

PRODUCT CATALOGUE

EDITION 03

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RATEC, innovative by tradition

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The basis for efficient shuttering technology

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RATEC has revolutionised the world of precast concrete elements

*Innovation and tradition are at the core of what we do.
We set standards – then and now.*

RATEC is one of the leading suppliers and service providers in the precast concrete industry. We set global standards in terms of developing and producing magnetic shuttering technology and complex shuttering solutions. In the last decade, more than half of all new pallet circulation systems for the production of precast concrete elements have been equipped with magnetic shutterings from RATEC.

Originating from the rationalisation philosophy of Reymann Technik GmbH, RATEC has made a name for itself since its foundation in 1994 through innovation and quality.

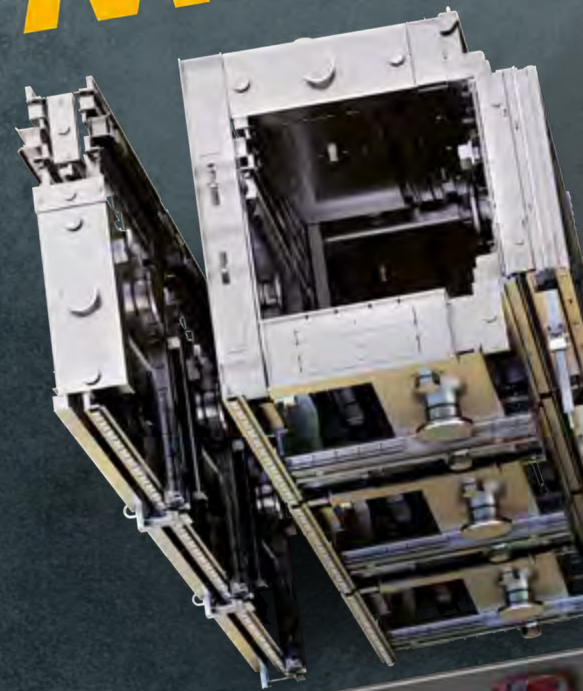
We were a pioneer in using shuttering magnets in precast concrete plants. We were also first to integrate switchable magnets directly into the shuttering – back in the days this was a small revolution in the precast concrete industry. Today, magnet-based shuttering solutions are standard worldwide in many precast concrete productions.

With our know-how of almost 30 years of intensive development work in close cooperation with our customers worldwide, RATEC has the right answer to every conceivable shuttering situation. Our solutions are not only technically well-engineered, but they also take into account economic feasibility, efficiency and process optimisation.

With more than 100 employees, two wholly-owned production sites in Germany and the USA, additional sites in Spain and Singapore and a worldwide distribution network, RATEC is present on all continents.

Our motto "MEET THE BETTER IDEAS!" is part of our daily corporate culture and, in combination with innovation and extensive know-how, it yields innovative and economical solutions at the highest quality level.

MEET



Certified quality management system according to DIN-EN ISO9001.

2 PRODUCTION SITES
IN GERMANY AND THE
USA ON A TOTAL AREA
OF OVER 8,000 m²

> 75% EXPORT
DELIVERY TO OVER 72
COUNTRIES WORLDWIDE

3 INTERNATIONAL SITES
IN THE US, SINGAPORE AND
SPAIN + WORLDWIDE NET-
WORK OF REPRESENTATIVES

SECOND GENERATION
OF OWNER-MANAGED
FAMILY BUSINESS

100+ EMPLOYEES
WORLDWIDE

THE BETTER



Technology and the highest level of vertical integration are the basis for innovative solutions

Thanks to our focus on providing streamlined shuttering technology solutions for precast concrete plants, RATEC's components and shuttering systems are the world leaders in the industry.

With our wealth of experience through the integration into the Reymann Group, new developments in the precast concrete industry can be incorporated into the further development of our shuttering components often even before they are implemented into production processes.

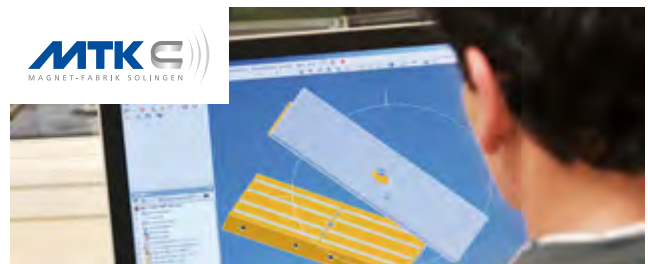
Due to full in-house production, individual requirements can be accommodated any time.

Our capacity for innovation, reliability, swiftness of all employees and the short decision-making channels when working with our customer are the main building blocks for continuous further development.

Another important cornerstone of our productivity is our in-house magnet production, which supplies all the components required for RATEC shuttering solutions and thus combines absolute transparency with reliability and quality "Made in Germany".



All shutterings are developed and produced centrally in Hockenheim, from where they are shipped to customers in more than 72 countries worldwide.



In-house production ensures high quality and flexibility.



Production area of approx. 6000 m² in Hockenheim

With the expansion of the office and production halls in the Talhaus industrial area, the company's production area increased to a total of approx. 6,000 m² in 2020. Another production site is located in the USA, where the products for the US market are manufactured. All other RATEC shutterings and components are produced exclusively in Hockenheim, from where they are shipped worldwide.



Precision shuttering requires precision tools during production. In order to produce even faster and more efficiently, we have continually made ground-breaking investments in the machine park, including solid-state lasers of the latest Trumpf generation. We have had a laser with 10 kW laser power in use since 2020 and another with 12 kW since the beginning of 2022. This allows the sheets to be processed even faster and offers highly precise cutting.

Other modern machines for sheet metal processing, such as folding benches, routers, lathes and a second solid-state laser since 2022, are also part of our equipment.

On site for you

Our international branches



RATEC AMERICA CORPORATION | USA

RATEC has had its own branch in the USA for over 20 years. The offices and production facilities of RATEC America Corporation are headquartered in Clearwater, Florida. This is where all products specifically for the North American market are produced, including tilting tables, clamping beds for prestressed concrete elements as well as special shuttering solutions for embankment walls, beams, supports and stairs. This gives us proximity to the customers, makes us faster and combines the high quality standards of "German engineering" with proud "Made in the USA" production.



RATEC ASIA PTE. LTD. | SINGAPORE

RATEC Asia Pte. Ltd. has been operating in Singapore since 2017. This latest foreign branch will help us to further improve our relations with customers on the Asian market. Our success is based upon a dedicated team of employees with many years of experience in Asia's construction and precast industry. This ensures application- and cost-optimised solutions in consideration of specific regional requirements, and a strong understanding of the needs of our customers in the region.



RATEC S.L.U | SPAIN

Barcelona is home to our customer service for Spain and Latin America. Jürgen Deppe is leading the RATEC S.L.U. office in the heart of the Spanish metropolis, which has been the interface between the headquarters in Germany and the Spanish-speaking regions of the world for over 10 years.

- Our distributors across the globe are also available to you.
- Please find all contact information on page 180.

More than just a supplier – Integrated solutions concepts to guarantee your success

Together with the customer, RATEC evaluates which type of production is most suitable for a precast concrete element in a given quantity and quality.

RATEC not only provides suitable shuttering solutions, but, if needed, also develops the appropriate production concept based on the customer's requirements.

Particularly for our vertical and 3D module shuttering, we can support you in planning and implementing well-thought-out production processes and ensure that your production becomes operational efficiently and logistically optimised.

When integrating into existing production, we also develop a proposal on how you can optimally integrate our shuttering components or concrete pumps into your production processes.

RATEC solutions are always created in close cooperation and good faith with our customers.

We want you to succeed! This is why we take your needs seriously. With a team of experienced concrete precast specialists, application engineers, plant planners and engineers, we offer integrated advice.

**REYMANN
TECHNIK**

PARTNER FOR PLANNING AND CONSULTATION

When it comes to questions that go beyond shutterings, Reymann Technik offers comprehensive services, from feasibility analyses and layout planning to the realisation of new precast concrete plants or the modernisation and conversion of existing plants.



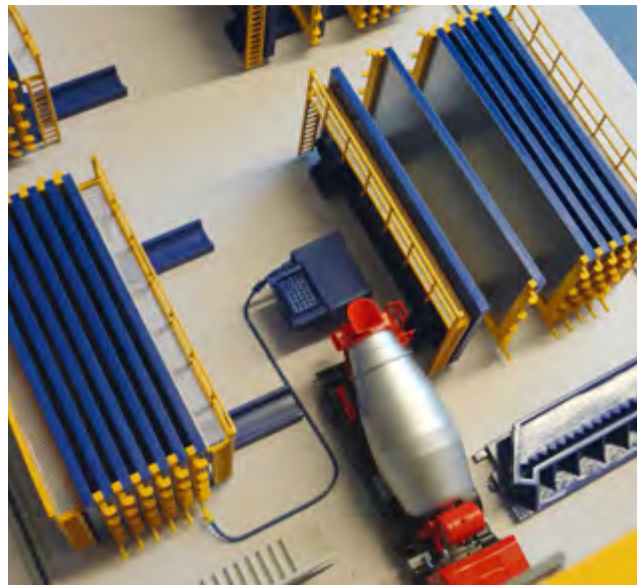
Find out more about
Reymann Technik at:

www.reymann-technik.de

Our close contact with customers and understanding of their needs results in better ideas.



Factory model of a battery manufacture



Battery manufacturing, Indonesia



Modular housing production plant, Peru



The upcrete® technology makes complex forms economically feasible



Modular housing, Peru



Modular housing, Philippines



Facade elements, Expo Pavillon, Italy



Facade elements, Indonesia



Mast elements for wind farm, China



Noise barriers, USA

- Our battery and 3D module shutterings are available in upcrete®-compatible design upon request!



With upcrete®, nearly every conceivable precast geometry can be produced in a single step.

upcrete® – A technology jointly developed by RATEC and Reymann Technik refers to the process for concreting the most complex precast element geometries using the process of filling a mould with concrete from bottom to top under pressure in a mounting stream, which combines all-round exposed concrete surfaces and production in the final installation position with the highest possible economic efficiency.

In this process, self-compacting concrete is pumped from below into a partially closed mould. The system's flexibility presents unique opportunities for shaping, element geometry and the production process, while ensuring top quality and smooth surfaces on all sides.

The elements are filled via a pump from below (injection). Very little air is introduced into the concrete by the filling process. When using self-compacting concrete, no additional mechanical compaction is required. Almost all bounding surfaces can be encased. Air outlets are provided only at certain points of the encased geometry, similar to injection moulding of plastics and metals.

THE UPCRETE® PROCESS – ADVANTAGES FOR EVERYONE

- Fewer restrictions regarding feasibility
- Maximum dimensional accuracy on the component
- Complete filling of the most difficult geometries
- Production of complex concrete bodies in final installation position
- All-around smooth surfaces
- No peeling and smoothing of surfaces
- Minimal concrete residue
- Maximum performance
- Quiet, material-friendly, efficient and employee-friendly concrete element production
- High utilisation of the mould
- Easy integration into existing production possible via concrete pump suitable for local concrete logistics (mixer, concrete truck, bucket conveyor).



upcrete® your business
Brochure (PDF)
Scan the QR code!



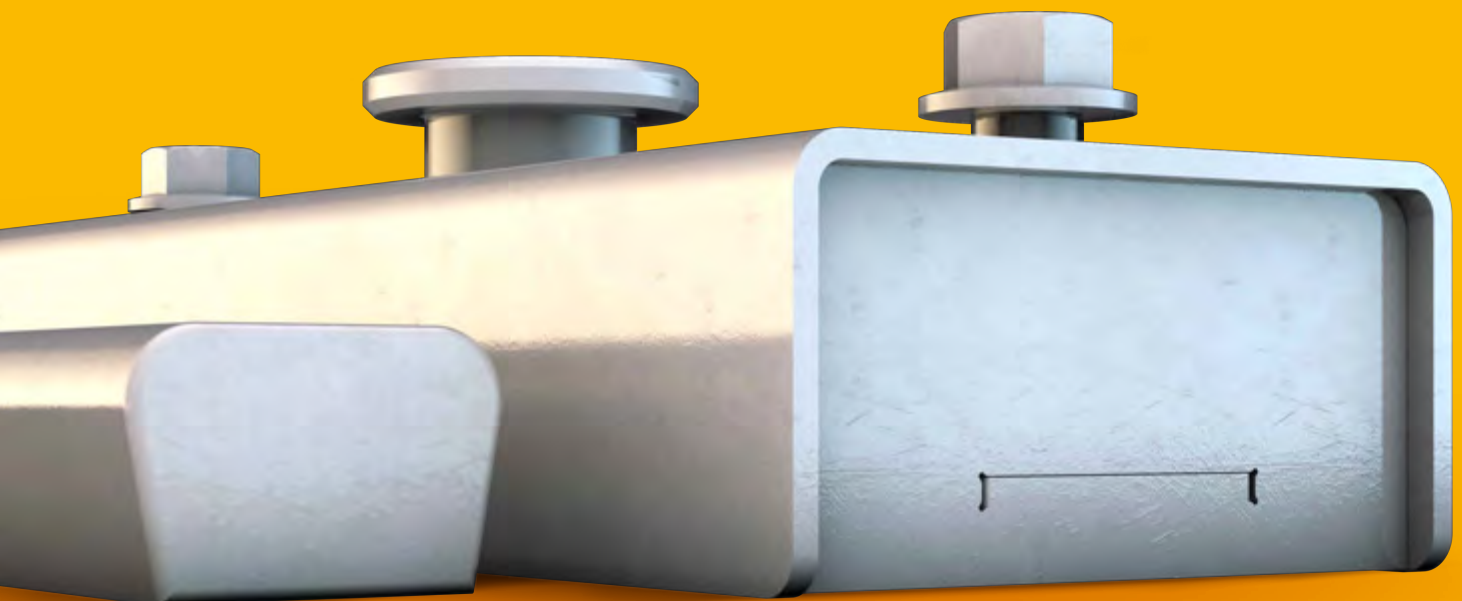
02

SHUTTERING MAGNETS

The basis for efficient shuttering technology

Having our own magnet production "Made in Germany" and complete in-house production at our location in Hockenheim, Germany, we are able to tailor our magnet components exactly to your needs. Or rely on our proven and practical standard solutions, which can be found on the next page.

Benefit from experience and flexibility – **MEET THE BETTER IDEAS!**



SPB STANDARD PRO MAGNETIC BOX

SWITCHABLE MAGNETS

Page **16**

EURO RTM STANDARD MAGNETS

NON-SWITCHABLE MAGNETS

Page **26**

STANDARD MAGNETS

A, P AND PDA SERIES

Page **32**

BLOCK MAGNETS

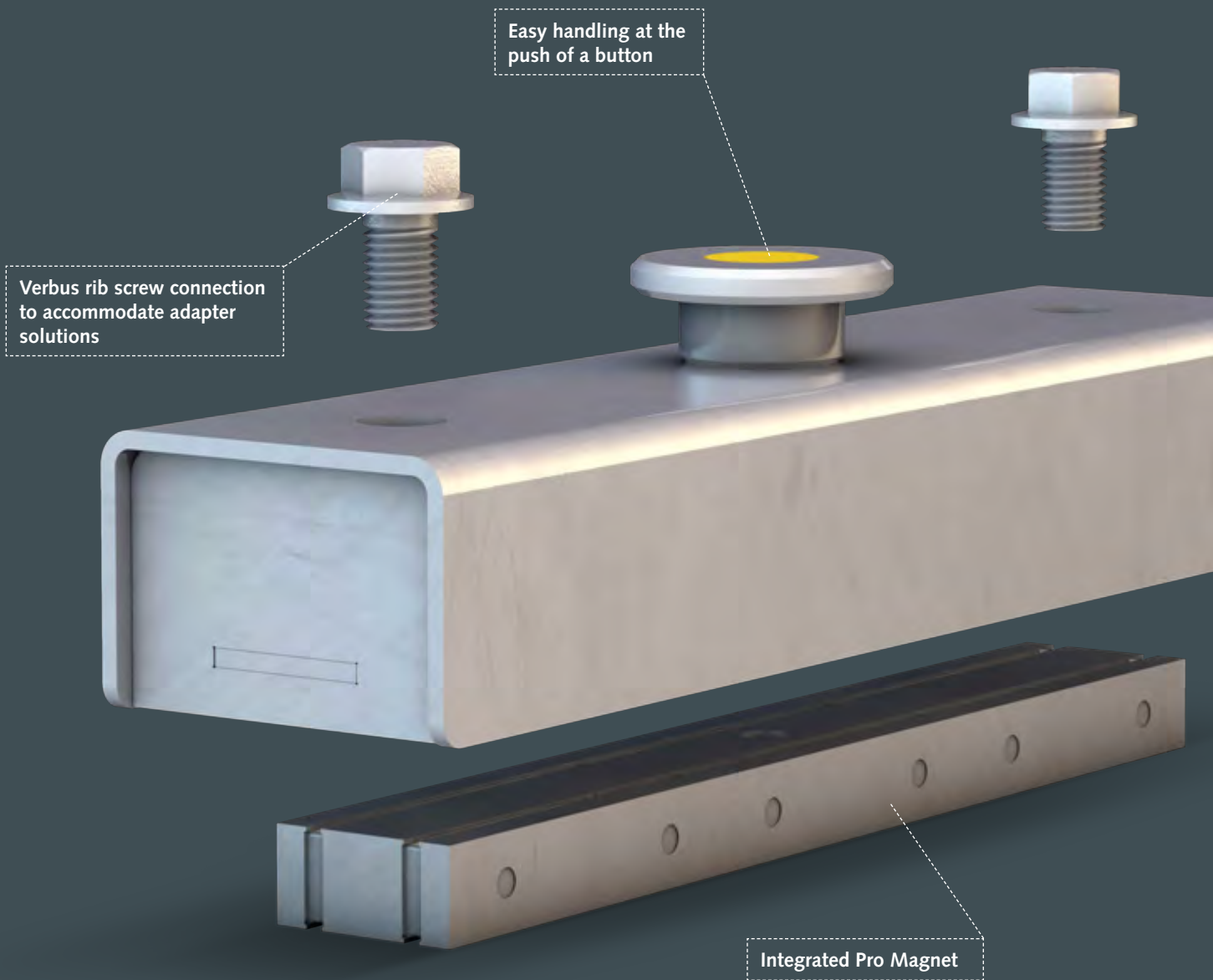
MLU SERIES

Page **34**

SPB Standard Pro Magnetic Box

Unlimited possibilities at the touch of a button

With the SPB Standard Pro Magnetic Box, we have set the standard for switchable shuttering magnets in the concreting plant. The SPB is the original and offers absolute reliability and durability with its integrated Pro Magnet, even in difficult conditions. The magnetic retaining core is tested regularly in our own magnet production to meet the specified retaining force. The SPB is ready to accommodate adapters and various shuttering skin carriers, which offer countless usage possibilities and thus maximum flexibility for the future.



- Custom-made products are possible.
- Simply ask us about it.

FIELDS OF APPLICATION

The Verbus rib screw connection offers countless possibilities for attaching shuttering skin carriers of all types and for integrating systems such as, e.g. Doka, Peri, H-beam carriers or RATEC shuttering systems.

PROPERTIES

- Integrated Pro Magnet – "Made in Germany"
- RATEC original automatic magnet system for optimum hold even under heavy loads
- Highest retaining force with minimum dead weight
- Sturdy, canted housing construction
- Fully enclosed design
- Demonstrably longer service life of the integrated magnet components

THE MAGNET IN THE BOX

Pro Magnet – the basis of all our ideas

Our standard magnets of the Pro-Magnet series are used in all RATEC magnet components and shuttering systems.

Our in-house magnet production allows us to tailor the magnets to the exacting requirements of our customers and thus realise numerous special solutions. In addition to the tried-and-tested standard variants with a retaining force of 450, 900, 1350, 1800 or 2100kg, we can also implement other designs and magnet strengths as required, or adapt the installation components structurally without losing retaining force.

High performance neodymium magnets are used for the Pro-Magnet series, which are installed in-house in a patented process, resulting in our standard installation magnets. Stainless steel bandages and various coating steps and processes make the magnetic core extremely corrosion resistant. Our extensive know-how in the field of magnet design and application enables us to perfectly meet every customer-specific requirement.



Variety that pays off – in addition to the 11 standard versions of our built-in magnetic components that are currently available, it is also possible to realise customised designs and retaining forces.

COMBINATIONS



Easy Form

More information can be found from page 38.



MST

More information can be found from page 48.



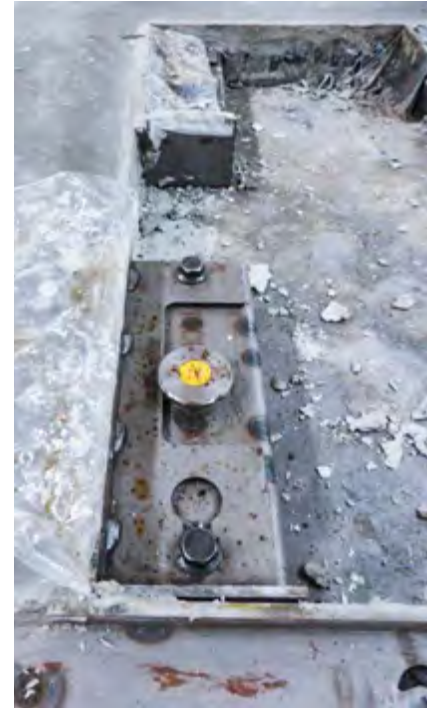
PSV and PSV²

More information can be found from page 56.

Application examples



SPB with Doka plywood beam



SPB with 2-sided angle adapter



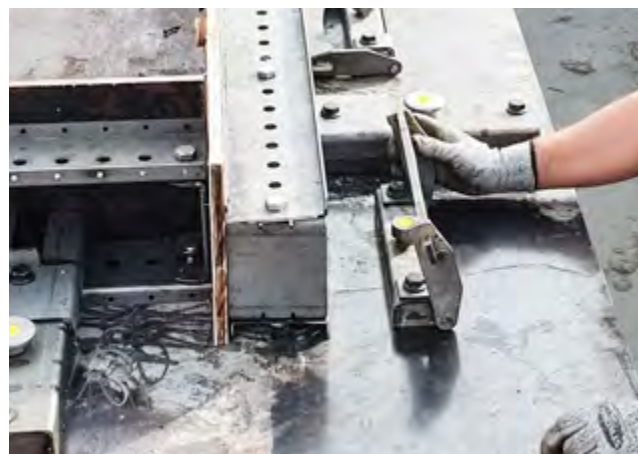
SPB as the basis of the PSV shuttering system (from page 56)



SPB with front angle attachment for radius shutterings



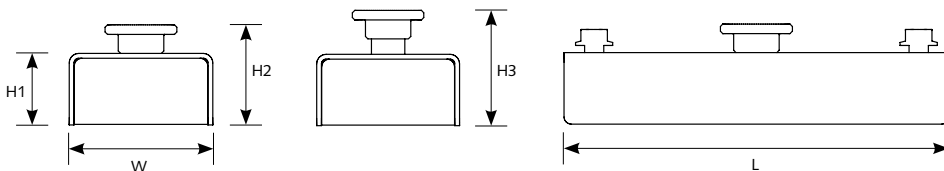
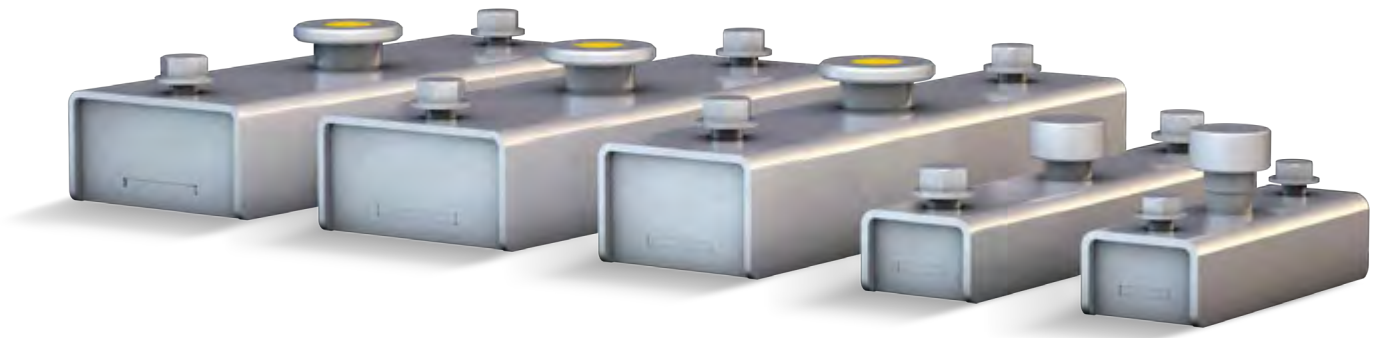
SPB for fixing staircase moulds



SPB with HT stop adapter and Easy Form (from page 38)

➤ SPB Standard Pro Magnetic Box

The SPB is the basis for all applications in shuttering construction. The SPB consists of a heavily canted U-profile with an integrated automatic magnet system with a retaining force of 450 – 2100 kg and screw connections for accommodating adapters.

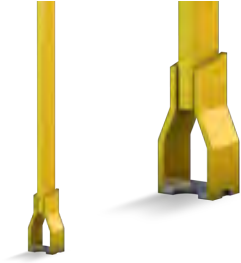


	SPB 450	SPB 900	SPB 1350	SPB 1800	SPB 2100
Article no.	05477	03255	04200	07949	03232
L (mm)	170	280	360	320	320
W (mm)	60	60	90	120	120
H1 casing (mm)	40	40	60	60	60
H2 switched (mm)	69	69	84	84	84
H3 released (mm)	79	79	94	94	94
Retaining force (kg)	450	900	1350	1800	2100

The SPB forms the basis of our intelligent shuttering system Easy Form (from page 38), MST universal plywood beam (from page 48) and PSV Pro System Vario (from page 56).

Accessories

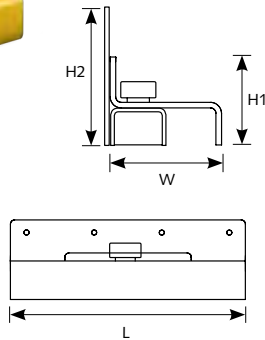
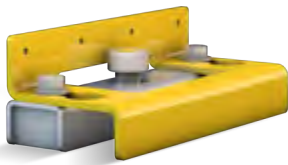
↗ Lifting tool



Article no.	03299	03292	39152
For	SPB 450 SPB 900	SPB 1350 SPB 1800 SPB 2100	Combination for all SPB 450-2100

↗ Angle adapter H = 95 mm

Longitudinal side for fixing of plywood.

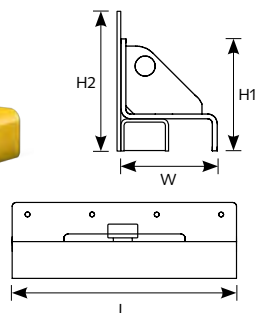


Article no.	07514	04299
For	SPB 450	SPB 900
L (mm)	250	278
W (mm)	120	120
H1 base height (mm)	95	95
H2 shuttering skin (mm)	95–200	95–200

Other heights are available upon request. The shuttering skin can protrude up to 100 mm at the top.

↗ Angle adapter H = 140 mm

For shuttering skin from 140 mm to 240 mm in height.

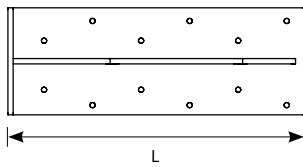
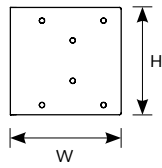
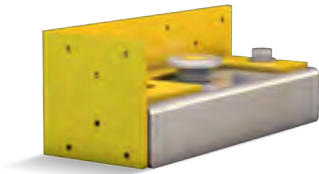


Article no.	06278
For	SPB 900
L (mm)	278
W (mm)	120
H1 base height (mm)	140
H2 shuttering skin (mm)	140–240

Other heights are available upon request. The shuttering skin can protrude up to 100 mm at the top.

➤ 2-sided attachment combo angle

For longitudinal or frontal fixing of plywood, suitable for SPB 1800 and 2100.

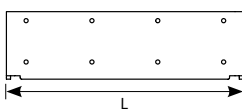
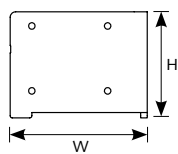
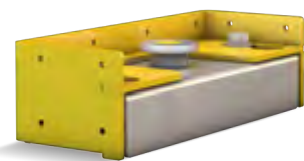


Article no.	21668	54193	20457	69046	40409
For	SPB 1800, SPB 2100				
L (mm)	336				
W (mm)	126				
H adapter (mm)	98	148	198	248	298
For plywood (mm)	100–200	150–250	200–300	250–350	300–400

Other heights are available upon request. The shuttering skin can protrude up to 100 mm at the top.

➤ 3-sided attachment combo angle

For longitudinal or frontal fixing of plywood, suitable for SPB 1800 and 2100.

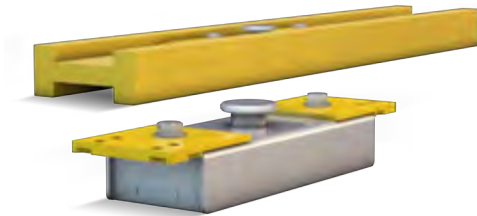


Article no.	46441	69531	46446	69532	40336
For	SPB 1800, SPB 2100				
L (mm)	342				
W (mm)	126				
H adapter (mm)	98	148	198	248	298

Other heights are available upon request. The shuttering skin can protrude up to 100 mm at the top.

➤ Adapter for H-beam

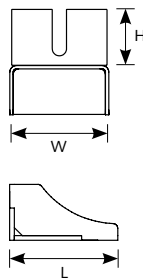
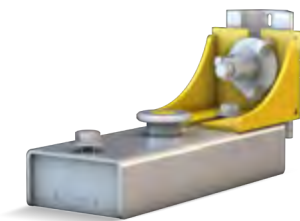
For magnetic fixation of an H-beam, e.g. Doka, Peri etc.



Article no.	46878	46870
For	Doka H20 N, Peri VT20, etc.	

➤ Attachment face angle Dywidag for radius shuttering e.g. for balconies

Angle adapter with Dywidag quick release and fastening plate for mounting on a steel or spring steel sheet.

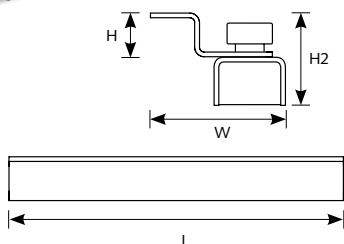


Article no.	08264	10162
For	SPB 1350, SPB 1800, SPB 2100	
L (mm)	120	136
W (mm)	136	60
H shuttering skin (mm)	160–220	140–160

Other heights are available upon request.

➤ Suppressing device

For secure fixing of, e.g. U-profiles, window frames etc.



Article no.	09057
For	SPB 900
L (mm)	278
W (mm)	105
H1 adapter (mm)	73
H2 adapter and magnet (mm)	100

Other heights are available upon request.

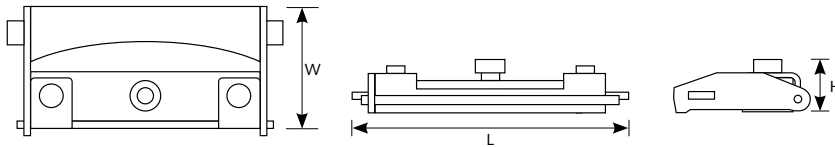
➤ HT stop adapter

The positioning aid is now available as an adapter solution for the SPB 900. The adapter remains in place after the demoulding process and the old shuttering pattern can be restored when the shuttering is re-shuttered with the same geometry. This is made possible by a hinged stop bar, which is folded away from the demoulding by approx. 80 mm during stripping. The adapter solution gives you the flexibility to use your shuttering components efficiently.



Article no.	68532*
L (mm)	340
W (mm)	160
H (mm)	46

*without SPB 900 (Art. no. 03255)



➤ Wood tensioner with clamping adapter suitable for all SPB1350/1800/2100

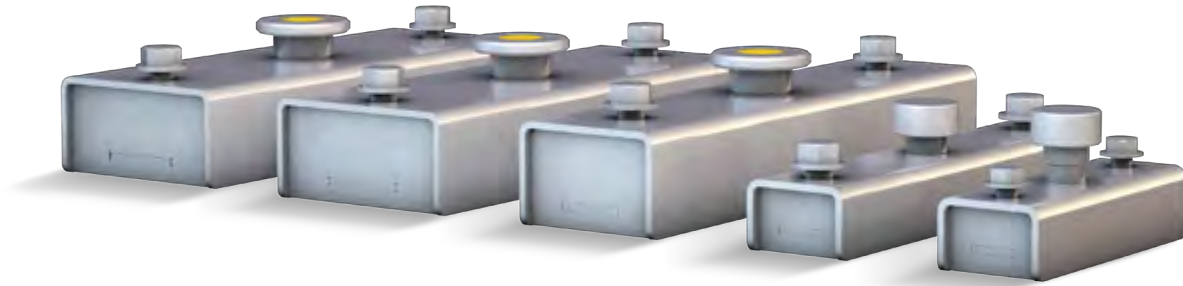
For safe holding down of shuttering profiles of all types.



	Hold-down rod	Wood tensioner
Article no.	04399	04400
For	SPB 1350 SPB 1800 SPB 2100	Hold-down rod
L (mm)	365	180

Other heights are available upon request.

How many magnets do I need for my shuttering?



The number of magnets given below is calculated for 8 mm steel pallets and a concrete density of 2.4t/m³. Please contact us if other dimensions are required, we are happy to help.

The numbers indicated are a non-binding recommendation!

↗ Height 100–150 mm

Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	3	3
1500	2	2	3	3
2000	2	2	3	3
2500	2	2	3	3
3000	2	2	3	3
3500	3	3	4	5
4000	3	4	5	5

↗ Height 150–200 mm

Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	2	3
1500	2	2	3	4
2000	2	2	3	4
2500	2	2	3	4
3000	2	3	4	4
3500	3	3	4	5
4000	3	4	5	6

↗ Height 200–250 mm

Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	3	3
1500	2	2	3	3
2000	2	2	3	4
2500	2	2	3	4
3000	2	3	4	5
3500	3	3	4	6
4000	3	4	5	6

↗ Height 250–300 mm

Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	3	3
1500	2	2	3	3
2000	2	2	3	4
2500	3	3	4	5
3000	3	3	4	6
3500	3	4	5	7
4000	4	4	6	8

↗ Height 300–350 mm

Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	3	3
1500	2	2	3	4
2000	3	3	4	5
2500	3	3	4	6
3000	4	4	5	7
3500	4	4	6	8
4000	5	5	6	9

↗ Height 350–400 mm

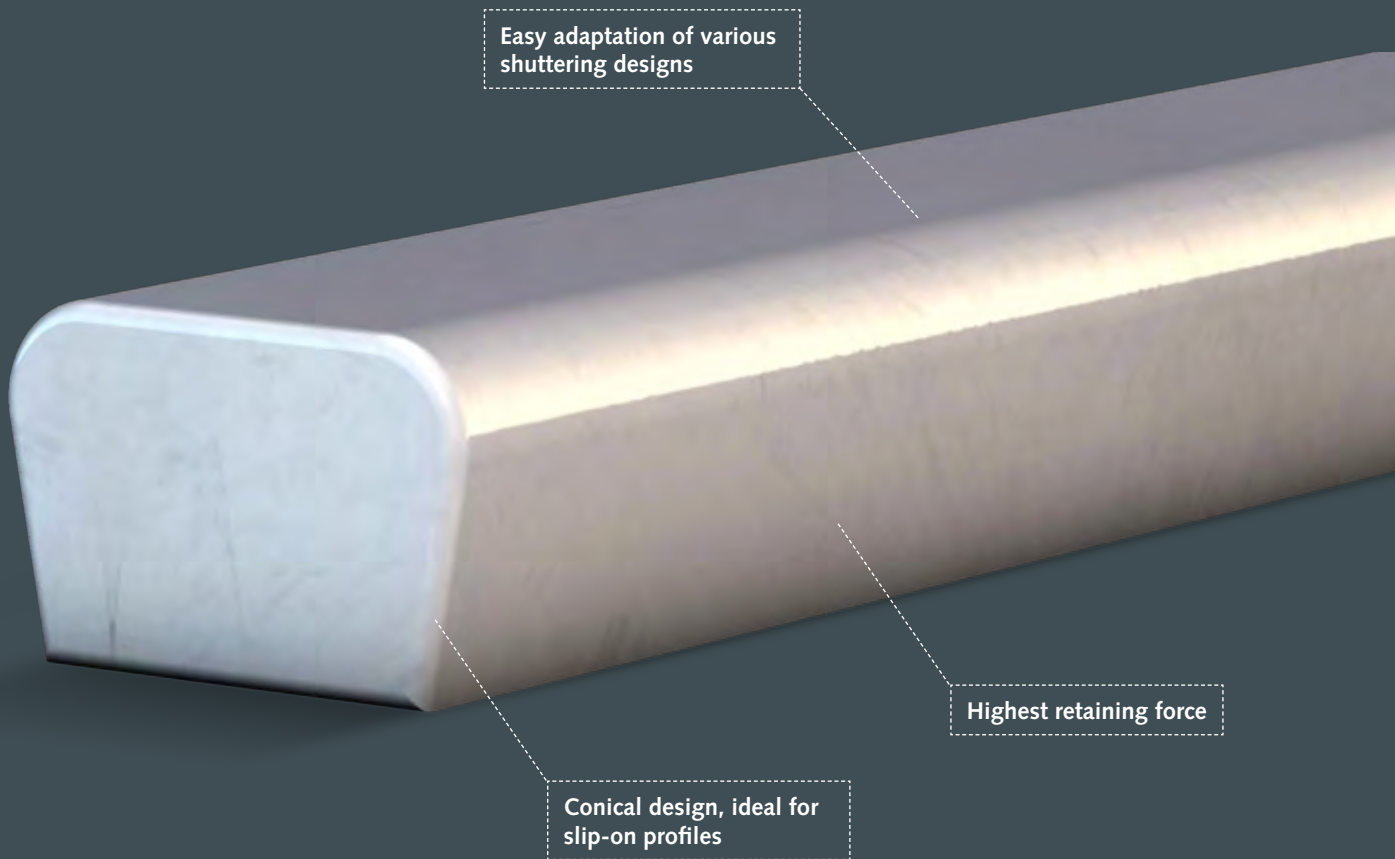
Length (mm)	SPB 2100	SPB 1800	SPB 1350	SPB 900
1000	2	2	3	4
1500	2	3	4	5
2000	3	3	4	6
2500	3	4	5	7
3000	4	4	6	8
3500	5	5	7	9
4000	5	6	7	11

EURO RTM

The compact basic solution

The EURO RTM standard magnets were the first magnetic components to introduce magnetic shuttering solutions to modern precast concrete production. With their compact design and reliable retaining force, they are still suitable for many shuttering tasks and are used today in numerous plants.

The special shape allows various accessory components to be slipped over and safely fixed in place through positive locking.



Easy adaptation of various shuttering designs

Highest retaining force

Conical design, ideal for slip-on profiles

- Custom-made products are possible.
- Simply ask us about it.

FIELDS OF APPLICATION

For secure attachment of multifunctional slip-on shuttering or the RATEC universal adapter set, as well as for installation into existing plywood shuttering.

PROPERTIES

- Compact design
- High retaining force with minimum dead weight
- Smooth surfaces on all sides for easy cleaning
- Conical bevel for original-pressure-point effect when fixing U-shutterings
- Insulated on all sides, only bearing surface is magnetic

Application examples



Combination with universal adapter H (page 30)



EURO RTM with universal adapter H (page 30)



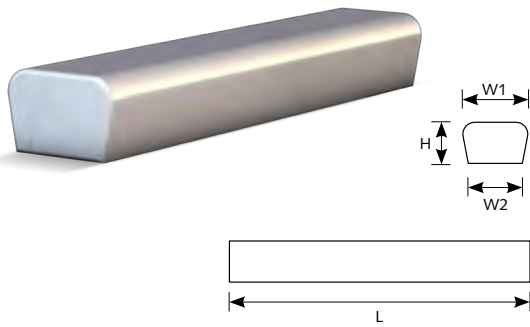
Use with slip-on profile for corners



Combination with universal adapter GF (page 30)

➤ EURO RTM – the all-rounder

The foundation for fixing RATEC U-shutterings and the RATEC universal adapter (from page 30).

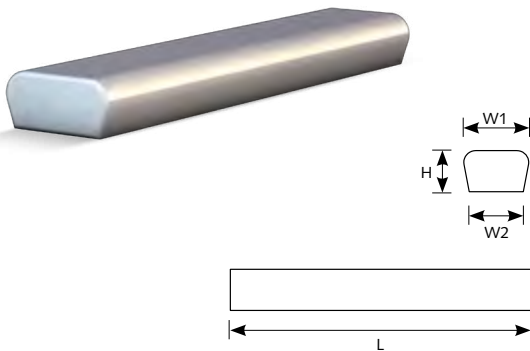


	EURO RTM 250–900	Alu EURO RTM 250–900*	EURO RTM 125–350
Article no.	00202	25513	00379
L (mm)	250	250	125
W1 (mm)	54	54	54
W2 (mm)	45	45	45
H (mm)	35	35	35
Weight (kg)	2,2	2,2	1,2
Retaining force (kg)	900	900	350

*With integrated, interchangeable Pro-Magnet 900.

➤ EURO RTM – the flat one

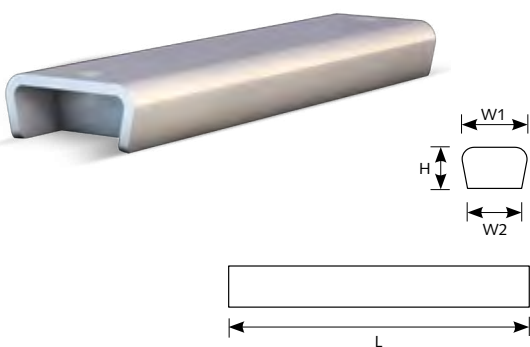
With its extremely flat design featuring only 25 mm in height, this unit is particularly suitable for the construction of low U-shuttering and for special solutions with pre-stressed elements.



	EURO RTM 250–900	EURO RTM 125–400
Article no.	00507	00509
L (mm)	250	125
W1 (mm)	54	54
W2 (mm)	45	45
H (mm)	25	25
Weight (kg)	2,1	1,2
Retaining force (kg)	900	400

➤ EURO RTM – the couplable one

The 2nd generation of EURO RTM standard magnets with higher retaining force. The replaceable threaded pieces enable the fixing of various attachments and shuttering elements. Depending on the application, it is available in a wide or narrow design.



	EURO RTM 320–1800 2G	EURO RTM 300–900 2G
Article no.	00474	00530
L (mm)	320	300
W1 (mm)	84	54
W2 (mm)	75	44
H (mm)	35	35
Weight (kg)	4,6	2,5
Retaining force (kg)	1800	900

Accessories

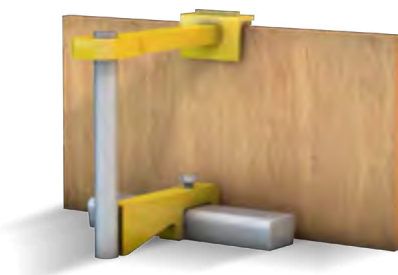
↗ Lifting tool



Article no.	00204	05116
For	All EURO RTM, except Art. no. 00474	EURO RTM Art. no. 00474 "the flat one"

↗ Universal adapter H

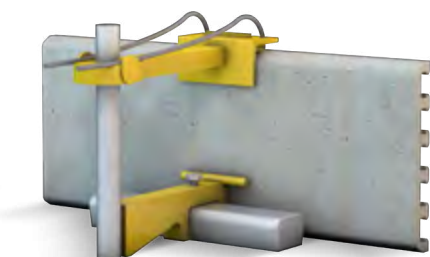
Universal adapter, as a set incl. EURO RTM 250 – 900 or individually for fast stepless, right-angled fastening of plywood shuttering.



Article no. as set	10696	02724	10805	25874
Article no. without EURO RTM	25965	03516	25966	25967
H (mm)	240	300	350	400

↗ Universal adapter GF

Universal adapter incl. EURO RTM 250 – 900 or single, with clamping clips for stepless, right-angled fastening of shuttering and fibre concrete upstands of all kinds.



Article no. as set	10714	25858	10713	25869
Article no. without EURO RTM	25959	11497	25963	25964
H (mm)	240	300	350	400

➤ RATEC U-shuttering slip-on profile

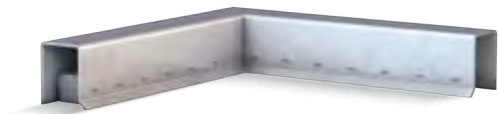
RATEC U-shuttering works based on the original pressure-point effect, in which the pressure points on the inside of the shuttering grip the conical slope of the EURO RTM magnets. This makes all RATEC U-shuttering shake-proof and vibration-proof.



Article no.	On request
L (mm)	On request
W (mm)	60
H (mm)	60–100

Different chamfering is possible. Draft angles can be realised as required.
Magazine recesses and receptacles for all common robot systems are possible.

➤ Corner slip-on profile



Article no.	On request
L (mm)	300x300
W (mm)	60
H (mm)	60–100

Different chamfering is possible.

Standard magnets

Tailor-made retaining force

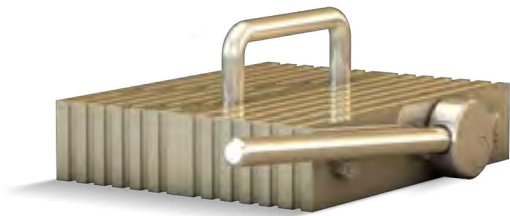
Thanks to the high retaining force, the standard magnet series is perfectly suitable for stabilising shutterings of all types.

All series are available with or without handlebar grip and with or without additional holes to accommodate angles. The usage possibilities of the standard magnets can be extended individually through accessories such as longitudinal or frontal suppressing or clamping adapters.

PROPERTIES

- Magnetic rubber (series A) or neodymium magnets (series P and PDA)
- Temperature exposure up to 60 °C, series P and PDA on request up to 80 °C
- Eccentric removable
- Smooth surfaces, easy to clean

➤ Standard magnets series A



➤ Retaining force 600–2000 kg*

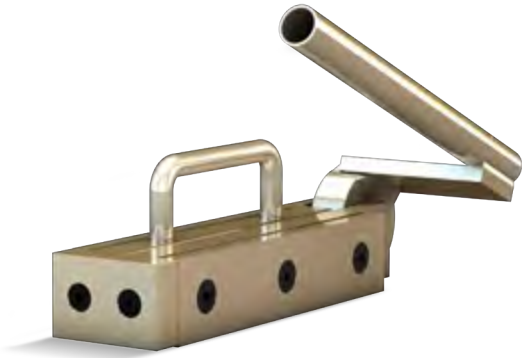
➤ Standard magnets series P



➤ Retaining force 1200–3000 kg*

➤ Standard magnets series PDA

➤ Retaining force 1200–3000 kg*



Please contact us for additional product information and a tailor-made offer.

*Retaining forces measured on a 10 mm steel plate, polished.

Block magnets for fixing

Pin-point accuracy

The magnetic strips of the MLU series are particularly suitable for installation in U-shaped longitudinal and transversal shuttering in the production of girder slabs.

PROPERTIES

- Magnetic rubber or neodymium magnets
- Temperature exposure up to 60 °C, on request up to 80 °C
- Can be delivered with or without chamfer
- Partially available with and without groove
- The adhesion side is polished
- The open design is also available with aluminium caps screwed to the front
- The magnet is released with a separate lifting tool

➤ Magnetic strips MLU-0300K

Fig. example



Standard magnetic strip with magnetic rubber

Advantages

- With chamfer on top
- Retaining force 300–550 kg
- Open design

➤ Magnetic strips MLU-1000

Fig. example



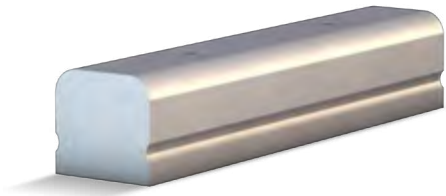
High-performance magnetic strip with neodymium magnets

Advantages

- Without chamfer
- Retaining force 750–1200 kg
- Open design

➤ Magnetic strips MLU-1400WN

Fig. example



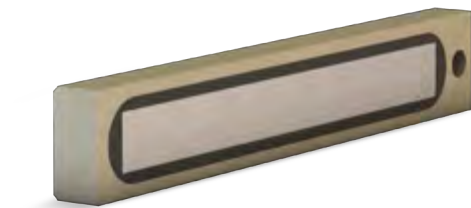
High-performance magnetic strip with neodymium magnets

Advantages

- One-piece with groove
- Retaining force 900–1400 kg
- Closed design

➤ Universal magnetic strips for PE recess shutterings

Fig. example



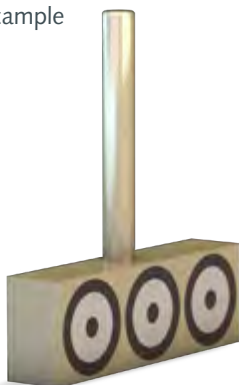
Steel magnetic strip with an integrated, encapsulated magnet system in various lengths and retaining forces.

Advantages

- High durability due to surface coating and sealing
- Individually adjustable in length and width

➤ Magnetic strip series MB

Fig. example



Magnetic strip for fixing PE combs / transversal shutterings on the switching table.

Advantages

- Saves significant time as no gluing is required
- Extremely high retaining force
- Easy manual detachment with hand lever
- Flexible usage options for holding down and fixing

03

MAGNETIC SHUTTERING SYSTEMS FOR STREAMLINED PRODUCTION

Our complete programme for all shuttering tasks

RATEC magnetic shuttering systems have set the standard for streamlined production in precast concrete plants. Whether for stationary production or automated circulation systems – we have the right solution for your specific requirements. Our standard solutions cover most issues encountered in plants, and our experience from hundreds of projects worldwide allows us to suggest or develop the suitable solution for you.



SYSTEM SUITABILITY FOR:



Massive and sandwich elements



Girder slabs and double walls



Stairs elements



Recesses



TT ceiling elements



Beam parts, supports, binders

EASY FORM



Page **38**

MST



Page **48**

PSV + PSV²



Page **56**

MHS



Page **64**

SAS



Page **70**

SAS-MF



Page **84**

RT U60 PRO



Page **90**

TT PRO



Page **98**

RECESS SOLUTIONS

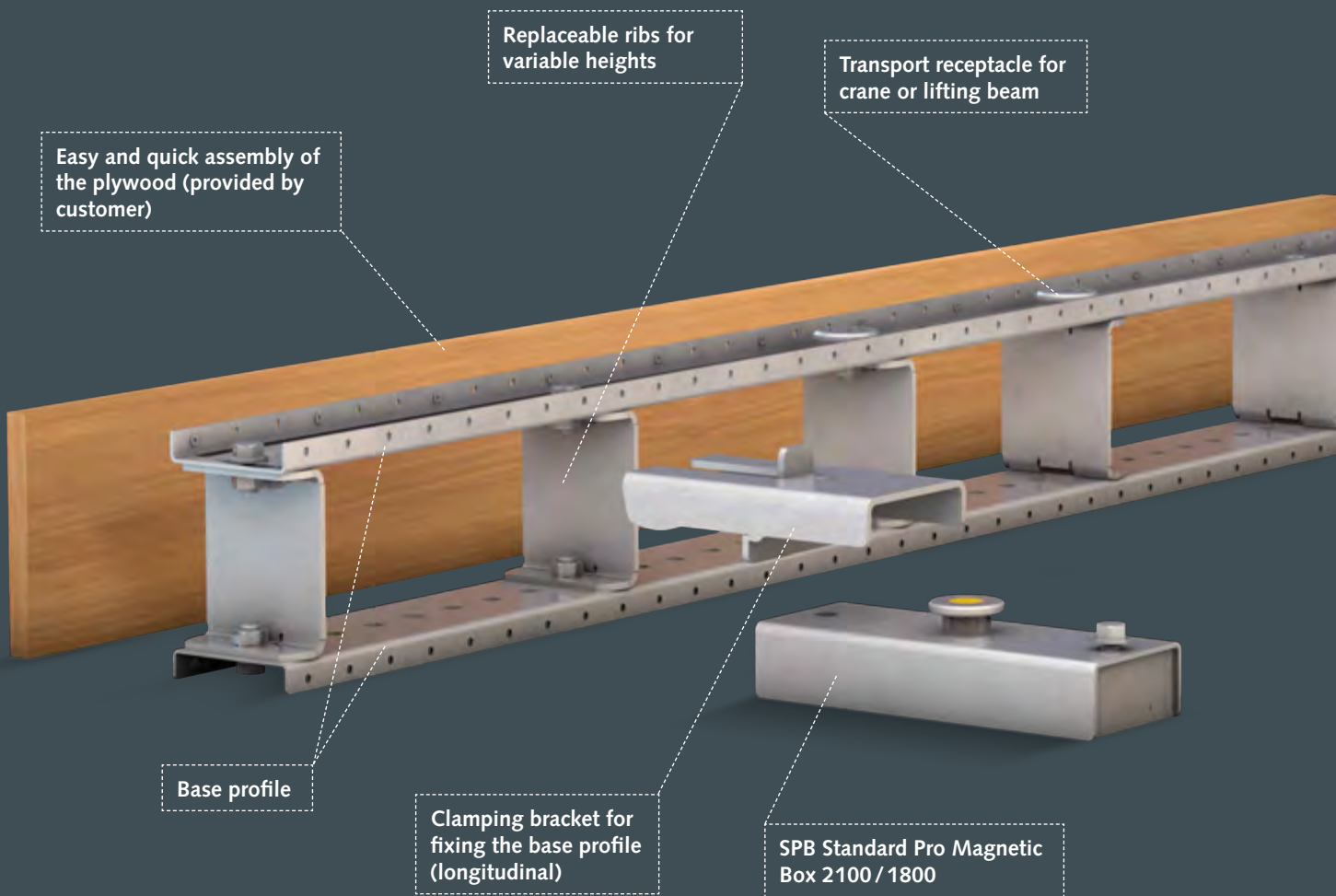


Page **104**

Easy Form

From simple to complicated – always the right answer with Easy Form

Practical and flexible – with the new "Easy Form" shuttering system, even the most difficult shuttering situations can be dealt with quickly and easily. Different ribs allow the shuttering height to be adapted seamlessly. With the flat base, protruding reinforcements from a height of 25 mm are possible. Easy Form is designed as a modular system, which can be easily expanded, supplemented and flexibly used even with just a few components. In combination with the vast range of accessories, this system always has the right answer for any shuttering situation.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Longitudinal or transversal shuttering for all planar precast concrete elements with wall thicknesses of 45–400 mm and recesses

ESPECIALLY SUITABLE FOR

- Stationary production
- Low level of automation
- Manual shuttering handling
- Large number of variants of the produced precast concrete elements
- Protruding reinforcement
- Field operations
- Complex contours of the precast concrete elements

FEATURES



Extendable in height



Suitable for lifting beam



Wooden shuttering skin



Steel shuttering skin



Can be manipulated with a crane



Suitable for penetrating reinforcement

DETAILED PROPERTIES

Elements

- SPB Standard Pro Magnetic Box 1800 / 2100
- Clamping bracket
- Base profile
- Rib
- Transport pick-up
- Shuttering skin (provided by customer)

Handling

- Handling by crane or lifting beam

Dimensions

- Standard length 1000 mm, 2000 mm, 3000 mm, 4000 mm
- Special lengths on request
- The plywood can protrude 125 mm in length
- Standard width 120 mm (with SPB 305 / 445 mm)
- Standard heights 98 mm, 148 mm, 198 mm, 248 mm, 298 mm
- Max. shuttering height / element thickness 400 mm

Highlights

- Excellent stability and shape retention – no bending
- Quick and easy assembly
- Quick and easy fixing
- Quick and easy height adjustment by replacing the ribs
- Space-saving storage
- Special closure parts for your rebar diameter available in the accessories catalogue

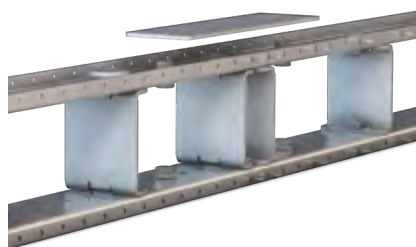
NOTES

- Lateral protrusion of plywood up to 125 mm, vertically up to twice the height of the base, but not exceeding 100 mm

EXPANDABILITY



Height-adjustable (by changing the ribs)



Extendable (coupling plate for connection available separately)



Suitable for elements up to 1000 mm height due to vertical supports

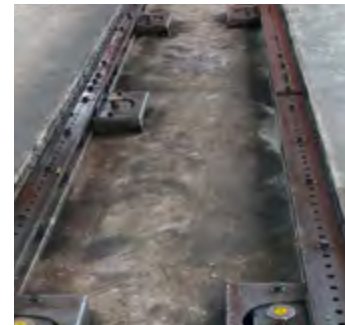
Application examples



Easy Form with continuous reinforcement



Easy Form with HT stop adapter



Easy Form in combination with UAR adapter



Easy Form with vertical supports can be used to create bar-shaped elements or, e.g. stairs

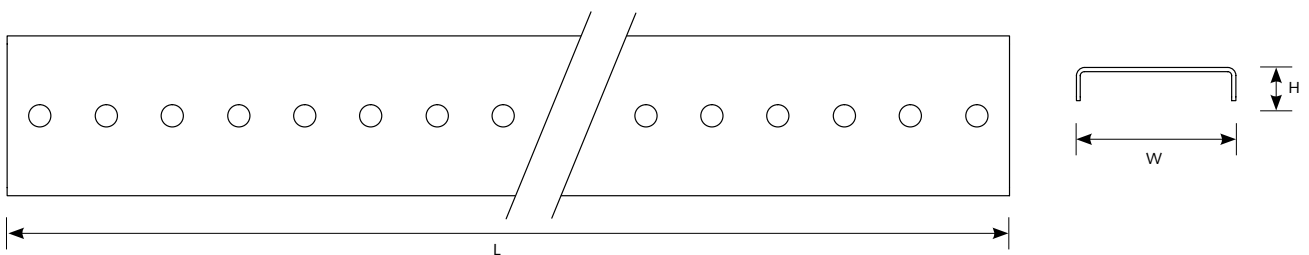
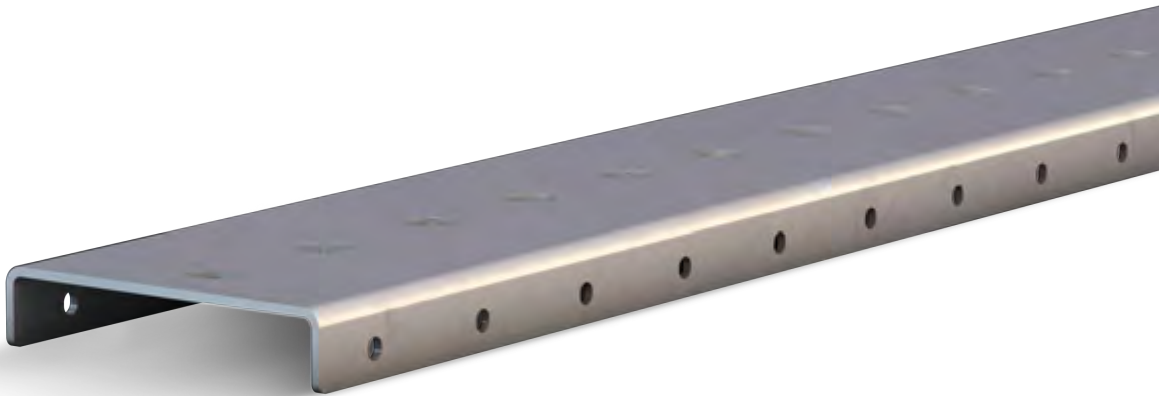


Easy Form with continuous reinforcement

Products

➤ Easy Form base profile

Base profile as floor and cover plate.

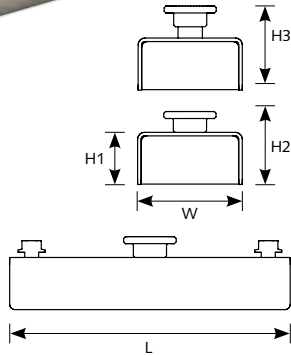
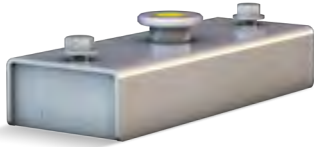


Article no.	64276	64129	64128	64290
L (mm)	1000	2000	3000	4000
W (mm)	120	120	120	120
H (mm)	25	25	25	25

Accessories

➤ SPB Standard Pro Magnetic Box 2100 / 1800

The basis for all applications in shuttering construction.



	SPB 2100	SPB 1800
Article no.	03232	07949
L (mm)	320	320
W (mm)	120	120
H1 casing (mm)	60	60
H2 switched (mm)	84	84
H3 released (mm)	94	94
Retaining force (kg)	2100	1800

➤ Clamping bracket for fixing the base profile (longitudinal)

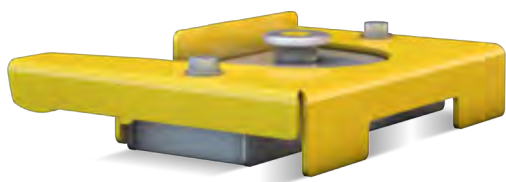
Clamping bracket for attachment to the SPB 2100 for fixing the base profile.



Article no.	65107
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➤ Clamping bracket for fixing the base profile (transverse)

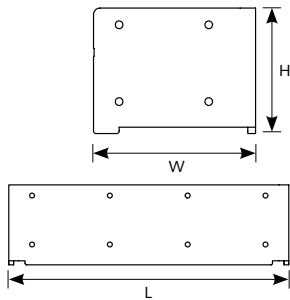
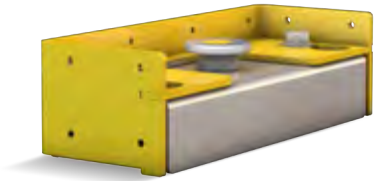
Clamping bracket for attachment to the SPB 2100 for fixing the base profile.



Article no.	64516
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➤ 3-sided attachment combo angle

For longitudinal or frontal fixing of plywood, suitable for SPB 2100.



Article no.	46441	69531	46446	69532	40336
L (mm)	342	342	342	342	342
W (mm)	126	126	126	126	126
H adapter (mm)	98	148	198	248	298

For bridging of intermediate lengths up to 600 mm.

➤ Easy Form ribs

Ribs for individual configuration of the shuttering height.



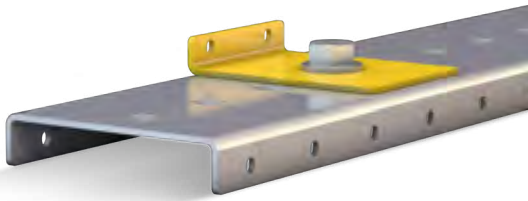
Recommendation for number of ribs:

Length of base profile in mm	Number of ribs
1000	4
2000	6
3000	8
4000	10

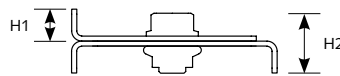
Article no.	64277	69640	64131	69641	64517
For shuttering height H in mm	100–200	150–250	200–300	250–350	300–400

➤ Angle adapter H = 45–60 mm for base profile

With screw holes for direct fixation of the wooden shuttering skin on the base profile.



Article no.	64307
H1 (mm)	20
H2 (mm)	45

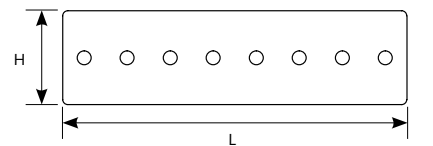


➤ Coupling sheet

For longitudinal butt joint of two Easy Forms.



Article no.	64301
L (mm)	400
H (mm)	110



➤ Wooden window corners

Corner angle for fixing and fracture-free demoulding in recesses
If the height exceeds 300 mm, two window corners can be used on top of each other.



Article no.	73804	70863
Height (mm)*	80	200
Max. plywood height (mm)	180	300

*The plywood can protrude up to 100 mm in height. This enables shuttering of different heights with one corner.

An overview of all solutions for recesses is available from page 104.

➤ Transport receptacle, gripping knobs

Gripping knobs for handling the shuttering with the RATEC lifting beam.



Article no.

68841

➤ Transport receptacle lifting eye bolt M16x27

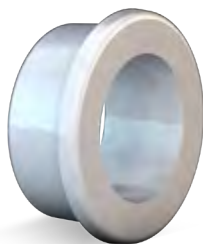
Lifting eye bolt for handling the shuttering with a crane.



Article no.

SC042085

➤ Closure part for rebar



Article no.

64311

64310

64313

64314

For rebar Ø (mm)

32

25

20

16

➤ Vertical support for Easy Form

Always the right solution for every shuttering task: You can now also use Easy Form to shutter bar parts such as supports and binders in variable dimensions. The Easy Form modular system was expanded to include vertical supports, which are attached to the SPB Standard Pro Magnetic Box in order to fix the shuttering vertically. Other possible applications, e.g. for the production of lift shafts, are in the test phase.

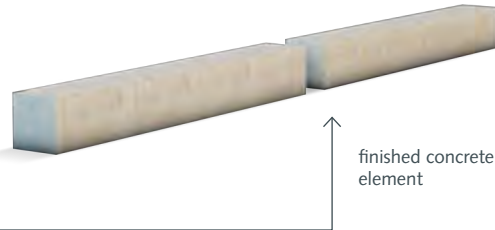
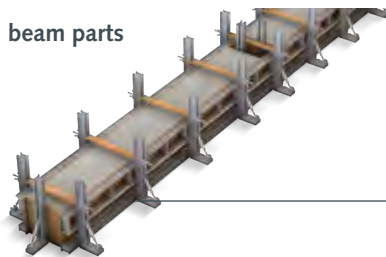


Vertical column consisting of:

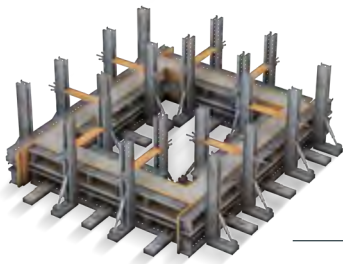
Quantity	Article no.	Name
1	03232	SPB 2100
2	43875	Hinge bracket
3	64277	Easy Form rib 49 mm
1	64459	Angular column
2	64276	Easy Form base profile 1000
as needed	On request	Tension rod with standard DW15 nut, length as required

POSSIBLE APPLICATIONS

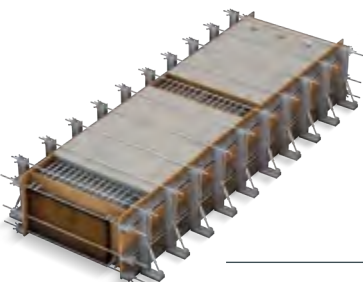
➤ Supports and beam parts



➤ Lift shafts



➤ Special shapes, e.g. u-shaped elements



➤ Hook traverse for handling the shuttering

It is held using gripping buttons on the shuttering. The rod length is realised individually according to the customer's requirements.



Article no.	On request
Crossbeam receptacle	Gripping knobs (knob distance fixed)
Max. load capacity	300 kg
Unladen weight	approx. 25 kg

➤ Lifting tool for SPB 2100 / 1800

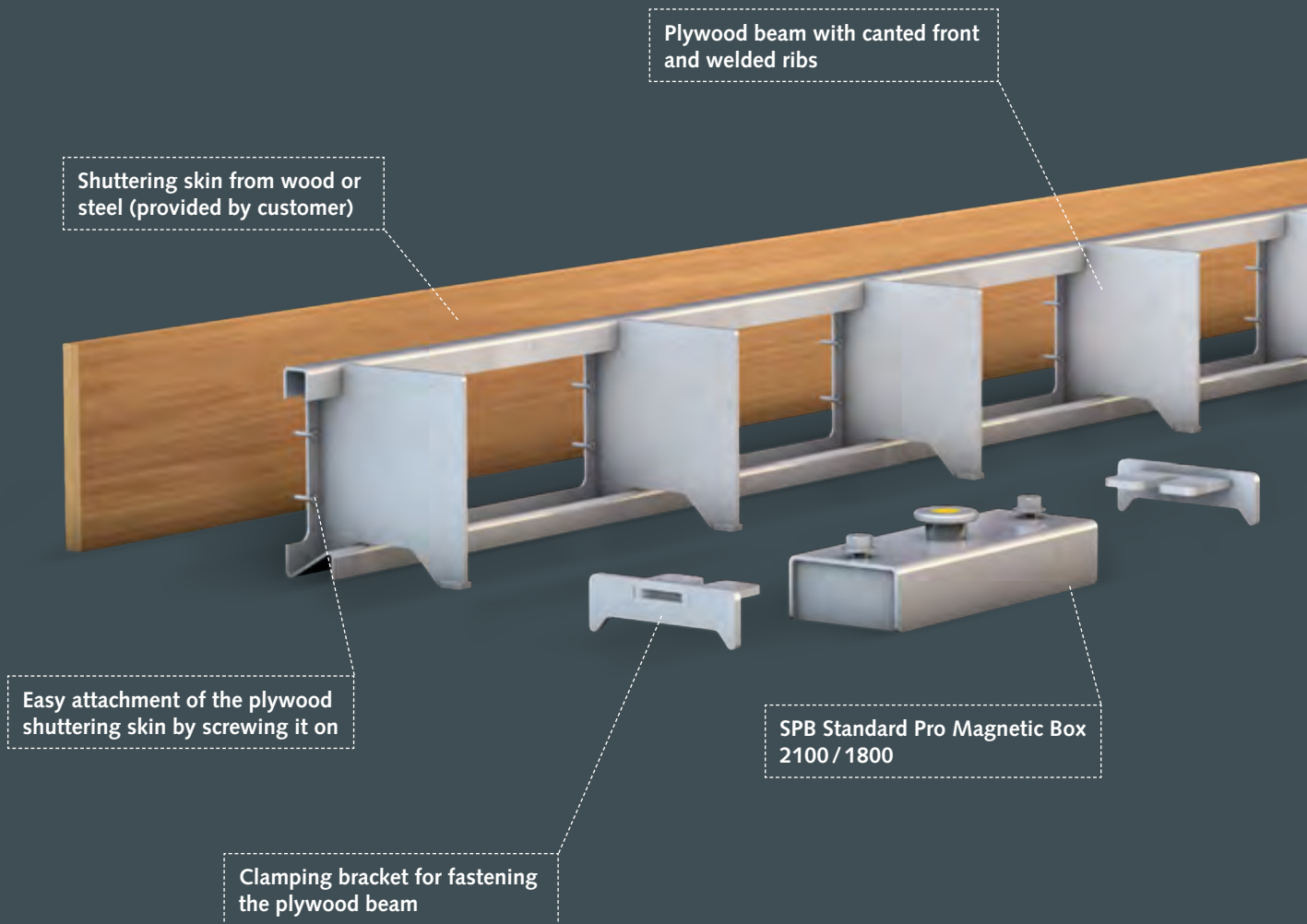


Article no.	03292
For	SPB 2100 / 1800

MST universal plywood beam

Lightweight magnetic shuttering for manual handling

Simple and versatile - a wide variety of shuttering tasks can be easily accomplished with the MST. Thanks to its low weight, the MST is very easy to handle without a crane. The system's excellent static properties and flexibility make the MST a true all-rounder for manual operation.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Longitudinal or transversal shuttering for all planar precast concrete elements with wall thicknesses of 100 – 500 mm

ESPECIALLY SUITABLE FOR

- Stationary production
- Low level of automation
- Manual shuttering handling
- Large number of variants of the produced precast concrete elements

FEATURES



Concretable on both sides



Stackable, extendable in height



Wooden shuttering skin



Steel shuttering skin



Can be manipulated manually

DETAILED PROPERTIES

Elements

- SPB Standard Pro Magnetic Box 1800 / 2100
- Clamping bracket
- Plywood beam
- Shuttering skin (provided by customer)

Handling

- Easy positioning
- Easy attachment and removal of the shuttering skin
- Setup time under 10 minutes
- Insert parts can be attached to the plywood

Dimensions

- Standard length 2980 mm – we will gladly trim the MST to a shorter length
- Standard width 178 mm
- Standard heights 98 mm, 148 mm, 198 mm
- Max. shuttering height / element thickness 500 mm, can be realised with two MSTs with a height of 198 mm each

Highlights

- Excellent stability and shape retention – no bending
- Stackable or couplable for double-sided use
- Quick and easy fixing
- Easy manual handling, no crane necessary

NOTES

- The plywood may protrude laterally up to 125 mm and in height up to 100 mm
- A maximum of two plywood beams can be stacked
- The plywood beam can be tailored to your individual requirements
- Detailed cutting and operating instructions are available on request

EXPANDABILITY



Stackable for wall thicknesses of 100–500 mm



Can be coupled for double-sided use



MST extension arm for the production of upstands

Application examples



Recess with MST and wooden window corner



MST stacked

MST as a complete system for external shuttering and recess



Double-sided use



MST after concrete pouring

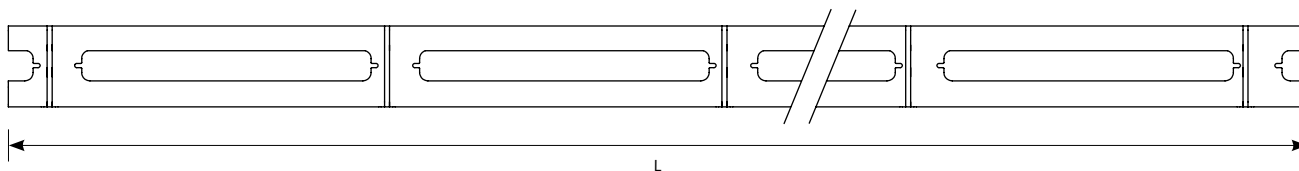
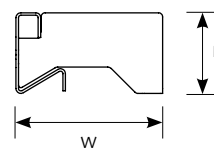


The MST can also be used flexibly for recesses

Products

➤ MST base profile

Base profile for cladding with wood or steel.



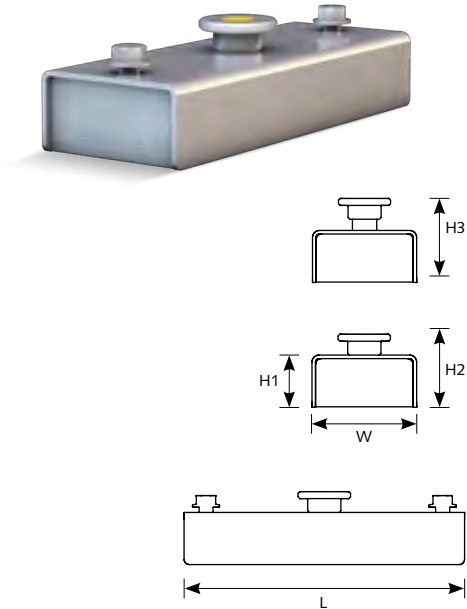
Article no.	63741	63807	63809
L (mm)		2980	
W (mm)		178	
H (mm)	98	148	198

The MST can be trimmed individually to your desired length. You can find a pattern for this on page 55.

Accessories

➤ SPB Standard Pro Magnetic Box 2100 / 1800

The basis for all applications in shuttering construction.



	SPB 2100	SPB 1800
Article no.	03232	07949
L (mm)	320	320
W (mm)	120	120
H1 casing (mm)	60	60
H2 switched (mm)	84	84
H3 released (mm)	94	94
Retaining force (kg)	2100	1800

➤ Wooden window corners

Corner angle for fixing and fracture-free demoulding in recesses.
If the height exceeds 300 mm, two window corners can be used on top of each other.

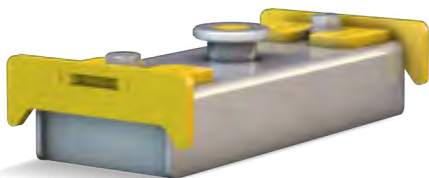


Article no.	73804	70863
Height (mm)*	80	200
Max. plywood height (mm)	180	300

*The plywood can protrude up to 100 mm in height. This enables shuttering of different heights with one corner.

➤ Pair of clamping brackets for MST base profile

Clamping bracket for attachment to the SPB 2100 for fixing the MST base profile.



Article no.	53642
-------------	-------

➤ Attachment set for steel front



Article no.	63817	63827	63831
H (mm)	98	148	198

➤ Extension arm for upstands



Smart extension for the MST: the plywood beam has been supplemented with an extension arm for the production of solid upstands of 70–200 mm.

Advantage for users:

- Significant reduction in shuttering compared to in-house solutions
- Fast assembly
- More precise result thanks to accurate setting options for 90° angles and stabilisation using a C-profile
- For users who are already using MST, a sensible and lean addition



Video about MST Adapter for upstands in solid elements

Scan QR code!



Article no.	Name
98803	Clamping bracket left with square tube
104733	Clamping bracket right with square tube
108435	Extension arm, height adjustable
109020	Adapter bracket for cladding with wood
optional	C-profile, different lengths, page 62
05987	Dywidag screw connection for attachment to the C profile
optional	PSV corner angle, page 63

➤ Lifting tool for SPB 2100 / 1800



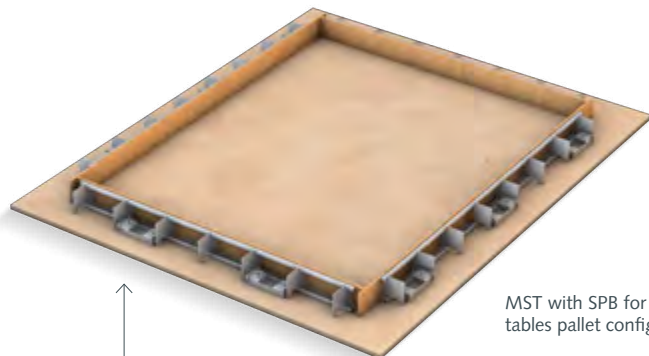
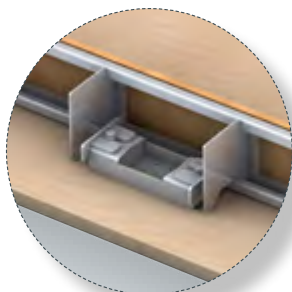
Article no.	03292
For	SPB 2100 / 1800

➤ MST universal plywood beam for wooden tables

We have adapted our popular solution for the easy shuttering of solid elements, the MST, for use on wooden shuttering tables. At the heart of the special solution is a special SPB Standard Pro Box, which is equipped with screw holes on the housing instead of magnets. The MST base profile is attached to the box as usual with a clamp. During calibration, the MST is placed assembled and the box is screwed to the pallet. For demoulding, only the clamping brackets are released and the plywood beam is removed. There is no need to recalibrate when producing elements of the same size.



Description Article no.	SPB wood 40531
L (mm)	320
W (mm)	120
H casing (mm)	60

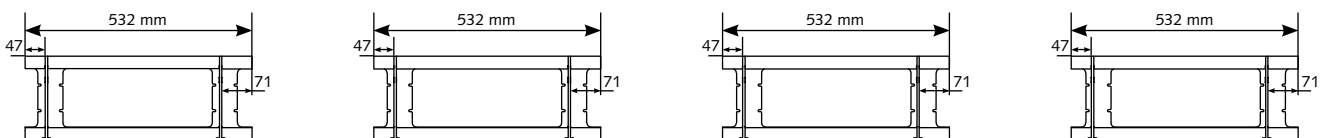
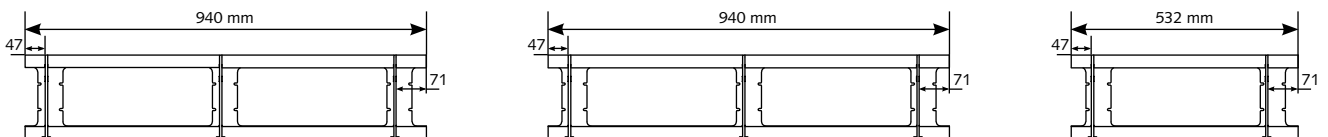
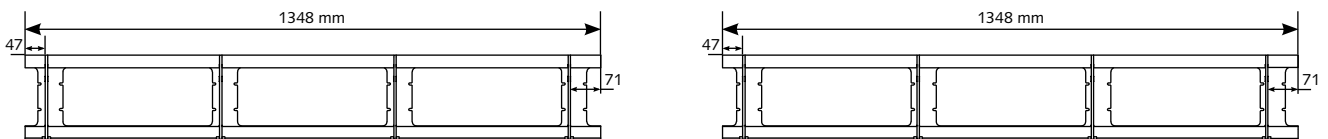
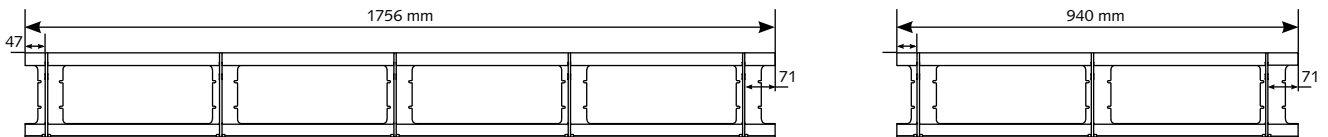
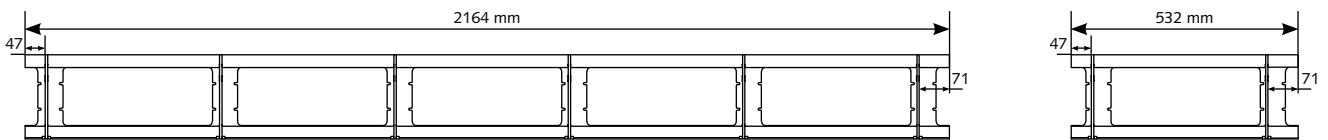
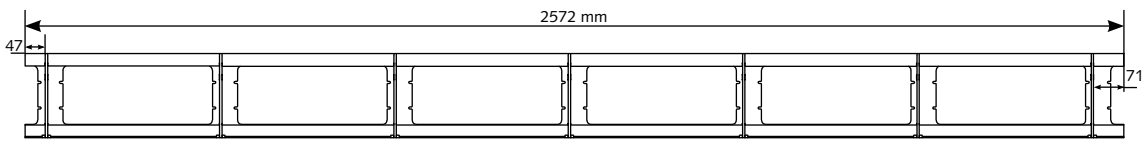
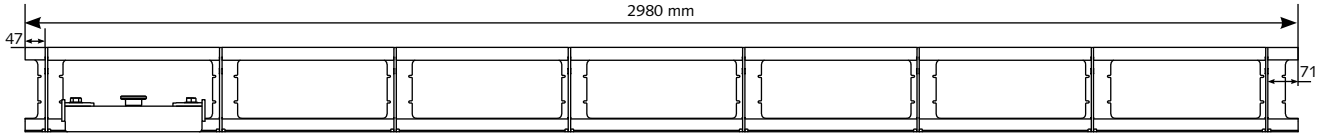


MST with SPB for wooden tables pallet configuration

Please note: With SPB for wooden tables, all adapter solutions for SPB and the flexible shuttering systems Easy Form and PSV can also be used simply and easily on wooden shuttering tables.

Pattern

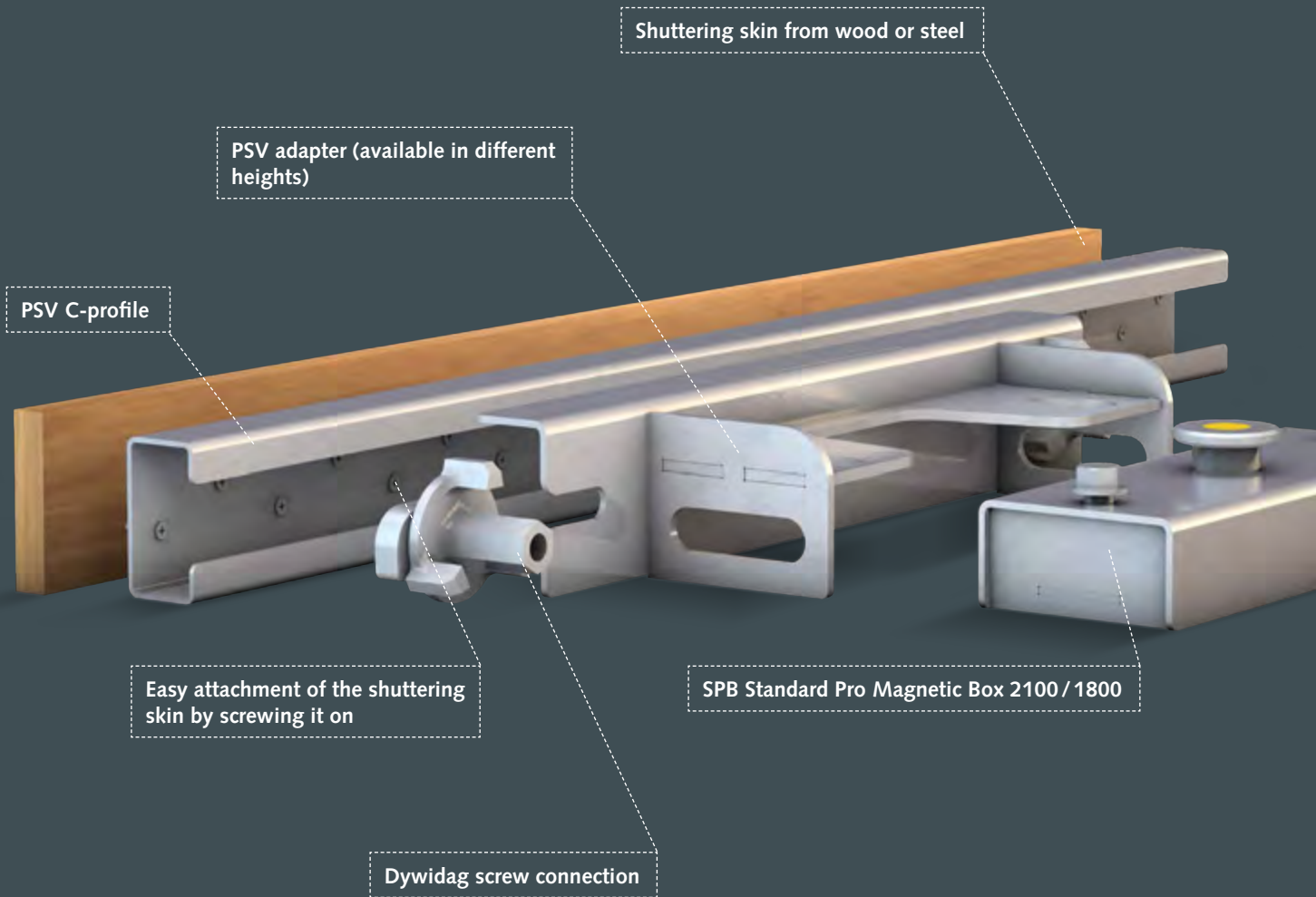
The MST can be trimmed individually to your desired length.



PSV Pro System Vario

The versatile classic

The PSV Pro System Vario is the classic all-rounder among adapter systems for the SPB Standard Pro Magnetic Box. Above all, customers benefit from its versatility and quick and easy manual handling. As a modular system, it is ideally suited for complex or frequently changing shuttering tasks, and it can be used very flexibly. Ideal areas of application are recesses for doors and windows, as well as top headers in support of other systems or solid edge shuttering.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

- Longitudinal or transversal shuttering for all planar precast concrete elements with wall thicknesses of 100–500 mm
- Door and window recesses
- Ideal in addition to SAS, MHS, MST and Easy Form

ESPECIALLY SUITABLE FOR

- Complex and/or frequently changing geometries
- Stationary production
- Low level of automation
- Manual shuttering handling

FEATURES



Wooden shuttering skin



Can be manipulated manually



Can be manipulated with a crane

DETAILED PROPERTIES

Elements

- SPB Standard Pro Magnetic Box 1800 / 2100
- PSV upper part with Dywidag screw connection
- C-profile
- Shuttering skin (provided by customer)

Highlights

- Gapless longitudinal shuttering

Dimensions

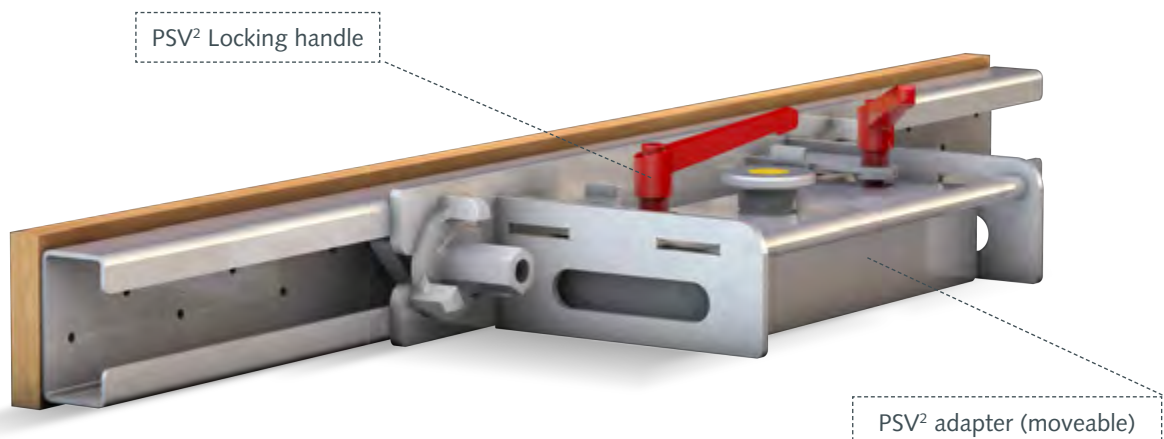
- Flexible shuttering lengths, gapless from 550 to 3500 mm through our standard C-profile length grid
- Height adjustable by change of adapter (solid concrete: 100 – 350 mm; sandwich: up to 500 mm)

Handling

- Easy positioning by fixing and releasing at the push of a button
- Easy attachment and removal of the shuttering skin
- No crane required
- Easy assembly with the wood-clad C-profiles by means of Dywidag coarse-thread screws

EXPANDABILITY

PSV² adapter for fast stripping and encasing More information on page 60.



Application examples



PSV in action



PSV for transversal shuttering in combination with MHS



PSV² adapter



PSV in action

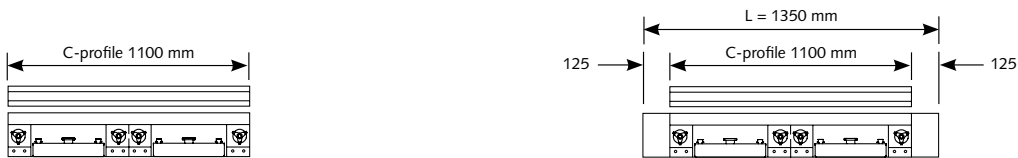


PSV² adapter

Length diagram

Any shuttering length from 550 mm to 3500 mm can be implemented seamlessly with the standard length grid of the C-profiles of 250, 1100, 2000 and 3000 mm.

➤ Lengths from 1100–1350 mm



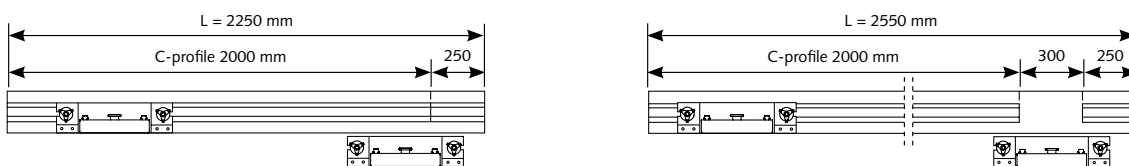
➤ Lengths from 1350–1650 mm



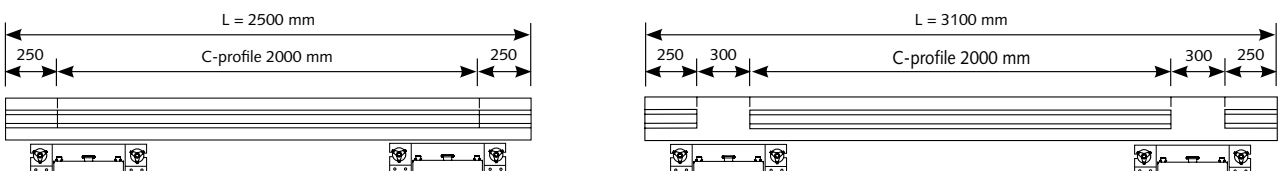
➤ Lengths from 1600–2200 mm



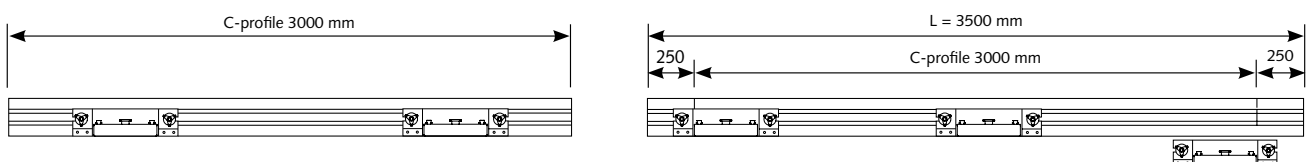
➤ Lengths from 2250–2550 mm



➤ Lengths from 2500–3100 mm



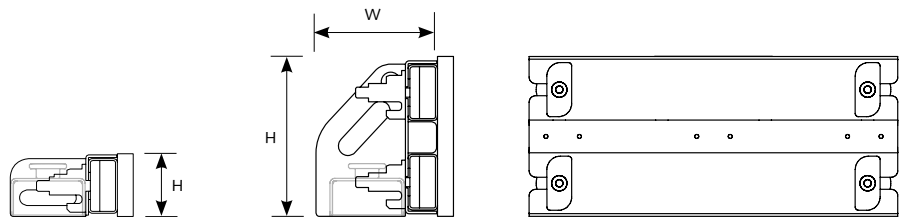
➤ Lengths from 3000–3500 mm



Products

➤ PSV adapter

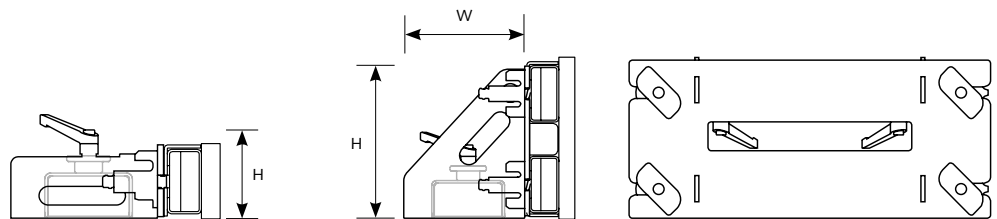
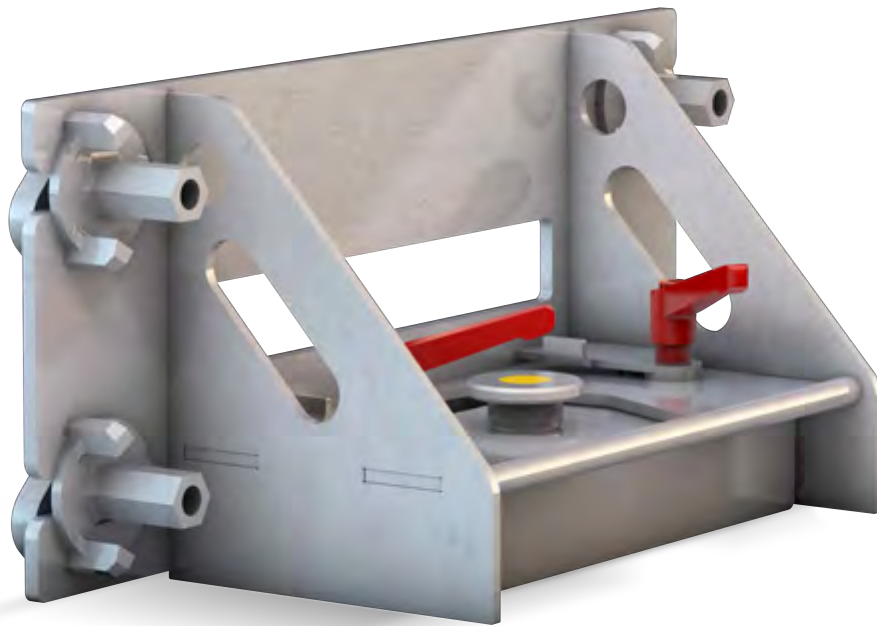
Upper part for SPB Standard Pro Magnetic Box 2100 for fixing the C-profile, concretable on one side.



	Adapter 100/200	Adapter 150/250	Adapter 200/300	Adapter 250/350	Adapter 300/400	Adapter 400/500
Article no.	04471	04420	02383	05321	01966	10054
H adapter (mm)	100	150	200	250	300	400
B adapter (mm)	169	169	189	189	189	250
For shuttering skin with the height (mm)	100–200	150–250	200–300	250–350	300–400	400–500
Number of C-profiles	1	1	1	2	2	2

➤ PSV² adapter

Upper part for SPB Standard Pro Magnetic Box 2100 for fixing the C-profile. What makes the PSV² adapter unique is that it can be retracted on the active magnetic box for stripping without having to move the magnetic box. This means that the SPB Standard Pro Magnetic Box does not have to be re-measured and repositioned in the next production step.

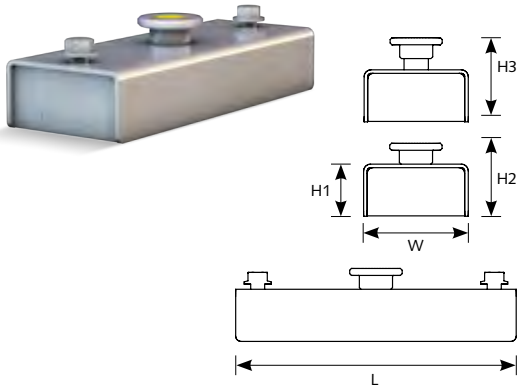


	Adapter 100/200	Adapter 150/250	Adapter 200/300	Adapter 250/350	Adapter 300/400	Adapter 400/500
Article no.	18771	18772	18773	18775	18776	18777
H adapter (mm)	100	150	200	250	300	400
B adapter (mm)	203	203	203	203	209	209
For shuttering skin with the height (mm)	100–200	150–250	200–300	250–350	300–400	400–500
Number of C-profiles	1	1	1	2	2	2

Accessories

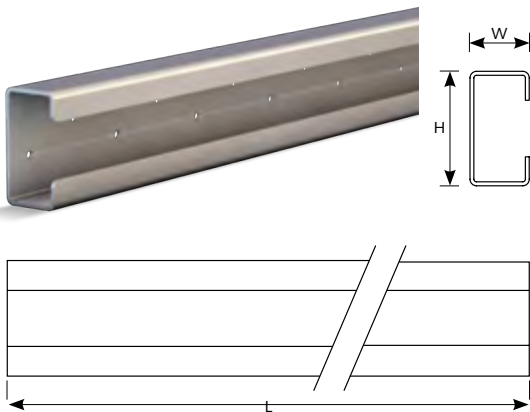
➤ SPB Standard Pro Magnetic Box 2100 / 1800

The basis for all applications in shuttering construction.



	SPB 2100	SPB 1800
Article no.	03232	07949
L (mm)	320	320
W (mm)	120	120
H1 casing (mm)	60	60
H2 switched (mm)	84	84
H3 released (mm)	94	94
Retaining force (kg)	2100	1800

➤ PSV C-profile



Article no.	04472	05398	04495	04478
L (mm)	250	1100	2000	3000
W (mm)	46			
H (mm)	87			

➤ Positioning aid for C-profile

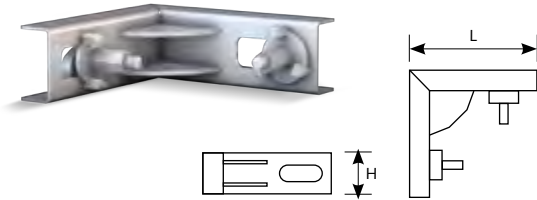
Attachment aid for exact positioning of the C-profile on the plywood.



Article no.	For PSV upper part
52114	100 / 200
52112	150 / 250
52116	200 / 300
51742	250 / 350
51747	300 / 400
51749	350 / 450
51750	400 / 500

➤ PSV corner angle

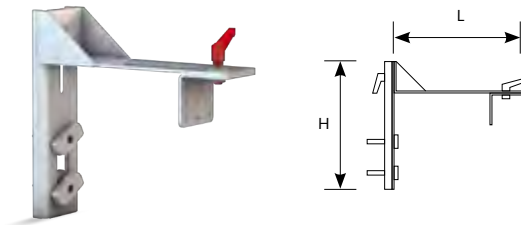
For secure corner connection of the C-profiles when stripping recesses.



Article no.	26673
L leg (mm)	300
H (mm)	98

➤ Extension arm for PSV

For attachment to the C-profile for fixing insert parts or upstands in the element.



Article no.	49193
L (mm)	400
H (mm)	400

Other heights and lengths are available upon request.

➤ PSV storage rack

For storage of SPB 2100 with mounted PSV adapter 100/200, 150/250 or 200/300.



Article no.	08919	12552
For adapters	100/200 150/250	200/300
Rack spaces	14	12

➤ Lifting tool for SPB 2100 / 1800

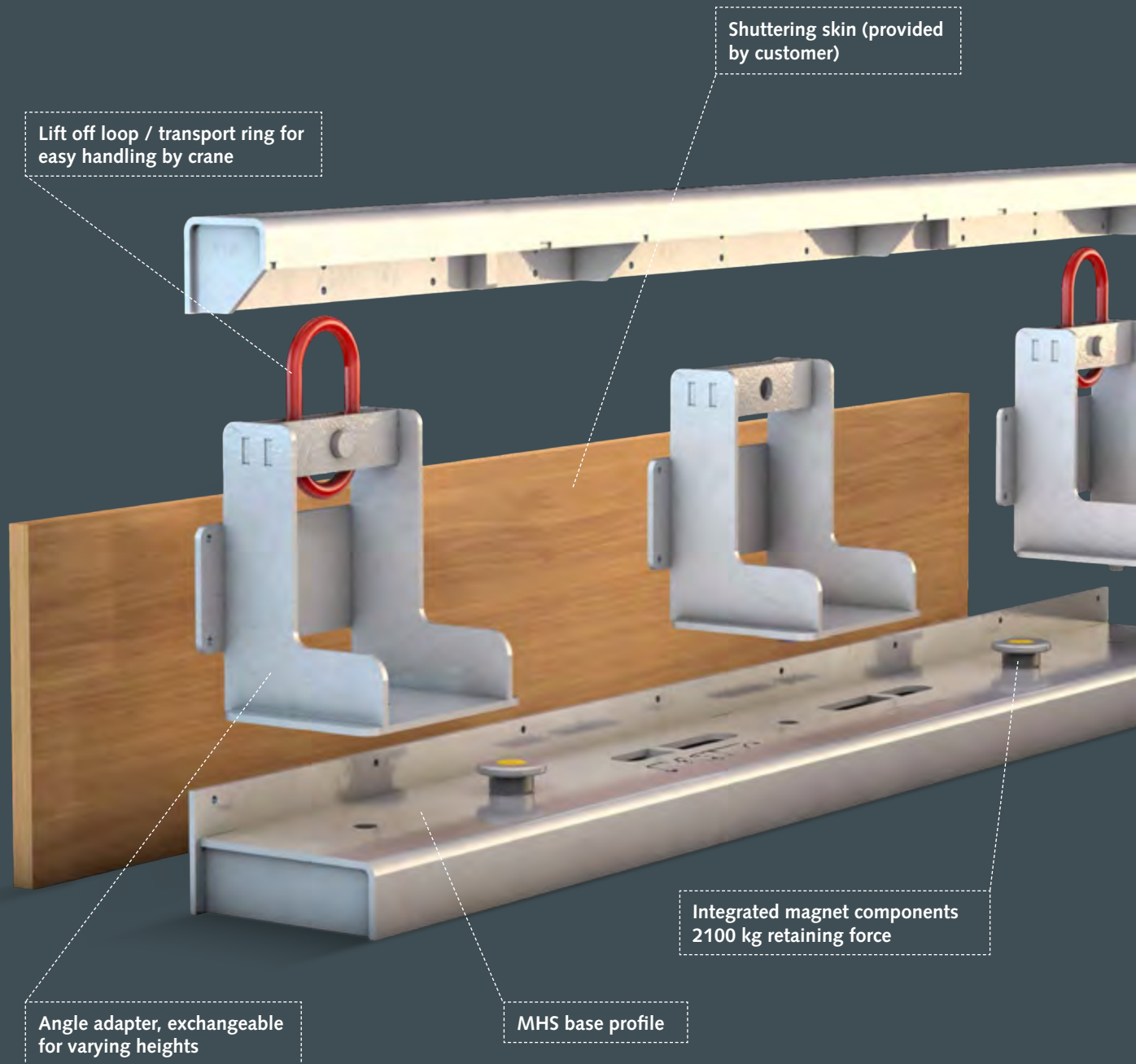


Article no.	03292
For	SPB 2100 / 1800

MHS Module Wooden Shuttering

The robust all-rounder

The MHS is one of our standard solutions for the production of solid and sandwich elements up to 8000 mm in length. The MHS base profile features integrated magnets with a retaining force of 2100 kg and gives the shuttering stability and reliability. The combination of a base profile made from a sturdy, canted 6 mm steel plate and plywood makes the system reliable and allows it to be used flexibly. If needed, the MHS can be quickly and easily converted.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

As longitudinal and transversal shuttering for the production of solid and sandwich elements with up to 500 mm wall thickness, e.g. solid/sandwich walls, solid/sandwich ceilings, supports, binders, special beams.

ESPECIALLY SUITABLE FOR

- Application as longitudinal shuttering
- Application as side shuttering for staircase moulds
- Stationary production
- Low level of automation
- Manual shuttering handling

FEATURES



Wooden shuttering skin



Integrated, switchable magnets



Extendable in height



Can be manipulated with a crane

DETAILED PROPERTIES

Elements

- Integrated high-performance magnet

Highlights

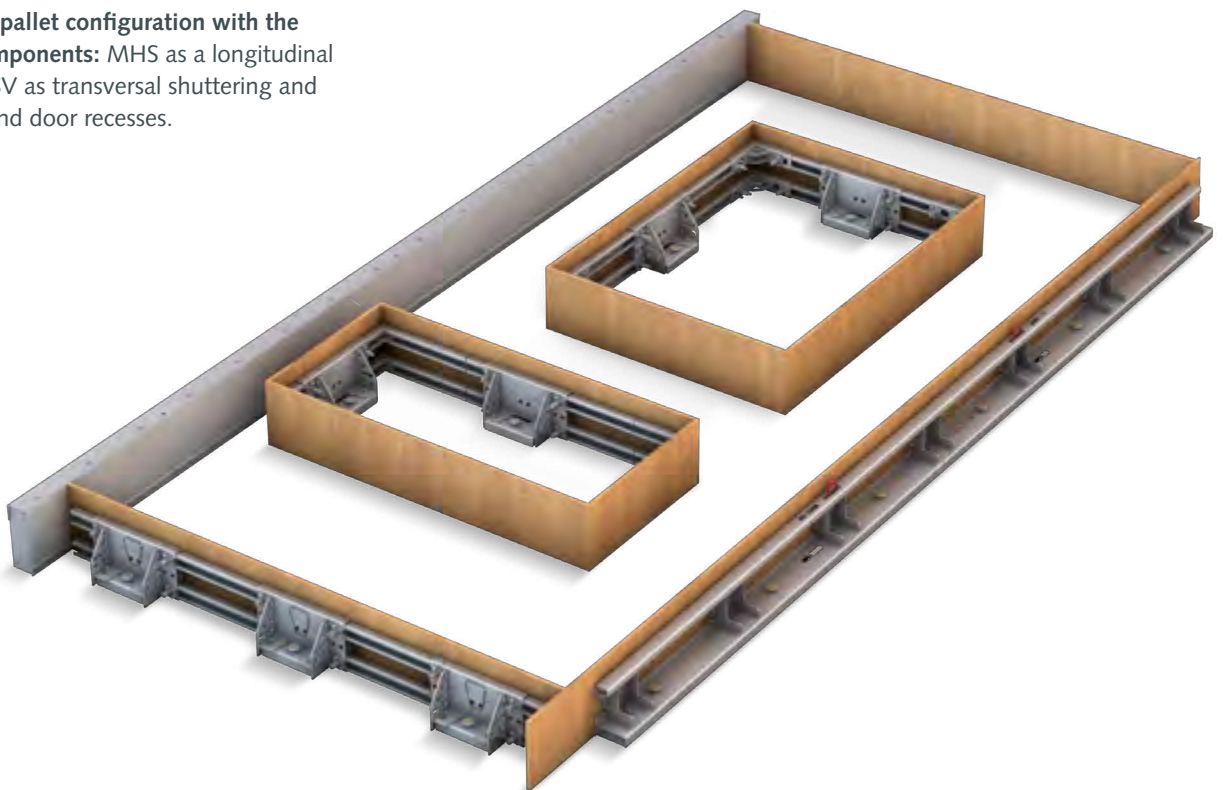
- Continuously adjustable from 100–500 mm
- Easy removal and attachment of the shuttering skin
- Easy handling by crane

Dimensions

- Shuttering lengths 2000–8000 mm
- Base width: 180 mm

EXPANDABILITY

Example of a pallet configuration with the following components: MHS as a longitudinal shuttering, PSV as transversal shuttering and for window and door recesses.



Application examples



MHS as transversal shuttering



MHS in use



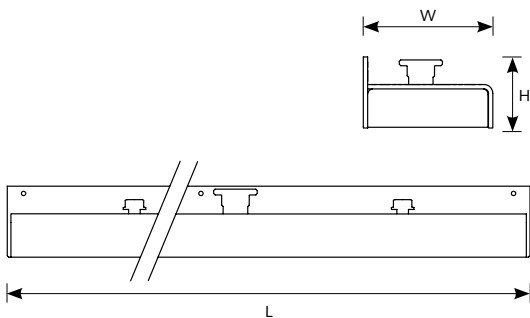
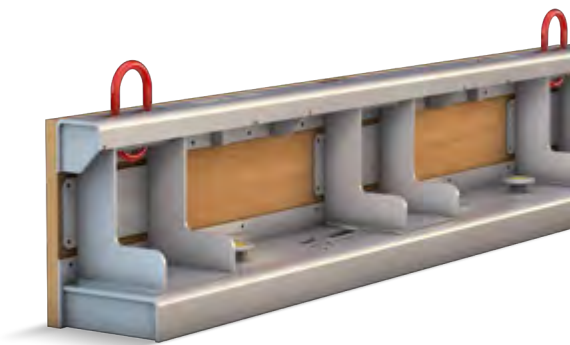
MHS as longitudinal shuttering



Products

➤ MHS base profile

Base profile with upper part made of stable canted 6 mm steel plate with integrated high-performance magnets with a retaining force of 2100 kg each (the number of magnets depends on the length of the base carrier).



Article no.	L (mm)	W (mm)	H (mm) Base	Number of angles*
13425	1480	180	98	3
02336	1980	180	98	3
13427	2480	180	98	4
04176	2980	180	98	4
22823	3480	180	98	5
03888	3980	180	98	5
23360	4480	180	98	5
11743	4980	180	98	6
18254	5480	180	98	6
02086	5980	180	98	7
26028	6480	180	98	7
02335	6960	180	98	8
22043	7480	180	98	8
02143	7980	180	98	8

*Of which always two angle adapters with transport ring. No angle is required for plywood heights from 100 – 200 mm.

➤ MHS angle adapter

MHS angle adapters with or without lift off loop / transport ring for easy handling by crane.



Article no.	H shuttering skin (mm)	Transport ring
02093	200 / 300	No
02094	200 / 300	Yes
02091	300 / 400	No
02092	300 / 400	Yes
19649	400 / 500	No
19650	400 / 500	Yes

Accessories

↗ Lifting tool for MHS



Article no.	03292
-------------	-------

↗ MHS rail slider

Transport trolley for detaching the MHS and for easy transport on the pallet. To make handling as easy as possible, we recommend using two rail sliders at each end of the shuttering.



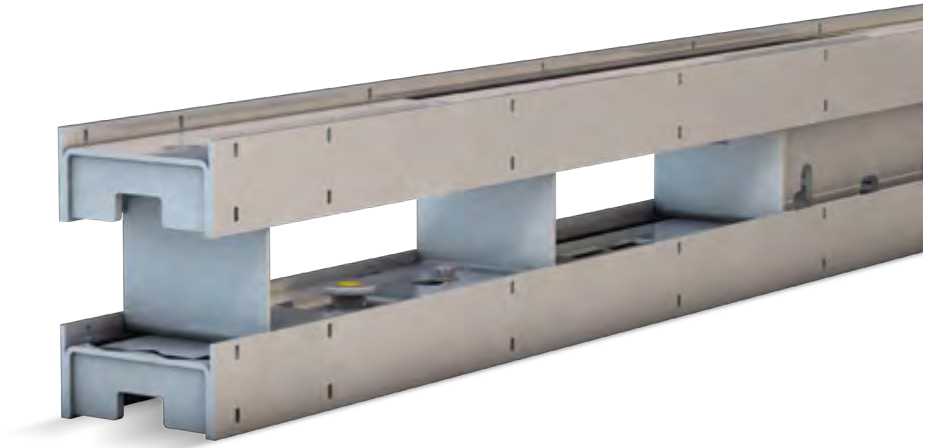
Article no.	59014
L approx. (mm)	1600
Weight (kg)	6,8

Special solutions

Examples of customised special solutions with MHS.

➤ MHS concretable on both sides, with integrated SPB

Special solution with base profile concretable on both sides and angle adapter.

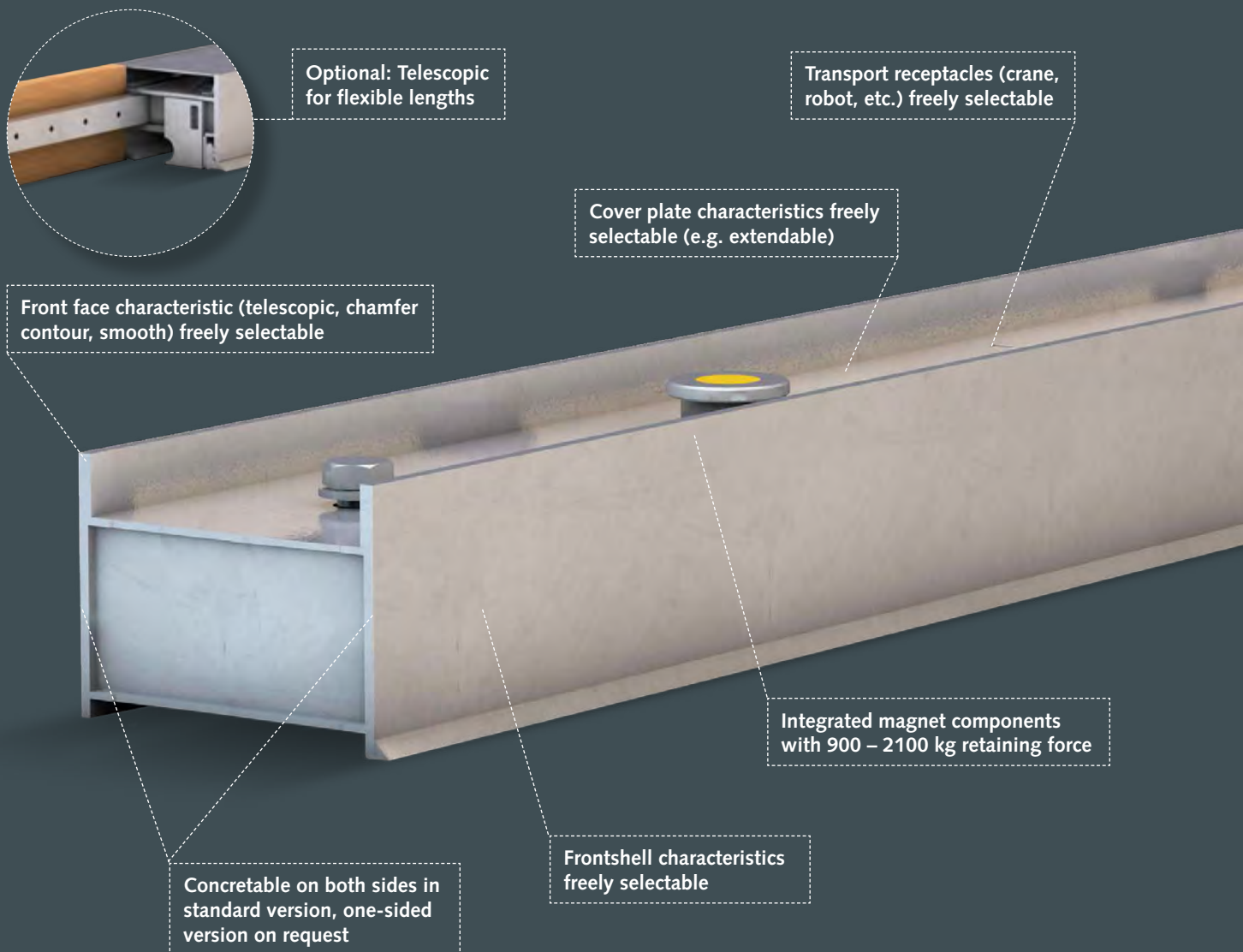


We would be happy to devise a tailor-made solution for you.

SAS Standard Automatic Shuttering

The system for individual configuration, suitable for robot operation

The SAS standard automatic shuttering is as unique as the shuttering challenges of our customers. We cut the system precisely to your requirements. The SAS is suitable for robots and can be configured for each shuttering robot. This makes it the perfect shuttering solution for automated operation, particularly in circulation systems. With integrated magnetic components with a retaining force of 900–2100 kg, it reduces the shuttering work steps to mere positioning and activation of the magnets.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Can be used as a complete system for the production of solid elements from 80 mm high as well as for supports, binders, special beams, stationary production as well as for circulation systems with and without shuttering robots.

Can be used in recesses set by robots.

ESPECIALLY SUITABLE FOR

- ↗ Circulation systems
- ↗ Jobs with a shuttering robot
- ↗ Jobs with a high degree of automation

FEATURES



Concretable on both sides



Integrated, switchable magnets



Extendable in height



Steel shuttering skin



Profiled according to customer requirements



Suitable for lifting beam



Suitable for robots



Can be manipulated with a crane

DETAILED PROPERTIES

Elements

- ↗ Integrated high-performance magnets

Highlights

- ↗ High-precision laser-cut design
- ↗ SAS is configured according to customer requirements
- ↗ Handling with lifting beam, crane and robot possible.
- ↗ Extendable on request
- ↗ Telescopic on request

Dimensions

- ↗ Shuttering lengths from 500–8000 mm
- ↗ Shuttering heights up to 500 mm

EXPANDABILITY



Upper parts for height flexibility

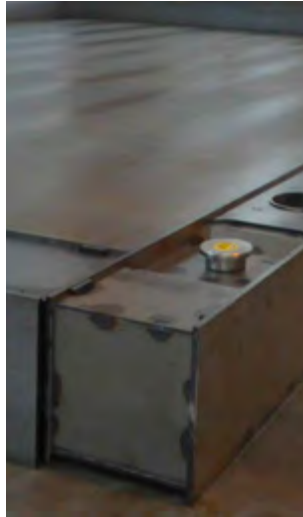


Magnetic solutions for grouting groove with loops

Application examples



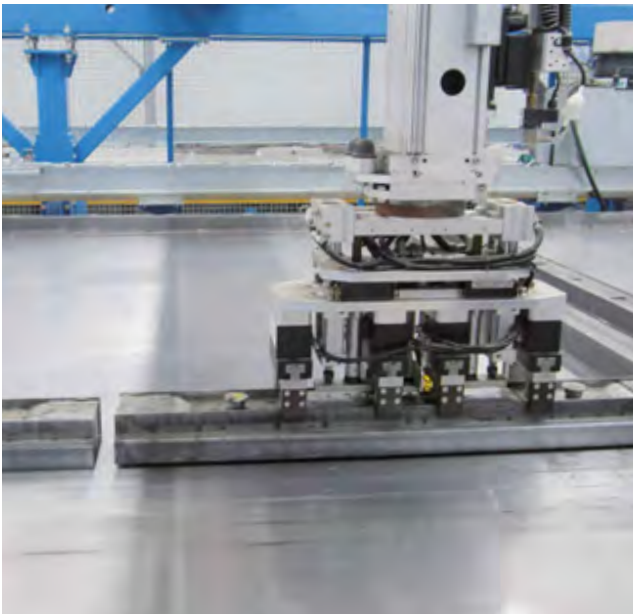
SAS with special profiling of the frontshell



SAS special version with recessed automatic component



SAS recess solution – shutterings placed by the robot are manually supplemented with custom-made plywood



SAS can be configured for all common shuttering robots



SAS window solution



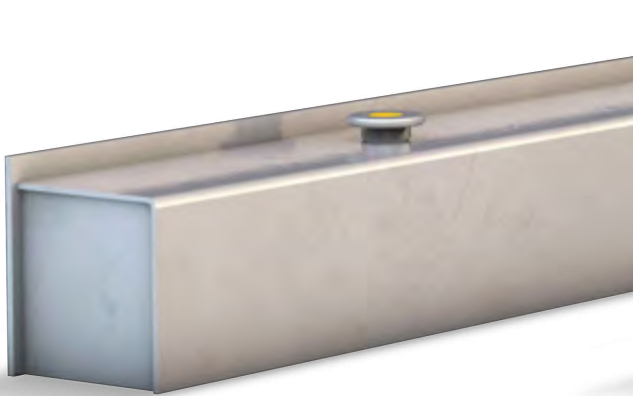
SAS storage



SAS profiling

Standard versions

➤ Application



Concretable on one side

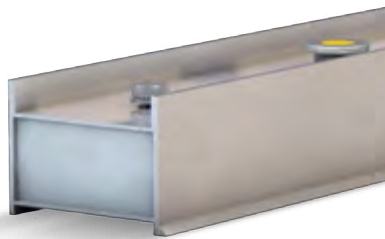


Concretable on both sides

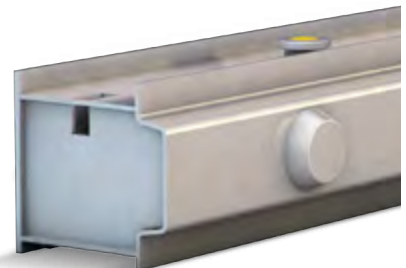
➤ SAS frontshell characteristics



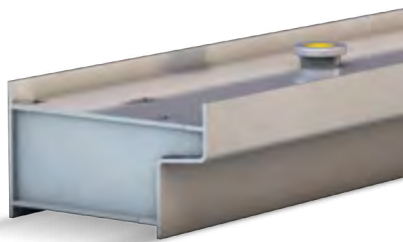
Smooth on one/both sides



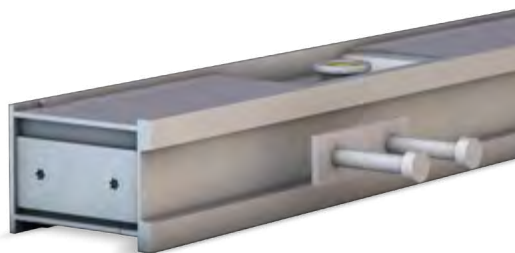
Chamfer on top and/or bottom



Grouting groove and shear key



Profile for slab



Stainless steel front shell with integrated magnetic strip for the magnetic attachment of insert parts

Standard versions

➤ SAS cover panel characteristics



Transport receptacle, gripping knobs



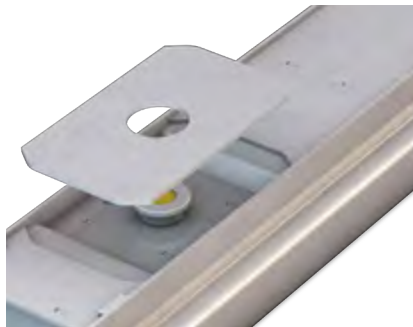
Keyhole, receptacle for plug lifting beam



Crane attachment

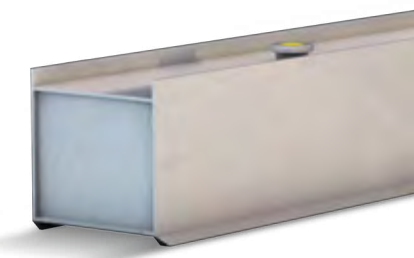


Screw connection for upper parts



Lowered cover plate and lid

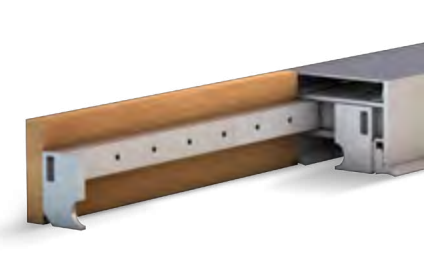
➤ SAS front face characteristics



Chamfer on top and/or bottom



Profile

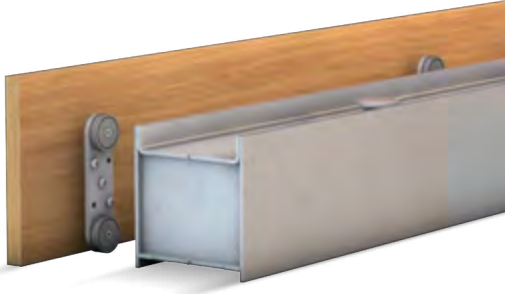


Telescopic for flexible lengths

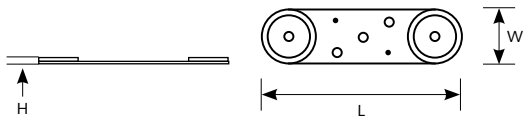
Additional characteristics can be produced. Ask us about it!

Accessories

➤ Adapter plate for attaching a wooden front

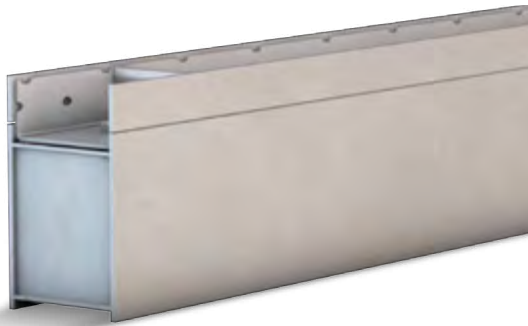


Article no.	50413
H (mm)	16
W (mm)	40
L (mm)	150



➤ Upper parts

We would be happy to realise different upper parts (concretable on one or both sides) for the extendable SAS pursuant to your requirements.

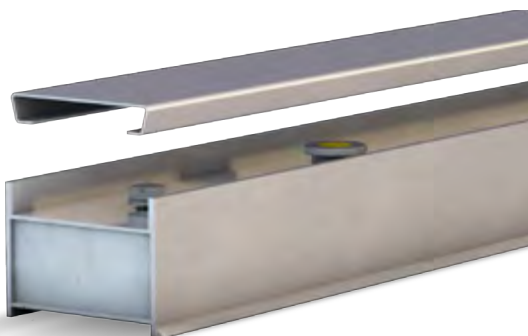


Article no.	On request
-------------	------------

Max. height of the structure = double height of the base up to max. 200 mm

➤ Cover sheet

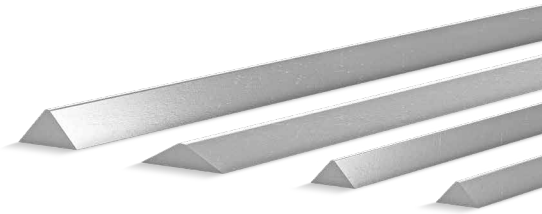
For covering the shuttering during concreting.



Article no.	On request
-------------	------------

➤ Magnetic chamfer strip

For quick and clean formation of chamfers, drip moulds or dummy joints, suitable for attachment to a steel shuttering or on the pallet. Our chamfer strips are available in steel or rubber (with a steel core).



Article no.	On request
-------------	------------

Our complete chamfer strip and trapezoidal strip range of products is available from page 120.

➤ Magnetic vinyl

To cover openings in the shuttering's cover panel, such as keyholes, and to protect against the ingress of concrete.



Article no.	On request
Dimensions	By request
Material	Magnetic vinyl PF 518, magnetised multi-pole on single side

➤ Corner magnet

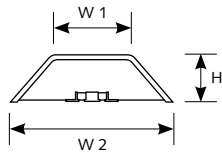
Corner magnet for recesses, including automatic magnet component with a retaining force of approx. 450 kg.



Article no.	On request
-------------	------------

➤ Telescopic grouting groove

Magnetic trapezoidal profile with telescopic slip-ons to implement grouting grooves. Can be place on the shuttering or on the pallet.



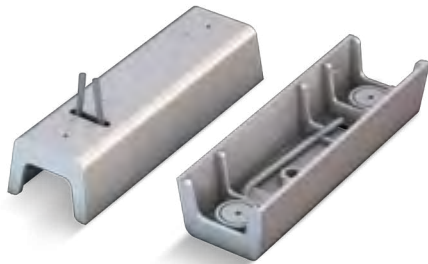
Article no.	60717
W 1 (mm)	50
W 2 (mm)	110
H (mm)	30

Telescopic length: from min. 1730 mm to max. 3550 mm

Other dimensions and lengths are available upon request!

➤ Magnetic holder for cable loops

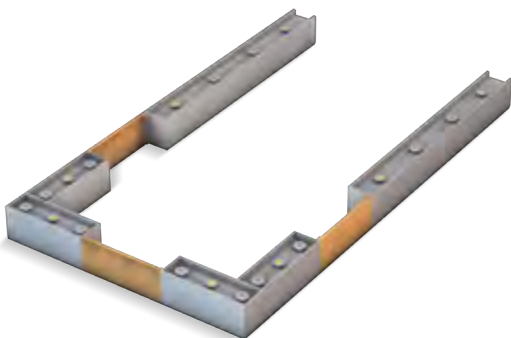
Magnetic recess body for cable loops to attach to a grouting groove.



Article no.	On request
-------------	------------

➤ Recess solutions

We are pleased to offer robot-compatible recess solutions based on SAS.



Article no.	On request
-------------	------------

An overview of all solutions for recesses is available from page 104.

➤ Hook lifting beam

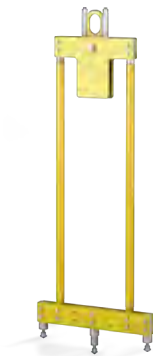
Depending on the design, the SAS can be handled with the hook lifting beam.



Article no.	On request
For	SAS, Easy Form
Crossbeam receptacle	Gripping knobs (knob distance fixed)
Max. load capacity	300 kg
Unladen weight	approx. 25 kg

➤ Plug lifting beam

Depending on the design, the SAS can be handled with the hook lifting beam.



Article no.	On request
For	SAS
Crossbeam receptacle	Keyholes
Max. load capacity	300 kg
Unladen weight	40 kg

➤ Lifting beams for handling

Depending on the design, the SAS can be handled with the hook lifting beam.



Article no.	On request
For	SAS, Easy Form
Crossbeam receptacle	Gripping knobs (lifting beam suitable for different knob distances)
Max. load capacity	300 kg
Unladen weight	approx. 100 kg

↗ Lifting tool for SAS



Article no.

03292

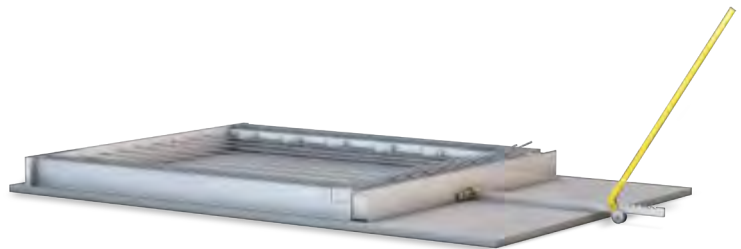
↗ SAS demoulding device

For fracture-free stripping of elements with grouting groove.



Article no.

On request

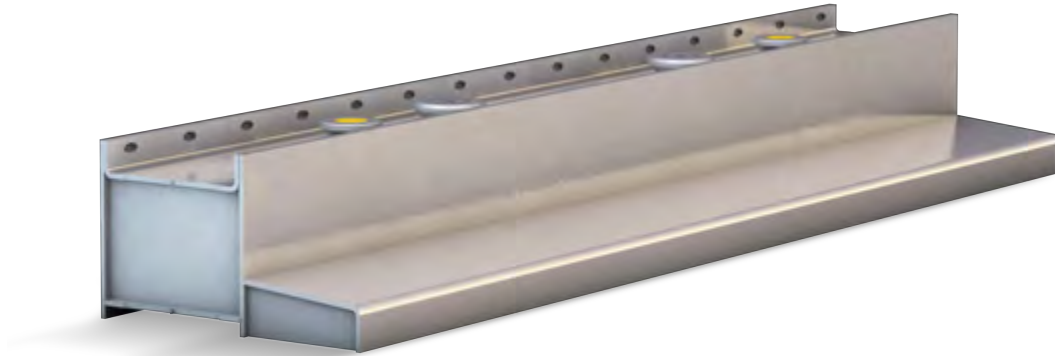


Special solutions

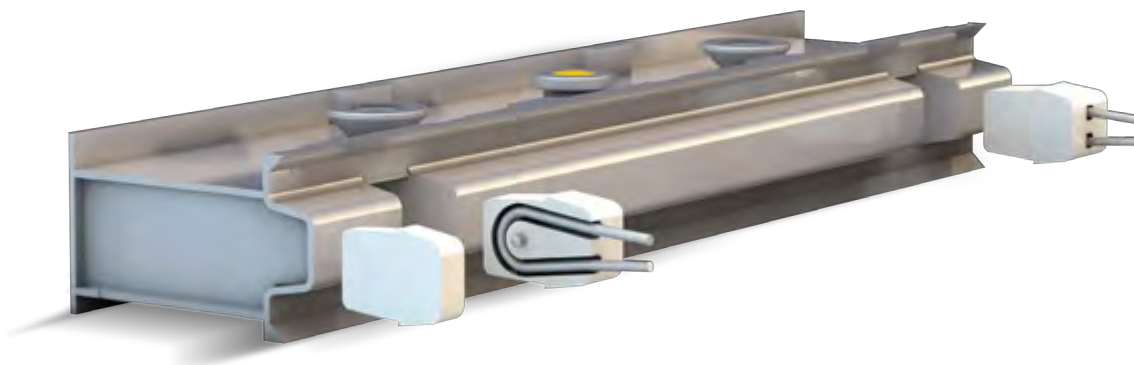
Customised special solutions with the SAS standard automatic shuttering.

➤ Support boxes

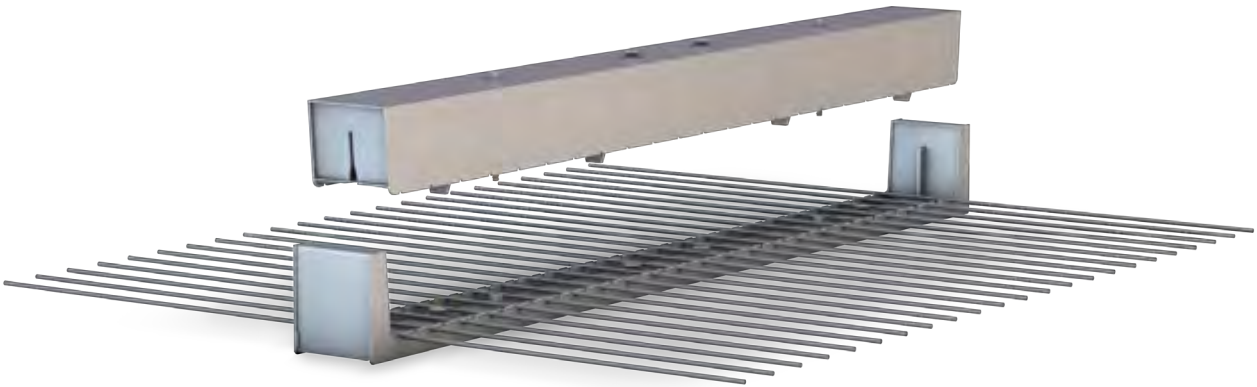
For fixing to an SAS for the production of slabs in the element



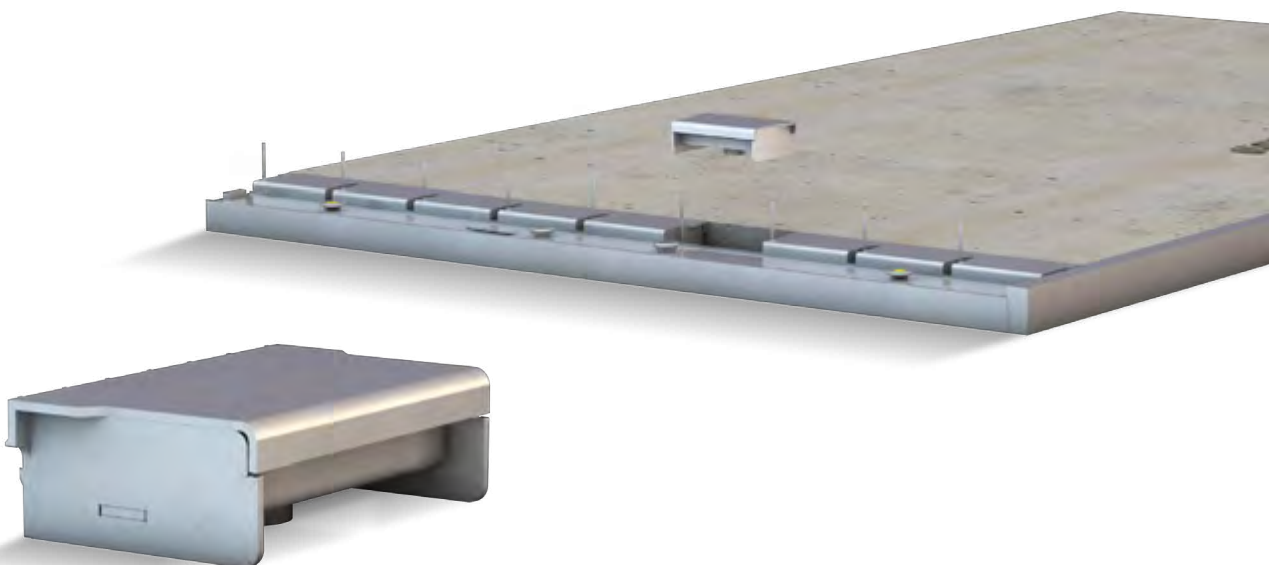
➤ SAS with integrated loop solution



➤ Two-part SAS for the production of prestressed concrete elements



➤ Installation boxes for reinforcement overhang



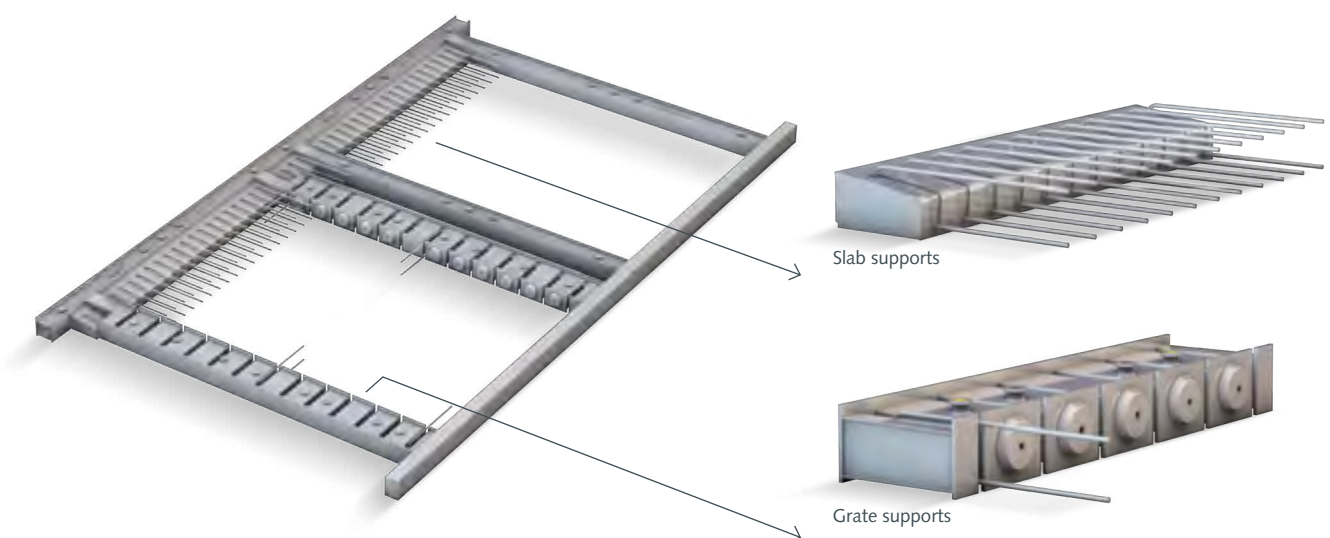
➤ Special solution for break-free demoulding

Formwork concreteable on both sides with chamfers on all sides.



➤ Special solutions for elements with connection reinforcement

A robot-capable solution was developed for a customer in Austria for the production of elements with connection reinforcement and slabs. The goal was to reduce manual labour and the use of plywood in future. The solution we came up with included standardised grated shutterings with integrated magnets as well as a special slab box with slots for the connection reinforcement. The grated shuttering is profiled with a round shear key.



➤ Special solution for supports and special beams

As per the customer's wishes, we came up with a unique solution for the production of supports and special beams on the basis of the SAS standard automatic shuttering. The aim was to achieve optimal pallet allocation with fast moulding times and a dimensional accuracy of ± 1 mm.



Special beams

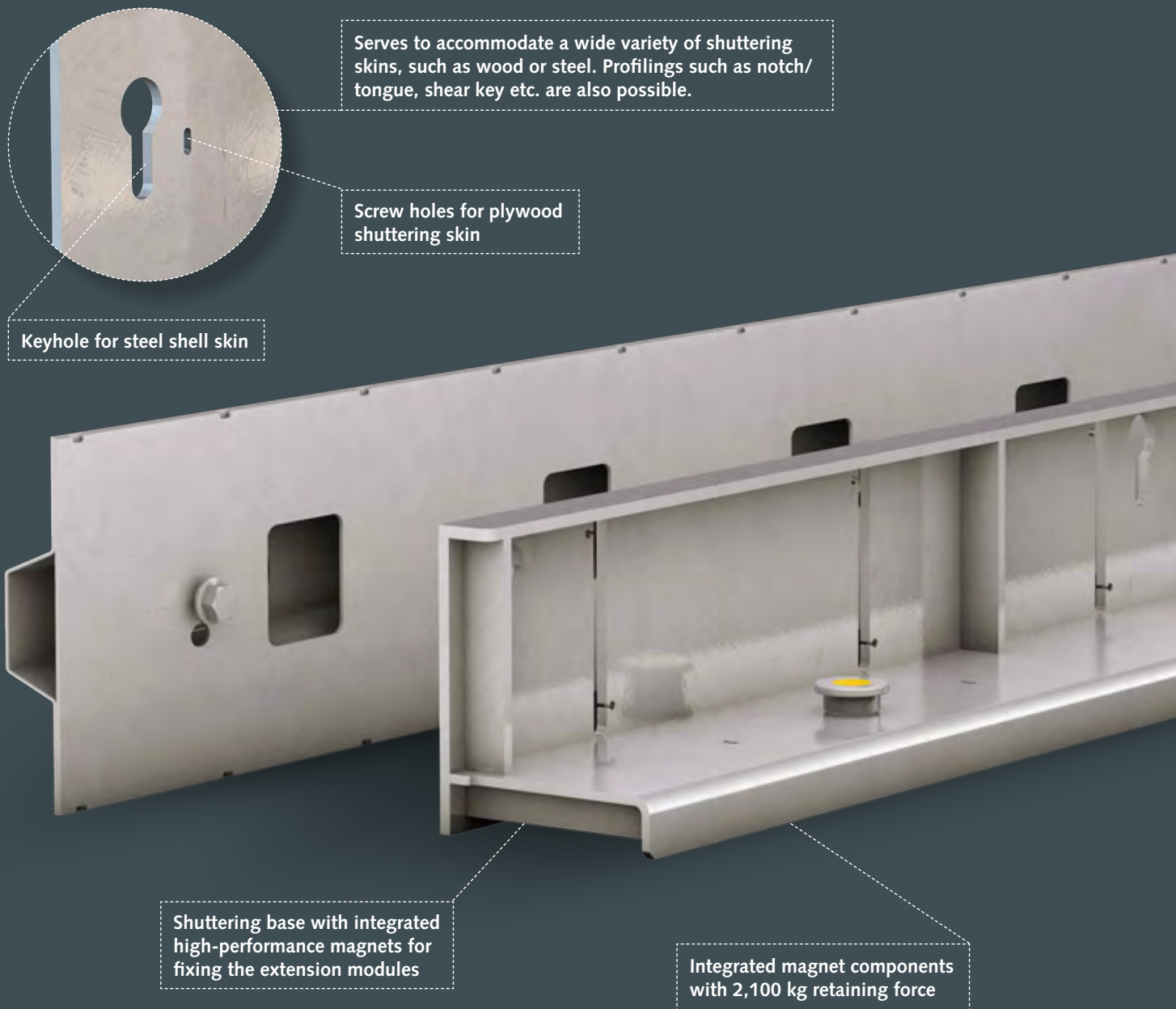


Supports

SAS-MF module flex shuttering

The foundation for any situation

The AS-MF Module Flex shuttering system for solid and sandwich wall and ceiling panels is available in lengths of 500 mm to 8000 mm and features a modular variable height from 100 mm to 500 mm. The SAS-MF is optimised for quick shuttering skin changeovers and is suitable for many different types of shuttering skin (wood, alkus, smooth steel, tongue and groove, shear key, steel or rope connection loops). With a base, it is possible to implement various heights and shuttering shapes by changing the front plate. Even complicated element geometries and protruding reinforcements are possible.



Serves to accommodate a wide variety of shuttering skins, such as wood or steel. Profilings such as notch/tongue, shear key etc. are also possible.

Screw holes for plywood shuttering skin

Keyhole for steel shell skin

Shuttering base with integrated high-performance magnets for fixing the extension modules

Integrated magnet components with 2,100 kg retaining force

- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Turnkey system for the production of bar, solid and sandwich elements with heights from 100 – 500 mm.

ESPECIALLY SUITABLE FOR

- Frequently changing and/or complex shuttering skin geometries
- Protruding reinforcement
- Handling by crane or lifting beam
- The production of bar, solid and sandwich elements

FEATURES



Integrated, switchable magnets



Steel shuttering skin



Wooden shuttering skin



Extendable in height



Suitable for lifting beam



Can be manipulated with a crane



Profiable according to customer requirements

DETAILED PROPERTIES

Elements

- Integrated high performance magnets with 2,100 kg retaining force each
- Sturdy 8 mm frontshell with 6 mm canted back
- Fitted as standard with screw holes for plywood, keyholes for steel plywood and slots for protruding reinforcement

Highlights

- Easy handling by crane and lifting beam
- Flexible modular design through the use of extension modules for shuttering base in heights from 100 – 400 mm.

Dimensions

- Shuttering lengths 500–8000 mm
- Width of the shuttering base: 160 mm, 180 mm, 200 mm

Application examples



Pile shuttering based on the SAS-MF



SAS-MF with recesses



SAS-MF in solid wall production

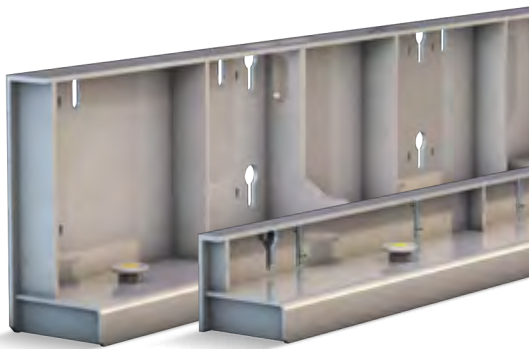


SAS-MF with extension modules for continuous reinforcement

Products

➤ SAS-MF shuttering base

The shuttering base for attaching various extension modules is manufactured individually pursuant to your specifications.



Article no.	On request
L (mm)	500–8000
W (mm) of the shuttering base dependent on H	160, 180, 200
H (mm)	100–400

➤ Extension modules for SAS-MF shuttering base

Examples of wood front and steel front. The plywood shuttering skin is screwed to the shuttering base via screw holes. Steel extension modules are suspended on the keyholes. We produce extension modules individually pursuant to your wishes.



Article no.	On request
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Accessories

↗ Lifting tool for SAS-MF



Article no.	03292
-------------	-------

↗ Fork lifting beam



Article no.	On request
For	SAS-MF
Crossbeam receptacle	Horizontal attachment lugs
Max. load capacity	400 kg
Unladen weight	171 kg

 An overview of lifting beams is available from page 112.

↗ Recess solutions

You can rely on our vast solutions for window and door recesses.



Article no.	On request
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 An overview of our recess solutions is available from page 104.

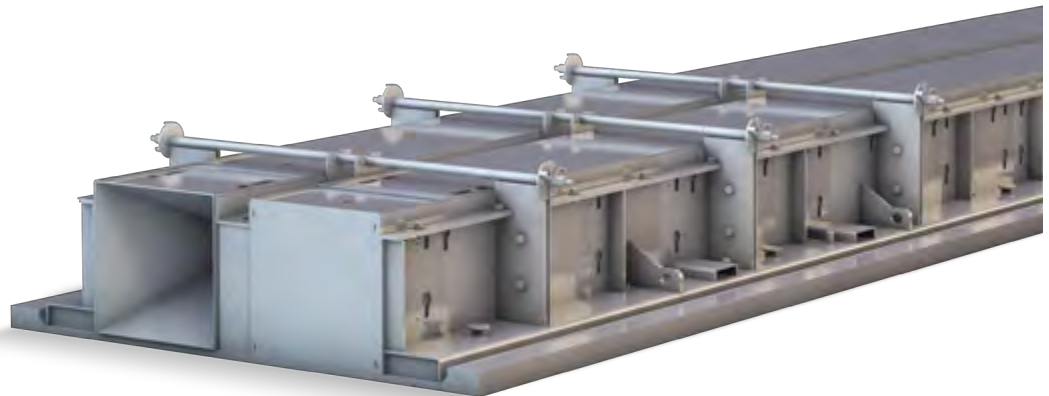
Special solutions

Intelligent special solutions for the SAS-MF Module Flex shuttering

➤ Complex frontshell shapes



➤ Pile shuttering

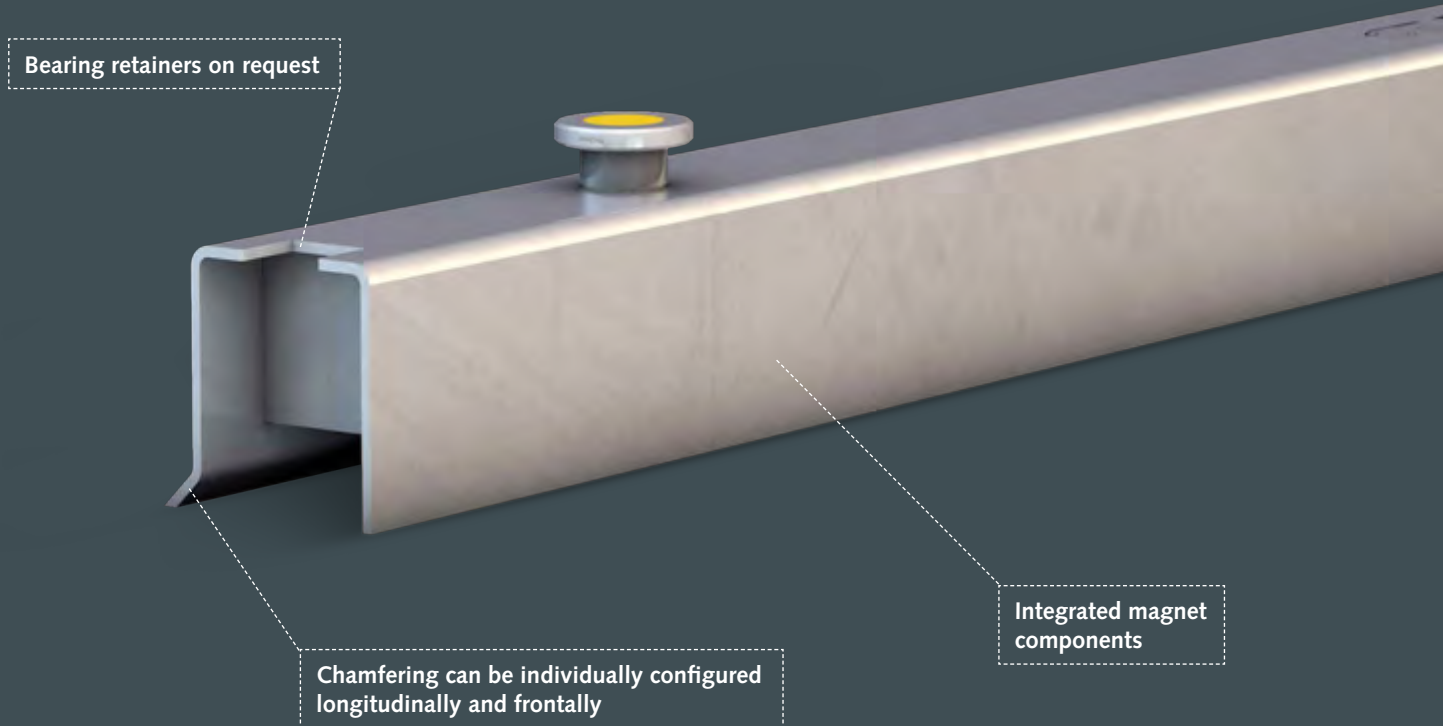


RT U60 Pro

The quick and economical system for the production of girder slabs and double walls

Proven over many years and used in leading plants.

The RT U60 Pro shuttering system for the production of girder slabs and double walls is tailor-made pursuant to all customer requirements, such as robot handling, chamfering options, bearing fixtures and much more. With built-in magnetic automatic based on our "Made in Germany" Pro Magnet series, the RT U60 Pro is extremely reliable and durable.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Turnkey system for the production of girder slabs and double walls with element heights of 50 – 100 mm

ESPECIALLY SUITABLE FOR

- Circulation systems
- Jobs with a shuttering robot
- Jobs with a high degree of automation
- High quality requirements on chamfering precision

FEATURES



Integrated, switchable magnets



Concretable on both sides



Steel shuttering skin



Suitable for robots



Can be manipulated manually

DETAILED PROPERTIES

Elements

- Canted 3 mm U-profile with machined contact surface for clean shuttering edges

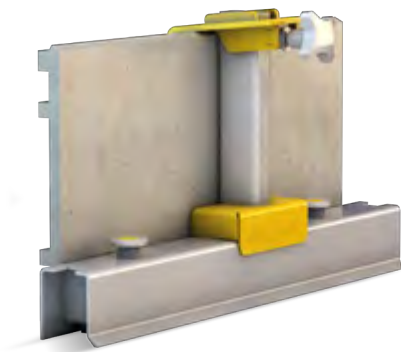
Highlights

- Easy positioning
- Easy removal and attachment of the shuttering
- Compatible with robots from all robot manufacturers
- Easy handling, also manually
- Suitable for the production of girder slabs and double walls

Dimensions

- Shuttering lengths: 450–3980 mm
- Height: 60–100 mm (other heights on request)

EXPANDABILITY



Magnetic attachment for fixing fiberglass upstands



Slip-on profile for extending the shuttering

Application examples



RT U60 Pro with offset



Suitable for space-saving storage



Girder slab production



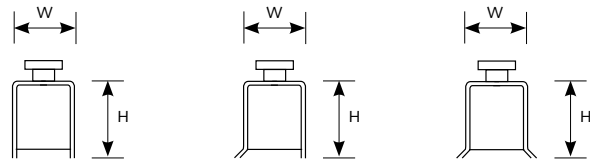
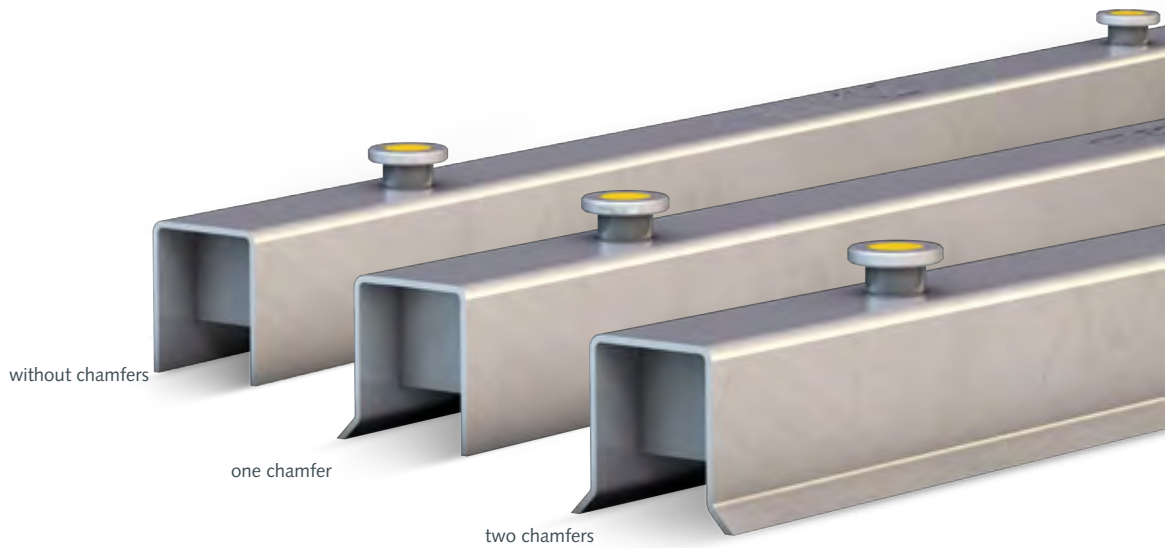
Suitable for robot operation



RT U60 Pro with double wall adapter (page 95)

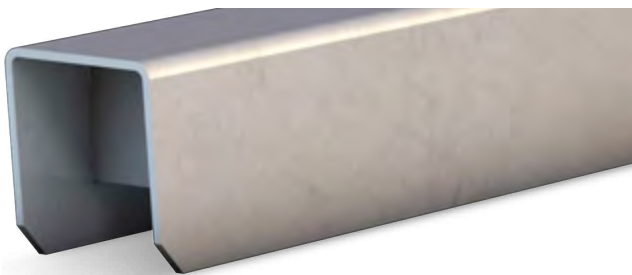
Standard versions

➤ RT U60 Pro

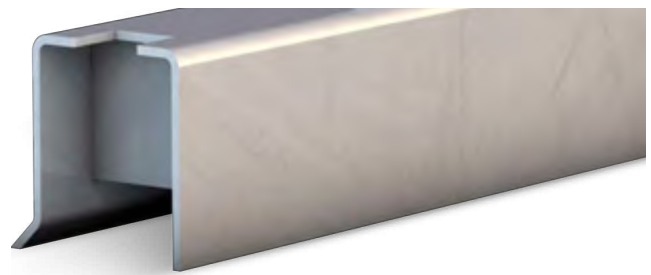


Article no.	On request
Steel plate (mm)	3
W (mm)	60
H (mm)	60, 65, 70, 75,80, 85, 90, 95, 100

Options:



Frontal chamfer and / or draft angles



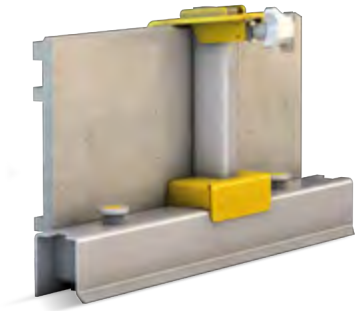
Bearing retainer

Additional characteristics can be produced. Ask us about it!

Accessories

➤ Glass fibre attachment

Space-saving attachment solution for the RT U60 Pro for holding down glass fibre upstands, with integrated SPB Standard Pro Magnetic Box 450kg (not switchable). The attachment consists of a upstand-stabilising pipe profile and is easy to fix to the shuttering by means of an elongated stopper plate.



Article no.	84548	85027
H (mm)	230	350

Other heights are available on request.

➤ Slip-on profiles

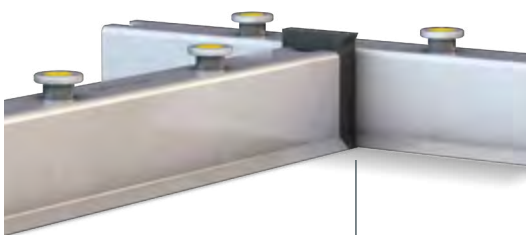
To extend the shuttering with or without integrated magnets.



Article no.	On request
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➤ Magnet clip

For bridging a frontal chamfer.

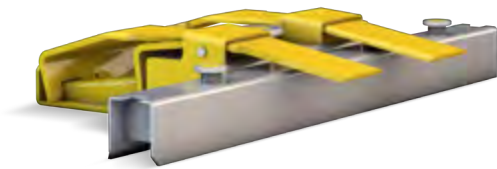


Article no.	On request
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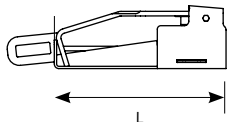
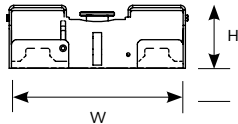
➤ Double wall adapter

For holding down precut shims when turning for double-wall production. Clamping range from 60 – 85 mm, with milling plate from 55 mm.



Video about the double wall adapter

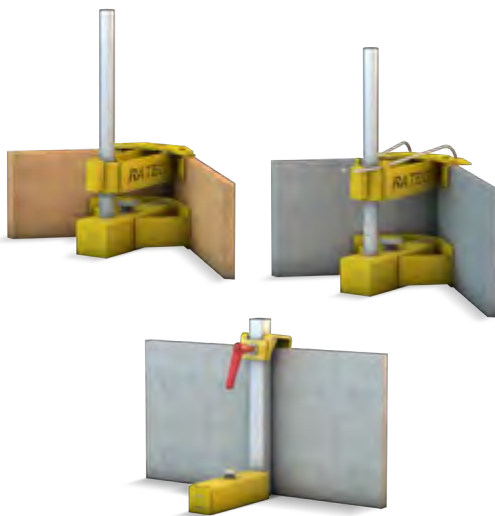
Scan QR code!



Article no.	61953
L approx. (mm)	300
H approx. (mm)	110
W approx. (mm)	300
Retaining force (kg)	2100
Max. load per adapter approx. (kg)	250

➤ Speedy H, Speedy GF, Speedy GFS

For fixing window shuttering, glass fibre upstands or plywood shuttering.



	Speedy H	Speedy GF	Speedy GFS
Article no.	03118	02858	48029
Max. H (mm)	400	400	400

More information on our adapters can be found from page 114

➤ Universal recess box



For the shuttering recesses for shafts or pipes as a sustainable alternative to styrofoam. The recess box is based on the SPB Standard Pro Magnetic Box, with an integrated automatic component and magnet. 6° conical for better stripping, can be realised with or without chamfer all around.

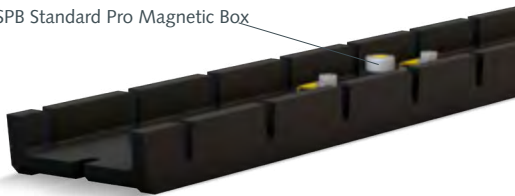


Article no.	On request
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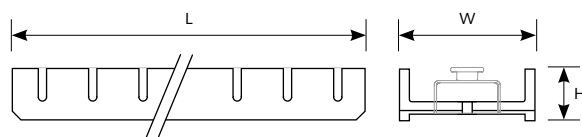
➤ Tooth comb / shuttering with reinforcement slots

As transversal shuttering for elements with protruding reinforcement, from TIVAR. With integrated SPB Standard Pro Magnetic Box.

SPB Standard Pro Magnetic Box



Article no.	On request
Design L, W, H	According to your specifications



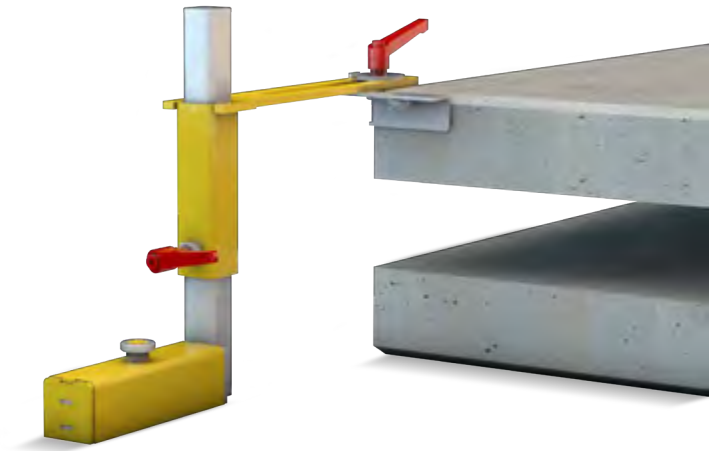
➤ Lifting tool for RT U60 Pro



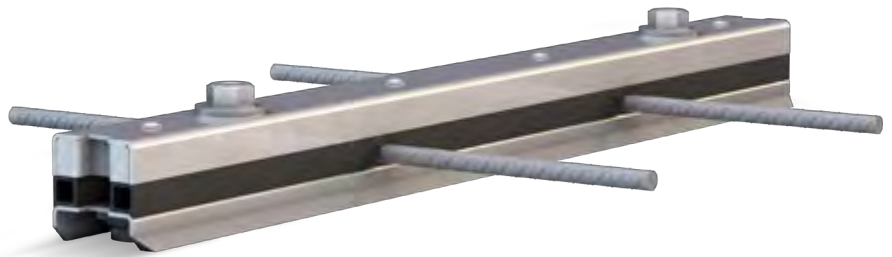
Article no.	03299
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Special solutions

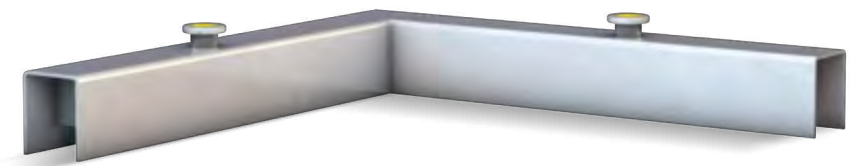
➤ Speedy GFS for fixing of thermal walls



➤ Two-part RT U60 Pro for protruding reinforcement



➤ RTU corner shuttering

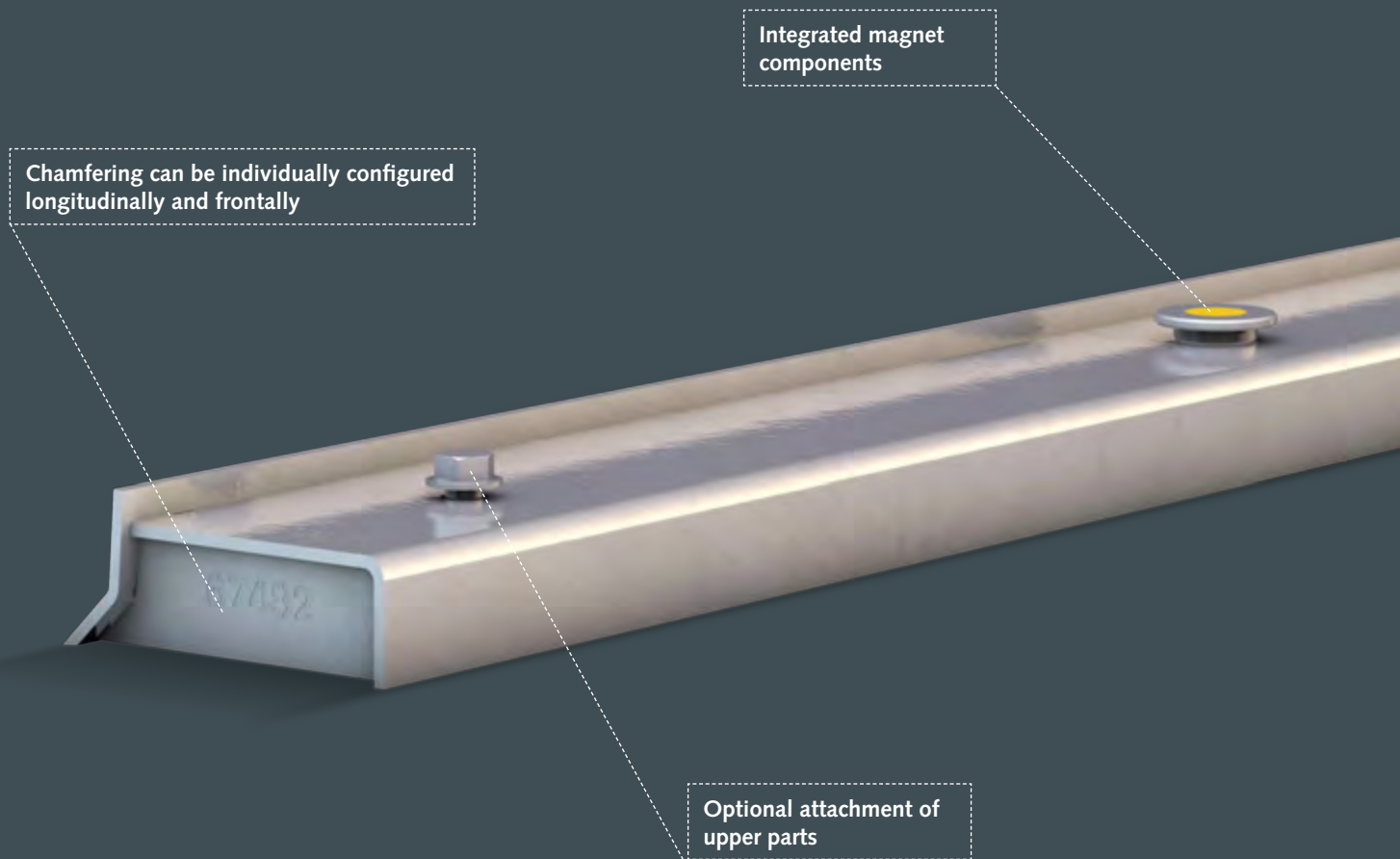


TT Pro slab shuttering

Safe and efficient: the fastest shuttering system for TT slabs

The TT Pro slab shuttering system from RATEC makes shuttering and demoulding of TT slab elements as easy as it gets. The system reduces the setup and retooling time by more than 5%. No crane is needed.

When combined with the SPB 900 and the clamping adapter for the top header as well as the EURO RTM 900 for side shuttering, no welding is necessary, which reduces the setup time even further. The economy of scale is unbeatable.



- Custom-made products are possible.
- Simply ask us about it.

APPLICATION

Production of TT slab elements

ESPECIALLY SUITABLE FOR

- ↗ Stationary production
- ↗ Low level of automation
- ↗ Manual shuttering handling

FEATURES



Integrated, switchable magnets



Steel shuttering skin



Extendable in height

DETAILED PROPERTIES

Highlights

- ↗ Integrated high-performance magnet
- ↗ Low tare weight for easy handling of the shuttering
- ↗ Customised production in terms of lengths, heights and shape

Dimensions

- ↗ Standard length 500–3980 mm
- ↗ Standard width 60–200 mm
- ↗ Standard height 45–120 mm

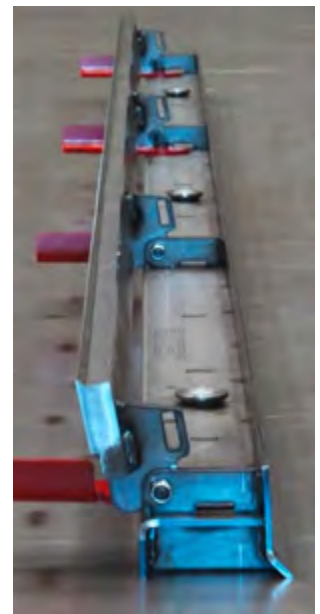
Handling

- ↗ Easy positioning
- ↗ Easy attachment and removal of the shuttering
- ↗ Low intrinsic weight (no crane needed)

Application examples



TT slab production



Special solution for TT Pro with foldable top

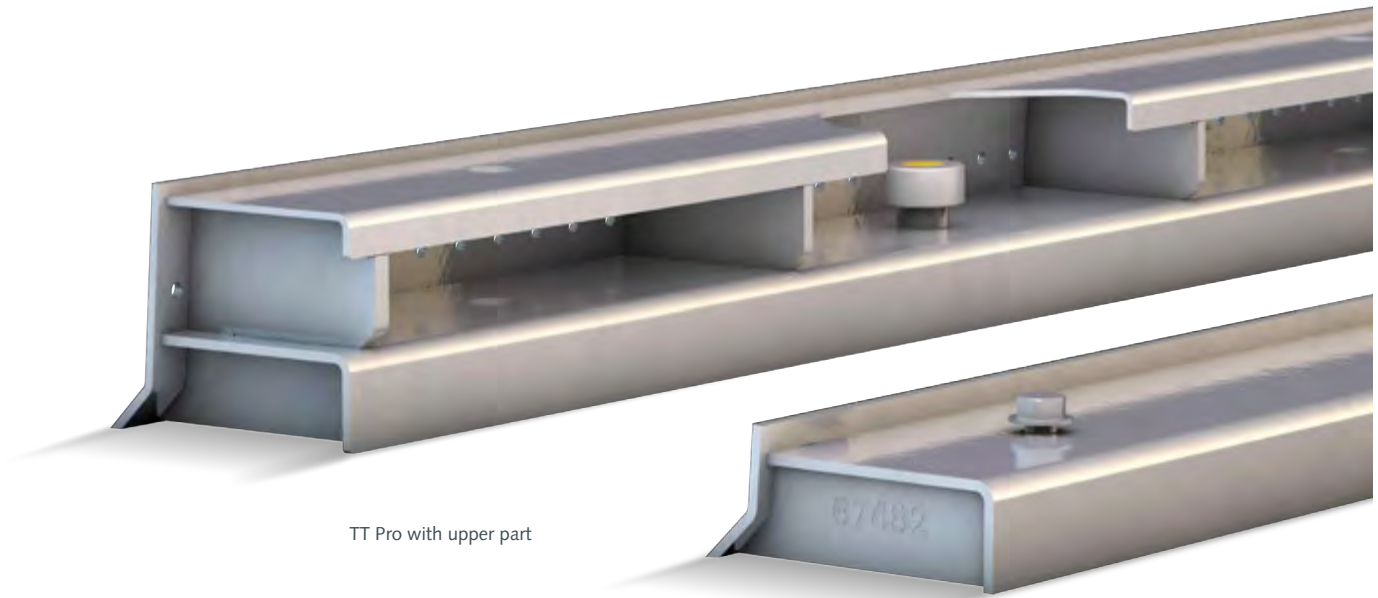


TT Pro with special profiling



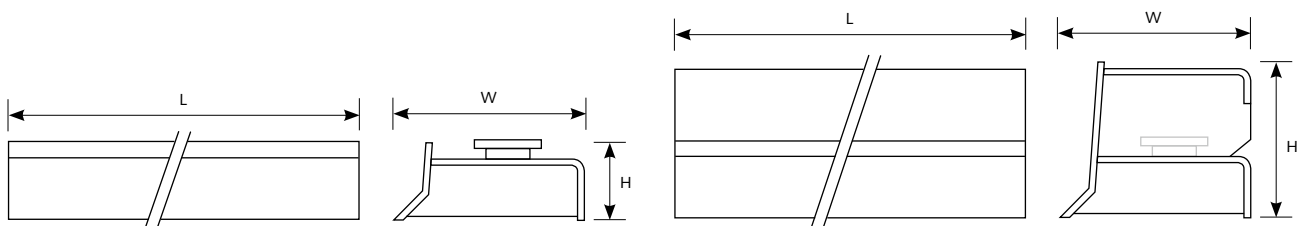
Standard versions

➤ TT Pro longitudinal shuttering



TT Pro with upper part

TT Pro Standard

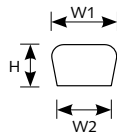
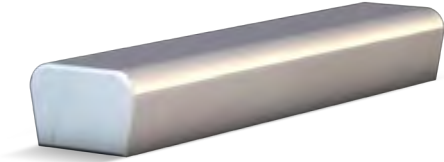


Article no.	On request
L (mm)	500–3980 mm
W (mm)	60–200 mm
H (mm)	45–120 mm (above upper parts)

Accessories

➤ EURO RTM 250–900 – the all-rounder

The Euro RTM can be used for side shuttering in TT ceiling production

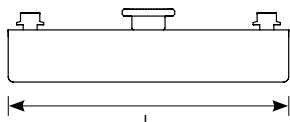
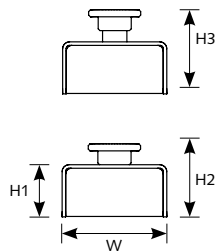
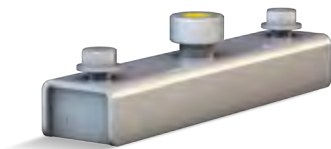


	EURO RTM 250–900	Alu EURO RTM 250–900*
Article no.	00202	25513
L (mm)	250	250
W1 (mm)	54–0,2	54–0,2
W2 (mm)	45–0,2	45–0,2
H (mm)	35–0,2	35–0,2
Weight (kg)	2,2	2,2
Retaining force (kg)	900	900

*With integrated Pro Magnet 900.

➤ SPB Standard Pro Magnetic Box 900

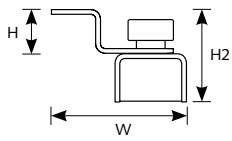
For the transverse shuttering in TT ceiling production in combination with a clamping adapter.



Article no.	03255
L (mm)	280
W (mm)	60
H1 casing (mm)	40
H2 switched (mm)	69
H3 released (mm)	79
Retaining force (kg)	900

➤ Suppressing device

For secure fixing of, e.g. U-profiles, window frames etc.



Article no.	09057
For	SPB 900
L (mm)	278
W (mm)	105
H1 adapter (mm)	73
H2 adapter and magnet (mm)	100

Other heights are available upon request.

➤ Lifting tool for TT Pro



Article no.	On request
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Recess solutions

Whether standard or tailor-made, for manual handling or robot operation, wood or steel - we have just the right solution for your window, door or other recesses.

From hold-down adapters through solutions with integrated magnets to fully robot-compatible systems - we have the right solution for your recess!

Integrated magnet components

Special corner solutions for break-free demoulding

- Custom-made products are possible.
- Simply ask us about it.

Application examples



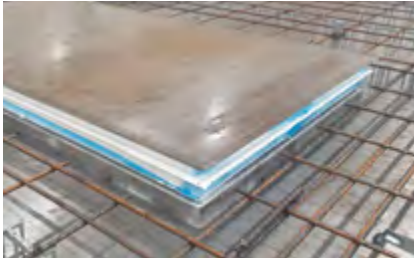
Corner magnet SAS (page 76)



Wooden window corner



Shrinkable window shuttering



Concreted windows



SAS window solution



Shrinkable window



Cranable steel windows

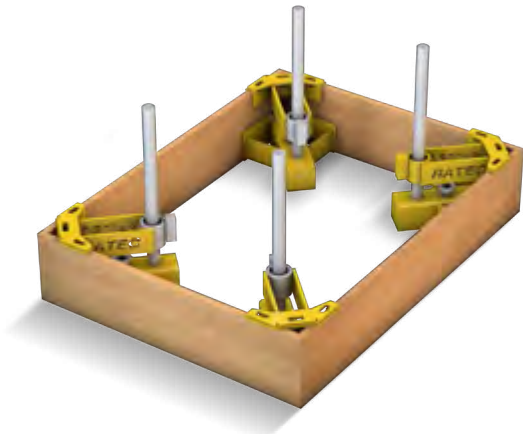


SAS window solution

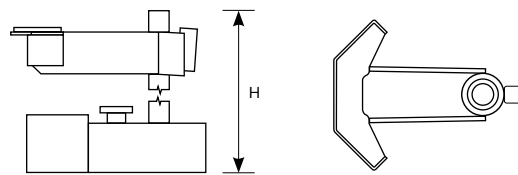
Variants

➤ Speedy adapter for wood recesses

Speedy H for holding down wooden recesses on the pallet.

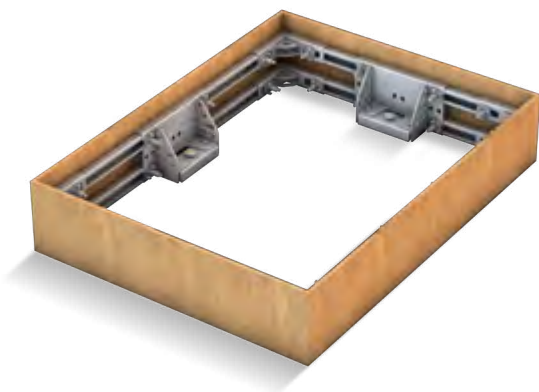


Article no.	03118
H (mm)	Steplessly flexible up to 400



➤ PSV Pro System Vario for wood recesses

The sides of the recess are securely held in place with C-profiles via the PSV shuttering system. The PSV corner angle provides a reliable 90° angle in the corners.

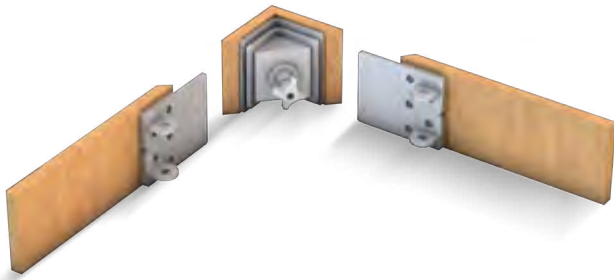


Article no.	On request
H (mm)	According to the selection of PSV adapters

The plywood can protrude up to 100 mm at the top. **Accessories:** SPB, PSV, PSV corner angle

➤ RATEC wooden corner for break-free demoulding of recesses

The special corner angle is used for cladding with wood. After concreting, the corner can be loosened and the legs of the corner can be easily demoulded upwards. The wood-clad corner remains in the element and can be removed at the end. It is combinable with all wood-clad shuttering solutions. The wood must be mitred.



Article no.	73804	70863
Height (mm)*	80	200
Max. plywood height (mm)	180	300

The plywood can protrude up to 100 mm at the top.

Other heights on request. If the height exceeds 300 mm, two window corners can be used on top of each other.

➤ Crane-ready steel windows for holding SPB

Massive steel windows as a welded construction with holders for crane handling, as well as holders for the SPB Standard Magnetic Box for fixing the windows on the pallet.

Highlights

- Welded steel construction
- Slightly conical for easy demoulding

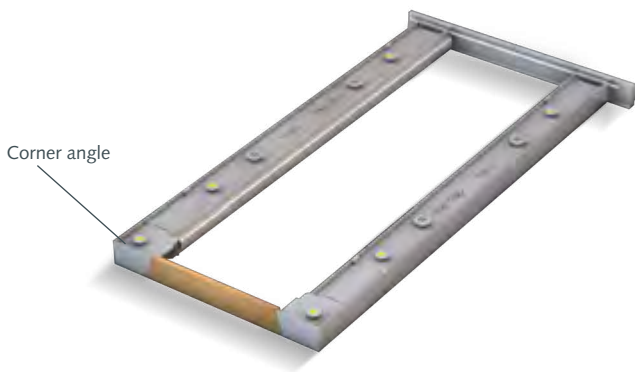


Article no.	On request
Dimensions	On customer request

Accessories: SPB 2100

➤ System shuttering for windows/doors on SAS basis

The sides of the recess are first positioned and then completed with a corner magnet. For stripping, first the corner is removed and then the sides. The corner magnet can be combined with robot- or crane-capable steel shuttering as well as with wood-clad shuttering. The leg shuttering can be set by robot. The corner magnet is set and released manually.

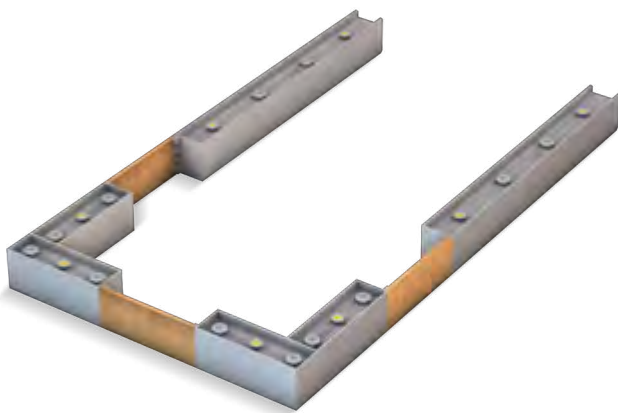


Article no.	On request
H (mm)	100–400

Accessories: SAS corner magnet, SAS shuttering for the legs (or plywood shuttering)

➤ SAS system windows

Robot-capable system window on SAS basis, consisting of SAS shuttering in unit length of 450 mm and 1350 mm. These are placed by hand or by robot and supplemented by plywood spacers that are attached to the shuttering with small, easy-to-install adapter plates. The plywood pieces can be reused for gaps of the same size. This means that Styrofoam can be dispensed with and replaced by reusable components.



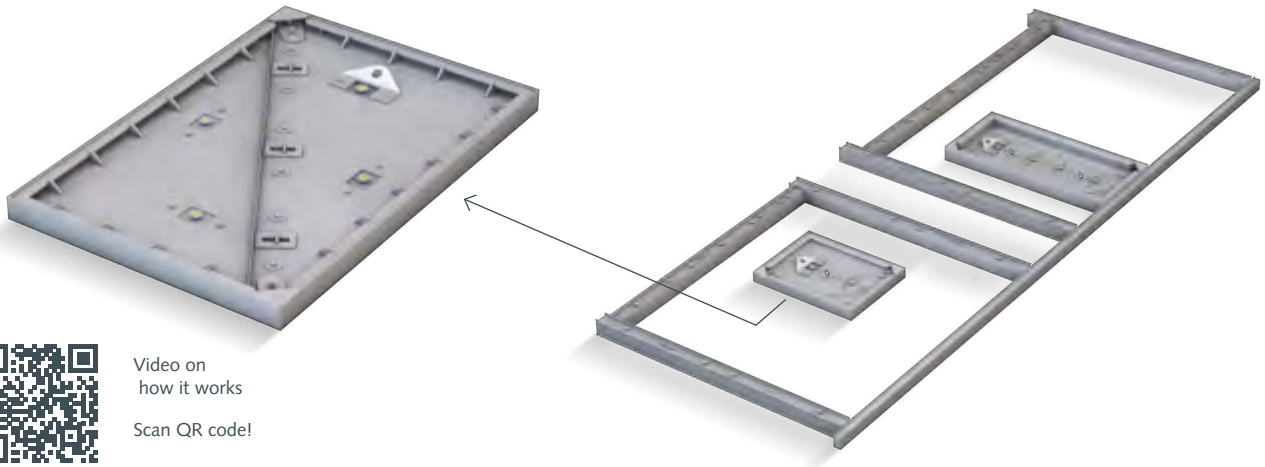
Article no.	On request
L (mm)	450 / 1350

Other lengths and configurations are available on request.

➤ Shrinkable door and window solution

NEW

Innovative solution for the efficient stripping of recesses in large numbers, especially for standard window sizes. The steel frame is made in the dimensions requested by the customer and consists of two halves. For stripping, the conical corners are pulled out upwards. The two window halves can then be mechanically shrunk into one another and removed. This allows a break-free demoulding. The shuttering and stripping processes are significantly sped up as a result. Suitable both for the vertical (battery moulds or room module moulds) as well as horizontal production.

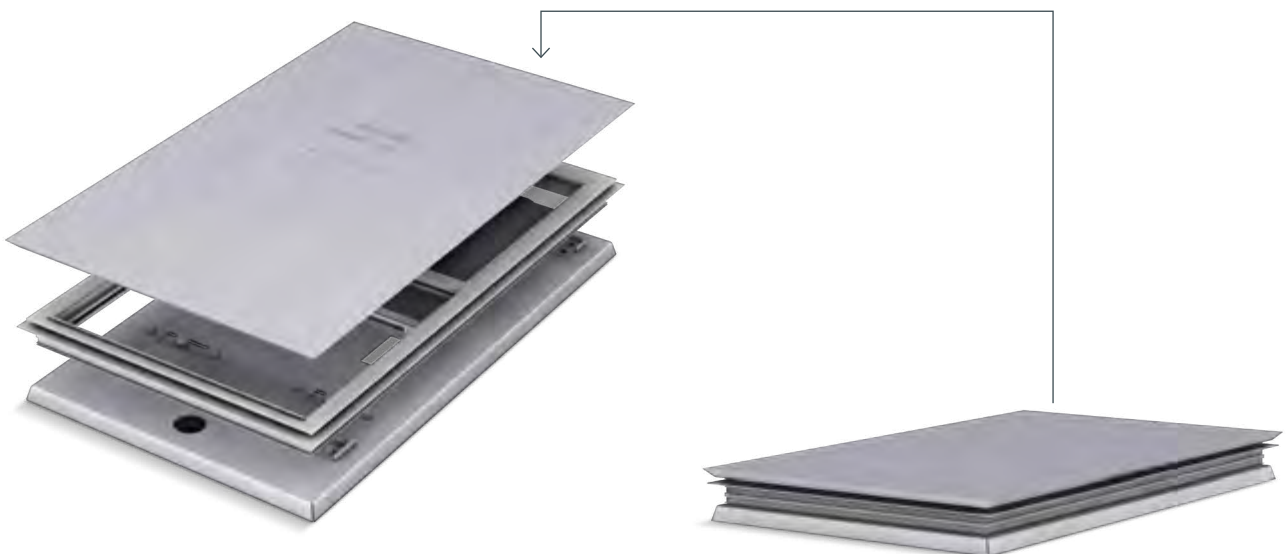


Video on
how it works
Scan QR code!

➤ Shuttering for concreting complete windows

NEW

Developed for the series production of standardised, common window sizes. The sliding window is placed on the base frame of the shuttering (which is fixed to the pallet using the SPB 900) and closed with a cover, which is then screwed to the base frame. The sliding windows installed with the glass segments are protected from dirt and damage by the special shuttering throughout the production process.



04

ACCESSORIES AND ADDITIONAL PRODUCTS

*Supplementary additional components to our magnet
shuttering products*

Everything you need to round out the RATEC magnetic shuttering product range: Lifting beams for handling and additional components for fixing shuttering or upstands. Also available here is our extensive range of magnetic strips and insert parts. Do you need a special solution? Contact us – we are up for any challenge!



LIFTING BEAMS

Page **112**

ADAPTER

Page **114**

MAGNETIC TRAPEZOIDAL AND TRIANGULAR

CHAMFER STRIPS

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INSERT MAGNETS FOR MOUNTING AND ASSEMBLY

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ELECTRICAL INSERT MAGNETS

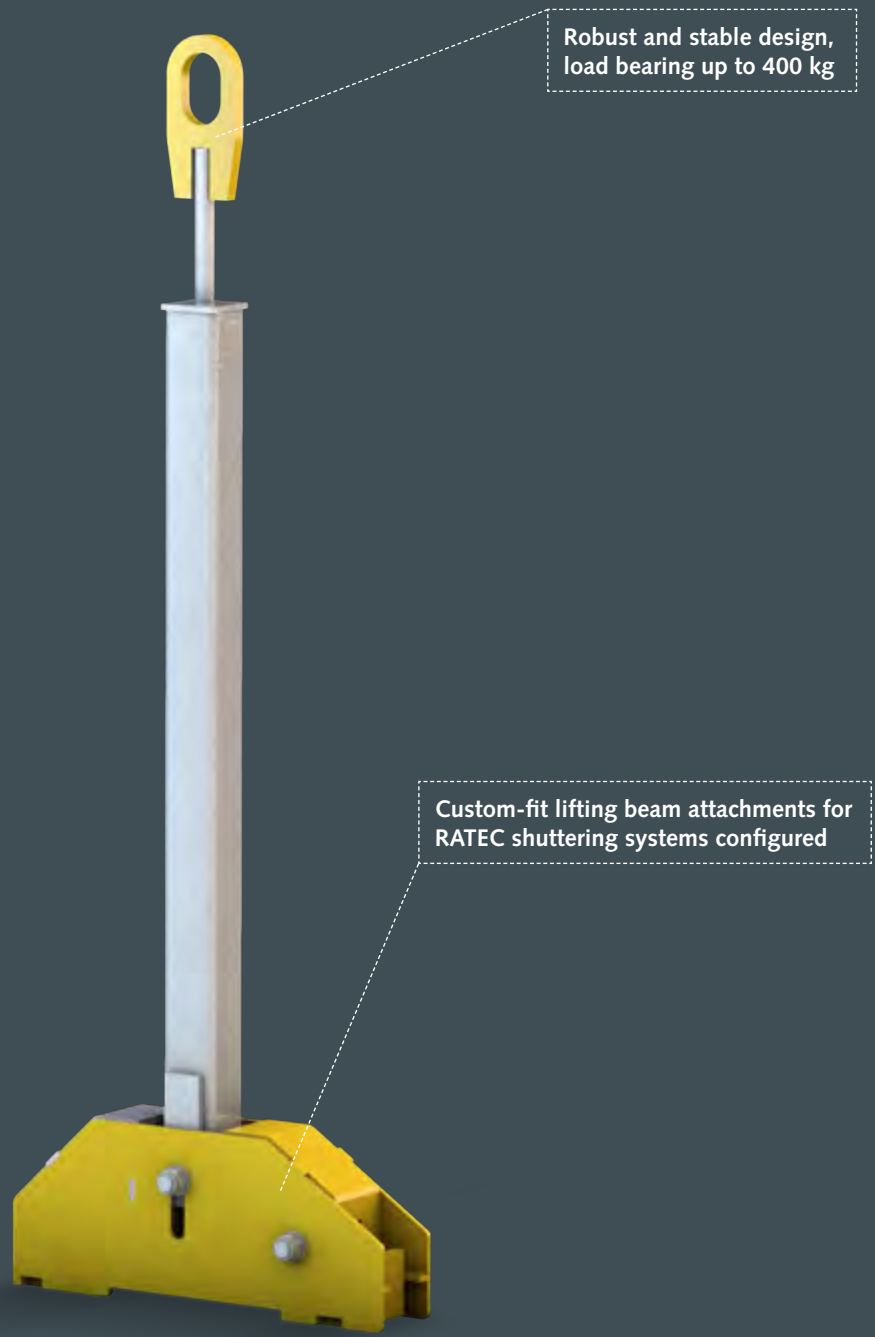
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Lifting beams

For efficient handling of shuttering

In addition to the various possibilities of using robots, we also offer different lifting beams for demoulding and easy handling, both for use with RATEC shuttering within and outside the centre of gravity.

Our lifting beams are tailored to our shuttering by means of intelligent attachment solutions, allowing for safe and straightforward handling in the plant.



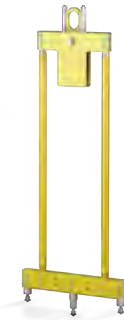
Products

➤ Hook lifting beam



Article no.	On request
For	SAS, Easy Form
Crossbeam receptacle	Gripping knobs (knob distance fixed)
Max. load capacity	300 kg
Unladen weight	approx. 25 kg

➤ Plug lifting beam



Article no.	On request
For	SAS
Crossbeam receptacle	Keyholes
Max. load capacity	300 kg
Unladen weight	approx. 40 kg

➤ Lifting beams for handling



Article no.	On request
For	SAS, Easy Form
Crossbeam receptacle	Gripping knobs (lifting beam suitable for different knob distances)
Max. load capacity	300 kg
Unladen weight	approx. 100 kg

➤ Fork lifting beam



Article no.	On request
For	SAS-MF
Crossbeam receptacle	Horizontal attachment lugs
Max. load capacity	400 kg
Unladen weight	approx. 200 kg

Adapter

Always on the safe side with the flexible all-rounders

The quick and economical shuttering adapters from RATEC allow for efficient and safe fixing of shuttering elements. Our adapters have integrated Pro Magnets and can be ideally combined as an addition to any shuttering system, e.g. for recesses, additional upstands at any angle or for fixing insert parts. Find out for yourself what our multi-talents can really do. We would also be happy to develop individual adapter solutions for you.



Application examples



Speedy GF



Speedy GFS



Speedy GFS

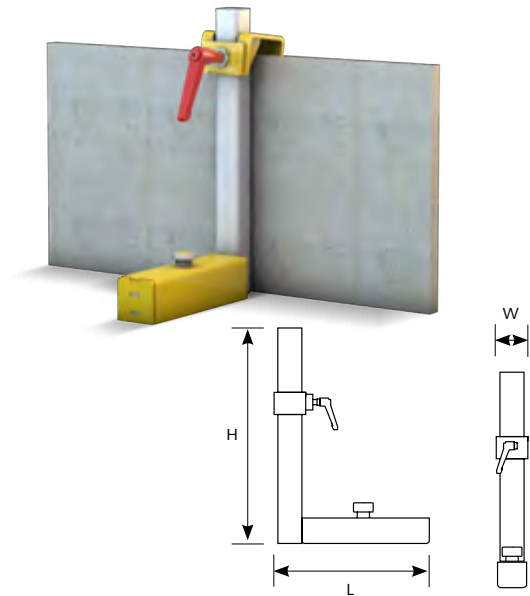


UAR adapter

Products

➤ Speedy GFS

For stepless, rectangular fixing of a shuttering skin up to 400 mm in height. The Speedy GFS is suitable for almost all shuttering materials, e.g. fibre concrete upstands, wood and many others.



The advantages

- Quick fastening with a clamp lever
- Space-saving – can be positioned transversely and longitudinally to the shuttering
- Easy positioning and removal by push-button activation of the integrated high-performance magnet
- Clamping clip for secure fixing of the shuttering skin

Article no.	48029
L (mm)	264
W (mm)	60 / 40
H (mm)	400
Retaining force (kg)	900

➤ Head for Speedy GFS

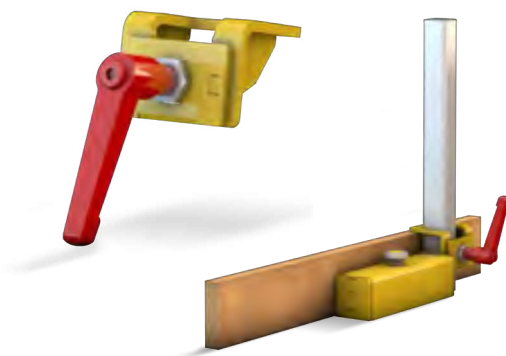
Separate head for Speedy GFS



Article no.	50670
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➤ Head for Speedy GFS for plywood shuttering

For holding down shuttering profiles made of wood.



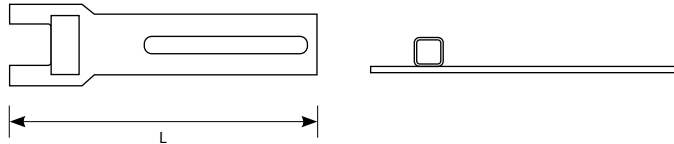
Article no.	65066
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➤ Extension for Speedy GFS

The extension plate is used to facilitate the positioning of insert parts, among other things.



Article no.	46192	48262
L (mm)	300	400



➤ Head for Speedy GFS with extension arm

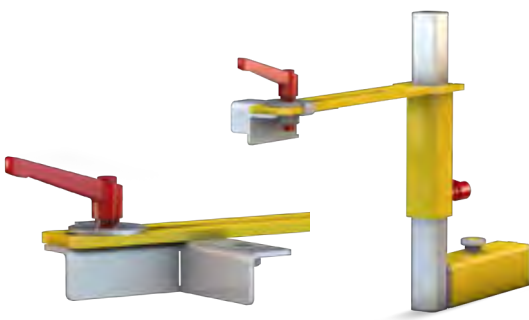
The separate head with extension plate is used for easy positioning of insert parts, for example.



Article no.	50400
L (mm)	300

➤ Positioning angle for Speedy GFS

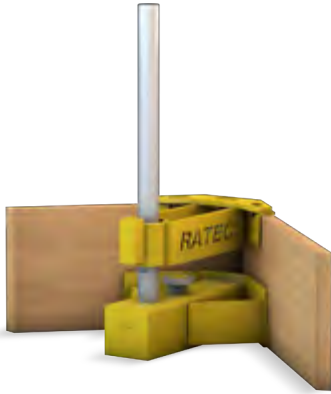
Angle for attachment to the extension for Speedy GFS.



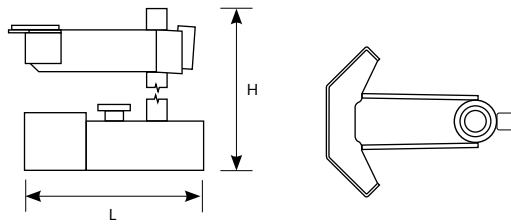
Article no.	48248	48249
Type	Single	Double angle

➤ Speedy H

For stepless mounting of Betoplan, Doka or wood. The shuttering can be set straight, at right angles or at an angle of 135°.



Article no.	03118
H (mm)	Up to 400
L (mm)	224

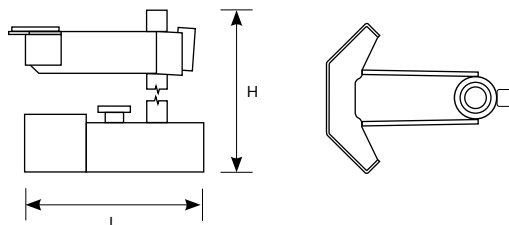


➤ Speedy GF

For stepless, right-angled mounting of fibreglass upstands, shuttering board, demoulding and demoulding elements ASE.

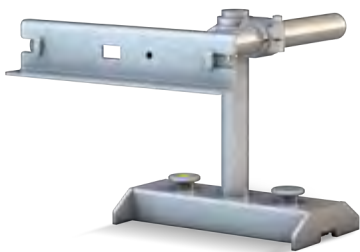


Article no.	02858
H (mm)	Up to 400
L (mm)	224

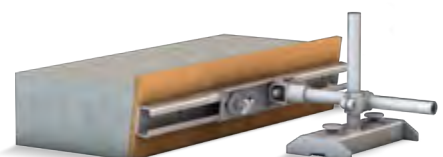
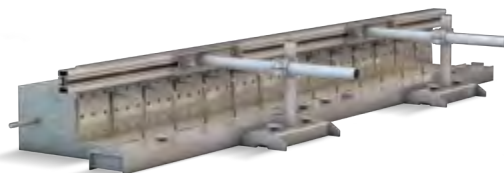


➤ UAR adapter

The all-rounder for upstands and special elements as a supplement for all RATEC shuttering systems. The adapter is flexibly adjustable in height and can be used for the attachment of steel, wood, hob-blade inserts and various other things.



Article no.	On request
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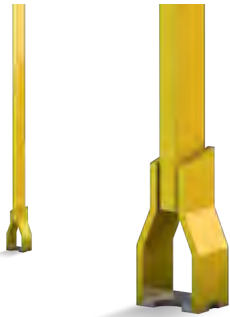
Accessories

↗ Lifting tool Speedy H / GF



Article no.	02860
For	Speedy H, Speedy GF

↗ Lifting tool Speedy GFS



Article no.	03299
For	Speedy GFS

Magnetic trapezoidal and triangular chamfer strips for clean chamfers and joints

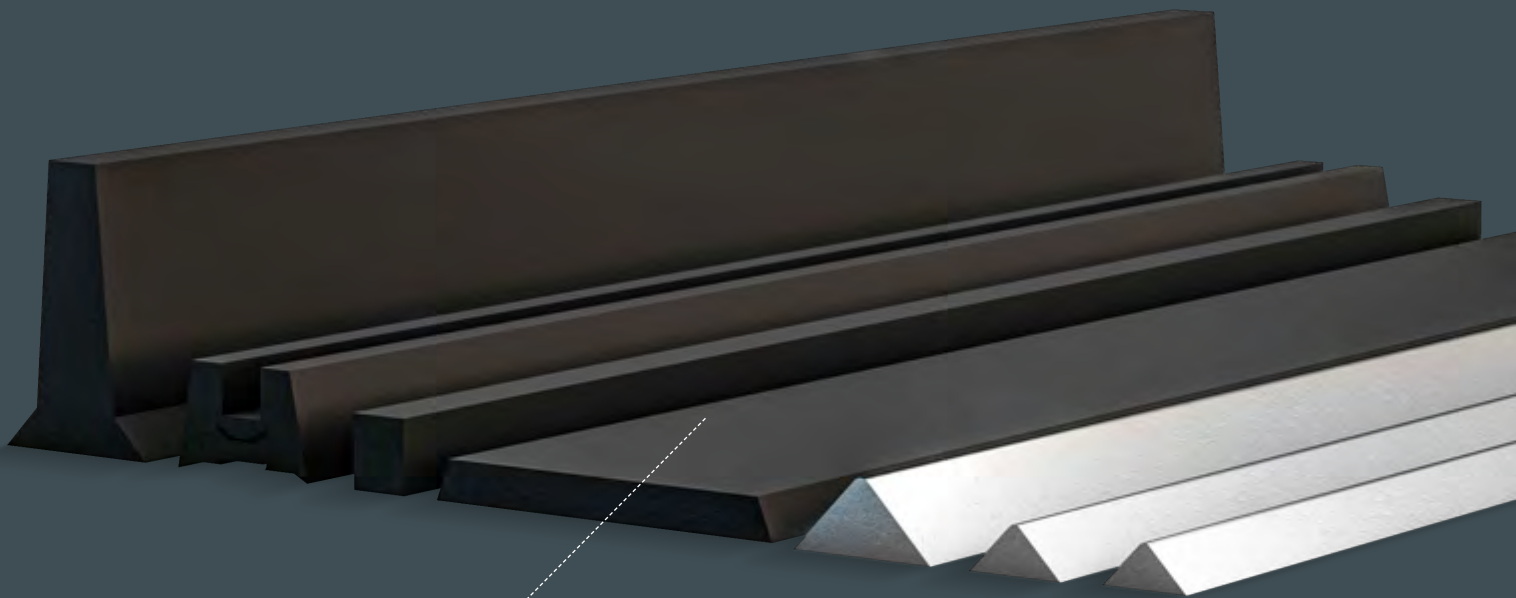
RATEC magnetic strips for the quick and clean formation of chamfers, drip moulds or dummy joints. Our strips are made of high quality steel (some encased in rubber) with built-in magnets. This means that screwing or welding on the table or on the shuttering can be omitted.

ESPECIALLY SUITABLE FOR

Attachment to steel shuttering skins and steel tables.

DETAILED PROPERTIES

- Large variety of shapes for a wide variety of applications
- Profiles with magnetic cores for attachment to steel shuttering
- Reusable, high retaining force, replaced polystyrene mouldings (environmentally friendly)
- Versions in solid steel, steel with rubber coating and solid rubber (flexible)
- Special solutions on request



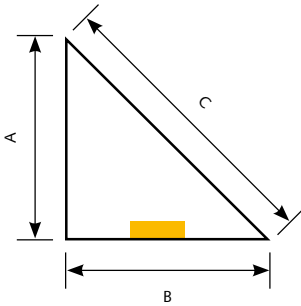
Large variety of shapes

- Special requests, dimensions and lengths can be accommodated.
- Simply ask us about it.

Magnetic chamfer strips

➤ Magnetic chamfer strips made of rubber (with steel core) – magnetised on one side

Standard lengths: 2000 mm and 3000 mm

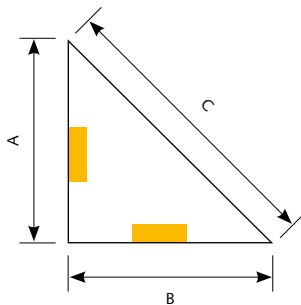


Excerpt from our range of products:

Article no.	Dimensions A x B x C (mm)	Magnetised
02123	15 x 15 x 21	50 %
03205	20 x 20 x 28	50 %
02126	15 x 15 x 21	100 %
03206	20 x 20 x 28	100 %
06440	25 x 25 x 35	100 %
04372	30 x 30 x 45	100 %

➤ Magnetic chamfer strips made of rubber (with steel core) – magnetised on both sides

Standard lengths: 2000 mm and 3000 mm



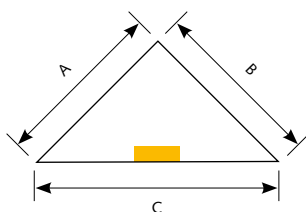
Excerpt from our range of products:

Article no.	Dimensions A x B x C (mm)	Magnetised
03207	20 x 20 x 28	50 %
05463	50 x 50 x 71	50 %
03208	20 x 20 x 28	100 %
11645	25 x 25 x 35	100 %
10777	30 x 30 x 45	100 %

Other dimensions and lengths are available upon request.

➤ Magnetic chamfer strips made of rubber (with steel core) – magnetised on the bottom

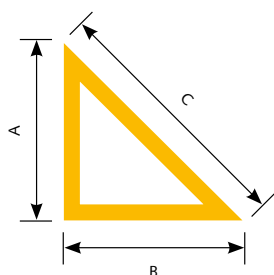
Standard lengths: 2000 mm and 3000 mm



Article no.	Dimensions AxBxC (mm)	Magnetised
03209	20x20x28	50 %
05266	25x25x35	50 %
03210	20x20x28	100 %
06857	25x25x35	100 %
10172	30x30x42	100 %

➤ Magnetic chamfer strips made of solid rubber (flexible)

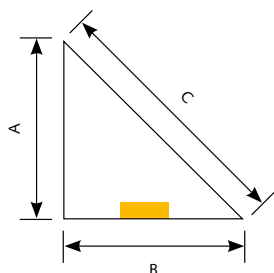
Standard lengths: 2000 mm bending radius: min. 500 mm, Art. 11442 min. 300 min



Article no.	Dimensions AxBxC (mm)	Magnetised	min. bend radius
11442	10x10x15	Single side 2-pin	300
11957	15x15x21	Single side 2-pin	500
02155	20x20x28	Single side 2-pin	500

➤ Magnetic chamfer strips made of steel – magnetised on one side

Standard lengths: 2000 mm and 3000 mm

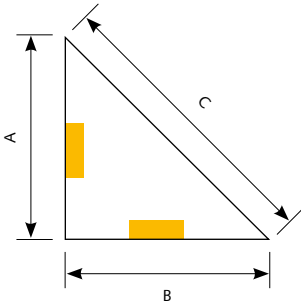


Article no.	Dimensions AxBxC (mm)	Magnetised
03119	10x10x14	50 %
03035	15x15x21	50 %
05340	20x20x28	50 %
03102	10x10x14	100 %
02901	15x15x21	100 %
05341	20x20x28	100 %
02075	25x25x35	100 %

Other dimensions and lengths are available upon request.

➤ Magnetic chamfer strips made of steel – magnetised on both sides

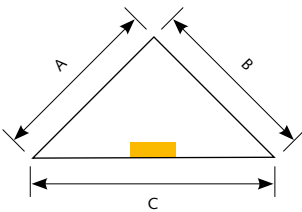
Standard lengths: 2000 mm and 3000 mm



Article no.	Dimensions A x B x C (mm)	Magnetised
02547	10 x 10 x 14	50 %
03141	15 x 15 x 21	50 %
05342	20 x 20 x 28	50 %
03138	10 x 10 x 14	100 %
03142	15 x 15 x 21	100 %
05343	20 x 20 x 28	100 %

➤ Magnetic chamfer strips made of steel – magnetised on the bottom

Standard lengths: 2000 mm and 3000 mm



Article no.	Dimensions A x B x C (mm)	Magnetised
04143	10 x 10 x 14	50 %
03143	15 x 15 x 21	50 %
05344	20 x 20 x 28	50 %
04142	10 x 10 x 14	100 %
03144	15 x 15 x 21	100 %
00109	20 x 20 x 28	100 %

FAQ

What does 50% or 100% magnetised mean?

With the 100% magnetised chamfer strip, the strip is completely filled with magnets.

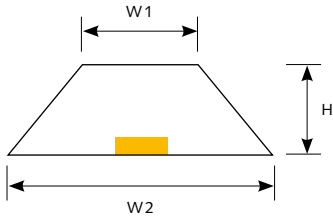
With the 50% magnetised chamfer strip, only every other magnet is used, with the gaps between the magnets being filled with synthetic resin. Please contact us if you are not sure which variant is right for you. Our experienced consultants will be happy to help you.

Other dimensions and lengths are available upon request.

Magnetic trapezoidal strips

➤ Trapezoid magnetic strip made of rubber

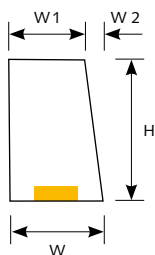
Standard lengths: 2000 mm and 3000 mm



Article no.	Dimensions H x W1 x W2 (mm)	Article no.	Dimensions H x W1 x W2 (mm)
10700	8 x 32 x 37	06395	20 x 50 x 30
07491	8 x 18 x 20	03277	20 x 30 x 40
00437	10 x 20 x 40	12175	20 x 22 x 50
10317	10 x 16 x 36	10318	20 x 20 x 60
05910	10 x 15 x 20	11684	20 x 18 x 24
00836	10 x 10 x 30	06951	20 x 16 x 26
27098	10 x 16 x 22	00663	24 x 20 x 19
03733	10 x 10 x 15	11953	30 x 80 x 90
06565	12 x 16 x 40	05898	30 x 16 x 36
10887	15 x 40 x 60	07052	30 x 10 x 20
12071	15 x 20 x 50	10307	30 x 10 x 15
00702	15 x 20 x 40	08610	35 x 20 x 80
10383	20 x 8 x 18		

➤ Trapezoidal magnetic strips made of rubber, on-sided slant

Standard lengths: 2000 mm and 3000 mm

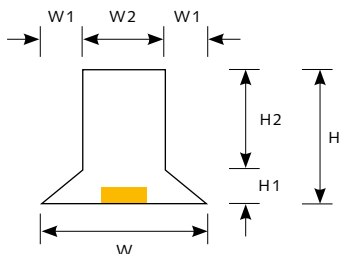


Article no.	Dimensions H x W1 x W2 x W (mm)	Magnetised
08420	10 x 50 x 10 x 60	100 %
12172	10 x 35 x 10 x 45	100 %
11517	10 x 20 x 10 x 30	100 %
06344	30 x 70 x 80	100 %

Other dimensions and lengths are available upon request.

➤ Trapezoidal magnetic strips made of rubber, straight with chamfer

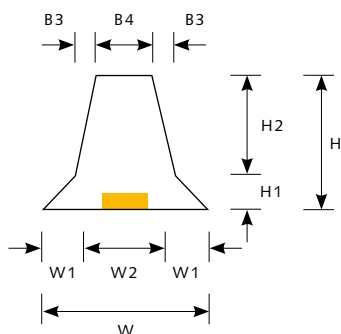
Standard lengths: 2000 mm and 3000 mm



Article no.	Dimensions H x H1 x H2 x W x W2 x W1 (mm)
07234	15 x 10 x 5 x 40 x 20 x 10
07855	30 x 10 x 20 x 60 x 40 x 10
07433	65 x 10 x 55 x 38 x 18 x 10
10057	70 x 10 x 60 x 45 x 25 x 10
07434	80 x 10 x 70 x 38 x 18 x 10
07465	100 x 10 x 90 x 40 x 20 x 10

➤ Trapezoidal magnetic strips made of rubber, slanted with chamfer

Standard lengths: 2000 mm and 3000 mm

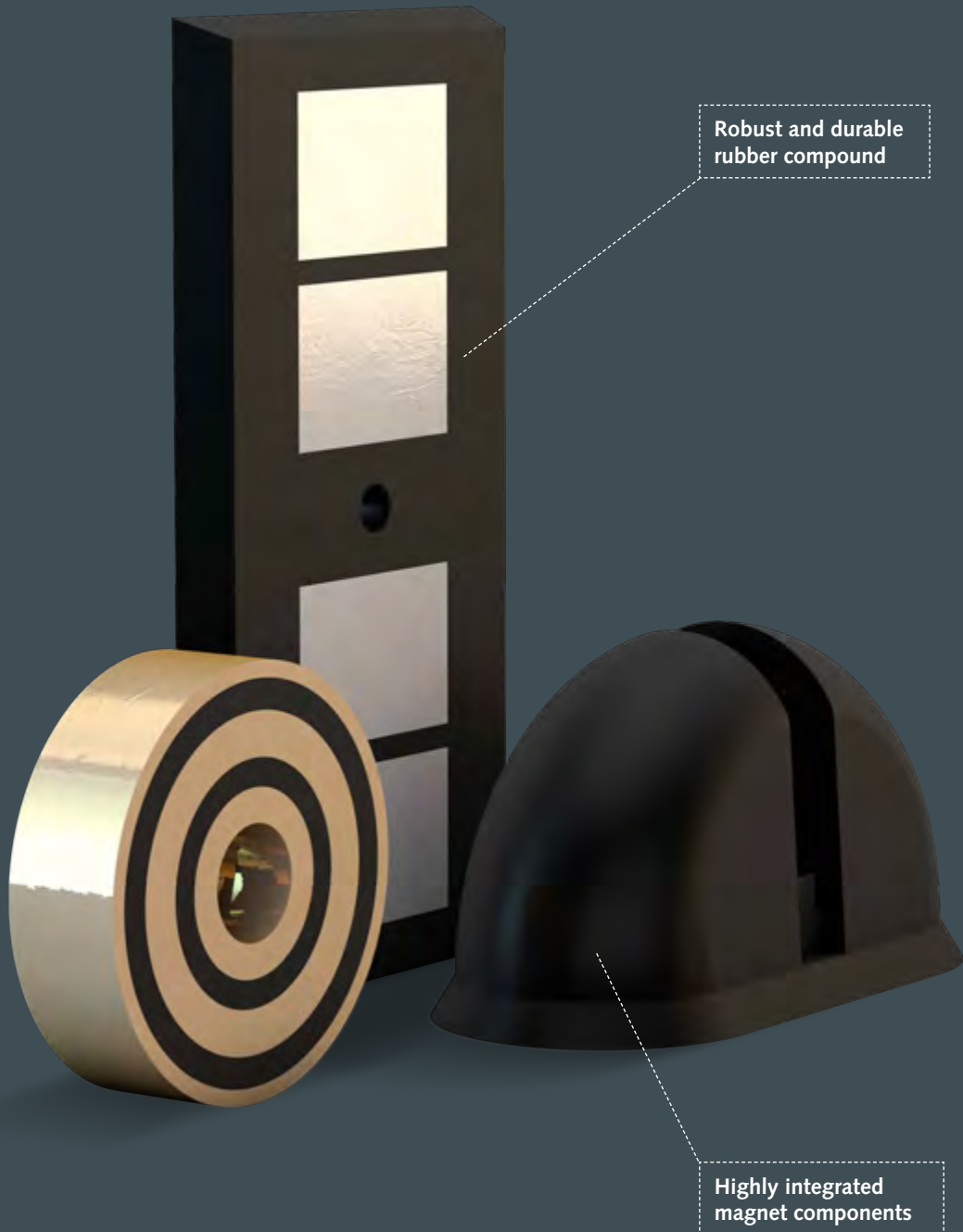


Article no.	Dimensions H x H1 x H2 x W x W1 x W2 x W3 x W4 (mm)
03580	70 x 10 x 60 x 38 x 10 x 18 x 4 x 10
08245	70 x 10 x 60 x 40 x 10 x 20 x 2,5 x 15
09034	80 x 10 x 70 x 40 x 10 x 20 x 2,5 x 15

This is an excerpt from our chamfer and trapezoidal strip range of products.
Additional designs, special dimensions and lengths are available on request.

Insert Magnets for Mounting and Assembly

Insert magnets for mounting and assembly from RATEC have been used for years in the precast concrete industry. They have proven themselves in tough everyday conditions. And through the combination of rubber bodies with integrated magnets, they can be produced in almost any geometry. Simple solutions make efficient work possible. The strong, integrated magnet fixes the insert part in the exact position.



- Custom-made solutions are possible.
- Simply ask us about it.

APPLICATION

For fixing threaded sleeves, anchor plates, anchor channels, pipes, loop boxes and lift off anchors of all common manufacturers.

ESPECIALLY SUITABLE FOR

All types of concrete products

DETAILED PROPERTIES

- Very high retaining force
- Can be used directly in concrete
- Simple and safe positioning of insert parts without slipping
- Simple, break-free stripping

Application examples



Magnetic holder for corrugated pipe



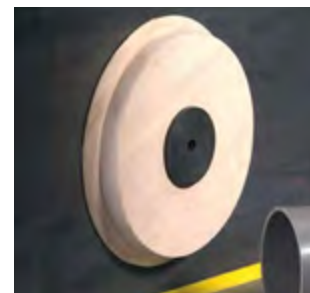
Pipe magnet



Threaded bushing magnets



Anchor plate with magnetic holder



Universal magnet with plastic plate

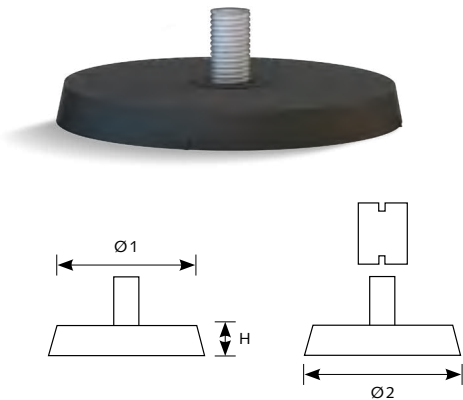
Threaded bushing magnets

All our threaded bushing magnets are available with metric, round and KO threads.

➤ Steel thread G (rubber)

With hex socket M8 (Allen M6 on request) for mounting of steel thread support M12 - M36.

Excerpt from our range of products:

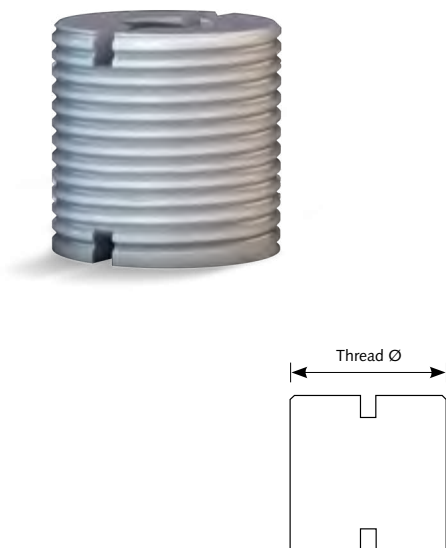


Article no.	Ø 1 (mm)	Ø 2 (mm)	H (mm)
06739	46	50	10
00898	50	60	10
05434	54	58	12
04836	57	69	23
06616	64	69	10
05422	64	69	12

➤ Steel thread support (accessory for steel thread)

With internal thread M8 for steel thread.

Excerpt from our range of products:



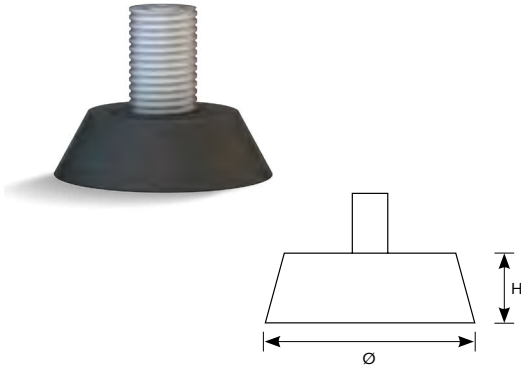
Article no.	Thread Ø
04835*	M10
04837	M12
04838	M14
04839	M16
04840	M18
04841	M20
04842	M24
04843	M30
06588	M32
05097	M36

*Steel thread with Allen M6 required.

This is an excerpt from our threaded bushing magnet product range. Additional designs are available on request.

➤ Threaded bushing magnet G (rubber)

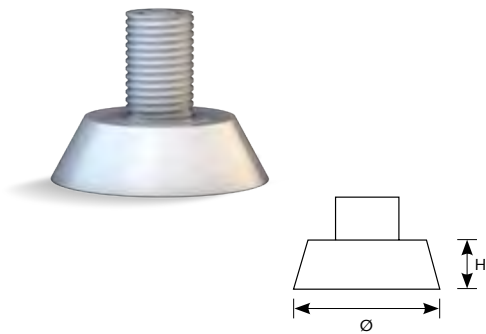
Hexagon socket screw with threaded attachment firmly welded, the threaded attachment is freely rotating. Round system, conical



Article no.	On request				
	M8 – M36	M8 – M36	M8 – M36	M8 – M36	M8 – M36
Thread	M8 – M36	M8 – M36	M8 – M36	M8 – M36	M8 – M36
Ø (mm)	60	69	42	69	69
H (mm)	10	10	12	12	23

➤ Threaded bushing magnet S (steel)

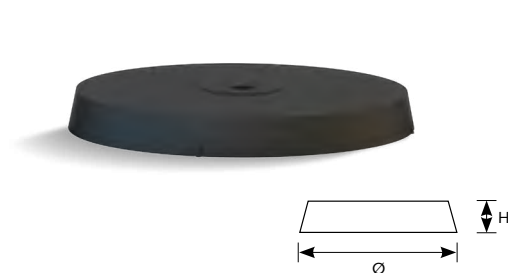
Hexagon socket screw with threaded attachment firmly welded, the threaded attachment is freely rotating. Round system, conical



Article no.	On request			
	M8 – M36	M8 – M36	M8 – M36	M8 – M36
Thread	M8 – M36	M8 – M36	M8 – M36	M8 – M36
Ø (mm)	55	70	85	105
H (mm)	15	15	15	15
Retaining force (kg)	105	190	290	450

➤ Threaded bushing magnet G (rubber) internal thread

With various internal threads, round system, conical.



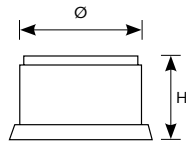
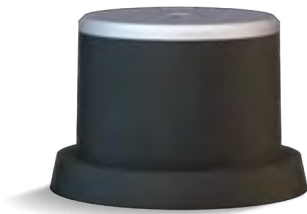
Article no.	On request
Thread	M5 – M16
Ø (mm)	Variable
H (mm)	Variable
Retaining force (kg)	Depending

This is an excerpt from our threaded bushing magnet product range. Additional designs are available on request.

Pipe magnets

➤ Magnets for corrugated pipe G (rubber)

Pipe magnet for fixing pipes.



Article no.	Ø (mm)	H (mm)
12528	27	30
12444	37	70
06757	50	62
02096	50	64
12453	54	48
02097	65	57
07085	69	64
01979	80	62
11846	100	68
12529	150	105

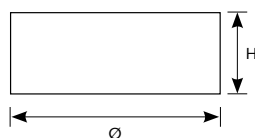
➤ Magnet for corrugated pipe – 45°



Article no.	On request

➤ Pipe magnet G (rubber)

Pipe magnet for fixing pipes in supports, binders, special beams.

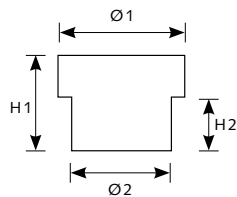
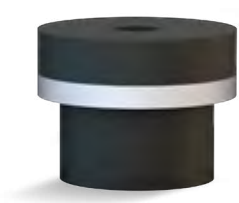


Article no.	Ø (mm)	H (mm)	Retaining force (kg)
06879	50	15	120
07710	70	27	200
03258	100	27	350
00236	114	27	700

This is an excerpt from our pipe magnet product range. Additional designs are available on request.

➤ Universal magnet G (rubber)

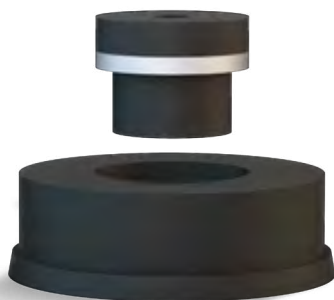
Universal magnet for recesses and dummy tubes.



Article no.	Ø 1 (mm)	Ø 2 (mm)	H1 (mm)	H2 (mm)
00394	45	35	34	19
00386	70	55	29	19

➤ Plastic plate for universal magnets

Special dimensions for the plastic plates are available.

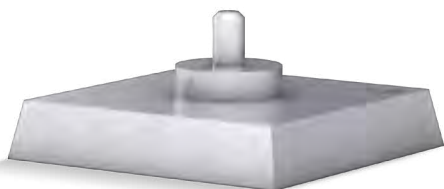


Article no.	Thread Ø
12523	75
07096	103
07095	119
07097	152
07995	200

➤ Magnet for pipe elbow



Suitable magnet for various pipe elbows, with high retaining force for accurate positioning and a secure hold.



Article no.	On request

This is an excerpt from our pipe magnet product range. Additional designs are available on request.

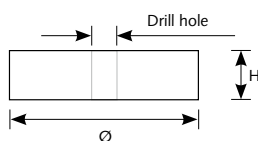
Mounting magnet system

➤ Round magnet series type R/Z

Round magnet for installation in recyclable recess bodies.

Features: Sealed adhesive side and high retaining force.

The adhesive surface can be reworked, which can give you a longer service life.



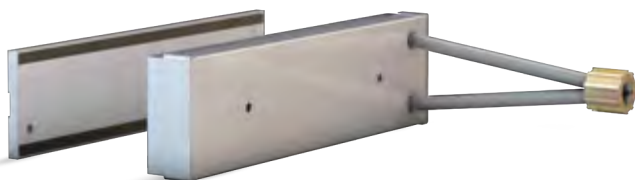
	Type R / Z-105	Type R / Z-150	Type R / Z-190	Type R / Z-290	Type R / Z-450	Type R / Z-550	Type R / Z-650	Type R/Z-105K*	Type R/Z-105KR*
Article no.	20747	20736	20738	20740	20742	20743	20745	120261	120262
Ø (mm)	50	60	65	80	100	115	120	50	50
H (mm)	15	15	15	15	15	15	15	11	11
Drill hole (mm)	16,5	16,5	16,5	16,5	16,5	18,5	18,5	20,2	20,2
Retaining force (kg)	105	150	190	290	450	600	700	100	100

*K: Lateral surface smooth, KR: Knurled surface

➤ Magnetic holder for loop box

Magnetic holder for all common steel loop boxes (Peiko, Philipp etc.).

Article no.	On request
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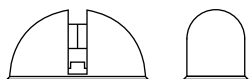


This is an excerpt from our insert magnets product range. Additional designs are available on request.

Lift off anchor

➤ Flat steel/Frimeda lift off anchor (rubber)

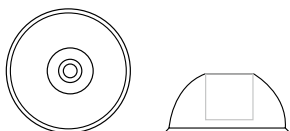
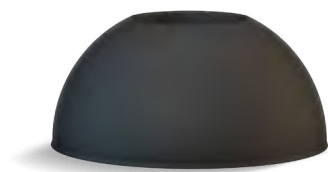
Delivery without lift off anchor



Article no.	75780	75781	78782
Lift off anchor (t)	2,5	5	7,5 / 8 / 10

➤ Ball head/Deha lift off anchor (rubber)

Magnet for fixing a ball-type transport anchor according to the load class, including rubber ring.



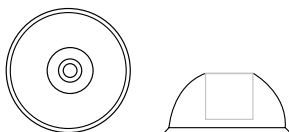
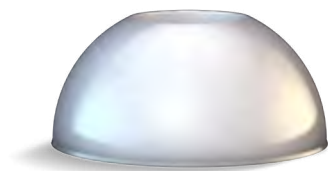
Article no.	04967	01041	01042	01561	03706
Lift off anchor (t)	1,3	2,5	5	7,5	10

Ring also sold separately

Article no.	02077	06007	10907	11727	10778
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➤ Ball head/Deha lift off anchor (steel)

Magnet for fixing a ball-type transport anchor according to the load class, including rubber ring.



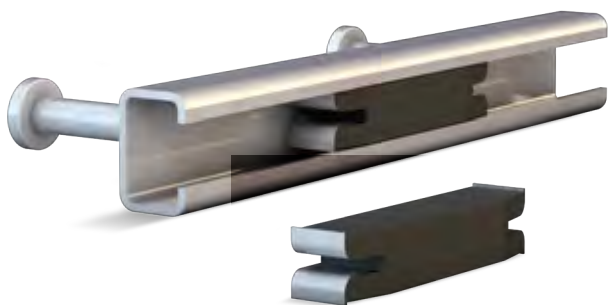
Article no.	20756	20758	20759	20760
Lift off anchor (t)	1,3	2,5	5	7,5 / 10

This is an excerpt from our insert magnets product range. Additional designs are available on request.

Anchor channels

➤ Anchor channels magnet G (rubber)

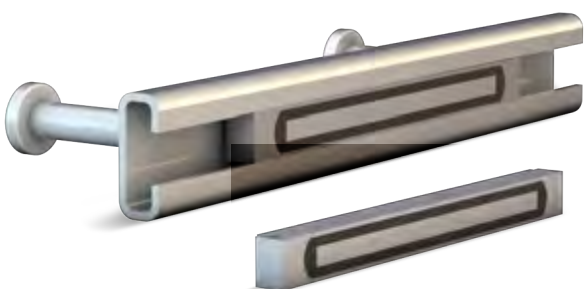
For fixing all common anchor channels HTA/HZA, for easy hooking into the channel.



Article no.	Ø (mm)	H (mm)
01562	HTA 28/15	119
00571	HTA 38/17	100
01412	HTA 40/22	110
07359	HTA 40/25	108
04824	HTA 49/30	150
02511	HTA 50/30	110
01144	HTA 52/34	110

➤ Anchor channels magnet S (steel)

For fixing steel anchor channels HTA/HZA, for easy insertion into the channel (magnetic top and bottom).



Article no.	Ø (mm)	L (mm)	W (mm)	H (mm)
120245	HTA 28/15	140	12	13,2
53877	HTA 28/15	190	12	13,2
66373	HTA 38/17	140	17	14
120246	HTA 38/17	190	17	14
92158	HTA 40/22	140	17	21,2
120247	HTA 40/22	190	17	21,2
65588	HTA 40/25	140	17	22,2
120248	HTA 40/25	190	17	22,2
120249	HTA 50/30	140	21	27
120250	HTA 50/30	190	21	27

➤ Anchor channels magnet S (steel)

For fixing steel anchor channels HTA / HZA with two small grub screws.



Article no.	Ø (mm)	L (mm)	W (mm)	H (mm)
120256	HTA 28/15	140	15	8
63944	HTA 28/15	190	15	8
13077	HTA 38/17	140	22	10
120257	HTA 38/17	190	22	10
63516	HTA 40/22	140	22	10
120258	HTA 40/22	190	22	10
120259	HTA 50/30	140	30	15
120260	HTA 50/30	190	30	15

 This is an excerpt from our product range. Other designs for other channels and lengths are available.

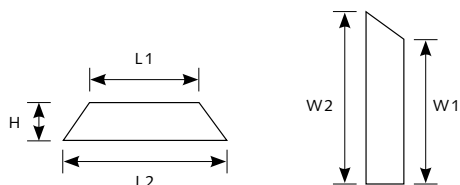
Anchor plates

➤ Anchor plate magnet G (rubber)

For fastening steel anchor plates.



Article no.	L1 (mm)	L2 (mm)	W1 (mm)	W2 (mm)	H (mm)
04149	100	170	105	115	35
11914	100	140	100	120	20
12286	100	160	90	120	20
12287	200	240	100	120	80
08401	120	150	90	105	25

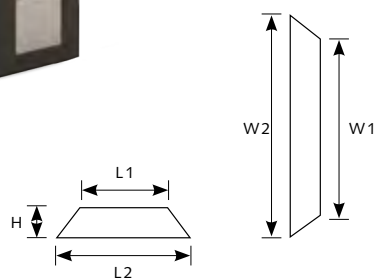


➤ Anchor plate magnet G (rubber)

For fastening steel anchor plates.



Article no.	L1 (mm)	L2 (mm)	W1 (mm)	W2 (mm)	H (mm)
12325	100	120	100	120	20
07483	105	145	100	125	35
08284	120	150	60	90	20
06861	120	160	120	160	20
11915	160	180	120	140	10

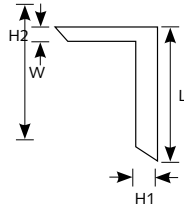
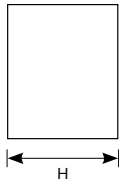


➤ Magnet holder edge S (steel)

For fastening steel anchor plates.



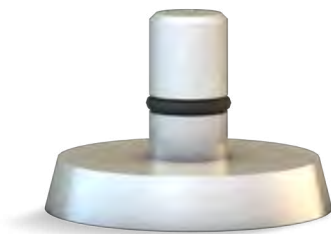
Article no.	L (mm)	W (mm)	H (mm)	H1 (mm)	H2 (mm)
12448	270	150	155	15	15
11936	115	50	155	10	10
00838	150	160	195	30	20
00837	80	140	195	10	20



➤ Magnetic system for brace anchors

NEW

Wherever brace anchors are used in the precast concrete industry, our magnet systems provide the necessary stability, flexibility and safety. They are suited to the optimal attachment of brace anchors to concrete elements and keep everything where it belongs, just like an anchor.



Article no.

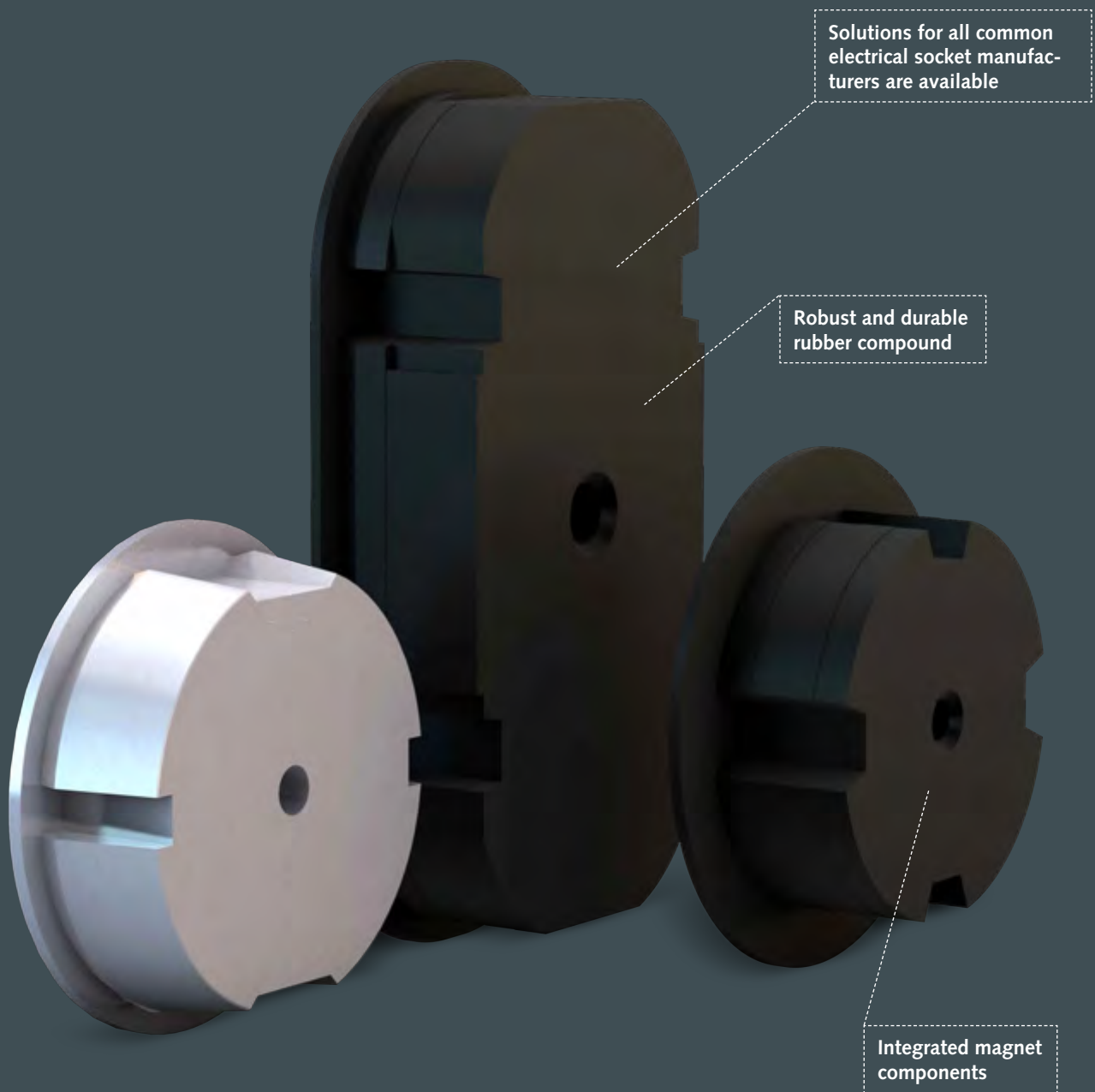
On request

 This is an excerpt from our insert magnets product range. Additional designs are available on request.

Electrical insert magnets

To make sure the current is in the right place!

Electrical insert magnets from RATEC have been used for many years in the precast concrete industry and have proven their worth in practice. Through the combination of rubber bodies with integrated magnets, almost all geometries and solutions can be realised. Easy installation and removal in the electrical boxes facilitates an efficient and streamlined process. The strong, integrated magnet fixes the insert part in the exact position. With empty conduit magnets, the magnet body leaves a recess in the concrete after removal.



- Custom-made solutions are possible.
- Simply ask us about it.

APPLICATION

For attachment of electrical boxes of all common manufacturers.

ESPECIALLY SUITABLE FOR

Our product range features a wide variety of insert magnets. We also gladly offer customised solutions for you! Please send us your requirements, drawing or type. We will surely have the right solution for you.

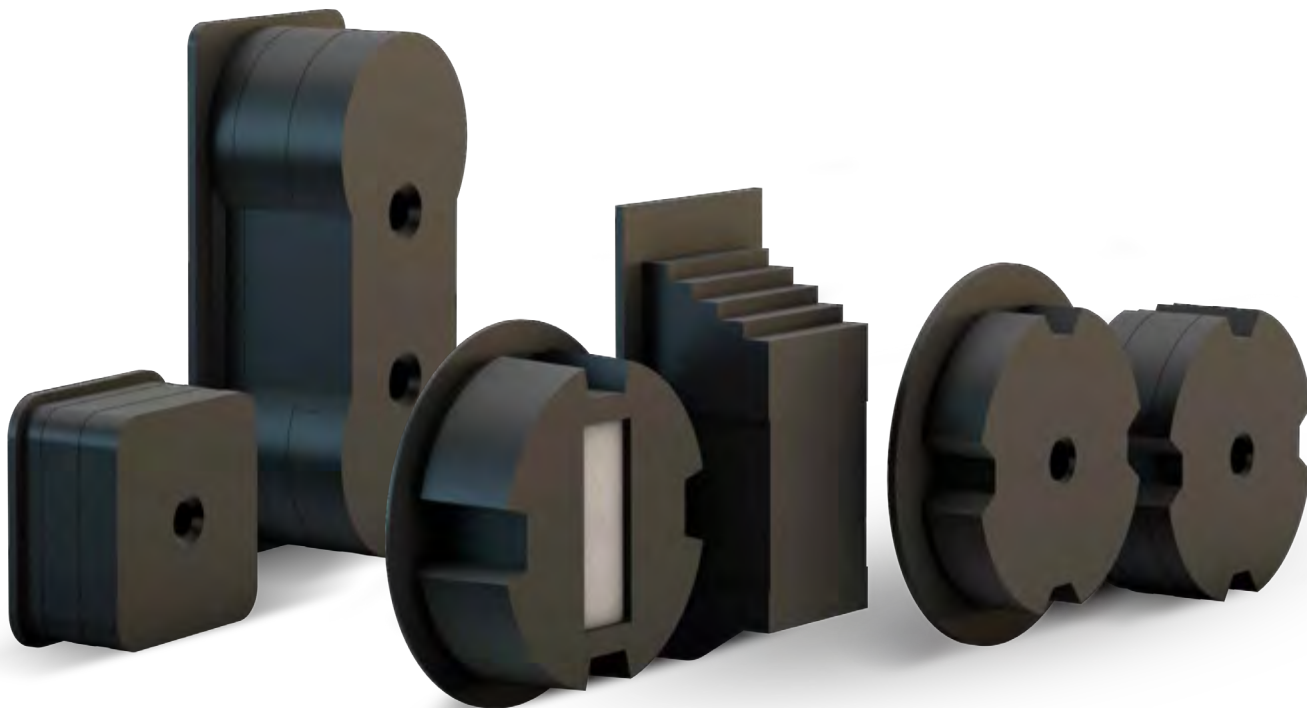
DETAILED PROPERTIES

- Very high retaining force
- Can be used directly in concrete
- Simple and safe positioning of insert parts without slipping

Application examples



Products



We offer the right magnet solutions for your electrical boxes from the following manufacturers:

ABB

FUGA

PRIMO

AGRO

KAISER

OPUS

ATTEMA

SPELSBERG

Further customised solutions for your electrical boxes are available!

A sample of our extensive product range

➤ Electrical socket magnet EDW for KAISER / SPELSBERG / PRIMO in-wall box



Article no.

04304

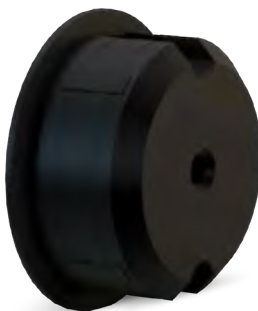
➤ Electrical socket magnet EDD for SPELSBERG/ KAISER socket



Article no.

00209

➤ Electrical socket magnet for ABB HAF C80/100



Article no.

06770

Further customised solutions for your electrical boxes are available!

➤ Electrical socket magnet for ABB HAF type H251



Article no.

96761

➤ Electrical socket magnet for ABB Hafobox MGD 50



Article no.

77779

➤ Electrical socket magnet ATTEMA PV/KV/MV 40-50 with KO10 thread



Article no.

73511

Further customised solutions for your electrical boxes are available!

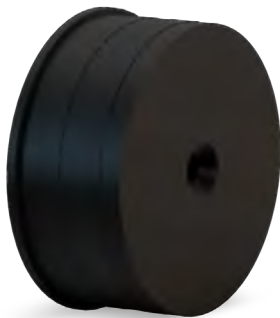
➤ Electrical socket magnet ATTEMA with M10 thread, without flange



Article no.

81297

➤ Round electrical socket magnet holder, FR Capri 859 900



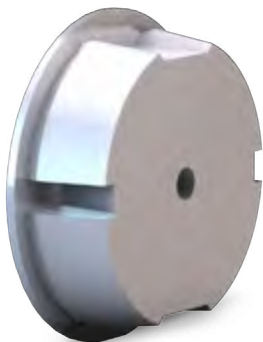
Article no.

12451

➤ Steel electrical socket magnet

NEW

Our steel electrical socket magnets fit perfectly into the sockets thanks to a specially designed clamping edge, and they are highly wear-resistant. They also boast additional anti-twist protection due to their unique geometry. We offer electrical socket magnets made of steel for all common e-box types.



Article no.

On request

Further customised solutions for your electrical boxes are available!

05

3D MOULDS AND BATTERY SYSTEMS

Products for the production of high-quality flat and volumetric elements

Our 3D mould programme includes various solutions for the production of volumetric elements, such as room modules, sanitary cells, stairs or transformer stations. The room cell moulds are suitable both for filling from the top or by means of the upcrete® procedure, i.e. pressurised filling from below or from the side. We also develop battery systems with up to 20 pockets for pressure filling from below using the upcrete® process or in the conventional way from above, depending on your requirements. All solutions are tailor-made for your needs.



3D MOULDS

Page **146**

RATEC BATTERY SYSTEM

Page **162**

3D moulds

Tailor-made precision

On request, we develop and manufacture special moulds for volumetric precast concrete elements, such as room modules, stairs, balconies, roofs and much more according to your specifications. Together with you, we develop an economic shuttering solution tailored to your needs – customised based on your individual requirements and manufactured with the highest accuracy. We focus on the optimisation of the production process, on high surface quality of the element and highest dimensional accuracy. Beyond that, we also take into account your specifications – the focus is always on finding the most efficient solution in close coordination with the customer.

Durable due to high quality workmanship

Tailored to customer requirements



Robust and pressure-resistant design

PROPERTIES

- Solid steel construction, upcrete®-capable through optional pressure-resistant construction
- High level of workmanship "Made in Germany"
- Durability and high quality of the materials used and precise execution

Our developments are always based on the component drawings and the existing production concept. This is the basis on which we construct the appropriate shuttering(s). In addition, we check the logistical and economic efficiency and then propose an optimal solution to you.

APPLICATIONS



Room module mould



Staircase moulds



Roof mould



Special shuttering for track roller boxes

3D moulds for room modules, stairs or other volumetric concrete elements can be developed on request.

Room modules

The flexible mould kit

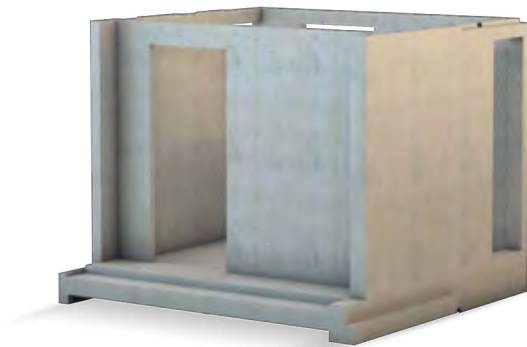
High quality also for smaller series – our newly developed modular mould kit offers the perfect solution also for smaller projects.

One of the unique features of the new concept is the patented shrinking mechanism, whereby the module is lifted while the inner core is shrunk at the same time. The mould was also deliberately designed to be modular. The core and exterior panels consist of various standardised components that can be easily swapped out and adapted to other room dimensions. This means the mould can be used efficiently even if the production volume of a room is small.



PROPERTIES

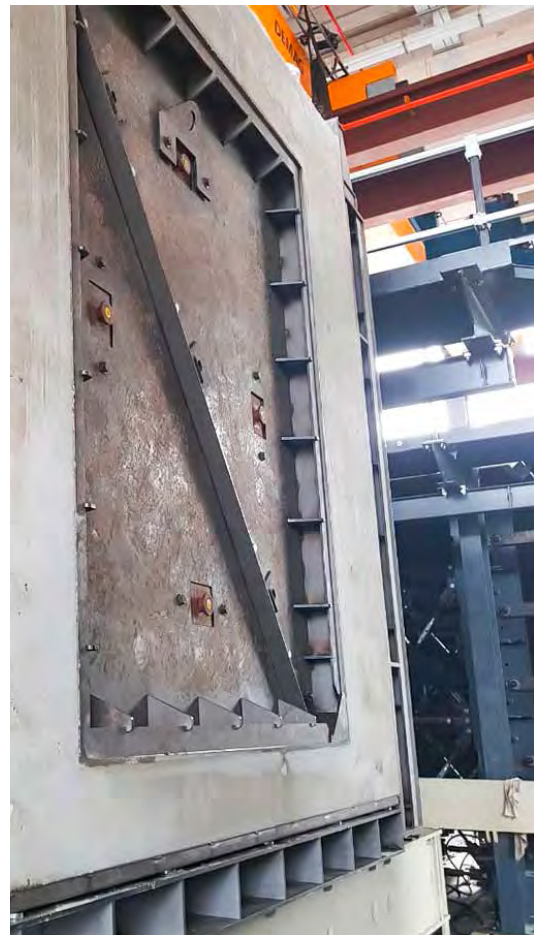
- Modular design of the core and exterior panels, made from various standardised base elements that can be re-combined as needed
- Patented shrink mechanism of the inner core: simultaneous shrinking and lifting of the element
- Also adaptable to complex details of the element
- Suitable for filling from above and below
- Easy to integrate into existing production system



Example:
finished room module

Shrinkable window for break-free recesses

ACCESSORIES – TURNING STATION



3D mould kit

Application examples

PROJECT SINGAPORE

MULTI-STOREY MODULAR CONSTRUCTION WITH COMPLEX DETAILS ACCORDING TO THE PPVC STANDARD

The 3D mould kit was installed for the production of room modules to construct multi-storey worker's accommodations. What proved to be particularly challenging were the complex element details and connection reinforcement, which are based on the construction standards for PPVC (Prefabricated Prefinished Volumetric Construction) applicable in Singapore.

Project scope

➤ A total of four module moulds were installed



Project report
3D mould Kit

Press article (PDF)
Scan QR code

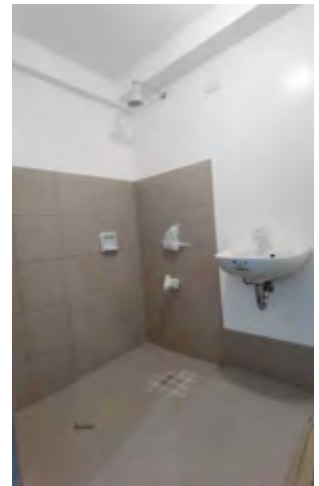
PROJECT PHILIPPINES PRODUCTION OF SANITARY CELLS

The 3D mould kit was adapted for the production of sanitary cell elements (so-called PBUs – Prefabricated Bathroom Units).

➤ Even the height of the modules can be variably changed from 2.00–2.90 m by adjusting the floor shuttering.

Project scope

- A total of four module shutterings were installed
- By intelligently combining rails and the exterior panels that move on them, the shuttering can be varied 450 mm lengthwise and 300 mm in width.
- Wall thicknesses between 75–125 mm can be produced.



Find out more about
the 3D mould kit on
our website.

Transformer stations

Versatility is key

Many different shapes are possible with just one mould – notwithstanding easy handling and short retooling times.

The easiest way to produce a 3D room element is to use a fixed inner core with a draft angle. However, this approach is only suitable to elements in which the formation of a wall slope in the element is possible within the scope of the standards and static requirements. Such is the case for the design of garages or the production of transformer stations. For the production of substation elements in particular, we developed a solution that covers common types of stations, is flexible to use, and which can speed up the process in the plant.



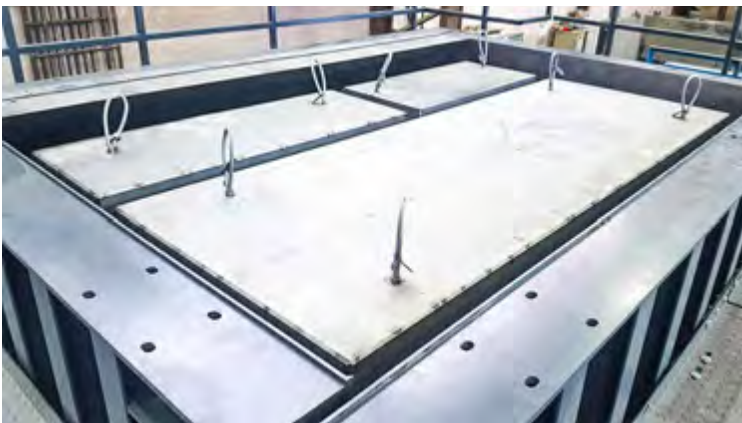
PROPERTIES

- The mould is designed for two different lengths, i.e. the core and exterior panels can be converted to another length
- Swappable, customised attachments for the production of interior walls, recesses etc.
- Changing attachments for other station types generally takes less than 20 minutes
- The floor is hydraulically lifted by 10 cm to facilitate stripping
- Integrated vibrator unit used with normal or washed concrete



Example: Two different shapes of the possible concrete elements

Example: Shuttering for the production of transformer stations measuring 2.4 x 2.1 x 2.3 m and 2.9 x 2.1 x 2.3 m



Based on the element programme (in the example 14 different variants), the customer has a total of 23 different attachments at his disposal.



3D mould for transformer stations

Application examples

GERMANY

PROJECT 1

The installed mould is designed for the production of transformer stations with the dimensions 2.4 x 2.1 x 2.3 m (L x W x H) and 2.9 x 2.1 x 2.3 m (L x W x H). In this case, the core can be converted to accommodate the other length. This variability also had to be taken into account in the base frame and the exterior panels. The exterior panels can be moved manually and are firmly locked together using corner braces.

The vastly different interiors of the transformer stations are realised using interchangeable attachments that are held securely on the core with a hydraulic clamping device. The customer can select from 23 different attachments from our product range (14 different attachments in the example). For window recesses in one or more side walls of the elements,

RATEC also supplied the corresponding steel frames that are attached to the exterior panels of the shuttering and are held in place by high-performance magnets. Prior to this, retooling from one variant to the next took up to half a working day. Now, changing the attachments is significantly faster with similar station sizes. And it's no longer necessary for a worker to enter the core in order to fix the attachments, as these are clamped with a hydraulic mechanism.



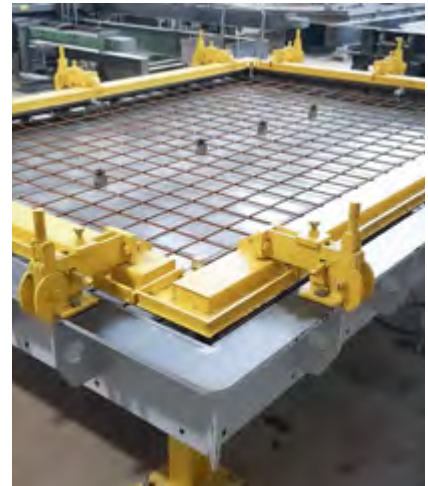
Project report 3D
shuttering for
transformer stations

Press article (PDF)
Scan QR code

GERMANY PROJECT 2

Delivery of a mould for the production of a station type with length = 3.1 m, height = 2.67 m, width = 2.2 m. The core is prepared with three attachments, which are permanently fixed in place. The customer did not opt for variability for other station types. The core is accessible thanks to recesses that are screwed to the core from the inside. It also had to be

possible to heat the core from the inside. A ceiling shuttering was also delivered: The all-round recess for anchoring with the station element is realised through foldable profile attachments. These replace the frame traverse previously used and simplify and speed up the production process.



GERMANY PROJECT 3 – VARIABLE BASEMENT MOULD

The newly developed mould solution for basement shaft elements can be flexibly adjusted lengthwise on the 10 cm grid from 2.96 to 9.96 m. This is achieved through an intelligent combination of sections of different lengths, from which the core can be put together as needed.

At the same time, elements can be manufactured in 3 different widths (2.45 m, 2.76 m and 2.96 m) and in 3 different heights (0.89 m, 1.19 m and 1.34 m).



upcrete® room modules

Production in final installation position

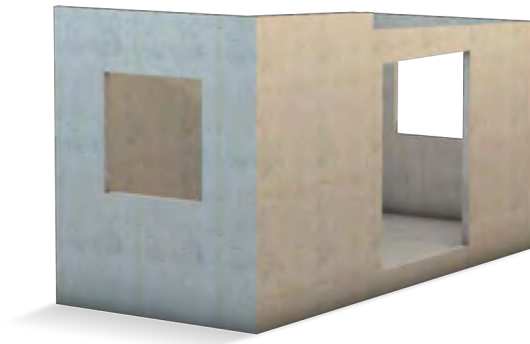
Visionary concepts come true with upcrete® modular moulds – even complex concrete bodies can be produced in this way with smooth surfaces on all sides.

The room module mould with “flying” shrinking core was the first room cell mould developed in Hockenheim and was used for a modular housing project for a Peruvian customer. This mould variant is based on the upcrete® technology, in which self-compacting concrete is pumped from below into a closed mould. This process allows the concrete to optimally distribute within the mould and yields smooth surfaces on all sides, as well as precise edges and recesses. Another advantage is that the structure can be produced in its final installation position, which means that subsequent turning is no longer required.



PROPERTIES

- Maximum dimensional accuracy on the component
- Complete filling of the most difficult geometries
- Production of complex concrete bodies in final installation position
- All-around smooth surfaces
- Minimal concrete residue
- Quiet, material-friendly, efficient and employee-friendly concrete element production
- High utilisation of the mould



Example:
finished room module



upcrete® room module mould

Application examples

PROJECT PERU 1

FROM VISION TO REALITY: MODULAR HOUSING WITH UPCRETE®

The objective here was to build 3,600 houses, each with three rooms, 70 m² of living space on two floors, a private patio and garden, on an area of 1,000,000 m² in just 60 months. The houses had to be both earthquake- and storm-proof and offer a pleasant indoor climate. Some other requirements were excellent surface quality, thin-walled cross-sections and minimal use of materials.

Reymann Technik planned and implemented the necessary upcrete® production plant, while RATEC provided the upcrete® moulds and pumps. Two complete houses are produced in Ica every day.

Delivery scope

- 3 Room modules 3 x 6 x 3 m (W x L x H)
- 1 Battery mould with 6 pockets 8 x 3 m
- 2 Staircase moulds
- 2 Balcony moulds
- 2 PumpCars based on UPP 100

In the meantime, beyond the first residential area, other development projects have emerged within a radius of up to 50 km, for which the room modules and concrete elements are manufactured in Ica.



Project report modular housing Peru I

Press article (PDF)
Scan the QR code

PROJECT PERU 2

SECOND MODULAR HOUSING PROJECT IN NORTHERN PERU

At the start of 2021, the second modular building factory in Peru's northern region of Piura went operational. The housing concept for the new settlement "Los Altos de Castilla" was tailored to the region and needs. A house consists of one module each with a total area of 25 m², divided into a living room/kitchen, bedroom and bathroom. What is sold is a complete package, consisting of the house with a plot of 70 m², electricity, water and drainage. The houses are subsidised up to 80% by government interest-free loans made available by the Department of Housing to low-income families. The house can later be expanded on the associated property according to the needs of the residents. This project is also

ambitious: more than 20,000 apartments are to be built here with the aim of offering residents a better quality of life.

Due to the larger module dimensions of 7.15 x 3.54 m and a height of 2.60 m, the modular mould had to be designed with extra stability in mind in order to withstand the concrete pressure without any major deflection. During filling, the inner core, which weighs 35 tonnes, is pushed upwards with about 150 tonnes. This is counteracted by the resilient upper bracing of the core and exterior panels.



Project report modular housing Peru II

Press article (PDF)
Scan the QR code

Additional solutions for Volumetric elements

➤ STAIRCASE MOULDS



Special solution for staircase moulds. Three of these stair forms were fitted into a circulating pallet and introduced to regular rotation in the plant.

➤ ROADBED ELEMENTS



The concrete elements for a cable railway were to be produced with protruding reinforcements. The mould was designed so that the tables can still be used for the production of other elements after this "special mission".



➤ ROOF MOULDS



Example: Roof moulds for upcrete®, filling from below

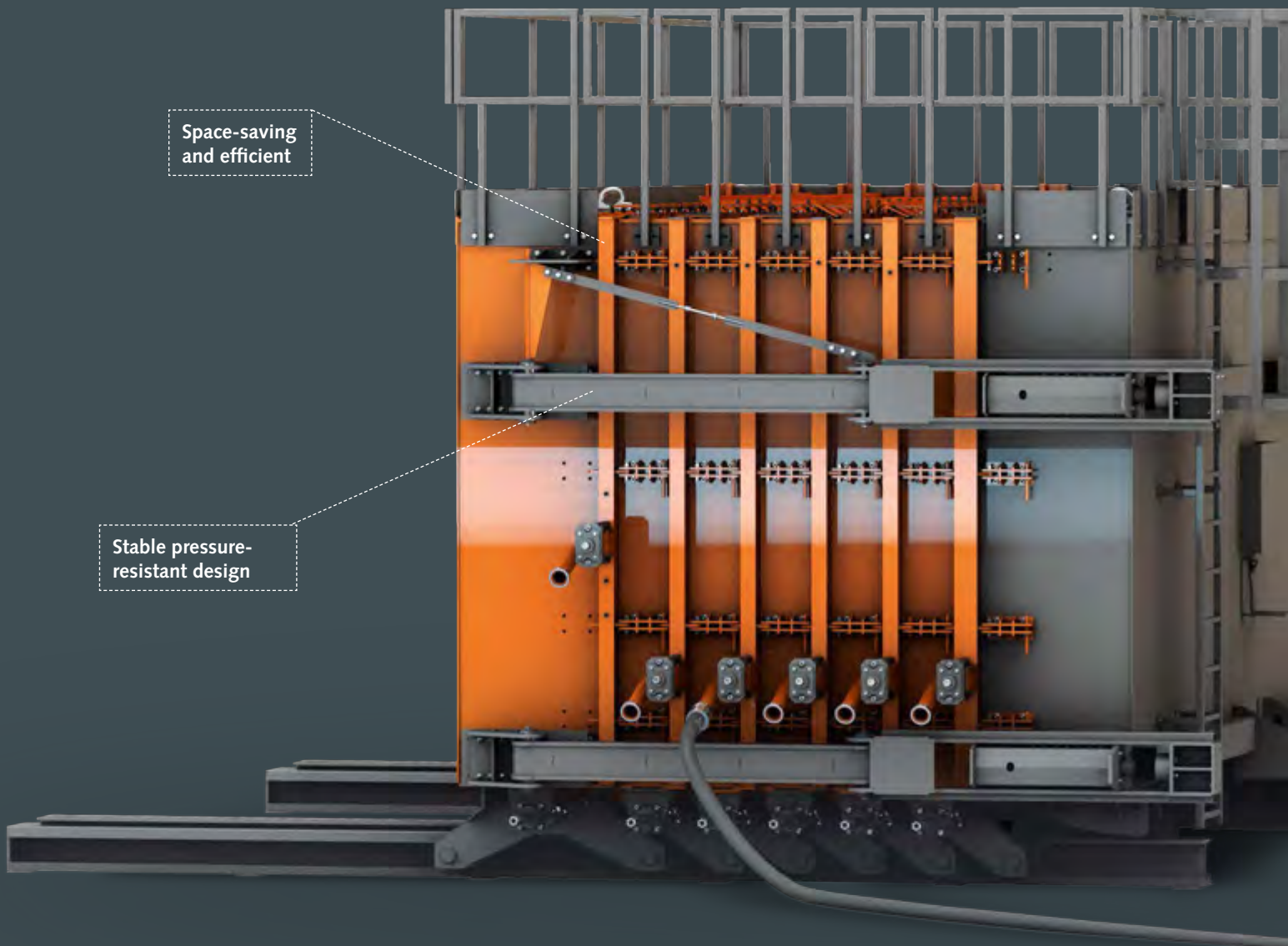


Moulds for a flat roof with contouring at the bottom for filling from above

RATEC battery system

Cost-effective production of complex, smooth and extremely high-quality precast concrete elements.

The pocket battery moulds from RATEC incorporate all the creativity and engineering know-how of more than 40 years of experience in the development and rationalisation of precast concrete plants. Together with the proven upcrete® technology, our pocket battery moulds prove their high quality and cost-effectiveness day in and day out on three continents. The end product is characterised by smooth surface concrete on all sides as well as by the smallest geometric tolerances. The shutterings also impress with their ease-of-use and sturdiness.



Space-saving
and efficient

Stable pressure-
resistant design

- Custom-made solutions are possible.
- Simply ask us about it.

PROPERTIES

- Space-saving and efficient
- Stable pressure resistant design - each pocket can be completely filled separately
- Can be filled from above with a concrete spreader or by means of the UPP 100 (upcrete® process) from below or from the side
- UCI filling connections for filling from below (see p. 174)
- Walls can be tensioned hydraulically or mechanically
- Available as single or twin battery, expandable to 2 x 10 pockets on request
- Can be implemented with a vibrator unit on request

APPLICATIONS



Hydraulic battery mould with pump car



Modular side formwork



Highest quality of concrete elements



With UCI Square

RATEC battery system

Application examples

The range of previous projects showcases the wide variety of application possibilities and performance of our battery systems. RATEC battery systems have proven their worth where absolute dimensional accuracy and surface quality matter, or where the complexity of an element does not permit for any other production method.

The usage examples also demonstrate that the RATEC battery systems can be used in a space-saving and effective manner, both as a stand-alone solution and to supplement existing production.

PROJECT GERMANY

ALL-ROUNDER BATTERY SYSTEM FOR VARIABLE PURPOSES

The battery system is primarily filled with lightweight concrete. What was important here is that concreting could take place both via a pump station and from above using buckets. The integrated vibrator unit makes this battery mould one of the most versatile moulds used.

Project scope

- 2 x 7 pocket battery system
- max. element size 6.1 m x 2.9 m
- Hydraulic tensioning
- UPP100 pump station
- Filling is possible from below (upcrete®) and from above
- Integrated vibrator unit for compaction



Find out more about the
RATEC battery system
on our website

PROJECT USA

NOISE BARRIERS IN HIGH SURFACE QUALITY

Due to contouring of the elements and matrices partially on both sides, the customer decided in favour of the RATEC battery systems.

Project scope

A total of three battery moulds were installed:

- Type A: 1 x 10 pockets, size 6 x 1.8 m
- Type A: 1 x 5 pockets, size 6 x 2.4 m
- Type B: 1 x 10 pockets, size 6 x 3.6 m

Additional information

- All battery systems are designed as twin systems and can be supplemented with additional pockets.
- An upcrete® pump station UPP 100 is used for filling.
- The production capacity of the plant is 300m² or 150 running wall meters per day in single-shift operation.



Noise barriers
in USA 2017

Press article (PDF)
Scan the QR code

RATEC battery system

Application examples

PROJECT INDONESIA

VERTICAL PRODUCTION OF FACADE ELEMENTS

One of the leading Indonesian precast concrete manufacturers relies on the battery system from RATEC in combination with the upcrete® process

Product scope

- Product: Facade elements for new hotel construction
- Battery moulds with 4 pockets of 9 x 3.9 m each
- UPP 100 pump station

Unique challenges

- Element size
- Limited production area
- Short construction time
- Highest exposed concrete quality



*New hotel construction
in Indonesia*

Press article (PDF)
Scan QR code

PROJECT IN ITALY

ITALY'S PAVILION AT EXPO 2015 IN MILAN

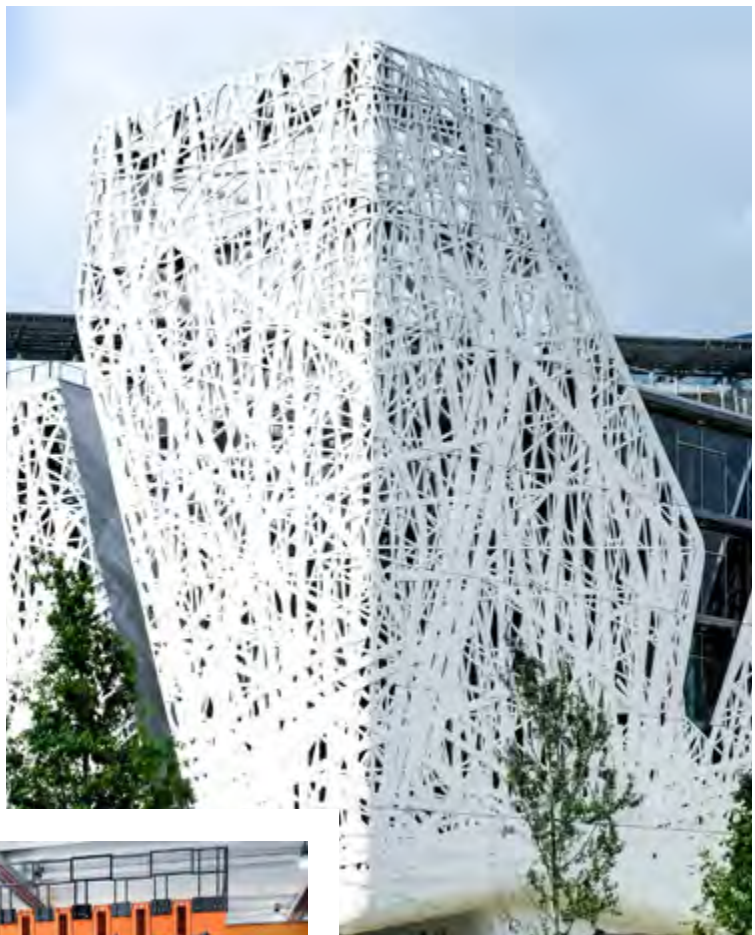
A majority of the facade elements were manufactured in a RATEC battery mould using the upcrete® process. Filling from top was not logical due to the element geometry.

Unique challenges

- Very complex elements, each with an individual design
- Reliable shaping of the filigree "branches"

Project scope

- 9000 m² large façade
- 2200 t cement
- Made from 80% recycled material
- Battery moulds with 6 pockets of 6 x 4 m each
- UPP 100 pump station
- UCI filling connections



Country pavilion
at Expo 2015

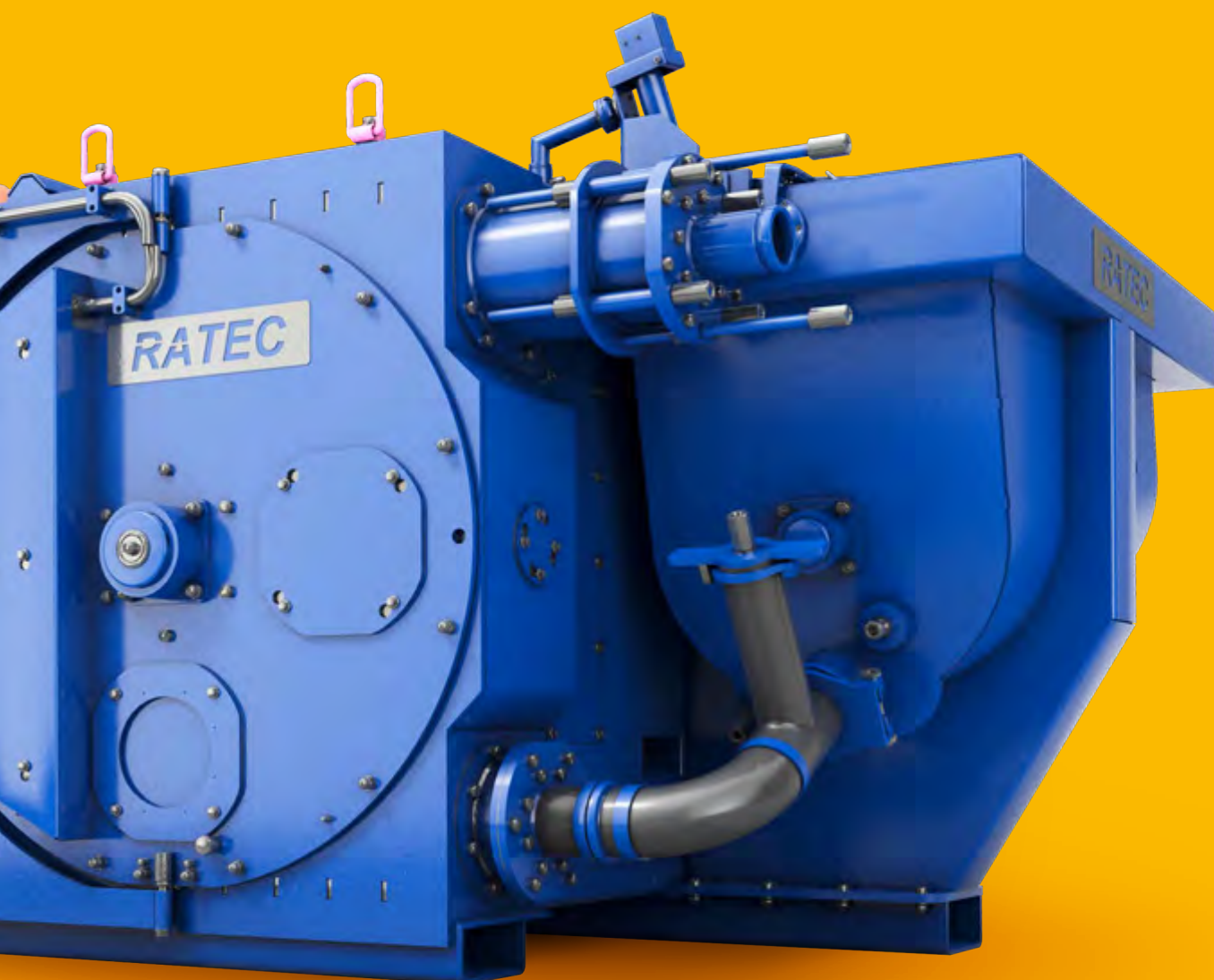
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06

PUMPS, CONCRETE SPREADERS AND ACCESSORIES

The programme for a concrete supply suitable for the plant

RATEC solutions for efficient supply of concrete and smooth shuttering on the element. Our professional products for concrete delivery allow you to fill your shuttering cleanly and completely with little wear on the material.



UPP PUMP STATION

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UCI CONCRETE FILLING CONNECTION

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KBV CRANE CONCRETE DISTRIBUTOR

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UPP pump station

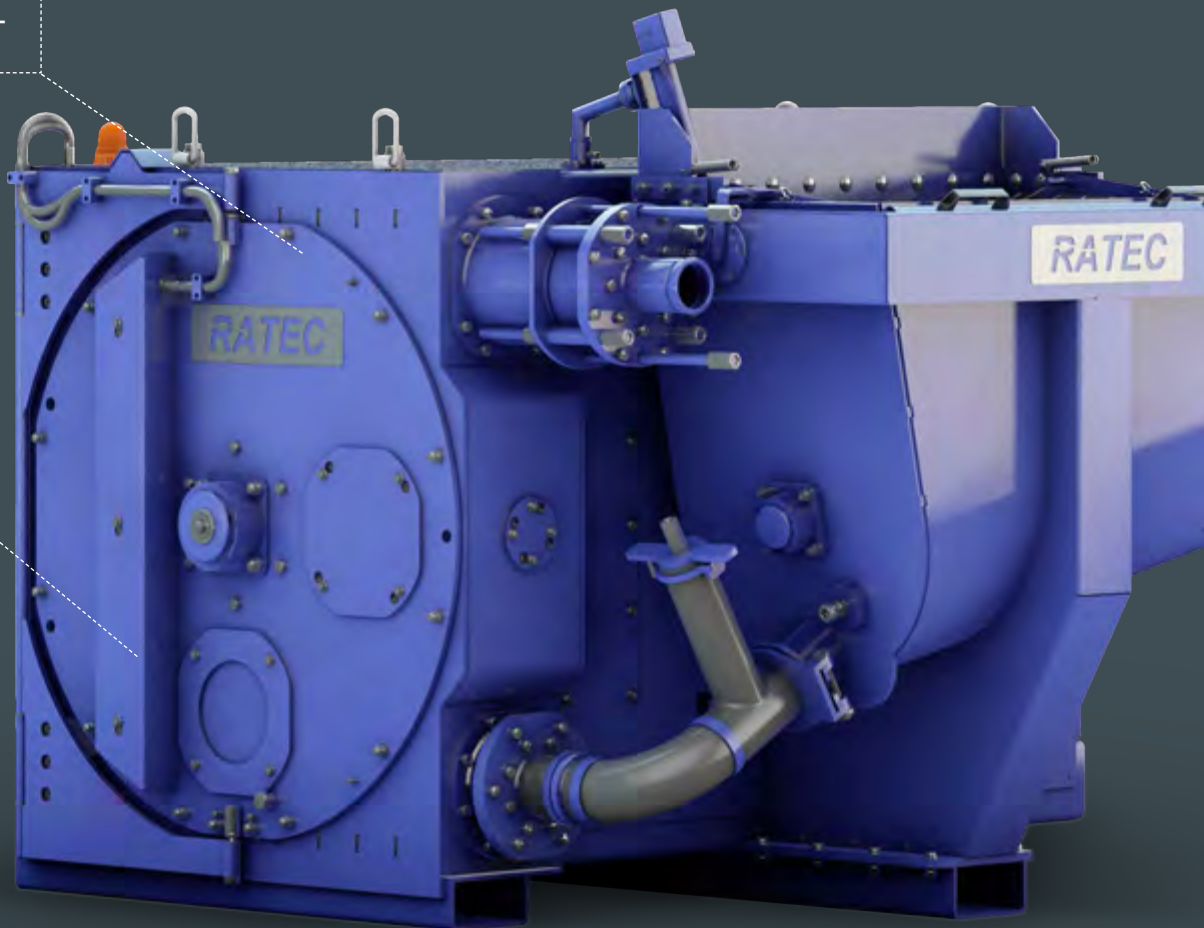
The compact all-rounder for concrete delivery

The UPP Pump Station is suitable for the realisation of complex, smooth and high quality precast concrete elements. As the core of the upcrete® technology, the UPP opens up possibilities where other filling techniques cannot be used for quality or feasibility reasons.

The most important technical data	UPP 100
Capacity	Up to 22 m ³ /h
Conveyor hose Ø	100 mm
Power input	33 kW / electr.
Connector on housing	CEE 63 A

Rotor pump with steplessly adjustable conveying capacity

Easy to clean and low maintenance



Further specifications on request.

BENEFITS AT A GLANCE

- Easy to clean
- Finely dosed
- Suitable for concrete plants
- Fast interim cleaning
- Continuously adjustable feed from 0–20 m³/h
- Including radio remote control
- Software interface for automatic concrete delivery as standard
- Modular pre-hopper from 600–2000 l
- Mixer in pre-hopper
- Automatic residual concrete fill level indicator
- Maintenance friendly due to fixed central lubrication
- Compact closed design
- Suitable for many thixotropic media

DETAILED PROPERTIES



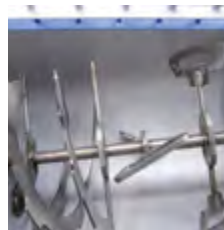
- **Easy to clean**
Lockable valve in pre-hopper for quick and easy cleaning of the rotor. Includes slewable pipe-bow for easy accessibility and ease of cleaning.



- **Modular pre-hopper**
If required, the standard pre-hopper with a volume of 600 l can be replaced with a 2000 l volume pre-hopper.



- **Continuous feed**
Low-wear and very accurate filling of the moulds is ensured through the continuously adjustable feed from 0 – 20 m³/h.



- **Integrated mixer**
The integrated mixer mixes the concrete again before pumping. The resulting venting of self-compacting concrete (SCC) saves time and effort.



- **Radio remote control**
The compact duplex radio remote control is available for precise operation of the pump from different locations.



- **Automatic residual concrete fill level indicator**
The level indicator automatically and reliably displays the remaining volume of residual concrete, thus guaranteeing maximum process reliability.



- **Interface for concrete supply**
The scope of supply includes a permanently programmed interface with attached plug for communication with a mixer and/or a bucket conveyor.



- **Low maintenance**
The permanently installed central lubrication ensures long-term safe operation and long maintenance intervals.



- **Standardised power input**
With 33 kW power input and attached CEE three-phase plug, the UPP 100 is perfectly matched to the standard CEE 63 A connection available in every concrete factory.



- **Flexible use of media**
Due to the overall design, the pump is suitable for almost all thixotropic media.



- **Pump car**
On request also available as a mobile pump solution with larger buffer.

Application examples



Support elements for Skyrail



Mast elements for wind farm



UPP 100 with support shuttering



UPP with pump truck



Concrete filling connection UCI Square



UPP 100 with pipe casing



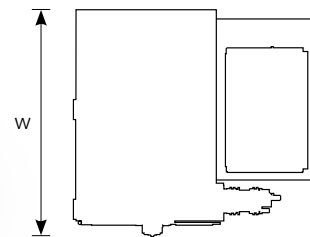
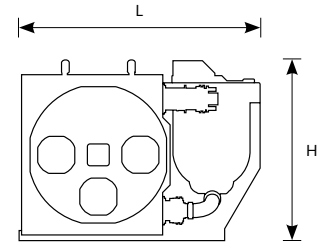
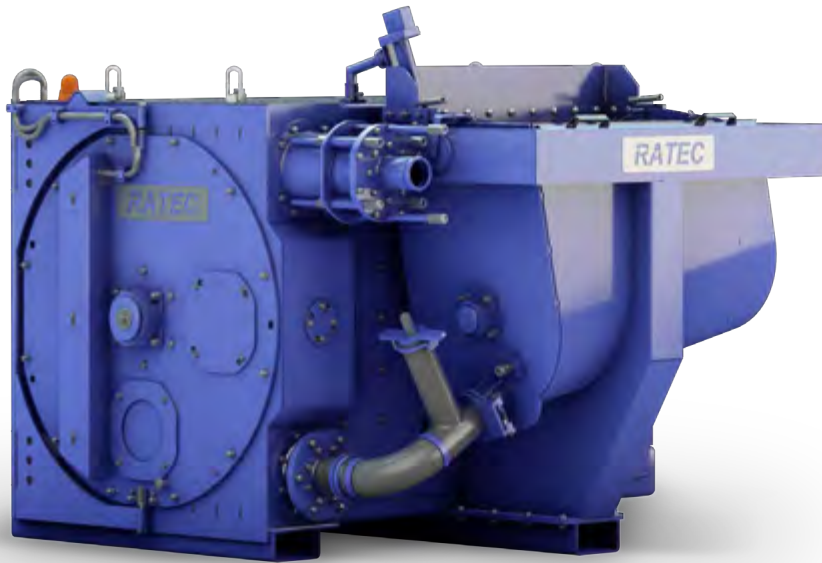
Shaft element pumped with UPP

Products

➤ Pump UPP 100



Compact pump station with 100 mm conveyor hose diameter for capacity of up to 22 m³/h.



Article no.	On request
Power input	33 kW electrical, device connector CEE 63 A directly at the pump
Compact duplex radio remote control with the following functions:	on/off, speed selector, reverse switch, feedback on graphic display of the remote control
Capacity (max.)	22 m ³ / h
Hopper volume (l)	600
Electric drive	400V / 50Hz
Filling possible over	individual large reservoir (feeding via bucket conveyor or similar), ready-mix concrete truck, crane bucket
Filling height (mm)	1620
Approx. dimensions (L x W x H) in mm	2400x2300x1800
Approx. weight (kg)	5800
Conveyor hose diameter (mm)	100

Custom-made products are possible: Simply ask us about it.

UCI pump connection

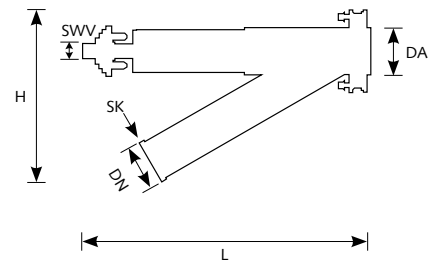
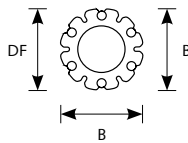
UCI – advantages at a glance.

- Enables the supply of concrete with a smooth finish
- No after-treatment necessary
- Clean filling process without concrete residue
- Simple manual or semi-automatic operation
- Easy to use with crank or torque wrench
- No leakage during closing
- Easy flushing process, thus no time-consuming maintenance work
- Static end stops prevent incorrect operation
- Can be mounted on steel and plywood shuttering

➤ UCI Basic



Our standard for shuttering filling, wear-resistant and clean.



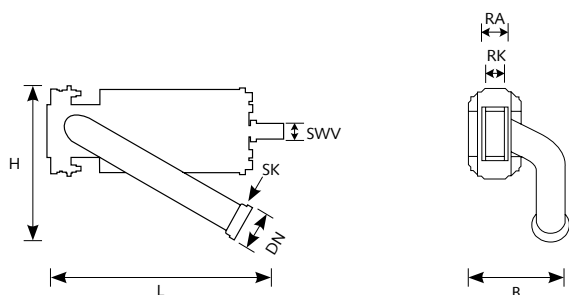
	UCI.70 Basic 3	UCI.100 Basic 3	UCI.125 Basic 3
Article no.	On request	On request	On request
DN Nominal diameter	70	100	125
DA Outlet diameter	90	135	165
DF Flange diameter	190	230	260
SK quick release coupling size	3 ¼"	4 ½"	5 ½"
(SWV) Wrench width lock	SW 36	SW 36	SW 36
L (mm)	764	920	1095
W (mm)	190	235	265
H (mm)	370	482	515
Approx. weight (kg)	27	44	58



➤ UCI Square

Our slim specialist for narrow inlets. With or without flange or completely customised.

UCI.70 SQUARE

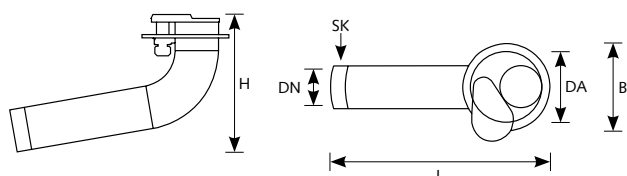
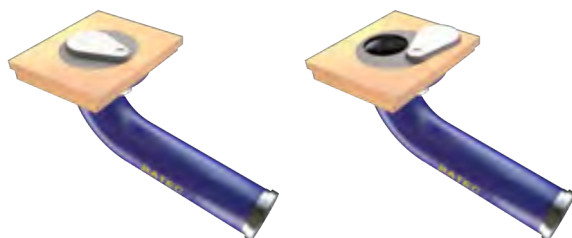


Article no.	On request
DN Nominal diameter	70
RA Rectangular dimension outlet	70x140
RK Rectangular dimension piston	50x120
SK quick release coupling size	SK 3 1/4"
(SWV) Wrench width lock	36
L (mm)	660
W (mm)	250
H (mm)	400
Approx. weight (kg)	26

➤ UCI Compact



The compact filling connection for fixing to the bottom shuttering.



Article no.	UCI.70 C	UCI.100 C
	On request	On request
DN Nominal diameter	70	100
DA Outlet diameter	130	180
SK quick release coupling size	3 1/4"	4 1/2"
(SWV) Wrench width lock	30	36
L (mm)	515	582
W (mm)	175	230
H (mm)	300	370
Approx. weight (kg)	7,5	14,5

KBV crane concrete distributor

For effective concreting

ADVANTAGES

- Saves material
- Lowers labour costs
- Makes work easier
- Improves the quality of your finished parts

TECHNICAL DETAILS

- Transport system from the mixing plant to the production area
- Feature for take-off by forklift cradle
- Electronically controlled distribution roller
- Electronically controlled segment closure (optional)
- Vibrator for stuck concrete (optional)
- Discharge width 1200 mm
- Installed power approx. 4 kW
- Protection system IP 55
- Operating voltage 400V (50 Hz)
- Spring cable drum for energy supply from the hall crane
- Length 1700 mm
- Width 2000 mm
- Height 1900 mm
- Empty weight 1780 kg
- Load capacity 2 m³



Other sizes on request. Ask us about it.

Application examples



07

WORLDWIDE SERVICE

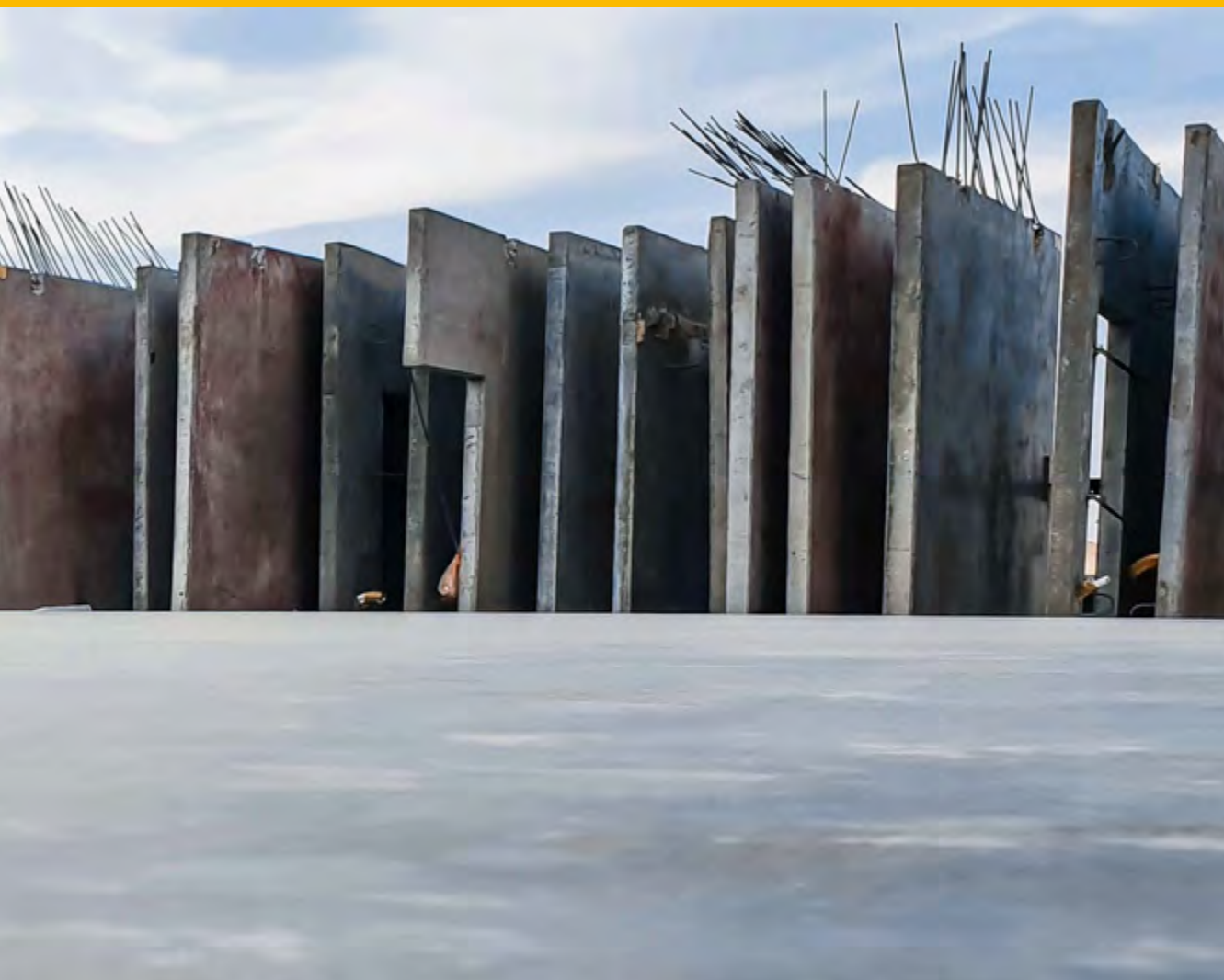
We are always here for you

Our philosophy is based on customer proximity and working closely together in all regards. With four own branches in Germany, Spain, the USA and Singapore, we are available where you need us. We also have numerous representatives on site. Our team of precast concrete specialists, engineers and on-site representatives collaborate to find the right solution for you. This is how we have come up with "better ideas" for more than 20 years.



RATEC WORLDWIDE

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RATEC

WORLDWIDE

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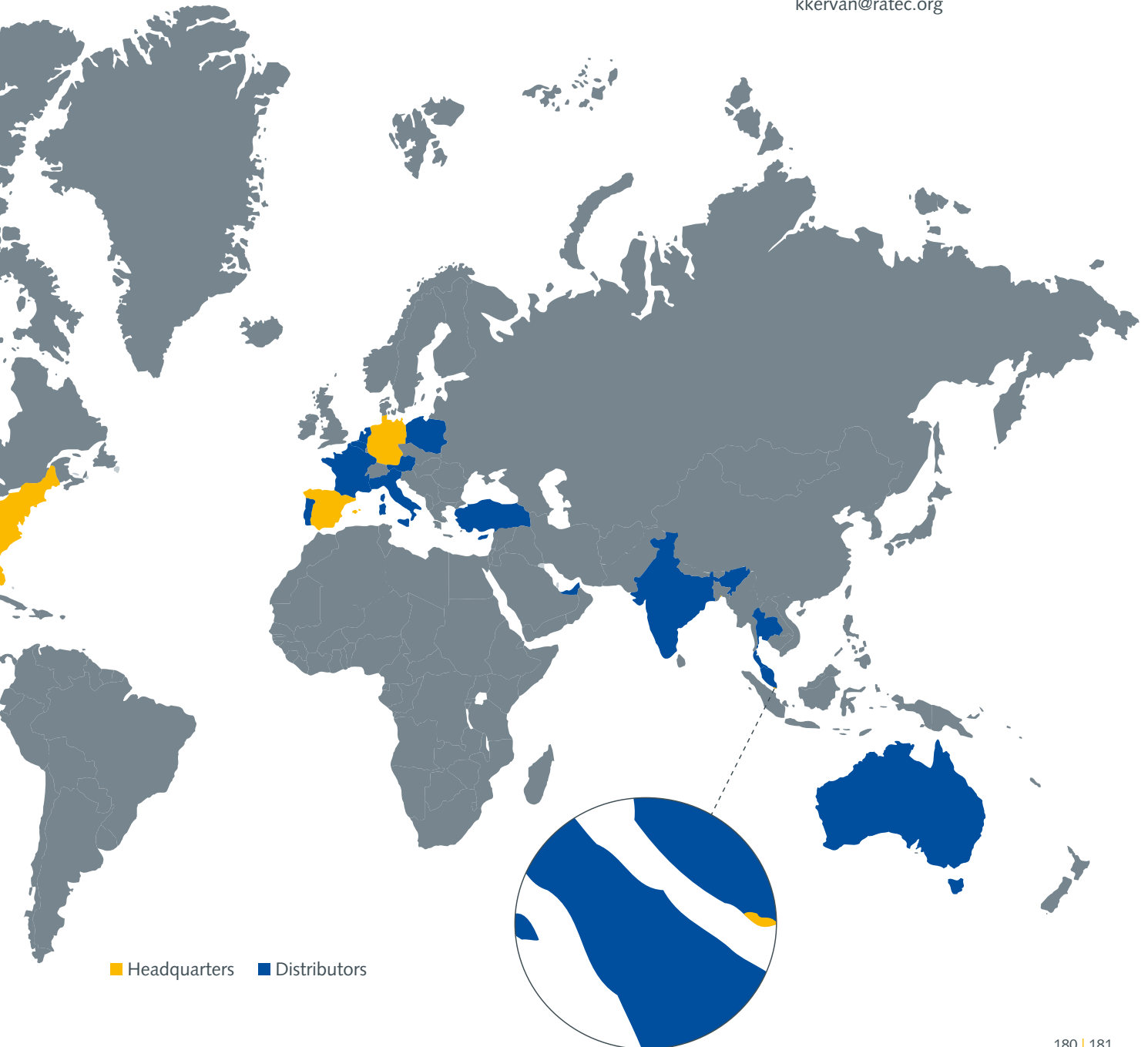
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