# The intelligent workplace system for more efficiency in the steel industry.





Base frame, 2x2 metres



## INTELLIGENCE FOR THE WORKPLACE.

MONTEC is a new, universal workplace system for single-item and series production in the steel industry and similar sectors, such as mechanical and plant engineering. It not only facilitates tacking and welding, but also enables the intelligent organisation of tasks in a systematic and reproducible workflow with significantly increased productivity.

MONTEC is a concept made up of any number of base frames assembled in a row at two-metre intervals. Each of these base frames can be used as an individual workplace, although several frames can also be used together.

Base frames are available in 2x2 metres and 2x3 metres. The special feature of the concept is its insert system with separate working and support levels. Plates or strips with grid holes are inserted into the base frames (or into the spaces between the base frames). The perforated grid is compatible with welding tables with holes of 28 millimetres in diameter. This enables the use of commercially available stops and tools for pre-tensioning and clamping.

The base frames are dowelled to the plant floor. The support level is exactly aligned to enable precise work with the grid holes across the entire work surface of all base frames. In contrast to rail systems, MONTEC can be installed in plants incredibly quickly, which decreases the idle time.

# Simple. Cost-effective. Intelligent.

## More efficiency. Higher productivity.

Classic steelwork and similar sectors such as mechanical and plant engineering are characterised by an intriguing peculiarity: while upstream and downstream production areas have undergone constant modernisation and rationalisation, there has hardly been any significant improvement in efficiency when it comes to assembly – in other words, exactly where the actual value creation takes place. Every metalworker still develops his own clamping devices, unused equipment gets in the way and ties up capital, large constructions continue to be welded on the floor without any consideration of ergonomics, and time is still wasted transporting material to the fixtures or tooling machines.

MONTEC puts an end to such inefficiency. For many tasks, MONTEC significantly reduces set-up and production times whilst simultaneously taking precision and accuracy to unprecedented levels. The modularisation of the workplace creates a completely new system – where a furnace is built today can be home to a railing construction tomorrow and a flame-cutting machine the day after.



All components can be re-used at every workplace and stored in a compact manner. This frees up space for production both in the plant and the warehouse. By exploiting the space between the base frames, each frame effectively offers twice its area as a work surface. However, these areas can also be used as a passageway or for storing materials. This means higher productivity during processing due to faster material access and shorter distances.



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Unlike welding tables, MONTEC enables work from within the work surface. Extensions were used to widen the work surface to four metres.

# ONE FOR ALL

MONTEC offers one workplace for everything – whether for small and large parts, trusses and pipe racks, furnace and pipeline construction, crane runway girders, stairs, platforms, railings and much more. Thanks to its modular design, all types of steel construction can be built without the need for any special fixtures, for example for trusses or pipe processing.

Once a job has been completed, the fixture can be easily dismantled and the workplace is ready for the next task. After all, every single part in the system can be reused on any workplace.

MONTEC is designed to withstand extremely high loads. Force is transmitted through the webs of the support beams. Each support beam has a load capacity of up to ten tonnes.

The solid feet are dowelled to the floor, thus guaranteeing uniform pre-tensioning for straightening and welding – even with high forces.

The special coating on the hardened slats protects the components from dirt, scratches and weld spatter, and ensures a long service life.

# **Ergonomically** optimised.

With MONTEC, workplaces can be designed with ergonomics at the forefront. Different insert elements enable the depth of the work surface to be changed as required. Since the base frames can be accessed from the front and back, having to climb onto large table plates is a thing of the past. The working height can also be adjusted quickly.

Thanks to its back- and joint-friendly working height, MONTEC also reduces the need to work on the floor. Functional elements such as rolls make it easier to move heavy parts. It also shortens walking distances – if the spaces between base frames are not covered with insert elements, they can also be used as passageways.

Last but not least: MONTEC reduces stress in the workplace. High precision over the entire length of a production line minimises defects and delivers consistent, exact results.

# Less stress in the workplace.

Free passageways between the base frames reduce walking distances





Conveyor components ensure rapid material transport



# The perfect **connection.**

MONTEC enables the integration of a wide range of production processes such as sawing, plasma cutting or welding anywhere inside the workplace area. This reduces the need for transportation and enables the setup of modern flow production if required, making the system future-proof for digital transformation in industrial production.

Our cobot module is the best example of such diverse possibilities. It enables the perfect integration of a cobot welding system into production processes. All components such as power source, extraction unit and cobot are housed in this module, enabling the cobot to be integrated into every MONTEC base frame in no time at all. Thanks to the standalone capability of the module, the cobot welding system can also be used outside of the MONTEC workplace.

- Railing production
- on MONTEC base frames
- 4-metre railing construction fixture
   2x2-metre segment, can be extended with 2-metre segments
- For straight and stair railings
- Angle for stair railings can be adjusted from 35° to 55° in one-degree increments



# The perfect solution for every task.

MONTEC provides a wide range of practical solutions for special products and assemblies, and continuously releases new, time-saving ideas for diverse tasks.





## **Systematised** production processes.

MONTEC represents a holistic workplace philosophy in which processes are aligned based on a uniform concept that covers and systematises all production processes. This makes individual and isolated solutions a thing of the past.

Such systematisation makes work processes more transparent and comprehensible for all - thus also ensuring their simple reproduction.

The system nurtures the efficient division of work, as assemblies can now also be conveniently planned in the office using CAD. Setup staff and assistants only need to take the required components out of the material shelves and can directly install the workplace and the fixture.

MONTEC also ensures high repeatability – CAD drawings and material lists can be stored digitally and accessed again at a later date. And if assemblies are no longer needed, the components are simply returned to the shelves for optimal space utilisation.

This not only provides considerable improvements in efficiency, but the system also provides a solution for skilled labour shortages, as less qualified staff can use it to achieve the same results.

## Fit for the future.

Rather than having to waste time transporting material to a costly large-scale plant, small and inexpensive on-site plants are often enough. This way, even small batches can benefit from automation.

Small cranes, which are attached to a customised insert element that can be used anywhere in the workplace, present another efficient rationalisation aid.

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Saw integration

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#### **Base frames**

2 x 2.0 metres Article number 16 5 1 018 00

2 x 2.5 metres Article number 16 5 1 017 10

2 x 3.0 metres Article number 16 5 1 016 10

Coating: Base frames in RAL 5010 (blue) Attachment components in RAL 3000 (red)

- 2 support beams of 2.0/2.5/3.0 metres with grid holes of ø20 mm for M20 with spacing of 50 mm, extendable by 0.5m, 1.0, or 2.0 m
- Load capacity 10 t
- With hardened slats, usable on both sides, can be replaced, e.g. with stainless-steel bars
- 12 movable shelves for insert elements
- 2 retractable, milled stops as zeroline
- Base plates with 2x M30 threads, clamped with M30 nut, on-site grouting with Pagel required during assembly

All base frames optionally available with spindle foot instead of threaded rods

- 2 support beams of 2.0/2.5/3.0 metres with grid holes of ø20 mm for M20 with spacing of 50 mm, extendable by 0.5m, 1.0, or 2.0 m
- Load capacity 10 t



Extensions

Support beam, 500 mm Article number 16 5 1 127 00

Support beam, 1000 mm Article number 16 5 1 125 00

Support beam, 2000 mm Article number 16 5 1 126 00

- Coating: RAL 5010 (blue)
- Support length 0.5 m, 1.0 m or 2.0 m, grid holes of ø20 mm for M20 with spacing of 50 mm
- Hardened slats, can be used on both sides
- Fastening surfaces, milled on front e.g. for brackets

**Article number** 165101800

Article number

Article number 165101610

Article number

Article number 165112600 Article number 16 5 1 125 00

165112700

165101710



**Article number** 16 5 5 311 00

**Article number** 16 5 5 312 00

**Article number** 165531300



#### **Insert elements**

#### 80 mm heavy duty with holes, straight, no drop Article number 16 5 5 302 00

80 mm heavy duty with holes, 250-mm drop Article number 16 5 5 314 00

80 mm heavy duty with holes, 350-mm drop Article number 16 5 5 314 01

#### 80 mm heavy duty with holes, 450-mm drop

Article number 16 5 5 314 02

- Hardened surfaces
- Support length 1950 mm, 80 mm wide
- Dropped support length 1400 mm
- Suitable for use of plug bolts with an insertion depth of 70 mm
- Grid holes of ø28 mm with 100 mm spacing and scale
- 1 milled side wall

#### 80 mm without holes,

straight, no drop Article number 16 5 1 303 00

- Coating: RAL 5010 (blue)
- Support length 1950 mm, 80 mm wide
- No holes, surface not milled
- For welding and straightening

#### **Insert elements**

200 mm with holes, Article number 16 5 5 311 00

**300 mm with holes,** Article number 16 5 5 312 00

500 mm with holes, Article number 16 5 5 313 00

- Hardened surfaces
- Support surface 1950x500 mm
- Suitable for the use of plug bolts with an insertion depth of 70 mm
- Grid holes of ø28 mm with 100 mm spacing and scale

#### Customised insert element for column-mounted slewing jib crane,

500 mm - designed for 250 kg crane load

#### - Hardened surface

- Support surface 1950x500 mm
- Suitable for the use of plug bolts with an insertion depth of 70 mm
- Grid holes ø28 mm with 100 mm spacing and scale
- Three 500-mm threaded rods for crane fixture

### Column-mounted slewing jib crane

up to 4000 mm outreach and max. 250 kg

Various versions available. e.g. Column-mounted handling crane BS 2.5-4.0 Column-mounted slewing jib crane US 2.5-4.4 Column-mounted slewing jib crane PR 2.5-4.0 Supplier: VETTER Krantechnik GmbH **Article number** 167530701

# Attenues Attenues Attenues

#### Cobot module Insert element, 1000 mm wide

- Hardened surface
- Profile guide rails - Cobot trolley, painted in
- RAL 3000 (red)
- Mobile frame for holding drive unit, painted in RAL 3000 (red)
- Base frame for holding welding machine, extraction unit and cobot control, painted in RAL 5010 (blue)

Ball caster plate in use

Insert element Heavy-duty version ø28 mm grid holes with 100 mm spacing and scale 45





Article number

165260300



Article number 165260400

#### Roll

- Enables easy moving of heavy parts - Useful to set up a production line

#### **Roll holder**

Type A

- Rapid mounting on support beam

#### Type B

- Rapid mounting on heavy-duty insert elements
- For roller spacing from 200 mm

#### Ball caster plate - 500 mm for cross transport

- Coating: RAL 3000 (red)
- Can be extended by 500 mm each
- With 20 ball casters, can be replaced individually
- A support can be fastened on as an aid

#### Scale 100/1 mm

- Enables precise adjustment in
- one-millimetre increments
- Area of application: Railing construction, ladders, tensioning a plumb line, etc.

#### **Bolts and more**

Plua bolt ø40x25/50/100 mm with pin of ø28

Plug bolt for swivelling stop ø40x41 mm with pin of ø28 mm

**Screw bolt** ø40x25/50/100 mm with thread M20x20

Screw bolt for swivelling stop ø40x41 mm with thread M20x20

**Screw bolt** ø40x25/50/100 mm with thread M20x72

Screw bolt for swivelling stop ø40x41 mm with pin of ø12 mm

Square stop 40mm with 3x thread M20 and thread bolt M20x72 with 3x thread M20 and pin of ø28 mm

**Bush** bush ø28 to thread M20 bush ø28 to ø20

Stop, flat 25x40x90 mm with scale marking

Stop, flat 25x40x190 mm with scale marking

Stop, round 55x40x90 mm with scale marking

Stop, round 25x40x190 mm with scale marking

Article number

165230800

165060200











Article number

165062301

Article number 165062700



Article number 165062800



Article number 165062900



Article number 165061500



Article number 165062801



Article number 165062901

Article number

165061501



Article number 165062000



Article number 165062501



165062502



165062500



165063200



165062001

Article number 165062702



Article number 165062802















Article number







Article number



Article number





Article number



165062302







- > Simple idea
- > High cost-effectiveness
- > Systematised production processes
- > Flow production
- > Countless possibilities
- > Extreme load capacity
- > Ergonomically optimised

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