Maxprep™ Liquid Handler Method for Primary Sample Pooling

Instructions for Use of Products
AS9100, AS9101, AS9200, AS9201

Use in combination with the *Preprocessing Methods for the Maxprep™ Liquid Handler Technical Manual* #TM529

Maxprep™ Liquid Handler Method for Primary Sample Pooling

All technical literature is available at: www.promega.com/protocols/
Visit the web site to verify that you are using the most current version of this Technical Manual.
E-mail Promega Technical Services if you have questions on use of this system: techserv@promega.com

1. Description

The Primary Sample Pooling method for the Maxprep™ Liquid Handler is designed to automate the pooling of samples based on the factors and volumes set by a user. The method will accept samples from tubes and pool them into a plate based on modifiable parameters. After completion of the Primary Sample Pooling method, the pooled samples are intended to be run through a preprocessing method on the Maxprep™ Liquid Handler.

2. Materials to Be Supplied by the User

- 2.0ml Deep Well Plates, 60/pack (Cat.# AS9307)
- Maxprep™ 1000μl Conductive Disposable Tips, Filtered (Cat.# AS9303)
- Maxprep™ 300μl Conductive disposable Tips, Filtered (Cat.# AS9302)

3. Sample Tracking

Portal access is required to use the Primary Sample Pooling method. Portal maps the unique identifiers or bar codes of multiple samples to a sample pool. The software will then give an unique identifier to the sample pool. This sample pool identifier will be used in subsequent method runs on the Maxprep™ Liquid Handler. In the Maxprep™ software and Portal reports, the original sample identifier is documented in the Barcode column, while the sample pool identifier is documented in the Sample ID column.

This method is intended for use as a screening tool in conjunction with a Maxprep™ method that will set up a Maxwell® run from pooled sample, purification or extraction on a Maxwell® instrument, and a subsequent post-extraction analysis such as qPCR. Reports generated using either the Maxprep™ software or Portal Access allows the user to identify the individual samples of each pool for further analysis.

4. Primary Sample Pooling Method Selection and Setup

The Primary Sample Pooling method has the capability to create up to 48 sample pools based on the parameters used during the run. Sample Pools will be added to the middle of a 96-well plate.

1. In the Maxprep™ software, touch **Start** to access the 'Methods' screen. On the 'Methods' screen, select the method by touching the Primary Sample Pooling method or laboratory-specific variant of the Primary Sample Pooling method.

2. Verify that the appropriate method or variant method has been selected and touch the **Proceed** button. Touch the **Run** button on the method run screen to start the run.

3. The first screen of the method requests information regarding general method run parameters using the following settings:

    a. **Total Pooled Sample Volume:** This variable describes the total volume of each sample pool. The administrator can change the default setting as well as disallow this as a User Modifiable function.

    b. **Sample Pooling Factor:** This variable describes the number of samples in each pool. The administrator can change the default setting as well as disallow this as a User Modifiable function.

    c. **Maxwell RSC Type:** This sets the maximum number of pooled samples to either 32 or 48 for the Maxwell® RSC and Maxwell® RSC 48 Instrument, respectively.

4. After confirming the method parameters, enter a unique identifier for the plate such as a bar code or label. This identifier will be used to track samples and is necessary when running a preprocessing protocol. Any samples that are already present on the plate will be indicated. All pre-existing samples must be in columns 4−9 of the 2.0 ml Plate.

5. Follow instrument setup instructions displayed in the method. The Maxprep™ software will direct you where to place the following items on the instrument:

*   Tube Carriers

*   Maxprep™ 1,000µl Conductive Disposable Tips, Filtered (2; one rack may be partially full)

*   Maxprep™ 300µl Conductive Disposable Tips, Filtered (rack may be partial or full)

*   2.0ml Deep-Well Plate (empty)

6. Close the instrument door and touch the **Next** button to start the automated pooling of samples.

7. The method will use the total volume and pooling factor values to create sample pools from the sample tubes to the Sample Plate.

8. Upon completion of the initial set of sample pooling, the method will allow the user to scan and add another batch of sample tubes to create additional pooled samples in the same Sample Plate. This can be done until the user has finished creating sample pools or the maximum number of sample pools are created for the Maxwell RSC type specified.

   a. If further sample pools need to be created, remove the samples from the deck of the instrument and load new samples in their place. Follow the method instructions to scan the new samples.

   b. If the user has completed all sample pool creations or 48 sample pools have been created, touch the **Next** button.
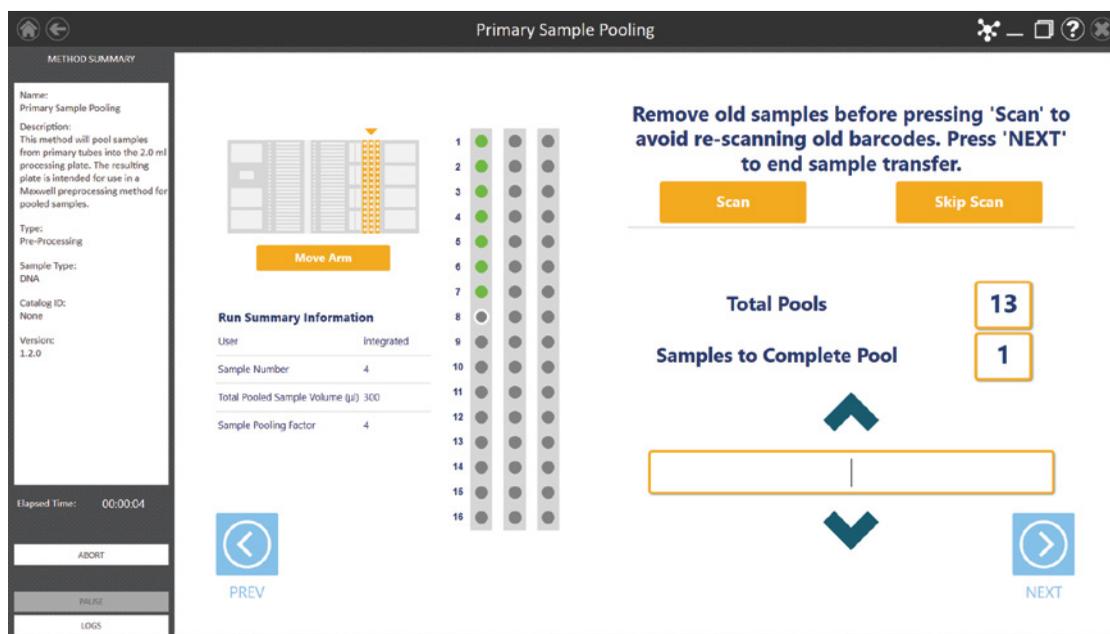
Figure 1. This screen details adding additional samples when creating a Sample Pool plate. This example screen details that the Sample Pooling Factor is 4 and that Total Pooled Sample Volume from each of those samples will equal 300µl. In this example, the total number of samples must be divisible by 4 for the method to proceed. The Samples to Complete Pool field details how many samples remain to be added to get to the Sample Pooling Factor, so in this example, one more sample must be added to get to the Pooling Factor of 4. The Total Pools value is the number of all previous pools made in the current Sample Plate as well as the additional number of pools based on the additional samples that will be added to the Sample Plate. Touching the **Scan** button allows the instrument to scan bar codes on the individual samples tubes and select the tube type of the samples.

4. Primary Sample Pooling Method Selection and Setup (continued)

9. Once the 'Complete' screen has been reached, touch the **Next** button to finish the method and export into Portal.

Consumables for Maxprep™ preprocessing methods are designed to be used with potentially infectious substances. Use appropriate protective equipment (e.g., gloves and safety glasses) when handling infectious substances. Adhere to your institutional guidelines for the handling and disposal of all infectious substances when used with this system.