

**Welch®**  
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**Accessories For Rotary Evaporator Pumps**  
**Catalog Page 8**

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# Accessories For Rotary Evaporator Pumps

## Distillation Controller for Rotary Evaporator



“Did you know that coupling a controller with a dry ice condenser assembly allows solvent recovery of > 99%?”

- ① Vacuum control to  $\pm 1$  Torr
- ② 3 position control switch
- ③ No mercury, 100% solid state

### Automatic Vacuum Controller

The automatic vacuum controller (AVC) is an economical, easy-to-use solid state device for controlling vacuum level in any brand of rotary evaporator. The controller maintains a selected set-point with a digital read-out of the pressure in Torr (mm Hg). Vacuum level may be set from 1 Torr to atmospheric pressure. The vacuum controller is compatible with any vacuum source from a water aspirator, PTFE diaphragm pump, house vacuum or oil-sealed rotary vane pump.

The controller consists of three key components all located within the controller housing.

- **Stainless steel pressure sensor** – measures the pressure in the rotary evaporator.
- **Process controller** – compares reading from the sensor with the pressure set point entered.
- **Stainless steel solenoid control valve** – controller signals valve to open above pressure set point and close.

The controller is easy to set up. First, connect the vacuum source to the hose connector 1/4 in. (7mm) I.D. marked inlet and then connect the rotary evaporator to the 1/4 in. (7 mm) I.D. hose connector marked outlet. Set-up is now complete.<sup>1</sup> Dimensions: 8.75" L x 5.4" W x 3.6" H (22.2 x 13.7 x 9.1 cm). Weight: 3.2 lbs. (1.5 kg).

### Computer Controlled AVC

The controller is available with a built in serial communication card (RS232) for data logging and control from a remote PC. Windows software (cat. no. 1710A) is needed to run the vacuum pressure display, logging and remote control from a PC.

CAT. NO.	DESCRIPTION <sup>1</sup>
1600B-01	AVC Distillation Controller, 115V, 60Hz
1620B-01	AVC Distillation Controller with built in serial communication card, 115V, 60Hz
1710A	Required with Model 1620, Windows software for vacuum pressure display, logging and remote control

## Dry Ice Condenser for Improved Solvent recovery



1420H-16<sup>1</sup>

### Glass Secondary Cold Trap

The controller coupled with a dry ice condenser assembly (or using a secondary dry ice trap with a tap-water-cooled condenser) allows solvent recoveries of > 99% in the receiving flask for low to high boiling solvents.

CAT. NO.	DESCRIPTION <sup>1</sup>
1420H-16	Glass secondary cold trap, accepts 1/4 in. (7mm) ID hose, 1L round bottom flask

Note: 1. If a dry ice condenser is not used with the rotary evaporator, a secondary dry ice cold trap is recommended. The cold trap prolongs the life of both the vacuum controller and the pump. Dry ice trap cat. no. 1420H-16 comes without ring stand. Mounts to scaffolding or stand.

### Typical Solvent Recovery Efficiencies with Dry Ice Condenser<sup>2</sup>

Solvent <sup>1</sup>	Pressure, Torr	Bath Temp., °C	Solvent Recovery
Ether	475	30	> 99%
Methylene Chloride	300	30	> 99%
Ethyl Acetate	90	35	> 99%
Toluene	50	50	> 99%

Note: 2. Solvent sample sizes are between 200 to 450 grams and are taken to dryness.