HyPerforma Glass Bioreactor Quick Start Guide

This guide provides a brief overview of assembling and disassembling the Thermo Scientific™ HyPerforma™ glass bioreactor. Contact your sales representative for more detailed information about this product.

Assembling the Glass Bioreactor vessel

1. Using both hands, carefully place the glass vessel into the stand (Figure 1). Ensure that the glass vessel is centered properly.

2. Inspect the headplate assembly, ensuring that the O-ring is clean, undamaged, and properly installed in the groove of the headplate. Install the headplate assembly, ensuring that the guide pins are aligned with the headplate guide holes (Figure 2). Ensure that none of the installations of the headplate assembly (cooling coil, impeller shaft, etc.) hit the glass rim when placing the headplate assembly onto the glass vessel. **Note:** Ensure that the O-ring on the flange around the glass vessel (as received) is intact when removing the headplate for cleaning purposes.

3. Hand-tighten the four headplate retaining screws (Figure 2) in a cross-wise pattern. **Note:** The headplate retaining screws should only be hand-tightened; using tools to tighten the screws may lead to glass vessel damage.

4. Replace any septa (Figure 2) that have been removed, used, or damaged.

5. Replace the heating jacket (Figure 1) and ensure it is held in place with hook and loop fastener (Velcro™) straps. **Note:** Both the jacket and the straps **MUST** be under the stand struts (Figure 1) in order to ensure full contact of the jacket on the glass vessel wall.

6. Replace the agitator motor assembly. Place the agitator motor assembly onto the agitator bearing housing so that it is fully seated on the headplate (Figure 1).

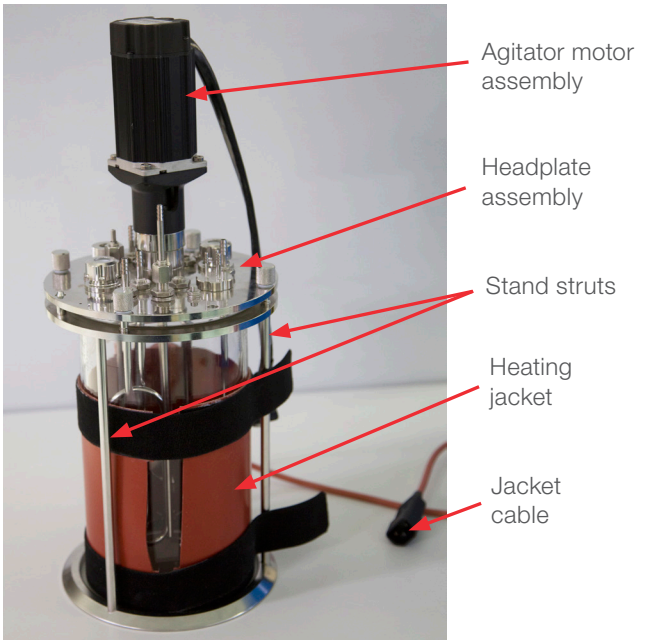

Figure 1. Assembled Glass Bioreactor.

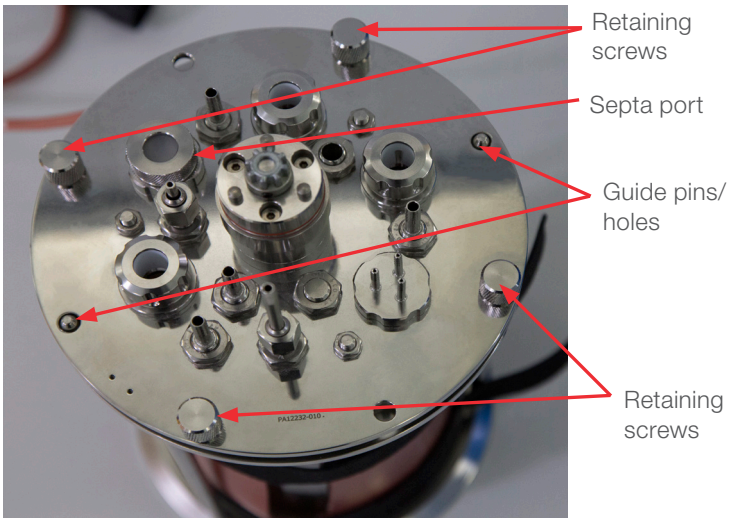

Figure 2. Close-up view of headplate.

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7. Connect the jacket cable (Figure 1) to the corresponding connector of the controller.

It is highly recommended that users routinely inspect glass vessels for damage, and replace the vessels if damage is observed.

Disassembling the Glass Bioreactor vessel

1. While supporting the vessel with one hand, pull up on the agitator motor assembly (Figure 1) to remove. Set the motor assembly aside, as it **MUST NOT** be washed.

2. Uncouple the jacket cable (Figure 1). Loosen the hook and loop fastener (Velcro) straps on the heating jacket (Figure 1) and remove. Set the heating jacket aside, as it **MUST NOT** be washed.

3. Remove any septa that are in place, and replace the septa fitting. Remove all filters and tubing from the headplate assembly (Figure 2).

4. Unscrew the four headplate retaining screws (Figure 2).

5. Lift the headplate assembly from the glass vessel. Some pressure may need to be applied to release the headplate seal. We recommend that a second operator support the vessel stand if this is required. Ensure that none of the installations of the headplate assembly (cooling coil, impeller shaft, etc.) hit the glass rim. **CAUTION: DO NOT USE ANY SHARP TOOLS** to separate the headplate assembly from the glass vessel.

6. Remove the glass vessel from the stand. Store the glass vessel inverted (Figure 3) or on its side, if adequately supported, to prevent rolling. **CAUTION: DO NOT** store the vessel with the base on the bottom. Because the base is not flat, the glass vessel can easily tip over and become damaged.

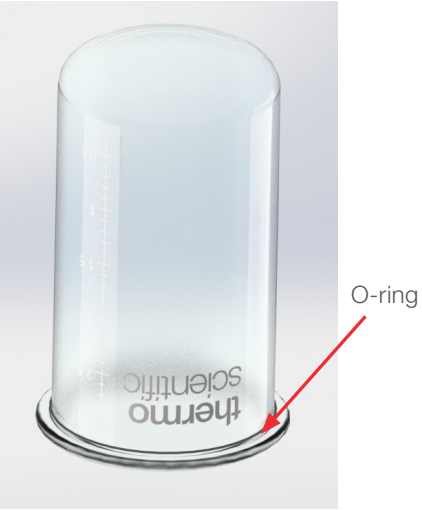

Figure 3. Glass vessel with O-ring, stored inverted.

7. Under the flange of the glass vessel is an O-ring for centering the headplate's position with respect to the glass vessel (Figure 3). Ensure that the O-ring on the flange around the glass vessel (as received) is intact when removing the headplate for cleaning purposes.

8. Depending on the cleaning procedure, the headplate assembly may be placed in the stand for washing (Figure 4), but ensure that all surfaces can be easily cleaned and that the used cleaning agents drain off.

Figure 4. Headplate assembly in stand.

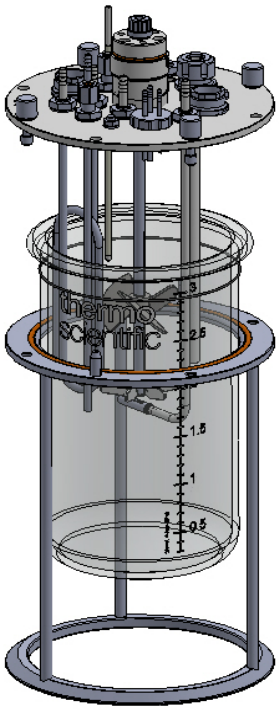

Figure 5. Complete assembly drawing—exploded view.

9. The equipment may now be washed according to site procedure. Care should be taken to minimize contact with other items to prevent potential damage to the glass vessel.

See Figure 5 for the full assembly drawing, showing the headplate assembly, stand, and glass bioreactor.

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