

Digital Vacuum Regulator

Features: * No Mercury

- 100% digital pressure entry and control
- Wetted parts are 100% stainless steel and Teflon
- Vacuum ramping feature eliminates *bumping*
- USB port and free software for PC control

Resists:

- All organic solvents
- Acids
- Bases
- Water

The Digital Vacuum Regulator is an ideal instrument for laboratory vacuum regulation. Connect the regulator to any vacuum pump or vacuum source and then to any piece of equipment to regulate pressure in most cases to ± 1 torr. A pressure ramp feature (standard) evacuates equipment at a user defined rate to eliminate bumping due to solvent degassing or over-evacuation. The vacuum regulator is ideally suited for large volume distillations, rotary evaporators and vacuum chambers. The DVR-200 is not recommended for small volume distillations or applications which involve a continuous purge with gas. These are better performed by J-KEM's Precision Vacuum Regulator, the DVR-1000.

Recover > 99% of solvent from rotary evaporators

Solvent	DVR Pressure (mm Hg)	Solvent Volume	Time to Dryness	Percent Recovery
Ether	475 torr	340 mL	14.6 min	99.6%
CH ₂ Cl ₂	300 torr	360 mL	21.9 min	99.8%
CH ₂ Cl ₂	100 torr	255 mL	5.9 min	99.5%
EtOAc	90 torr	316 mL	17.0 min	99.9%
Toluene	50 torr	273 mL	15.7 min	99.4%

A Note About Quality

J-KEM uses the highest quality components available. For example, most vacuum controllers use a silicone filled vacuum transducer (because they cost less), but J-KEM uses a stainless steel diaphragm transducer. Also, rather than a standard vacuum valve with Viton seals, J-KEM uses a custom stainless steel valve with Teflon seals. These, and other enhancements provide the chemical resistance needed in chemistry laboratories.



Two Styles of Regulator to Choose From

DVR-200

The DVR-200 is designed for continuous vacuum sources, such as oil-filled vacuum pumps, aspirators, or systems that are "always on", like in-house vacuum systems. The DVR-200 regulates pressure by opening and closing a valve that separates the vacuum source from the system being evacuated. In most cases, the DVR-200 is the best choice.

DVR-280

The DVR-280 is designed for use with diaphragm vacuum pumps. In some systems, pressure is regulated by turning on and off the vacuum pump itself. The DVR-280 extends the life of diaphragm pumps by not exposing the diaphragm to full vacuum pressures when starting, which increases pump life by 100%.

NEW!! USB +
Free KEM-Net software. (see p. 37)

Digital Vacuum Regulators and Monitors		
Description	Cat #	Price
Vacuum Regulator, Model DVR-200. Includes built-in SS transducer. 120V	DVR-200	\$1175.00
Vacuum Regulator, Model DVR-300. Same as DVR-200 but for 230V. CE Approved.	DVR-300	1195.00
Vacuum Regulator, Model DVR-280. SS transducer and pump controller. 120V	DVR-280	1280.00
Vacuum Regulator, Model DVR-380. Same as DVR-280 but for 230V. CE Approved.	DVR-380	1295.00
Vacuum Regulator with large capacity valve for large volume equipment.	Call	1560.00
Digital Vacuum Monitor. Continuous display of system pressure, no regulation. 120V	DVM-100	920.00
Digital Vacuum Monitor. Same as DVM-100 but for 230V. CE Approved.	DVM-140	940.00
Vacuum Regulator Accessories		
Stainless Steel Needle Valve. Improves regulation in small pieces of equipment.	DVR-PNV	\$108.50
Analog pressure output. External 0-20 mV analog output. Useful for data logging.	DVR-JH	95.00
Condenser body for dry ice condenser. 35/25 joint.	JCE-1000	268.00
Condenser receiving flask. 1000 mL flask with 35/25 joint.	MTE-1000	65.00
Condenser receiving flask. 2000 mL flask with 35/25 joint.	MTE-2000	72.00

Specifications: 120 & 230 Vac @ 100 watts. Vacuum fittings: 1/8" NPTM. Dim. 3.4" x 5.4" x 7.4" (HxWxD)

* Academic discounts. Warranty: Electronics: 2 yr; transducer and vacuum valve: 6 mo., but void if due to chemical buildup.



Dry ice trap
JCE-1000

Precision Vacuum & Pressure Regulators



0.1 Torr Regulation - No Mercury

J-KEM's computer (built-in) controlled vacuum and pressure regulators maintain pressure to 0.1 torr in test instruments with volumes as small as 1 mL. Built from J-KEM's Infinity Computer, this series of instruments can be customized to automate virtually any laboratory or quality control task involving the regulation of vacuum or pressure. The DVR-1000 regulates vacuums, the DPR-1100 regulates positive pressures, and the DDR-1200 regulates both vacuum and positive pressures.

Precise regulation of ± 0.1 torr of volumes as small as 1 mL

- Perfect for vacuum distillations
- Automatically compensates for leaks in the equipment under test
- Maintains constant precise pressure, even in systems with a continuous gas purge

Standard Features:

- 16-Step programmable pressure ramp
- Serial communication for PC control and logging

Custom Features:

- Custom programming to meet any research requirement
- Add a temperature control channel.
- Add User programmable digital and analog inputs and outputs
- Use the built-in Infinity computer to automate a complex test sequence or any process involving pressure control

Precision Vacuum and Pressure Regulators

Description	Cat #	Price
Digital Vacuum Regulator. Precise regulation of vacuum pressures in the range of 0.1 to 760.0 torr (atm pressure). Requires the selection of one PSV valve (below)	DVR-1000	\$2980.00
Digital Pressure Regulator. Precise regulation of positive pressures in the range of 0 psi (atm pressure) to 50 psi. The maximum pressure of the controller is user selectable. Replace the '#' in 'DPR-1100-#' with the selected maximum pressure. Ranges: 1, 5, 15, 30, 50 psi. Requires the selection of one PSV valve (below). Gage transducer is standard, but absolute is available on request.	DPR-1100-#	3145.00
Dual Range Vacuum & Pressure Regulator. Precisely controls both vacuum and positive pressures. The DDR-1200 is built with a dual range pressure transducer capable of accurately measuring pressures from full vacuum to the pressure limit of the transducer selected. The maximum pressure of the controller is user selectable. Replace the '#' in 'DDR-1200-#' with the selected maximum pressure above ATM. Ranges: 15 and 35 psi. Requires the selection of <u>two</u> PSV valves (below), one for vacuum and one for pressure regulation. Contains an absolute pressure transducer.	DDR-1200-#	3615.00
Back-Fill Option. The DVR-1000 and DPR-1100 can be equipped to operate a second valve used to back fill the evacuated or pressurized reactor. Requires the selection of a second PSV valve (below).	OPT-DV	220.00

Stainless Steel Proportioning Valves

The optimal PSV value depends on the exact conditions of the procedure. The volume guides below are helpful for closed systems. For applications with a continuous purge of gas, call J-KEM for assistance.

Proportioning Valve. Microflow proportioning valves, call to discuss your application.	PSV-Micro	Call
Proportioning Valve. For reactor volumes: 1 mL to 2 L Cv: 0.033 Orifice: 0.040"	PSV-2	\$485.00
Proportioning Valve. For reactor volumes: 25 mL to 4 L Cv: 0.055 Orifice: 0.055"	PSV-3	485.00
Proportioning Valve. For reactor volumes: 100mL to 22L Cv: 0.068 Orifice: 0.063"	PSV-4	485.00
Proportioning Valve. For reactor volumes: 1 L to 50 L. Cv: 0.12 Orifice: 0.093"	PSV-5	485.00
Proportioning Valve. Large capacity valve. Cv: 0.37 Orifice: 0.147"	PSV-5TEK	987.00
Proportioning Valve. Large capacity valve. Cv: 0.7 Orifice: 0.234"	PSV-6	1097.00
Proportioning Valve. Large capacity valve. Cv: 1.3 Orifice: 0.316"	PSV-7	1097.00
Proportioning Valve. Large capacity valve. Cv: 2.0 Orifice: 0.375"	PSV-8	1097.00

Specifications:

Transducer

Diaphragm: Stainless steel

Accuracy: DVR-1000: 0.1%
DPR-1100: 0.25%
DDR-1200: 0.25%

Proof Pressure: 200%

Controller

Regulation: 0.015% of range

Resolution: 0.1 torr or 0.01 psi

Vapor Path Materials:
Stainless steel and Teflon

Ramp Rates:
100 torr/sec to 0.1 torr/hr.

Serial Communications: RS232
(RS485 or USB on request)

Power: 100 watts.

Fittings

1/4" SS Compression fittings

Warranty:

Electronics: 2 years.

Transducer and proportioning valve is 6 mo. but void if failure is due to chemical buildup.