



## Benchtop Die Necker



(Model 43-B)

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## 1.0 List of Components

### Standard System Components

- 1) Benchtop Die Necker
- 2) Benchtop Die Necker Ship Kit
- 3) Power cord, U.S. version, 115 VAC
- 4) Air pressure supply line
- 5) User's Manual

### Optional Components

Brass Drawing Dies p/n 6445

## 2.0 General Description

The Beahm Designs Die Necker progressively reduces tubing diameter by means of a heated die. Tubing is manually drawn through the die to the desired length. The I.D. of the interchangeable dies controls the diameter of the neck tubing.

## 3.0 Controls

### 3.1 Front Panel Controls

- 3.1.1. Located on the front panel of the unit are:
- 3.1.2 System Power
- 3.1.3 Temperature Controller
- 3.1.4 Cooling Air Line
- 3.1.5 Cooling Air Flow Adjust
- 3.1.6 Cooling Air on/off toggle switch

### 3.2 Rear Panel Controls

- 3.2.1 Located on the rear panel of the unit are:
- 3.2.2 Power entry module
- 3.2.3 Industrial system air connection
- 3.2.4 System Fuse



## 3.0 Controls Continued

### **3.3 Installation**

- 3.3.1 When installing the system, follow the sequence listed below.
- 3.3.2 Make sure that the system power is in the off position.
- 3.3.3 Connect the system air extension line to 80—100 psi clean dry compressed air source.
- 3.3.4 Connect main AC power to the power entry module on the rear panel.

## 4.0 Parameter Setting

### **4.1 Cooling Air Flow Adjust**

Rotate the flow meter valve counter clockwise to increase cooling airflow, clockwise to decrease airflow.

### **4.2 Temperature Controller Setting**

- 4.2.1 Depress the up arrow key on the temperature controller to increase the temperature set-point depress the down arrow key to decrease the temperature set-point.
- 4.2.2 Release up or down arrow key when desired temperature is displayed in the upper read out.
- 4.2.3. The new setting will be accepted automatically after 2 seconds.

### **4.3 Auto-Tuning Instructions**

- 4.3.1 Switch main power on
- 4.3.2 Depress the page button until "TUNE LIST" appears in the display
- 4.3.3 Depress the scroll button until "ATUN" appears in the display
- 4.3.4 Depress the "UP" or "DOWN" arrow button twice to initiate tune sequence
- 4.3.5 Unit will resume normal operation automatically
- 4.3.6 For more details about Eurotherm Temperature Controller, see the manufacturers Instruction Manual in the back of this manual.

## 5.0 System Operation

### **5.1 Facilities Requirements**

110/120 v, 50/60 hz  
2-3 amps (220 watts)  
80-100 psi, clean dry compressed air



## 5.0 System Operation Continued

### 5.2 Safety Precaution

Die housing and drawing dies will become hot during operation and, depending on temperature set-point, can cause severe skin burns if contact occurs.

### 5.3 System Operation

- Switch main power on.
- Set die temperature on temperature controller by pressing the UP/Down arrow key once to display the set temperature, then again to change it.
- Pass end of tubing through the necking die and grasp at opposite side.
- Draw tubing through die at a speed that produces the desired tubing o.d.
- To aid in obtaining tubing diameter, position the cooling air nozzle near the exit of the drawing die and switch cooling air “on” as tubing is drawn through the die.

### 5.4 Die Tooling Change

#### **Required Tools and Equipment**

2 open end or similar wrenches

**Caution:** ensure that the die housing is cooled to within 15 degrees f of ambient temperature before proceeding with replacement

- Loosen the clamping nut and bolt located at the top and bottom of the heater housing.
- Remove the existing die from the housing and replace with alternate size die.
- Tighten the clamping nut and bolt until the die is secure in the housing.

## 6.0 Maintenance

### 6.1 Calibration

#### **Calibration Method:**

Calibrate every 12 months - Calibration procedures are carried out by certified services. Their procedures are derived from the N.I.S.T. (National Institute of Standards and Technology).

<http://www.nist.gov/index.html>

### 6.2 Replacement Parts List: (the below items are available through Beahm Designs)

<b>Description</b>	<b>P/N</b>	<b>Delivery</b>
Heater Cartridge	5018	1 week
Thermocouple	5071	1 week
Temperature Controller	2216 LH	2 weeks

## 7.0 Warranty Information

Beahm Bonders are backed by a 1 year warranty on parts and labor.

BDI will have no liability for any Product returned if BDI determines that:

- The asserted defect:
  1. is not present,
  2. is attributable to misuse, improper installation, alteration (including removing or obliterating labels and opening or removing external covers (unless authorized to do so by Beahm Designs), accident or mishandling while in the possession of someone other than Beahm Designs, Inc.
- The Product was not sold to you as new.

### Return Material Authorization (RMA)

No Product may be returned directly BDI without first contacting BDI for a Return Material Authorization ("RMA") number. If it is determined that the Product may be defective, you will be given an RMA number and instructions for Product return. End Users are required to include a copy of the RMA receipt inside the return box to receive replacement product under warranty. An unauthorized return, i.e. one for which an RMA number has not been issued, will be returned to you at your expense. To request an RMA, please call 408-871-2351 or email [stephany@beahmdesigns.com](mailto:stephany@beahmdesigns.com)



Die Necker 43-B

8.0 List of Drawings

8.1 43B Data Sheet



## Tube Reduction (Necking) Solutions

These bench-top systems are designed to draw down the outer diameter and/or inner diameter of single or multi-lumen catheter tubing on a variety of tubing sizes and materials, such as PE, PA, PTFE and PEEK. Common applications include: Catheter Shaft Neck Down, Heat Shrink Tubing Sizing, polymer tubing layering, and tubing jacketing (i.e. S.S. hypo tube shafts or wire braids with polymer tubing).

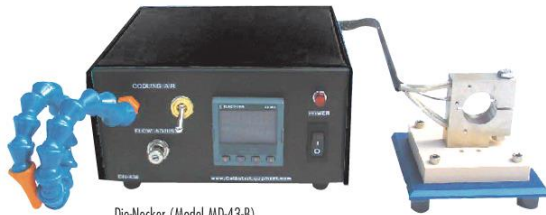


Auto-Necker  
(Model 830-B)

### Auto-Necker (Model 830-B)

#### USER BENEFITS:

- Highly repeatable diameter reductions
- Quick convenient die changes
- Accurate length control
- Accurate draw speed control



Die-Necker (Model MD-43-B)

### Die-Necker (Model MD-43-B)

#### USER BENEFITS:

- Simple, inexpensive neck-downs
- Thermocouple feedback heat control
- Easy die changes

"I first began using Beahm Designs equipment based on feature requirements and a reputation for reliability and value. Two years later, Beahm Designs has turned out to be one of my A List suppliers. Not only for their equipment, they're just truly a pleasure to work with. This company raises the bar!"  
—Process Engineer

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