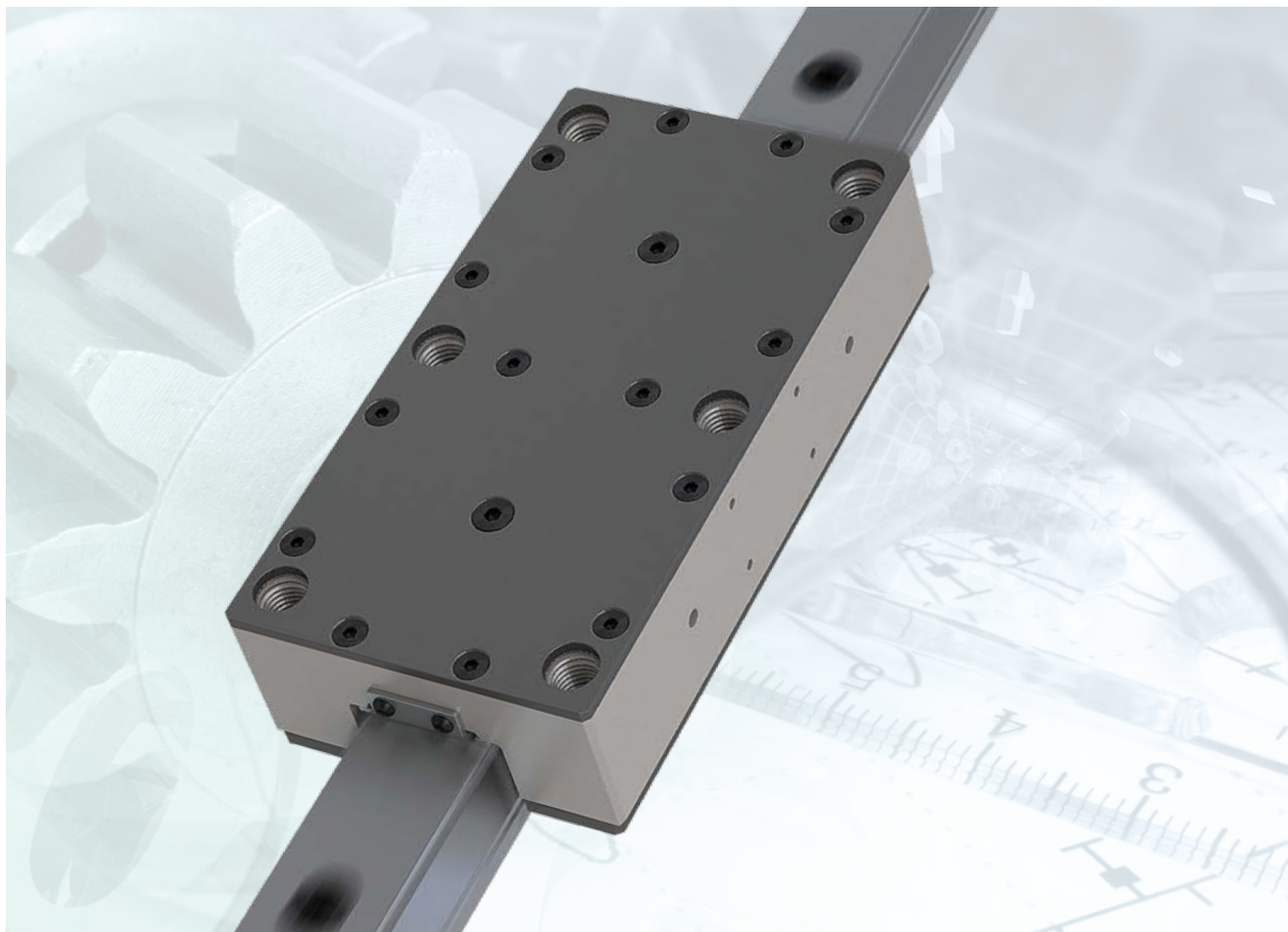




your reliable partner



ROBA[®]-guidestop



Maximum functional safety

ROBA®-guidestop safety brakes operate according to the fail-safe principle. Pre-tensioned cup springs press the brake shoes onto the “waistline” of the profiled rail. The brake mechanism is designed for relatively large stroke paths and compensates for production tolerances in profiled rails without loss of braking force.

Safety through direct clamping

ROBA®-guidestop safety brakes clamp directly onto the linear guide with an extremely high degree of rigidity. They are therefore directly mounted onto the masses which are to be braked or held. Drive elements between the motor and the moved mass, such as for example spindles, spindle nuts, shaft couplings or gears, can thus have no influence on safety.

Perfect for vertical axes

Direct clamping onto the linear guide predestines the ROBA®-guidestop for application in gravity-loaded axes where hazard risks for people are to be minimised.

High rigidity

ROBA®-guidestop safety brakes are more rigid than rod or band brakes by a factor of at least 3. Rotatory motor brakes withstand even less in comparison. They are usually subject to backlash, and furthermore every element between the brake and the carriage has a negative effect on rigidity.

Relief for spindle and guide

ROBA®-guidestop takes on the load when the axis is stationary, for example during machining. In this phase, the drive motor can be switched off and removed from the control. This eliminates the regulating movements and thus is gentle on the ball screw spindle. The closed brake adsorbs the axial forces. The lifetimes and maintenance intervals for the drive components are therefore increased.

More accurate with higher cutting capacities

The backlash-free clamping additionally reinforces the NC axis. This increases process accuracy, increases the cutting capacities and provides advantages during heavy-duty machining. The machining generates less vibration and thus improves the surface quality of the workpiece.

Switching condition monitoring

An integrated proximity switch emits a signal every time the brake condition changes.

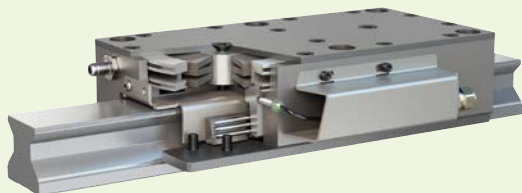
ROBA®-guidestop profiled rail brakes

Decelerate reliable and safety – Clamp rigidly and backlash-free

- ❑ Maximum safety due to fail-safe principle
- ❑ Type 3840, 3850/3852, powerpack with two braking circuits for double the holding force or redundant design
- ❑ Type 3841, 3851/3853, cost-efficient solution for limited installation space
- ❑ Safety and reliability thanks to direct, backlash-free clamping
- ❑ High degree of rigidity up to the full nominal holding force
- ❑ Extremely high holding forces
- ❑ Designed for standard linear guides
- ❑ With switching condition monitoring

Hydraulically actuated

2 brake circuits or short design



ROBA®-guidestop hydraulic Type 3840 / 3841

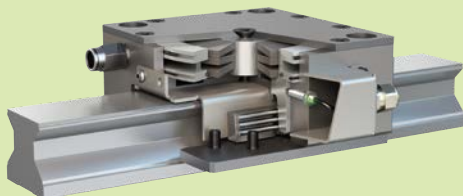
Clamps a profiled rail via a spring-loaded device at the exact position required and backlash-free. The brake is opened with a hydraulic pressure of 70 – 90 bar. Suitable for **EMERGENCY STOP** braking actions.

Nominal holding force: 5000 – 34000 N

For data and description, please see pages 4 - 7

Pneumatically actuated

2 brake circuits or short design



ROBA®-guidestop pneumatic Type 3850 / 3851

Clamps a profiled rail via a spring-loaded device at the exact position required and backlash-free. The brake is opened with a pneumatic pressure of 4 – 8 bar. Suitable for **EMERGENCY STOP** braking actions.

Nominal holding force: 700 – 9000 N

For data and description, please see pages 8 - 11

Pneumatically actuated with a pressure of 20 bar

2 brake circuits or short design

- same nominal holding force as the hydraulic series

ROBA®-guidestop pneumatic Type 3852 / 3853

Clamps a profiled rail via a spring-loaded device at the exact position required and backlash-free. The brake is opened with a pneumatic pressure of 20 – 30 bar. Suitable for **EMERGENCY STOP** braking actions.

Nominal holding force: 2750 – 20000 N

For data and description, please see pages 12 - 15.

For control with a pressure of 20 bar

Pressure booster for ROBA®-guidestop Type 3880

For data and description, please see pages 16 - 18.

Technical Data			Sizes			
			35	45	55	65
Nominal holding force $F^{2)3)}$		[N]	10000	15000	20000	34000
Weight		[kg]	6	9	16	27
Operating pressure	min.	[bar]	70	70	70	75
	max.	[bar]	90	90	90	90
Rigidity		[N/ μ m]	380	490	860	1000
Hydraulic connection thread	m_1, m_2, m_3, m_4		1/8"			
Pressure medium			Use hydraulic oil acc. DIN 51524-1:2006-04			
Absorption volume		[cm ³]	14	21	34	48
Ambient temperature		[°C]	-10 to +60			

2) The design as a redundant double-circuit brake (optional) may only be implemented with half of the nominal holding force.

3) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

Dimensions [mm]	Sizes			
	35	45	55	65
A	192	225	270	325
A ₁	100	120	140	170
B	21.7	27.7	35.7	43
B ₁ ⁴⁾	10	15	25	35
C	82	96	110	134
C ₁	170	196	240	288
D ₂	25	25	25	25
E	34	45	53	63
m ⁵⁾	6 x M12	6 x M16	6 x M20	6 x M24
X	Dimension depends on the rail manufacturer			

4) Required minimum thickness of the customer-side mounting flange (Steel)

5) Tapped hole

Dimensions [mm]			Sizes															
			35				45				55				65			
Rail manufacturer	Rail type		E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
INA	0	TSX-E	30	57	6.3	1	38	68.5	9.5	1	45	83.8	11.5	1	53.8	97.5	10.8	1
	A 1	TKSD	29.7	56.7	6.0	1	37.2	67.7	8.7	1	not available				not available			
	2	TKVD	27	56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7	not available			
Bosch	0	R1805/6/7, R1845/6/7	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1	57.9	101.6	14.9	1
	B 1	R1605/6/7, R1645/7, R2045/7	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1	59.9	103.5	16.8	1
Schneeberger	C 0	MR	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1	58	101.7	15	1
HIWIN	0	RG	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1	53	96.7	10	1
	1	HG	29	56.0	5.3	1	not available				not available				not available			
THK	0	SRG	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1	54	99.2	12.5	2.5
	1	SHS	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2	53	96.7	10	1
Rollon	F 0	MR	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3	not available			
NSK	G 0	RA	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2	55	100.2	13.2	2.5
NTN-SNR	H 0	BG/LBG	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2	not available			
IKO	J 0	LRX/MX	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1	56	99.7	13	1
SKF	0	LLU	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1	55	99.8	13	2
	M 1	LLR	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available				not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

ROBA[®]-guidestop short design, hydraulic

Type 3841.0_0_ _

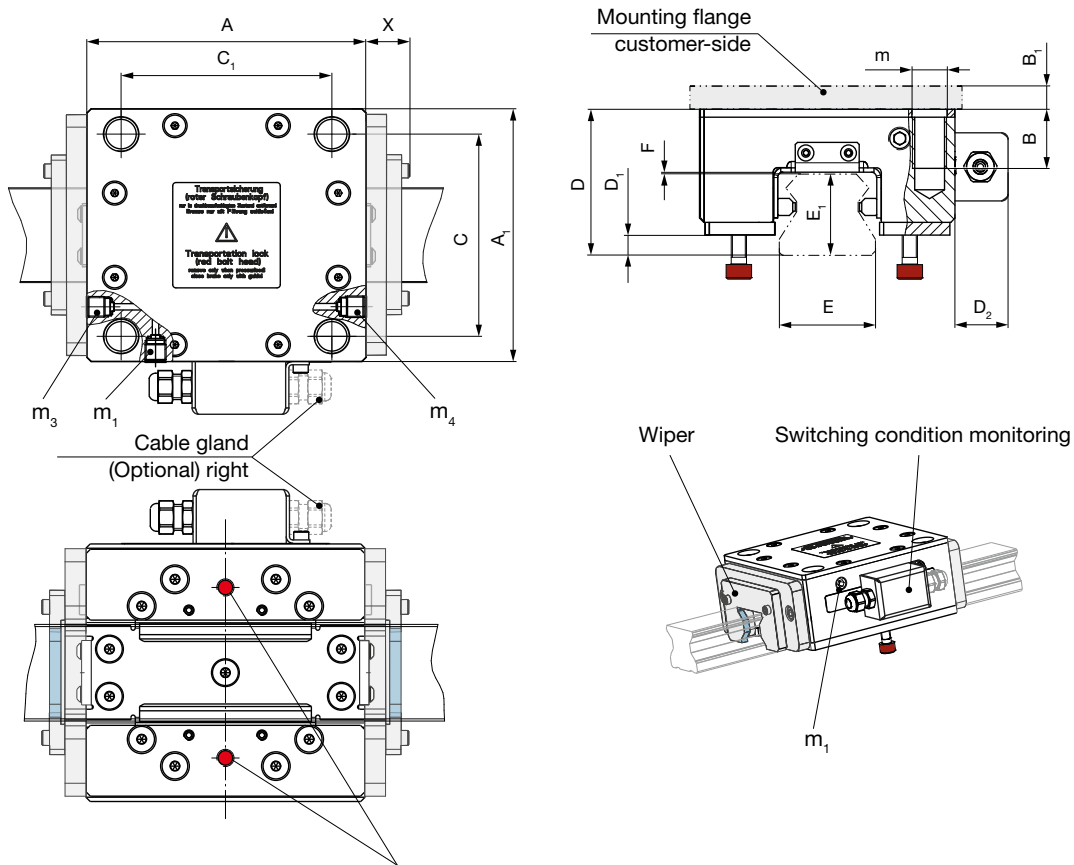


Fig. 2 Transportation lock

Order number

	IKO SKF	J M	Rail manufacturer ¹⁾		Rail type ¹⁾
			INA BOSCH Schneeberger HIWIN THK Rollon NSK NTN-SNR	A B C D E F G H	0 1 2 see Table
					Cable gland 0 Standard (left) 1 Optional (right)
<p>___ / 3 8 4 1 . ___ ___ 0 ___ ___ / ___</p>					
Sizes 35 to 65	Clamping unit 0		Options 0 Standard (Basic Type) 1 with switching condition monitoring 2 with wiper ²⁾ 3 with switching condition monitoring and wiper ²⁾		

Example: Order number 45 / 3841.010A1 / 0

1) For other rail manufacturers and rail types, please contact *mayr*[®] power transmission.
 2) With a wiper, connections m_3 and m_4 can no longer be used.

Technical Data			Sizes			
			35	45	55	65
Nominal holding force F ²⁾		[N]	5000	7500	10000	17000
Weight		[kg]	3.5	5.5	9	16
Operating pressure	min.	[bar]	70	70	70	75
	max.	[bar]	90	90	90	90
Rigidity		[N/μm]	380	490	860	1000
Hydraulic connection thread	m ₁ , m ₃ , m ₄		1/8"			
Pressure medium	Use hydraulic oil acc. DIN 51524-1:2006-04					
Absorption volume		[cm ³]	7	10.5	17	24
Ambient temperature		[°C]	-10 to +60			

2) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

Dimensions [mm]	Sizes			
	35	45	55	65
A	115	130	155	190
A ₁	100	120	140	170
B	21.7	27.7	35.7	43
B ₁ ³⁾	10	15	25	35
C	82	96	110	134
C ₁	92	98	125	152
D ₂	25	25	25	25
E	34	45	53	63
m ⁴⁾	4 x M12	4 x M16	4 x M20	4 x M24
X	Dimension depends on the rail manufacturer			

3) Required minimum thickness of the customer-side mounting flange (Steel)

4) Tapped hole

Dimensions [mm]			Sizes															
			35				45				55				65			
Rail manufacturer	Rail type		E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
			INA	0	TSX-E	30	57	6.3	1	38	68.5	9.5	1	45	83.8	11.5	1	53.8
A 1	TKSD	29.7		56.7	6.0	1	37.2	67.7	8.7	1	not available				not available			
2	TKVD	27		56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7	not available			
Bosch	0	R1805/6/7, R1845/6/7	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1	57.9	101.6	14.9	1
	B 1	R1605/6/7, R1645/7, R2045/7	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1	59.9	103.5	16.8	1
Schneeberger	C 0	MR	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1	58	101.7	15	1
HIWIN	0	RG	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1	53	96.7	10	1
	D 1	HG	29	56.0	5.3	1	not available				not available				not available			
THK	0	SRG	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1	54	99.2	12.5	2.5
	E 1	SHS	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2	53	96.7	10	1
Rollon	F 0	MR	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3	not available			
NSK	G 0	RA	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2	55	100.2	13.2	2.5
NTN-SNR	H 0	BG/LBG	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2	not available			
IKO	J 0	LRX/MX	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1	56	99.7	13	1
SKF	0	LLU	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1	55	99.8	13	2
	M 1	LLR	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available				not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

Technical Data			Sizes			
			25	35	45	55
Nominal holding force ^{3) 4) 5)} F _N [N]	4 bar	Type 3850.0_0_ _	1400	2800	4000	6000
	5 bar	Type 3850.0_1_ _	1700	3500	5000	7000
	6 bar	Type 3850.0_2_ _	2200	4400	6000	9000
Weight	[kg]		2.4	5.4	9	14.5
Max. operating pressure	[bar]		8			
Rigidity	[N/μm]		200	380	490	860
Pneumatic connection thread	m ₁ , m ₂ , m ₃ , m ₄		M5	1/8"	1/8"	1/8"
Air consumption per switching procedure in standard litres at opening pressure	[NL]	Type 3850.0_0_ _	0.063	0.120	0.179	0.241
		Type 3850.0_1_ _	0.079	0.150	0.224	0.301
		Type 3850.0_2_ _	0.095	0.180	0.269	0.361
Pressure medium		Compressed air with compressed air quality acc. ISO 8573-1 Class 4				
Ambient temperature	[°C]		-10 to +60			

3) The design as a redundant double-circuit brake (optional) may only be implemented with half of the nominal holding force.

4) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

5) At a switching frequency > 200.000, please reckon with a nominal holding force reduction of 20 %

Dimensions [mm]	Sizes			
	25	35	45	55
A	145	192	225	270
A ₁	70	100	120	140
B	14.7	21.7	27.7	35.7
B ₁ ⁶⁾	10	10	15	25
C	58	82	96	110
C ₁	132	170	196	240
D ₂	25	25	25	25
E	23	34	45	53
m ⁷⁾	6 x M8	6 x M12	6 x M16	6 x M20
X	Dimension depends on the rail manufacturer			

6) Required minimum thickness of the customer-side mounting flange (Steel)

7) Tapped hole

Dimensions [mm]			Sizes															
			25				35				45				55			
Rail manufacturer	Rail type		E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
			INA	0	TSX-E	22.3	44.3	4.1	1	30	57	6.3	1	38	68.5	9.5	1	45
1	TKSD	21.7		43.7	3.5	1	29.7	56.7	6.0	1	37.2	67.7	8.7	1	not available			
2	TKVD	18.7		43.7	3.5	4	27	56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7
Bosch	0	R1805/6/7, R1845/6/7	23.4	45.4	5.2	1	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1
	1	R1605/6/7, R1645/7, R2045/7	24.2	46.3	6.1	1	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1
Schneeberger	C	0 MR	24.5	46.5	6.3	1	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1
HIWIN	0	RG	23.6	45.6	5.4	1	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1
	1	HG	22	44	3.8	1	29	56.0	5.3	1	not available				not available			
THK	0	SRG	23	45	4.8	1	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1
	1	SHS	20	42.5	2.3	1.5	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2
Rollon	F	0 MR	22	44	3.8	1	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3
NSK	G	0 RA	24	46	5.8	1	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2
NTN-SNR	H	0 BG/LBG	19.2	42.2	2	2	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2
IKO	J	0 LRX/MX	24.5	46.5	6.3	1	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1
SKF	0	LLU	24.3	46.3	6.1	1	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1
	1	LLR	24.2	46.2	6	1	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

Technical Data			Sizes			
			25	35	45	55
Nominal holding force ^{3) 4)} F _N [N]	4 bar	Type 3851.0_0_ _	700	1400	2000	3000
	5 bar	Type 3851.0_1_ _	850	1750	2500	3500
	6 bar	Type 3851.0_2_ _	1100	2200	3000	4500
Weight	[kg]		1.5	3.3	5.1	8.4
Max. operating pressure	[bar]		8			
Rigidity	[N/μm]		200	380	490	860
Pneumatic connection thread	m ₁ , m ₃ , m ₄		M5	1/8"	1/8"	1/8"
Air consumption per switching procedure in standard litres at opening pressure	[NL]	Type 3851.0_0_ _	0.032	0.060	0.090	0.120
		Type 3851.0_1_ _	0.039	0.075	0.112	0.151
		Type 3851.0_2_ _	0.047	0.090	0.135	0.181
Pressure medium		Compressed air with compressed air quality acc. ISO 8573-1 Class 4				
Ambient temperature	[°C]		-10 to +60			

3) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

4) At a switching frequency > 200.000, please reckon with a nominal holding force reduction of 20 %

Dimensions [mm]	Sizes			
	25	35	45	55
A	88	115	130	155
A ₁	70	100	120	140
B	14.7	21.7	27.7	35.7
B ₁ ⁵⁾	10	10	15	25
C	58	82	96	110
C ₁	75	92	98	125
D ₂	25	25	25	25
E	23	34	45	53
m ⁶⁾	4 x M8	4 x M12	4 x M16	4 x M20
X	Dimension depends on the rail manufacturer			

5) Required minimum thickness of the customer-side mounting flange (Steel)

6) Tapped hole

Dimensions [mm]			Sizes															
			25				35				45				55			
Rail manufacturer	Rail type		E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
INA	0	TSX-E	22.3	44.3	4.1	1	30	57	6.3	1	38	68.5	9.5	1	45	83.8	11.5	1
	1	TKSD	21.7	43.7	3.5	1	29.7	56.7	6.0	1	37.2	67.7	8.7	1	not available			
	2	TKVD	18.7	43.7	3.5	4	27	56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7
Bosch	0	R1805/6/7, R1845/6/7	23.4	45.4	5.2	1	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1
	1	R1605/6/7, R1645/7, R2045/7	24.2	46.3	6.1	1	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1
Schneeberger	C	0 MR	24.5	46.5	6.3	1	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1
HIWIN	0	RG	23.6	45.6	5.4	1	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1
	1	HG	22	44	3.8	1	29	56.0	5.3	1	not available				not available			
THK	0	SRG	23	45	4.8	1	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1
	1	SHS	20	42.5	2.3	1.5	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2
Rollon	F	0 MR	22	44	3.8	1	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3
NSK	G	0 RA	24	46	5.8	1	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2
NTN-SNR	H	0 BG/LBG	19.2	42.2	2	2	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2
IKO	J	0 LRX/MX	24.5	46.5	6.3	1	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1
SKF	0	LLU	24.3	46.3	6.1	1	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1
	1	LLR	24.2	46.2	6	1	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

Technical Data			Sizes			
			25	35	45	55
Nominal holding force ^{3) 4) 5)} F _N [N]	20 bar	Type 3852.0_1_ _	5500	10000	15000	20000
Weight	[kg]		2.4	5.4	9	14.5
Operating pressure	[bar]		20 - 30			
Rigidity	[N/μm]		200	380	490	860
Pneumatic connection thread	m ₁ , m ₂ , m ₃ , m ₄		M5	1/8"	1/8"	1/8"
Air consumption per switching procedure in standard litres at opening pressure	[NL]		0.315	0.600	0.897	1.205
Pressure medium			Compressed air with compressed air quality acc. ISO 8573-1 Class 4			
Ambient temperature	[°C]		-10 to +60			

3) The design as a redundant double-circuit brake (optional) may only be implemented with half of the nominal holding force.

4) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

5) At a switching frequency > 200.000, please reckon with a nominal holding force reduction of 20 %

Dimensions [mm]	Sizes			
	25	35	45	55
A	145	192	225	270
A ₁	70	100	120	140
B	14.7	21.7	27.7	35.7
B ₁ ⁶⁾	10	10	15	25
C	58	82	96	110
C ₁	132	170	196	240
D ₂	25	25	25	25
E	23	34	45	53
m ⁷⁾	6 x M8	6 x M12	6 x M16	6 x M20
X	Dimension depends on the rail manufacturer			

6) Required minimum thickness of the customer-side mounting flange (Steel)

7) Tapped hole

Dimensions [mm]			Sizes															
			25				35				45				55			
Rail manufacturer	Rail type		E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
INA	0	TSX-E	22.3	44.3	4.1	1	30	57	6.3	1	38	68.5	9.5	1	45	83.8	11.5	1
	1	TKSD	21.7	43.7	3.5	1	29.7	56.7	6.0	1	37.2	67.7	8.7	1	not available			
	2	TKVD	18.7	43.7	3.5	4	27	56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7
Bosch	0	R1805/6/7, R1845/6/7	23.4	45.4	5.2	1	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1
	1	R1605/6/7, R1645/7, R2045/7	24.2	46.3	6.1	1	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1
Schneeberger	C	0 MR	24.5	46.5	6.3	1	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1
HIWIN	0	RG	23.6	45.6	5.4	1	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1
	1	HG	22	44	3.8	1	29	56.0	5.3	1	not available				not available			
THK	0	SRG	23	45	4.8	1	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1
	1	SHS	20	42.5	2.3	1.5	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2
Rollon	F	0 MR	22	44	3.8	1	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3
NSK	G	0 RA	24	46	5.8	1	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2
NTN-SNR	H	0 BG/LBG	19.2	42.2	2	2	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2
IKO	J	0 LRX/MX	24.5	46.5	6.3	1	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1
SKF	0	LLU	24.3	46.3	6.1	1	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1
	1	LLR	24.2	46.2	6	1	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

ROBA[®]-guidestop high pressure short design, pneumatic

Type 3853.0_1_ _

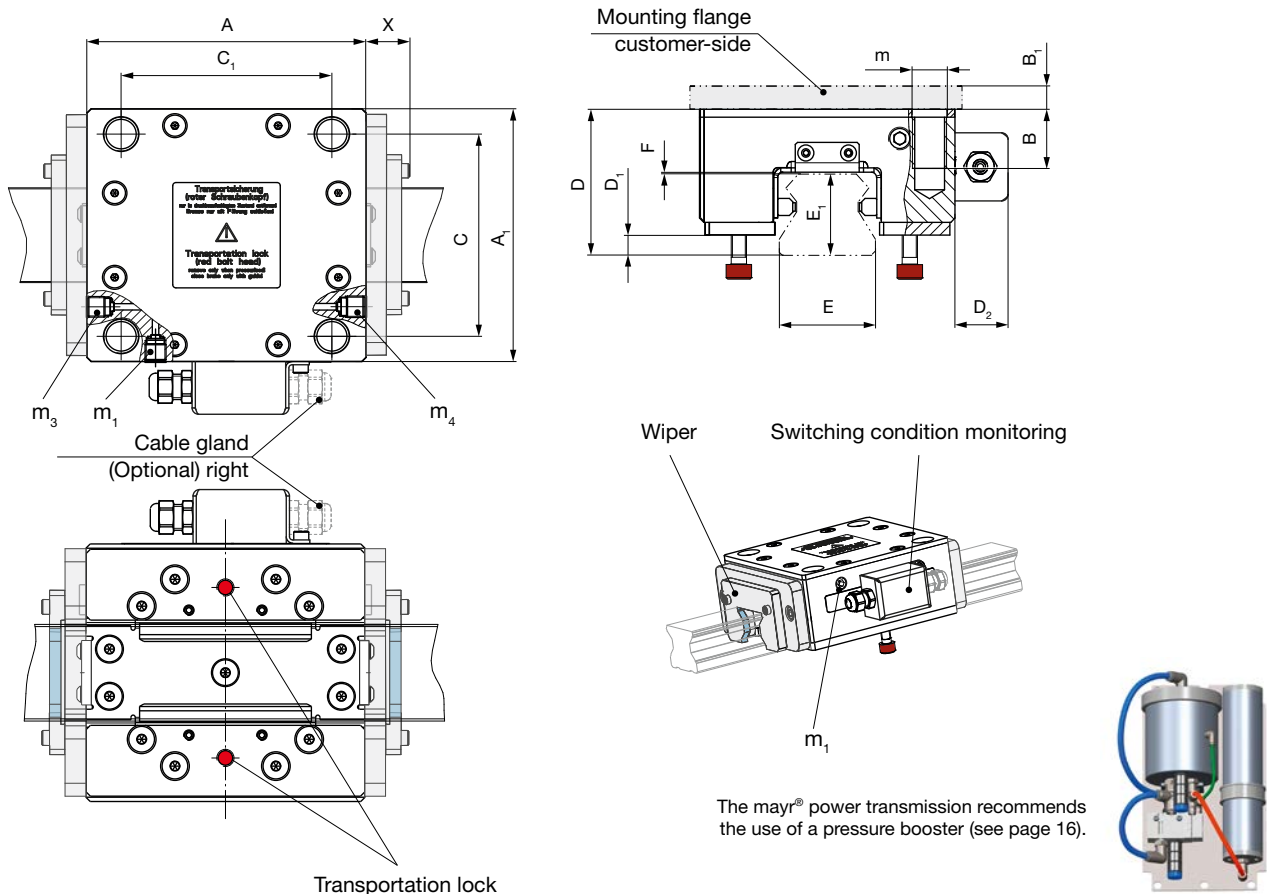


Fig. 6 Transportation lock

The mayr[®] power transmission recommends the use of a pressure booster (see page 16).

Order number

		Rail manufacturer ¹⁾			
	IKO	J	INA	A	
	SKF	M	BOSCH	B	
			Schneeberger	C	
			HIWIN	D	
			THK	E	
			Rollon	F	
			NSK	G	0
			NTN-SNR	H	1
					2
					Rail type ¹⁾ see Table
▾ ▾					
_ / 3 8 5 3 . _ _ 1 _ _ / _					
▲ ▲ ▲ ▲ ▲					
Sizes 25 to 55	Clamping unit		0	1	Opening pressure Standard 20 bar
			Options		
			Standard (Basic Type)	0	
			with switching condition monitoring	1	
			with wiper ²⁾	2	
			with switching condition monitoring and wiper ²⁾	3	
			Cable gland		
			Standard (left)	0	
			Optional (right)	1	

Example: Order Number 45 / 3853.000A1 / 0

- 1) For other rail manufacturers and rail types, please contact mayr[®] power transmission.
- 2) With a wiper, connections m₃ and m₄ can no longer be used.

Technical Data			Sizes			
			25	35	45	55
Nominal holding force ^{3) 4)} F _N [N]	20 bar Type 3853.0_1_ _	2750	5000	7500	10000	
Weight	[kg]	1.5	3.3	5.1	8.4	
Operating pressure	[bar]	20 - 30				
Rigidity	[N/μm]	200	380	490	860	
Pneumatic connection thread	m ₁ , m ₃ , m ₄	M5	1/8"	1/8"	1/8"	
Air consumption per switching procedure in standard litres at opening pressure	[NL]	0.158	0.300	0.448	0.602	
Pressure medium		Compressed air with compressed air quality acc. ISO 8573-1 Class 4				
Ambient temperature	[°C]	-10 to +60				

3) Minimum holding force when the brake is not pressurised and when the profiled rail is dry or moistened with mineral oil.

4) At a switching frequency > 200.000, please reckon with a nominal holding force reduction of 20 %

Dimensions [mm]	Sizes			
	25	35	45	55
A	88	115	130	155
A ₁	70	100	120	140
B	14.7	21.7	27.7	35.7
B ₁ ⁵⁾	10	10	15	25
C	58	82	96	110
C ₁	75	92	98	125
D ₂	25	25	25	25
E	23	34	45	53
m ⁶⁾	4 x M8	4 x M12	4 x M16	4 x M20
X	Dimension depends on the rail manufacturer			

5) Required minimum thickness of the customer-side mounting flange (Steel)

6) Tapped hole

Dimensions [mm]			Sizes															
Rail manufacturer	Rail type		25				35				45				55			
			E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F	E ₁	D	D ₁	F
INA	0	TSX-E	22.3	44.3	4.1	1	30	57	6.3	1	38	68.5	9.5	1	45	83.8	11.5	1
	1	TKSD	21.7	43.7	3.5	1	29.7	56.7	6.0	1	37.2	67.7	8.7	1	not available			
	2	TKVD	18.7	43.7	3.5	4	27	56	5.3	3	34.2	67.2	8.2	3.5	41.5	85.0	12.7	5.7
Bosch	0	R1805/6/7, R1845/6/7	23.4	45.4	5.2	1	30.8	57.8	7.1	1	38.8	69.3	10.3	1	47.6	86.4	14.1	1
	1	R1605/6/7, R1645/7, R2045/7	24.2	46.3	6.1	1	31.9	58.9	8.2	1	39.9	70.3	11.3	1	47.9	86.7	14.4	1
Schneeberger	C	0 MR	24.5	46.5	6.3	1	32.0	59	8.2	1	40	70.5	11.5	1	48	86.8	14.5	1
HIWIN	0	RG	23.6	45.6	5.4	1	30.2	57.2	6.5	1	38	68.5	9.5	1	44	82.8	10.5	1
	1	HG	22	44	3.8	1	29	56.0	5.3	1	not available				not available			
THK	0	SRG	23	45	4.8	1	30	57	6.3	1	37	69	10	2.5	43	81.8	9.5	1
	1	SHS	20	42.5	2.3	1.5	26	54.5	3.8	2.5	32	66	7	4.5	38	78	5.7	2.2
Rollon	F	0 MR	22	44	3.8	1	29	55.5	5.5	1	38	68.5	9.5	1	38	78.8	6.5	3
NSK	G	0 RA	24	46	5.8	1	31	58	7.3	1	38	68.5	9.5	1	43.5	83.5	11.2	2.2
NTN-SNR	H	0 BG/LBG	19.2	42.2	2	2	26	54.5	3.8	2.5	31.1	65	6	4.4	38	78	5.7	2.2
IKO	J	0 LRX/MX	24.5	46.5	6.3	1	32	59	8.3	1	38	68.5	9.5	1	43	81.8	9.5	1
SKF	0	LLU	24.3	46.3	6.1	1	32	59	8.3	1	39.8	70.3	11.3	1	47.8	86.6	14.3	1
	1	LLR	24.2	46.2	6	1	31.8	58.8	8.1	1	39.8	70.3	11.3	1	not available			

Other rail manufacturers and rail types on request

For detailed information on selection, dimensioning, installation, initial operation and maintenance, please see the Installation and Operational Instructions.

We reserve the right to make dimensional and constructional alterations.

Pressure booster for ROBA[®]-guidestop high pressure, pneumatic

Highlights and Advantages

In the majority of cases, the available pressure in the compressed air system is not sufficient to operate the ROBA[®]-guidestop Type 3852/3853 with a pressure of 20 bar. One option is a general increase of system pressure which, however, results in high expenses and energy costs. A solution to this problem is the use of a pressure booster at exactly the location in the system where the increased pressure is required.

The pressure booster pneumatically increases the pressure available in the system to the required operating pressure of the ROBA[®]-guidestop in a purely mechanical way and without external use of power.

- Specific pressure increase in front of the individual brake
- No energy consumption after reaching the output pressure
- No electrical installation necessary
- Simple, safe and economic operating mode
- No need to invest in a high pressure grid of your own or in a decentralized separate compressor unit

Pressure booster - Designs:

- Pressure booster on plate ready to connect
- Pressure booster in housing ready to connect (noise reduced 65 dB(A))

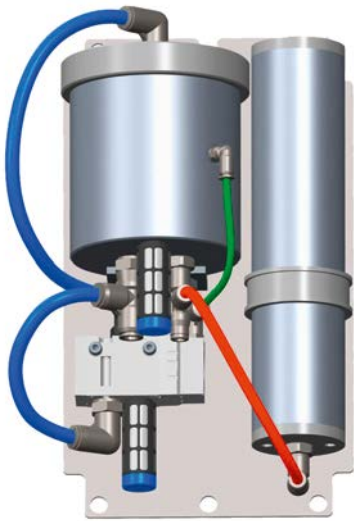


Fig. 7: Pressure booster on the plate



Fig. 8: Pressure booster in the housing

Pressure booster for ROBA[®]-guidestop high pressure, pneumatic

Type 3880._0000

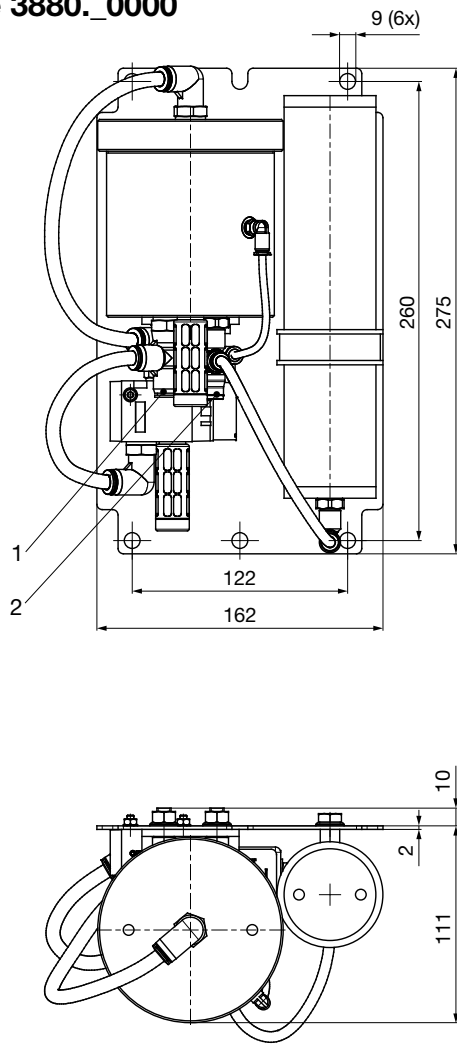


Fig. 9: Type 3880.00000

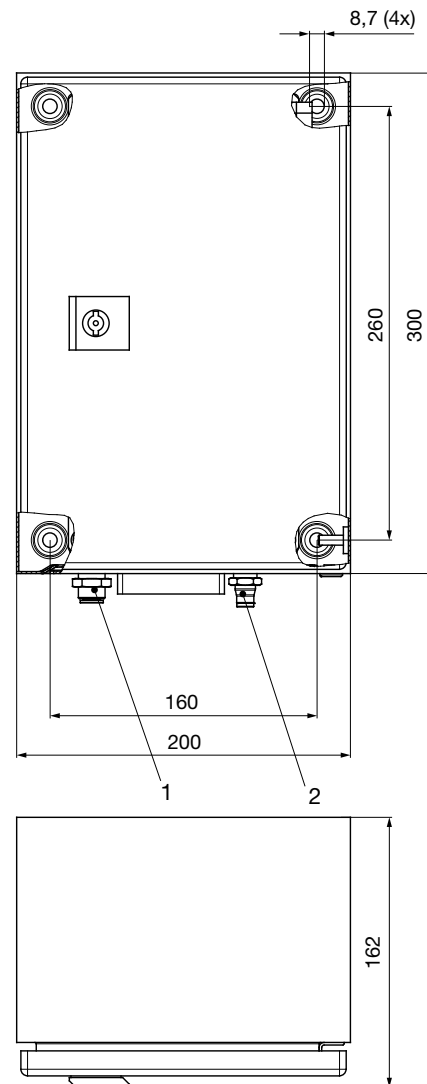


Fig. 10: Type 3880.10000

Item	Name
1	Connection input pressure
2	Connection output pressure

Order Number

— / 3 8 8 0 . — 0 0 0 0



Size
1

Designs

Transmission 1:4 on the plate 0
Transmission 1:4 in the housing 1
(noise reduced 65 dB(A))



Example: Order number 1 / 3880.00000

Technical Data			Size
			1
Weight	Type 3880.00000	[kg]	9.3
	Type 3880.10000	[kg]	14.5
Input pressure	max.	[bar]	7
Output pressure	max.	[bar]	28
Transmission ratio			1 : 4
Connection input pressure	Connection Outer diameter Ø hose		8 mm
Connection output pressure			6 mm
Pressure medium			Compressed air quality acc. ISO 8573-1 Class 4
Ambient temperature		[°C]	-10 to +50

Technical Explanations

State of Delivery

The **Pressure booster** is ready for installation. For operation, the Pressure booster must be connected with the **ROBA®-guidestop** using a 3/2-directional control valve and a hose.

Controls (Fig. 11)

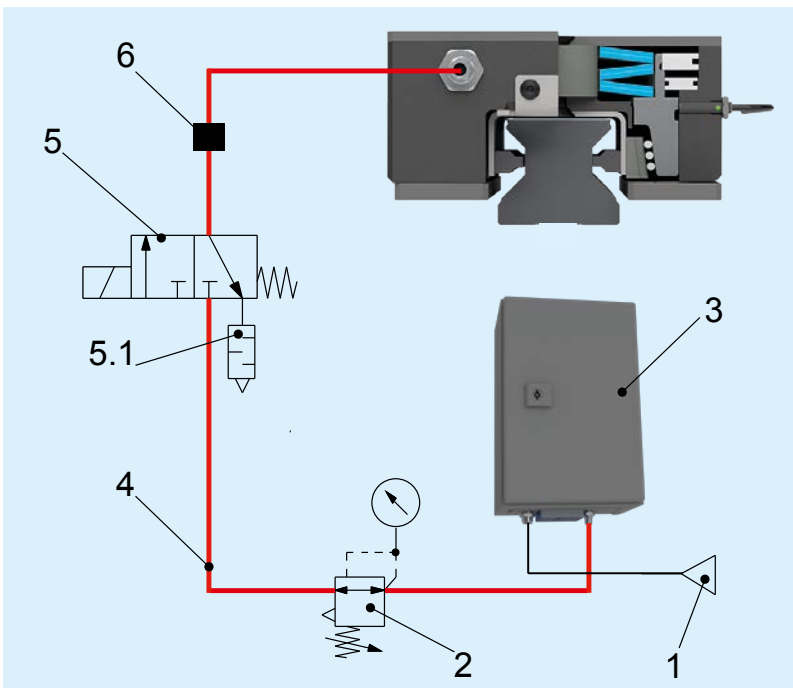


Fig. 11

Item	Name
1	Pressure source
2	Pressure regulator valve with pressure gauge
3	Pressure booster
4	Hose for high pressure
5	3/2-directional control valve high pressure (installation as near to the brake as possible)
5.1	Silencer
6	Pressure switch (safety-related applications)



The pressure booster for the ROBA®-guidestop must have an external connection with the brake ensured via a 3/2-directional control valve.

For connection components recommended by mayr® power transmission (3/2-directional control valve, hose, etc.), please contact mayr® power transmission.

Before initial operation, please read and observe the respective Installation and Operational Instructions.

ROBA®-guidestop hydraulic

Technical explanations

State of Delivery

ROBA®-guidestop brakes are manufacturer-assembled ready for installation and set to the nominal holding force stipulated in the order.

Before initial operation, please read and observe the respective Installation and Operational Instructions.

Function

The spring-loaded, enclosed ROBA®-guidestop, which can be opened hydraulically, clamps a profiled rail steplessly and backlash-free.

Due to the spring-loaded system, the fail-safe principle is guaranteed, and the ROBA®-guidestop works as a safety brake. For the required release pressure (operating pressure), please see Table "Technical Data".

The max. sliding speed is 2 m/s.

Maintenance/Switching Frequency

The ROBA®-guidestop is designed for a switching frequency of 200,000 switchings (higher switching frequencies available on request).

The ROBA®-guidestop is mainly maintenance-free.

The profiled rail must be checked regularly (at least every 6 months) for contamination with friction value-reducing materials; it must be cleaned, if necessary.

In case of major accumulation of dust and dirt, or in extreme ambient conditions, special maintenance work is required.

(Please contact mayr® power transmission).

Options

Screw connection from below

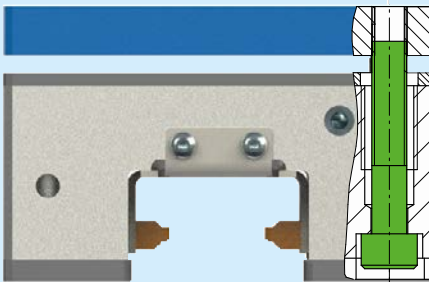


Fig. 13

Hydraulic connection, top (Type 3840)

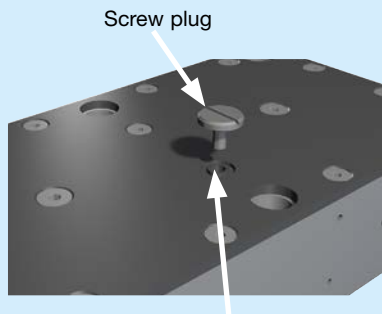


Fig. 14

Connection, top

Controls (Fig. 12)

The company mayr® power transmission recommends hydraulic controls as shown in Fig. 10. During every operational movement of the profiled rail, the 3/2-way valve is electrically switched and the brake opened.

Recommendation:

- Pressure fluctuations can be reduced through a non-return valve.
- In order to guarantee fastest possible switching of the brake, the largest possible line diameter should be used in the area of the return flow line. Furthermore, do not install any choke valves in this area and keep the hydraulic lines between the brake and the valve as short as possible!

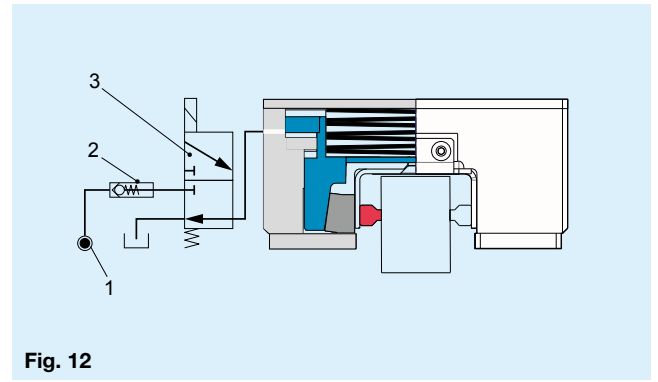


Fig. 12

Item	Name
1	Pressure source
2	Non-return valve (in case of pressure fluctuations)
3	3/2-directional control valve

Redundant design (dual circuit brake) 3840.0_ _ _ _

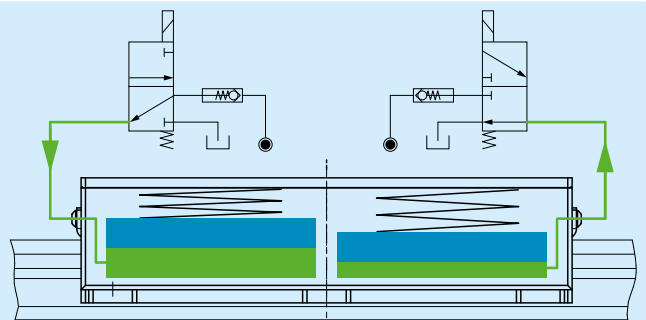


Fig. 15

ROBA®-guidestop pneumatic

Technical explanations

State of Delivery

ROBA®-guidestop brakes are manufacturer-assembled ready for installation and set to the nominal holding force stipulated in the order.

Before initial operation, please read and observe the respective Installation and Operational Instructions.

Function

The spring-loaded, enclosed ROBA®-guidestop, which can be opened pneumatically, clamps a profiled rail steplessly and backlash-free.

Due to the spring-loaded system, the fail-safe principle is guaranteed, and the **ROBA®-guidestop** works as a safety brake. For the required operating pressure, please see Table "Technical Data". The max. sliding speed is 2 m/s.

Maintenance/Switching Frequency

The **ROBA®-guidestop** is designed for a switching frequency of 2,000,000 switchings (higher switching frequencies available on request).

The **ROBA®-guidestop** is mainly maintenance-free. The profiled rail must be checked regularly (at least every 6 months) for contamination with friction value-reducing materials; it must be cleaned, if necessary. In case of major accumulation of dust and dirt, or in extreme ambient conditions, special maintenance work is required.

(Please contact *mayr*® power transmission).

Controls (Fig. 16)

The piston space is filled with compressed air, thus suspending the spring force. In case of power failure, the compressed air in the piston space is diverted by the 3/2-directional control valve. The spring force has an effect on the clamping element. The profiled rail clamps/ brakes reliable and safely.

The *mayr*® power transmission recommends the following pneumatic control units.

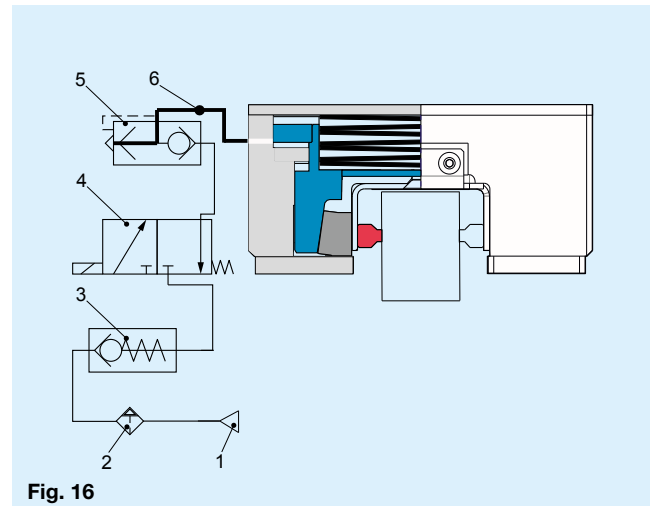


Fig. 16

Item	Name
1	Pressure source
2	Maintenance unit
3	Non-return valve (in case of pressure fluctuations)
4	3/2-directional control valve (installation as near to the brake as possible)
5	Quick-action ventilating valve (for fast switching times)
6	Pressure switch (query in safety-related applications)

Options

Screw connection from below

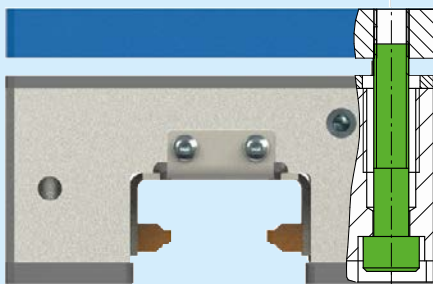


Fig. 17

Redundant design (dual circuit brake) Type 3850/3852

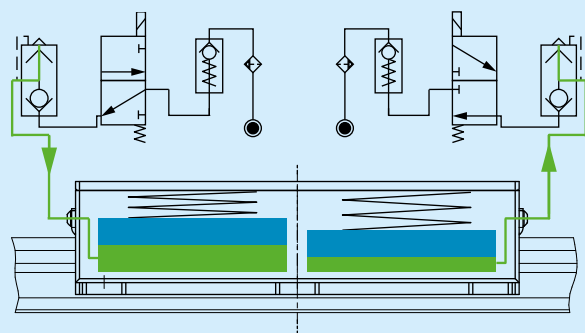


Fig. 18

Brake Dimensioning

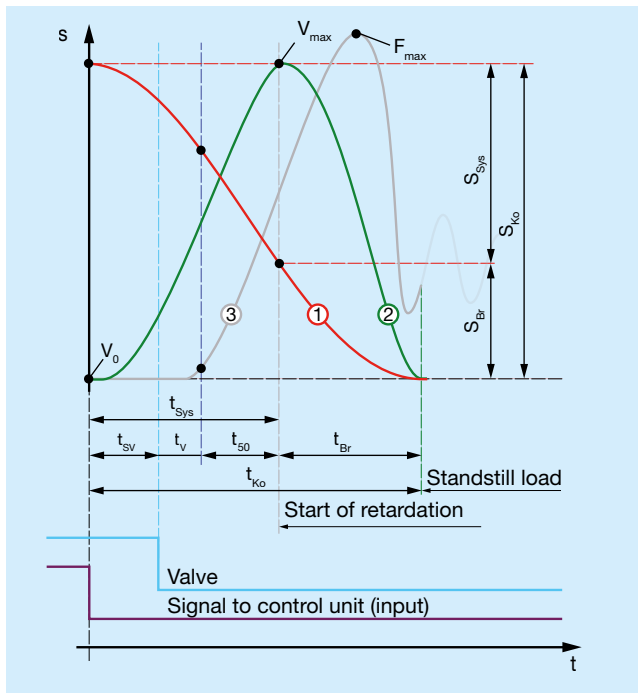


Diagram 1: Switching / Braking Times / Distances

Name

1		Distance
2		Speed
3		Axial force
\square	[°]	Angular position 0° (horizontal) to 90° (vertical)
a_B	[m/s ²]	Acceleration of the downward-moving load, dependent on the angular position
a_v	[m/s ²]	Retardation
g	[m/s ²]	Gravitational acceleration (9.81 m/s ²)
F_{Br}	[N]	Braking force for dynamic calculation
$F_{erf.}$	[N]	Required holding force
F_{Nenn}	[N]	Nominal holding force (minimum holding force)
F_{NGes}	[N]	Total nominal holding force (one or more brakes)
F_{max}	[N]	Maximum holding force
m	[kg]	Load mass
S_{Br}	[m]	Braking distance: Distance from the beginning of the retardation up to the standstill of the load
S_{Sys}	[m]	System distance: Distance travelled by the load until the retardation begins.
S_{ko}	[m]	Stopping distance: Distance from the signal interruption up to standstill of the load
t_{50}	[s]	Brake switching time
t_v	[s]	Valve switching time
t_{SV}	[s]	Switching time control unit (signal processing time)
t_{Sys}	[s]	System switching time
t_{Br}	[s]	Brake braking time
t_{ko}	[s]	Stopping time: Time from the signal interruption up to standstill of the load

General

When selecting the brake, the nominal holding force must be greater or equal to the required holding force.

$$F_{Nenn} \geq F_{erf.} \quad [N]$$

Dimensioning for dynamic braking (EMERGENCY STOP)

For safety reasons, at least the weight load of the masses to be held +100 % reserve must be provided.

The larger the ratio of the nominal holding force to the required holding force, the shorter the stopping distance (for the same technical conditions)

The minimum required holding force can be calculated with the following formula:

$$F_{erf.} = \frac{m \times g}{0.5} \quad [N]$$

Dimensioning for static holding (clamping)

For safety reasons, at least the minimum weight load of the masses to be held +20 % reserve must be provided.

The minimum required holding force can be calculated with the following formula:

$$F_{erf.} = \frac{m \times g}{0.8} \quad [N]$$

The stopping distance / stopping time of the load to be braked is strongly dependent on the following influences:

- Switching time control unit (signal processing)
- Switching time of the control valve
- Switching time of the brake
- Cross-section and length of the lines

The larger the sum of the switching times, the later the retardation of the load occurs (due to longer periods of acceleration). The stopping distance / the stopping time becomes longer (with constant holding force).

Please ensure sufficient dimensioning of the components of your system which may be placed under heavy loads during acceleration / retardation as a result of dynamic braking actions.

Name

V_0	[m/s]	Initial speed
V_{max}	[m/s]	Maximum speed

If you have any questions, please contact *mayr*[®] power transmission.

Calculation example (dynamic braking)

Data:

Angular position profiled rail	α	= 90° (vertical axis)
Mass	m	= 700 kg
Initial speed	V_0	= 0.5 m/s
Valve switching time	t_v	= 0.016 s
Switching time control system	t_{sv}	= 0.020 s

1. Pre-selection of braking force

$$F_{\text{erf.}} = \frac{m \times g}{0.5} \quad [\text{N}]$$

$$F_{\text{erf.}} = \frac{700 \times 9.81}{0.5} = 13734 \quad [\text{N}]$$

Selected: ROBA®-guidestop Size 45, Type 3840.0_0_0_

Nominal holding force $F_{\text{Nom}} = 15000 \text{ N}$

(from Table "Technical Data")

2. Calculation of the stopping distance /stopping time

Checking the selected brake size

Acceleration of the load

$$a_B = g \times \sin(\beta) = 9.81 \times \sin(90^\circ) = 9.81 \text{ [m/s}^2\text{]}$$

System distance

$$S_{\text{Sys}} = V_0 \times t_{\text{Sys}} + a_B \times t_{\text{Sys}}^2 \times 0.5 \quad [\text{m}]$$

$$S_{\text{Sys}} = 0.5 \times 0.071 + 9.81 \times 0.071^2 \times 0.5 = 0.058 \quad [\text{m}]$$

$$t_{\text{Sys}} = t_{s0} + t_v + t_{sv} = 0.035 + 0.016 + 0.02 = 0.071 \quad [\text{s}]$$

Braking distance

$$S_{\text{Br}} = \frac{V_{\text{max}}^2}{2 \times \left(\frac{F_{\text{NGes}}}{m} - a_B \right)} = \frac{1.20^2}{2 \times 12.065} = 0.060 \quad [\text{m}]$$

$$V_{\text{max}} = V_0 + a_B \times t_{\text{Sys}} = 0.5 + 9.81 \times 0.071 = 1.20 \text{ [m/s]}$$

Stopping distance

$$S_{\text{Ko}} = S_{\text{Br}} + S_{\text{Sys}} = 0.060 + 0.058 = 0.118 \quad [\text{m}]$$

Stopping time

$$t_{\text{Ko}} = t_{\text{Br}} + t_{\text{Sys}} = 0.103 + 0.071 = 0.174 \quad [\text{s}]$$

$$t_{\text{Br}} = \frac{V_{\text{max}}}{\frac{F_{\text{NGes}}}{m} - a_B} = \frac{1.20}{\frac{15000}{700} - 9.81} = 0.103 \quad [\text{s}]$$

Retardation (for system dimensioning)

$$a_v = \frac{F_{\text{NGes}} \times 2.5}{m} - g = \frac{15000 \times 2.5}{700} - 9.81 = 43.76 \text{ [m/s}^2\text{]}$$

$$\text{Load} = \frac{a_v}{g} = \frac{43.76}{9.81} = 4.46 \quad [\text{g}]$$

ROBA®-guidestop hydraulic

Switching Times			Sizes			
			35	45	55	65
Brake switching time	t_{s0}	[s]	0.030	0.035	0.035	0.040

ROBA®-guidestop pneumatic

Switching Times			Sizes			
			25	35	45	55
Brake switching time 3850/1_0_0_	t_{s0}	[s]	0.030	0.035	0.035	0.035
Brake switching time 3852/3.0_0_			On request			

Product Summary

Safety Clutches/Overload Clutches

- **EAS®-Compact®/EAS®-NC**
Positive locking and completely backlash-free torque limiting clutches
- **EAS®-smartic®**
Cost-effective torque limiting clutches, quick installation
- **EAS®-element clutch/EAS®-elements**
Load-disconnecting protection against high torques
- **EAS®-axial**
Exact limitation of tensile and compressive forces
- **EAS®-Sp/EAS®-Sm/EAS®-Zr**
Load-disconnecting torque limiting clutches with switching function
- **ROBA®-slip hub**
Load-holding, frictionally locked torque limiting clutches
- **ROBA®-contitorque**
Magnetic continuous slip clutches
- **EAS®-HSC/EAS®-HSE**
High-speed safety clutches for high-speed applications



Shaft Couplings

- **smartflex®/primeflex®**
Perfect precision couplings for servo and stepping motors
- **ROBA®-ES**
Backlash-free and damping for vibration-sensitive drives
- **ROBA®-DS/ROBA®-D**
Backlash-free, torsionally rigid all-steel couplings
- **ROBA®-DSM**
Cost-effective torque-measuring couplings



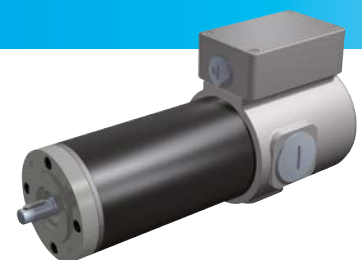
Electromagnetic Brakes/Clutches

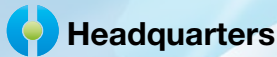
- **ROBA-stop® standard**
Multifunctional all-round safety brakes
- **ROBA-stop®-M motor brakes**
Robust, cost-effective motor brakes
- **ROBA-stop®-S**
Water-proof, robust monoblock brakes
- **ROBA®-duplostop®/ROBA®-twinstop®/ROBA-stop®-silenzio®**
Doubly safe elevator brakes
- **ROBA®-diskstop®**
Compact, very quiet disk brakes
- **ROBA®-topstop®**
Brake systems for gravity loaded axes
- **ROBA®-linearstop**
Backlash-free brake systems for linear motor axes
- **ROBA®-guidestop**
Backlash-free holding brake for profield rail guides
- **ROBATIC®/ROBA®-quick/ROBA®-takt**
Electromagnetic clutches and brakes, clutch brake units



DC Drives

- **tendo®-PM**
Permanent magnet-excited DC motors





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You can find the complete address for the representative responsible for your area under www.mayr.com in the internet.