

# Contactless End-Effector

## mCL Series



### Features

- different wafer sizes (6"/8"/12")
- thin and warped wafer handling
- contactless handling with Bernoulli airflow
- chip side and back side handling
- for loading and unloading of several mechatronic components
- automated quick coupling
- antistatic surface

**ASK FOR YOUR CUSTOMIZED SOLUTION!**

### Functional description

The contactless end-effectors (mCL series) are designed for contactless chip side & back side handling of thin-wafers e.g. out of and into a cassette.

The end-effectors use only Bernoulli airflow (no vacuum). The wafer is hovering on the air cushion 0.2 - 0.3 mm above or below the end-effector and is limited sideways by PEEK-elements.

Loading	Automated
Wafer detection	Capacitive sensing
End-effector detection	Type and size
Centering accuracy (X, Y axis)	± 0.1 mm
Automated coupling	Optional
Materials	Stainless steel, anodized aluminum, PEEK, NBR
PEEK coating	Conductive or non conductive
<b>Pneumatic</b>	
Pneumatic media	CDA or N <sub>2</sub>
Supply pressure	3 - 5 bar
Optimum Bernoulli pressure	4 bar
<b>Supply</b>	
Power supply	24 VDC for wafer detection

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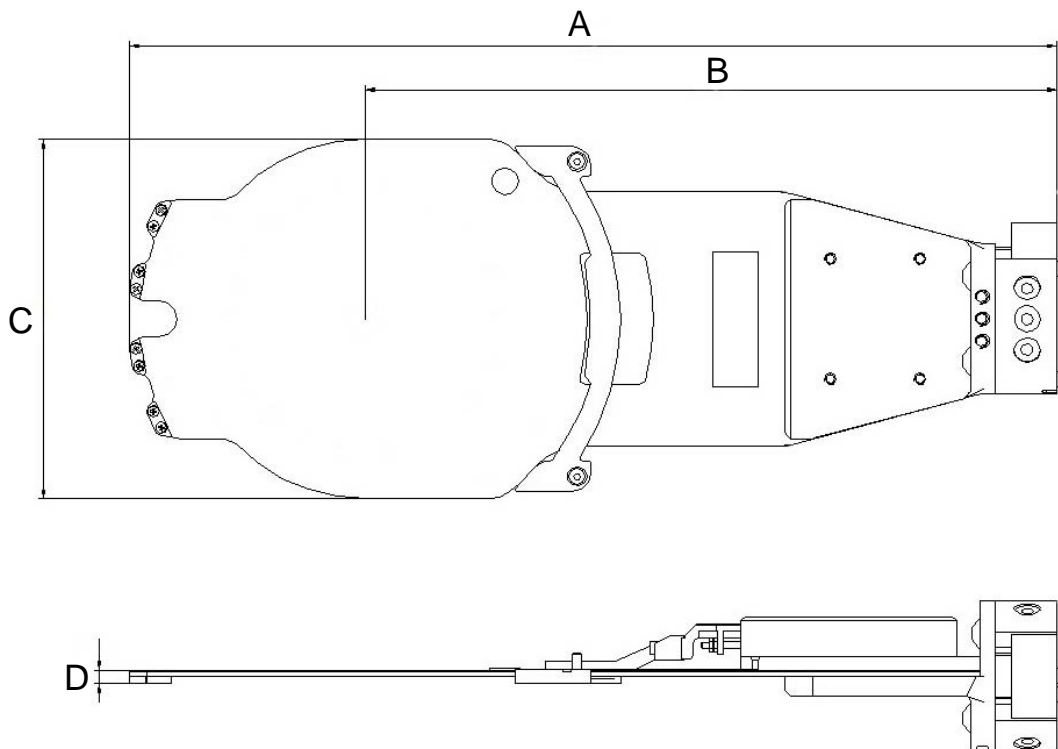
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## mCL Types & wafer sizes

Type	mCL 150	mCL 200	mCL 300
Wafer size	150 mm (6")	200 mm (8")	300 mm (12")
Wafer thickness	> 50 µm (2 mil)	> 50 µm (2 mil)	> 50 µm (2 mil)
Warpage (depends on wafer thickness)	Up to 12 mm*	Up to 12 mm*	< 8 mm
Weight	550 g	800 g	2100 g
<b>Mechanical dimensions in mm</b>			
A (length)	309.5	344.45	394
B (distance to wafer center)	230.6	245.6	245
C (width of end-effector)	120	170	276
D (height)	4.4	4.2	5.2

Special customized designs available!

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



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