

Bernoulli Vacuum End-Effector

mBV Series



Features

- different wafer sizes (6"/8")
- thin and warped wafer handling
- Bernoulli airflow and vacuum
- back side handling
- for loading and unloading of several mechatronic components
- applicable to flipping
- automated quick coupling

ASK FOR YOUR CUSTOMIZED SOLUTION!

Functional description

The Bernoulli vacuum end-effectors (mBV series) are designed for back side handling of thin-wafers, e.g. for handling from the cassette to the pre-aligner.

Bernoulli air-flow and vacuum is used one after the other: for flattening the warped wafer in the cassette a short burst of clean dry air (CDA) or nitrogen is applied to bring the wafer into the right position. Via vacuum the wafer is secured on the end-effector.

Loading	Automated
Wafer detection	Vacuum sensing
End-effector detection	Type and size
Centering accuracy (X, Y axis)	n.a.
Automated coupling	Optional
Materials	Stainless steel, anodized aluminum, PEEK, NBR
PEEK coating	Conductive or non conductive
Pneumatic	
Pneumatic media	CDA or N ₂
Supply pressure	2.5 - 4 bar
Optimum Bernoulli pressure	3.5 bar
Supply vacuum	-60 kPa

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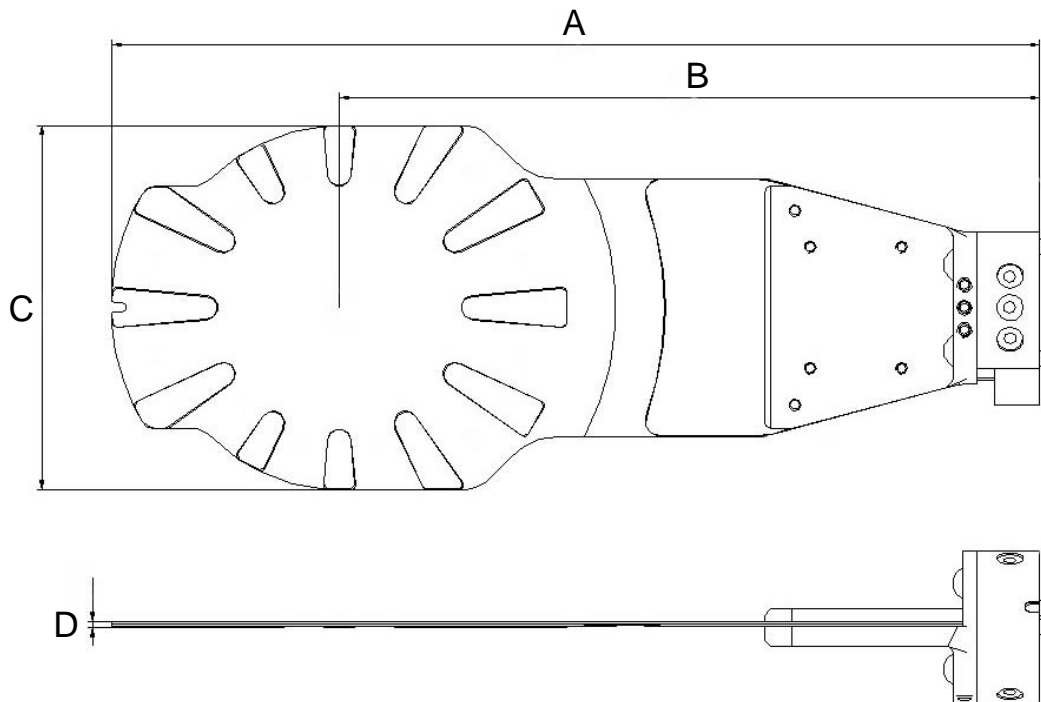
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mBV Types & wafer sizes

Type	mBV 150	mBV 200	mBV 300
Wafer size	150 mm (6")	200 mm (8")	300 mm (12")
Wafer thickness	> 50 µm (2 mil)	> 50 µm (2 mil)	n.a.
Warpage (depends on wafer thickness)	Up to 12 mm*	Up to 12 mm*	
Weight	500 g	600 g	
Mechanical dimensions in mm			
A (length)	305.5	323,3	
B (distance to wafer center)	230.5	232,3	
C (width of end-effector)	120	170	
D (height)	2.05	2.05	

Special customized designs available!

*planarization force must not exceed 4.5 N for 6"/8" wafers



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