V-Lock FIXING ELEMENTS

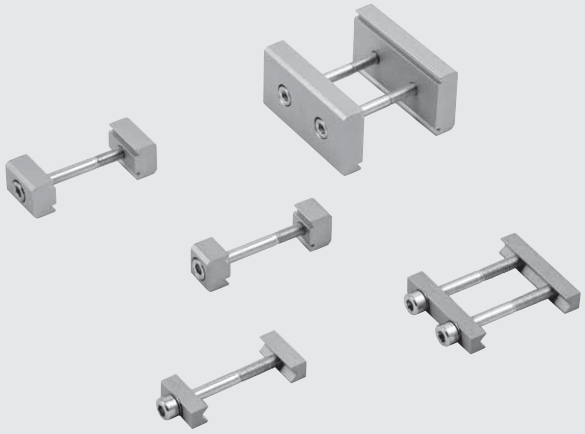
Metal Work products in the V-Lock series can be connected using either type K fixing system or QS fixing system, by Montech® Quick-Set.

Both modular systems are complementary and interchangeable.

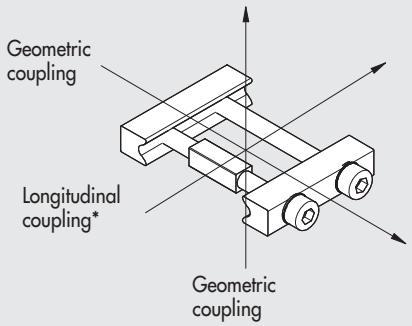
The V-Lock system guarantees accurate and repeatable positioning, even longitudinally. A hollow key can be inserted in the transverse grooves in the dovetails in the components (f8/H7 coupling).
Components connected using K elements are slightly detached from each other (minimum 0.4 mm distance between the adjacent surfaces of two components) to allow self-centring during assembly.

QS fixing elements allow longitudinal adjustment during assembly, without limiting the fitter to a particular position Here, too, the components are detached, but by more compared to the K system - 8 mm or 22 mm, depending on the connecting element chosen.

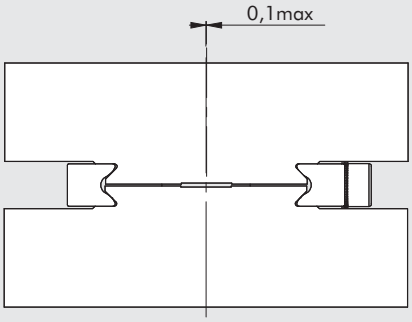
Both systems give rapid and accurate couplings that are very sturdy and vibration-resistant due to the dovetail joint and do not require specially designed adaptors.
The screws all remain accessible, so the components are easy to disassemble.



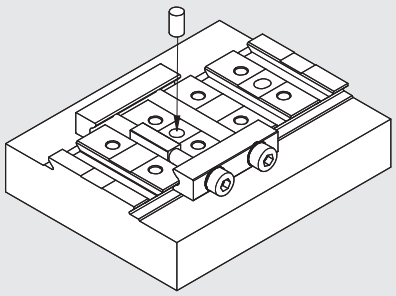
For very high loads there is a 6 mm solid square key with f8 tolerance (see accessories) that can be positioned between the free grooves in adjacent V-Lock elements.



* Resistance to the reciprocal displacement of two components with a 6 Nm screw torque.
Tests conducted with intact and undamaged elements.



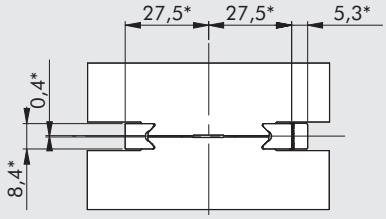
The V-Lock system allows transversal self-centring of the components. If the K blocks are mounted correctly, the alignment error is less than 0.1 mm.



If greater precision is required, one or two Ø 5 pins can be inserted in the slots provided.

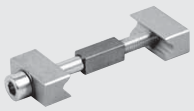
K FIXING ELEMENT

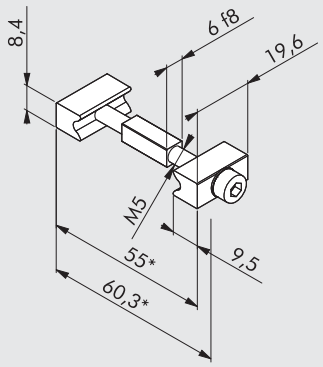
STANDARD TRANSVERSE DIMENSIONS



*dimensions with element fixed

K FIXING ELEMENT WITH ONE SCREW, CODE W0950005051K



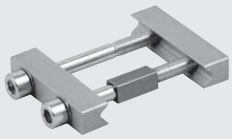


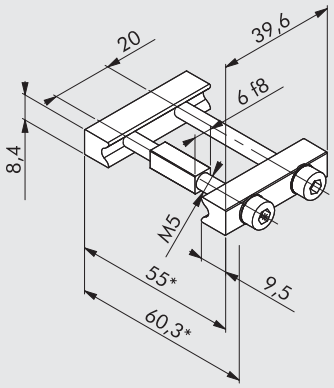
Short fixing element for low stress.

Resistance to longitudinal displacement	750 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.020 kg

*dimensions with element fixed

K FIXING ELEMENT WITH TWO SCREWS, CODE W0950005052K



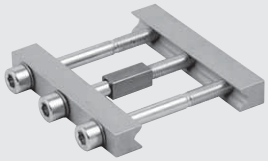


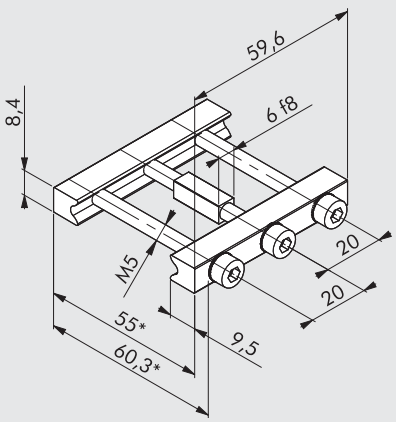
Fixing element for high stress.

Resistance to longitudinal displacement	3000 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.037 kg

*dimensions with element fixed

K FIXING ELEMENT WITH THREE SCREWS, CODE W0950005053K



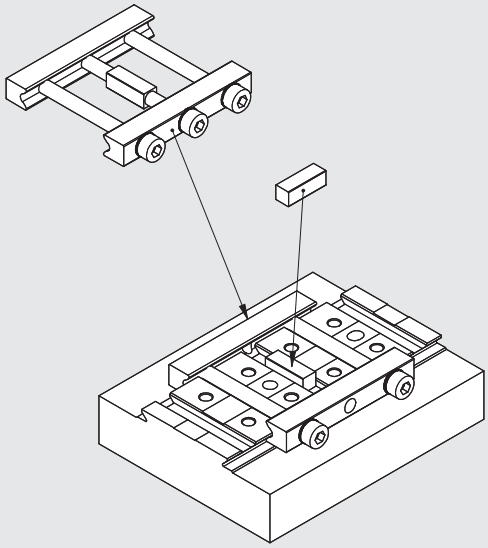


Fixing element for very high stress.

Resistance to longitudinal displacement	5000 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.055 kg

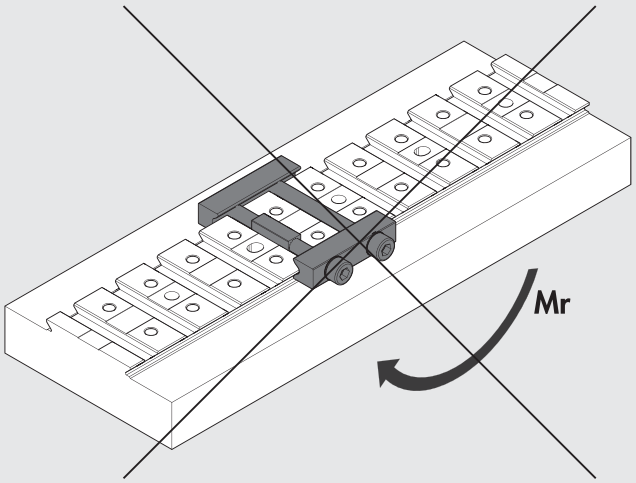
*dimensions with element fixed

For applications with high impacts, accelerations and masses, the resistance of the coupling system can be increased by inserting a solid key (code W0950005151K) instead of a screw and hollow key.

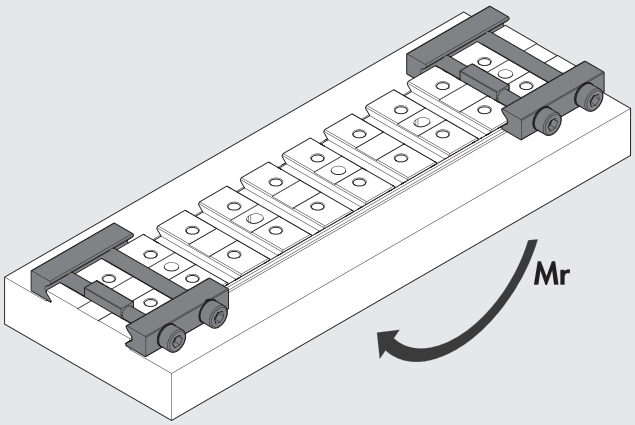


The number and size of fixing elements depend on the specific application. Under operating conditions of high speed, pressure and load, we recommend installing two elements with two screws as spaced as possible from each other.

NO

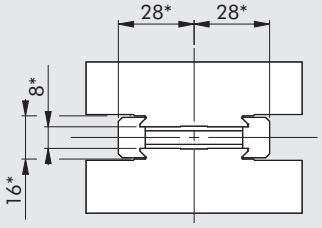


YES



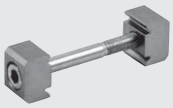
FIXING ELEMENT QS

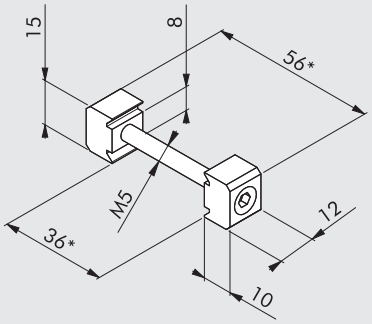
QS HEIGHT 8 mm: STANDARD TRANSVERSE DIMENSIONS



*dimensions with element fixed

QS 12-8 (SLL-12-40) FIXING ELEMENT, CODE W0950005000K



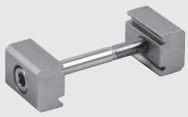


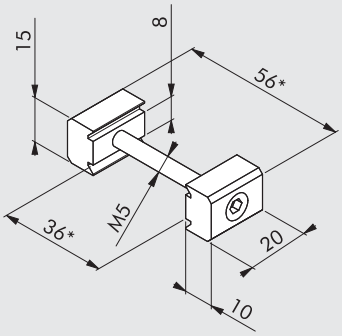
Short fixing element for low stress.

Resistance to longitudinal displacement	750 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.016 kg

*dimensions with element fixed

QS 20-8 (SLL-20-40) FIXING ELEMENT, CODE W0950005001K



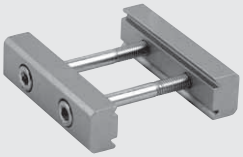


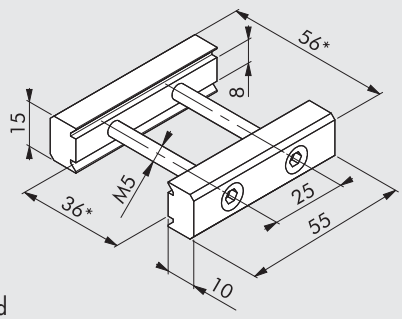
Short fixing element for medium stress.

Resistance to longitudinal displacement	1350 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.020 kg

*dimensions with element fixed

QS 55-8 (SLL-55-40) FIXING ELEMENT, CODE W0950005003K



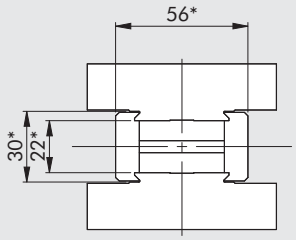


Fixing element for high stress.

Resistance to longitudinal displacement	3000 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.055 kg

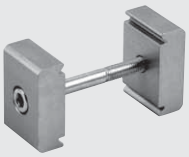
*dimensions with element fixed

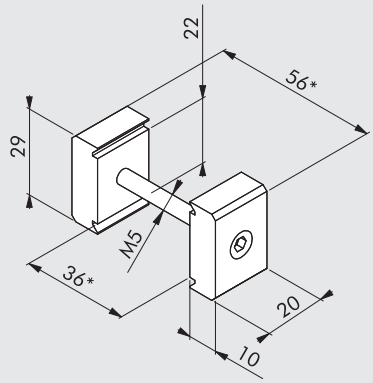
QS HEIGHT 22 mm: STANDARD TRANSVERSE DIMENSIONS



*dimensions with element fixed

QS 20-22 (SLL-20/22-40) FIXING ELEMENT, CODE W0950005002K



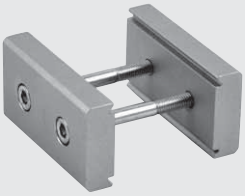


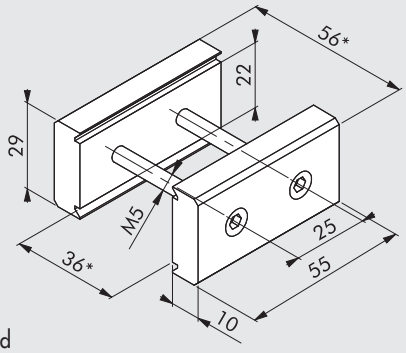
Short fixing element for medium stress and greater distances.

Resistance to longitudinal displacement	1350 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.022 kg

*dimensions with element fixed

QS 55-22 (SLL-55/22-40) FIXING ELEMENT, CODE W0950005004K





Short fixing element for high stress and greater distances.

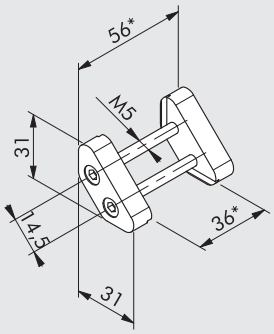
Resistance to longitudinal displacement	3000 N
Recommended screw torque	6 Nm
Parallelism of locked surfaces	±0.02 mm
Material	Anodized aluminium
Weight	0.096 kg

*dimensions with element fixed

NOTES

FIXING BRACKETS FOR PROFILES

EV-2-40 FIXING BRACKET, CODE W0950005811K

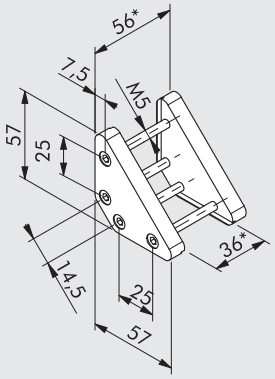


Angled attachment for 90° connections for use in reduced load applications.

Resistance to longitudinal displacement	1800 N
Recommended screw torque	6 Nm
Locking groove orthogonality (referred to a 19 mm length)	±0.02 mm
Material	Anodized aluminium
Weight	0.050 kg

*dimensions with element fixed

EV-3-40 FIXING BRACKET, CODE W0950005812K

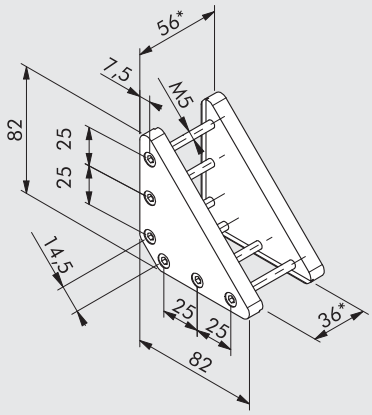


Angled attachment for 90° connections for use in medium load applications.

Resistance to longitudinal displacement	3000 N
Recommended screw torque	6 Nm
Locking groove orthogonality (referred to a 45 mm length)	±0.03 mm
Material	Anodized aluminium
Weight	0.130 kg

*dimensions with element fixed

EV-4-40 FIXING BRACKET, CODE W0950005813K



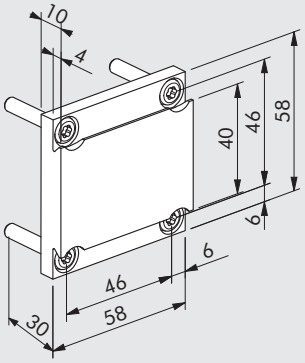
Angled attachment for 90° connections in high load applications.

Resistance to longitudinal displacement	4500 N
Recommended screw torque	6 Nm
Locking groove orthogonality (referred to a 70 mm length)	±0.04 mm
Material	Anodized aluminium
Weight	0.250 kg

*dimensions with element fixed

FRONT ADAPTER FOR LIGHTWEIGHT PROFILE PROFILE

FRONT ADAPTER SA-58-40, CODE W0950005816K



Adapter for front fixing obtained from DIN 17615 profile profiles (precision profiles)

Recommended screw torque	6 Nm
Material	Anodized aluminium heat set
Weight	0.060 kg

Note: Adapter for lightweight profile LP-66-40-3M, code W0950005801K

NOTES

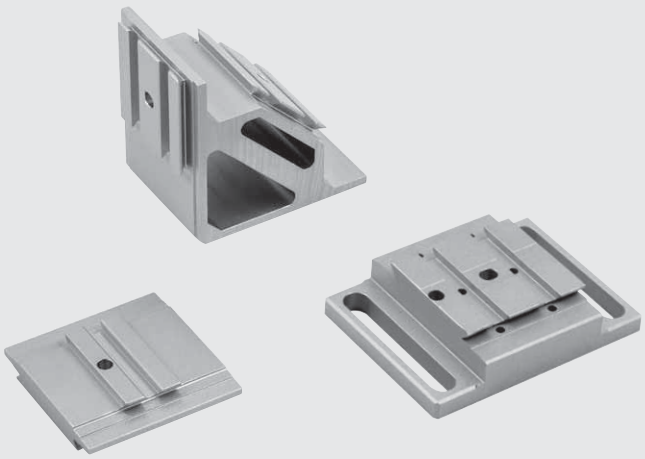
V-Lock ADAPTORS

METAL WORK PNEUMATIC

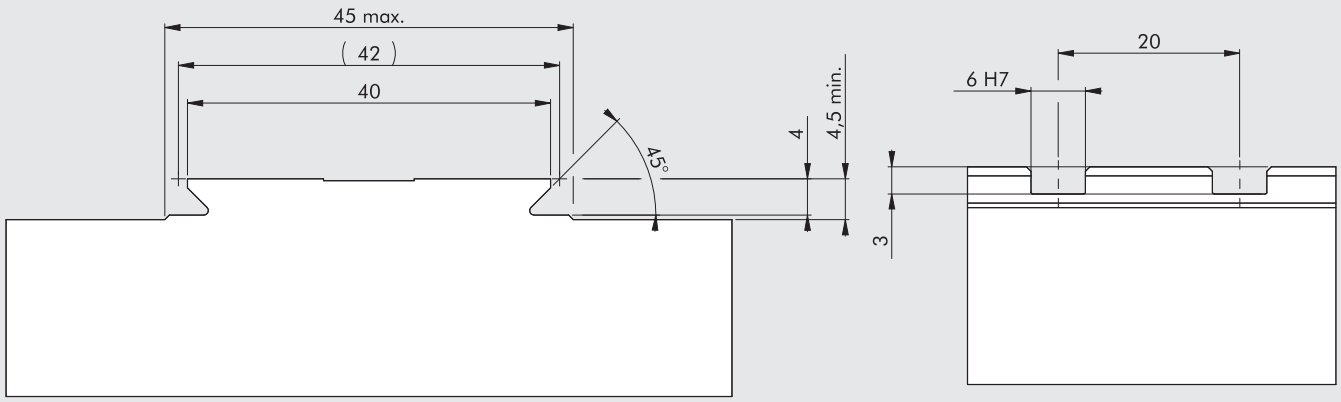
V-Lock adaptors can be used to connect various components quickly and securely when you require a rotated fixing or you need to adapt single-groove elements to multiple-groove elements.

All these adaptors have a 45° dovetail for connection using K and QS fixing elements.

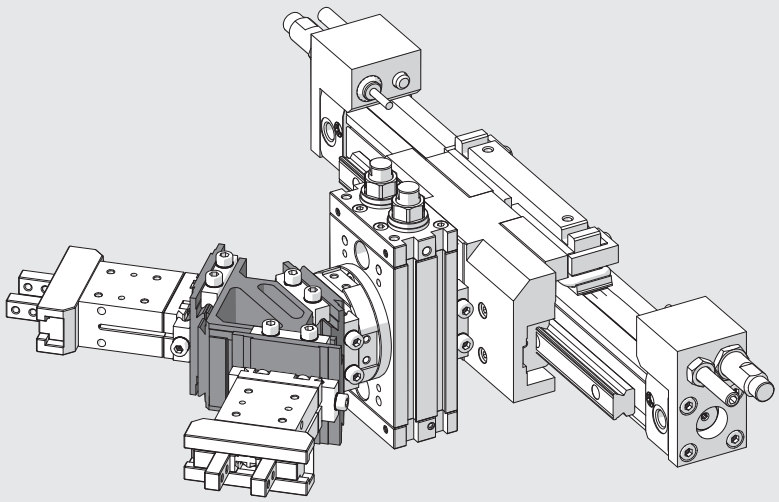
Where possible, pinholes have been drilled in the surfaces for interfacing with other components.



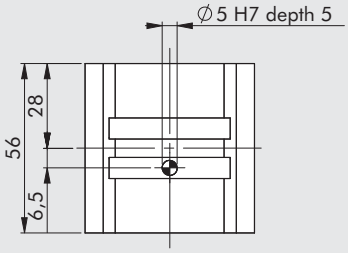
DIMENSIONS OF V-Lock DOVETAIL



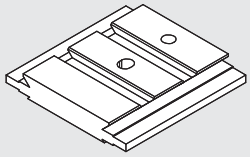
GENERAL APPLICATION OF V-Lock ADAPTORS

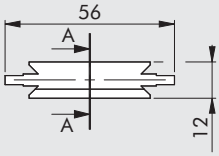


2-1 PARALLEL ADAPTOR, CODE W0950005100K

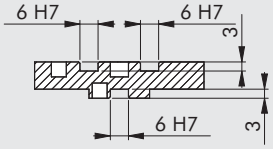


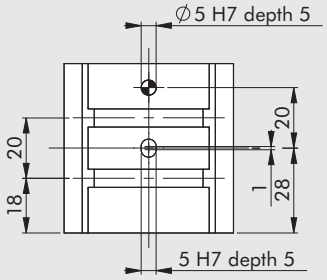
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.





A-A

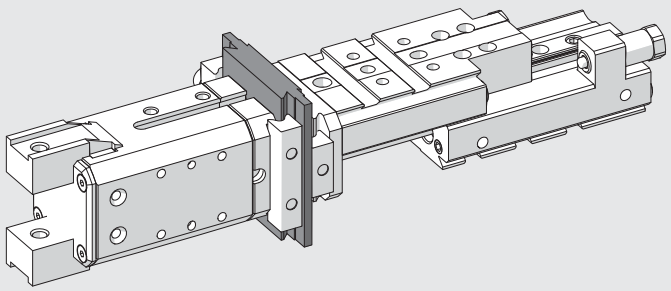




Adaptor suitable for parallel coupling of two V-Lock components, one with at least two grooves and the other with one groove only.

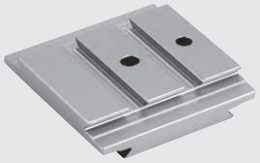
Material	Anodized aluminium
Weight	0.060 kg

EXAMPLE OF APPLICATION

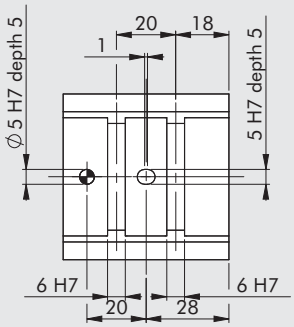


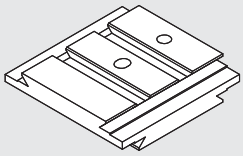
METAL WORK PNEUMATIC

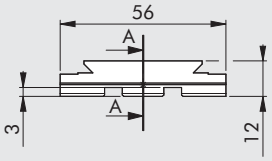
2-2 CROSS ADAPTOR, CODE W0950005110K



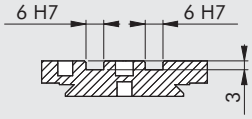
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

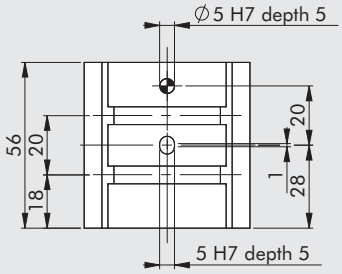






A-A

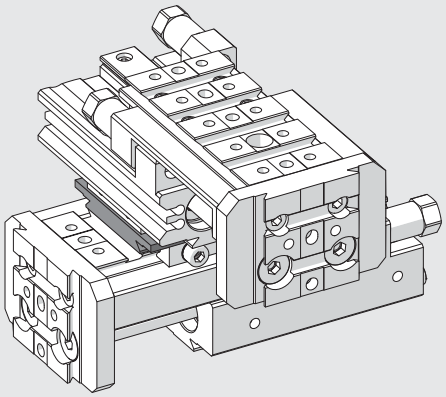




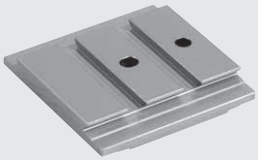
Adaptor suitable for cross-coupling two V-Lock components, both with at least two grooves.

Material	Anodized aluminium
Weight	0.069 kg

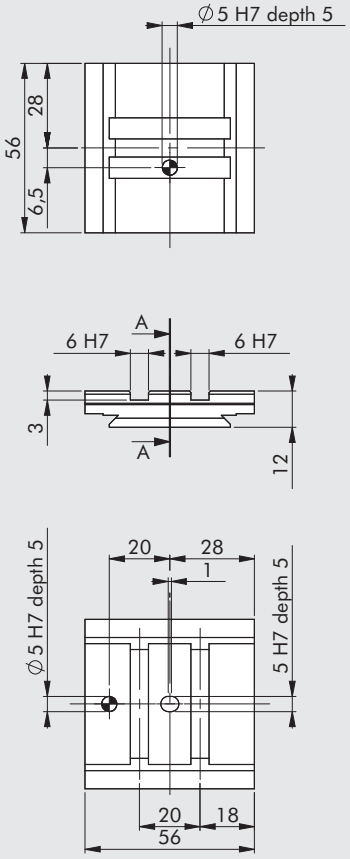
EXAMPLE OF APPLICATION

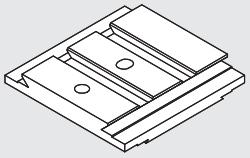


2-1 CROSS ADAPTOR, CODE W0950005120K



NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

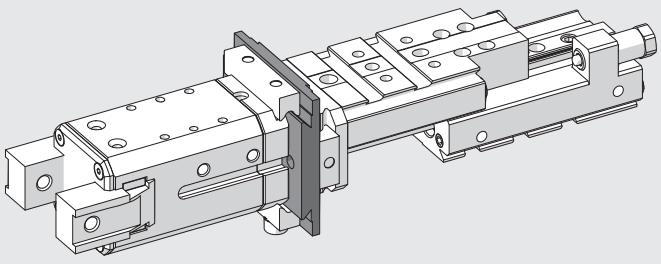




Adaptor suitable for cross-coupling of two V-Lock components, one with at least two grooves and the other with one groove only.

Material	Anodized aluminium
Weight	0.060 kg

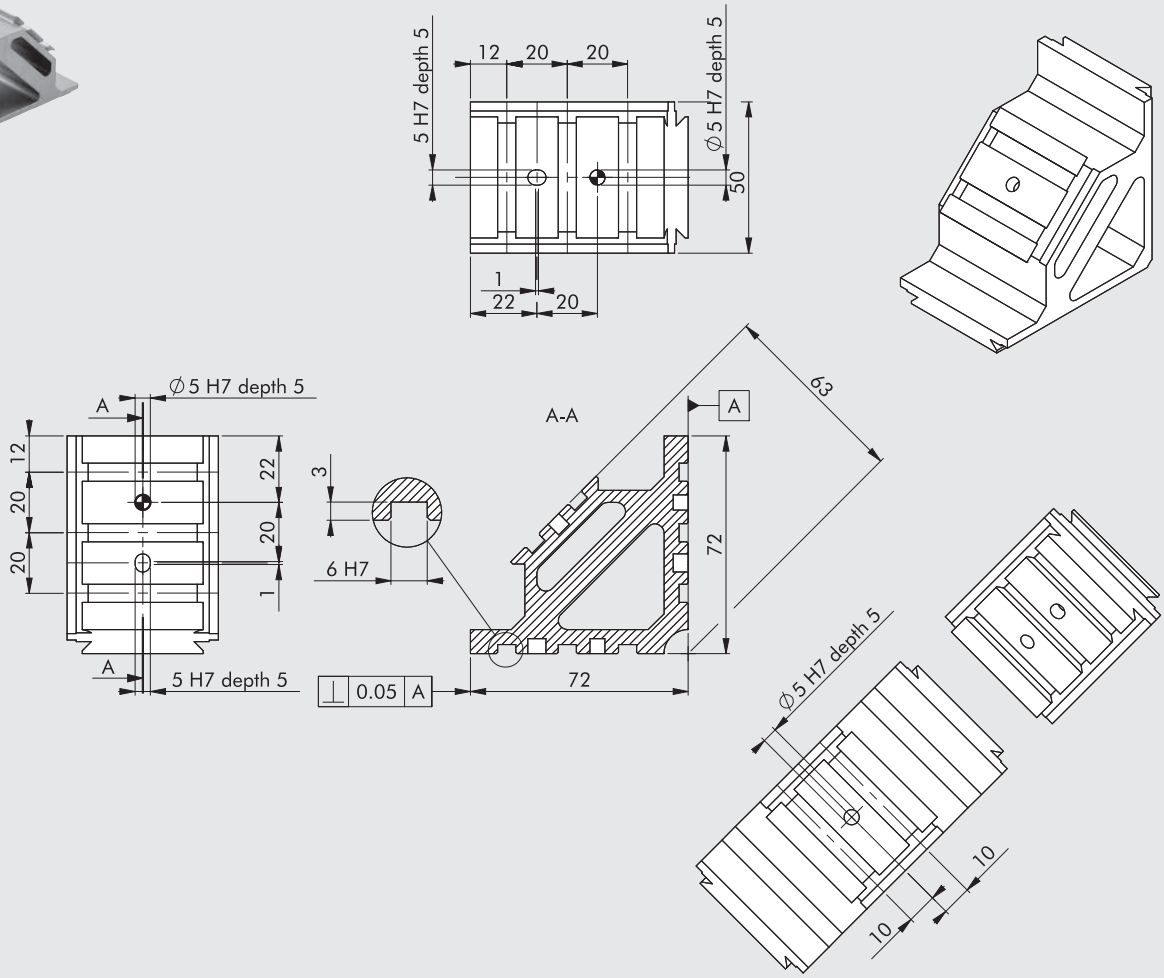
EXAMPLE OF APPLICATION



METAL WORK PNEUMATIC

LONGITUDINAL BRACKET, CODE W0950005200K

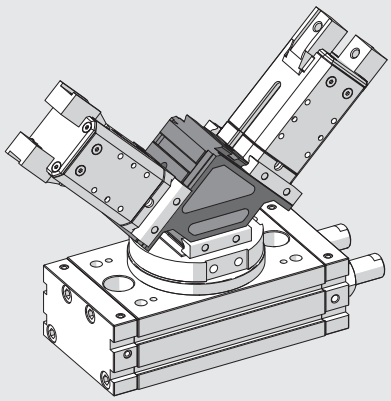
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.



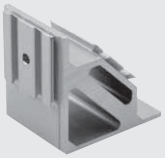
Adaptor suitable for the rotated coupling of two or three V-Lock components, with two right-angle supporting surfaces and parallel grooves.
The third surface is at 45° angle and the grooves are parallel to those in the other two faces.

Material	Anodized aluminium
Weight	0.235 kg

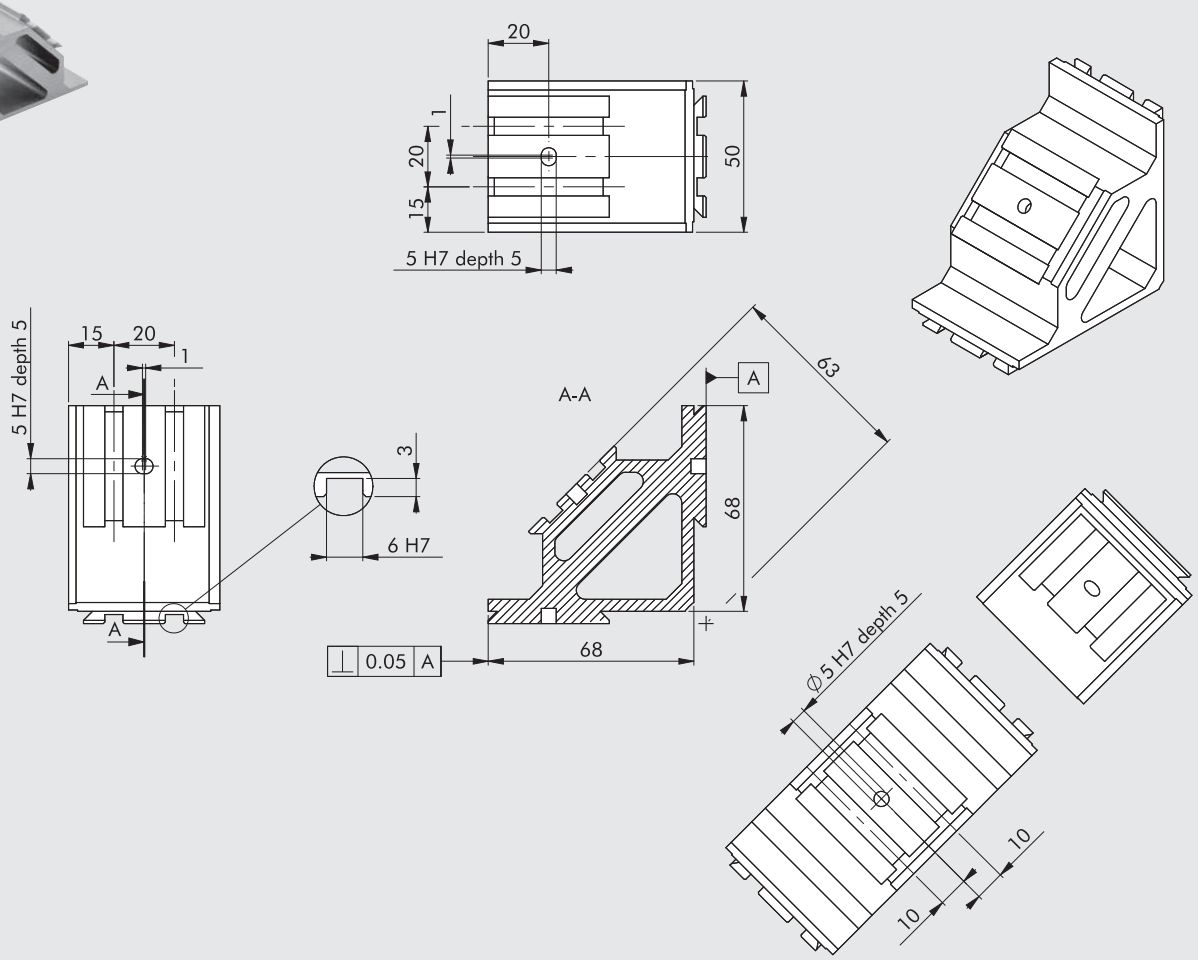
EXAMPLE OF APPLICATION



TRANSVERSAL BRACKET, CODE W0950005201K



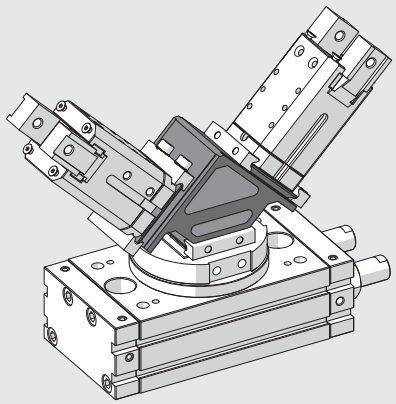
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.



Adaptor suitable for the rotated coupling of two or three V-Lock components, with two supporting surfaces at right angles. The third surface is at 45° angle. All the grooves are parallel.

Material	Anodized aluminium
Weight	0.218 kg

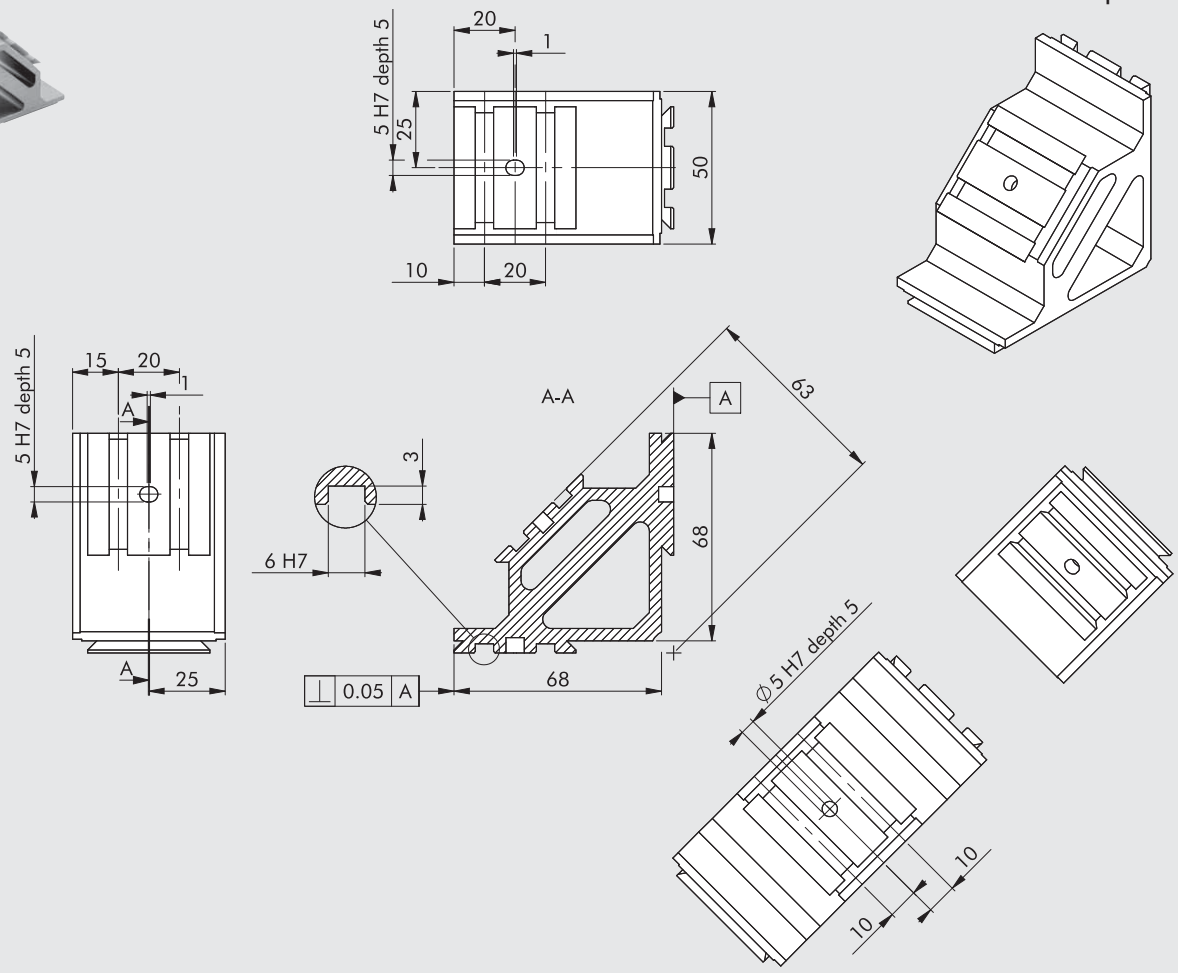
EXAMPLE OF APPLICATION



METAL WORK PNEUMATIC

CROSS BRACKET, CODE W0950005202K

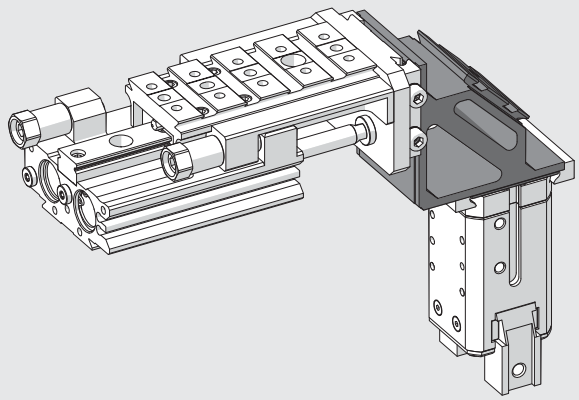
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.



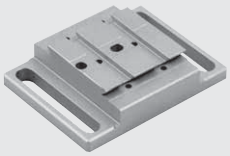
Adaptor suitable for the rotated coupling of two or three V-Lock components, with two right-angled supporting surfaces and grooves at right angles.
The third surface is at 45° angle.

Material	Anodized aluminium
Weight	0.218 kg

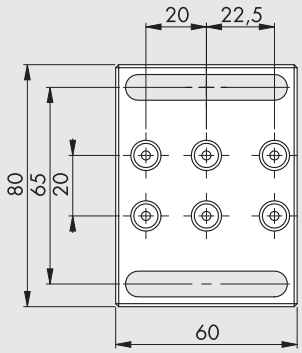
EXAMPLE OF APPLICATION

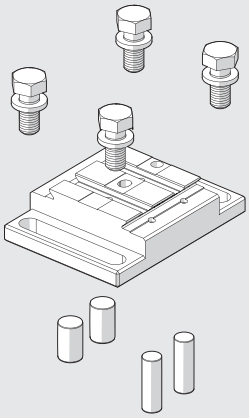


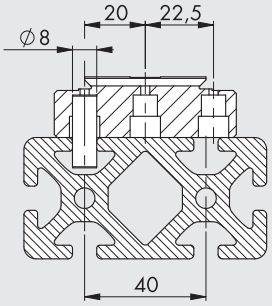
LONGITUDINAL ADAPTOR, CODE 0950008001K

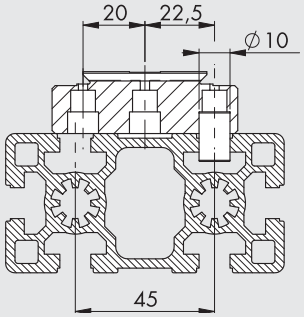


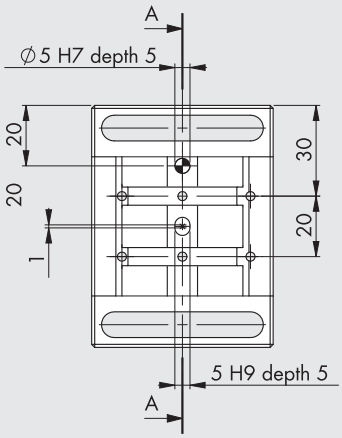
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

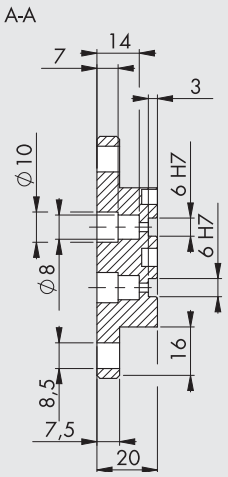








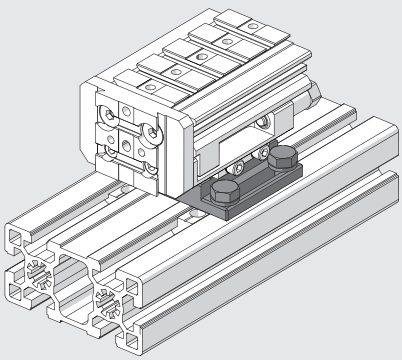




An adaptor for fixing V-Lock components longitudinally onto extruded profiles, with slots with 40 or 45 mm centre distance or 8 or 10 mm width.
If the slots have a 40 mm centre distance, insert two pins in the slots 20 mm from the axis of the adaptor and use them as an alignment reference.
If the slots have a 45 mm centre distance, use the 22.5 mm pin slots.

Kit contents:		
1 longitudinal adaptor	Material	Anodized aluminium
	Weight	0.164 kg
2 cylindrical pins Ø 10 x 16		
2 cylindrical pins Ø 8 x 24		
4 galvanised M8 x 16 screws		

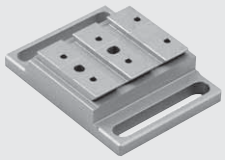
EXAMPLE OF APPLICATION

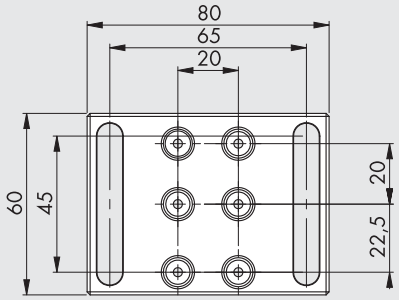


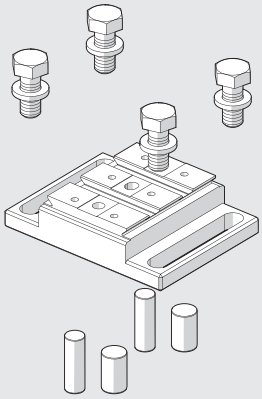
METAL WORK PNEUMATIC

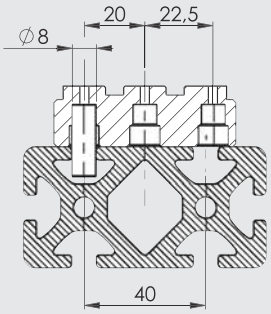
TRANSVERSAL ADAPTOR, CODE 0950008002K

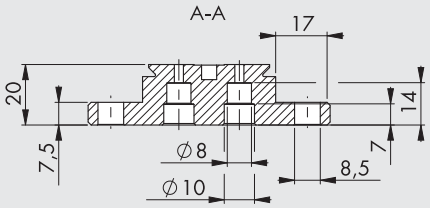
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

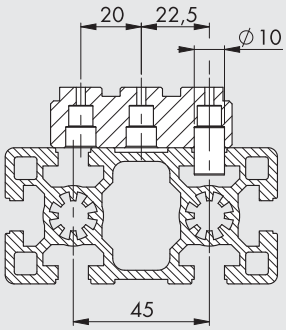


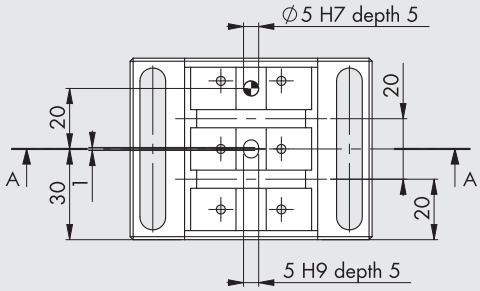


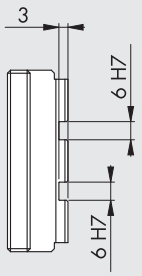








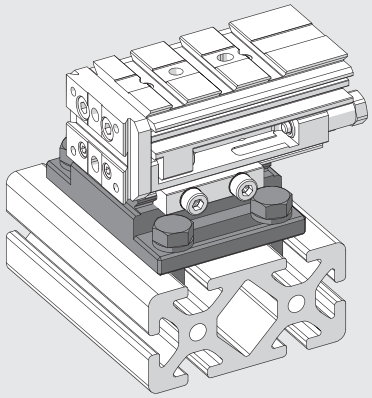




An adaptor for fixing V-Lock components transversally onto extruded profiles, with slots with 40 or 45 mm centre distance or 8 or 10 mm width.
If the slots have a 40 mm centre distance, insert two pins in the slots 20 mm from the axis of the adaptor and use them as an alignment reference.
If the slots have a 45 mm centre distance, use the 22.5 mm pin slots.

Kit contents:		
1 transversal adaptor:	Material	Anodized aluminium
	Weight	0.160 kg
2 cylindrical pins Ø 10 x 16		
2 cylindrical pins Ø 8 x 24		
4 galvanised M8 x 16 screws		

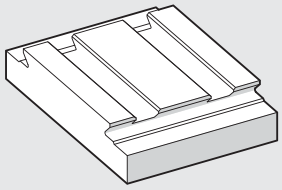
EXAMPLE OF APPLICATION



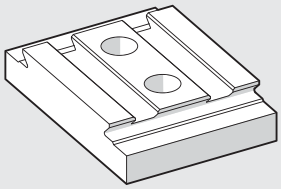
V-Lock TRANSFORMER

V-Lock transformers can be used to connect components other than V-Lock to the system or V-Lock components to other types of frames (e.g. bases, plates and walls). V-Lock transformers can be supplied without fixing screw holes or pinholes. This means that you can create the desired configuration.
For other similar adapters, see **chapter V-Lock Gripper accessories**.
The example below shows how to transform an S11 slide into a V-Lock slide.

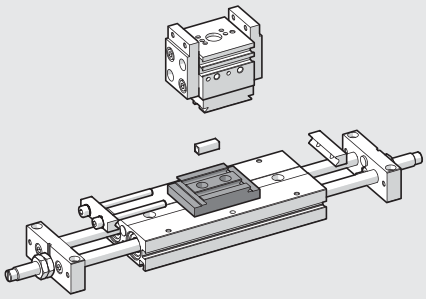
Start from V-Lock transformer



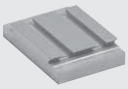
Drill a hole where required

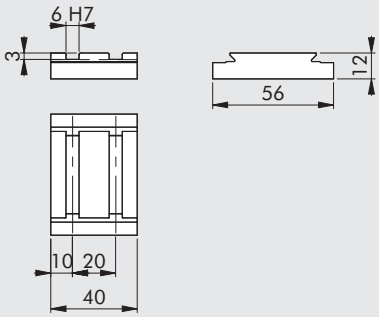


Apply to the component



2-GROOVE V-Lock TRANSFORMER, CODE 0950008012K

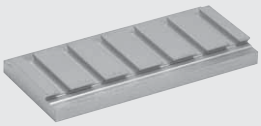


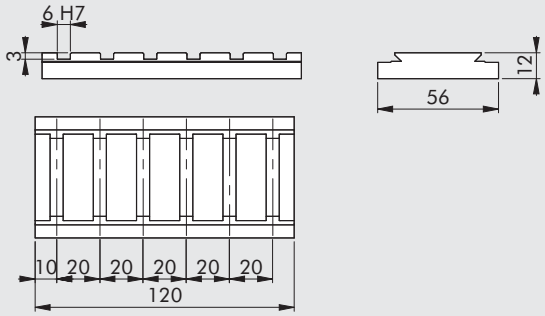


Weight: 0.060 kg
Material: anodized aluminium

NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

6-GROOVE V-Lock TRANSFORMER, CODE 0950008016K

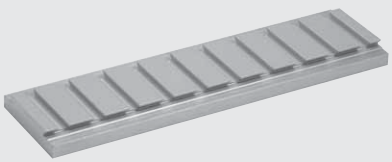


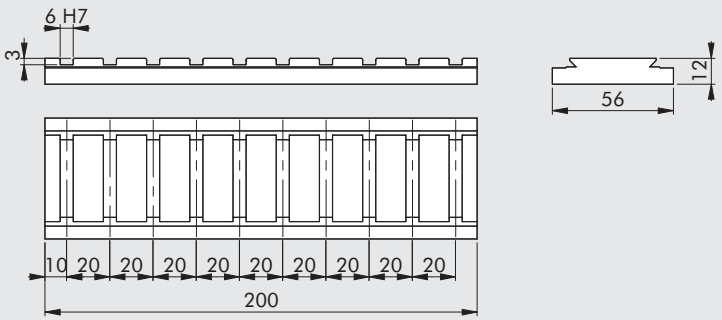


Weight: 0.181 kg
Material: anodized aluminium

NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

10-GROOVE V-Lock TRANSFORMER, CODE 0950008020K



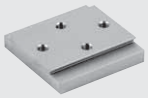


Weight: 0.301 kg
Material: anodized aluminium

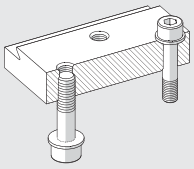
NOTE: For standard dovetail dimensions see **chapter V-Lock Adaptors**.

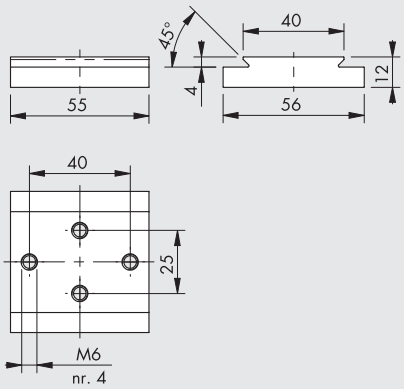
METAL WORK PNEUMATIC

QS TRANSFORMER L = 55, CODE 0950008050K



Fixing from below with M6 screw, or from above with through M5 screw.





Weight: 0.087 kg
Material: anodized aluminium

NOTES

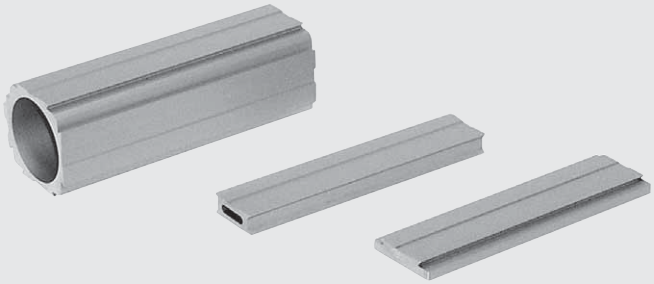
NOTES

METAL WORK PNEUMATIC

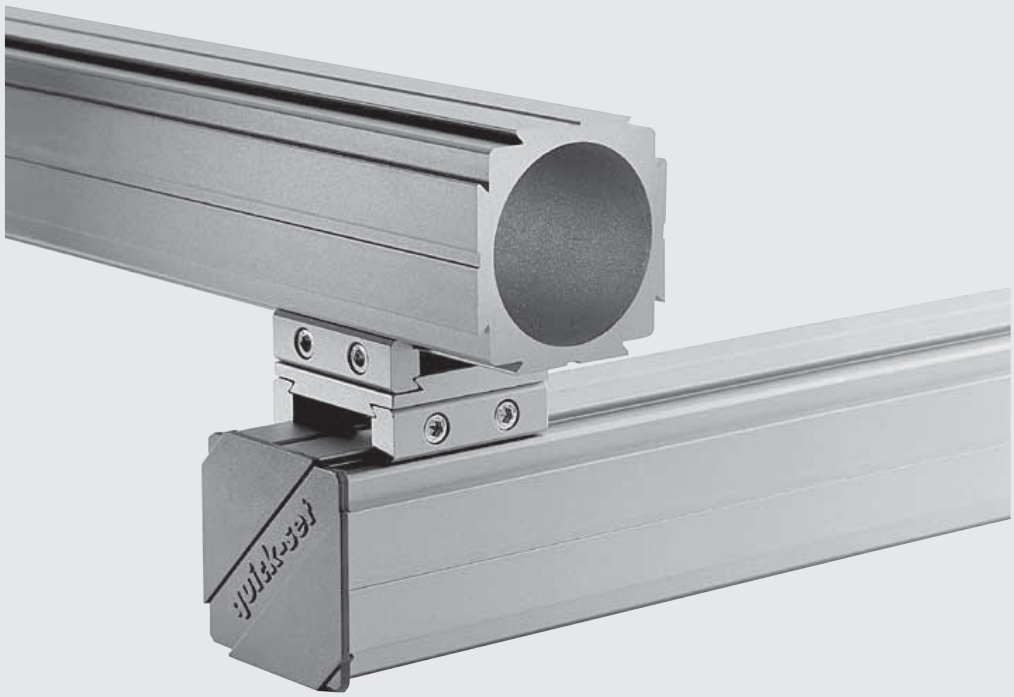
NOTES

PROFILES

The Quick-Set fixing system is the natural complement to modular components for V-Lock automation. The two systems share the same dovetail coupling system.
All types of structures can be quickly installed using Quick-Set profiles and accessories, including simple lightweight supports and complete assembly and testing lines. Couplings between profiles are accurate, very sturdy and vibration resistant. They are suitable for use in both static and dynamic applications. The profiles can be cut to measure using a die cutter and without requiring any machining; no need for holes or junction pinholes.
Dovetail joints can withstand higher loads than T-grooved joints; the reciprocal resistance of two screw-coupled joints is over 3000 N.
All the locking screws can be accessed at all times. The installations can be dismantled and reused.
On specific request, the sections can be cut to the desired length.
The part number of cut-to-size sections is formed by adding 4 characters identifying the length in mm just before the letter K.
For example, the part number of the bearing section TP-66-40, length 850 mm, will be W095000580**0850**K.
In addition to the products shown in this catalogue and available from Metal Work stock, all the other Montech® Quick-Set components can be supplied on request.

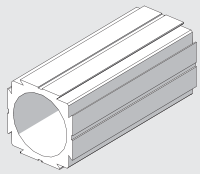


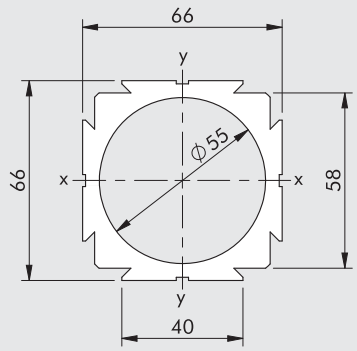
EXAMPLES OF APPLICATION



METAL WORK PNEUMATIC

TP-66-40-3M SUPPORTING PROFILE, CODE W0950005800K

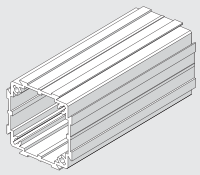


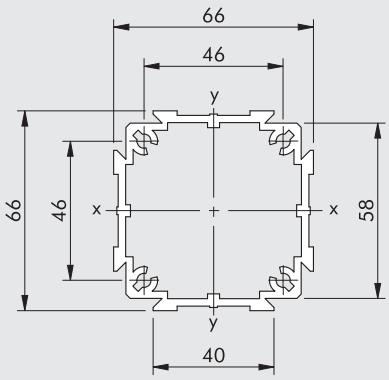


Profile to DIN 17615 (precision profiles)

Length	3000 mm
Profile surface	1480 mm^2
Flexural modulus	Wx = Wy = 23 cm^3
Moment of inertia	Jx = Jy = 76 cm^4
Length tolerance	±2 mm (DIN 7168 average)
Torsion tolerance	1 mm/m
Straightness tolerance	0.5 mm/m
Material	Anodized aluminium heat set
Weight	3.996 kg/m

LP-66-40-3M LIGHTWEIGHT PROFILE, CODE W0950005801K

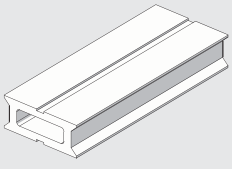


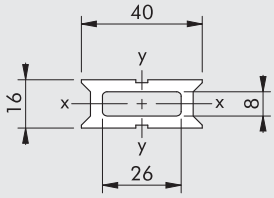


Profile to DIN 17615 (precision profiles)

Length	3000 mm
Profile surface	809 mm^2
Flexural modulus	Wx = Wy = 13 cm^3
Moment of inertia	Jx = Jy = 45 cm^4
Length tolerance	±2 mm (DIN 7168 average)
Torsion tolerance	1 mm/m
Straightness tolerance	0.5 mm/m
Material	Anodized aluminium heat set
Weight	2.186 kg/m

TP-16-40-2M SUPPORTING PROFILE, CODE W0950005802K

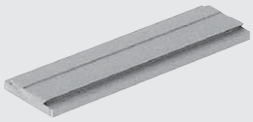


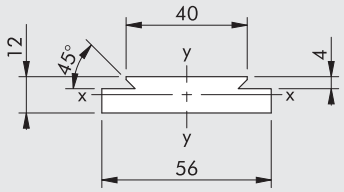


Profile to DIN 17615 (precision profiles)

Length	2000 mm
Profile surface	368 mm^2
Flexural modulus	Wx = 1.025 cm^3 Wy = 1.640 cm^3
Moment of inertia	Jx = 0.820 cm^4 Jy = 3.28 cm^4
Length tolerance	±1.2 mm (DIN 7168 average)
Torsion tolerance	1 mm/m
Straightness tolerance	0.5 mm/m
Material	Anodized aluminium heat set
Weight	0.980 kg/m

AP-56-40-2M ADAPTER PROFILE, CODE W0950005803K

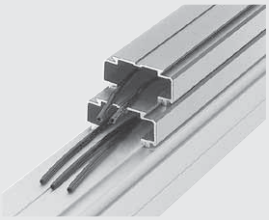


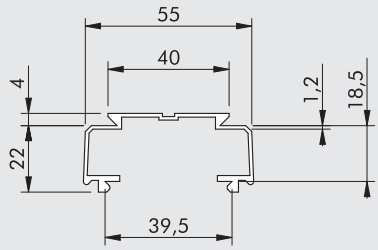


Profile to DIN 17615 (precision profiles).
Used for making adaptors.

Length	2000 mm
Profile surface	600 mm^2
Flexural modulus	Wx = 1.04 cm^3
	Wy = 4.83 cm^3
Moment of inertia	Jx = 0.67 cm^4
	Jy = 13.53 cm^4
Length tolerance	±1.2 mm (DIN 7168 average)
Torsion tolerance	1 mm/m
Straightness tolerance	0.5 mm/m
Material	Anodized aluminium heat set
Weight	1.620 kg/m

KFM-40-2M CABLE CARRIER PROFILE, CODE W0950005804K

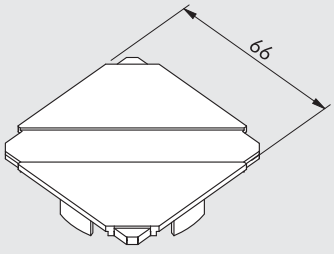




Profile to DIN 17615 (precision profiles).
Snap-in profile for the laying of pneumatic hoses and electrical cables.

Length	2000 mm
Length tolerance	±1.2 mm (DIN 7168 average)
Material	Anodized aluminium heat set
Weight	0.549 kg/m

AK-66-40 PLASTIC CAP, CODE W0950005810K

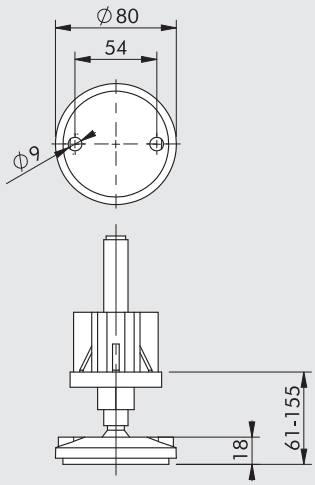


End cap for TP-66-40 and LP-66-40 bearing profiles.

Material	Light grey ABS
Weight	2.5 g

METAL WORK PNEUMATIC

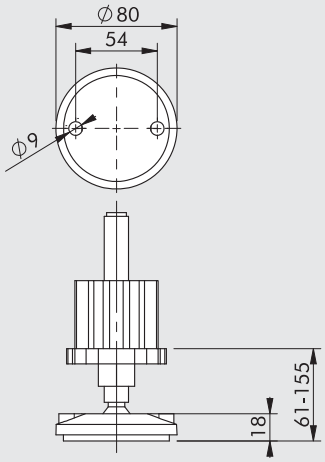
GFTP-66-40 ARTICULATED FOOT, CODE W0950005814K



Articulated foot with adaptor for TP-66-40 bearing profile.

Maximum axial load	5000 N
Material	Black plastic plate. Threaded rod in galvanised steel.
Weight	0.350 kg

GFLP-66-40 ARTICULATED FOOT, CODE W0950005815K



Articulated foot with adaptor for LP-66-40 lightweight profile.

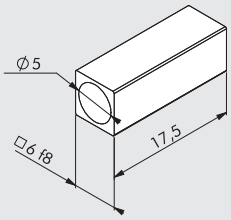
Maximum axial load	5000 N
Material	Black plastic plate. Threaded rod in galvanised steel.
Weight	0.400 kg

NOTES

V-Lock ACCESSORIES AND SPARE PARTS

ACCESSORIES

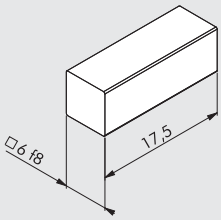
V-Lock HOLLOW KEY



Code	Description
W0950005150K	V-Lock hollow key kit

Note: Kit of 5 stainless steel 6 x 6 hollow keys

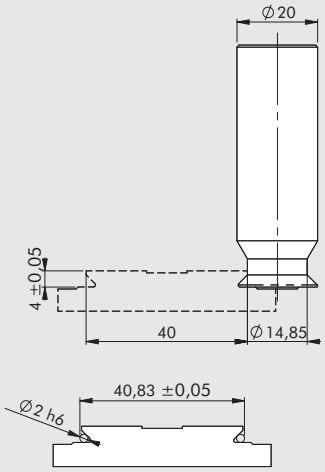
V-Lock SOLID KEY



Code	Description
W0950005151K	V-Lock key kit

Note: Kit of 5 stainless steel solid 6 x 6 keys

V-Lock profile tool



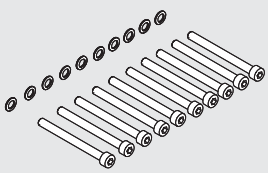
Code	Description
9000770	Tool for V-Lock profile

Workable materials: aluminium – steel

Note: This tool can be used to obtain the dovetail V-Lock profile on parts and/or components without it (e.g. plates, jibs and columns).

SPARE PARTS

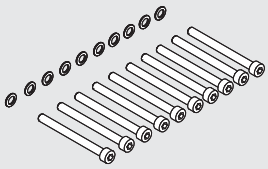
V-Lock SCREW KIT



Code	Description
W0950005170K	K screw kit

Note: Kit of 10 galvanised M5x55 screws (class 8.8) and 10 galvanised knurled M5 washers

Quick-Set SCREW KIT



Code	Description
W0950005171K	QS screw kit

Note: Kit of 10 galvanised M5x50 screws (class 8.8) and 10 galvanised knurled M5 washers