

## Specification

**Machine no. 1282**  
**Quotation No.: A6152**  
**Project No.: P12516**

### Horizontal line

**Developing - Line for Dryfilm (DF) / Soldermask with cleaning device** **approx. 0,7 m/min.**

#### A Process Data

- Processing speed: **approx. 0,7 m/min.**
- Treatment times: **(Chem. supplier)** **Actual**
- Module 2 Developing (~1% Natriumcarbonat Na<sub>2</sub>CO<sub>3</sub>)* **~60 sec** **58,29 sec**

#### B Mechanical Dimensions PCB

- Minimum panel size: 160 x 100 mm
- Maximum panel size: 650 x xxx mm
- Minimum core thickness: 0,3 mm
- Maximum core thickness: 10,0 mm
- Minimum hole diameter:
- Maximum aspect ratio:
- Panel type: rigid - one sided - double sided

#### C Capacity

- 100 % utilization @ max. working width and no panel gap: 27,30 m<sup>2</sup>/h
- 75 % utilization: 20,48 m<sup>2</sup>/h

#### D Mechanical Dimensions of the Machine

- Working width: 650 mm
- Working height: 900 mm, adjustable from 890 - 925 mm
- Running direction: left to right
- Space requirement:
- Total length in meter:* 2,8
- Total width:* ~1,7 m - plus service room
- Total height:* 1.25 m (4.10')

#### E General Technical Data

- Housing material: refer to module
- Metal parts: refer to module
- Lower conveyor rods: Carbon fibre
- Upper conveyor rods: Carbon fibre
- Immersion module: Standard
- Spray module: each 2<sup>nd</sup> rod
- Central exhaust pipe: Standard
- Central drainage: yes
- Thin core material guiding system: no
- Conveyor speed: 0,3 - 2,3 m/min. , adjustable
- Exhaust Volume ( Ø90 mm): approx.120 m<sup>3</sup>/h
- Exhaust Volume (Dryer): approx.720 m<sup>3</sup>/h
- Cooling water consumption @ 8° C (46.4° F) (for permanent max. cooling performance)
- and water pressure 1.0 bar ~ 600 l/h for each cooling coil
- resp. 1.5 bar ~ 780 l/h for each cooling coil
- Rinse water consumption: 20 l/h to 250 l/h, adjustable

#### F General Electrical Data

Anschrift:	Kommunikation:	Bankverbindungen:	Geschäftsführer / HRB:
Pill GmbH Industriestrasse 7 D-71549 Auenwald	Telefon: 0 71 91.35 52-0 Telefax: 0 71 91.35 52-35 E-Mail: info@pill-germany.com Internet: www.pill-germany.com	Kreissparkasse Waiblingen IBAN: DE28 6025 0010 0008 3820 05 Volksbank Backnang IBAN: DE21 6029 1120 0122 0350 03	Ust.-IdNr./VAT-IdNo.: DE 812578211 HRB 271469, Stuttgart Dietmar Seifert

- Electrical connection: According to local requirements
- Electrical consumption: approx. 15 kW
- Control voltage: 24 V DC
- Control system: conventional

**G Drawing-No.:** A11217a, F11217, AZ11217, SM11217

**Machine Configuration:**

<b>1</b>	<b><u>Inlet Module A/E 500 PVC</u></b>	<b>1,00</b>
-	Material: PVC-S/S	
-	Module length: 520 mm (20.47")	0,520
-	Lay-out length: 340 mm (13.39")	
-	Exhaust Socket, plumbed into central exhaust line	
-	Sloped Floor	
-	Bottom Drain	
-	Emergency stop button	
-	Support leg	
<b>1a</b>	<b>Conveyor motor with digital indication of the conveyor speed</b>	<b>1,00</b>
	<i>Developing I</i>	
<b>2</b>	<b><u>Process Module M-NH/E 800/6 PVC</u></b>	<b>1,00</b>
-	Material: PVC-S/S	
-	Module length: 820 mm (32.28")	0,820
-	Sprayed length: 680 mm (26.77")	
-	Tank capacity: 140 liters (36.13 US.gal.)	
-	Temperature: ~32 °C	
-	Drain valve (Ø 32 DN25)	
-	Safety overflow (Ø 40 DN32)	
-	2 Pairs of squeegee rollers EPDM (1 pair each at the inlet and outlet of the module)	
-	78 Flat jet spray nozzles with bayonet lock (39 pcs. each above and below the conveyor)	
-	12 Spray bars (6 spray bars each above and below the conveyor)	
-	1 Pump	
-	1 Coarse filter 0.8 mm in pump inlet pipe	
-	Spray pressure adjustable via ball valve	
-	1 Heaters à 3.15 kW	
-	Control for heater(s) with digital nominal/actual value display at the control cabinet	
-	Overtemperature protection	
-	Dry-run protection for pumps and heaters	
-	Transparent cover with safety switch	
-	Exhaust socket, plumbed into central exhaust line	
<b>2a</b>	<b>Oscillation spray manifold</b>	<b>1,00</b>
<b>2b</b>	<b>Cooling coil high performance S/S</b>	<b>1,00</b>
<b>2b.1</b>	<b>Control for cooling coil(s) in conjunction with control for heater(s)</b>	<b>1,00</b>
<b>2c</b>	<b>Sampling tap PVC</b>	<b>1,00</b>
<b>2d</b>	<b>Pressure gauge</b>	<b>2,00</b>

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<b>2e</b>	<b>Spray manifold split top/bottom</b>	<b>1,00</b>	
<b>2f</b>	<b>Tank PE 200 l with level monitoring max. (Dryfilm / Soldermask)</b>	<b>2,00</b>	
<b>2f.1</b>	<b>Pump out unit for developer solutions (Dryfilm / Soldermask)</b>	<b>1,00</b>	
	- pump out by means of air membran pump of the developer solution into individual holding tank pos.2f		
	- return filling of the develope solution in the process module pos.2 by means of two 3-way valves		
<b>3</b>	<b><u>Cascade Rinse Module SK/E 3-P3 PVC</u></b>	<b>1,00</b>	
	- Material: PVC-S/S		
	- Module length: 790 mm (31.10")		0,790
	- Sprayed length: 130 mm (5.12")		
	- Number of chambers: 3		
	- Tank capacity per chamber: approx. 50 liters (12.90 US.gal.)		
	- Temperature: room temperature		
	- Fresh water supply to the last chamber		
	- Flow meter with ball valve		
	- Solenoid valve brass		
	- Cascade overflow to preceding chamber		
	- 1 Drain valve (Ø 25 DN20) per chamber		
	- Rinse water overflow (Ø 50 DN40) in the first chamber		
	- 2 Pairs of squeegee rollers EPDM per chamber (1 pair each at the inlet and outlet of the chamber)		
	- 12 Flat jet spray nozzles with bayonet lock per chamber (6 pcs. each above and below the conveyor)		
	- 2 Spray bars per chamber (1 spray bar each above and below the conveyor)		
	- 1 Immersion pump per chamber		
	- 1 Inline filter at inlet of each spray bar		
	- Transparent cover with safety switch		
<b>4</b>	<b><u>Dryer Module T/E 200-7.5 PP-PD</u></b>	<b>1,00</b>	
	- Material: PP-S/S		
	- Module length: 235 mm (9.25")		0,235
	- Temperature: 70-80 °C (158-176 °F)		
	- 2 Pairs of squeegee rollers EPDM (1 pair each in front of and behind the fluid heads)		
	- 2 Special designed fluid heads for high efficiency drying (1 fluid head each above and below the conveyor)		
	- 1 Ring compressor 7.5 kW		
	- Coarse filter for inlet air		
	- Air Pressure with separate, independent adjustment above and below the conveyor via butterfly valves		
	- Overtemperature protection		
	- Transparent cover with safety switch		
	- Exhaust outlet Ø 160 mm		
	- Bottom drain		
	<b>Fine intake filter for blower 7,5 kW</b>	<b>1,00</b>	
<b>5</b>	<b><u>Outlet Module E/E 400 PP</u></b>	<b>1,00</b>	
	- Material: PP-S/S		
	- Module length: 435 mm (17.12")		0,435

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- Sloped Floor
- Bottom Drain

<b>5a</b>	<b>Sub construction for pos. 5 and pos. 4</b>	<b>1,00</b>		
<b>6</b>	<b>Control cabinet</b>	<b>1,00</b>		
	- Mechanical dimension of control cabinet: Length: 800 mm Depth: 500 mm Height: 1270 mm			
	- Connection cable between control cabinet and machine: 4 m (13.12')			
	<b>TOTAL PRICE - ex works Auenwald, without packing</b>	<b>1,00</b>	<b>0,00 €</b>	<b>2,800</b>
	<b>TOTAL LENGTH OF THE LINE</b>		<b>2,8 m</b>	

**OPTIONS**

<b>E</b>	<b>Central piping rinse water drain d50</b>	<b>2,8</b>
<b>F</b>	<b>Central piping city water supply d32</b>	<b>2,8</b>
<b>G</b>	<b>Central piping cooling water supply d32</b>	<b>2,8</b>
<b>H</b>	<b>Central piping cooling water drain d32</b>	<b>2,8</b>
<b>I</b>	<b>Central piping concentrate drain d40</b>	<b>2,8</b>
<b>J</b>	<b>Drip tray 2500 x 50 x 8, PE</b>	<b>2,8</b>

