

# MARK V PROVIS™

## SPECIFICATIONS

Medrad® reserves the right to change product designs and specifications at any time in the continuing effort to improve their products. The following specifications refer to new units operating at room temperature (approximately 70 degrees F or 21 degrees C).

### INJECTOR HEAD

Load Speed	Forward or reverse 5-10 ml/sec.
Syringe Heater	37° C (98° F) nominal
Syringes	Disposable: 60 ml, 150 ml or 200 ml
Automatic Mechanical Stop	Automatically sets higher than the selected volume before each injection: 1.5 ml with a 60 ml syringe 2.5 ml with a 150 ml syringe 4.0 ml with a 200 ml syringe

### WEIGHT

Pedestal System (total)	213 lbs (97 kg)
Injector Head	21.5 lbs (9,8 kg)
Pedestal System (without head)	191.5 lbs (87,2 kg)
Control Room Console (excluding head)	45 lbs (20,4 kg)
Remote Control Panel (without cable)	10.5 lbs (4,8 kg)

### POWER REQUIREMENTS

Available:

95-105 VAC, 50 or 60 Hz, 8 A typical 10 amp max
105-120 VAC, 50 or 60 Hz, 8 A typical 10 amp max
120-125 VAC, 50 or 60 Hz, 8 A typical 10 amp max
190-210 VAC, 50 or 60 Hz, 4 A typical 5 amp max
210-240 VAC, 50 or 60 Hz, 4 A typical 5 amp max
240-250 VAC, 50 or 60 Hz, 4 A typical 5 amp max
(Typically defined at 15 ml/s with pressure of 600 psi)

### ELECTRICAL LEAKAGE

Earth	<100 microamps at 120 VAC <300 microamps at 240 VAC
Chassis	<100 microamps
Patient	<10 microamps
	Protection Against Electrical Shock <i>Per EN 60601-1, designated as Class 1 equipment with CF applied parts</i>
	EMI/RFI <i>Classified as Group 1, Class B equipment per EN 60601-1-2</i>

### CORD LENGTHS

11 ft (3,3 m)	Power Cord Rack Mount
15 ft (4,6 m)	Pedestals
25 ft (7,6 m)	Film Changer Extension Cable RMC 100 I
25 ft (7,6 m)	Auxillary Handswitch and Cable KMA 550IR
25 ft (7,6 m)	Handswitch with Coiled Cable RPA 550IR
	Injector Head Cable
	-7 ft (2,13 m) pedestal std.
	-10 ft (3,05 m) Rack Mount std. in Americas/Asia
	-15 ft (4,6 m) std. in Europe and Japan

### INJECTOR

#### Flow Rate

<i>Syringe Size:</i>	60 ml syringe
<i>Flow Rate:</i>	0.3 to 10 ml/s, ml/min, ml/hr in 0.1 increments 10 to 20 ml/s, in 1 ml increments 10 to 59 ml/min, ml/hr in 1 ml increments

<i>Syringe Size:</i>	150 ml and 200 ml syringes
<i>Flow Rate:</i>	0.3 to 10 ml/s, ml/min, ml/hr in 0.1 increments 10 to 50 ml/s in 1 ml increments 10 to 59 ml/min, ml/hr in 1 ml increments

<b>Accuracy</b>	± 5% and ± .25 ml/s and ml/min ± 10% and ± .25 ml/hr
-----------------	---

#### Rise/Fall Time

<b>Flow Rate</b>	0.0 to 9.9 secs in 0.1 s increments
------------------	-------------------------------------

#### Volume

Maximum programmable Volume is limited only by syringe capacity. Minimum programmable Volume: 60 ml syringe 0.5 ml minimum, 150 ml and 200 ml syringe 1.0 ml minimum 0.1 ml increments with either syringe size.

**Pressure Limit** In ml/s Flow scale, Pressure can be set to the following limits:

60 ml syringe	150 ml syringe	200 ml syringe
100-1100 psi	100-1200 psi	100-1000 psi
6-75 ATU (bar)	6-82 ATU (bar)	6-68 ATU (bar)
7-77 kg/sq cm	7-84 kg/sq cm	7-70 kg/sq cm
689-7584 kPa	689-8274 kPa	689-6895 kPa

Pressure can be selected in increments of 1 for any scale (1 psi, 1 ATU (bar), etc.)

In ml/min or ml/hr Flow scales, the maximum selectable Pressure is:

700 psi
48 atu (bar)
49 kg/sq. cm
4826 Kpa

<b>Delay Timer</b>	0-99.9 seconds in increments of 0.1 second
--------------------	--

<b>X-Ray Control</b>	Pair of normally-open isolated contacts rated to switch 10 A maximum at 28 VDC
----------------------	--

#### Program Control

<b>Control</b>	Up to 49 Single-Level injections, or 33 Multiple-Level injections
----------------	---

<b>Level Control</b>	Up to 4 levels (Flow Rate and Volume changes) per injection (single Flow scale only).
----------------------	---

# MEDRAD®

*The only source for Medrad Engineering, Medrad Quality, Medrad Service and Medrad Support.*

**Medrad, Inc.  
Corporate Office**

One Medrad Drive  
Indianola, PA 15051-0780 U.S.A.

Telephone: (412) 767-2400  
FAX: (412) 767-4128

**Web Site Address:**  
[www.medrad.com](http://www.medrad.com)

MKVPV SPEC NA 200112



Medrad is dedicated to continually improving the quality of all our products and services such that our customers' satisfaction, loyalty, and respect are unsurpassed. It is our policy to clearly understand and agree upon the valid requirements of the work we perform for our customers, both internal and external, and to pursue 100% conformance to those requirements...on time, every time.

Medrad reserves the right to modify the specifications and features described herein, or discontinue manufacture of the product described at any time without prior notice or obligation. Please contact your authorized Medrad representative for the most current information.

***Medrad, Inc. is EN-ISO 9001/EN 46001 Certified***

*Medrad, Quality for Life, Q and design are federally registered trademarks and Mark V ProVis is a trademark of Medrad, Inc. U.S.A.*

Printed in U.S.A.

©2000 Medrad, Inc. All Rights Reserved