
- Cradle front bumper rollers

## SAFETY FEATURES

### MHE ADLER MACHINE

- Main slewing limit switches
- Head slewing limit switches
- Luffing limit switches
- Telescopic jib limit switches
- Telescopic mast limit switches
- Cable reeler end of cable limit switch
- Emergency stop
- Dead-man's control
- Pendulum switch
- Overturning claws on each wheel
- Storm clamp

### MHE ADLER WINCH HOIST UNIT

- Chain break limit switch
- Secondary safety brake limit switch
- Over-speed governor
- Manual brake release for no-power descent
- Slack rope limit switch
- Top and ultimate top limit switches
- Bottom and ultimate bottom limit switches
- Hour meter

### CRADLE

- Overload limit switch
- Slack rope limit switch
- Bottom trip bar
- Emergency stop
- Dead-man's control
- Restraint system >40m height



## OPTIONAL

- Cradle side bumper rollers
- Glass replacement unit (GRU)
- MHE Wächter for GRU
- Non standard BMU colour
- Water tank in cradle
- BMS (Building Management System) cable reeler
- BMU condition monitoring system

## OTHER CONFIGURATIONS

- Trackless (max. up to 6m outreach)
- Luffing jib
- Telescopic mast
- Z-luffing
- Elbow jib
- Custom cradle options
- Larger hoist capacity higher than 385m height coverage

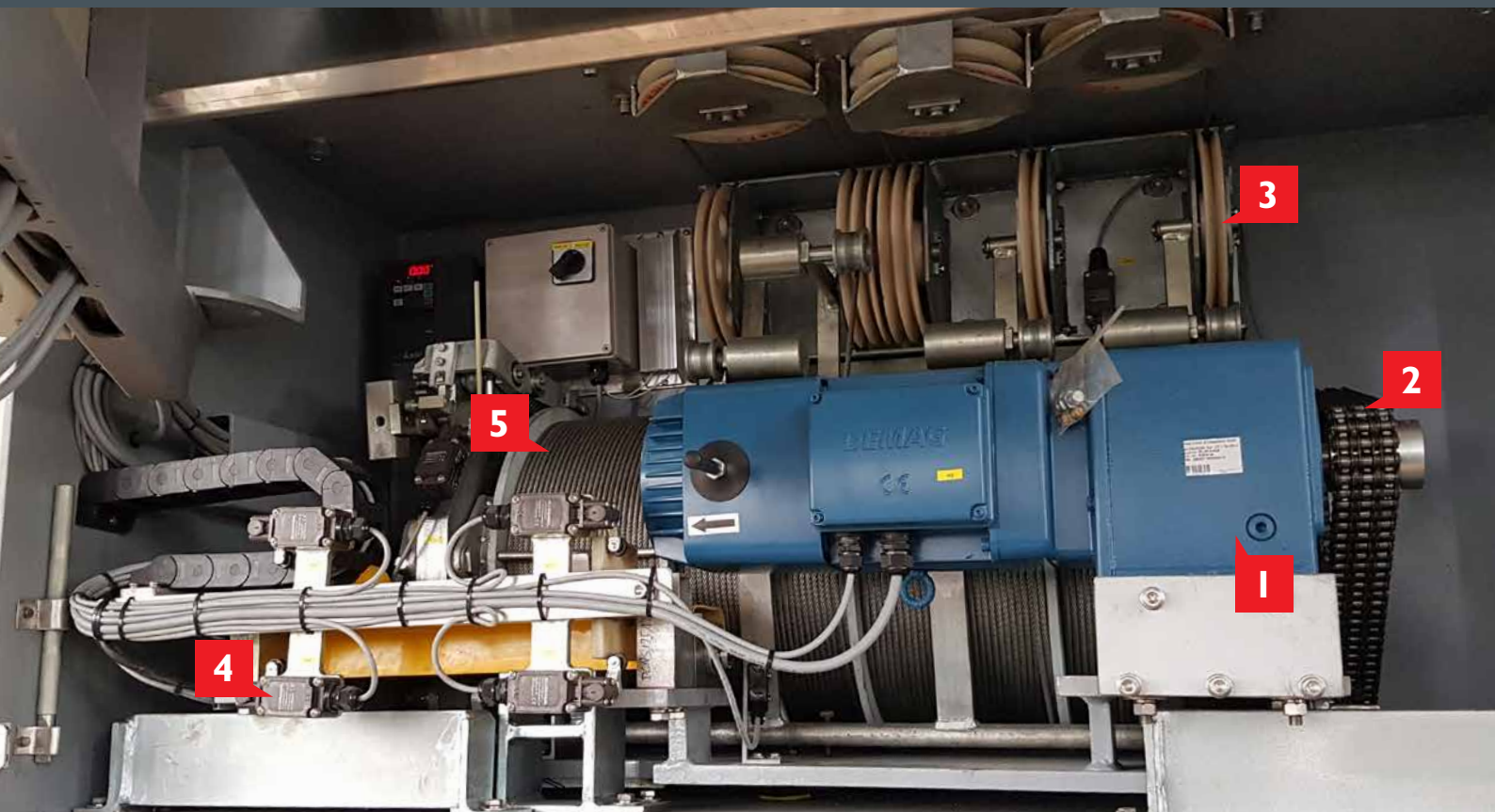
## SPECIFICATIONS

RATED WORKING LOAD (kg)	250	ROPE DIAMETER (mm)	7 & 8
HEIGHT COVERAGE (m)	*Up to 385	ROPE SAFETY FACTOR/CODE	12 EN 1808
CRADLE DIMENSION (mm)	2500 X 650 X 1100	POWER SUPPLY	3 PHASE 400/230V 40AMP 50/60HZ
LIFTING SPEED	Approx. 9 m/min	LENGTH OF POWER CABLE (m)	20
TRAVERSING SPEED	Approx. 6 m/min	IP PROTECTION	IP55 for Motors IP66 for Electrical box and Junction boxes IP67 for Limit switches
SLEWING SPEED	Approx. 8 m/min	FINISHING	Galvanized and painted with RAL 7001 for maximum corrosion resistance
TELESCOPIC SPEED	2 m/min to 5 m/min		

Note : BMU specifications may differ from above due to components upgrade or model obsolescences.



# HOIST UNIT



- 1** HOIST MOTOR
- 2** ROLLER CHAINS
- 3** ROLLER BEARINGS
- 4** LIMIT SWITCHES
- 5** WIRE ROPES WITH CONDUCTORS

The drum hoists use in MHE Adler BMU models are TUV certified to EN1808:2015 standard. The winch housing placement located at the base of the chassis allows easy accessibility at all time for maintenance and safe rescue. This mechanically synchronized multi-layered hoist drum design ensures precision winding of the four suspension ropes that keep the cradle at horizontal level. Reliable and trouble-free controls are achieved with the field proven copper cores signal transmission inside each wire rope.

Hoist mechanism: Demag's industry proven gear brake motors are the heart of every MHE Adler BMU. A purposely engineered spring active-activated system to ensure positive braking in all situations without overheating. These mechanically operated brakes are designed to a high level of safety standards for braking without electrical power. In the event of power failure, the cradle can be safely descent to a safe landing by operating the auto return brake release lever.

Secondary brake: Independent to the primary brakes, the fully mechanical system dual function braking system ensures that the overspeed braking function is always available at all time even when there is no electrical power to the BMU. Integrated to the drum unit, the brake system used a large contact surfaces that allow repeatability smooth and shock free brake engagement when the cradle is lowering beyond the set speed limits.

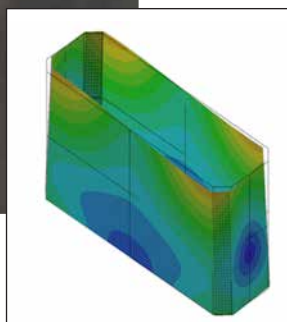
# STANDARD CRADLE

## BMU CRADLE TECHNICAL DETAILS

- SWL : 250kg
- Dimensions : 2000 (length) × 650 × 1100mm  
2500 (length) × 650 × 1100mm
- Self-weight : 2000mm – 120kg  
2500mm – 130kg
- Material : Aluminum Alloy
- Finish : Stoving varnish
- Front bumper rollers
- Fully cladded cradle

## SAFETY FEATURES

- Overload protection
- Slack rope protection
- Bottom trip bar
- Anchor points for safety harness



## CRADLE MONOCOQUE STRUCTURE

A design that has a structural system where the loads are supported through the cradle external skin structure. It does not rely on the frame structure for structural integrity and forms a rigid shell structure that is highly resistant to twisting and impact.

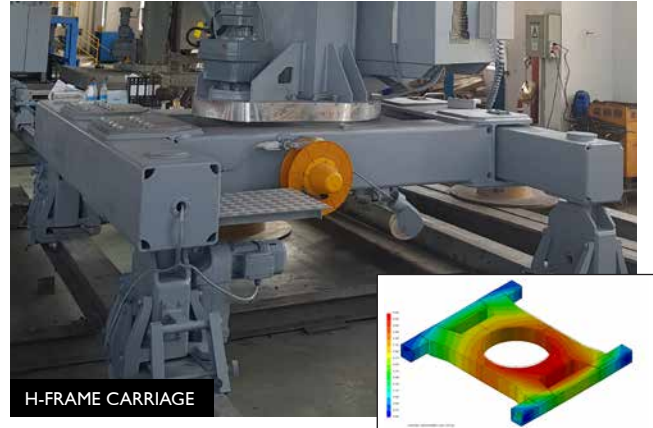
In addition, this creates a clean interior that is easier to maintain, and reduces obstruction risk to operator movement in the cradle. This has been proven on site to be safe, reliable and durable.

# DESIGN FEATURES

## H-FRAME CARRIAGE

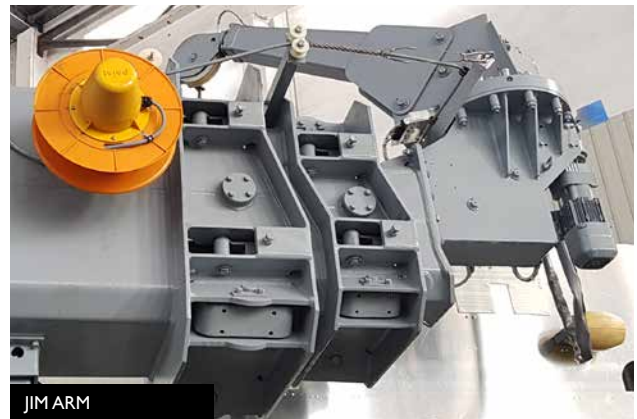
MHE Adler's base structure allows a significantly higher duty slewing gear to be used to support the main mast and jib structure.

Essential to the H-Frame design, is the robust box structure that is specifically designed to ensure load distribution over large areas that are inaccessible by the slewing gear and traversing arm. In addition, it increases the lifespan of the main slewing gear and traversing support arms providing a safe and trouble-free operation.



## JIB ARM

The box shaped design with web flanges around the fore-jib section helps prevent fatigue and material creep throughout the life-cycle of MHE Adler.



## WIRE ROPES

Guided with low friction sheaves from the winch into the mast and jib structure internally to minimize the exposure of moving ropes to operator and entanglement risk to external objects. This arrangement along with the rope tensioning device also protects the wire ropes against weather and damages to the rope, providing a longer service life.



## WHEEL UNITS

Designed for stability during operation, each wheel is fitted with four side mounted uplift claws to divert uplift forces into the wheel block, avoiding shearing of fastening bolts.

Guide rollers are designed for ease and safety of BMU machine maneuvering with an integrated storm clamp when in parking positions.





## JIB HEAD

The swiveling jib head design helps prevent damage of the cradle's wire-rope due to excessive cradle swinging that are done under high wind conditions.

## ELECTRICAL AND CONTROL SYSTEM

Junction boxes located at the jib head, cradle, and main electrical boxes are rated to IP66 dust and water resistant rating.

Safety interlocks, limit switches, and sensors are monitored and controlled by PLC (Programmable Logic Controller) in a closed loop system for positioning and cradle height synchronization during telescopic and luffing operations.

The finest German technology from LAPP group, Schmersals and Siemens are used for safe reliable operation, high performance electric cables, limit switches, and sensors.

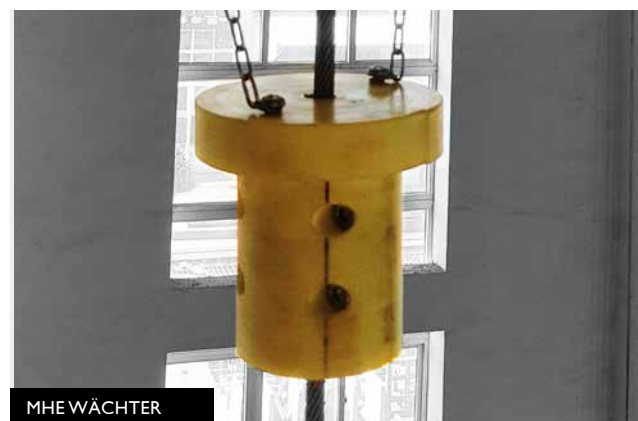
## HYDRAULIC SYSTEM

The extensive use of steel hydraulic pipes avoids risk of hose rupture incident whenever possible.

Low leakage poppet hydraulic safety valves, power pack motors, and other hydraulic components are carefully selected from international hydraulic brands such as Siemens and Bosch Rexroth to ensure top quality performance.

## MHE WÄCHTER

A safety device that detects any rope deformation, rope kink, and bird-cage that helps stop further hoisting.



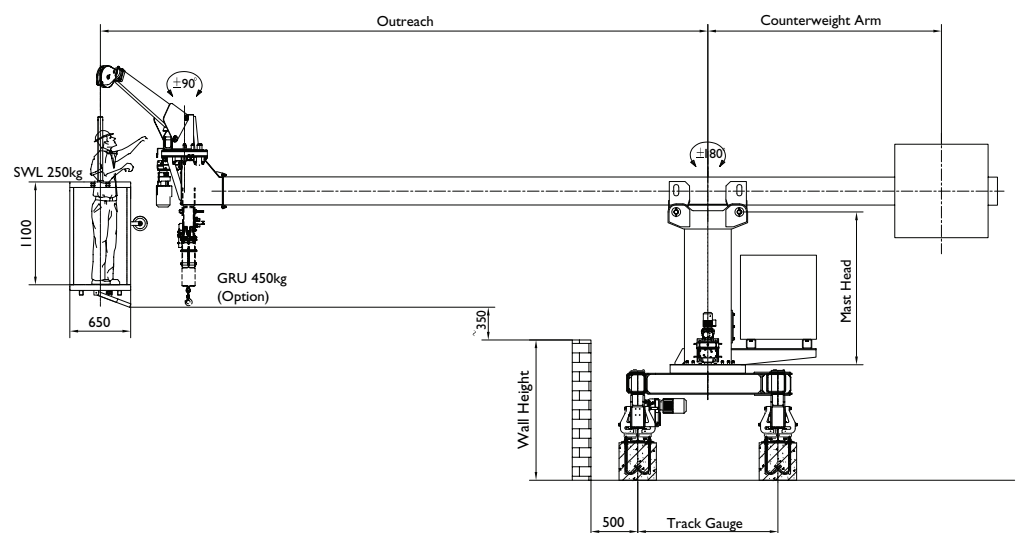
# MHE ADLER BMU RANGE



Mainly divided into fixed jib and telescopic-jib BMU models that also comes with an option of GRU with 450kg hook load.

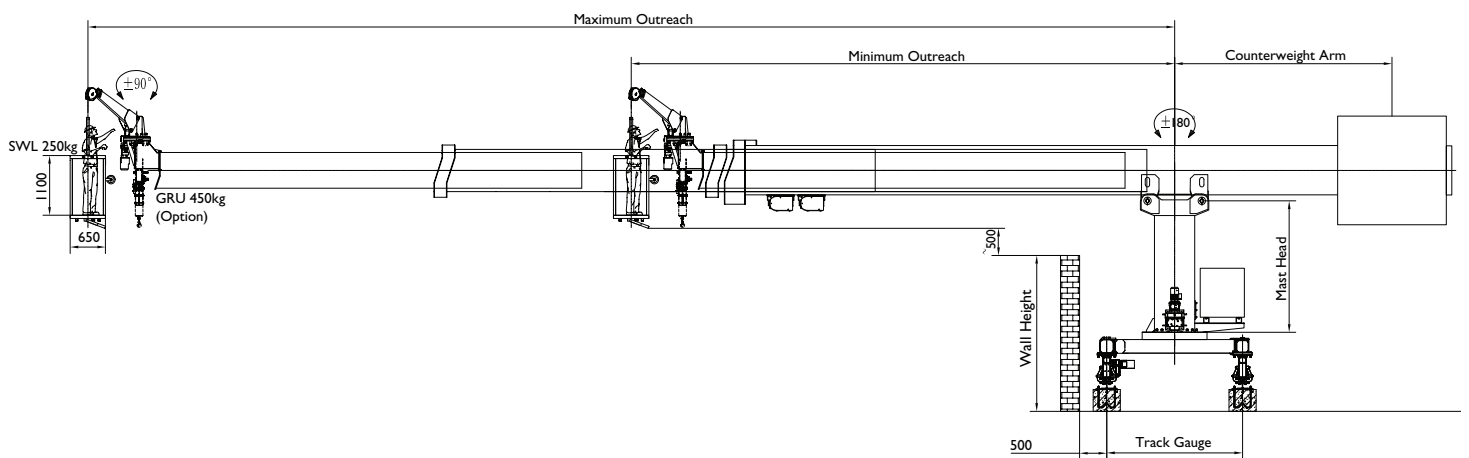
MHE Adler has 6 different ranges that are based on different track gauge and outreach.

## FIXED JIB BMU RANGE





## TELESCOPIC JIB BMU RANGE



# GLASS REPLACEMENT UNIT OPTION



Glass Replacement Unit (GRU) is integrated to the MHE Adler BMU for facade material hoisting up to 1,000kg.

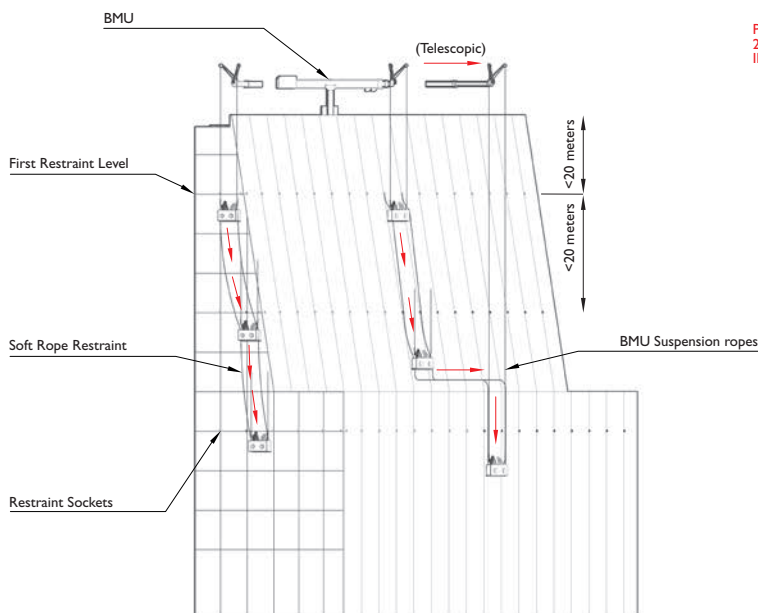
Controlling the GRU from the cradle, it has a lifting speed of approximately 9m per min.



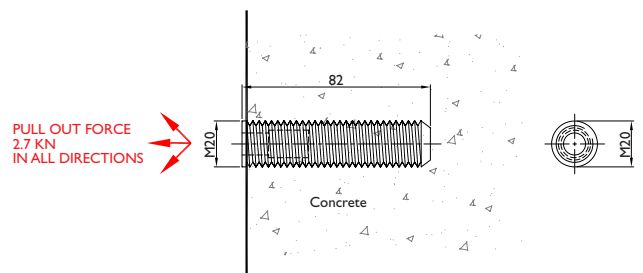
# SOFT ROPE RESTRAINT SYSTEM OPTION



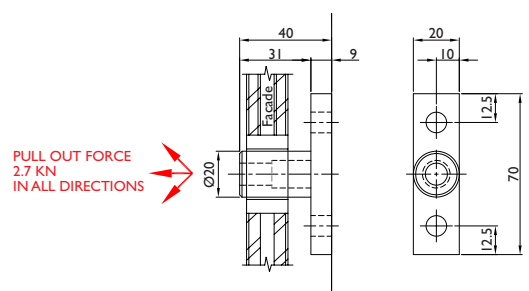
Our soft rope restraint system on the cradle helps provide a safe cradle positioning along positive slope façade and lower floor projection. The soft ropes are restrained to buildings at not more than 20m intervals.



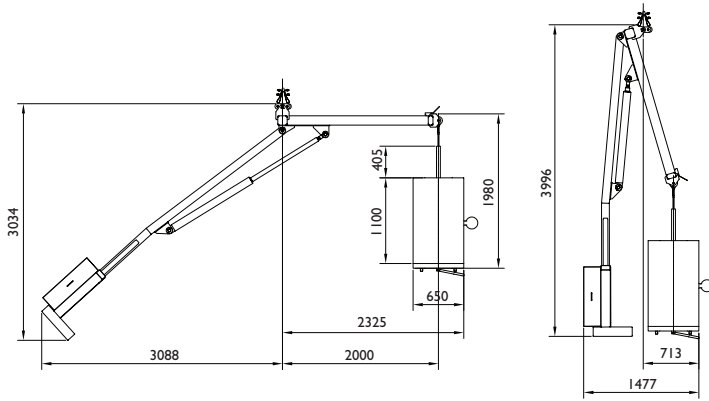
**FEMALE RESTRAINT SOCKET  
(CASTING OR POST DRILL TO CONCRETE SURFACE)**



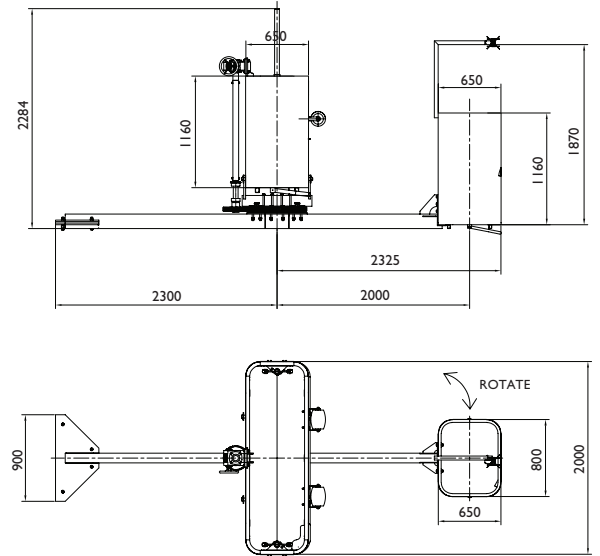
**FEMALE RESTRAINT SOCKET  
(FASTEN TO CURTAINWALL TRANSOM OR MULLION)**



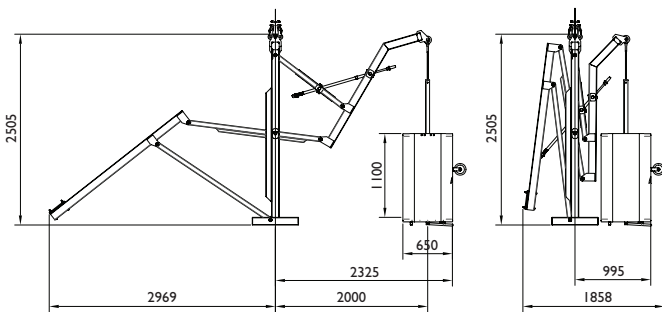
# OTHER CRADLE OPTIONS



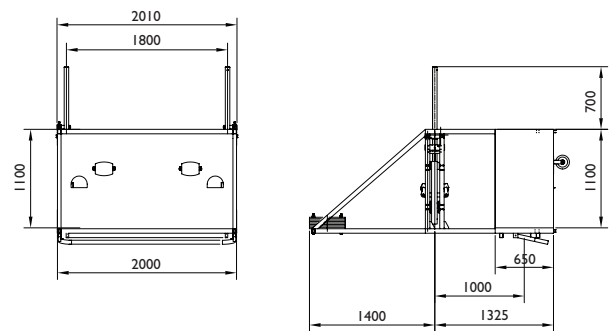
**PANTOGRAPH CRADLE**



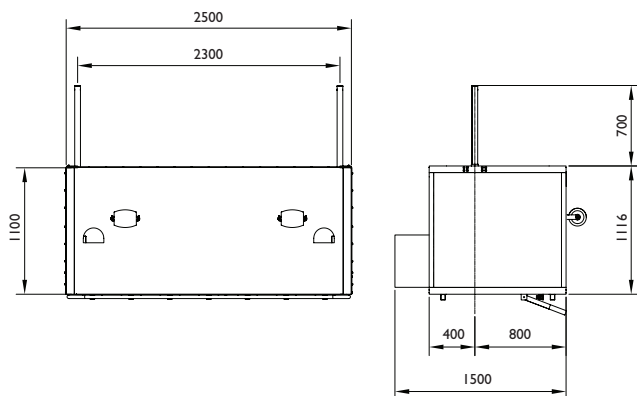
**SATELLITE CRADLE**



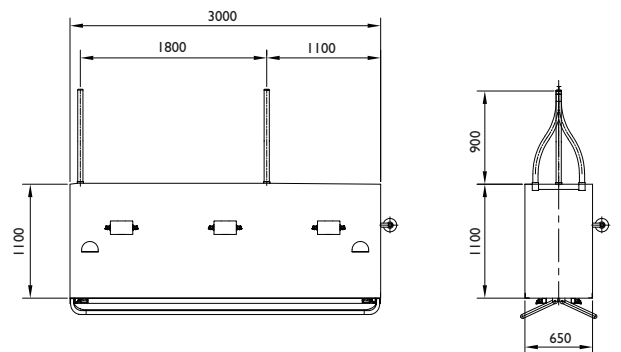
**ARTICULATED CRADLE**



**CANTILEVER CRADLE**



**BALCONY CRADLE**



**CANTILEVER CRADLE (SIDE)**

# OTHER BMU PRODUCTS

## MONORAIL SYSTEMS

MHE monorail system is an access solution where a single track runs along the exterior straight façade following the shape of the building. Smooth running trolleys, either manual or electric means, run along the monorail track with the self-powered gondola cradle. The aluminum monorail track is aesthetically pleasing, strong and versatile.



## ROOF TROLLEYS

MHE roof trolley is a compact traversing building maintenance unit running on concrete runways or on anchored tracks. Various jib arm configurations with a small to mid-range outreach are available to suspend the self-powered gondola cradle.



## SOCKET & DAVIT SYSTEMS

MHE socket and davits system is a relatively low-cost building maintenance solution installed permanently on building, either to the roof slab or onto the reinforce concrete parapet wall.

The davits arm is shared among fixed floor-mounted or wall-mounted sockets by shifting from one socket to the other within the same roof compound. The davits arm set-up is making ease with the hinged mobile socket or with a portable erection hoist. MHE-Demag provides 2 range of Davits arm product, the steel davits arm and the high-profile aluminum davits arm.





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