# PDI SQUIRT SHAPE 3D PRINTER

### Prosthetic Additive Fabrication

Operational since 2005, the PDI Squirt Shape<sup>TM</sup> 3D Printer is an additive manufacturing machine that is specialized for the field of Prosthetics. Create large and small prosthetic sockets, if it is cylindrical in design it can be printed with precision and speed.

# Strength

By using a continuous spiral printing technique, prints are able to be structurally sound and extremely durable. Utilizing PDI Printing Material ensures strength against the elements and any harsh chemicals as well.

# **Speed**

Extrude 10 times more material per minute than a typical fused deposition 3D printer.

| Approximate Print Times |             |
|-------------------------|-------------|
| Trans Tibial Socket     | 1 1/2 Hours |
| Trans Femoral Socket    | 2 1/2 Hours |





### **Clinical Success**

In 2009, PDI's sister company, Dayton Artificial Limb Clinic (DALC), began selectively fitting patients with PDI printed sockets. After observing a better fitting device and satisfied patients, DALC started fitting all patients to PDI printed sockets in 2013.

#### **Texture**

Due to the printing process, there is a natural texture that forms transverse ridges in the prints. The texture results in increased grip strength between the liner and socket inter-face, increasing the overall control of the socket. The socket control has been tested in the lab, and now is being tested clinically.



700 Harco Dr.
Englewood, OH 45315
Phone: (800) 459-0177
www.prostheticdesign.com

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**Technical Information** 

### **Physical Attributes (better phrase)**

Printer Size: 1.9 meters in Length, 0.76 meters Wide, and 1.98 meters Tall

Printer Stand: Leveling casters

### **Printing**

Print Technology: Fused Deposition

Print Volume Dimensions: radius - 165mm, Length - 600mm

Print Volume: 51,318 cm<sup>3</sup>

Connectivity: USB Flash Drive

Printer Heat Up Time:

Calculated XZA positional resolution: 0.01mm, 0.01mm,

### **Materials**

Supported Materials: PDI Copolymer Printing material

Material Type: Pellet

#### **Software**

Printer Controller: Mach3

Slicing Software: Limb Revolution

Supported File Types: .aop

## **Electrical**

Power Requirements: 220-240 VAC and 10Amps

Power Cable: NEMA L14-20P

Outlet: NEMA L14-20C (120/240 VAC)

