Overview

A ternary or quaternary MicroPro pumping system is based on expansion of a binary gradient system. The binary gradient system is a dual syringe pump system in a single chassis. Additional solvents are added to the binary system by adding additional single syringe “slave” units.

Figure 1 illustrates the intended configuration of a ternary system. A quaternary system differs only in the addition of another single syringe slave unit, to the left of the ternary pump.

Plumbing

Systems are provided with the tubing required to connect from port 6 on the high pressure valve of the slave pump to the mixer port on the binary gradient system. (see Figure 2).

Electrical

Address Port Settings

Figure 3 shows the location of the address port. A binary gradient system is set to position 2. The ternary slave pump is set to position 5. The quaternary slave pump is set to position 6.

Power

The power to the slave pumps should be turned on before the binary gradient system power is turned on.

Communication Cable

A standard, nine-pin cable is provided with a ternary or quaternary slave pump. Connection is made between the RS485 ports (see Figure 3) on the binary gradient system and the slave units.

Additional Notes

Consult the MicroPro User Manual for additional details about voltage settings, other electrical and plumbing connections. Note that the I/O and Analog I/O boards on slave units perform no function.