

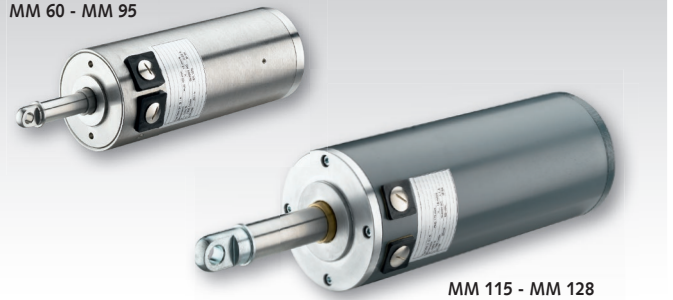
## Linear Actuators MM (Lifting Devices)

The **MÄDLER**® Mini linear drives are electrical lifting cylinders in particularly reliable design.

- 5 sizes with stroke forces up to 26,000 N.
- High performance in relation to the size.
- Light weight and clean, with low operating costs.
- Durable and maintenance-free, lubricated for lifetime.
- Integrated end switch, non-adjustable.
- Integrated safety switch (not at MM 60).
- Integrated thermo protection switch (not at MM 60 24V DC).
- Dynamically self-locking.
- Protection IP 65 (against hose water).

Ordering Details: e.g.: Product No. 475 360 01, Linear Actuator MM 60, 24V, 1.5mm/s, Stroke 100mm

MM 60 - MM 95



MM 115 - MM 128

### MM 60

- Outside-Ø 60 mm.
- Voltage 24V DC or 1x 230V AC.
- Force up to 1.000 N.
- Speed 0.7 to 16 mm/s.
- Standard stroke lengths 100, 200 and 300 mm.
- Housing, piston rod and mounting elements from stainless steel.



### MM 80

- Outside-Ø 80 mm.
- Voltage 1x 230V AC or 3x 400V AC.
- Force up to 1.600 N.
- Speed 0.5 to 10 mm/s.
- Standard stroke lengths 100, 200 and 300 mm.
- Housing, piston rod and mounting elements from stainless steel.



### MM 95

- Outside-Ø 95 mm.
- Voltage 1x 230V AC or 3x 400V AC.
- Force up to 3.500 N.
- Speed 0.5 to 10.5 mm/s.
- Standard stroke lengths 150, 200 and 300 mm.
- Housing, piston rod and mounting elements from stainless steel.



### MM 115

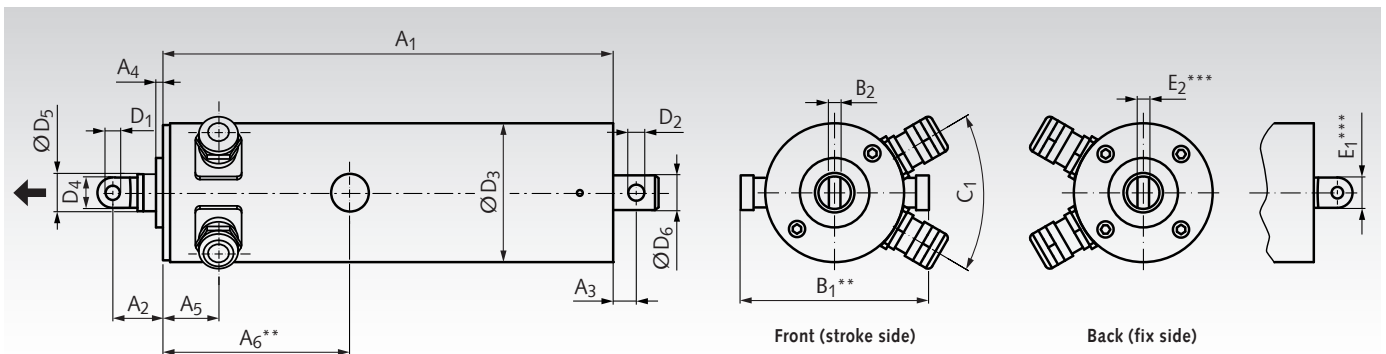
- Outside-Ø 115 mm.
- Voltage 3x 400V AC.
- Force up to 14.000 N.
- Speed 1.5 to 18 mm/s.
- Standard stroke lengths 175 and 300 mm.
- Housing from steel, RAL 7031 blue-grey coated.

### MM 128

- Outside-Ø 128 mm.
- Voltage 3x 400V AC.
- Force up to 26.000 N.
- Speed 1.1 to 17.5 mm/s.
- Standard stroke lengths 175, 300 and 500 mm.
- Housing from steel, RAL 7031 blue-grey coated.

Delivery with connected power cable, length ≈ 1 meter.

## Dimensions



Size	A <sub>1</sub> mm	A <sub>2</sub> mm	A <sub>3</sub> mm	A <sub>4</sub> mm	A <sub>5</sub> mm	A <sub>6</sub> mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C <sub>1</sub> Grad	D <sub>1</sub> <sup>H9</sup> mm	D <sub>2</sub> <sup>H9</sup> mm	D <sub>3</sub> mm	D <sub>4</sub> mm	D <sub>5</sub> mm	D <sub>6</sub> mm	E <sub>1</sub> mm	E <sub>2</sub> mm
MM 60	*	21	10	3	24	63,5	91	5	60°	5	5	60	14	16	15	-	-
MM 80	*	21,5	12	3	28	-	-	8	45°	8	8	80	16	20	20	-	-
MM 95	*	25,5	16	2,5	28	-	-	8	45°	8	8	95	20	25	20	-	-
MM 115	*	37,5	22	4	29	-	-	14	45°	14	14	115	28	32	-	40	14
MM 128	*	53	35	4	41	-	-	20	45°	20	20	128	40	49	-	50	25

\* Length A<sub>1</sub>: see product tables on the next page.

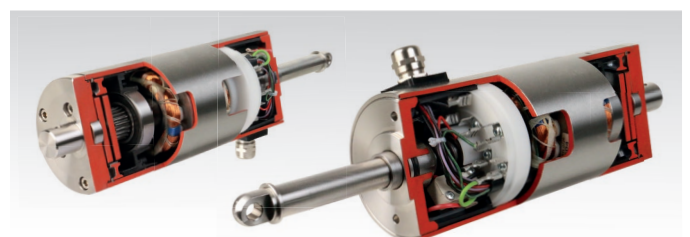
\*\* Only at MM 60 with 24V DC (housing for brushes).

\*\*\* Only at MM 115 and MM 128, the fix end is formed as a flap.

## Usage

These high quality, electrical lifting cylinders are used to open and close heavy windows, doors or flaps and to move heavy machine components. Often, they can replace hydraulic cylinders or pneumatic cylinders. By this, the power supply is much easier and eventually leaks are prevented. The component, which shall be moved, must be secured against turning. Radial forces and bending moments are not permitted. At 24V DC, an external interference suppression may be needed, depending on the environment. The types MM 60 to MM 95 from stainless steel are suitable for hygienic areas / food grade areas.

## Design: Hollow Shaft Motor, with short Length



## Linear Actuators MM (Lifting Devices)

### MM 60, Outside-Ø 60 mm, 24V DC

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 360 01	1,5	100	1000	50	0,055	222	3,9
475 360 02	1,5	200	1000	50	0,055	322	4,1
475 360 03	1,5	300	600	50	0,055	422	4,3
475 360 04	5,5	100	1000	50	0,055	210	3,8
475 360 05	5,5	200	1000	50	0,055	310	4,0
475 360 06	5,5	300	600	50	0,055	410	4,2
475 360 07	16	100	600	25	0,055	198	3,7
475 360 08	16	200	600	25	0,055	298	3,9
475 360 09	16	300	600	25	0,055	398	4,1

### MM 60, Outside-Ø 60 mm, 1x 230V AC 50Hz

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 360 21	0,7	100	1000	50	0,015	210	3,9
475 360 22	0,7	200	1000	50	0,015	310	4,1
475 360 23	0,7	300	600	50	0,015	410	4,3
475 360 24	2,7	100	1000	30	0,015	198	3,8
475 360 25	2,7	200	1000	30	0,015	298	4,0
475 360 26	2,7	300	600	30	0,015	398	4,2
475 360 27	10	100	600	15	0,03	186	3,7
475 360 28	10	200	600	15	0,03	286	3,9
475 360 29	10	300	600	15	0,03	386	4,1

### MM 80, Outside-Ø 80 mm, 1x 230V AC 50Hz

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 380 01	0,5	100	1600	15	0,022	242	5,9
475 380 02	0,5	200	1600	15	0,022	342	6,1
475 380 03	0,5	300	1000	15	0,022	442	6,2
475 380 04	2	100	1500	15	0,022	227	5,8
475 380 05	2	200	1500	15	0,022	327	6,0
475 380 06	2	300	1000	15	0,022	427	6,2
475 380 07	10	100	600	15	0,043	210	5,7
475 380 08	10	200	600	15	0,043	310	5,9
475 380 09	10	300	600	15	0,043	410	6,1

### MM 80, Outside-Ø 80 mm, 3x 400V AC 50Hz

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 380 21	0,5	100	1600	50	0,022	242	5,9
475 380 22	0,5	200	1600	50	0,022	342	6,1
475 380 23	0,5	300	1000	50	0,022	442	6,2
475 380 24	2	100	1500	50	0,022	227	5,8
475 380 25	2	200	1500	50	0,022	327	6,0
475 380 26	2	300	1000	50	0,022	427	6,2
475 380 27	10	100	1000	15	0,05	210	5,7
475 380 28	10	200	1000	15	0,05	310	5,9
475 380 29	10	300	1000	15	0,05	410	6,1

### MM 95, Outside-Ø 95 mm, 1x 230V AC 50Hz

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 395 01	0,5	150	3500	50	0,05	319	8,8
475 395 02	0,5	200	3500	50	0,05	369	9,0
475 395 03	0,5	300	2740	50	0,05	469	9,2
475 395 04	2,5	150	3500	15	0,11	299	8,6
475 395 05	2,5	200	3500	15	0,11	349	8,8
475 395 06	2,5	300	2740	15	0,11	449	9,0
475 395 07	10,5	150	2300	15	0,14	279	8,4
475 395 08	10,5	200	2300	15	0,14	329	8,6
475 395 09	10,5	300	2300	15	0,14	429	8,8

### MM 95, Outside-Ø 95 mm, 3x 400V AC 50Hz

STAINLESS Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 395 21	0,5	150	3500	50	0,06	319	8,8
475 395 22	0,5	200	3500	50	0,06	369	9,0
475 395 23	0,5	300	2740	50	0,06	469	9,2
475 395 24	2,5	150	3500	40	0,11	299	8,6
475 395 25	2,5	200	3500	40	0,11	349	8,8
475 395 26	2,5	300	2740	40	0,11	449	9,0
475 395 27	10,5	150	3300	15	0,18	279	8,4
475 395 28	10,5	200	3300	15	0,18	329	8,6
475 395 29	10,5	300	2740	15	0,18	429	8,8

### MM 115, Outside-Ø 115 mm, 3x 400V AC 50Hz

Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 415 01	1,5	175	14000	50	0,15	348	16,5
475 415 02	1,5	300	12000	50	0,15	473	17,0
475 415 03	5	175	10000	40	0,3	324	16,0
475 415 04	5	300	10000	40	0,3	449	16,5
475 415 05	18	175	5300	15	0,5	300	15,5
475 415 06	18	300	5300	15	0,5	425	16,0

### MM 128, Outside-Ø 128 mm, 3x 400V AC 50Hz

Product No.	Stroke Speed mm/s	Stroke Length mm	Stroke Force <sup>1)</sup> N	OT <sup>2)</sup> %	p <sup>3)</sup> kW	A <sub>1</sub> mm	Weight kg
475 428 01	1,1	175	26000	50	0,5	443	25,0
475 428 02	1,1	300	26000	50	0,5	568	25,5
475 428 03	1,1	500	26000	50	0,5	768	26,0
475 428 04	4,4	175	20000	40	0,75	408	24,5
475 428 05	4,4	300	20000	40	0,75	533	25,0
475 428 06	4,4	500	20000	40	0,75	733	25,5
475 428 07	17,5	175	9900	15	1,5	373	24,0
475 428 08	17,5	300	9900	15	1,5	498	24,5
475 428 09	17,5	500	9900	15	1,5	698	25,0

<sup>1)</sup> Values for pull and push.

<sup>2)</sup> Operating time, referred to 10 minutes, at ambient temperature max. +40°C and an altitude 1,000 m above sea level.

<sup>3)</sup> Motor power.

Other types, speeds, stroke lengths, forces, brakes etc. on request.