

User manual

Lifting columns



Made in Sweden

Document revision history

Version	Date	Description
1	2022-03-23	First version.
2	2023-03-03	Updated manufacturer's address.

Disclaimer and exclusion of liability

Phoenix Mecano AB is not responsible for damage resulting from:

- failure to observe these instructions,
- changes made to X2 Technology lifting columns which have not been approved by Phoenix Mecano AB, or
- the use of replacement parts which have not been manufactured or approved by Phoenix Mecano AB.

Manufacturer's address

Phoenix Mecano AB Kvarnvägen 14 352 41 Växjö, Sweden Tel: +46 (0)470 71 79 50 info@phoenix-mecano.se www.phoenix-mecano.se

3
7
8
9

1. Installation

The safety and reliability of your application containing the X2 Technology lifting column(s) can be ensured by using the proper installation methods described below.

1.1 Avoiding fatigue fractures

X2 Technology lifting columns that are incorrectly installed can undergo fatigue fractures which then create a risk of injury.

- Install the lifting column(s) in your application so that it is properly aligned. This will help prevent locked-up stresses.
- Do not position the lifting column(s) at a slanted angle when installing it in your application. A slanted angle between the intended direction of movement of your application and the lifting column's direction will create shear stress and could lead to fatigue fractures.
- Be sure to install the lifting column(s) so that it can always move freely along its full stroke in all operative states.

1.2 Avoiding pinching hazards

Install the X2 Technology lifting column(s) so that none of the positions where shear and pinch hazards exist are accessible externally.

1.3 Installation procedure

Before installing the X2 Technology lifting column(s), ensure that your control system (e.g. control box) is communicating with the lifting column(s) flawlessly.

Mount the lifting column(s) in its unloaded position within your application. Utilize all the available threaded holes in both the inner and outer tubes of the lifting column(s).

If your application requires two or more lifting columns working parallelly, install the lifting columns in flexible attachment points. This must be done in order to avoid locked-up stresses when there are small speed differences between the lifting columns. Please see Figure 1 and Figure 2 on the following page explaining this phenomenon.



Figure 1: Do not install like this. Occurrence of locked-up stresses due to nonmobile (fixed) mounting of the lifting columns.



Figure 2: Install like this. Avoidance of locked-up stresses due to articulated (flexible) mounting of the lifting columns.

Install the lifting column(s) firmly with washers and minimum 8.8 grade screws that maximize the thread engagement. Shorter thread engagements will weaken the screw joints. Please see Figure 3, Table 1 and the technical drawing of your lifting column for guidance on selecting appropriate screws.



Figure 3: Section view of screw joint between your attachment point and the X2 Technology lifting column.

Screw size	Thread engagement [mm]	Tightening torque [Nm]
M5	14	5,7
M6	16	9,8
M8	22	24
M10	28	47

 Table 1: Recommended thread engagement and tightening torque for 8.8 grade screws.

1.4 Electrical connection

Electrical components should be connected or disconnected only when the mains power or battery power is disconnected.

Ensure that the cable(s) protruding from the X2 Technology lifting column(s) cannot be cut, kinked, pulled, twisted or violently disturbed in any other way. Secure the cable(s) using sufficient strain relief and kink prevention methods.

Ensure that all live (current carrying) parts of the drive system and power supply cannot be touched. Unused power and control unit connections should be covered adequately.

2. Operation

Please observe the following instructions before operating the X2 Technology lifting column(s) in your application.

- Do not run the lifting column(s) in a horizontal position. The lifting columns are designed to be operated in a vertical position and can be damaged if done otherwise.
- Do not overload the lifting column(s). The maximum allowed load is indicated on the label placed on the lifting column(s).
- Do not run the lifting column(s) at max speed near the end limits. Use ramped starts and stops. Ramped starts and stops comes as a standard option in all the control boxes Phoenix Mecano AB offers.
- Do not run the lifting column(s) if they start to emit any unusual sounds or smells. Contact Phoenix Mecano AB in this case.
- Do not run the lifting column(s) in temperatures outside the range of +10°C to +40°C.

3. Maintenance

3.1 Inspection

Type of inspection	Explanation	Time interval
Function and safety of the electrical system.	A qualified electrician should carry out this inspection. Please see chapter 1.4 "Electrical connection".	Periodic inspections can be carried out at intervals based on the risk assessment which you conduct for your application.
Mechanical integrity of the lifting column tubes and cover plates.	Inspect the tubes and cover plates for breaks or cracks.	At least every six months.
Condition of cables and connectors.	Inspect all electrical cables and connectors for damage or mispositioning. Also inspect the strain relief and kink protections mechanisms, in particular after any mechanical load.	At least every six months.
Overall functionality of the lifting column(s).	While moving the lifting column along its full stroke (to both the upper and lower end limit), check for any unusual sounds or smells.	At least every six months.

3.2 Cleaning and lubrication

Phoenix Mecano AB offers a service kit containing a cleaning liquid, lubricant and cloths. If your X2 Technology lifting column(s) is exposed to any chemicals or cleaning agents, then use this service kit in order to preserve the qualities of the lifting column(s). More information about the service kit is available on our website.

Never clean X2 Technology lifting columns in an automated washing system or with a high-pressure cleaner.

3.3 Repair

In order to guarantee a sufficient level of safety, only use spare parts which have been manufactured or approved by Phoenix Mecano AB. If you deem that the X2 Technology lifting column(s) in your application must undergo extensive repair, contact Phoenix Mecano AB.

4. Disposal



The majority of X2 Technology lifting columns include both mechanical and electronic components made of various metals and plastics. You should observe all corresponding national and regional environmental regulations when disposing of your lifting column(s).

Phoenix Mecano AB

- +46 470 717950
- info@phoenix-mecano.se
- % www.phoenix-mecano.se



