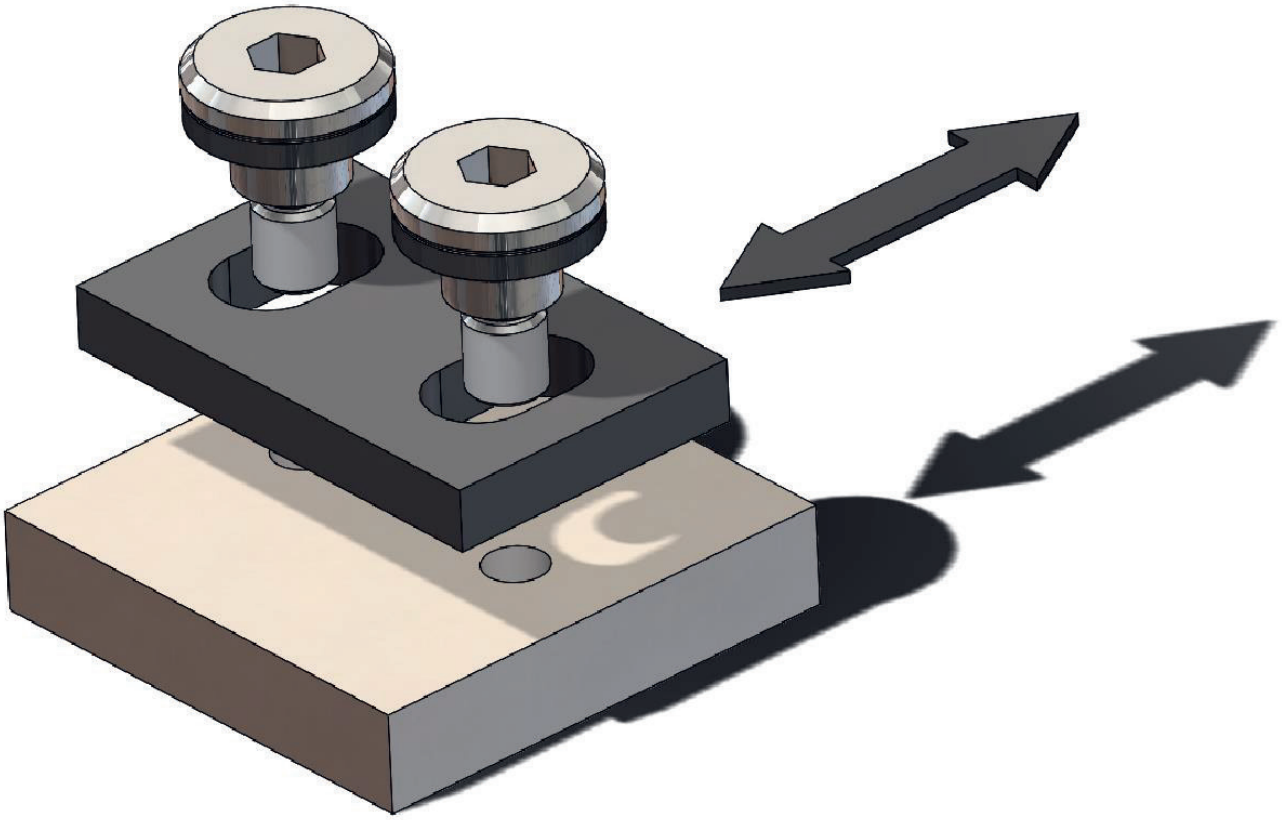
SLIX

LOOSE BEARING MOUNTING WITH STANDARD ELEMENTS



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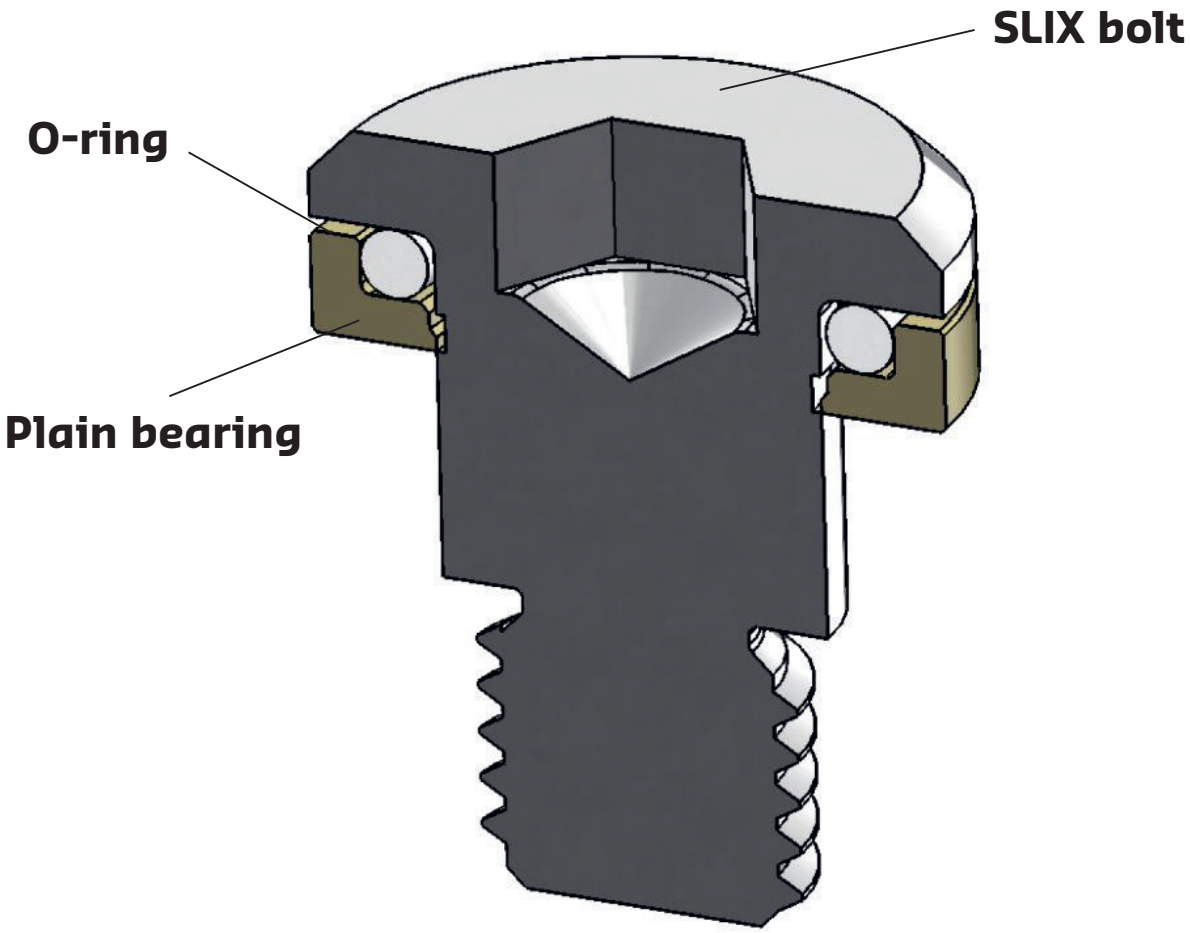
Additional installation information, applications and possible variants can be found in the SLIX user handbook.



“PLEASE FEEL FREE TO CONTACT OUR APPLICATION CONSULTANTS FOR ASSISTANCE!”

SLIX?

SLIX means slide and fix. A more precise description might be tension equalisation bolt. But SLIX is undoubtedly a little more catchy, so this is the name we will be sticking with.

WHAT ARE SLIX?

SLIX are bolts that press two parts together while allowing a desired movement between the parts.

WHY ARE SLIX NEEDED?

In most applications, two or more linear guides are used in parallel.

PGM Motion and its employees have seen the same type of malfunction occurring again and again in these applications over a period of decades. In most cases, failures can be traced back to static redundancy in the guides. In response to these observations, we looked for a solution and developed SLIX.

SLIX are needed in particular when:

- A change in temperature alters the dimensions of a part.
- Assembly inaccuracies occur.
- Manufacturing tolerances need to be compensated.
- The position of the parts varies as the result of dynamic loads.

This needs to be compensated for – with SLIX, machines stay free from stress.

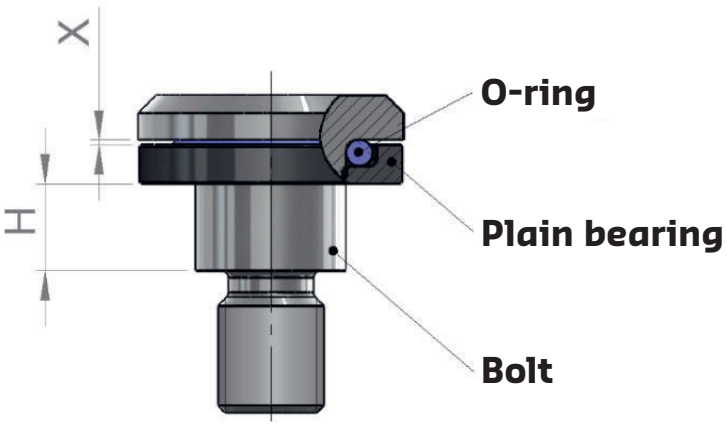
HOW DOES IT WORK?

A SLIX is made up of three parts: bolt, plain bearing and O-ring

When the bolt is screwed into the hole,the plain bearing compresses the O-ring.

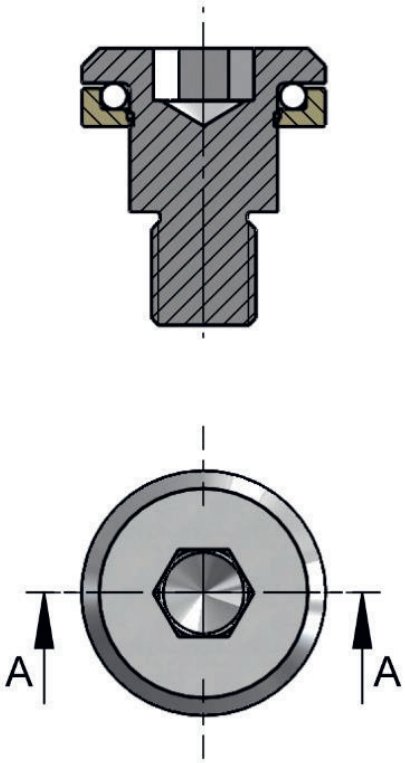
This occurs by the dimension X at a maximum, and then the plain bearing rests on the bolt.

The stroke is limited accordingly. The dimension H increases the more the O-ring is compressed.

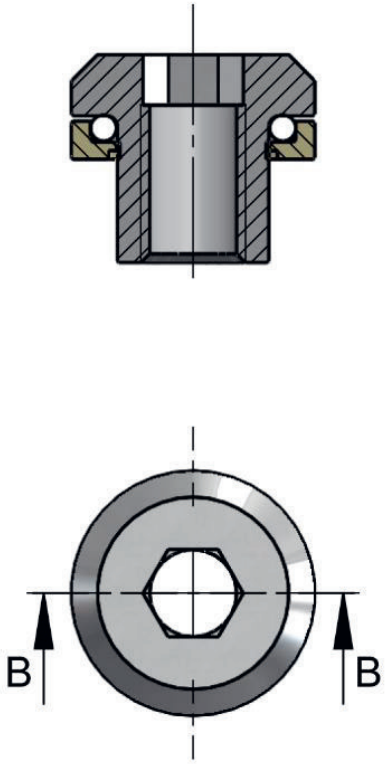


DESIGNS
SLIBOLTS

Form A - with external thread

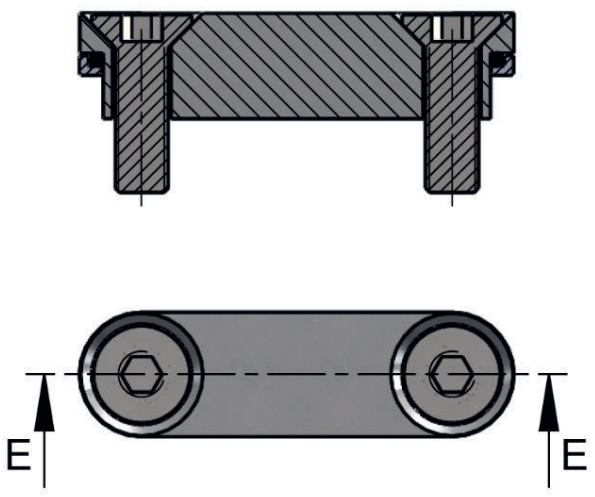


Form B - with internal thread

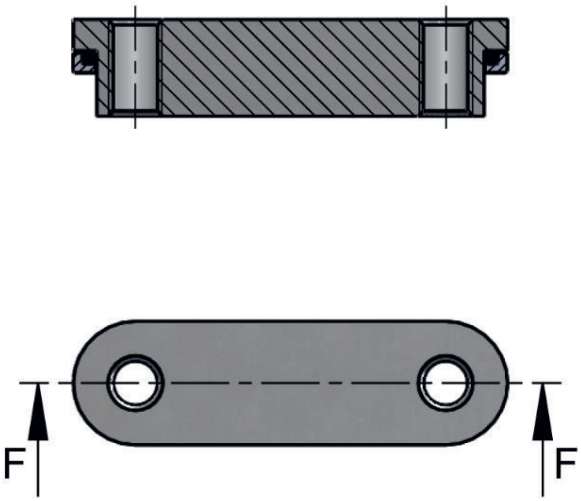


DESIGNS
SLIX ELEMENTS

Form E - Mounted with countersunk screw

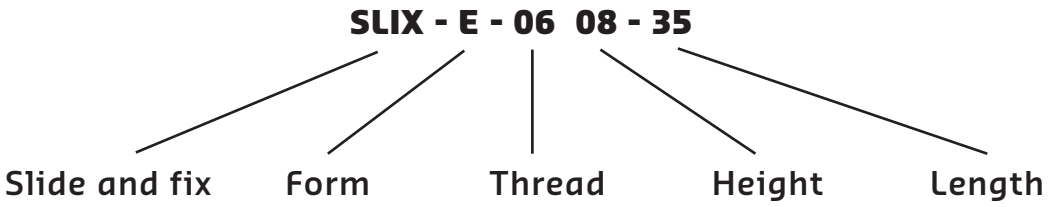


Form F - Mounted with internal thread



Countersunk screws ISO 10642 (DIN 7991) are included in delivery.

ORDER NUMBERS



STANDARD SIZES

Form	Thread	Height in mm	Length
A	M4	03, 05	-
	M5	05, 08	-
	M6	05, 08	-
	M8	06, 10	-

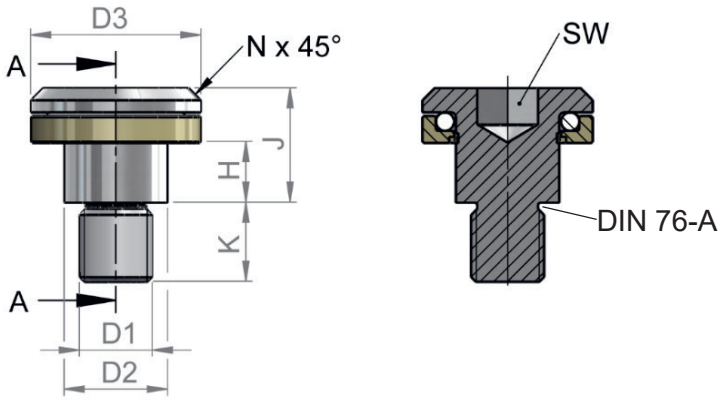
Form	Thread	Height in mm	
B	M4	03, 05	-
	M5	05, 08	-
	M6	05, 08	-
	M8	06, 10	-

Form	Thread	Height in mm	Length in mm
E	M5	05, 08	32
	M6	05, 08	35

Form	Thread	Height in mm	Length in mm
F	M5	05, 10	53
	M6	05, 10	57

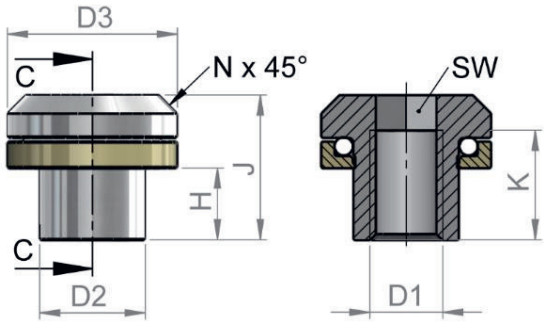
Other sizes are available on request.

DIMENSIONS
FORM A



Ordernr.	D1	D2	D3	H	J	SW	K	N
SLIX-A-0403	M4	6 h 9	10 h 9	2,9	6,5 -0,1	3	5,5	0,6
SLIX-A-0405				4,9	8,5 -0,1			
SLIX-A-0505	M5	7 h 9	12 h 9	4,9	9 -0,1	4	6,5	0,8
SLIX-A-0508				7,9	12 -0,1			
SLIX-A-0605	M6	8,5 h 9	15 h 9	4,9	10 -0,1	5	8	1
SLIX-A-0608				7,9	13 -0,1			
SLIX-A-0806	M8	10,5 h 9	18 h 9	5,9	12 -0,1	6	10	1
SLIX-A-0810				9,9	16 -0,1			

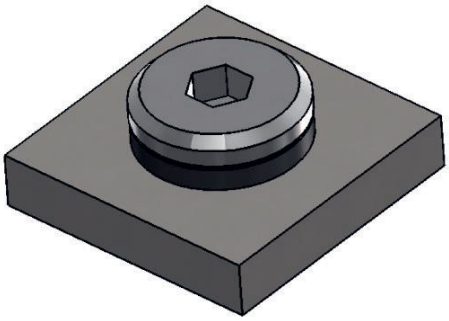
DIMENSIONS
FORM B

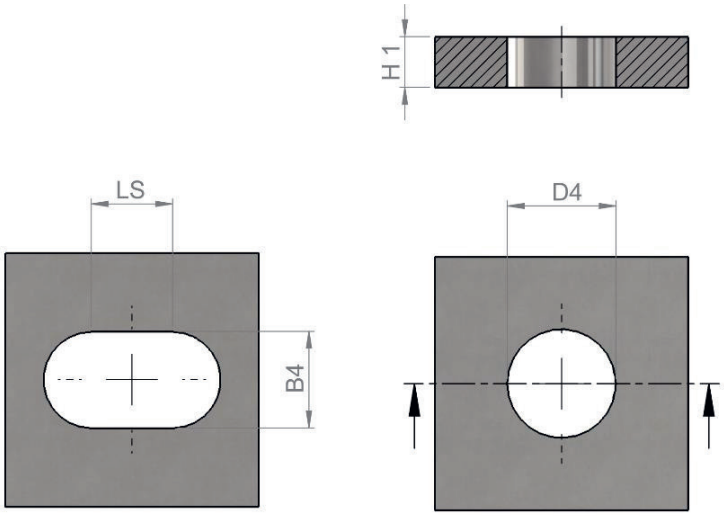


Ordernr.	D1	D2	D3	H	J	SW	K	N
SLIX-B-0403	M4	6 h 9	10 h 9	2,9	8 -0,1	4	5	1
SLIX-B-0405				4,9	10 -0,1		7	
SLIX-B-0505	M5	7 h 9	12 h 9	4,9	10,5 -0,1	5	7	1,2
SLIX-B-0508				7,9	13,5 -0,1		10	
SLIX-B-0605	M6	8,5 h 9	15 h 9	4,9	12 -0,1	6	8	1,5
SLIX-B-0608				7,9	15 -0,1		11	
SLIX-B-0806	M8	10,5 h 9	18 h 9	5,9	15 -0,1	8	10	2
SLIX-B-0810				9,9	19 -0,1		14	

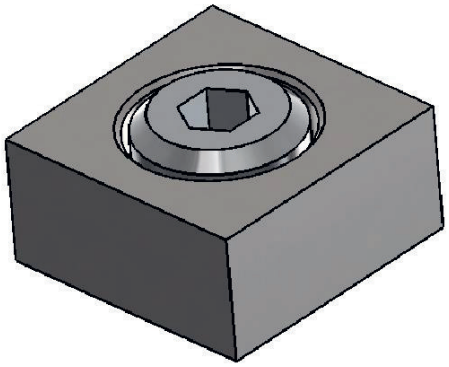
INSTALLATION DIMENSIONS, SLIX BOLT
FORM A AND B

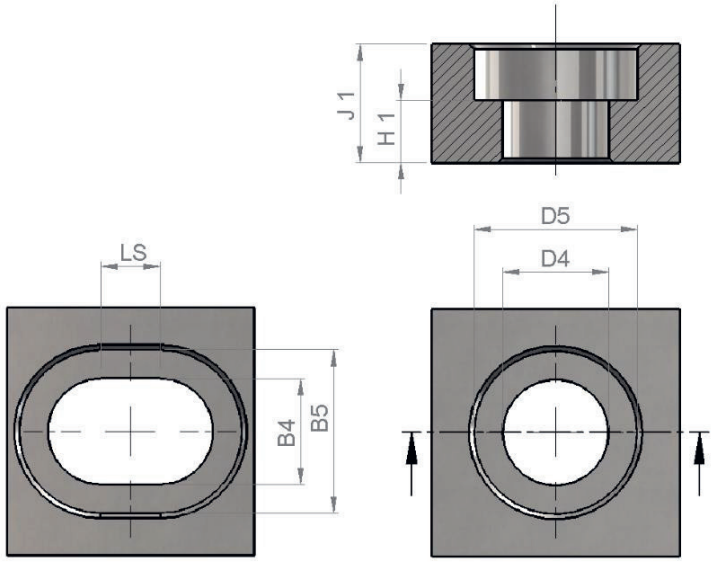
Installed protruding





Installed with countersink

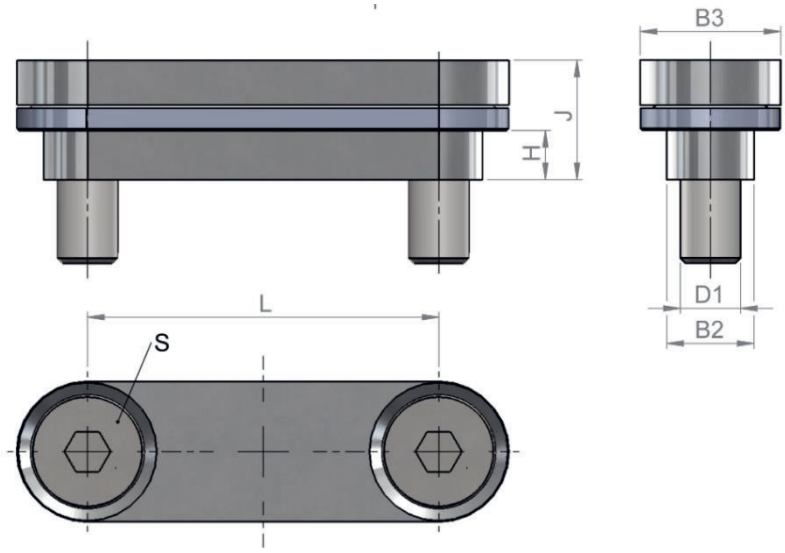




The dimension H 1 corresponds to the dimension H of the SLIX bolts plus the working range (dimension X on page 3)
The dimension J 1 corresponds to the dimension J of the SLIX bolts in the case of flush installation.
Installation in an elongated hole increases the adjustment range – choose a corresponding dimension LS.

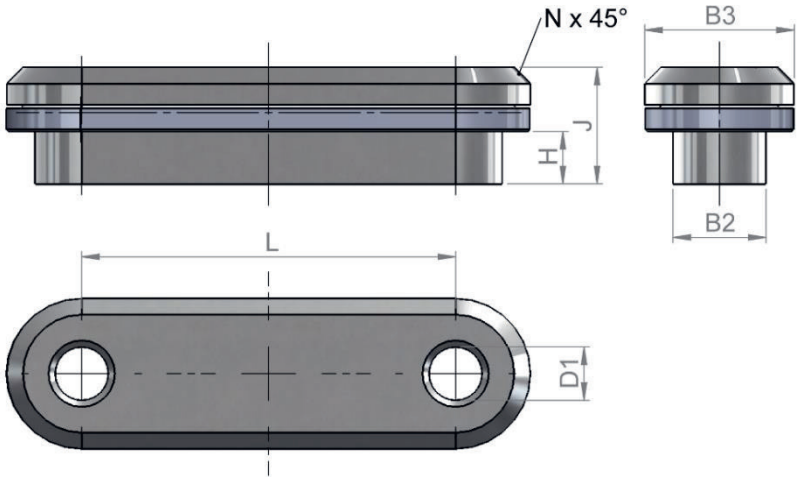
Size	H 1	D4	D5	B4	B5
SLIX-_-04___	Bolt dimension H + 0 ... 0,2	8 H 11	12,5	6,7	11
SLIX-_-05___	Bolt dimension H + 0 ... 0,2	9 H 11	14,5	7,5	13
SLIX-_-06___	Bolt dimension H + 0 ... 0,3	11 H 11	18	9	16
SLIX-_-08___	Bolt dimension H + 0 ... 0,4	13 H 11	21	11,5	20

DIMENSIONS
FORM E



Ordernr.	D1	B2	B3	L	S	H	J
SLIX-E-0505-32	M5	7 h 9	12 h 9	32	M 5 x 16	4,9	11 -0,1
SLIX-E-0508-32					M 5 x 20	7,9	14 -0,1
SLIX-E-0605-35	M6	8,5 h 9	15 h 9	35	M 6 x 20	4,9	12 -0,1
SLIX-E-0608-35					M 6 x 22	7,9	15 -0,1

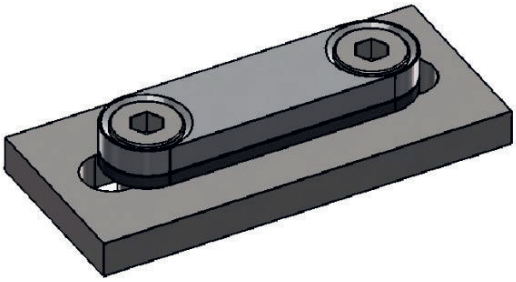
DIMENSIONS
FORM F

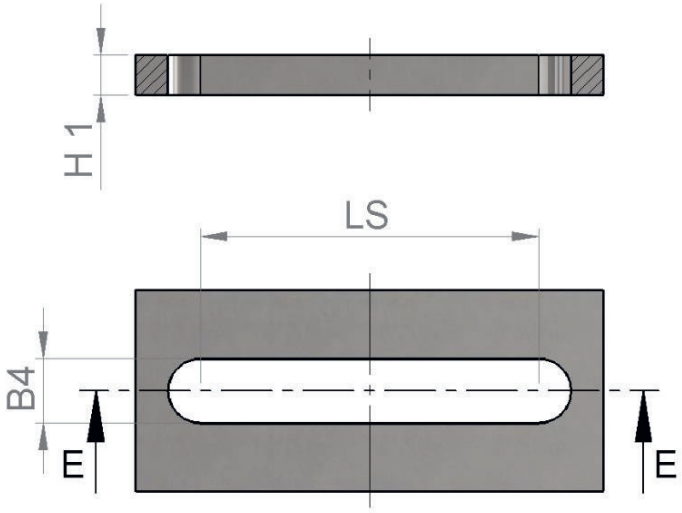


Ordernr.	D1	B2	B3	L	N	H	J
SLIX-F-0505-53	M5	7 h 9	12 h 9	53	1	4,9	9 -0,1
SLIX-F-0510-53						9,9	14 -0,1
SLIX-F-0605-57	M6	8,5 h 9	15 h 9	57	1	4,9	10 -0,1
SLIX-F-0610-57						9,9	15 -0,1

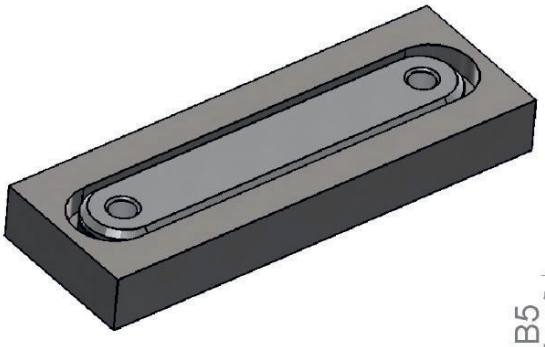
INSTALLATION DIMENSIONS, SLIX ELEMENTS
FORM E AND F

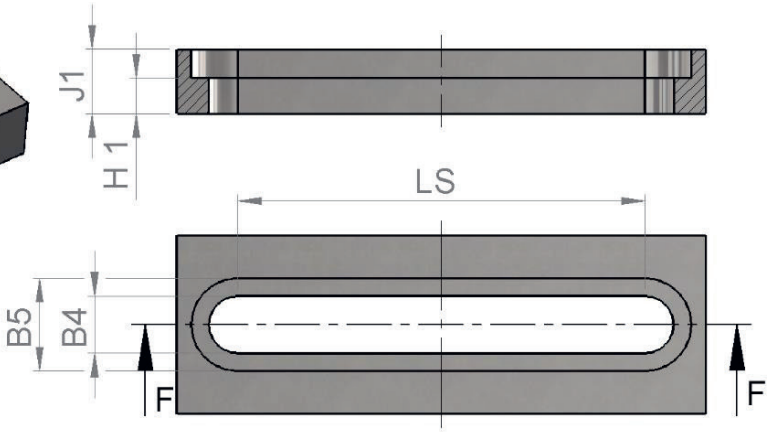
Installed protruding





Installed with countersink





The dimension H 1 corresponds to the dimension H of the SLIX elements plus the working range (dimension X on page 3)
The dimension J 1 corresponds to the dimension J of the SLIX elements in the case of flush installation.
Dimension LS = dimension L + stroke.

Size	H 1	L	B4	B5
SLIX-E- 05___-32	Element dimension H + 0 ... 0,2	32	7,5	13
SLIX-F- 05___-53		53		
SLIX-E- 06___-35	Element dimension H + 0 ... 0,3	35	9	16
SLIX-F- 06___-57		57		

For loose bearing elements, a German utility model has been registered with the no. 20 2020 101 600.

TIGHTENING TORQUES OF SLIX BOLTS FORMS A + B

Size	Torque in Nm
M4	2 Nm
M5	4,5 Nm
M6	7,5 Nm
M8	18,5 Nm

The moments refer to bolts screwed into steel parts. For installation in softer materials, the embedding/compressing force (resulting in loss of tension) of the shaft diameter D2 must be taken into account. A lower torque must be used in this case. To prevent the bolts from becoming loose at lower torques, the bolts should be glued in place.

MAXIMUM STATIC STRENGTH IN AXIAL DIRECTION

SLIX forms A+B	Force in N
M4	1900
M5	3700
M6	6100
M8	7900

The strength of forms E and F is limited by the strength of the bolts used.

TEMPERATURE RANGE

-20°C ... + 80° C continuous operating temperature
-40°C ... + 200° C continuous operating temperature for high-temperature version

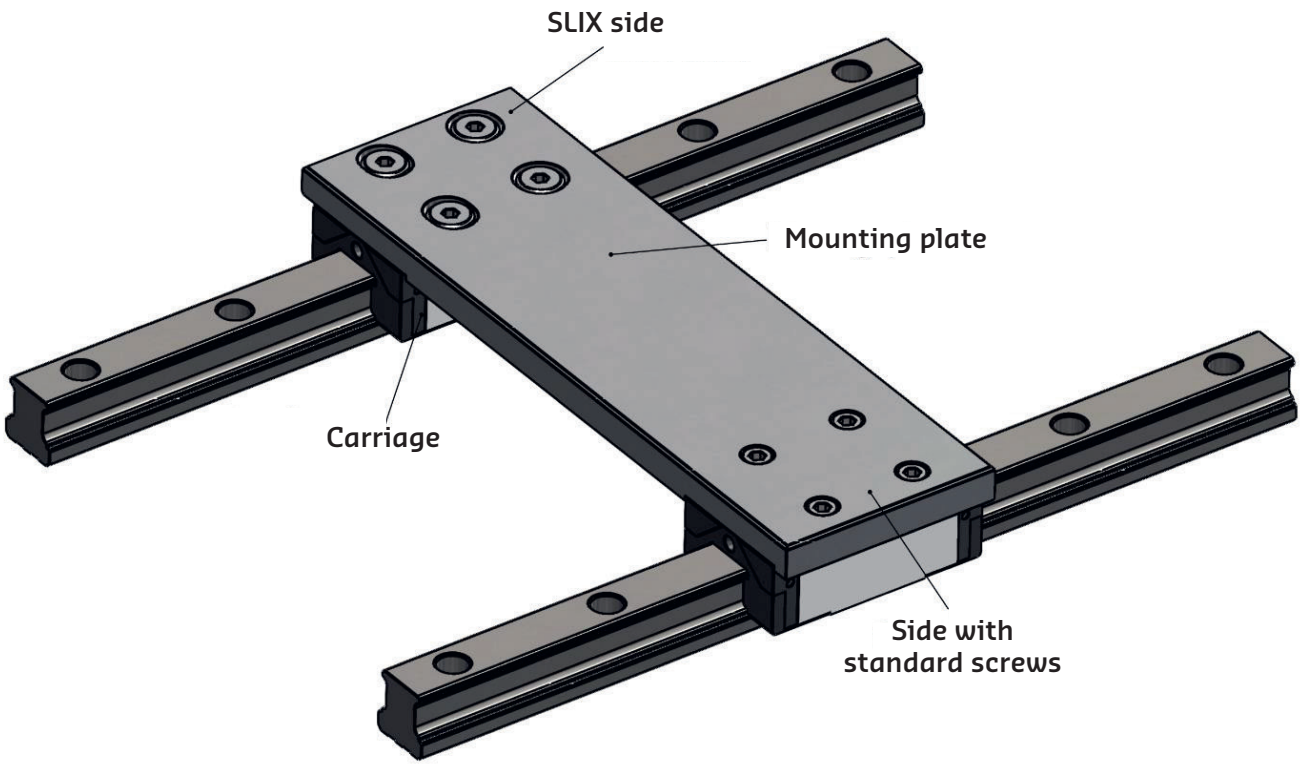
MATERIALS

Galvanised steel
NBR (high-temperature version Viton)
High-performance plain bearing polymer

Additional dimensions and materials on request.

Subject to change without notice

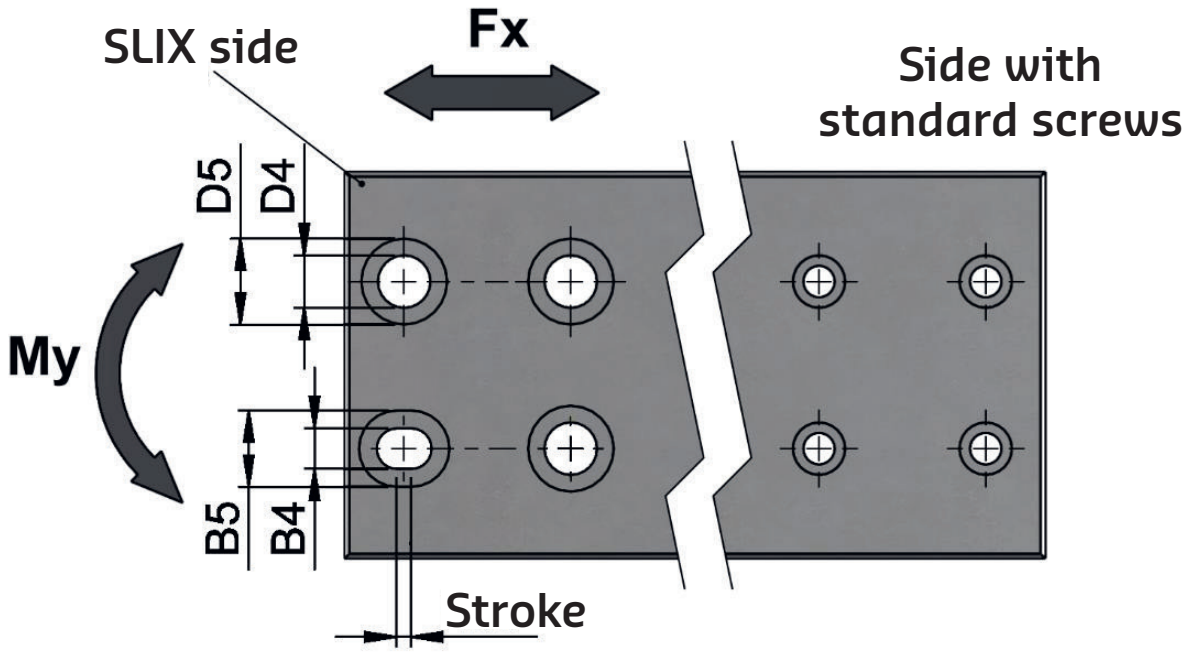
INSTALLATION INFORMATION
SLIX IN GUIDE CARRIAGES



Displacement between carriage and mounting plate in the direction of travel is to be prevented. This is particularly important in the case of a dynamic application and low pre-tension of the SLIX bolts (dimension H1 at the lower tolerance limit).

For the choice of mounting holes, a distinction is made between two application cases.

APPLICATION 1
FX SPACING VARIABLE, NO ABSORPTION OF MOMENT MY ON SLIX SIDE

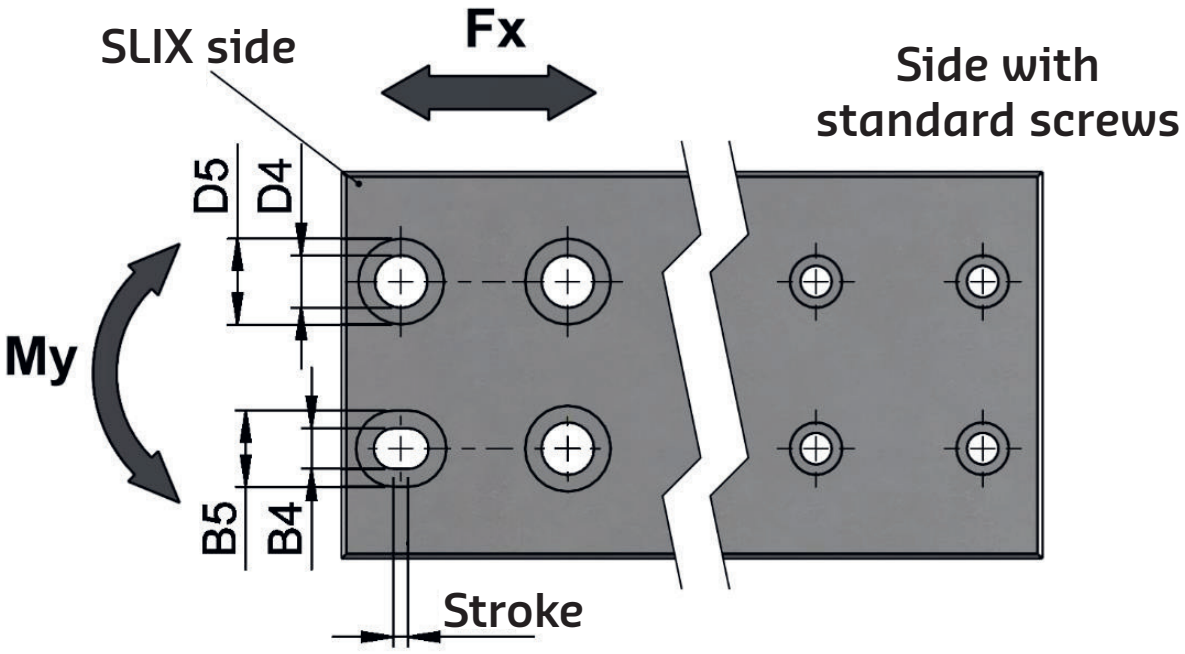


The SLIX bolts are mounted in three boreholes and one elongated hole. In the elongated hole, the bolt makes contact on both sides (fit) and prevents displacement between carriage and mounting plate. A moment My cannot be absorbed.

If a larger stroke is wanted, it is also possible to design all four holes as elongated holes. In this case, however, three of the elongated holes must be 0.5 mm wider in order to absorb the manufacturing tolerances in the spacing of the elongated holes and to enable a rotation of My.

Size	B4	B5	D4	D5	Stroke
M3	5 H9	9	6,5 H11	10,5	1,5
M4	6 H9	11	8 H11	12,5	2
M5	7 H9	13	9 H11	14,5	2
M6	8,5 H9	16	11 H11	18	2,5
M8	10,5 H9	20	13 H11	21	2,5

APPLICATION 2
FX SPACING VARIABLE, ABSORPTION OF MOMENT MY ON SLIX SIDE



The SLIX bolts make contact on both sides in two coaxial elongated holes (fit), which prevents displacement between carriage and mounting plate and allows absorption of moment My.

If a larger stroke is wanted, it is also possible to design all four holes as elongated holes. If SLIX form A or B are mounted, however, two coaxial elongated holes must be 0.5 mm wider in order to absorb the manufacturing tolerances in the spacing of the elongated holes.

Size	B4	B5	D4	D5	Stroke
M3	5 H9	9	6,5 H11	10,5	1,5
M4	6 H9	11	8 H11	12,5	2
M5	7 H9	13	9 H11	14,5	2
M6	8,5 H9	16	11 H11	18	2,5
M8	10,5 H9	20	13 H11	21	2,5

To absorb greater moments My, we recommend SLIX forms E + F

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