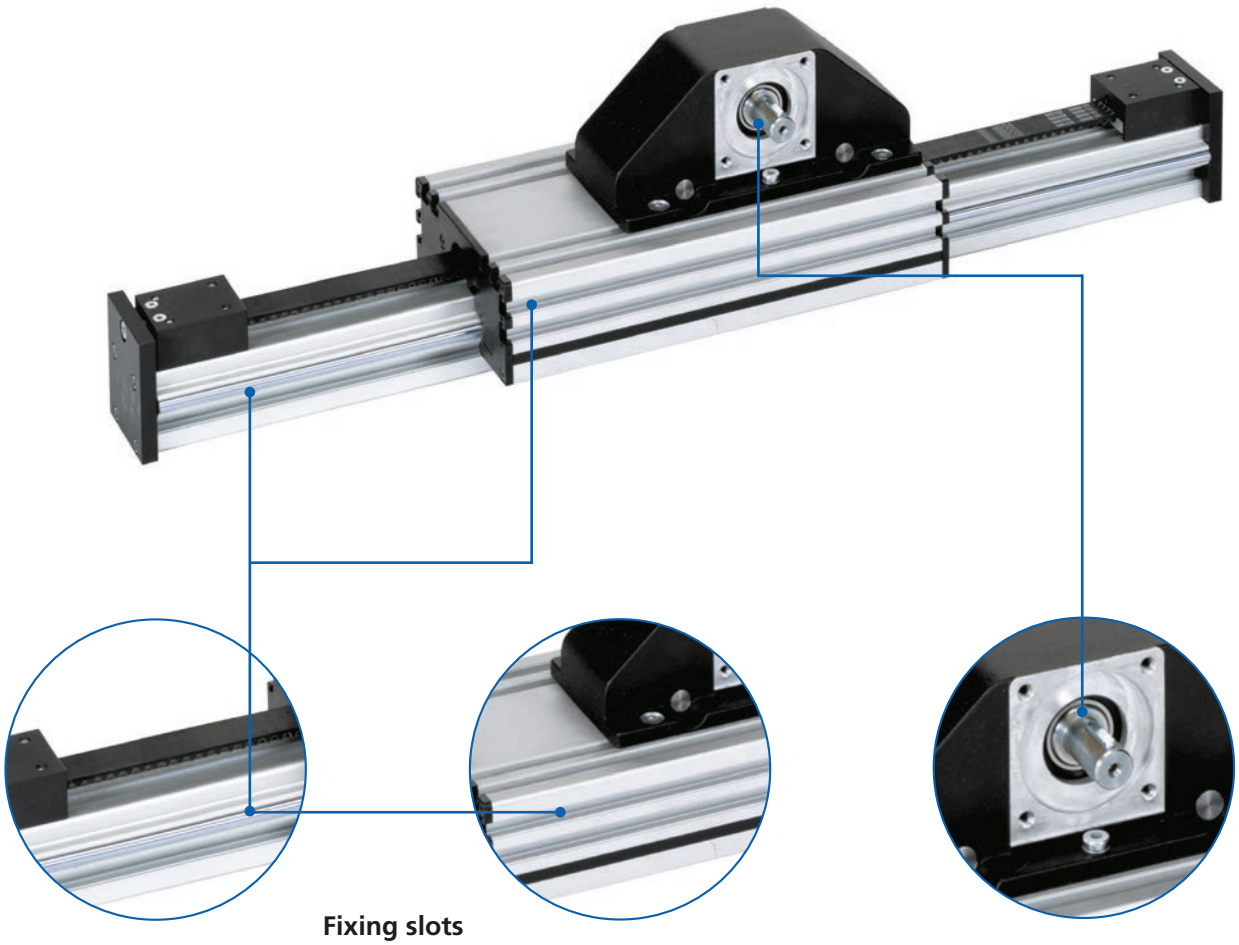
Roller guide actuators – SQ MT

Timing-belt unit with fixed carriage, also for large travel



✓ Simple connection of the payload

Fixing slots

✓ Simple connection to the baseframe

Drive shaft

✓ Either at one end or both

Features:

- Stroke lengths up to 18 m
- Travel speed up to 5 m/s
- Guide profile made from the BLOCAN® modular profile system
- Extruded carriage with fixing slots
- Guide block and drive move with carriage

Options:

- Longer stroke lengths
- Second carriage, either non driven or driven separately
- Extended carriage

Table of contents - SQ MT

SQ MT – Technical data

General information/operating conditions

Design	Aluminium profile, timing-belt drive, moving profile
Guide	Rollers, external
Installation position	Any position
Repeatability	± 0.05 mm
Ambient temperature	0°C to +60°C
Protection class	IP 20

Timing-belt

Type	Timing-belt	Pitch/width	Eff. diam. of lock washer [mm]	Max. moment via shaft [Nm]	Max. speed [m/s]	Max. acceleration [m/s^2]
SQ MT 30	GT 5MR	5/12	23.87	5	5	20
SQ MT 40	GT 5MR	5/20	27.06	8.5	5	
SQ MT 40 x 80	GT 5MR	5/20	27.06	8.5	5	
SQ MT 50	GT 5MR	5/25	38.20	20	5	
SQ MT 50 x 100	GT 5MR	5/25	38.20	20	5	
SQ MT 60	GT 8MR	8/28	56.02	55	10	
SQ MT 60 x 120	GT 8MR	8/28	56.02	55	10	
SQ MT 80	GT 8MR	8/40	61.12	90	10	
SQ MT 80 x 160	GT 8MR	8/40	61.12	90	10	

No-load torque

[Nm]

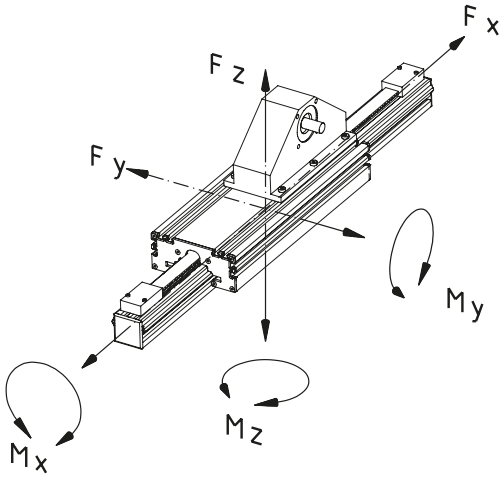
Type	SQ MT
30	0.60
40	0.70
50	0.85
60	1.00
80	1.20

Load data*

F Force [N]

M Moment [Nm]

I Geometric moment of inertia [cm^4]



* With reference to carriage (static values, guide element resting on full surface)

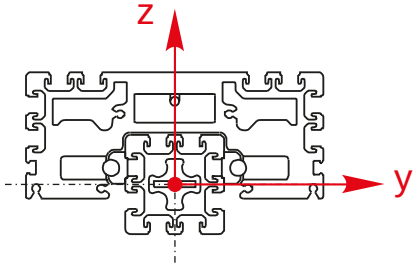
Type	Fx**	Fy	Fz	Mx	My	Mz
SQ MT 30	320	790	790	14	24	26
SQ MT 40	610	1020	1020	23	40	40
SQ MT 40 x 80	610	1020	1020	23	40	40
SQ MT 50	1000	1020	1020	28	59	59
SQ MT 50 x 100	1000	1020	1020	28	59	59
SQ MT 60	1790	2550	2550	99	171	171
SQ MT 60 x 120	1790	2550	2550	99	171	171
SQ MT 80	2810	2550	2550	124	201	201
SQ MT 80 x 160	2810	2550	2550	124	201	201

** Initial tension of the timing belt 0,8 x Fx

Geometric moment of inertia

[cm^4]

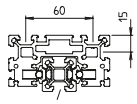
Type	Iy	Iz
SQ MT 30	3.4	3.4
SQ MT 40	11.3	11.3
SQ MT 40 x 80	19.4	76.0
SQ MT 50	29.1	29.1
SQ MT 50 x 100	43.9	180.8
SQ MT 60	51.2	51.2
SQ MT 60 x 120	94.7	372.3
SQ MT 80	155.3	155.3
SQ MT 80 x 160	292.4	1090



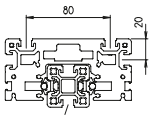
SQ MT – Versions

Order information:

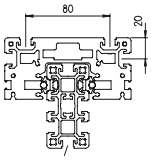
- Longer travel lengths on request
- Second non driven or separately driven carriage available on request
- Extended carriage available on request



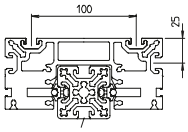
Profile S-30



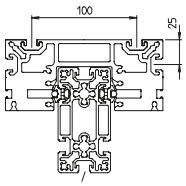
Profile S-40



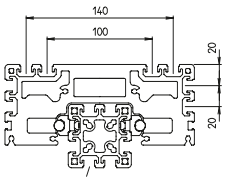
Profile S-40 x 80



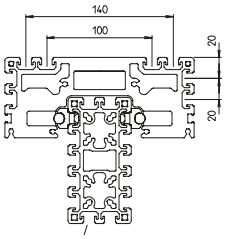
Profile F-50



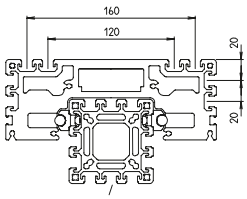
Profile F-50 x 100



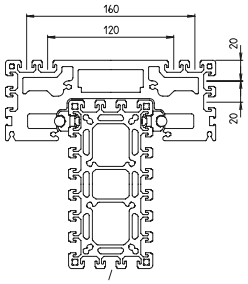
Profile F-60



Profile F-60 x 120



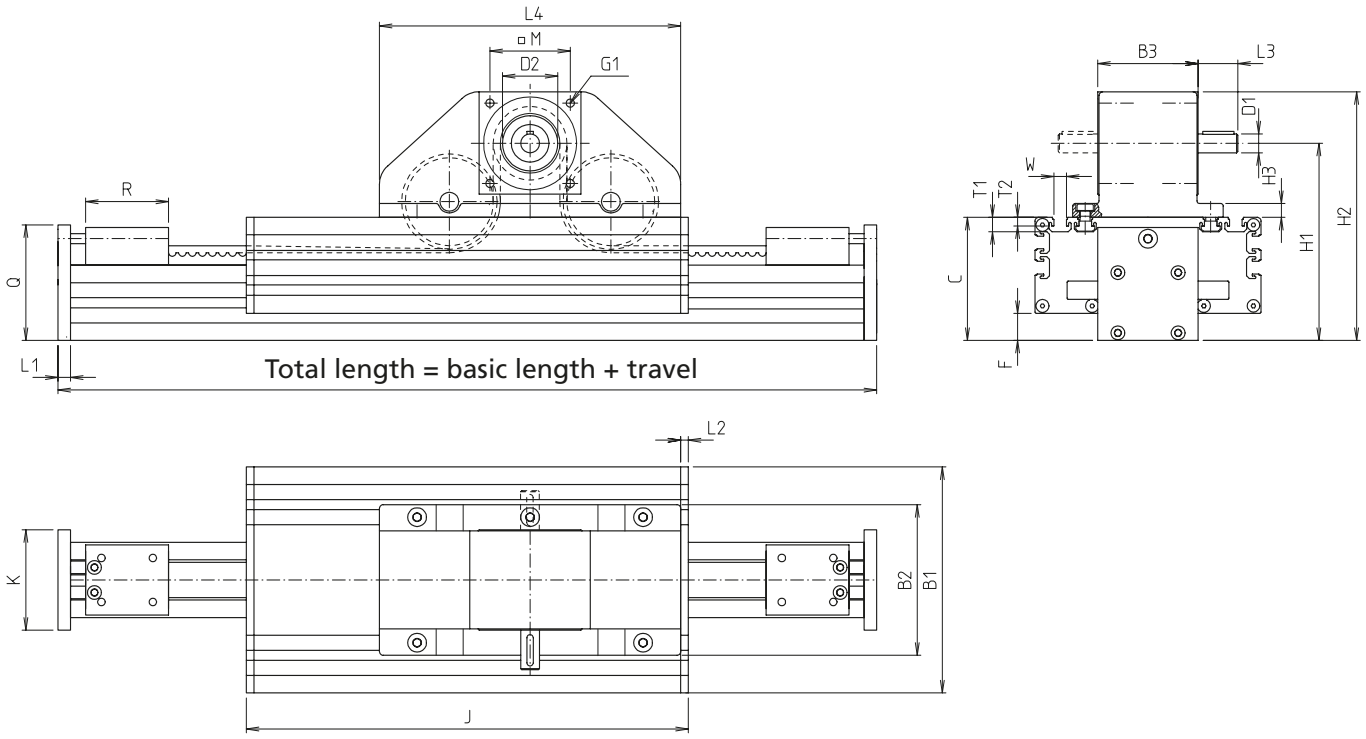
Profile F-80



Profile F-80 x 160

Code No.	Type	Timing-belt	Basic length	B1	B2	B3	C	D1	D2	F	G1	H1	H2
FEB3030 _ A	SQ MT 30	5M-12	278	91.2	75	38	50	10	22^{H7}	4.5	M4	83	107
FEB4040 _ A	SQ MT 40	5M-20	352	120	100	48	65	10	28^{H7}	6.5	M5	104	132
FEB4080 _ A	SQ MT 40 x 80	5M-20	352	120	100	48	105	10	28^{H7}	46.5	M5	144	172
FEB5050 _ A	SQ MT 50	5M-25	377	150	120	58	78	14	35^{H7}	9	M6	119	155
FEB5010 _ A	SQ MT 50 x 100	5M-25	377	150	120	58	128	14	35^{H7}	59	M6	169	205
FFB6060 _ A	SQ MT 60	8M-28	524	180	120	80	98	20	70^{H7}	21.5	M8	157	198
FFB6012 _ A	SQ MT 60 x 120	8M-28	524	180	120	80	158	20	70^{H7}	81.5	M8	217	258
FFB8080 _ A	SQ MT 80	8M-40	554	200	140	100	118	25	70^{H7}	41.5	M8	177	218
FFB8016 _ A	SQ MT 80 x 160	8M-40	554	200	140	100	198	25	70^{H7}	121.5	M8	257	298

Drive shafts:
A = 1 shaft
B = 2 shafts



[mm]

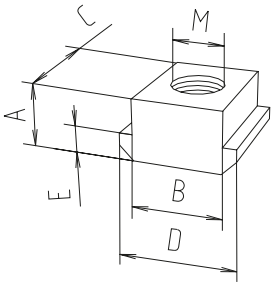
H3	J	O	L1	L2	C	L4	M	Q	R	T1	T2	W	Max. travel	Mass [kg]	
														Basic length	per 100 mm travel
7	181	40	8	6	25	120	21	47	35	8.5	4.5	10.1	3722	2.04	0.14
8	232	47	10	6	28	150	29	60	45	11.5	7	10.1	4648	4.51	0.23
8	232	47	10	6	28	150	29	100	45	11.5	7	10.1	4648	5.06	0.39
8.5	257	60	10	6	30	160	38	73	45	11.5	7	10.1	5623	6.75	0.41
8.5	257	60	10	6	30	160	38	123	45	11.5	7	10.1	5623	7.15	0.52
11	352	80	12	6	31.5	240	64	90	66	11.5	7	10.1	17476	13.63	0.45
11	352	80	12	6	31.5	240	64	150	66	11.5	7	10.1	17476	15.93	0.90
11	382	100	12	6	31.5	240	64	115	66	11.5	7	10.1	17446	17.50	0.79
11	382	100	12	6	31.5	240	64	195	66	11.5	7	10.1	17446	20.41	1.34

Slot stones

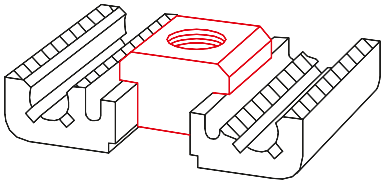
- Slot stones can be inserted and positioned at the guide profile and carriage

Material: galvanised steel

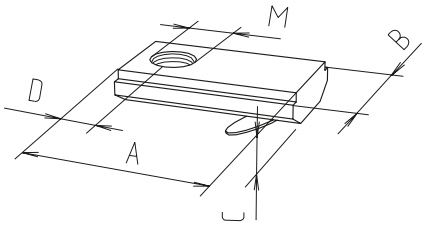
Slot stone -N-



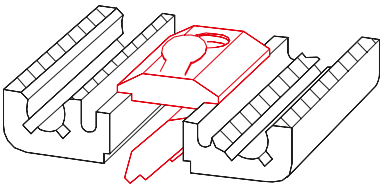
Slot stone -N-
can be slid into the slot



Slot stone -K-

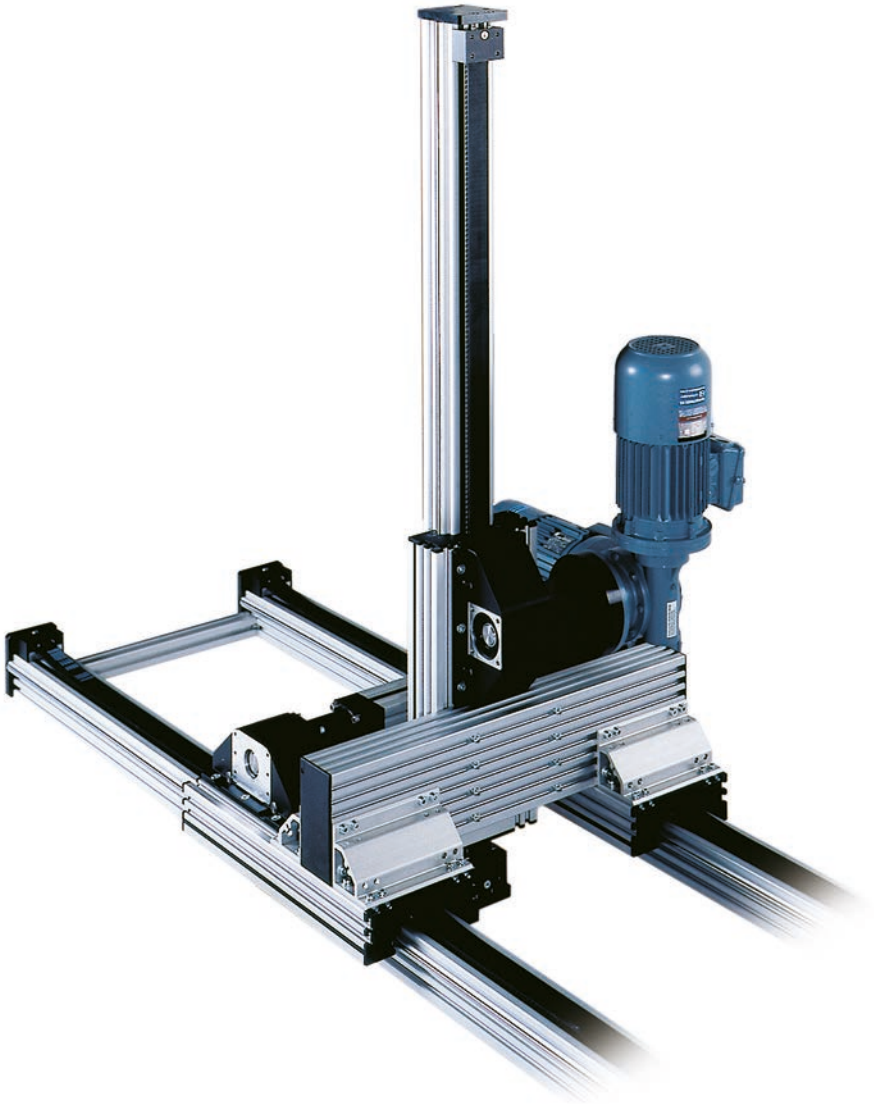


Slot stone -K-
can be swivelled into the slot



[mm] 

Code No.	Type	Version	A	B	C	D	E	M	F [N]
Slot stone -N-									
4006201	SQ MT 30	M5	5	10	13	13	3	M5	4000
4006203	SQ MT 30	M6	5	10	13	13	3	M6	4000
4006202	SQ MT 30	M8	5	10	13	13	3	M8	4000
4026207	SQ MT 40-80	M5	8	10	13	15	4	M5	4000
4026203	SQ MT 40-80	M6	8	10	13	15	4	M6	9000
4026206	SQ MT 40-80	M8	8	10	13	15	4	M8	9000
Slot stone -K-									
4006211	all	M5	21	12	4	7	–	M5	5000
4006212	all	M6	21	12	4	7	–	M6	5000
4006213	all	M8	21	12	4	7	–	M8	5000
4016212	SQ MT 40-80	M6	21	14	4	7	–	M6	5000
4016213	SQ MT 40-80	M8	21	14	4	7	–	M8	8000



Selection table - motor adaptor/coupling

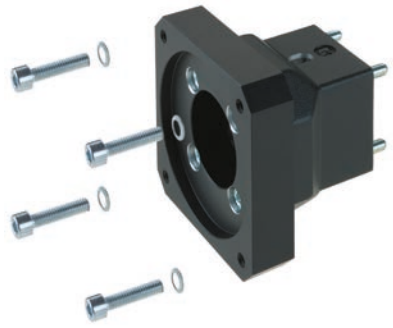
- Simple assembly
- Exact fit due to centring shoulders

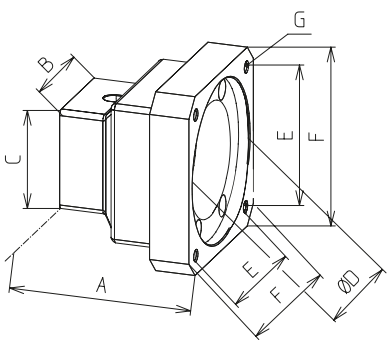
Material: AlMgSi, black anodised

Type	Servomotor without gear			Three-phase motor	
	RK-AC 118	RK-AC 240	RK-AC 470	90/120W	180/250 W
30	949910	–	–	949913	949949
	911430 1011	–	–	910920 1012	911430 1014
40 40x80	949915	949917	–	949920	949921
	911430 1011	911430 1014	–	911430 1012	911430 1014
50 50x100	949922	949924	–	949928	949929
	911430 1114	911430 1414	–	911430 1214	911430 1414
60 60x120	949930	949932	949934	949938	949939
	911940 1120	911940 1420	911940 1920	911940 1220	911940 1420
80 80x160	–	949940	949942	949944	949945
	–	912855 1425	912855 1925	912855 1225	912855 2025

Note: For further details on motor versions, please refer to the chapter "Motors and controls"

Motor adaptor



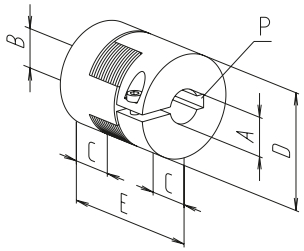


Code No.	Type	A	B	C	D	E	F	G
949910	30	63	40	40	60	53	70	M5
949913	30	65	40	40	50	65	80	M5
949949	30	70	40	40	80	100	Ø120	Ø6,6
949915	40	65	50	50	60	53	70	M5
949917	40	73	50	50	80	70,7	90	M6
949920	40	73	50	50	50	65	80	M5
949921	40	73	50	50	80	100	Ø120	Ø6,6
949922	50	66	52	52	60	53	70	M5
949924	50	73	52	52	80	70,7	90	M6
949928	50	73	52	52	50	65	80	M5
949929	50	75	52	52	80	100	Ø120	Ø6,6
949930	60	74	80	80	60	53	70	M5
949932	60	79	80	80	80	70,7	90	M6
949934	60	89	80	80	95	81,3	115	M8
949938	60	79	80	80	50	65	80	M5
949939	60	81	80	80	80	100	Ø120	Ø6,6
949940	80	86	80	80	80	70,7	90	M6
949942	80	96	80	80	95	81,3	115	M8
949944	80	86	80	80	50	65	80	M5
949945	80	86	80	80	80	100	Ø120	Ø6,6

Coupling

- Shaft connection without backlash
- Easy plug-in assembly

Material: Hub, aluminium
Gear ring, polyurethane



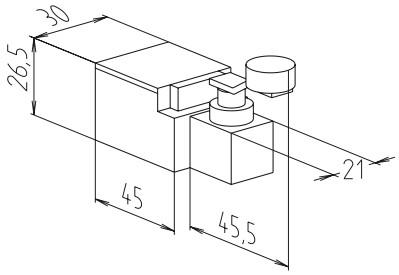
[mm]

Code No.	A	B	C	D	E	P	Torque [Nm] with feather key	Torque [Nm] without feather key
9109209510	9,5	10	10	20	30	– / 3x3	5	3
9109201012	10	12	10	22	30	3x3 / 4x4	5	3
9114309514	9,5	14	11	30	35	– / 5x5	12	6
9114301011	10	11	11	30	35	3x3 / 4x4	12	6
9114301012	10	12	11	30	35	3x3 / 4x4	12	6
9114301014	10	14	11	30	35	3x3 / 5x5	12	6
9114301114	11	14	11	30	35	4x4 / 5x5	12	6
9114301214	12	14	11	30	35	4x4 / 5x5	12	6
9114301414	14	14	11	30	35	5x5 / 5x5	12	6
9114301420	14	20	11	30	35	5x5 / 6x6	12	6
9119409520	9,5	20	25	40	65	– / 6x6	17	10
9119401120	11	20	25	40	65	4x4 / 6x6	17	10
9119401220	12	20	25	40	65	4x4 / 6x6	17	10
9119401920	19	20	25	40	65	6x6 / 6x6	17	10
9128559525	9,5	25	25	40	65	– / 8x7	17	10
9128551225	12	25	25	40	65	4x4 / 8x7	17	10
9128551425	14	25	30	55	78	5x5 / 8x7	60	35
9128551925	19	25	30	55	78	6x6 / 8x7	60	35

Mechanical limit switch

- Limit switch with angle lever
- Compact design

Material:
Thermoplastic, fully insulated



Max. voltage	250 V AC
Max. switching current	6 A
Max. starting current	16 A
Operating cycles	Max. 6,000/h
Mechanical lifetime	1 x 10^7 switching cycles
Axis lever adjustment	locking by 360°
Protection class	IP 65
Ambient temperature	-30°C to +80°C

Code No.	Switching function
91905	NC/NO

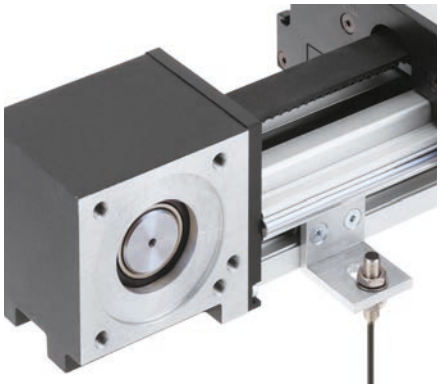
Holder for inductive limit switch

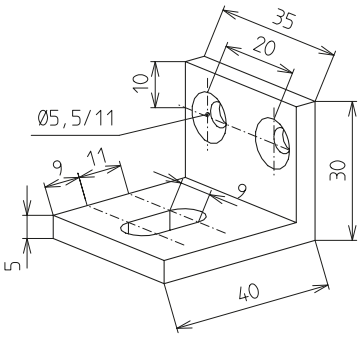
- Fixing bracket for limit switches
- Fixing in the profile slot of the guide profile
- Simple axial displacement and adjustment of holder is possible

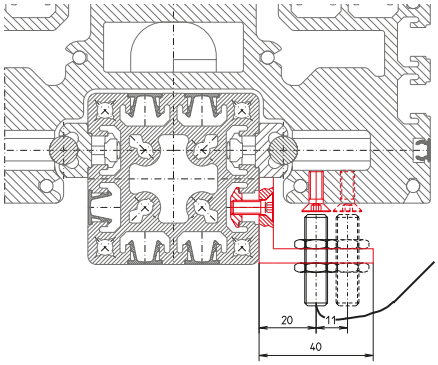
Material:
AlMgSi, vibratory finished

Scope of delivery:
Holder with fastenings

A limit switch is not included!







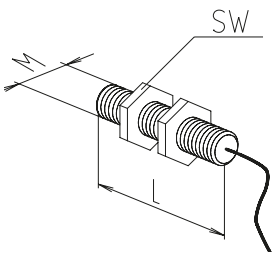
Code No.	Type
92909	SQ MT 40 x 80, 60, 60 x 120, 80, 80 x 160

Inductive limit switch

- Function indicator (LED)
- Maintenance-free

Material: Housing: stainless steel

Type	60-80
Voltage	10 - 30 V DC
Max. switching current	150 mA
Operating distance	2 mm for steel
Protection class	IP 67
Ambient temperature	-25°C to +70°C
Cable lengths	2m



[mm]

Code No.	Switching function	L	M	Wrench size (SW)
92826	Changeover	40	8x1	13