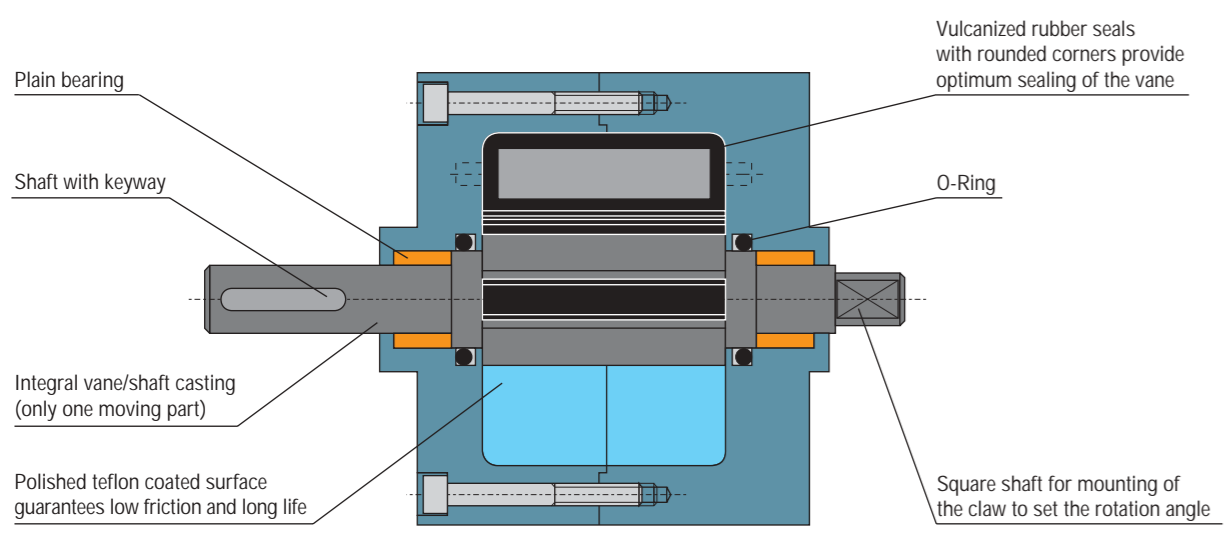


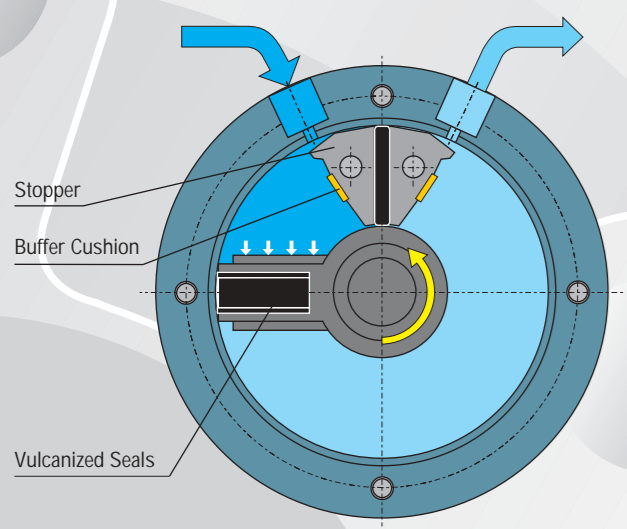
# torques up to 242 Nm

## The Design

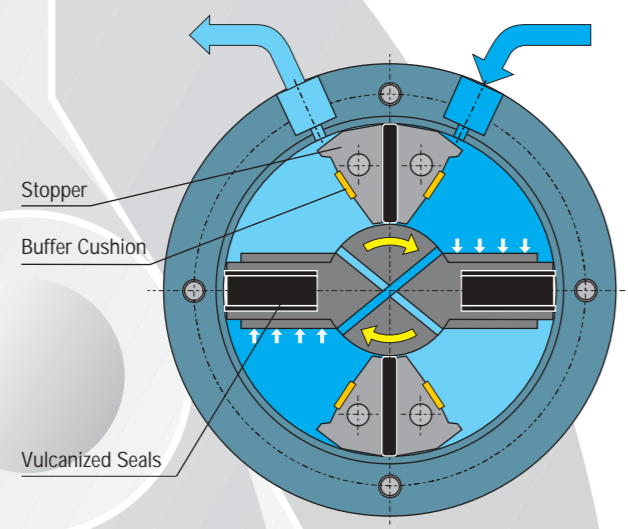


## The Function

**Single Vane Construction:**  
Up to 270° rotation angle



**Double Vane Construction:**  
Up to 90° rotation angle



■ Compressed air   ■ Exhausted air

# Rotary Vane Actuators

**Series M/60200 – Double Acting**  
**Rotation Angles: 30° to 270°**  
**Torque at 6 bar: 0.13 to 242 Nm**



Actuators

Valves



Fittings

Air Line

Norgren is a leading world manufacturer and supplier of pneumatic solutions, offering a comprehensive range of pneumatic control and automation components via a global sales and service network which covers 70 countries worldwide. The company is a principal member of the diverse and internationally successful £1 billion IMI Group.



IMI Norgren GmbH, Actuator Division  
Bruckstraße 93, D-46519 Alpen, Germany  
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3/1998 ACP 509

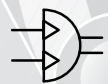




# The complete solution for turning and rotating

- Single and double vane rotary actuators for a wide field of applications
- High torque, very space saving design
- Double plain bearings support the shaft
- Selected materials guarantee long life and low friction

## MINI Rotary Vane Actuators

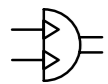


M/60280 to M/60284

Single or double vane construction  
 Fixed rotation angles: 90°, 180°, 270°  
 Adjustable rotation angles: 30° to 270°  
 Torque at 6 bar: 0,13 to 9,31 Nm  
 Double acting, buffer cushioning



## Rotary Vane Actuators

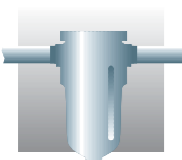


M/60285 to M/60288

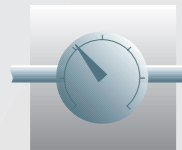
Single or double vane construction  
 Fixed rotation angles: 90°, 180°, 270°  
 Torque at 6 bar: 5,78 to 241,73 Nm  
 Double acting, buffer cushioning



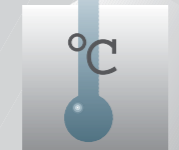
## Technical Data



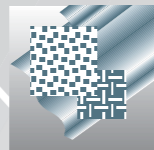
Medium:  
 Compressed air,  
 filtered, lubricated  
 and non-lubricated



Operating Pressure:  
 2 to 10 bar  
 (see catalogue sheet)



Operating Temperature:  
 +5°C to +60°C



Materials:  
 Housing: Cast aluminium  
 Shaft: Steel (one piece)  
 Bearings: Sintered bronze  
 Seals: Nitrile rubber

## Model Codes

M/602\*\*/\*\*/\*\*

Threads		Rotation angles		Substitute
Metric	Ports: M5 or G 1/8 (ISO 228)	Fixed 90°	Fixed 180°	90
		Fixed 270°	Adjustable	180
				270
				no suffix

Series		Variants		Substitute
60200		Single vane, fixed rotation angles	Double vane, fixed rotation angles	no suffix
		Single vane, adjustable rotation angles	Double vane, adjustable rotation angles	TI
				IE
				TE

Sequential numbers		Substitute
MINI Rotary Vane Actuators	80, 81, 82, 83, 84	
Rotary Vane Actuators	85, 86, 87, 88	

## MINI Rotary Vane Actuators

Models with fixed or adjustable rotation angles

Model	Torque** at 6 bar(Nm)	Single Vane	Double Vane	Rotation Angles		
				90°	180°	270°
M/60280/*	0,13	●		●	●	
M/60281/*	0,35	●		●	●	
M/60281/IE	0,35	●		Adjustable from 30° to 180°		
M/60282/*	1,04	●		●	●	
M/60282/IE	1,04	●		Adjustable from 30° to 180°		
M/60283/*	1,91	●		●	●	
M/60283/IE	1,91	●		Adjustable from 30° to 180°		
M/60284/*	4,02	●		●	●	
M/60284/IE	4,02	●		Adjustable from 30° to 270°		
M/60284/TI	9,31		●	●	●	
M/60284/TE	9,31		●	Adjustable from 30° to 90°		

## Rotary Vane Actuators

Models with fixed rotation angles

Model	Torque** at 6 bar(Nm)	Single Vane	Double Vane	Rotation Angles		
				90°	180°	270°
M/60285/*	5,78	●		●	●	●
M/60285/TI	12,55		●	●	●	●
M/60286/*	17,65	●		●	●	●
M/60286/TI	40,69		●	●	●	●
M/60287/*	33,83	●		●	●	●
M/60287/TI	87,39		●	●	●	●
M/60288/*	120,91	●		●	●	●
M/60288/TI	241,73		●	●	●	●

\* Rotation angles  
 \*\* Theoretical torque

## Switches

### Reed Switches

M/40 with LED  
 Normally open  
 Cable length 2 m



M/40/C without LED  
 Changeover  
 Cable length 2 m



M/40/P with LED  
 Normally open  
 Plug in connector



### Solid State

M/41 with LED  
 NPN  
 Grounded emitter output  
 Cable length 2 m



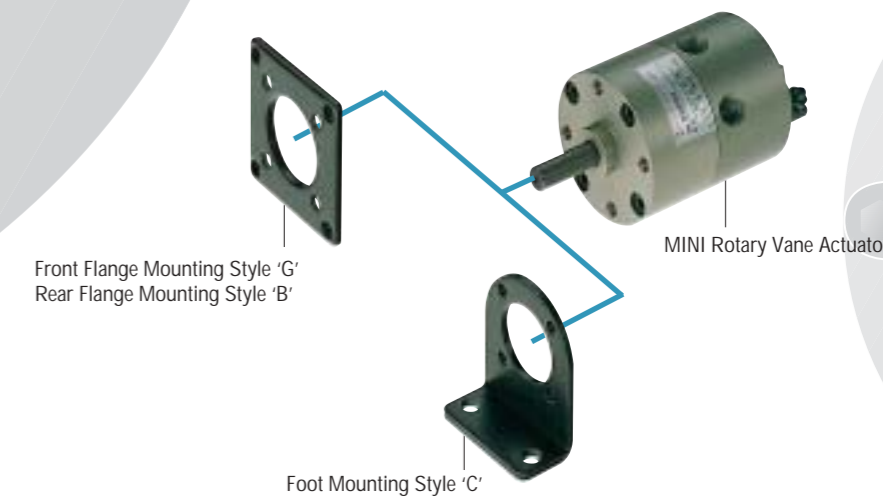
M/42 with LED  
 PNP  
 Open collector output  
 Cable length 2 m



M/42/P with LED  
 PNP  
 Open collector output  
 Plug in connector



## MINI Rotary Vane Actuator



## Rotary Vane Actuator

