



V&P SCIENTIFIC, INC.



*Innovators in Liquid Handling,
Arraying and Mixing*

**OPERATION AND CARE MANUAL
FOR THE V&P SCIENTIFIC
710SM SMART MOTOR MAGNETIC STIRRER**

11/03/2005
US Patent #6,176,609)

TABLE OF CONTENTS

INITIAL SETUP ----- 3

CAUTIONS ----- 3

OPERATION ----- 3-4

TABLE 1 ----- 5

WARRANTY----- 5

ANIMATICS SPECS AND WARRANTY----- 6-12

INITIAL SETUP

CAUTION!!!!

Be advised that the V&P Magnetic Cylinders have a very strong magnetic field.

People with pacemakers should not get closer than 18 inches to the magnetic cylinder. Remove all magnetic influenced tools and objects from the immediate area to prevent them from being pulled onto the magnets or from striking people as they are pulled onto the magnets. Keep credit cards, watches and other magnetic sensitive items at least 6 inches from the Magnetic Cylinders.

1. Carefully remove internal packing and plastic wrapping material. Keep the Magnetic Cylinders at least 36 inches from each other if not secured to the deck.
2. Connect power cord into transformer box. Connect 2 pin prong DC cord into transformer box. Connect 5 pin 2 hole plug into smart motor. Connect the RS232 plug on the cable harness to your computer's serial port and tighten attachment screws. This is by default usually com1. See attached drawing on page 5.
4. Connect the power supply to a 115 V outlet.
5. Turn on the power supply. The motor has a program already programmed into it, to stir at a medium speed.

OPERATION

SOFTWARE INSTALLATION:

Exit all programs on the computer. Insert the V&P Scientific/Animatics CD into the drive. Installation of the Animatics control program should start automatically. If the program fails to automatically launch, then browse to your CD-ROM drive and double click on Setup.exe. Once installation is completed, restart your computer.

The HELP FILE in the Animatics Folder is a great resource for assistance in customizing the control program. Sample programs are also available in this folder.

USING THE ANIMATICS PROGRAM TO CHANGE STIRRING SPEED:

Connect the motor to a computer loaded with the Smart Motor Interface software via the RS 232 cable. Turn the motor on. Under the File Menu, select "Retrieve Program from Motor". See **Table 1** for a list of the sample of the factory installed command lines. PLEASE NOTE: Lines 1-24 and 26-39 are machine command codes which include acceleration, deceleration and starting velocity commands that **should NOT** be changed. The velocity setting for the factory installed program is 500,000 (Line #25: V= 500000).

To double the default velocity, change V= 500000 to V= 1000000 in Line #25.

This will increase speed ~2 fold

Once the new speed is established, save the file under a new name. After saving the modified file, send it to the motor by clicking on the shortcut key labeled: "T". The program will be scanned for errors. If no errors are found it will be compiled and sent to the motor. If there are any problems, the software will tell you what to do.

To test the downloaded program remove power from the motor, wait for the LED's to go out and restore the power. The program will always be executed upon power up. In this case, the motor will move back and forth in accordance with the program you have sent it. It is fully stand-alone now and will operate without the host computer.

As an alternative to powering down the motor you can issue the "Z" command which completely resets the SmartMotor as if it were newly powered up.

TABLE 1 Default Command Lines from Motor Control Program

Line #	Command
1	MV
1	A=40
2	V=500000
3	G
4	END

If technical assistance is required, contact:

V&P Scientific, Inc.
9823 Pacific Heights Blvd., Suite T
San Diego, CA 92121
Ph: 858-455-0643
Fax: 858- 455-0703
sales@vp-scientific.com

WARRANTY

There is a one-year warranty against defective parts. We will replace or repair the defective part and not charge a Labor fee. Damage to the machine caused by user negligence is not covered.