

# BEIER MACHINERY CO., LTD

## PVC Dual Pipe Production Line

*Pipe Diameters:  $\Phi$  0.5"- 2.0"*



*(The pictures only for reference)*

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**North Second Ring Road and City Avenue intersection, Jiangsu prov., China.**

**Contact person:**

**Canada, U.S.A. & Mexico**



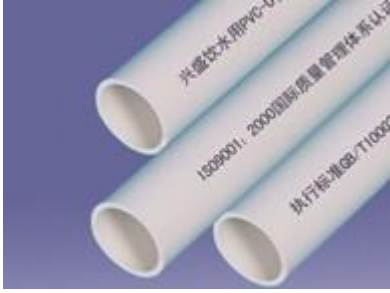
**Contact person: Fraser Reid**

**Tel: 773-234-3795 E-Mail: [Fraser@beieramerica.com](mailto:Fraser@beieramerica.com)**

Thank you very much for your inquiry. We are pleased to offer you the following based on our enclosed general terms and conditions of delivery and sale.

**1. Project evaluation: For the production of PVC pipe on a dual extrusion line.**

**1.1 General information:**

Raw material & formulation	PVC resin powder & CaCo3, lubricants, stabilizers, modifiers, pigments and antioxidants.
Melt capacity	For 1/2": 250-300kg/h For 2": 300-350kg/h Depending on the pipe dimension and the PVC compound used.
Central height:	1m
Machine color	Standard color: RAL7016 (Anthracite grey)  RAL9002 (Grey white) 
Product photo	

**1.2 Pipe specifications and size:**

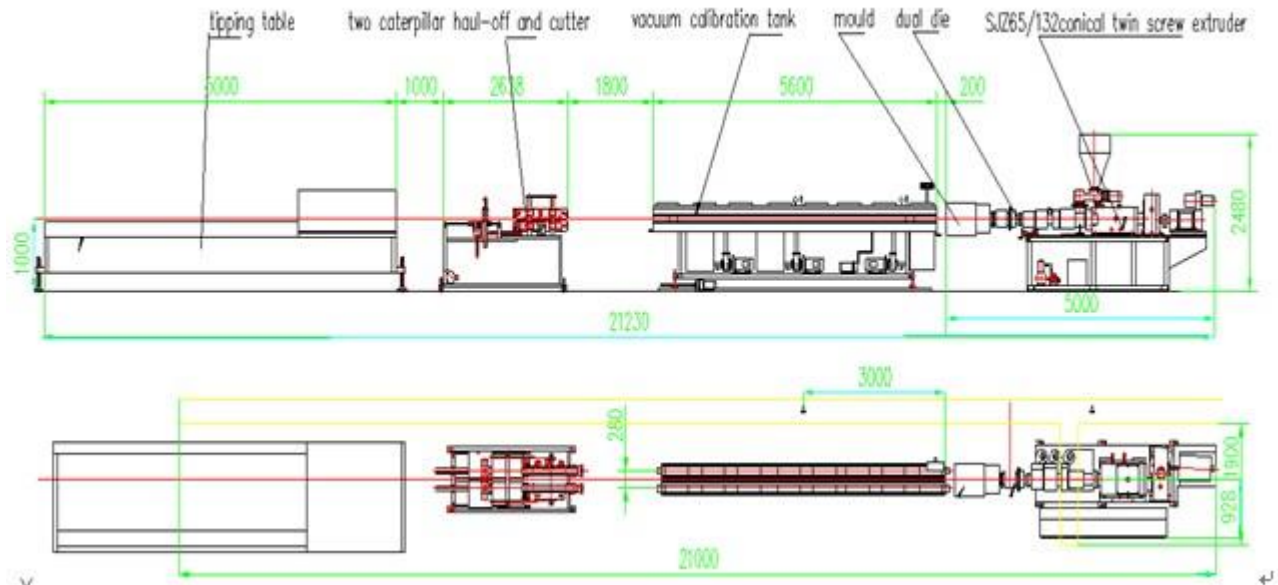
No.	O.D. (mm)	Thickness 1	Thickness 2
1	1/2"	0.109	0.147
2	3/4"	0.113	0.154
3	1"	0.133	0.179
4	1.1/4"	0.140	0.191
5	1.1/2"	0.145	0.200
6	2"	0.154	0.218

**1.3 Main commercial terms**

Project	0.5"- 2" PVC dual pipe production line
Prices in U.S. funds	<b>FOB Shanghai INCOTERMS 2000</b>
Payment terms	50% as down payment by W/T 50% by W/T before delivery and after inspection

Delivery time	90 days from the date of receiving a technically clarified order and the down payment
Packaging	Wood pallet covered by plastic film
Warranty period	13 months from the date of the bill of lading

**1.4 Flow line picture**



**1.5 Machinery list and prices:**

No.	Machine	Qty.	Prices (USD)
1	ZJF300 feeder for powder PVC compound	1 set	
2	SJZ65/132 conical twin-screw extruder	1 set	
3	Die head and calibration sleeves	1 set	
4	Vacuum calibration tank	1 set	
5	Haul-off and Uplift saw	1 set	
6	Tip table	1 set	
Price EX works INCOTERMS 2000			
Inland transportation cost to Shanghai port (40' container*1)			
Packaging cost			
<b>Total FOB Shanghai INCOTERMS 2000</b>			

**Remarks:**

Beier Machinery will set-up the complete extrusion line for testing, before shipment to the customer. All costs relating to the test materials and compounds are the responsibility of the customer.

**2.1 Technical data:**

**1. ZJF300 feeder**

Maximum capacity: 300kg/h  
 Maximum level conveying: 3M  
 Maximum vertical conveying: 2.8M  
 Motor power: 1.5kW  
 Spring diameter:  $\Phi 36\text{mm}$   
 Material hopper: Stainless steel



**2. SJZ65/132 conical twin-screw extruder**



**Screw:**

Diameter: Conical 65/132 mm  
 Material of the screws: 38CrMoAlA  
 Surface treatment: Nitride to a thickness of: 0.4~0,6mm; Polished  
 Rigidity: (HV)740-940  
 Surface finish:  $Ra \leq 0.8\mu\text{m}$   
 Maximum screw speed (counter rotating): 34.7 rpm

**Barrel:**

Inner treatment: Nitride to a thickness of: 0.4 ~ 0.7mm  
 Rigidity: (HV)940-1100  
 Inner surface finish:  $Ra \leq 1.6\mu\text{m}$   
 Heating zones: 4  
 Heating mode: Cast aluminum with stainless steel covers  
 Heating power: 22kW  
 Cooling mode: Air  
 Air fans: 3  
 Thermocouples: K type  
 Flange type: Confluence core

**Gearbox:**

Type: Vertical  
Rigidity: HRC 54-58/58-62(shaft)  
Gear material: 20CrMnTi

**Drive motor:**

Motor power: 37kW  
Type of motor: AC  
Brand: Wannan China/ Siemens-beide (Siemens China)

**Feed system:**

Gravity and screw dosing feeding system  
Hopper: Stainless steel (with level sensor)  
Motor: 0.75kW  
Feeding sleeve includes circulating water cooling

**Vacuum dehumidifying system:**

Vacuum pump: 1 unit  
Vacuum pump power: 1.5kW

**Adaptor: (Interflow Section):**

Material: #40steel, chrome plated, inner convergent flow type  
Connection method with the die: Clamping block + bolt  
Pressure melt sensors and thermocouples

**Electrical part suppliers:**

Inverters: ABB  
Contactors: Schneider or Siemens  
Air Switches: LG  
Relays: Omron  
Temperature controllers: Omron

**1) Includes all required safety guarding and electrical requirements including lockout through the door electrical shutoff switches.**

**2) Include UL approved electrical components**

**Self protective system:**

Over current protection of the motor  
Over pressure protection of the screws

**Maximum throughput rate for the extruder: Approximately 420kg/h**

### 3. Die-head and calibration sleeve



Single layer

Diameter specific: Inside and outside surfaces are chrome plated.

Die: 1 set

Heating ring for the die

Pins: 2 for each I.D.

Bushings: 2 for each O.D.

Calibration sleeves: 2 for each O.D.; Made of brass

Support: A simple die support

The maximum extrusion throughput rate for the die-head is 300-350kg/h, depending on the PVC compound formulation.

### 4. Vacuum calibration tank



**Tank:**

- Length: 6000mm
- Tank body: Stainless steel
- Wall thickness: 3mm
- Tank cover: Duralumin
- Spraying nozzles: 2 rows
- Sealing: Silica gel anti-friction panel and a Q235 galvanized panel
- Inner pipe support: Nylon rollers
- Water temperature control: Automatic control system
- Water level control: Stainless steel floating ball
- Vacuum gauge: 0.03-0.06Mpa

**Vacuum pumps:**

- Power: 1.5kW x 2 units

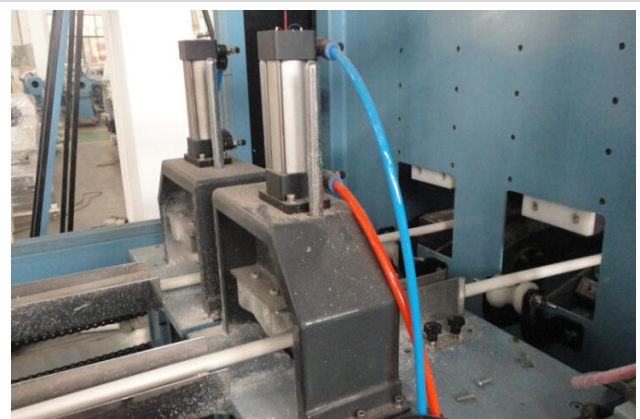
**Water pumps:**

- Power: 2.2kW x 2 units + 3kW x 2 units

**Three direction adjustment:**

- Forward and Backward: 0.55kW motor; Range:  $\pm 400$ mm
- Up and down and left and right: Manually adjusted; Range: Up and Down:  $\pm 50$ mm
- Left and right:  $\pm 50$ mm

**5. Combination Haul-off and uplift type saw**



Independent control system  
 Integrated haul-off and cutter

**Haul-off**

Type: Rubber belt (upper belts are flat, lower belts are grooved)  
 Effective haul-off length: 1000mm  
 Belt width: 80mm  
 Maximum hauling speed: 15m/min  
 Maximum traction force: 4500N x 2  
 Main motor: 3kW x 2 units, AC motors controlled by inverters  
 Speed control: Independent for each pipe.

**Uplift saw**

Combined with the haul-off system  
 Saw diameter: 300mm  
 Clamp: Aluminum half ring clamping  
 Motor power: 1.1kW x 2 units  
 Dust-collector power: 1.5kW

**Electric parts:**

Inverter: Hitachi

**Length detecting:**

Rotating encoder

**6. Tip table**

Length: 5,000mm  
 Length adjustment: Limit switch  
 Discharging: Pneumatic cylinder



**2.2. Spare parts (free of charge)**

No.	Name	Qty.	Used for
1	Big spanner (for the barrel)	1	Extruder
2	Oil seal for the high-speed axis of the gearbox	1	
3	Seals (for the cover)	10m	Vacuum tank and spray cooling tank
4	Sprayers	15	



5	Blade	1	Cutter
6	Air-pipe and T connector	Some	Cutter and tipping table
7	Small contactors	2	Electrical cabinet
8	Buttons and switches	2	
9	Intermediate relays	2	
10	Thermocouples	3	
11	Potentiometers	2	

**3.1 Work conditions:** Provided by the customer at the installation site

Warehouse/Workshop	Supply of cranes, fork-lifts or other lifting equipment. Mounting materials and tools. Dimension(M): 21(Length)x1.9(width)x2.48m(Height)
Temperature & Humidity	≤40°C, ≤95%
Power supply	460/3/60
Wire/cables/water:	Wires/cables: From the power supply to the control cabinet of this production line and all electrical cables from the control cabinet to each machine. Water: Supply water to the machines and reservoirs.
Cooling Water	Inflow temperature T1: ≤20°C, ≥0.3Mpa, ~15~16 M <sup>3</sup> /hr Outflow temperature T2: T1+5°C; Hardness: 5-8°dH;
Installation power	89kW Production power is approximately 80%
Compressor	0.3m <sup>3</sup> /min, 0.4Mpa-0.8Mpa
Ancillary staff	2 Persons

**3.2 Service**

<b>Technical documentation</b>	All the symbols on the equipment will be in English. BEIER is responsible for providing a general layout plan, electrical plan, installation orientation and a manual in English for the Buyer.
<b>Arrangements for inspection, installation and testing of the equipment</b>	a. After all the equipment is delivered to the customer's factory; the Buyer is responsible for all preparation work, e.g. electricity supply, water supply, cranes and labor, etc.

	<p><b>b.</b> BEIER will prepare visa applications for their engineers, who will review the equipment installation and testing at the Buyer's factory.</p> <p><b>c.</b> The Buyer will buy a round-trip air ticket for the engineer(s) after the visa application is approved. The Buyer is responsible for all expenses generated, e.g. visa application fees, meals, accommodation and an allowance of \$125.00 per day for each engineer.</p> <p><b>d.</b> The engineer(s) will provide free training for the operators and maintenance people in Buyer's factory.</p> <p><b>e.</b> If the Buyer does not request commissioning by BEIER's engineer(s) within four months from the date of the bill of lading, it will be accepted that all the equipment has been successfully tested and approved by the Buyer.</p>
<p><b>Quantity and quality guarantee</b></p>	<p>In the case of quantity discrepancies or damage to any of the equipment at the destination, the Buyer will file a claim within 30 days after the arrival of the goods at its destination. The insurance company and the shipping company will be responsible for all discrepancies and damage caused by the shipping company or other transportation companies.</p> <p><b>a. Guarantee period and after-sales services:</b> 13 months from the date of the bill of lading.</p> <p>During this guarantee period, BEIER will provide spare parts without charge in cases of quality discrepancies. If malfunctions are caused by the Buyer's improper equipment operation; BEIER will provide the Buyer with spare parts at cost prices.</p> <p><b>a. Long-term service:</b></p> <p>Beyond one year, BEIER will provide the Buyer with spare parts at reasonable prices and provide long-term technical guidance.</p>
<p><b>Validity</b></p>	<p>Three months from the quotation date.</p>

**We thank you for your inquiry**  
**Beier Machinery**