

Linear Servo Actuators MA40x and MA50x



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Linear servo actuators convert the rotary motion of the servomotor into a linear motion (stroke). The external form of the actuator is oriented towards the usual design for pneumatic or hydraulic cylinders, thus facilitating a conversion of existing equipment.

The advantages are obvious:

- ◆ **Energy savings**

Lower operating and installation costs, thanks to the use of cheaper electrical drive energy instead of a pneumatic or hydraulic system.

- ◆ **Enhanced processing flexibility**

The control options that are offered by servo systems make it possible for the actuator to be positioned at will a precondition for flexible production installations.

- ◆ **Improved thrust control**

Optimum control of power and a linear build-up of the force. In this way, there are no delays in the build-up of the force or non-linear dependencies of thrust and actuator position that have to be allowed for in the process.

- ◆ **Higher performance drive unit**

The overload capability of a servo drive enables it to absorb short disturbances (peak forces). Furthermore, the driving cylinder does not have to be dimensioned for the peak force, as is the case with pneumatic systems, but can be dimensioned for the effective force.

- ◆ **Shorter cycle times**

The fast build-up of the thrust enables shorter machine cycle times.

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Features / Options

Features

- ◆ Large continuous thrust (up to 8500 N)
- ◆ Wide useful stroke range, from 0 to 200 mm
- ◆ Movement velocity up to 250 mm/sec
- ◆ High overload capability (up to 20000 N)
- ◆ Compact design, patented construction
- ◆ Insulated for 400 V supply voltage rating
- ◆ Insulation class Fas per DIN 57530
- ◆ Integral resolver
- ◆ Simple handling
- ◆ Cost savings, compared with compressed-air or hydraulic cylinders
- ◆ Special ball screw bearings ensure high operational life

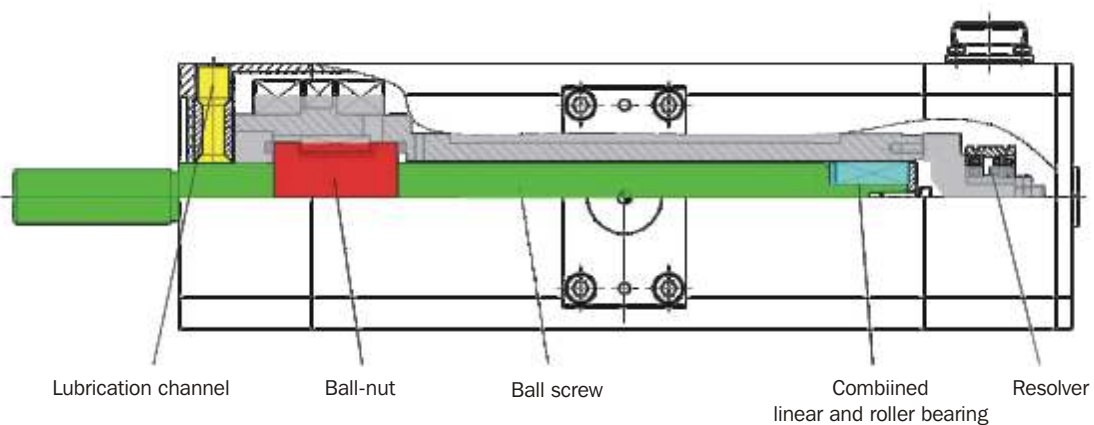
Options

- ◆ Holding brake
- ◆ Automatic lubrication (maintenance-free for 1 year)
- ◆ Bellows protects the ball screw from dirt
- ◆ Special resolver and connection for use with KUKA amplifiers
- ◆ Special solutions possible for large quantities



Internal construction

- ◆ Rotary, hollow-shaft AC servomotor
- ◆ Integrated ball screw
- ◆ Ball nut fixed to rotor
- ◆ Linear guidance of hollow shaft



Technical data MA40x (extract)

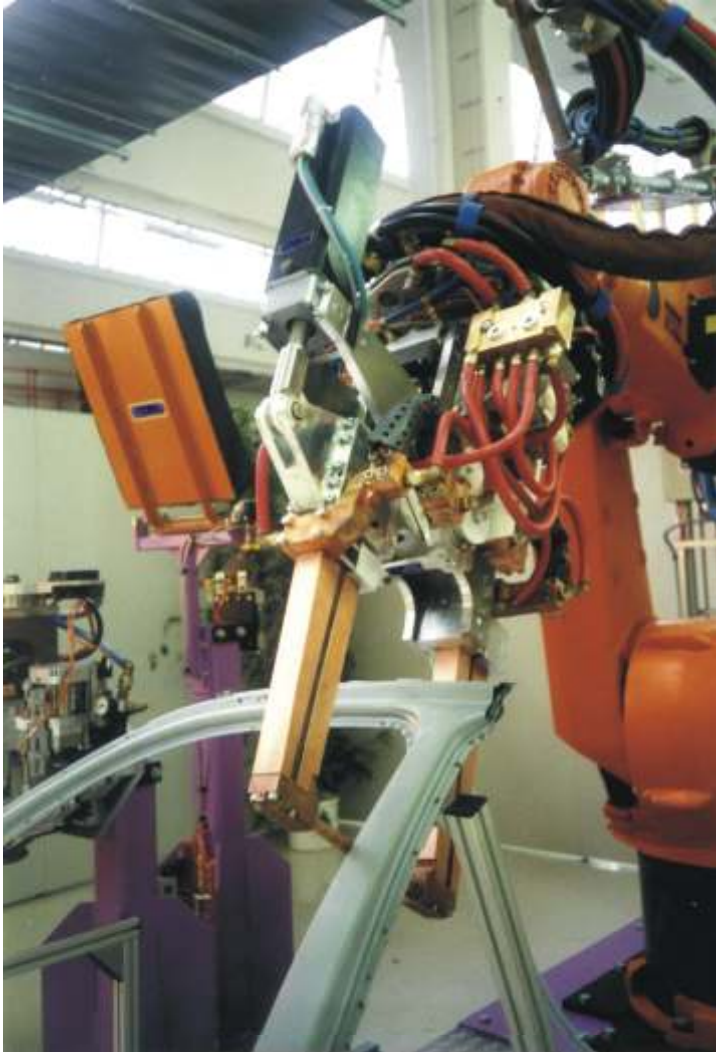
			MA404G	MA406G	MA408G	MA404I	MA406I	MA408I
Continuous thrust at $v < 5 \text{ mm/sec}$	F_{contlo}	N	1244	2375	3054	1244	2375	3054
Standstill (stalled) current	I_0	A	1,33	2,54	3,26	0,74	1,4	1,8
Rated supply voltage	U	VAC	230			400		
Rate of travel	v_N	mm/s	250					
Rated speed	n_N	min^{-1}	3000					
Peak thrust	F_{max}	N	6000	10000	10000	6000	10000	10000
Peak current	I_{max}	A	7,0	12,2	11,9	3,9	6,4	6,6
Ball screw lead	H	mm	5					
Ball screw diameter	D	mm	20					
Stroke	S	mm	70	110	150	70	110	150
Motor weight	m	kg	5,4	6,4	7,3	5,4	6,4	7,3

Technical data MA50x (extract)

			MA504G	MA506G	MA508G	MA504I	MA506I	MA508I
Continuous thrust at $v < 5 \text{ mm/sec}$	F_{contlo}	N	4295	6440	8480	4295	6440	8480
Standstill (stalled) current	I_0	A	4,6	6,9	9,07	2,6	3,83	5,04
Rated supply voltage	U	V	230			400		
Rate of travel	v_N	mm/s	250					
Rated speed	n_N	min^{-1}	3000					
Peak thrust	F_{max}	N	20000					
Peak current	I_{max}	A	21,3			11,8		
Ball screw lead	H	mm	5					
Ball screw diameter	D	mm	25					
Stroke	S	mm	110	155	200	110	155	200
Motor weight	m	kg	12,3	14,0	16,0	12,3	14,0	16,0

Application examples

Special solutions



Welding gun

Driven by
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SERVOSTAR® 200



SERVOSTAR® 300



SERVOSTAR® 400



SERVOSTAR® 600

You'll find information to the drive series in the associated product brochures or on the internet at www.DanaherMotion.net



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