

Roto Solid

Comprehensive range of door hinges

Catalogue
for timber, PVC and aluminium profiles



german made

What does that mean?



The company Roto with headquarters in Leinfelden-Echterdingen near Stuttgart is a German group of companies. Roto has grown robustly – organically and consistently.

Our common values represent an identity that has enabled Roto, as a German company, to become a service leader. The value structure of our company is based on three pillars:

- Continuity, consistency and reliability
- Experience, ambition to succeed and vision
- Knowledge, ability and German engineering skills

As a technological pioneer, Roto develops intelligent product solutions that feature impressively precise technology and long service life.

Production and environmental management as well as logistics, irrespective of the manufacturing country, are based on German values such as reliability, thoroughness and vision.

German precision in design and development as well as quality and process management guarantee that we can provide outstanding performance and high-quality services – worldwide.

The consistent implementation of German values in quality specifications and standards ensures that our partners and customers can place their trust in us. This is “german made”.

Company



The company Roto, based in Leinfelden-Echterdingen near Stuttgart, is a German group of companies that is wholly owned by families descended from the company's founder, Wilhelm Frank.

The group comprises three independent divisions which develop and produce hardware systems, roof windows and stairs for the construction industry and offer sophisticated services relating to windows and doors.

The Roto name has represented an inventive spirit and technological progress in compatible components for the construction industry since 1935.

The Roto Group is active all over the world with an extensive business portfolio and around 5000 employees.

Roto works on the basis of clear management and conduct principles to secure the position of the group as a success story and to ensure continued success.

Roto is inspired by the needs and expectations of customers, whether you are a builder, planner, architect, manufacturer or retailer of windows and doors, or manufacturer or specialist retailer for roofing.

Roto | Window and Door Technology

Worldwide



Europe



Roto Frank Austria GmbH

Kalsdorf (AT)



Roto Frank Belarus

Minsk (BY)



Roto Frank S.A.

Nivelles (BE)



Roto Frank GmbH

Dietikon (CH)



**Roto Frank Fenster- und
Türtechnologie GmbH**

Leinfelden / Velbert (DE)



**Roto Frank Ehitusrautised
OÜ**

Tallinn (EE)



Roto Frank S.A.

Montmeló (ES)



Roto Frank Ferrures

Saint Avold (FR)



Roto Elzett Certa Kft.

Lövő / Sopron (HU)



Roto Frank Italia

San Donà di Piave (IT)



Roto Frank Lithuania

Vilnius (LT)



Roto Frank Latvijā

Jūrmala (LV)





Roto Frank
Warsaw (PL)



Roto Romania S.R.L.
Bucharest (RO)



OOO Roto Frank
Noginsk (RU)



Roto Frank Ltd. Sti.
Istanbul (TR)



Roto Frank Okucia Budowlane Sp. z
Kiev (UA)



Asia



Roto Frank Building Materials Co. Ltd.
Beijing (CN)



Roto Frank Indonesia
Jakarta (ID)



Roto Frank Asia – Pacific Liaison Office India
Mumbai (IN)



Roto Frank Asia-Pacific Pte. Ltd
Singapore (SG)



Roto Frank Asia-Pacific Pte. Ltd.
Hanoi (VN)



America



Roto Frank Latina SA
Buenos Aires (ARG)



Roto Frank Brasil Ltd.
San Jose (BR)



Fermax Componentes Ltd.
Colombo (BR)



Roto Fasco Canada Inc.
Mississauga, Ontario (CA)



Roto Frank Chile
Santiago (CL)



Roto Frank of America Inc.
Chester (US)



= Sales = Production / sales

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1 Information

1.1 General






















INFO

All dimensions stated in millimetres. Other values are specified.

The following markings are used in this document.



1.1.1 Product features

Symbol	Meaning
	Description
	Width
	DIN left / right
	Colour code
	Colour
	Sash rebate width
	Sash rebate height
	Height
	Information
	Length
	Material number
	Number of screws
	Type of screws
	Distance from centre of shadow groove or pivot point to frame fixing
	Distance from centre of shadow groove or pivot point to leaf fixing
	Security class
	Flatness deviation
	Depth
	Overlap height










Symbol	Meaning
	Packaging unit
	Presetting

1.1.2 Abbreviations

Abbreviation	Meaning
CTL	Catalogue
A	Aluminium
BRN	Blind rivet nut
DFS	Direct fixing screw
SW	Sash width
SH	Sash height
H	Timber
H / A	Timber / aluminium
K	PVC
IMO	Installation instructions
max.	Maximum
Not sh.	Not shown

1.1.3 Material

Symbol	Meaning
Material	
	Timber
	PVC
	Aluminium
	Timber and aluminium
	Timber and PVC
	Timber, PVC and aluminium
	Timber, timber-aluminium



1.1.4 Colours

Colour code	Colour	Surface
E6 / C-0	Natural finish (EV1)	Aluminium, anodised
RAL 1011	Brown beige	Powder-coated
RAL 1013	Oyster white	Powder-coated
RAL 1015	Light ivory	Powder-coated
RAL 1036	Pearl gold	Powder-coated
RAL 6009	Fir green	Powder-coated
RAL 7016	Anthracite grey	Powder-coated
RAL 7021	Black grey	Powder-coated
RAL 7035	Light grey	Powder-coated
RAL 8003	Clay brown	Powder-coated
RAL 8004	Copper brown	Powder-coated
RAL 8007	Fawn brown	Powder-coated
RAL 8017	Chocolate brown	Powder-coated
RAL 8019	Grey brown	Powder-coated
RAL 8022	Black brown	Powder-coated
RAL 8077	Dark brown	Powder-coated
RAL 9001	Cream	Powder-coated
RAL 9005	Jet black	Powder-coated
RAL 9006	White aluminium	Powder-coated
RAL 9007	Grey aluminium	Powder-coated
RAL 9016	Traffic white	Powder-coated
RAL 9022	Pearl light grey	Powder-coated
RAL 9023	Pearl dark grey	Powder-coated
-	Bronze	Powder-coated
-	Delta silver	Powder-coated
-	Stainless-steel appearance	Powder-coated
-	Gold appearance	Aluminium, polished and anodised
-	Stainless steel	Powder-coated
-	Medium bronze	Powder-coated
-	Stainless-steel appearance	Aluminium, polished and anodised
-	SilverH (silver Hamburg)	Powder-coated
-	Titanium	Powder-coated

Other RAL colours are available upon request.

1.1.5 Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

1.2 Roto Solid

Comprehensive range of door hinges

With Roto Solid, Roto offers a wide range of door hinges – from an affordable hinge for back doors and lightweight main doors to a dynamic hinge for extremely heavy, frequently used main entrance doors. Tailored to specific applications and made from high-quality materials, Roto Solid door hinges offer outstanding performance characteristics and high durability. Country-specific solutions complete the product range.

Combination of design, comfort and security

When it comes to appearance, with the Roto Solid range, Roto offers a wide selection for fulfilling individual design requirements. From a small screw-on hinge to a three-part butt hinge, many variants are available.



Roto Solid B

Butt hinges for doors



Roto Solid S

Screw-on hinges for doors



Roto Solid C

Concealed hinges for doors

Product overview

Product	Max. door weight	Door material				Door opening		Certification			
		K	H	H / A	A	Inward opening	Outward opening	CE class	SKG **		
Roto Solid B – Butt hinges											
150 R	120 kg	■	–	–	–	■	–	■	13	–	→ from page 42
170 R	120 kg	■	■	■	–	■	–	■	–	■	→ from page 46
Roto Solid S – Screw-on hinges											
PS 23	80 kg	■	■	–	–	■	–	■	13	–	→ from page 59
89 NN	80 kg	■	■	–	–	■	–	■	11	–	→ from page 80
89 NN-SR	80 kg	■	■	–	–	■	–	■	11	–	→ from page 85
80 ATB	100 kg	–	–	–	■	■	–	■	12	–	→ from page 129
150 P	110 kg	■	■	–	–	■	–	■	11	–	→ from page 74
PS 27	120 kg	■	■	–	–	■	–	■	13	■	→ from page 66
105 NN	120 kg	■	■	–	–	■	–	■	13	■	→ from page 90
105 NN-SR	120 kg	■	■	–	–	■	–	■	13	■	→ from page 96
105 NN-SH	120 kg	■	–	–	–	–	–	■	–	■	→ from page 101
118 D	150 kg	■	■	–	–	■	–	■	13	■	→ from page 123
117 NN	160 kg	■	■	–	–	■	–	■	14	■	→ from page 105
117 H	160 kg	■	–	–	–	–	–	■	14	■	→ from page 111
118 Z	160 kg	■	■	–	–	■	–	■	14	■	→ from page 117
120 ATB	160 kg	–	■	■	■	■	–	■	14	–	→ from page 145
Roto Solid C – Concealed hinges											
C7.140	140 kg	–	–	–	■	■	–	–	10	–	→ from page 173

■ = applicable



10-year warranty

The toughest testing requirements that Roto places on its products have a significant impact on the durability of the door hinges. The systematic quality checks with the most stringent testing requirements ensure that each individual door hinge meets our quality standards. Only this exemplary quality management allows us to set a pioneering standard: the 10-year performance warranty for our partners – this is our benchmark.



10 Jahre Garantie für die Roto Solid Türbänder

Ein hochwertiges Produkt ist die Voraussetzung für die Leistung eines Produkts. Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert. Die Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert. Die Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert.

Garantiebedingungen und Garantiefrist

Für einen Zeitraum von 10 Jahren garantiert Roto Solid die Funktionsfähigkeit der Roto Solid Türbänder. Die Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert.

Alle Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert. Die Roto Solid Türbänder sind für eine Lebensdauer von 10 Jahren konzipiert.

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www.roto-frank.com





1.3 Storage conditions



Protecting components against dirt and dust

Always keep the containers closed, and always cover open hardware containers or goods stored open (i.e. with a layer of cardboard).

Protecting components against mechanical damage

Only transport and handle the containers using suitable means of transport or conveyance (forklifts, lifting devices and roller belts, etc.). Only stack pallets and cardboard boxes (during transport) to the maximum height specified in the printed instructions on the packaging.

Protecting components against direct moisture and wet

The packaging must remain dry and the components must not get wet. This applies to storage and transport, as well as for unloading and loading procedures. Where appropriate, plastic protective sheets or similar are to be used during outdoor transport (i.e. on-site transport) when raining.

Only store components in suitable closed rooms and not outdoors. Condensation must absolutely be avoided during the entire duration of transport and storage.

If containers nevertheless get wet...

Immediately unpack the components from the wet containers, dry the components and check for damage (signs of corrosion). In any case, repack the usable components when dry with new packaging material

1.4 Environment



Environmental compatibility of the hardware components

Our objective is to succeed in manufacturing our hardware components with the lowest possible consumption of energy and operating resources, and we strive to produce extremely durable hardware components. To achieve this, we conserve natural resources, minimise energy consumption and use raw materials in an environmentally friendly manner.

Environmental impact resulting from the hardware

The surface quality of our treated surfaces is abrasion-resistant. No environmental pollution is caused by hardware components when the stipulated use is complied with.

Environmental compatibility of the packaging

We use recyclable disposable packaging made of reinforced cardboard, steel strapping, PVC packaging tape, PE sheeting, timber frames, single-use wooden pallets, cable ties, elastomer cord as well as reusable packaging, reusable boxes from Schäfer, pallet crates and EURO wooden pallets.

Environmental compatibility of disposal

Our hardware is made of materials which enable environmentally friendly material utilisation and can be disposed of as mixed scrap.

Returning packaging material

Our packaging with the INTERSEROH logo is accepted free of charge by every INTERSEROH disposal partner. The directory of your local disposal partners can be requested nationwide from the telephone exchange of ISD INTERSEROH GmbH in Cologne using the following telephone number: +49 2203 9147-322. The Roto INTERSEROH number is 25582.



1.5 Certifications

1.5.1 Conformity

1.5.1.1 ift

PS 27, PS 23, 150 P, 89 NN, 89 NN-SR, 105 NN, 105 NN-SR




Bänder / Hinges

<p>Produktfamilien <i>product families</i></p> <p>Produkt(e) <i>product(s)</i></p> <p>Einsatzbereich <i>field of application</i></p> <p>Hersteller <i>manufacturer</i></p> <p>Produktionsstandort <i>production site</i></p>	<p>Bandsysteme für Bauelemente nach EN 14351-1 <i>hinge systems for products according EN 14351-1</i></p> <p>Roto Solid S PS 27, Roto Solid S PS 23, Roto Solid S 150 P, Roto Solid S 89 NN, Roto Solid S 89 NN-SR, Roto Solid S 105 NN, Roto Solid S 105 NN-SR</p> <p>Türen aus Kunststoff <i>doors with material of PVC</i></p> <p>ROTO-FRANK AUSTRIA GmbH Lapp-Finze-Str. 21, A 8401 Kalsdorf bei Graz</p> <p>ROTO-FRANK AUSTRIA GmbH Lapp-Finze-Str. 21, A 8401 Kalsdorf bei Graz</p>	 <p>EN 1191 EN 12400 Klasse 5 Dauerfunktion <i>resistant to repeated opening and closing</i></p> <p>EN 1031 (EN 2) EN 1572 Klasse 4 Korrosionsschutz <i>corrosion protection</i></p>
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Mit dieser Zertifikat wird bescheinigt, dass die genannten Bänder den Anforderungen des ift-Zertifizierungsprogramms für Bänder QM 343 entsprechen.
Grundlagen sind durch das Prüflabor erzielte Prüfergebnisse der eingetragten Bänder, eine Prüfung durch das Prüflabor nach EN 14351-1:2000 und EN 1191 unter Berücksichtigung des maximalen Belastungswertes der Bänder sowie verkettete Produktionskontrolle der Hersteller und eine Fremdüberwachung der Fertigung durch die Überwachungsstelle in der benannten Standorte.
Die Gültigkeitsdauer des Zertifikats beträgt 5 Jahre. Mit der Erteilung des Zertifikats ist eine regelmäßige Fremdüberwachung des Herstellers verbunden.
Das Zertifikat darf nur unverändert ververvielfältigt werden. Alle Änderungen der Voraussetzungen für die Zertifizierung sind dem ift-Zert mit den erforderlichen Nachweisen unverzüglich schriftlich anzugeben.
Das Unternehmen ist berechtigt, die Bänder gemäß der ift-Zertifizierung mit dem ift-Zertifikat-Logo zu kennzeichnen.
Dieses Zertifikat enthält 2 Anlagen:
1: Übersicht der Produktfamilien
2: Austauschbarkeit nach EN 14351-1

The present certificate attests that the hinges mentioned fulfils the requirements of the ift-certification scheme for hinges QM 343.
Basis of the certificate are the product families of the hinges listed that have been compiled by the test laboratory tests performed by the test laboratory as per EN 14351-1:2000 and EN 1191 based on the maximum value of loading, factory production control by the manufacturer and third-party surveillance audits of the production by the surveillance bodies at the plants mentioned.
The certificate is valid for a period of 5 years. Award of the certificate is tied to regular third-party surveillance of the manufacturer.
The reproduction of the certificate without any change whatsoever from the original is permitted. Any changes to the preconditions applicable to certification must be immediately communicated in writing to ift-Zert, accompanied by the necessary evidence.
The company is authorised to affix the ift-certified-mark to the hinges according to the ift rules for use of the ift-certified-mark.
This Certificate contains 2 Annexes:
1: List of product families
2: Interchangeability as per EN 14351-1




Rosenheim
22. November 2017
Christian Kehrer
Leiter ift Zertifizierungs- und Überwachungsstelle
Head of ift Certification and Surveillance Body
Ulrich Sieber
Institutsleiter
Director of Institute

Vertrag-Nr. / Contract No.: 229ift 7031575 Zertifikat-Nr. / Certificate No.: 229ift 7031575-2-Z
Gültig bis / Valid: 22.05.2021

ift Rosenheim GmbH Kontakt Prüfung und Kalibrierung – EN ISO/IEC 17025
Theodor-Geisel-Str. 7-9 Tel: +49 89 31 261-0 Inspektion – EN ISO/IEC 17020
D 83026 Rosenheim Fax: +49 89 31 261-200 Zertifizierung Produkte – EN ISO/IEC 17065
www.ift-rosenheim.de Zertifizierung Managementsysteme – EN ISO/IEC 17021



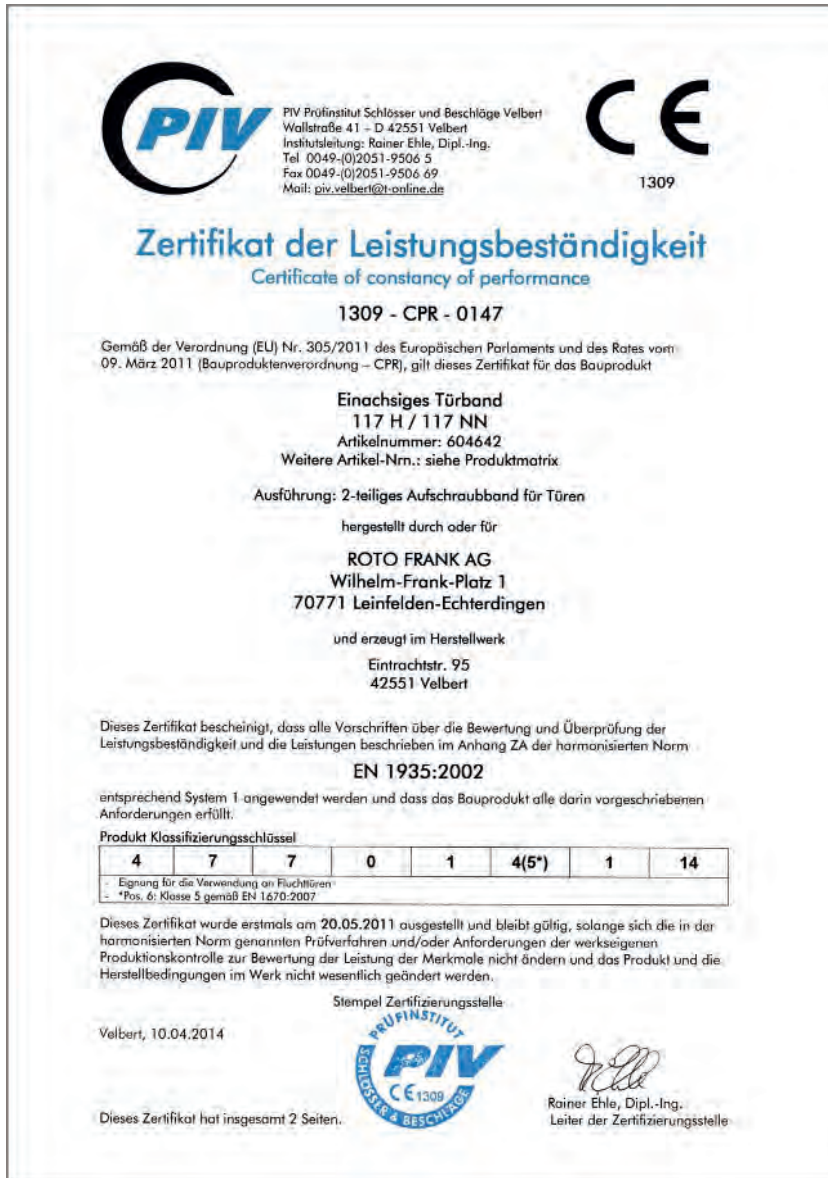


The sales employee responsible for your region can provide you with up-to-date certificates.

1.5.2 Constancy of performance

1.5.2.1 PIV

117 H / 117 NN



The sales employee responsible for your region can provide you with up-to-date certificates.



118 Z



PIV Prüfinstitut Schlösser und Beschläge Velbert
 Wallstraße 41 – D 42551 Velbert
 Institutleitung: Rainer Ehle, Dipl.-Ing.
 Tel: 0049-(0)2051-9506 5
 Fax: 0049-(0)2051-9506 69
 Mail: piv.velbert@t-online.de



1309

Zertifikat der Leistungsbeständigkeit

Certificate of constancy of performance

1309 - CPR - 0141

Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 09. März 2011 (Bauproduktenverordnung – CPR), gilt dieses Zertifikat für das Bauprodukt

Einachsiges Türband
118 Z
 Artikelnummer 544538
 Weitere Artikel-Nrn.: siehe Produktmatrix

Ausführung: 2-teiliges Aufsraubband für Türen
 hergestellt durch oder für

ROTO FRANK AG
 Wilhelm-Frank-Platz 1
 70771 Leinfelden-Echterdingen

und erzeugt im Herstellwerk
 Eintrachtstr. 95
 42551 Velbert

Dieses Zertifikat bescheinigt, dass alle Vorschriften über die Bewertung und Überprüfung der Leistungsbeständigkeit und die Leistungen beschrieben im Anhang ZA der harmonisierten Norm

EN 1935:2002

entsprechend System 1 angewendet werden und dass das Bauprodukt alle darin vorgeschriebenen Anforderungen erfüllt.

Produkt Klassifizierungsschlüssel

4	7	7	0	1	4(5*)	1	14
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- Eignung für die Verwendung an Fluchttüren, Position 6*: Klasse 5 gemäß EN 1670:2007

Dieses Zertifikat wurde erstmals am **27.04.2011** ausgestellt und bleibt gültig, solange sich die in der harmonisierten Norm genannten Prüfverfahren und/oder Anforderungen der werkseigenen Produktionskontrolle zur Bewertung der Leistung der Merkmale nicht ändern und das Produkt und die Herstellbedingungen im Werk nicht wesentlich geändert werden.

Stempel Zertifizierungsstelle

Velbert, 24.02.2014

Dieses Zertifikat hat insgesamt 2 Seiten.




 Rainer Ehle, Dipl.-Ing.
 Leiter der Zertifizierungsstelle.

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118 D





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1309

Zertifikat der Leistungsbeständigkeit

Certificate of constancy of performance

1309 - CPR - 0168

Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 09. März 2011 (Bauproduktenverordnung – CPR), gilt dieses Zertifikat für das Bauprodukt

Einachsiges Türband
118 D
 Artikelnummer: 544312
 Weitere Artikel-Nrn.: siehe Produktmatrix

Ausführung: 3-teiliges Aufschraubband für Türen
 hergestellt durch oder für

ROTO FRANK AG
 Wilhelm-Frank-Platz 1
 70771 Leinfelden-Echterdingen

und erzeugt im Herstellwerk
 Eintrachtstr. 95
 42551 Velbert

Dieses Zertifikat bescheinigt, dass alle Vorschriften über die Bewertung und Überprüfung der Leistungsbeständigkeit und die Leistungen beschrieben im Anhang ZA der harmonisierten Norm

EN 1935:2002

entsprechend System 1 angewendet werden und dass das Bauprodukt alle darin vorgeschriebenen Anforderungen erfüllt.

Produkt Klassifizierungsschlüssel

4	7	6	0	1	4(5*)	1	13
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- Eignung für die Verwendung an Fluchttüren, Position 6*: Klasse 5 gemäß EN 1670:2007

Dieses Zertifikat wurde erstmals am **09.01.2012** ausgestellt und bleibt gültig, solange sich die in der harmonisierten Norm genannten Prüfverfahren und/oder Anforderungen der werkseigenen Produktionskontrolle zur Bewertung der Leistung der Merkmale nicht ändern und das Produkt und die Herstellbedingungen im Werk nicht wesentlich geändert werden.

Stempel Zertifizierungsstelle

Velbert, 24.02.2014

Dieses Zertifikat hat insgesamt 2 Seiten.





Rainer Ehle, Dipl.-Ing.
 Leiter der Zertifizierungsstelle

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80 ATB



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 Mail: piv.velbert@t-online.de



1309

Zertifikat der Leistungsbeständigkeit
 Certificate of constancy of performance

1309 - CPR - 0107

Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 09. März 2011 (Bauproduktenverordnung – CPR), gilt dieses Zertifikat für das Bauprodukt

Einachsiges Türband
80 ATB
 Artikelnummer: 548314
 Weitere Artikel-Nrn.: siehe Produktmatrix

Ausführung: 2-teiliges Aufschraubband für Türen

hergestellt durch oder für

ROTO FRANK AG
 Wilhelm-Frank-Platz 1
 70771 Leinfelden-Echterdingen

und erzeugt im Herstellwerk:

Eintrachtstr. 95
 42551 Velbert

Dieses Zertifikat bescheinigt, dass alle Vorschriften über die Bewertung und Überprüfung der Leistungsbeständigkeit und die Leistungen beschrieben im Anhang ZA der harmonisierten Norm

EN 1935:2002

entsprechend System 1 angewendet werden und dass das Bauprodukt alle darin vorgeschriebenen Anforderungen erfüllt.

Produkt Klassifizierungsschlüssel

4	7	5	0	1	4(5*)	1	12
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- Eignung für die Verwendung an Fluchtüren
 - *Pos. 6: Klasse 5 gemäß EN 1670:2007

Dieses Zertifikat wurde erstmals am **14.04.2009** ausgestellt und bleibt gültig, solange sich die in der harmonisierten Norm genannten Prüfverfahren und/oder Anforderungen der werkseigenen Produktionskontrolle zur Bewertung der Leistung der Merkmale nicht ändern und das Produkt und die Herstellbedingungen im Werk nicht wesentlich geändert werden.

Velbert, 14.04.2014

Dieses Zertifikat hat insgesamt 2 Seiten.

Stempel Zertifizierungsstelle





Rainer Ehle, Dipl.-Ing.
 Leiter der Zertifizierungsstelle

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120 ATB



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1309

Zertifikat der Leistungsbeständigkeit

Certificate of constancy of performance

1309 - CPR - 0077

Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 09. März 2011 (Bauproduktenverordnung – CPR), gilt dieses Zertifikat für das Bauprodukt

Einachsiges Türband
120 ATB
 Artikelnummer: 548410
 Weitere Artikel-Nrn.: siehe Produktmatrix

Ausführung: 3-teiliges Aufschraubband für Türen

hergestellt durch oder für

ROTO FRANK AG
 Wilhelm-Frank-Platz 1
 70771 Leinfelden-Echterdingen

und erzeugt im Herstellwerk

Eintrachtstr. 95
 42551 Velbert

Dieses Zertifikat bescheinigt, dass alle Vorschriften über die Bewertung und Überprüfung der Leistungsbeständigkeit und die Leistungen beschrieben im Anhang ZA der harmonisierten Norm

EN 1935:2002

entsprechend System 1 angewendet werden und dass das Bauprodukt alle darin vorgeschriebenen Anforderungen erfüllt.

Produkt Klassifizierungsschlüssel

4	7	7	0	1	4(5*)	1	14
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- Eignung für die Verwendung an Fluchtüren
 - *Pos. 6: Klasse 5 gemäß EN 1670:2007

Dieses Zertifikat wurde erstmals am 11.10.2007 ausgestellt und bleibt gültig, solange sich die in der harmonisierten Norm genannten Prüfverfahren und/oder Anforderungen der werkseigenen Produktionskontrolle zur Bewertung der Leistung der Merkmale nicht ändern und das Produkt und die Herstellbedingungen im Werk nicht wesentlich geändert werden.

Stempel Zertifizierungsstelle

Velbert, 14.04.2014





Rainer Ehle, Dipl.-Ing.
 Leiter der Zertifizierungsstelle

Dieses Zertifikat hat insgesamt 2 Seiten.

The sales employee responsible for your region can provide you with up-to-date certificates.



1.5.2.2 ift

PS 27, PS 23, 150 P, 89 NN, 89 NN-SR, 105 NN, 105 NN-SR

<h2>Zertifikat zur Bescheinigung der Leistungsbeständigkeit</h2>		
<p>Zertifikatsnummer: 0757-CPR-229IFT-7031575-1-5</p>		
<p>Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 9. März 2011 (Bauproduktenverordnung oder CPR) gilt dieses Zertifikat für das Bauprodukt</p>		<p>Grundlage(n): EN 1935-2002.02/AC:2003-12</p>
<p>Türbänder</p>		
Handelsname Spezifikation	<p>Roto Solid S PS 27, Roto Solid S PS 23, Roto Solid S 150 P, Roto Solid S 89 NN, Roto Solid S 89 NN-SR, Roto Solid S 105 NN, Roto Solid S 105 NN-SR gemäß der Zusammenstellung in Anlage 1</p>	
Leistungsstufen und -klassen	<p>gemäß der Zusammenstellung in Anlage 1</p>	
Verwendungszweck	<p>zur Verwendung an Türen in Flucht- und Rettungswegen ohne Anforderungen an den Rauch- und Brandschutz</p>	
in Verkehr gebracht unter dem Namen oder der Marke von	<p>ROTO-FRANK AUSTRIA GmbH Lapp-Finze-Str. 21, AT-8401 Kalsdorf bei Graz</p>	
Herstellungsbetrieb(e)	<p>ROTO-FRANK AUSTRIA GmbH Lapp-Finze-Str. 21, AT-8401 Kalsdorf bei Graz</p>	
Notifizierte Stelle EG-Referenz-Nr.	<p>0757</p>	
<p>Dieses Zertifikat bestätigt, dass alle Bestimmungen in Bezug auf die Bewertung und Überprüfung der Leistungsbeständigkeit, die im Anhang ZA der Norm(en)</p>		
<p>EN 1935 : 2002</p>		
<p>beschrieben werden, unter System 1 für die in diesem Zertifikat aufgeführten Leistungen angewandt werden und dass die vom Hersteller durchgeführte werkseigene Produktionskontrolle bewertet wurde, um die Leistungsbeständigkeit des Bauprodukts sicherzustellen.</p>		
<p>Dieses Zertifikat wurde erstmalig am 09.07.2008 ausgestellt und besitzt Gültigkeit bis zum 07.08.2022, solange weder die harmonisierten Norm, das Bauprodukt, der AVCP-Methoden, noch die Herstellungsbedingungen im Herstellungsbetrieb wesentlich geändert werden, sofern sie nicht durch die notifizierte Produktzertifizierungsstelle ausgesetzt oder zurückgezogen wird.</p>		
<p>Die Verwendung dieses Zertifikats und die Kennzeichnung der Produkte ist an den bestehenden Zertifizierungs- und Überwachungsvertrag mit dem ift Rosenheim Nr. 229IFT 7031575 gebunden.</p>		
<p>2014/01/1002 Prof. Ulrich Sieberath Institutsleiter ift Rosenheim 08.08.2019</p>	 Christian Kiehrer Leiter der notifizierte(n) Produktzertifizierungsstelle	 www.ec.europa.eu www.ift-rosenheim.de
<p>ift Rosenheim GmbH Theodor-Geist-Str. 1-9 D-83025 Rosenheim</p>	<p>Kontakt Tel. +49 8031 261-0 Fax +49 8031 261-290 www.ift-rosenheim.de</p>	<p>Prüfung und Kalibrierung – EN ISO/IEC 17025 Inspektion – EN ISO/IEC 17020 Zertifizierung Produkte – EN ISO/IEC 17065 Zertifizierung Managementsysteme – EN ISO/IEC 17021</p>
	<p>Member Body 0757 </p>	<p> DAKKS Deutsche Angemessene Zertifizierungsgesellschaft 10117 Berlin</p>

The sales employee responsible for your region can provide you with up-to-date certificates.



1.5.2.3 Environmental product declaration

UMWELT-PRODUKTDEKLARATION
 nach ISO 14025 und EN 15804

Deklarationsinhaber	ARGE, Arbeitsgemeinschaft der Verbände der Europäischen Schloss- und Beschlagindustrie
Programmfürer	Institut Bauen und Umwelt e.V. (IBU)
Herausgeber	Institut Bauen und Umwelt e.V. (IBU)
Deklarationsnummer	EPD-ARG-20160193-BG2-EN
ECO EPD Ref. Nr.	ECO 00000411
Ausstellungsdatum	14.09.2016
Gültigkeit	13.09.2021

Einachsige Bänder
ARGE, Arbeitsgemeinschaft der Verbände der Europäischen Schloss- und Beschlagindustrie

(Diese EPD gilt nur für Produkte eines ARGE-EPD Lizenzinhabers)

www.ibu-epd.com / <https://epd-online.com>








Roto Frank AG legt diese EPD als Lizenznehmer des Fachverbandes Schloss- und Beschlagindustrie e.V. vor.



The sales employee responsible for your region can provide you with up-to-date certificates.





1.5.3 Environmental management

Roto Frank Fenster- und Türtechnologie GmbH, based in Leinfelden, provides proof of environmental awareness with certification in accordance with DIN EN ISO 14001.

Roto takes into consideration the environmental compatibility of products and procedures which conserve resources right from the beginning, during development, design, planning, production and logistics.

The certification underlines the environmental awareness at Roto:

- Roto works towards health and safety at the workplace, accident prevention and system safety as its fundamental goal when it comes to occupational safety.
- Roto views environmental protection as an integral part of all its business activities and decisions. The company is shaped by its environmentally conscious behaviour, the environmental compatibility of its products and procedures, as well as the preservation of existing resources.
- The long service life of Roto products also contributes to the preservation of existing resources.

ZERTIFIKAT

Hiermit wird bescheinigt, dass

 **Roto Frank Fenster- und Türtechnologie GmbH**
Zentrale
Wilhelm-Frank-Platz 1
70771 Leinfelden-Echterdingen
Deutschland

mit den im Anhang gelisteten Standorten

ein **Umweltmanagementsystem** eingeführt hat und anwendet.

Geltungsbereich:
Entwicklung/Konstruktion, Herstellung und Vertrieb von Fenster- und Türtechnologie.

Durch ein Audit, dokumentiert in einem Bericht, wurde der Nachweis erbracht, dass das Managementsystem die Forderungen des folgenden Regelwerks erfüllt:

ISO 14001 : 2015

Zertifikat-Registrier-Nr.	059808 UM15
Revisionsdatum	2019-06-11
Gültig ab	2018-04-14
Gültig bis	2021-04-13
Zertifizierungsdatum	2019-06-11




DQS GmbH


Markus Bleher
Geschäftsführer

Akkreditierte Stelle: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main

1 / 2

1.5.4 Quality management

The certification in accordance with the international standard DIN EN ISO 9001 certifies that Roto plans, documents and appropriately implements the entire development, production and sales process systematically. Starting with development and design through to quality planning, production and assembly right through to sales and customer service.

The certification is an external indication of the quality awareness practised at Roto:

- Roto's objective is to ensure continuous product and service improvements for the benefit of its customers.
- Roto offers its customers innovative, environmentally friendly and technically sophisticated architectural hardware technology.
- Roto products are supplied punctually worldwide with constant guaranteed quality.
- Roto's comprehensive view regards all business activities – including all the activities within the company – to be the key to achieving long-term corporate success.
- Roto employees are supported in their personal development and fulfil Roto's high quality requirements in their day-to-day work. Their work is performance and goal-oriented.





1.5.5 International Technology Centre (ITC)

Roto has owned a modern International Technology Centre (ITC) at its Leinfelden headquarters since October 1996. This facility is available for both our own material and product testing as well as for inspecting finished products made by Roto market partners.



The ITC is accredited in accordance with DIN EN ISO / IEC 17025 and has the expertise required to perform tests in areas including mechanical technological testing of facade elements such as windows, doors and hardware, as well as metallic materials.

Achieving accreditation in accordance with DIN EN ISO / IEC 17025 represents the highest distinction for a test institute in the private sector. The requirements for this are an extensive quality management system, trained personnel, high-quality test rigs and measuring instruments, as well as continuous external monitoring by the accreditation authorities.

1.6 Roto Con Orders

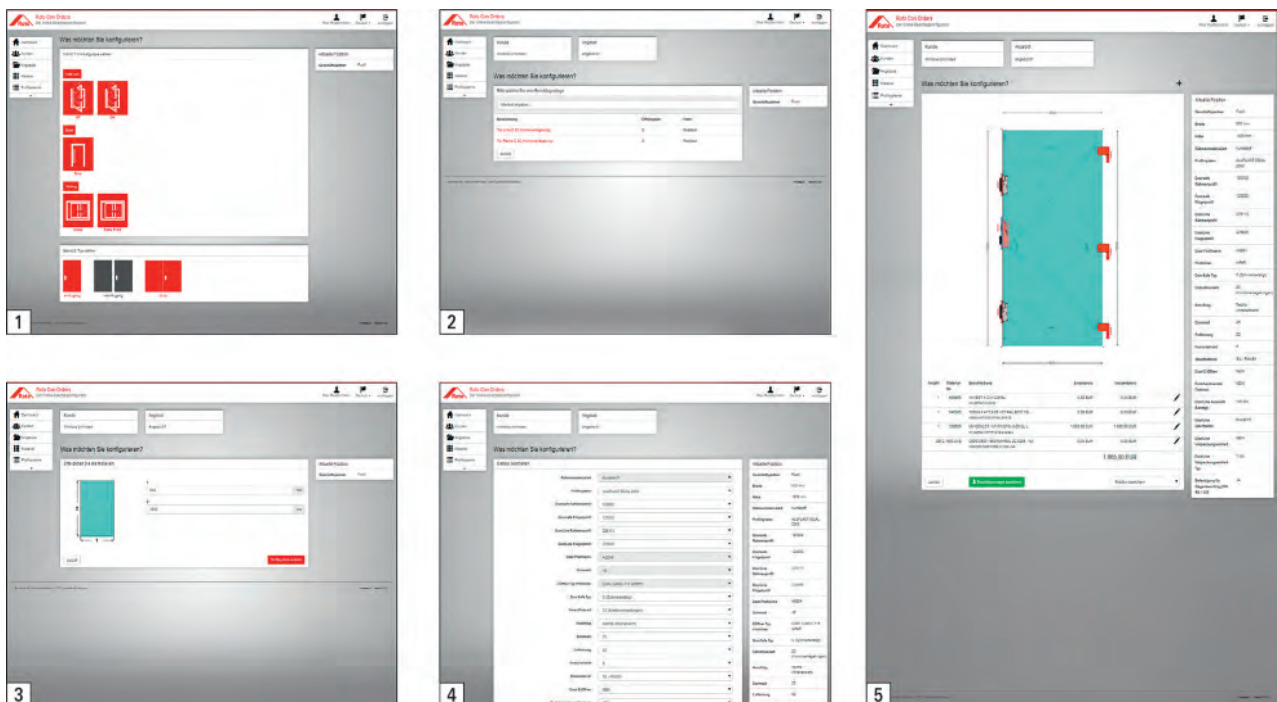


Just four steps for a finished parts list

Roto Con Orders is the perfect solution for window and door manufacturers, and for dealers. This is because with the high-performance online hardware configurator, an individual configuration of window and door hardware can be generated very easily and in an extremely short time – for all common shapes and opening types. Just a few mouse clicks and a couple of numeric entries, and the individual parts list including a technical illustration of the hardware itemisation is finished. The list can be changed, adjusted or personalised as desired. It can be exported in various data formats, enabling it to be used for individual offers or orders. Benefit from this efficient Roto online tool, save time during configuration, management and ordering with Roto Con Orders.

Hardware configuration has never been this easy

With intuitive menu guidance, you generate an optimum parts list in just four steps:



1. Selection of the product group
2. Selection of the design template
3. Entry of sizes
4. Individual detailed settings and adjustments
5. **Result:** Output of a detailed data sheet with a technical illustration and a complete parts list with editable order numbers, descriptions and individual and total prices.



Intelligent additional functions simplify your processes



Roto Con Orders makes it easy for you to simplify and accelerate your processes. A large number of useful functions are available to help you do this:

- Store your own company addresses and logos in the header of your offers
- Create and manage customer-specific projects
- Generate individual customer hardware templates
- Integrate a discount structure system
- Material master management
- Due to its responsive design, it can be used on all devices such as PCs, tablets, and smartphones

Get started straight away thanks to web-based solution

Roto Con Orders is a web-based solution that you can access around the world and around the clock. You only require a computer with a web browser and Internet access for this purpose. To work with the online hardware configurator, please register once with your e-mail address in the portal for dealers and manufacturers at:



www.roto-frank.com

1.7 Additional media



1.7.1 Documents

This catalogue offers an overview of the product range. Detailed technical information can be found in the documents listed below.

Installation, maintenance and operation instructions

Title	Document no.
Roto Solid B 150 R	IMO_496
Roto Solid S 120 ATB	IMO_359
Roto Solid S 80 ATB	IMO_358
Roto Solid S 117 H	IMO_141
Roto Solid S 117 NN	IMO_273
Roto Solid S 150 P	IMO_177
Roto Solid S PS 27	IMO_316
Roto Solid S PS 23	IMO_315
Roto Solid S ATB	COA_20
Roto Solid C7.140	IMO_446

The above-mentioned documents can be downloaded in the "Service" area of the Roto Window and Door Technology website:



www.roto-frank.com

1.7.2 Videos

Installation videos relating to each product group can be found in the "Service" area of the Roto Window and Door Technology website:



www.roto-frank.com



1.8 Further Roto products

1.8.1 Roto Tilt&Turn



Roto NX is a Tilt&Turn hardware system based on the proven Roto NT – with new features and functions that make the system a safe investment for the future. Roto NX provides intelligent responses to new requirements, with a focus on efficiency, security, comfort and design.

Today, almost any project is feasible with Roto hardware technology for aluminium windows and doors – in a short time, produced to outstanding quality and under favourable terms. For inward opening and outward opening windows.

Roto Tilt&Turn – PVC / timber windows and balcony doors



Roto NX

The Tilt&Turn hardware system for windows and balcony doors shaping the industry once again



Roto NT

The world's biggest selling Tilt&Turn hardware system for windows and balcony doors



Roto NT Designo

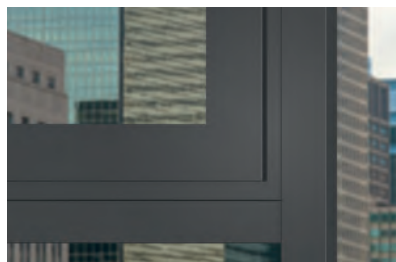
Concealed hinge solution for windows and balcony doors with high sash weights up to 150 kg

Roto Tilt&Turn – Aluminium windows and balcony doors



Roto AL

Universal hardware for aluminium windows and balcony doors



Roto AL Designo

Concealed hardware for aesthetic aluminium windows and balcony doors

Roto Outward Opening – Outward opening windows



Roto FS Kempton

Stainless-steel friction stays for outward opening windows



Roto PS Aintree

Stainless-steel parallel stays for outward opening windows





1.8.2 Roto Sliding



Roto offers a comprehensive range of hardware solutions for a wide variety of sliding doors.

Roto Patio – High-quality sliding windows and doors



Roto Patio Fold

Premium hardware for Fold&Slide systems with a large surface



Roto Patio Life

Comfort hardware for large sliding doors



Roto Patio Lift

Standard hardware for large Lift&Slide doors



Roto Patio Alversa

Universal hardware for minimum effort in Parallel Sliding and Tilt&Slide systems



Roto Patio Inowa

Intelligent hardware for tightly sealed sliding systems

Roto Inline – Simple sliding windows and doors



Roto Inline

Hardware systems for simple sliding windows and doors



1.8.3 Roto Door



Millions of items of Roto hardware have enabled windows and doors all over the world to work correctly and move as intended. With Roto Door, we are concentrating on the development and production of door technology that meets modern requirements in terms of security and comfort.

Roto Safe – Multipoint lockings



Roto Safe H

Mechanical multipoint lockings for lever-handle operated doors



Roto Safe C

Mechanical multipoint locking for cylinder-operated doors



Roto Safe E

Electromechanical multipoint lockings for doors

Roto Solid – Hinges



Roto Solid S

Screw-on hinges for doors



Roto Solid B

Butt hinges for doors



Roto Solid C

Concealed hinges for doors

Roto Eifel – Thresholds



Roto Eifel

Tailor-made range of thresholds for tightly sealed accessible doors and balcony doors



1.9 Contact

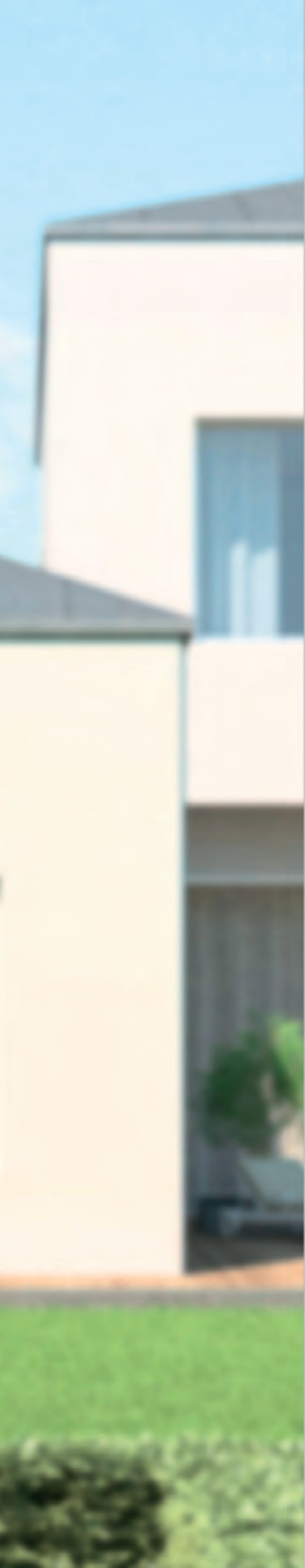
Roto Frank
Fenster- und Türtechnologie GmbH

Wilhelm-Frank-Platz 1
70771 Leinfelden-Echterdingen
Germany
Phone +49 711 7598 0
Fax +49 711 7598 253
info@roto-frank.com
www.roto-frank.com



Roto Solid B





150 R

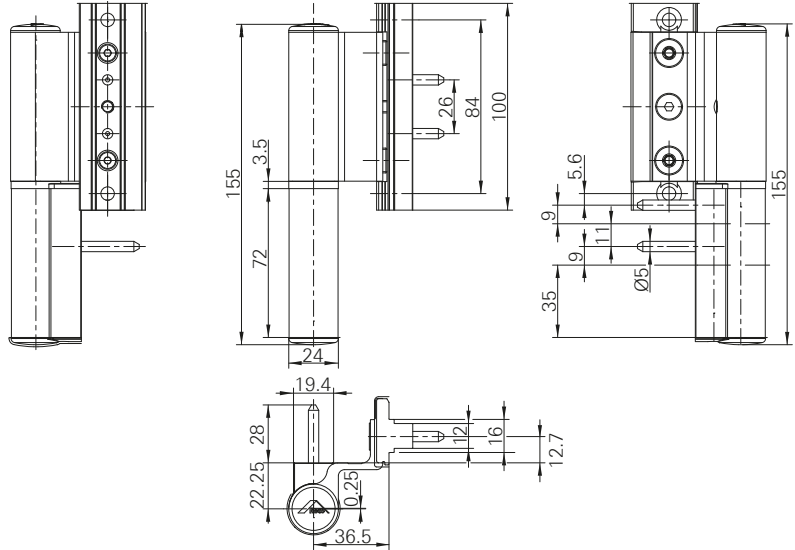
Spare parts	43
Accessories	44
Drawings	44

170 R

Spare parts	48
Accessories	49
Drawings	50

2 Roto Solid B – Butt hinges

2.1 150 R



Product description

- Two-part butt hinge
- Usable on the left and right
- Load-bearing components made from extruded aluminium
- CE-certified in accordance with DIN EN 1935:2002



Application range

- Up to 120 kg
- For main entrance doors and back doors
- Especially suited to doors with double-sided leaf-overlapping panels
- Suitable for all common PVC profile systems with 13 mm axis dimension, 16 mm hardware groove, 20 mm overlap and closed leaf reinforcement

Adjustment

- When fully assembled without undoing the fixing
- Without lateral offset of roller bodies
- Height adjustment possible without unhinging the door
- Laterally adjustable: +/-2 mm
- Height adjustable: +4 / -3 mm
- Gasket compression adjustable: -0.5 mm

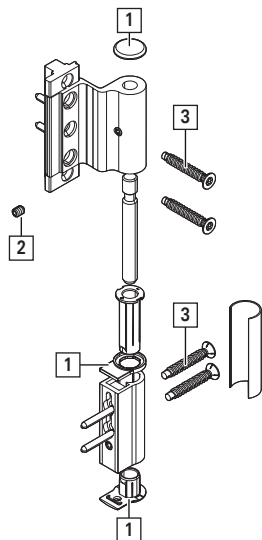
INFO

For further information on the available butt hinge versions, see → *from page 44.*

Version I	Material	Color	Finish	Quantity	Article No.
	PVC	RAL 9016	Traffic white	1 Piece(s)	821326
	PVC	-	Stainless steel appearance	1 Piece(s)	821327

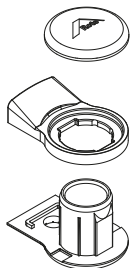


2.1.1 Spare parts



- [1] Cover cap
- [2] Axis pin fixing
- [3] Fixing screw

[1] Cover cap



			Nº
Cover cap set 170 R	Black	10 Piece(s)	833238
	White	10 Piece(s)	833239

[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

[3] Fixing screw

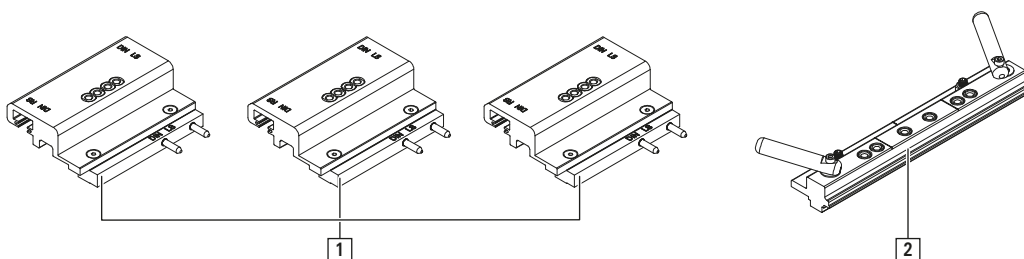


				Nº
Fixing screw	T30 hexalobular socket	6,3x40	48 Piece(s)	825048

2.1.2 Accessories

2.1.2.1 Jigs

Drilling jig set



Drilling jig set consisting of: 3 x frame drilling jigs [1], 1 x leaf drilling jig [2]

		Nº
Single jig body set 150 R	1 Set(s)	828782

2.1.3 Drawings

2.1.3.1 Installation drawings



INFO

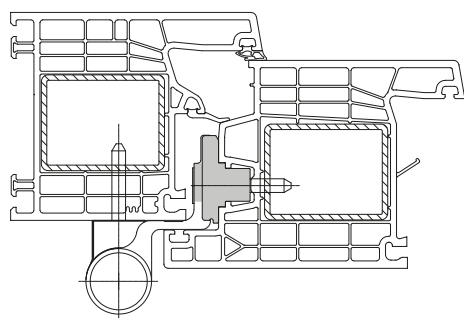
Installation examples for the aforementioned versions are shown here.

Installation examples for specific profile systems are available upon request.



Version I

Profine 76 MD





2.1.3.2 Drilling pattern

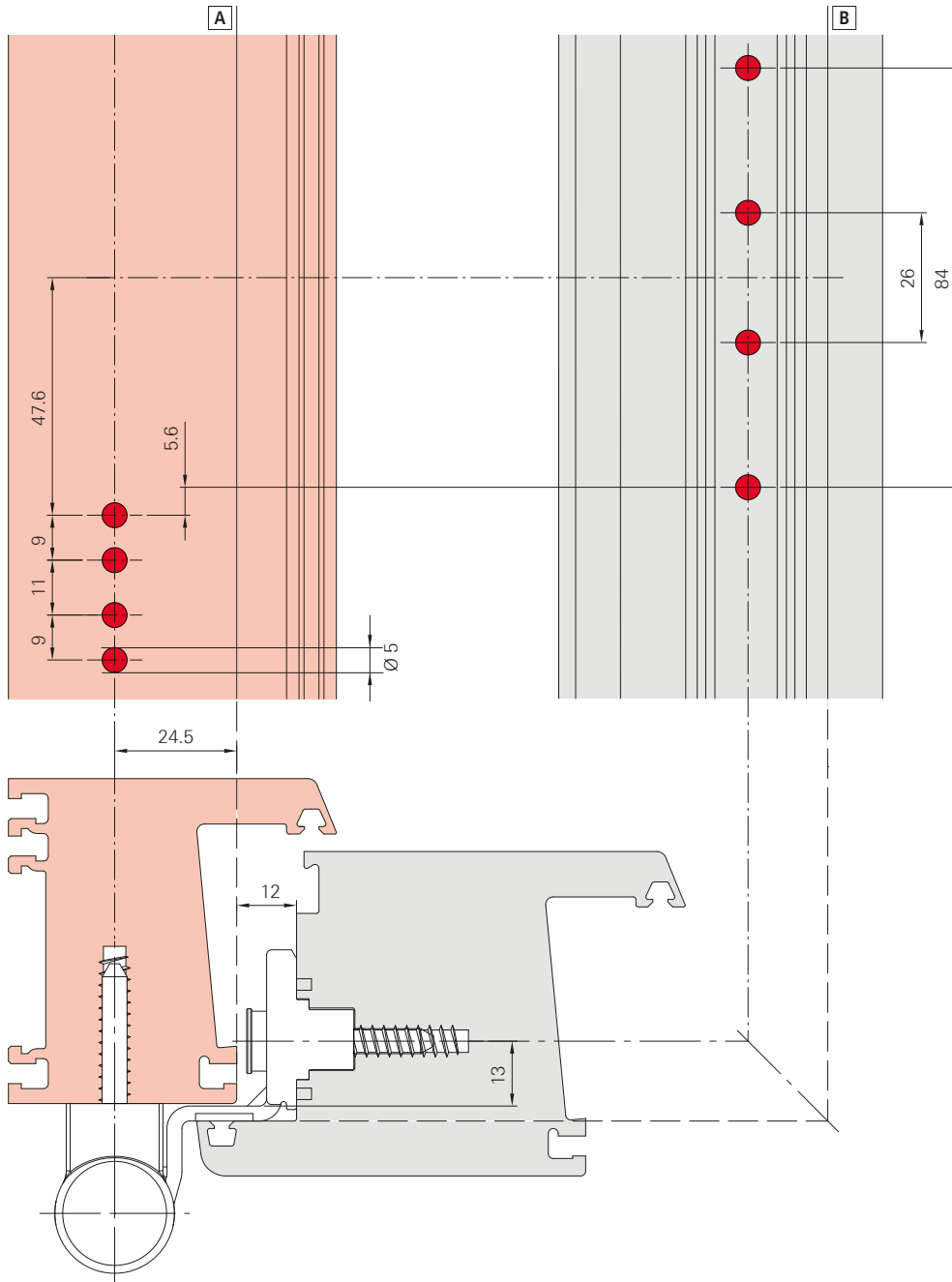


INFO

Example diagram.

Drilling patterns depend on the profile.

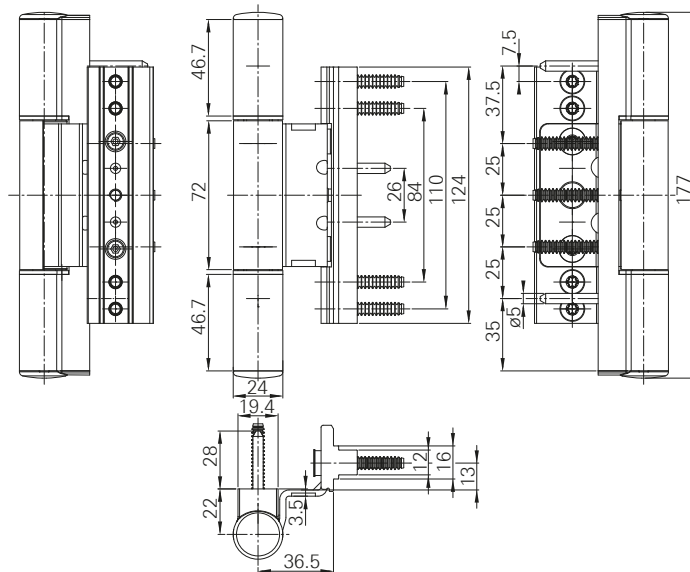
Specific drilling patterns are available upon request.



[A] Edge of frame profile body

[B] Edge of sash profile body

2.2 170 R



Product description

- Three-part butt hinge
- Load-bearing components made from extruded aluminium
- High load bearing capacity thanks to rolled and welded sash hinge made from refined steel
- RAL-certified
- SKG**-certified



Application range

- Up to 120 kg
- Only suitable for main entrance doors and back doors with closed reinforcement in the leaf
- Especially suited to doors with double-sided leaf-overlapping panels
- Suitable for all common PVC profile systems with Euro-groove, an overlap of 20 mm and an axis dimension of 13 mm as well as timber and timber-aluminium profile systems

Adjustment






- When fully assembled without undoing the fixing
- Without lateral offset of roller bodies
- Height adjustment possible without unhinging the door
- Laterally adjustable: +/-2 mm
- Height adjustable: +4 / -3 mm
- Gasket compression adjustable: +0.5 mm with packing plate

INFO

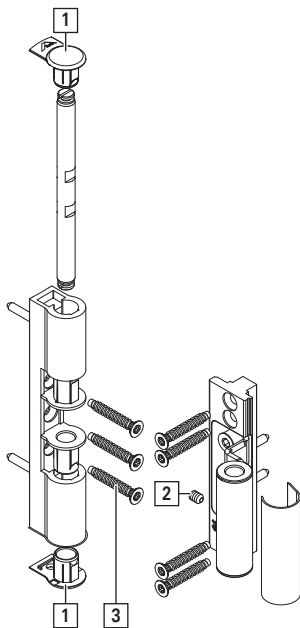
For further information on the available butt hinge versions, see → *from page 50.*

Version I	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	544533
	PVC	RAL 8077	Dark brown	1 Piece(s)	544099
	PVC	RAL 9016	Traffic white	1 Piece(s)	544098
	PVC	–	Gold appearance	1 Piece(s)	544665
	PVC	–	Stainless-steel appearance	1 Piece(s)	544662



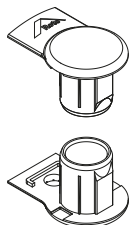
					N ^o
Version II	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	544828
	PVC	RAL 8077	Dark brown	1 Piece(s)	544832
	PVC	RAL 9016	Traffic white	1 Piece(s)	544833
	PVC	–	Gold appearance	1 Piece(s)	544829
	PVC	–	Stainless-steel appearance	1 Piece(s)	544830
Version III	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	546860
	PVC	RAL 8077	Dark brown	1 Piece(s)	546207
	PVC	RAL 9016	Traffic white	1 Piece(s)	545005
	PVC	–	Stainless-steel appearance	1 Piece(s)	545004
Version IV	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	546605
	PVC	RAL 9016	Traffic white	1 Piece(s)	546902
	PVC	–	Stainless steel appearance	1 Piece(s)	823890
	PVC	–	Stainless-steel appearance	1 Piece(s)	546904
Version V	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	546867
	PVC	RAL 8077	Dark brown	1 Piece(s)	546866
	PVC	RAL 9016	Traffic white	1 Piece(s)	546865
	PVC	–	Stainless-steel appearance	1 Piece(s)	546868
Version VI	PVC	E6/C-0	Natural finish (EV1)	1 Piece(s)	546882
	PVC	RAL 8077	Dark brown	1 Piece(s)	546881
	PVC	RAL 9016	Traffic white	1 Piece(s)	546880
	PVC	–	Stainless-steel appearance	1 Piece(s)	546883
Version VIII	Timber-aluminium	E6/C-0	Natural finish (EV1)	1 Piece(s)	549319
	Timber-aluminium	–	Stainless-steel appearance	1 Piece(s)	549167
Version IX	Timber	E6/C-0	Natural finish (EV1)	1 Piece(s)	549322
	Timber	RAL 8077	Dark brown	1 Piece(s)	549324
	Timber	RAL 9016	Traffic white	1 Piece(s)	549323
	Timber	–	Stainless-steel appearance	1 Piece(s)	548746
Version X	Timber	–	Stainless-steel appearance	1 Piece(s)	600146
Version XI	PVC	RAL 9016	Traffic white	1 Piece(s)	823888
	PVC	–	Stainless-steel appearance	1 Piece(s)	622674




2.2.1 Spare parts



- [1] Cover cap
- [2] Axis pin fixing
- [3] Fixing screw

[1] Cover cap



			Nº
Cover cap set	Black	10 Piece(s)	809519





[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

[3] Fixing screw



				Nº
Fixing screw	T30 hexalobular socket	6,3x40	48 Piece(s)	825048



2.2.2 Accessories

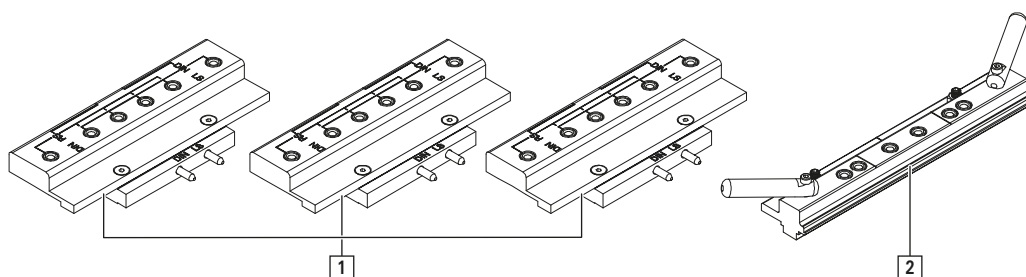
2.2.2.1 Packing plates



						Nº
Packing plate	170	19	0.5	Black	1 Piece(s)	545989

2.2.2.2 Jigs

Drilling jig set



Drilling jig set consisting of: 3 x frame drilling jigs [1], 1 x leaf drilling jig [2]

			Nº
Drilling jig set	Version I, III, XI	1 Set(s)	544854
	Version II, IV	1 Set(s)	544856
	Version V, VIII	1 Set(s)	547777
	Version VI	1 Set(s)	547427
	Version IX, X	1 Set(s)	548995

2.2.3 Drawings

2.2.3.1 Installation drawings



INFO

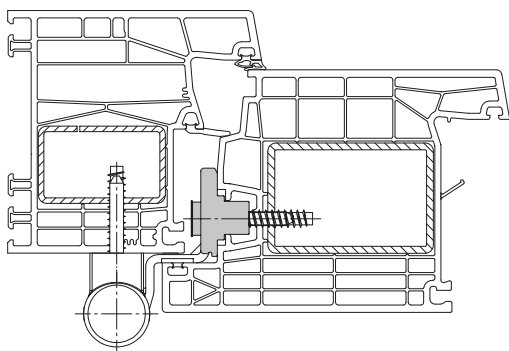
Installation examples for the aforementioned versions are shown here.

Installation examples for specific profile systems are available upon request.



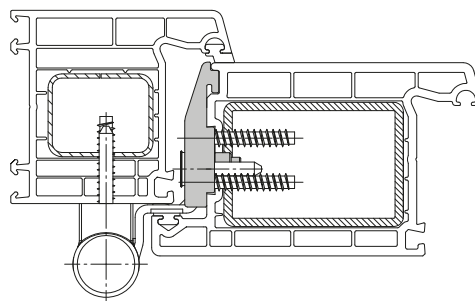
Version I

KBE 88 MD, Kömmerling 88 MD, Trocal 88 MD, Profine 88 MD



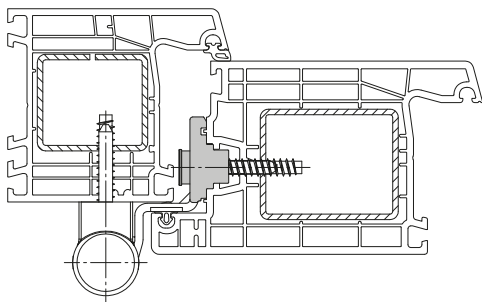
Version II

Veka Softline 70 AD



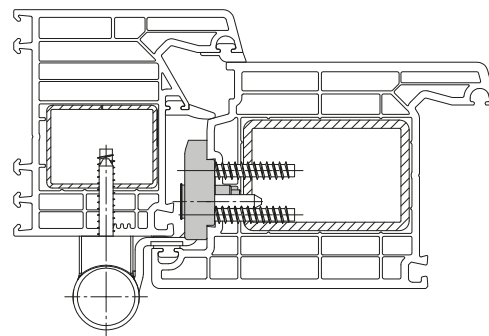
Version III

Aluplast Ideal 4000



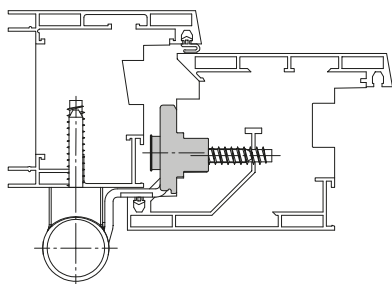
Version IV

Veka Softline 82 MD



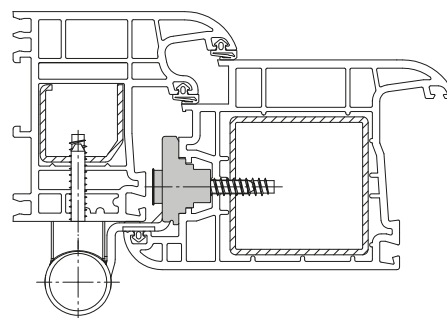
Version V

Pural Aluminium



Version VI

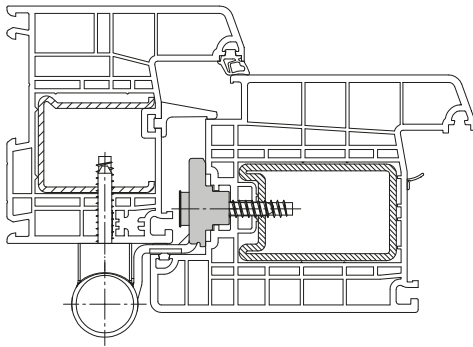
Salamander 3D





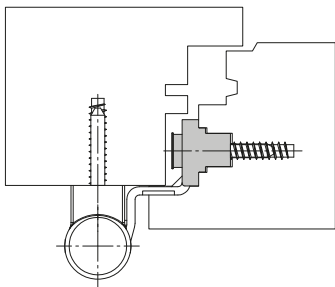
Version XI

Rehau S 980 Geneo



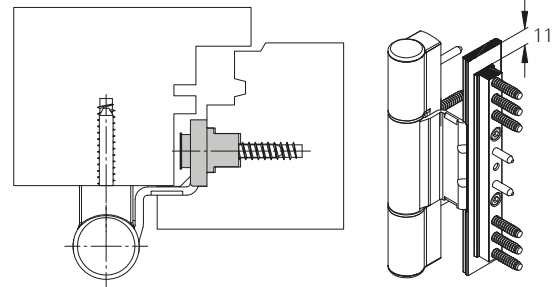
Version IX

Timber systems with continuous hardware groove



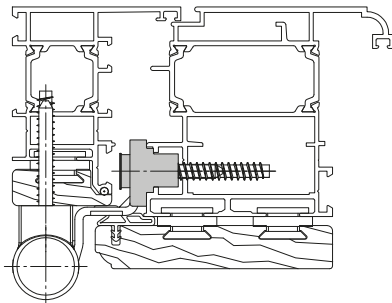
Version X

Timber systems with routed-in hardware groove



Version VIII

Aluminium-timber systems



2.2.3.2 Drilling pattern

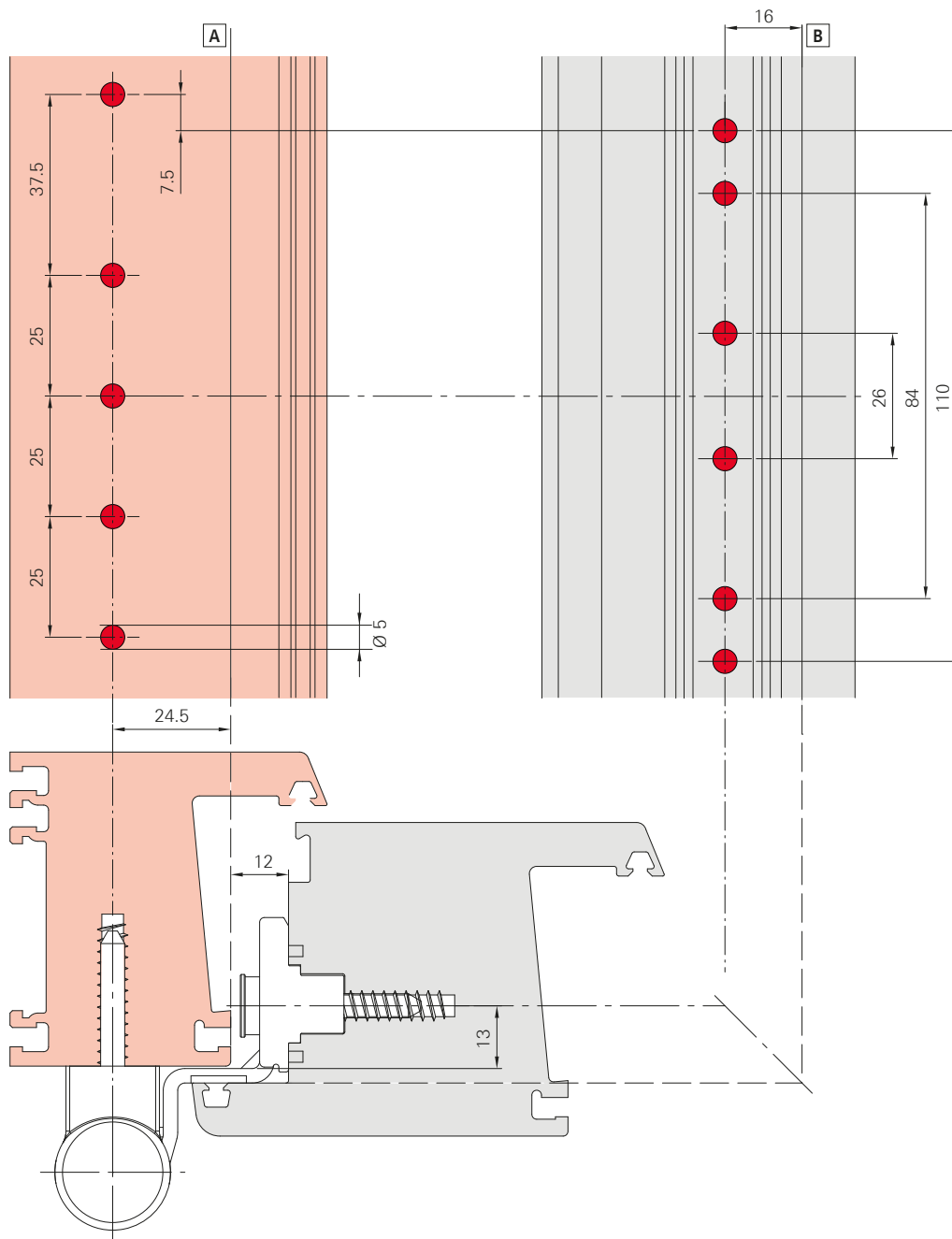


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



[A] Edge of frame profile body

[B] Edge of sash profile body



Roto Solid S





PS 23		105 NN-SH	
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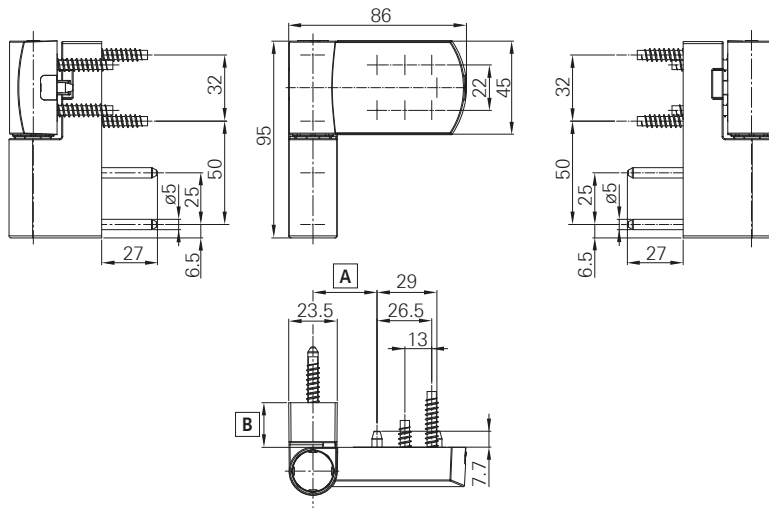
120 ATB

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3 Roto Solid S – Screw-on hinges

3.1 PS 23



[A] Presetting

[B] Overlap height



Product description

- Two-part screw-on hinge with patented anti-jemmy device
- Integrated adjusting scale
- Sash hinge cover secured to prevent removal
- CE-certified in accordance with DIN EN 1935:2002

Application range

- Up to 80 kg
- Overlapping overlap height intervals for greater flexibility
- For overlap heights of 14 – 23.5 mm without packing plates







Adjustment





- When fully assembled without undoing the fixing
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 / -1 mm
- Gasket compression adjustable: +/-1 mm
- Additional gasket compression adjustment of +/-0.75 mm by turning the eccentric frame hinge bush

Presetting 31

				
14 – 17.5	RAL 1036	Pearl gold	1 Piece(s)	492517
	RAL 8003	Clay brown	1 Piece(s)	492518
	RAL 8077	Dark brown	1 Piece(s)	492519
	RAL 9016	Traffic white	1 Piece(s)	492520
	–	SilverH	1 Piece(s)	493275
	–	Stainless steel appearance	1 Piece(s)	817067

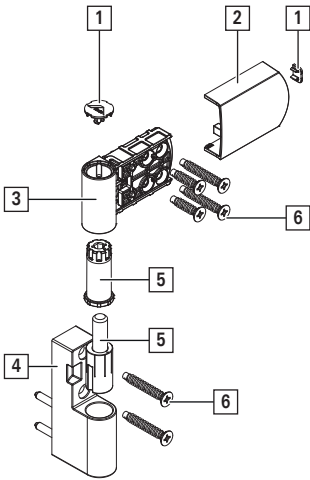
				Nº
17 – 20.5	RAL 1036	Pearl gold	1 Piece(s)	492524
	RAL 8003	Clay brown	1 Piece(s)	492555
	RAL 8077	Dark brown	1 Piece(s)	492556
	RAL 9001	Cream	1 Piece(s)	492557
	RAL 9016	Traffic white	1 Piece(s)	492558
	RAL 9016	Traffic white	24 Piece(s)	492559
	RAL 9022	Pearl light grey	1 Piece(s)	492560
	–	Bronze	1 Piece(s)	632606
	–	SilverH	1 Piece(s)	492561
	–	Titanium	1 Piece(s)	623572
18.5 – 22	–	Stainless steel appearance	1 Piece(s)	817044
	RAL 8077	Dark brown	1 Piece(s)	796376
	RAL 8077	Dark brown	24 Piece(s)	810932
	RAL 9016	Traffic white	1 Piece(s)	796377
	RAL 9016	Traffic white	24 Piece(s)	810933
	–	SilverH	1 Piece(s)	796378
	–	SilverH	24 Piece(s)	810934
–	Stainless steel appearance	1 Piece(s)	817068	
20 – 23.5	RAL 1036	Pearl gold	1 Piece(s)	492565
	RAL 8077	Dark brown	1 Piece(s)	492567
	RAL 9016	Traffic white	1 Piece(s)	492568
	RAL 9016	Traffic white	24 Piece(s)	493277
	–	SilverH	1 Piece(s)	493276
	–	Stainless steel appearance	1 Piece(s)	817065

Presetting 34

				Nº
14 – 17.5	RAL 8077	Dark brown	1 Piece(s)	492521
	RAL 8077	Dark brown	24 Piece(s)	495270
	RAL 9016	Traffic white	1 Piece(s)	492522
	RAL 9016	Traffic white	24 Piece(s)	495271
17 – 20.5	RAL 8077	Dark brown	1 Piece(s)	492563
	RAL 8077	Dark brown	24 Piece(s)	565489
	RAL 9016	Traffic white	1 Piece(s)	492564
	RAL 9016	Traffic white	24 Piece(s)	535327
	–	SilverH	24 Piece(s)	565488
18.5 – 22	–	Titanium	1 Piece(s)	619180
	RAL 8077	Dark brown	1 Piece(s)	810936
	RAL 9016	Traffic white	1 Piece(s)	810937
20 – 23.5	–	SilverH	1 Piece(s)	810938
	RAL 8077	Dark brown	24 Piece(s)	495269
	RAL 9016	Traffic white	24 Piece(s)	495268
–	SilverH	1 Piece(s)	492570	



3.1.1 Spare parts



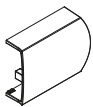
- [1] Cover cap
- [2] Sash hinge cover
- [3] Sash hinge
- [4] Frame hinge
- [5] Pin module set
- [6] Fixing screw

[1] Cover cap



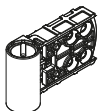
				Nº
Cover cap set		White	24 Piece(s)	450377
		Black	24 Piece(s)	450378

[2] Sash hinge cover



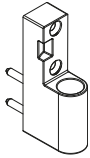
					Nº
Sash hinge cover		RAL 8077	Dark brown	12 Piece(s)	601373
		RAL 9016	Traffic white	12 Piece(s)	601372

[3] Sash hinge



					Nº
Sash hinge		RAL 8077	Dark brown	6 Piece(s)	601423
		RAL 9016	Traffic white	6 Piece(s)	601422

[4] Frame hinge



					Nº
Frame hinge	14 – 17.5	RAL 8077	Dark brown	6 Piece(s)	601417
		RAL 9016	Traffic white	6 Piece(s)	601374
	17 – 20.5	RAL 8077	Dark brown	6 Piece(s)	601419
		RAL 9016	Traffic white	6 Piece(s)	601418
	20 – 23.5	RAL 8077	Dark brown	6 Piece(s)	601421
		RAL 9016	Traffic white	6 Piece(s)	601420

[5] Pin module set



			Nº
Pin module set	Black	24 Piece(s)	492572
	White	24 Piece(s)	492571

[6] Fixing screw



INFO

Screw lengths depend on the profile.

			Nº
Fixing screw	6,3x26	48 Piece(s)	450380

			Nº
Fixing screw	6,3x40	48 Piece(s)	450381
		1000 Piece(s)	628901

			Nº
Fixing screw	6,3x50	48 Piece(s)	450382
		1000 Piece(s)	628902

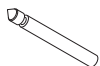


3.1.2 Accessories

3.1.2.1 Retaining screw

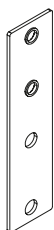
				Nº
Retaining screw	DIN 7500 M	M3x12	1000 Piece(s)	628899

3.1.2.2 Locking pin



			Nº
Screw locking pin	SKG **	100 Piece(s)	224749

3.1.2.3 Packing plates



						Nº
Packing plate	95	23.5	1.5	Black	100 Piece(s)	445214
				White	100 Piece(s)	445213

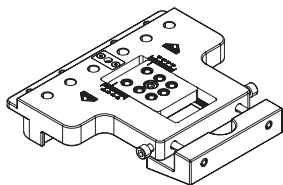


INFO

Use a maximum of 1 packing plate per hinge.

3.1.2.4 Jigs

Drilling jig



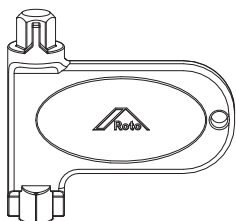
				Nº
	Drilling jig		1 Piece(s)	447048

Telescopic jig

Consisting of: 3 x drilling jigs, 1 x telescopic holder for drilling jigs

				Nº
	Telescopic jig	–	1 Set(s)	447051

3.1.2.5 Adjustment key



				Nº
	Gasket compression adjustment key		1 Piece(s)	535285



3.1.3 Drawings

3.1.3.1 Drilling pattern

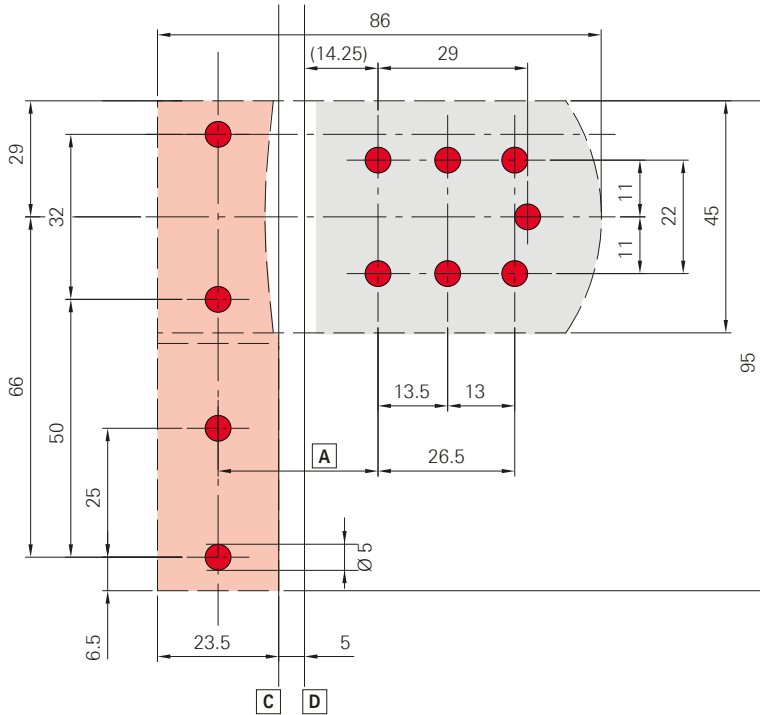


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.

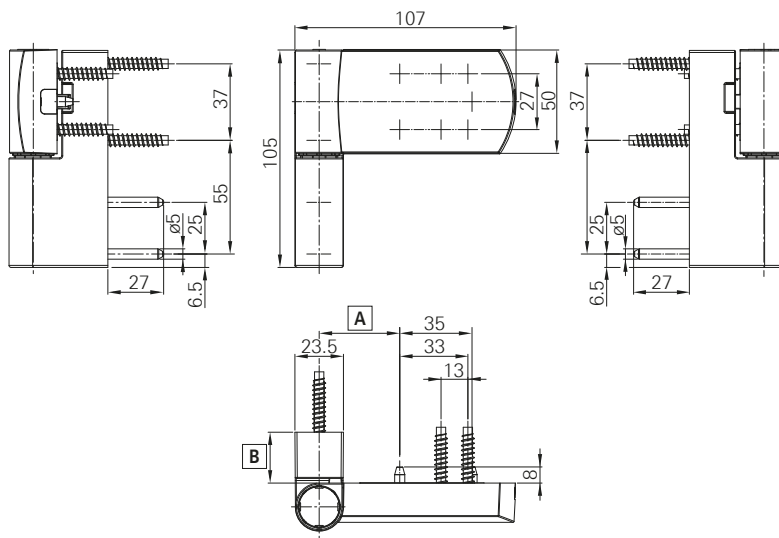
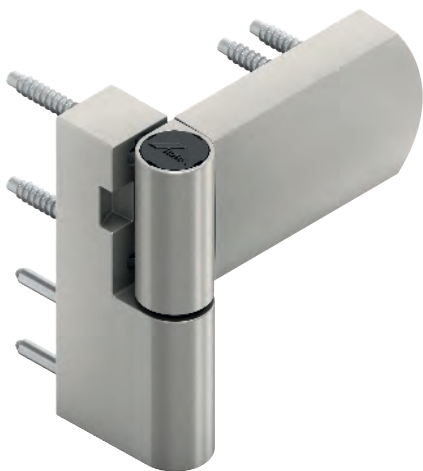


[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body

3.2 PS 27



[A] Presetting

[B] Overlap height



Product description

- Two-part screw-on hinge with patented anti-jemmy device
- Integrated adjusting scale
- Sash hinge cover secured to prevent removal
- CE-certified in accordance with DIN EN 1935:2002
- SKG**-certified (with retrofit set)



Application range

- Up to 120 kg
- Overlapping overlap height intervals for greater flexibility
- For overlap heights of 14 – 26.5 mm without packing plates





Adjustment

- When fully assembled without undoing the fixing
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 / -1 mm
- Gasket compression adjustable: +/-1 mm
- Additional gasket compression adjustment of +/-0.75 mm by turning the eccentric frame hinge bush





Presetting 39





14 – 17.5	RAL 8003	Clay brown	1 Piece(s)	764016
	RAL 8004	Copper brown	1 Piece(s)	763994
	RAL 8077	Dark brown	6 Piece(s)	492574
	RAL 9005	Jet black	1 Piece(s)	784711
	RAL 9006	White aluminium	1 Piece(s)	764015
	RAL 9016	Traffic white	1 Piece(s)	492575
	-	Bronze	1 Piece(s)	763993
	-	Titanium	1 Piece(s)	641937



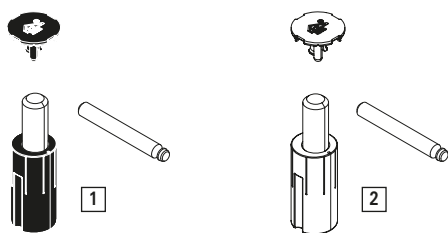
				N ^o
17 – 20.5	RAL 8077	Dark brown	1 Piece(s)	492582
	RAL 9001	Cream	1 Piece(s)	492583
	RAL 9005	Jet black	1 Piece(s)	782926
	RAL 9016	Traffic white	1 Piece(s)	492584
	–	SilverH	1 Piece(s)	492614
18.5 – 22	RAL 8077	Dark brown	1 Piece(s)	810941
	RAL 9016	Traffic white	1 Piece(s)	810940
	–	Stainless steel appearance	1 Piece(s)	817071
	–	Stainless steel appearance	1 Piece(s)	817072
20 – 23.5	RAL 8003	Clay brown	1 Piece(s)	492593
	RAL 8077	Dark brown	1 Piece(s)	492594
	RAL 9016	Traffic white	1 Piece(s)	492596
	–	Medium bronze	1 Piece(s)	641905
	–	SilverH	1 Piece(s)	492597
23 – 26.5	RAL 8077	Dark brown	1 Piece(s)	492607
	RAL 9016	Traffic white	1 Piece(s)	492608

Presetting 42

				N ^o
14 – 17.5	–	Bronze	1 Piece(s)	632608
	RAL 1036	Pearl gold	1 Piece(s)	492576
	RAL 8003	Clay brown	1 Piece(s)	492577
	RAL 8077	Dark brown	1 Piece(s)	492578
	RAL 9016	Traffic white	1 Piece(s)	492579
	RAL 9016	Traffic white	24 Piece(s)	493279
17 – 20.5	–	Bronze	1 Piece(s)	632609
	–	Stainless steel	1 Piece(s)	552414
	–	Medium bronze	1 Piece(s)	572598
	RAL 1036	Pearl gold	1 Piece(s)	492586
	RAL 8003	Clay brown	1 Piece(s)	492587
	RAL 8077	Dark brown	1 Piece(s)	492588
	RAL 9005	Jet black	1 Piece(s)	493929
	RAL 9007	Grey aluminium	1 Piece(s)	769110
	RAL 9016	Traffic white	1 Piece(s)	492589
RAL 9016	Traffic white	24 Piece(s)	492590	
RAL 9023	Pearl dark grey	1 Piece(s)	771837	
14 – 17.5	–	Stainless steel appearance	1 Piece(s)	817066
	–	Medium bronze	1 Piece(s)	572597
	–	SilverH	1 Piece(s)	492580
17 – 20.5	–	SilverH	24 Piece(s)	492591
	–	SilverH	1 Piece(s)	492615
	–	Titanium	1 Piece(s)	619466
	–	Stainless steel appearance	1 Piece(s)	817069
	–	Stainless steel appearance	24 Piece(s)	817070
18.5 – 22	RAL 8077	Dark brown	1 Piece(s)	796373
	RAL 8077	Dark brown	24 Piece(s)	810943
	RAL 9016	Traffic white	1 Piece(s)	796374
	RAL 9016	Traffic white	24 Piece(s)	810944
	–	SilverH	1 Piece(s)	796375
	–	SilverH	24 Piece(s)	810945
	–	Stainless steel appearance	1 Piece(s)	817074
–	Stainless steel appearance	24 Piece(s)	817075	




				Nº
20 – 23.5	–	Bronze	1 Piece(s)	632610
	–	Stainless steel	1 Piece(s)	600586
	–	Medium bronze	1 Piece(s)	572599
	RAL 1036	Pearl gold	1 Piece(s)	492599
	RAL 8077	Dark brown	1 Piece(s)	492600
	RAL 8077	Dark brown	24 Piece(s)	492601
	RAL 9001	Cream	1 Piece(s)	492602
	RAL 9016	Traffic white	1 Piece(s)	492603
	RAL 9016	Traffic white	24 Piece(s)	492604
	–	SilverH	1 Piece(s)	492605
	–	SilverH	24 Piece(s)	492606
	–	Stainless steel appearance	1 Piece(s)	817076
	23 – 26.5	–	Bronze	1 Piece(s)
RAL 1036		Pearl gold	1 Piece(s)	492609
RAL 8077		Dark brown	1 Piece(s)	492610
RAL 8077		Dark brown	24 Piece(s)	620901
RAL 9005		Jet black	1 Piece(s)	796004
RAL 9016		Traffic white	1 Piece(s)	492611
RAL 9016		Traffic white	24 Piece(s)	620902
–		Stainless steel appearance	1 Piece(s)	817077
–		SilverH	1 Piece(s)	493131

SKG retrofit set**



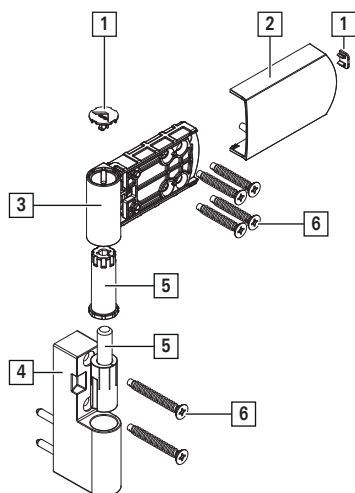
- [1] Black
- [2] White

SKG** retrofit set consisting of: 1 x cover cap, 1 x tapered bush, 1 x locking pin, 1 x installation instructions

			Nº
SKG** retrofit set PS 27	Black	1 Piece(s)	778366
	White	1 Piece(s)	778367



3.2.1 Spare parts



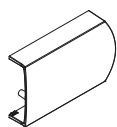
- [1] Cover cap
- [2] Sash hinge cover
- [3] Sash hinge
- [4] Frame hinge
- [5] Pin module set
- [6] Fixing screw

[1] Cover cap



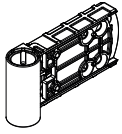
				N ^o
Cover cap set		White	24 Piece(s)	450377
		Black	24 Piece(s)	450378




[2] Sash hinge cover



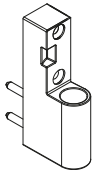
					N ^o
Sash hinge cover		RAL 8077	Dark brown	12 Piece(s)	601425
		RAL 9016	Traffic white	12 Piece(s)	601424






[3] Sash hinge



				Nº
Sash hinge	RAL 8077	Dark brown	6 Piece(s)	601435
	RAL 9016	Traffic white	6 Piece(s)	601434




[4] Frame hinge



					Nº
Frame hinge	14 – 17.5	RAL 8077	Dark brown	6 Piece(s)	601427
		RAL 9016	Traffic white	6 Piece(s)	601426
	17 – 20.5	RAL 8077	Dark brown	6 Piece(s)	601429
		RAL 9016	Traffic white	6 Piece(s)	601428
	18.5 – 22	RAL 8077	Dark brown	6 Piece(s)	810947
		RAL 9016	Traffic white	6 Piece(s)	810948
	20 – 23.5	RAL 8077	Dark brown	6 Piece(s)	601431
		RAL 9016	Traffic white	6 Piece(s)	601430
23 – 26.5	RAL 8077	Dark brown	6 Piece(s)	601433	
	RAL 9016	Traffic white	6 Piece(s)	601432	

[5] Pin module set



			Nº
Pin module set	Black	24 Piece(s)	492613
	White	24 Piece(s)	492612



[6] Fixing screw



INFO

Screw lengths depend on the profile.

			Nº
Fixing screw	6,3x26	48 Piece(s)	450380
			Nº
Fixing screw	6,3x40	48 Piece(s)	450381
		1000 Piece(s)	628901
			Nº
Fixing screw	6,3x50	48 Piece(s)	450382
		1000 Piece(s)	628902



3.2.2 Accessories

3.2.2.1 Retaining screw

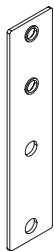
				Nº
Retaining screw	DIN 7500 M	M3x12	1000 Piece(s)	628899

3.2.2.2 Locking pin



			Nº
Screw locking pin	SKG **	100 Piece(s)	224749

3.2.2.3 Packing plates



						Nº
Packing plate	105	23.5	1.5	Black	100 Piece(s)	445226
				White	100 Piece(s)	445225

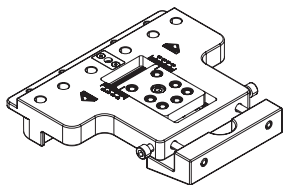


INFO

Use a maximum of 1 packing plate per hinge.

3.2.2.4 Jigs

Drilling jig



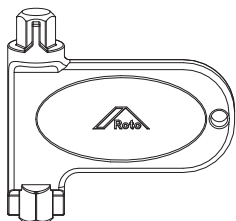
		Nº
Drilling jig	1 Piece(s)	447050

Telescopic jig

Consisting of: 3 x drilling jigs, 1 x telescopic holder for drilling jigs

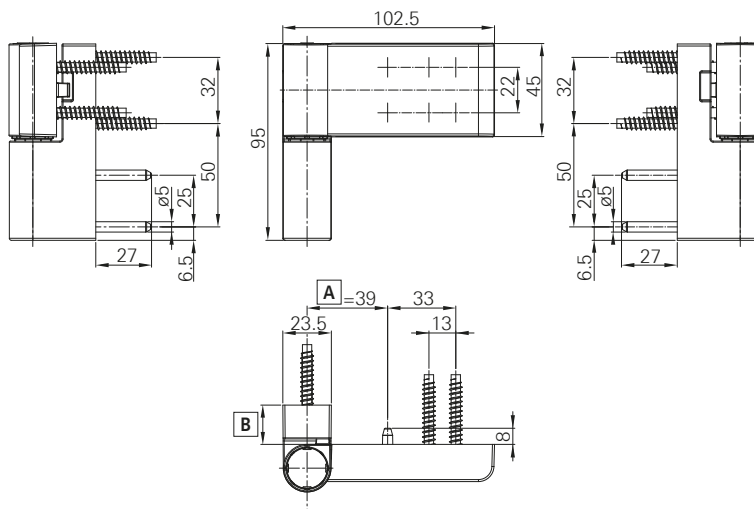
			Nº
Telescopic jig	-	1 Set(s)	447052

3.2.2.5 Adjustment key



		Nº
Gasket compression adjustment key	1 Piece(s)	535285

3.3 150 P



[A] Presetting

[B] Overlap height



Product description

- Two-part screw-on hinge with patented anti-jemmy device
- Integrated adjusting scale
- Sash hinge cover secured to prevent removal
- CE-certified in accordance with DIN EN 1935:2002

Application range






- Up to 110 kg
- Overlapping overlap height intervals for greater flexibility
- For overlap heights of 14 – 23.5 mm without packing plates






Adjustment

- When fully assembled
- Laterally adjustable: +/- 5 mm
- Height adjustable: +5 / -1 mm
- Gasket compression adjustable: +/- 1 mm
- Additional gasket compression adjustment of +/- 0.75 mm by turning the eccentric frame hinge bush

Presetting 39

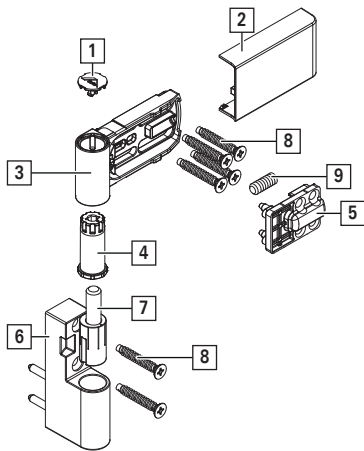
				
14 – 17.5	–	Bronze	1 Piece(s)	771407
	RAL 1036	Pearl gold	1 Piece(s)	738103
	RAL 8003	Clay brown	1 Piece(s)	738115
	RAL 8017	Chocolate brown	1 Piece(s)	738113
	RAL 8077	Dark brown	1 Piece(s)	738097
	RAL 9016	Traffic white	1 Piece(s)	738083
	RAL 9022	Pearl light grey	1 Piece(s)	768879
	RAL 9001	Cream	1 Piece(s)	738108
	–	SilverH	1 Piece(s)	738105
	RAL 9005	Jet black	1 Piece(s)	799873



				N ^o
17 – 20.5	–	Bronze	1 Piece(s)	771408
	RAL 1036	Pearl gold	1 Piece(s)	738099
	RAL 8003	Clay brown	1 Piece(s)	738116
	RAL 8017	Chocolate brown	1 Piece(s)	738114
	RAL 8022	Black brown	1 Piece(s)	738123
	RAL 8077	Dark brown	1 Piece(s)	738096
	RAL 9001	Cream	1 Piece(s)	738109
	RAL 9016	Traffic white	1 Piece(s)	738084
	–	Stainless steel appearance	1 Piece(s)	820773
	–	SilverH	1 Piece(s)	738100
20 – 23.5	–	Titanium	1 Piece(s)	738120
	–	Bronze	1 Piece(s)	771409
	RAL 1011	Brown beige	1 Piece(s)	738119
	RAL 1036	Pearl gold	1 Piece(s)	738104
	RAL 7016	Anthracite grey	1 Piece(s)	738121
	RAL 8003	Clay brown	1 Piece(s)	738117
	RAL 8017	Chocolate brown	1 Piece(s)	738102
	RAL 8022	Black brown	1 Piece(s)	738118
	RAL 8077	Dark brown	1 Piece(s)	738098
	RAL 9001	Cream	1 Piece(s)	738110
	RAL 9007	Grey aluminium	1 Piece(s)	738122
	RAL 9016	Traffic white	1 Piece(s)	738095
	–	SilverH	1 Piece(s)	738101






3.3.1 Spare parts



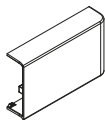
- [1] Cover cap
- [2] Sash hinge cover
- [3] Sash hinge
- [4] Sash hinge bush
- [5] Adjusting carriage
- [6] Frame hinge
- [7] Pin module
- [8] Fixing screw
- [9] Threaded pin

[1] Cover cap



			Nº
Cover cap	White	1000 Piece(s)	628900
	Black	1000 Piece(s)	633002

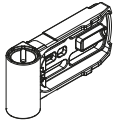
[2] Sash hinge cover



				Nº
Sash hinge cover	RAL 9016	Traffic white	50 Piece(s)	738107
	Roh	Uncoated	50 Piece(s)	738112
	–	SilverH	50 Piece(s)	741051



[3] Sash hinge



				N ^o
Sash hinge	RAL 9016	Traffic white	50 Piece(s)	738106
	Roh	Uncoated	50 Piece(s)	738111
	–	SilverH	50 Piece(s)	741050

[4] Sash hinge bush



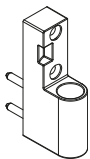
			N ^o
Sash hinge bush	Black	250 Piece(s)	633001
	White	250 Piece(s)	628897

[5] Adjusting carriage



		N ^o
Adjusting carriage	250 Piece(s)	628895




[6] Frame hinge



					N ^o
Frame hinge	14 – 17.5	RAL 9016	Traffic white	50 Piece(s)	628880
		Roh	Uncoated	50 Piece(s)	632995
	17 – 20.5	RAL 9016	Traffic white	50 Piece(s)	628881
		Roh	Uncoated	50 Piece(s)	632996
		–	SilverH	50 Piece(s)	794826
	20 – 23.5	RAL 9016	Traffic white	50 Piece(s)	628882
Roh		Uncoated	50 Piece(s)	632997	




[7] Pin module




			Nº
Pin module	Black	250 Piece(s)	633000
	White	250 Piece(s)	628896

[8] Fixing screw



			Nº
Fixing screw	6,3x40	48 Piece(s)	450381
		1000 Piece(s)	628901

			Nº
Fixing screw	6,3x50	48 Piece(s)	450382
		1000 Piece(s)	628902

[9] Threaded pin



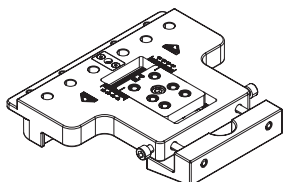
		Nº
Threaded pin	1000 Piece(s)	628898



3.3.2 Accessories

3.3.2.1 Jigs

Drilling jig



		N^o
Drilling jig	1 Piece(s)	628066

Drilling jig conversion kit



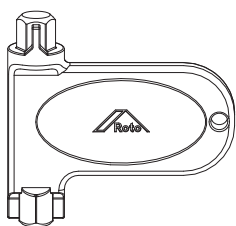
		N^o
Drilling jig conversion kit	1 Piece(s)	628878





INFO

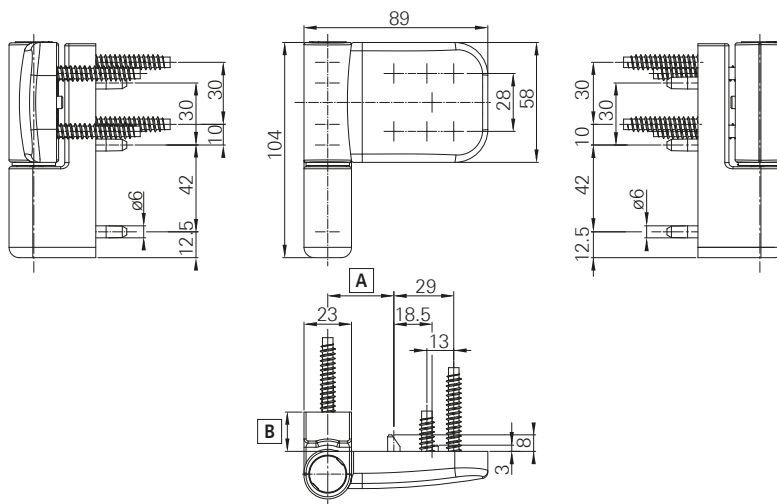
This can be used to convert a drilling jig for PS 23 / PS 27 to a drilling jig for 150 P.

3.3.2.2 Adjustment key



		N^o
Gasket compression adjustment key	1 Piece(s)	535285

3.4 89 NN



[A] Presetting

[B] Overlap height



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover, can be locked or screwed in
- Sash hinge bush secured in the sash hinge to prevent removal
- CE-certified in accordance with DIN EN 1935:2002



Application range

- Up to 80 kg
- For overlap heights of 14 – 25.5 mm without packing plates





Adjustment

- When fully assembled without undoing the fixing
- Sash hinge bush with defined lock-in position for gasket compression adjustment
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric frame hinge bush





Presetting 32

				
14 – 16.5	RAL 8019	Grey brown	1 Piece(s)	545463
	RAL 8077	Dark brown	1 Piece(s)	544684
	RAL 9006	White aluminium	1 Piece(s)	546924
	RAL 9016	Traffic white	1 Piece(s)	551171
15.5 – 18	RAL 8077	Dark brown	1 Piece(s)	547614
	RAL 8077	Dark brown	24 Piece(s)	547617
	RAL 9006	White aluminium	1 Piece(s)	547613
	RAL 9016	Traffic white	1 Piece(s)	547612
	RAL 9016	Traffic white	24 Piece(s)	547615

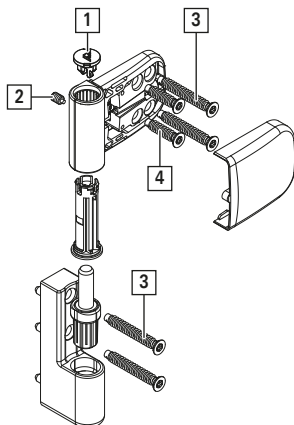


				N ^o
16.5 – 19	–	Bronze	1 Piece(s)	771392
	RAL 1015	Light ivory	1 Piece(s)	545329
	RAL 1036	Pearl gold	1 Piece(s)	545407
	RAL 7035	Light grey	1 Piece(s)	545251
	RAL 8003	Clay brown	24 Piece(s)	545899
	RAL 8019	Grey brown	1 Piece(s)	545187
	RAL 8077	Dark brown	1 Piece(s)	544612
	RAL 8077	Dark brown	24 Piece(s)	544711
	RAL 9006	White aluminium	1 Piece(s)	545988
	RAL 9006	White aluminium	24 Piece(s)	546080
	RAL 9016	Traffic white	1 Piece(s)	544611
	RAL 9016	Traffic white	24 Piece(s)	544710
17.5 – 20	RAL 8077	Dark brown	1 Piece(s)	546367
	RAL 9016	Traffic white	1 Piece(s)	546366
19 – 21.5	–	Bronze	1 Piece(s)	771393
	–	Delta silver	1 Piece(s)	546671
	–	Delta silver	24 Piece(s)	547640
	RAL 1015	Light ivory	1 Piece(s)	546426
	RAL 1036	Pearl gold	1 Piece(s)	545010
	RAL 8003	Clay brown	1 Piece(s)	546034
	RAL 8019	Grey brown	1 Piece(s)	545189
	RAL 8077	Dark brown	1 Piece(s)	544686
	RAL 8077	Dark brown	24 Piece(s)	546028
	RAL 9006	White aluminium	1 Piece(s)	545630
	RAL 9006	White aluminium	24 Piece(s)	546030
	RAL 9007	Grey aluminium	1 Piece(s)	545771
	RAL 9016	Traffic white	1 Piece(s)	544685
	RAL 9016	Traffic white	24 Piece(s)	546026
21.5 – 24	RAL 8077	Dark brown	1 Piece(s)	544675
	RAL 8077	Dark brown	24 Piece(s)	544714
	RAL 9006	White aluminium	1 Piece(s)	546928
	RAL 9006	White aluminium	24 Piece(s)	546929
	RAL 9016	Traffic white	1 Piece(s)	544674
	RAL 9016	Traffic white	24 Piece(s)	544713
23 – 25.5	RAL 8077	Dark brown	1 Piece(s)	545132
	RAL 8077	Dark brown	24 Piece(s)	545148
	RAL 9006	White aluminium	1 Piece(s)	545135
	RAL 9016	Traffic white	1 Piece(s)	546930
	RAL 9016	Traffic white	24 Piece(s)	545147

Presetting 34

				N ^o
16.5 – 19	RAL 8077	Dark brown	24 Piece(s)	544996
	RAL 9016	Traffic white	24 Piece(s)	544995
17.5 – 20	RAL 9016	Traffic white	24 Piece(s)	546379
19 – 21.5	RAL 8077	Dark brown	1 Piece(s)	546215
	RAL 8077	Dark brown	24 Piece(s)	546496
	RAL 9016	Traffic white	1 Piece(s)	545973
	RAL 9016	Traffic white	24 Piece(s)	546495

3.4.1 Spare parts



- [1] Cover cap
- [2] Sash hinge cover fixing
- [3] Fixing screw, long
- [4] Fixing screw, short

[1] Cover cap



			Nº
Cover cap	Black	24 Piece(s)	736467
	White	24 Piece(s)	764520

[2] Sash hinge cover fixing



			Nº
Sash hinge cover fixing	M6x10	100 Piece(s)	823911

[3] Fixing screw, long



				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912

[4] Fixing screw, short

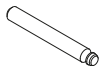


				Nº
Fixing screw	T30 hexalobular socket	7,3x30	48 Piece(s)	825063



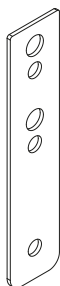
3.4.2 Accessories

3.4.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049

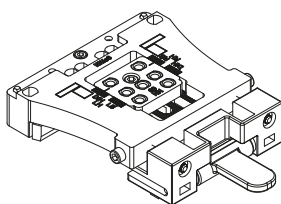
3.4.2.2 Packing plates



						Nº
Packing plate	103.5	23	1.5	White	24 Piece(s)	546044
				Black	24 Piece(s)	546045

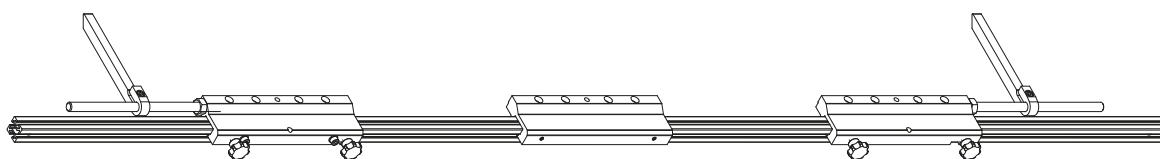
3.4.2.3 Jigs

Drilling jig



			Nº
Drilling jig	32 mm	1 Piece(s)	544283

Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408

3.4.3 Drawings

3.4.3.1 Drilling pattern

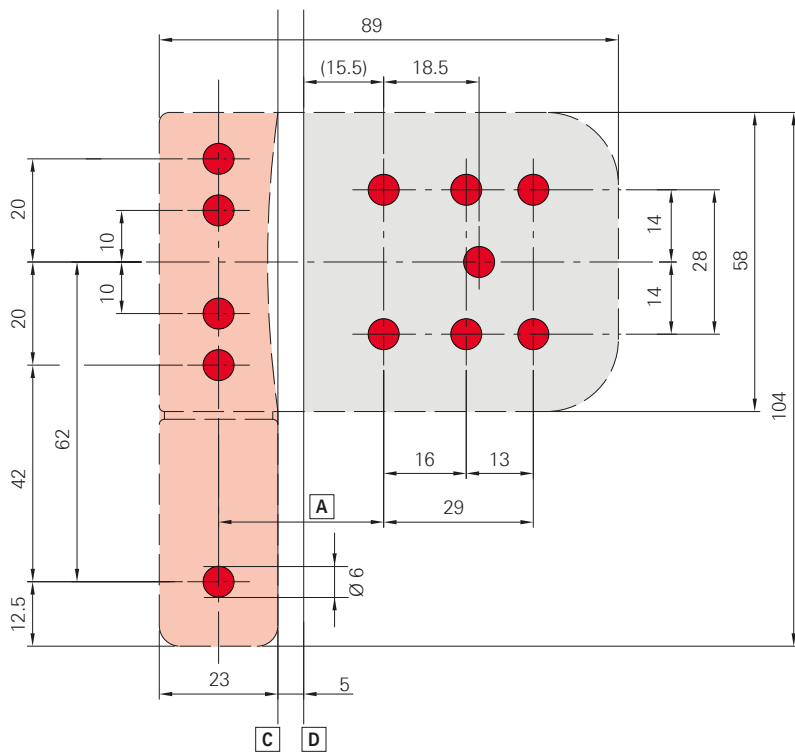


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



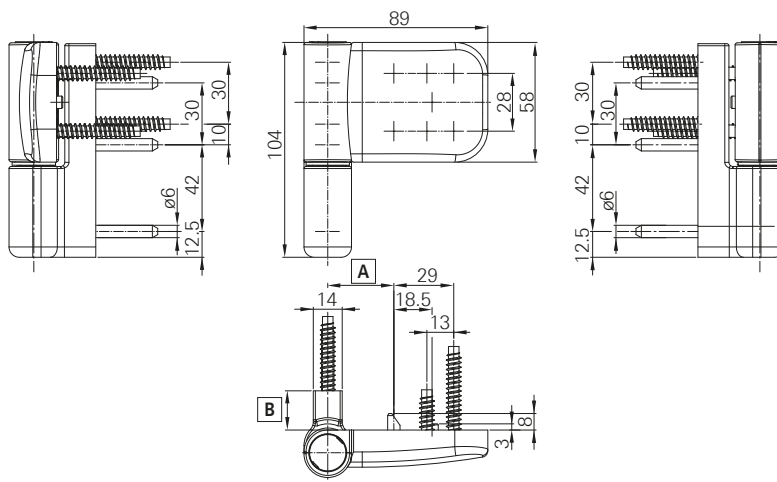
[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body



3.5 89 NN-SR



[A] Presetting

[B] Overlap height



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover, can be locked or screwed in
- Sash hinge bush secured to prevent removal
- CE-certified in accordance with DIN EN 1935:2002

Application range

- Up to 80 kg
- For overlap heights of 14 – 21.5 mm without packing plates
- Especially suited to profiles with narrow visible widths / renovation profiles

Adjustment




- When fully assembled without undoing the fixing
- Sash hinge bush with defined lock-in position for gasket compression adjustment
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric frame hinge bush



Presetting 32

				Nº
14 – 16.5	RAL 8003	Clay brown	1 Piece(s)	546589
	RAL 9016	Traffic white	1 Piece(s)	546310
15.5 – 18	RAL 9016	Traffic white	24 Piece(s)	547684
16.5 – 19	RAL 1013	Pearl white	1 Piece(s)	546681
	RAL 1015	Light ivory	1 Piece(s)	547065
	RAL 7035	Light grey	1 Piece(s)	546702
	RAL 8003	Clay brown	1 Piece(s)	546500
	RAL 8019	Grey brown	1 Piece(s)	546481
	RAL 8077	Dark brown	1 Piece(s)	546999
	RAL 9007	Grey aluminium	1 Piece(s)	619846
	RAL 9016	Traffic white	1 Piece(s)	547001



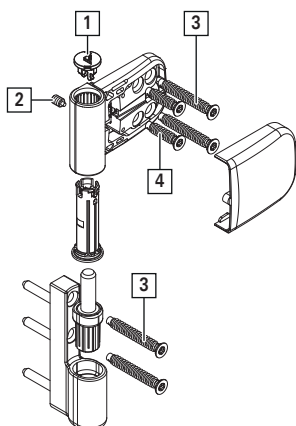
				Nº
17.5 – 20	RAL 9016	Traffic white	1 Piece(s)	570568
	RAL 9016	Traffic white	24 Piece(s)	547686
19 – 21.5	RAL 1015	Light ivory	1 Piece(s)	549808
	RAL 7016	Anthracite grey	1 Piece(s)	622669
	RAL 8003	Clay brown	1 Piece(s)	546699
	RAL 8017	Chocolate brown	1 Piece(s)	619763
	RAL 8019	Grey brown	1 Piece(s)	569883
	RAL 8077	Dark brown	1 Piece(s)	546975
	RAL 9016	Traffic white	1 Piece(s)	546415
	RAL 1036	Pearl gold	1 Piece(s)	608848
	–	Delta silver	1 Piece(s)	800286

Presetting 34

				Nº
19 – 21.5	RAL 8077	Dark brown	1 Piece(s)	547439
	RAL 9016	Traffic white	1 Piece(s)	547440



3.5.1 Spare parts



- [1] Cover cap
- [2] Sash hinge cover fixing
- [3] Fixing screw, long
- [4] Fixing screw, short

[1] Cover cap



				Nº
Cover cap		Black	24 Piece(s)	736467
		White	24 Piece(s)	764520

[2] Sash hinge cover fixing



				Nº
Sash hinge cover fixing		M6x10	100 Piece(s)	823911

[3] Fixing screw, long



					Nº
Fixing screw		T30 hexalobular socket	7,3x50	48 Piece(s)	823912

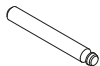
[4] Fixing screw, short







					Nº
Fixing screw		T30 hexalobular socket	7,3x30	48 Piece(s)	825063

3.5.2 Accessories

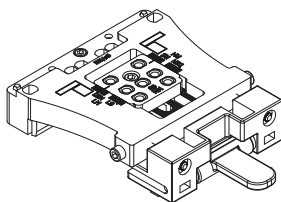
3.5.2.1 Locking pin






  <p>Locking pin</p>	 <p>T30 hexalobular socket</p>	 <p>100 Piece(s)</p>	<p>Nº</p> <p>825049</p>
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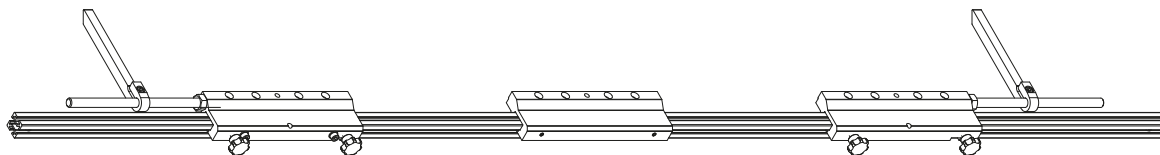
3.5.2.2 Jigs



Drilling jig



 <p>Drilling jig</p>	 <p>32</p>	 <p>1 Piece(s)</p>	<p>Nº</p> <p>547532</p>
--	--	--	-------------------------

Telescopic holder for drilling jigs



 <p>Telescopic holder for drilling jigs</p>	 <p>1 Piece(s)</p>	<p>Nº</p> <p>243408</p>
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3.5.3 Drawings

3.5.3.1 Drilling pattern

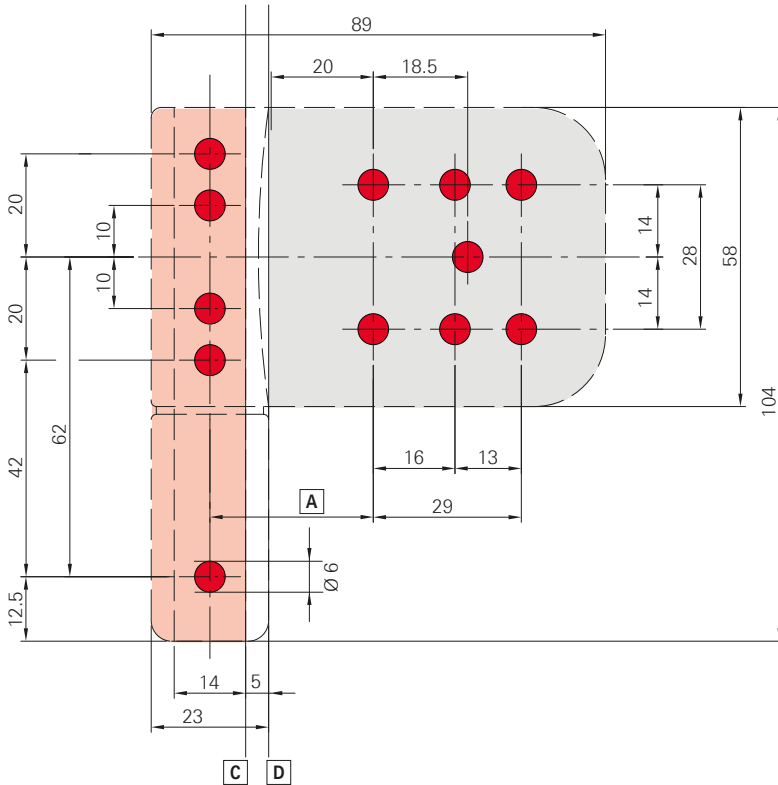


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.

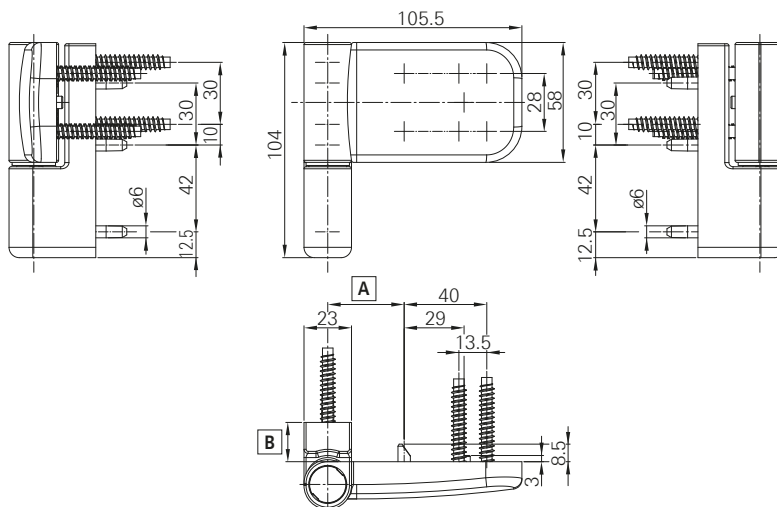


[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body

3.6 105 NN



[A] Presetting
[B] Overlap height



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover, can be locked or screwed in
- Sash hinge bush secured in the sash hinge to prevent removal
- CE-certified in accordance with DIN EN 1935:2002
- SKG**-certified with retrofit set



Application range

- Up to 120 kg
- For overlap heights of 14 – 25.5 mm without packing plates

Adjustment





- When fully assembled without undoing the fixing
- Sash hinge bush with defined lock-in position for gasket compression adjustment
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric frame hinge bush





Presetting 32

				Nº
16.5 – 19	RAL 8007	Fawn brown	1 Piece(s)	543747
	RAL 8077	Dark brown	1 Piece(s)	543739
	RAL 9006	White aluminium	1 Piece(s)	543684
	RAL 9016	Traffic white	1 Piece(s)	542591
19 – 21.5	RAL 6009	Fir green	1 Piece(s)	544170
	RAL 8007	Fawn brown	1 Piece(s)	544171
	RAL 8077	Dark brown	1 Piece(s)	543746
	RAL 8077	Dark brown	24 Piece(s)	544018
	RAL 9001	Cream	24 Piece(s)	547728
	RAL 9006	White aluminium	1 Piece(s)	543685
	RAL 9006	White aluminium	24 Piece(s)	547730
	RAL 9016	Traffic white	1 Piece(s)	543701
	RAL 9016	Traffic white	24 Piece(s)	543804

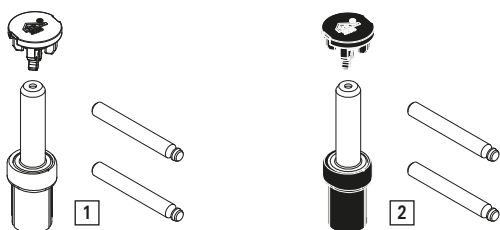


Presetting 37

				N ^o
14 – 16.5	RAL 1036	Pearl gold	1 Piece(s)	544975
	RAL 8077	Dark brown	1 Piece(s)	543991
	RAL 9006	White aluminium	1 Piece(s)	546919
	RAL 9016	Traffic white	1 Piece(s)	551129
	RAL 9016	Traffic white	24 Piece(s)	544000
15.5 – 18	RAL 8077	Dark brown	1 Piece(s)	547598
	RAL 8077	Dark brown	24 Piece(s)	547601
	RAL 9006	White aluminium	1 Piece(s)	547597
	RAL 9006	White aluminium	24 Piece(s)	547600
	RAL 9016	Traffic white	1 Piece(s)	547596
	RAL 9016	Traffic white	24 Piece(s)	547599
16.5 – 19	–	Bronze	1 Piece(s)	771394
	–	Delta silver	1 Piece(s)	543869
	–	Delta silver	24 Piece(s)	543853
	–	Stainless steel	1 Piece(s)	616042
	–	Stainless steel	24 Piece(s)	618782
	RAL 1013	Pearl white	1 Piece(s)	544433
	RAL 1015	Light ivory	1 Piece(s)	545669
	RAL 1036	Pearl gold	1 Piece(s)	545234
	RAL 7016	Anthracite grey	1 Piece(s)	782217
	RAL 7021	Black grey	24 Piece(s)	544330
	RAL 8003	Clay brown	1 Piece(s)	544206
	RAL 8019	Grey brown	1 Piece(s)	545468
	RAL 8007	Fawn brown	1 Piece(s)	544925
	RAL 8077	Dark brown	1 Piece(s)	543601
	RAL 8077	Dark brown	24 Piece(s)	543709
	RAL 9001	Cream	1 Piece(s)	551169
	RAL 9001	Cream	24 Piece(s)	544791
	RAL 9005	Jet black	1 Piece(s)	544240
	RAL 9006	White aluminium	1 Piece(s)	543814
	RAL 9006	White aluminium	24 Piece(s)	543710
	RAL 9007	Grey aluminium	1 Piece(s)	639812
	RAL 9007	Grey aluminium	24 Piece(s)	544875
	RAL 9016	Traffic white	1 Piece(s)	551120
	RAL 9016	Traffic white	24 Piece(s)	543656
–	Stainless steel appearance	1 Piece(s)	817078	
17.5 – 20	RAL 8077	Dark brown	1 Piece(s)	551241
	RAL 8077	Dark brown	24 Piece(s)	551209
	RAL 9006	White aluminium	1 Piece(s)	546960
	RAL 9016	Traffic white	1 Piece(s)	546365
	RAL 9016	Traffic white	24 Piece(s)	545995
	–	Stainless steel appearance	1 Piece(s)	817082

				N ^o
19 – 21.5	–	Bronze	1 Piece(s)	771405
	–	Delta silver	1 Piece(s)	547707
	–	Delta silver	24 Piece(s)	547642
	–	Stainless steel	1 Piece(s)	614122
	RAL 1036	Pearl gold	1 Piece(s)	545008
	RAL 6009	Fir green	1 Piece(s)	549316
	RAL 7016	Anthracite grey	1 Piece(s)	546397
	RAL 8003	Clay brown	1 Piece(s)	547756
	RAL 8003	Clay brown	24 Piece(s)	545477
	RAL 8007	Fawn brown	1 Piece(s)	545235
	RAL 8019	Grey brown	24 Piece(s)	545472
	RAL 8022	Black brown	1 Piece(s)	733315
	RAL 8077	Dark brown	1 Piece(s)	543789
	RAL 8077	Dark brown	24 Piece(s)	543755
	RAL 9001	Cream	1 Piece(s)	545555
	RAL 9001	Cream	24 Piece(s)	545847
	RAL 9006	White aluminium	1 Piece(s)	543852
	RAL 9006	White aluminium	24 Piece(s)	544574
	RAL 9007	Grey aluminium	1 Piece(s)	545765
	RAL 9016	Traffic white	1 Piece(s)	543788
	RAL 9016	Traffic white	24 Piece(s)	543786
	–	Stainless steel appearance	1 Piece(s)	817080
–	Stainless steel appearance	24 Piece(s)	817079	
21.5 – 24	–	Bronze	1 Piece(s)	771406
	–	Delta silver	1 Piece(s)	544683
	–	Stainless steel	1 Piece(s)	640066
	RAL 1036	Pearl gold	1 Piece(s)	546483
	RAL 8077	Dark brown	1 Piece(s)	544546
	RAL 8077	Dark brown	24 Piece(s)	544547
	RAL 9005	Jet black	1 Piece(s)	546921
	RAL 9006	White aluminium	24 Piece(s)	546922
	RAL 9016	Traffic white	24 Piece(s)	544548
	RAL 9016	Traffic white	1 Piece(s)	544545
	–	Stainless steel appearance	1 Piece(s)	817083
	23 – 25.5	–	Delta silver	1 Piece(s)
RAL 6009		Fir green	1 Piece(s)	545162
RAL 8003		Clay brown	1 Piece(s)	547055
RAL 8077		Dark brown	1 Piece(s)	545161
RAL 8077		Dark brown	24 Piece(s)	545167
RAL 9006		White aluminium	1 Piece(s)	545164
RAL 9006		White aluminium	24 Piece(s)	545170
RAL 9016		Traffic white	1 Piece(s)	545160
RAL 9016		Traffic white	24 Piece(s)	545166
–		Stainless steel appearance	1 Piece(s)	817081

SKG retrofit set**





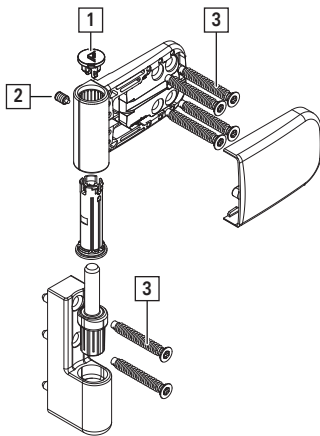
[1] White

[2] Black

SKG** retrofit set consisting of: 1 x cover cap, 1 x hardened axis module, 2 x locking pins, 1 x installation instructions

				N ^o
SKG** retrofit set 105 NN		White	1 Piece(s)	787566
		Black	1 Piece(s)	787567

3.6.1 Spare parts



[1] Cover cap

[2] Sash hinge cover fixing

[3] Fixing screw

[1] Cover cap



				N ^o
Cover cap		Black	24 Piece(s)	736467
		White	24 Piece(s)	764520

[2] Sash hinge cover fixing



				N ^o
Sash hinge cover fixing		M6x10	100 Piece(s)	823911

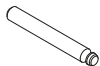
[3] Fixing screw






					N ^o
Fixing screw		T30 hexalobular socket	7,3x50	48 Piece(s)	823912

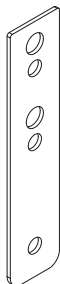
3.6.2 Accessories







3.6.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049

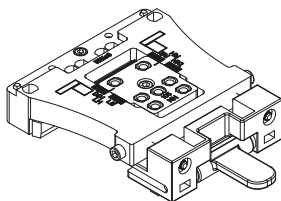
3.6.2.2 Packing plates






						Nº
Packing plate	103.5	23	1.5	White	24 Piece(s)	546044
				Black	24 Piece(s)	546045

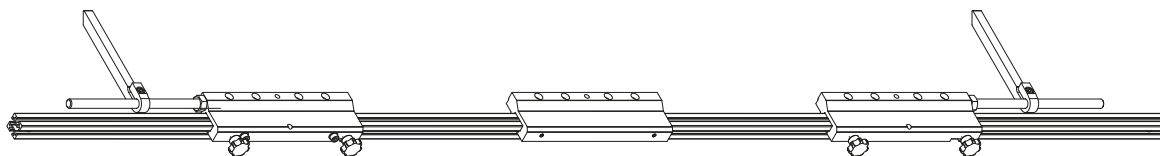
3.6.2.3 Jigs



Drilling jig



			Nº
Drilling jig	32	1 Piece(s)	541189
	37	1 Piece(s)	544518

Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408



3.6.3 Drawings

3.6.3.1 Drilling pattern

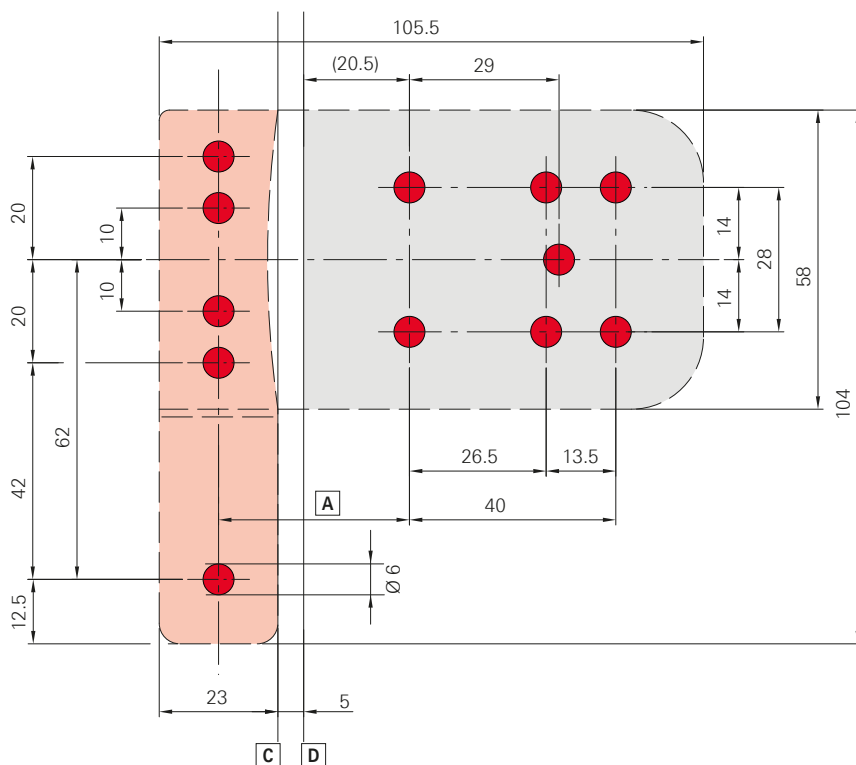


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.

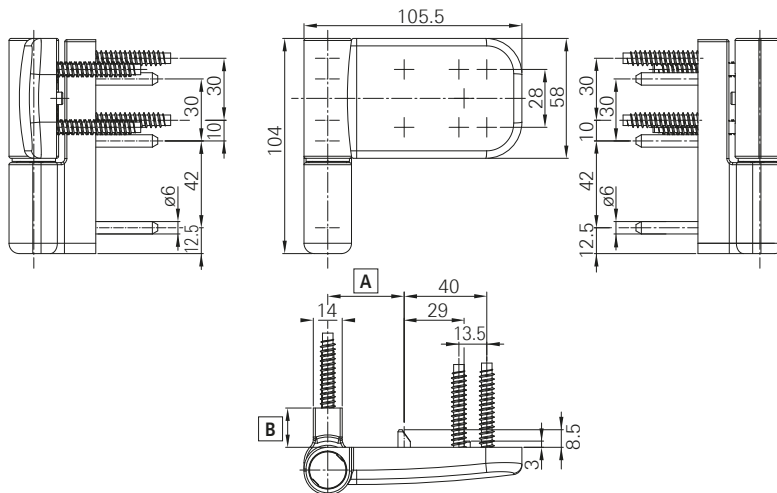


[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body

3.7 105 NN-SR



[A] Presetting
[B] Overlap height



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover, can be locked or screwed in
- Sash hinge bush secured in the sash hinge to prevent removal
- CE-certified in accordance with DIN EN 1935:2002



Application range

- Up to 120 kg
- For overlap heights of 14 – 21.5 mm without packing plates
- Especially suited to profiles with narrow visible widths / renovation profiles

Adjustment

- When fully assembled without undoing the fixing
- Sash hinge bush with defined lock-in position for gasket compression adjustment
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +5 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric frame hinge bush





Presetting 32

17.5 – 20	RAL 8019	Grey brown	24 Piece(s)	729191
	RAL 9016	Traffic white	1 Piece(s)	549647
	RAL 9016	Traffic white	24 Piece(s)	729190

Presetting 37

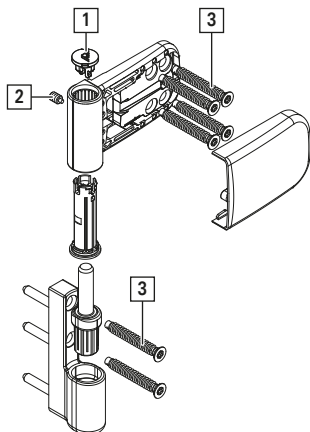
14 – 16.5	RAL 9016	Traffic white	1 Piece(s)	547058



				Nº
16.5 – 19	RAL 8003	Clay brown	1 Piece(s)	810461
	RAL 8077	Dark brown	1 Piece(s)	546424
	RAL 9016	Traffic white	1 Piece(s)	546311
	–	Delta silver	1 Piece(s)	810462
17.5 – 20	RAL 8003	Clay brown	1 Piece(s)	619845
19 – 21.5	RAL 8077	Dark brown	1 Piece(s)	546538
	RAL 9001	Cream	1 Piece(s)	549191
	RAL 9006	White aluminium	1 Piece(s)	546974
	RAL 9016	Traffic white	1 Piece(s)	546402
	–	Delta silver	1 Piece(s)	800285






3.7.1 Spare parts



- [1] Cover cap
- [2] Sash hinge cover fixing
- [3] Fixing screw

[1] Cover cap



			Nº
Cover cap	Black	24 Piece(s)	736467
	White	24 Piece(s)	764520





[2] Sash hinge cover fixing



			Nº
Sash hinge cover fixing	M6x10	100 Piece(s)	823911

[3] Fixing screw

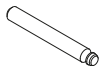





				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912



3.7.2 Accessories

3.7.2.1 Locking pin

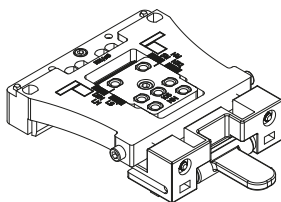





			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049



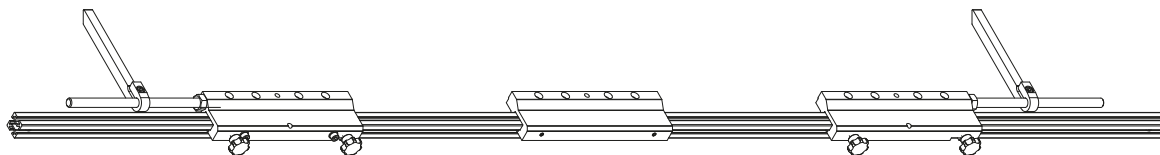
3.7.2.2 Jigs



Drilling jig



			Nº
Drilling jig	37	1 Piece(s)	547530

Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408

3.7.3 Drawings

3.7.3.1 Drilling pattern

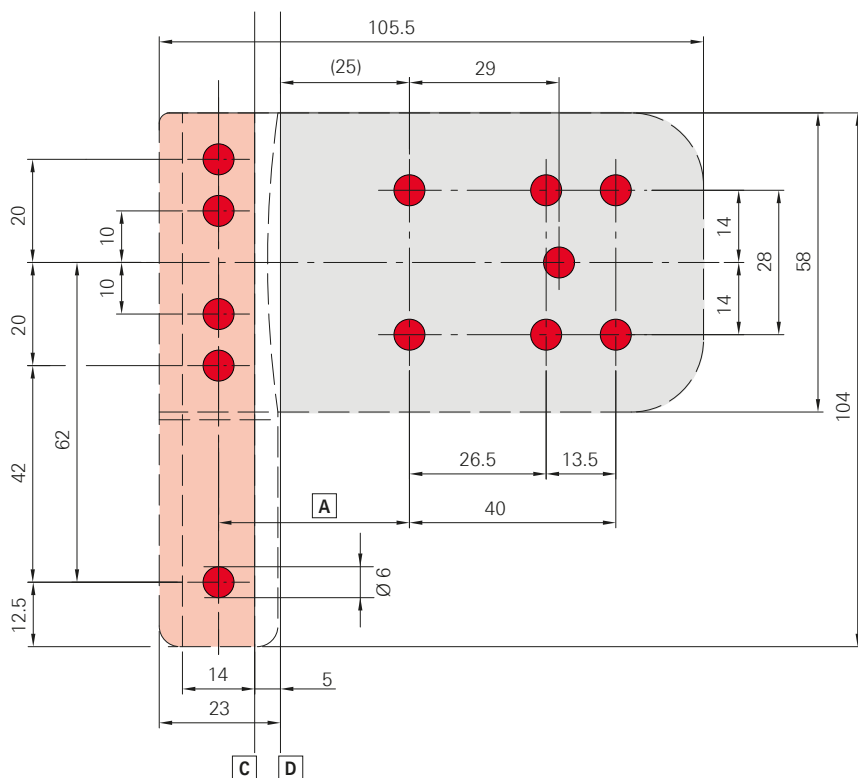


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



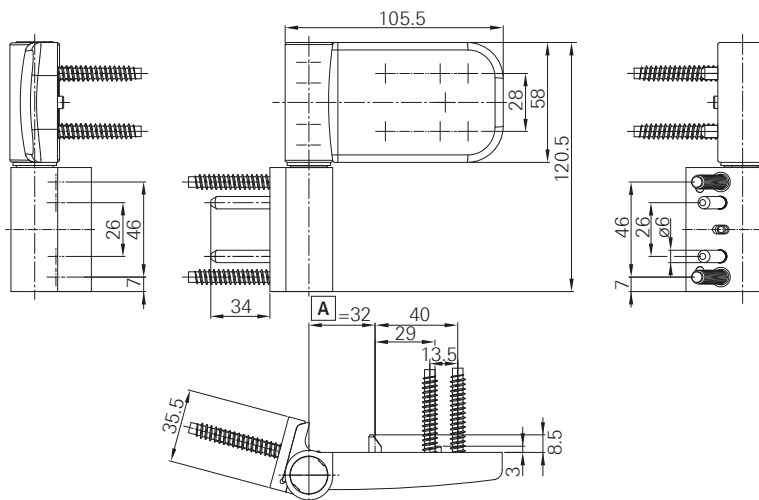
[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body



3.8 105 NN-SH



[A] Presetting



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover, can be locked or screwed in
- Sash hinge bush secured in the sash hinge to prevent removal
- SKG**-certified



Application range

- Up to 120 kg
- For main entrance doors and back doors comprised of block profiles
- For outward opening doors

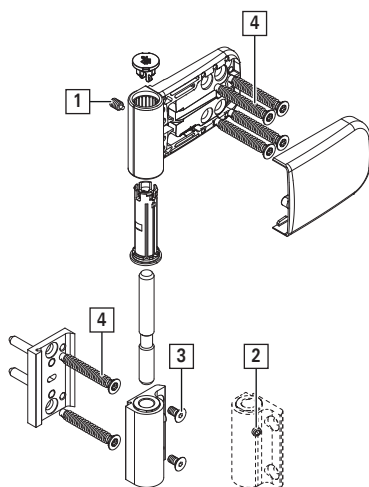
Adjustment

- When fully assembled without undoing the fixing
- Sash hinge bush with defined lock-in position for gasket compression adjustment
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +4 / -1 mm
- Gasket compression adjustable: +/-0.75 mm

Presetting 32

RAL 9001	Cream	SKG **	Left	1 Piece(s)	811151
RAL 9001	Cream	SKG **	Right	1 Piece(s)	811152
RAL 9006	White aluminium	SKG **	Left	1 Piece(s)	806817
RAL 9006	White aluminium	SKG **	Right	1 Piece(s)	806818
RAL 9016	Traffic white	SKG **	Left	1 Piece(s)	811149
RAL 9016	Traffic white	SKG **	Right	1 Piece(s)	811150

3.8.1 Spare parts



- [1] Sash hinge cover fixing
- [2] Axis pin fixing
- [3] Countersunk screw
- [4] Fixing screw

[1] Sash hinge cover fixing



			Nº
Sash hinge cover fixing	M6x10	100 Piece(s)	823911

[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

[3] Countersunk screw



				Nº
Countersunk screw	Hex key	M5x10	48 Piece(s)	823913



INFO

Connects the two frame hinge components.



[4] Fixing screw



				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912



3.8.2 Accessories

3.8.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049



		Nº
Locking pin for fixing screws on frame hinge	100 Piece(s)	825064

3.8.2.2 Jigs

Available upon request.

3.8.3 Drawings

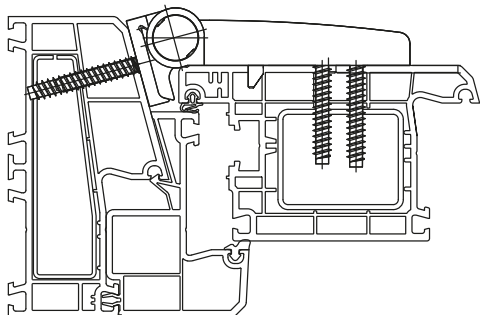
3.8.3.1 Installation drawings



INFO

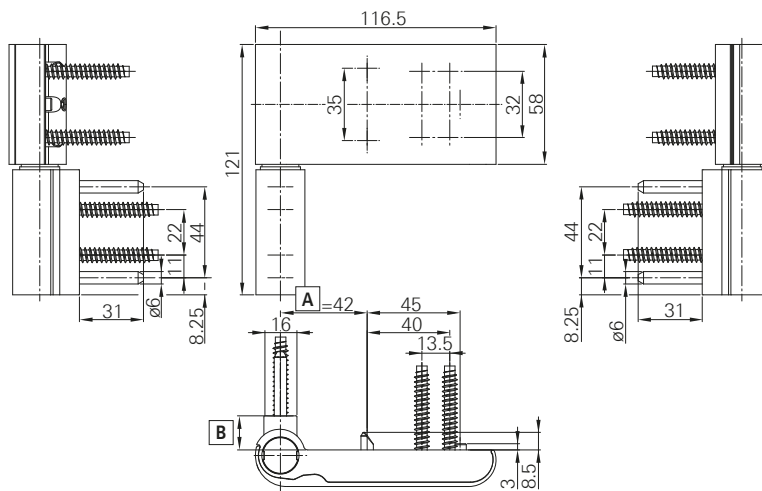
Installation examples for the aforementioned versions are shown here.

Installation examples for specific profile systems are available upon request.





3.9 117 NN



[A] Presetting
[B] Overlap height



Product description

- Two-part screw-on hinge
- Hinge casing made from extruded aluminium
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Sash hinge cover secured to prevent removal
- Sash hinge cover is held in the right position by being clipped in
- Axis pin can be removed from the top
- CE-certified in accordance with DIN EN 1935:2002
- SKG**-certified

Application range

- Up to 160 kg
- Overlapping overlap height intervals for greater flexibility
- For overlap heights from 15.5 – 26.5 mm

Adjustment

- When fully assembled without undoing the fixing
- Without lateral offset of hinge bodies
- Laterally adjustable: +/-5 mm
- Height adjustable: +4 / -1 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric sash hinge bush



Presetting 42

15.5 – 18	E6/C-0	Natural finish (EV1)	1 Piece(s)	729805
	RAL 9016	Traffic white	1 Piece(s)	729804
16.5 – 19	E6/C-0	Natural finish (EV1)	1 Piece(s)	632532
	RAL 9001	Cream	1 Piece(s)	632531
	RAL 9006	White aluminium	1 Piece(s)	632530
	RAL 9016	Traffic white	1 Piece(s)	632529
18 – 20.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	729806
	RAL 9016	Traffic white	1 Piece(s)	640147
19 – 21.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	729807
	RAL 9016	Traffic white	1 Piece(s)	640149
21 – 23.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	729809
	RAL 9016	Traffic white	1 Piece(s)	729808

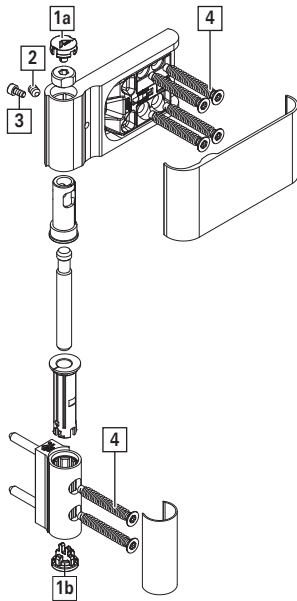


				Nº
23 – 25.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	729810
	RAL 9016	Traffic white	1 Piece(s)	640150
24 – 26.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	729811
	RAL 9016	Traffic white	1 Piece(s)	640151





3.9.1 Spare parts






- [1] Cover cap
- [2] Axis pin fixing
- [3] Sash hinge cover fixing
- [4] Fixing screw

[1] Cover cap




[1a] Top cover cap



			Nº
Cover cap	Black	24 Piece(s)	736468

[1b] Bottom cover cap



			Nº
Cover cap	Black	24 Piece(s)	736467

[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

[3] Sash hinge cover fixing



				Nº
Sash hinge cover fixing		1 Piece(s)		825055

[4] Fixing screw



				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912

3.9.2 Accessories

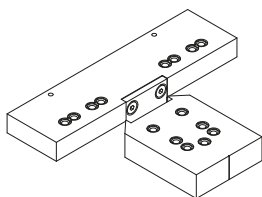
3.9.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049

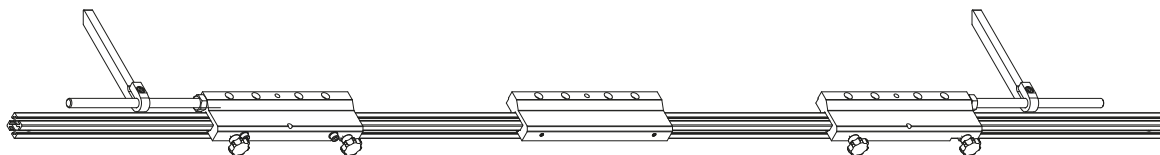
3.9.2.2 Jigs

Drilling jig



		Nº
Drilling jig	1 Piece(s)	639924

Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408



3.9.3 Drawings

3.9.3.1 Installation drawings



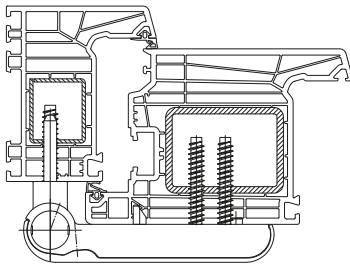
INFO

Installation examples for the aforementioned versions are shown here.

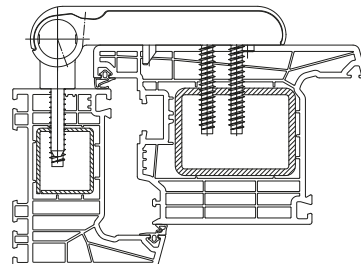
Installation examples for specific profile systems are available upon request.



Inward opening



Outward opening



3.9.3.2 Drilling pattern

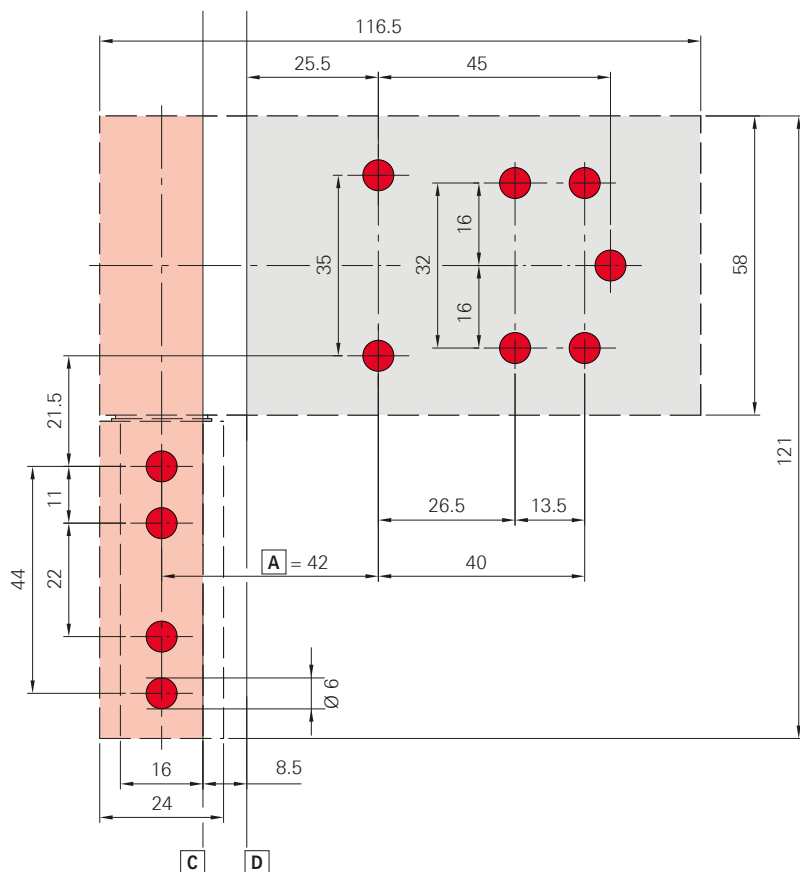


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body

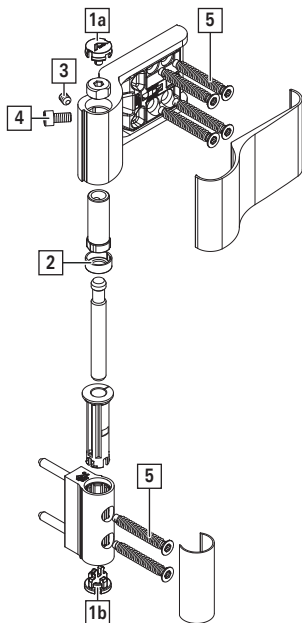
Roto Solid S – Screw-on hinges
117 H

				Nº
-6.25 – -7.75	E6/C-0	Natural finish (EV1)	1 Piece(s)	619757
	RAL 8077	Dark brown	1 Piece(s)	619756
	RAL 9001	Cream	1 Piece(s)	619704
	RAL 9016	Traffic white	1 Piece(s)	619755
-7.75 – -9.25	E6/C-0	Natural finish (EV1)	1 Piece(s)	619703
	RAL 8077	Dark brown	1 Piece(s)	619702
	RAL 9001	Cream	1 Piece(s)	619700
	RAL 9016	Traffic white	1 Piece(s)	619701





3.10.1 Spare parts



- [1] Cover cap
- [2] Gap cover
- [3] Axis pin fixing
- [4] Sash hinge cover fixing
- [5] Fixing screw

[1] Cover cap

[1a] Top cover cap



			Nº
Cover cap	Black	24 Piece(s)	736468

[1b] Bottom cover cap



			Nº
Cover cap	Black	24 Piece(s)	736467

[2] Gap cover



			Nº
Gap cover	Black	10 Piece(s)	809568

[3] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

[4] Sash hinge cover fixing



		Nº
Sash hinge cover fixing	1 Piece(s)	825055

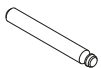
[5] Fixing screw



				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912

3.10.2 Accessories

3.10.2.1 Locking pin

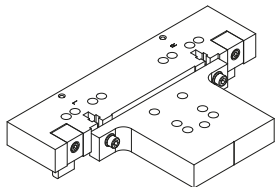


			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049



3.10.2.2 Jigs

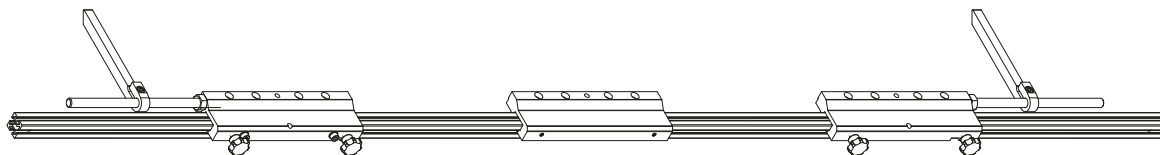
Drilling jig





INFO

Order drilling jigs depending on the profile used (see system-specific profile assessment).

Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408

3.10.3 Drawings

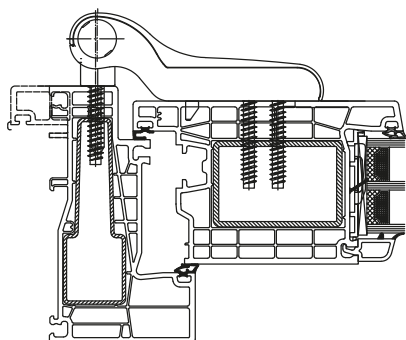
3.10.3.1 Installation drawings



INFO

Installation examples for the aforementioned versions are shown here.

Installation examples for specific profile systems are available upon request.



3.10.3.2 Drilling pattern

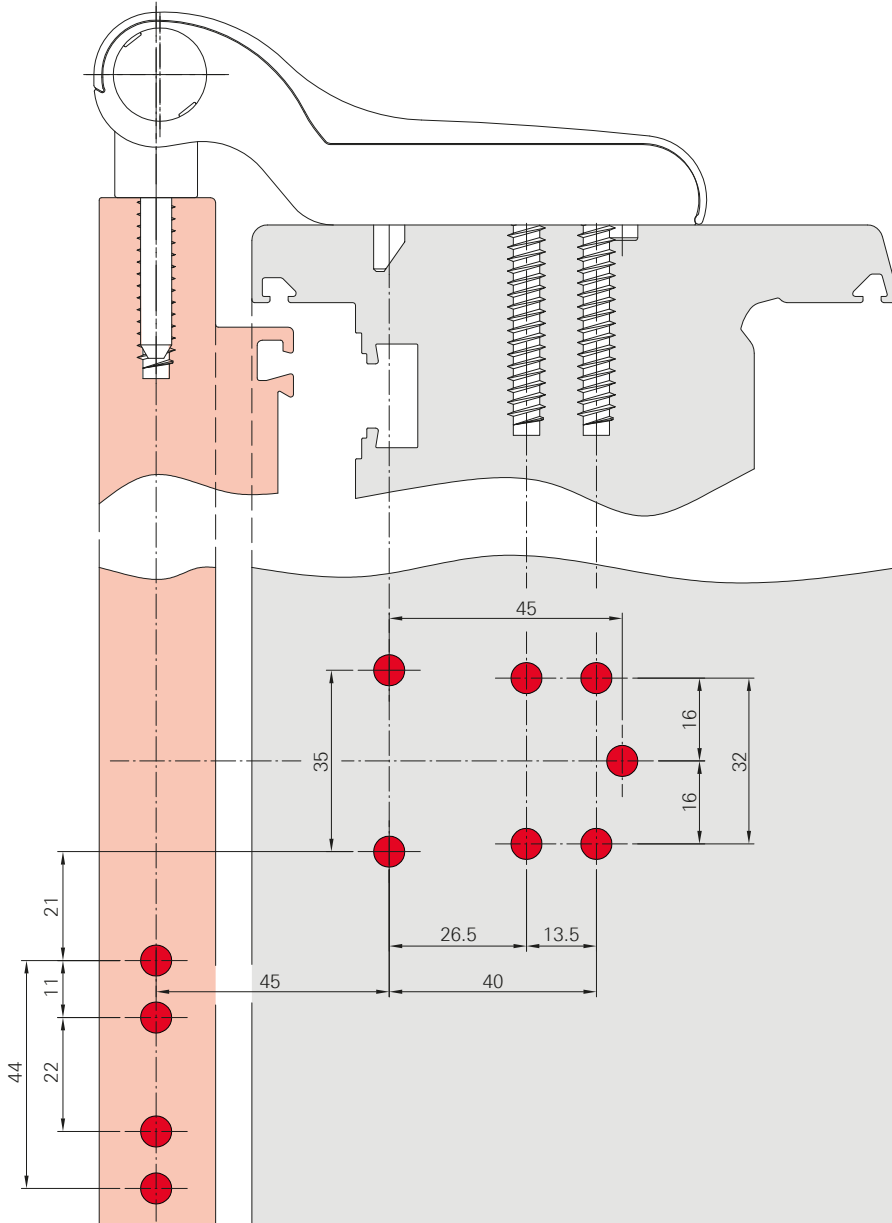


INFO

Example diagram.

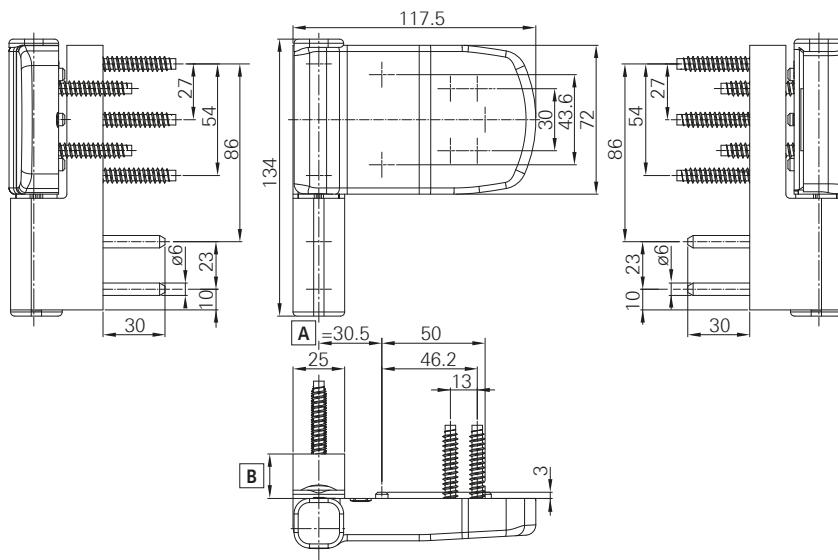
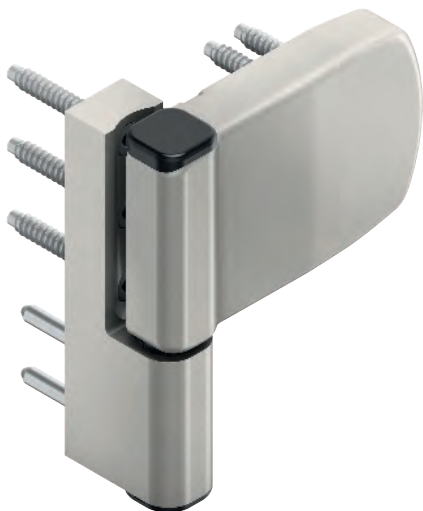
Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.





3.11 118 Z



[A] Presetting
[B] Overlap height



Product description

- Two-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Axis pin can be installed and removed from the top and bottom
- CE-certified in accordance with DIN EN 1935:2002
- SKG** -certified



Application range





- Up to 160 kg
- For overlap heights of 12.5 – 27.5 mm without packing plates
- Ideal when space for installation and removal is limited between leaf and lintel

Adjustment

- When fully assembled without undoing the fixing
- Without lateral offset of hinge bodies
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +/-4 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric sash hinge bush

Presetting 30.5

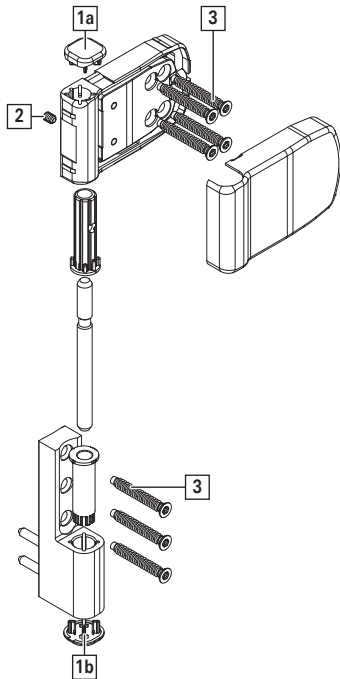
12.5 – 15	E6/C-0	Natural finish (EV1)	1 Piece(s)	541932
	RAL 8077	Dark brown	1 Piece(s)	541934
	RAL 9016	Traffic white	1 Piece(s)	541935
15 – 17.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	541959
	–	Stainless-steel appearance	1 Piece(s)	546743
	RAL 8077	Dark brown	1 Piece(s)	541961
	RAL 9016	Traffic white	1 Piece(s)	541962
17.5 – 20	E6/C-0	Natural finish (EV1)	1 Piece(s)	541976
	–	Stainless-steel appearance	1 Piece(s)	544955
	RAL 8077	Dark brown	1 Piece(s)	541978
	RAL 9016	Traffic white	1 Piece(s)	541979

				N ^o
19 – 21.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	547503
	–	Stainless-steel appearance	1 Piece(s)	547505
	RAL 8077	Dark brown	1 Piece(s)	627274
	RAL 9016	Traffic white	1 Piece(s)	547502
20 – 22.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	544505
	–	Stainless-steel appearance	1 Piece(s)	546914
	RAL 8077	Dark brown	1 Piece(s)	551125
	RAL 9016	Traffic white	1 Piece(s)	543842
23 – 25.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	543822
	–	Stainless-steel appearance	1 Piece(s)	546969
	RAL 8077	Dark brown	1 Piece(s)	544539
	RAL 9016	Traffic white	1 Piece(s)	544538
25 – 27.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	624587
	–	Stainless-steel appearance	1 Piece(s)	624586
	RAL 8077	Dark brown	1 Piece(s)	624585
	RAL 9016	Traffic white	1 Piece(s)	624584





3.11.1 Spare parts



- [1] Cover cap
- [2] Axis pin fixing
- [3] Fixing screw

[1] Cover cap

[1a] Top cover cap



			Nº
Cover cap	Black	10 Piece(s)	809946
	White	10 Piece(s)	809947

[1b] Bottom cover cap



			Nº
Cover cap	Black	10 Piece(s)	809914
	White	10 Piece(s)	809945





[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

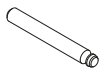
[3] Fixing screws






				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912

3.11.2 Accessories







3.11.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049

3.11.2.2 Packing plates

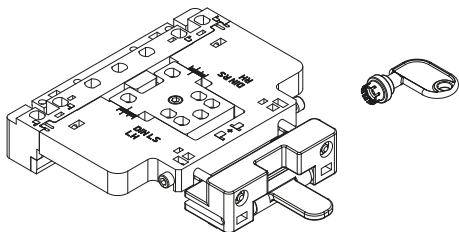


						Nº
Packing plate	128	25	2	Black	10 Piece(s)	809334
				White	10 Piece(s)	809333



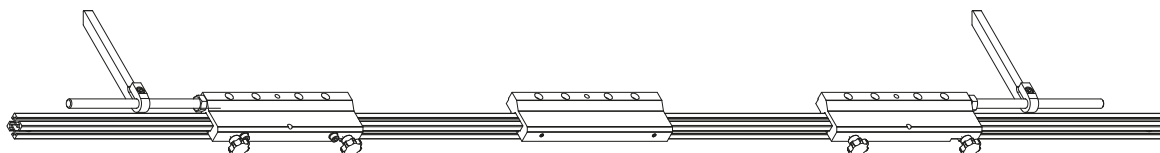
3.11.2.3 Jig



Drilling jig



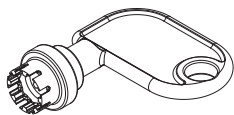
			Nº
Drilling jig	incl. adjustment key	1 Piece(s)	540603



Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408

3.11.2.4 Adjustment key



		Nº
Gasket compression adjustment key	1 Piece(s)	540621

3.11.3 Drawings

3.11.3.1 Drilling pattern

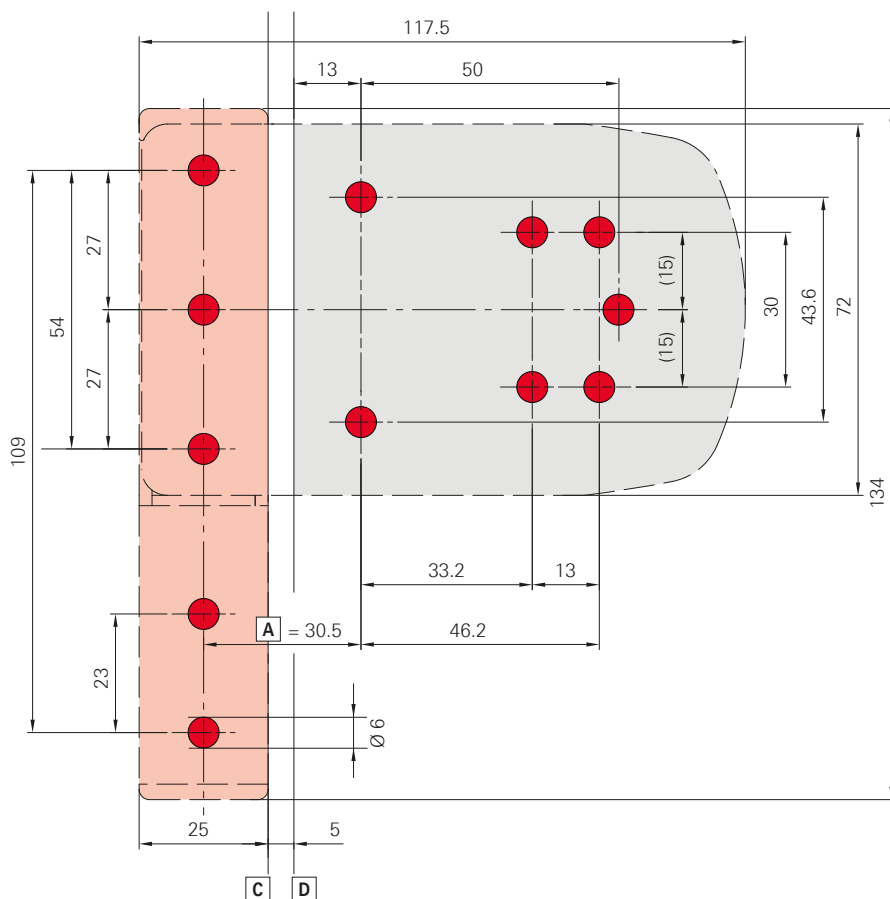


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



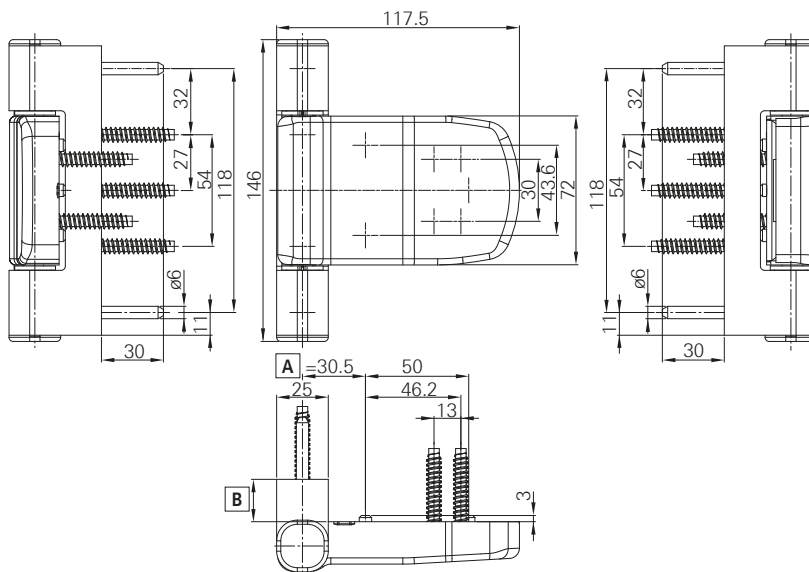
[A] Presetting

[C] Edge of frame hinge body

[D] Edge of sash profile body



3.12 118 D



[A] Presetting

[B] Overlap height



Product description

- Three-part screw-on hinge
- Integrated adjusting scale
- Load transfer on the leaf via triangle of forces
- Axis pin can be installed and removed from the top and bottom
- CE-certified in accordance with DIN EN 1935:2002
- SKG**-certified



Application range



- Up to 150 kg
- For overlap heights of 12.5 – 27.5 mm without packing plates
- Ideal when space for installation and removal is limited between leaf and lintel

Adjustment

- When fully assembled without undoing the fixing
- Without lateral offset of hinge bodies
- Laterally adjustable: +10 / -5 mm
- Height adjustable: +/-4 mm
- Gasket compression adjustable: +/-0.75 mm
- Additional gasket compression adjustment of +/-0.5 mm by turning the eccentric sash hinge bushes

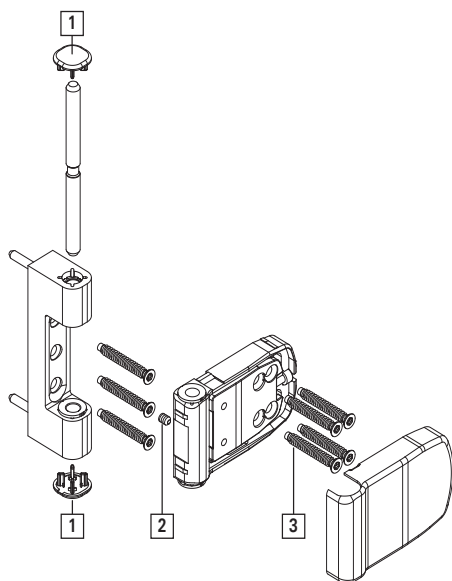
Presetting 30.5

12.5 – 15	E6/C-0	Natural finish (EV1)	1 Piece(s)	541993
	–	Stainless-steel appearance	1 Piece(s)	546911
	RAL 8077	Dark brown	1 Piece(s)	541995
	RAL 9016	Traffic white	1 Piece(s)	541996
15 – 17.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	542012
	–	Stainless-steel appearance	1 Piece(s)	545700
	RAL 8077	Dark brown	1 Piece(s)	542014
	RAL 9016	Traffic white	1 Piece(s)	542015

				N ^o
17.5 – 20	E6/C-0	Natural finish (EV1)	1 Piece(s)	542029
	–	Stainless-steel appearance	1 Piece(s)	542031
	RAL 8077	Dark brown	1 Piece(s)	542032
	RAL 9016	Traffic white	1 Piece(s)	542033
	RAL 9006	White aluminium	1 Piece(s)	547646
19 – 21.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	547497
	–	Stainless-steel appearance	1 Piece(s)	547500
	RAL 8077	Dark brown	1 Piece(s)	547498
	RAL 9006	White aluminium	1 Piece(s)	599473
	RAL 9016	Traffic white	1 Piece(s)	547496
20 – 22.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	546916
	–	Stainless-steel appearance	1 Piece(s)	546915
	RAL 8077	Dark brown	1 Piece(s)	544536
	RAL 9016	Traffic white	1 Piece(s)	544311
23 – 25.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	546918
	–	Stainless-steel appearance	1 Piece(s)	546917
	RAL 8077	Dark brown	1 Piece(s)	544537
	RAL 9016	Traffic white	1 Piece(s)	544312
25 – 27.5	E6/C-0	Natural finish (EV1)	1 Piece(s)	624583
	–	Stainless-steel appearance	1 Piece(s)	624582
	RAL 8077	Dark brown	1 Piece(s)	624581
	RAL 9016	Traffic white	1 Piece(s)	624580



3.12.1 Spare parts



- [1] Cover cap
- [2] Axis pin fixing
- [3] Fixing screw

[1] Cover cap



			Nº
Cover cap	Black	10 Piece(s)	809914
	White	10 Piece(s)	809945

[2] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

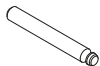
[3] Fixing screw






				Nº
Fixing screw	T30 hexalobular socket	7,3x50	48 Piece(s)	823912

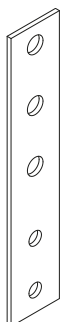
3.12.2 Accessories







3.12.2.1 Locking pin



			Nº
Locking pin	T30 hexalobular socket	100 Piece(s)	825049

3.12.2.2 Packing plates

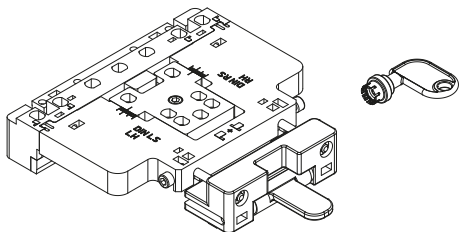


						Nº
Packing plate	140	25	1	Black	10 Piece(s)	809559
				White	10 Piece(s)	809558
			2	Black	10 Piece(s)	809561
				White	10 Piece(s)	809560



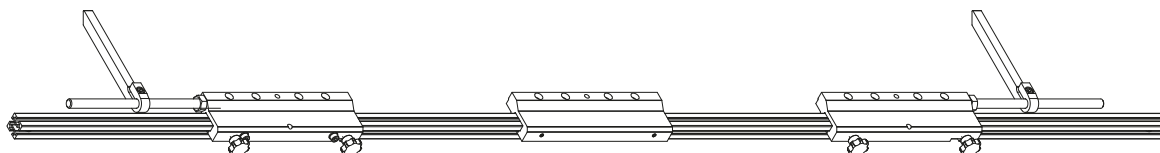
3.12.2.3 Jig



Drilling jig



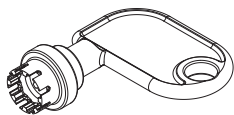
			Nº
Drilling jig	incl. adjustment key	1 Piece(s)	540603



Telescopic holder for drilling jigs



		Nº
Telescopic holder for drilling jigs	1 Piece(s)	243408

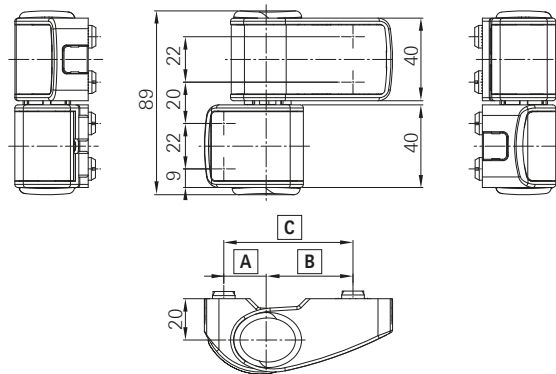
3.12.2.4 Adjustment key



		Nº
Gasket compression adjustment key	1 Piece(s)	540621



3.13 80 ATB



[A] Distance from centre of shadow groove or pivot point to frame fixing

[B] Distance from centre of shadow groove or pivot point to leaf fixing

[C] Flatness deviation



Product description

- Two-part screw-on hinge
- Hinge casing made from die-cast zinc
- Covers made from extruded aluminium
- Different hinge and accessory modules can be combined
- Integrated adjusting scale
- Preassembled on the left and right
- Mounting type can be freely selected (Linkdrill, direct mounting, backing plates)
- CE-certified in accordance with DIN EN 1935:2002

Application range

- Up to 100 kg
- Suitable for doors with profiles that are flush with the surface and offset from the surface

Adjustment

- When fully assembled without undoing the fixing
- Without removing the sash hinge / frame hinge covers
- Without lateral offset of hinge bodies
- Laterally adjustable: ± 3 mm
- Height adjustable: $+3$ mm
- Gasket compression adjustable: ± 0.75 mm



Mounting overview

Profile material	Backing plate	Linkdrill I	Linkdrill II	Direct mounting
Aluminium	■	■	-	■
Timber	-	-	-	-
Timber / aluminium	-	-	-	-








■ = possible, - = not possible

Mounting with backing plate or Linkdrill I










INFO

Mounting material is not included in the scope of delivery.

							N ^o
62.5	20.5	42	–	Delta silver	Left	6 Piece(s)	548293
	20.5	42	–	Delta silver	Right	6 Piece(s)	548297
	20.5	42	–	Delta silver	Left	24 Piece(s)	549592
	20.5	42	–	Delta silver	Right	24 Piece(s)	549593
	20.5	42	RAL 8077	Dark brown	Left	6 Piece(s)	548292
	20.5	42	RAL 8077	Dark brown	Right	6 Piece(s)	548296
	20.5	42	RAL 9005	Jet black	Left	6 Piece(s)	565485
	20.5	42	RAL 9005	Jet black	Right	6 Piece(s)	565493
	20.5	42	RAL 9006	White aluminium	Left	6 Piece(s)	548291
	20.5	42	RAL 9006	White aluminium	Right	6 Piece(s)	548295
	20.5	42	RAL 9016	Traffic white	Left	6 Piece(s)	548290
	20.5	42	RAL 9016	Traffic white	Right	6 Piece(s)	548294
	20.5	42	RAL 9016	Traffic white	Left	24 Piece(s)	549590
20.5	42	RAL 9016	Traffic white	Right	24 Piece(s)	549591	
67.5	20.5	47	–	Delta silver	Left	6 Piece(s)	548301
	20.5	47	–	Delta silver	Right	6 Piece(s)	548305
	20.5	47	RAL 8077	Dark brown	Left	6 Piece(s)	548300
	20.5	47	RAL 8077	Dark brown	Right	6 Piece(s)	548304
	20.5	47	RAL 9005	Jet black	Left	6 Piece(s)	619393
	20.5	47	RAL 9005	Jet black	Right	6 Piece(s)	619400
	20.5	47	RAL 9006	White aluminium	Left	6 Piece(s)	548299
	20.5	47	RAL 9006	White aluminium	Right	6 Piece(s)	548303
	20.5	47	RAL 9016	Traffic white	Left	6 Piece(s)	548298
	20.5	47	RAL 9016	Traffic white	Right	6 Piece(s)	548302
78	20.5	57.5	–	Delta silver	Left	6 Piece(s)	548309
	20.5	57.5	–	Delta silver	Right	6 Piece(s)	548313
	20.5	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548308
	20.5	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548312
	20.5	57.5	RAL 9006	White aluminium	Left	6 Piece(s)	548307
	20.5	57.5	RAL 9006	White aluminium	Right	6 Piece(s)	548311
	20.5	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548306
	20.5	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548310
84	42	42	–	Delta silver	Left	6 Piece(s)	548317
	42	42	–	Delta silver	Right	6 Piece(s)	548321
	42	42	RAL 8077	Dark brown	Left	6 Piece(s)	548316
	42	42	RAL 8077	Dark brown	Right	6 Piece(s)	548320
	42	42	RAL 9005	Jet black	Left	6 Piece(s)	565525
	42	42	RAL 9005	Jet black	Right	6 Piece(s)	565528
	42	42	RAL 9006	White aluminium	Left	6 Piece(s)	548315
	42	42	RAL 9006	White aluminium	Right	6 Piece(s)	548319
	42	42	RAL 9016	Traffic white	Left	6 Piece(s)	548314
	42	42	RAL 9016	Traffic white	Right	6 Piece(s)	548318
89	42	47	–	Delta silver	Left	6 Piece(s)	548325
	42	47	–	Delta silver	Right	6 Piece(s)	548329
	42	47	RAL 8077	Dark brown	Left	6 Piece(s)	548324
	42	47	RAL 8077	Dark brown	Right	6 Piece(s)	548328
	42	47	RAL 9016	Traffic white	Left	6 Piece(s)	548322
	42	47	RAL 9016	Traffic white	Right	6 Piece(s)	548326
	47	42	–	Delta silver	Left	6 Piece(s)	548341
	47	42	–	Delta silver	Right	6 Piece(s)	548345
	47	42	RAL 8077	Dark brown	Left	6 Piece(s)	548340
	47	42	RAL 8077	Dark brown	Right	6 Piece(s)	548344
	47	42	RAL 9016	Traffic white	Left	6 Piece(s)	548338
	47	42	RAL 9016	Traffic white	Right	6 Piece(s)	548342













							Nº
94	47	47	–	Delta silver	Left	6 Piece(s)	548349
	47	47	–	Delta silver	Right	6 Piece(s)	548353
	47	47	RAL 8077	Dark brown	Left	6 Piece(s)	548348
	47	47	RAL 8077	Dark brown	Right	6 Piece(s)	548352
	47	47	RAL 9005	Jet black	Left	6 Piece(s)	619404
	47	47	RAL 9005	Jet black	Right	6 Piece(s)	619409
	47	47	RAL 9016	Traffic white	Left	6 Piece(s)	548346
	47	47	RAL 9016	Traffic white	Right	6 Piece(s)	548350
99.5	42	57.5	–	Delta silver	Left	6 Piece(s)	548333
	42	57.5	–	Delta silver	Right	6 Piece(s)	548337
	42	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548332
	42	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548336
	42	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548330
	42	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548334
	57.5	42	–	Delta silver	Left	6 Piece(s)	548365
	57.5	42	–	Delta silver	Right	6 Piece(s)	548369
	57.5	42	RAL 8077	Dark brown	Left	6 Piece(s)	548364
	57.5	42	RAL 8077	Dark brown	Right	6 Piece(s)	548368
	57.5	42	RAL 9016	Traffic white	Left	6 Piece(s)	548362
	57.5	42	RAL 9016	Traffic white	Right	6 Piece(s)	548366
104.5	47	57.5	–	Delta silver	Left	6 Piece(s)	548357
	47	57.5	–	Delta silver	Right	6 Piece(s)	548361
	47	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548356
	47	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548360
	47	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548354
	47	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548358
	57.5	47	–	Delta silver	Left	6 Piece(s)	548373
	57.5	47	–	Delta silver	Right	6 Piece(s)	548377
	57.5	47	RAL 8077	Dark brown	Left	6 Piece(s)	548372
	57.5	47	RAL 8077	Dark brown	Right	6 Piece(s)	548376
	57.5	47	RAL 9016	Traffic white	Left	6 Piece(s)	548370
	57.5	47	RAL 9016	Traffic white	Right	6 Piece(s)	548374
115	57.5	57.5	–	Delta silver	Left	6 Piece(s)	548381
	57.5	57.5	–	Delta silver	Right	6 Piece(s)	548385
	57.5	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548380
	57.5	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548384
	57.5	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548378
	57.5	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548382

Direct mounting



INFO

Mounting material is included in the scope of delivery.

									
62.5	20.5	42	4	8x63	–	Delta silver	Left	6 Piece(s)	736013
	20.5	42	4	8x63	–	Delta silver	Right	6 Piece(s)	736027
	20.5	42	4	8x63	–	Delta silver	Left	24 Piece(s)	775774
	20.5	42	4	8x63	–	Delta silver	Right	24 Piece(s)	775775
	20.5	42	4	8x63	RAL 8077	Dark brown	Left	6 Piece(s)	736014
	20.5	42	4	8x63	RAL 8077	Dark brown	Right	6 Piece(s)	736028
	20.5	42	4	8x63	–	Delta silver	Left	6 Piece(s)	736025
	20.5	42	4	8x63	–	Delta silver	Right	6 Piece(s)	736029
	20.5	42	4	8x63	RAL 9016	Traffic white	Left	6 Piece(s)	736026
	20.5	42	4	8x63	RAL 9016	Traffic white	Right	6 Piece(s)	736030
	20.5	42	4	8x63	RAL 9016	Traffic white	Left	24 Piece(s)	775776
	20.5	42	4	8x63	RAL 9016	Traffic white	Right	24 Piece(s)	775777
	20.5	42	4	8x68	–	Stainless steel appearance	Left	24 Piece(s)	828124
	20.5	42	4	8x68	–	Stainless steel appearance	Right	24 Piece(s)	828130
	20.5	42	4	8x68	–	Delta silver	Left	24 Piece(s)	764524
	20.5	42	4	8x68	–	Delta silver	Right	24 Piece(s)	764535
	20.5	42	4	8x73	–	Stainless steel appearance	Left	24 Piece(s)	828131
	20.5	42	4	8x73	–	Stainless steel appearance	Right	24 Piece(s)	828132
	20.5	42	4	8x73	–	Delta silver	Left	24 Piece(s)	764536
	20.5	42	4	8x73	–	Delta silver	Right	24 Piece(s)	764537
84	42	42	4	8x73	–	Delta silver	Left	24 Piece(s)	775769
	42	42	4	8x73	–	Delta silver	Right	24 Piece(s)	775770
	42	42	4	8x73	RAL 9016	Traffic white	Left	24 Piece(s)	775771
	42	42	4	8x73	RAL 9016	Traffic white	Right	24 Piece(s)	775772



3.13.1 Application diagram

Load-bearing capacity table in accordance with DIN EN 1935:2002

3500														
3400														
3300												-6%		
3200												-12%		
3100											-6%	-18%		
3000											-13%	-24%		
2900									-7%	-19%	-29%			
2800									-13%	-25%	-35%			
2700									-7%	-20%	-31%	-41%		
2600									-14%	-27%	-38%	-47%		
2500									-8%	-21%	-33%	-44%	-53%	
2400									-15%	-29%	-40%	-50%	-59%	
2300									-8%	-23%	-36%	-47%	-56%	-65%
2200									-17%	-31%	-43%	-53%	-63%	
2100									-9%	-25%	-38%	-50%	-60%	-69%
2000									-18%	-33%	-46%	-57%	-67%	
1900									-10%	-27%	-42%	-54%	-64%	
1800									-20%	-36%	-50%	-62%		
1700									-11%	-30%	-45%	-58%	-69%	
1600									-22%	-40%	-54%	-66%		
1500									-13%	-33%	-50%	-63%		
1400									-25%	-44%	-60%			
1300									-14%	-38%	-55%			
1200									-29%	-50%	-67%			
1100									-17%	-43%	-63%			
1000									-33%	-57%				
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700		



- = without restriction
- = reduced load-bearing capacity
- = not permitted

Examples of use to determine the maximum permitted sash weight in accordance with DIN EN 1935:2002

80 ATB without door closer

SH = 2100, SW = 1100, 100 kg, - 9% = max. sash weight 91 kg

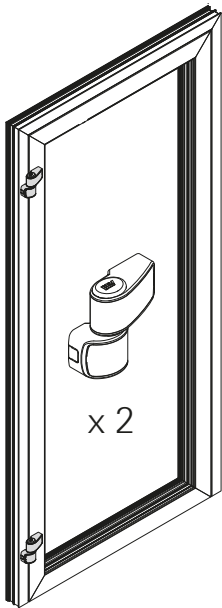


Door hinge arrangement

Use in private buildings

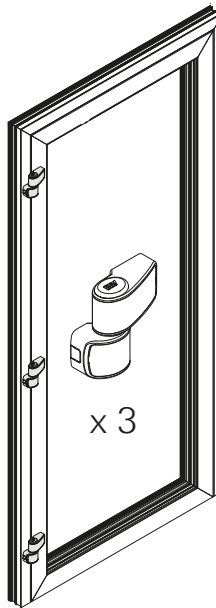
Without door closer

Without door closer



< 2300 x 800 mm

Max. sash weight -> Table



< 2300 x 1000 mm

Max. sash weight -> Table



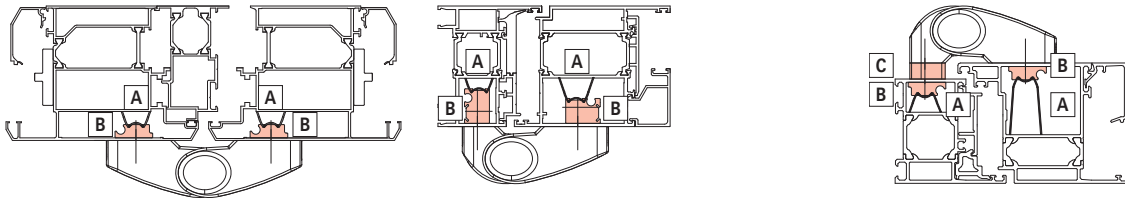


3.13.2 Mounting types

3.13.2.1 Aluminium

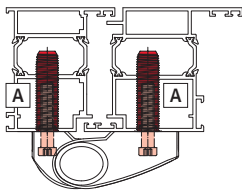


Backing plates



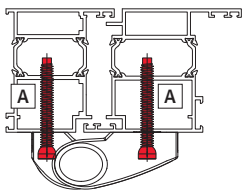
- [A] Stainless-steel spring → *from page 140*
- [B] Backing plates → *from page 137*
- [C] Packing plates, optional → *from page 139*

Linkdrill I



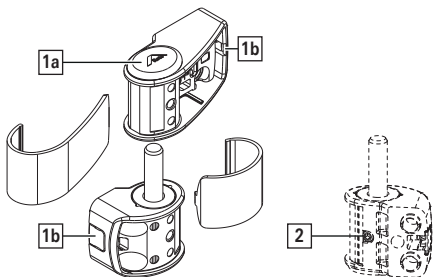
- [A] Linkdrill I → *from page 140*
- [Not sh.] Packing plates, optional → *from page 139*

Direct mounting



- [A] Fixing screw for direct mounting → *from page 138*
- [Not sh.] Packing plates, optional → *from page 139*

3.13.3 Spare parts



- [1] Cover cap
- [2] Axis pin fixing

[1] Cover cap

- [1a] Top / bottom cover cap



			Nº
Cover cap	Black	10 Piece(s)	809562
	White	10 Piece(s)	809565

- [1b] Side cover cap



			Nº
Cover cap	Black	10 Piece(s)	809563
	White	10 Piece(s)	809564

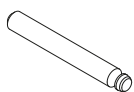
[3] Axis pin fixing



			Nº
Axis pin fixing	M6x8	100 Piece(s)	825047

3.13.4 Accessories

3.13.4.1 Locking pin



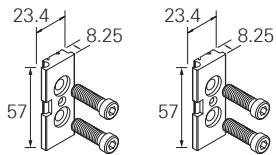
		Nº
Locking pin	100 Piece(s)	825056



3.13.4.2 Mounting

3.13.4.2.1 Backing plates

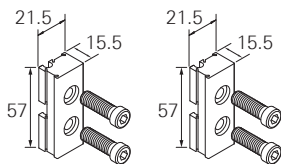
80 ATB backing plate set



							Nº
80 ATB backing plate set	23.4	8.25	57	96	M8x25	1 Set(s)	551296
				96	M8x40	1 Set(s)	551358

Contents

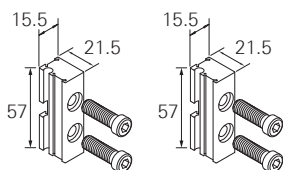
Figure	Quantity	Description
	48	Frame and sash hinge backing plate
	96	Fixing screws for backing plates



							Nº
80 ATB backing plate set	21.5	15.5	57	96	M8x25	1 Set(s)	548945
				96	M8x40	1 Set(s)	610336

Contents

Figure	Quantity	Description
	48	Frame and sash hinge backing plate
	96	Fixing screws for backing plates

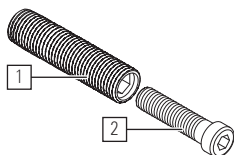


							Nº
80 ATB backing plate set	15.5	21.5	57	96	M8x25	1 Set(s)	548484

Contents

Figure	Quantity	Description
	48	Frame and sash hinge backing plate
	96	Fixing screws for backing plates

3.13.4.2.2 Linkdrill I

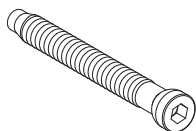


- [1] Linkdrill I
- [2] Fixing screw

				Nº
Link drill I M14x50	–	–	48 Piece(s)	548516
	with fixing screw	M8x40	48 Piece(s)	548515
Link drill I M14x60	–	–	48 Piece(s)	561379
	with fixing screw	M8x40	48 Piece(s)	561698

3.13.4.2.3 Direct mounting

Fixing screw for direct mounting



			Nº
63	Silver	48 Piece(s)	771087
68	Black	48 Piece(s)	771088
73	Green	48 Piece(s)	771089



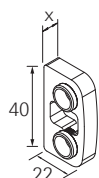
3.13.4.2.4 Packing plates

ATB packing plates for screw fixing with backing plates, Linkdrill I and Linkdrill II



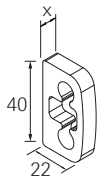
INFO

To support the frame in the case of offset profile combinations.



						N ^o
40	22	7	–	Delta silver	6 Piece(s)	548491
			RAL 8077	Dark brown	6 Piece(s)	548490
			RAL 9005	Jet black	6 Piece(s)	568360
			RAL 9006	White aluminium	6 Piece(s)	548489
			RAL 9016	Traffic white	6 Piece(s)	548488
		10	–	Delta silver	6 Piece(s)	548495
			RAL 8077	Dark brown	6 Piece(s)	548494
			RAL 9005	Jet black	6 Piece(s)	568361
			RAL 9006	White aluminium	6 Piece(s)	548493
			RAL 9016	Traffic white	6 Piece(s)	548492
		12	–	Delta silver	6 Piece(s)	548499
			RAL 8077	Dark brown	6 Piece(s)	548498
			RAL 9006	White aluminium	6 Piece(s)	548497
			RAL 9016	Traffic white	6 Piece(s)	548496
		14	–	Delta silver	6 Piece(s)	548503
			RAL 8077	Dark brown	6 Piece(s)	548502
			RAL 9006	White aluminium	6 Piece(s)	548501
			RAL 9016	Traffic white	6 Piece(s)	548500
		16	–	Delta silver	6 Piece(s)	549573
			RAL 8077	Dark brown	6 Piece(s)	549572
			RAL 9016	Traffic white	6 Piece(s)	549570
		17	–	Delta silver	6 Piece(s)	549577
			RAL 8077	Dark brown	6 Piece(s)	549576
			RAL 9016	Traffic white	6 Piece(s)	549574
		18	–	Delta silver	6 Piece(s)	548507
			RAL 8077	Dark brown	6 Piece(s)	548506
			RAL 9006	White aluminium	6 Piece(s)	548505
		19	–	Delta silver	6 Piece(s)	548504
			RAL 8077	Dark brown	6 Piece(s)	548511
			RAL 9016	Traffic white	6 Piece(s)	548510

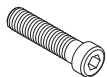
ATB packing plates for direct mounting



						N ^o			
40	22	5.7	–	Stainless steel appearance	24 Piece(s)	825071			
			RAL 8077	Dark brown	6 Piece(s)	764320			
			RAL 9006	White aluminium	6 Piece(s)	764321			
			RAL 9016	Traffic white	6 Piece(s)	764322			
		10		–	–	Delta silver	6 Piece(s)	764319	
					RAL 8077	Dark brown	6 Piece(s)	764270	
					RAL 9006	White aluminium	6 Piece(s)	764272	
					RAL 9016	Traffic white	6 Piece(s)	764273	
				14		–	Stainless steel appearance	24 Piece(s)	828137
						–	Delta silver	6 Piece(s)	764269
						–	Delta silver	24 Piece(s)	764542
						–	Delta silver	24 Piece(s)	764543
		–	Stainless steel appearance	24 Piece(s)	828138				

3.13.4.2.5 Screw fixing

Fixing screws for backing plates, Linkdrill I and Linkdrill II



		N ^o
M8x25	48 Piece(s)	547947
M8x40	48 Piece(s)	548512
M8x50	48 Piece(s)	548513

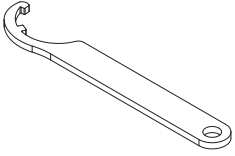
3.13.4.2.6 Stainless-steel spring





		N ^o
Stainless steel spring for use with backing plates	200 Piece(s)	548487



3.13.4.3 Adjustment key

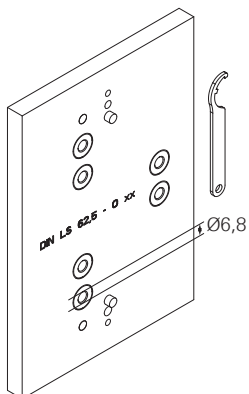


		N ^o
Adjustment key for 80 ATB, 120 ATB	1 Piece(s)	825046



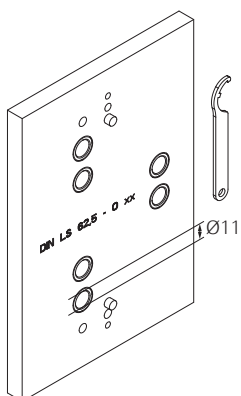
3.13.4.4 Jigs

Drilling jig for direct mounting



						Nº
Drilling jig direct fixing	incl. adjustment key	62.5	20.5	42	1 Piece(s)	737661

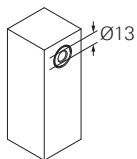
Drilling jig for backing plate and Linkdrill I



						Nº
Drilling jig for backing plate and link drill I	incl. adjustment key	62.5	20.5	42	1 Piece(s)	547218
		67.5	20.5	47	1 Piece(s)	547223
		78	20.5	57.5	1 Piece(s)	547225
		84	42	42	1 Piece(s)	547227
		89	42	47	1 Piece(s)	547229
			47	42	1 Piece(s)	547233
		94	47	47	1 Piece(s)	547235
		99.5	42	57.5	1 Piece(s)	547231



Additional drilling jig for Linkdrill I



		Nº
Additional drilling jig for link drill I	1 Piece(s)	598478



INFO

The following is required for **direct screw fixing**:

Drilling jig for direct screw fixing, Ø 6.8 mm drill

The following is required for working with **backing plates**:

Drilling jig for backing plate and Linkdrill I, Ø 11 mm drill

The following is required for working with **Linkdrill I**:

Drilling jig for backing plate and Linkdrill I, additional drilling jig for Linkdrill I, Ø 11 mm drill, Ø 13 mm drill

3.13.5 Drawings

3.13.5.1 Drilling pattern

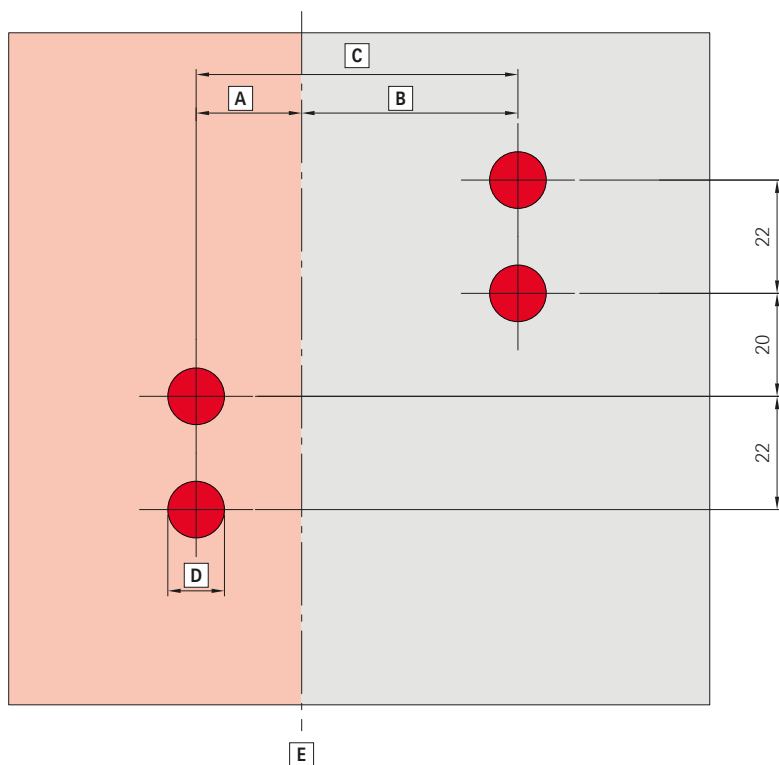


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



[A] Distance from centre of shadow groove or pivot point to frame fixing

[B] Distance from centre of shadow groove or pivot point to leaf fixing

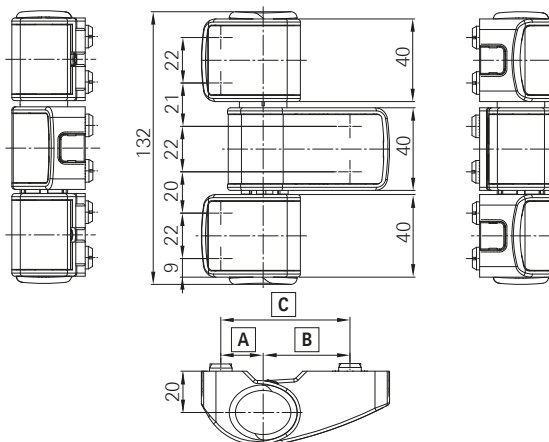
[C] Flatness deviation

[D] Diameter	Version
Ø 6.8	Direct mounting
Ø 11	Backing plate
Ø 13	Linkdrill I

[E] Centre of shadow groove or pivot point



3.14 120 ATB



[A] Distance from centre of shadow groove or pivot point to frame fixing
[B] Distance from centre of shadow groove or pivot point to leaf fixing
[C] Flatness deviation



Product description

- Three-part screw-on hinge
- Hinge casing made from die-cast zinc
- Covers made from extruded aluminium
- Different hinge and accessory modules can be combined
- Integrated adjusting scale
- Preassembled on the left and right
- Mounting type can be freely selected (Linkdrill, direct mounting, backing plates)
- CE-certified in accordance with DIN EN 1935:2002

Application range

- Up to 160 kg
- For doors in private areas and public buildings
- Suitable for doors with profiles that are flush with the surface and offset from the surface

Adjustment

- When fully assembled without undoing the fixing
- Without removing the sash hinge / frame hinge covers
- Without lateral offset of hinge bodies
- Laterally adjustable: +/-3 mm
- Height adjustable: +3 mm
- Gasket compression adjustable: +/-0.75 mm



Mounting overview

Profile material	Backing plate	Linkdrill I	Linkdrill II	Direct mounting
Aluminium	■	■	-	■
Timber	-	-	■	-
Timber / aluminium	-	-	■	-








■ = possible, - = not possible

Mounting with backing plate, Linkdrill I or Linkdrill II










INFO

Mounting material is not included in the scope of delivery.

							Nº
62.5	20.5	42	–	Delta silver	Left	6 Piece(s)	548389
	20.5	42	–	Delta silver	Right	6 Piece(s)	548393
	20.5	42	RAL 8077	Dark brown	Left	6 Piece(s)	548388
	20.5	42	RAL 8077	Dark brown	Right	6 Piece(s)	548392
	20.5	42	RAL 9005	Jet black	Left	6 Piece(s)	568358
	20.5	42	RAL 9005	Jet black	Right	6 Piece(s)	568359
	20.5	42	RAL 9006	White aluminium	Left	6 Piece(s)	548387
	20.5	42	RAL 9006	White aluminium	Right	6 Piece(s)	548391
	20.5	42	RAL 9016	Traffic white	Left	6 Piece(s)	548386
20.5	42	RAL 9016	Traffic white	Right	6 Piece(s)	548390	
67.5	20.5	47	–	Delta silver	Left	6 Piece(s)	548397
	20.5	47	–	Delta silver	Right	6 Piece(s)	548401
	20.5	47	RAL 8077	Dark brown	Left	6 Piece(s)	548396
	20.5	47	RAL 8077	Dark brown	Right	6 Piece(s)	548400
	20.5	47	RAL 9016	Traffic white	Left	6 Piece(s)	548394
	20.5	47	RAL 9016	Traffic white	Right	6 Piece(s)	548398
78	20.5	57.5	–	Delta silver	Left	6 Piece(s)	548405
	20.5	57.5	–	Delta silver	Right	6 Piece(s)	548409
	20.5	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548404
	20.5	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548408
	20.5	57.5	RAL 9006	White aluminium	Left	6 Piece(s)	548403
	20.5	57.5	RAL 9006	White aluminium	Right	6 Piece(s)	548407
	20.5	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548402
	20.5	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548406
84	42	42	–	Delta silver	Left	6 Piece(s)	548413
	42	42	–	Delta silver	Right	6 Piece(s)	548417
	42	42	RAL 8077	Dark brown	Left	6 Piece(s)	548412
	42	42	RAL 8077	Dark brown	Right	6 Piece(s)	548416
	42	42	RAL 9006	White aluminium	Left	6 Piece(s)	548411
	42	42	RAL 9006	White aluminium	Right	6 Piece(s)	548415
	42	42	RAL 9016	Traffic white	Left	6 Piece(s)	548410
	42	42	RAL 9016	Traffic white	Right	6 Piece(s)	548414
89	42	47	–	Delta silver	Left	6 Piece(s)	548421
	42	47	–	Delta silver	Right	6 Piece(s)	548425
	42	47	RAL 8077	Dark brown	Left	6 Piece(s)	548420
	42	47	RAL 8077	Dark brown	Right	6 Piece(s)	548424
	42	47	RAL 9016	Traffic white	Left	6 Piece(s)	548418
	42	47	RAL 9016	Traffic white	Right	6 Piece(s)	548422
	47	42	–	Delta silver	Left	6 Piece(s)	548437
	47	42	–	Delta silver	Right	6 Piece(s)	548441
	47	42	RAL 8077	Dark brown	Left	6 Piece(s)	548436
	47	42	RAL 8077	Dark brown	Right	6 Piece(s)	548440
	47	42	RAL 9016	Traffic white	Left	6 Piece(s)	548434
	47	42	RAL 9016	Traffic white	Right	6 Piece(s)	548438
94	47	47	–	Delta silver	Left	6 Piece(s)	548445
	47	47	–	Delta silver	Right	6 Piece(s)	548449
	47	47	RAL 8077	Dark brown	Left	6 Piece(s)	548444
	47	47	RAL 8077	Dark brown	Right	6 Piece(s)	548448
	47	47	RAL 9016	Traffic white	Left	6 Piece(s)	548442
	47	47	RAL 9016	Traffic white	Right	6 Piece(s)	548446













							Nº
99.5	42	57.5	-	Delta silver	Left	6 Piece(s)	548429
	42	57.5	-	Delta silver	Right	6 Piece(s)	548433
	42	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548428
	42	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548432
	42	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548426
	42	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548430
	57.5	42	-	Delta silver	Left	6 Piece(s)	548461
	57.5	42	-	Delta silver	Right	6 Piece(s)	548465
	57.5	42	RAL 8077	Dark brown	Left	6 Piece(s)	548460
	57.5	42	RAL 8077	Dark brown	Right	6 Piece(s)	548464
104.5	47	57.5	-	Delta silver	Left	6 Piece(s)	548453
	47	57.5	-	Delta silver	Right	6 Piece(s)	548457
	47	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548452
	47	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548456
	47	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548450
	47	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548454
	57.5	47	-	Delta silver	Left	6 Piece(s)	548469
	57.5	47	-	Delta silver	Right	6 Piece(s)	548473
	57.5	47	RAL 8077	Dark brown	Left	6 Piece(s)	548468
	57.5	47	RAL 8077	Dark brown	Right	6 Piece(s)	548472
115	57.5	57.5	-	Delta silver	Left	6 Piece(s)	548477
	57.5	57.5	-	Delta silver	Right	6 Piece(s)	548481
	57.5	57.5	RAL 8077	Dark brown	Left	6 Piece(s)	548476
	57.5	57.5	RAL 8077	Dark brown	Right	6 Piece(s)	548480
	57.5	57.5	RAL 9016	Traffic white	Left	6 Piece(s)	548474
	57.5	57.5	RAL 9016	Traffic white	Right	6 Piece(s)	548478

Direct mounting



INFO

Mounting material is included in the scope of delivery.

									
62.5	20.5	42	–	Delta silver	6	8x63	Left	6 Piece(s)	736005
	20.5	42	–	Delta silver	6	8x63	Right	6 Piece(s)	736009
	20.5	42	–	Delta silver	6	8x63	Left	24 Piece(s)	775765
	20.5	42	–	Delta silver	6	8x63	Right	24 Piece(s)	775766
	20.5	42	RAL 8077	Dark brown	6	8x63	Left	6 Piece(s)	736006
	20.5	42	RAL 8077	Dark brown	6	8x63	Right	6 Piece(s)	736010
	20.5	42	RAL 9006	White aluminium	6	8x63	Left	6 Piece(s)	736007
	20.5	42	RAL 9006	White aluminium	6	8x63	Right	6 Piece(s)	736011
	20.5	42	RAL 9016	Traffic white	6	8x63	Left	6 Piece(s)	736008
	20.5	42	RAL 9016	Traffic white	6	8x63	Right	6 Piece(s)	736012
	20.5	42	RAL 9016	Traffic white	6	8x63	Left	24 Piece(s)	775767
	20.5	42	RAL 9016	Traffic white	6	8x63	Right	24 Piece(s)	775768
	20.5	42	–	Stainless steel appearance	6	8x68	Left	24 Piece(s)	828133
	20.5	42	–	Stainless steel appearance	6	8x68	Right	24 Piece(s)	828134
	20.5	42	–	Delta silver	6	8x68	Left	24 Piece(s)	764538
	20.5	42	–	Delta silver	6	8x68	Right	24 Piece(s)	764539
	20.5	42	–	Stainless steel appearance	6	8x73	Left	24 Piece(s)	828135
	20.5	42	–	Stainless steel appearance	6	8x73	Right	24 Piece(s)	828136
	20.5	42	–	Delta silver	6	8x73	Left	24 Piece(s)	764540
	20.5	42	–	Delta silver	6	8x73	Right	24 Piece(s)	764541
20.5	42	RAL 9016	Traffic white	6	8x73	Left	24 Piece(s)	776239	
20.5	42	RAL 9016	Traffic white	6	8x73	Right	24 Piece(s)	776240	
84	42	42	–	Delta silver	6	8x73	Left	24 Piece(s)	775761
	42	42	–	Delta silver	6	8x73	Right	24 Piece(s)	775762
	42	42	RAL 9016	Traffic white	6	8x73	Left	24 Piece(s)	775763
	42	42	RAL 9016	Traffic white	6	8x73	Right	24 Piece(s)	775764



3.14.1 Application diagram

Load-bearing capacity table in accordance with DIN EN 1935:2002

3500														
3400														
3300												-6%		
3200												-12%		
3100											-6%	-18%		
3000											-13%	-24%		
2900									-7%	-19%	-29%			
2800									-13%	-25%	-35%			
2700									-7%	-20%	-31%	-41%		
2600									-14%	-27%	-38%	-47%		
2500									-8%	-21%	-33%	-44%	-53%	
2400									-15%	-29%	-40%	-50%	-59%	
2300									-8%	-23%	-36%	-47%	-56%	-65%
2200									-17%	-31%	-43%	-53%	-63%	
2100									-9%	-25%	-38%	-50%	-60%	-69%
2000									-18%	-33%	-46%	-57%	-67%	
1900									-10%	-27%	-42%	-54%	-64%	
1800									-20%	-36%	-50%	-62%		
1700									-11%	-30%	-45%	-58%	-69%	
1600									-22%	-40%	-54%	-66%		
1500									-13%	-33%	-50%	-63%		
1400									-25%	-44%	-60%			
1300									-14%	-38%	-55%			
1200									-29%	-50%	-67%			
1100									-17%	-43%	-63%			
1000									-33%	-57%				
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700		



- = without restriction
- = reduced load-bearing capacity
- = not permitted

Examples of use to determine the maximum permitted sash weight in accordance with DIN EN 1935:2002

120 ATB without door closer

SH = 2100, SW = 1100, 160 kg, - 9% = max. sash weight 145 kg

120 ATB with door closer, without opening damping

(additionally -20%)

SH = 2100, SW = 1100, 160 kg, - 9% - (20%) = max. sash weight 145 kg - 20% = 116 kg

120 ATB with door closer, with opening damping or restrictor device

(additionally -75%)

SH = 2100, SW = 1100, 160 kg, - 9% - (75%) = max. sash weight 145 kg - 75% = 36 kg

Door hinge arrangement

Use in private buildings Use in public buildings

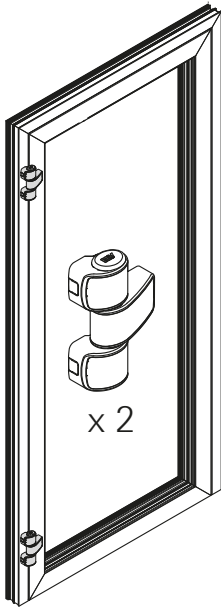
Without door closer

Without door closer

With door closer

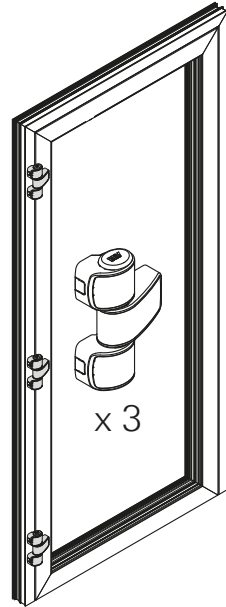
With door closer

With opening damping



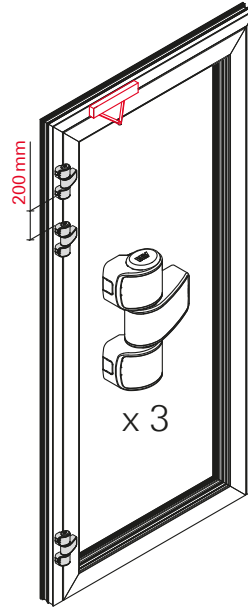
< 2300 x 1000 mm

Max. sash weight -> Table



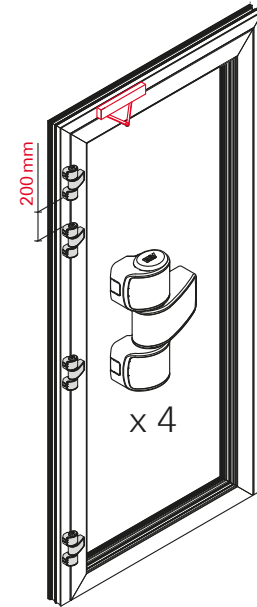
> 2300 x 1000 mm

Max. sash weight -> Table



> 2300 x 1000 mm

Max. sash weight -> Table -20%



> 2300 x 1000 mm

Max. sash weight -> Table -75%



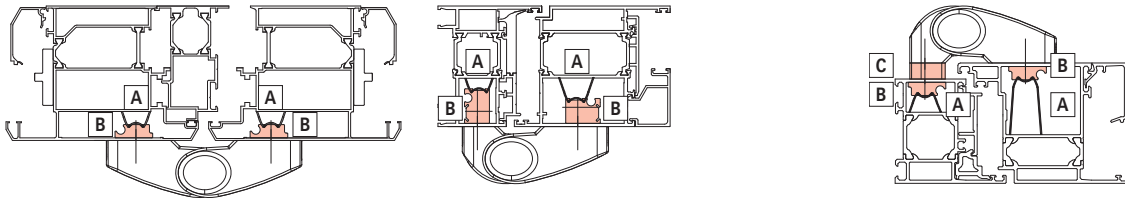


3.14.2 Mounting types

3.14.2.1 Aluminium

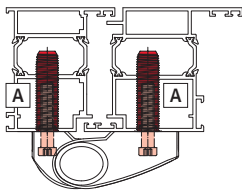


Backing plates



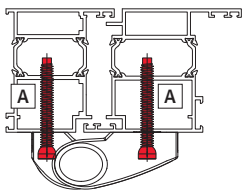
- [A] Stainless-steel spring → *from page 160*
- [B] Backing plates → *from page 155*
- [C] Packing plates, optional → *from page 159*

Linkdrill I



- [A] Linkdrill I → *from page 157*
- [Not sh.] Packing plates, optional → *from page 159*

Direct mounting

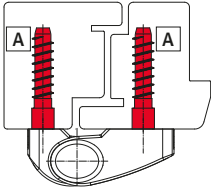


- [A] Fixing screw for direct mounting → *from page 158*
- [Not sh.] Packing plates, optional → *from page 159*

3.14.2.2 Timber



Linkdrill II



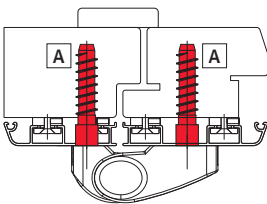
[A] Linkdrill II → *from page 158*

[Not sh.] Packing plates, optional → *from page 159*

3.14.2.3 Timber / timber-aluminium



Linkdrill II

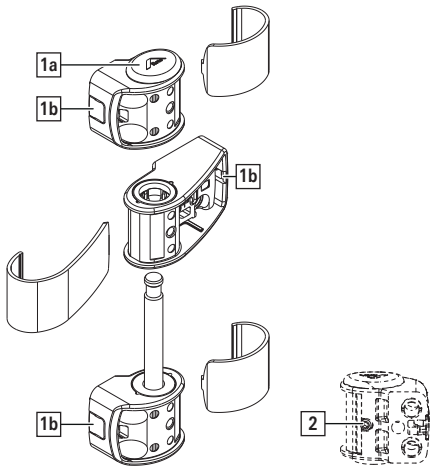


[A] Linkdrill II → *from page 158*

[Not sh.] Packing plates, optional → *from page 159*



3.14.3 Spare parts






- [1] Cover cap
- [2] Axis pin fixing

[1] Cover cap




[1a] Top / bottom cover cap



			N ^o
Cover cap	Black	10 Piece(s)	809562
	White	10 Piece(s)	809565

[1b] Side cover cap



			N ^o
Cover cap	Black	10 Piece(s)	809563
	White	10 Piece(s)	809564

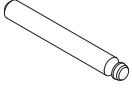
[2] Axis pin fixing



			N ^o
Axis pin fixing	M6x8	100 Piece(s)	825047

3.14.4 Accessories

3.14.4.1 Locking pin



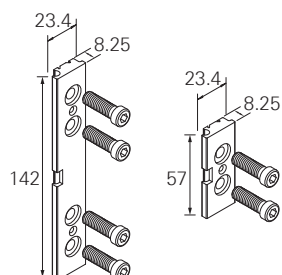
		N ^o
Locking pin	100 Piece(s)	825056



3.14.4.2 Mounting

3.14.4.2.1 Backing plates

120 ATB backing plate set

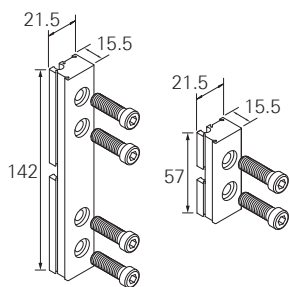


120 ATB backing plate set	23.4	8.25	144	M8x25	1 Set(s)	548485

Contents

Figure	Quantity	Description
	24	Frame hinge backing plate
	24	Sash hinge backing plate
	144	Fixing screws for backing plates

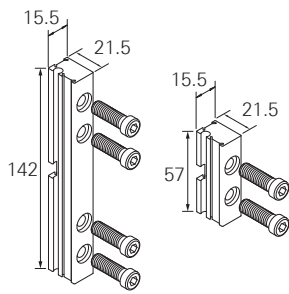
Roto Solid S – Screw-on hinges
120 ATB
 Accessories



						Nº
120 ATB backing plate set	21.5	15.5	144	M8x25	1 Set(s)	548946

Contents

Figure	Quantity	Description
	24	Frame hinge backing plate
	24	Sash hinge backing plate
	144	Fixing screws for backing plates

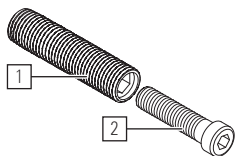


						Nº
120 ATB backing plate set	15.5	21.5	144	M8x25	1 Set(s)	548486

Contents

Figure	Quantity	Description
	24	Frame hinge backing plate
	24	Sash hinge backing plate
	144	Fixing screws for backing plates

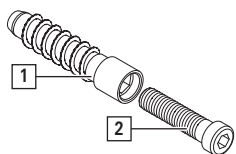
3.14.4.2.2 Linkdrill I



- [1] Linkdrill I
- [2] Fixing screw

				Nº
Link drill I M14x50	–	–	48 Piece(s)	548516
	with fixing screw	M8x40	48 Piece(s)	548515
Link drill I M14x60	–	–	48 Piece(s)	561379
	with fixing screw	M8x40	48 Piece(s)	561698

3.14.4.2.3 Linkdrill II

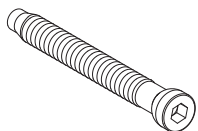



- [1] Linkdrill II
- [2] Fixing screw

				Nº
Link drill II M14x50	–	–	1 Piece(s)	543910
	with fixing screw	M8x40	48 Piece(s)	548517
Link drill II M14x63	–	–	1 Piece(s)	833237
	with fixing screw	M8x40	48 Piece(s)	548518

3.14.4.2.4 Direct mounting

Fixing screw for direct mounting



			Nº
63	Silver	48 Piece(s)	771087
68	Black	48 Piece(s)	771088
73	Green	48 Piece(s)	771089



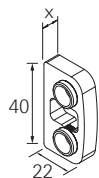
3.14.4.2.5 Packing plates

ATB packing plates for screw fixing with backing plates, Linkdrill I and Linkdrill II



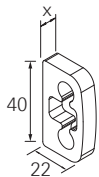
INFO

To support the frame in the case of offset profile combinations.



						N ^o
40	22	7	–	Delta silver	6 Piece(s)	548491
			RAL 8077	Dark brown	6 Piece(s)	548490
			RAL 9005	Jet black	6 Piece(s)	568360
			RAL 9006	White aluminium	6 Piece(s)	548489
			RAL 9016	Traffic white	6 Piece(s)	548488
		10	–	Delta silver	6 Piece(s)	548495
			RAL 8077	Dark brown	6 Piece(s)	548494
			RAL 9005	Jet black	6 Piece(s)	568361
			RAL 9006	White aluminium	6 Piece(s)	548493
			RAL 9016	Traffic white	6 Piece(s)	548492
		12	–	Delta silver	6 Piece(s)	548499
			RAL 8077	Dark brown	6 Piece(s)	548498
			RAL 9006	White aluminium	6 Piece(s)	548497
			RAL 9016	Traffic white	6 Piece(s)	548496
		14	–	Delta silver	6 Piece(s)	548503
			RAL 8077	Dark brown	6 Piece(s)	548502
			RAL 9006	White aluminium	6 Piece(s)	548501
			RAL 9016	Traffic white	6 Piece(s)	548500
		16	–	Delta silver	6 Piece(s)	549573
			RAL 8077	Dark brown	6 Piece(s)	549572
			RAL 9016	Traffic white	6 Piece(s)	549570
		17	–	Delta silver	6 Piece(s)	549577
			RAL 8077	Dark brown	6 Piece(s)	549576
			RAL 9016	Traffic white	6 Piece(s)	549574
		18	–	Delta silver	6 Piece(s)	548507
			RAL 8077	Dark brown	6 Piece(s)	548506
			RAL 9006	White aluminium	6 Piece(s)	548505
		19	–	Delta silver	6 Piece(s)	548504
			RAL 8077	Dark brown	6 Piece(s)	548511
			RAL 9016	Traffic white	6 Piece(s)	548510

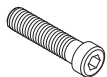
ATB packing plates for direct mounting



						N ^o			
40	22	5.7	–	Stainless steel appearance	24 Piece(s)	825071			
			RAL 8077	Dark brown	6 Piece(s)	764320			
			RAL 9006	White aluminium	6 Piece(s)	764321			
			RAL 9016	Traffic white	6 Piece(s)	764322			
		10	–	–	–	Delta silver	6 Piece(s)	764319	
					RAL 8077	Dark brown	6 Piece(s)	764270	
					RAL 9006	White aluminium	6 Piece(s)	764272	
					RAL 9016	Traffic white	6 Piece(s)	764273	
				14	–	–	Stainless steel appearance	24 Piece(s)	828137
						–	Delta silver	6 Piece(s)	764269
						–	Delta silver	24 Piece(s)	764542
						–	Delta silver	24 Piece(s)	764543
		–	Stainless steel appearance	24 Piece(s)	828138				

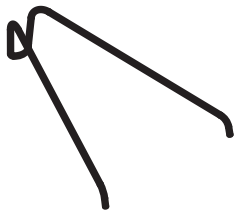
3.14.4.2.6 Screw fixing

Fixing screws for backing plates, Linkdrill I and Linkdrill II



		N ^o
M8x25	48 Piece(s)	547947
M8x40	48 Piece(s)	548512
M8x50	48 Piece(s)	548513

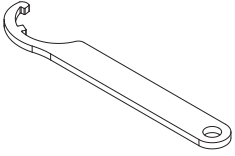
3.14.4.2.7 Stainless-steel spring





		N ^o
Stainless steel spring for use with backing plates	200 Piece(s)	548487



3.14.4.2.8 Adjustment key

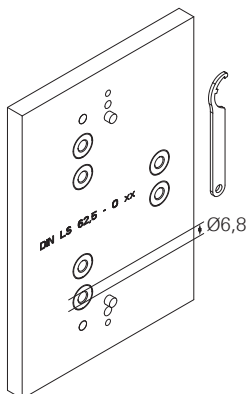


			N ^o
Adjustment key for 80 ATB, 120 ATB	1 Piece(s)		825046



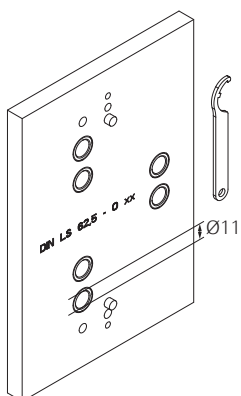
3.14.4.3 Jigs

Drilling jig for direct mounting



						Nº
Drilling jig direct fixing	incl. adjustment key	62.5	20.5	42	1 Piece(s)	737661

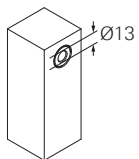
Drilling jig for backing plate and Linkdrill I



						Nº
Drilling jig for backing plate and link drill I	incl. adjustment key	62.5	20.5	42	1 Piece(s)	547218
		67.5	20.5	47	1 Piece(s)	547223
		78	20.5	57.5	1 Piece(s)	547225
		84	42	42	1 Piece(s)	547227
		89	42	47	1 Piece(s)	547229
			47	42	1 Piece(s)	547233
		94	47	47	1 Piece(s)	547235
		99.5	42	57.5	1 Piece(s)	547231

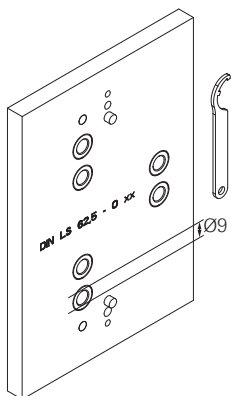


Additional drilling jig for Linkdrill I



		Nº
Additional drilling jig for link drill I	1 Piece(s)	598478

Drilling jig for Linkdrill II



						Nº
Drilling jig for link drill II	incl. adjustment key	62.5	20.5	42	1 Piece(s)	548751
		67.5	20.5	47	1 Piece(s)	548753
		78	20.5	57.5	1 Piece(s)	548755
		84	42	42	1 Piece(s)	548757
		89	42	47	1 Piece(s)	548759
		99.5	42	57.5	1 Piece(s)	548761
		94	47	47	1 Piece(s)	548765

Step drill



		Nº
Locking pin PS 23 / PS 27	Ø 9 to Ø 15 mm	1 Piece(s) 544427



INFO

The following is required for **direct screw fixing**:

Drilling jig for direct screw fixing, Ø 6.8 mm drill

The following is required for working with **backing plates**:

Drilling jig for backing plate and Linkdrill I, Ø 11 mm drill

The following is required for working with **Linkdrill I**:

Drilling jig for backing plate and Linkdrill I, additional drilling jig for Linkdrill I, Ø 11 mm drill, Ø 13 mm drill

The following is required for working with **Linkdrill II**:

Drilling jig for Linkdrill II, Ø 9 mm drill, Ø 9 to Ø 15 mm step drill





3.14.5 Drawings

3.14.5.1 Drilling pattern

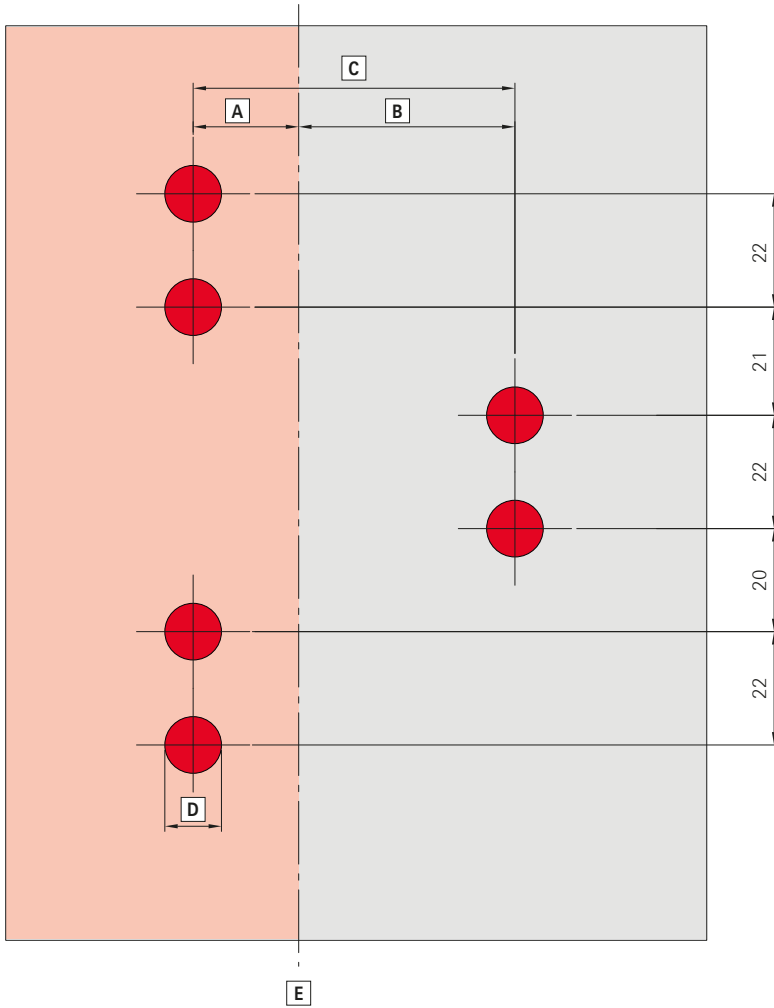


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



[A] Distance from centre of shadow groove or pivot point to frame fixing

[B] Distance from centre of shadow groove or pivot point to leaf fixing

[C] Flatness deviation

[D] Diameter	Version
Ø 6.8	Direct mounting
Ø 11	Backing plate
Ø 13	Linkdrill I
Ø 9	Linkdrill II

[E] Centre of shadow groove or pivot point

Roto Solid C





Profile overview

See page 170

C7.140

Application diagram 177

Accessories 178

Drawings 181

4 Roto Solid C – Concealed hinges

4.1 Profile overview



INFO

The profile combinations shown in the overview are a selection of the possible combinations. Other profile combinations are available upon request.

Profile system	Frame number	Leaf number	Height of bracket adapter	Length of fixing screw	Attachment of height adjustment module	Sash hinge packer	Hinge tab casing	Mounting plate	
Altotherm	A072A95	B085A89	–	48	DFS / BRN	–	Two-part	–	
		B085A92	–	48	DFS / BRN	–	Two-part	–	
		B085B92	–	48	DFS / BRN	–	Two-part	–	
		B115A95	–	48	DFS / BRN	–	Two-part	–	
		B115B95	–	48	DFS / BRN	–	Two-part	–	
	A072B95	B085A89	–	48	DFS	–	-	–	
		B085A92	–	48	DFS	–	-	–	
		B085B92	–	48	DFS	–	-	–	
		B115A95	–	48	DFS	–	-	–	
	A072C92	B085A89	–	48	DFS	–	-	–	
		B085A92	–	48	DFS	–	-	–	
	Aluprof MB 86	K518612X	K518740X	–	48	–	–	Two-part	–
K518730X			K518740X	–	48	DFS / BRN	–	Two-part	–
K718730X			K718745X	–	48	DFS / BRN	–	Two-part	–
K718730X			K718759X	–	48	DFS / BRN	–	Two-part	–
Aluprof MB 104	K519141X	K519161X	–	48	DFS / BRN	–	Two-part	–	
		K519164X	–	48	DFS / BRN	–	Two-part	–	
		K519175X	–	48	DFS / BRN	–	Two-part	–	



Profile system	Frame number	Leaf number	Height of bracket adapter	Length of fixing screw	Attachment of height adjustment module	Sash hinge packer	Hinge tab casing	Mounting plate	
Heroal D72	21080	19541	–	48	DFS / BRN	–	Two-part	–	
		21081	–	48	DFS / BRN	–	Two-part	–	
		21691	–	48	DFS / BRN	–	Two-part	–	
	21252	21651	–	48	DFS / BRN	–	Two-part	–	
	21623	21641	–	48	DFS / BRN	–	Two-part	–	
	21624	21081	–	73	DFS / BRN	–	Two-part	60	
		21645	–	73	DFS / BRN	–	Two-part	60	
		21681	–	73	DFS / BRN	–	Two-part	60	
	21660	21643	–	63	DFS / BRN	–	Two-part	–	
		21645	–	63	DFS / BRN	–	Two-part	–	
		21645- H	–	63	DFS / BRN	–	Two-part	–	
		21651	–	63	DFS / BRN	–	Two-part	–	
		21655	–	63	DFS / BRN	–	Two-part	–	
	21680	21681	–	63	DFS / BRN	–	Two-part	–	
		21645- H	–	48	DFS / BRN	–	Two-part	–	
		21651	–	48	DFS / BRN	–	Two-part	–	
		21655	–	48	DFS / BRN	–	Two-part	–	
	21780	21681	–	48	DFS / BRN	–	Two-part	–	
		21665	–	48	DFS / BRN	–	Two-part	–	
		21755	–	48	DFS / BRN	–	Two-part	–	
	21765	21765	–	48	DFS / BRN	–	Two-part	–	
		21820	21645	–	63	DFS / BRN	–	Two-part	–
		21841	21841	–	63	DFS / BRN	–	Two-part	–
	21843		–	63	DFS / BRN	–	Two-part	–	
	21823		21645	–	63	DFS	–	Two-part	45
	21841	21841	–	63	DFS	–	Two-part	45	
		21843	–	63	DFS	–	Two-part	45	
		21824	21645	–	63	DFS	–	Two-part	60
	21841	21841	–	73	DFS	–	Two-part	60	
		21843	–	73	DFS	–	Two-part	60	
		21840	21645	–	48	DFS / BRN	–	Two-part	–
	21841	21841	–	48	DFS / BRN	–	Two-part	–	
		21843	–	48	DFS / BRN	–	Two-part	–	
		21860	21643	–	63	DFS / BRN	–	Two-part	–
	21860	21645	–	63	DFS / BRN	–	Two-part	–	
		21881	–	63	DFS / BRN	–	Two-part	–	
		21863	21645	–	63	DFS	–	Two-part	45
	21863	21851	–	63	DFS	–	Two-part	45	
		21881	–	63	DFS	–	Two-part	45	
		21864	21645	–	73	DFS	–	Two-part	60
	21864	21851	–	73	DFS	–	Two-part	60	
		21881	–	73	DFS	–	Two-part	60	
		21880	21645	–	48	DFS / BRN	–	Two-part	–
	21880	21851	–	48	DFS / BRN	–	Two-part	–	
		21881	–	48	DFS / BRN	–	Two-part	–	
		22023	21641	–	48	DFS / BRN	–	Two-part	–
	22023	21651	–	48	DFS / BRN	–	Two-part	–	
21657		–	48	DFS / BRN	–	Two-part	–		
22024		21681	–	63	DFS / BRN	–	Two-part	–	
22533	21881	–	48	DFS / BRN	–	Two-part	–		
22543	21881	–	48	DFS / BRN	–	Two-part	–		
29460	29461	–	63	DFS / BRN	–	Two-part	–		
29680	19241	–	48	DFS / BRN	–	Two-part	–		
	29681	–	48	DFS / BRN	–	Two-part	–		
Metalest R72	R72C513	R72C510	2	35	DFS / BRN	–	Two-part	–	
Metalest R82	R82C513	R82C510	2	35	DFS / BRN	–	Two-part	–	

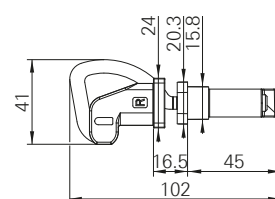
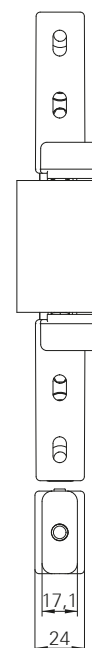
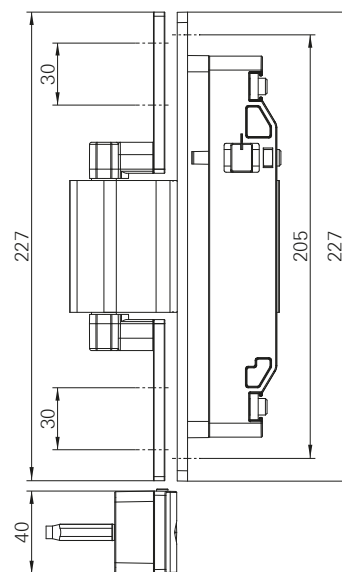
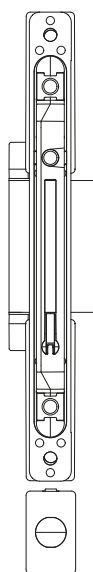
Roto Solid C – Concealed hinges
Profile overview

Profile system	Frame number	Leaf number	Height of bracket adapter	Length of fixing screw	Attachment of height adjustment module	Sash hinge packer	Hinge tab casing	Mounting plate
Metalest R93	R93C513	R93C510	2	35	DFS / BRN	–	Two-part	–
Metalest EKU 78 TT	TT78-60	TT78-55	2	48	DFS / BRN	–	Two-part	–
Metra NC65	nc15508	nc15855	–	63	DFS	–	Two-part	–
	nc15520	nc15855	–	63	DFS	–	Two-part	–
	nc15553	nc15855	–	63	DFS	–	Two-part	–
	nc15662	nc15855	–	48	DFS / BRN	–	Two-part	–
		nc15879	–	48	DFS / BRN	–	Two-part	–
nc15667	nc15855	–	48	DFS / BRN	–	Two-part	–	
Metra NC75	nc17508	nc17855	–	63	DFS	–	Two-part	–
	nc17520	nc17855	–	63	DFS	–	Two-part	–
	nc17553	nc17855	–	63	DFS	–	Two-part	–
	nc17662	nc17855	–	48	DFS / BRN	–	Two-part	–
		nc17879	–	48	DFS / BRN	–	Two-part	–
nc17667	nc17855	–	48	DFS / BRN	–	Two-part	–	
Metra NC90	nc13508	nc13855	–	63	DFS	–	Two-part	–
	nc13520	nc13855	–	63	DFS	–	Two-part	–
	nc13553	nc13855	–	63	DFS	–	Two-part	–
	nc13662	nc13855	–	48	DFS / BRN	–	Two-part	–
		nc13879	–	48	DFS / BRN	–	Two-part	–
nc13667	nc13855	–	48	DFS / BRN	–	Two-part	–	
Ponzio PE68	6762	6764	–	48	DFS / BRN	1.5	Two-part	–
Ponzio PE78N	7862	7864	–	48	DFS / BRN	1.5	Two-part	–

DFS = direct fixing screw, BRN = blind rivet nut



4.2 C7.140



Product description

- Concealed door hinge
- Usable on the left and right
- FixClick function for mounting the leaf quickly and securely
- Corrosion resistance Class 5 in accordance with DIN EN 1670
- No heat loss – gasket level is not interrupted
- CE-certified in accordance with DIN EN 1935:2002



Application range

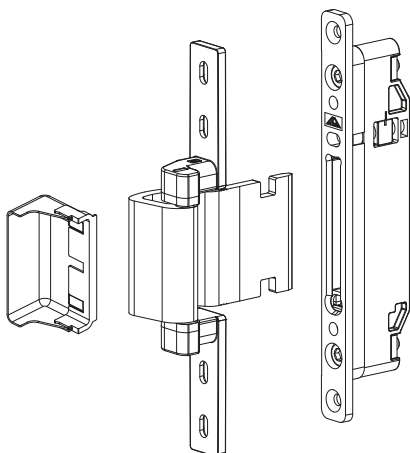
- Up to 140 kg
- For doors in private areas and areas with limited public access
- For inward opening doors
- Max. door opening angle: 110°

Adjustment

- Height is adjusted centrally via a single adjustment point
- With hex key
- Laterally adjustable: +/-3 mm
- Height adjustable: +4 / -2 mm
- Gasket compression adjustable: +/-1.2 mm



C7.140 set



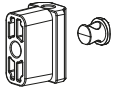
			Nº
C7.140 set	Silver	1 Set(s)	823272
	Black	1 Set(s)	823273





Contents

Figure	Quantity	Description
	1	Frame hinge
	1	Sash hinge
	1	Hinge tab casing
Not sh.	6	Screws M6x25
Not sh.	6	Blind rivet nuts M6



Height adjustment module



				Nº
Height adjustment module	incl. M8 blind rivet nut	Silver	1 Piece(s)	811101
		Black	1 Piece(s)	811100



INFO

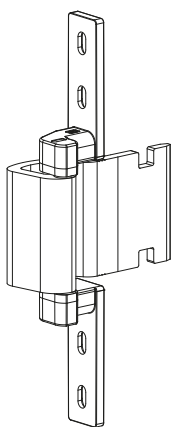
One height adjustment module is required per door.

One direct fixing screw is required for mounting the height adjustment module. → *from page 179*



Individual components

Frame hinge



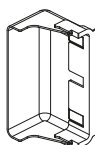
			Nº
Frame hinge	Silver	12 Piece(s)	828096
	Black	12 Piece(s)	828097





Sash hinge



			Nº
Sash hinge	Silver	12 Piece(s)	811092
	Black	12 Piece(s)	811094

Hinge tab casing



				Nº
Hinge tab casing	RAL 9005	Jet black	12 Piece(s)	811102



4.2.1 Application diagram

Load-bearing capacity table in accordance with DIN EN 1935:2002

3000														
2950														
2900														
2850														
2800														
2750														-4%
2700														-7%
2650													-4%	-11%
2600													-7%	-14%
2550												-4%	-11%	-18%
2500												-8%	-15%	-21%
2450											-4%	-12%	-19%	-25%
2400											-8%	-15%	-22%	-29%
2350										-4%	-12%	-19%	-26%	-32%
2300										-8%	-16%	-23%	-30%	-36%
2250									-4%	-13%	-20%	-27%	-33%	-39%
2200									-9%	-17%	-24%	-31%	-37%	-43%
2150								-5%	-13%	-21%	-28%	-35%	-41%	-46%
2100								-9%	-17%	-25%	-32%	-38%	-44%	-50%
2050							-5%	-14%	-22%	-29%	-36%	-42%	-48%	-54%
2000							-10%	-18%	-26%	-33%	-40%	-46%	-52%	-57%
1950						-5%	-14%	-23%	-30%	-38%	-44%	-50%	-56%	-61%
1900					-10%	-19%	-27%	-35%	-42%	-48%	-54%	-59%	-64%	-69%
1850					-5%	-15%	-24%	-32%	-39%	-46%	-52%	-58%	-63%	-68%
1800					-11%	-20%	-29%	-36%	-43%	-50%	-56%	-62%	-67%	-71%
	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	



- = deductible dimension
- = 4 hinges
- = 3 hinges
- = 2 hinges



INFO

- SH > 2200 mm = 3 hinges
- SH > 2500 mm = 4 hinges
- With door closer = ≥ 3 hinges
- 100 kg = 2 hinges
- 140 kg = 3 hinges

Examples of use to determine the maximum permitted sash weight in accordance with DIN EN 1935:2002

C7.140 without door closer

SH = 2100, SW = 1150, 140 kg, - 10% = max. sash weight 126 kg

C7.140 with door closed without opening damping

(additionally -20%)

SH = 2100, SW = 1150, 140 kg, - 10% (- 20%) = max. sash weight 126 kg - 20% = 100.8 kg

C7.140 with door closer, with opening damping or restrictor device


(additionally -75%)

SH = 2100, SW = 1150, 140 kg, - 10% (- 75%) = max. sash weight 126 kg - 75% = 31.5 kg

4.2.2 Accessories


4.2.2.1 Anti-jemmy device



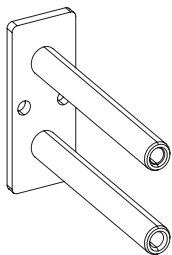
		Nº
Anti-jemmy device	50 Piece(s)	816922




4.2.2.2 Packing plate



			Nº
Sash hinge packing plate	1.5	12 Piece(s)	811489

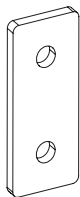
4.2.2.3 Mounting plate






			Nº
Mounting plate	45	1 Piece(s)	821606
	60	1 Piece(s)	821607






4.2.2.4 Bracket adapter







			Nº
Console adapter	2	24 Piece(s)	818534

4.2.2.5 Screw fixing



			Nº
Direct fixing screw for height adjustment module	35	10 Piece(s)	791920
	48	10 Piece(s)	823847
	63	10 Piece(s)	812473
	73	10 Piece(s)	823274



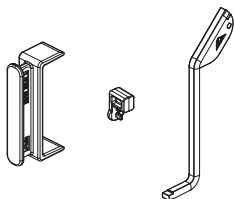
				Nº
Fixing screw 6.3x26 C7.140 screw	M6x25	Silver	500 Piece(s)	821604
		Black	500 Piece(s)	821605

4.2.2.6 Blind rivet nut



		Nº
M6 blind rivet nut	500 Piece(s)	821603

4.2.2.7 Installation

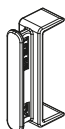
Installation set



Installation set consisting of: 3 x locking wedges, 3 x anti-jemmy devices, 1 x combination tool, 1 x installation instructions

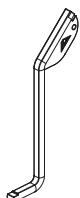
		Nº
Installation set	1 Set(s)	813631

Locking wedge



		Nº
Locking wedge	1 Piece(s)	796364

Combination tool



		Nº
Combination tool	1 Piece(s)	796363



4.2.3 Drawings

4.2.3.1 Drilling pattern

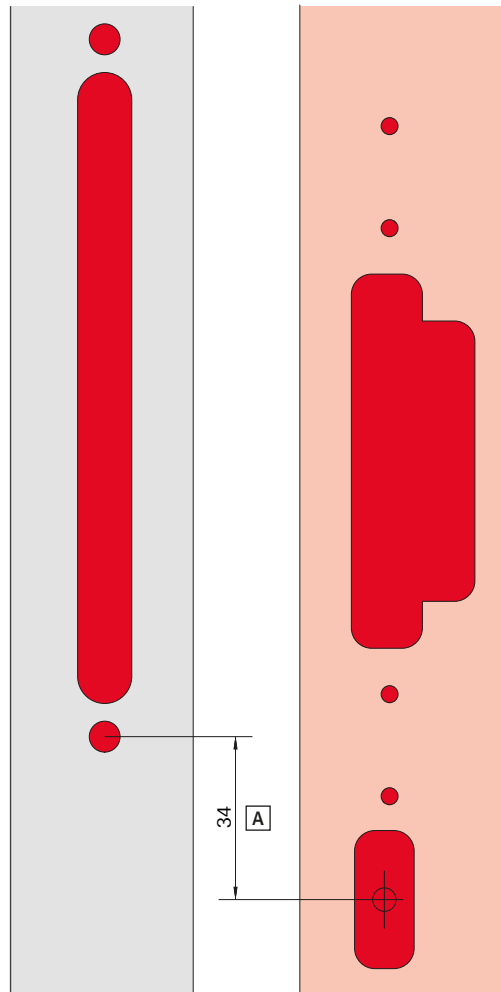


INFO

Example diagram.

Drilling patterns depend on the profile.

Specific drilling patterns are available upon request.



[A] Position of sash hinge relative to height adjustment module



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