

# Aldrich® Kugelrohr and Chemical Dryer Apparatus

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**Labware**



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# Aldrich® Kugelrohr Short-Path Distillation Apparatus

## Quickly Distills the Most Difficult Materials with Minimal Loss

The large air-bath oven and powerful drive train motor are housed within a single unit with a compact footprint that fits easily into fume hoods or on bench tops.

The oven door has a large glass viewing window and is hinged to open completely for easy access to glassware during setup and removal. Time, temperature, vacuum and drive train controls are located on the front splash-proof panel.

The oscillating motion of the drive train eliminates rotary seals that wear out and enables extremely high vacuum capability.



### Operational Overview

**Step 1.** Fill load flask one-third full with distillable material and connect flask support rod to drive train adapter inside oven. Connect load flask to a horizontal ball-tube flask outside oven.

**Step 2.** Connect straight tube adapter to ball-tube. Connect to cold trap with rubber tubing. Connect cold trap to vacuum source.

**Step 3.** Turn on Kugelrohr power switch and drive motor which rotates distillation train 270 degrees in an oscillating motion to speed distillation, assure even heating, and prevent bumping. Turn on vacuum pump (if plugged into back of Kugelrohr oven).

**Step 4.** Set timer and distillation temperature with the front panel keypad.

**Step 5.** Collect distillate in the horizontal ball-tube outside the oven. An ice-filled polypropylene cooling tray quickly condenses distillate. The adjustable cooling tray support accommodates larger baths or can be removed completely as necessary.



### Applications:

- Distilling heat-sensitive compounds
- Distilling liquids and low-melting solids from polymers and tars
- Removal of color and particulates
- Sublimation
- Drying and solvent removal

### Features:

- Distills up to 230 °C
- 25 mL to 2 L flask capacity
- High vacuum capability
- Safe, front loading design
- Precise thermocouple temperature control
- Oscillating drive train motor

### Specifications:

- Air-bath oven with insulated walls and Al/steel internal finish
- Oven capacity: flask sizes 25 mL to 2 L
- Temp range: ambient to 230 °C, 750 W power
- Built-in thermocouple and automatic temperature control
- Timer range: hours/minutes/sec up to 48 h
- Hinged front access door with glass viewing window
- Oven mounted oscillating drive motor, 270 degree sweep
- Chemically resistant powder epoxy exterior finish
- Front panel controls with splash-proof membrane
- Auxiliary receptacle and control for vacuum pump or equipment
- Adjustable shelf with polypropylene cooling tray
- PTFE bearings for 14/20 and 24/40 glassware joints
- Detachable power cord
- CE, RoHS and WEEE compliant
- Dim: 25 in. W x 11 in. D x 18 in. H (30 in. H with door open)

### Kugelrohr Distillation Apparatus (Glassware not included. Order separately.)

| Cat. No. | VAC | Amps | Hz    | Plug |
|----------|-----|------|-------|------|
| Z683477  | 120 | 10.0 | 60    | US   |
| Z683485  | 240 | 8.0  | 50/60 | Euro |
| Z683493  | 240 | 8.0  | 50/60 | UK   |

# Kugelrohr Glassware

## Kugelrohr Glassware Sets

| Cat. No. | Type     | Description                                                       |
|----------|----------|-------------------------------------------------------------------|
| Z748293  | Standard | 25,100 mL load flasks and bulb-tubes, straight tube, 14/20 joints |
| Z748307  | Large    | 1 L load flask and bulb-tube, one straight tube, 24/40 joints     |
| Z748315  | X-Large  | 2 L load flask and bulb-tube, one straight tube, 24/40 joints     |

## Kugelrohr Load Flasks

Robust glass rod enables connection of load flask to motor drive inside oven.

| Cat. No. | Capacity (mL) | Joint |
|----------|---------------|-------|
| Z748196  | 25            | 14/20 |
| Z748218  | 50            | 14/20 |
| Z748226  | 100           | 14/20 |
| Z748234  | 250           | 14/20 |
| Z748242  | 500           | 14/20 |

| Cat. No. | Capacity (mL) | Joint |
|----------|---------------|-------|
| Z748250  | 250           | 24/40 |
| Z748269  | 500           | 24/40 |
| Z748277  | 1,000         | 24/40 |
| Z748285  | 2,000         | 24/40 |



## Kugelrohr Single-bulb Ball Tubes

Arranged horizontally outside of Kugelrohr oven to cool and collect distillate with minimal loss of material.

| Cat. No. | Capacity (mL) | Joint |
|----------|---------------|-------|
| Z100560  | 10            | 14/20 |
| Z100579  | 25            | 14/20 |
| Z100587  | 50            | 14/20 |
| Z100595  | 100           | 14/20 |
| Z100609  | 250           | 14/20 |
| Z100617  | 500           | 14/20 |

| Cat. No. | Capacity (mL) | Joint |
|----------|---------------|-------|
| Z101915  | 250           | 24/40 |
| Z101923  | 500           | 24/40 |
| Z101931  | 1,000         | 24/40 |
| Z174300  | 2,000         | 24/40 |



## Kugelrohr Straight Tubes

Provides a joint to single-bulb ball tube and hose barb to vacuum source.

| Cat. No. | Joint |
|----------|-------|
| Z100528  | 14/20 |
| Z119083  | 24/40 |



## Closing Cap for Male Joint

| Cat. No. | Joint |
|----------|-------|
| Z100625  | 14/20 |



## Replacement PTFE Bearing Sets

| Cat. No. | Description                         |
|----------|-------------------------------------|
| Z748323  | One each for 14/20 and 24/40 joints |

# Aldrich® Chemical Dryer

## Dries Samples Using Heat, Vacuum, and Desiccant

Precise digital control simultaneously displays both “set” and “actual” temperatures from ambient to 230 °C. A built-in thermocouple automatically maintains selected temperature.

The oven features a precision machined aluminium heating block with a borosilicate glass sample-viewing port and an integrated safety guard to prevent touching hot parts. The glass drying tube is protected within the enclosed heating block and is safely contained in the event of accidental breakage. The modular design permits the removal and storage of dried samples in sealed drying tubes. This enables rapid sample processing in succession for servicing multiple users.



### Specifications:

#### Accuracy

- Temperature range: ambient to 230 °C
- Calibration accuracy: 0.1% of span
- Temperature stability: 0.2 °F / °F rise in ambient maximum
- Voltage stability: 0.01% of span / % of rated line voltage

#### Power

- 50/60 Hz 5%
- Data retention upon power failure via non-volatile memory
- Detachable power cord
- CE compliant

#### Operating Environment

- 32 to 149 °F / 0 to 65 °C; 0 to 90% RH, non-condensing

**Aldrich Chemical Dryer** (Glass Drying Tube Assembly not included. Order separately.)

| Cat. No. | VAC | Amps | Hz    | Plug |
|----------|-----|------|-------|------|
| Z683507  | 120 | 2.0  | 60    | US   |
| Z683515  | 240 | 2.0  | 50/60 | Euro |
| Z683523  | 240 | 2.0  | 50/60 | UK   |

### Glass Drying Tube Assembly

| Cat. No. | Description |
|----------|-------------|
| Z222712  | Complete    |
| Z222720  | Tube only   |
| Z222739  | Bulb only   |



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