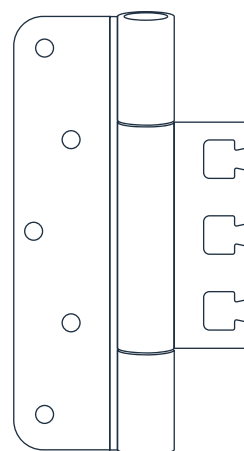


Hinge technology

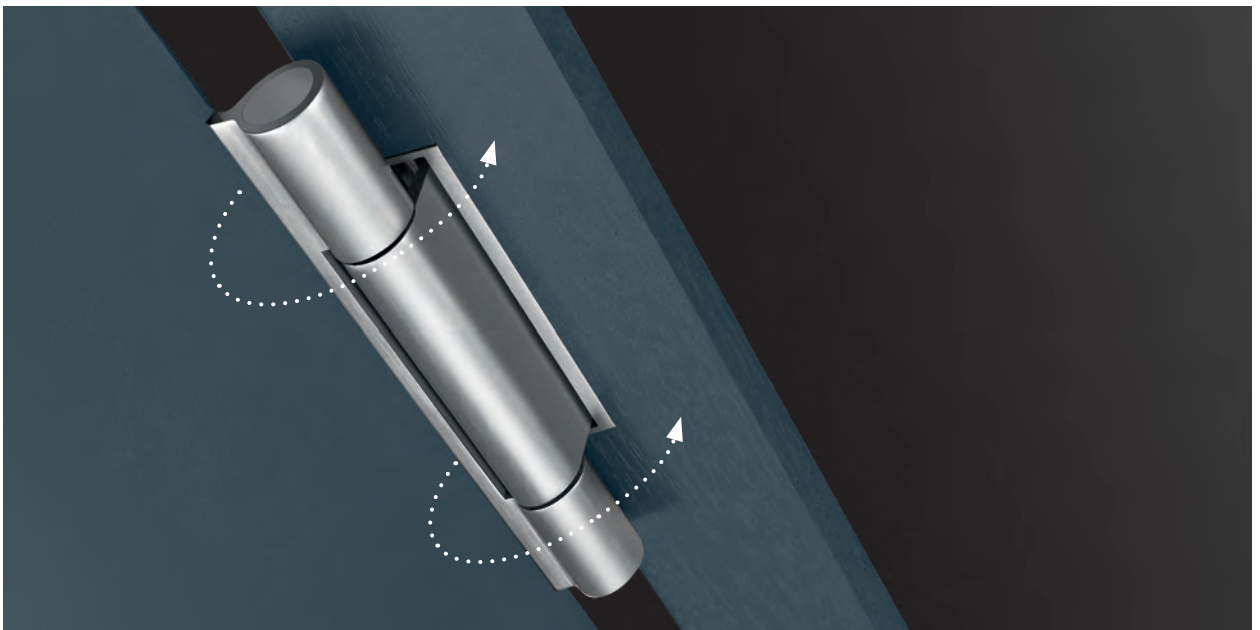
Supporting rollers



Defying the laws of leverage

The hinges connect the door leaf to the frame and enable its opening and closing. The German term Band originates from the time when doors had iron bands fitted to them, the ends of which were bent to form an eye. This eye was then hung onto a tang protruding from the door frame, thus giving rise to the English word hinge.

Many aphorisms have been dedicated to doors. One of the most powerful comes from a quote by Archimedes: "Give me a firm location outside our earth, and I will lift the world off its hinges". This adage is always used when something fundamental is changed, when a philosophy alters or a paradigm is to be reappraised. Archimedes was referring to the laws of leverage.

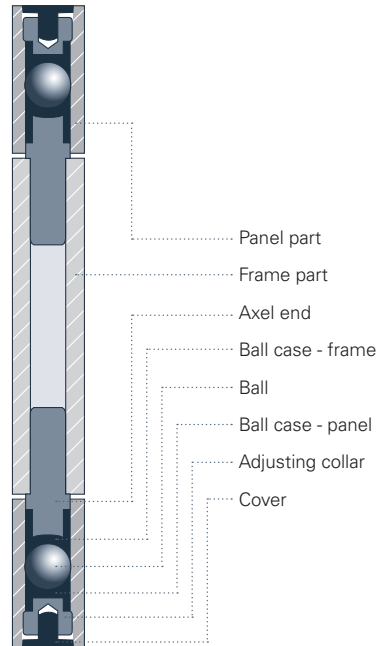


This remains true to this day: good hinges ensure that doors open the way we expect them to. They define the fulcrum - and thereby the mobility of the door - and give the door leaf a solid support.

Door hinges must be precisely coordinated to the dimensions of a door - to its measurements, weight, type of mounting and location. They are not just hard-wearing components of a door. ECO Schulte can look back on decades of experience in the manufacture of hinges. ECO hinges are premium products that comply with the standard **EN 1935**. They bear the CE mark and are tested in the highest standard class (14).

Premium ball-bearings

The quality of a hinge is determined to a great extent by the quality of the bearing. That is why ECO Schulte developed its own bearings technology especially for its hinge plates (Patent: DE 103 61 548.2). The bearing is characteristic: the roller is guided top and bottom on a steel ball, each mounted in two high-strength plastic trays. This specific bearing is wear, maintenance and play-free and guarantees the light and smooth running of the door. The double bearing controls axial and radial forces effectively and permanently. In a series of practical tests, this bearings technology was successfully tested by an independent institute for more than one million closing actions. That more than guarantees lifelong, secure functioning.



ECO Horizon Hinge plates - Versions

The high-quality hinge plates from ECO Schulte are available for all standard door types. Individual solutions to match each door are also available, depending on requirements.

ECO Horizon OBX hinge plates - Perfectly adjustable

Because hinge plates of this type are three dimensionally adjustable within the element that holds them when the door is mounted, installation is made considerably easier. The number behind the OBX mark indicates the diameter of the roller used. Hinge plate OBX 20 is cast in stainless steel for the highest possible surface quality and fitting precision of the roller and eye.



ECO Horizon OBN hinge plates - Firmly bolted for fixed doors

Hinge plates of this type are installed by the door manufacturer or processor and cannot be adjusted. The number behind the OBN mark indicates the diameter of the roller used. Hinge plate OBN 20 is cast in stainless steel for the highest possible surface quality and fitting precision of the roller and eye.



The highlights of the system

The quality of a hinge can be seen from the details. ECO is the specialist for hinges and can score points here - not only through the fact that ECO **Horizon** hinges can be used DIN-left / DIN-right without conversion.

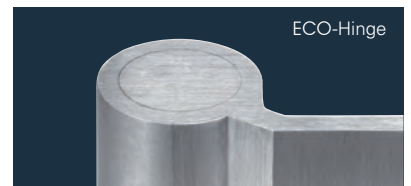
Premium ball-bearings

With its patented ball-bearing technology, ECO Schulte has a unique selling point in the market and sets a new standard in the premium segment. The right product for those who place the highest demands on a door hinge. ECO **Horizon** OBX and OBN hinges are absolutely maintenance-free and work without any lubrication. Unsightly deposits of grease and oil on the visible parts of the hinge are a thing of the past. The absolutely play-free door bearings guarantee optimum load transfer via both hinges.



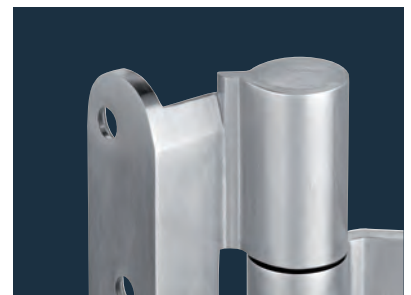
Cast roller holders

The processing of stainless steel is a demanding affair, as can be seen from the example of the hinge roller: ECO investment casting technology produces a perfect, closed roller holder. Thanks to the homogeneity of the material all the way through to the hinge flaps, the load transfer of our hinges is guaranteed to a well above average extent. That precision and quality of this kind are not a matter of course can be seen from the rival product depicted here. The holder of this roller has some play and can be levered up - a mortgage on the service life of the product and an invitation to burglars.



Defined edges

ECO **Horizon** hinge plates are in a class of their own where aesthetics and precision are concerned. The defined edge of the holder surface ensures the best possible fitting precision and force distribution. It also proves that the system constructors from the Westphalian town of Menden are masters where the handling of materials and hinges is concerned.



System-identical finish pattern

ECO Schulte perceives the door as a system consisting of all of the functional elements that make a door open and close. Where the hinge plates are concerned, ECO demonstrates a love of detail by polishing the stainless steel surface of the hinges in the longitudinal direction so that the fine finish pattern thus produced is exactly the same as the one on the handle fittings from the same company.



Weights and loads

Door hinges are high load-bearing construction elements. They not only have to carry the weight of the door itself, they are subjected to much higher loads, depending on where they are used. Frequent opening, slamming and exceptional handling of doors, as occurs in barracks and schools, can take conventional hinges to their limits if they are only designed to carry the weight of the door.

ECO **Horizon** hinges have a closed hinge roller which is manufactured using elaborate cold forging technology which prevents the roller from bending up. There are no compromises with the material thickness of the hinges either: ECO **Horizon** hinge flaps can carry loads of up to 300 kg each.

Maximum door weight of hinge plates

Notch	max. door load: 300 kg	max. door load: 200 kg	max. door load: 160 kg	max. door load: 120 kg
Rebated notch	OBX-20-1531/160	OBX-20-1531/120	OBX-20-1951/120	
	OBX-20-1532/160	OBX-20-1532/120	OBX-18-1532/160	
		OBX-20-1951/160		OBX-18-1531/120
		OBX-18-1531/160		
Unrebated notch	OBX-20-2541/160	OBX-20-2541/120		OBX-18-2541/120
	OBX-20-2542/160	OBX-20-2542/120		
	OBN-20-4141/160	OBX-18-2541/160		OBN-18-4141/120
		OBN-18-4141/160		

The listed values were measured under 100% test lab conditions. Please observe them when selecting hinge plates.

Assuming the proper mounting of the door, the material stability of the construction element to which they are to be attached and an effective bonding with the masonry, ECO Schulte hinges should be selected and utilized in accordance with the above table with sufficient load and safety reserves, particularly where special locations are concerned. The use of a third hinge with the ECO Schulte system is only necessary under particularly difficult conditions. A third hinge attached in the upper third of the door frame can increase the load-bearing capacity of the hinges by around one third.

The maximum door load in the chart above relates to a door leaf size of 2x1 m, the application of two hinges and a professional installation. The EN 1935 is the basis of the development of our object hinges. The norm requirements regarding the use of hinges are in accordance with the guidelines required in Europe.

ECO hinges are way beyond these requirements. ECO **Horizon** hinges therefore fulfill the highest demand for which the object industry is known. The multitude of the individual criteria of choice, for example installation site, use of the doors and so on, cannot be considered for the determination of the values. Therefore we recommend to take reserves into account for the protection of the individual's safety. The correct choice of the hinges should be made accordingly. For any further information / questions please feel free to contact us.

For all notches

Technical, construction and aesthetic requirements determine the form of the edge of the door leaf - and consequently the required hinge. Typical edge types are blunt notch and rebated doors - and variations thereof. ECO Schulte has hinges in its range for the following door notch versions:

Rebated door versions:

1a. Rebated door

The rebated door leaf has a single groove on the lateral and upper edge. The closed door locks into the frame so that no gap is visible.

1b. Rebated door with leaf seal

This rebated door has an additional seal in the locking groove.

Variations of the flush door:

2a. Flush door

The door leaf of a flush door is flush with the frame when closed. A circumferential gap (joint clearance) remains visible from the abutment side.

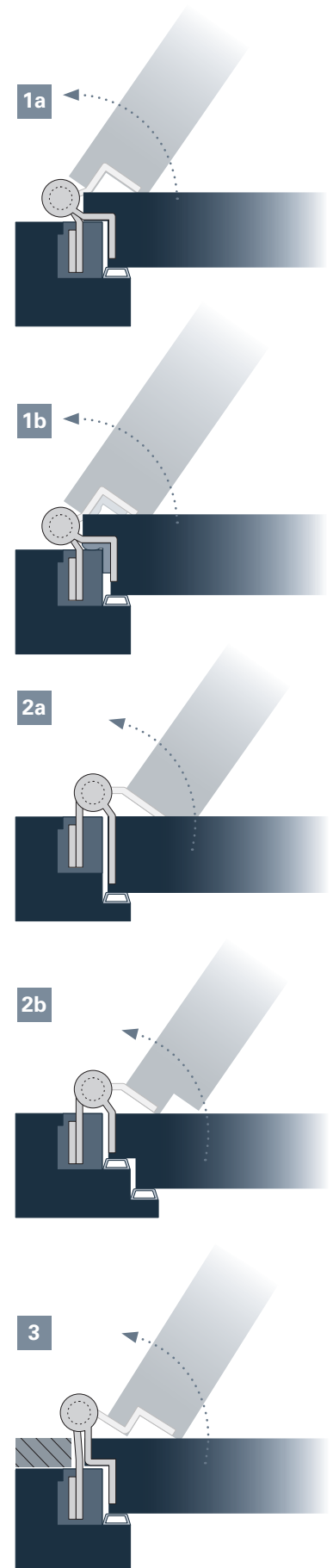
2b. Flush door with double groove

This door combines the optical effect of the flush door (frame and door leaf flush) with the improved sealing properties of the grooved door. A double rubber seal in the door frame ensures outstanding sound and heat insulation. This makes the double groove door a typical front door in many homes.

Variants of the grooved, flush-surface door:

3. Diminishing door

A special door design with which continuous wall panelling extends over the door leaf. The door leaf is grooved but closes flush with the panelling. A circumferential gap (joint clearance) remains visible from the abutment side.

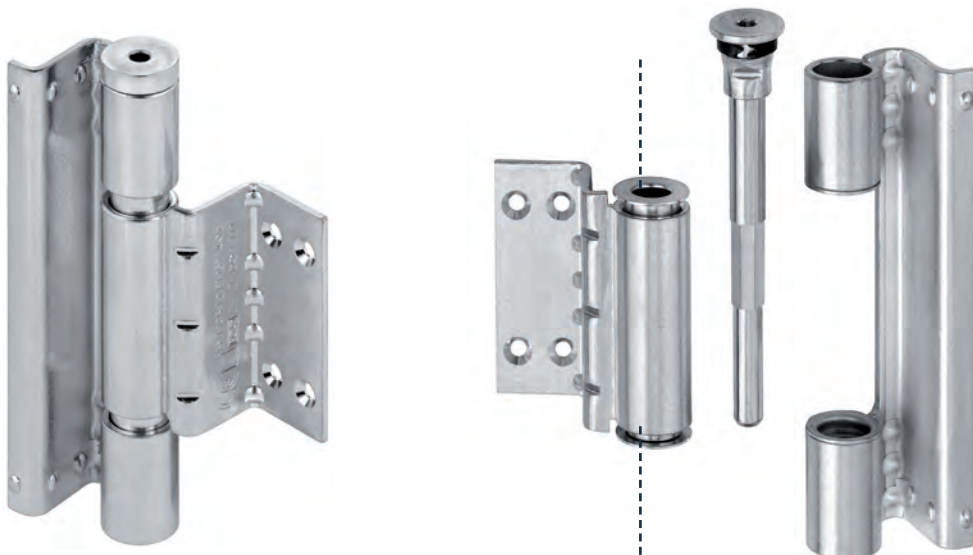


Steel doors: OEM hinges made to measure

ECO Schulte offers processors and door manufacturers a wide range of individually developed hinges for sheet steel doors (German Patent 102008049740.1, European Patent 09008617.4). These hinges are constructed and manufactured for series production in accordance with customers' requirements. The most innovative OEM solution from ECO Schulte is called the ECO GENIUS LHA and is a laser-welded industrial hinge.

LHA stands for "laser hinge adjustable" and it is not only laser-welded but also height adjustable. "

Laser welding technology produces minimum contact, precise and highly stable welding seams. The technology combines top manufacturing precision with a high load-carrying capacity. The height adjustment of the hinge during assembly is very simple and is carried out using a standard commercial Allen key.



The new manufacturing concept satisfies the needs of the door industry in a flexible manner:

- Frame and leaf parts are available separately
- A set consists of a spring hinge that support the closing force and a standard hinge (KO hinge)
- Various materials available (galvanized or stainless steel)
- Various material thicknesses (3, 4 or 5 mm)
- Flexible tools for a flexible manufacturing concept

Horizon  Object hinges OBX-20

Object hinges **Horizon** ■ OBX-20 for rebated doors



OBX-20-1531/160
■ Class 14
Page 600-601



OBX-20-1531/120
■ Class 14
Page 602-603



OBX-20-1532/160 FD
■ Class 14
Page 604-605



OBX-20-1532/120 FD
■ Class 14
Page 606-607



OBX-20-1951/160
■ Class 14
Page 608-609



OBX-20-1951/120
■ Class 14
Page 610-611

Object hinges **Horizon** ■ OBX-20 for unrebated doors



OBX-20-2541/160
■ Class 14
Page 612-613



OBX-20-2541/120
■ Class 14
Page 614-615



OBX-20-2542/160
■ Class 14
Page 616-617

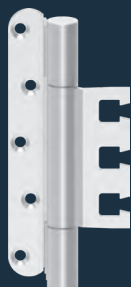


OBX-20-2542/120
■ Class 14
Page 618-619

Horizon

Object hinges OBX-18 ■ OBN20/18

Object hinges **Horizon** ■ OBX-18 for rebated doors



OBX-18-1531/160
■ Class 14
Page 622-623



OBX-18-1531/120
■ Class 11
Page 624-625



OBX-18-1532/160 FD
■ Class 11
Page 626-627

Object hinges **Horizon** ■ OBX-18 for unrebated doors



OBX-18-2541/160
■ Class 14
Page 628-629



OBX-18-2541/120
■ Class 11
Page 630-631

Object hinges **Horizon** ■ OBN-20/18 for unrebated doors



OBN-20-4141/160-R
■ Class 14
Page 634-635



OBN-18-4141/160-R
■ Class 14
Page 636-637



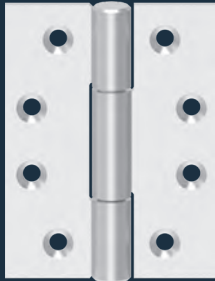
OBN-18-4141/120-R
■ Class 11
Page 638-639



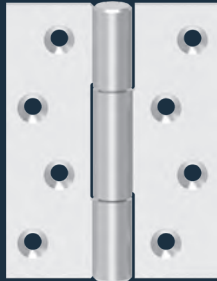
OBN-18-4141/120-E
■ Class 11
Page 640-641

Horizon Object hinges OBN-14

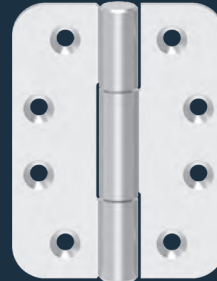
Object hinges **Horizon** ■ OBN-14 for unrebated doors



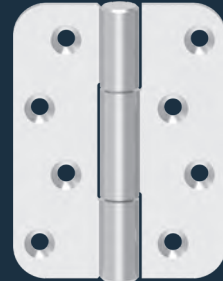
OBN-14-E-C
■ Class 14
Page 644-645



OBN-14-E-Z
■ Class 14
Page 646-647



OBN-14-R-C
■ Class 14
Page 648-649



OBN-14-R-Z
■ Class 14
Page 650-651

OBX-Frame boxes



OBX-3001-3D
Page 654



OBX-3002-3D
Page 655



OBX-3011-3D
Page 656



OBX-3021-3D
Page 657

OBX-Cover plate for frame boxes ■ Lifting lug



OBX-3096
Page 658



OBX-3097
Page 658



OBX-3098
Page 659

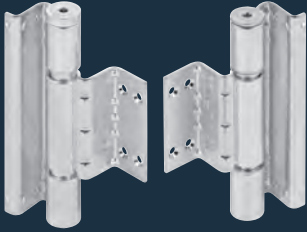


OBX-3099
Page 659



OBX-6012.St.Zk
Lifting lug
Page 660

Laser welded steel hinges ■ Genius LHA 3 mm



ECO Genius LHA
Hinge with spring / KO-Hinge-Set
3 mm

■ Class 12
Page 662-663



ECO Genius LHA
Hinge with spring
3 mm

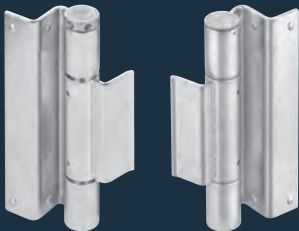
■ Class 12
Page 663



ECO Genius LHA
KO-Hinge
3 mm

■ Class 12
Page 663

Laser welded steel hinges ■ Standard set 3 mm



ECO Standard set
Hinge with spring / KO-Hinge-Set
3 mm

■ Class 12
Page 664-665



ECO Standard set
Hinge with spring
3 mm

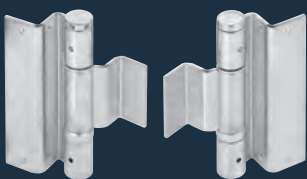
■ Class 12
Page 665



ECO Standard set
KO-Hinge
3 mm

■ Class 12
Page 665

Laser welded steel hinges ■ Standard set 4 mm



ECO Standard set
Hinge with spring / KO-Hinge-Set
4 mm

■ Class 13
Page 666-667



ECO Standard set
Hinge with spring
4 mm

■ Class 13
Page 667



ECO Standard set
KO-Hinge
4 mm

■ Class 13
Page 667

Laser welded steel hinges ■ Accessories



Locking pin 3 mm
Page 668

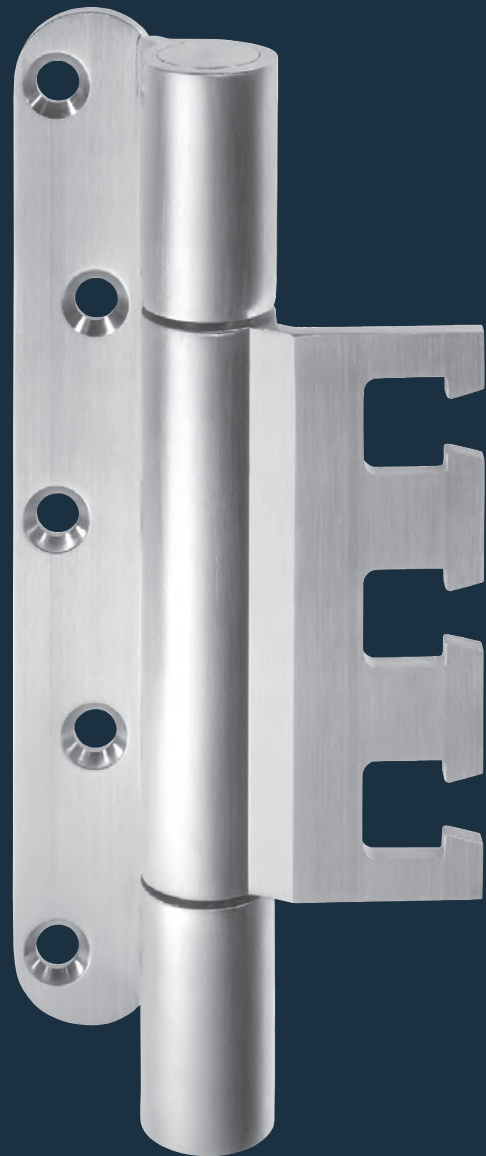


Locking pin 4 mm
Page 668



Spring pin 3/4 mm
Page 668

ECO **Horizon**  Object hinges
OBX-20

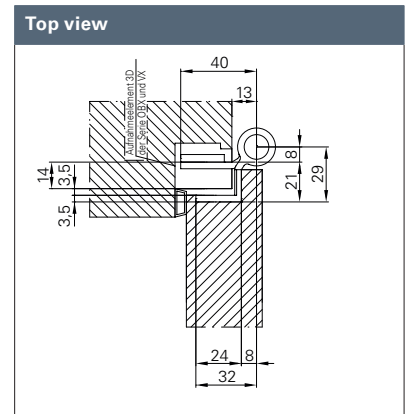
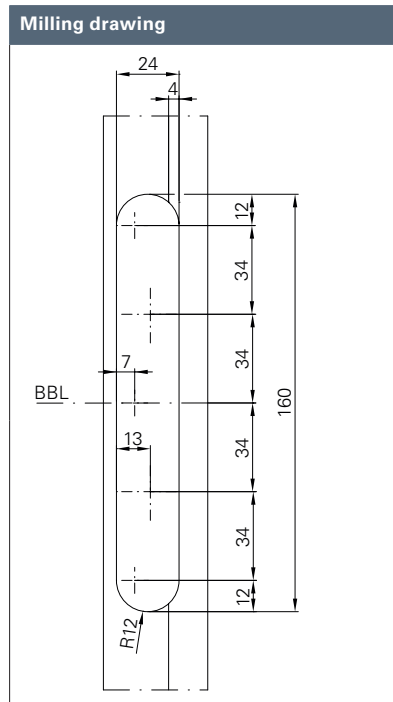
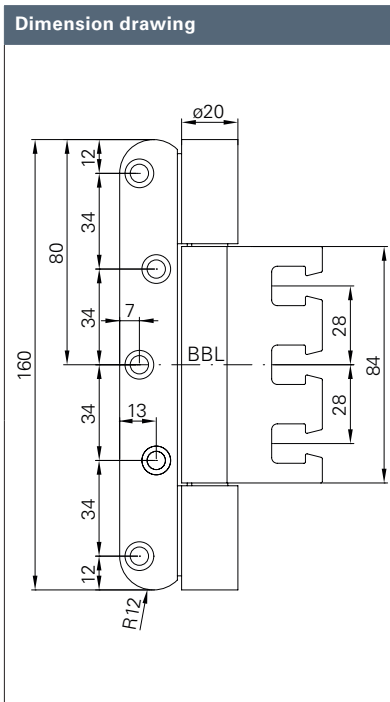




Product characteristics

Size	160 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	160 mm	
Milling depth	3,5 mm	
Door type	rebated	■
	unrebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	300 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
	Aluminium frame	OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/120.ER



OBX-20-1532/160 FD.ER
OBX-20-1532/120 FD.ER



OBX-20-1951/160.ER
OBX-20-1951/120.ER



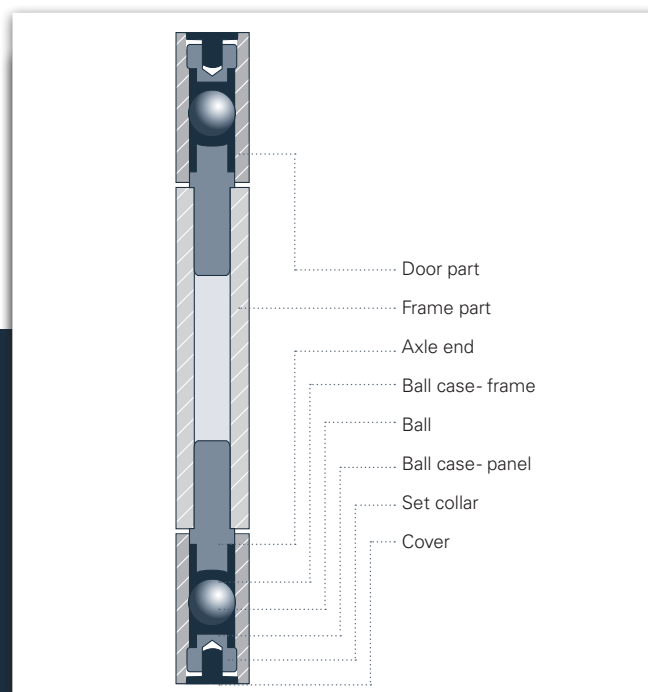
Description

ECO Horizon Object hinge OBX-20-1531/160

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1531/160 for rebated doors	Dimensions	Article number
OBX-20-1531/160.ER	Ø 20 x 160 mm	5030007526

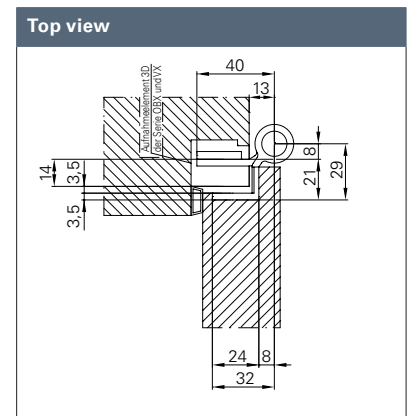
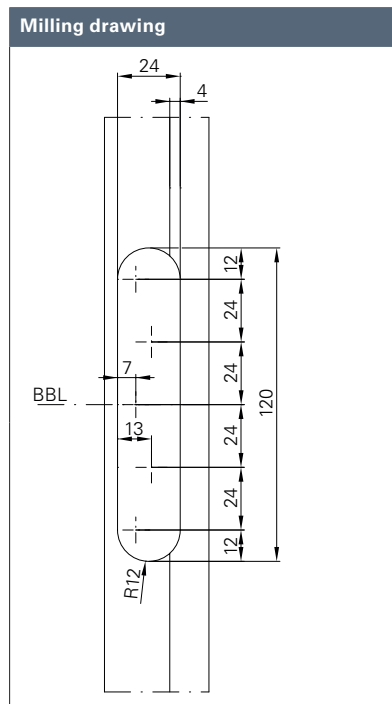
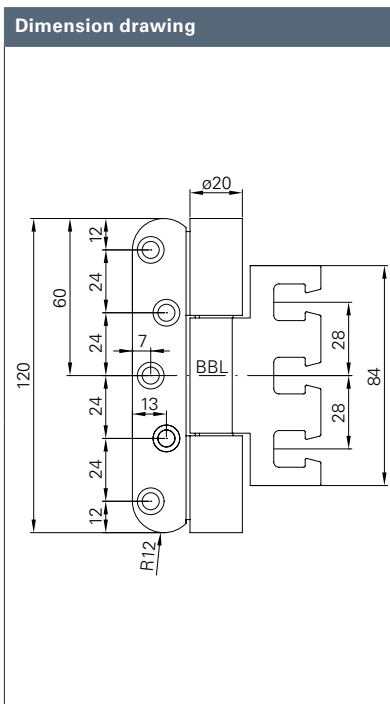


ECO Schulte is using a patented bearing technology for the production of OBX and OBN hinges. This technology guarantees a lifelong function.



Product characteristics		
Size		120 mm
Ø Barrel diameter		20 mm
Material thickness		3,5 mm
Screws		5 x 50 mm
DIN left / DIN right		■
Milling diameter		24 mm
Milling length		120 mm
Milling depth		3,5 mm
Door type	rebated	■
	unrebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	200 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
	Aluminium frame	OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/160.ER



OBX-20-1532/160 FD.ER
OBX-20-1532/120 FD.ER



OBX-20-1951/160.ER
OBX-20-1951/120.ER



Description

ECO Horizon Object hinge OBX-20-1531/120

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1531/120 for rebated doors	Dimensions	Article number
OBX-20-1531/120.ER	Ø 20 x 120 mm	5030007545

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/160.ER
OBX-20-1531/120.ER



OBX-20-1532/120 FD.ER



OBX-20-1951/160.ER
OBX-20-1951/120.ER



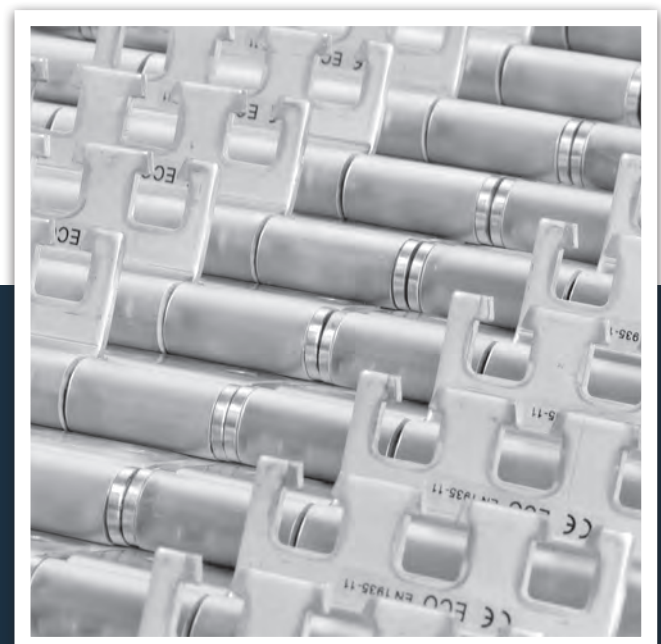
Description

ECO Horizon Object hinge OBX-20-1532/160 FD

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1532/160 FD for rebated doors	Dimensions	Article number
OBX-20-1532/160.ER	Ø 20 x 160 mm	5030007527



PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/160.ER
OBX-20-1531/120.ER



OBX-20-1532/160 FD.ER



OBX-20-1951/160.ER
OBX-20-1951/120.ER



Description

ECO Horizon Object hinge OBX-20-1532/120 FD

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1532/120 FD for rebated doors	Dimensions	Article number
OBX-20-1532/120.ER	Ø 20 x 120 mm	5030007554

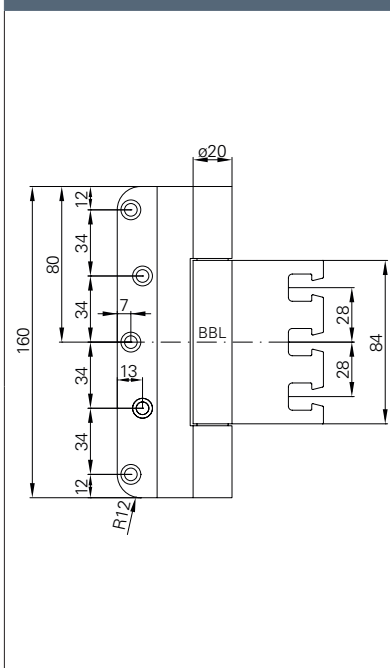


Product characteristics

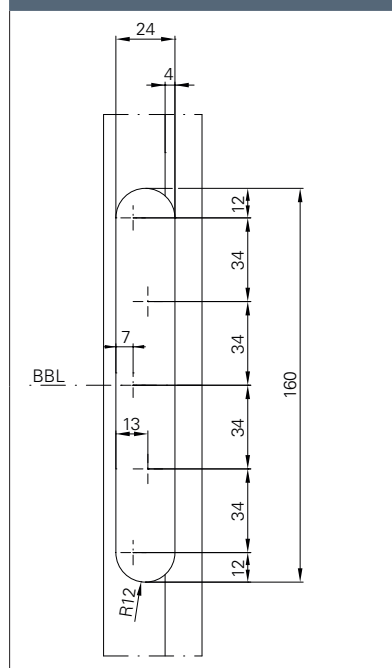
Size	160 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	160 mm	
Milling depth	3,5 mm	
Door type	rebated	■
	unrebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	200 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
		OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request

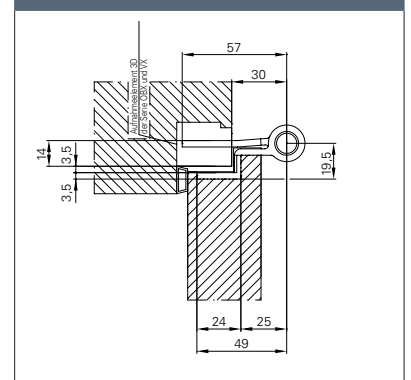
Dimension drawing



Milling drawing



Top view



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/160.ER
OBX-20-1531/120.ER



OBX-20-1532/160 FD.ER
OBX-20-1532/120 FD.ER



OBX-20-1951/120.ER



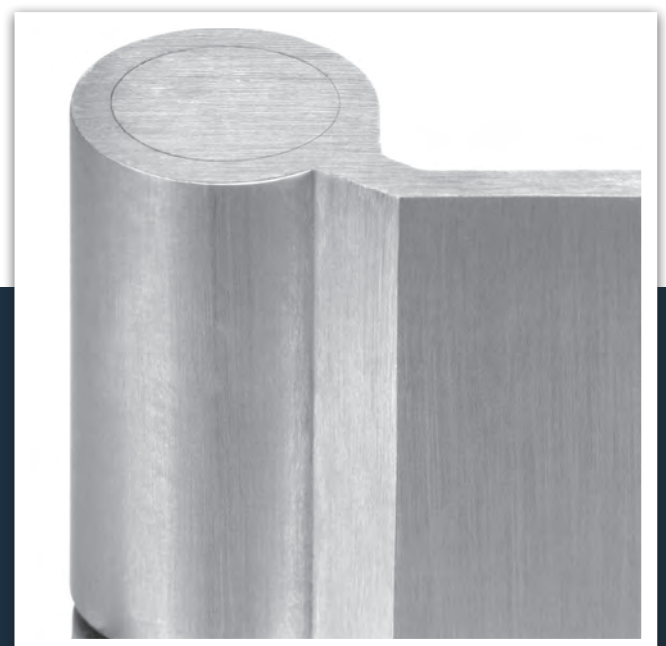
Description

ECO Horizon Object hinge OBX-20-1951/160

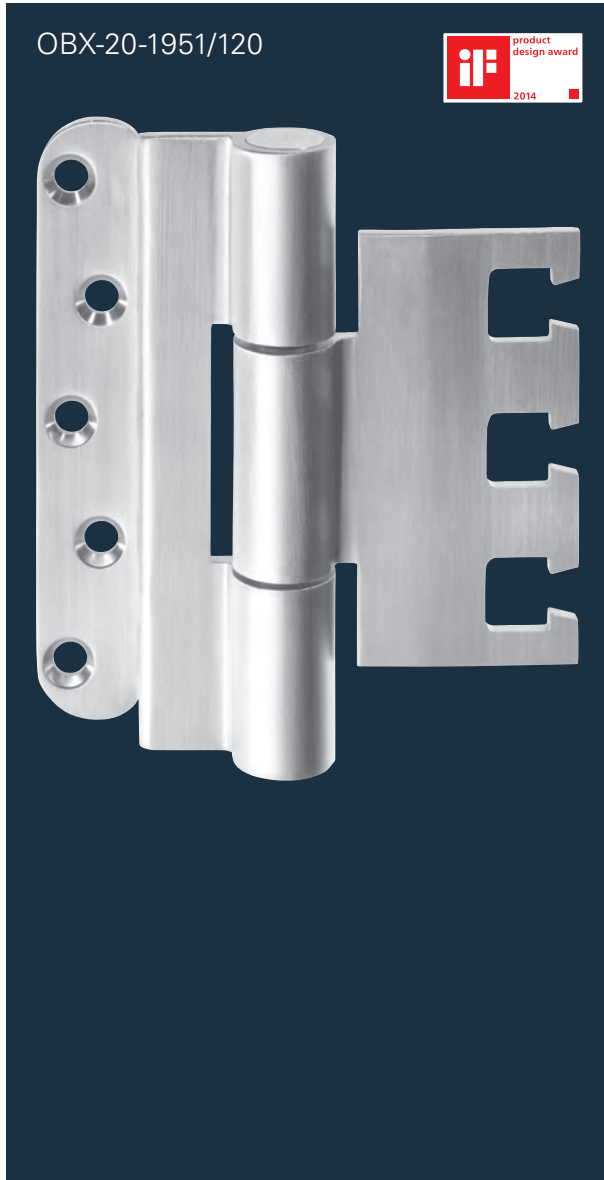
- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1951/160 for rebated doors	Dimensions	Article number
OBX-20-1951/160.ER	Ø 20 x 160 mm	5030007625



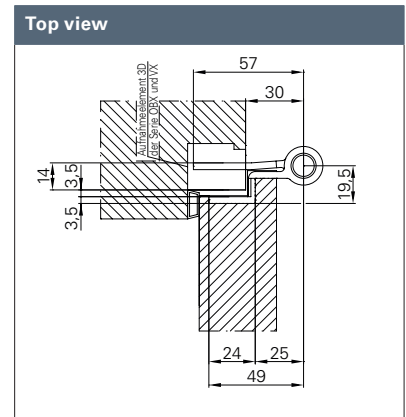
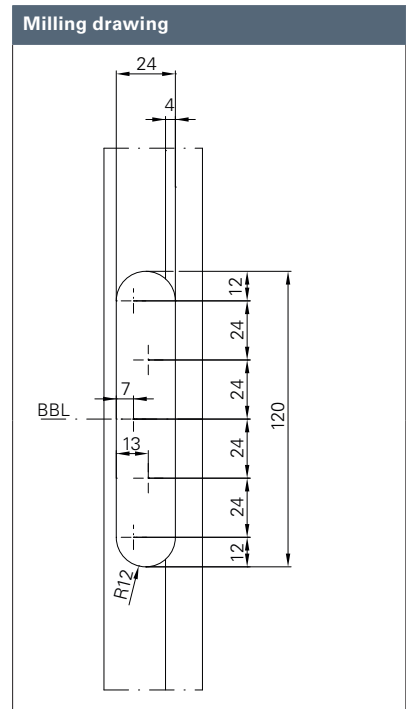
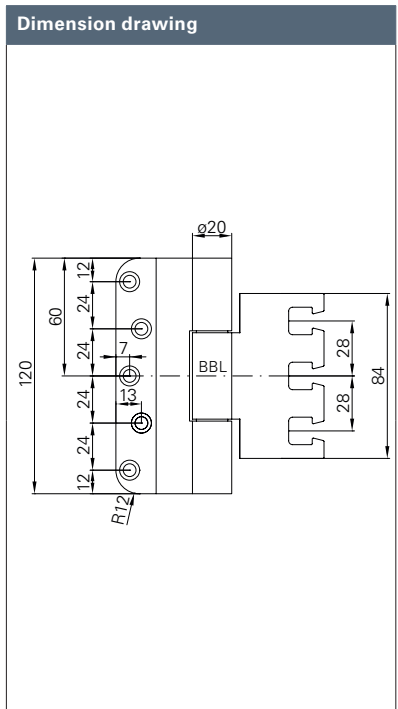
The perfect casting technology of ECO provides a perfect, closed reception of the roll - and a best possible and free-of-play force distribution.



Product characteristics

Size	120 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	120 mm	
Milling depth	3,5 mm	
Door type	rebated	■
	unrebated	■
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	160 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL Colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-20-1531/160.ER
OBX-20-1531/120.ER



OBX-20-1532/160 FD.ER
OBX-20-1532/120 FD.ER



OBX-20-1951/160.ER



Description

ECO Horizon Object hinge OBX-20-1951/120

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

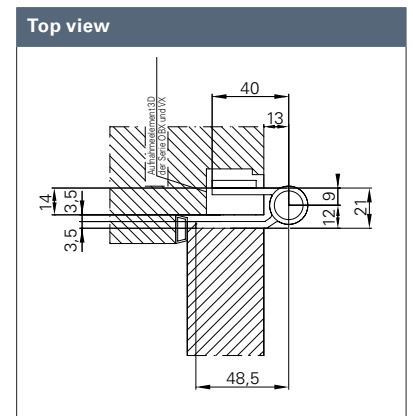
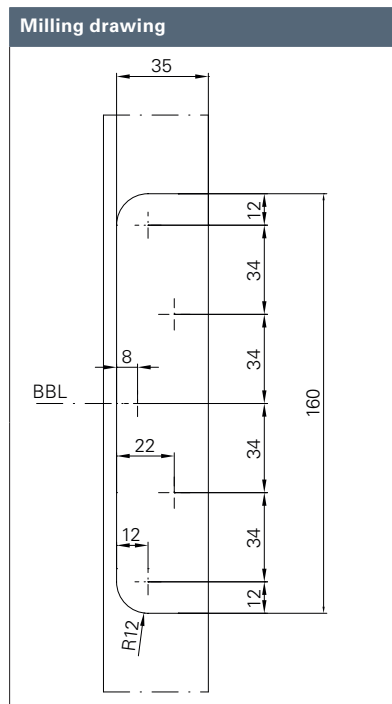
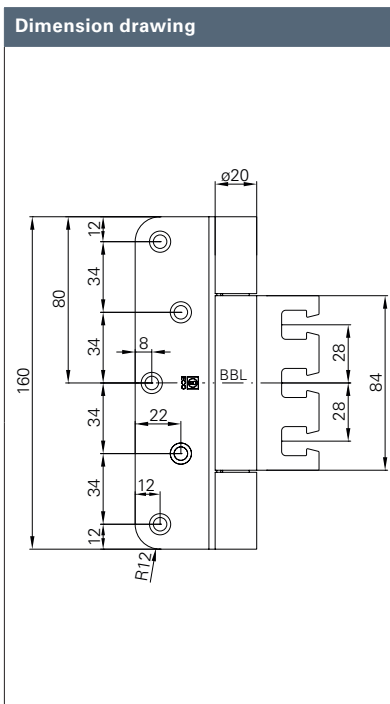
F **EN 1935** **CE** **ER**  Wooden door

OBX-20-1951/120 for rebated doors	Dimensions	Article number
OBX-20-1951/120.ER	Ø 20 x 120 mm	5030013788



Product characteristics		
Size		160 mm
Ø Barrel diameter		20 mm
Material thickness		3,5 mm
Screws		5 x 50 mm
DIN left / DIN right		■
Milling diameter		24 mm
Milling length		160 mm
Milling depth		3,5 mm
Door type	unrebated	■
	double rebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	300 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
		OBX-3011-3D
	Steel frame	OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-20-2541/120.ER



OBX-20-2542/160.ER
OBX-20-2542/120.ER



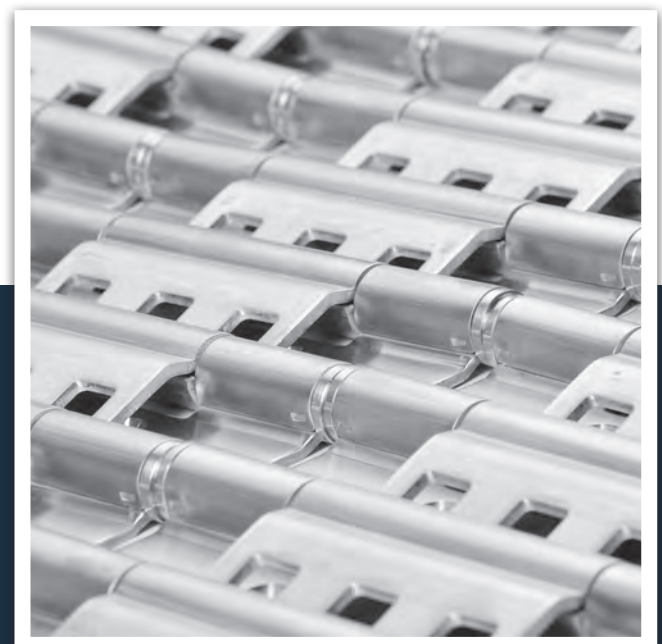
Description

ECO Horizon Object hinge OBX-20-2541/160

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-2541/160 for unrebated doors	Dimensions	Article number
OBX-20-2541/160.ER	Ø 20 x 160 mm	5030007525

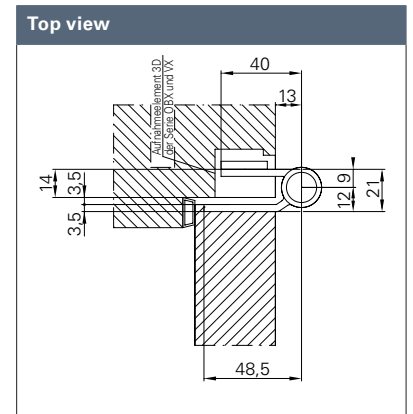
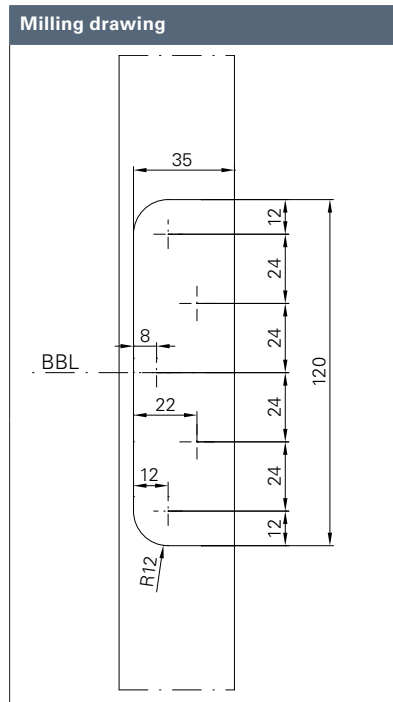
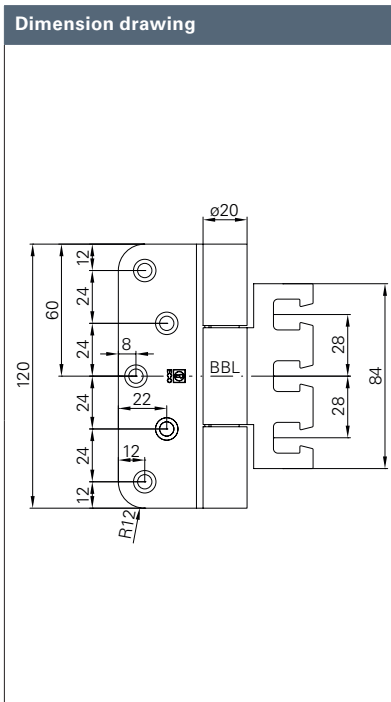




Product characteristics

Size	120 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	120 mm	
Milling depth	3,5 mm	
Door type	unrebated	■
	double rebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	200 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
	Aluminium frame	OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-20-2541/160.ER



OBX-20-2542/160.ER
OBX-20-2542/120.ER



Description

ECO Horizon Object hinge OBX-20-2541/120

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

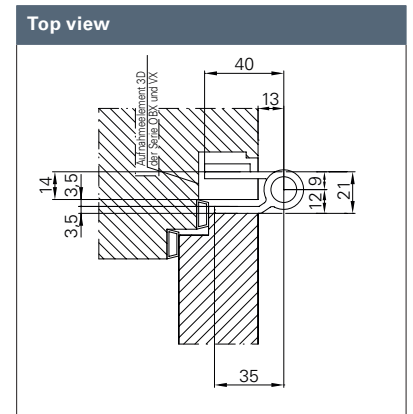
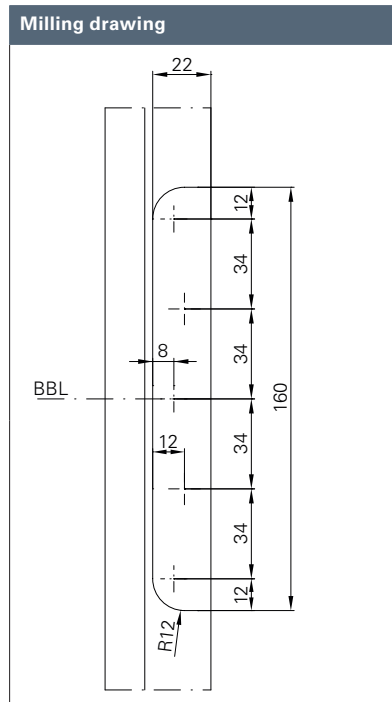
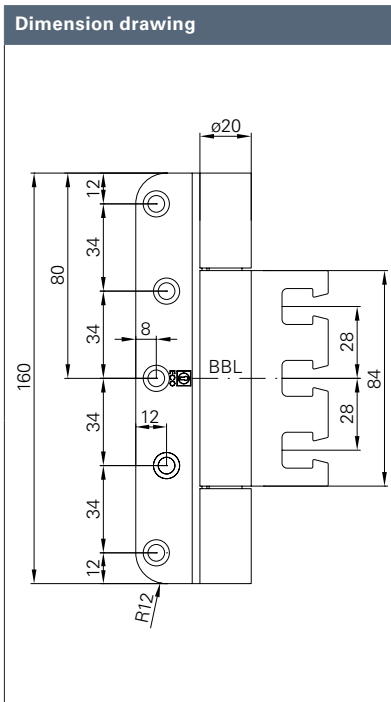
OBX-20-2541/120 for unrebated doors	Dimensions	Article number
OBX-20-2541/120.ER	Ø 20 x 120 mm	5030007522



Product characteristics

Size	160 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	160 mm	
Milling depth	3,5 mm	
Door type	unrebated	■
	double rebated	■
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	300 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-20-2541/160.ER
OBX-20-2541/120.ER



OBX-20-2542/120.ER



Description

ECO Horizon Object hinge OBX-20-2542/160

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-20-2542/160 for unrebated doors	Dimensions	Article number
OBX-20-2542/160.ER	Ø 20 x 160 mm	5030007558



ECO Schulte shows attention to detail by brushing the surface of the stainless steel hinges lengthwise. Thus, the brushing pattern perfectly matches the handle sets delivered by ECO.

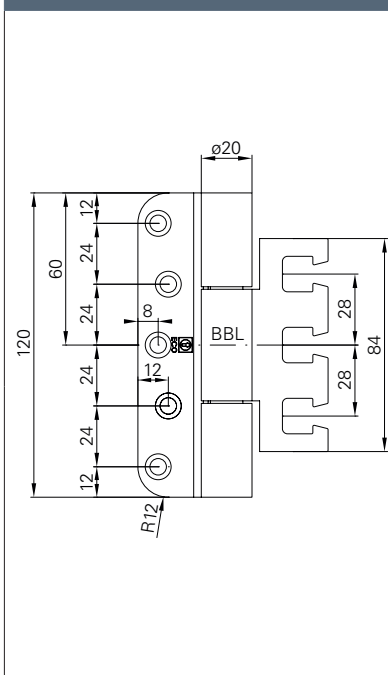


Product characteristics

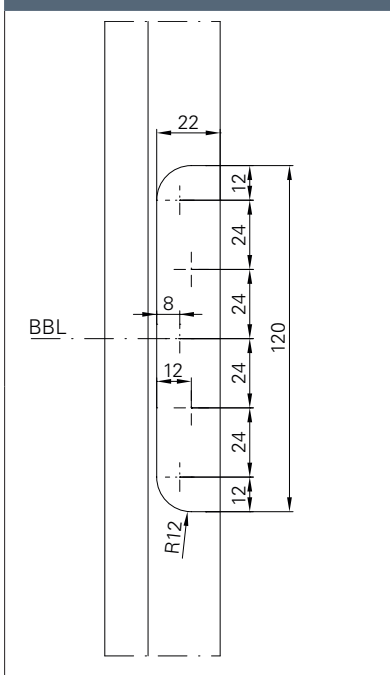
Size	120 mm	
Ø Barrel diameter	20 mm	
Material thickness	3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	120 mm	
Milling depth	3,5 mm	
Door type	unrebated	■
	double rebated	■
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	200 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request

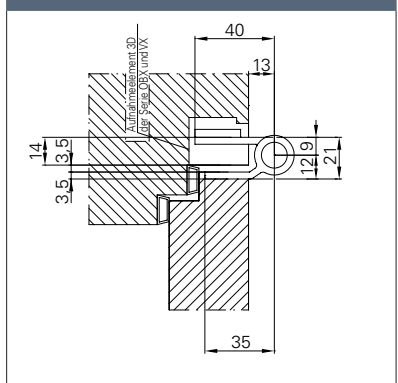
Dimension drawing



Milling drawing



Top view



Version with lifting lug as option



PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-20-2541/160.ER



OBX-20-2542/160.ER
OBX-20-2542/120.ER



Description

ECO Horizon Object hinge OBX-20-2542/120

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg



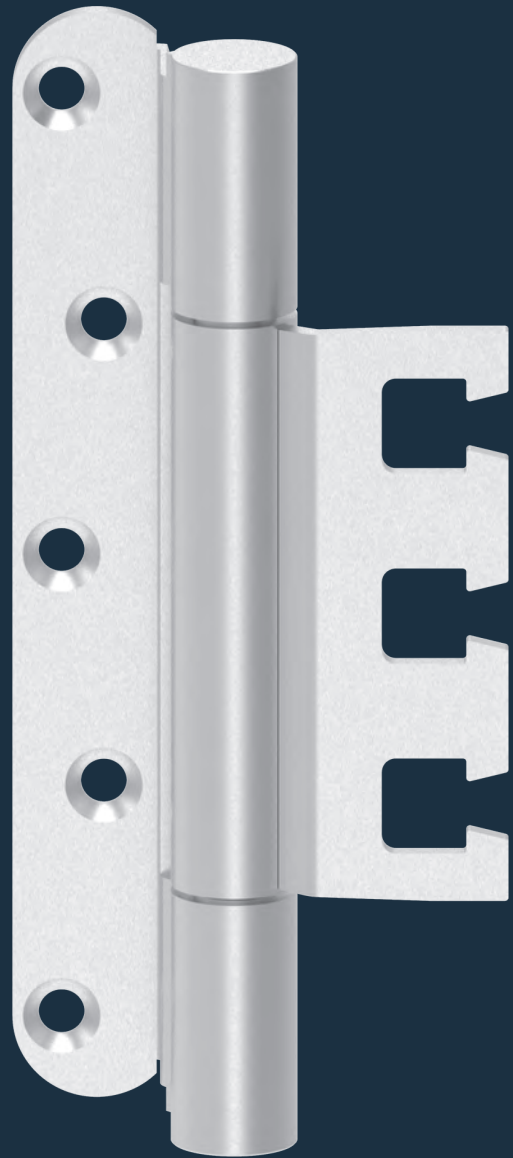
EN 1935



Wooden door

OBX-20-2542/120 for unrebated doors	Dimensions	Article number
OBX-20-2542/120.ER	Ø 20 x 120 mm	5030007657

ECO Horizon Object hinges
OBX-18

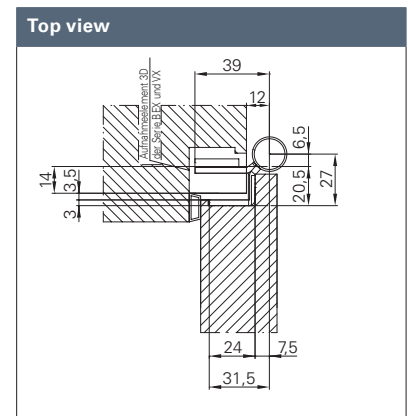
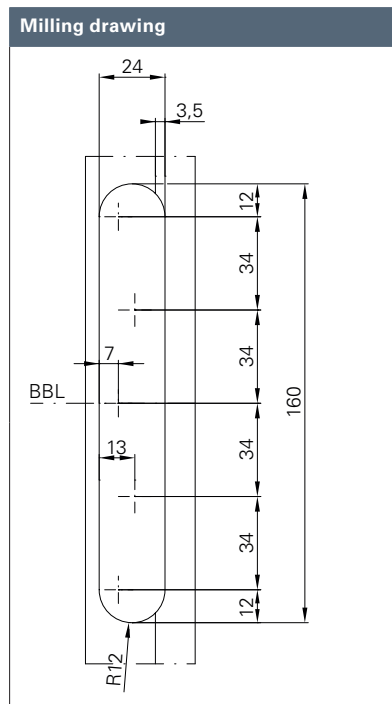
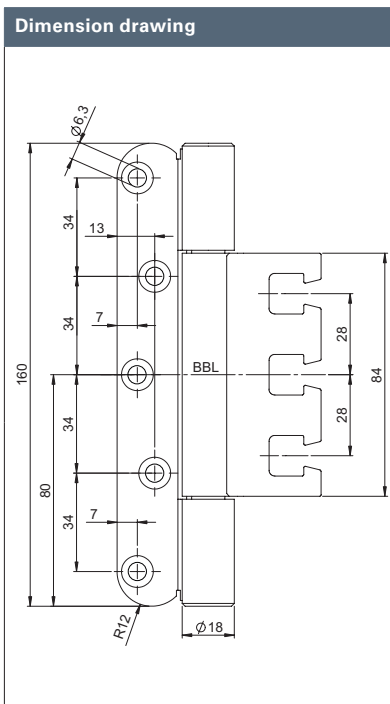




OBX-18-1531/160

Product characteristics		
Size	160 mm	
Ø Barrel diameter	18 mm	
Material thickness	3 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	160 mm	
Milling depth	3 mm	
Door type	rebated	■
	unrebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	200 kg
Material	Stainless steel (ER)	■
Finish	Steel matt nickel-plated	□
	Steel zinc-plated	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOOR



OBX-18-1531/120.ER



OBX-18-1532/160 FD.ER



Description

ECO Horizon Object hinge OBX-18-1531/160

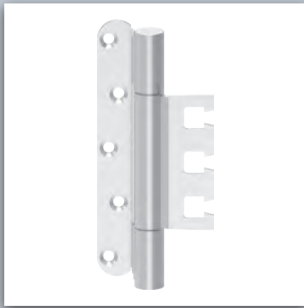
- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Internal, fixed rotary axis
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-18-1531/160 for rebated doors	Dimensions	Article number
OBX-18-1531/160.ER	Ø 18 x 160 mm	5030007422
OBX-18-1531/160.St.Ni	Ø 18 x 160 mm	5030007513
OBX-18-1531/160.St.Zk	Ø 18 x 160 mm	5030007516



PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-18-1531/160.ER



OBX-18-1532/160 FD.ER



Description

ECO Horizon Object hinge OBX-18-1531/120

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 11 / 80 kg

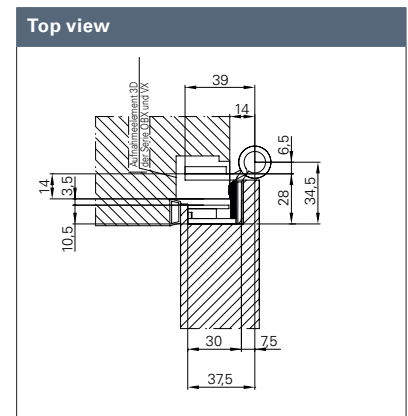
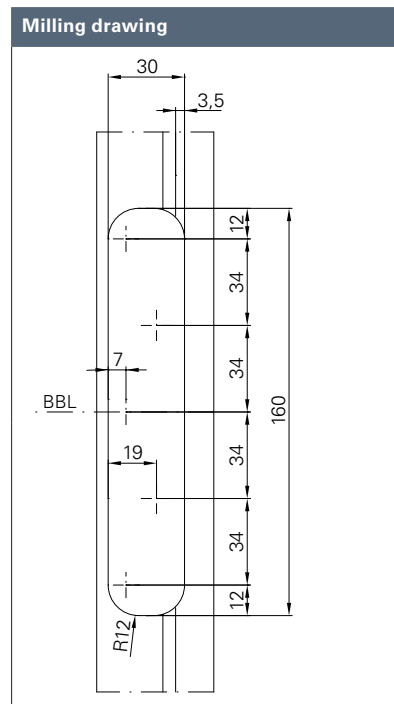
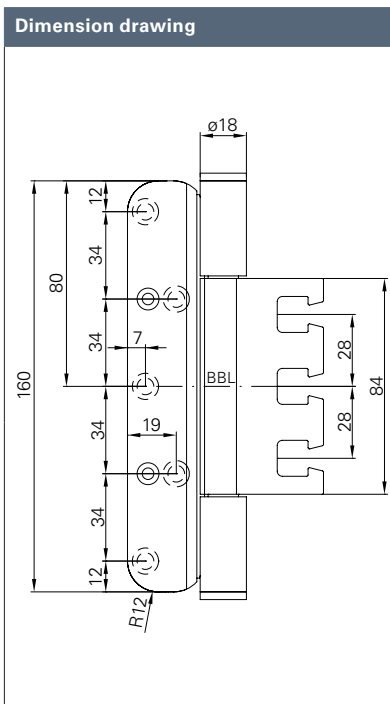
F **EN 1935** **CE** **ER**  Wooden door

OBX-18-1531/120 for rebated doors	Dimensions	Article number
OBX-18-1531/120.ER	Ø 18 x 120 mm	5030007469
OBX-18-1531/120.St.Ni	Ø 18 x 120 mm	5030013771
OBX-18-1531/120.St.Zk	Ø 18 x 120 mm	auf Anfrage



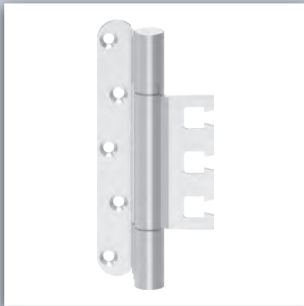
Product characteristics		
Size		160 mm
Ø Barrel diameter		18 mm
Material thickness		3 mm / 3,5 mm
Screws		5 x 50 mm
DIN left / DIN right		■
Milling diameter		24 mm
Milling length		160 mm
Milling depth		10,5 mm
Door type	rebated	■
	unrebated	-
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 11 (door weight)	EN 1935 CE	■
	acc. to Standard	80 kg
	ECO loading capacity	160 kg
Material	Stainless steel (ER)	■
Finish	Steel matt nickel-plated	□
	Steel zinc-plated	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
		OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR REBATED DOORS



OBX-18-1531/160.ER
OBX-18-1531/120.ER



Description

ECO Horizon Object hinge OBX-18-1532/160 FD

- For rebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 11 / 80 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-18-1532/160 FD for rebated doors	Dimensions	Article number
OBX-18-1532/160.ER	Ø 18 x 160 mm	5030007459

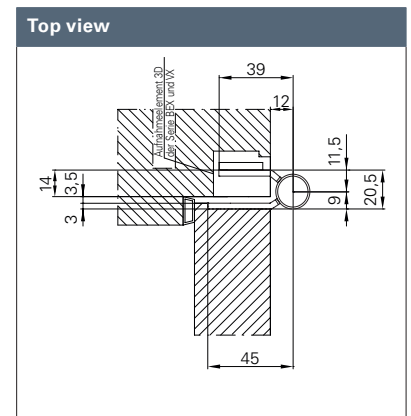
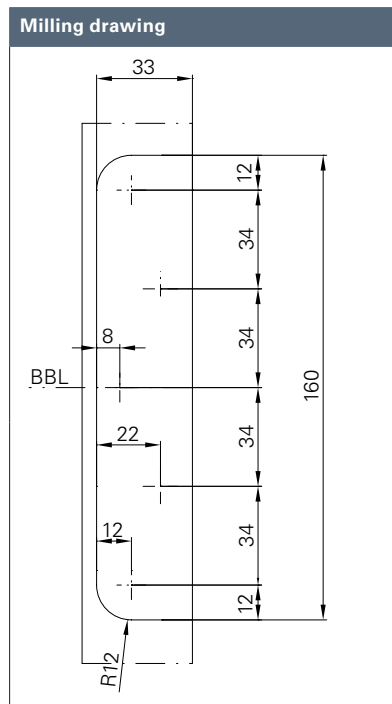
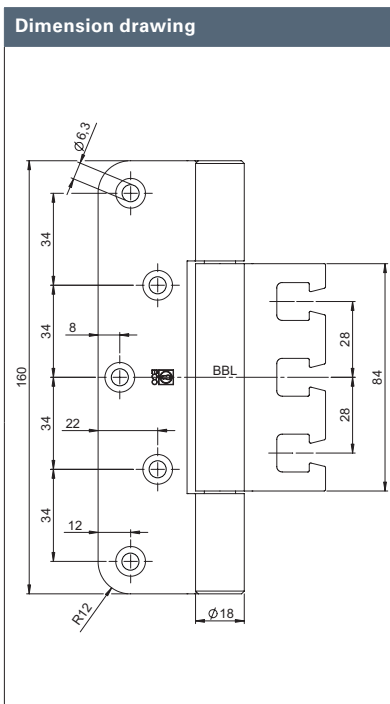


ECO Schulte project hinges are playing in their own league in regards to precision and aesthetics. The defined edge of the reception area provides best-possible force distribution and fitting accuracy.


Product characteristics

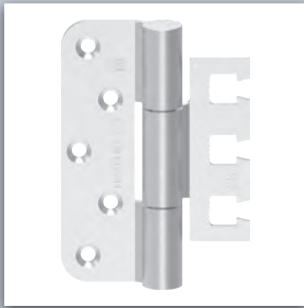
Size	160 mm	
Ø Barrel diameter	18 mm	
Material thickness	3 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	160 mm	
Milling depth	3 mm	
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
	EN 1935 CE	■
Loading capacity Class 14 (door weight)	acc. to Standard	160 kg
	ECO loading capacity	200 kg
	Material	Stainless steel (ER)
Finish	Steel matt nickel-plated	□
	Steel zinc-plated	□
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-18-2541/120.ER



Description

ECO Horizon Object hinge OBX-18-2541/160

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

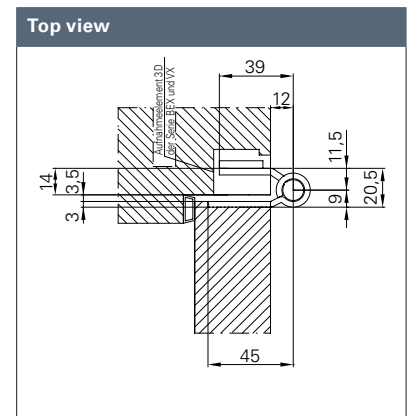
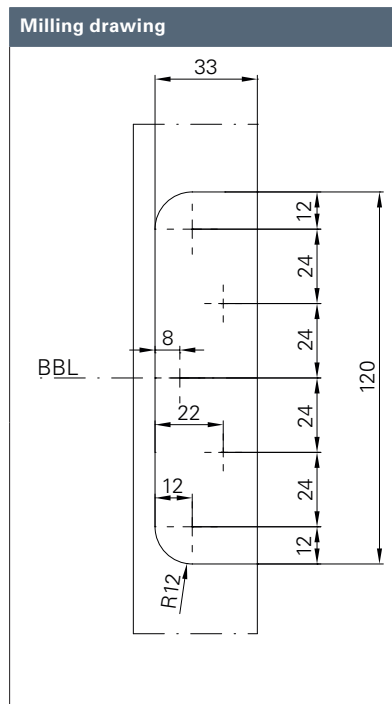
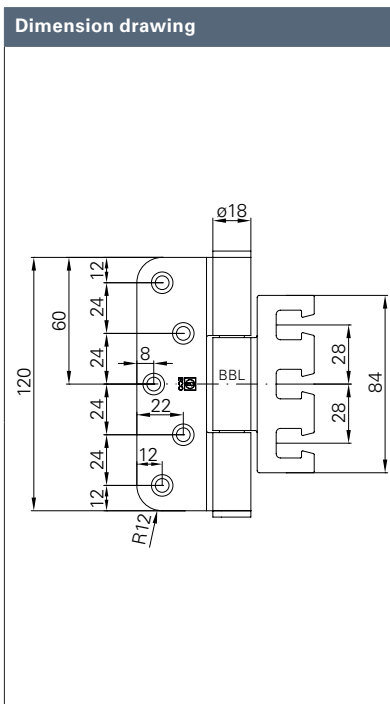
F **EN 1935** **CE** **ER**  Wooden door

OBX-18-2541/160 for unrebated doors	Dimensions	Article number
OBX-18-2541/160.ER	Ø 18 x 160 mm	5030007457
OBX-18-2541/160.St.Ni	Ø 18 x 160 mm	5030007492
OBX-18-2541/160.St.Zk	Ø 18 x 160 mm	5030007515


Product characteristics

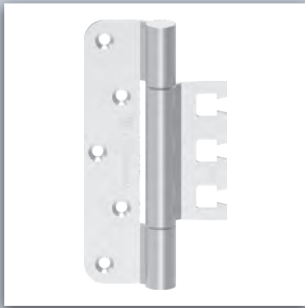
Size	120 mm	
Ø Barrel diameter	18 mm	
Material thickness	3 mm / 3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	120 mm	
Milling depth	3 mm	
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	■
	Aluminium	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 11 (door weight)	EN 1935 CE	■
	acc. to Standard	80 kg
	ECO loading capacity	120 kg
Material	Stainless steel (ER)	■
	Finish	Steel matt nickel-plated Steel zinc-plated
Frame box	Block frame	OBX-3001-3D
	Casing frame	OBX-3002-3D
	Steel frame	OBX-3011-3D
		OBX-3012-3D
	Aluminium frame	OBX-3021-3D

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBX-18-2541/160.ER



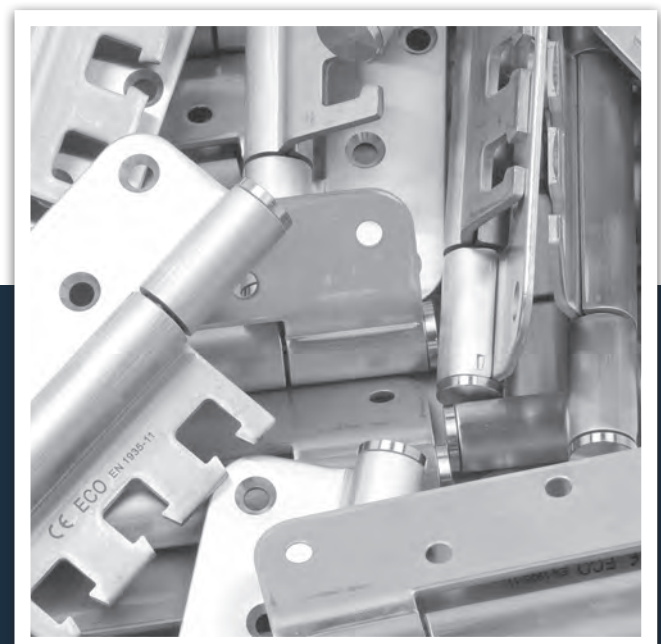
Description

ECO Horizon Object hinge OBX-18-2541/120

- For unrebated doors on wooden, steel or aluminium frames
- For three-dimensionally adjustable frame boxes OBX
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 11 / 80 kg

F **EN 1935** **CE** **ER**  Wooden door

OBX-18-2541/120 for unrebated doors	Dimensions	Article number
OBX-18-2541/120.ER	Ø 18 x 120 mm	5030007461
OBX-18-2541/120.St.Ni	Ø 18 x 120 mm	5030013779
OBX-18-2541/120.St.Zk	Ø 18 x 120 mm	5030013780



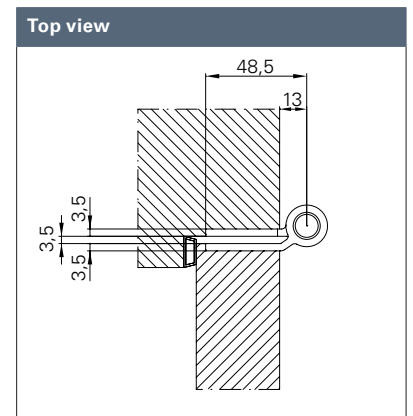
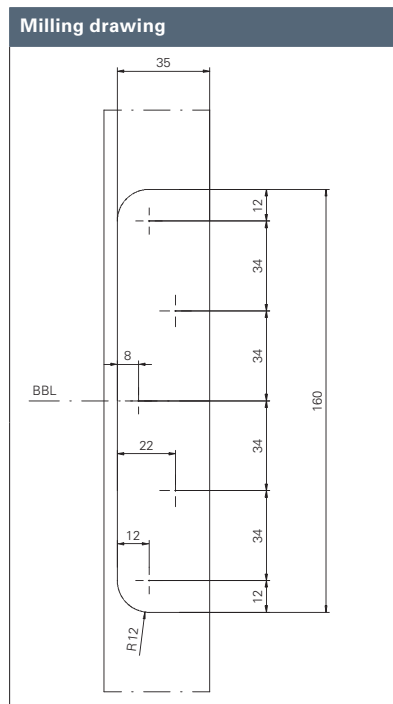
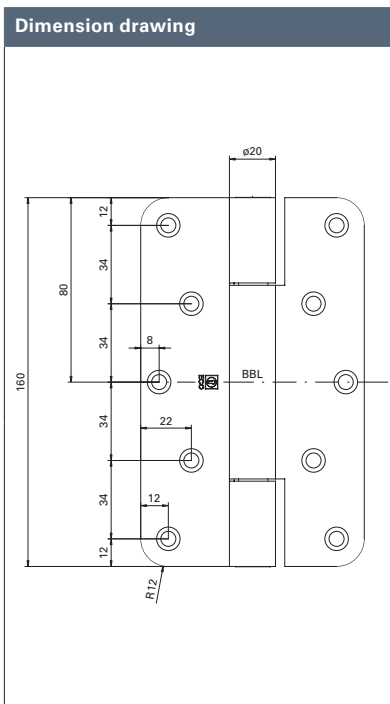
ECO Horizon Object hinges
OBN-20/18





Product characteristics		
Size		160 mm
Ø Barrel diameter		20 mm
Material thickness		3,5 mm
Screws		5 x 50 mm
DIN left / DIN right		■
Milling diameter		24 mm
Milling length		160 mm
Milling depth		3,5 mm
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14 (door weight)	EN 1935 CE	■
	acc. to Standard	160 kg
	ECO loading capacity	300 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□

■ Yes - No □ On request



Version with lifting lug as option



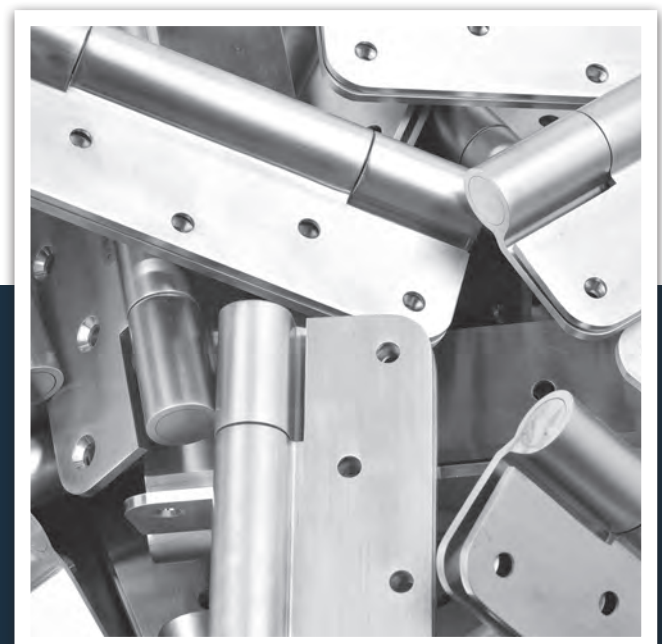
Description

ECO Horizon Object hinge OBN-20-4141/160-R round

- For unrebated doors on block frames
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Woodenn door

OBN-20-4141/160-R round for unrebated doors	Dimensions	Article number
OBN-20-4141/160-R.ER	Ø 20 x 160 mm	5030007521



PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-18-4141/120-R.ER round



OBN-18-4141/120-E.ER square



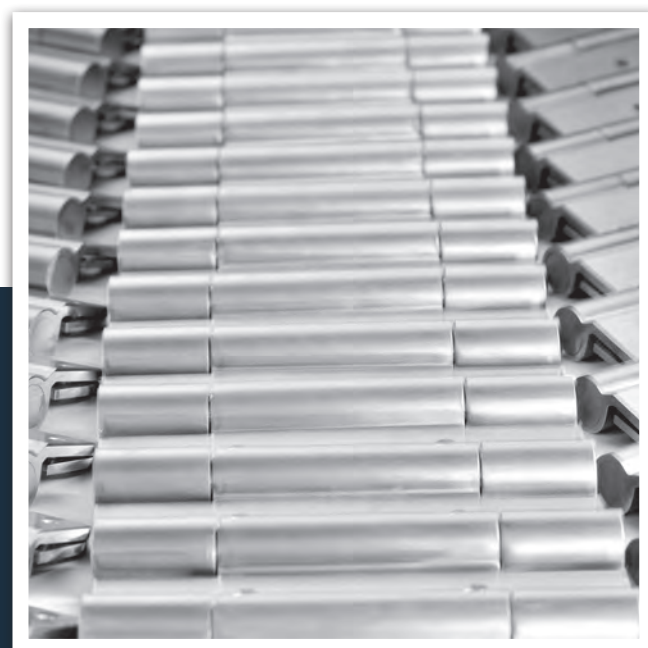
Description

ECO Horizon Object hinge OBN-18-4141/160-R round

- For unrebated doors on block frames
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 14 / 160 kg

F **EN 1935** **CE** **ER**  Wooden door

OBN-18-4141/160-R round for unrebated doors	Dimensions	Article number
OBN-18-4141/160-R.ER	Ø 18 x 160 mm	5030007475
OBN-18-4141/160-R.St.Ni	Ø 18 x 160 mm	On request
OBN-18-4141/160-R.St.Zk	Ø 18 x 160 mm	On request

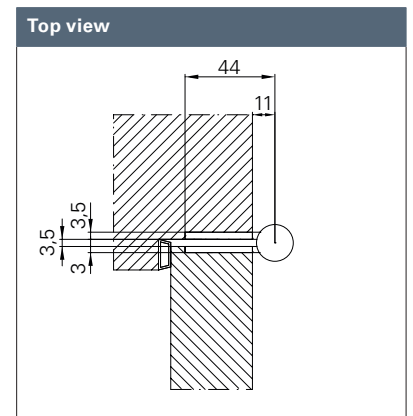
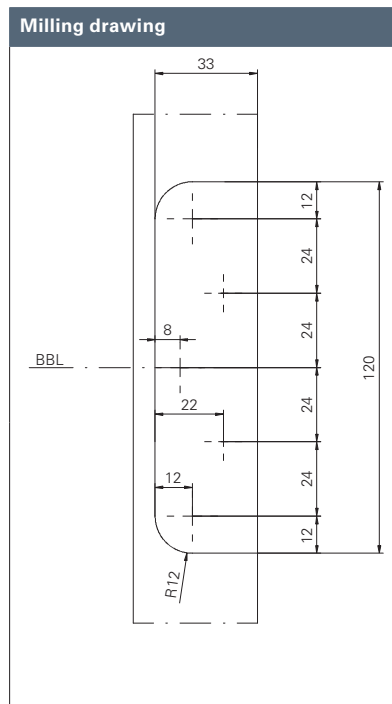
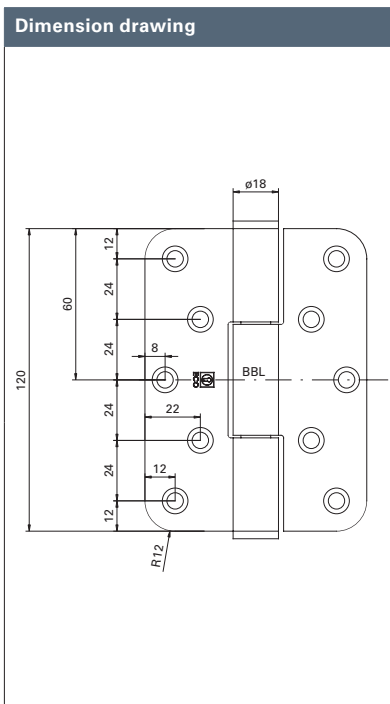




Product characteristics

Size	120 mm	
Ø Barrel diameter	18 mm	
Material thickness	3 mm / 3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling diameter	24 mm	
Milling length	120 mm	
Milling depth	3 mm / 3,5 mm	
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 11 (door weight)	EN 1935 CE	■
	acc. to Standard	80 kg
	ECO loading capacity	120 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□

■ Yes - No □ On request



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-18-4141/160-R.ER round



OBN-18-4141/120-E.ER square



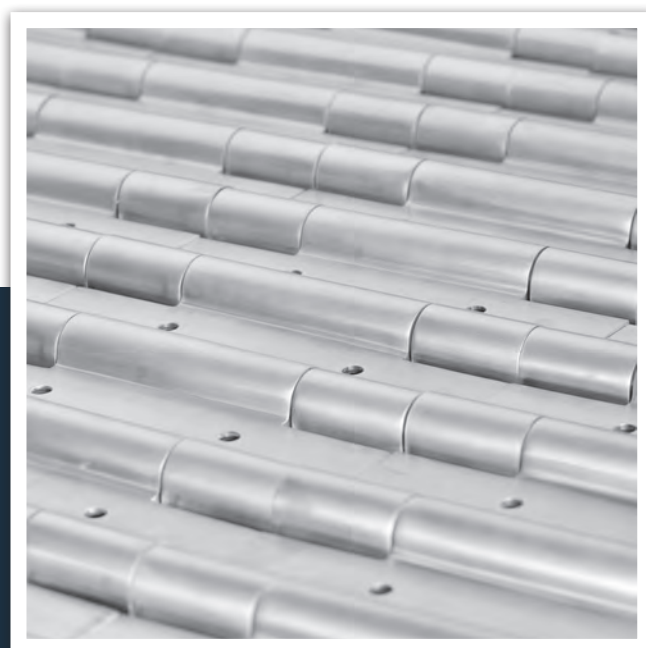
Description

ECO Horizon Object hinge OBN-18-4141/120-R round

- For unrebated doors on block frames
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 11 / 80 kg

F **EN 1935** **CE** **ER**  Wooden door

OBN-18-4141/120-R round for unrebated doors	Dimensions	Article number
OBN-18-4141/120-R.ER	Ø 18 x 120 mm	5030007479
OBN-18-4141/120-R.St.Ni	Ø 18 x 120 mm	On request
OBN-18-4141/120-R.St.Zk	Ø 18 x 120 mm	On request



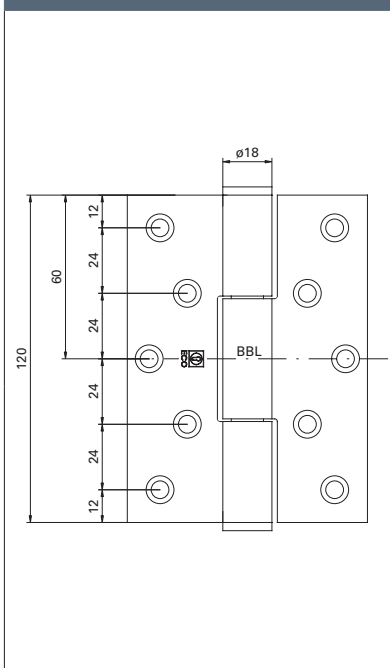


Product characteristics

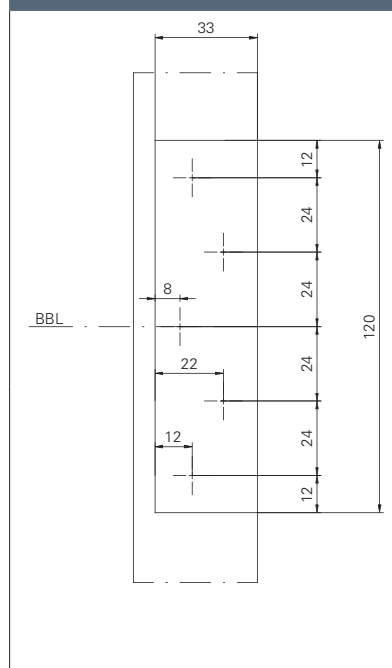
Size	120 mm	
Ø Barrel diameter	18 mm	
Material thickness	3 mm / 3,5 mm	
Screws	5 x 50 mm	
DIN left / DIN right	■	
Milling length	120 mm	
Milling depth	3 mm / 3,5 mm	
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 11 (door weight)	EN 1935 CE	■
	acc. to Standard	80 kg
	ECO loading capacity	120 kg
Material	Stainless steel (ER)	■
Finish	ER polished	□
	PVD-Coating (Brass)	□
	Powder coating in RAL colours	□

■ Yes - No □ On request

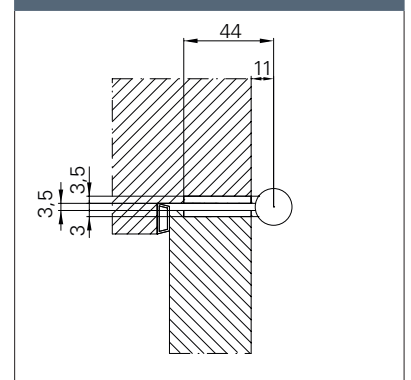
Dimension drawing



Milling drawing



Top view



Version with lifting lug as option

PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-18-4141/160-R.ER round



OBN-18-4141/120-E.ER square



Description

ECO Horizon Object hinge OBN-18-4141/120-E square

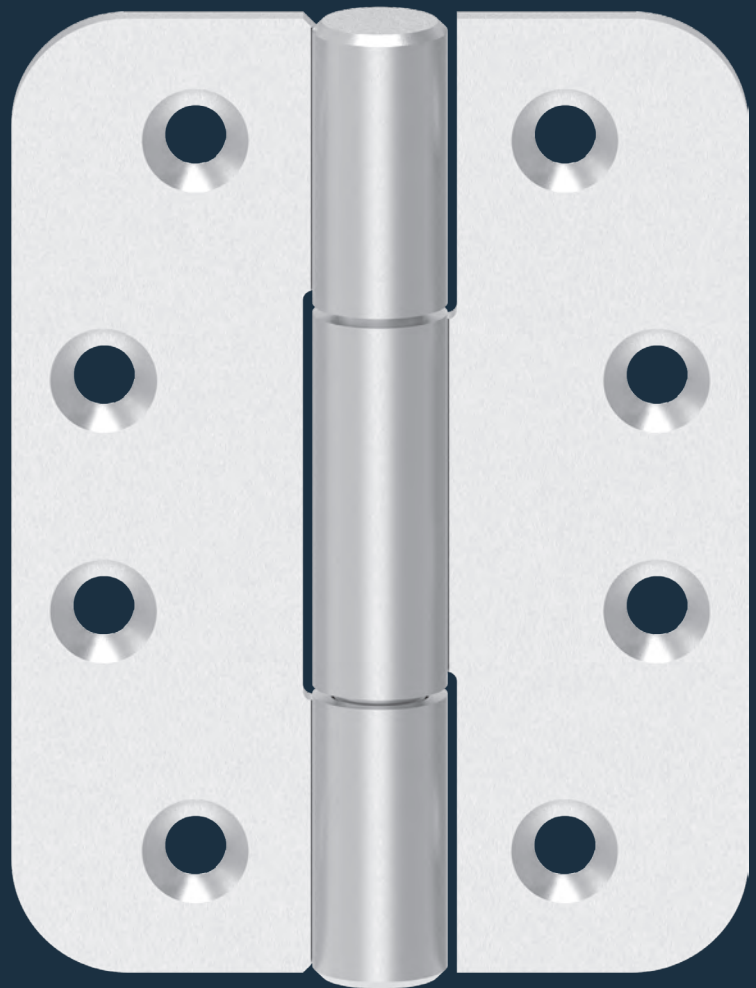
- For unrebated doors on block frames
- Internal, fixed rotary axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- EN 1935: Class 11 / 80 kg

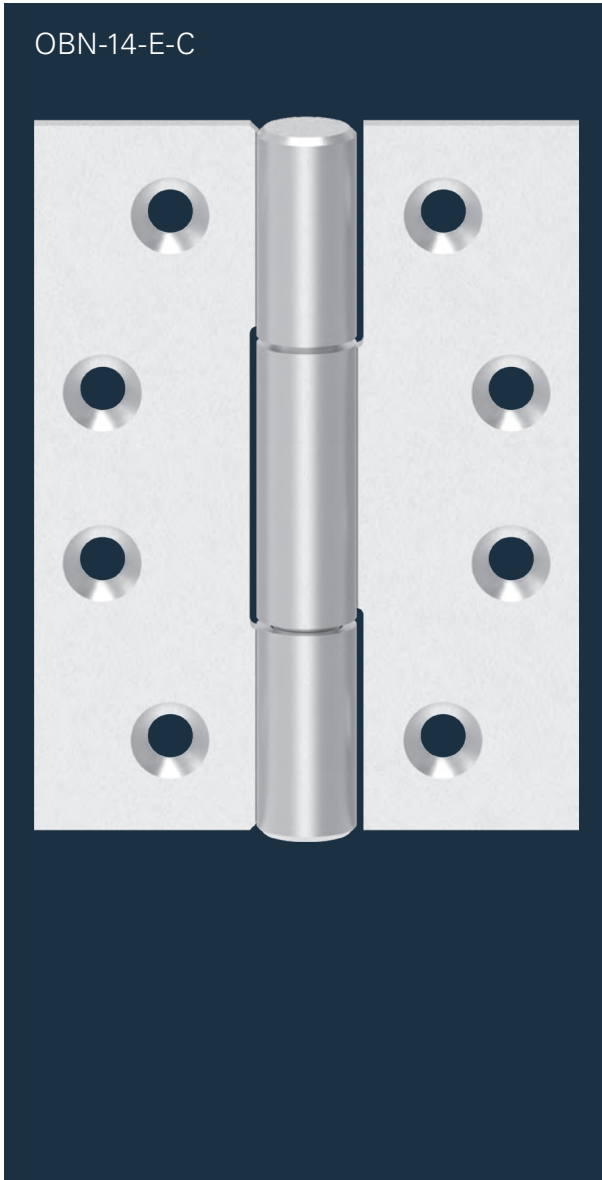
F **EN 1935** **CE** **ER**  Wooden door

OBN-18-4141/120-E square for unrebated doors	Dimensions	Article number
OBN-18-4141/120-E.ER	Ø 18 x 120 mm	On request
OBN-18-4141/120-E.St.Ni	Ø 18 x 120 mm	On request
OBN-18-4141/120-E.St.Zk	Ø 18 x 120 mm	On request



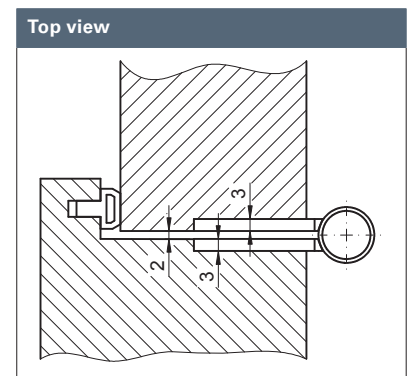
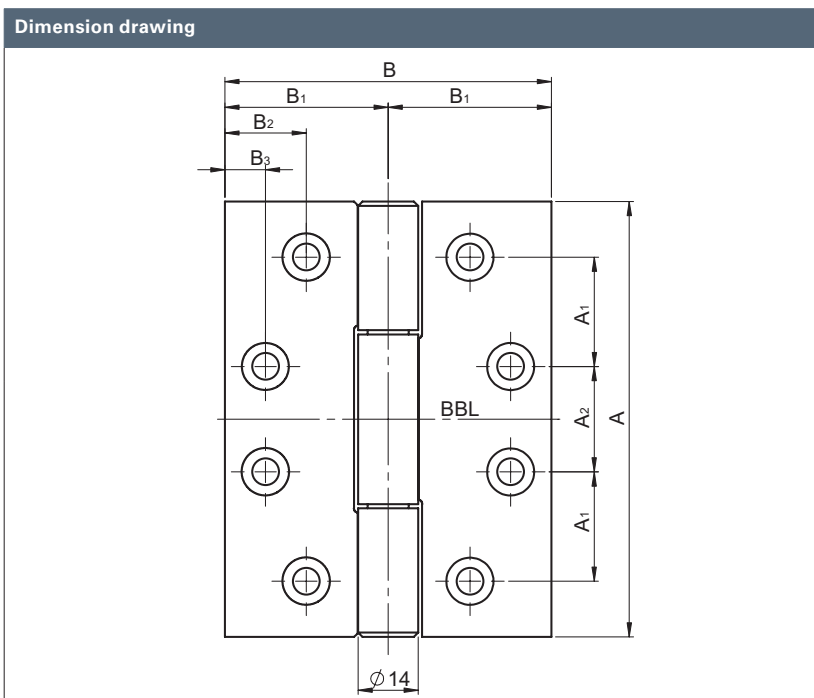
ECO Horizon Object hinges
OBN-14





Product characteristics		
Ø Barrel diameter		14 mm
Material thickness		3 mm
Screws		M5 x 16
DIN left / DIN right		■
Perforation	C form	■
	Z form	-
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14	EN 1935 CE	■
Door weight	acc. to Standard	160 kg
Material	Stainless steel (ER)	■
Finish	ER matt brushed	■
	ER polished	-
	PVD-Coating	□
	Powder coating in RAL colours	□

■ Yes - No □ On request



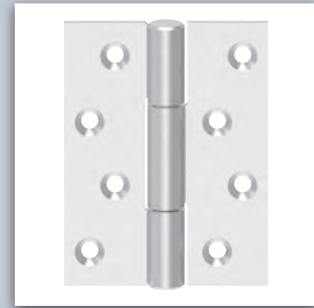
PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-14-R-C round C perforation



OBN-14-R-Z round Z perforation



OBN-14-E-Z square Z perforation



Description

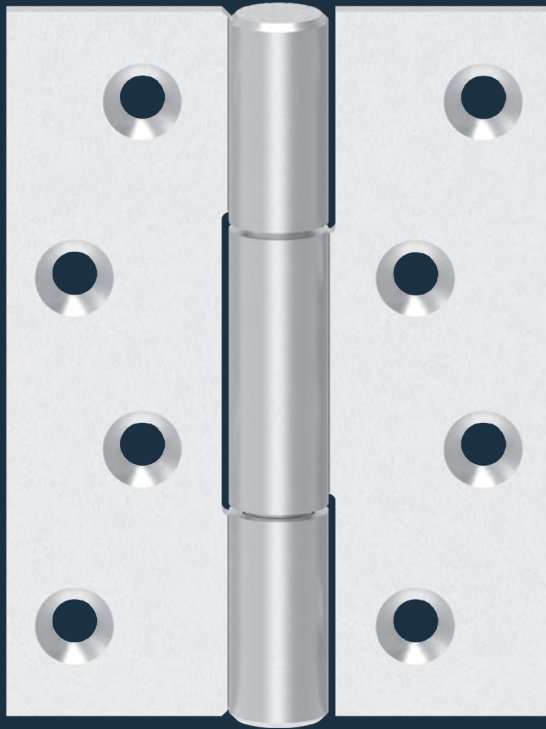
ECO Horizon Object hinge OBN-14-E-C square C perforation

- For unrebated doors on wooden or steel frames
- Internal, fixed axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- Invisible axle connection (without cover head)

F **EN 1935** **CE** **ER**  Wooden door  Steel door

OBN-14-E-C square C perforation for unrebated doors	Dimensions A x B inch	Dimensions A x B mm	A1 mm	A2 mm	B1 mm	B2 mm	B3 mm	Article number
OBN-14-4030-E-C.ER	4 x 3 inch	101,6 x 76,2 mm	25,5 mm	24,6 mm	38,1 mm	19 mm	9,5 mm	5030047531
OBN-14-4035-E-C.ER	4 x 3,5 inch	101,6 x 88,9 mm	25,5 mm	24,6 mm	44,45 mm	19 mm	9,5 mm	5030047532
OBN-14-4040-E-C.ER	4 x 4 inch	101,6 x 101,6 mm	25,5 mm	24,6 mm	50,8 mm	19 mm	9,5 mm	5030047533
OBN-14-4540-E-C.ER	4,5 x 4 inch	114,3 x 101,6 mm	28,6 mm	31,3 mm	50,8 mm	25,4 mm	9,5 mm	5030048013
OBN-14-5030-E-C.ER	5 x 3 inch	127 x 76,2 mm	31,75 mm	37,7 mm	38,1 mm	19 mm	9,5 mm	5030048015
OBN-14-5035-E-C.ER	5 x 3,5 inch	127 x 88,9 mm	31,75 mm	37,7 mm	44,45 mm	25,4 mm	9,5 mm	auf Anfrage
OBN-14-5040-E-C.ER	5 x 4 inch	127 x 101,6 mm	31,75 mm	37,7 mm	50,8 mm	25,4 mm	9,5 mm	5030048019
OBN-14-5050-E-C.ER	5 x 5 inch	127 x 127 mm	31,75 mm	37,7 mm	63,5 mm	25,4 mm	9,5 mm	5030048023

OBN-14-E-Z

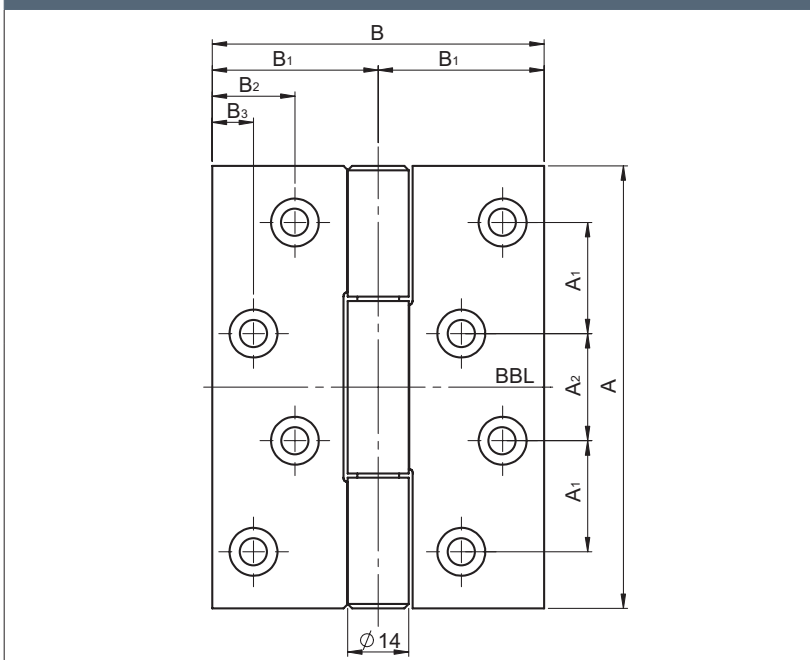


Product characteristics

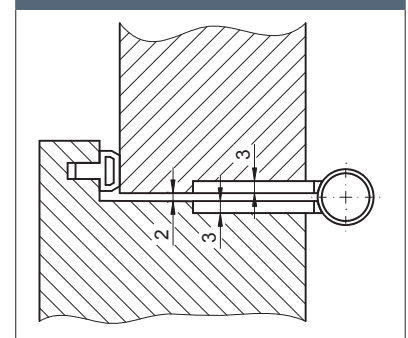
Ø Barrel diameter	14 mm	
Material thickness	3 mm	
Screws	Ø5 x 30	
DIN left / DIN right	■	
Perforation	C form	-
	Z form	■
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	-
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14	EN 1935 CE	■
Door weight	acc. to Standard	160 kg
Material	Stainless steel (ER)	■
Finish	ER matt brushed	■
	ER polished	-
	PVD-Coating	□
	Powder coating in RAL colours	□

■ Yes - No □ On request

Dimension drawing



Top view



PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-14-R-C round C perforation



OBN-14-R-Z rund Z perforation



OBN-14-E-C eckig C perforation



Description

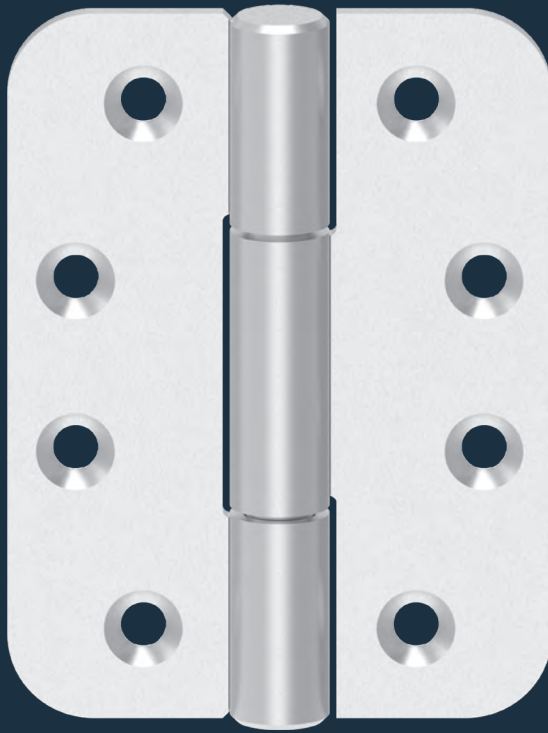
ECO Horizon Object hinge OBN-14-E-Z square Z perforation

- For unrebated doors on wooden frames
- Internal, fixed axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- Invisible axle connection (without cover head)

F **EN 1935** **CE** **ER**  Wooden door

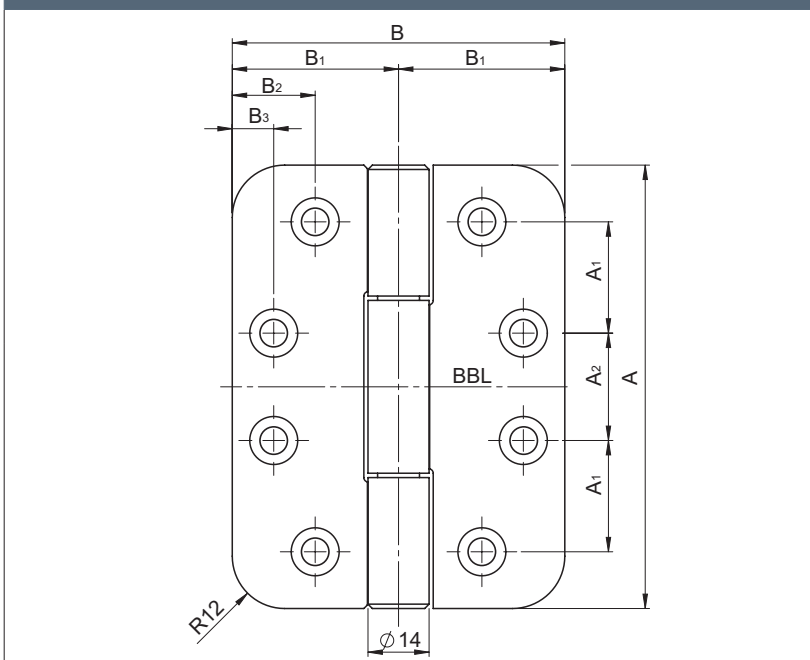
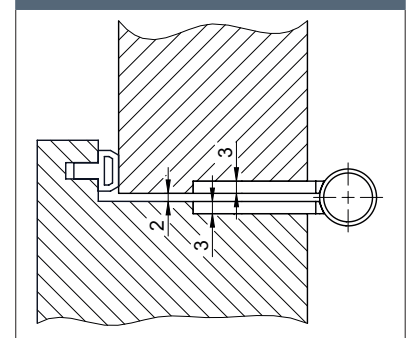
OBN-14-E-Z square Z perforation for unrebated doors	Dimensions A x B inch	Dimensions A x B mm	A1 mm	A2 mm	B1 mm	B2 mm	B3 mm	Article number
OBN-14-4030-E-Z.ER	4 x 3 inch	101,6 x 76,2 mm	25,5 mm	24,6 mm	38,1 mm	19 mm	9,5 mm	On request
OBN-14-4035-E-Z.ER	4 x 3,5 inch	101,6 x 88,9 mm	25,5 mm	24,6 mm	44,45 mm	19 mm	9,5 mm	On request
OBN-14-4040-E-Z.ER	4 x 4 inch	101,6 x 101,6 mm	25,5 mm	24,6 mm	50,8 mm	19 mm	9,5 mm	On request
OBN-14-4540-E-Z.ER	4,5 x 4 inch	114,3 x 101,6 mm	28,6 mm	31,3 mm	50,8 mm	25,4 mm	9,5 mm	On request
OBN-14-5030-E-Z.ER	5 x 3 inch	127 x 76,2 mm	31,75 mm	37,7 mm	38,1 mm	19 mm	9,5 mm	On request
OBN-14-5035-E-Z.ER	5 x 3,5 inch	127 x 88,9 mm	31,75 mm	37,7 mm	44,45 mm	25,4 mm	9,5 mm	On request
OBN-14-5040-E-Z.ER	5 x 4 inch	127 x 101,6 mm	31,75 mm	37,7 mm	50,8 mm	25,4 mm	9,5 mm	On request
OBN-14-5050-E-Z.ER	5 x 5 inch	127 x 127 mm	31,75 mm	37,7 mm	63,5 mm	25,4 mm	9,5 mm	On request

OBN-14-R-C


Product characteristics

Ø Barrel diameter		14 mm
Material thickness		3 mm
Screws		M5 x 16
DIN left / DIN right		■
Milling diameter		24 mm
Perforation	C form	■
	Z form	-
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14	EN 1935 CE	■
Door weight	acc. to Standard	160 kg
Material	Stainless steel (ER)	■
Finish	ER matt brushed	■
	ER polished	-
	PVD-Coating	□
	Powder coating in RAL colours	□

■ Yes - No □ On request

Dimension drawing

Top view


PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-14-R-Z round Z perforation



OBN-14-E-C square C perforation



OBN-14-E-Z square Z perforation



Description

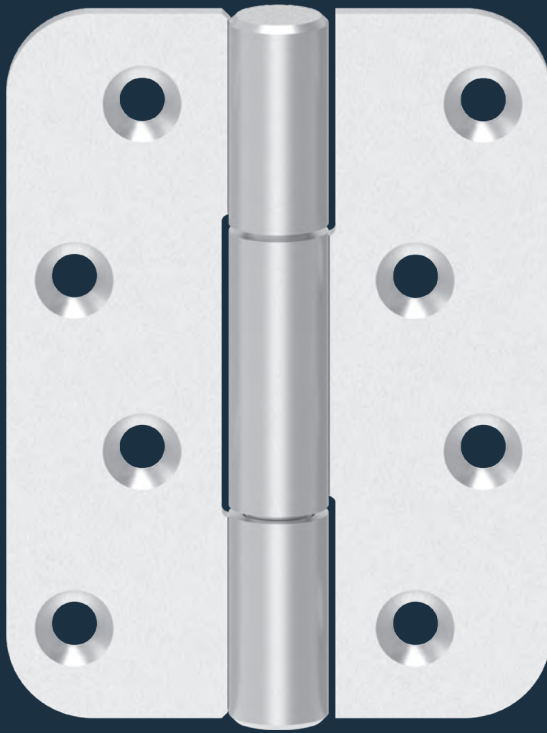
ECO Horizon Object hinge OBN-14-R-C round C perforation

- For unrebated doors on wooden or steel frames
- Internal, fixed axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- Invisible axle connection (without cover head)

F **EN 1935** **CE** **ER**  Wooden door  Steel door

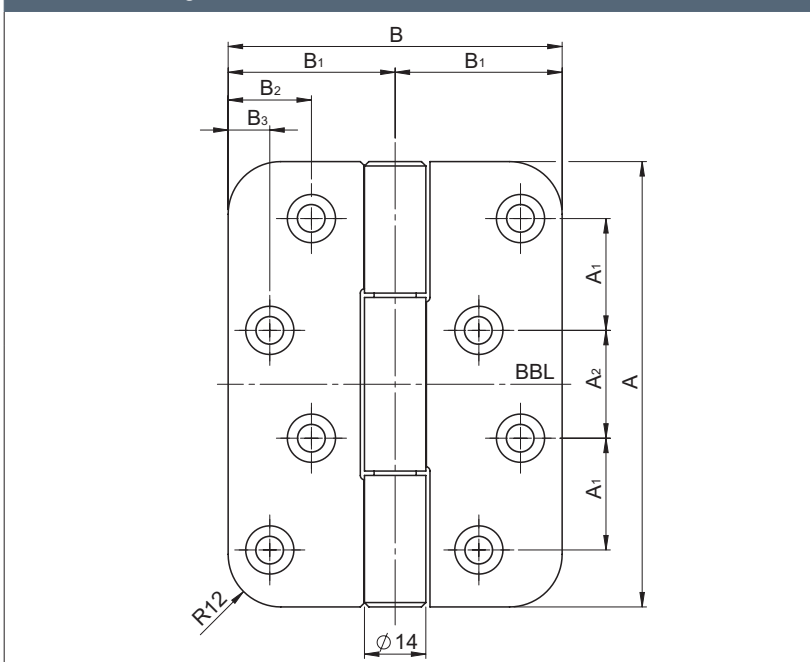
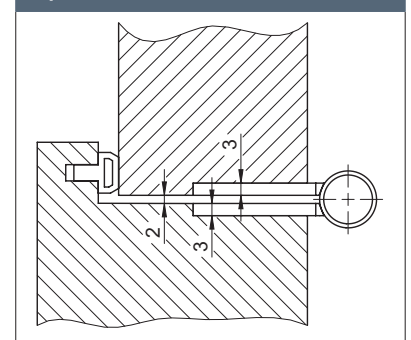
OBN-14-R-C round C perforation for unrebated doors	Dimensions A x B inch	Dimensions A x B mm	A ₁ mm	A ₂ mm	B ₁ mm	B ₂ mm	B ₃ mm	Article number
OBN-14-4030-R-C.ER	4 x 3 inch	101,6 x 76,2 mm	25,5 mm	24,6 mm	38,1 mm	19 mm	9,5 mm	auf Anfrage
OBN-14-4035-R-C.ER	4 x 3,5 inch	101,6 x 88,9 mm	25,5 mm	24,6 mm	44,45 mm	19 mm	9,5 mm	auf Anfrage
OBN-14-4040-R-C.ER	4 x 4 inch	101,6 x 101,6 mm	25,5 mm	24,6 mm	50,8 mm	19 mm	9,5 mm	auf Anfrage
OBN-14-4540-R-C.ER	4,5 x 4 inch	114,3 x 101,6 mm	28,6 mm	31,3 mm	50,8 mm	25,4 mm	9,5 mm	auf Anfrage
OBN-14-5030-R-C.ER	5 x 3 inch	127 x 76,2 mm	31,75 mm	37,7 mm	38,1 mm	19 mm	9,5 mm	auf Anfrage
OBN-14-5035-R-C.ER	5 x 3,5 inch	127 x 88,9 mm	31,75 mm	37,7 mm	44,45 mm	25,4 mm	9,5 mm	auf Anfrage
OBN-14-5040-R-C.ER	5 x 4 inch	127 x 101,6 mm	31,75 mm	37,7 mm	50,8 mm	25,4 mm	9,5 mm	auf Anfrage
OBN-14-5050-R-C.ER	5 x 5 inch	127 x 127 mm	31,75 mm	37,7 mm	63,5 mm	25,4 mm	9,5 mm	auf Anfrage

OBN-14-R-Z


Product characteristics

Ø Barrel diameter		14 mm
Material thickness		3 mm
Screws		Ø5 x 30
DIN left / DIN right		■
Milling diameter		24 mm
Perforation	C form	-
	Z form	■
Door type	rebated	-
	unrebated	■
Frame type	Wooden	■
	Steel	-
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 14	EN 1935 CE	■
Door weight	acc. to Standard	160 kg
Material	Stainless steel (ER)	■
Finish	ER matt brushed	■
	ER polished	-
	PVD-Coating	□
	Powder coating in RAL colours	□

■ Yes - No □ On request

Dimension drawing

Top view


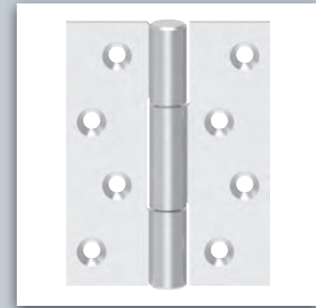
PRODUCT FAMILY ■ FOR UNREBATED DOORS



OBN-14-R-C round C perforation



OBN-14-E-C square C perforation



OBN-14-E-Z square Z perforation



Description

ECO Horizon Object hinge OBN-14-R-Z round Z perforation

- For unrebated doors on wooden frames
- Internal, fixed axis
- Wear and maintenance-free ball bearing technology for absorbing axial and radial forces
- Suitable for fire- and smoke control doors
- DIN left / DIN right usable without modification
- Invisible axle connection (without cover head)

F **EN 1935** **CE** **ER**  Wooden door

OBN-14-R-Z round Z perforation for unrebated doors	Dimensions A x B inch	Dimensions A x B mm	A1 mm	A2 mm	B1 mm	B2 mm	B3 mm	Article number
OBN-14-4030-R-Z.ER	4 x 3 inch	101,6 x 76,2 mm	25,5 mm	24,6 mm	38,1 mm	19 mm	9,5 mm	5030047534
OBN-14-4035-R-Z.ER	4 x 3,5 inch	101,6 x 88,9 mm	25,5 mm	24,6 mm	44,45 mm	19 mm	9,5 mm	5030047535
OBN-14-4040-R-Z.ER	4 x 4 inch	101,6 x 101,6 mm	25,5 mm	24,6 mm	50,8 mm	19 mm	9,5 mm	5030047536
OBN-14-4540-R-Z.ER	4,5 x 4 inch	114,3 x 101,6 mm	28,6 mm	31,3 mm	50,8 mm	25,4 mm	9,5 mm	5030048012
OBN-14-5030-R-Z.ER	5 x 3 inch	127 x 76,2 mm	31,75 mm	37,7 mm	38,1 mm	19 mm	9,5 mm	5030048016
OBN-14-5035-R-Z.ER	5 x 3,5 inch	127 x 88,9 mm	31,75 mm	37,7 mm	44,45 mm	25,4 mm	9,5 mm	On request
OBN-14-5040-R-Z.ER	5 x 4 inch	127 x 101,6 mm	31,75 mm	37,7 mm	50,8 mm	25,4 mm	9,5 mm	5030048020
OBN-14-5050-R-Z.ER	5 x 5 inch	127 x 127 mm	31,75 mm	37,7 mm	63,5 mm	25,4 mm	9,5 mm	5030048024

OBX-Frame boxes
Cover plates
Lifting lugs



OBX-3001-3D

Description
ECO Frame box OBX-3001-3D

- For object hinges OBX in the sizes 120 and 160 mm
- On block frames with rebated and unrebated doors
- Continuously adjustable in three dimensions:
 - +/- 3 mm Side
 - +/- 3 mm Height
 - +/- 3 mm Pressure
- Surface: Steel zinc-plated

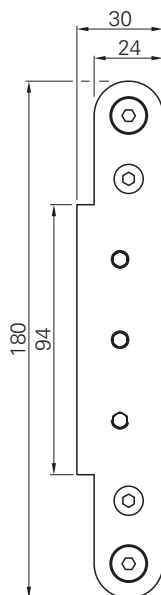
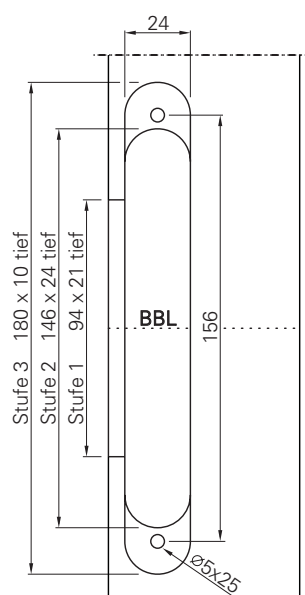
OBX-3001-3D Block frame	Material	Article number
OBX-3001-3D	Steel zinc-plated	5030016581



Please directly order the necessary cover plates!
From page 658.

Advantages frame box

- Nylon-guided adjusting spindle supplies additional stability.
- Nylon-guided push plate enables easy mounting. The insertion of the OBX hinge is simplified enormously.
- Continuously adjustable in three dimensions
- The exact adjustment of the door is simplified.

Dimension drawing

Milling drawing


Description
ECO Frame box OBX-3002-3D

- For object hinges OBX in the sizes 120 and 160 mm
- On casing frames with rebated and unrebated doors
- Continuously adjustable in three dimensions:
 - +/- 3 mm Side
 - +/- 3 mm Height
 - +/- 3 mm Pressure
- Surface: Steel zinc-plated

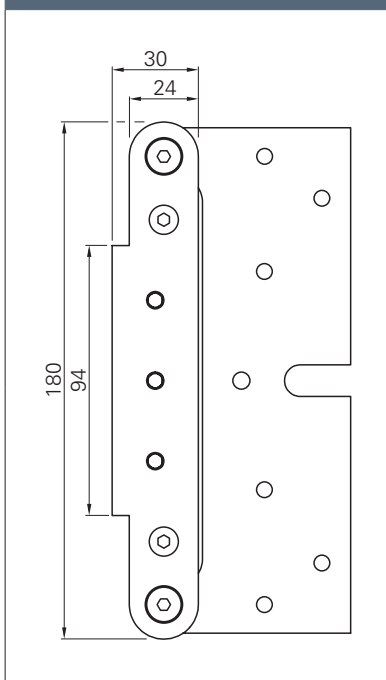
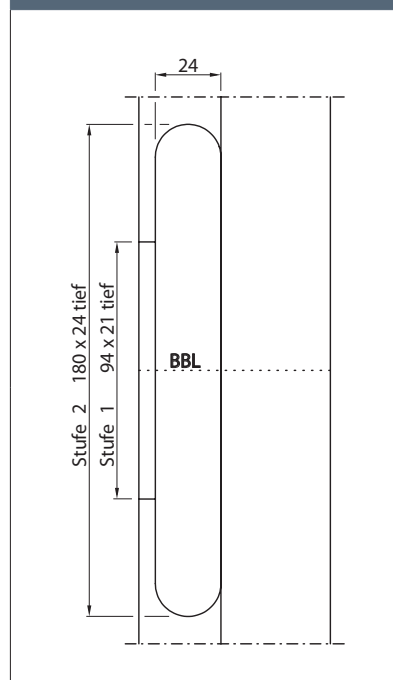
OBX-3002-3D Casing frame	Material	Article number
OBX-3002-3D	Steel zinc-plated	5030016588



Please directly order the necessary cover plates!
From page 658.

Advantages frame box

- Nylon-guided adjusting spindle supplies additional stability.
- Nylon-guided push plate enables easy mounting. The insertion of the OBX hinge is simplified enormously.
- Continuously adjustable in three dimensions
- The exact adjustment of the door is simplified.


Dimension drawing

Milling drawing


OBX-3011/3012

Description
ECO Frame box OBX-3011-3D

- For object hinges OBX in the sizes 120 and 160 mm
- On steel frames with rebatet or unrebatet doors
- Continuously adjustable in three dimensions:
 - +/- 3 mm Side
 - +/- 3 mm Height
 - +/- 3 mm Pressure
- Surface: Steel zinc-plated

OBX-3011-3D with welding projection Steel frame	Material	Article number
OBX-3011-3D	Steel zinc-plated	5030016223

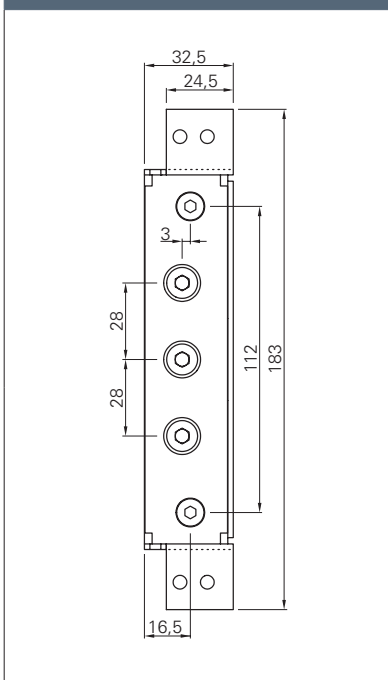
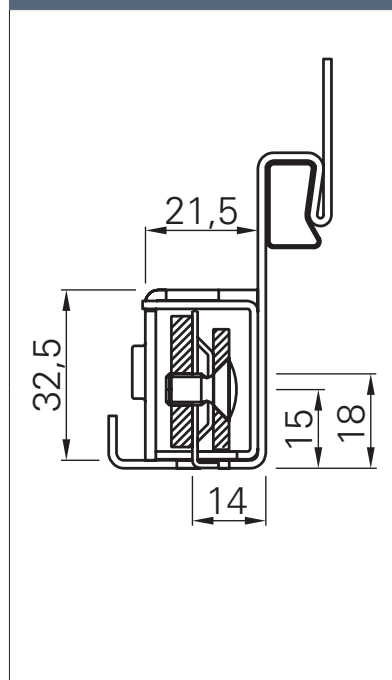
OBX-3012-3D without welding projection Steel frame	Material	Article number
OBX-3012-3D	Steel zinc-plated	5030016225



Please directly order the necessary cover plates!
From page 658.

Advantages frame box

- Nylon-guided adjusting spindle supplies additional stability.
- Nylon-guided push plate enables easy mounting. The insertion of the OBX hinge is simplified enormously.
- Continuously adjustable in three dimensions
- The exact adjustment of the door is simplified.

Dimension drawing

Milling drawing


Description
ECO Frame box OBX-3021-3D

- For object hinges OBX in the sizes 120 and 160 mm
- On aluminium frames with rebated or unrebated doors
- Continuously adjustable in three dimensions:
 - +/- 3 mm Side
 - +/- 3 mm Height
 - +/- 3 mm Pressure
- Surface: Steel zinc-plated

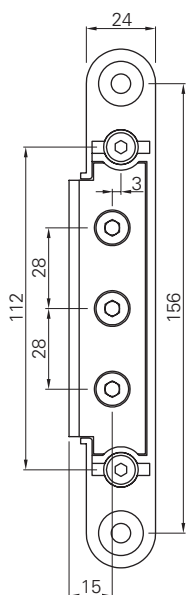
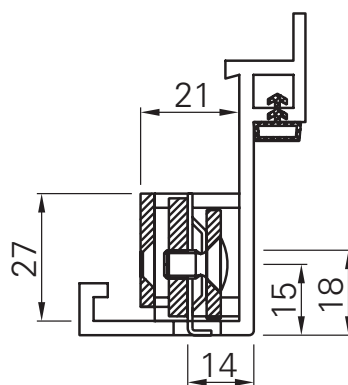
OBX-3021-3D Aluminium frame	Material	Article number
OBX-3021-3D	Steel zinc-plated	5030016604



Please directly order the necessary cover plates!
From page 658.

Advantages frame box

- Nylon-guided adjusting spindle supplies additional stability.
- Nylon-guided push plate enables easy mounting. The insertion of the OBX hinge is simplified enormously.
- Continuously adjustable in three dimensions
- The exact adjustment of the door is simplified.


Dimension drawing

Milling drawing


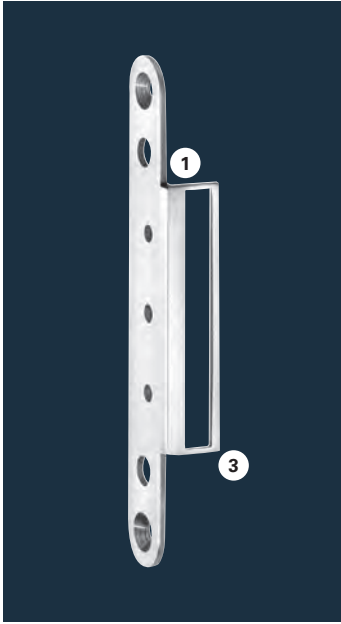
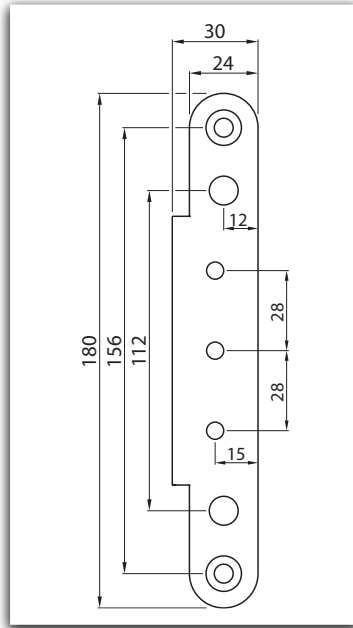
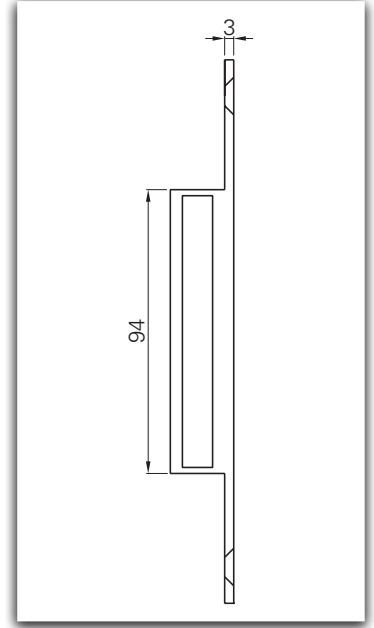


Illustration: Cover plate OBX-3096



Dimensioning: Cover plate OBX-3096

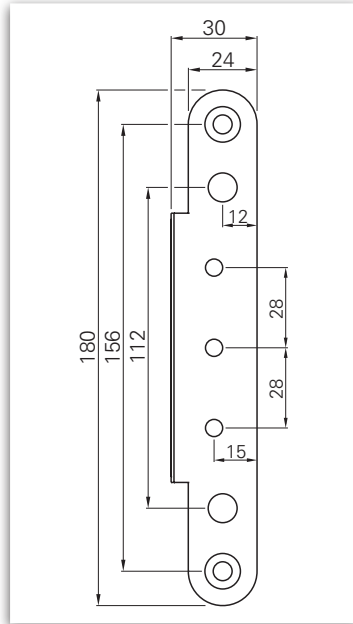


Dimensioning: Cover plate OBX-3096

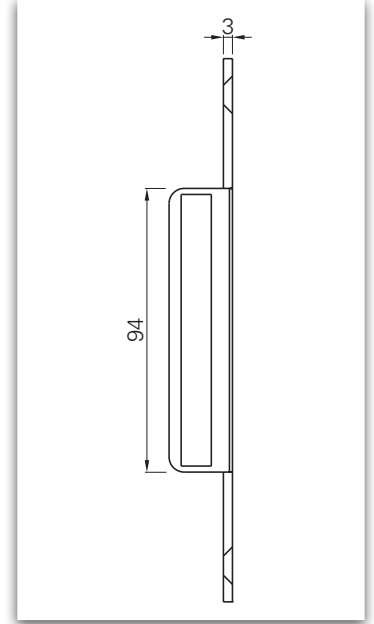
OBX-3096	Material	Angle - Ending	Article number
OBX-3096.ER	ER	Square - square	5030016571
OBX-3096.St.Ni	St.Ni	Square - square	5030030582
OBX-3096.St.Zk	St.Zk	Square - square	5030016566



Illustration: Cover plate OBX-3097



Dimensioning: Cover plate OBX-3097



Dimensioning: Cover plate OBX-3097

OBX-3097	Material	Angle - Ending	Article number
OBX-3097.ER	ER	Square - round	5030016578
OBX-3097.St.Ni	St.Ni	Square - round	On request
OBX-3097.St.Zk	St.Zk	Square - round	On request

① with square angle

② with round angle

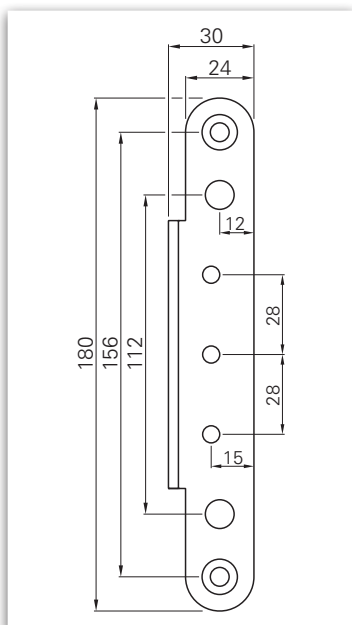
③ and square ending

④ and round ending

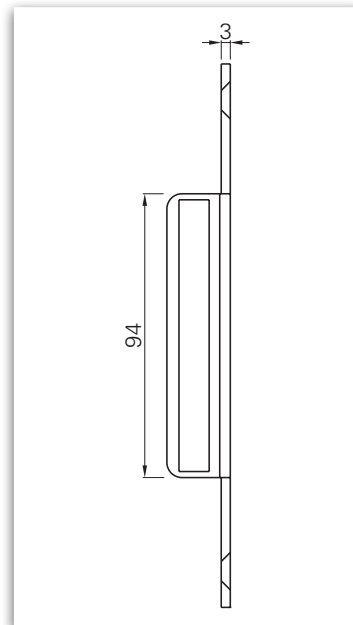
OBX-Cover plates for frame



Illustration: Cover plate OBX-3098



Dimensioning: Cover plate OBX-3098



Dimensioning: Cover plate OBX-3098

OBX-3098	Material	Angle · Ending	Article number
OBX-3098.ER	ER	Round - round	5030016578
OBX-3098.St.Ni	St.Ni	Round - round	On request
OBX-3098.St.Zk	St.Zk	Round - round	On request

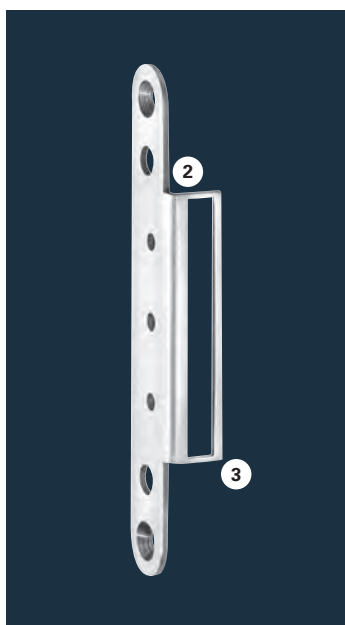
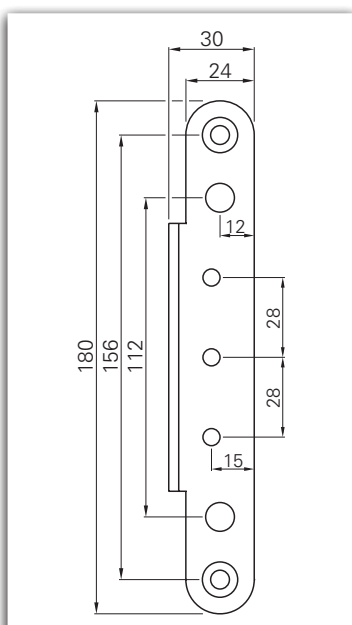
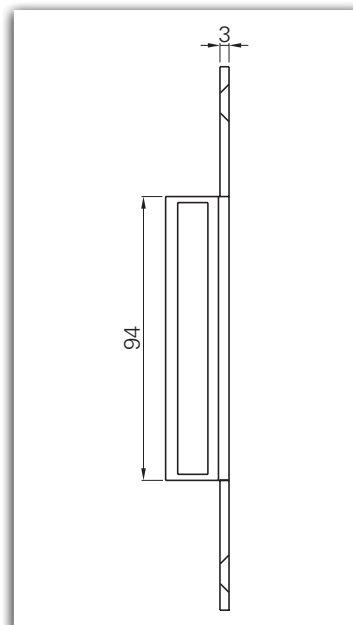


Illustration: Cover plate OBX-3099



Dimensioning: Cover plate OBX-3099



Dimensioning: Cover plate OBX-3099

OBX-3099	Material	Angle · Ending	Article number
OBX-3099.ER	ER	Round - square	5030013490
OBX-3099.St.Ni	St.Ni	Round - square	On request
OBX-3099.St.Zk	St.Zk	Round - square	5030019113

① with square angle

② with round angle

③ and square ending

④ and round ending



Illustration: Lifting lug OBX-6012 Steel zinc-plated

Lifting lug

The use of lifting lugs is recommended for additional stabilization of the hinge - depending on use, construction and load of the door. Lifting lugs relieve the fixing screws and stabilize the hinge parts in the door frame. The lifting lugs transfer the forces into the stabilized door frame so the forces can be better absorbed. The lifting lug is only stabilizing, not increasing the loading capacity.

Lifting lug in order to stabilize the hinge	Material	Hole pattern	Article number
OBX-6012.St.Zk	St.Zk	for 7er hole pattern	5030016606

Laser welded steel hinges



Genius LHA-SET



Product characteristics

Size	160 mm	
Ø Barrel diameter	25 mm	
Material thickness	3 mm	
DIN left / DIN right	■	
Frame type	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 12 (door weight)	Hinge with spring max.	80 kg
	KO hinge EN 1935 *	100 kg
	acc. to Standard DIN 18 272	80 kg
Finish	Steel zinc-plated frame - and door parts	■
Hinge type	Three-part standard hinge, laser-welded	
Bearing technology	Friction bearing	■
	Ball bearing	-
Fixing	Welded to the door frame, screwed to the leaf	

■ Yes - No *in accordance

ECO-Genius LHA

**three-part standard hinge to be welded on, adjustable in height (± 3 mm)
EN 1935: Class 12 / 80 (100) kg**

Description: ECO spring hinge / KO hinge set adjustable in height

Spring hinge: Based on **DIN 18272**

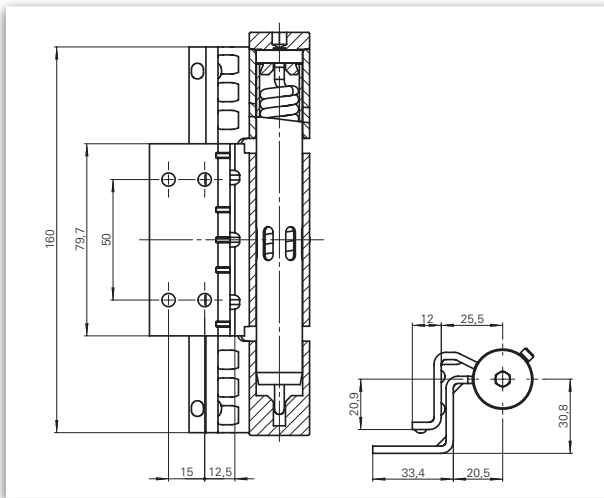
KO-hinge: Acc. to **EN 1935**

Mounting : Easy mounting of the hinge parts with the help of the hinge bolt.

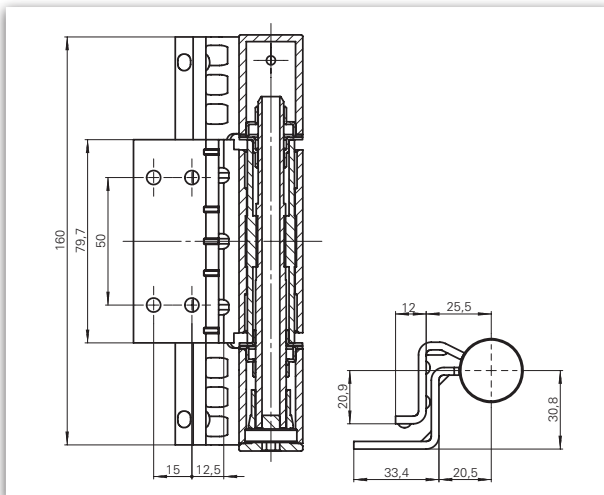
Special feature: Height adjustment through comfortable handling

Usage:

For the use in doors with requirements in regards to smoke and fire protection as well as in emergency and escape exits. As construction hinge set (KO) also suitable for heavy doors.



Spring hinge



KO-hinge



Laser welded steel hinges ■ GENIUS LHA ■ 3 mm



F **DIN 18 272**



ECO Genius LHA	Material	Material thickness	Dimensions	Article number
Spring hinge / KO-hinge-set	St.Zk	3 mm	Ø 25 x 160 mm	On request



F **DIN 18 272**



ECO Genius LHA	Material	Material thickness	Dimensions	Article number
Spring hinge	St.Zk	3 mm	Ø 25 x 160 mm	On request



F **EN 1935** **DIN 18 272**



ECO Genius LHA	Material	Material thickness	Dimensions	Article number
KO-hinge	St.Zk	3 mm	Ø 25 x 160 mm	On request



Standard set



Product characteristics

Size		160 mm
Ø Barrel diameter		25 mm
Material thickness		3 mm
DIN left / DIN right		■
Frame type	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 12 (door weight)	Spring hinge max.	80 kg
	KO-hinge EN 1935	100 kg
	acc. to Standard DIN 18 272*	80 kg
Finish	Steel zinc-plated frame - and door parts	■
Hinge type	Three-part standard hinge, laser-welded	
Bearing technology	Friction bearing	-
	Ball bearing	■
Fixing	Welded to the door frame, welded to the leaf	

■ Yes - No *in accordance

ECO-Standard set

**three-part standard hinge to be welded on, (3 mm)
EN 1935: Class 12 / 80 (100) kg**

Description: ECO spring hinge / KO hinge set

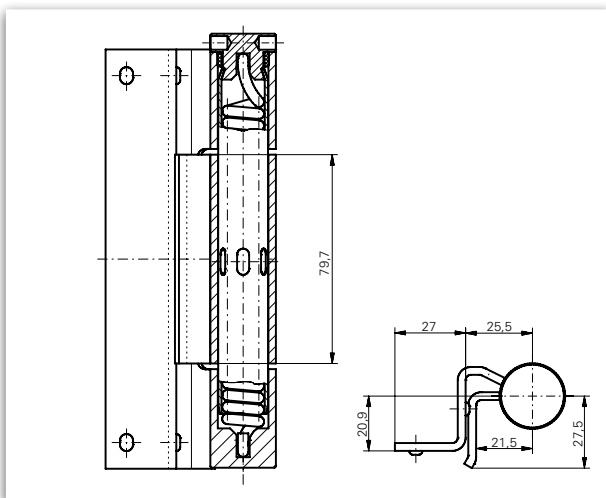
Spring hinge: Based on **DIN 18272**

KO-hinge: Acc. to **EN 1935**

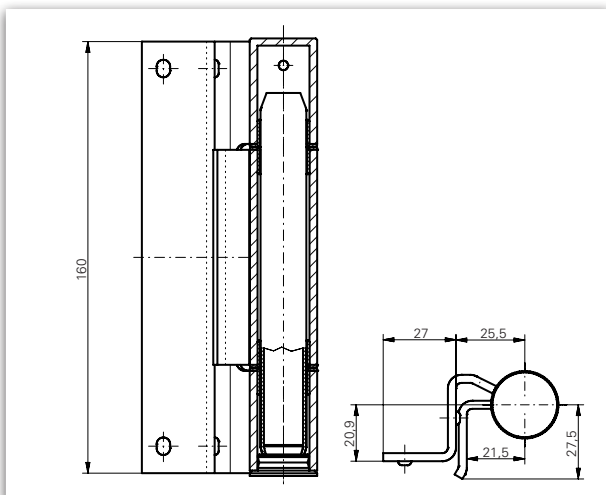
Mounting : Easy mounting of the hinge parts with the help of the hinge bolt

Usage:

For the use in doors with requirements in regards to smoke- and fire protection as well as in emergency and escape exits. As construction hinge set (KO) also suitable for heavy doors.



Spring hinge



KO-hinge

Laser welded steel hinges ■ Standard set ■ 3 mm



F **DIN 18 272**



ECO Standard set	Material	Material thickness	Dimensions	Article number
Spring hinge / KO-hinge-set	St.Zk	3 mm	Ø 25 x 160 mm	On request



F **DIN 18 272**



ECO Standard set	Material	Material thickness	Dimensions	Article number
Spring hinge	St.Zk	3 mm	Ø 25 x 160 mm	On request

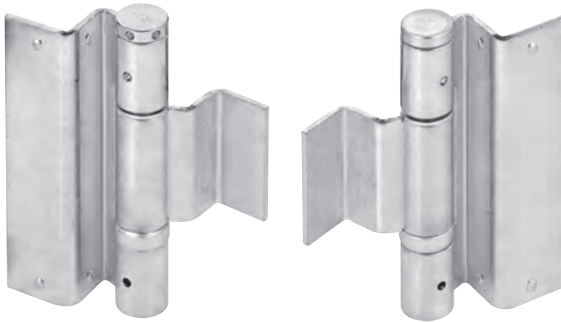


F **EN 1935** **DIN 18 272**



ECO Standard set	Material	Material thickness	Dimensions	Article number
KO-hinge	St.Zk	3 mm	Ø 25 x 160 mm	On request

Standard set



Product characteristics

Size		160 mm
Ø Barrel diameter		27 mm
Material thickness		4 mm
DIN left / DIN right		■
Frame type	Steel	■
Suitable for the use on fire- and smoke control doors	F	■
Loading capacity Class 12 (door weight)	Spring hinge max.	80 kg
	KO-hinge EN 1935	100 kg
	acc. to Standard DIN 18 272	80 kg
Finish	Steel zinc-plated frame - and door parts	■
Hinge type	Three-part standard hinge, laser-welded	
Bearing technology	Friction bearing	-
	Ball bearing	■
Fixing	Welded to the door frame, welded to the leaf	

■ Yes - No *in accordance

ECO-Standard set

**three-part standard hinge to be welded on, (4 mm)
EN 1935: Class 13 / 80 (120) kg**

Description: ECO spring hinge / KO hinge set

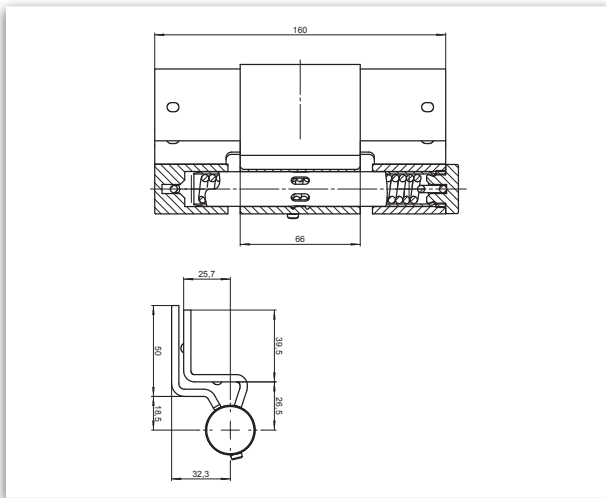
Spring hinge: Based on **DIN 18272**

KO-hinge: Acc. to **EN 1935**

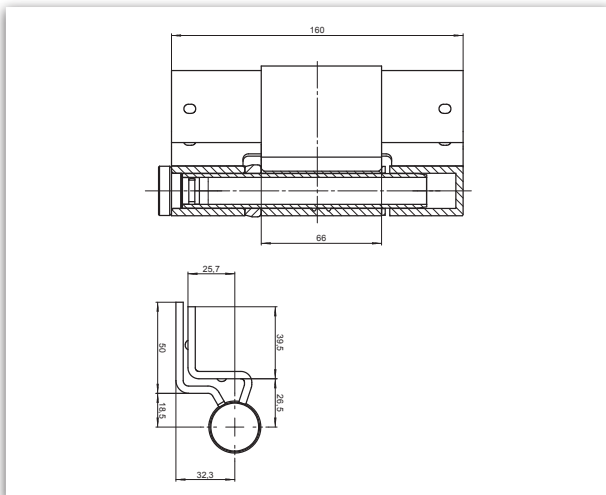
Mounting : Easy mounting of the hinge parts with the help of the hinge bolt

Usage:

For the use in doors with requirements in regards to smoke- and fire protection as well as in emergency and escape exits. As construction hinge set (KO) also suitable for heavy doors.



Spring hinge



KO-hinge

Laser welded steel hinges ■ Standard set ■ 4 mm



F **DIN 18 272**

 Steel door

ECO Standard set	Material	Material thickness	Dimensions	Article number
Spring hinge / KO-hinge-set	St.Zk	4 mm	Ø 27 x 160 mm	On request



F **DIN 18 272**

 Steel door

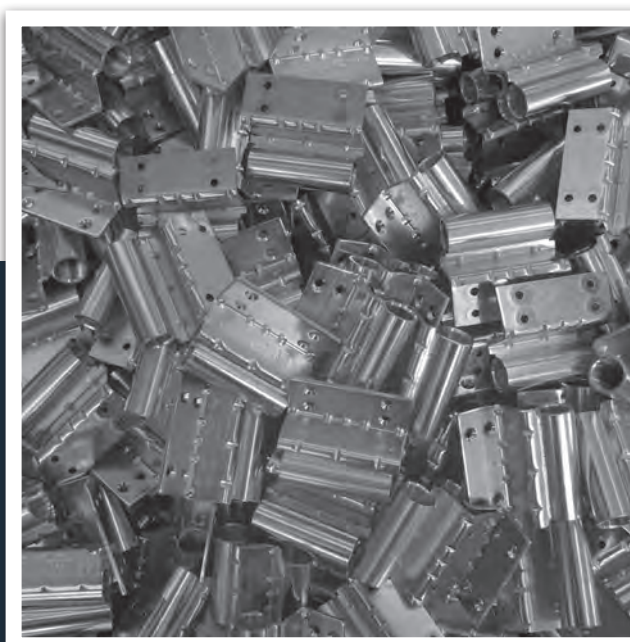
ECO Standard set	Material	Material thickness	Dimensions	Article number
Spring hinge	St.Zk	4 mm	Ø 27 x 160 mm	On request

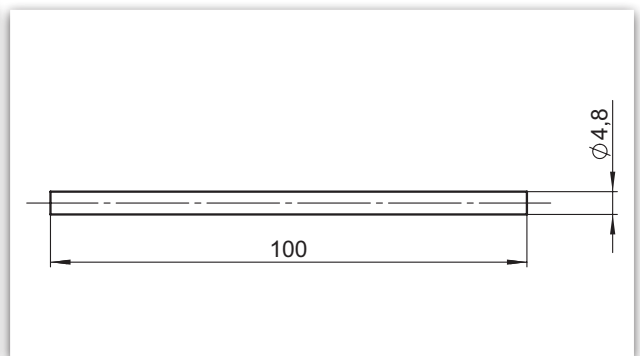
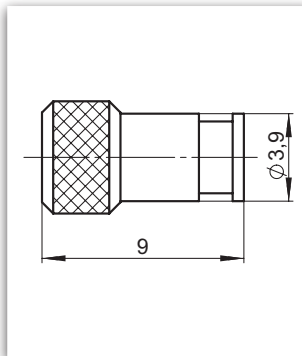
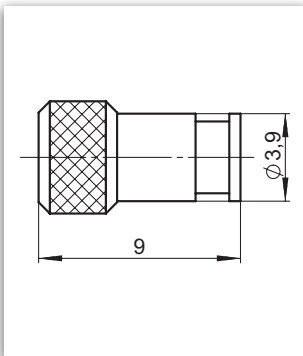
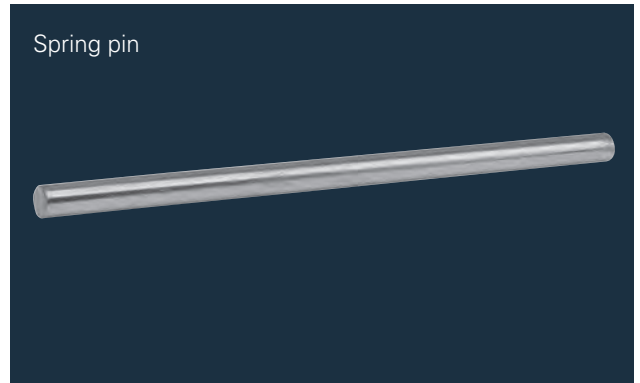


F **EN 1935**

 Steel door

ECO Standard set	Material	Material thickness	Dimensions	Article number
KO-hinge	St.Zk	4 mm	Ø 27 x 160 mm	On request





Locking pin 3 mm

Locking pin 3 mm

Spring pin 3 mm

Locking pin 3 mm	Material	Article number
Locking pin 3 mm	St.Zk	On request

Spannstift 3/4 mm	Material	Article number
Spannstift 3/4 mm	St.Zk	On request

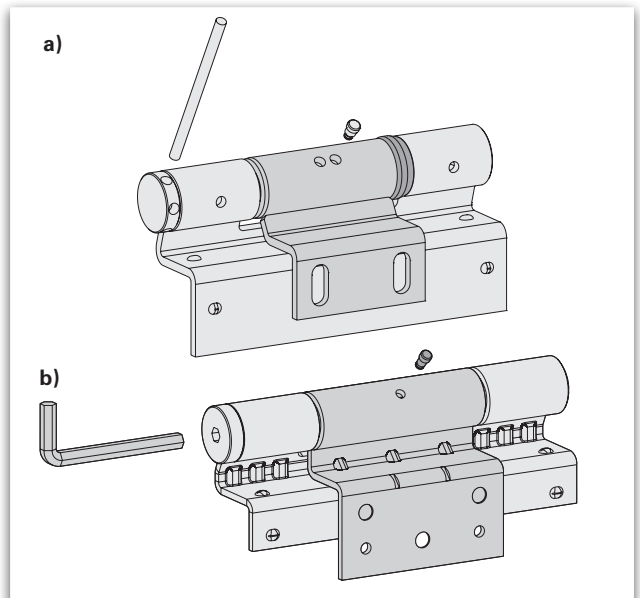
Locking pin 4 mm	Material	Article number
Locking pin 4 mm	St.Zk	On request

Tensioning and fixing of spring hinges

Fire-protection doors are equipped with one spring hinge and one KO hinge. In order to dismantle the door leaf, the hinge bolts have to be expelled to the door centre. When spring hinge is on tension, the **locking pin** has to be removed first.

If you want to put tension on the spring hinge, with the door closed, you have to enter

- a) the **spring pin** in one of the drill holes or
- b) an Allen key SW6 in the hexagon socket of the spring hinge head. Turning the split pin away from the door leaf puts tension on the spring. Putting the **locking pin** into one of the drill holes of the middle hinge roll, holds the position. The pre-tension has to be adjusted in that way that the door leaf is closing independently from an opening angle of approx. 30°.





ECO Hinge Technology

Defying the laws of leverage

Good hinges ensure that doors open the way we expect them to. They define the fulcrum- and thereby the mobility of the door- and give the door leaf a solid support.

Door hinges must be precisely coordinated to the dimensions of a door- to its measurements, weight, type of mounting and location. They are not just hard-wearing components of a door. ECO Schulte can look back on decades of experience in the manufacture of hinges. ECO hinges are premium products that comply with the standard EN 1935. They bear the CE mark and are tested in the highest standard class (14).

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