Z NOT MOVING;

Z MOVEMENT REQUEST IS NOT PERFORMED

APPLICABLE TO:	Precision system
ERROR MESSAGES:	Z not moving
	(or no error message)
INFORMATION:	This instruction explains all the terms for allowing upwards and downwards

movement of tube (Z axis) in Precision system.

HOW THE AFFECTED FUNCTIONALITY IN THE SYSTEM <u>SHOULD</u> WORK:

When in idle mode and pressing either Z up or Z down on tube display or handle a movement should start.

SYMPTOMS OF THIS ERROR:

Movement is not possible when pressing a button.

POSSIBLE CAUSES:

- Software settings
- Electrical circuits
- Mechanical issues

ACTION STEPS:

Depending on your situation, focus on upwards, downwards or both directions.

This document starts off with general checks for both directions and divides later into upwards/downwards.

GENERAL CHECKS FOR BOTH UPWARDS AND DOWNWARDS MOVEMENT

Check status of frequency converter: It should state "rdy" when in idle mode.

And it should show the actual frequency while driving – 21.0 at low speed and 63.0 during full speed:



Idle mode.



Full speed.



Low speed. (when approaching end stops or in table safety zone)

Check indication light status of Z encoder:



Green light	=	ОК
Red light	=	Problem with encoder
No light	=	No 24 VDC power supply

Check connections at "1.1CBZ" Master node:



Make sure connector J1 and J3 from Z encoder are plugged in properly and all wires are connected at correct pin number (1-6).



Check settings in Arcoma service software:

The node must have correct software loaded and helix compensation must be calibrated. See separate manuals for determining and loading software. See Installation and Service manual for calibration procedure of helix.



Position value should be within range of high and low end stops:

EXAMPLE: Movement is only allowed if position is < 2072 and > 323.



Encoder value and position value should update during movement:

Check guard settings and condition of guard plate.

AD value should be stable in idle mode and change when applying pressure on column:

🗥 ArcoCeil - [Guard node]			
Ele Edit View Operations Wind System P. X System P. X System P. X Motor nodes Stand Motor nodes X node Node Stand Motor nodes X node Stand Motor nodes Stand Motor nodes Stand Motor nodes Stand Motor nodes Stand S	Set balance Set pos. 1 70 Set pos. 2 70 AD value 2250 SET BALANCE Rotate Beta to 0 degres. Press the SET SET POS. 1	Pos. 1 Balance Pos. 2 Illustration of force detection BALANCE button to save the balance value.	- ē ×
System messages			4 x

It is possible to temporarily unplug the guard plate (strain gauge) from guard node:



NOTE! The guard plate is crucial for the safety design and should only be disconnected **temporarily for troubleshooting purposes**. Always make sure to reconnect it before handing system over to users again.

Check 1.2RE01 contactor relay:



24 VDC power supply to coil of relay (A1 and A2) is provided at start up and relay gets activated. If relay is deactivated, check emergency stop circuit and/or status of system nodes.

Check security switches for steel band inside column at connector 1.ZJ01:



Unplug the cable from column connected at 1.ZJ01 and measure continuity between pins 1,2 and 3.

Circuit closed between pin 3 and 1 = OK, downwards movement is allowed.

Circuit closed between pin 3 and 2 = OK, upwards movement is allowed.

If any circuit above is open, it indicates a problem with microswitches inside column.

TERMS FOR DOWNWARDS MOVEMENT:

The following relays should be activated when pressing button for *downwards* movement:

_		· — · — · — · — · — · — · —
	1.1RE04	Z–Column 1/2 speed
	1.1RE05	Z-Column down
i	1.1RE06	Z-Column up
	1.1RE07	Z-Crash guard Up
	1.1RE08	Z-Crash guard Down
Ì	1.1RE09	Z-Mag
	1 1R01 21	Mohm 0.6w
	1 1R02 2	Mohm 0.6w
L	<u> </u>	· _ · _ · _ · _ · _ · _ · _ · _ · _

1.1RE04: Should be activated, or else column will only go low speed
1.1RE05: Should be activated, or else error message* will appear
1.1RE07: Should be activated (is controlled by guard node)
1.1RE08: Should be activated or else error message* will appear
1.1RE09: Should be activated or else will cause squeeky noise



*error message: "Z not moving"

Confirm that the two wires of cable "1.3IR" is shorted in the end that says "1.3RCC01:J1".

It is located underneath upper tube cover:





NOTE! Assembly procedure have changed over time - cable could also be routed inside white hose on your system. A jumper can be connected on 1.1J04 11-12 if cable 1.3IR is inaccessible.

Check electrical end stops (micro switches) in column for downwards movement:

See previous step "Check security switches for steel band inside column at connector 1.ZJ01".

TERMS FOR UPWARDS MOVEMENT:

The following relays should be activated when pressing button for *upwards* movement:

1.1RE04 Z-Column 1/2 speed 1.1RE05 Z-Column down 1.1RE06 Z-Column up 1.1RE07 Z-Crash guard Up 1.1RE08 Z-Crash guard Down 1.1RE09 Z-Mag 1.1R01 2Mohm 0.6w 1.1R02 2Mohm 0.6w

1.1RE04: Should be activated, or else column will only go low speed
1.1RE06: Should be activated, or else error message* will appear
1.1RE07: Should be activated (is controlled by guard node)
1.1RE08: Should be activated or else error message* will appear
1.1RE09: Should be activated or else will cause squeeky noise

*error message: "Z not moving"



Check electrical end stops (micro switches) in column for upwards movement:

See previous step "Check security switches for steel band inside column at connector 1.ZJ01".

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