

Wafer cleaning using the strip and spin process



Highlights

- **High-quality surface coating:**
The standard coating of the guided drive DFM offers resistance to a large number of the media used
- **Ideal material hardness:**
Suction cup type ESS for careful wafer handling
- **Soft seal and media separation:**
The small media valves type Voda. All parts that come into contact with the media consist of PEEK/PTFE
- **Tailored to your application:**
Customer-specific versions of all products possible

Project

In the semiconductor industry, cleaning wafers using the so-called spin cleaner or the strip process is a critical function that must be repeated numerous times in the production process of a chip. Unwanted, microscopically small materials must be effectively removed. Because of the design and sensitive structure, the cleaning processes must overcome several challenges.

Requirements

- Chemical resistance
- Extension of service life
- High system availability
- Cleanliness and abrasion:
no marks or structural damage on the wafer
- Cleanroom compatible
- High level of productivity and flexibility
- Customer-specific versions
(material, coating/mounting)

Solution

- Guided drive DFM
- Vacuum suction cups ESS
- Media valve VODA-LD77
- PTFE tube PTFEN
- Proximity sensor CRSMT-8M
- Valve terminal VTOC

Wafer cleaning using the strip and spin process: Products and solutions



Guided drive DFM

- Sturdy and precise
- Wide choice of variants
- Minimal space requirements and minimal assembly time
- Diameter: 12, 16, 20, 25, 32, 40, 50, 63, 80, 100 mm
- Stroke length: 10 ... 400 mm
- Force: 51 ... 4712 N
- Position sensing
- Fixed/adjustable cushioning



Vacuum suction cups ESS

- Suction cup with mounting thread
- Very robust
- Long service life, even under heavy loads
- Systematically more modular
- Diameter 2 ... 200 mm, 4 x 10 ... 30x90 mm
- Connection: external thread/internal thread
- Round and oval suction cup (with connection attachments)



Media valve VODA-LD77

- 2/2-way valve
- Soft seal and media separation
- High flow rate: perfectly suited to the distribution of cleaning fluids in flushing processes or for switching drop-off currents
- Switching time: 16 ms
- Temperature range: - medium: 5 ... 50 °C
- environment: 5 ... 50 °C
- Operating voltage: - 12 V DC
- 24 V DC



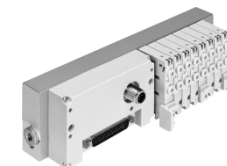
PTFE tube PTFEN

- TSE-free and resistant to cleaning agents
- Highly resistant to temperatures and pressure
- Tubing outside diameter/pneumat. connection: 4, 6, 8, 10, 12, 14, 16 mm
- Temperature-dependent operating pressure: -0.95 ... +12 bar
- Operating temperature: -20 ... +150°C
- Variety of types: 7 diameters



Proximity sensor CRSMT-8M

- Extremely robust and heavy-duty
- Quick, easy and stable installation
- Resistant to acids, alkali and cooling lubricants
- Degree of protection IP65, IP68 and IP69k
- Cable length up to 10 m
- Connection technology: M8 or M12 with rotatable thread; open end



Valve terminal VTOC

- Valve terminal for a wide range of pneumatic applications
- Operational safety and easy assembly
- Sturdy thanks to simple design
- Operating pressure: 0 ... 8 bar
- Valve function: 2x3/2, closed, single solenoid
- Max. no. of valve positions: 24
- Configurable manifold rails

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