

Pippin Pulse™ Electrophoresis Power Supply



Sage Science's Pippin Pulse electrophoresis power supply brings field inversion to your lab's agarose gel apparatus. The system resolves DNA to 100 kb and beyond, economically, and without unwieldy instrumentation and/or chillers. Pulsed-field protocols are programmed and run from a PC, providing users the flexibility to develop customized protocols to meet specific applications.

The operating range is 25-175V, and up to 200 mA.

About Pulsed (Field Inversion) Electrophoresis.

Pulsed-field gels work by shuttling DNA back and forth in the gel, effectively slowing down large DNA fragments that might otherwise run at the same rate as smaller ones. By switching the direction of the electric field in a gel, DNA will change its direction of migration. Since smaller molecules can change direction faster than larger molecules, more differentiated separation can be achieved by rapidly switching, or pulsing, the electric field.

For resolving a wide range of fragment sizes, the length of the forward and reverse can be incrementally increased or decreased, and cycled. An illustration of a pulsed field protocol is shown below.

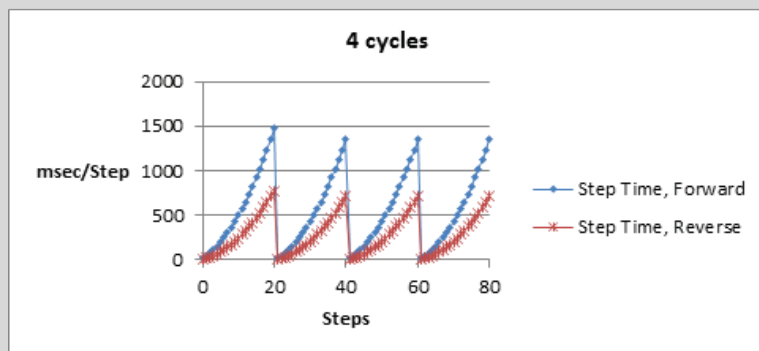


Figure 1. An illustration of a few cycles of a pulsed field protocol. In this example, each cycle is about 6 seconds in length. Typical runs require 8-16 hours.

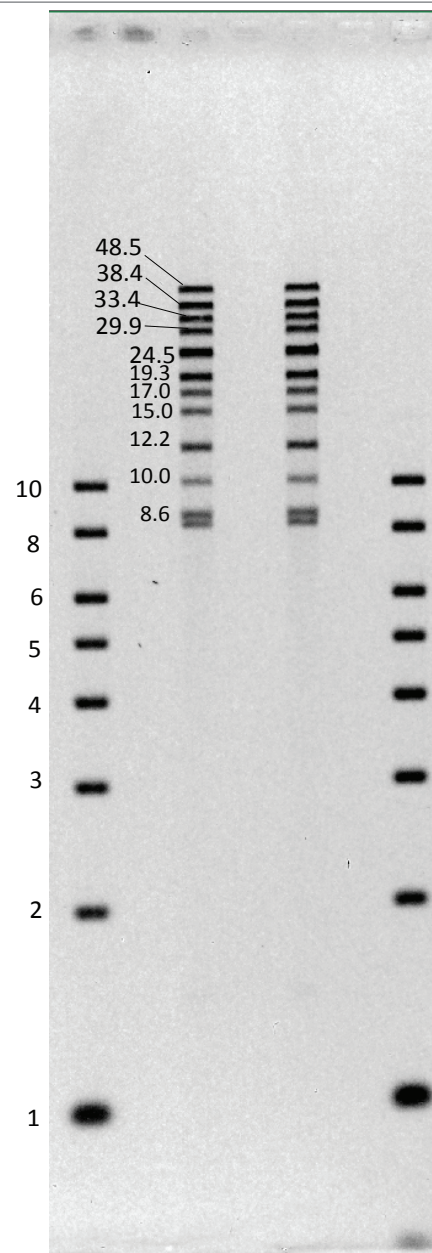


Figure 2. A gel image showing resolution of fragments from a gel run with Pippin Pulse using the pre-set 1-50 kb protocol. Values shown are kilobase pairs of DNA. The gel was run on a 12 X 14cm gel for 9 hours cast with 0.75% Lonza SeaKem® GOLD agarose and 0.5X KBB buffer (Sage Science Part No. KBB1001).