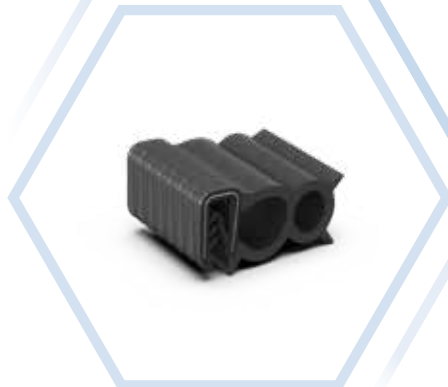


SPECIAL CATALOGUE



SALES
WORLDWIDE

92 %
FROM IN-HOUSE
PRODUCTION

**Ingenious Locking Technology
for HVACR systems acc. to VDI 6022**

Icons

The icons on the catalogue pages show the special properties of the items presented there.



Inside the sealing



Outside the sealing



Concealed hinge



Prominent hinge



Lift-off version hinge



Hinge limited lift-off version



Hinge for single cabinets



Hinge for in-line cabinets with single door



Hinge for in-line cabinets with double door



Door RH version



Door LH version



Door RH or LH version



Protection class e.g. IP 65



PUR sealing foam



Compression specification of lock



Article grounded or grounding possible



ELM Electronic Locking & Monitoring System application



Resistance class 2 tested acc. to DIN EN 1630



2D nut usable



2D adjustable product



3D adjustable product



Assembly without tool



clip-in product



Product with graffiti resistant paint



meets hygiene requirements acc. to DIN EN 1672-2



meets hygiene requirements acc. to DIN EN ISO 14159



Shock and vibration test according to DIN EN 61373



Plastic flame-resistant according to classification UL94



Stainless steel
AISI 303 resp. 1.4305
AISI 304 resp. 1.4301
AISI 316 resp. 1.4401
AISI 316 Ti resp. 1.4571

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K1-510	Compression latches
K1-610	Accessories for locks and latches



2 Hinges

K2-110	Latch-Hinges
K2-210	Screw-on hinges
K2-410	Accessories for hinges



3 Sealing Profiles and Edge Protection

K3-100	Information
K3-210	Seals, self-clamping
K3-310	Seals secured in a U-section
K3-410	Cell sponge rubber
K3-510	Edge protection
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4 Accessories

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About EMKA

The EMKA GROUP is world market leader for locks, latches, hinges and seals used in switch and control cabinets.

For more than 40 years, the company has been active across all sectors in the fields of industry (switch and control cabinets, HVACR systems, mechanical engineering) and transport (railway and commercial vehicles, caravans, etc.) with conventional and electronic locking solutions.

The overall range comprises more than 30,000 catalogue and special articles, which are developed, manufactured, refined and assembled at eleven production sites in Germany, France, Great Britain, Spain, Bosnia-Herzegovina, Serbia, China, India and Indonesia.

In one of the two new plants in Bosnia, the company produces around 900 moulds for injection moulding and die casting every year - both for own production and for external customers.

With 2,100 employees, EMKA serves over 36,000 customers in 60 countries worldwide. In 2022, the company achieved turnover of over 350 million euros.

EMKA - Ingenious Locking Technology.



WirtschaftsWoche

**WELT
MARKT
FÜHRER**

Champion

2023

EMKA Beschlagteile
Verschlüsse, Scharniere und
Dichtungen für Schalt- und
Steuerungsschränke für Elektronik
und Elektrotechnik

ADWI
Institut für Wirtschaftsinformatik

Herzi B. Meier
Unternehmenschule
Universität St. Gallen



Worldwide first choice

2,100 employees

Own production at 11 international locations

Represented in 60 countries worldwide

More than 30,000 catalogue and special products

More than 36,000 customers worldwide



Henriville, France



Birmingham, UK



Arnedo, Spain



Goražde (Plant 1), Bosnia-Herzegovina



Goražde (Plant 2), Bosnia-Herzegovina



Company headquarters Velbert, Germany



Wuppertal, Germany



Tianjin, China



Mionica, Serbia



Bhilai, India



Bandung, Indonesia



- Company headquarters
- Production site
- Subsidiary
- Agency



Locking systems for HVACR units

EMKA not only produces a variety of locks, latches and hinges, but also offers seals as well as edge protection profiles and thus complete RLT closure solutions from a single source. They are characterised by modular design, versatility and the highest quality. EMKA locking solutions meet the special requirements of the industry and are aligned with relevant standards such as DIN EN 1886 or VDI 6022.

In addition, EMKA provides individual special solutions which are developed in dialogue with the customer.

Whether locks, latches, handles, hinges or seals for diverse applications: EMKA products always stand for maximum safety and reliability.

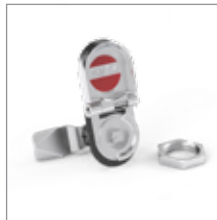
As a long-time system partner of the HVACR industry, EMKA is constantly working on new and innovative products. In addition to newly developed and enhanced locking solutions, EMKA complements its product portfolio with innovative locking systems, special hinges, seals and special solutions, thus responds to the current requirements of the market.

EMKA already has the trends that will become the standard tomorrow!

Modular program

The product program by EMKA has a consistently modular structure.

No matter whether made of stainless steel, zinc, aluminium, plastic or rubber, the products meet national as well as international standards, e.g. resistance class RC2 and are available up to protection class IP 69K.



Locks and Latches



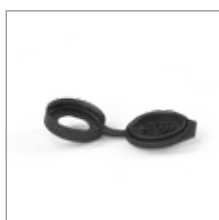
Locking Systems



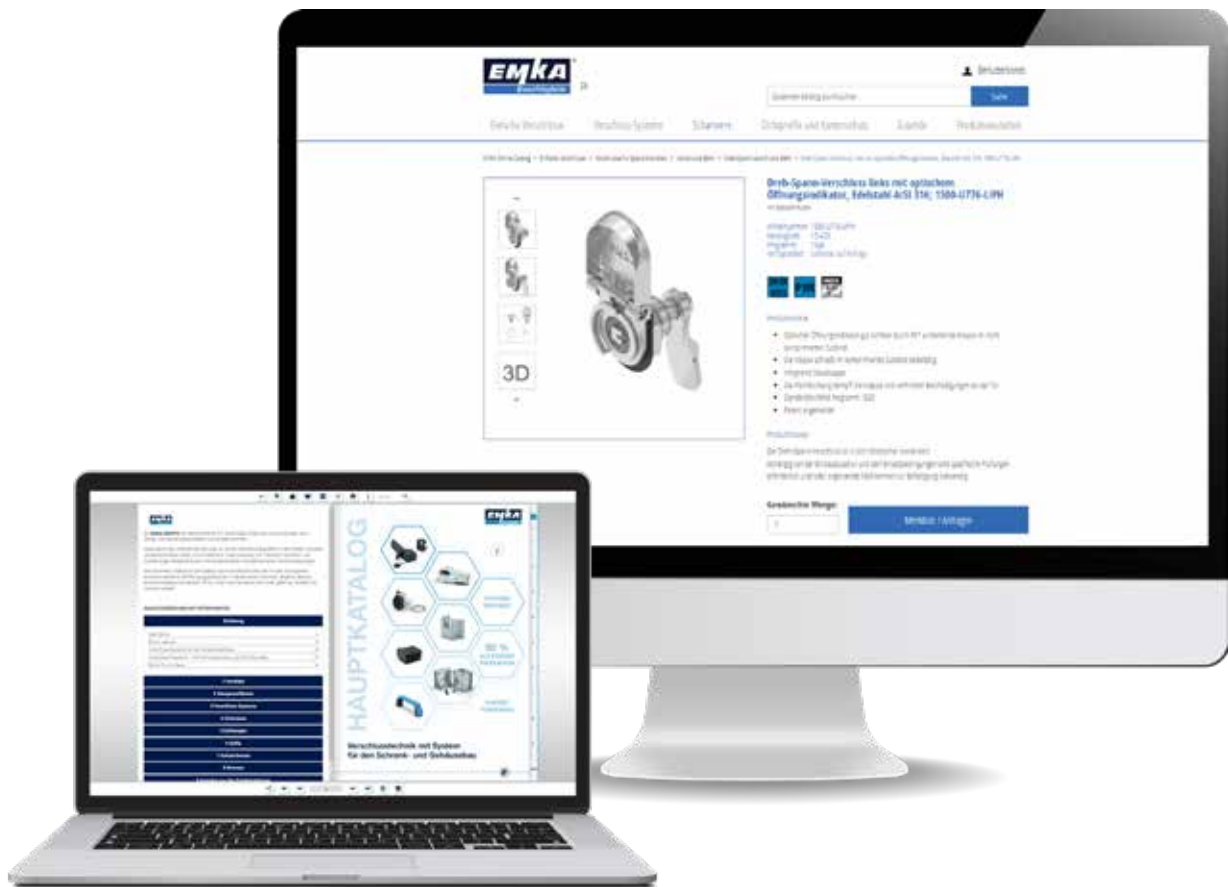
Hinges



Sealing Profiles and Edge Protection



Accessories



Everything at a glance

This special catalogue contains a selection of products that have been specially developed for use in HVACR systems.

You will find many more products for HVACR systems and other industries in the interactive [EMKA main catalogue](#) as well as in the [online product database](#).

There you also have the possibility to download CAD data in the international exchange formats STEP and IGES as well as detailed product data sheets.

[View interactive EMKA main catalogue](#)

[View online product database](#)



Close communication with the customer from the idea to the product

In the EMKA Technology Centre the innovative products of tomorrow are created. 30 designers and design engineers convert ideas into finished products in close collaboration with the customer. Quite a few of these products are incorporated into the EMKA main catalogue which is thus strongly focused on the current market and customer needs.

To this day round 20,000 additional special parts have been created in this way that were tailor-made for special customer requirements by our specialists, intensely tested in our internal test lab and finally produced by EMKA.

State-of-the-art CAD systems and development methods such as finite elements method, rapid prototyping and 3D print are only some of the processes that are used in this context. A powerful project management software completes the range of services.

You have got an idea?

Together, let's make a product out of it!

EMKA Mould + Series

EMKA is one of the three largest mould makers in Europe.

One reason for this is that all of EMKA's 30,000 catalogue and special products are tool-related. In its own production sites, EMKA produces these products from the materials polyamide, zinc, steel, stainless steel and aluminum. EMKA customers can take advantage of this manufacturing excellence that has been developed over decades. With the business model "Mould + Series", EMKA offers a unique service package:

Based on the customer's drawing, the mould is designed. The production of the initial sample with this mould takes place directly at EMKA on site on factory-owned machines from series production. In this way, the mould making and initial sample production stages are directly coupled with each other. Time and quality losses due to transport and coordination loops are eliminated. After tool and initial sample approval, the customer receives the complete test documentation as well as all relevant production parameters. If the customer does not want to manufacture his product himself, but wants to outsource it, EMKA can also take over the series production - if necessary with assembly work and worldwide logistics.

"Mould + Series" is mould making and initial sample production from a single source - with optional series production.

In short: Production with a system.



Tool and mould making at EMKA

with around 100 state-of-the-art machines

Initial sample production directly at EMKA

at the same location as tool production on state-of-the-art machines for zinc, plastic and aluminum production

Series production at EMKA

Plastic injection moulding, aluminium and zinc die casting, stamping, bending and forming technology as well as finishing

Warehouse and logistics

24 EMKA subsidiaries worldwide with buffer warehouses guarantee on-time delivery of your products





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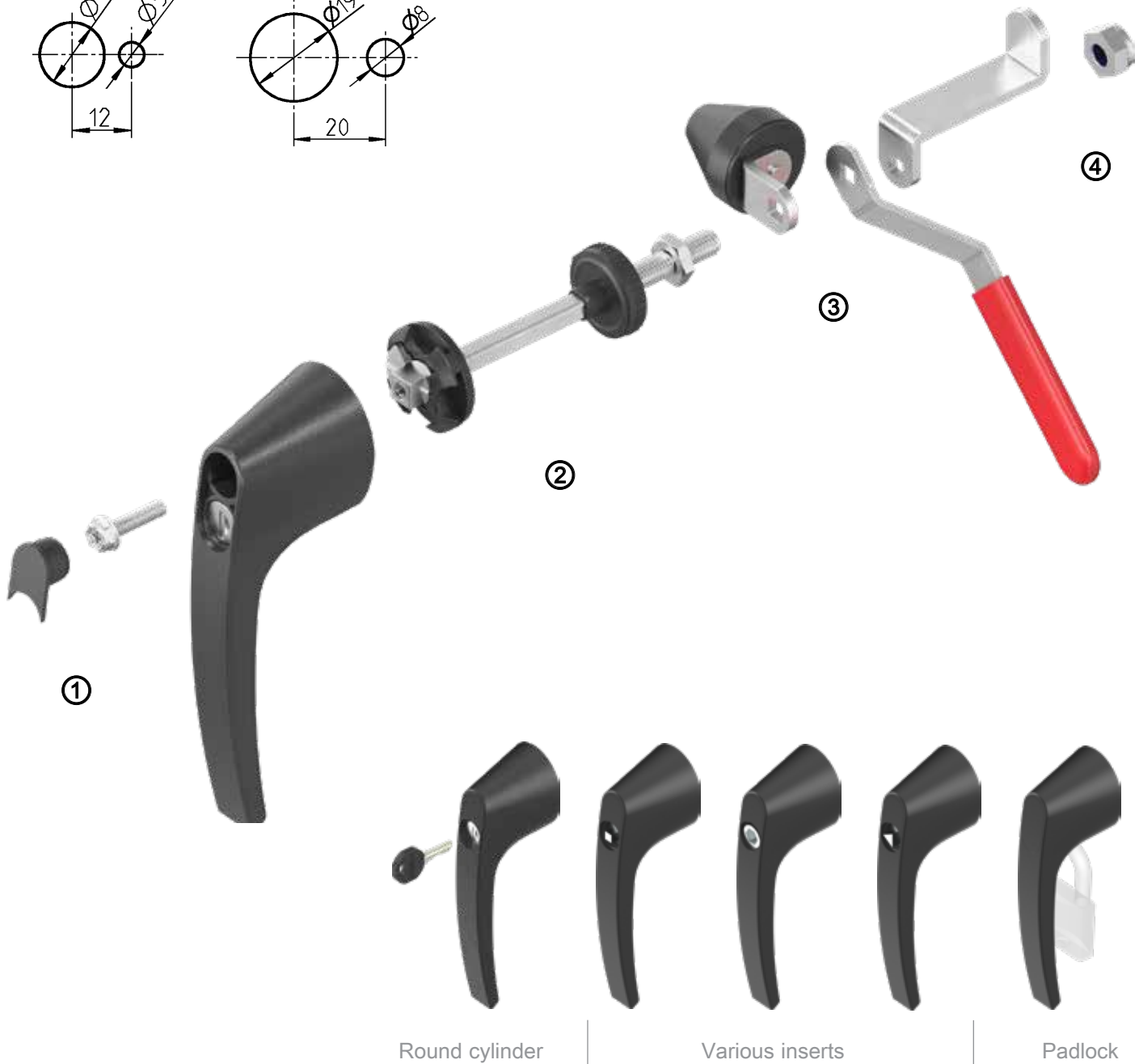
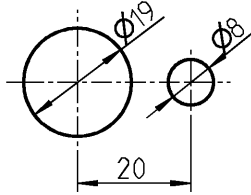
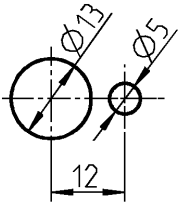
For doors opening inwards (In-Swing)

For doors opening outwards (Out-Swing)

Product benefits

- New modular handle with an innovative design
- Suitable for doors opening inwards and outwards
- Suitable for various door thicknesses (25 - 110 mm)
- Fits 2 standard cut outs (13 mm, 19 mm)
- Interchangeable locking sets for external or internal locking (blind plug, round cylinder, square, other inserts on request)
- Adjustable roller cam
- Adjustable eccentric roller
- Removable handle during transport
- Meets the industry-specific national and international standards
- Conforms with the entire EMKA program
- Material: Polyamide with glass fibre
- Air Tightness class L1-L3 possible
- Protected design

Cut out E1 or Cut out E2



① A clear design language with ergonomic lines characterizes the design of the new EMKA HVACR handle. The handle system offers easy and quick assembly of all components. The system is suitable for doors opening inwards and outwards. The handles are variable due to the exchangeable locking devices (round cylinder, blind plug, square, further inserts on request).

② The internal mechanism is the core of the new locking system from EMKA, as it connects the external handle with the internal components. This set-up of the lock has been specially developed for use in panel and sandwich doors used in HVACR installations. The required thermal separation is achieved by sealing all metal components with plastic parts.

③ The adjustable roller or eccentric cam is quick and easy to install. It ensures the desired compression. In addition, EMKA offers the possibility of multi-point locking.

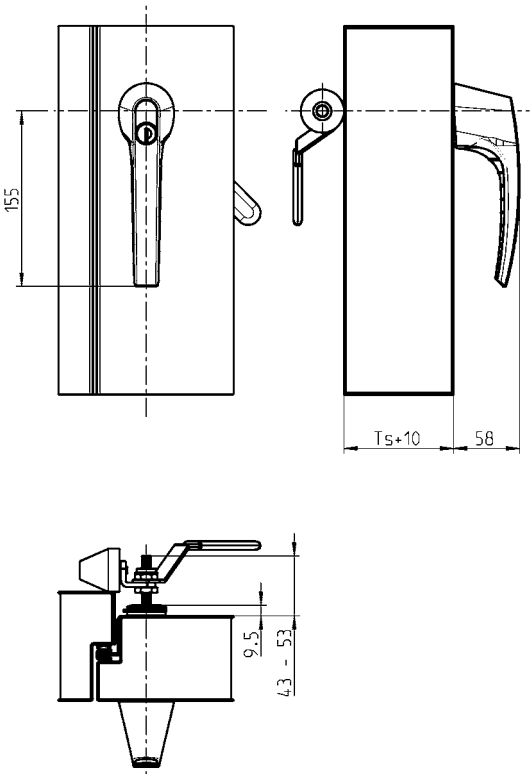
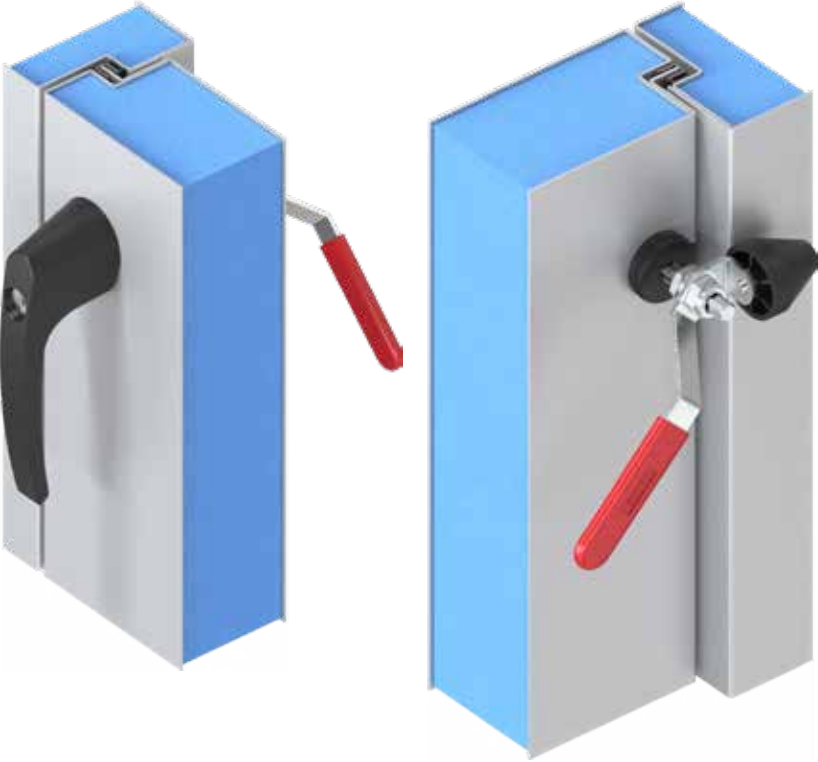
④ For the inside part, EMKA offers a wide range of optional components such as the interior unlocking device and the impact safety device, which is important for overpressure systems. The comprehensive choice of hinges and gaskets completes the range.

Overview (Out-Swing)

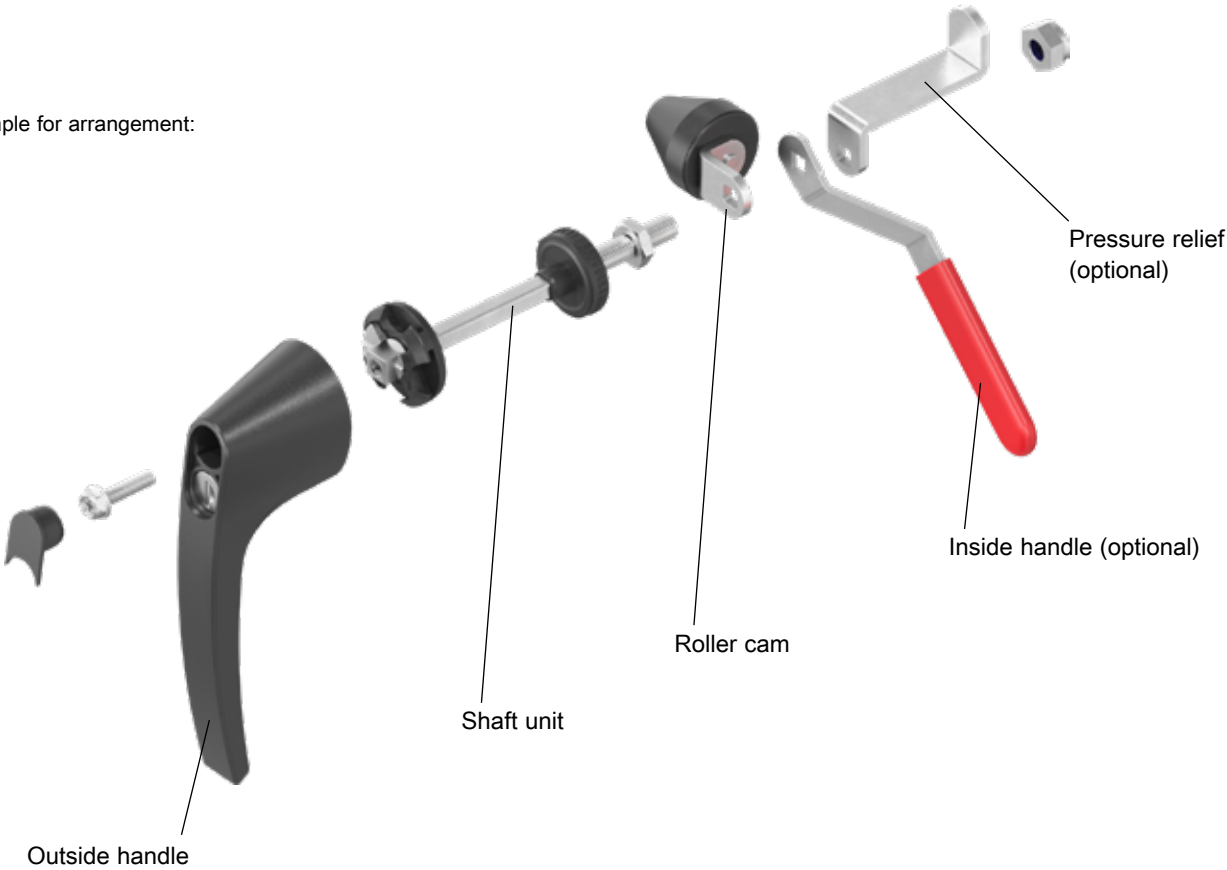
PROGRAM 1091



For doors opening outwards (Out-Swing)



Example for arrangement:

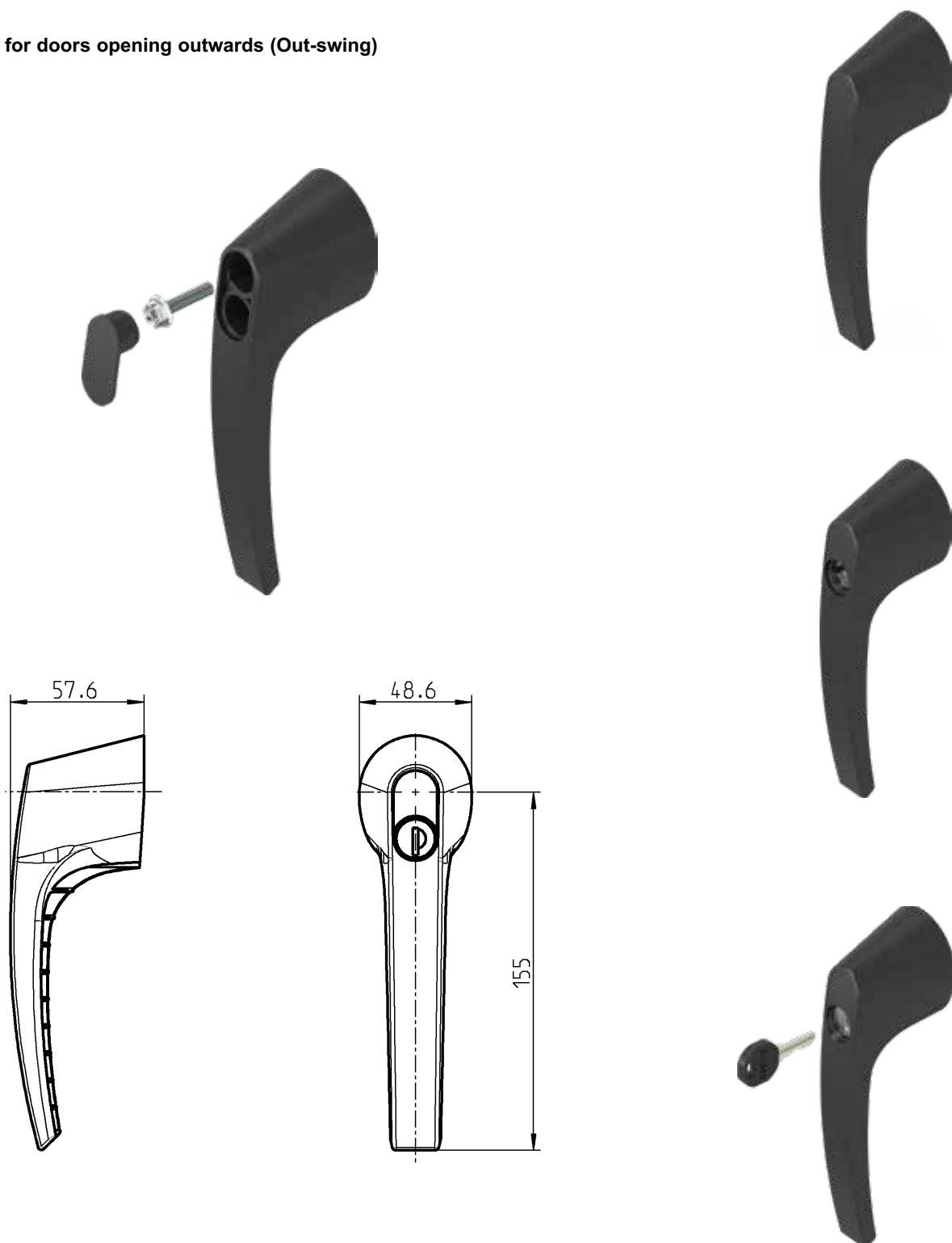


Outside handle (Out-Swing)

PROGRAM 1091



Outside handle for doors opening outwards (Out-swing)



Handle polyamide GF black; locking cam AISI 316; cover cap polyethylene black; insert zinc die chrome-plated; spacer ring brass, with o-ring; round cylinder zinc die with stainless steel cap and dust cap; screws m.s. zinc-plated; Each round cylinder has one nickel silver key with polyamide grip GF black.

non locking	1091-U159
Double bit 5	1091-U160
keyed EK 333	1091-U161
keyed different	on request

Further parts see page

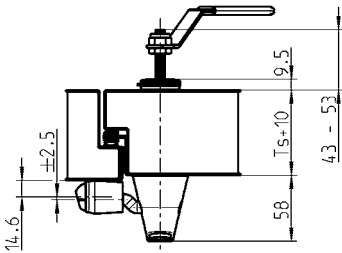
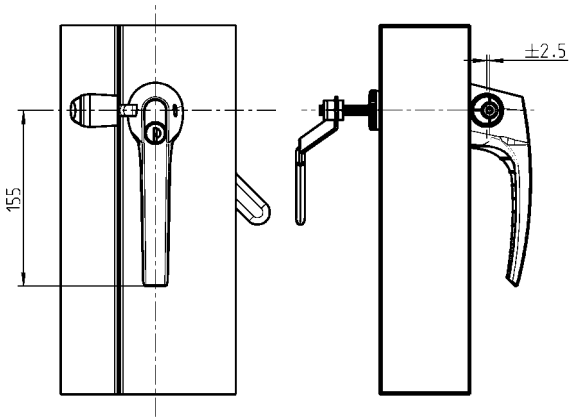
– Overview	K1-110
– Shaft unit	K1-150
– Roller cam	K1-160
– Inside handle	K1-170
– Pressure relief	K1-170
– Rod control	K1-180
– Spare key	K1-650

Overview (In-Swing)

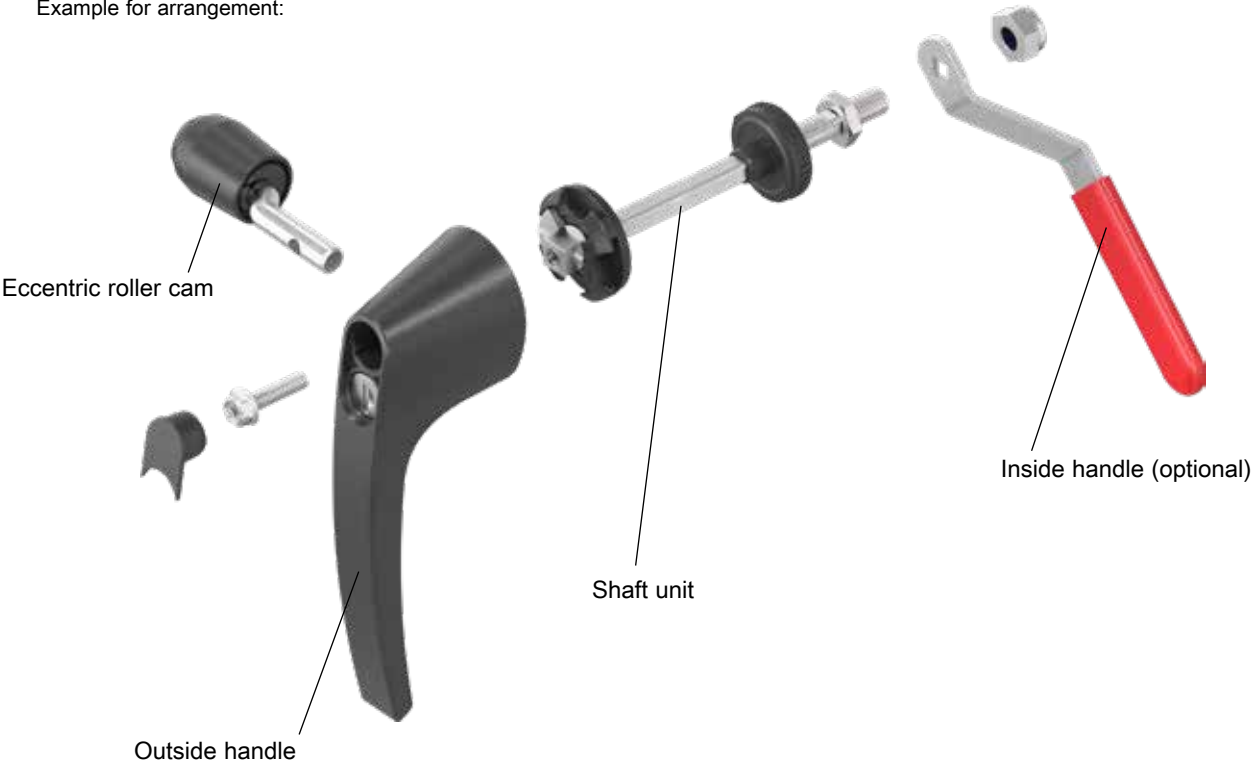
PROGRAM 1091



For doors opening inwards (In-Swing)



Example for arrangement:

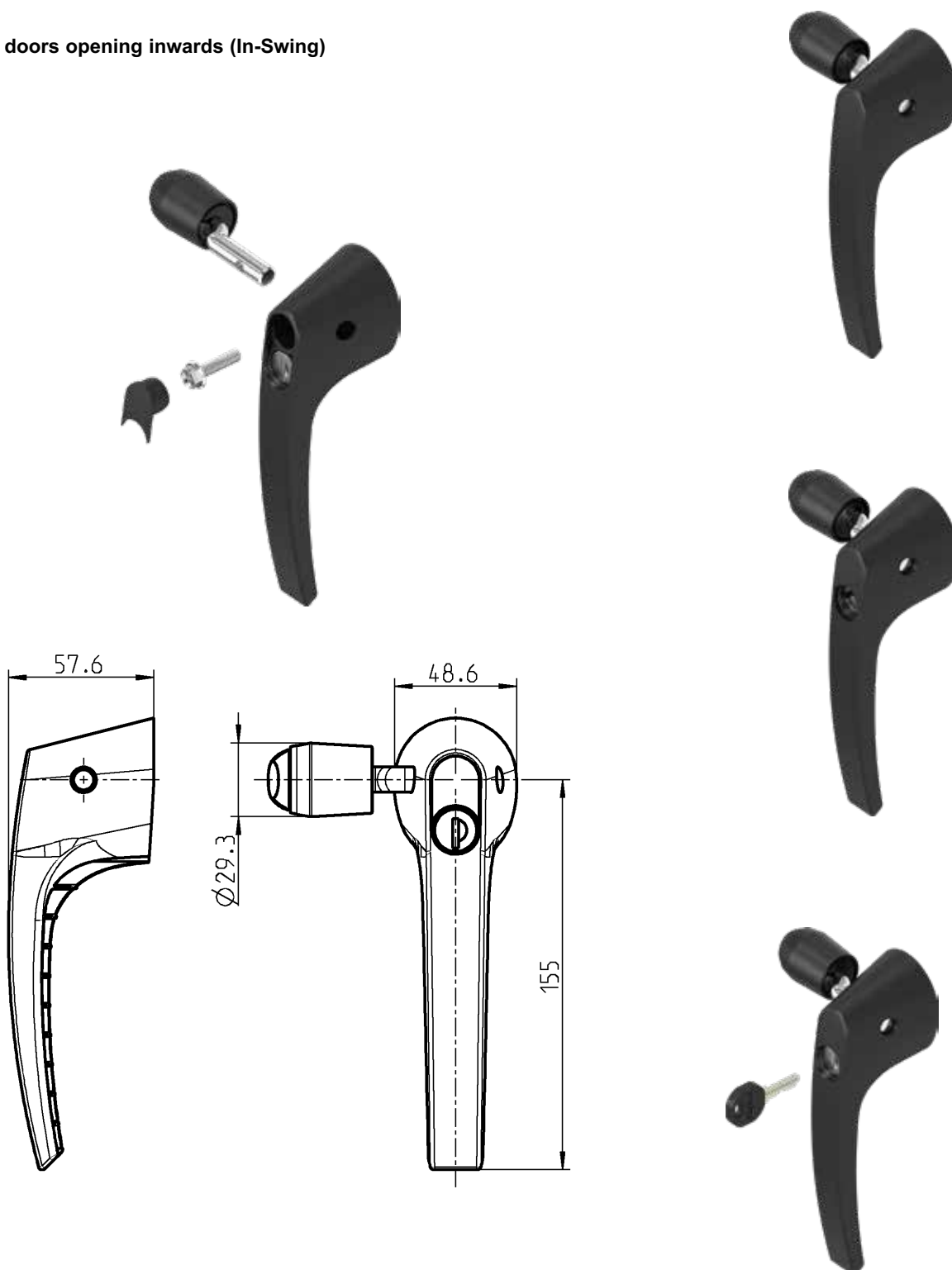


Outside handle (In-Swing)

PROGRAM 1091



Outside handle for doors opening inwards (In-Swing)



Handle polyamide GF black; locking cam AISI 316; cover cap polyethylene black; insert zinc die chrome plated; spacer ring brass, with o-ring; round cylinder zinc die with stainless steel cap and dust cap; screws m.s. zinc-plated; Each round cylinder has one nickel silver key with polyamide grip GF black; Eccentric roller cam: roll POM black; eccentric polyamide GF black; shaft m.s. zinc plated

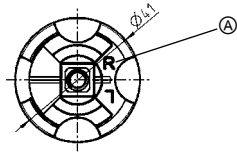
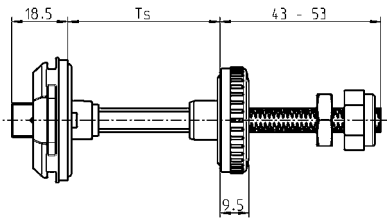
non locking	1091-U163
Double bit 5	1091-U164
keyed EK 333	1091-U165
keyed different	on request

Further parts see page

– Overview	K1-130
– Shaft unit	K1-150
– Inside handle	K1-170
– Spare key	K1-650

Shaft unit E1 and E2

PROGRAM 1091

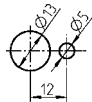


A The readability of the letter (R / L) indicates the orientation of the axis to the door stop.

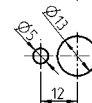
Cut out inside



Cut out front for right version



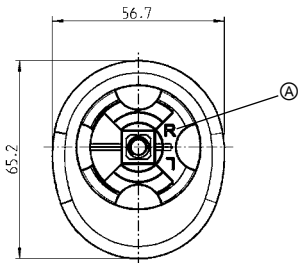
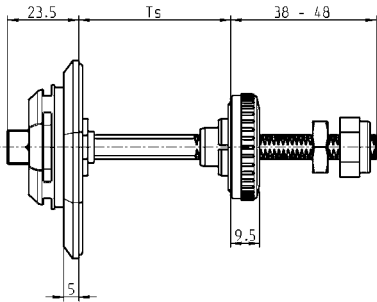
Cut out front for left version



Shaft unit E1, small cut out:

Mild steel shaft with 90° stop zinc die, in assembly zinc-plated;
bezel outside with seal zinc die black powder-coated;
bezel inside polyamide GF black with fixed TPU seal;
nut and counter nut m.s. zinc-plated; with seal

Ts = 25 up to 35 mm	1091-U158-25
Ts = 50 up to 60 mm	1091-U158-50
Ts = 75 up to 85 mm	1091-U158-75
Ts = 100 up to 110 mm	1091-U158-100

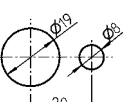


A The readability of the letter (R / L) indicates the orientation of the axis to the door stop.

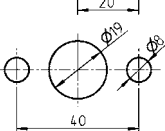
Cut out inside



Cut out front for right and left version



Cut out front alternative



Shaft unit E2, large cut out:

Mild steel shaft with 90° stop zinc die, in assembly zinc-plated;
bezel outside zinc die black powder-coated;
bezel inside polyamide GF black with fixed TPU seal;
nut and counter nut m.s. zinc-plated; with seal

Ts = 25 up to 35 mm	1091-U215-25
Ts = 50 up to 60 mm	1091-U215-50
Ts = 75 up to 85 mm	1091-U215-75
Ts = 100 up to 110 mm	1091-U215-100

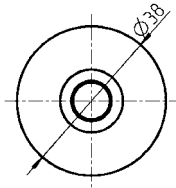
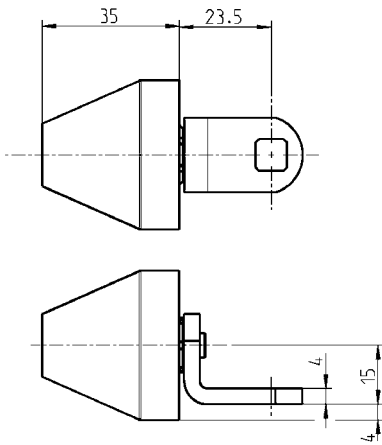
Further parts see page

– Overview	K1-110
	K1-130
– Outside handle	K1-120
	K1-140
– Roller cam	K1-160
– Inside handle	K1-170
– Pressure relief	K1-170
– Rod control	K1-180

Roller cam for inside
PROGRAM 1000



Roller cam large for inside



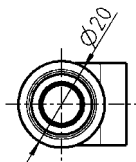
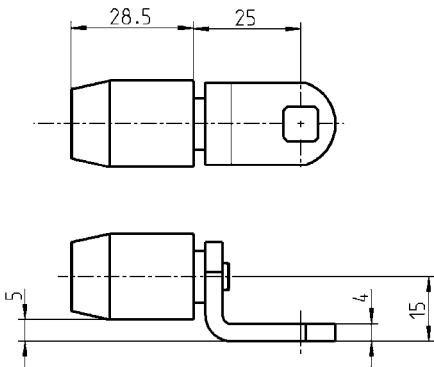
Roller polyamide GF black; cam and shaft m.s. zinc-plated	
	1000-U897



Cover for roller cam (1000-U897) polyamide GF black	
2 piece	1000-U989



Roller cam small for inside



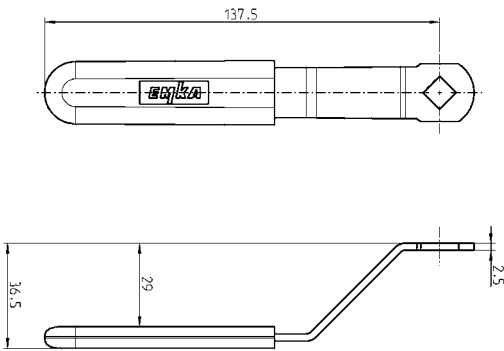
Roller polyamide GF black; cam and shaft m.s. zinc-plated	
	1000-U898

- Further parts see page
- Overview K1-110
 - Outside handle K1-120
 - Shaft unit K1-150
 - Inside handle K1-170
 - Pressure relief K1-170
 - Rod control K1-180

Inside handle;
Pressure relief
PROGRAM 1091



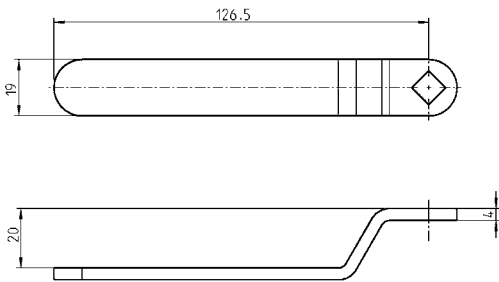
Inside handle



Inside handle m.s. zinc-plated; grip polyamide GF red	
	1091-133



Inside handle

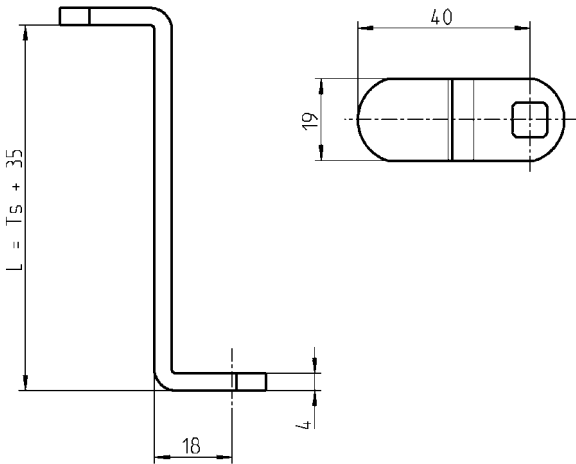


Inside handle m.s. zinc-plated	
	1000-617-20

Other dimensions on request



Pressure relief



Pressure relief m.s. zinc-plated	
L = 60 mm	1000-579-01
L = 85 mm	1000-579-02
L = 110 mm	1000-579-03
L = 135 mm	1000-579-04

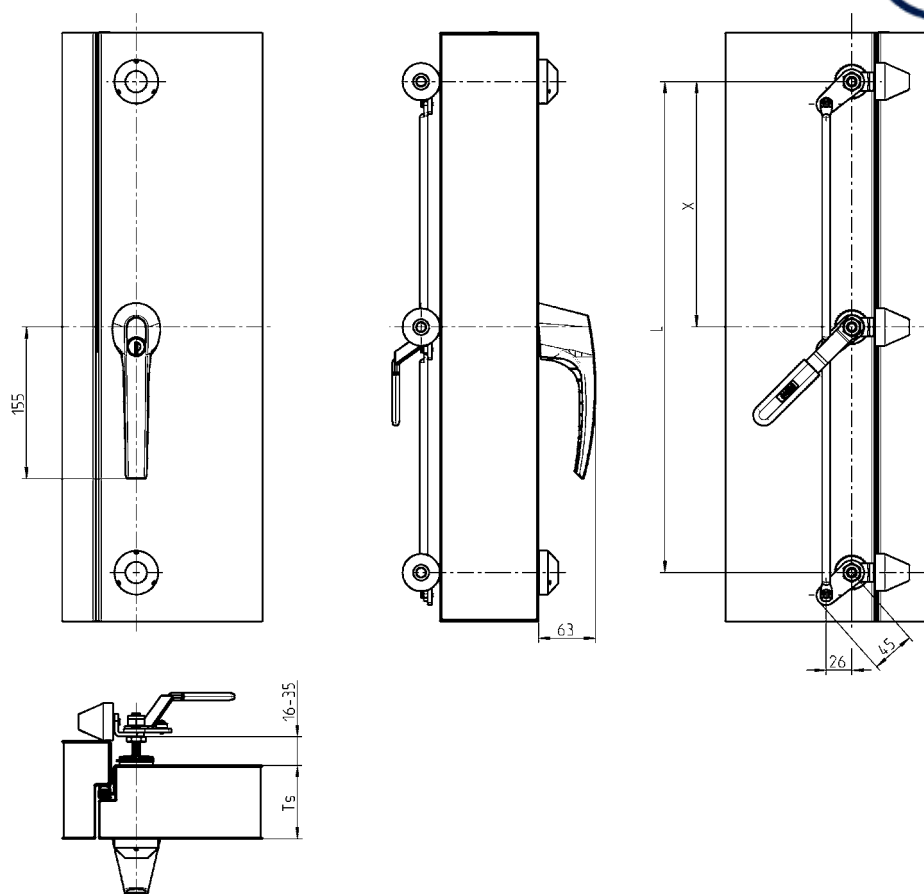
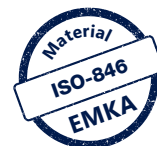
Further parts see page

– Overview	K1-110
	K1-130
– Outside handle	K1-120
	K1-140
– Shaft unit	K1-150
– Roller cam	K1-160
– Rod control	K1-180

Rod control; Cover clip-in PROGRAM 1091



Rod control for multi-point locking



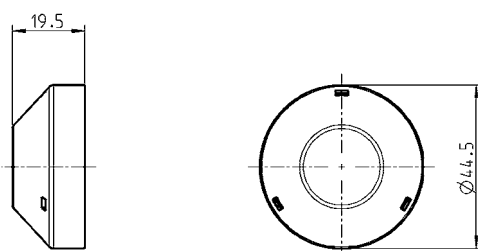
Order example:

Order number for a round rod with a length L of 1050 mm
and a distance dimension X of 650 mm = 1000-U643-L 1050 / X 650

1x rod control m.s. zinc-plated; circlip m.s. zinc-plated	
	1000-U901
Rod m.s. zinc-plated	
Dimension L and X by choice of costumer	1000-643-L
(1000-643-01 to -16 see price list)	



Cover clip-in for the inactive shaft units of the multi-point locking



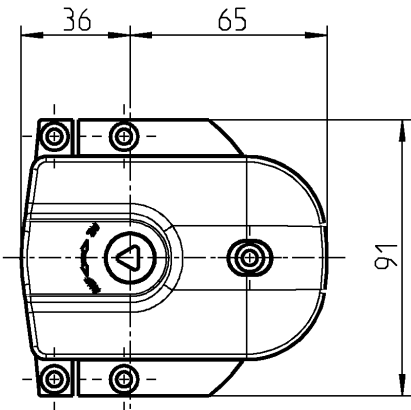
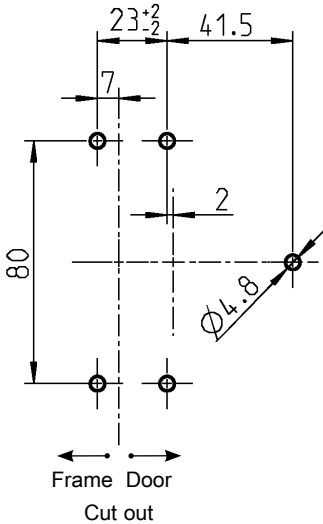
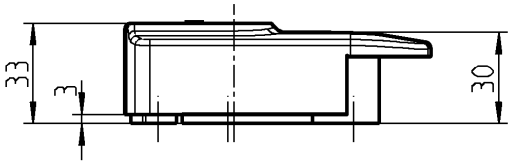
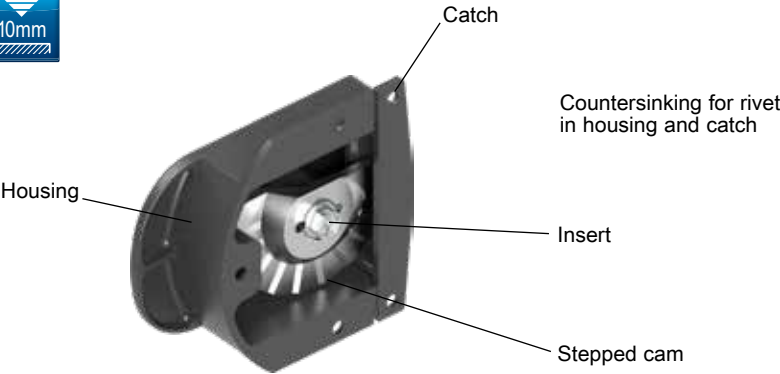
Cover clip-in polyamide GF black	
	1091-127

Further parts see page

- Overview K1-110
- Outside handle K1-120
- Shaft unit K1-150
- Roller cam K1-160
- Inside handle K1-170
- Pressure relief K1-170

Prominent door lock

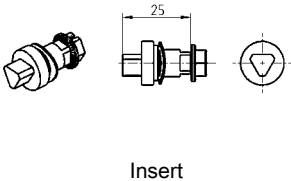
PROGRAM 1000



Catch

Prominent door lock zinc die black powder-coated, stepped cam zinc die raw	
without insert	1000-U779
Prominent door lock polyamide 66 GF 50 black, stepped cam zinc die raw	
without insert	1000-U957
Catch zinc die black powder-coated	
	1000-488

Insert zinc die, surface on choice; fixing material m.s. zinc-plated	Zinc die chrome-plated	Zinc die black powder-coated
Square 6	1000-U17	1000-U322
Square 7	1000-U1	1000-U323
Square 8	1000-U2	1000-U324
Triangular 7	1000-U3	1000-U325
Triangular 8	1000-U4	1000-U326
Double bit 3	1000-U5	1000-U327
Double bit 5	1000-U6	1000-U328
Hexagon female SW 10	1000-U96	–
Slot 2 x 4	1000-U142	1000-U329
Slot 2 x 4 coinproof	1000-U738	1000-U739



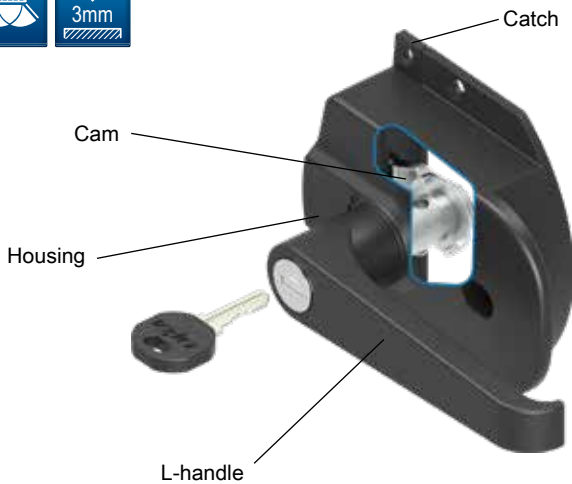
Attention:
Insert not included in scope of delivery

Catch to be ordered separately

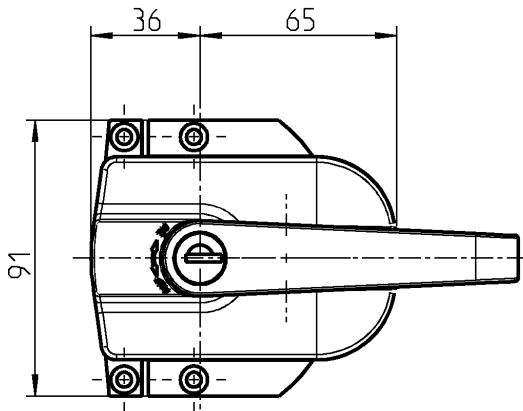
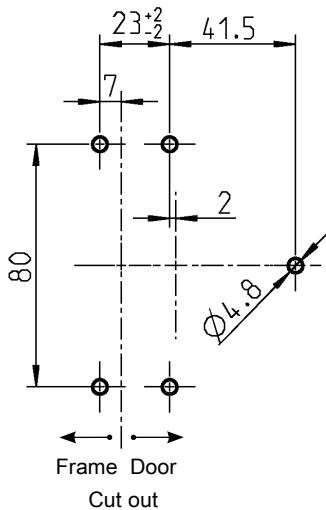
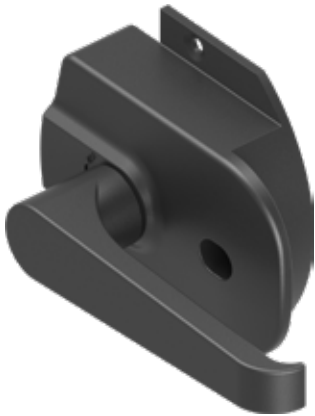
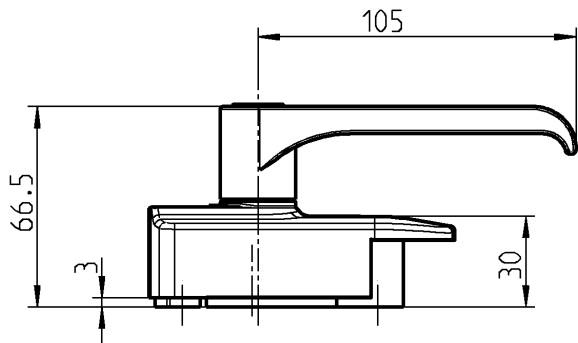
Housing and catch with slotted holes on request!

Further parts see page – Key

Prominent door lock
PROGRAM 1000



Countersinking for rivet
in housing and catch



Catch

Prominent door lock zinc die black powder-coated; L-handle polyamide GF black; stepped cam zinc die raw; screw m.s. zinc-plated	
non locking	1000-U780
Prominent door lock zinc die black powder-coated; L-handle polyamide GF black; cam and screw m.s. zinc-plated, round cylinder zinc die with stainless steel cap and dust protection	
keyed EK 333	1000-U781
keyed different	1000-U781-V
Catch zinc die black powder-coated	
	1000-488

Catch to be ordered separately

90° turn for lockable handles

Housing and catch with slotted
holes on request!

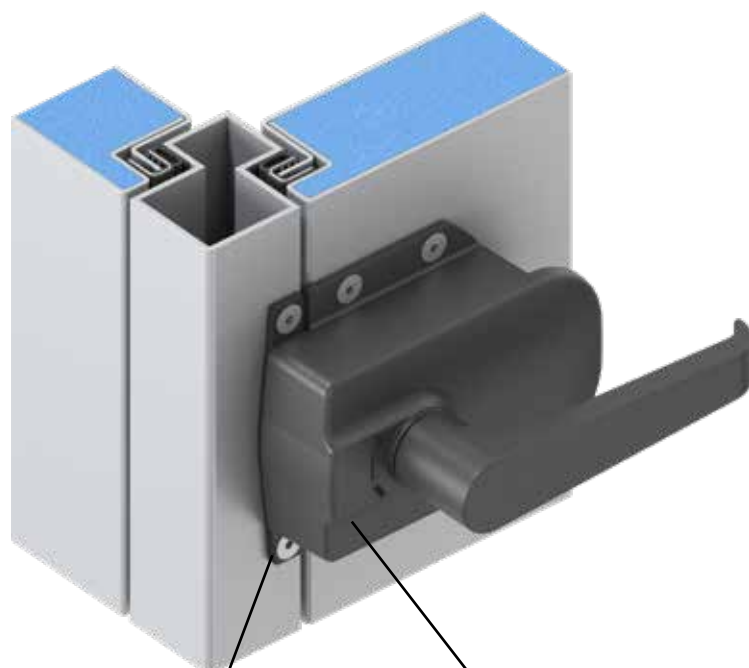
Suitable lockable or
non lockable
T-handles on request!

Further parts see page
– Spare key

K1-650

Prominent door lock with inside handle

PROGRAM 1000



Catch

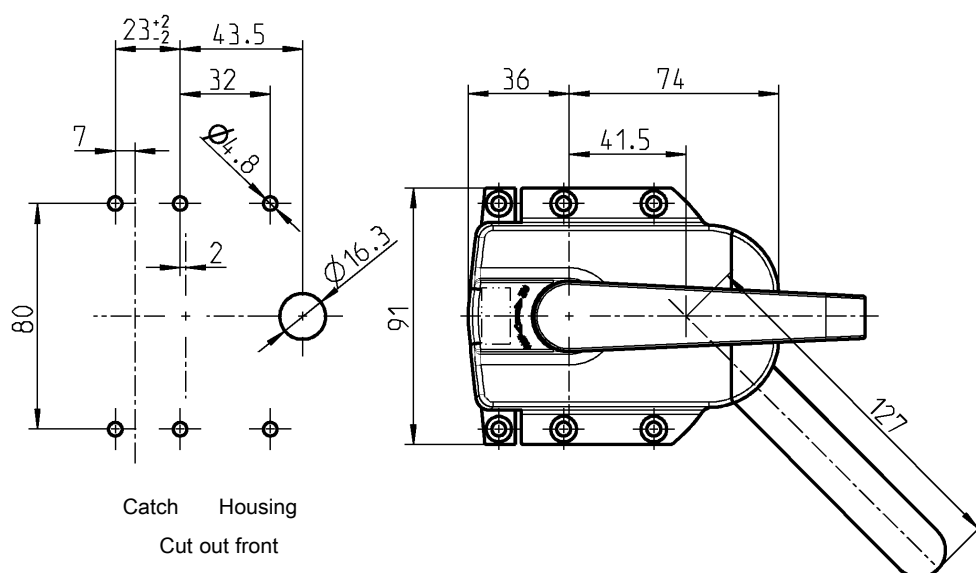
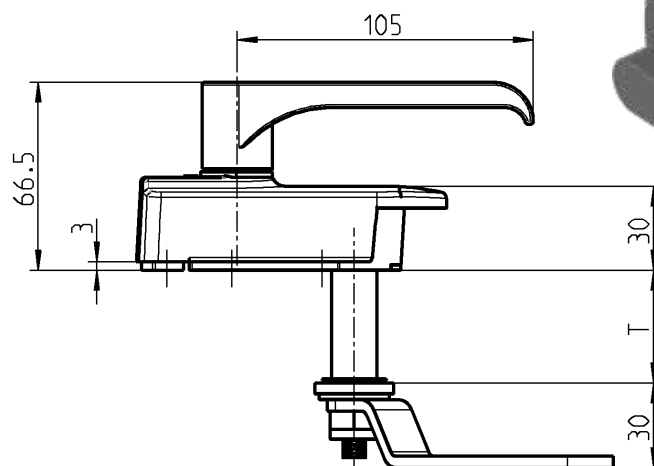
Housing

Product benefits

- New modular locking system especially for use on large doors (>1.6 m door height)
- Various inserts and handle options in combination with different cams possible (stepped cam, pressure relief cam, etc.)
- System for various door thicknesses available (50 mm - 60 mm)
- Also available as version without inside handle
- VDI 6022 / ISO 846 compliant materials



Countersinking for rivet
in housing and catch



Bore hole $\varnothing 16.3$ continuous



Catch

Prominent door lock with inside handle:
 housing polyamide 66 GF 50 black;
 L-handle, bezel, bridge and coupling piece polyamide GF black;
 adapter plate POM GF black; gearwheels zinc die zinc-plated;
 square shaft, cam, pin and inside handle m.s. zinc-plated;
 washer, nut m.s. zinc-plated; with seal

T = 50 mm 1000-U938

T = 60 mm 1000-U939

other T-dimensions and handles on request

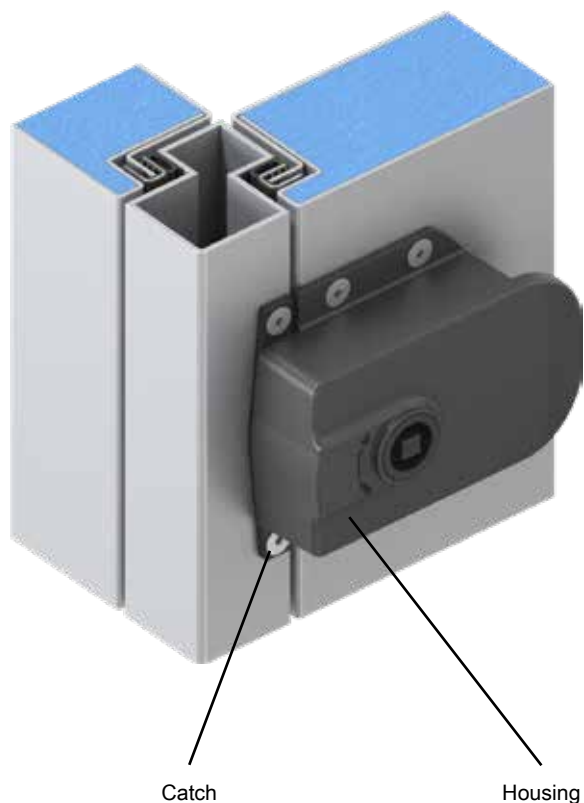
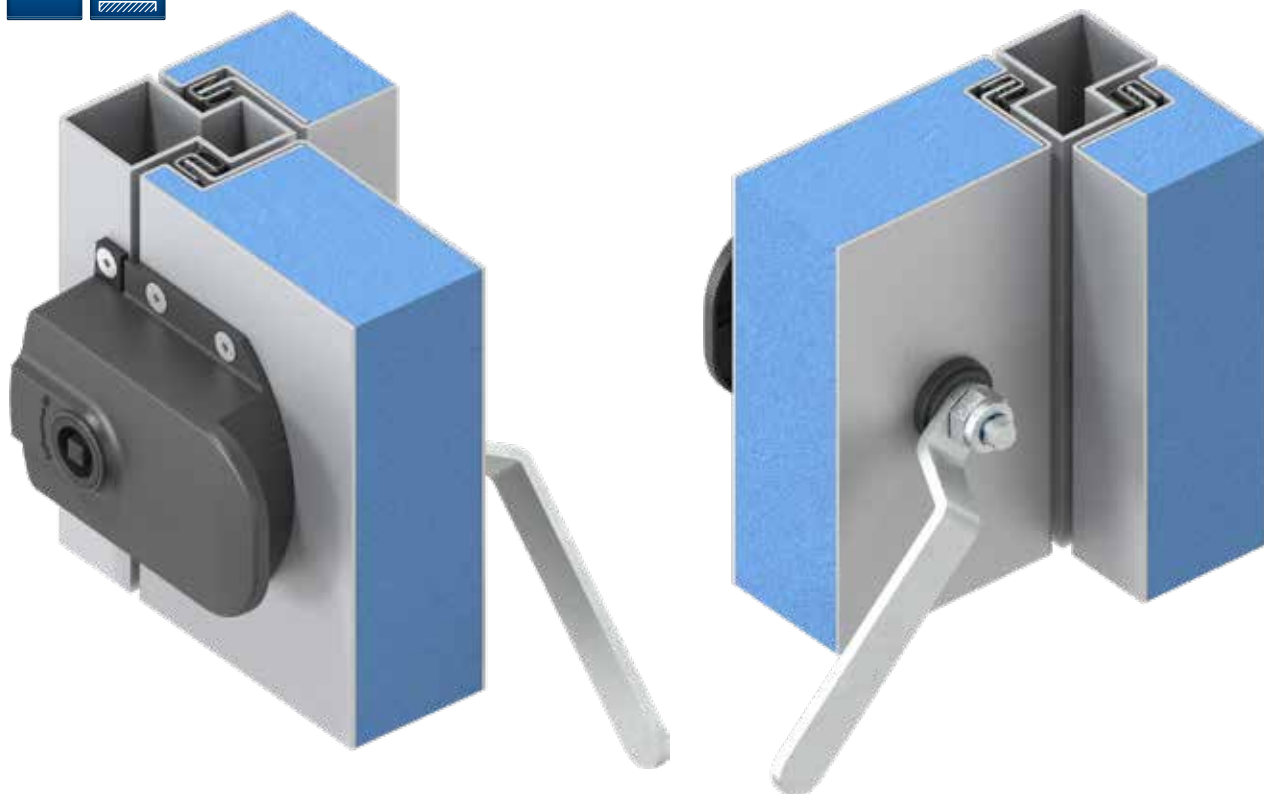
Catch zinc die black powder-coated

1000-488-AA

Catch to be ordered separately
 90° Turn

Prominent door lock with inside handle

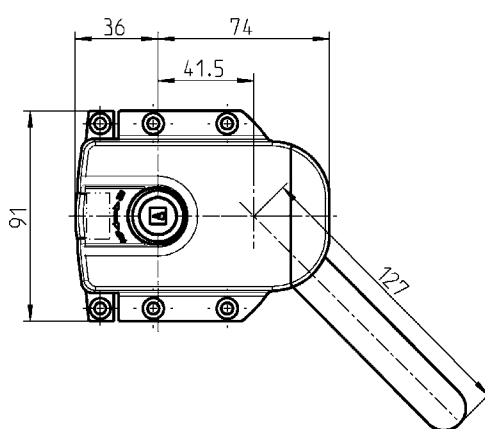
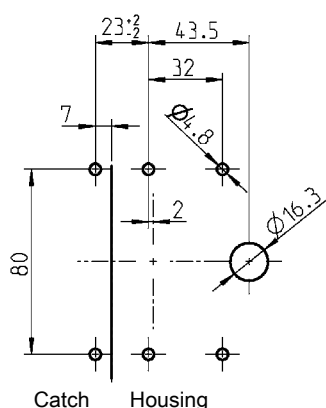
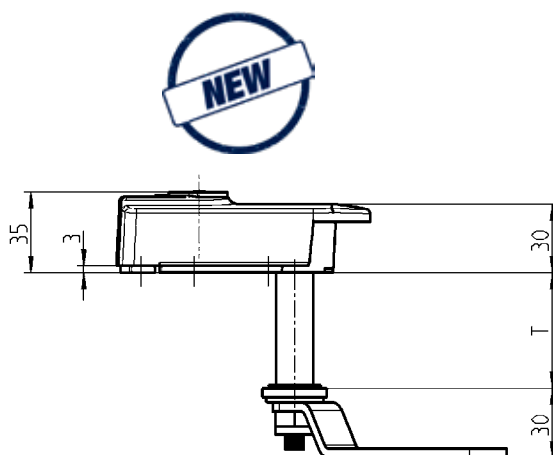
PROGRAM 1000



Product benefits

- New modular locking system especially for use on large doors (>1.6 m door height)
- Various inserts and handle options in combination with different cams possible (stepped cam, pressure relief cam, etc.)
- System for various door thicknesses available (30 mm - 60 mm)
- Also available as version without inside handle
- VDI 6022 / ISO 846 compliant materials

Countersinking for rivet
in housing and catch



Bore hole Ø 16.3 continuous



Ⓐ = Door lock with stepped cam

Ⓑ = Door lock with pressure relief cam

Prominent door lock with inside handle:

housing polyamide 66 GF 50 black;
bezel, bridge and coupling piece polyamide GF black;
adapter plate POM GF black; gearwheels zinc die zinc-plated;
insert zinc die black powder-coated;

Ⓐ stepped cam zinc die;

Ⓑ double cam m.s. zinc-plated;

square shaft, cam, pin and inside handle m.s. zinc-plated; washer, nut m.s. zinc-plated; with seal

Ⓐ = Door lock with stepped cam

Square 7, T = 50 mm

1000-U943

Square 7, T = 60 mm

1000-U944

Ⓑ = Door lock with pressure relief cam

Square 7, T = 50 mm

1000-U945

Square 7, T = 60 mm

1000-U946

other T-dimensions and inserts on request

Catch zinc die black powder-coated

1000-488-AA



Catch

Catch to be ordered separately

Further parts see page
– Key

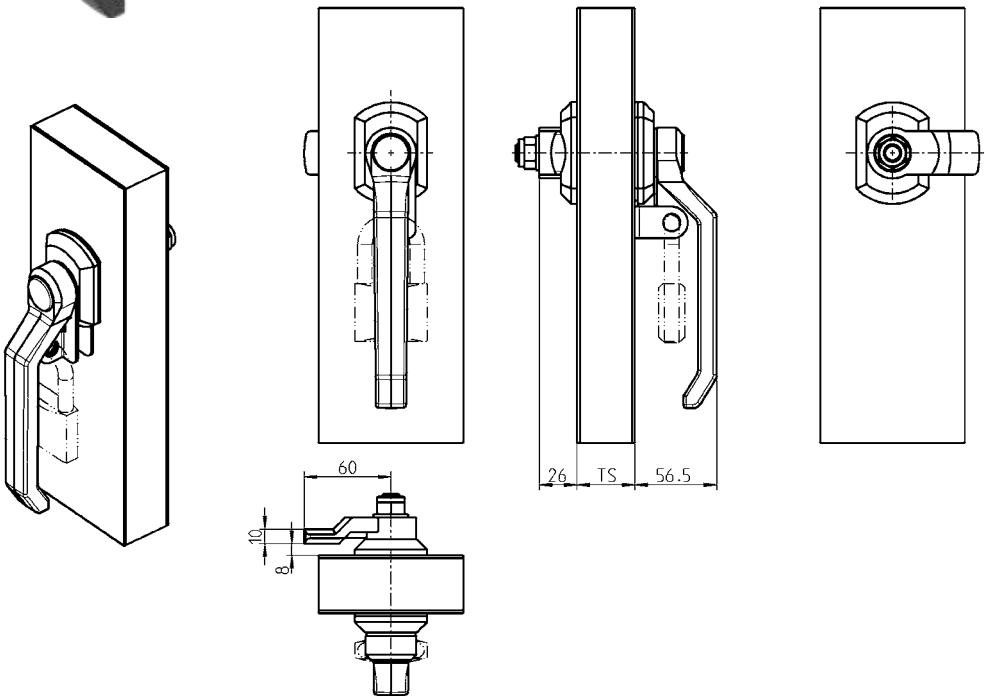
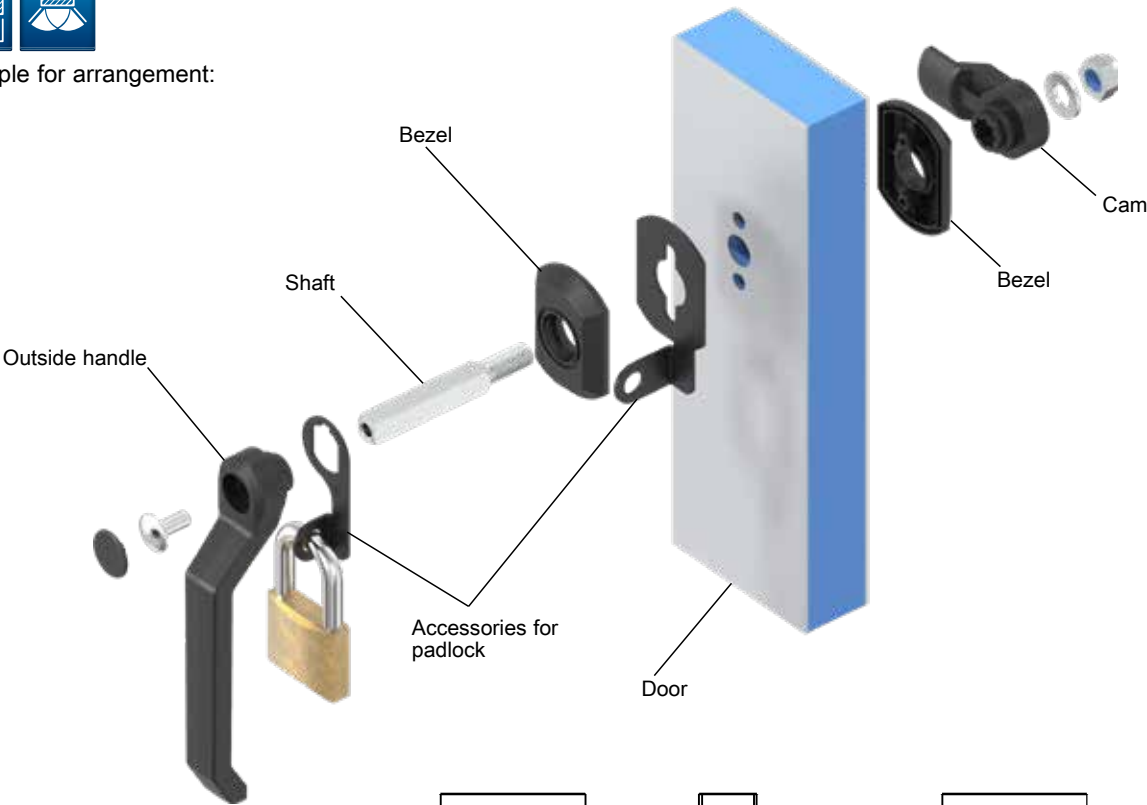
K1-650

Heavy duty latch with m.s. shaft

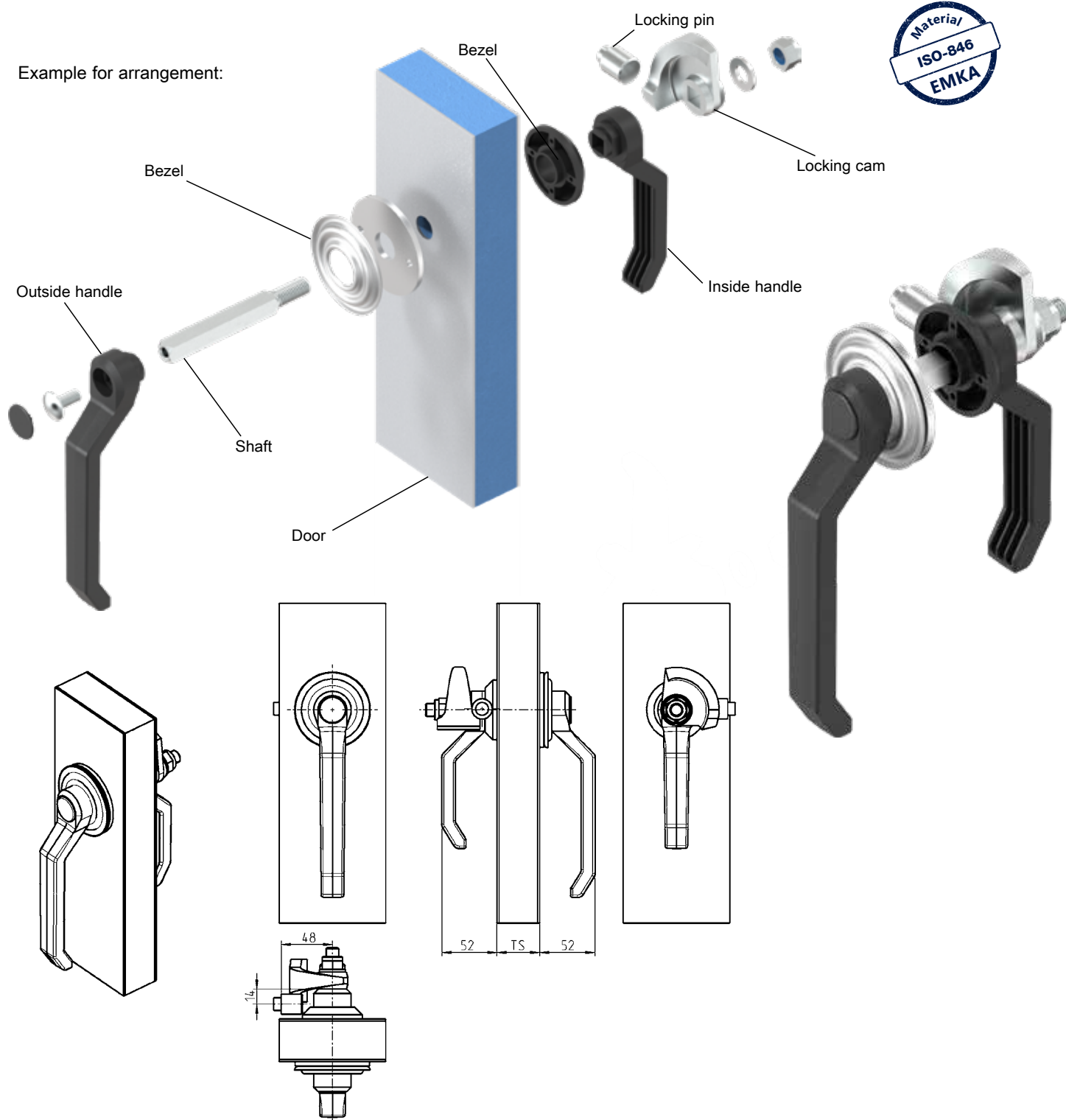
PROGRAM 1091



Example for arrangement:



Example for arrangement:



Heavy duty latch shaft consisting of:

Shaft m.s. zinc-plated; screw M8, washer A13, safety nut M12 m.s. zinc-plated; polyamide cap black

Ts	20	30	40	50	60	80	100	Tolerance
for cam and inside handle								
	1091-U8	1091-U9	1091-U10	1091-U11	1091-U12	1091-U13	1091-U14	± 5
for cam, but without inside handle								
	1091-U6	1091-U7	1091-U8	1091-U9	1091-U10	1091-U12	1091-U13	± 10
for inside handle or spacer and locking cam								
	1091-U8	1091-U9	1091-U10	1091-U11	1091-U12	1091-U13	1091-U14	± 5

Further parts see page

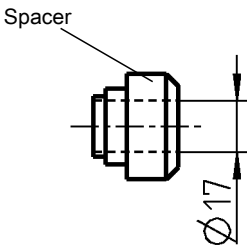
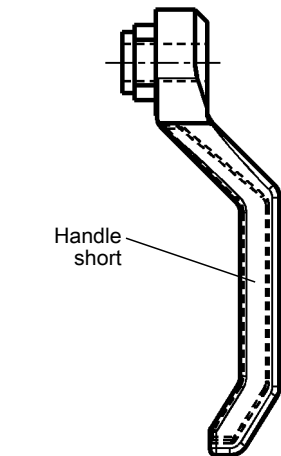
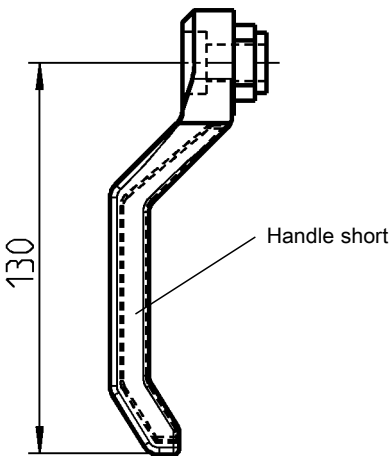
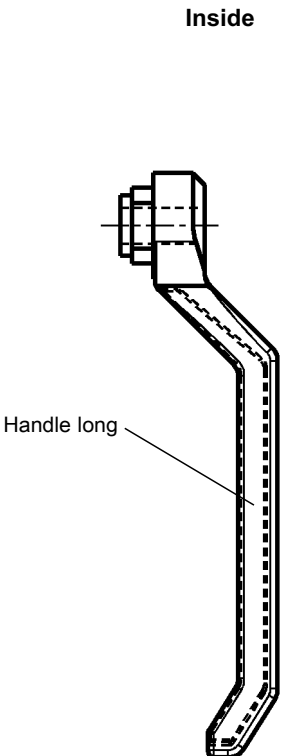
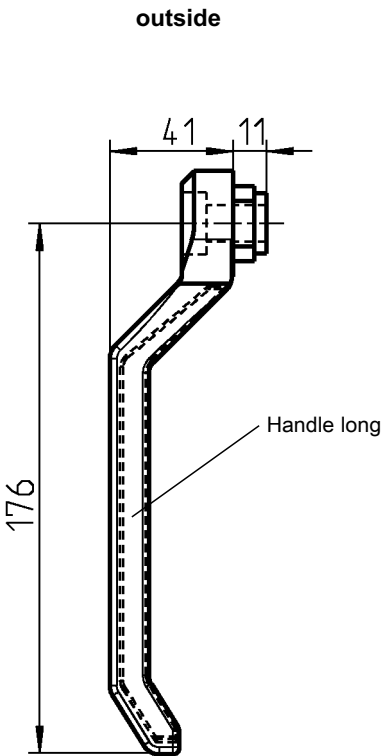
– Handle	K1-320
– Locking cam	K1-330
– Cam	K1-330
– Bezel	from K1-340
	to K1-350
– Padlock accessories	K1-350

Heavy duty latch handles

PROGRAM 1091



Handles



Handle long polyamide GF black	1091-20	Handle long polyamide GF black	1091-24
Handle long polyamide GF black with steel core	1091-22	Handle long polyamide GF black with steel core	1091-26
Handle short polyamide GF black	1091-21	Handle short polyamide GF black	1091-25
Handle short polyamide GF black with steel core	1091-23	Handle short polyamide GF black with steel core	1091-27
		Spacer (replaces handle) m.s. zinc-plated	1091-28

Attention:
The spacer is needed when using the locking cam without inside handle.

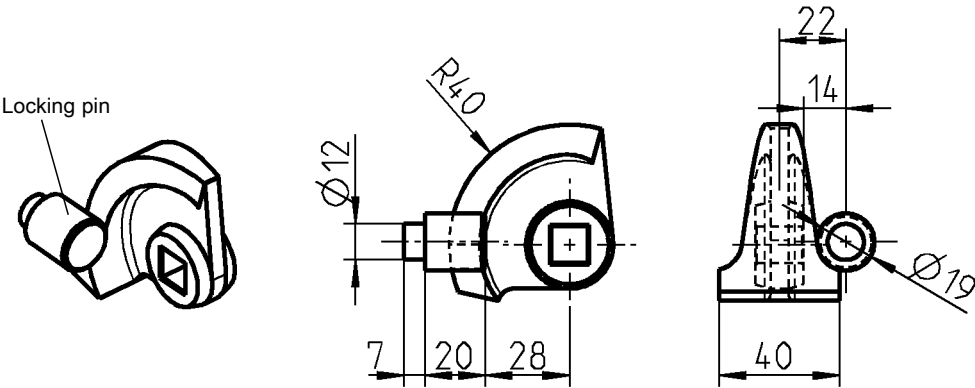
Further parts see page
– Heavy duty latch K1-310
– Outside heavy duty latch (handle outside) K1-390

Accessories for heavy duty latch

PROGRAM 1091



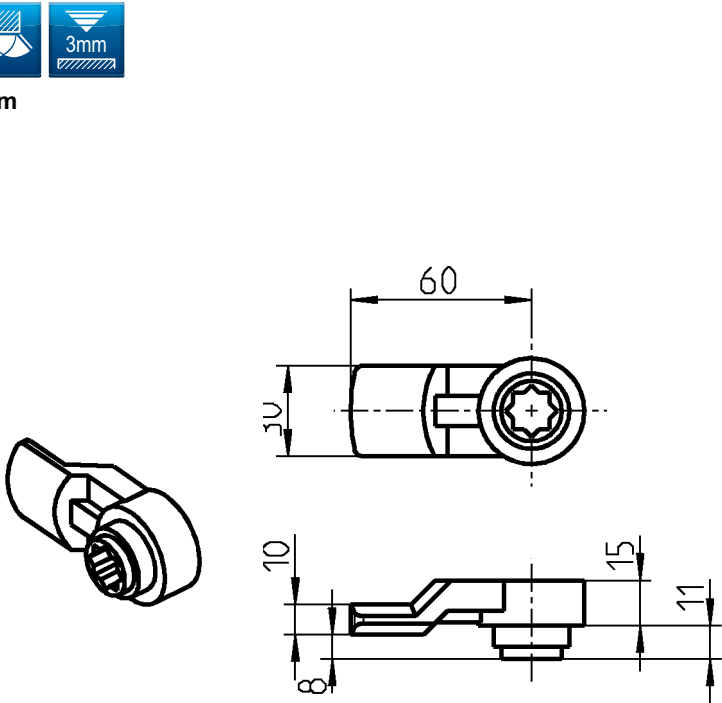
Locking cam



Locking cam zinc die raw	1091-04
Locking pin m.s. zinc-plated	1091-01



Cam

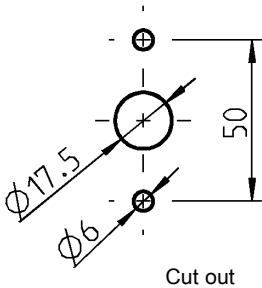
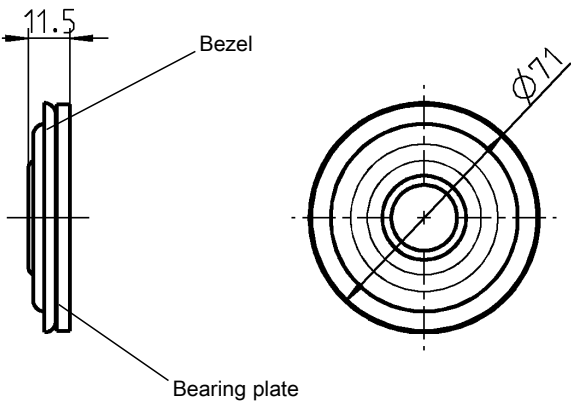


Cam zinc die zinc-plated	1091-18
Cam PA GF black	1091-18-01

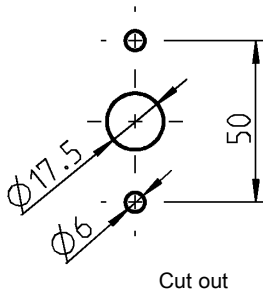
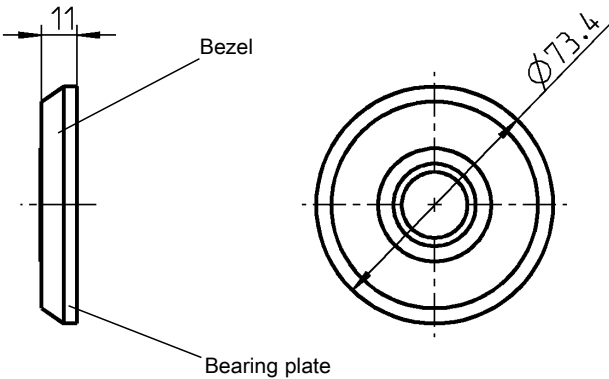
Further parts see page
 – Heavy duty latch K1-310
 – Outside heavy duty latch (cam) K1-390

Accessories for heavy duty latch

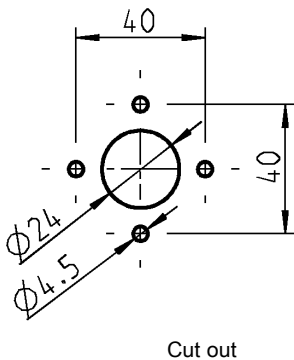
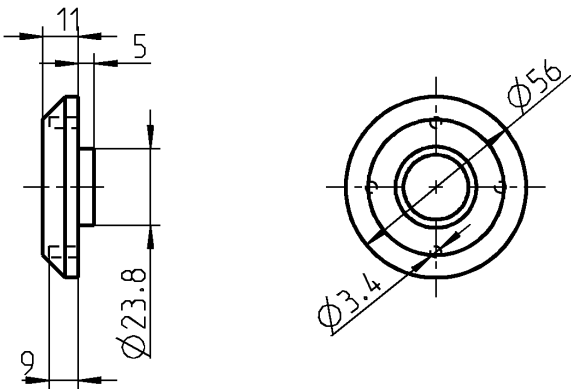
PROGRAM 1091



Bezel m.s. zinc-plated	1091-07
Bearing plate m.s. zinc-plated	1091-06



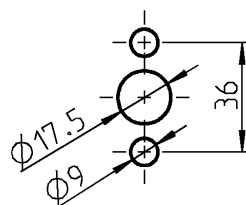
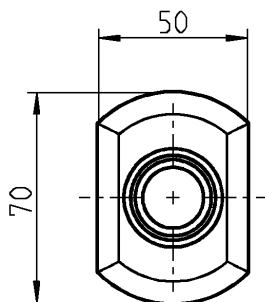
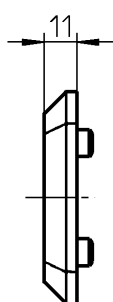
Bezel polyamide GF black	1091-31
Bearing plate m.s. zinc-plated	1091-06



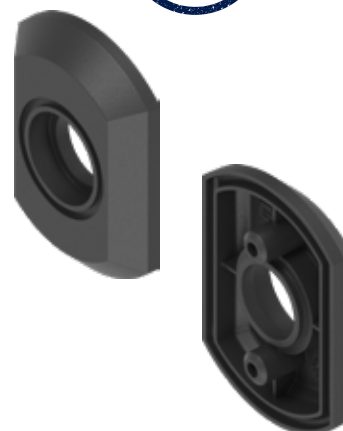
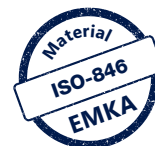
Bezel polyamide GF black	1091-30
--------------------------	---------

Accessories for heavy duty latch

PROGRAM 1091



Cut out



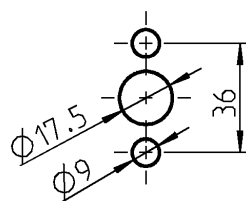
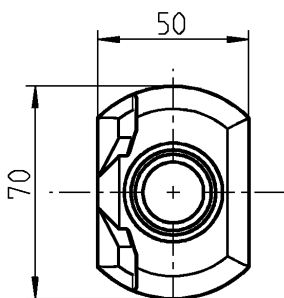
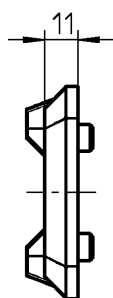
Bezel polyamide GF black, with seal

1091-17-G

IP 65 achieved by:

Set of O-rings

1091-U90



Cut out



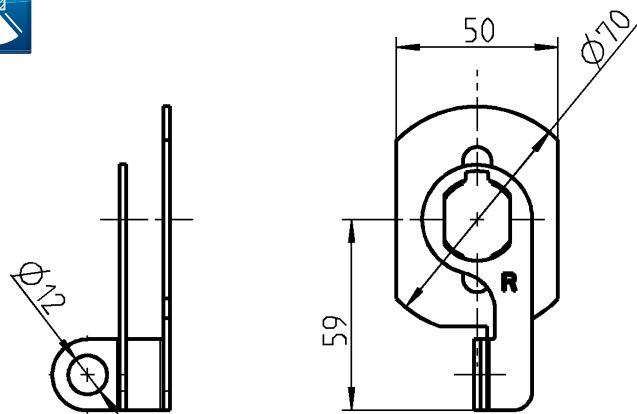
Bezel with dogs polyamide GF black, with seal

1091-17-01G

IP 65 achieved by:

Set of O-rings

1091-U90



Padlock accessories m.s. black powder-coated

Right version

1091-U86

Left version

1091-U87

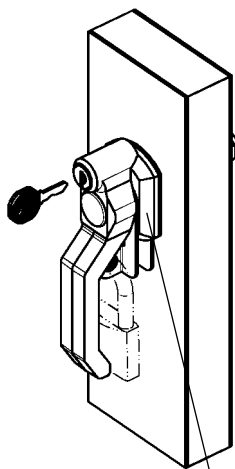
Further parts see page

– Heavy duty latch
– Bezel

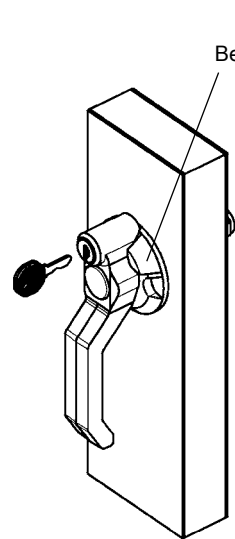
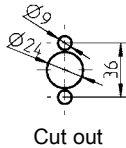
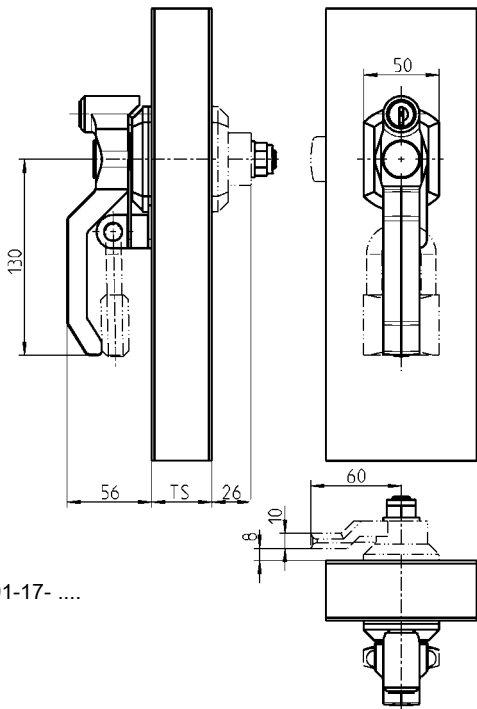
K1-310
K1-360

Heavy duty latch with m.s. shaft

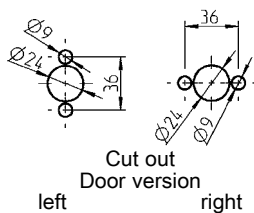
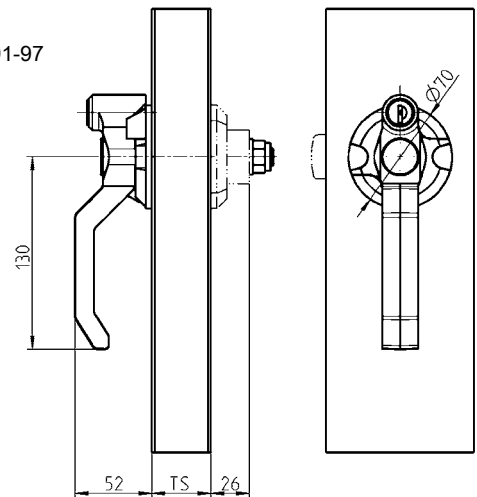
PROGRAM 1091



Bezel 1091-17-



Bezel 1091-97



Handle polyamide GF black for m.s. shaft; round cylinder zinc die with stainless steel cap and dust protection; insert zinc die chrome-plated							
keyed EK 333		1091-U50	keyed different		1091-U51		
Square 7		1091-U52	Square 8		1091-U53		
Triangular 8		1091-U54	Double bit 3		1091-U55		
Double bit 5		1091-U56	Slot 2 x 4		1091-U57		
(order separately) Bezel polyamide GF black for lockable heavy duty latch							
180° stopper		1091-17-03	90° stopper, left		1091-17-04		
90° stopper, right		1091-17-05	90° stopper, round bezel		1091-97		
Shaft m.s.; screw, nut M12 and washer A13 m.s. zinc-plated; plastic cap polyamide black							
Ts	20	30	40	50	60	80	100
for cam							
	1091-U6	1091-U7	1091-U8	1091-U9	1091-U10	1091-U12	1091-U13
for spacer and locking cam							
	1091-U8	1091-U9	1091-U10	1091-U11	1091-U12	1091-U13	1091-U14

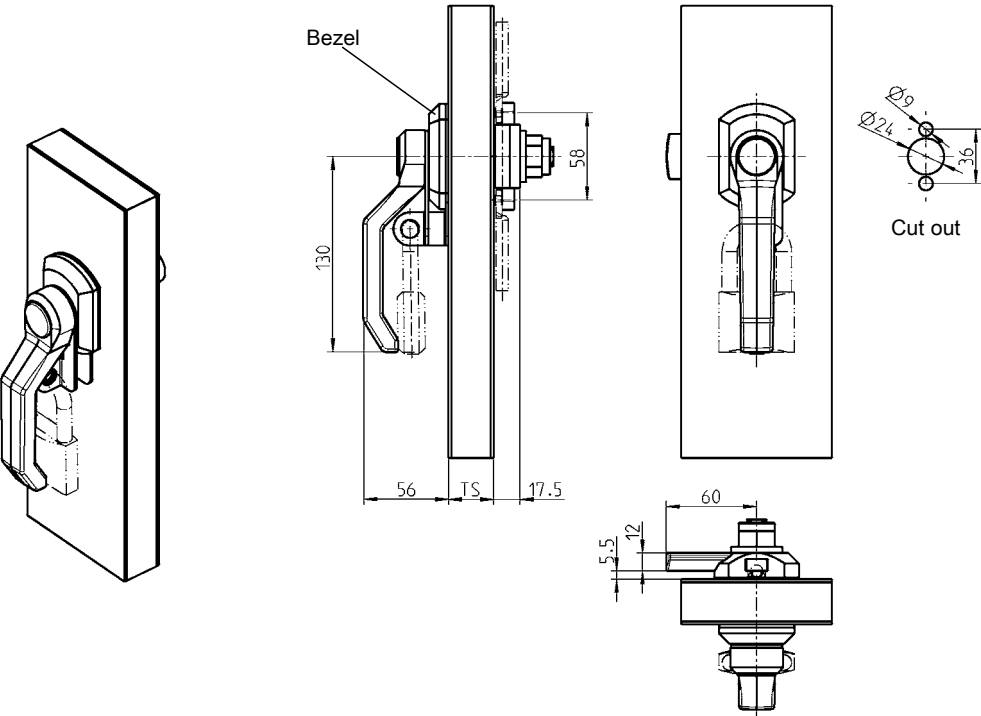
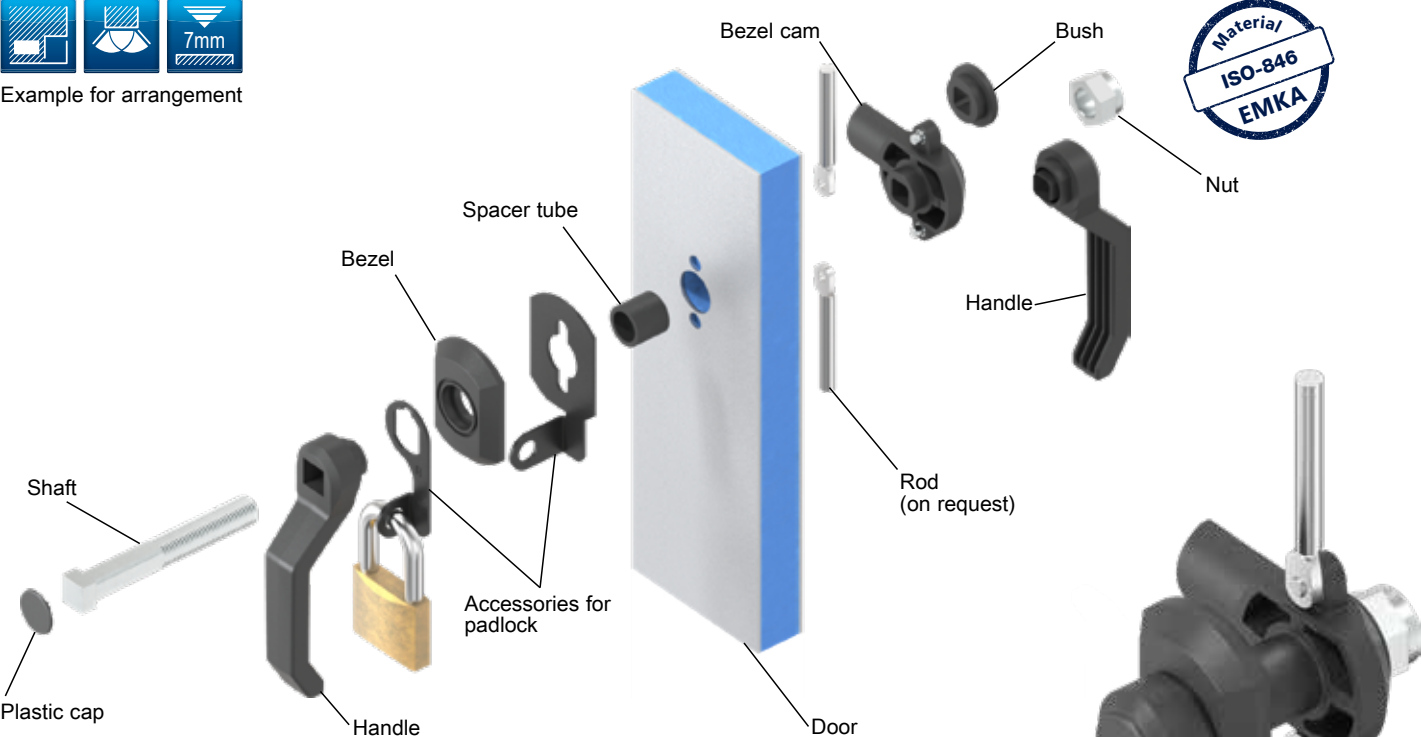
Round bezel with 90° stopper
1091-97 also suitable
for non locking handles.

Other inserts available
on request!

Further parts see page
– Spacer K1-320
– Cam K1-330
– Locking cam K1-330
– Padlock accessories K1-350
– Key K1-650
– Spare key K1-650

Heavy duty latch with zinc die shaft

PROGRAM 1091



Handle polyamide GF black (usable outside and inside)			
			1091-42
Shaft zinc die; nut m.s. zinc-plated; bezel cam, spacer, bush and plastic cap polyamide GF black			
Ts	10 – 30	31 – 50	51 – 70
without rod control	1091-U80	1091-U81	1091-U82
with rod control	1091-U83	1091-U84	1091-U85

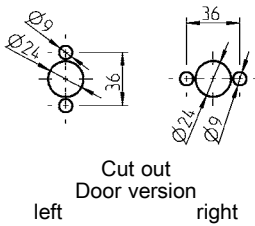
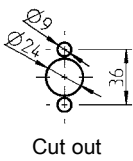
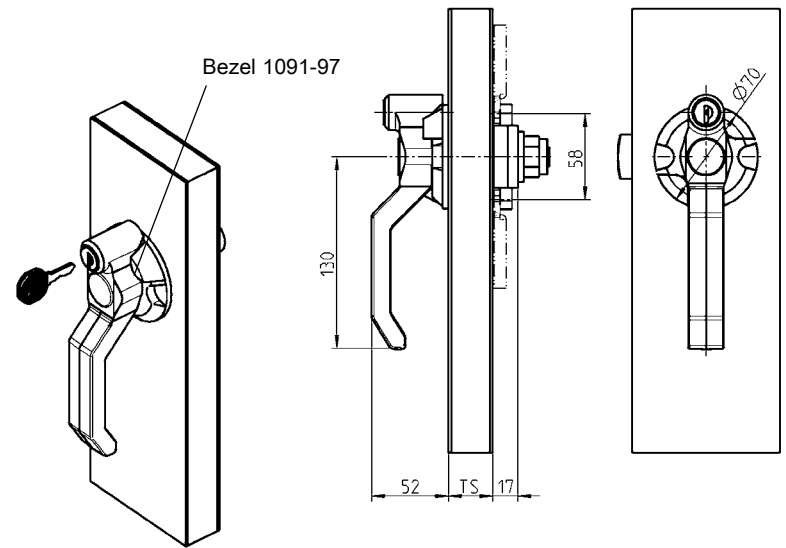
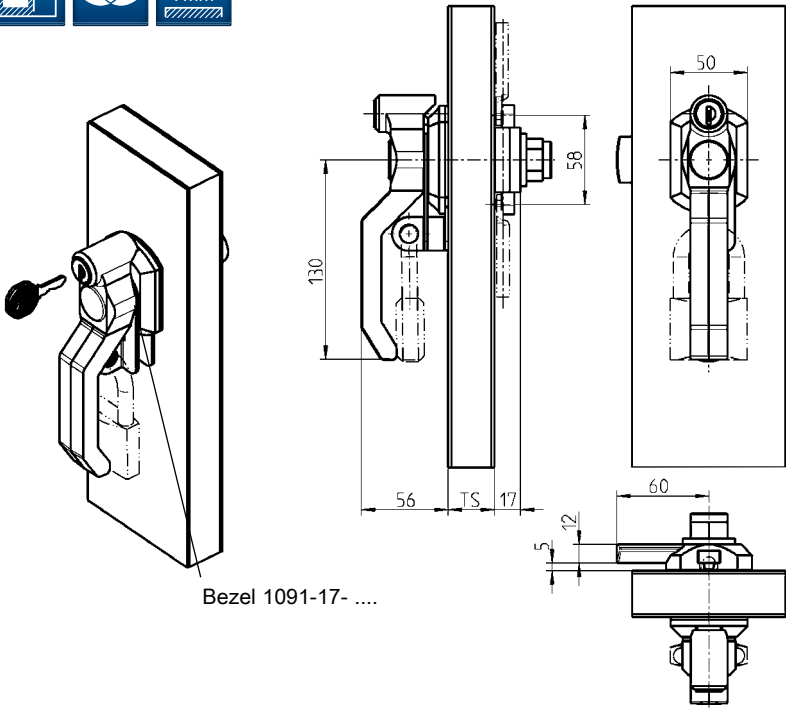
Attention:
If an inside handle is installed, the maximum door thickness is reduced by 10 mm.

Further parts see page

- Bezel from K1-340 to K1-350
- Padlock accessories K1-350
- Rod on request

Heavy duty latch with zinc die shaft

PROGRAM 1091



Handle polyamide GF black for zinc die shaft; round cylinder zinc die with stainless steel cap and dust protection; insert zinc die chrome-plated			
keyed EK 333	1091-U72	keyed different	1091-U73
Square 7	1091-U74	Square 8	1091-U75
Triangular 8	1091-U76	Double bit 3	1091-U77
Double bit 5	1091-U78	Slot 2 x 4	1091-U79
(order separately) Bezel polyamide GF black for lockable heavy duty latch			
180° stopper	1091-17-03	90° stopper, left	1091-17-04
90° stopper, right	1091-17-05	90° stopper, round bezel	1091-97
Shaft zinc die; nut m.s. zinc-plated; bezel cam, spacer and bush polyamide GF black; plastic cap black			
Ts	10 – 30	31 – 50	51 – 70
without rod control	1091-U80	1091-U81	1091-U82
with rod control	1091-U83	1091-U84	1091-U85

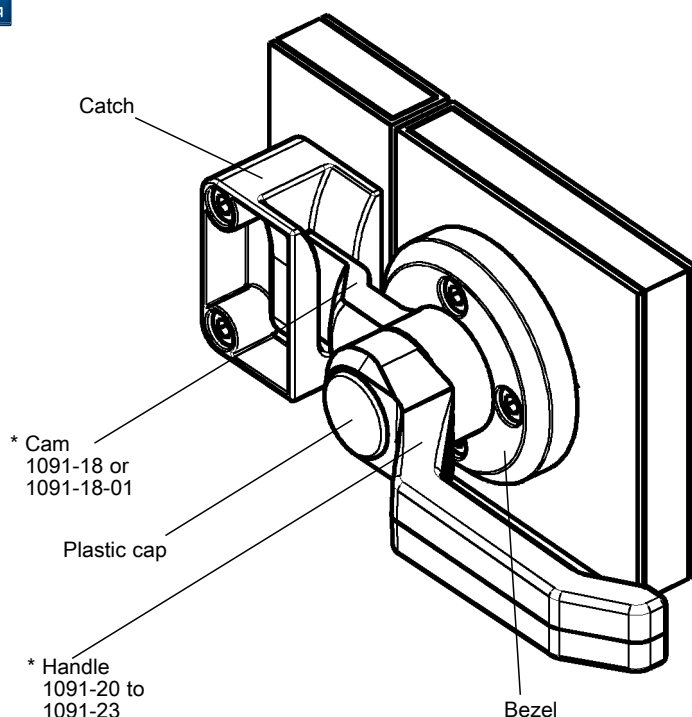
Round bezel with 90° stopper 1091-97 also suitable for non locking handles.

Other inserts available on request!

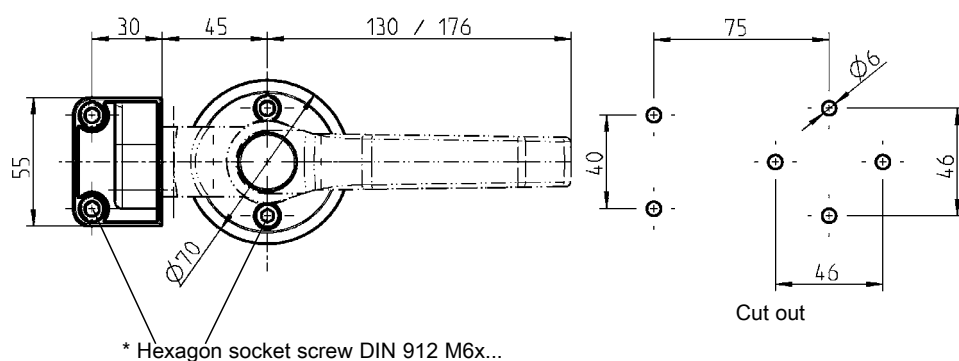
Further parts see page
– Padlock accessories K1-330
– Key K1-650
– Spare key K1-650
– Rod on request

Outside heavy duty latch

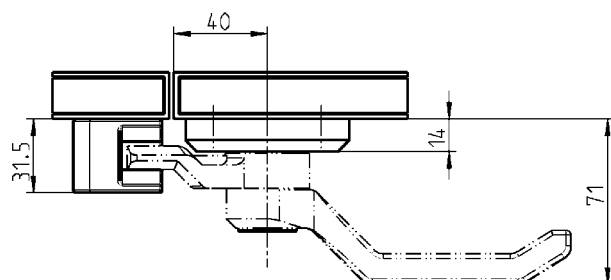
PROGRAM 1091



Depicted with:
1091-U121, 1091-96,
handle 1091-21 and
cam 1091-18



***not included in the scope of
delivery**



Bezel and plastic cap polyamide GF black;
shaft m.s.; fixing material for shaft m.s. zinc-plated

1091-U121

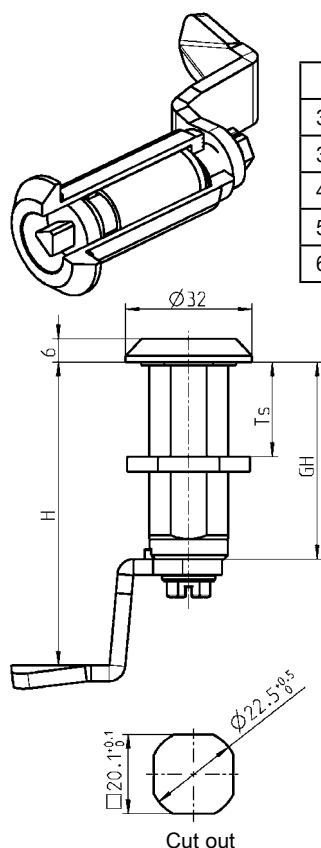
Catch polyamide GF black

1091-96

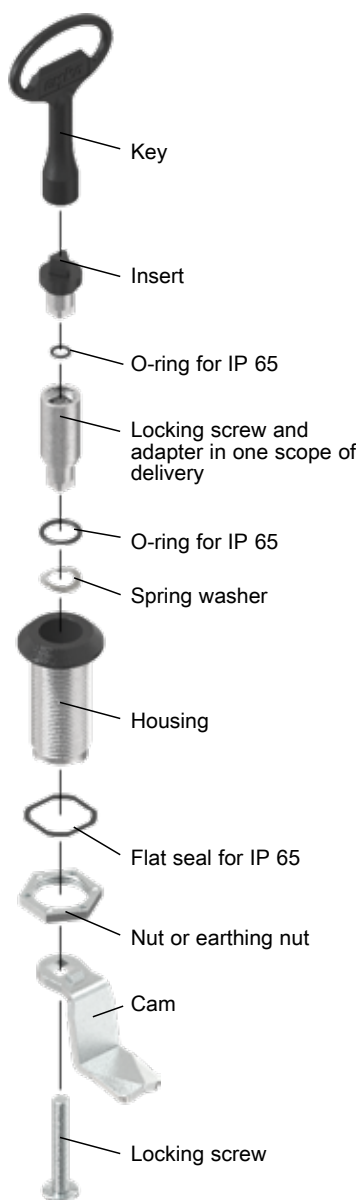
Further parts see page
– Handle, outside
– Cam

K1-320
K1-330

Assembly instruction



GH	Ts
30 mm	1.5 mm to 20 mm
36 mm	1.5 mm to 26 mm
40 mm	1.5 mm to 30 mm
50 mm	1.5 mm to 40 mm
60 mm	1.5 mm to 50 mm



IP 65 achieved by:

** Flat seal	1000-23
** O-Ring	1000-24

IP 66 achieved by:

Seal set	1000-U769
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IP 69K achieved by:

* Seal set	1000-U841
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Assembly on request

without O-ring	1000-990
with O-ring	1000-991

Housing material of choice; nut or earthing nut m.s. zinc-plated or nut stainless steel; adapter zinc die or AISI 303; screw m.s. zinc-plated or stainless steel

GH in mm	Zinc die chrome-plated		Zinc die black powder-coated		Polyamide black	AISI 316
	Nut	Earthing nut	Nut	Earthing nut	Nut	Nut
30	1000-U51	1000-U65	1000-U225	1000-U226	1000-U876	1000-U878
- Adapter for GH 30 mm			1000-U164			1000-U879
36	1000-U246	1000-U248	1000-U317	1000-U318	-	-
- Adapter for GH 35 mm			1000-U198			-
40	1000-U66	1000-U67	1000-U227	1000-U228	1000-U737	-
- Adapter for GH 40 mm			1000-U165			-
50	1000-U68	1000-U69	1000-U229	1000-U230	1000-U736	-
- Adapter for GH 50 mm			1000-U166			-
60	1000-U504	1000-U505	1000-U506	1000-U507	-	-
- Adapter for GH 60 mm			1000-U535			-

** included in case of stainless st. version

* Seal set only available completely assembled with housing, insert and cam

Further parts see page

- Quarter turn with stepped cam K1-420
- Cam with catch K1-640
- Accessories K1-630
- Key K1-650

Further parts see general catalogue

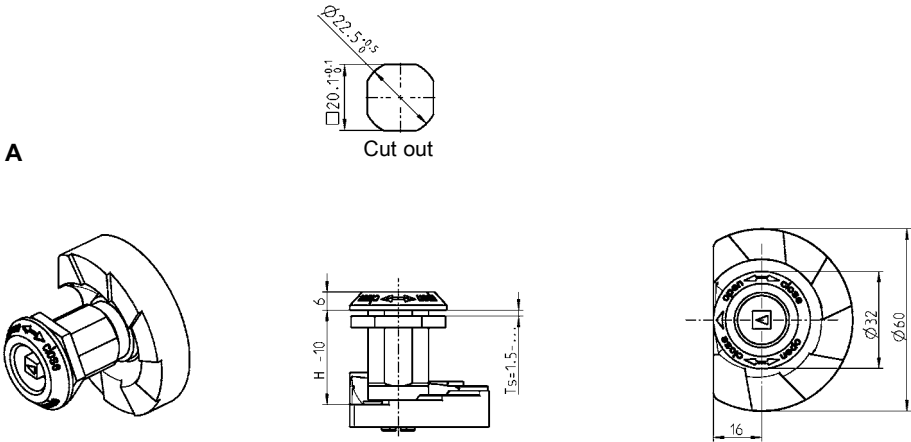
- Escutcheon 3B-140

Quarter turn with stepped cam

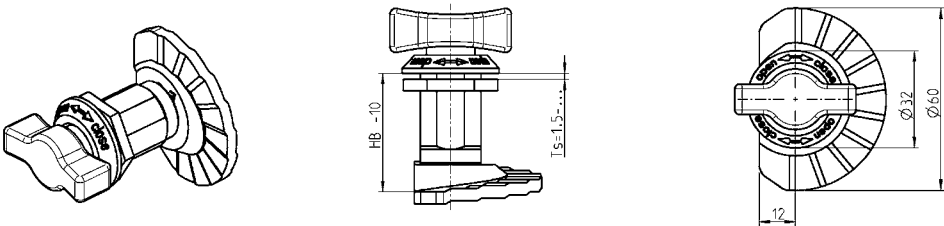
PROGRAM 1000



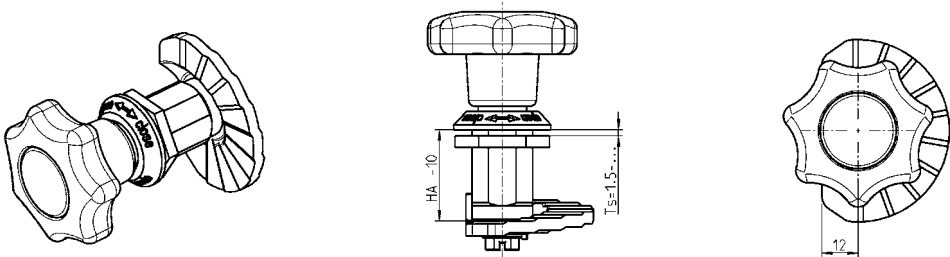
Version A



Version B



Version B



Stepped cam							
Version A				m.s. zinc-plated, without stopper			1000-127
				m.s. zinc-plated, with stopper			1000-244
Version B				zinc die raw, with stopper			1000-387
Housing zinc die surface of choice; nut m.s. zinc-plated; adapter and spacer zinc die; screw m.s. zinc-plated							
Ts				Housing zinc die		with adapter zinc die (Insert flush at front)	Spacer zinc die 5 mm higher H-dimension and screw m.s. zinc-plated
1.5 to	H	HA	HB	chrome-plated	black powder-coated		
8	19	19	27	1000-U157	1000-U231	not required	1000-U539
20	31	31	39	1000-U158	1000-U232	1000-U164	1000-U540
26	37	37	45	1000-U247	1000-U250	1000-U198	1000-U541
30	41	41	49	1000-U159	1000-U233	1000-U165	1000-U542
40	51	51	59	1000-U160	1000-U234	1000-U166	1000-U543

Housing with 270° stopper

Advice:
Quarter turn assembly K1-410

Further parts see page
– Insert K1-410
– IP 65 or IP 66 K1-410
– Accessories K1-630
– Key K1-650

Further parts see
general catalogue
– Escutcheon 3B-140

Compression latch

PROGRAM 1000

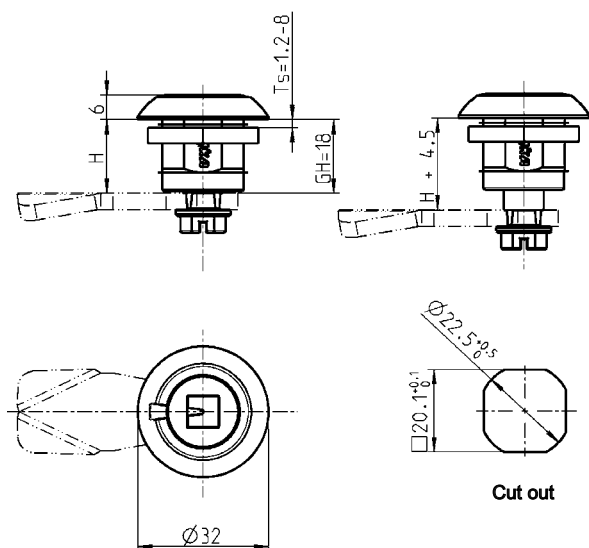


Tamper and vibration proof

The compression latch is designed to be vibration-proof as such. Depending on the installation location and operational conditions, specific checks are necessary and/or supplementary measures of fastening required.

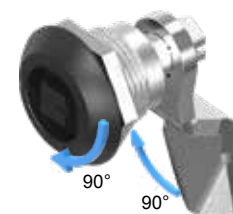


for stainless steel version



Product benefits

- Compact design
- Compatible with other quarter turns with GH = 18 mm
- Fire protection according to DIN EN 45545-2 with E20
- Short housing GH = 18 mm
- Foamed gasket
- Standard cut out



Open condition
Turning the insert 90° causes the cam to rotate.



Closed condition
The second 90° of rotation of the insert draws the cam toward the door 4.5 mm axially.

Housing and insert material of choice; nut and screw m.s. zinc-plated or stainless steel; with spring and seal

	Zinc die black powder-coated	Zinc die chrome-plated	AISI 316
Square 6	on request	on request	on request
Square 7	on request	1000-U859-IA	1000-U859-PH
Square 8	1000-U852	1000-U852-IA	1000-U852-PH
Triangular 6.5 CNOMO	on request	on request	on request
Triangular 7	on request	1000-U864-IA	1000-U864-PH
Triangular 8	1000-U853	on request	1000-U853-PH
Triangular 9	on request	on request	on request
Triangular 10	on request	on request	on request
Double bit 3	1000-U854	on request	1000-U854-PH
Double bit 5	1000-U855	on request	1000-U855-PH
Hexagon male SW 11.1 with marking	on request	on request	on request
Hexagon female SW 8	on request	on request	on request
Hexagon female SW 8 with pin	on request	on request	on request
Hexagon female SW 10	on request	on request	on request
Square female 6	on request	on request	on request
Square female 7	on request	on request	on request
Square female 8	on request	on request	on request
Daimler Benz	on request	on request	on request
Slot 1.2 x 3	on request	on request	on request
Slot 2 x 4	on request	on request	on request
Slot 2 x 4 coinproof	on request	on request	on request
Crown type	on request	on request	on request
Railway	1000-U856	on request	1000-U856-PH
Tube with marking	on request	on request	on request

Compressed condition

Open:
Reversed motion

Further parts see page

- Cam without catch K1-640 (not for cam with rod control)
- Accessories K1-630
- Key K1-650

Further parts see general catalogue

- Escutcheon 3B-140

Compression latch

PROGRAM 1000

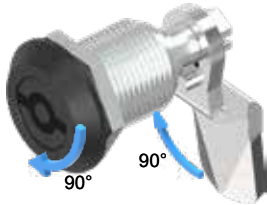
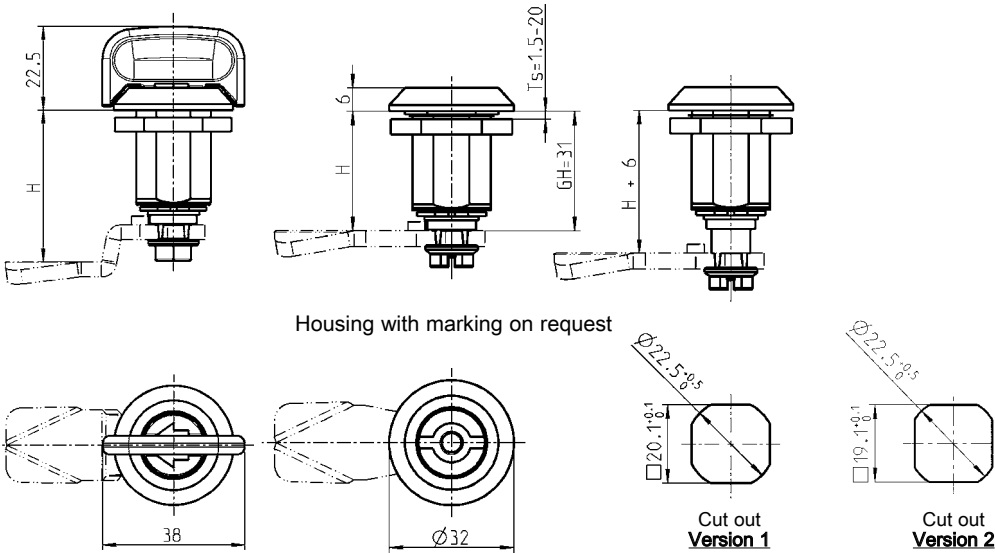


Tamper and vibration proof

The compression latch is designed to be vibration-proof as such. Depending on the installation location and operational conditions, specific checks are necessary and/or supplementary measures of fastening required.



for stainless steel version



Open condition
Turning the insert 90° causes the cam to rotate.



Closed condition
Further rotation of the insert by 90° moves the cam 6 mm in axial direction.



Compressed condition
Open:
Reversed motion

Cut out version 1 Compression latch Housing and insert zinc die black powder-coated or AISI 316; nut and screw m.s. zinc-plated or stainless steel; with spring and seal		
Further insert variants on request	Zinc die black powder-coated	AISI 316
Square 7 with arrow	1000-U796	on request
Square 8	1000-U755	on request
Square 8 with arrow	1000-U798	on request
Square 8 with marking	on request	1000-U755-01
Triangular 7	1000-U795	on request
Triangular 8	1000-U783	on request
Double bit 3	1000-U749	1000-U749-01
Double bit 5	1000-U748	1000-U748-01
Hexagon female SW 8	1000-U807	on request
Hexagon female SW 8 with pin	1000-U805	on request
Hexagon female SW 10	1000-U809	on request
Square female 8	1000-U811	on request
Slot 2 x 4	1000-U777	1000-U777-01
Insert railway	1000-U831	1000-U831-01
Tube with marking	1000-U833	on request
Wing knob insert	1000-U832	on request

Cut out version 2 Housing and insert zinc die black powder-coated or AISI 316; nut and screw m.s. zinc-plated or stainless steel; with spring and seal		
Further insert variants on request	Zinc die black powder-coated	AISI 316
Square 8	1000-U981	on request
Square 8 with marking	on request	1000-U981-01
Double bit 3	1000-U982	on request
Double bit 5	1000-U983	on request

Further parts see page
– Cam with or without catch K1-640
(not for cam with rod control)
– Accessories K1-630
– Key K1-650
Further parts see general catalogue
– Escutcheon 3B-140

Compression latch with adjustable cam height

PROGRAM 1000

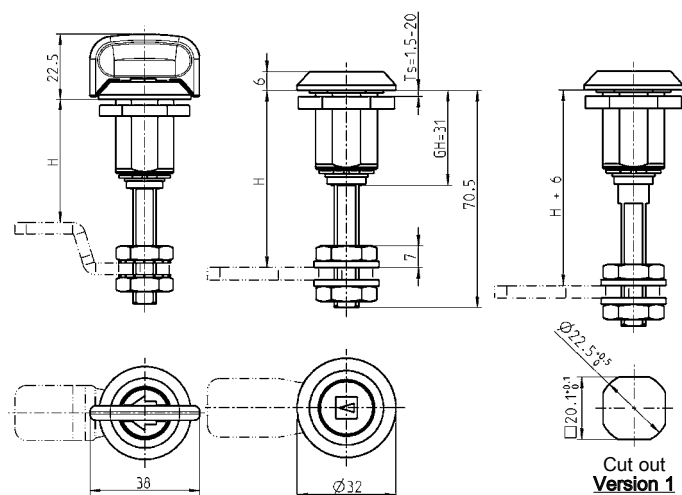


Tamper and vibration proof

The compression latch is designed to be vibration-proof as such. Depending on the installation location and operational conditions, specific checks are necessary and/or supplementary measures of fastening required.

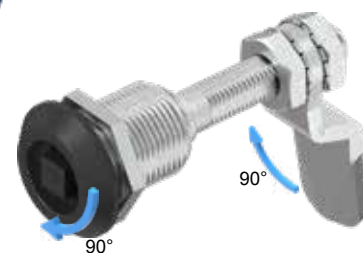


for stainless
steel version



Cut out
Version 1

Cut out
Version 2



Open condition
Turning the insert 90° causes
the cam to rotate.



Closed condition
Further rotation of the insert
by 90° moves the cam 6 mm
in axial direction.



Compressed condition

Open:
Reversed motion

Cut out version 1

Compression latch with adjustable cam height

Housing and insert zinc die black powder-coated or AISI 316;

locking shaft zinc die or m.s. zinc-plated or AISI 316;

nuts and washers m.s. zinc-plated or AISI 316; with spring and seal

Further insert variants on request

Housing and insert
zinc die black powder-coated

Locking shaft
zinc die

Shaft
m.s. zinc-plated

Housing and
insert AISI 316
Shaft
AISI 316

Square 7 with arrow

1000-U786

1000-SU720

on request

Square 8 with arrow

1000-U799

1000-SU861

1000-U755-02

Triangular 7

1000-U794

1000-SU724

on request

Triangular 8

1000-U802

1000-SU725

on request

Double bit 3

1000-U803

1000-SU730

on request

Double bit 5

1000-U804

1000-SU752

on request

Hexagon male SW 11.1
with marking

1000-U816

1000-SU324

on request

Hexagon female SW 8

1000-U808

1000-SU735

on request

Hexagon female SW 8 with pin

1000-U806

1000-SU733

on request

Hexagon female SW 10

1000-U810

on request

on request

Square female 8

1000-U812

on request

on request

Slot 2 x 4

1000-U813

on request

on request

Insert railway

1000-U832

on request

1000-U831-02

Tube with marking

1000-U830

1000-SU736

on request

Wing knob insert

1000-U880

on request

on request

Cut out version 2

Housing and insert zinc die black powder-coated or AISI 316;

locking shaft zinc die or m.s. zinc-plated or AISI 316;

nuts and washers m.s. zinc-plated or AISI 316; with spring and seal

Further insert variants on request

Housing and insert
zinc die black powder-coated

Locking shaft
zinc die

Shaft
m.s. zinc-plated

Housing and
insert AISI 316
Shaft
AISI 316

Square 8 with arrow

on request

1000-SU1167

on request

Note:

Only cams without catch
can be used.

Further parts see page

– Cam (GH = 31)
– Accessories
– Key

K1-642
K1-630
K1-650

Further parts see
general catalogue
– Escutcheon

3B-140



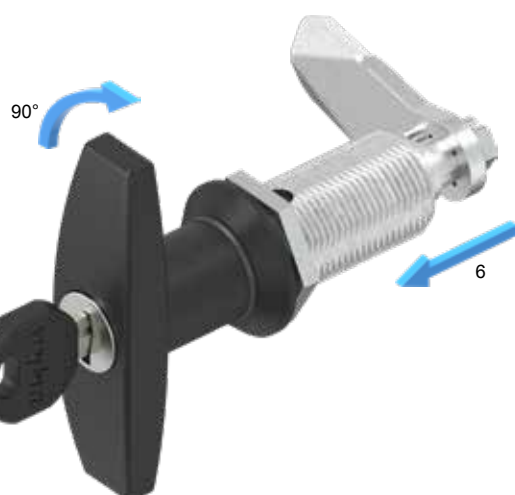
Example:

Compression latch with T-handle



Open condition

Open condition
Turning the handle
by 90° causes
the cam to rotate.



Closed condition

Further rotation of the handle by 90° moves the cam 6 mm in axial direction.



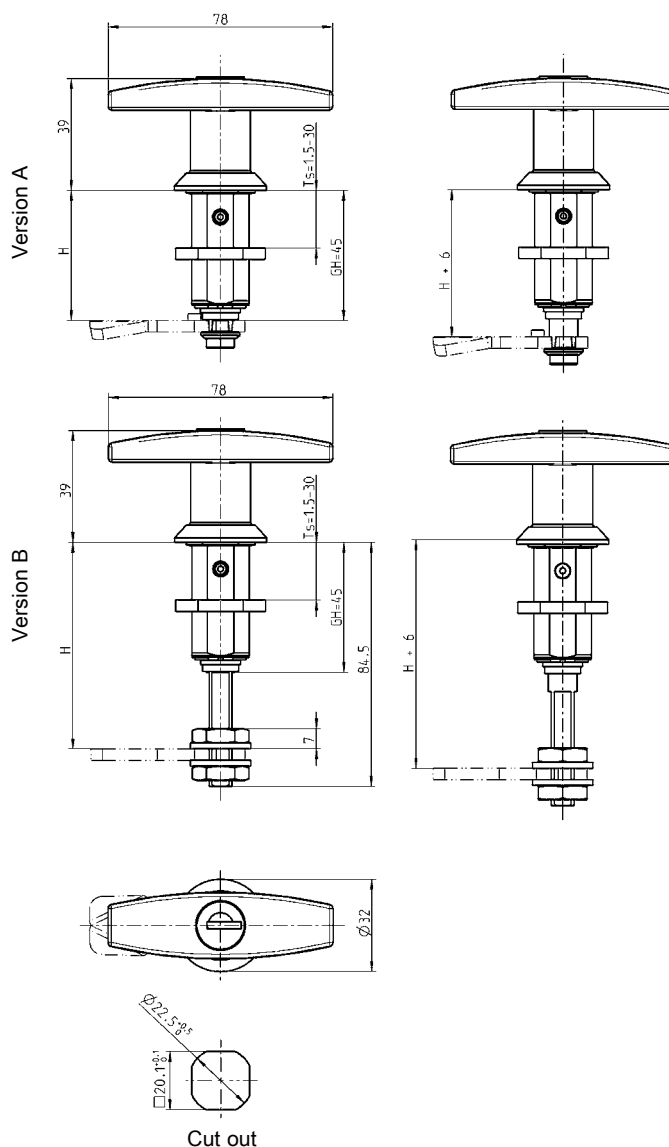
Compressed condition

Key removable

Open:

Reversed motion

Compression latch with T-handle



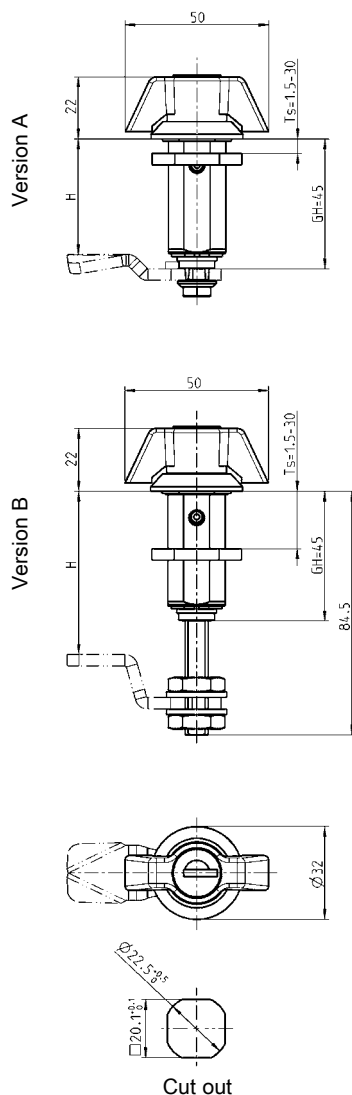
Note:

For version B only cams without catch can be used!

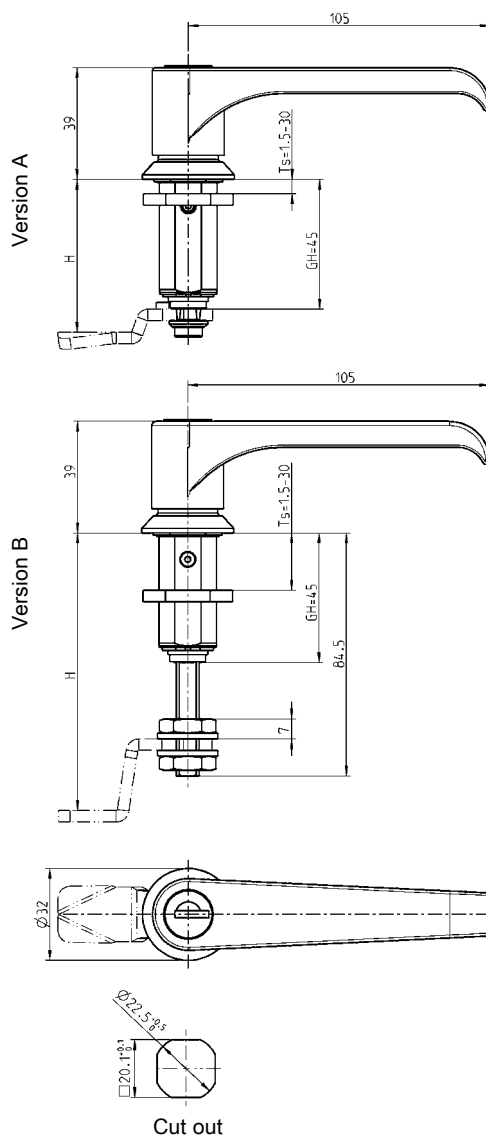
Tamper and vibration proof

The compression latch is designed to be vibration-proof as such. Depending on the installation location and operational conditions, specific checks are necessary and/or supplementary measures of fastening required.

Compression latch with wing knob



Compression latch with L-handle



Stainless steel version on request.



Handle and housing zinc die black powder-coated;
round cylinder zinc die with stainless steel cap and dust protection;
nut and screw or washer m.s. zinc-plated; with spring and seal
Each round cylinder has one silver steel key with grip polyamide black.
Key removable in both positions

Version A: Fixed cam height	non locking	keyed EK 333	keyed different
Wing knob	1000-U826	1000-U827	1000-U828
T-handle	1000-U820	1000-U821	1000-U822
L-handle	1000-U823	1000-U824	1000-U825
Version B: Adjustable cam height			
Wing knob	1000-U790	1000-U789	1000-U791
T-handle	1000-U785	1000-U784	1000-U792
L-handle	1000-U788	1000-U787	1000-U793

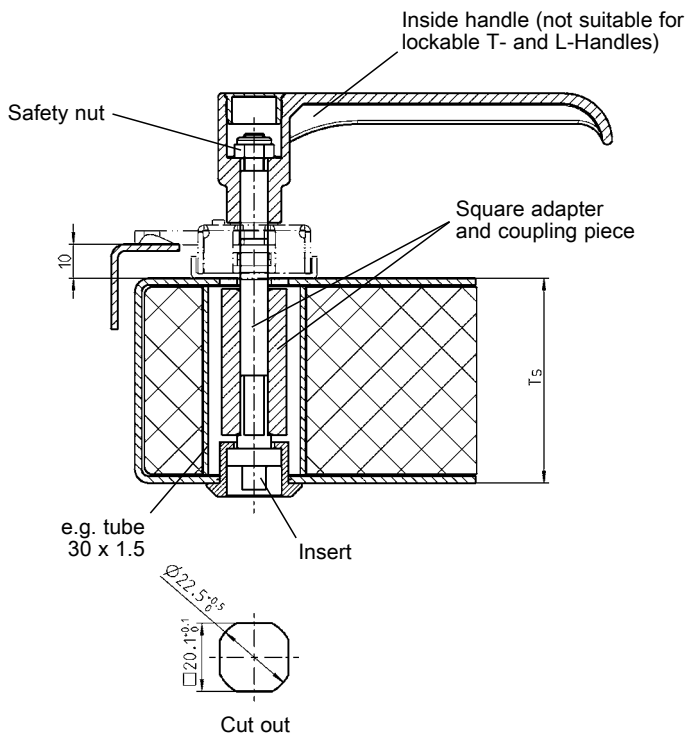
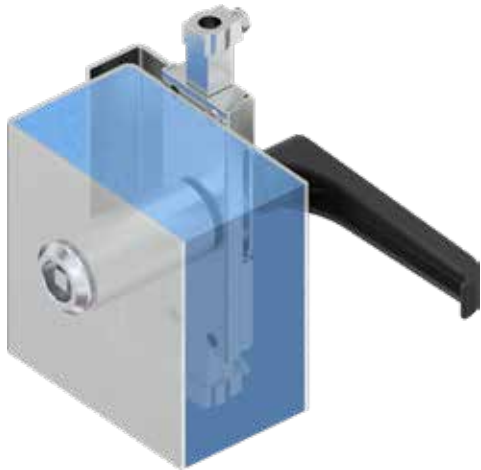
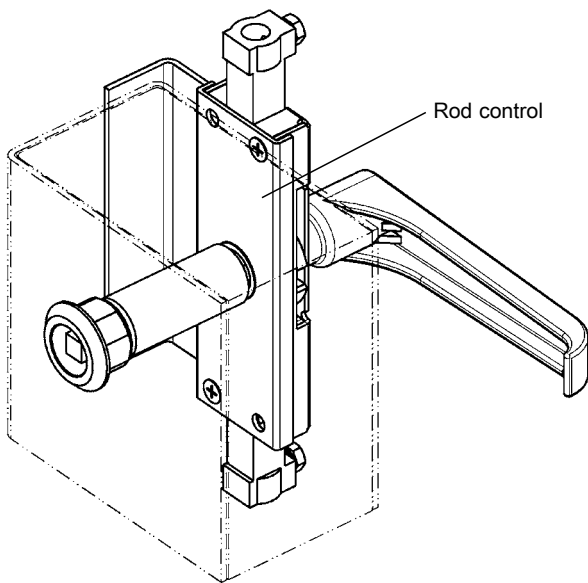
Further parts see page
for fixed cam height
– Cam with or without catch K1-640
(not for cam with rod control)

for adjustable cam height
– Cam (GH = 45) K1-642
– Spare key K1-650

Further parts see
general catalogue
for both versions
– Dust cap for T-handle 1C-340

Adapter system for insulated doors

PROGRAM 1001



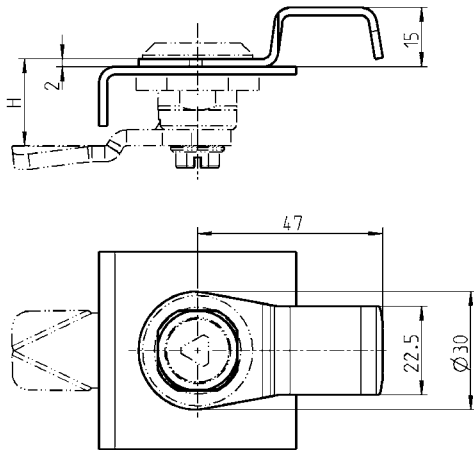
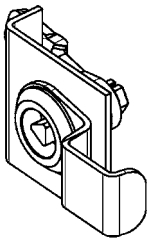
Adapter system is pre-assembled with handle or insert, guided through the installation opening and held in place with M6 safety nut.

Insert m.s. zinc-plated; key guide zinc die chrome-plated; safety nut m.s. zinc-plated		Door thick- ness Ts	Square adapter m.s. z.pl.	Coupling piece aluminium
Square 7	1001-U21	20	–	–
Square 8	1001-U22	40	1x1001-65	1001-69
Double bit 5	1001-U23	50	1x1001-66	1001-70
Adapter for internal handle m.s. zinc-plated		60	1x1001-67	1001-71
	1001-65	80	2x1001-66	1001-72
Inside handle polyamide black		100	2x1001-67	1001-73
	1000-U829			

Further parts see page
– Rod control K1-610
– Key K1-650

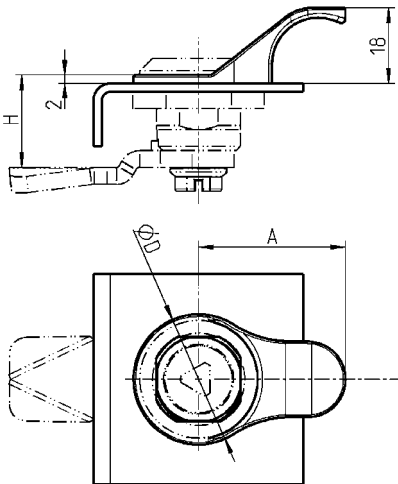
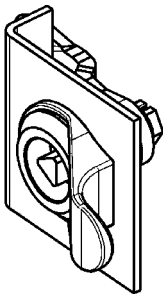
Further parts see
general catalogue
– T-handle or L-handle A = 26 2A-140
– Anti-rotation device 1C-360

Finger pull;
Dust cap
PROGRAM 1000

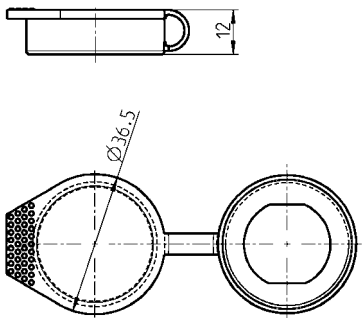
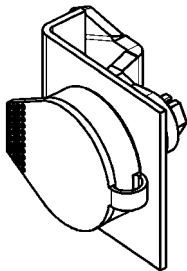


Finger pull m.s. black powder-coated		
		1000-359
IP 65 achieved by:		
Flat seal		1000-23

Attention:
The H-dimension will be reduced by 2 mm with the finger pull installed.



Finger pull polyamide GF black		
for housing with head diameter Ø 28	; D = 31, A = 35	1000-358
for housing with head diameter Ø 30 and 32	; D = 35, A = 36	1000-358-01
IP 65 achieved by:		
Flat seal		1000-23



Dust cap polyethylene black		
		1000-97-01

Attention:
The H-dimension will be reduced by 2 mm when using this dust cap.

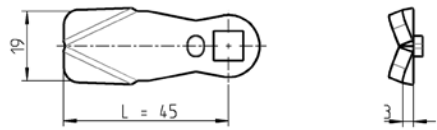
Further parts see page
– Quarter turn K1-410

Cams

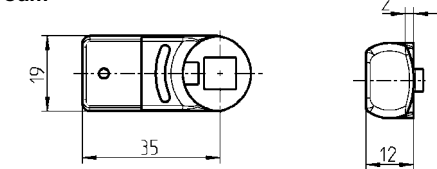
PROGRAM 1000



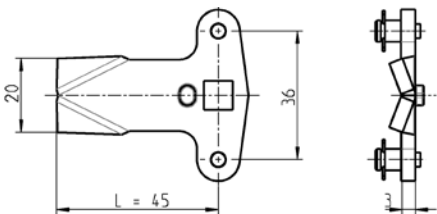
Version 1
Cam



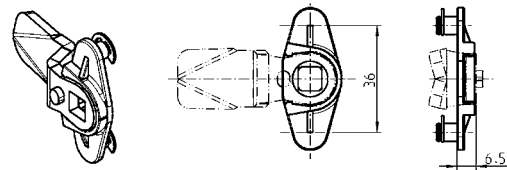
Version 2
Cam



Version 3
Cam with rod control (flank cam)

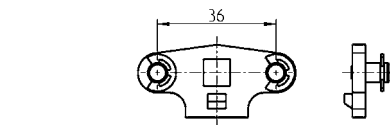


Version 4
Rod control for steel cam or stainless steel cam

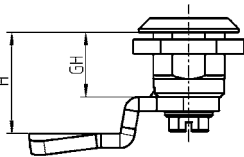


Rod control zinc die zinc-plated; circlip m.s. zinc-plated		1000-U776
Rod control AISI 316; circlip stainless steel		1000-U776-PH

Version 5
Rod control



Rod control m.s. zinc-plated		1000-U167
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Cam with catch, material of choice

H-dimensions for GH =											Version 1	
12	18	22	28	30	31	36	39	40	50	60	L = 45 m.s. zinc-plated	
-	4	8	14	16	17	22	25	26	36	46	1000-112	
-	6	10	16	18	19	24	27	28	38	48	1000-22	
2	8	12	18	20	21	26	29	30	40	50	1000-113	
4	10	14	20	22	23	28	31	32	42	52	1000-21	
7	13	17	23	25	26	31	34	35	45	55	1000-20	
8	14	18	24	26	27	32	35	36	46	56	1000-19	
9	15	19	25	27	28	33	36	37	47	57	-	
10	16	20	26	28	29	34	37	38	48	58	1000-18	
12	18	22	28	30	31	36	39	40	50	60	1000-17	
14	20	24	30	32	33	38	41	42	52	62	1000-16	
16	22	26	32	34	35	40	43	44	54	64	1000-15	
18	24	28	34	36	37	42	45	46	56	66	1000-14	
19	25	29	35	37	38	43	46	47	57	67	1000-27	
20	26	30	36	38	39	44	47	48	58	68	1000-50	
22	28	32	38	40	41	46	49	50	60	70	1000-13	
24	30	34	40	42	43	48	51	52	62	72	1000-28	
26	32	36	42	44	45	50	53	54	64	74	1000-26	
28	34	38	44	46	46	52	55	56	66	76	1000-12	
29	35	39	45	47	48	53	56	57	67	77	1000-11	
30	36	40	46	48	49	54	57	58	68	78	1000-51	
32	38	42	48	50	51	56	59	60	70	80	1000-52	
34	40	44	50	52	53	58	61	62	72	82	1000-25	
36	42	46	52	54	55	60	63	64	74	84	1000-53	
38	44	48	54	56	57	62	65	66	76	86	1000-54	
39	45	49	55	57	58	63	66	67	77	87	1000-10	
41	47	51	57	59	60	65	68	69	79	89	1000-55	
44	50	54	60	62	63	68	71	72	82	92	1000-56	

minus offset
↑
straight version
↓
plus offset



Cam with catch



Cam without catch
on request

Note:

This catalogue page does not show all available cams.

Other versions such as:

- Cams without catch
- Cams with other H- and L-dimension
- Cams with recess in the opposite direction
- etc.

please ask.

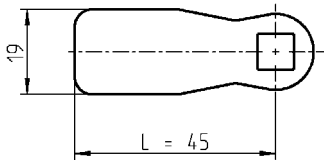
Version 1		Version 1		Version 2	Version 3
L = 45 AISI 304	L = 45 AISI 316	L = 35 m.s. zinc- plated	L = 35 Polyamide GF black ①	Polyamide GF black	m.s. zinc- plated
-	-	-	-	-	1000-U63
1000-221	1000-221-PD	-	-	-	1000-U21
-	-	-	-	-	1000-U64
1000-223	1000-223-PD	-	-	-	1000-U22
-	-	-	-	-	1000-U23
1000-225	1000-225-PD	-	-	-	1000-U24
-	-	-	1000-5043-SI	-	-
-	-	-	-	-	1000-U25
1000-227	1000-227-PD	1000-5046	1000-5046-SI	1000-386-18	1000-U26
1000-228	1000-228-PD	1000-5161	-	1000-386-20	1000-U27
1000-179	1000-179-PD	1000-5119	-	1000-386-22	1000-U28
1000-229	1000-229-PD	-	-	1000-386-24	1000-U29
-	-	-	-	-	1000-U30
1000-230	1000-230-PD	-	-	-	1000-U31
1000-180	1000-180-PD	1000-5164	-	1000-386-28	1000-U32
-	-	-	-	1000-386-30	1000-U33
-	-	-	-	-	1000-U34
-	-	-	-	-	1000-U35
-	-	-	-	-	1000-U36
-	-	-	-	-	1000-U37
-	-	-	-	-	1000-U38
-	-	-	-	-	1000-U39
-	-	-	-	-	1000-U40
-	-	-	-	-	1000-U41
-	-	-	-	-	1000-U42
-	-	-	-	-	1000-U43
-	-	-	-	-	1000-U44

①
only for light doors and flaps

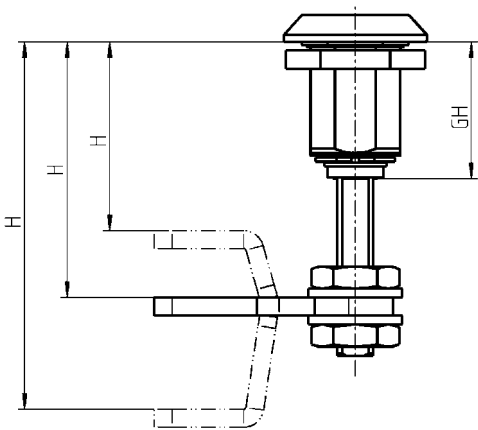
Further parts see page
– Latches

K1-410
to K1-550

Cam m.s. for GH = 31, 45 and 64
Compression latch
PROGRAM 1000



straight cam



cranked cam

Cam m.s. zinc-plated		
for GH = 31 mm	H	GH = 31
straight	38 - 58	1000-476
Offset 14 mm	24 - 44 ; 52 - 72	1000-478
Offset 26 mm	12 - 32 ; 64 - 84	1000-477
for GH = 45 mm	H	GH = 45
straight	52 - 72	1000-476
Offset 14 mm	38 - 58 ; 66 - 86	1000-478
Offset 26 mm	26 - 46 ; 78 - 98	1000-477
for GH = 64 mm	H	GH = 64
straight	71 - 91	1000-476
Offset 14 mm	57 - 77 ; 85 - 105	1000-478
Offset 26 mm	45 - 65 ; 97 - 117	1000-477

Note:
Cranked cam can be used
positively and negatively

Further parts see page
– Compression latch
with insert

K1-530

For cams made of steel and stainless steel

1.



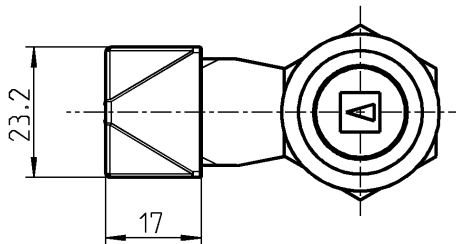
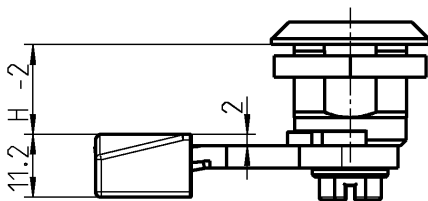
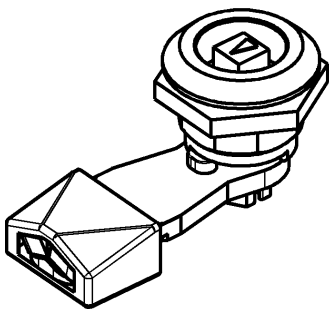
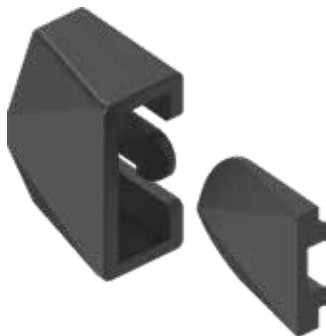
2.



3.



4.



Note:
For cams made of steel and stainless steel

If the guiding shoe for the cam is used, the H-dimension is reduced by 2 mm

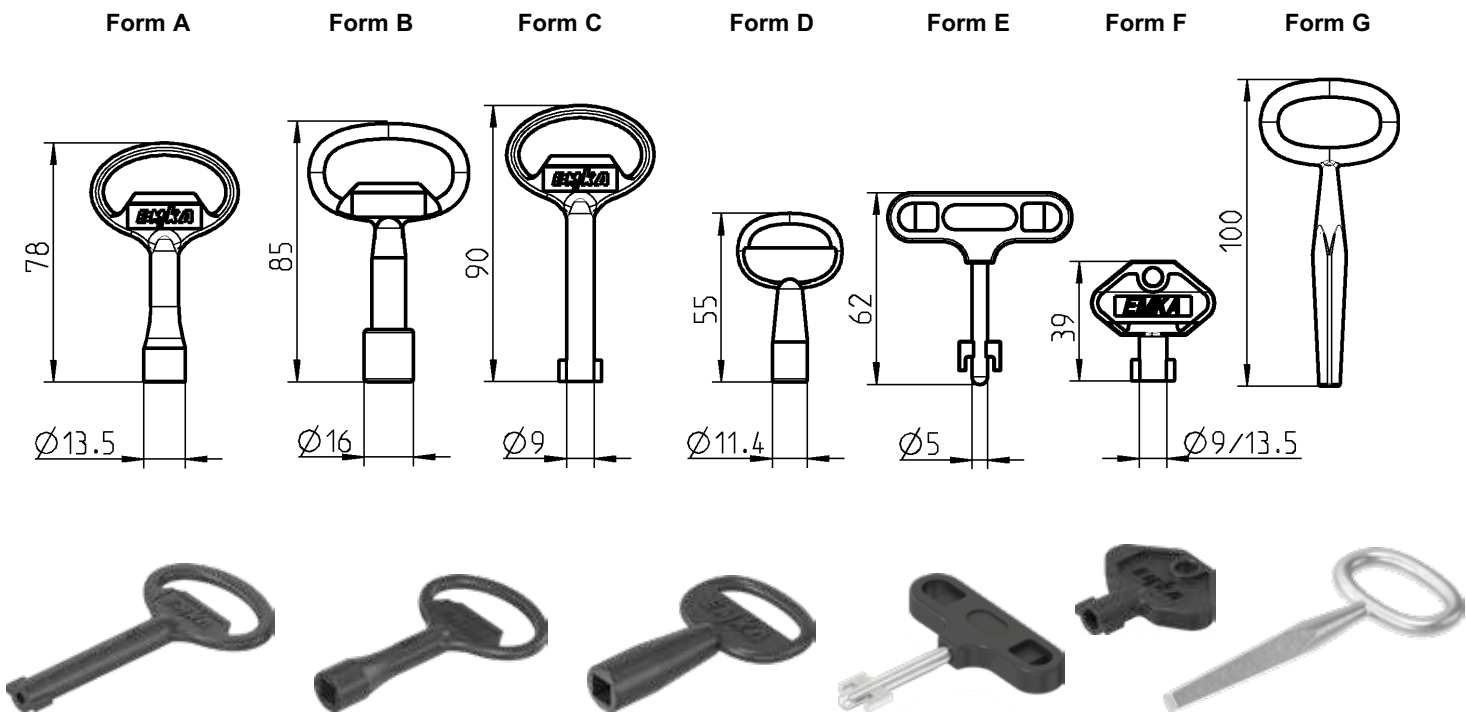
Further parts see page
– Cam (type 1)

K1-640

Slide shoe POM black	1000-U892
Slide shoe POM sky blue (RAL 5015)	1000-SU750

Key

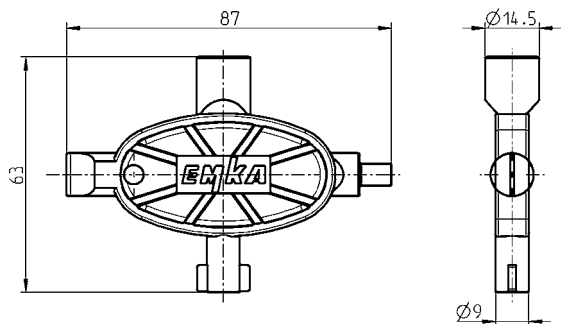
PROGRAM 1004, 1108



Keys can be supplied with customer logo on request
Minimum quantity: Form A, B, C, D 2,000 pieces
Minimum quantity: Form E, F, H 5,000 pieces

Key form	A	B	C	D	E	F	G
	Zinc die black powder-coated	Zinc die black powder-coated	Zinc die black powder-coated	Zinc die black powder-coated	Zinc die / Polyamide GF black	Polyamide GF black	GTW nickel-plated
Square 6	1004-18	-	-	1004-20	-	1004-37	-
Square 7	1004-01	-	-	-	-	1004-36	-
Square 8	1004-02	-	-	-	-	1004-35	-
Triangular 6.5	-	-	-	1004-21	-	-	-
Triangular 6.5 CNOMO type 1	1004-26	-	-	-	-	-	-
Triangular 7	1004-03	-	-	-	-	1004-39	-
Triangular 8	1004-04	-	-	-	-	1004-38	-
Triangular 10	-	1004-24	-	-	-	-	-
Crown type	-	1004-31	-	-	-	-	-
Eastern Europe Ø 13 half-round	-	1004-42	-	-	-	-	-
Double bit 3	-	-	1004-05	-	-	1004-34	-
Double bit 5	-	-	1004-06	-	-	1004-33	-
Hexagon SW 11.1	-	1004-54	-	-	-	-	-
Daimler Benz	1004-17	-	-	-	-	-	-
FIAT	-	-	-	-	1004-41	-	-
Square male 6	1004-29	-	-	-	-	-	-
Square male 8	1004-30	-	-	-	-	-	-
Square male 6 - 9.5	-	-	-	-	-	-	1004-19
Hexagon male 8 with bore hole	1004-49	-	-	-	-	-	-
Tube	-	-	-	1004-51	-	-	-

Form H

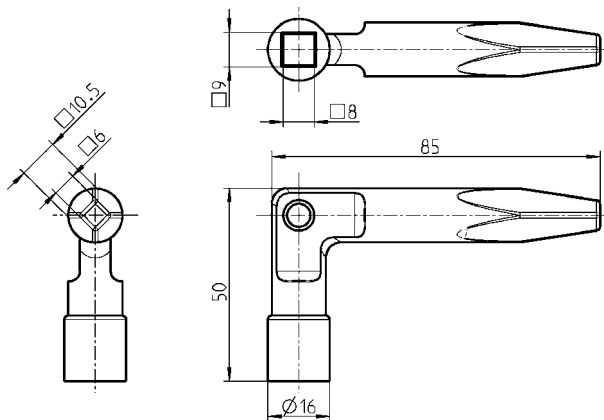


Form H, universal key polyamide GF blue

Square male 6, square 8, double bit 5 and slot

1004-48

Form I

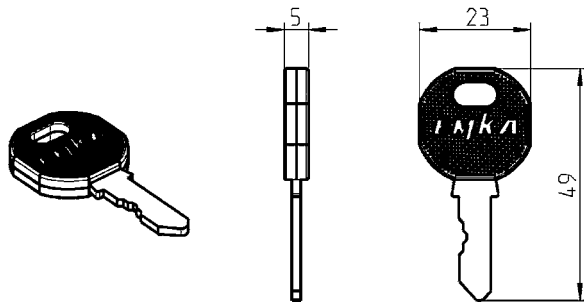


Form I, railway version zinc die black powder-coated

Square 8 - 9, square male 6 - 10.5

1004-52

Stainless steel key
on request



EMKA key silver steel with grip polyamide black for Program

1000, 1048, 1091, 1109, 1121, 1125, 1150, 1160, 1180, 1200, 1210, 1225, 2100, 2400,

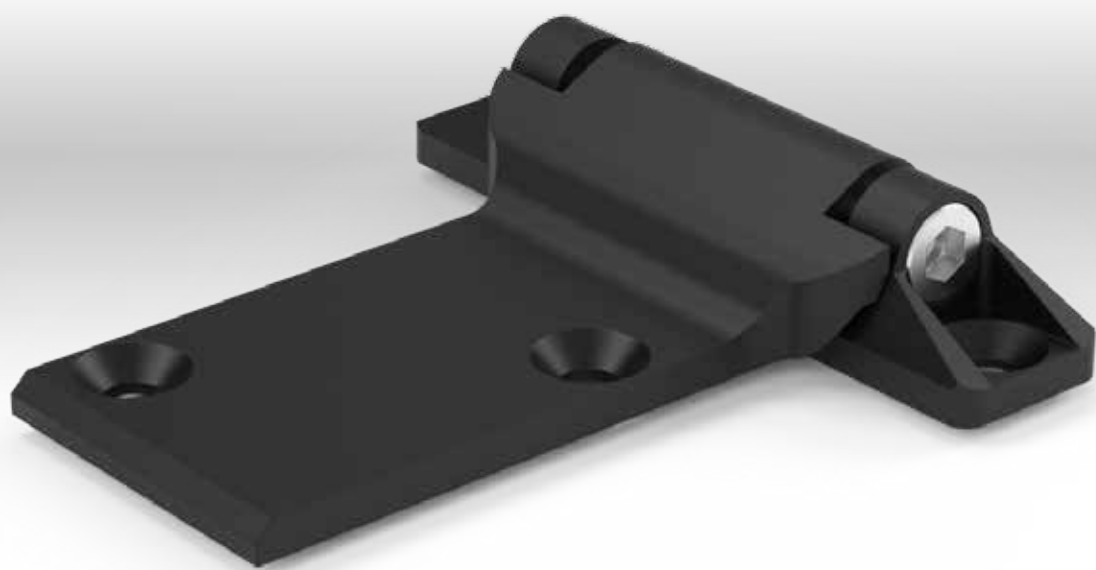
Key EK 333

1108-U35

keyed different

1108-U36-key system

Note:
Further keys on request



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1 Locks and Latches

K1-100	Modular locking system
K1-210	Door locks
K1-310	Heavy duty latches
K1-410	Quarter turns
K1-510	Compression latches
K1-610	Accessories for locks and latches



2 Hinges

K2-110	Latch-Hinges
K2-210	Screw-on hinges
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3 Sealing Profiles and Edge Protection

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K3-210	Seals, self-clamping
K3-310	Seals secured in a U-section
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K3-610	Examples



4 Accessories

K4-110	Connector
K4-210	Recessed grips
K4-310	Bow-type handles
K4-410	Miscellaneous

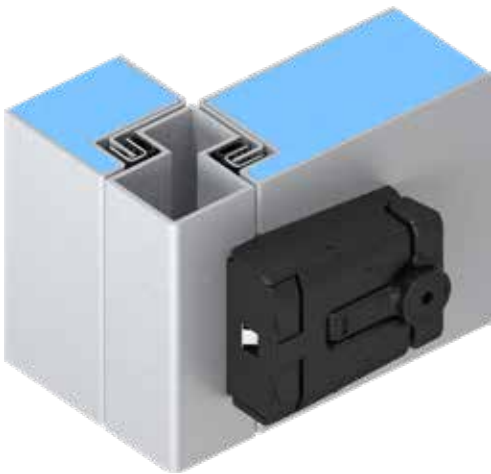
Article number index

Latch-hinge small, with or without pressure relief

PROGRAM 1091



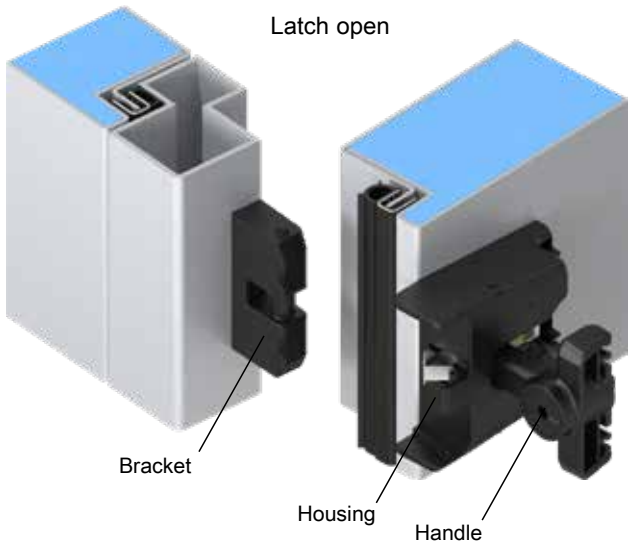
Latch-hinge locked



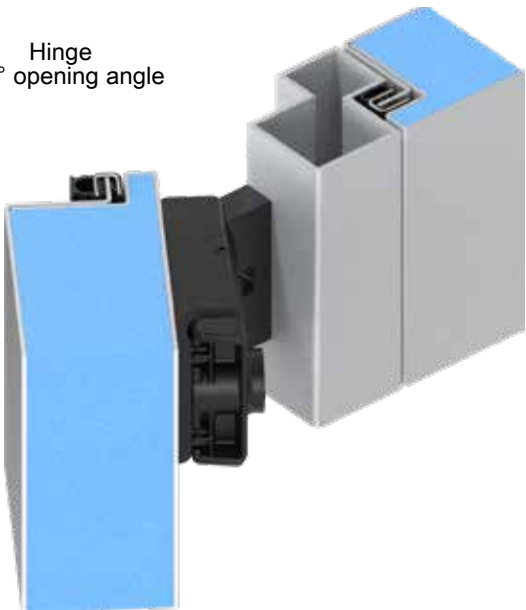
Latch-hinge with pressure relief, handle unlocked



Latch open

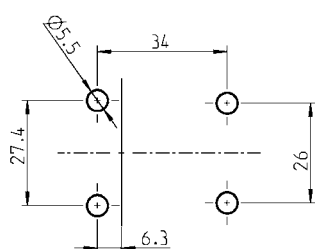
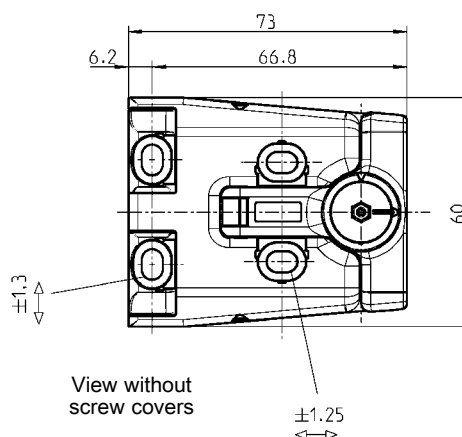
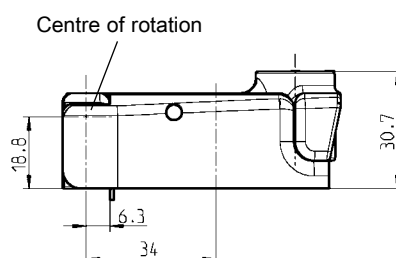
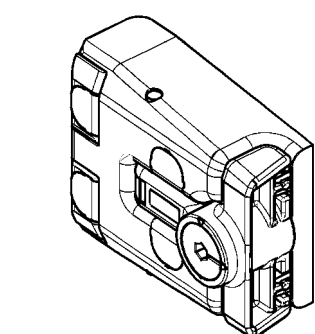


Hinge
180° opening angle



Product benefits

- The favourable pivot point of the handle makes a seal compression of 5 mm possible using low actuation forces
- Door or panel can be removed by unlatching the handles on both sides
- 2D adjustable (tolerance compensation)
- Latch hinge can be mounted as one piece with the door / flap in place
- Right or left hinged
- Hinge with 180° opening angle
- Latch-hinge with safety function "pressure relief" can be ordered optionally
- ATEX version available on request
- Patented



Bracket Housing
Cut out

Latch-hinge small:
housing, handle, bracket polyamide GF black;
screw covers polyamide black;
latch zinc die nickel-plated plus top coat;
pin AISI 303; with spring

① Insert hexagon female SW 4 polyamide GF black

② Round cylinder Series 9000 zinc die with stainless steel cap and dust cap
Each round cylinder has two silver steel nickel plated reversible keys at a ring.

	① Insert	② Keyed 9081	② keyed different
without pressure relief	1091-U169	on request	on request
with pressure relief	1091-U168	on request	on request

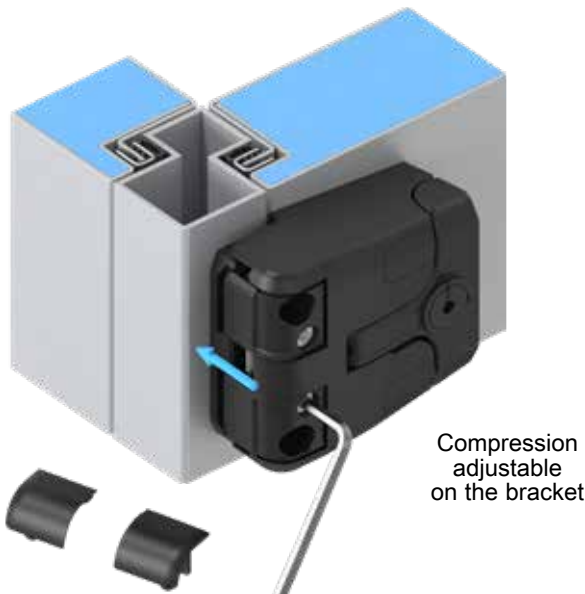
Further inserts
on request

Latch-hinge medium, with or without pressure relief

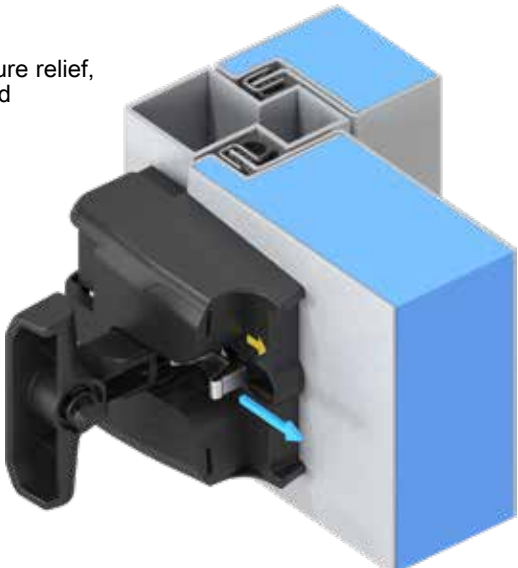
PROGRAM 1091



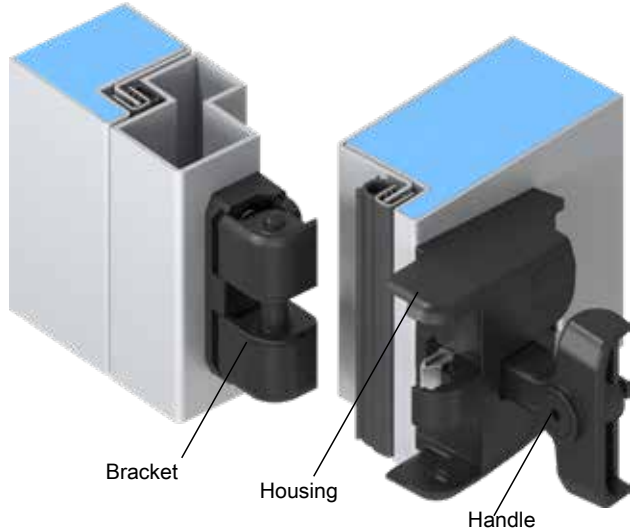
Latch-hinge locked



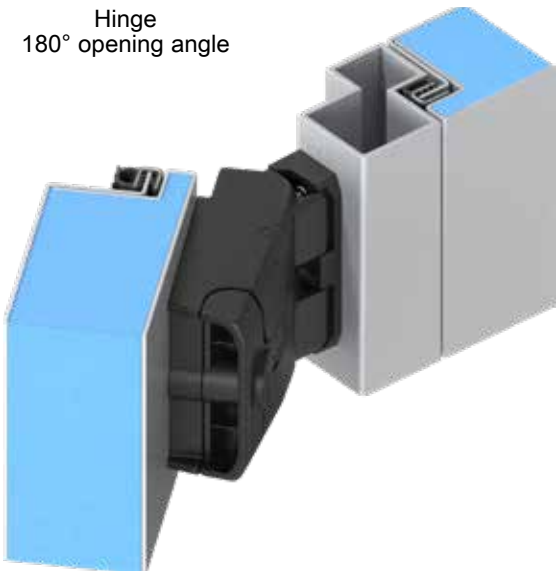
Latch-hinge with pressure relief, handle unlocked



Latch open

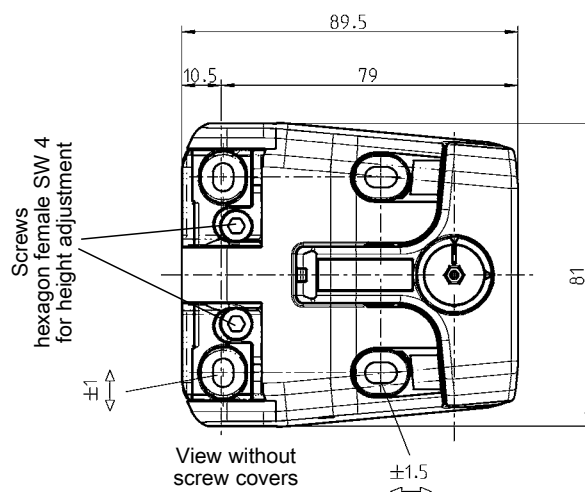
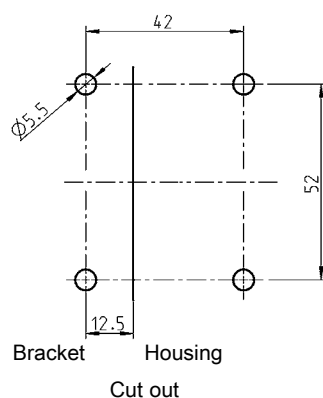
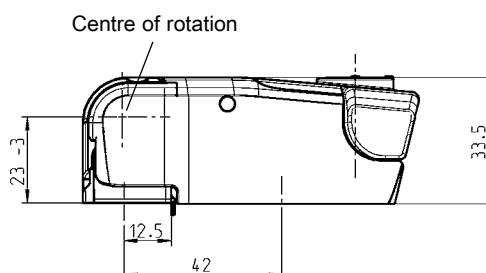
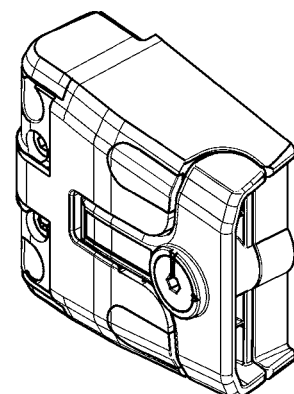


Hinge
180° opening angle



Product benefits

- When the door is closed, the latch is adjustable (3 mm) to achieve perfect alignment
- The favourable pivot point of the handle makes a seal compression of 5 mm possible using low actuation forces
- Door or panel can be removed by unlatching the handles on both sides
- 3D adjustable (tolerance compensation)
- Latch hinge can be mounted as one piece with the door / flap in place
- Right or left hinged
- Hinge with 180° opening angle
- Latch-hinge with safety function "pressure relief" can be ordered optionally
- ATEX version available
- Patented



Latch-hinge medium:
housing, handle, screw covers polyamide GF black;
top and bottom bracket zinc die black powder-coated;
latch zinc die nickel-plated plus top coat; pin AISI 303;
screw for height adjustment, washer and nut m.s. zinc-plated; with spring

① Insert hexagon female SW 4 polyamide GF black

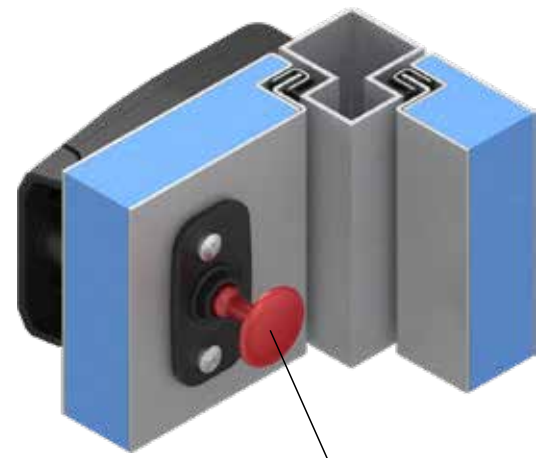
② Round cylinder Series 9000 zinc die with stainless steel cap and dust cap
Each round cylinder has two silver steel nickel plated reversible keys at a ring.

	① Insert	② Keyed 9081	② keyed different
without pressure relief	1091-U146	on request	on request
with pressure relief	1091-U147	on request	on request

Further inserts on request

Latch-hinge large, optionally with emergency opening

PROGRAM 1091



Latch-hinge locked

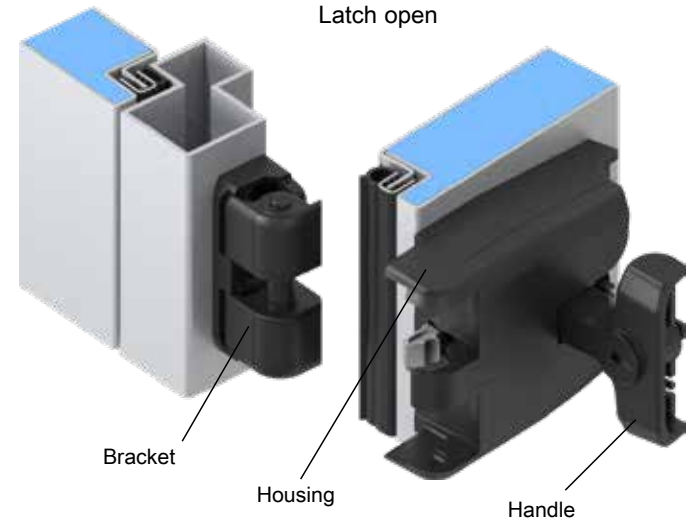
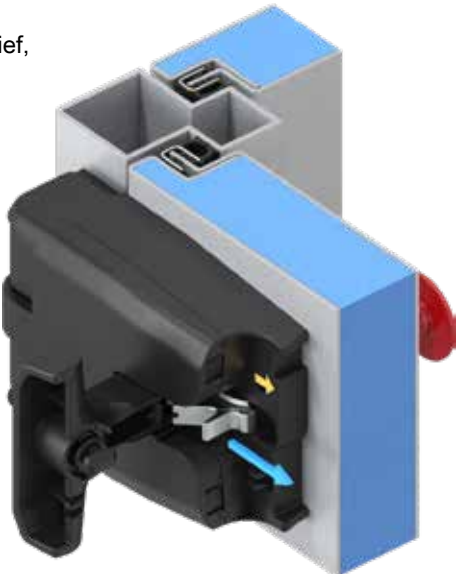


By pressing the emergency opening, the latch-hinge is opened safely even when the handle is locked

Compression adjustable on the bracket



Latch-hinge with pressure relief, handle unlocked

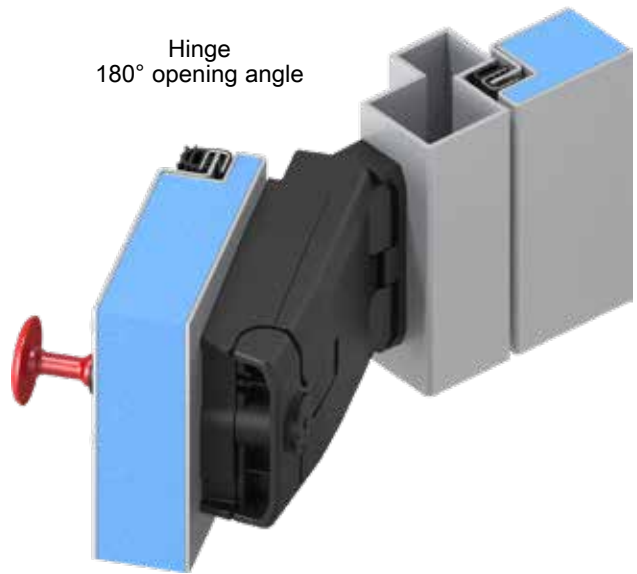


Latch open

Bracket

Housing

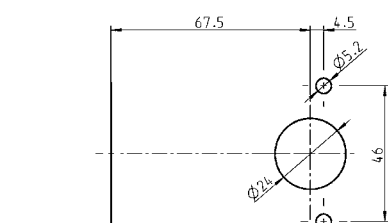
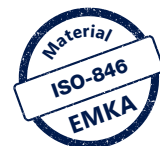
Handle



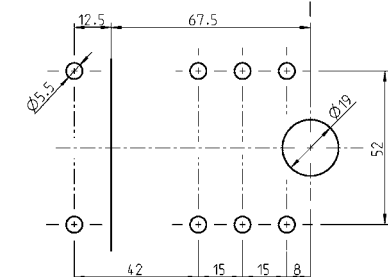
Hinge 180° opening angle

Product benefits

- When the door is closed, the latch is adjustable (3 mm) to achieve perfect alignment
- The favourable pivot point of the handle makes a seal compression of 5 mm possible using low actuation forces
- Door or panel can be removed by unlatching the handles on both sides
- 3D adjustable (tolerance compensation)
- Right or left hinged
- Hinge with 180° opening angle
- Latch-hinge with safety function "pressure relief" can be ordered optionally
- ATEX version available on request
- Patented

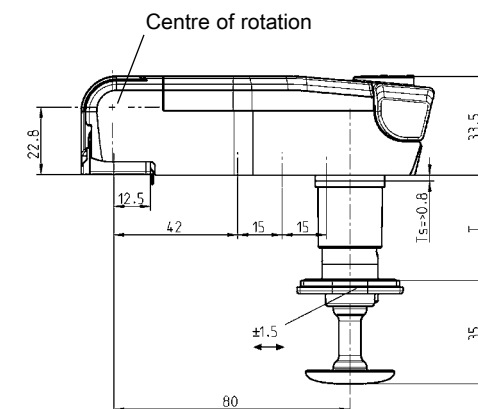


Cut out rear



Bracket Housing
Cut out front

Screws
hexagon female SW 4
for height adjustment



View without
screw covers

Latch-hinge large:

housing, handle, screw covers polyamide GF black;
top and bottom bracket zinc die black powder-coated;
latch zinc die nickel-plated plus top coat; pin AISI 303;
screws for height adjustment, washer and nut m.s. zinc-plated; with springs and seal

① Insert hexagon female SW 4 polyamide GF black

② Round cylinder Series 9000 zinc die with stainless steel cap and dust cap
Each round cylinder has two silver steel nickel plated reversible keys at a ring.

	① Insert	② Keyed 9081	② keyed different
without pressure relief	1091-U190	1091-U194	1091-U198
with pressure relief	1091-U191	1091-U195	1091-U199

Further inserts
on request

Emergency opening

Bezel, wrap polyamide GF black; trigger polyamide GF red; with seal

T = 30 + 4.5 mm	1091-U175-30
T = 50 + 4.5 mm	1091-U175-50
T = 60 + 4.5 mm	1091-U175-60
T = 40, 70 - 100 mm	on request

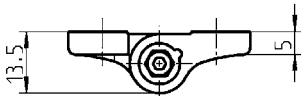
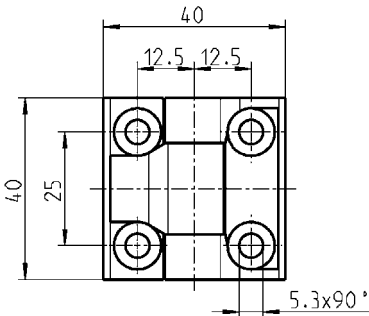
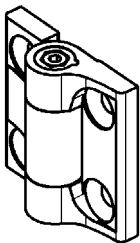
180° Screw-on torque hinge with adjustment function

PROGRAM 1056



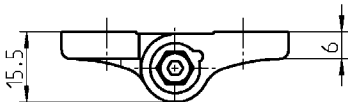
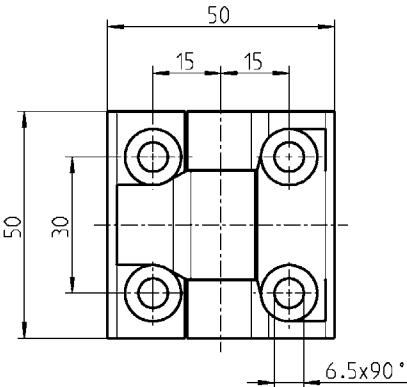
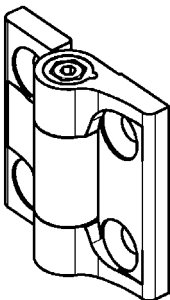
Product benefits

- Adjustable torque
- Holds any position continuously at adequate load
- Constant torque across 180° adjustment range
- Same torque during opening and closing
- Compatible with all hinges of the 1056 program with identical cut out
- Can replace door stops, cover stays or gas springs depending on installation location



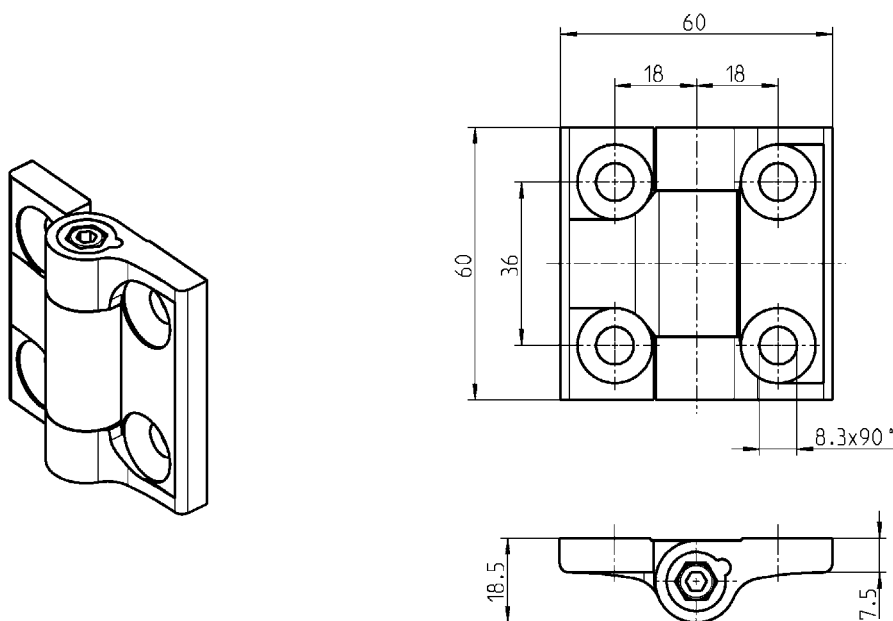
180° Screw-on torque hinge zinc die black powder-coated for countersunk screw M5; friction cone polyacetal POM; screw and nut m.s. zinc-plated

Nm	max. tightening torque of screw in Nm	
to ~ 2	0.5	1056-U6-01



180° Screw-on torque hinge zinc die black powder-coated for countersunk screw M6 (2D nut can be used); friction cone polyacetal POM; screw and nut m.s. zinc-plated

Nm	max. tightening torque of screw in Nm	
to ~ 4	0.75	1056-U10-01



180° Screw-on torque hinge zinc die black powder-coated for countersunk screw M8;
friction cone polyacetal POM; screw and nut m.s. zinc-plated

Nm max. tightening torque of screw in Nm

to ~ 6.5

1.5

1056-U14-01

Dimensioning / Calculation:

The number of hinges for covers depends on the size and weight of the cover.
We are pleased to help you with the dimensioning of the hinges on request.

Example:

Opening angle: α = 120
Door length: L = 0.8 m
Door mass: m = 3.5 kg
Gravitational pull: g = 9.81 m/s²
Torque hinge: M = 6.5 Nm
Number of hinges: n = ?

Formula:

$$\text{Total } M = \left(\frac{L \times m \times (g \times \sin \alpha)}{2} \right)$$

Result:

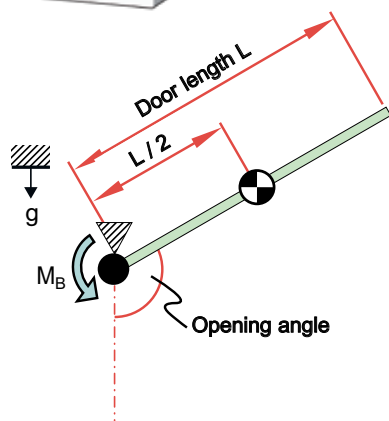
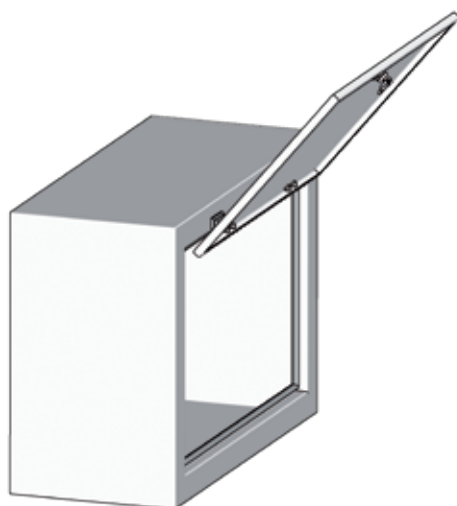
11.9 Nm = 2 hinges of item no. 1056-U14-01

Torque hinge

The hinge can be set continuously in any position.
There it remains in the same position.
The torque is the same during opening and closing.

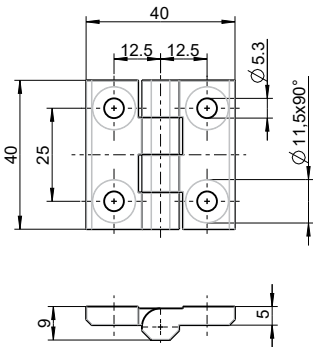
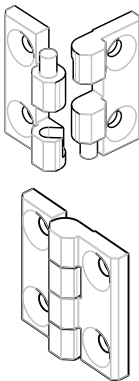
Application:

This torque hinge is suitable for doors and covers.



180° Screw-on hinge without hinge pin

PROGRAM 1056



Polyamide GF black



Zinc die chrome-plated

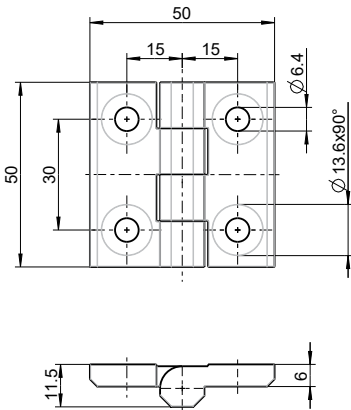
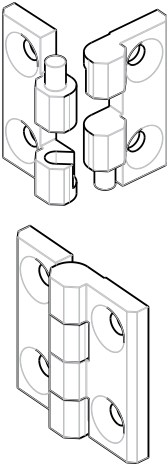


Aluminium anodized



AISI 316 bright polished

180° Screw-on hinge without hinge pin - size 40x40 mm	
Screw-on hinge polyamide GF, zinc die, aluminium or stainless steel	
Surface or colour by choice	
Polyamide GF black (further colours on request), unassembled	1056-U77-01
Zinc die black powder-coated	1056-U75-02
Zinc die chrome-plated	1056-U75-01
Aluminium anodized	1056-U78-01
Aluminium black powder-coated	1056-U78-02
Aluminium raw	1056-U78-03
AISI 316 polished	1056-U80-01
AISI 316 bright polished	1056-U80-02



Aluminium anodized

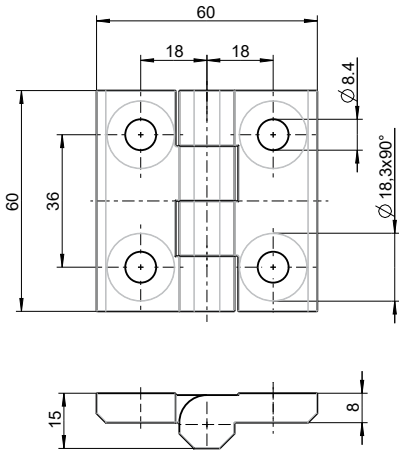
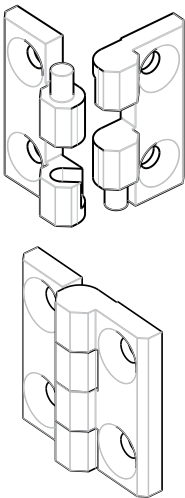


AISI 316 bright polished

180° Screw-on hinge without hinge pin - size 50x50 mm	
Screw-on hinge polyamide GF, zinc die, aluminium or stainless steel	
Surface or colour by choice	
Polyamide GF black (further colours on request), unassembled	1056-U84-01
Zinc die black powder-coated	1056-U82-02
Zinc die chrome-plated	1056-U82-01
Aluminium anodized	1056-U85-01
Aluminium black powder-coated	1056-U85-02
Aluminium raw	1056-U85-03
AISI 316 polished	1056-U87-01
AISI 316 bright polished	1056-U87-02

180° Screw-on hinge without hinge pin

PROGRAM 1056



Zinc die black powder-coated

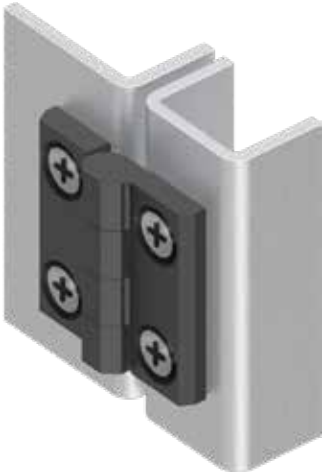
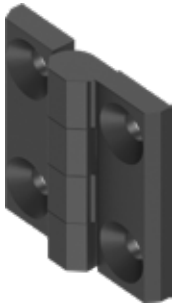


AISI 316 polished

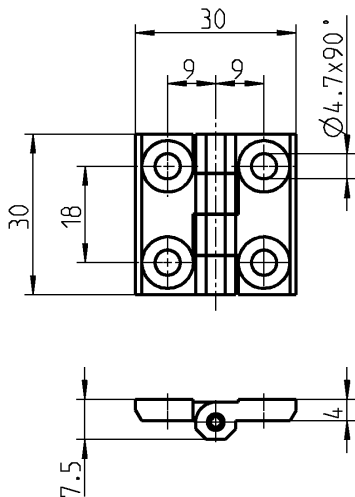
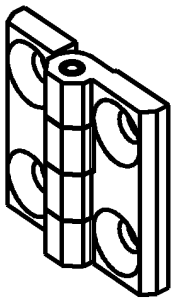
180° Screw-on hinge without hinge pin - size 60x60 mm	
Screw-on hinge polyamide GF, zinc die, aluminium or stainless steel	
Surface or colour by choice	
Polyamide GF black (further colours on request), unassembled	1056-U91-01
Zinc die black powder-coated	1056-U89-02
Zinc die chrome-plated	1056-U89-01
Aluminium anodized	1056-U92-01
Aluminium black powder-coated	1056-U92-02
Aluminium raw	1056-U92-03
AISI 316 polished	1056-U94-01
AISI 316 bright polished	1056-U94-02

Product features:

- 3 hinge sizes for countersunk screws M5 / M6 / M8
- 4 materials with different surface types
- Less expensive than the comparable 180° screw-on hinge with hinge pin

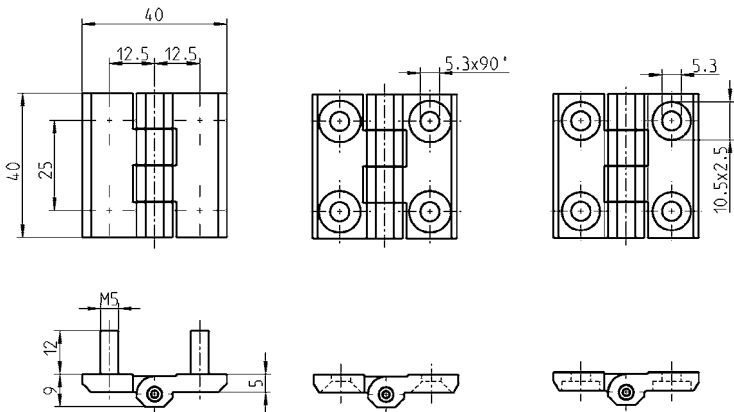
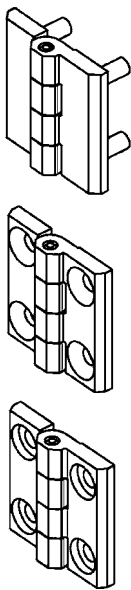


180° Screw-on hinge
PROGRAM 1056



Screw-on hinge for countersunk screw M4; zinc die surface by choice; pin stainless steel

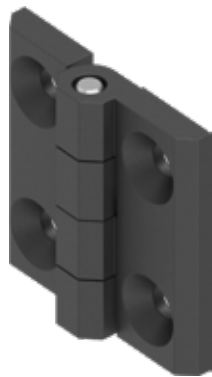
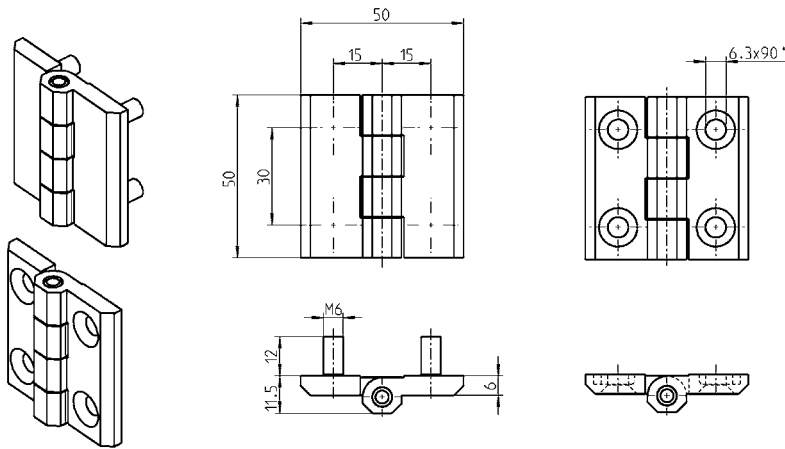
black powder-coated	1056-U60
chrome-plated	1056-U61



Screw-on hinge zinc die, polyamide black or stainless steel; threaded stud M5 stainless steel

	Pin	Threaded stud M5	for countersunk screw M5	for cylinder screw M5
Zinc die chrome-plated	Stainless Steel	1056-U3	1056-U5	–
Zinc die black powder-coated	Stainless Steel	1056-U4	1056-U6	–
Polyamide GF black	Stainless Steel	–	1056-U30	1056-U30-01
Polyamide GF black	Polyamide	–	1056-U41	–
AISI 316 bright polished	Stainless Steel	–	1056-U5-PPPH	–
AISI 316 polished	Stainless Steel	–	1056-U5-PH	–
AISI 316 pickled / passivated	Stainless Steel	–	1056-U5-PVPH	–

180° Screw-on hinge
PROGRAM 1056

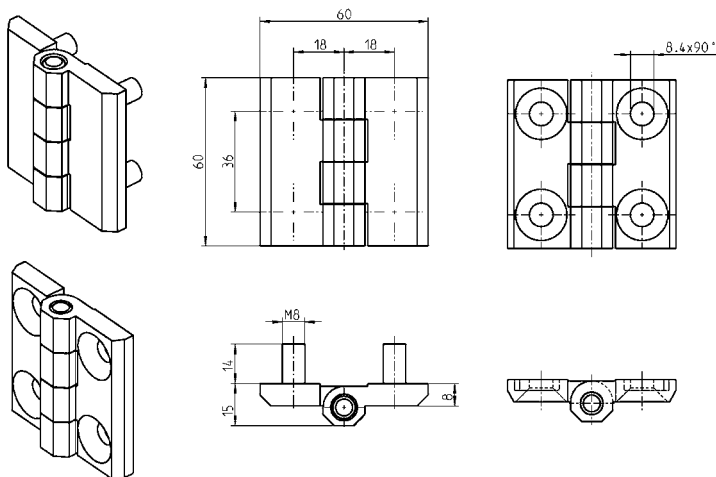


Screw-on hinge zinc die polyamide black or stainless steel; threaded stud M6 stainless steel

	Pin	Threaded stud M6	① for countersunk screw M6
① = (2D nut possible)			
Zinc die chrome-plated	Stainless Steel	1056-U7	1056-U9
Zinc die black powder-coated	Stainless Steel	1056-U8	1056-U10
Polyamide GF black	Stainless Steel	–	1056-U31
Polyamide GF black	Polyamide	–	1056-U42
AISI 316 bright polished	Stainless Steel	–	1056-U9-PPPH
AISI 316 polished	Stainless Steel	–	1056-U9-PH
AISI 316 pickled / passivated	Stainless Steel	–	1056-U9-PVPH

Further parts see page
– 2D nut

K2-410

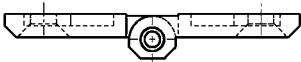
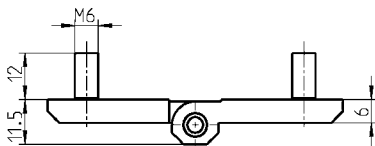
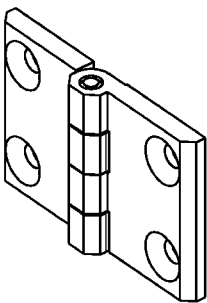
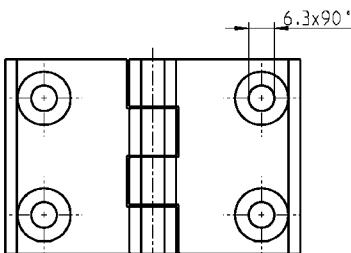
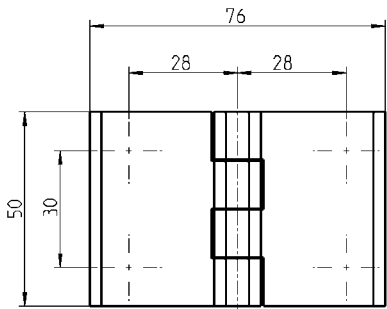
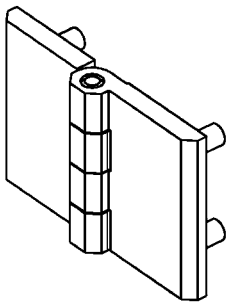


Screw-on hinge zinc die or stainless steel; threaded stud M8 stainless steel

	Pin	Threaded stud M8	for countersunk screw M8
Zinc die chrome-plated	Stainless Steel	1056-U11	1056-U13
Zinc die black powder-coated	Stainless Steel	1056-U12	1056-U14
Aluminium	Stainless Steel	–	1056-U69
AISI 316 bright polished	Stainless Steel	–	1056-U13-PPPH
AISI 316 polished	Stainless Steel	–	1056-U13-PH
AISI 316 pickled / passivated	Stainless Steel	–	1056-U13-PVPH

270° Screw-on hinge

PROGRAM 1056



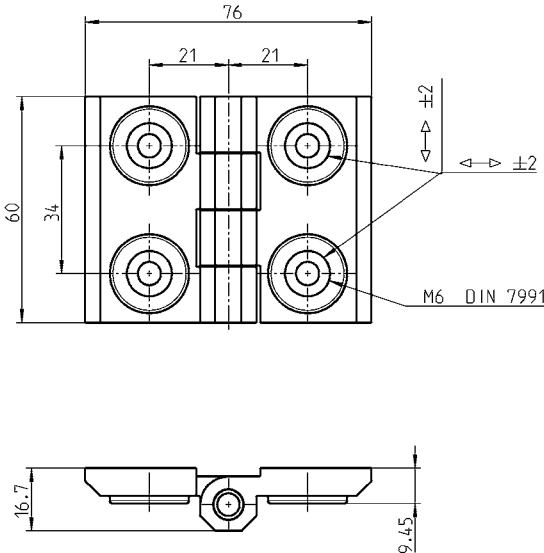
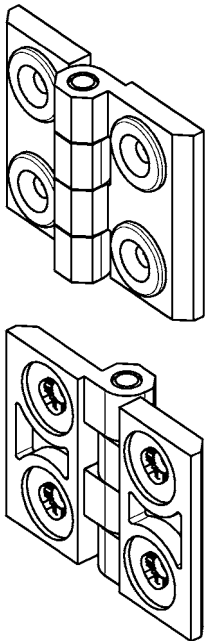
Screw-on hinge zinc die or stainless steel; threaded stud M6 stainless steel			
	Pin	Threaded stud M6	① for countersunk screw M6
① = (2D nut possible)			
Zinc die chrome-plated	Stainless Steel	1056-U15	1056-U17
Zinc die black powder-coated	Stainless Steel	1056-U16	1056-U18
AISI 316 bright polished	Stainless Steel	–	1056-U17-PPPH
AISI 316 polished	Stainless Steel	–	1056-U17-PH
AISI 316pickled / passivated	Stainless Steel	–	1056-U17-PVPH

Further parts see page
– 2D nut

K2-410

180° Screw-on hinge

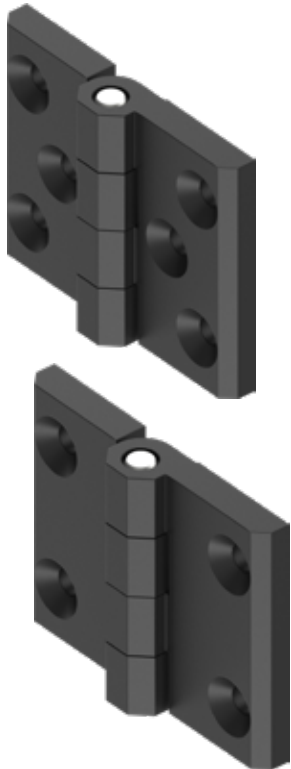
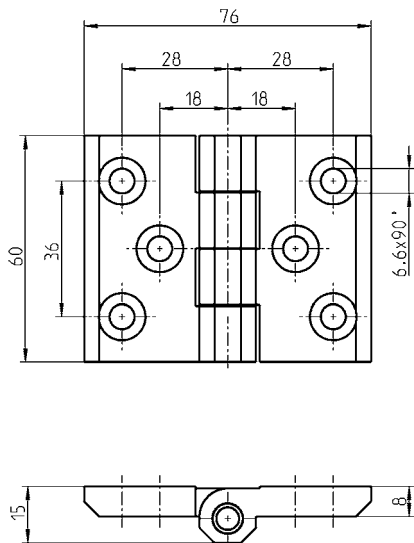
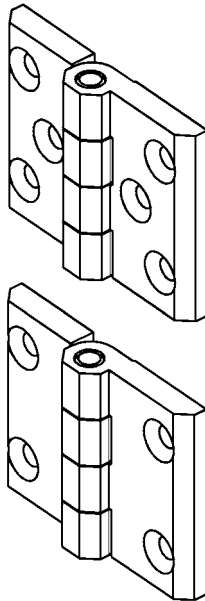
PROGRAM 1056



Recess for commercially available rivet nut M6



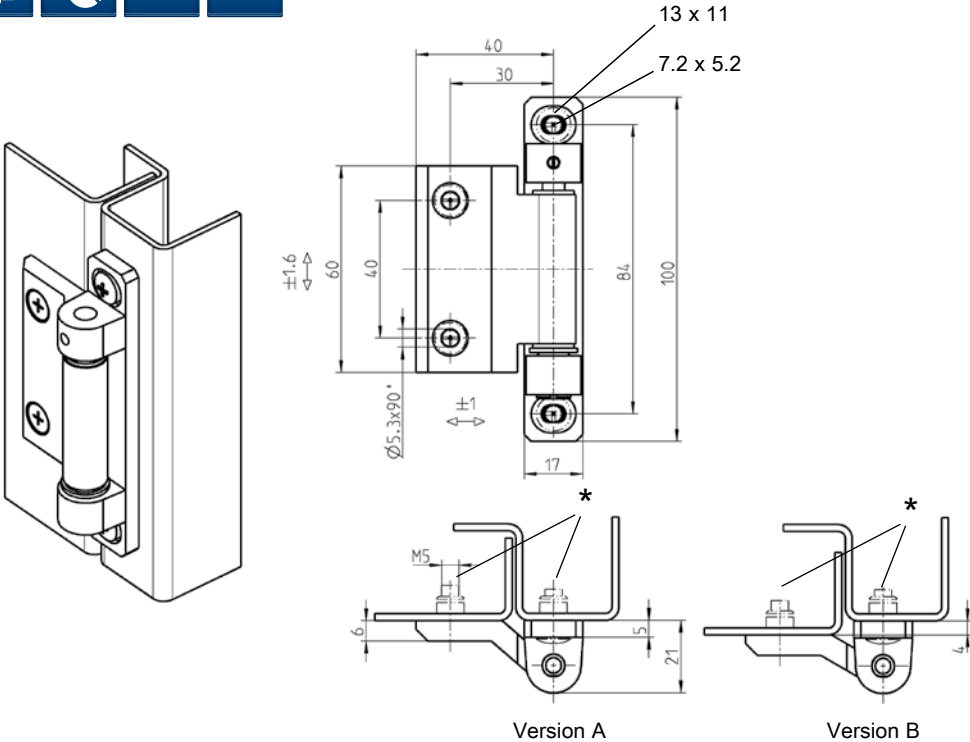
2D Screw-on hinge zinc die black powder-coated; pin stainless steel		Adjustable ± 2 mm in horizontal and vertical direction.
	1056-U27	



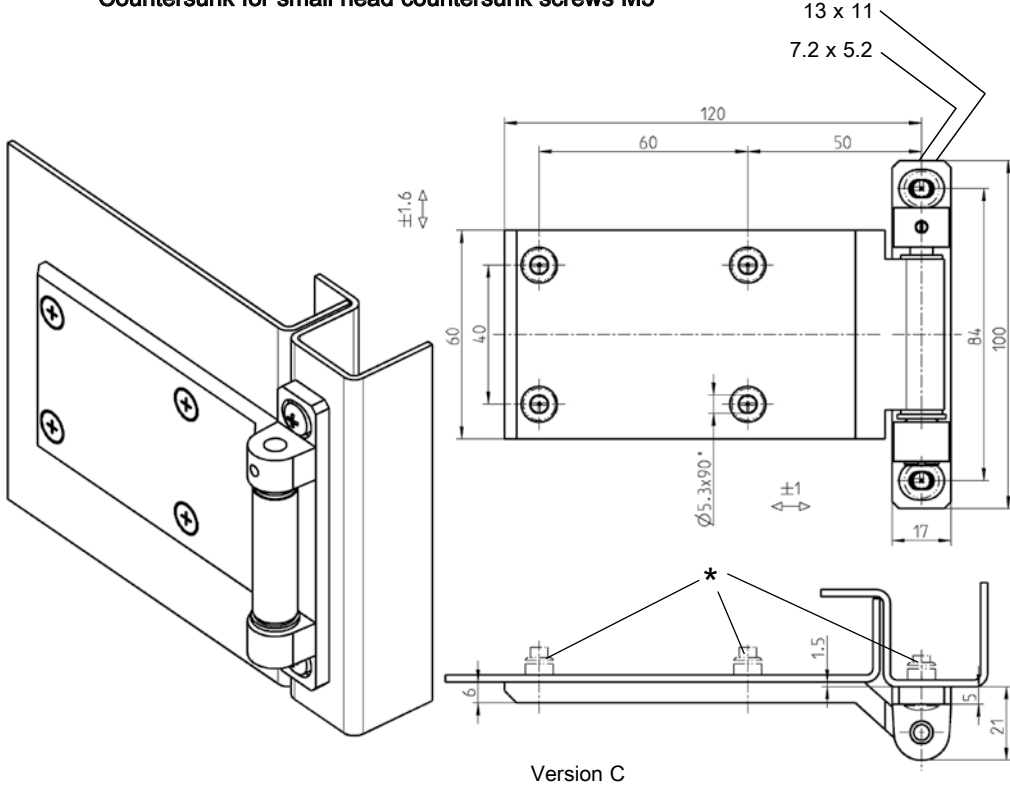
Screw-on hinge zinc die black powder-coated; pin stainless steel		Further parts see page – 2D nut	K2-410
with 4 countersunk holes (2D nut possible)	1056-U29		
with 6 countersunk holes (2D nut possible)	1056-U28		

180° 2D Screw-on hinge

PROGRAM 1054



Countersunk for small head countersunk screws M5



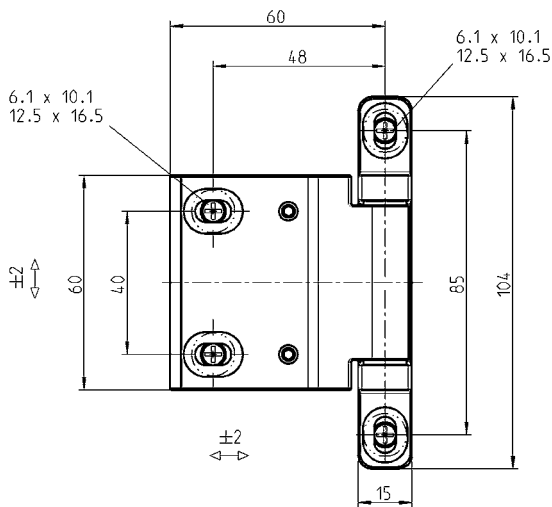
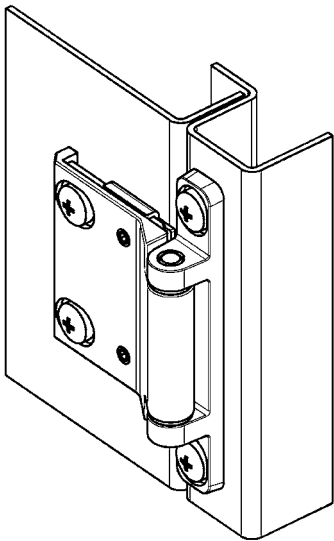
2D Screw-on hinge zinc die; shaft brass nickel-plated; washer m.s. zinc-plated and bush polyamide natural			
	Version A	Version B	Version C
black powder-coated	1054-U33-01	1054-U34-01	1054-U35-01
raw	1054-U33-02	1054-U34-02	1054-U35-02

* not included in the scope of delivery

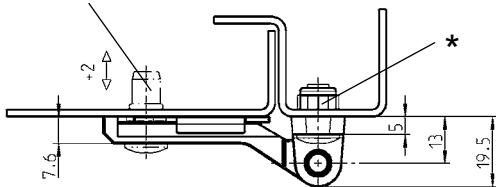
Small head = DIN ISO 2009, 2010, 7046-1, 7046-2, 7047

180° 3D Screw-on hinge

PROGRAM 1054



* Centre part prepared for flat head rivet nut M6



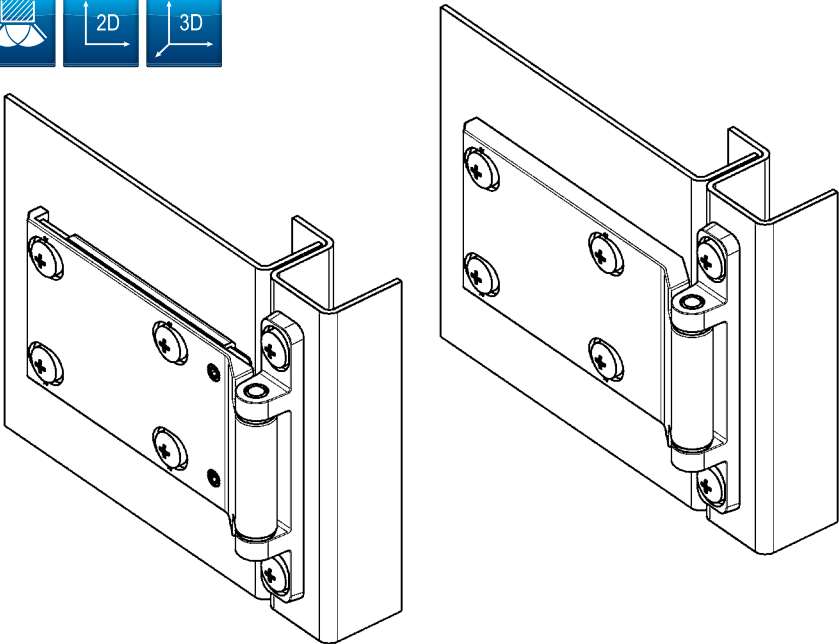
3D Screw-on hinge bracket and centre part zinc die black powder-coated;
shaft, bearing plate and pins stainless steel; bushes plastic nature

1054-U42-01

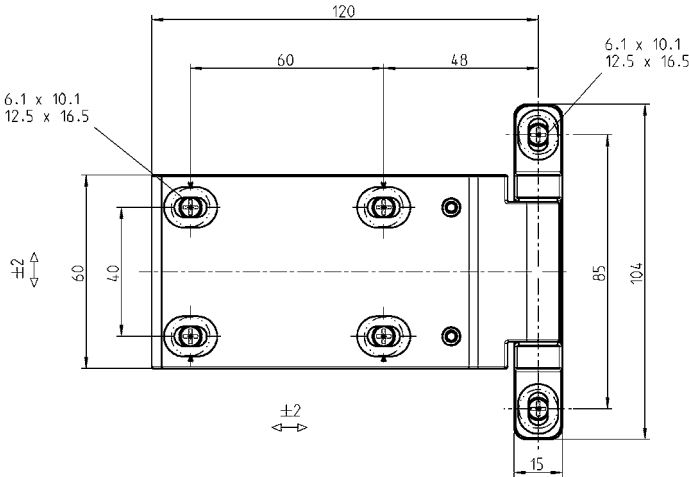
*Oval head screw
DIN ISO 7380 M6x...
not included in scope of delivery

180° 2D and 3D Screw-on hinge

PROGRAM 1054



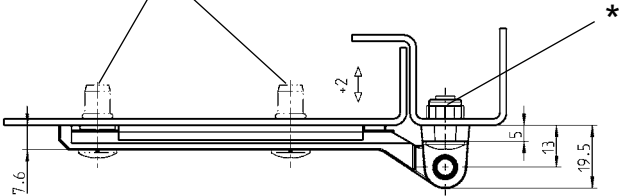
3D Screw-on hinge



2D Screw-on hinge

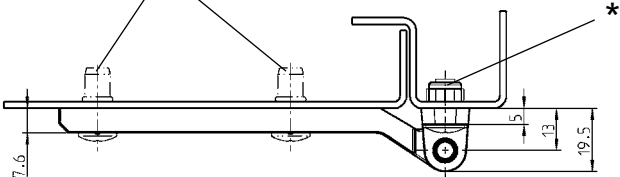


* Centre part prepared for flat head rivet nut M6



3D Screw-on hinge

* Centre part prepared for flat head rivet nut M6



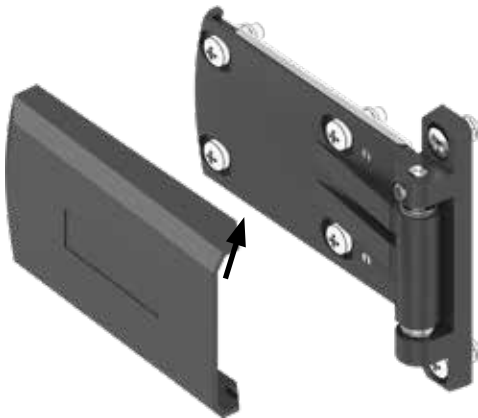
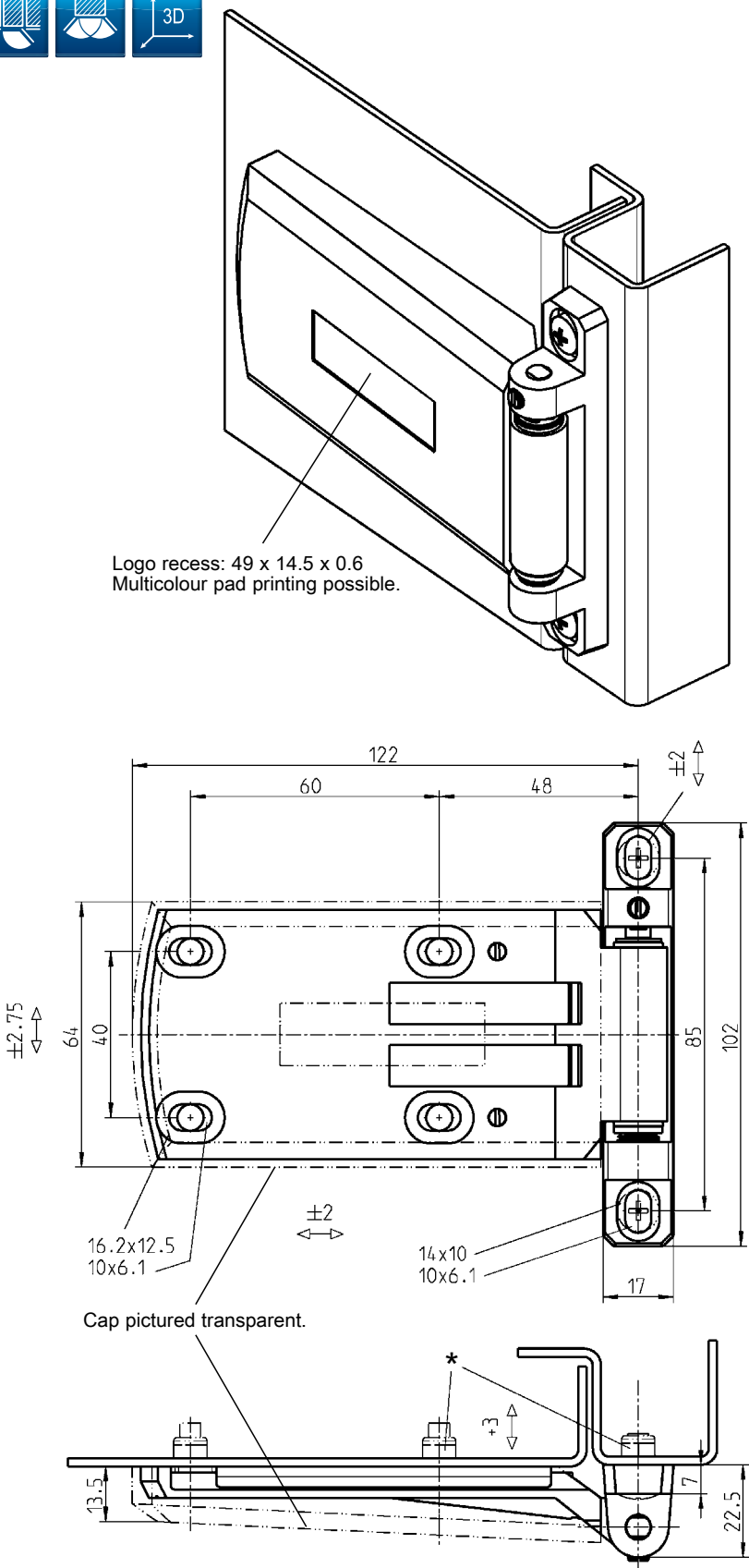
2D Screw-on hinge

3D Screw-on hinge bracket and centre part zinc die black powder-coated; shaft, bearing plate and pins stainless steel; bushes plastic nature	
	1054-U43-01
2D Screw-on hinge bracket and centre part zinc die black powder-coated; shaft stainless steel; bushes plastic	
	1054-U44-01

*Oval head screw
DIN ISO 7380 M6x...
not included in scope of delivery

180° 3D Screw-on hinge

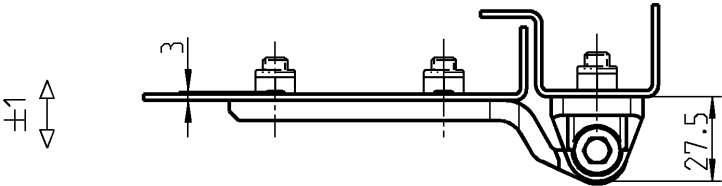
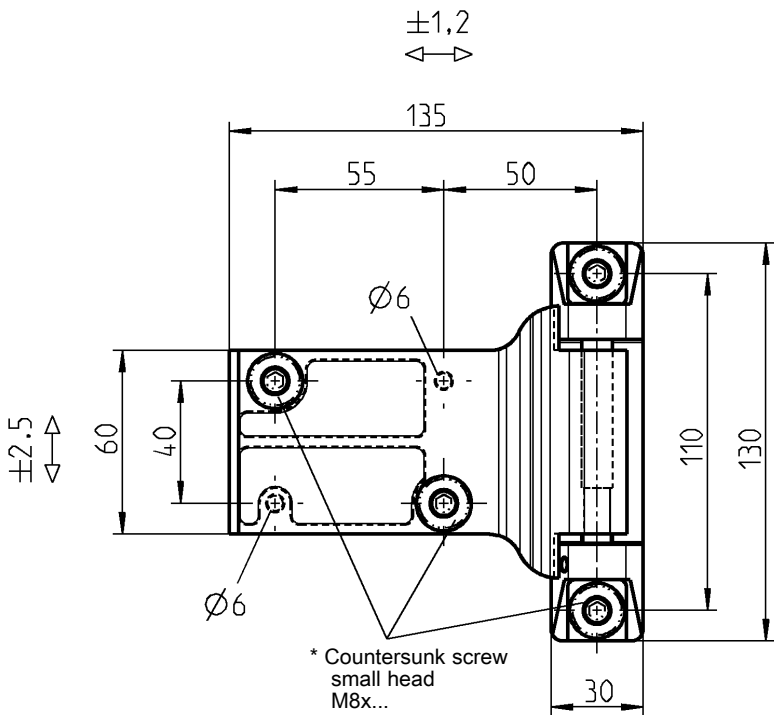
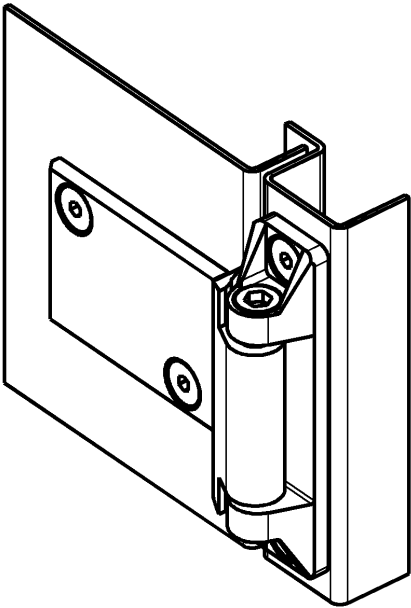
PROGRAM 1054



3D screw-on hinge zinc die black powder-coated; shaft stainless steel; bearing plate and pins m.s. zinc-plated; cap and bushes polyamide black		* not included in the scope of delivery
Right version	1054-U36-RE	
Left version	1054-U36-LI	Right or left version by turning around the hinge leaf.

180° 3D Screw-on hinge

PROGRAM 1054



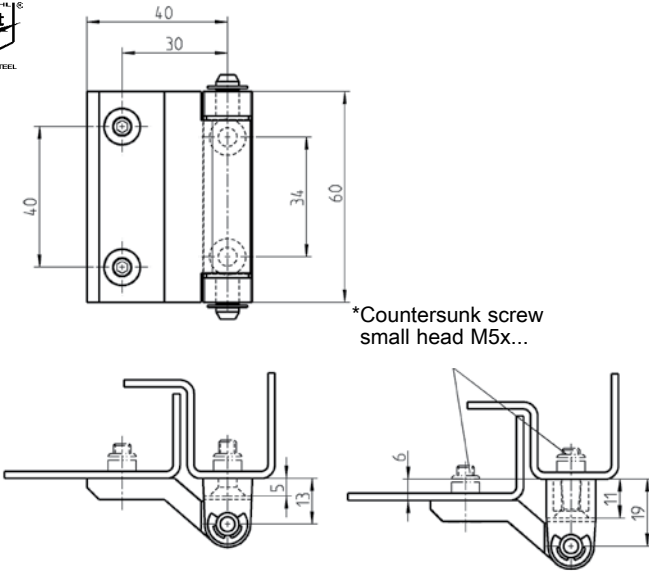
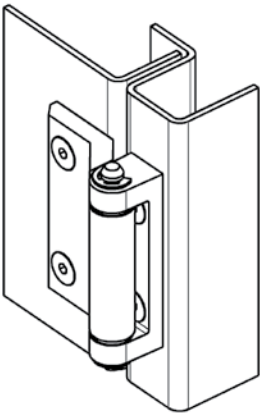
3D Screw-on hinge zinc die; shaft and pin stainless steel		
	Left version	Right version
black powder-coated	1054-U32	1054-U31
raw	1054-U32-01	1054-U31-01

* not included in the scope of delivery

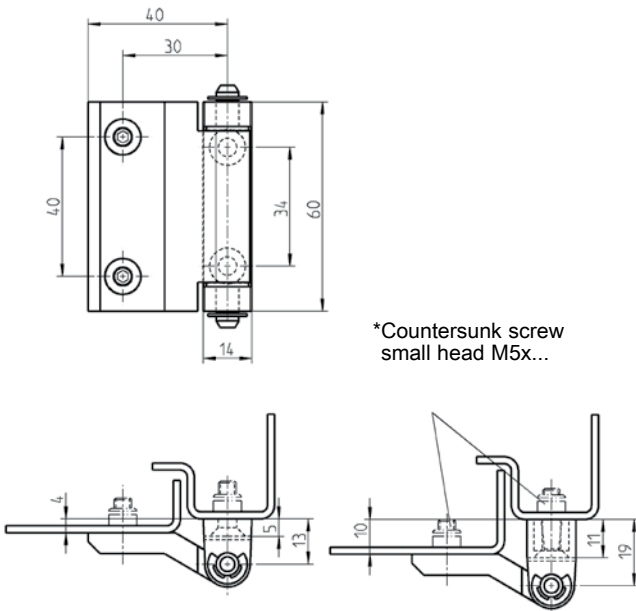
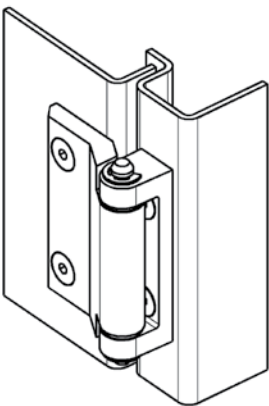
Small head = DIN ISO 2009, 2010, 7046-1, 7046-2, 7047

180° Screw-on hinge

PROGRAM 1054



Screw-on hinge zinc die; pin and washer m.s. zinc-plated; bushes polyamide		
	straight	6 mm higher
chrome-plated	1054-U4	1054-U27
black powder-coated	1054-U5	1054-U28
raw	1054-U22**	1054-U29**
** = Minimum order quantity 1000 pieces		
Screw-on hinge AISI 316 and bushes polyamide		
	1054-U5-PH	-



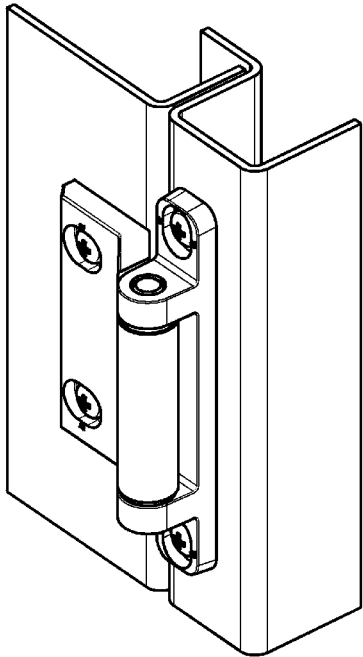
Screw-on hinge zinc die; pin and washer m.s. zinc-plated; bushes polyamide		
	4 mm higher	10 mm higher
chrome-plated	1054-U7	1054-U19
black powder-coated	1054-U10	1054-U20
raw	1054-U18**	1054-U21**
** = Minimum order quantity 1000 pieces		

* not included in the scope of delivery

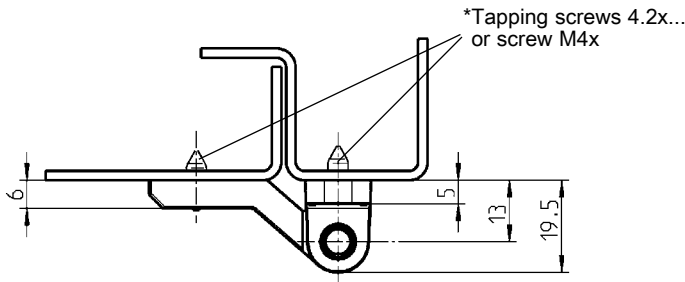
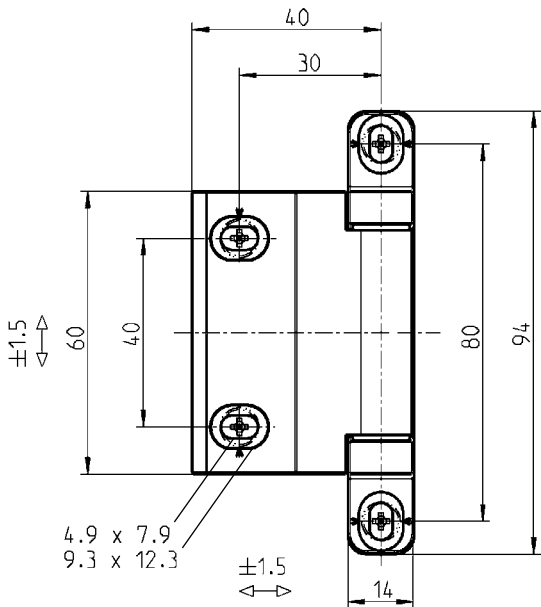
Small head = DIN ISO 2009, 2010, 7046-1, 7046-2, 7047

180° 2D Screw-on hinge

PROGRAM 1054



Bracket

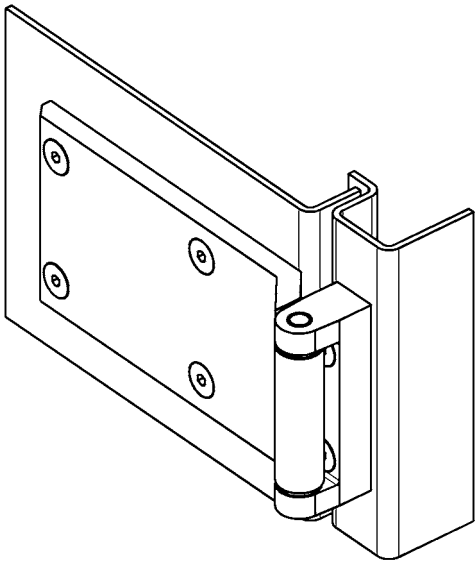


* not included in the scope of delivery

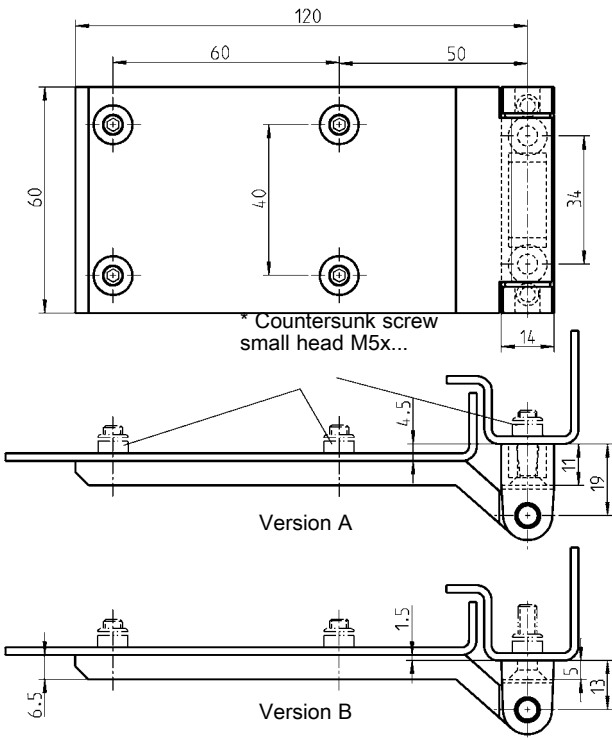
180° 2D Hinge zinc die black powder-coated; pin stainless steel; bushes polyamide	
	1054-U37

180° Screw-on hinge

PROGRAM 1054



Bracket

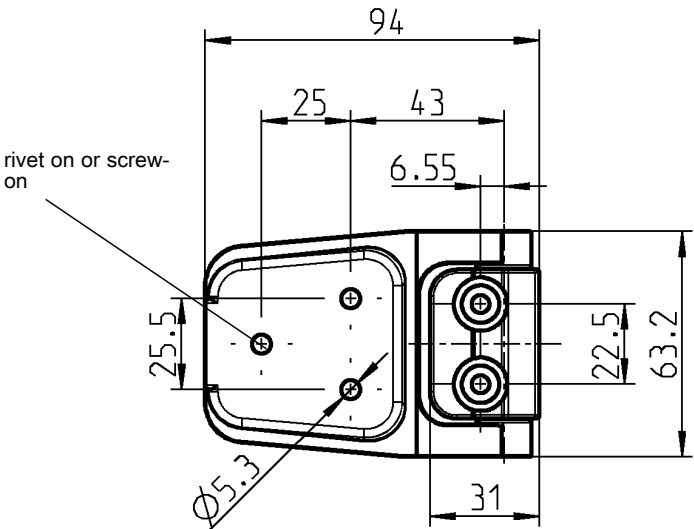
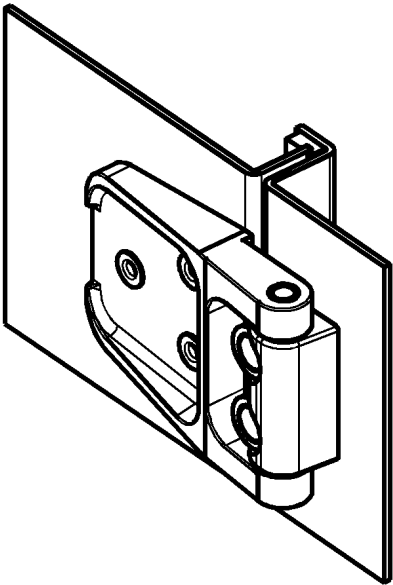


Screw-on hinge zinc die; pin stainless steel; bushes polyamide		
	Version A	Version B
black powder-coated	1054-U11	1054-U6
raw	1054-U13**	1054-U12**
** = Minimum order quantity 1000 pieces		

* not included in the scope of delivery

Small head = DIN ISO 2009, 2010, 7046-1, 7046-2, 7047

180° Hinge
PROGRAM 1091



Application
Suitable for sandwich doors

Hinge polyamide GF black; pin m.s. zinc-plated	
	1091-U117

2D Nut, e.g. for screw-on hinge

PROGRAM UNIVERSAL

Mounting example:
Hinge for flush door



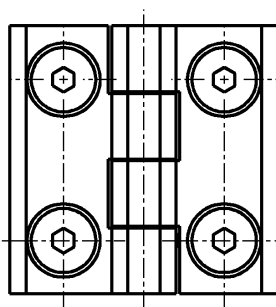
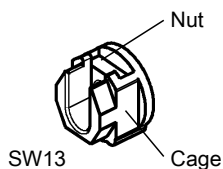
Cut out
Ø 10



± 2

Attention:

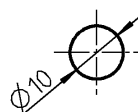
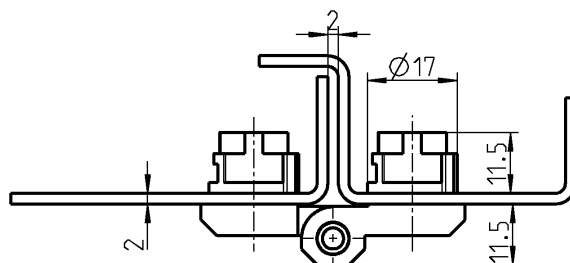
Each 2D nut is
adjustable ± 2 mm
in any direction.



Advantage:

1. No adjustability can
be seen from the outside.
2. With the 2D nut,
you can convert any hinge or
catch that attaches from
front to back into a
2D hinge or 2D catch.

Other thread sizes
on request



Cut out for 2D nut M6

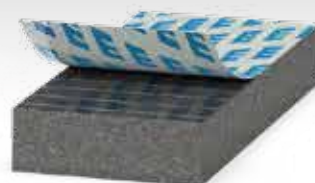
2D Nut cage zinc die zinc-plated; nut m.s. zinc-plated

M6 with SW 13

1056-U51

Further parts see page
– Screw-on hinge

K2-230
to K2-250



List of contents

INFO



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K1-210	Door locks
K1-310	Heavy duty latches
K1-410	Quarter turns
K1-510	Compression latches
K1-610	Accessories for locks and latches



2 Hinges

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3 Sealing Profiles and Edge Protection

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K3-210	Seals, self-clamping
K3-310	Seals secured in a U-section
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4 Accessories

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K4-210	Recessed grips
K4-310	Bow-type handles
K4-410	Miscellaneous

Article number index

Mounting types

The mounting type is a decisive factor in choosing the right profile.

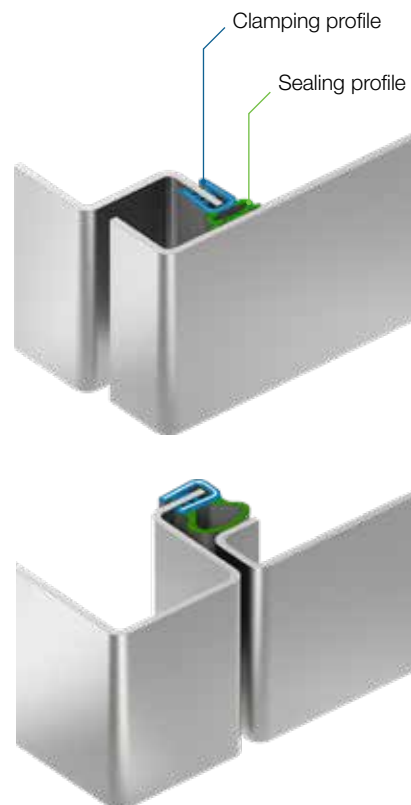
The profiles distributed by EMKA offer mounting types for every application. The four standard mounting types are explained and illustrated below.

Self-clamping

Self-clamping profiles have an internal steel or wire clamping strip in the clamping area, which ensures that the seal is held securely on the sheet edge.

The clamping area and the sealing area usually consist of soft rubber in different Shore hardness as well as foam rubber with different density. Depending on the installation situation and requirements, a simple edge protection or a clip-on profile with sealing balloon or sealing lip can be attached to the edge.

In order to achieve a perfect sealing result, it is necessary to adhere to the bending radii specified in the catalogue. Material buckling or stretching can cause leaks.

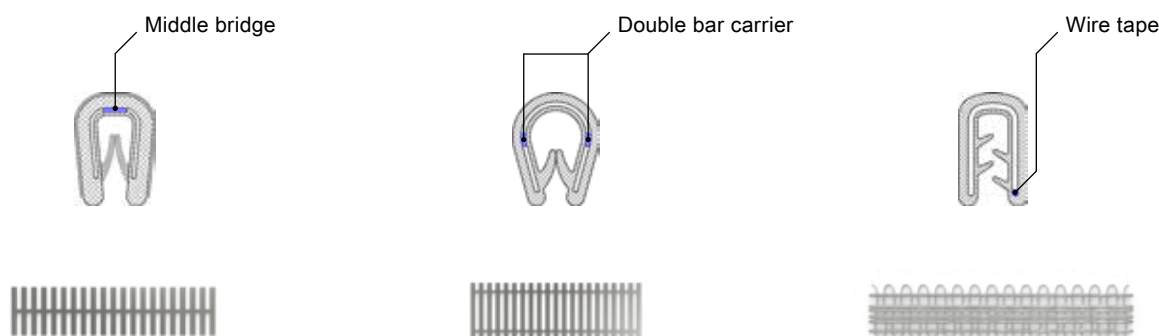


Stamped wire or wire spiral carrier?

Through the use of steel or wire clamping strips, profiles can adhere well even without adhesive bonding. Steel strapping generally shows a higher clamping effect than wire strapping. However, with "unbroken" profiles, the restricted bending radii laterally over the legs can be disadvantageous.

This can be remedied by breaking the connecting webs; however, this can result in an "unsteady" appearance of the profile strand. In most technical applications the appearance is irrelevant.

The choice between wire or steel clamping band depends on the respective installation situation and the desired appearance.



Plugged

The plugged profile does not have a metal insert and is not glued.

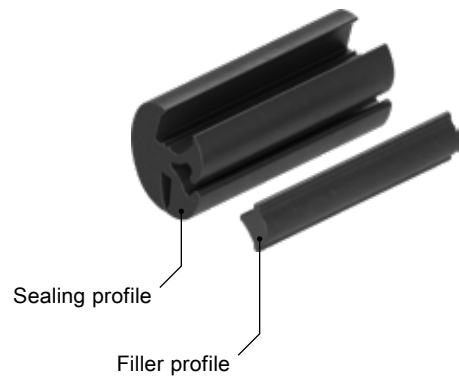
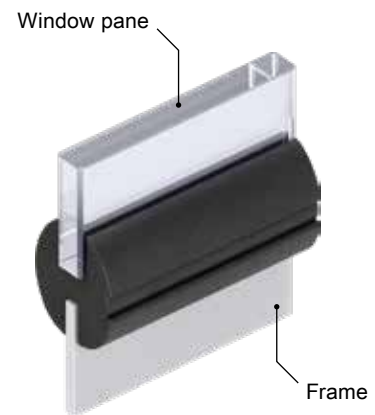
It is plugged into a gap or channel between two edges and safely seals the cavity in this way.



Clamped

Clamping profiles are ideal for screwless insertion of windows into metal or wood cut-outs. The use of a rubber clamping profile guarantees a firm, durable and rattle-free connection in many types of special vehicles, mobile construction site cabins and large machines.

In addition to the filler profile, you can also order the mounting aids from EMKA.

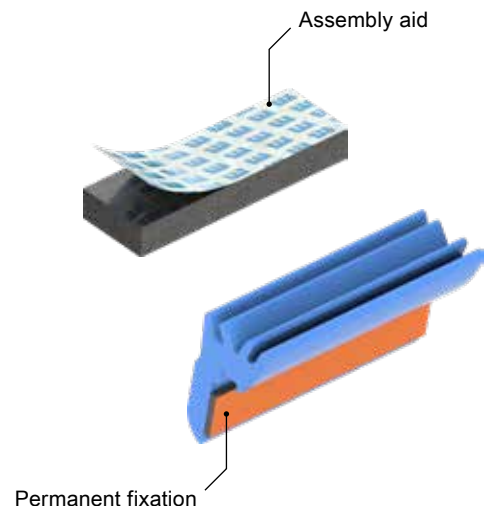


Glued

Bonding technology is particularly suitable for economical and quick fastening. The profile is glued to a flat area.

Due to an adhesive strip attached to the profile, the handling is very easy to install.

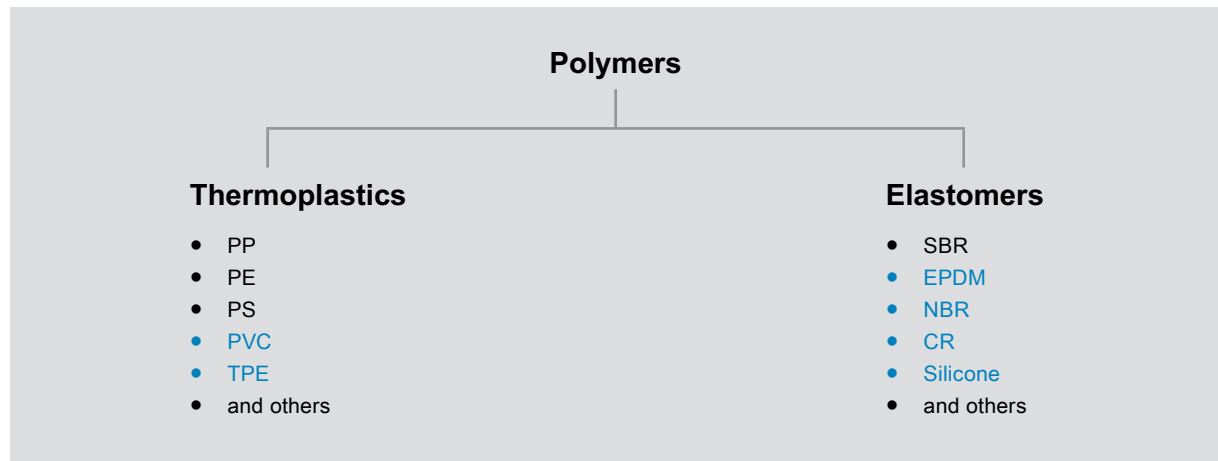
In the case of the adhesive cellular rubber profiles, integrated cotton threads guarantee a stretch-free assembly and thus prevent stretching and subsequent shrinkage of the seal.



Materials

In addition to the base material, many characteristics influence the function and quality of the seal. These include elasticity, residual compression and resistance to chemicals, heat and environmental influences.

EMKA mainly uses the materials EPDM, NBR and silicone.
The materials PVC, TPE and CR are also used.



EPDM (ethylene propylene diene monomer rubber)

- Very good resistance to aging
- UV resistance
- Very good resistance to weathering
- Good ozone resistance
- Very good electrical insulation properties
- Resistant to alcohols and diluted acids (e.g. brake fluids)
- Application range -40 °C to +100 °C
- Special EPDM compounds also -50 °C to +150 °C with hot water and air

NBR (butadiene acrylonitrile rubber)

- Very good oil resistance
- Small compression set
- Good low temperature behaviour
- Typical application range -30 °C and +100 °C (with special compounds)
- Application in the food industry possible

Silicone

- Good elasticity even at very low and high temperatures
- Application range between -60 °C and +200 °C
- Conditional resistance to oils
- Resistance to weathering
- Resistance to aging
- Resistance to ozone
- UV resistance
- Very well suited for medical components
- Colour fastness

Material overview thermoplastics							
Short name	Typical operating temperatures	Resistances (extract)					Characteristics
		Mineral oil	Petrol	Sulphuric acid (conc.)	Water	Ozone	
PVC	approx. -10 °C to +70 °C temporary approx. -40 °C up to +90 °C	2	3	3	1	1	Good chemical resistance and mechanical values, soft PVC hardens in petrol and oil, good weldability and bonding properties.
TPE	approx. -30 °C to +80 °C	3	3	2	1	1	Good mechanical characteristics. TPEs are easy to process, are environmentally friendly and can be recycled. Strong plastic properties at high temperatures.

Material overview elastomers							
Short name	Typical operating temperatures	Resistances (extract)					Characteristics
		Mineral oil	Petrol	Sulphuric acid (conc.)	Water	Ozone	
EPDM	approx. -40 °C to +100 °C temporary up to +130 °C	3	3	1	1	1	Versatile material (seals). Good resistance in hot water, very good resistance to ageing, weathering and ozone.
NBR	approx. -30 °C to +100 °C temporary up to +120 °C	1	2	3	1	3	Versatile material. Seals and moulded parts in contact with mineral oil or fuel. Poor resistance to ozone and weathering.
CR	approx. -25 °C to +100 °C	3	2	3	2	3	Good mechanical characteristics, resistant to weathering and ozone. Does not burn in its own flame.
Silicone	approx. -60 °C to +200 °C	2	3	3	1	1	High thermal resistance, resistant to ageing, ozone and weathering. Good electrical insulation properties.

1 = Very good resistance, little or no attack (for thermoplastics: swelling < 3 % or weight loss <0.5 %)

2 = Good resistance, weak to moderate attack (for thermoplastics: swelling 3-8 % or weight loss 0.5-5 %)

3 = Not resistant, strong attack to complete destruction (for thermoplastics: swelling 3-8 % or weight loss >5 %)

Standards and certifications

EMKA sealing profiles are particularly high quality and safe, as shown by numerous certificates according to DIN, VDI, UL or fire protection standards. These play an important role in the use of the seals in order to define their quality or suitability for different applications - also country-specific.

The high quality and product standards are ensured by the excellent manufacturing competence and the ISO 9001:2008 certified process control. In principle, the production sites are also certified in accordance with the ISO 14001:2009 and IATF 16949:2016 standards.

EMKA profiles comply with the following standards, among others:

Standard	Explanation
VDI 6022	Hygiene requirements for ventilation and air conditioning systems
PMMA compatible according to Röhm	Stress crack resistance ("Röhm test method" by bending test)
DIN 7863	Technical delivery conditions of the visible profiles for window and facade construction
UL 50 and UL 50E	Regulation in USA and Canada for components and the construction of certified switchgear and control cabinets
UL 94-HB	Regulation in USA and Canada: Standard test for investigating the burning properties and fire safety of plastics
EN 45545-2	Standard for fire protection in railway vehicles - Part 2: Requirements for the fire behavior of materials and components
ASTM C 1166-06 (2011)	Flame propagation testing for compact and porous elastomeric seals and sealing accessories
Bombardier SMP 800-C Rev. 6:2009.08.31	Generation of toxic gases through material combustion
ASTM E 1354:2016a	Standard test method for heat and visible smoke emission for materials and products using an oxygen consumption calorimeter
ASTM E 662:2015	Standard test method for the specific optical density of smoke generated by solid materials
BSS 7239:1988	Test method for the determination of toxic gases during the combustion of materials
BSS 7242:1989	Determination of the concentration of cyanide, chloride and fluoride ions in solutions from combustion processes
FDA CFR 21 177.2600 (FDA = Food and Drug Administration)	Code of Federal Regulations CFR 21 Compliant mixtures to FDA CFR 21 177.2600

Processing / Finishing

Cutting to length

Upon customer request, profiles can be cut and packed online - i.e. in the running production line - or subsequently to lengths between 5 - 500 cm. Angled cuts, mitre cuts and notches are also possible.



Application of adhesive tape

The toolless mounting by gluing sealing profiles is used for more and more applications. The bonding of completely different materials as well as low-stress bonding due to large-area glued joints are major advantages here. Double-sided adhesive tapes can be applied subsequently for the respective application.



Coating

The natural, high friction coefficients of an elastomer can be significantly reduced with a bonded coating. This operation can be performed online - in the running production line - or subsequently, e.g. after corner vulcanization. The coating is transparent and therefore hardly visible.



Flocking

The flock fibers reduce the friction coefficients, which are very high in rubber. In addition, small unevenness and tolerances can be compensated. Typical applications are, for example, window seals in automotive engineering. Depending on the application, the flocking may wear off. Profile flocking changes the optical and haptic characteristics.



Sheathing / EMC sealing

A conductive foil is wrapped around the rubber profile and firmly bonded to the surface. The conductive connection of frame and door reduces electromagnetic interference. The attainable shielding effectiveness depends on numerous influencing factors.



Processing options

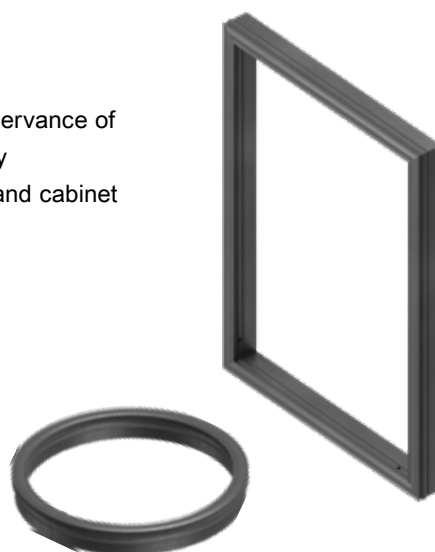
Information about frames and rings

Readily customised frames and rings according to customer specifications

We offer numerous assembly possibilities for the known profiles in fixed lengths. Thus, for frames and rings, the butt and corner joints can be bonded, film-vulcanized or realized by injection moulding (formed corners / end feeds). Possibly arising tool costs needs to be clarified beforehand due to the required assembly option.

Product benefits

- The exact and time-intensive mitre-cutting of the gasket or the observance of the given minimum bending radius of the gaskets are not necessary
- The ready-made frames and rings make it easy to attach to doors and cabinet frames
- No leakiness at butt ends and mitre joints



Glueing

The most simple process is to glue two profile ends.

For all rings, vent holes are strongly recommended as the compression force increases in a closed ring.

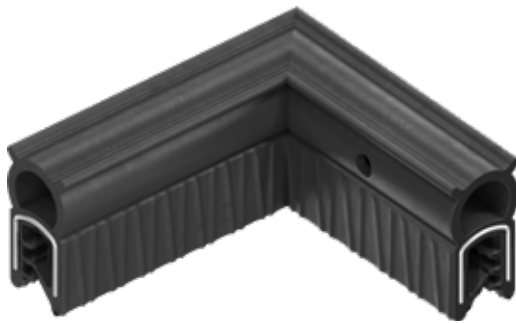
A better and more durable process is film vulcanization.



Film vulcanization

Film vulcanization is a permanent and durable process.

A foil of the same material is inserted between the profile ends that are to be vulcanised. The time required for film vulcanization is higher than for glueing.



Injection moulding

Injection molding stands for mould corners and end feeds.

Injection moulding is a process for creating special corners for a frame, for example.

In the example shown, a lip profile is formed round in the corners ① while the clamping area ② of the profile is formed in a right angle. This is not possible when vulcanizing profile ends with mitre joint.

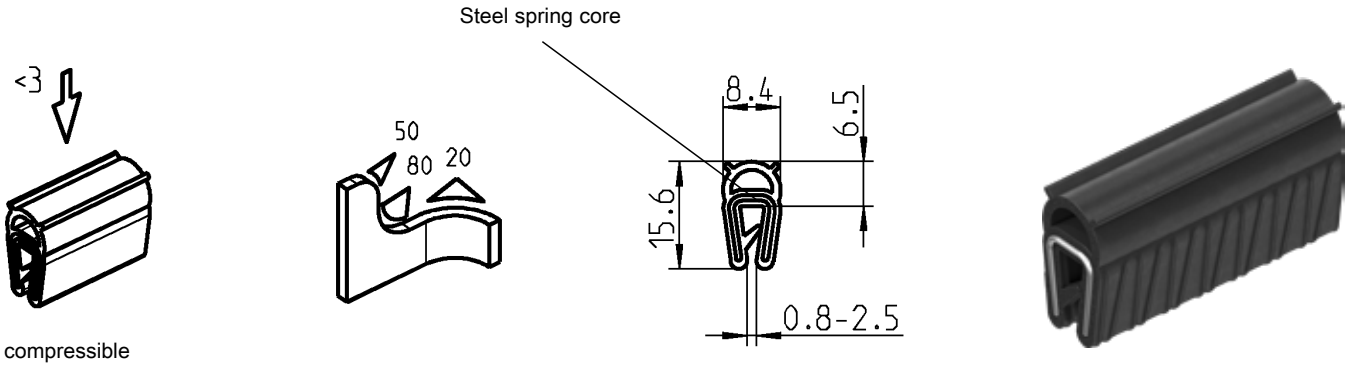


Seals, self-clamping

PROGRAM 1011

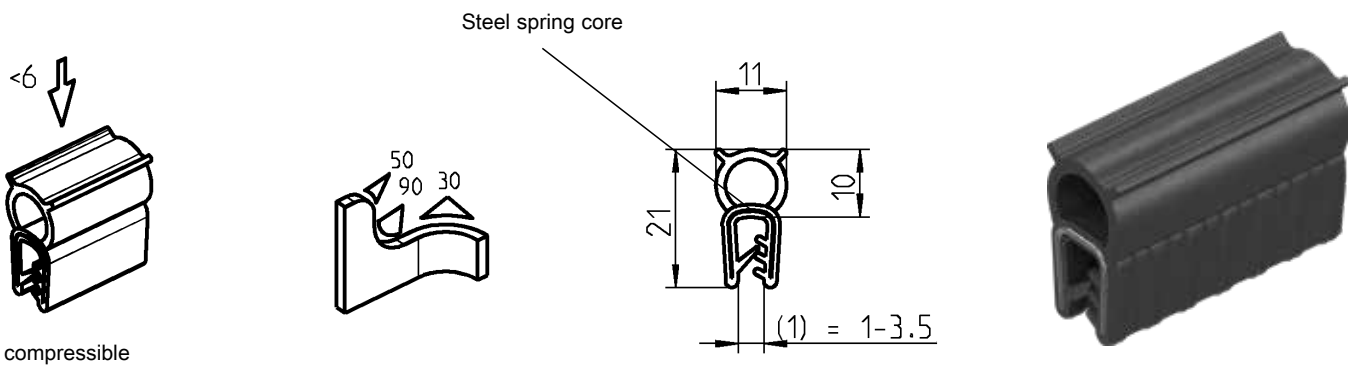


according to VDI 6022



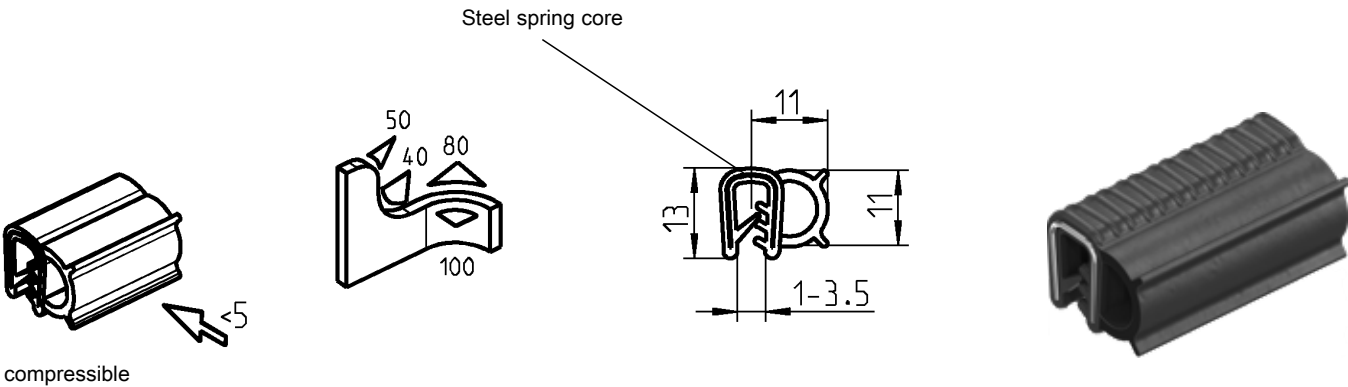
Sealing profile EPDM 45 ± 5 Shore A, clamping profile EPDM 60 ± 5 Shore A, black
1011-10-09

according to VDI 6022



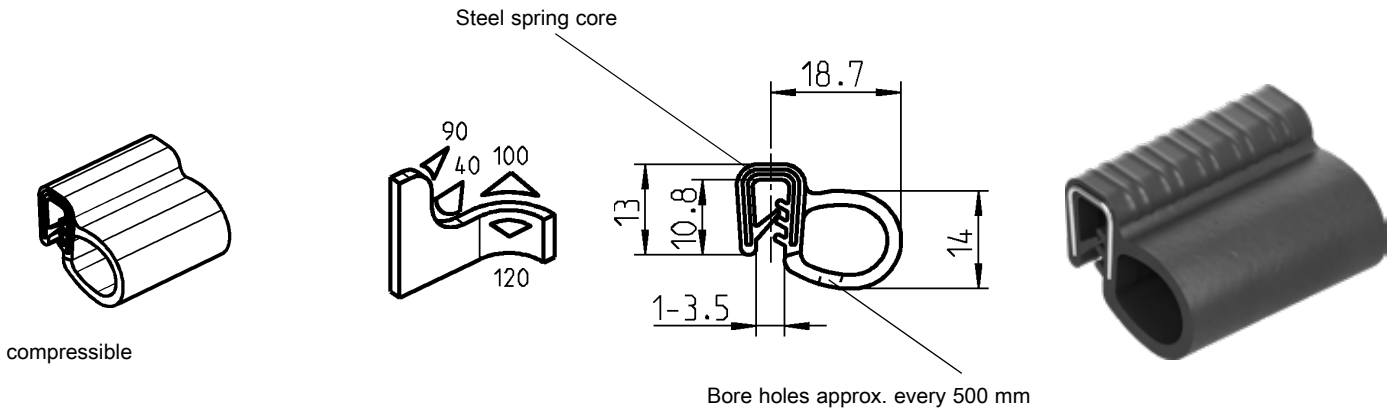
Sealing profile EPDM 45 ± 5 Shore A, clamping profile EPDM 60 ± 5 Shore A, black
1011-05-09

according to VDI 6022



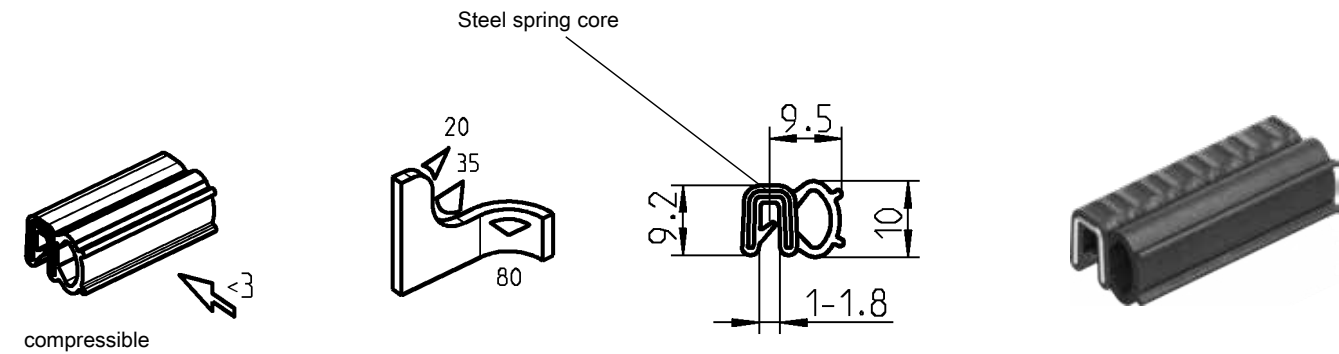
Sealing profile EPDM 45 ± 5 Shore A, clamping profile EPDM 60 ± 5 Shore A, black
1011-06-09

according to VDI 6022



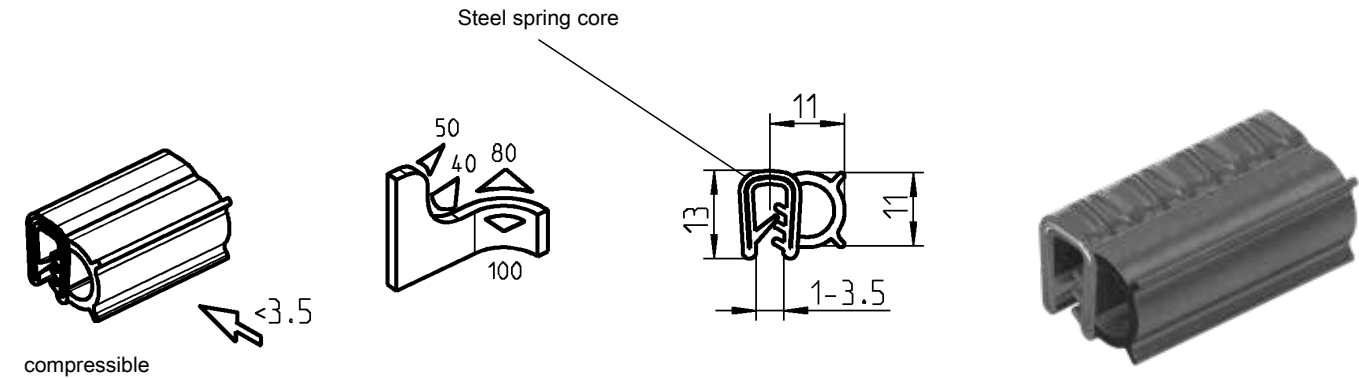
Sealing profile foam rubber EPDM, clamping profile EPDM 64 ± 5 Shore A, black
1011-19-09

according to VDI 6022



Sealing profile foam rubber EPDM, clamping profile EPDM 64 ± 5 Shore A, black
1011-S102

according to VDI 6022

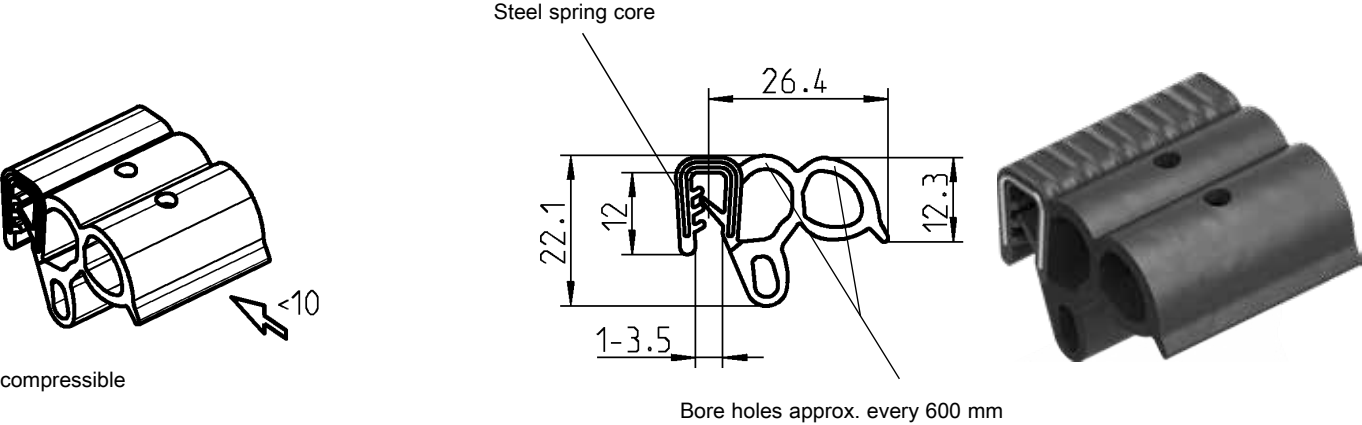


Sealing profile foam rubber EPDM, clamping profile EPDM 64 ± 5 Shore A, black
1011-S122

Seals, self-clamping;
Seals secured in a U-section
PROGRAM 1003, 1011

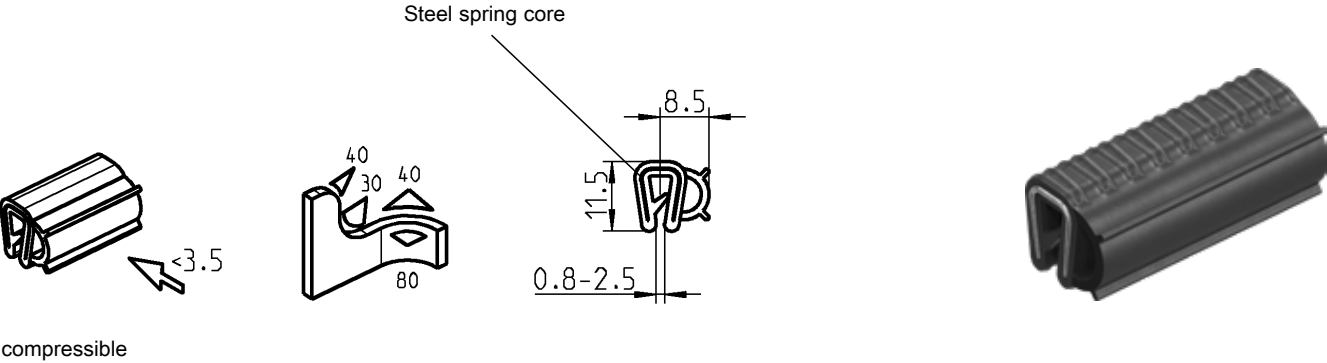


according to VDI 6022



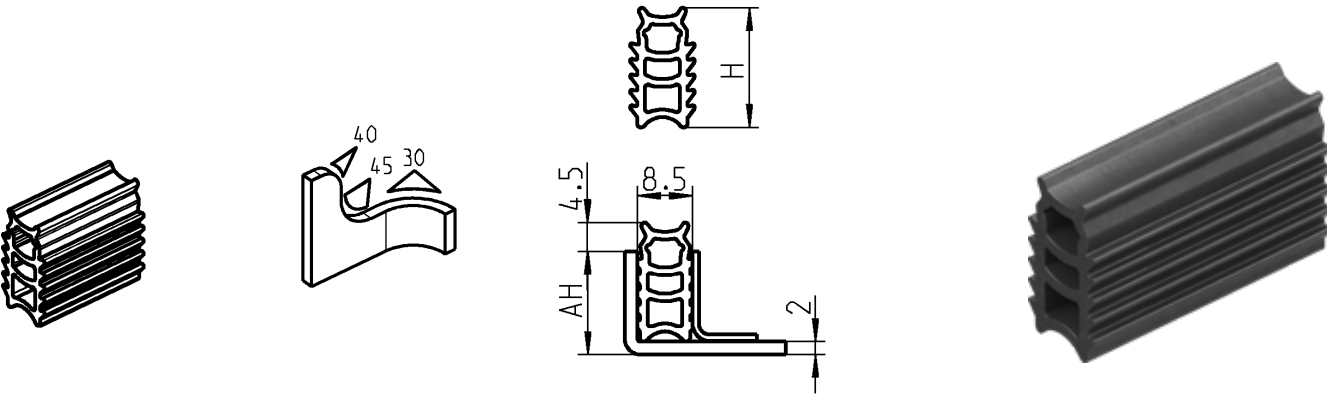
Sealing profile foam rubber EPDM, clamping profile EPDM 64 ± 5 Shore A, black	
	1011-S154

according to VDI 6022



Sealing profile EPDM 45 ± 5 Shore A, clamping profile EPDM 60 ± 5 Shore A, black	
	1011-09-09

according to VDI 6022



4-Lip profile EPDM 45 ± 5 Shore A, black		
AH	Height H	
16	18.5	1003-11-N9
18	20.5	1003-12-N9

Foam rubber according VDI guideline 6022

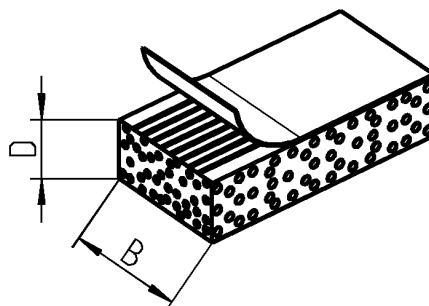
PROGRAM 1016

Delivery lengths:

For depths 3 – 7 = Coil length a 10 m

For depths 8 – 10 = Coil length a 5 m

For depths 11 = in stripes a 1 m



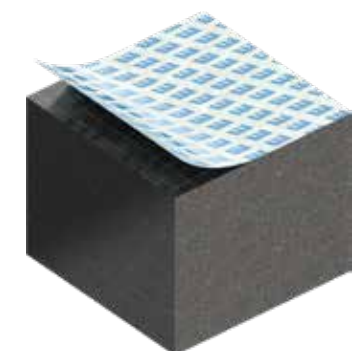
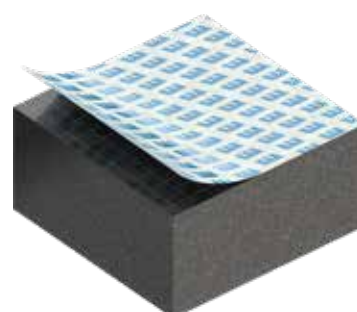
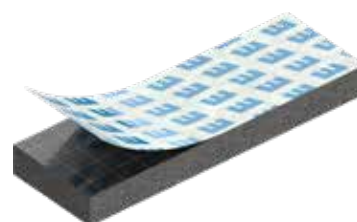
Dimension available from stock.

All other dimensions available in 2 to 3 weeks.

Special lengths available in 6 to 8 weeks. Minimum quantity on request
(Article-No.: 1016- ... L mm)

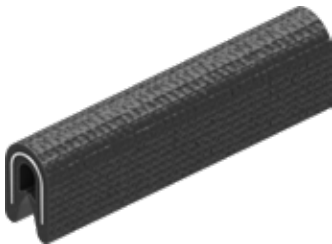
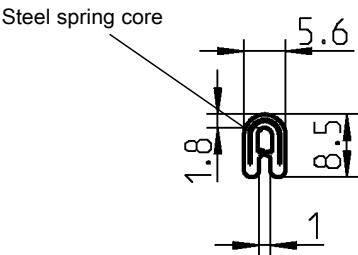
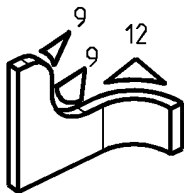
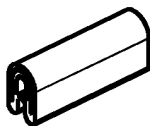


Cell sponge rubber material of choice, stretch-free and self-adhesive, black							
Dim.				Dim.			
Width	Depth	EPDM	CR	Width	Depth	EPDM	CR
10	3	1016-13-09	1016-61-09	30	10	1016-123-09	1016-159-09
	4	1016-14-09	1016-62-09		12	1016-124-09	1016-160-09
	5	1016-15-09	1016-63-09		15	1016-125-09	1016-161-09
10	6	1016-75-09	1016-99-09		20	1016-126-09	1016-162-09
	8	1016-76-09	1016-100-09		25	1016-127-09	1016-163-09
	10	1016-77-09	1016-101-09	40	5	1016-128-09	1016-164-09
15	3	1016-16-09	1016-64-09		10	1016-129-09	1016-165-09
	4	1016-17-09	1016-65-09		15	1016-130-09	1016-166-09
	5	1016-18-09	1016-66-09		20	1016-131-09	1016-167-09
15	6	1016-78-09	1016-102-09		25	1016-132-09	1016-168-09
	8	1016-79-09	1016-103-09	50	30	1016-133-09	1016-169-09
	10	1016-80-09	1016-104-09		5	1016-134-09	1016-170-09
	12	1016-81-09	1016-105-09		10	1016-135-09	1016-171-09
	15	1016-82-09	1016-106-09		15	1016-136-09	1016-172-09
20	3	1016-19-09	1016-67-09		20	1016-137-09	1016-173-09
	4	1016-20-09	1016-68-09	60	25	1016-138-09	1016-174-09
	5	1016-21-09	1016-69-09		30	1016-139-09	1016-175-09
20	6	1016-83-09	1016-107-09		5	1016-140-09	1016-176-09
	8	1016-84-09	1016-108-09		10	1016-141-09	1016-177-09
	10	1016-85-09	1016-109-09		15	1016-142-09	1016-178-09
	12	1016-86-09	1016-110-09	70	20	1016-143-09	1016-179-09
	15	1016-87-09	1016-111-09		25	1016-144-09	1016-180-09
	20	1016-88-09	1016-112-09		30	1016-145-09	1016-181-09
25	3	1016-89-09	1016-113-09		5	1016-146-09	1016-182-09
	4	1016-90-09	1016-114-09		10	1016-147-09	1016-183-09
	6	1016-91-09	1016-115-09		15	1016-148-09	1016-184-09
	8	1016-92-09	1016-116-09		20	1016-149-09	1016-185-09
	10	1016-93-09	1016-117-09		25	1016-150-09	1016-186-09
	12	1016-94-09	1016-118-09	80	30	1016-151-09	1016-187-09
	15	1016-95-09	1016-119-09		5	1016-152-09	1016-188-09
	20	1016-96-09	1016-120-09		10	1016-153-09	1016-189-09
30	3	1016-22-09	1016-70-09		15	1016-154-09	1016-190-09
	4	1016-23-09	1016-71-09		20	1016-155-09	1016-191-09
	5	1016-24-09	1016-72-09		25	1016-156-09	1016-192-09
	6	1016-97-09	1016-121-09		30	1016-157-09	1016-193-09
	8	1016-98-09	1016-122-09		40	1016-158-09	1016-194-09

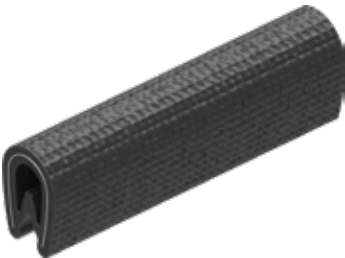
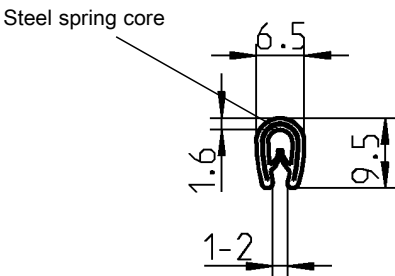
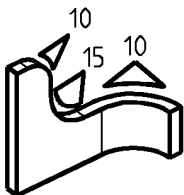
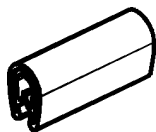


Edge protection

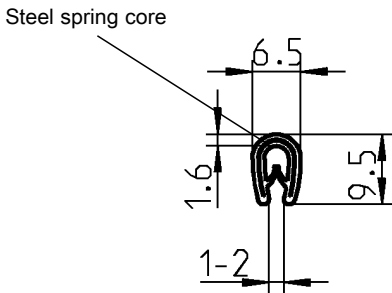
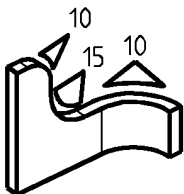
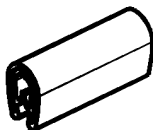
PROGRAM 1010



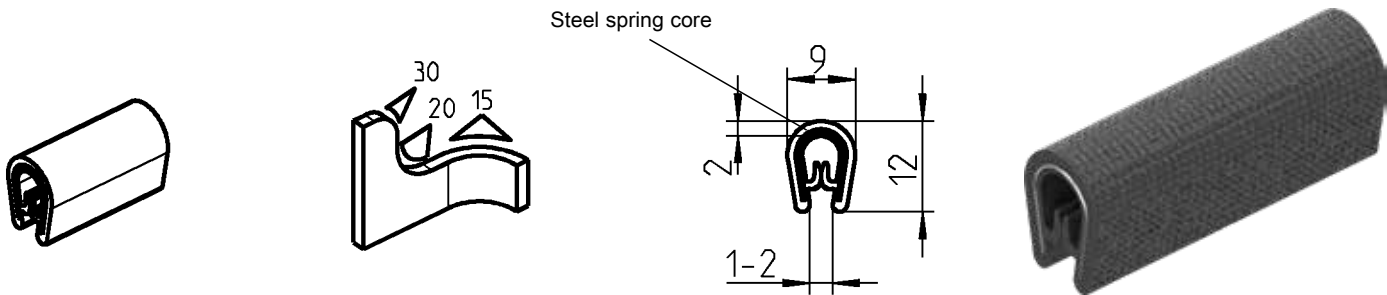
Edge protection PVC 70 ± 5 Shore A, colour of choice	
black	1010-03
light grey	1010-03-01



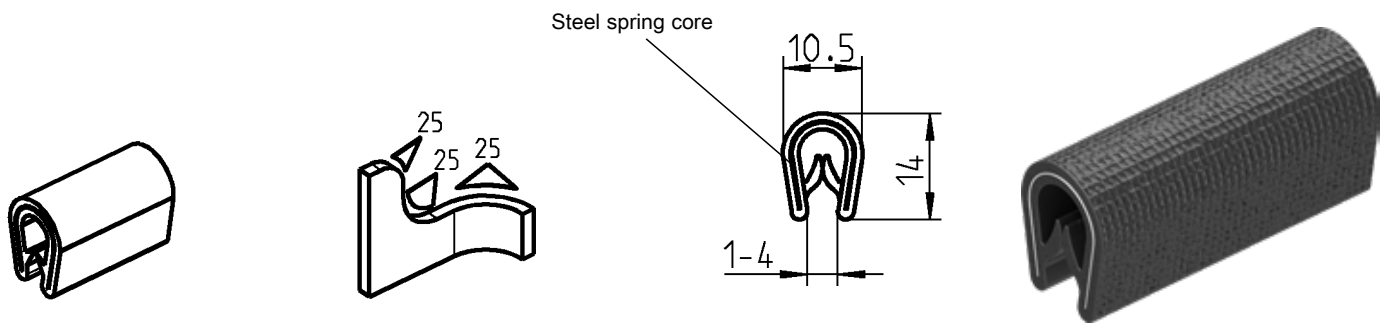
Edge protection PVC 70 ± 5 Shore A, black	
	1010-02



Edge protection PVC 70 ± 5 Shore A, colour of choice	
white	1010-04-01
silver	1010-04-02



Edge protection PVC 70 ± 5 Shore A, black	
	1010-10



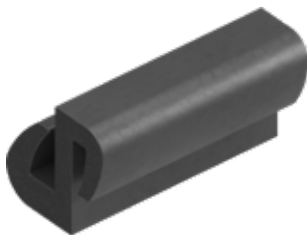
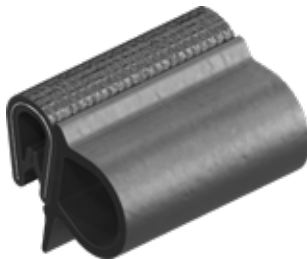
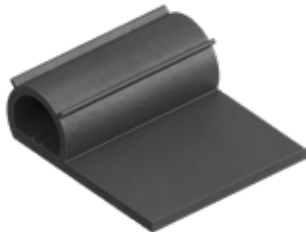
Edge protection PVC 70 ± 5 Shore A, black	
	1010-01

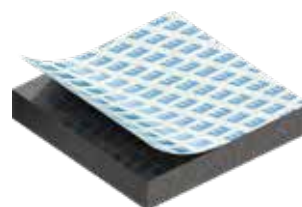
Variety of shapes and materials

EXAMPLES

Further seals in different shapes and materials can be found in the EMKA general catalog and at www.emka.com

Examples of different shapes:





i

No suitable seal or profile for your requirements?

No problem, just contact us!

With two own production sites for sealing technology in Spain and UK, EMKA is the perfect partner for custom-made sealing profiles.

The big number of production possibilities made of various materials enables EMKA to respond individually to customers requests.

Together, we develop a suitable concept for your requirements.

All standard profiles can be found in the [EMKA special catalogue "Sealing technology made to measure"](#) or in the [online product database](#).

[View special catalogue
"Sealing technology made to measure"](#)

[View online product database](#)



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K1-610	Accessories for locks and latches



2 Hinges

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K2-210	Screw-on hinges
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3 Sealing Profiles and Edge Protection

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4 Accessories

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K4-310	Bow-type handles
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3D Unit connector

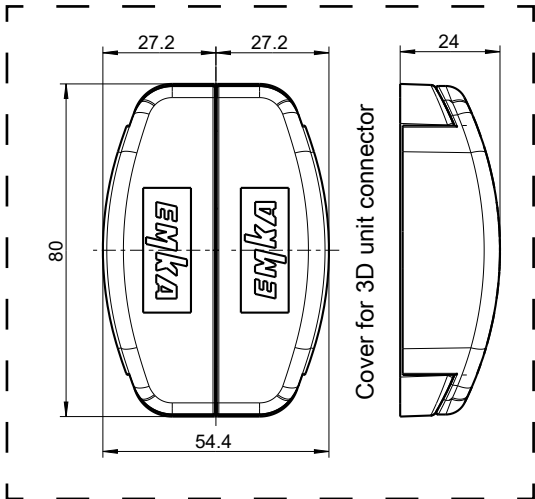
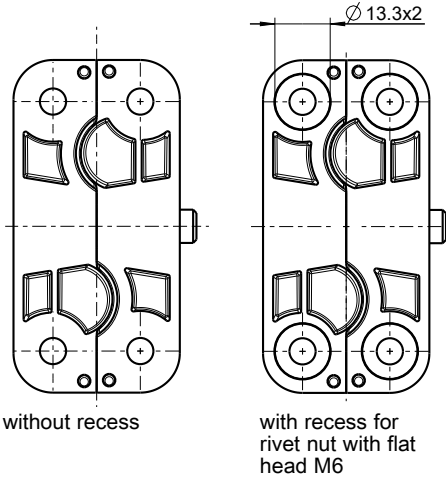
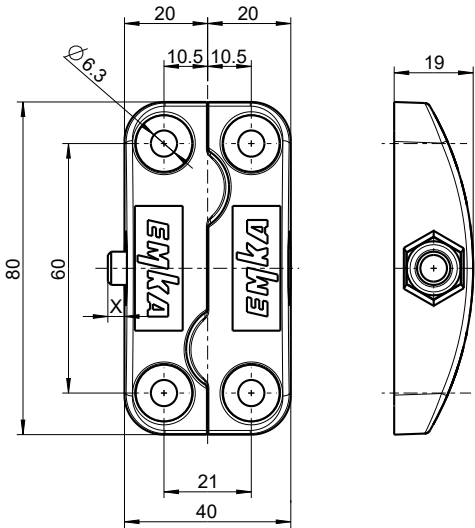
PROGRAM 1076



Rivet nut with flat head M6



Note:
3D Unit connector
without fixing material



Spherical shaping allows
3D positioning

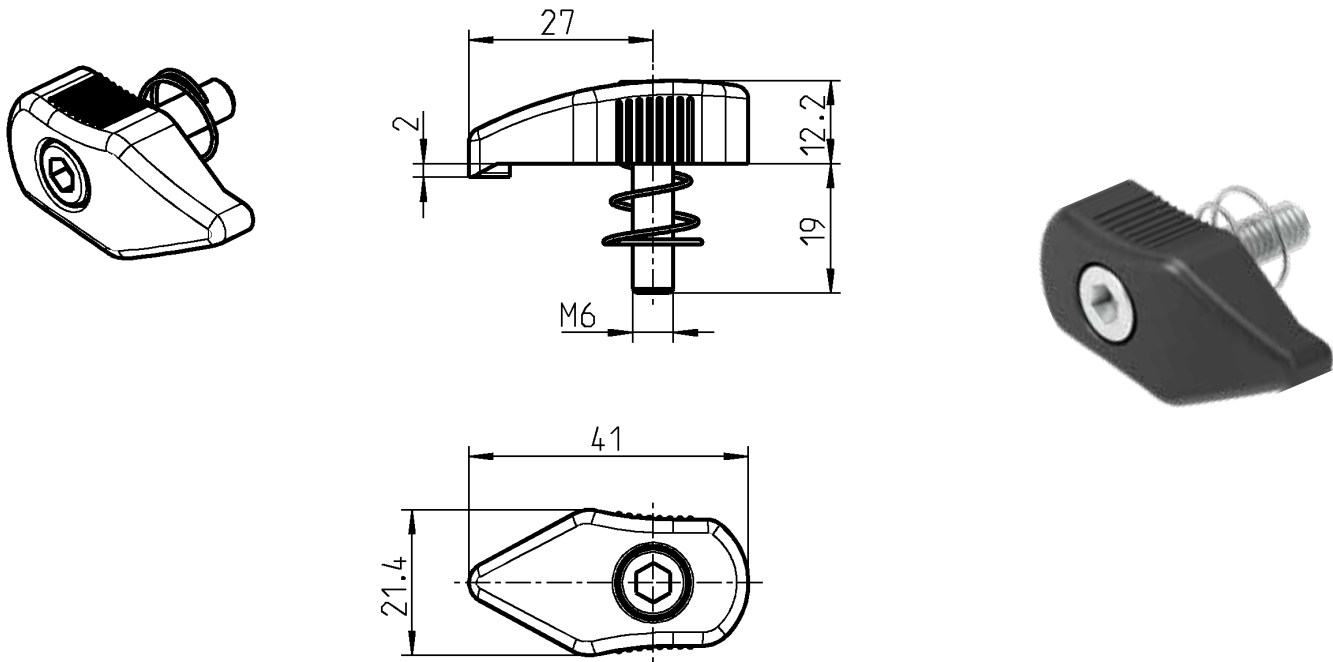
Version: Polyamide 66 GF 50
Lateral offset 7 mm
Vertical offset. 5 mm
Depth offset 3 mm

Version: Aluminium
Lateral offset 6 mm
Vertical offset. 6 mm
Depth offset 5 mm

3D Unit connector polyamide 66 GF 50 black; safety nut M8 and cylinder screw M8x35 m.s. zinc-plated	
X = 4 mm, without recess, with EMKA - ①②	1076-U14
X = 4 mm, with recess, with EMKA - ①	1076-U15
3D Unit connector aluminium; safety nut M8 and cylinder screw M8x40 m.s. zinc-plated	
X = 9 mm, with recess, without EMKA - ①②	1076-U17
Cover polyamide black for 3D unit connector	
2-piece, for maximum screw M8x35	1076-U16

① = for cylinder screw M6
DIN EN ISO 4762 and washer 6
DIN EN ISO 7089 / 7090

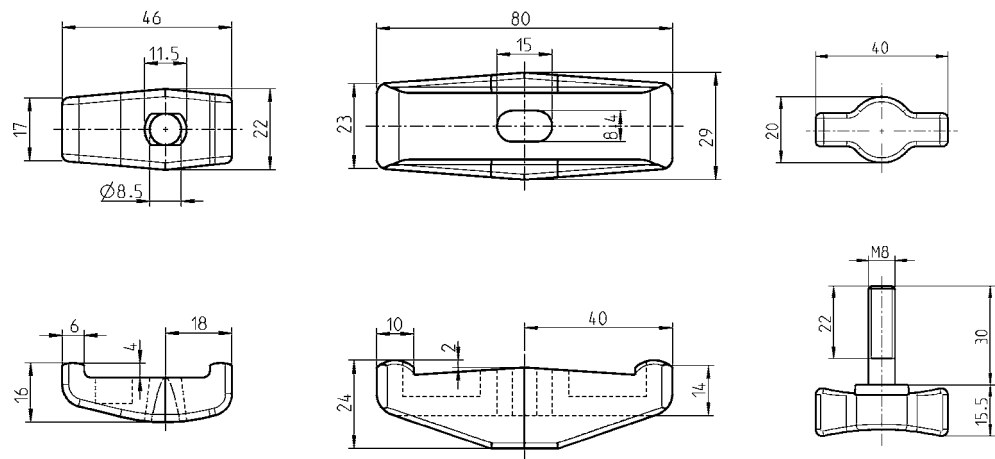
② = Blind rivet with flat head
DIN EN ISO 15973



Bridge clamp polyamide black; cylinder screw m.s. zinc-plated; with spring	
	1076-U13

Version A

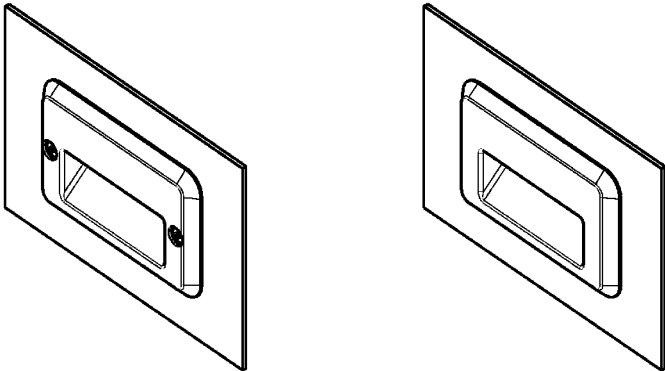
Version B



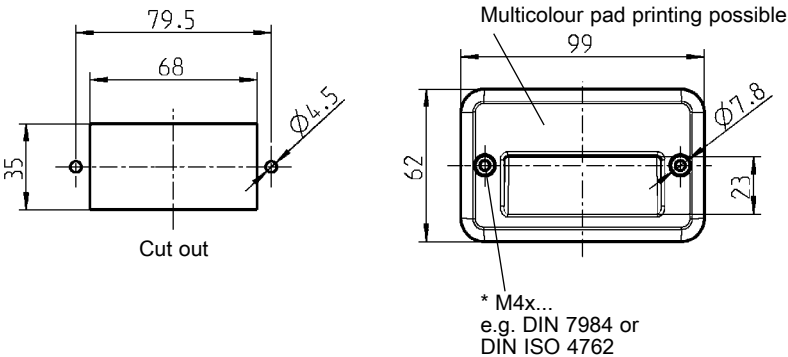
Bridge clamp polyamide GF black		
	Version A	Version B
	1076-19	1076-20
Tommy screw m.s. zinc-plated; wing knob polyamide GF black		
		1076-15

Recessed grip

PROGRAM 1091



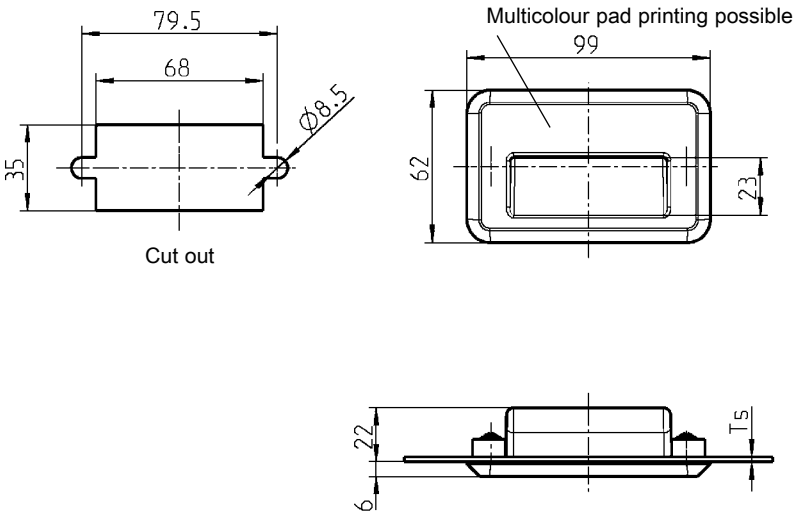
Version A



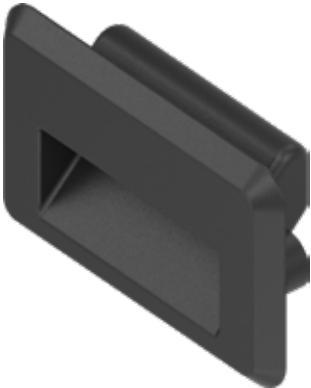
Version A



Version B



Version B



Recessed grip polyamide GF black; with seal			
Version B: washer polyamide GF black; fixing material m.s. zinc-plated			
Version A	IP 54	Ts 0.8 - 7	1091-105
Version B	IP 65	Ts 0.8 - 3 **	1091-U144
Plug polyethylene black for version A			
(2 plugs are needed per recessed grip)			1091-106

* not included in the scope of delivery

** Other door thicknesses on request!

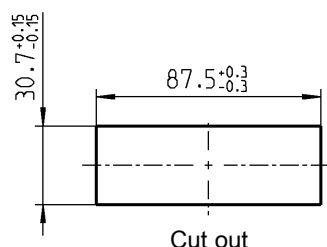
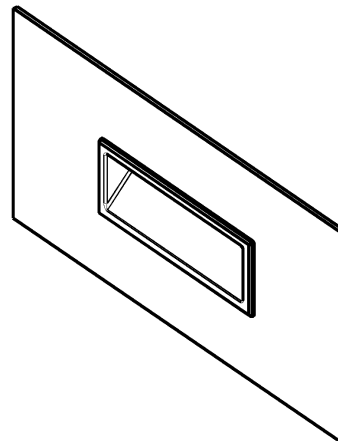
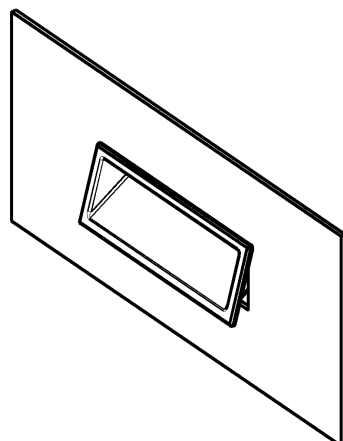
Recessed grip

PROGRAM 1091

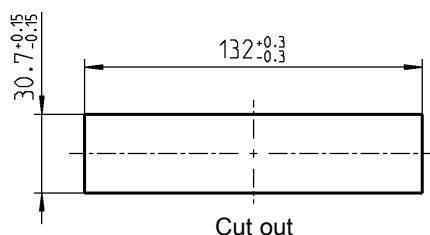
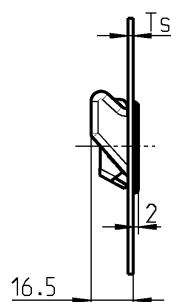
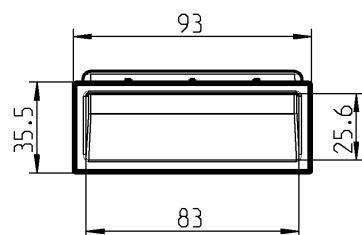


Insert the recessed grip

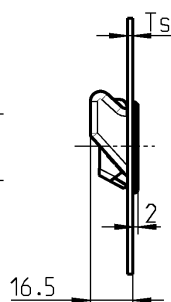
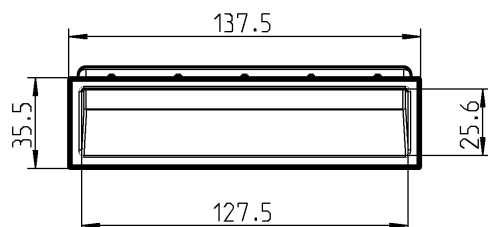
Recessed grip ready installed



Version A



Version B



Product benefits

- Cost savings due to quick mounting without tools
- Recessed handle automatically engages behind the door leaf
- Corrosion resistant made of PA6 GF30

Recessed grip polyamide GF black

	Version A	Version B
Ts 0.8 - 1.2 mm	1091-103-01	1091-109-01
Ts 1.2 - 1.6 mm	1091-103-02	1091-109-02
Ts 1.75 - 2.2 mm	1091-103-03	1091-109-03

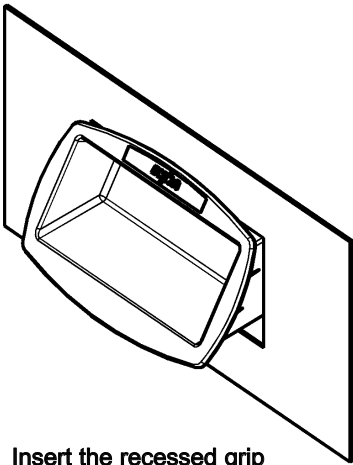
Assembly:

The recessed handle automatically engages with a clip arm behind the door leaf.

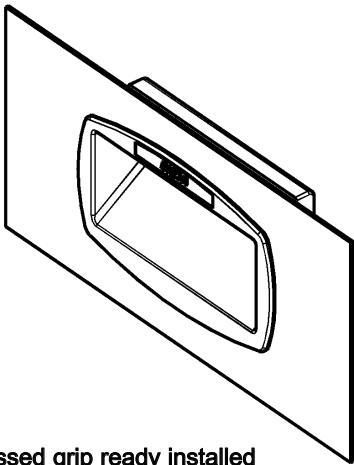
Recessed handles for other door thicknesses on request

Recessed grip

PROGRAM 1091



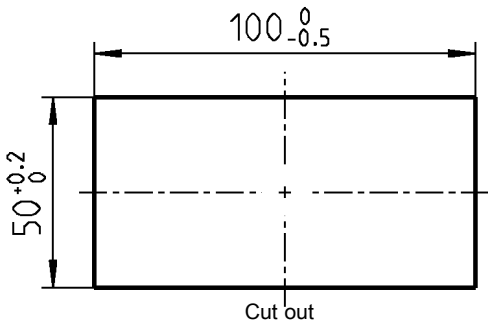
Insert the recessed grip



Recessed grip ready installed

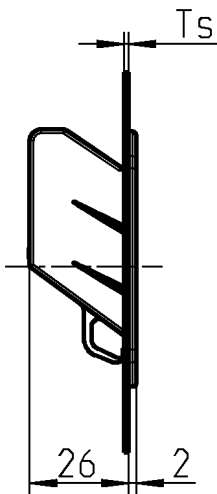
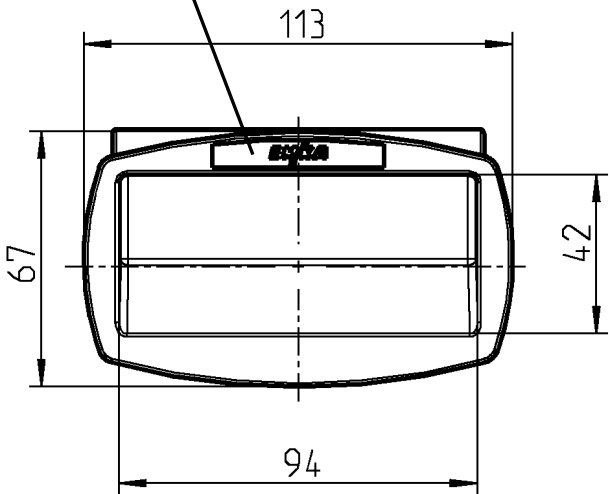


Assembly:
The recessed handle automatically engages with a clip arm behind the door leaf.



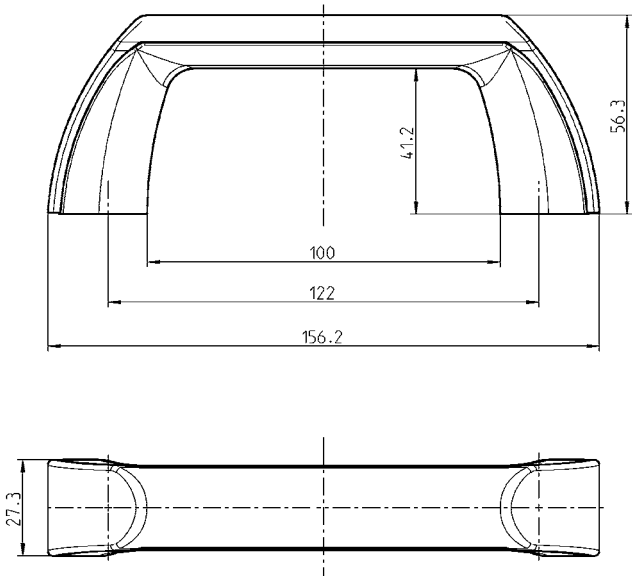
Cut out

* Logo field 50 x 8.5 mm (middle, outside 6.8) x 0.3
Multicolour pad printing possible

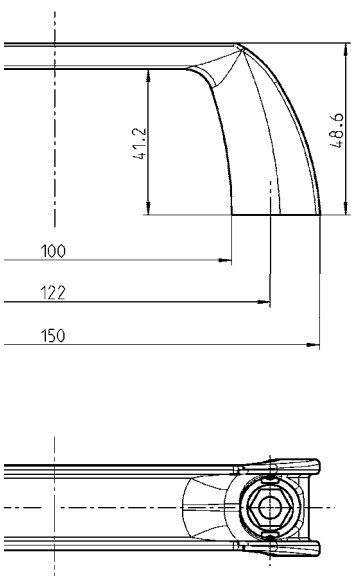


Recessed grip polyamide GF black	
Ts 0.80 - 1.2 mm	1091-93
Ts 1.20 - 1.6 mm	1091-91
Ts 1.75 - 2.2 mm	1091-92

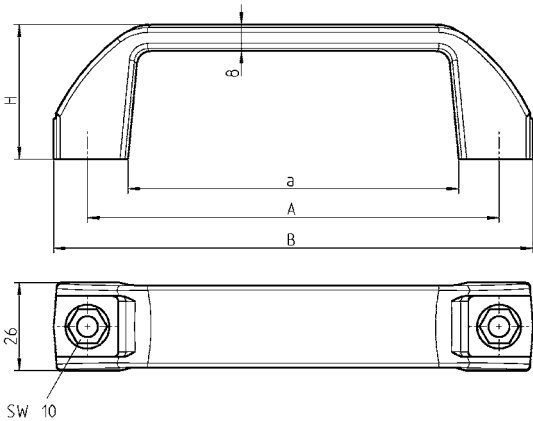
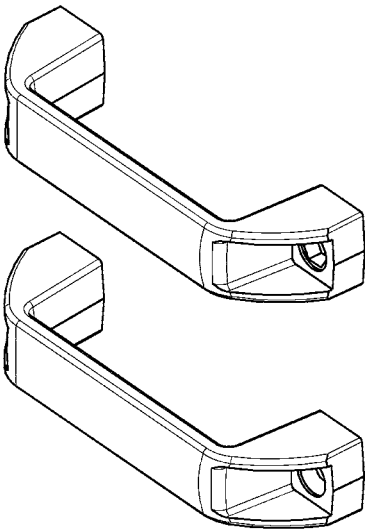
Bow-type handle with cover



Bow-type handle without cover



Bow-type handle polyamide GF black	
Handle for hexagon head screw or cylinder head screw M6 acc. to DIN 4017/1207	1095-35
Handle for countersunk screw small head M5 or blind rivet Ø 4.8 mm	1095-36
Cover for bow-type handle polyamide GF black	
	1095-37



Version	a	A	B	H
1	98	122	142	40
2	118.5	152	167	53.5



Bow-type handle polyamide GF black		
	Version 1	Version 2
Handle for hexagon head screw or cylinder head screw M6 acc. to DIN 4017/1207	1095-05	1095-19
Handle for countersunk screw small head M5 or blind rivet Ø 4.8 mm	1095-06	–

Small head = DIN ISO 2009, 2010, 7046-1, 7046-2, 7047

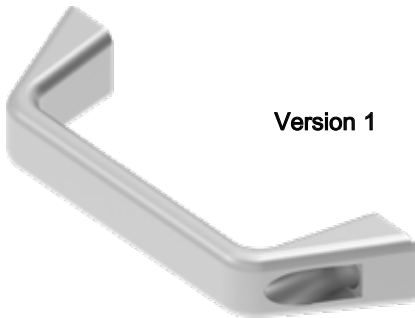
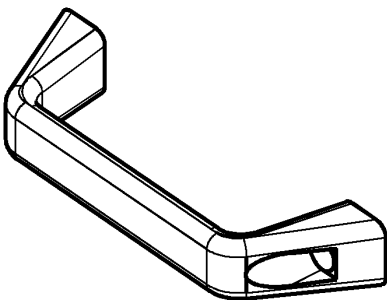
Fixing material is not included in scope of delivery.

Bow-type handles

PROGRAM 1095

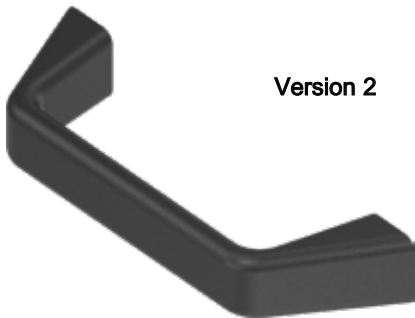
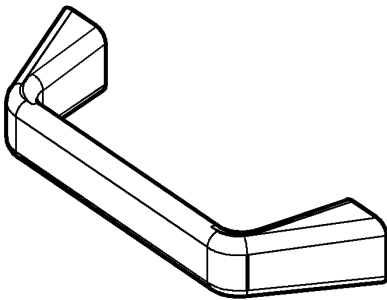


Version 1



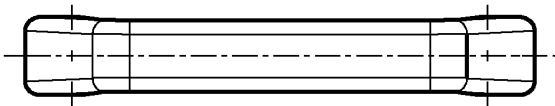
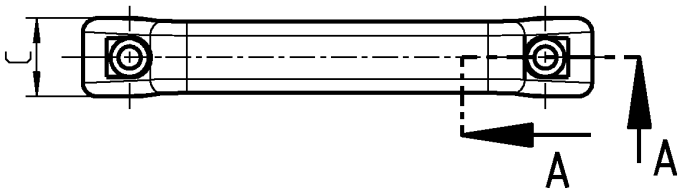
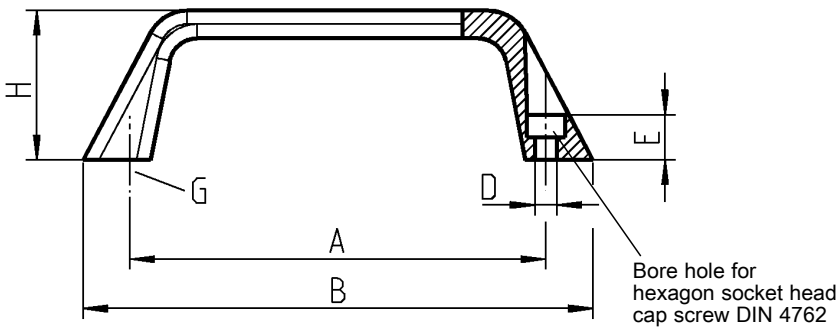
Version 1

Version 2



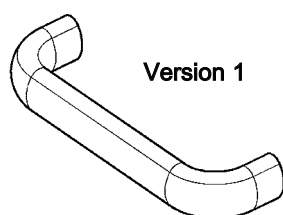
Version 2

A - A

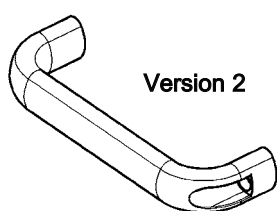


Bow-type handle aluminium blank or black plastic-coated							
Version 1							
A	B	C	D	E	H	blank	black
120	147	22.5	6.4	13	43	1095-29-120KB	1095-29-120AA
180	215	27	8.4	16	48	1095-29-180KB	1095-29-180AA
Version 2							
A	B	C	G	H		blank	black
120	147	22.5	M6x10	43		1095-30-120KB	1095-30-120AA
180	215	27	M8x12	48		1095-30-180KB	1095-30-180AA

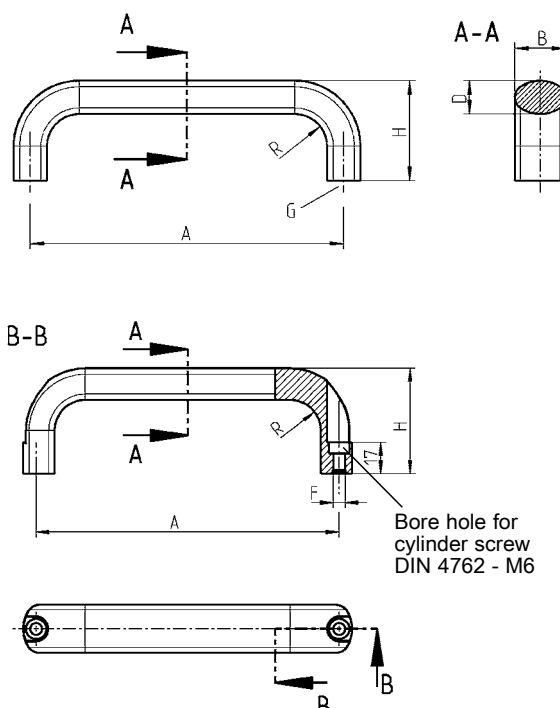
Fixing material is not included in scope of delivery.



Version 1



Version 2



Version 1



Version 2



Bow-type handle aluminum optionally blank, anodized, black plastic-coated or stainless steel AISI

Version 1

A	B	D	G	H	R	blank	anodized	black
100	20	13	M6x10	47	13	1095-26-100KB	1095-26-100NA	1095-26-100AA
112	20	13	M6x10	49	13	1095-26-112KB	1095-26-112NA	1095-26-112AA
112	26	17	M8x12	53	17	1095-27-112KB	1095-27-112NA	1095-27-112AA
128	20	13	M6x10	51	13	1095-26-128KB	1095-26-128NA	1095-26-128AA
128	26	17	M8x12	55	17	1095-27-128KB	1095-27-128NA	1095-27-128AA
160	20	13	M6x10	51	13	1095-26-160KB	1095-26-160NA	1095-26-160AA
160	26	17	M8x12	57	17	1095-27-160KB	1095-27-160NA	1095-27-160AA
192	26	17	M8x12	57	17	1095-26-192KB	1095-26-192NA	1095-26-192AA
300	26	17	M8x12	57	17	1095-26-300KB	1095-26-300NA	1095-26-300AA
400	26	17	M8x12	57	17	1095-26-400KB	1095-26-400NA	1095-26-400AA
500	26	17	M8x12	57	17	1095-26-500KB	1095-26-500NA	1095-26-500AA

Version 1

A	B	D	G	H	R			AISI 304
112	20	13	M6x10	49	13			1095-26-112PC
128	20	13	M6x10	51	13			1095-26-128PC

Bow-type handle aluminum optionally blank, anodized, black plastic-coated or stainless steel AISI

Version 2

A	B	D		H		blank	anodized	black
116	26	17		53		1095-28-116KB	1095-28-116NA	1095-28-116AA
132	26	17		55		1095-28-132KB	1095-28-132NA	1095-28-132AA
164	26	17		57		1095-28-164KB	1095-28-164NA	1095-28-164AA
196	26	17		57		1095-28-196KB	1095-28-196NA	1095-28-196AA

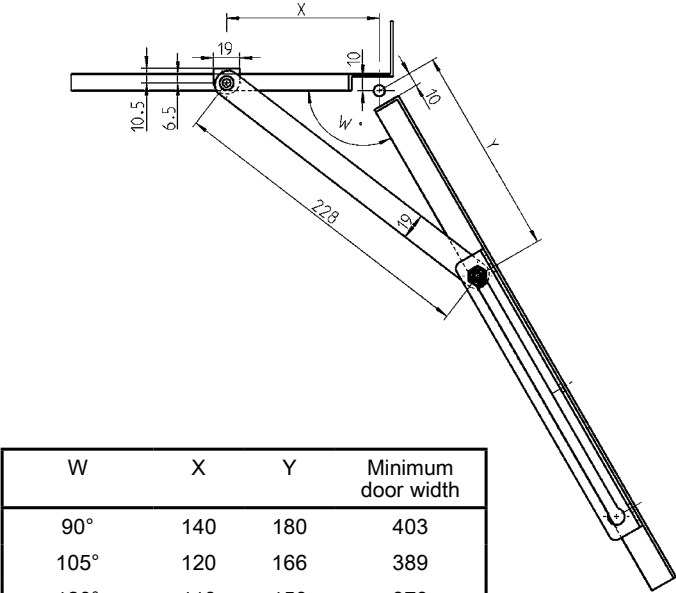
Version 2

A	B	D		H				AISI 316
116	26	17		53				1095-28-116PH

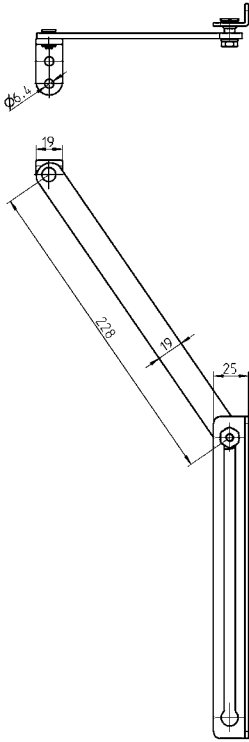
Fixing material is not included in scope of delivery.

Door stopper

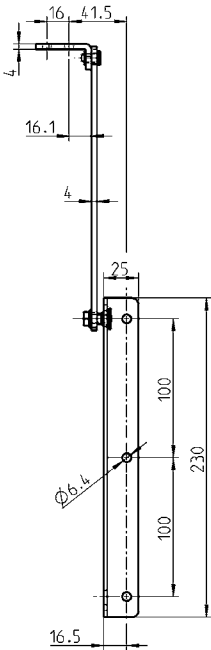
PROGRAM 1087



W	X	Y	Minimum door width
90°	140	180	403
105°	120	166	389
120°	110	150	373
135°	100	146	369
In case of other variations $y = x + >40$			

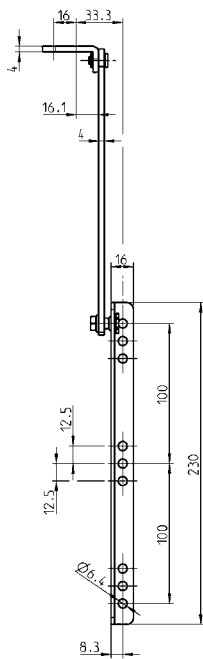


Version A



Version A

Version B



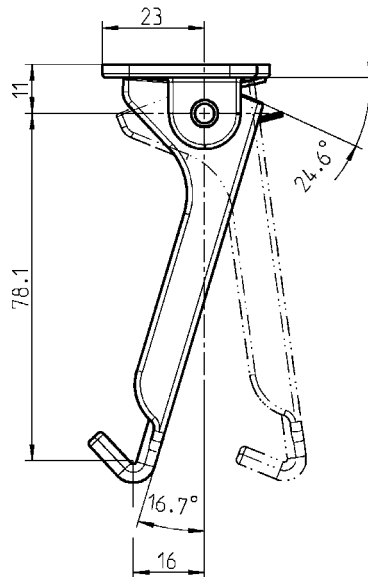
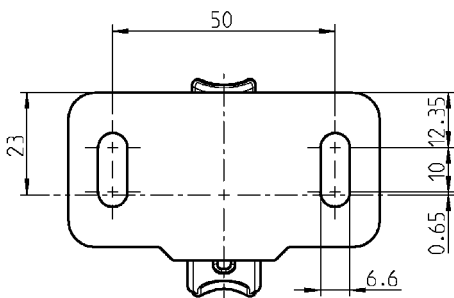
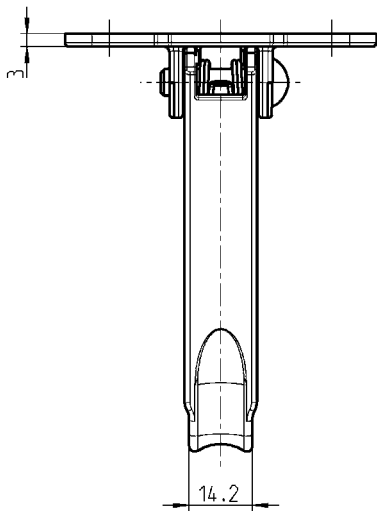
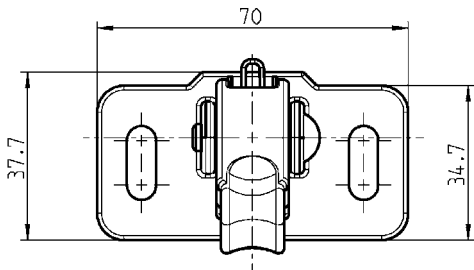
Version B

Door stop m.s. zinc-plated	
Version A (2D nut possible)	1087-U1
Version B (2D nut possible)	1087-U4
Door stop AISI 304; locking bush and rivet AISI 303	
Version A (2D nut possible)	1087-U1-PC

Further parts see page
– 2D nut

K2-410

Tail hook
PROGRAM 5225



Tail hook AISI 316; spring and half-round rivet stainless steel

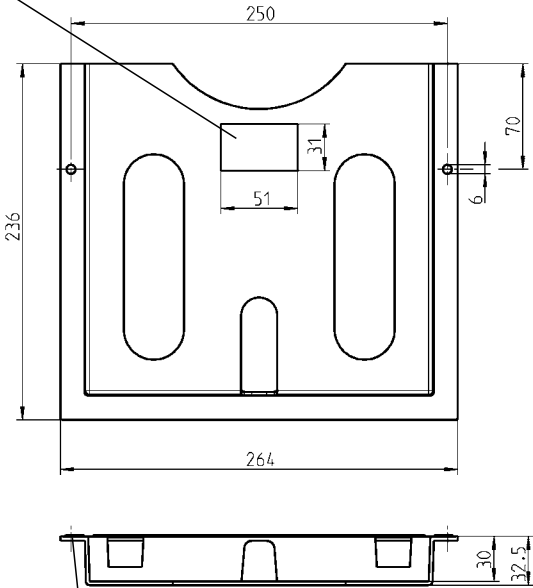
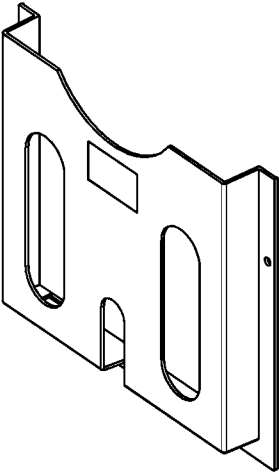
5225-U400

Drawing pocket

PROGRAM 1013



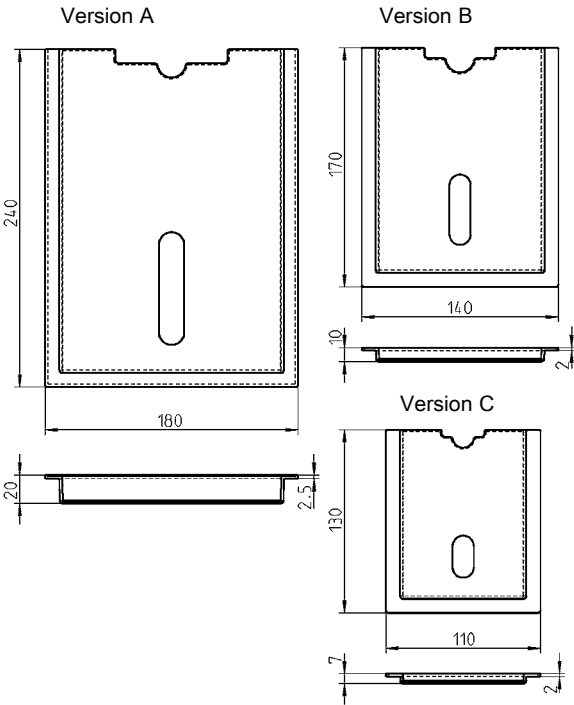
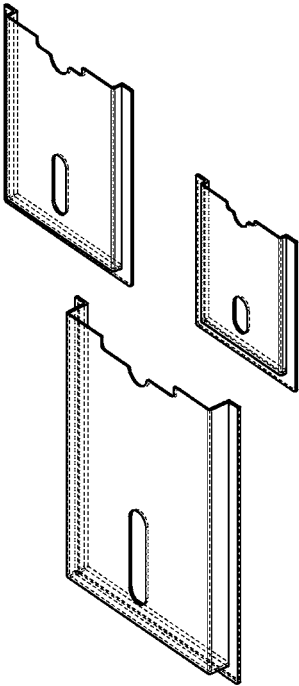
Logo recess: 51 x 31 x 0.2
Multicolour pad print possible



Self-adhesive, screw fixing possible.
Size corresponds to DIN A4



Drawing pocket polystyrene impact-resistant, self-adhesive	
grey	1013-U1
orange	1013-U2



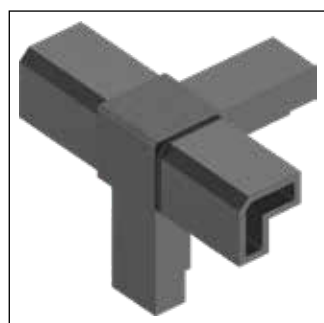
Drawing pocket SAN glass clear, self-adhesive	
Version A	1013-U5
Version B	1013-U4
Version C	1013-U3

Coordinated on special applications EMKA develops and produces e.g. corner pieces made of:

- Zinc die casting
- Aluminium die casting
- Plastic injection moulding

Thereby the desired properties can be optimized:

- Strength
- Weight
- Avoiding thermal bridges
- Surface



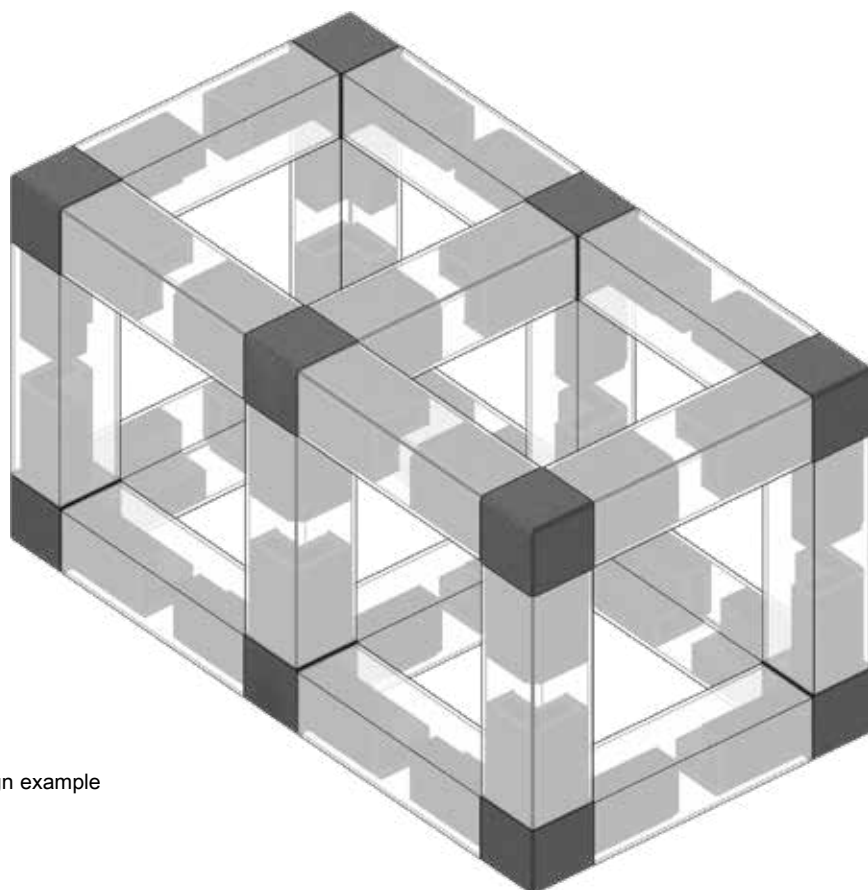
Geometry example

Production equipment zinc die casting:

- Zinc die casting machines 200 – 3150 kN
- Part weight 0.1 up to 2.5 kg
- Automated mechanical post-processing
- Surface treatment / Finishing

Producing equipment plastic injection molding:

- Machines with 30 up to 250 t clamping force
- Shot weight until 0.7 kg
- Processing of various thermoplastics



Design example



Application example
Zinc die casting



Application example
Aluminium die casting



Application example
Plastic injection moulding

Part no.	Catalogue page	Part no.	Catalogue page	Part no.	Catalogue page	Part no.	Catalogue page
1000-10	K1-640	1000-579-03	K1-170	1000-U45	K1-410	1000-U226	K1-410
1000-11	K1-640	1000-579-04	K1-170	1000-U45-G	K1-410	1000-U227	K1-410
1000-12	K1-640	1000-617-20	K1-170	1000-U46	K1-410	1000-U228	K1-410
1000-13	K1-640	1000-643-L	K1-180	1000-U47	K1-410	1000-U229	K1-410
1000-14	K1-640	1000-990	K1-410	1000-U47-G	K1-410	1000-U230	K1-410
1000-15	K1-640	1000-991	K1-410	1000-U51	K1-410	1000-U231	K1-420
1000-16	K1-640	1000-5043-SI	K1-640	1000-U54	K1-410	1000-U232	K1-420
1000-17	K1-640	1000-5046	K1-640	1000-U54-G	K1-410	1000-U233	K1-420
1000-18	K1-640	1000-5046-SI	K1-640	1000-U55	K1-410	1000-U234	K1-420
1000-19	K1-640	1000-5119	K1-640	1000-U55-G	K1-410	1000-U246	K1-410
1000-20	K1-640	1000-5161	K1-640	1000-U56	K1-410	1000-U247	K1-420
1000-21	K1-640	1000-5164	K1-640	1000-U56-G	K1-410	1000-U248	K1-410
1000-22	K1-640			1000-U63	K1-640	1000-U249	K1-410
1000-23	K1-410	1000-SU324	K1-530	1000-U64	K1-640	1000-U250	K1-420
1000-23	K1-630	1000-SU720	K1-530	1000-U65	K1-410	1000-U317	K1-410
1000-24	K1-410	1000-SU724	K1-530	1000-U66	K1-410	1000-U318	K1-410
1000-25	K1-640	1000-SU725	K1-530	1000-U67	K1-410	1000-U322	K1-210
1000-26	K1-640	1000-SU730	K1-530	1000-U68	K1-410	1000-U322	K1-410
1000-27	K1-640	1000-SU733	K1-530	1000-U69	K1-410	1000-U323	K1-210
1000-28	K1-640	1000-SU735	K1-530	1000-U78	K1-410	1000-U323	K1-410
1000-50	K1-640	1000-SU736	K1-530	1000-U96	K1-210	1000-U324	K1-210
1000-51	K1-640	1000-SU750	K1-644	1000-U96	K1-410	1000-U324	K1-410
1000-52	K1-640	1000-SU752	K1-530	1000-U134	K1-410	1000-U325	K1-210
1000-53	K1-640	1000-SU861	K1-530	1000-U135	K1-410	1000-U325	K1-410
1000-54	K1-640	1000-SU1167	K1-530	1000-U136	K1-410	1000-U326	K1-210
1000-55	K1-640			1000-U137	K1-410	1000-U326	K1-410
1000-56	K1-640	1000-U1	K1-210	1000-U138	K1-410	1000-U327	K1-210
1000-97-01	K1-630	1000-U1	K1-410	1000-U142	K1-210	1000-U327	K1-410
1000-112	K1-640	1000-U2	K1-210	1000-U142	K1-410	1000-U328	K1-210
1000-113	K1-640	1000-U2	K1-410	1000-U155	K1-410	1000-U328	K1-410
1000-127	K1-420	1000-U3	K1-210	1000-U155-G	K1-410	1000-U329	K1-210
1000-179	K1-640	1000-U3	K1-410	1000-U157	K1-420	1000-U329	K1-410
1000-179-PD	K1-640	1000-U4	K1-210	1000-U158	K1-420	1000-U330	K1-410
1000-180	K1-640	1000-U4	K1-410	1000-U159	K1-420	1000-U331	K1-410
1000-180-PD	K1-640	1000-U5	K1-210	1000-U160	K1-420	1000-U332	K1-410
1000-221	K1-640	1000-U5	K1-410	1000-U164	K1-420	1000-U333	K1-410
1000-221-PD	K1-640	1000-U6	K1-210	1000-U165	K1-410	1000-U334	K1-410
1000-223	K1-640	1000-U6	K1-410	1000-U165	K1-420	1000-U335	K1-410
1000-223-PD	K1-640	1000-U7	K1-410	1000-U166	K1-410	1000-U336	K1-410
1000-225	K1-640	1000-U7-G	K1-410	1000-U166	K1-420	1000-U351	K1-410
1000-225-PD	K1-640	1000-U13	K1-410	1000-U167	K1-640	1000-U352	K1-410
1000-227	K1-640	1000-U17	K1-210	1000-U168	K1-410	1000-U504	K1-410
1000-227-PD	K1-640	1000-U17	K1-410	1000-U169	K1-410	1000-U505	K1-410
1000-228	K1-640	1000-U18	K1-410	1000-U182	K1-410	1000-U506	K1-410
1000-228-PD	K1-640	1000-U20	K1-410	1000-U183	K1-410	1000-U507	K1-410
1000-229	K1-640	1000-U21	K1-640	1000-U184-N	K1-410	1000-U509	K1-410
1000-229-PD	K1-640	1000-U22	K1-640	1000-U185-N	K1-410	1000-U510	K1-410
1000-230	K1-640	1000-U23	K1-640	1000-U186-N	K1-410	1000-U530	K1-410
1000-230-PD	K1-640	1000-U24	K1-640	1000-U187-N	K1-410	1000-U531	K1-410
1000-244	K1-420	1000-U25	K1-640	1000-U188-N	K1-410	1000-U532	K1-410
1000-358	K1-630	1000-U26	K1-640	1000-U194	K1-410	1000-U533	K1-410
1000-358-01	K1-630	1000-U27	K1-640	1000-U195	K1-410	1000-U534	K1-410
1000-359	K1-630	1000-U28	K1-640	1000-U196-N	K1-410	1000-U535	K1-410
1000-386-18	K1-640	1000-U29	K1-640	1000-U197	K1-410	1000-U536	K1-410
1000-386-20	K1-640	1000-U30	K1-640	1000-U198	K1-410	1000-U537	K1-410
1000-386-22	K1-640	1000-U31	K1-640	1000-U198	K1-420	1000-U539	K1-420
1000-386-24	K1-640	1000-U32	K1-640	1000-U219	K1-410	1000-U540	K1-420
1000-386-28	K1-640	1000-U33	K1-640	1000-U219-G	K1-410	1000-U541	K1-420
1000-386-30	K1-640	1000-U34	K1-640	1000-U220	K1-410	1000-U542	K1-420
1000-387	K1-420	1000-U35	K1-640	1000-U220-G	K1-410	1000-U543	K1-420
1000-476	K1-642	1000-U36	K1-640	1000-U221	K1-410	1000-U630	K1-410
1000-477	K1-642	1000-U37	K1-640	1000-U221-G	K1-410	1000-U631	K1-410
1000-478	K1-642	1000-U38	K1-640	1000-U222	K1-410	1000-U729	K1-410
1000-488	K1-210	1000-U39	K1-640	1000-U222-G	K1-410	1000-U736	K1-410
1000-488	K1-220	1000-U40	K1-640	1000-U223	K1-410	1000-U737	K1-410
1000-488-AA	K1-230	1000-U41	K1-640	1000-U223-G	K1-410	1000-U738	K1-210
1000-488-AA	K1-240	1000-U42	K1-640	1000-U224	K1-410	1000-U738	K1-410
1000-579-01	K1-170	1000-U43	K1-640	1000-U224-G	K1-410	1000-U739	K1-210
1000-579-02	K1-170	1000-U44	K1-640	1000-U225	K1-410	1000-U739	K1-410

Part no.	Catalogue page	Part no.	Catalogue page	Part no.	Catalogue page	Part no.	Catalogue page
1000-U748	K1-520	1000-U854	K1-510	1004-39	K1-650	1016-87-09	K3-410
1000-U748-01	K1-520	1000-U854-PH	K1-510	1004-41	K1-650	1016-88-09	K3-410
1000-U749	K1-520	1000-U855	K1-510	1004-42	K1-650	1016-89-09	K3-410
1000-U749-01	K1-520	1000-U855-PH	K1-510	1004-48	K1-650	1016-90-09	K3-410
1000-U755	K2-520	1000-U856	K1-510	1004-49	K1-650	1016-91-09	K3-410
1000-U755-01	K1-520	1000-U856-PH	K1-510	1004-51	K1-650	1016-92-09	K3-410
1000-U755-02	K1-530	1000-U859-IA	K1-510	1004-52	K1-650	1016-93-09	K3-410
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