

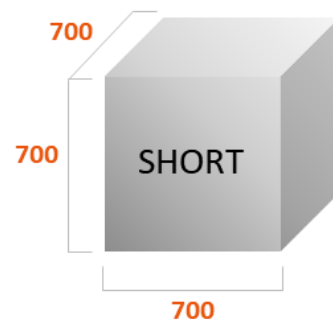


# Datasheet

## COMBO 1 Short

*with oscillation*

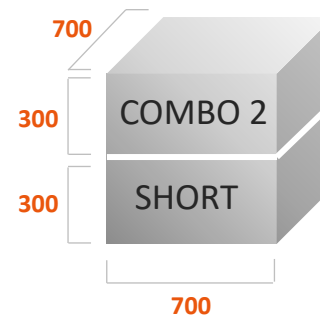
Usable space of basket:  
700 × 700 × 700 mm  
(W × D × H)



## COMBO 2 Short

*with oscillation*

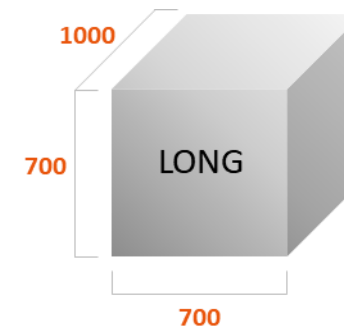
Usable space of basket:  
700 × 700 × 2×300 mm  
(W × D × H)



## COMBO 1 Long

*no oscillation*

Usable space of basket:  
700 × 1000 × 700 mm  
(W × D × H)



**HyperCLEAN II**

**Wash + Rinse (Tap/DI Water) + Drying**

**PROCESS DATA**

<b>Machine dimensions (W × L × H)</b>	1,600 × 2,500 × 2,200 mm
<b>Weight (without liquid, accessories)</b>	1,200 kg
<b>Machine noise level</b>	L <sub>Aeq</sub> <70 dB
<b>Power supply</b>	3/N/PE AC 400/230 V 50 Hz
	3/N/PE AC 400/230 V 60 Hz
<b>Input power</b>	32 kW
<b>Average power consumption per cycle</b>	
Using predefined "PCBA cleaning" program	
<b>Wash:</b> 22 minutes; Temperature 60 °C	
<b>1<sup>st</sup> Rinse:</b> 8 minutes; Temperature 40 °	6.5 kWh
<b>Drying:</b> 20 minutes; Temperature 110 °C	
<b>Total cycle time:</b> 50 minutes	
<b>Water consumption per cycle with partial rinse water exchange (Chemical Stop)</b>	approx. 20 L
<b>Water consumption per cycle with total rinse water exchange (Cascade)</b>	approx. 100 L
<b>Maximum authorized load COMBO Short</b>	50 kg per basket (incl. basket and clamping)
<b>Maximum authorized load COMBO Long</b>	100 kg per basket (incl. basket and clamping)

**ADJUSTABLE PARAMETERS**

<b>Wash, Rinse and Drying time</b>	Not limited
<b>Cleaning medium temperature</b>	up to 60 °C *
<b>Rinse water temperature</b>	up to 60 °C *
<b>Drying temperature</b>	up to 110 °C *
<b>Number of recipes (programs)</b>	Not limited

\* Minimal operating temperature depends on operating environment and other factors.

**LIQUID CONSUMPTION PER CYCLE**

<b>Wash</b>	75 ml
<b>1<sup>st</sup> Rinse (w/o Chemical Stop)</b>	185 ml

**TECHNOLOGICAL PARAMETERS**

<b>Volume of the storage tanks</b>	114 L
<b>COMBO 1 Short (60 Hz) pressure on nozzles</b>	
Wash	3.1–4.1 bar
1 <sup>st</sup> Rinse	3.1–4.1 bar
<b>COMBO 1 Long (50 Hz) pressure on nozzles</b>	
Wash	1.8–2.8 bar
1 <sup>st</sup> Rinse	1.8–2.8 bar

**Note:** The approximate values of pressure are mentioned. The real values can be slightly different depending on the tolerances of used components. These differences have no effect for cleaning process.

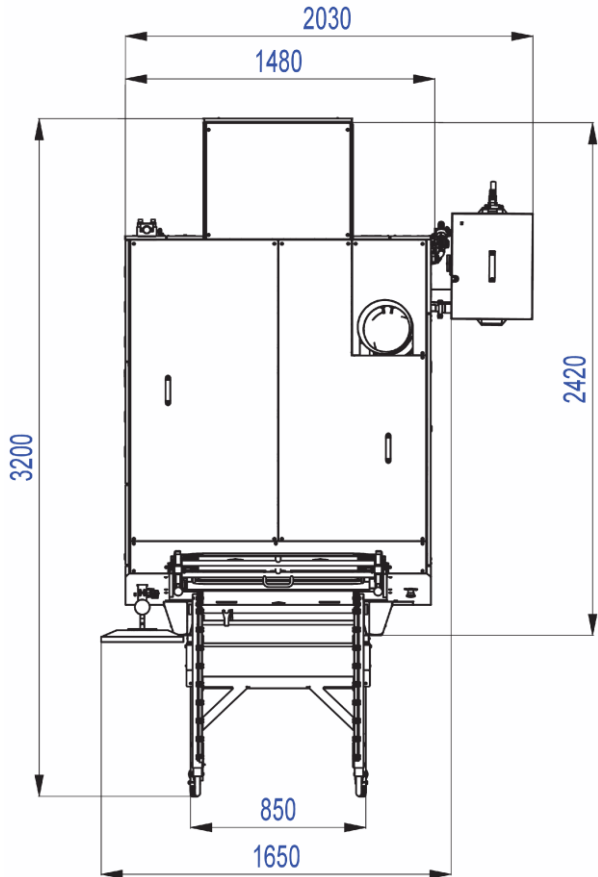
**CONNECTION**

<b>Mains electricity</b>	<p><b>Voltage:</b> 3/N/PE AC 400/230 V 50 Hz</p> <p><b>Voltage:</b> 3/N/PE AC 400/230 V 60 Hz</p> <p><b>Protection:</b> 63 A circuit breaker with “B” tripping characteristic</p> <p><b>Connection:</b> H07RN-F 5Gx16 CGSG (5-wires, cross-section 16 mm<sup>2</sup>, 63 A); max. 10 meters</p> <p><b>Type:</b> TN-S (L1-L2-L3-N-PE outputs)</p> <p><b>Power:</b> 32 kW</p>
<b>Isolation transformer</b> (Needed only for operations with power supply other than 400/230 V)	<p><b>Voltage:</b> 400/230 V</p> <p><b>Frequency:</b> 50/60 Hz</p> <p><b>Short-circuit protection:</b> as per transformer manufacturer specifications</p>
<b>Compressed air</b>	<p><b>Pressure:</b> 0.5–0.8 MPa</p> <p><b>Class of air quality:</b> 3.4.3 (according to ISO 8573-1)</p> <p><b>Connection:</b> SMC hose ø8 mm (outer diameter)</p> <p><b>Air consumption:</b> 600 L/hour (machines with oscillation mechanism)</p> <p><b>Pressure:</b> 1–5 bar</p>
<b>Water inlet</b>	<p><b>Flowrate:</b> max. 30 L/min</p> <p><b>Connection:</b> 1” hose</p>
<b>Wash tank discharge</b>	<b>Connection:</b> 1” hose + control valve
<b>Rinse tank discharge</b>	<b>Connection:</b> 1” hose + control valve
<b>Air exhaust</b>	<p><b>Capacity:</b> 1 300 m<sup>3</sup>/h</p> <p><b>Under-pressure:</b> 500 Pa (exhaust flap closed), 370 Pa (exhaust flap in operating position 45°)</p> <p><b>Connection:</b> hose ø225 mm (outer dimension)</p>

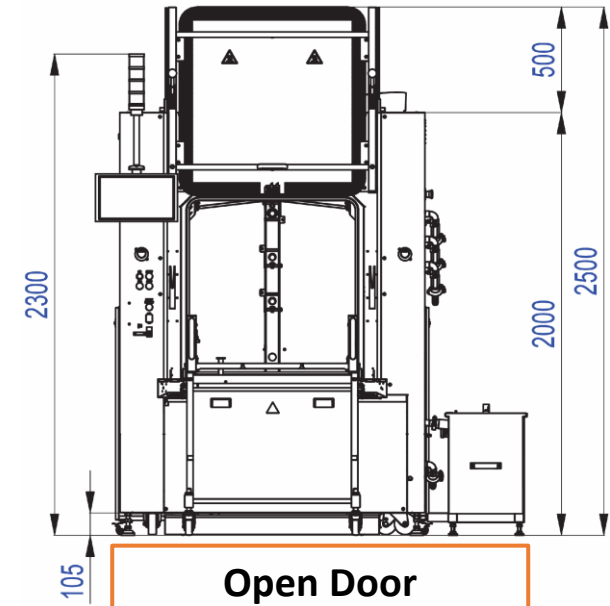
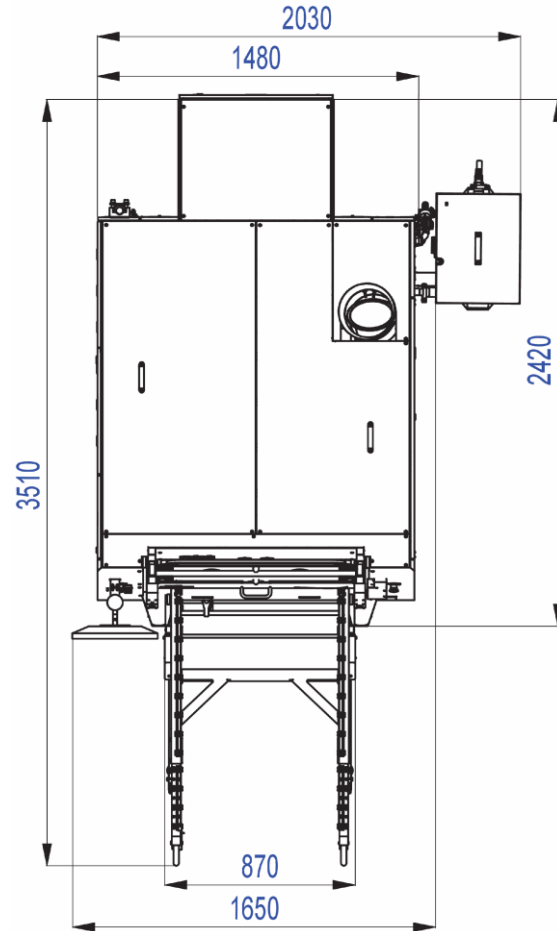
**REQUIRED SPACE AND MAINTENANCE AREA**

From the front min. 1,400 mm	Space for machine operation and maintenance (access to tanks with liquids)
From the right min. 700 mm	Access to door for maintenance
From the left min. 1,000 mm	Access area into switchboard (in accordance with IEC 60364-1:2005), main switch
From the rear min. 600 mm	Space for manipulation with filtration carts, machine maintenance (filter cartridges replacement, etc.)
From the above min. 700 mm	Space for opening the door – ceiling height 2,500 mm

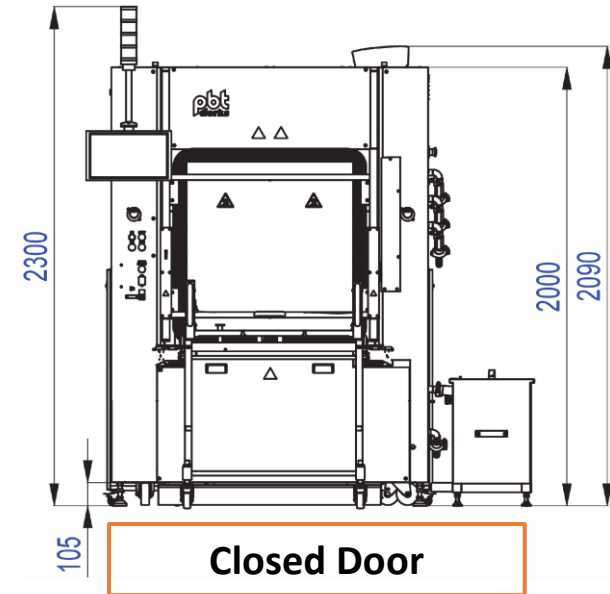
**HyperCLEAN II Short**



**HyperCLEAN II Long**



**Open Door**



**Closed Door**

