# **FLAT SWIVEL UNITS SERIES MSF**

#### PRODUCT ADVANTAGES



#### "The unique"

#### Decide for yourself!

Flange connection or journal shaft, with or without shock absorbers: The multitude of variants ensure you always find what you need

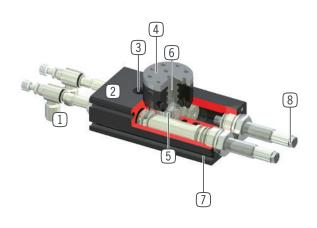
#### Flat structure

Thanks to the reverse double piston drive, the unit can work in operations requiring flat conditions. This is how you can build your application to save more space

## Infinitely adjustable swivel angle

Become flexible and unique with the completely adjustable swivel angle that also reduces set up times

#### BENEFITS IN DETAIL



#### 1 Air flow control valve

- for speed regulation
- included in scope of delivery

#### (2) Robust, lightweight housing

Hard-coated aluminum alloy

#### (3) Mounting and positioning

- mounting possible from several sides for versatile positioning

#### (4) Tool intake

- with shaft extension or flange available

# 5 Force transfer

- rack and pinion

#### (6) Up to 2 way integrated air feed-through

- for hoseless air transfer
- hose package does not have to be pivoted

#### (7) Sensing slot

- mounting and positioning of magnetic field sensors

#### 8 Integrated shock absorbers with spiral groove technology

- adjustable end position damping



# **SERIES CHARACTERISTICS**

Installation size	Version					
MSFXX	N-F001	S-F001	N-F002	S-F002	N-D2	S-D2
10 million maintenance-free cycles (max.)	•	•	•	•	•	•
IP 41 IP41	•	•	•	•	•	•
Magnetic field sensor	•	•	•	•	•	•
Flange	•	•			•	•
Shaft extension			•	•		
Fluid feed-through					•	•
Elastomer end position damping	•		•		•	
Powerstop end position damping		•		•		•
Positionability - 2 positions	•	•	•	•	•	•
Adjustable swivel angle	•	•	•	•	•	•

# ► TECHNICAL DATA

	Swivel angle	Torque	Weight	IP class	
Installation size	[°]	[Nm]	[kg]		
MSF34	90 / 180	0,3 - 0,4	0,17 - 0,21	IP41	
MSF40	90 / 180	0,6 - 0,7	0,26 - 0,29	IP41	
MSF44	90 / 180	1 - 1,2	0,41 - 0,46	IP41	

# ► FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

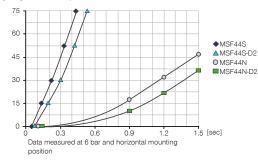
# **FLAT SWIVEL UNITS INSTALLATION SIZE MSF44**

# **▶ PRODUCT SPECIFICATIONS**



#### Moment of inertia

[kg cm²] Shows the expected swivel time vs the calculated moment of inertia



#### ► INCLUDED IN DELIVERY



2 [piece] Flow Control Valves - with Swivel joint DRVM3X4



2 [piece] Centering Disc DST40800

## RECOMMENDED ACCESSORIES



# **ENERGY SUPPLY**



# **SENSORS**



#### GVM3

Straight Fittings - Barb Style Connection



#### MFS02-S-KHC-P2-PNP

2-point sensor straight, cable 0.3 m - M8 connector



#### **DSV1-8**

Pressure safety valve



# **CONNECTIONS / OTHER**



#### DSV1-8E

Pressure safety valve with quick exhaust



#### KAG500

Plug-in connector Straight Cable 5m - Socket M8 (female)



# **SENSORS**



# KAW500

Plug-in connector Angled Cable 5m - Socket M8 (female)



#### MFS01-S-KHC-P1-PNP

Magnetic field sensor angled, cable 0.3 m - M8 connector



Plug-in connector customizable Straight - Connec-



### MFS02-S-KHC-P1-PNP

Magnetic field sensor straight, cable 0.3 m - M8



#### S12-G-3

Plug-in connector customizable Straight - Connector M12



# MFS01-S-KHC-P2-PNP

2-point sensor angled, cable 0.3 m - M8 connector

	Technical	► Technical data					
Order no.	MSF44N-F001	MSF44S-F001	MSF44N-F002	MSF44S-F002	MSF44N-D2	MSF44S-D2	
Swivel angle [°]	90 / 180	90 / 180	90 / 180	90 / 180	90 / 180	90 / 180	
Torque [Nm]	1.2	1.2	1.2	1.2	1	1	
End position damping by	Elastomer	PowerStop	Elastomer	PowerStop	Elastomer	PowerStop	
Tool holder via	Flange	Flange	Shaft extension	Shaft extension	Flange	Flange	
Repetition accuracy +/- [°]	0.07	0.01	0.07	0.01	0.07	0.01	
Pneumatic energy transfer [Quantity]					2	2	
Axial bearing load [N]	520	520	520	520	520	520	
Radial bearing load [Nm]	19	19	19	19	19	19	
Operating pressure min. [bar]	3	3	3	3	3	3	
Operating pressure max. [bar]	8	8	8	8	8	8	
Nominal operating pressure [bar]	6	6	6	6	6	6	
Operating temperature min. [°C]	5	5	5	5	5	5	
Operating temperature max. [°C]	+80	+80	+80	+80	+80	+80	
Air volume per cycle 90° [cm³]	7.7	7.7	7.7	7.7	7.7	7.7	
Air volume per cycle 180° [cm³]	15.4	15.4	15.4	15.4	15.4	15.4	
Protection to IEC 60529	IP41	IP41	IP41	IP41	IP41	IP41	
Weight [kg]	0.44	0.48	0.42	0.47	0.48	0.52	

