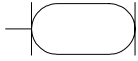


# Fluid muscle MAS-...-RR

Ø 10, 20, 40 mm, stroke 40 to 4500 mm

**Cleanroom class ISO 4 (FS209E class 10)**

Fluid muscle:  
**MAS-...-RR**



Fluidic Muscle is a tensile actuator which mimics the action of biological muscles. When pressure is applied, the muscle extends in its peripheral direction. This creates a tensile force and a contraction motion in the longitudinal direction. The areas of application are:

- Single-acting actuator
- Pneumatic spring

The features of the muscle are:

- Initial force up to 10 times higher
- than a cylinder of the same diameter
- Highly dynamic characteristics
- No stick/slip effect
- Robust design
- Low weight
- Hermetically sealed

**Order example:**

Order no:  
Type: MAS-20-N200-AA-MOHK  
Fluid muscle, diameter 20 mm, stroke 200 mm, muscle open at both ends with integrated force compensator and female thread M16 x1.5

**Selection criteria:**

Refer to DK1 (Electronic catalogue) or Volume 1 of Pneumatic Drives catalogue.

**Sizing software**

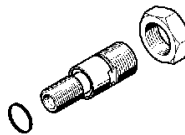
Select a suitable size of the muscle using the Fluidic Muscle sizing software.



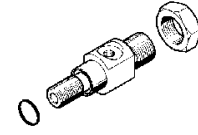
**Mounting options**

Axial adapter  
MXAC-A...

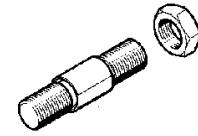
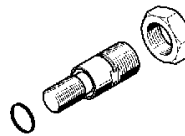
Radial adapter  
MXAC-R...



Blanking adapter  
MXAC-B...



Treaded rod  
MXAD-T...

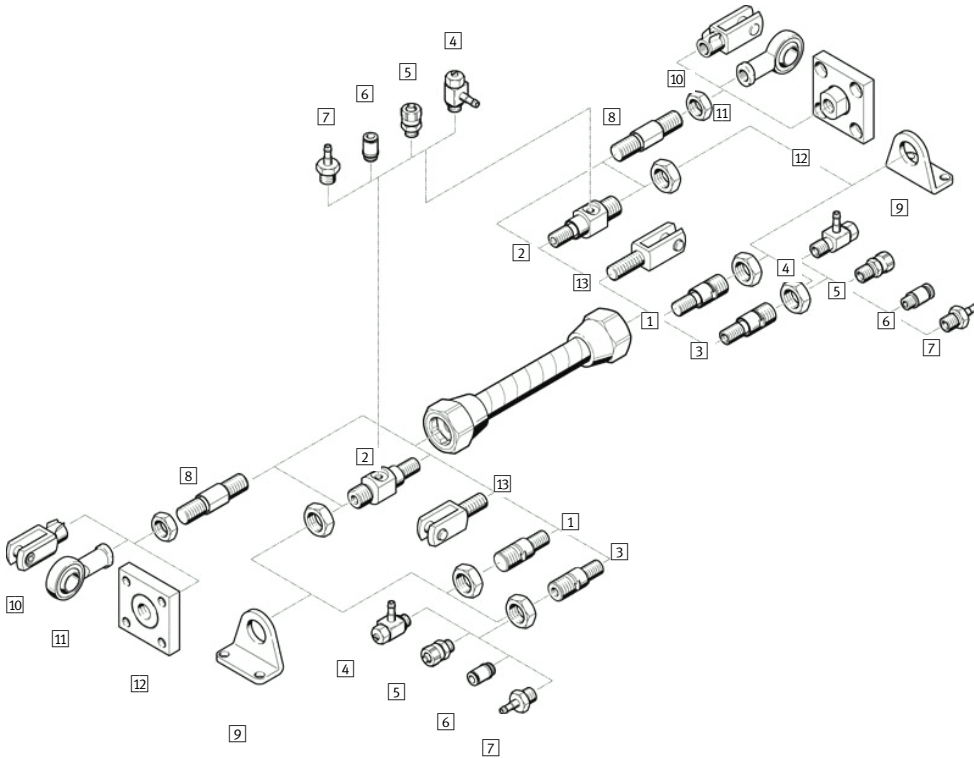


Type	Part no	Description	Nominal length [mm]	Contraction (stroke) Max.	Lifting force Max. [N]	Useful load, suspended Max.	Operating pressure [bar]	Muscle weight [kg/m]
MAS-10-N...-AA-MCFK-RR	15060444	Muscle open at one end with integrated force compensator and female thread M10 x1.25	40...4500	20% of Nominal length	400	30	8	0.09
MAS-10-N...-AA-MOFK-RR	15060445	Muscle open at both ends with integrated force compensator and female thread M10 x1.25						
MAS-20-N...-AA-MCHK-RR	15060446	Muscle open at one end with integrated force compensator and female thread M16 x1.5	60...4500		1200	60	6	0.16
MAS-20-N...-AA-MOHK-RR	15060447	Muscle open at both ends with integrated force compensator and female thread M16 x1.5						
MAS-20-N...-AA-MCGK-RR	15060448	Muscle open at one end with integrated force compensator and female thread M10 x1.25						
MAS-40-N...-AA-MCKK-RR	15060449	Muscle open at one end with integrated force compensator and female thread M20 x1.5	90...4500	25% of Nominal length	4000	120	6	0.36
MAS-40-N...-AA-MOKK-RR	15060450	Muscle open at both ends with integrated force compensator and female thread M20x1.5						
MAS-40-N...-AA-MCIK-RR	15060451	Muscle open at one end with integrated force compensator and female thread M16x1.5						

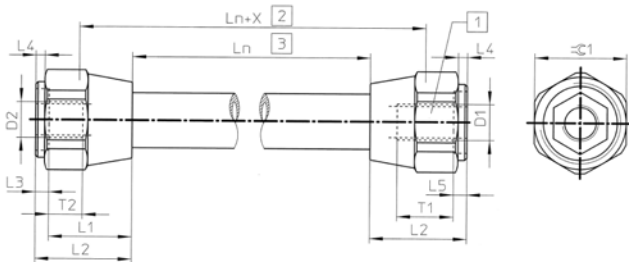
# Fluid muscle MAS-...-RR

Ø 10, 20, 40 mm, stroke 40 to 4500 mm

Cleanroom class ISO 4 (FS209E class 10)



- 1 Blanking adapter for connecting the cylinder peripherals and sealing the muscle
- 2 Radial adapter for connecting the cylinder peripherals and the compressed air supply in a radial direction
- 3 Axial adapter for connecting the cylinder peripherals and the compressed air supply in an axial direction
- 4 GRLA
- 5 Quick connector CK for the tubing connection
- 6 Quick Star push-in fitting QS-F for the tubing connection
- 7 Barbed fitting N for the tubing connection
- 8 Threaded rod for connecting the cylinder accessories
- 9 Foot mounting HBN for clamping the muscle
- 10 Rod clevis SG for rod eye SGS
- 11 Rod eye SGS with spherical bearing
- 12 Coupling pieces KSG/KSZ for compensating radial deviations
- 13 Rod clevis SGA with threaded rod for direct mounting on the muscle



Type	D1	D2	L1 ±1.0	L2 ±1.0	L3 ±0.3	L4	L5 ±0.4	Ln min. max.	T1 min.	T2 min.	X	≈C1	≈C2
MAS-10-N...-AA-MCFK-RR	M10 x 1.25	M10 x 1.25	24.1	34.1	10	3.5 ±0.2	2.5	40 4500	15	15	40	27	17
MAS-10-N...-AA-MOFK-RR													
MAS-20-N...-AA-MCHK-RR	M16 x 1.5	M16 x 1.25	31.5	42.5	11	3.5 ±0.2	5.5	60	24	24	50	41	24
MAS-20-N...-AA-MOHK-RR		M10 x 1.25											
MAS-20-N...-AA-MCGK-RR													
MAS-40-N...-AA-MCKK-RR	M20 x 1.5	M20 x 1.5	42.5	55.5	13	3.5 ±0.3	6.5	120	30	30	70	60	41
MAS-40-N...-AA-MOKK-RR		M16 x 1.5											
MAS-40-N...-AA-MCIK-RR													