

AxiChrom 300-1000 columns

Unpacking Instructions

Original instructions



Table of Contents

1	About this document	3
2	Safety information	5
3	On delivery	9
4	Moving AxiChrom 300-1000 column transport crates	12
5	Unpacking AxiChrom 300-1000 columns	15
5.1	Open the crate	16
5.2	Remove column (300-1000) without eye nuts from the crate	29
5.3	Remove column (800-1000) with eye nuts from the crate	32
6	After unpacking	36
7	Moving AxiChrom 300-1000 columns	37
8	Recycling information	39
9	Reference information	40

1 About this document

Read this before unpacking AxiChrom 300-1000 columns



The instructions in this document provide information that is important for safety during the unpacking of AxiChrom™ 300-1000 columns. Read the entire document carefully before starting to unpack the column.

Scope of the AxiChrom 300-1000 columns Unpacking Instructions

This document includes general procedures that describe the following:

- how to move the transport crates
- how to unpack the column from the crate
- how to move the column to its process location
- how to dispose of the packaging material

This document does not include information about the following:

- how to install the column at the production site
- optional accessory products that can be used to move the column, such as column wheel kits

Note: *For information about installing, cleaning, operating or storing the column after it has been removed from the crate, refer to the AxiChrom 300-1600 columns User Manual (29099939), Operating Instructions (29065430), or the appropriate accessory product user documentation.*

Safety notices

This user documentation contains safety notices (WARNING, CAUTION, and NOTICE) concerning the safe use of the product. See definitions below.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. It is important not to proceed until all stated conditions are met and clearly understood.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. It is important not to proceed until all stated conditions are met and clearly understood.



NOTICE

NOTICE indicates instructions that must be followed to avoid damage to the product or other equipment.

Notes and tips

- Note:** *A note is used to indicate information that is important for trouble-free and optimal use of the product.*
- Tip:** *A tip contains useful information that can improve or optimize your procedures.*

2 Safety information

General safety instructions



WARNING

Packing crates and columns shall only be moved by personnel with appropriate training, and in adherence with local regulations.

Even if the instructions in the AxiChrom user documentation are followed, it is the responsibility of the customer to guarantee the safety of personnel while working with the column.



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.



WARNING

Due to the significant weight of AxiChrom columns, suitable equipment with adequate lifting capacity must be used when moving the unit or performing maintenance procedures.

- Make sure that all lifting equipment has an adequate capacity to safely lift the weight of the crate and column.
- Make sure that equipment used to move crates or columns over a sloping floor has adequate braking power to control the momentum and prevent the crate or column from moving too fast.



WARNING

Tipping risk. When lifting AxiChrom crates or columns using a lifting truck, make sure that the crate or column is positioned so that there is no risk of the lifting equipment tipping over.

The length of the lifting forks and the lifting capacity at the tips of the forks of the lifting equipment must allow lifting the weight of the crate and column without the risk of tipping off the forks.



WARNING



AxiChrom crates and columns are marked with center of gravity symbols. Make sure that center of gravity symbols are properly balanced and centered with respect to the lifting equipment used, so that the crate or column will not accidentally tip when moved.



CAUTION

To prevent bacterial growth, the product may be partly filled with denatured alcohol (18% C_2H_5OH (ethanol), 2% C_3H_7OH (isopropanol) and 80% H_2O (water)) at delivery.

The denatured alcohol mixture can be hazardous to humans if consumed.

Flush out the denatured alcohol before assembling, testing or integrating the product into the intended process context.



CAUTION

Packing crates may have been exposed to pesticides, depending on the regulations of the country of delivery. Recycle packing crates according to local recommendations for pesticide-treated wood.

Personal protective equipment



WARNING

For personal safety during the transportation, installation, operation, maintenance and service of columns, use protective glasses and other personal protective equipment appropriate for the current application at all times. The following personal protective equipment should always be available:

- Protective glasses
- Working gloves to protect against sharp edges
- Protective footwear, preferably with steel toe-cap
- Disposable gloves

Always use clean disposable gloves when manually handling parts.

Moving after unpacking



WARNING

Be very careful when moving the column to make sure that the column does not tip.



WARNING

Maintain a safe distance when moving the column. Make sure that no person is near the column when the column is in motion, other than the personnel required to perform lifting and moving procedures.



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.



NOTICE

Perform all assembly and handling of material on clean, non-ferritic surfaces.

**NOTICE**

Make sure not to damage the surface of the column during unpacking and moving. Use padding material to protect column contact surfaces.

3 On delivery

Check the consignment

On receipt of the crates:



Step	Action
1	Verify the number of crates according to the delivery notes.
2	Check the crates for signs of damage. If any damage is observed, record this on the receiving documents.

Step	Action
------	--------

- | | |
|---|---|
| 3 | Move the crates to a suitable protected indoor location for temporary storage or immediate unpacking. Follow the instructions (see Chapter 4) when moving the crates. |
|---|---|

**CAUTION**

To prevent bacterial growth, the product may be partly filled with denatured alcohol (18% C₂H₅OH (ethanol), 2% C₃H₇OH (isopropanol) and 80% H₂O (water)) at delivery.

The denatured alcohol mixture can be hazardous to humans if consumed.

Flush out the denatured alcohol before assembling, testing or integrating the product into the intended process context.

**NOTICE**

AxiChrom packing crates should be unpacked and the column emptied and cleaned as soon as possible following delivery. Storage of an AxiChrom column in its packing crate for more than three months is not recommended.

Note:

The hose installed on the top mobile phase when the column is delivered is only intended for storage solution conditioning and should be discarded when the column is installed. The maximum operating pressure of the hose is 1 bar.

- | | |
|---|---|
| 4 | Contact your Cytiva representative and inform of the delivery and of any damage that has been observed. Inform also about anything written on the receiving documents concerning transportation damage. |
|---|---|

Storage site requirements

The area used for storage of the column in its transport crate must be an indoor environment that fulfils the following conditions:

Parameter	Value
Ambient temperature	Below 30°C ¹
Relative humidity	0% to 95%, non-condensing

¹ When 20% ethanol is used as the storage solution it is recommended that the storage environment temperature is maintained between +4°C and +24°C.

Note: *The air humidity and air temperature differences at the storage site should be kept as low as possible to prevent condensation and corrosion.*

4 Moving AxiChrom 300-1000 column transport crates

Lifting equipment

Suitable lifting equipment with a minimum capacity to safely lift the empty weight of the column plus the transport crate is required to move an AxiChrom 300-1000 column transport crate, for example:

- a crane or hoist equipped with lifting slings, or
- a pallet lift or forklift.



WARNING

Tipping risk. When lifting AxiChrom crates or columns using a lifting truck, make sure that the crate or column is positioned so that there is no risk of the lifting equipment tipping over.

The length of the lifting forks and the lifting capacity at the tips of the forks of the lifting equipment must allow lifting the weight of the crate and column without the risk of tipping off the forks.

Before moving the transport crate make sure that the following applies:

- all surfaces have sufficient load bearing capacity, and
- all openings and apertures that the transport crate is intended to pass through are large enough to allow passage of the lifting equipment and transport crate when it is lifted from the floor.

Note: *For dimensions and weight information for AxiChrom 300-1000 columns, see Chapter 9.*

Lifting the crate

Follow these instructions when moving AxiChrom 300-1000 column transport crates.





Step	Action
------	--------

- | | |
|---|--|
| 1 | Make sure that all crate lifting equipment has the capacity to safely lift the weight of the crate and column. |
|---|--|


Step	Action
------	--------

- | | |
|---|---|
| 2 | Read and carefully follow the instructions provided by the labels and symbols on the transport crate. |
|---|---|

The following table shows examples and explains the meaning of the information text and symbols that may be found on the transport crate.

Symbol	Explanation
	This side up
	Fragile
	Keep dry
	CAUTION TOP HEAVY. The center of balance is offset and is higher than the center of the crate.

3

Event	Action
<p>If lifting the crate with a pallet lift or forklift,</p>	<p>insert the forks of the lifting equipment under the crate according to the positions shown in the following illustrations, so that the center of gravity symbol on the crate panel is centered between the lifting forks.</p> <div data-bbox="535 403 983 671"></div>
<p>If lifting the crate with a crane or hoist,</p>	<p>make sure that the slings are positioned at equal distance from the center of balance symbol on the crate. The slings must be carefully positioned so that there is no risk that the slings could slip or that the crate could tip when lifted.</p>



NOTICE

Insert protective padding between the lifting slings and sharp edges to prevent damage to the lifting slings.

4

Make sure that the load is properly balanced before lifting.

If lifting with lifting forks, make sure that the weight is evenly distributed across the forks of the lifting equipment.

5 Unpacking AxiChrom 300-1000 columns

About this chapter

This chapter provides a description of the area, procedures and tools required to open the transport crate and remove the column from the crate.

In this chapter

Section		See page
5.1	Open the crate	16
5.2	Remove column (300-1000) without eye nuts from the crate	29
5.3	Remove column (800-1000) with eye nuts from the crate	32

5.1 Open the crate

Remove bolts

All bolts to be removed during the unpacking procedure are marked with a black ring, as shown in the illustration.



Space and floor load

Before beginning to unpack an AxiChrom 300-1000 column from its transport crate make sure that the following applies:

- the unpacking surface has the capacity to support the weight of the crate and column
- the area selected for unpacking the AxiChrom 300-1000 column from the transport crate is large enough to allow a *minimum* clearance of at least 1.5 meters around all four sides of the crate

Note: *The clearance height required to unpack AxiChrom 300-1000 columns depends on the equipment used to lift and move the column.*

For further information about weights and dimensions, see Chapter 9.

Tools and equipment

The following tools are required to unpack AxiChrom 300-1000 columns:

- an overhead crane or hoist with a lifting capacity to safely lift the size and weight of the column
- three round slings, with a minimum total lifting capacity to safely lift the size and weight of the column
- a crowbar or lever

- a 10 mm socket wrench, or power driver with attachment for removing 10 mm hexagonal-headed bolts/screws
- a sharp knife, scissors or clippers



WARNING

For personal safety during the transportation, installation, operation, maintenance and service of columns, use protective glasses and other personal protective equipment appropriate for the current application at all times. The following personal protective equipment should always be available:

- Protective glasses
- Working gloves to protect against sharp edges
- Protective footwear, preferably with steel toe-cap
- Disposable gloves

Always use clean disposable gloves when manually handling parts.

Open the crate

The following instructions describe how to open the AxiChrom 300-1000 column transport crate.

Note: *It is recommended that at least two people work together to unpack AxiChrom 300-1000 columns.*

Step	Action
1	Make sure that the crate is located on a stable and level surface.
2	Make sure that all participants of the unpacking procedure are wearing protective glasses, working gloves and protective footwear.
3	Use a sharp knife, scissors or clippers to carefully remove the black straps that are fastened around the crate.



NOTICE

Be aware that the straps around the crate are fastened under tension. They may whip off suddenly and travel some distance when clipped.

Step	Action
------	--------

- | | |
|---|---|
| 4 | Unscrew all bolts marked with a black ring from the top of each of the four side panels of the crate, as shown in the illustration. |
|---|---|



- | | |
|---|--|
| 5 | Insert a crowbar or lever between the top of the crate and the lid, and carefully detach the lid from the rest of the crate. |
|---|--|



Step	Action
------	--------

6	Lift off the lid with the help of a second person.
---	--

Note:

Note that crate panel weights increase correspondingly with column size.

7	Unscrew all bolts marked with a black ring that fasten one side of the front panel to the crate.
---	--



Step	Action
8	Unscrew all bolts marked with a black ring that fasten the bottom of the front panel to the crate.



9	Unscrew all bolts marked with a black ring that fasten the other side of the front panel to the crate.
---	--



Tip:

Make sure that a second person supports the front panel, or unscrew the central-most bolt at the side of the panel last, to prevent the front panel from falling.

Step	Action
10	Lift off and remove the front panel from the crate, with the help of a second person.

Remove supports and accessories

The following instructions describe how to remove the fastening beams that support the column inside the AxiChrom 300-1000 transport crate, and how to remove the column accessories box.

Step	Action
1	Remove the lid and front panel from the crate as described in Open the crate, on page 17 .

Step	Action
------	--------

- | | |
|---|---|
| 2 | Place a ladder or platform beside the crate, to allow access to the inside of the crate from above. Make sure that the ladder or platform is stable and secured in place. |
|---|---|



Step Action

- 3 Unscrew all bolts marked with a black ring from the column top support panel that surrounds the far side of the column inside the crate.



- 4 Remove the column support panel from the crate.



Step	Action
------	--------

- | | |
|---|---|
| 5 | Move the ladder or platform to the front of the crate, and then repeat steps 3 and 4 to remove the second support panel from the crate. |
|---|---|

Result:



Step	Action
------	--------

- | | |
|---|--|
| 6 | Open the strap that fastens the accessories box in place inside the crate, and then remove the accessories box from the crate. |
|---|--|



- | | |
|---|---|
| 7 | Open the accessories box and check the contents against the packing list to make sure that all accessories have been delivered with the column. |
|---|---|



NOTICE

Do not proceed with the unpacking procedure if any accessory essential for the installation of the column is missing or damaged. Report any missing or damaged accessories to your local Cytiva representative.

Step	Action
------	--------

- | | |
|---|---|
| 8 | Unscrew all bolts that fasten the black metal bracket to the crate. |
|---|---|



- | | |
|---|---|
| 9 | Remove the black metal bracket from the crossbar, and then remove the wooden crossbar that immobilizes the legs of the column stand during transport. |
|---|---|



Step	Action
------	--------

- | | |
|----|---|
| 10 | Unscrew the bolt marked with a black ring from the crossbar support at one side of the crate. |
|----|---|



- | | |
|----|--|
| 11 | Unscrew all bolts marked with black rings that fasten the front support beam to the crate, including the bolt on the crossbar support at the opposite side of the crate. |
|----|--|



Step	Action
-------------	---------------

12	Lift and remove the front support beam from the crate.
----	--



5.2 Remove column (300-1000) without eye nuts from the crate

AxiChrom 300-1000 columns

The following instructions describe how to lift AxiChrom 300-1000 columns without eye nuts out of the crate using a crane or hoist.

It is recommended that a crane or hoist and non-ferritic lifting slings are used to remove the column from the crate.



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.

Step	Action
1	Open up the top of the column wrapping that covers the column during transport.



Step	Action
------	--------

- | | |
|---|--|
| 2 | Wrap non-ferritic lifting slings around the column pillars. Make sure that the lifting slings have a minimum total lifting capacity to safely lift the weight of the column. |
|---|--|



NOTICE

Insert protective padding between the lifting slings and sharp edges to prevent damage to the lifting slings.

- | | |
|---|---|
| 3 | Attach the lifting slings to the lifting hook of an overhead hoist or crane and carefully raise the lifting hook a few centimeters at a time, making sure that the lifting slings are straight, until the weight of the column is fully supported by the overhead crane or hoist. |
|---|---|

Step	Action
4	Slowly and carefully, lifting the column minimally as needed for clearance, lift and move the column with the overhead crane or hoist until the column is clear of the crate.

Note:

When moving the column horizontally, an additional operator or steering ropes may be required to make sure that the column does not swing.



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.



WARNING

Maintain a safe distance when moving the column.

Make sure that no person is near the column when the column is in motion, other than the personnel required to perform lifting and moving procedures.

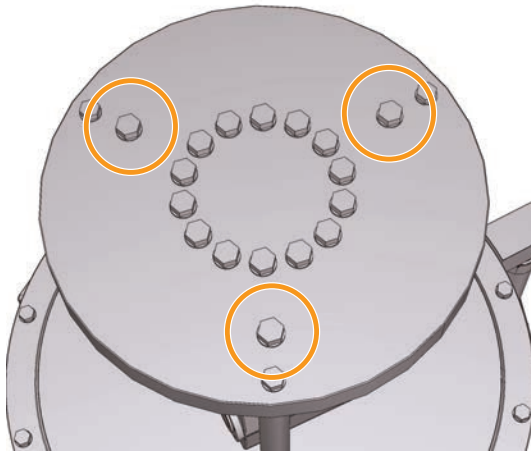
5.3 Remove column (800-1000) with eye nuts from the crate

AxiChrom 800-1000 columns

The following instructions describe how to lift AxiChrom 800-1000 columns with eye nuts out of the crate using a crane or hoist.

Step	Action
------	--------

- | | |
|---|--|
| 1 | Remove part of the protective wrapping from the top of the column and locate the three attachment points for the lifting eye nuts on the column top plate. |
|---|--|



- | | |
|---|--|
| 2 | Take out the three lifting eye nuts from the accessories box. Screw the lifting eye nuts onto the attachment points on the column top plate. |
|---|--|

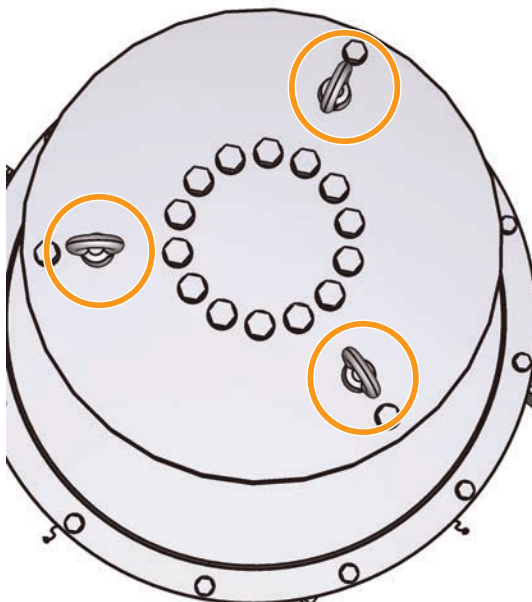


NOTICE

Make sure to keep the plastic washer underneath the eye nut and the steel washer under the bolt head.

Step	Action
------	--------

- | | |
|---|--|
| 3 | The side of each eye nut loop should point towards the center of the column, as shown in the following illustration. This avoids unnecessary strain on the eye nuts and lifting slings during lifting. |
|---|--|



NOTICE

Make sure that the lifting eye nuts are firmly tightened.



NOTICE

The operator may need to kneel on the column to access the top plate of the largest column. Protect column contact surfaces with suitable padding material to prevent damage to the column.

Step	Action
4	Attach round slings or lifting chains to the lifting eye nuts. Make sure the slings or chains have enough capacity to lift the column safely. Carefully lift the column a few centimeters, and make sure that the lifting slings or chains are straight and that the weight of the column is fully supported by the overhead crane or hoist.



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.



NOTICE

Make sure that the column does not swing when lifted.

Step	Action
5	Slowly and carefully, lifting the column minimally as needed for clearance, lift and move the column with the overhead crane or hoist until the column is clear of the crate.

Note:

When moving the column horizontally, an additional operator or steering ropes may be required to make sure that the column does not swing.



WARNING

Maintain a safe distance when moving the column.

Make sure that no person is near the column when the column is in motion, other than the personnel required to perform lifting and moving procedures.

6 After unpacking

Inspect the column

After the column is unpacked from the crate, perform the following:

Step	Action
1	Visually inspect all AxiChrom components for potential damage during transportation.
2	Make a written record of any damage and report the damage, together with a written comment on the receiving documents, to your local Cytiva representative.

Procedures before use

After removing the equipment from the packing crate, the following steps must be performed before the column can be used:

Stage	Description
1	The equipment must be moved to its intended process location. Note: <i>For information about moving the column to its process location, see Chapter 7.</i>
2	The column must be leveled, connected up, cleaned and prepared for use.



NOTICE

Leveling of the column must be performed when the column is in its operating position and operating configuration mode. Do not perform leveling when the column is in its maintenance or swing out mode.

Note:

For information about how to install and prepare the column for use, refer to the AxiChrom columns Site Preparation Guide (29326089), AxiChrom 300-1600 columns User Manual (29099939), and Operating Instructions (29065430).

7 Moving AxiChrom 300-1000 columns

Introduction

After unpacking, the AxiChrom 300-1000 column must be moved to the designated process location using suitable lifting and moving equipment.

Precautions when moving



WARNING

Be very careful to avoid any risk of injury, and especially squeezing or crushing injuries, when moving the column.



WARNING

Due to the significant weight of AxiChrom 300-1000 columns, suitable equipment with adequate lifting capacity must be used when moving the unit or performing maintenance procedures.

- Make sure that all lifting equipment has an adequate capacity to safely lift the weight of the crate and column.
- Make sure that equipment used to move crates or columns over a sloping floor has adequate braking power to control the momentum and prevent the crate or column from moving too fast.



WARNING

Be very careful when moving the column to make sure that the column does not tip.



WARNING

Maintain a safe distance when moving the column. Make sure that no person is near the column when the column is in motion, other than the personnel required to perform lifting and moving procedures.

Moving the column



NOTICE

Do not place any type of lifting or moving equipment under the column feet. Screw threads may be damaged if uneven pressure is placed on the column feet.

The following equipment can be used to move an AxiChrom 300-1000 column to the designated process location after unpacking from the crate:

- an overhead crane or hoist and lifting slings, attached to the column as described in [Section 5.2 Remove column \(300-1000\) without eye nuts from the crate, on page 29](#) and [Section 5.3 Remove column \(800-1000\) with eye nuts from the crate, on page 32](#).
- a pallet lift or lifting truck, with the forks positioned under the column frame, so that the center of gravity symbol on the column is centered between the lifting forks.



NOTICE

Make sure that lifting forks inserted under the column frame do not come into contact with the media valve or piping at the bottom of the column.

- a wheel kit (optional accessory).

Note: *Information about moving the column using a wheel kit can be found in the instructions provided with the wheel kit.*

- air casters.



NOTICE

If air casters are used, follow the instructions and recommendations of the manufacturer of the air casters.

8 Recycling information

Recycle empty crates



Recycle the empty packing crates and packaging materials in accordance with current local rules and regulations.



CAUTION

Packing crates may have been exposed to pesticides, depending on the regulations of the country of delivery. Recycle packing crates according to local recommendations for pesticide-treated wood.

9 Reference information

Dimensions and weight specifications

For information on column and crate dimensions and weight specifications, refer to the column operating instructions (29065430) or the appropriate site preparation guide for each column.

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