

Quantum®

# Bezel Installation Guide

## QX and QXS



QX and QXS Bezel Installation Guide, 6-68393-01 Rev A, February 2016, Product of USA.

Quantum Corporation provides this publication “as is” without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability or fitness for a particular purpose. Quantum Corporation may revise this publication from time to time without notice.

## **COPYRIGHT STATEMENT**

© 2016 Quantum Corporation. All rights reserved.

Your right to copy this manual is limited by copyright law. Making copies or adaptations without prior written authorization of Quantum Corporation is prohibited by law and constitutes a punishable violation of the law.

## **TRADEMARK STATEMENT**

Artico, Be Certain (and the Q brackets design), DLT, DXi, DXi Accent, DXi V1000, DXi V2000, DXi V4000, GoVault, Lattus, NDX, the Q logo, the Q Quantum logo, Q-Cloud, Quantum (and the Q brackets design), the Quantum logo, Quantum Be Certain (and the Q brackets design), Quantum Vision, Scalar, StorageCare, StorNext, SuperLoader, Symform, the Symform logo (and design), vmPRO, and Xcellis are either registered trademarks or trademarks of Quantum Corporation and its affiliates in the United States and/or other countries. All other trademarks are the property of their respective owners.

Products mentioned herein are for identification purposes only and may be registered trademarks or trademarks of their respective companies. All other brand names or trademarks are the property of their respective owners.

Quantum specifications are subject to change.



# Contents

---

<b>Chapter 1: Before You Begin</b> .....	<b>1</b>
Before You Begin .....	1
Required Tools .....	1
Bezel Assembly Components .....	2
<b>Chapter 2: Bezel Installation for 12-, 24-, and 48-Drive Chassis</b> .....	<b>3</b>
Overview .....	3
Bezel Kit Components .....	4
Installing the Bezel .....	4
Removing the Bezel and Air Filter .....	7
Cleaning the Air Filter .....	9
Replacing the Air Filter .....	10
General Guidelines Concerning Air Filters in Inventory .....	12
Next Steps .....	12
Using management interfaces .....	12
Using LEDs .....	12

**Chapter 3: Bezel Installation for 56-Drive Chassis .....13**

- Overview ..... 13
  - Bezel Kit Components ..... 14
- Installing the Bezel .....14
- Removing the Bezel and Air Filter ..... 17
- Cleaning the Air Filter .....20
- Replacing the Air Filter .....20
  - General Guidelines Concerning Air Filters in Inventory ..... 23
- Next Steps ..... 23
  - Using management interfaces .....24
  - Using LEDs ..... 24



# Chapter 1: Before You Begin

---

This chapter contains the following topics:

- Before You Begin ..... 1
- Required Tools ..... 1
- Bezel Assembly Components ..... 2

---

## Before You Begin

Verify that the RAID chassis or drive expansion chassis has been properly installed in an environment that meets requirements for space, airflow, temperature, and power. Verify that the chassis is available and ready for the ensuing bezel installation or air filter maintenance procedures.

**i Note:** Nominal vertical spacing between chassis is necessary to allow for bezel installation and removal, and servicing of the air filter.

---

## Required Tools

Antistatic protection devices.

 **Caution:** Parts can be damaged by electrostatic discharge (ESD). Be sure you are properly grounded before touching a static-sensitive component to minimize potential for electrostatic discharge.

---

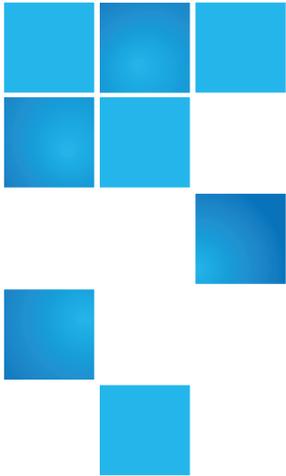
## Bezel Assembly Components

The chassis bezel — comprised of a vented cover with an EMI (Electromagnetic Interference) shield — is pre-assembled and packed in foam within a box included in the master shipping container.

The basic bezel configuration does not include an air filter; however, a removable air filter is available as an optional feature for applications requiring it. For sake of completeness, these instructions address servicing the air filter for customers using that bezel option.

The air filter — comprised of a frame, mesh screen, foam insert, and laminated foam pads — is also pre-assembled, and it is pre-installed within the chassis bezel of kits configured with the option.

The air filter is reusable if removed, properly cleaned, and reinstalled. Over time, however, the air filter will ultimately require replacement.



# Chapter 2: Bezel Installation for 12-, 24-, and 48-Drive Chassis

---

This chapter contains the following topics:

Overview .....	3
Installing the Bezel .....	4
Removing the Bezel and Air Filter .....	7
Cleaning the Air Filter .....	9
Replacing the Air Filter .....	10
Next Steps .....	12

---

## Overview

These instructions are for the following systems:

- QXS-312/412 Hybrid
- QXS-324/424 Hybrid
- QXS-448/648 Hybrid
- StorNext QX-1200 and QX-2400
- StorNext QXS-1200 and QXS-2400

These instructions address the following:

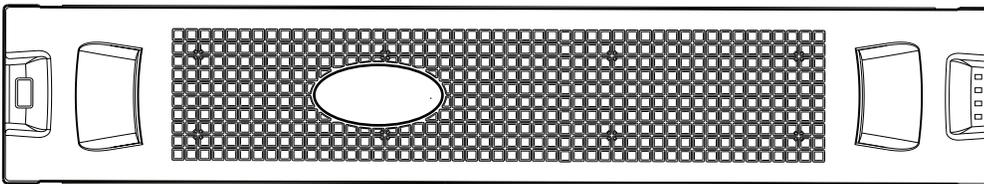
- Attachment of the bezel assembly (2U12/2U24/2U48 chassis) to the front (drive-facing side) of a previously-installed chassis.
- Removal and cleaning or replacement of the optional bezel air filter.

**i Note:** The system shown in this section is a representative system for the 2U12/2U24/2U48 chassis.

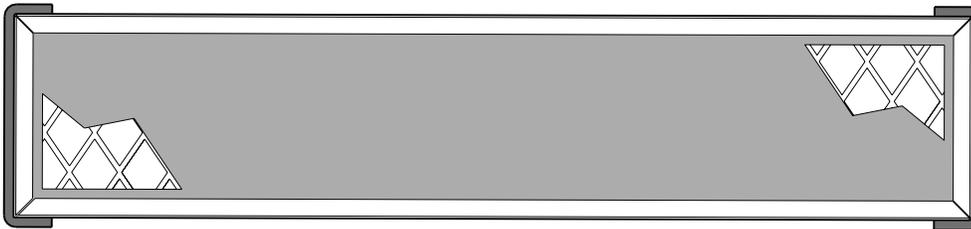
## Bezel Kit Components

The following illustration shows front views of the bezel assembly and its removable air filter sub-assembly. The second graphic in this series of illustrated procedures provides an orientation key that labels chassis sides for reference when performing tasks.

**Figure 1:** Bezel assembly - front view



**Figure 2:** Optional air filter sub-assembly - front view



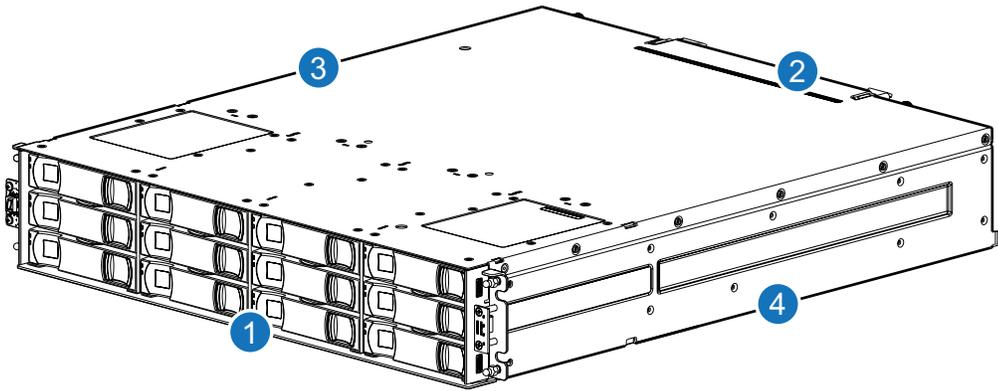
---

## Installing the Bezel

Within the master chassis container, locate the long shallow/narrow box containing the bezel kit. The box lid should be labeled. Keep the bezel in the box until needed.

The figure below shows a pictorial view of a 12-drive chassis. The bezel attaches to the chassis face labeled “Front.” The bezel installation process is the same for the 2U12/2U24/2U48 chassis.

**Figure 3:** Orientation key



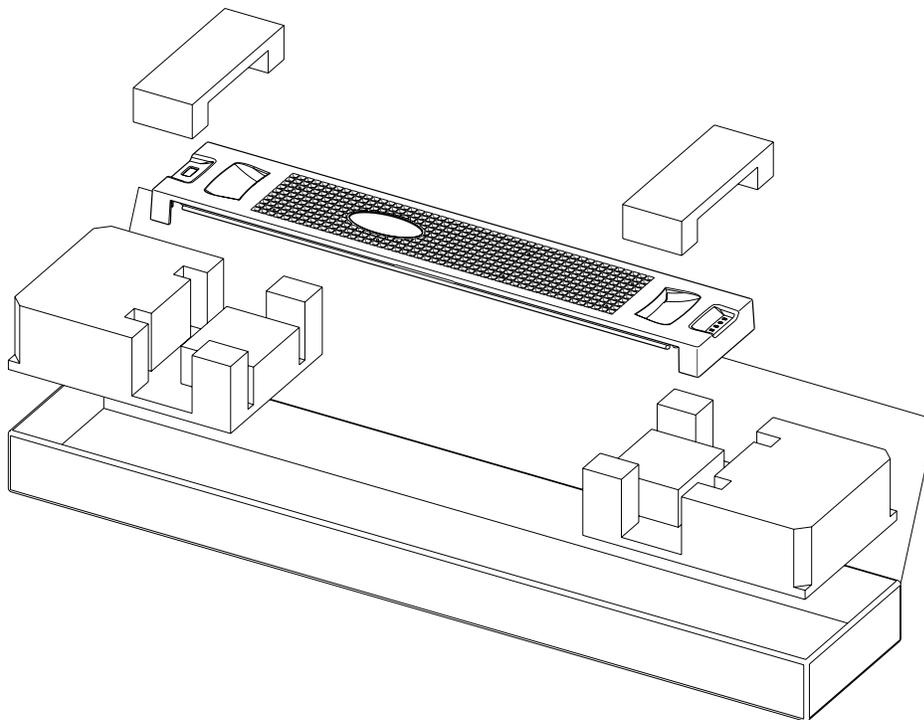
- |          |          |
|----------|----------|
| 1. Front | 3. Left  |
| 2. Back  | 4. Right |

1. Identify the chassis to which the bezel will be attached.

The figure above shows an installed chassis — with ears exposed — that is ready for bezel installation.

2. Open the box containing the bezel, and swing the lid back to reveal the bezel assembly packaged in foam. Remove the contents.

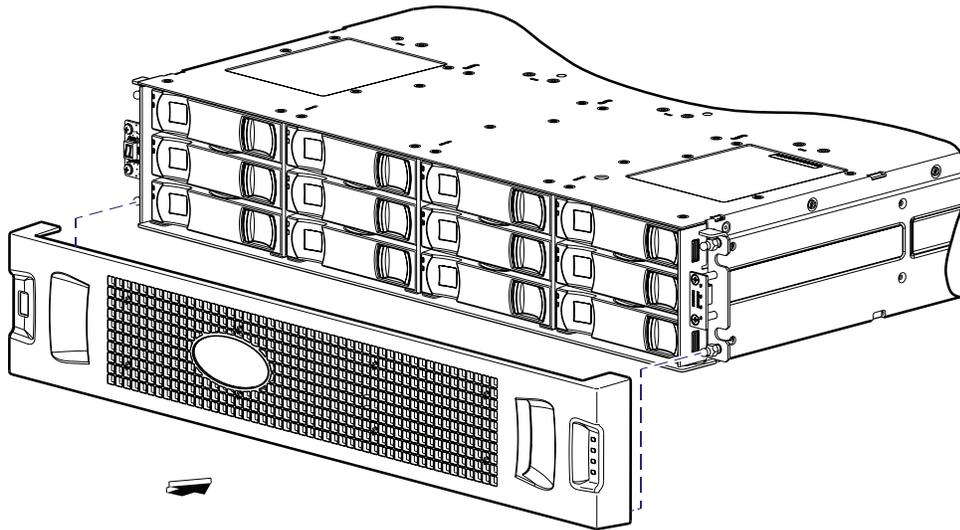
**Figure 4:** Bezel assembly



Once you have removed the bezel assembly from its foam-packed box, examine it carefully, to verify that it is properly configured (with or without an air filter) to address your site requirements.

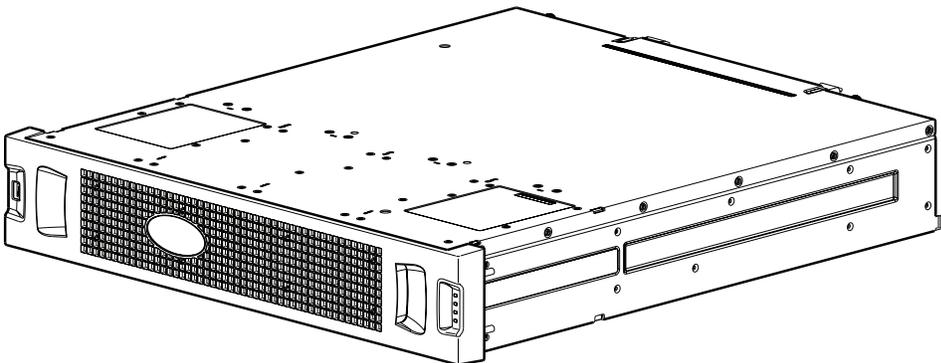
3. Orient the bezel assembly to align its back side with the front face of the chassis as shown in the figure below.

**Figure 5:** Orienting the bezel



4. Face the front of the chassis, and while supporting the base of the bezel, gently slip the integrated ear covers onto the push-fit ball studs, taking care to guide the LED indicators through bezel openings.

**Figure 6:** Installed bezel



5. Gently push-fit the two ear cover areas of the bezel onto the ball studs to secure the bezel in place.

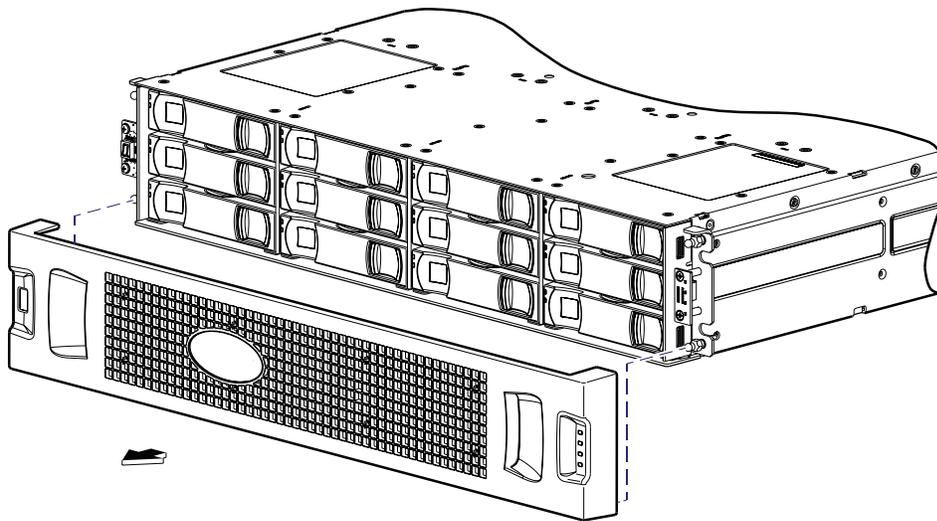
**⚠ Caution:** Whether configured with or without an air filter, to ensure adequate EMI protection for the drives, the bezel should be properly installed while the chassis is in operation.

# Removing the Bezel and Air Filter

To replace or clean the dust-filtration air filter, you must first remove the bezel assembly from the chassis. Once the bezel is detached from the chassis, you can remove its air filter.

1. Openings are provided between the vented grille and ear LEDs on the bezel.
  - a. While facing the front of the chassis, insert the index finger of each hand into the top of the respective (left or right) opening, and insert the middle finger of each hand into the bottom of the respective opening, with thumbs on the bezel's bottom.
  - b. Gently pull the top of the bezel while applying slight inward pressure below, to release the bezel from the ball studs.

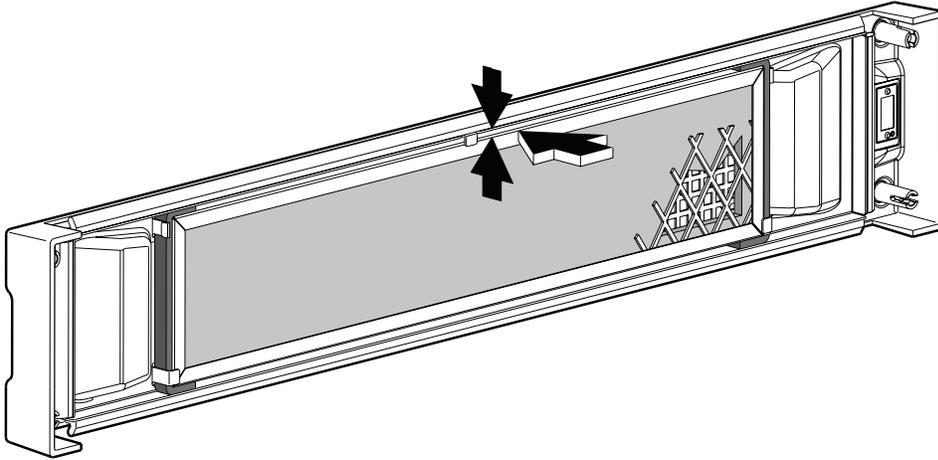
**Figure 7:** Removing the Bezel



2. While holding the bezel in one hand, gently slip your thumb or index finger between the top of the filter frame and its foam insert on the back side of the bezel.

At the location indicated by the large arrow in the figure below, gently pull the top of the filter frame downward and outward to clear the bezel retaining flange, and to dislodge the two laminated external foam pads from the interior walls of the bezel.

**Figure 8:** Removing filter frame



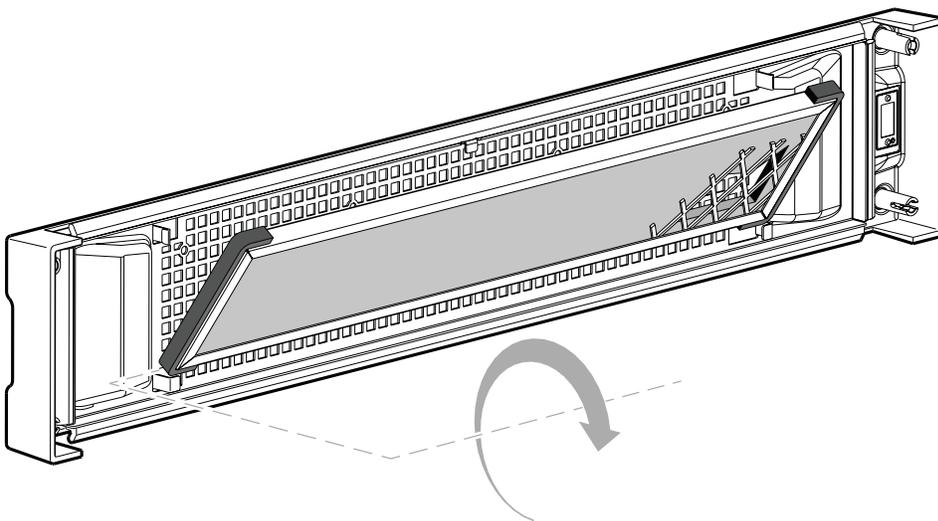
**Note:** The air filter mesh — which would be fully visible in the above orientation — is simplified for clarity.

3. Gently tug the top of the filter frame to revolve it away from its vertical position, and then pull upwards to release the filter from the two mounting channels at the base of the bezel.

The mounting channels are shown at the base of the bezel in the figure below, with corresponding guide flanges shown beneath the top face of the bezel.

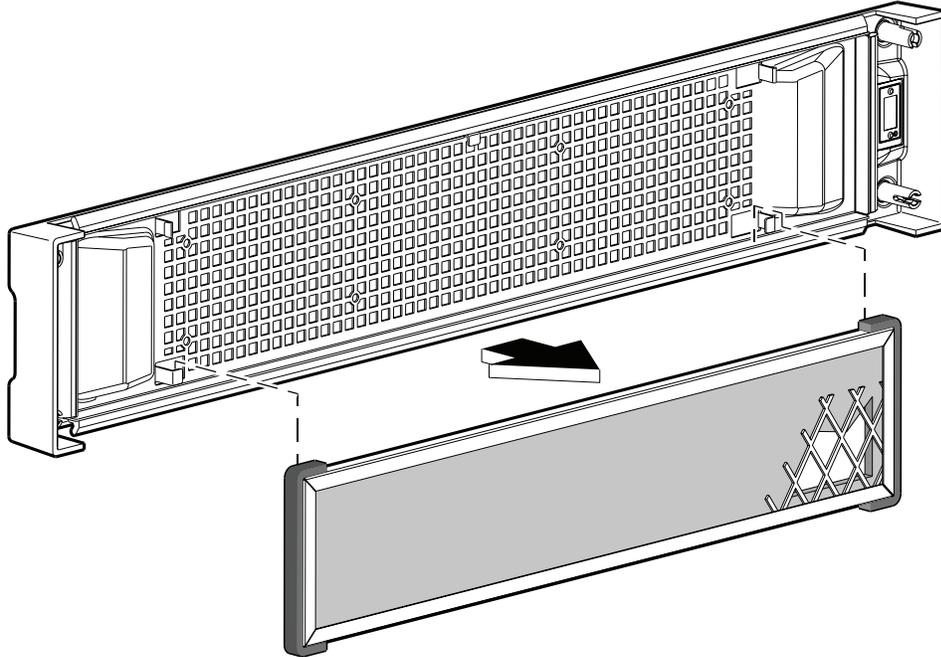
The vents become visible as the filter frame is tilted away from the bezel.

**Figure 9:** Revolving filter frame



4. Carefully extract the air filter from the bezel.

**Figure 10:** Extracting the air filter



5. If you plan to service and reuse the air filter, proceed to [Cleaning the Air Filter below](#). Otherwise, proceed to [Replacing the Air Filter on the next page](#).

---

## Cleaning the Air Filter

The air filter sub-assembly contains a reusable open cell polyurethane foam insert. This filter media should be cleaned or replaced every three to six months.

If you elect to reuse the media, you can clean the air filter sub-assembly using any of the following methods:

- Spray the filter — using slightly compressed air — from an air compressor equipped with an air hose and nozzle.
- Vacuum the filter using moderate suction.
- Rinse the filter with clean water at low pressure.

If a degreaser is required, use a mild detergent such as dishwashing liquid. Avoid using harsh solvents or cleaning agents.

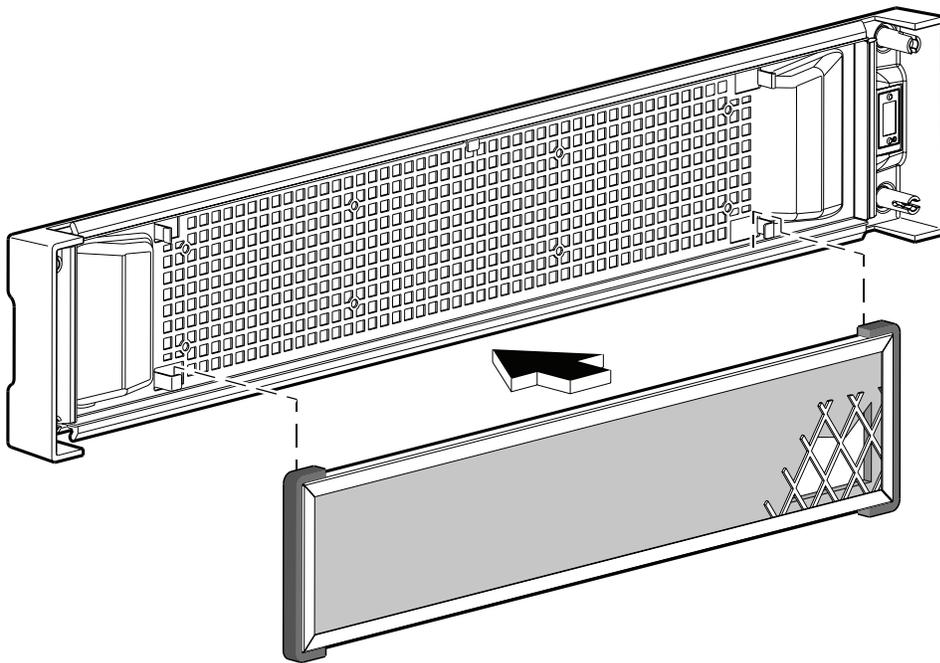
Although the filter is reusable, replacement is recommended every two to three years to ensure the durability of the media, and to mitigate dust build-up and air flow resistance.

# Replacing the Air Filter

Whether replacing an air filter or reusing one that has been reconditioned, install the air filter into the bezel before reattaching the bezel to the front of the chassis.

1. Locate the bezel removed from the chassis.
2. Orient the bezel to view its back side.
3. Orient the air filter in a forward-facing position, with the foam facing forward — toward the bezel vents — and the retaining mesh facing away from the bezel.

**Figure 11:** Replacing the air filter

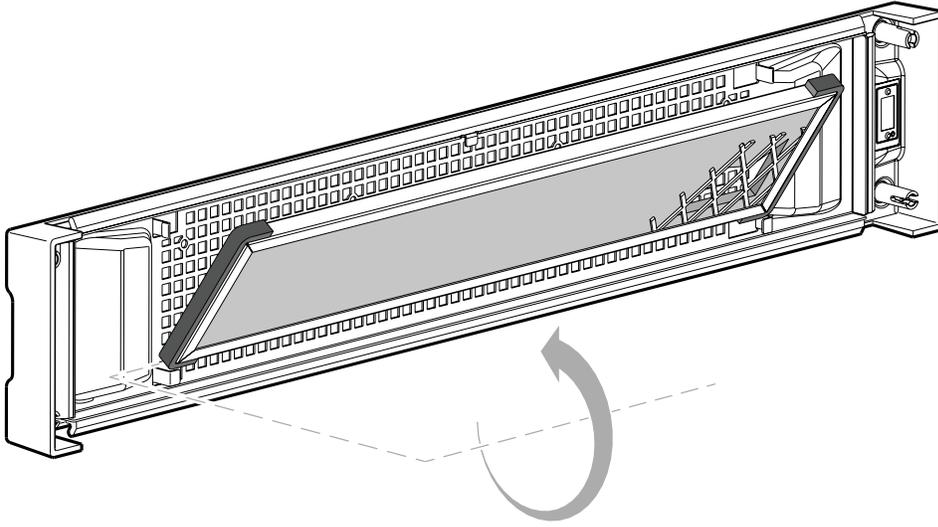


**Note:** The air filter mesh — which would be fully visible in the above orientation — is simplified for clarity.

4. Align the bottom corners of the air filter per the thrust lines shown in the illustration above. You will insert the bottom edge of the air filter frame into the two mounting channels.
5. While tilting the top of the air filter frame slightly away from the bezel — about the horizontal axis — slip its bottom edge into the mounting channels as far as the filter will go.
6. Gently revolve the air filter into its vertical position, taking care to ensure that the foam pads of the filter frame seat snugly against the interior walls of the bezel. Vents become hidden as the filter frame is tilted toward the bezel.

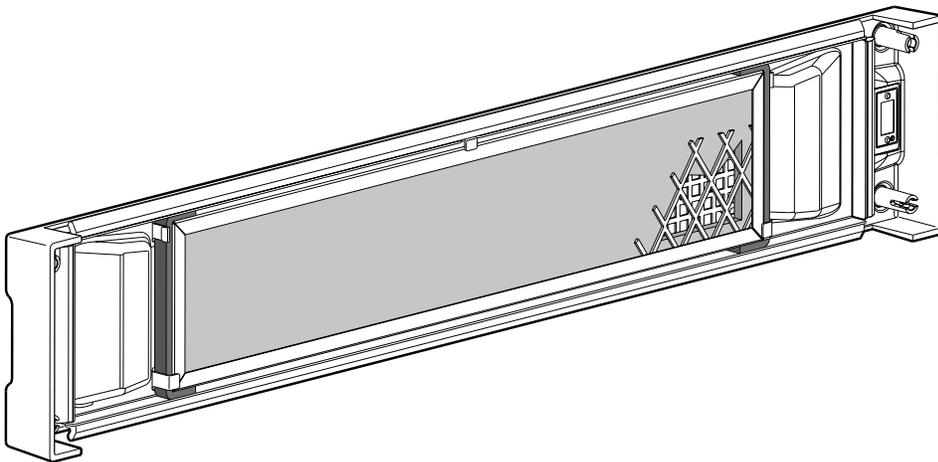
The two filter mounting channels are shown at the base of the bezel in the figure below. One of the channels is located on the lower left side of the EMI shield, and the other is located on the lower right side of the EMI shield.

**Figure 12:** Inserting air filter into bezel



Once properly seated — and revolved into position — the installed air filter should appear as shown in the figure below; albeit with visible foam-retaining mesh in front of the shaded foam insert (the mesh is only partially shown in the illustrations provided in this document).

**Figure 13:** Filter installed in bezel



**i Note:** Once the air filter is successfully installed within the bezel, you can reattach the bezel to the front face of the chassis.

## General Guidelines Concerning Air Filters in Inventory

- Replacement air filter storage:

Air filters in inventory should be stored in an environment that is cool, dry, and dark. Heat, humidity, and ultraviolet light can damage air filters.

- Replacement air filter inventory on-hand:

Purchase cost-effective quantities of replacement air filters to maintain sufficient inventories for no more than a few months. Following this approach will enable you to avoid stock-outs and mitigate inventory loss due to shrinkage.

---

## Next Steps

Finish the chassis bezel installation by verifying chassis and component operation. Use either of the following methods to verify chassis and component operation.

### Using management interfaces

Use the web-based management interfaces (Disk Management Utility or the CLI) to monitor the storage system, including monitoring of event notification.

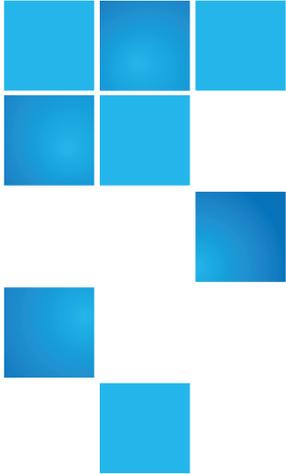
Make note of any irregularities, and troubleshoot as necessary using the fault isolation methodology described in the *QX and QXS Setup Guide*.

If the system has not yet been configured or provisioned, use the Disk Management Utility to perform the tasks. See the *Disk Management Utility User Guide* for information on configuring and provisioning the system.

### Using LEDs

Observe the chassis LEDs (see “LED descriptions” in the *QX and QXS Setup Guide* for more information).

Make note of any irregularities, and troubleshoot as necessary using the fault isolation methodology described in the *QX and QXS Setup Guide*.



# Chapter 3: Bezel Installation for 56-Drive Chassis

---

This chapter contains the following topics:

Overview .....	13
Installing the Bezel .....	14
Removing the Bezel and Air Filter .....	17
Cleaning the Air Filter .....	20
Replacing the Air Filter .....	20
Next Steps .....	23

---

## Overview

These instructions are for the following systems:

- QXS-456 Hybrid
- QXS-656 Hybrid
- StorNext QXS-5600

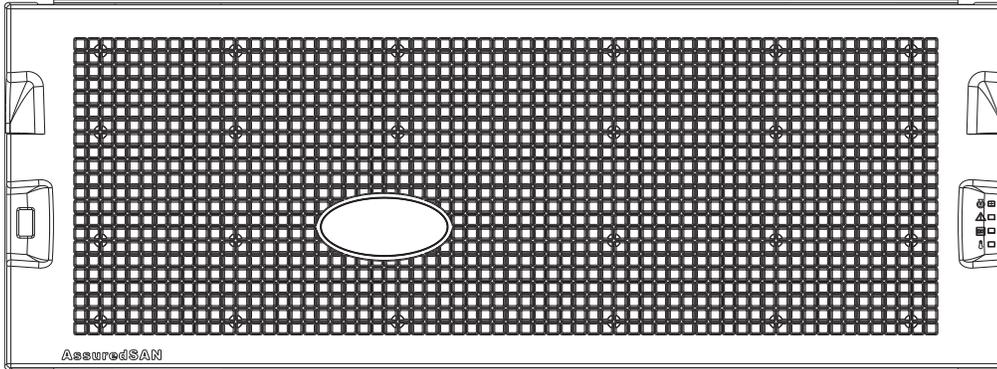
These instructions address the following:

- Attachment of the bezel assembly (4U56 chassis) to the front (drive-facing side) of a previously-installed chassis.
- Removal and cleaning or replacement of the optional bezel air filter.

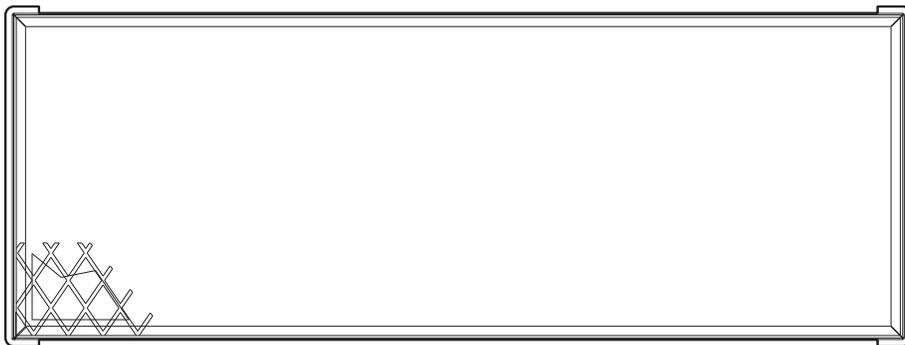
## Bezel Kit Components

The following illustration shows front views of the bezel assembly and its removable air filter sub-assembly. The second illustration in this series of illustrated procedures provides an orientation key that labels chassis sides for reference when performing tasks.

**Figure 14:** Bezel assembly - front view



**Figure 15:** Optional air filter sub-assembly - front view



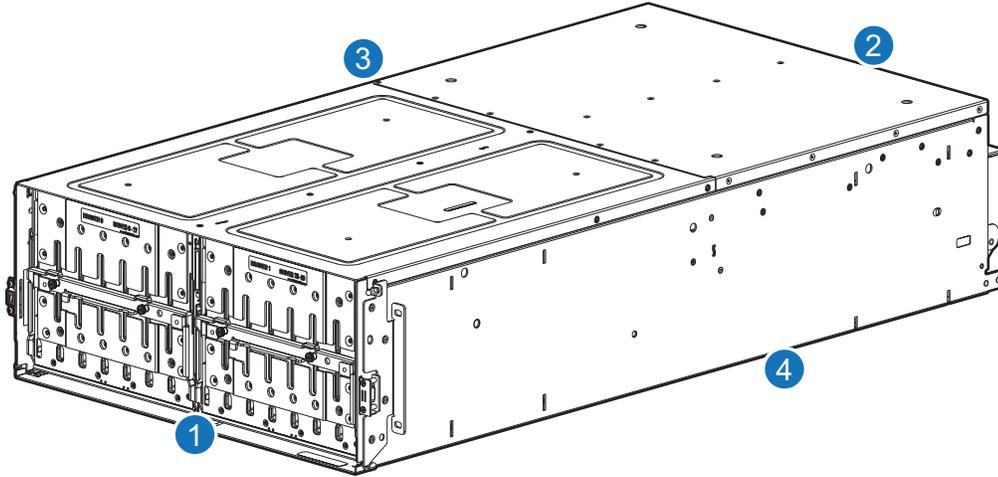
---

## Installing the Bezel

Within the master chassis container, locate the long shallow/narrow box containing the bezel kit. The box lid should be labeled. Keep the bezel in the box until needed.

The figure below shows a pictorial view of an chassis. The bezel attaches to the chassis face labeled “Front.”

**Figure 16:** Orientation key



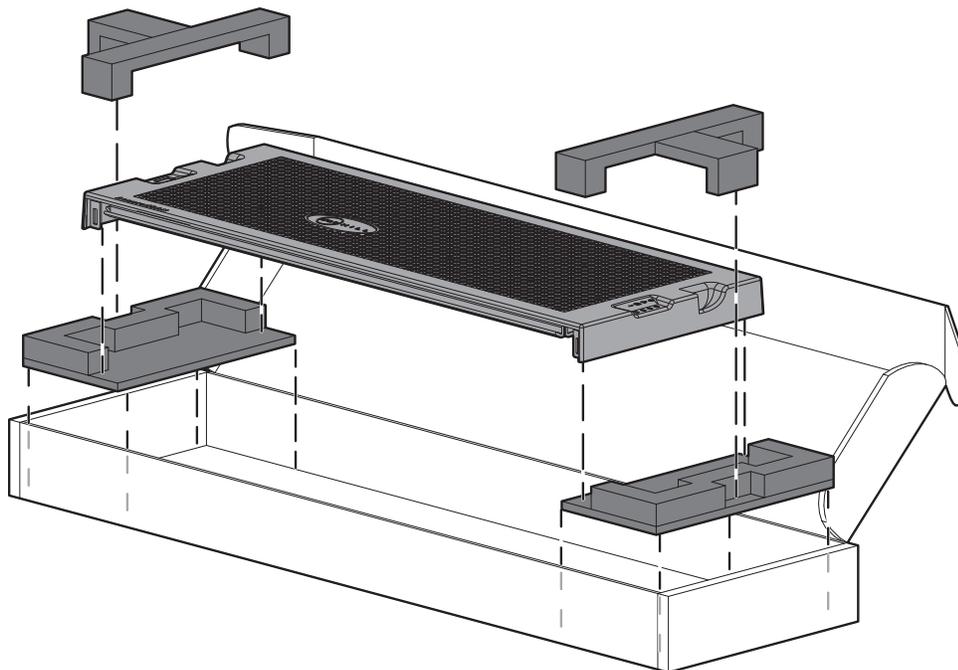
- |          |          |
|----------|----------|
| 1. Front | 3. Left  |
| 2. Back  | 4. Right |

1. Identify the chassis to which the bezel will be attached.

The figure above shows an installed chassis — with ears exposed — that is ready for bezel installation.

2. Open the box containing the bezel, and swing the lid back to reveal the bezel assembly packaged in foam. Remove the contents.

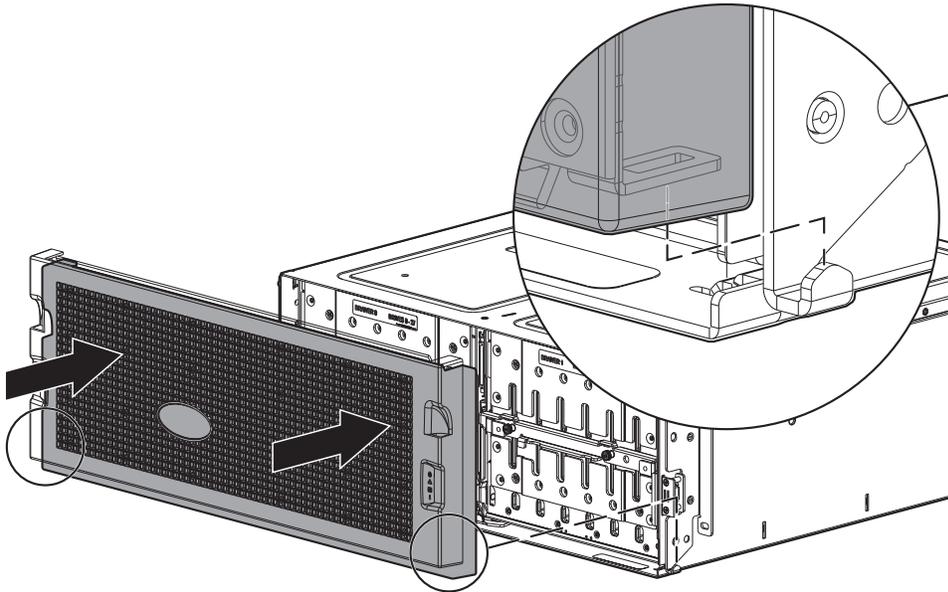
**Figure 17:** Bezel assembly



Once you have removed the bezel assembly from its foam-packed box, examine it carefully, to verify that it is properly configured (with or without an air filter) to address your site requirements.

3. Orient the bezel assembly to align its back side with the front face of the chassis as shown in the figure below.

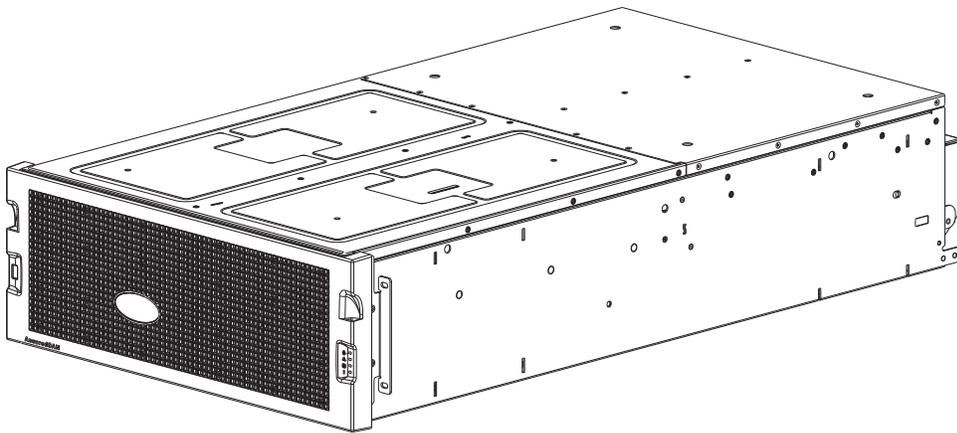
**Figure 18:** Orienting the bezel



4. Face the front of the chassis, and while supporting the base of the bezel, gently slip the integrated ear covers onto the push-fit ball studs, taking care to guide the LED indicators through bezel openings.

Tilt the bezel forward, and guide the two angle-bracket slots on the backside of the bezel onto the two upturned flanges located on side mount brackets near the front of the chassis on the exterior left and right chassis walls.

**Figure 19:** Installed bezel



5. Gently push-fit the two ear cover areas of the bezel (interior sleeves) onto the ball studs to secure the bezel in place.

**⚠ Caution:** Whether configured with or without an air filter, to ensure adequate EMI protection for the drives, the bezel should be properly installed while the chassis is in operation.

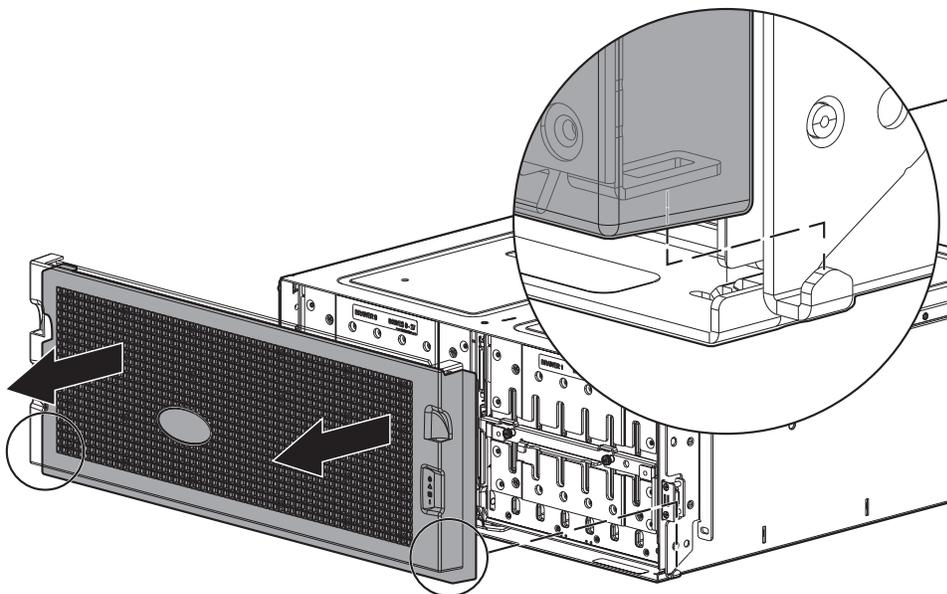
---

## Removing the Bezel and Air Filter

To replace or clean the dust-filtration air filter, you must first remove the bezel assembly from the chassis. Once the bezel is detached from the chassis, you can remove its air filter.

1. Openings are provided between the vented grille and ear LEDs on the bezel.
  - a. While facing the front of the chassis, insert the index finger of each hand into the top of the respective (left or right) opening, and insert the middle finger of each hand into the bottom of the respective opening, with thumbs on the bezel's bottom.
  - b. Gently pull the top of the bezel while applying slight inward pressure below, to release the bezel from the ball studs. Lift the bezel to release it from the mounting flanges.

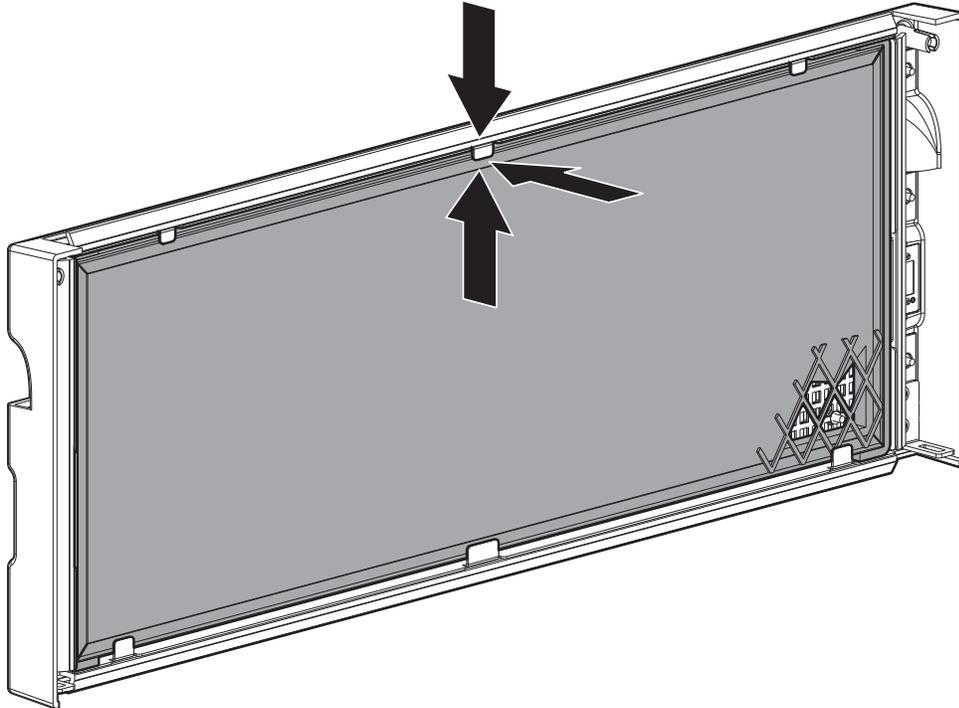
**Figure 20:** Removing the bezel



2. While holding the bezel in one hand, gently slip your thumb or index finger between the top of the filter frame and its foam insert on the back side of the bezel.
  - a. Ensure the EMI gaskets remain attached to the bezel.

- b. At the location indicated by the large arrow in the figure below, gently pull the top of the filter frame downward and outward to clear the bezel retaining flange, and to dislodge the two laminated external foam pads from the interior walls of the bezel.

**Figure 21:** Removing the filter frame

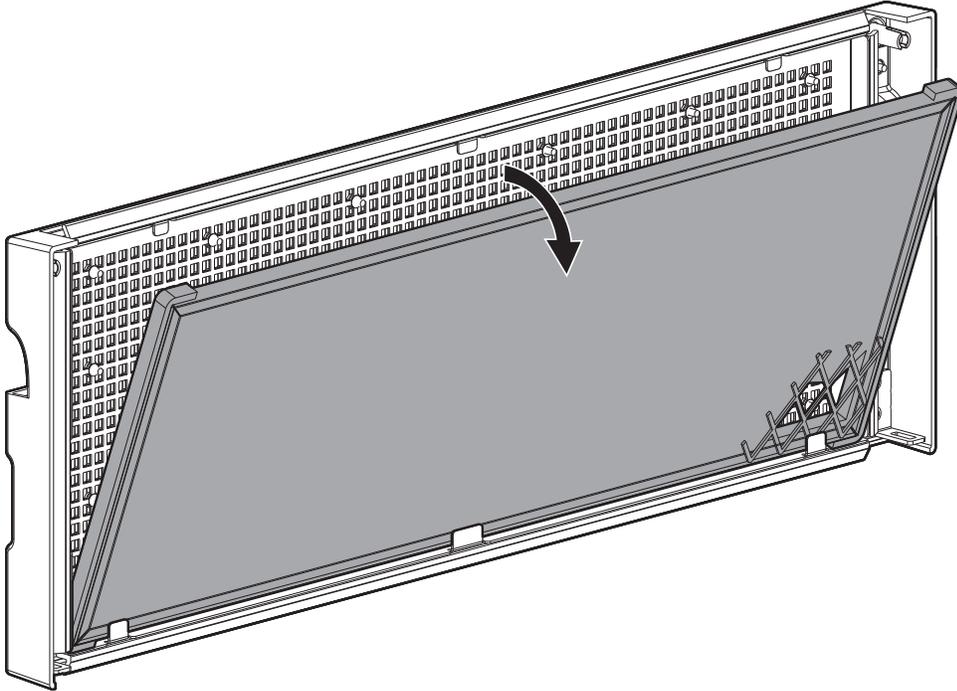


**i Note:** The air filter mesh — which would be fully visible in the above orientation — is simplified for clarity.

3. Gently tug the top of the filter frame to revolve it away from its vertical position, and then pull upwards to release the filter from the two mounting channels at the base of the bezel.

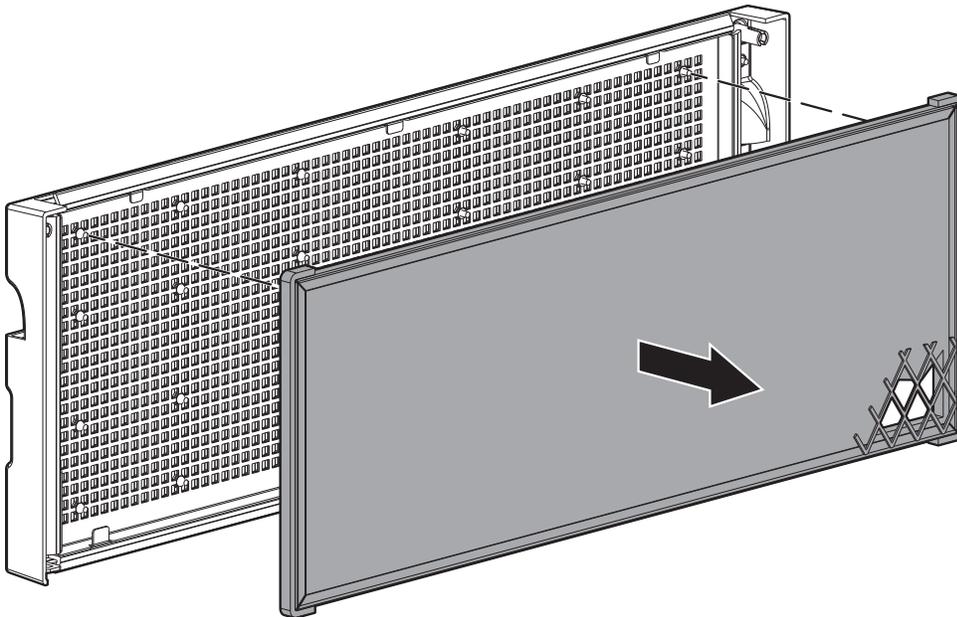
The mounting channels are shown at the base of the bezel in the figure below, with corresponding guide flanges shown beneath the top face of the bezel.

**Figure 22:** Removing the filter



4. Carefully extract the air filter from the bezel.

**Figure 23:** Extracting air filter



5. If you plan to service and reuse the air filter, proceed to [Cleaning the Air Filter on the next page.](#) Otherwise, proceed to [Replacing the Air Filter on the next page.](#)

## Cleaning the Air Filter

The air filter sub-assembly contains a reusable open cell polyurethane foam insert. This filter media should be cleaned or replaced every three to six months.

If you elect to reuse the media, you can clean the air filter sub-assembly using any of the following methods:

- Spray the filter — using slightly compressed air — from an air compressor equipped with an air hose and nozzle.
- Vacuum the filter using moderate suction.
- Rinse the filter with clean water at low pressure.

If a degreaser is required, use a mild detergent such as dishwashing liquid. Avoid using harsh solvents or cleaning agents.

Although the filter is reusable, replacement is recommended every two to three years to ensure the durability of the media, and to mitigate dust build-up and air flow resistance.

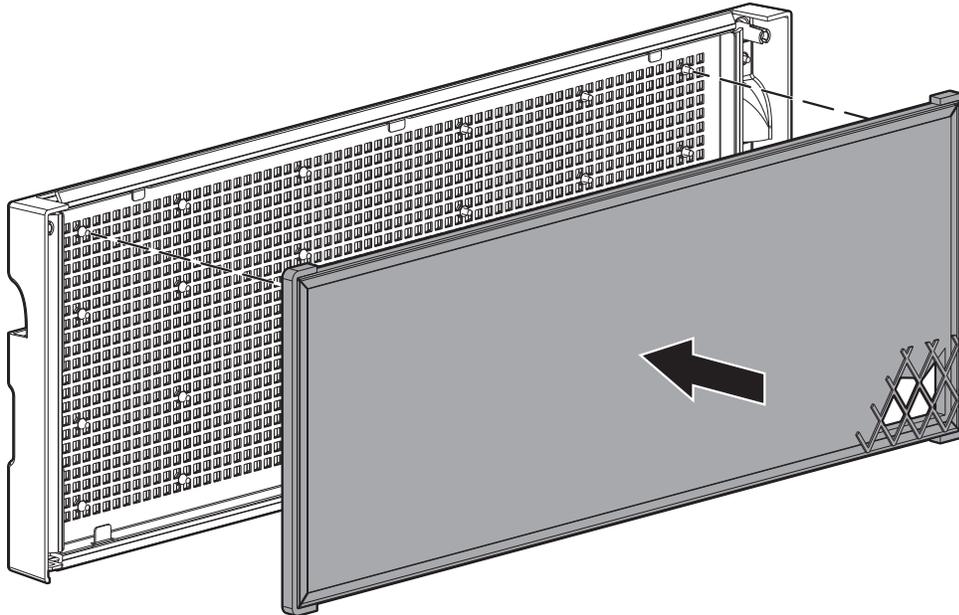
---

## Replacing the Air Filter

Whether replacing an air filter or reusing one that has been reconditioned, install the air filter into the bezel before reattaching the bezel to the front of the chassis.

1. Locate the bezel removed from the chassis.
2. Orient the bezel to view its back side.
3. Orient the air filter in a forward-facing position, with the foam facing forward — toward the bezel vents — and the retaining mesh facing away from the bezel.

**Figure 24:** Orienting the air filter

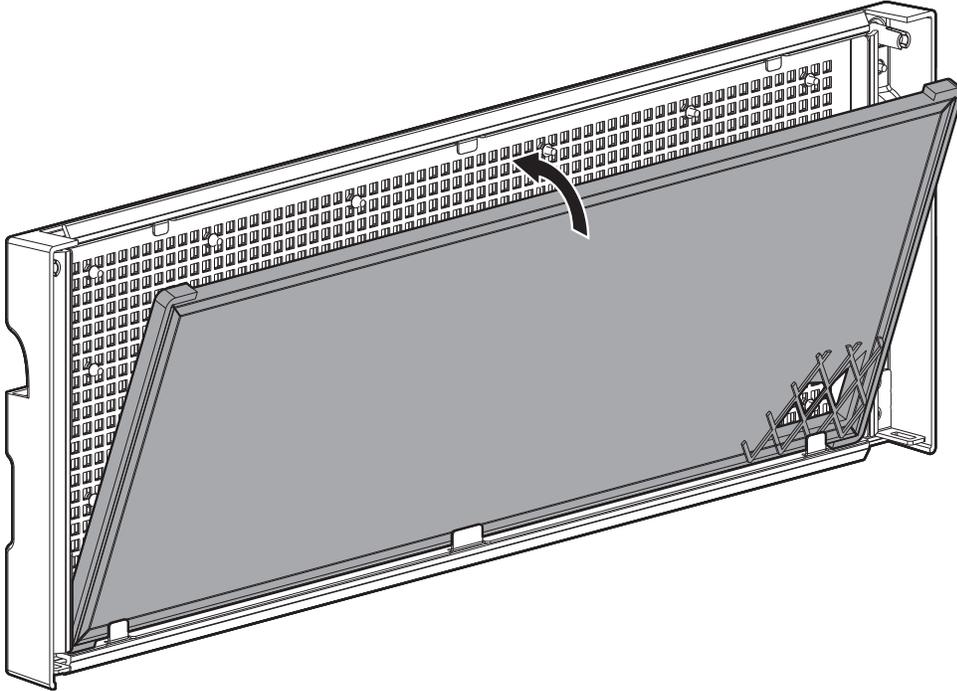


**Note:** The air filter mesh — which would be fully visible in the above orientation — is simplified for clarity.

4. Align the bottom corners of the air filter per the thrust lines shown in the illustration above. You will insert the bottom edge of the air filter frame into the two mounting channels.
5. While tilting the top of the air filter frame slightly away from the bezel — about the horizontal axis — slip its bottom edge into the mounting channels as far as the filter will go.
6. Gently revolve the air filter into its vertical position, taking care to ensure that the foam pads of the filter frame seat snugly against the interior walls of the bezel.

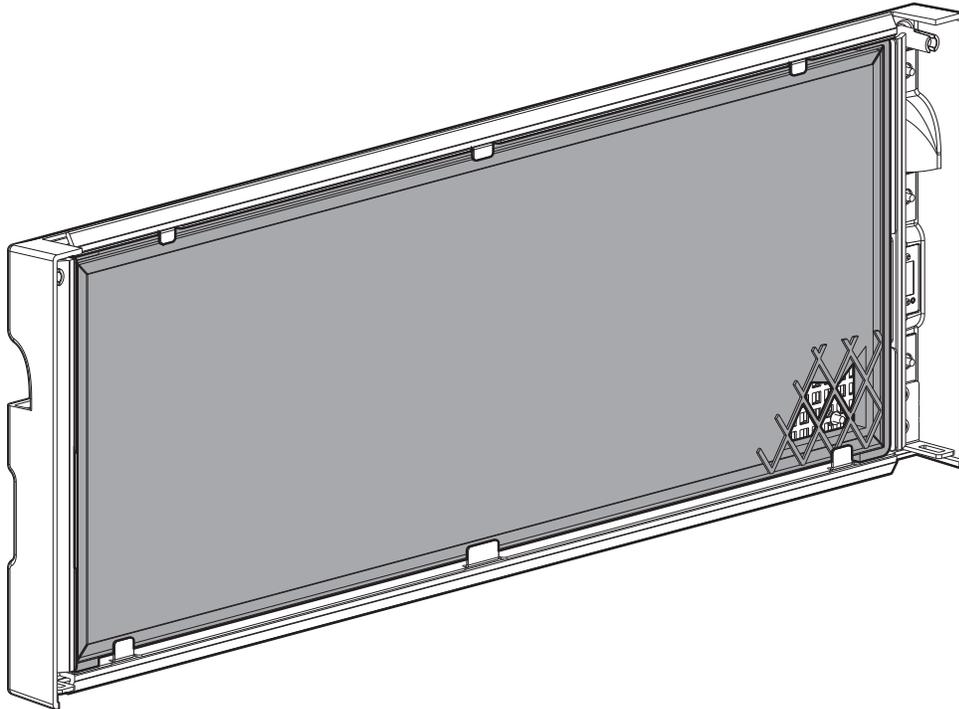
The two filter mounting channels are shown at the base of the bezel in the figure below. One of the channels is located on the lower left side of the EMI shield, and the other is located on the lower right side of the EMI shield.

**Figure 25:** Seating the air filter



Once properly seated — and revolved into position — the installed air filter should appear as shown in the figure below; albeit with visible foam-retaining mesh in front of the shaded foam insert (the mesh is only partially shown in the illustrations provided in this document).

**Figure 26:** Air filter installed



**i Note:** Once the air filter is successfully installed within the bezel, you can reattach the bezel to the front face of the chassis.

## General Guidelines Concerning Air Filters in Inventory

- Replacement air filter storage:

Air filters in inventory should be stored in an environment that is cool, dry, and dark. Heat, humidity, and ultraviolet light can damage air filters.

- Replacement air filter inventory on-hand:

Purchase cost-effective quantities of replacement air filters to maintain sufficient inventories for no more than a few months. Following this approach will enable you to avoid stock-outs and mitigate inventory loss due to shrinkage.

---

## Next Steps

Finish the chassis bezel installation by verifying chassis and component operation. Use either of the following methods to verify chassis and component operation.

## Using management interfaces

Use the web-based management interfaces (Disk Management Utility or the CLI) to monitor the storage system, including monitoring of event notification.

Make note of any irregularities, and troubleshoot as necessary using the fault isolation methodology described in the *QX and QXS Setup Guide*.

If the system has not yet been configured or provisioned, use the Disk Management Utility to perform the tasks. See the *Disk Management Utility User Guide* for information on configuring and provisioning the system.

## Using LEDs

Observe the chassis LEDs (see “LED descriptions” in the *QX and QXS Setup Guide* for more information).

Make note of any irregularities, and troubleshoot as necessary using the fault isolation methodology described in the *QX and QXS Setup Guide*.