

## ADJUSTABLE FREQUENCY DRIVES

### 1. INTRODUCTION

This sample pre-functional checklist is for hypothetical adjustable frequency drives.

### 2. APPLICATION

Checklist items are to be completed as part of installation, start-up, and initial quality control inspection. This checklist does not take the place of the manufacturer's recommended checkout and start-up procedures or reports.

Line items shall be complete and shall be checked off only by parties having direct knowledge of that line item being completed.

Inapplicable line items shall be identified as such by:

- "N/A" for non-applicable line items.
- "BO" for line items by others.

Contractors assigned responsibility for checklist line items shall be responsible for those line items, even if line item is sub-contracted.

Identify line item status by:

- Indicating line item is complete by checking respective box.
- Indicating line item is incomplete by recording a remark number in respective box and providing associated comment below table.

"Contr." column or abbreviations in brackets to the right of an item identifies responsible contractor.

### 3. APPROVALS

Contractor signature signifies equipment identified herein and systems integral to them are complete and ready for functional performance testing with the exception of consequential items.

_____ (General Contractor Signature)	_____ (Company)	_____ (Date)
_____ (Mechanical Contractor Signature)	_____ (Company)	_____ (Date)
_____ (Controls Contractor Signature)	_____ (Company)	_____ (Date)
_____ (Test & Balance Contractor Signature)	_____ (Company)	_____ (Date)
_____ (Electrical Contractor Signature)	_____ (Company)	_____ (Date)

4. CHECK-OFF ITEMS

CHECKED ITEM	EQUIPMENT IDENTIFICATION										CONTR.
<b>General Installation</b>											
Permanent equipment label has been affixed.											
Site is sufficiently clean for testing.											
Panel mounting locations have been verified to match drawings.											
Contractor's control drawings have been verified to clearly indicate which equipment pieces are served by which control panels.											
Unit drive size has been verified to match driven equipment motor size.											
Unit has been wired to controlled equipment.											
Enclosures have been verified to be appropriate for environmental exposure.											
Minimum required clearances above, below, and in front of unit have been maintained.											
Unit has been securely mounted.											
Unit has been installed plumb.											
<b>Controls and Programming</b>											
Power has been provided to all equipment and disconnects have been installed.											
All electric connections have been verified to be tight.											
All electrical components have been grounded.											
Line voltage installation to each control panel has been verified to be complete.											
Control signal wiring to sensors has been verified to be shielded.											
Power connections have been verified to be made with 75 °C rated copper wire.											
Pilot lights have been verified to be functioning properly.											

CHECKED ITEM	EQUIPMENT IDENTIFICATION										CONTR.
Internal setting designating model has been verified to be correct.											
Sensors have been calibrated.											
Overcurrent heater sizes have been verified to be correct.											
Motor full load ampere has been verified to represent from 100% to 105% of motor rating.											
Correct volts versus hertz curve has been used.											
Acceleration and deceleration times have been verified to be within 10 to 50 seconds, unless specifically noted otherwise. Actual values are as follows:											
Actual acceleration (sec):											
Actual deceleration (sec):											
Upper frequency limit has been set at 100%.											
Lower frequency limit has been set at approximately 33% of upper frequency limit. Actual value is as follows:											
Actual lower frequency (Hz):											
Adjustable frequency drive has been interlocked to control system.											
Adjustable frequency drive speed readout has been verified to match building control system readout.											
Control signaling device (differential pressure, static pressure, or flow meter) has been verified to be installed in location specified in contract documents.											
Adjustable frequency drive has been fully programmed with program submitted to CxC.											
As-built operation sequences and schedules have been completed with all variations documented and submitted to CxC.											
Specified point-to-point checks have been completed and documentation record has been submitted to CxC.											

CHECKED ITEM	EQUIPMENT IDENTIFICATION										CONTR.
<b>Final</b>											
Startup report has been submitted to CxC which includes:											
<ul style="list-style-type: none"> <li>• Manufacturer's written certification that all specified features, controls, and safeties have been installed and are functioning properly.</li> <li>• Manufacturer's written certification that installation and applications comply with manufacturer's recommendations.</li> </ul>											
Safeties have been installed and safe operating ranges have been submitted to CxC.											
<b>NOTES:</b>											
01											
02											

-- End of Checklist --