Mini slide, Series MSN

- narrow version
- Ø 6-16 mm
- double-acting
- with magnetic piston
- Cushioning elastic
- with integrated ball rail guide

Working pressure min./max.	See table below
Ambient temperature min./max.	0 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m³
Pressure for determining piston forces	6.3 bar
Weight	See table below

Technical data

Piston Ø	6 mm	10 mm	16 mm
Stroke 5	0821406500	0821406506	0821406512
10	0821406501	0821406507	0821406513
15	0821406502	0821406508	0821406514
20	0821406503	0821406509	0821406515
25	0821406504	0821406510	0821406516
30	0821406505	0821406511	0821406517

Technical data

Piston Ø 2x	6 mm	10 mm	16 mm
Working pressure min./max.	2,5 ... 10 bar	1 ... 10 bar	1 ... 10 bar
Retracting piston force, theoretical	13 N	42 N	95 N
Extracting piston force, theoretical	18 N	49 N	127 N
Speed max.	0,5 m/s	0,8 m/s	0,8 m/s
Cushioning energy	0,01 J	0,05 J	0,15 J

Technical information

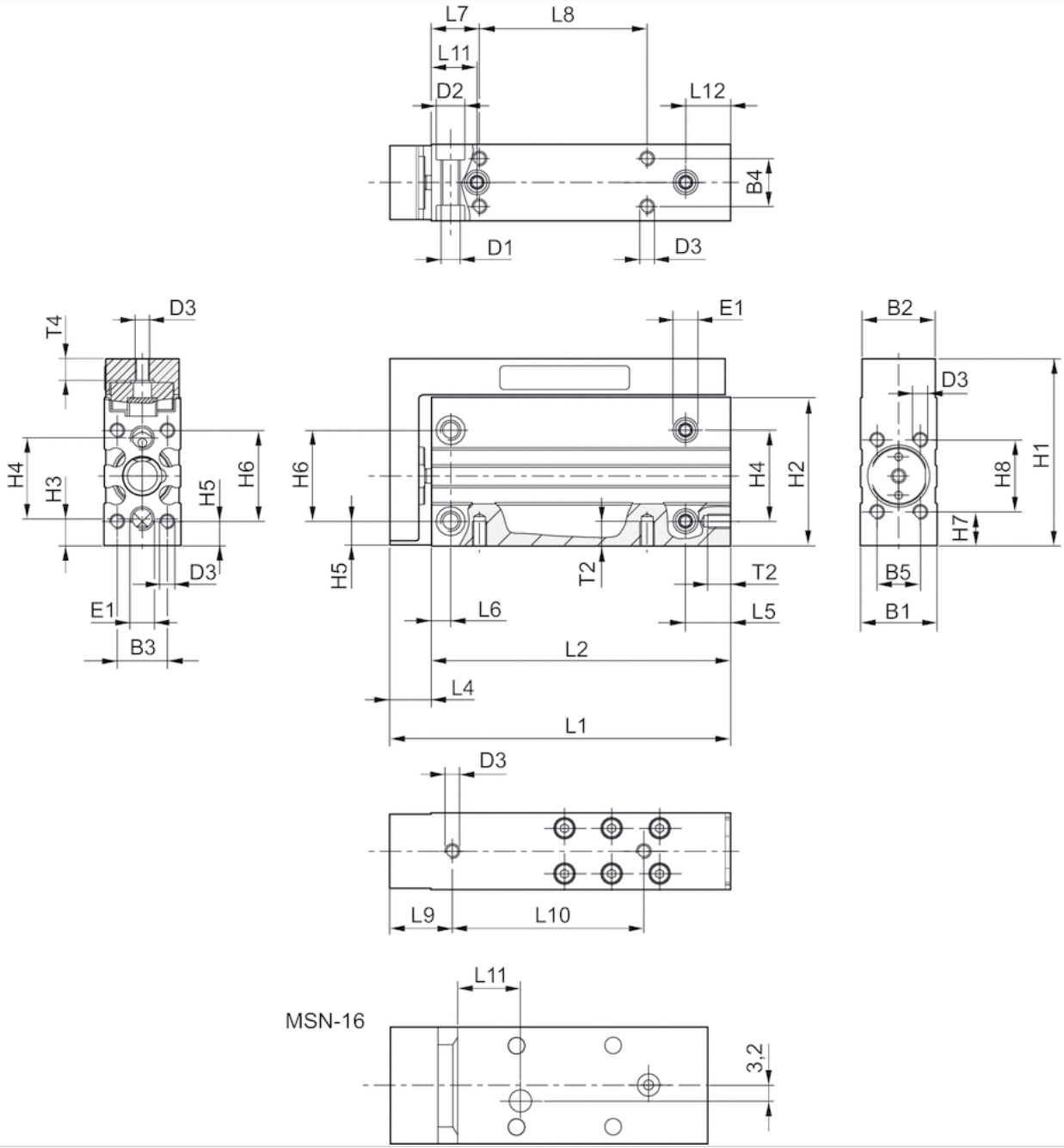
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

Technical information

Material	
Housing	Aluminum, anodized
Piston rod	Stainless steel
Seal	Polyurethane
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

Dimensions

MSN-6/-10/-16



MSN-6/-10/-16

Piston Ø	B1	B2	B3	B4	B5	D1	D2	D3	E1 Compressed air connection	H1	H2	H3	H4	H5	H6	H7
6 mm	16	15.3	10.5	10	9	M4	6	M3	M5	39	31	5.5	17	5	19	7
10 mm	20	19.3	13	13	11	M5	7.5	M4	M5	45	36	6.5	20	5	23	7.5
16 mm	24	23.3	17	17	16	M5	7.5	M4	M5	51	41	6	25	5.5	27	6

H8
15
18
26

MSN-6

Piston Ø	Stroke	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	L12	T2	T4
6 mm	5	46	37.5	8.5	10	4	10	10	13	20	9.5	9.5	4.8	5
6 mm	10	51	42.5	8.5	10	4	10	15	13	20	9.5	9.5	4.8	5
6 mm	15	56	47.5	8.5	10	4	10	20	13	25	9.5	9.5	4.8	5
6 mm	20	61	52.5	8.5	10	4	10	25	13	30	9.5	9.5	4.8	5
6 mm	25	66	57.5	8.5	10	4	10	30	13	40	9.5	9.5	4.8	5
6 mm	30	71	62.5	8.5	10	4	10	35	13	40	9.5	9.5	4.8	5

MSN-10

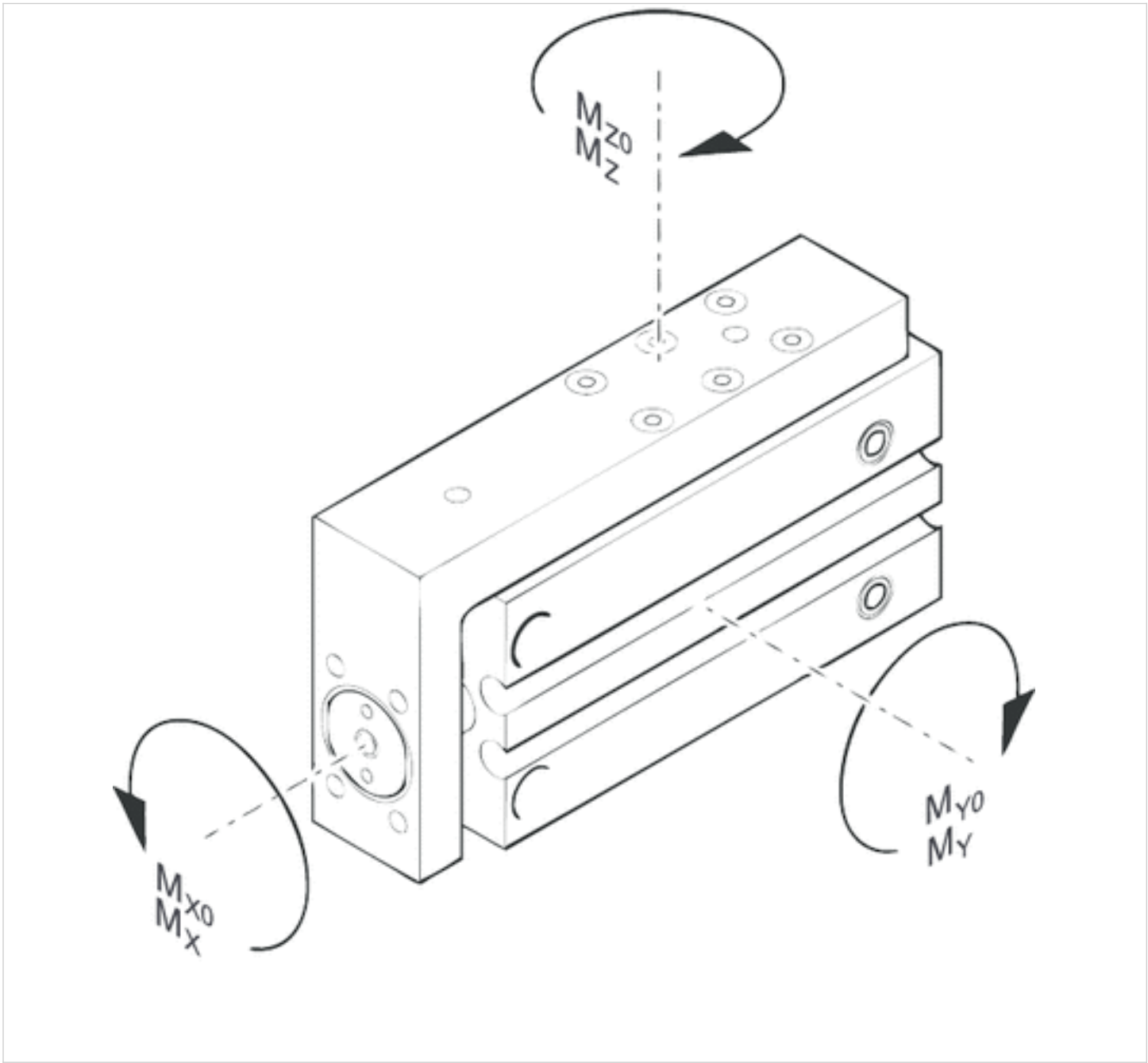
Piston Ø	Stroke	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	L12	T2	T4
10 mm	5	51.5	40	11.5	12.5	5	12	10	15	14	11	9.5	6	5.5
10 mm	10	56.5	45	11.5	12.5	5	12	14	15	19	11	9.5	6	5.5
10 mm	15	61.5	50	11.5	12.5	5	12	18	15	25	11	9.5	6	5.5
10 mm	20	66.5	55	11.5	12.5	5	12	24	15	30	11	9.5	6	5.5
10 mm	25	73.5	62	11.5	12.5	5	12	32	15	40	12	10.5	6	5.5
10 mm	30	78.5	67	11.5	12.5	5	12	35	15	45	12	10.5	6	5.5

MSN-16

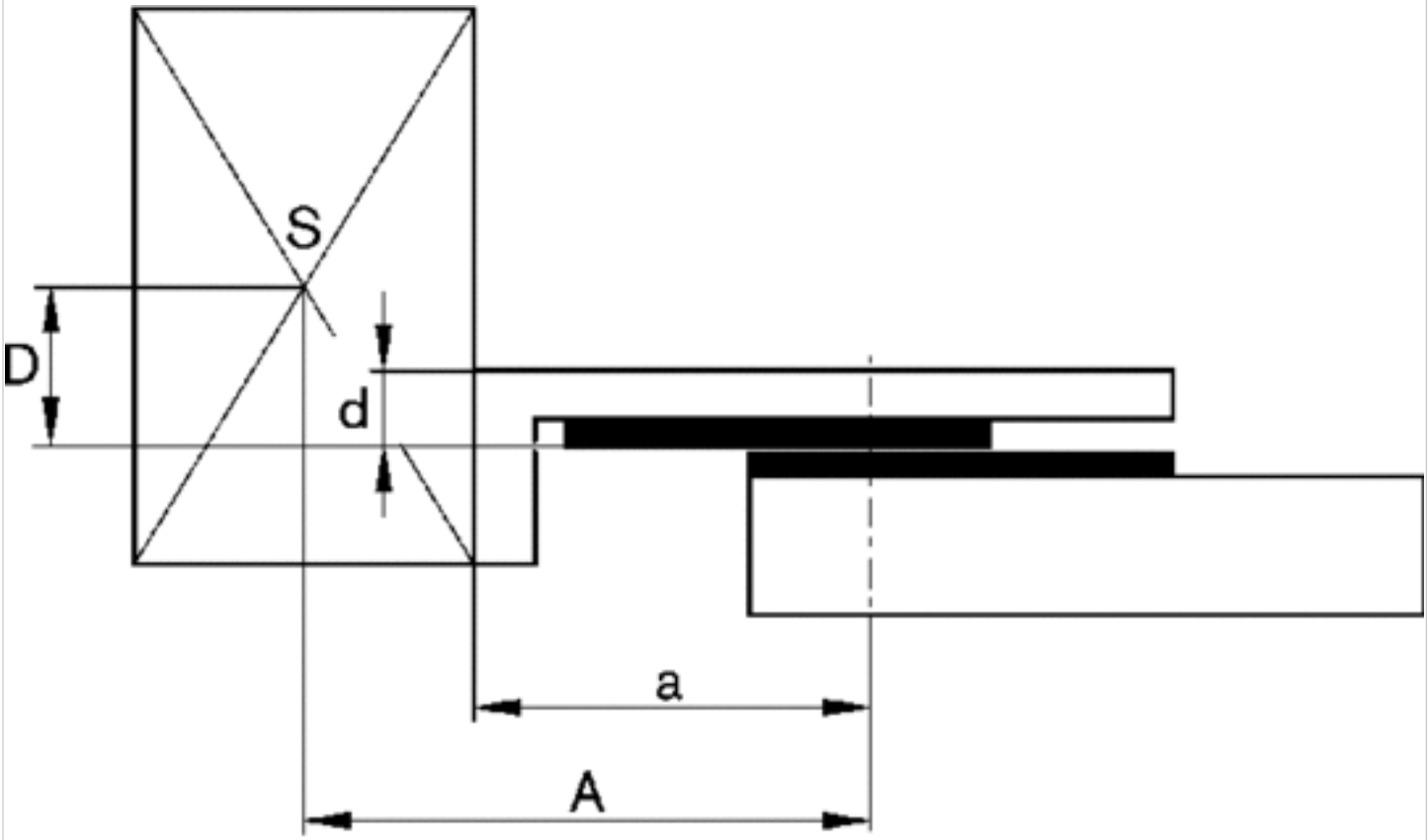
Piston Ø	Stroke	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	L12	T2	T4
16 mm	5	66	52	14	12.5	5	12	20	18	24	13	12.5	6	6
16 mm	10	66	52	14	12.5	5	12	20	18	35	13	12.5	6	6
16 mm	15	76	62	14	12.5	5	12	30	18	45	13.5	12.5	6	6
16 mm	20	76	62	14	12.5	5	12	30	18	50	13.5	12.5	6	6
16 mm	25	86	72	14	12.5	5	12	40	18	50	17.5	12.5	6	6
16 mm	30	91	77	14	12.5	5	12	45	18	55	17.5	12.5	6	6

Dimensions

M = max. permissible torque



correction factor (a, d)



correction factor (a, d)

Piston Ø	Stroke	a [mm]	d [mm]	Mx0 Static moment M [Nm]
6 mm	5	27	6	3
6 mm	10	32	6	3
6 mm	15	32	6	3
6 mm	20	37	6	3
6 mm	25	42	6	3
6 mm	30	47	6	3
10 mm	5	31	6.8	2.3
10 mm	10	36	6.8	2.3
10 mm	15	41	6.8	2.3
10 mm	20	41	6.8	3.2

Piston Ø	Stroke	a [mm]	d [mm]	Mx0 Static moment M [Nm]
10 mm	25	48	6.8	3.2
10 mm	30	53	6.8	3.2
16 mm	5	40	7.5	6.8
16 mm	10	40	7.5	6.8
16 mm	15	50	7.5	6.8
16 mm	20	50	7.5	6.8
16 mm	25	55	7.5	10
16 mm	30	60	7.5	10

My0 Static moment M [Nm]	Mz0 Static moment M [Nm]	Mx Dynamic moment M [Nm]
3.2	3.2	0.6
3.2	3.2	0.6
3.2	3.2	0.6
3.2	3.2	0.6
3.2	3.2	0.6
3.2	3.2	0.6
2.4	2.4	0.6
2.4	2.4	0.6
2.4	2.4	0.6
3.3	3.3	0.7
3.3	3.3	0.7
3.3	3.3	0.7
6.9	6.9	1.7
6.9	6.9	1.7
6.9	6.9	1.7
6.9	6.9	1.7
12.3	12.3	1.9
12.3	12.3	1.9

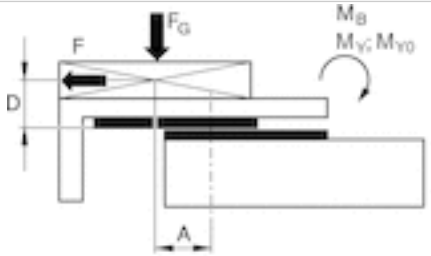
My Dynamic moment M [Nm]	Mz Dynamic moment M [Nm]
0.9	0.9
0.9	0.9
0.9	0.9
0.9	0.9
0.9	0.9
0.9	0.9
0.8	0.8
0.8	0.8
0.8	0.8
1.2	1.2
1.2	1.2
1.2	1.2
2.1	2.1
2.1	2.1
2.1	2.1
2.1	2.1
2.7	2.7
2.7	2.7

Weight [kg]

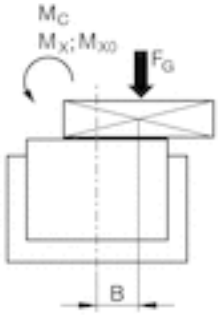
Piston Ø	Stroke	Weight kg
6 mm	5	0,071 kg
6 mm	10	0,078 kg
6 mm	15	0,084 kg
6 mm	20	0,089 kg
6 mm	25	0,104 kg
6 mm	30	0,11 kg
10 mm	5	0,112 kg
10 mm	10	0,122 kg
10 mm	15	0,131 kg
10 mm	20	0,147 kg
10 mm	25	0,159 kg
10 mm	30	0,17 kg
16 mm	5	0,231 kg
16 mm	10	0,231 kg
16 mm	15	0,262 kg
16 mm	20	0,262 kg
16 mm	25	0,295 kg
16 mm	30	0,295 kg

Dimensions

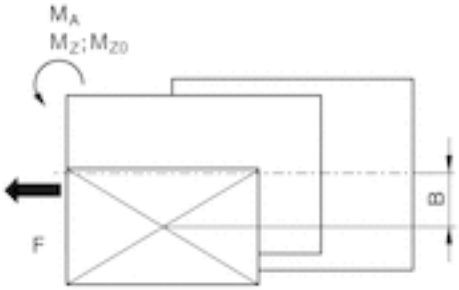
horizontal



stat.	$M_{B0} = F_G \cdot A + F \cdot D$
dyn.	$M_B = F_G \cdot A$



stat.	$M_{CO} = F_G \cdot B$
dyn.	$M_C = F_G \cdot B$



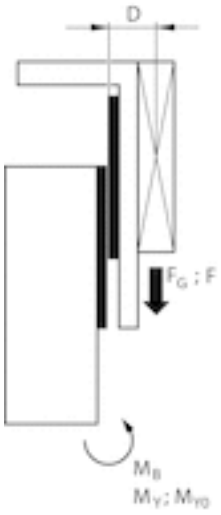
stat.	$M_{A0} = F \cdot B$
dyn.	$M_A = 0$

dyn.	$\frac{M_A}{M_1} + \frac{M_B}{M_2} + \frac{M_C}{M_3} \leq 1$
stat.	$\frac{M_{A0}}{M_{Z0}} + \frac{M_{B0}}{M_{Y0}} + \frac{M_{C0}}{M_{X0}} \leq 1$

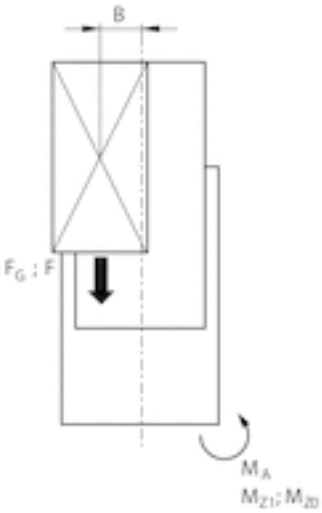
F = m • a
FG = m • g
a = 1250•V²/H

F = deceleration force [N]
FG= force due to weight [N]
m = load mass [kg]
a = deceleration [m/s²]
g = gravitational acceleration 9,81 [m/s²]
V = velocity [m/s]
H = stroke length of shock absorber [mm]

vertical



stat.	$M_{B0} = (F_G + F) \cdot D$
dyn.	$M_B = F_G \cdot D$



stat.	$M_{A0} = (F_G + F) \cdot B$
dyn.	$M_A = F_G \cdot B$

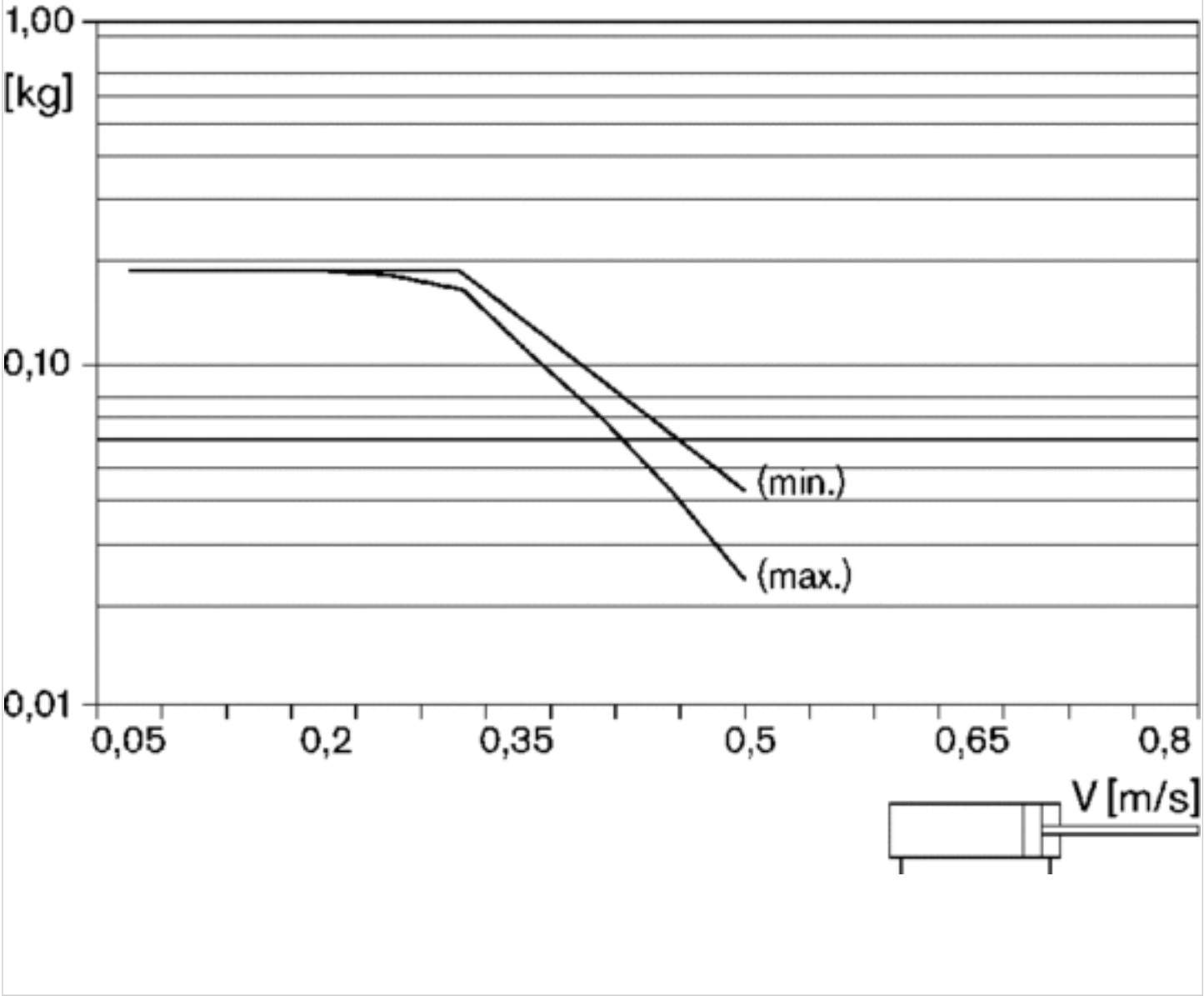
dyn.	$\frac{M_A}{M_1} + \frac{M_B}{M_2} \leq 1$
stat.	$\frac{M_{A0}}{M_{Z0}} + \frac{M_{B0}}{M_{Y0}} \leq 1$

F = m • a
FG = m • g
a = 1250•V²/H

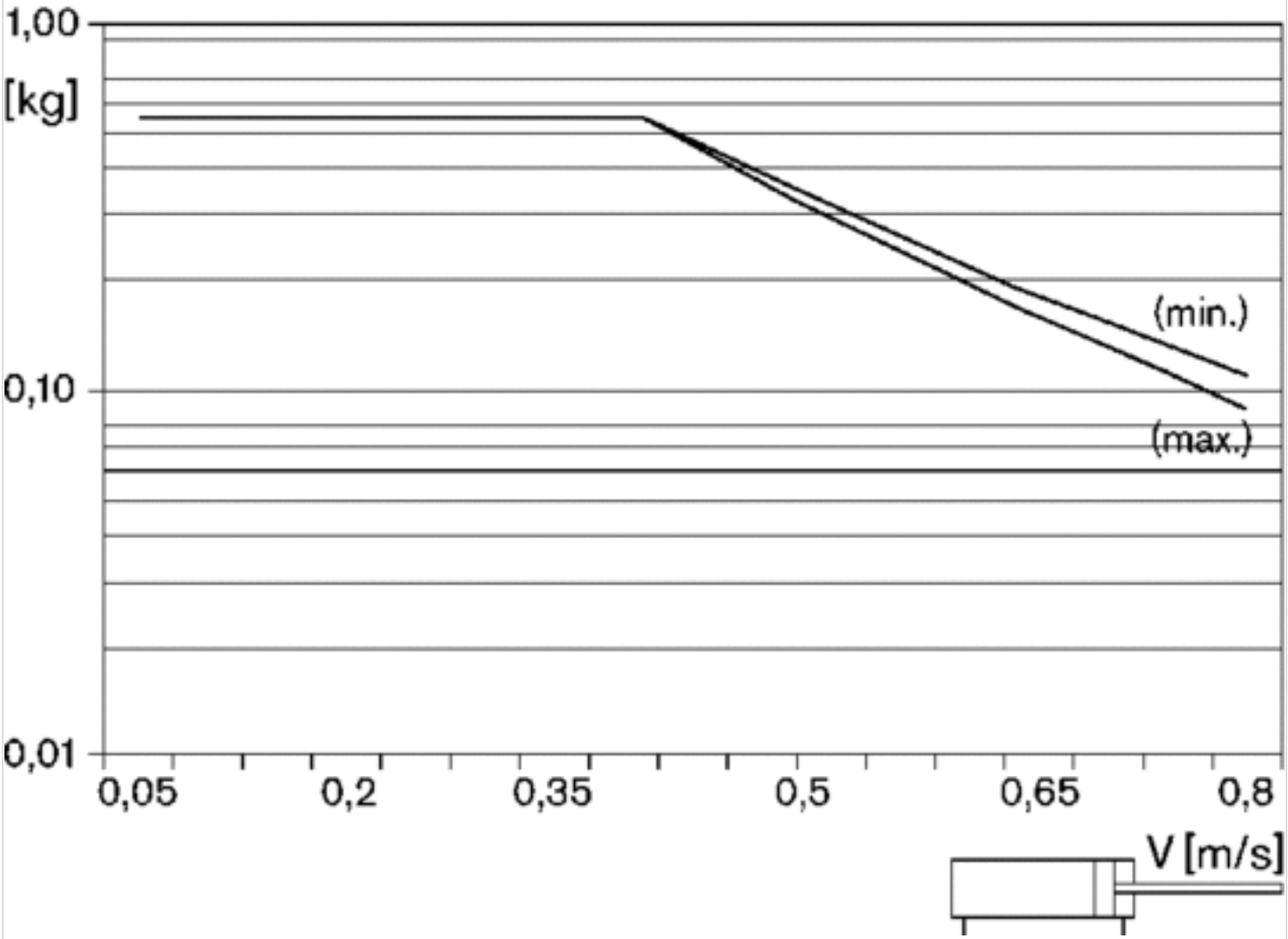
F = deceleration force [N]
FG= force due to weight [N]
m = load mass [kg]
a = deceleration [m/s²]
g = gravitational acceleration 9,81 [m/s²]
V = velocity [m/s]
H = stroke length of shock absorber [mm]

Diagrams

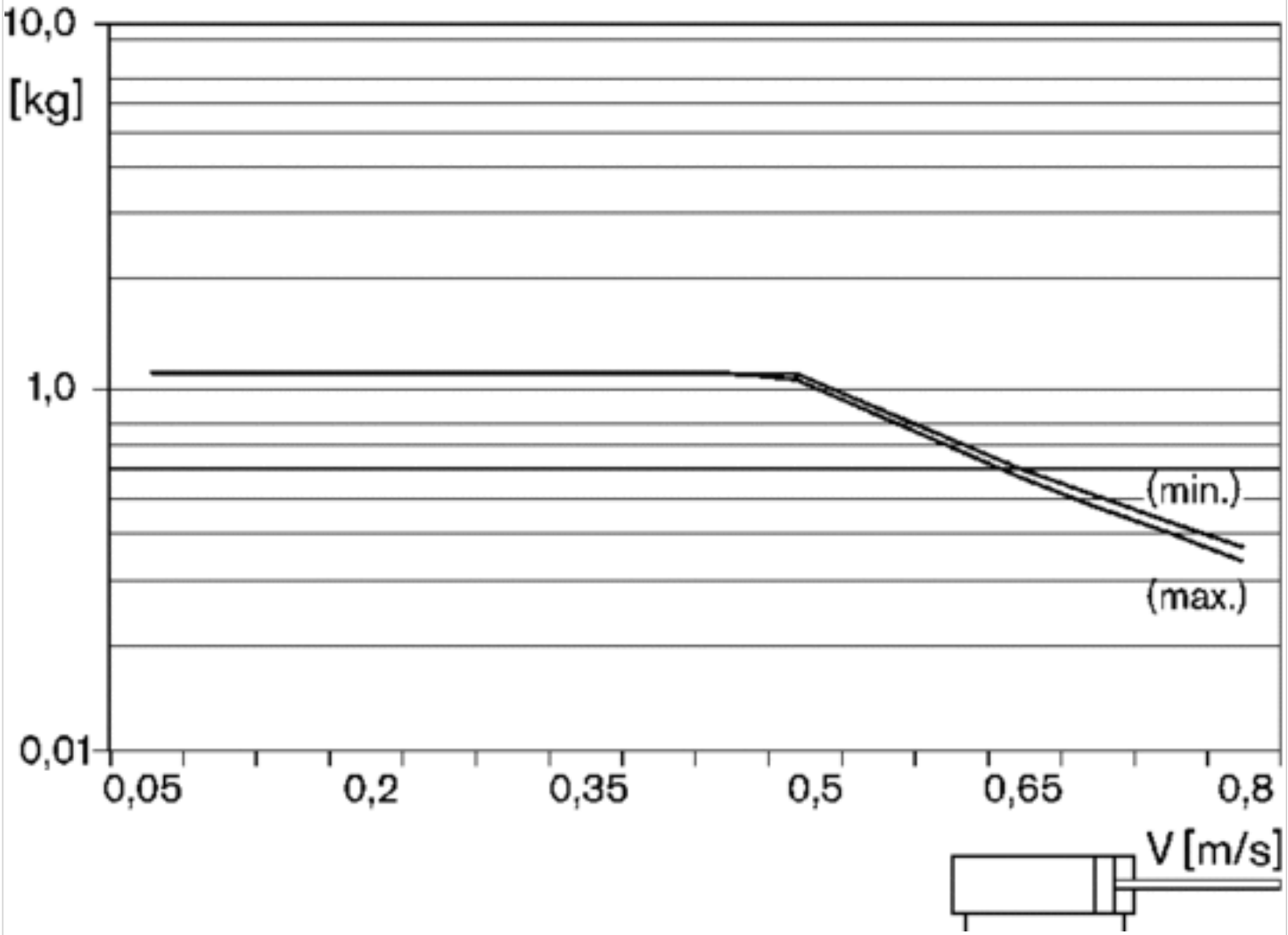
Maximum additionally moving mass (min. stroke, max. stroke), MSN - 6



Maximum additionally moving mass (min. stroke, max. stroke), MSN - 10

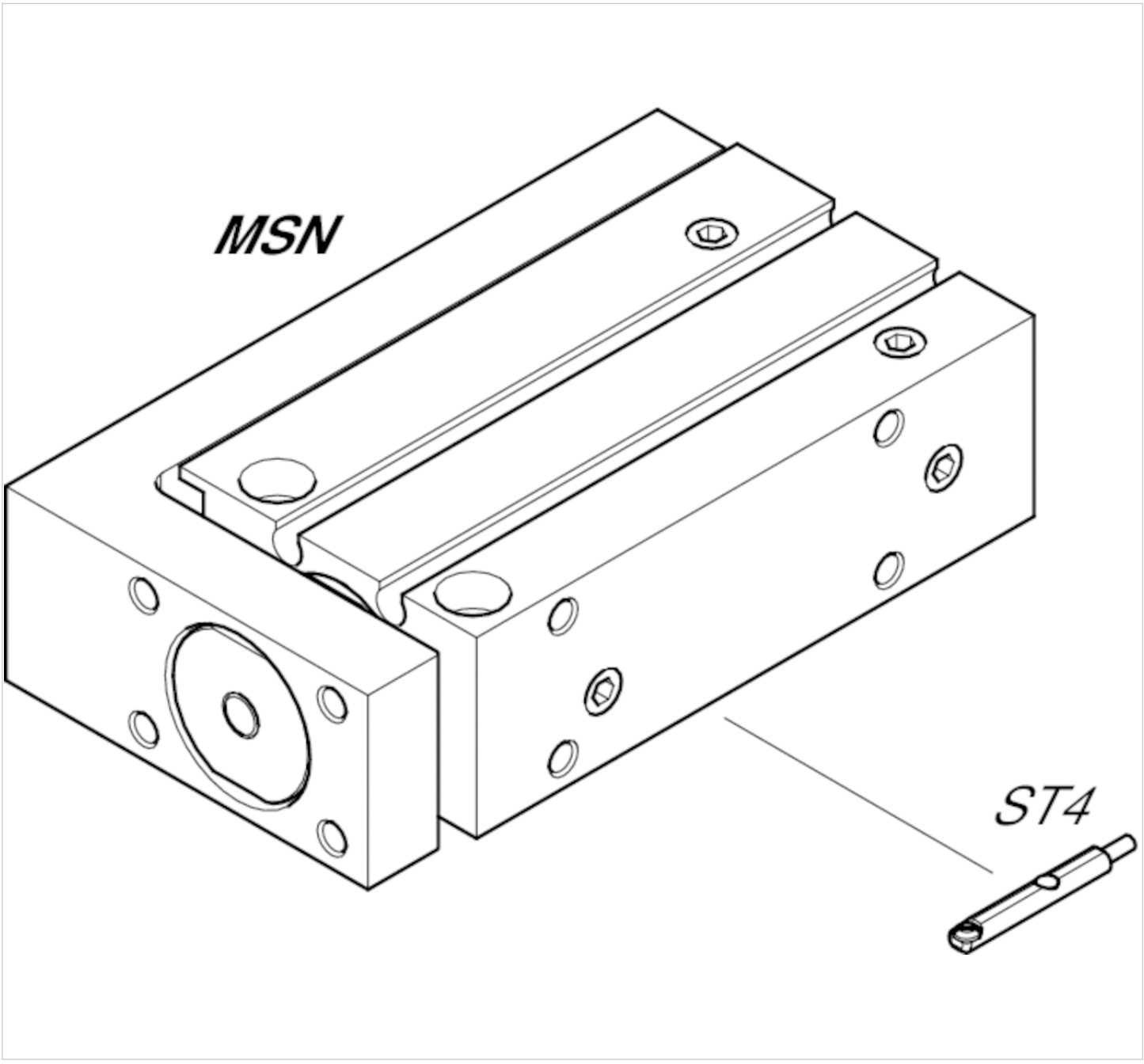


Maximum additionally moving mass (min. stroke, max. stroke), MSN-16



Accessories overview

Overview drawing



NOTE:
This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

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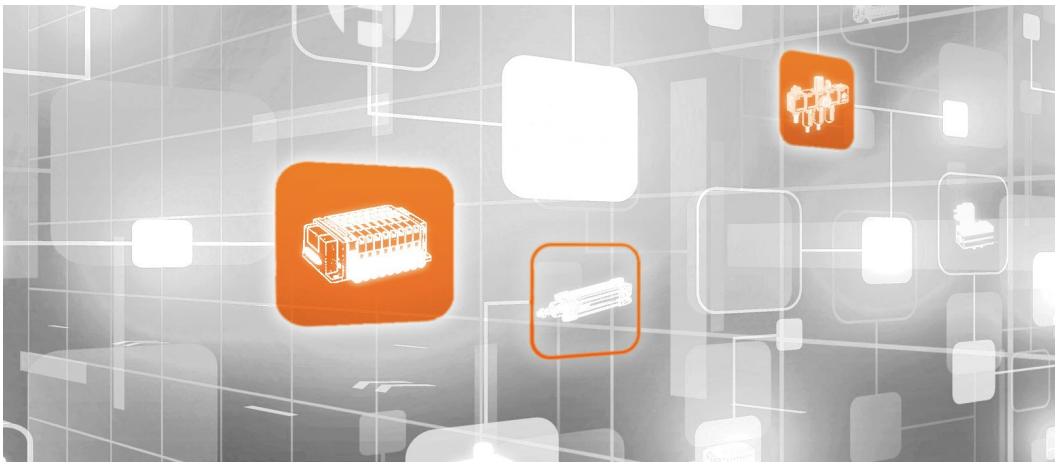

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