



Machine Model	CD-19 & CD-22 Coiling Bowls	Owners Manual
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Figure of the CD-19

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Figure of the CD-22

Contents

SAFETY WARNING	3
GENERAL DESCRIPTION	3
LIMITS OF USE	3
SPECIFICATIONS	4
BOWL DIMENSIONS	5
GUIDE TUBE SIZE	6
BOWL CAPACITY	6
CD-19 & CD-22 CONTROLS	7
CR-11 , CR-22C & CR-22D MACHINE CONFIGURATION	8
OPTIONAL COILING ASSIST	10
MAINTENANCE	11

SAFETY WARNING

Do not remove the wire from the bowl while it is still spinning.

GENERAL DESCRIPTION

The CD-19 and CD-22 Dual Bowl Wire Coiling System have been designed as an optional collection system to coil long wires processed by the Artos CR-11, CR-22C, and CR-22D. This dual bowl design system allows the operator to collect wire from one bowl while the machine is loading wire into the other bowl. With this design, the machine can process wire continuously, improving wire production efficiency.

LIMITS OF USE

The CD-19 and CD-22 machines are intended for use in a dry indoor working environments. The machine cannot be exposed to liquid spray or mist, damages will result. Circuits should never be removed or tampered with or injuries may result. The electrical cabinets should only be opened by trained and authorized personnel. Use of the machine for purposes other than those stated in the general description may result in damage to the machine or personal injury.

SPECIFICATIONS

ELECTRICAL

Power Supply:

115±10% VAC 47-63 Hz. Single Phase 6 amps (Nominal)

Connection to Supply: Hooded connector into CR machine

Protection Against Electric Shock: Grounded metal enclosure

CD-19 DIMENSIONS

Bowl Height from floor 41.7 inches (1059mm)

Overall assembly

Height 44.4 inches (1128mm)

Length 57.4 inches (1458mm)

Depth 25 inches (635mm)

Weight 150lbs (68kg)

CD-22 DIMENSIONS

Bowl Height from floor 40.7 inches (1034mm)

Overall assembly

Height 43.4 inches (1102mm)

Length 59.9 inches (1521mm)

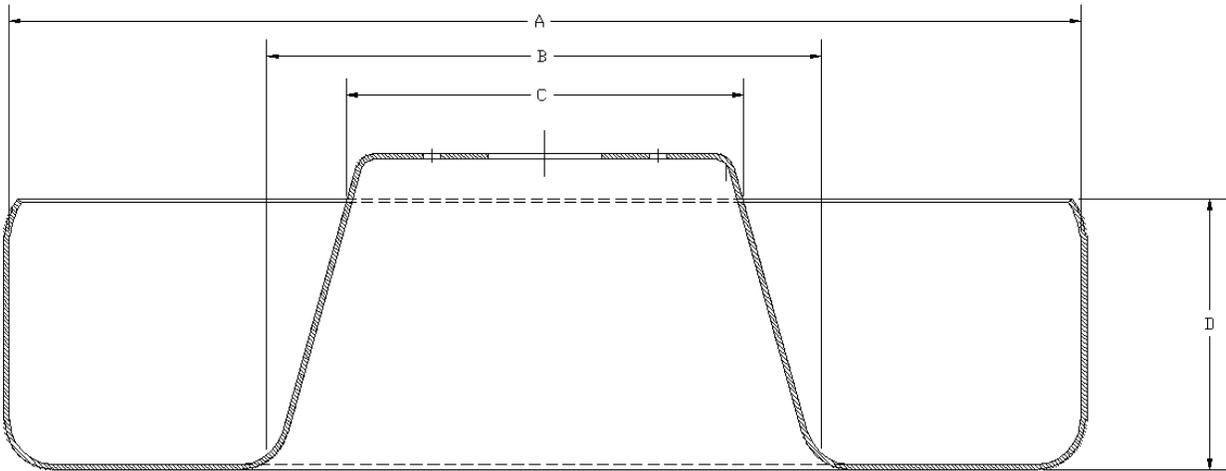
Depth 25 inches (635mm)

Weight 160lbs (73kg)

AIR SUPPLY

Average air requirement 2 cfm (56 L/m) 80 psi (5.5 bar)

BOWL DIMENSIONS



For bowl 81521-1 12 inch 305mm diameter

Outer dimension of coil
A=11.8 inches 300mm

Inner dimension of coil
B=5.7 inches 145mm at bottom of bowl
C=5.2 inches 132mm at top of bowl

Height of coil
D=2.9 inches 74mm at top of bowl

GUIDE TUBE SIZE

The inside of the guide tube is 0.652 inches 16.5mm. The maximum terminal width that can be run is dependent on the flexibility of the wire. A more flexible wire will allow the terminal to go through at an angle so extra space is needed to accommodate the length of the terminal plus the wire extending out from the terminal.

BOWL CAPACITY

The cross sectional area of the 12 inch bowl (81521-1) is 25.0 square inches.
The average diameter is 8.53 inches. The volume is 230 cubic inches

The wire can pile up in one of two ways it could stack up squared off or it could nest into the cable below it. The worst case is that it will nest squared off. So we will use this to compute the area that the cable will use in the bowl (cable diameter²)

Because we cannot actually coil to the top of the bowl, the cable may cross over itself and you need room to reach in your hand, we will have to assume that we can only fill the area to 40%.

For bowl 81521-1 12 inch 305mm diameter

$$r = (\text{outside diameter of wire}/2)$$

$$2.4404/(r^2) = \text{length of cable in bowl in feet}$$

CD-19 & CD-22 CONTROLS



Break Pressure – This controls both the brake pressure and the main air on the manifold. You want to set this gauge low enough that the bowl does not slam to a stop causing the wire to spin and tangle up in the bowl.

Clutch Pressure – This controls how hard the bowls are pulling on the wire. There are times that the CR machine is holding the wire tight (like during the cut and strip) so the bowl needs to slip so the wire does not pull out of the bowl. You also want to be able to safely touch the bowl while it is spinning and it will stop easily. Keep in mind that as you increase the clutch pressure the brake pressure will slightly decrease, this decrease is not visible on the gauge.

The pressure for the sliding tube and bowl select cylinders comes from the main air pressure in the CR machine.

Power Switch – ON/OFF switch. Turn CLOCKWISE to “I” symbol to turn ON and COUNTERCLOCKWISE to “O” symbol to turn off.

Power Light – Lights up when the CR machine connected to the CD-19 or CD-22 power is on. Also when the CD-19 or CD-22 is plugged in and the power is on.

CR-11 , CR-22C & CR-22D MACHINE CONFIGURATION

The CR-11, CR-22C, and CR-22D automatically detects when the coiling bowl is plugged in. It does this through input B11 Post Process Ready. When this input is high the machine goes into coiling bowl mode.

Programming the wire feed speed.

In the wire properties screen set the Feed rate for 5 m/sec or less. This is the maximum speed that the bowl is capable of.

When the coiling bowl is connected, the machine will not use the programmed Feed Pivot position. It will always feed the wire in line with the cut blades.

The screenshot shows the 'Wire Properties' window with the following configuration:

- Name:** T 1.00 Y
- Wire Feed:** Feed Rate: 5.00 m/sec (highlighted in a black box), Acceleration: 80, Slip Sensitivity: 15
- Feed Pivot:** 1 %
- Depart Acceleration:** 100 %
- Depart Velocity:** 100 %
- Length Calibration:**
 - Calibrate From: System Default Calibration Wire Length
 - Wire Length Required: 1270.0 mm
 - Measured Value: 0.0 mm
 - Length Calibration: 1267.0 mm
 - Buttons: Set Calibration Data, Calculate Calibration Value
- Calibration Steps:**
 1. Click Set Calibration Data
 2. Machine Cycle Start
 3. Enter Measured Value
 4. Click Calculate Calibration Value

Control buttons on the right: Apply, a green checkmark button, and a red X button.

Programming coiling bowl speed

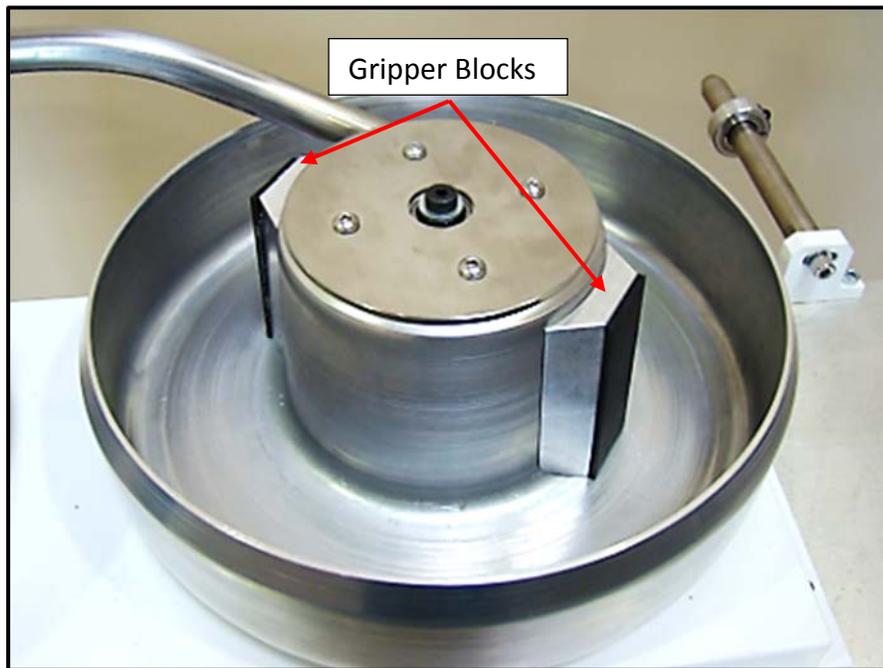
The speed of the coiling bowl is determined by the Conveyor speed setting. You need to program higher speeds for higher feed rates. A speed of 10 corresponds to a feed rate of 0.5m/S. A speed of 100 corresponds to a 5m/S.

The image shows a software window titled "Part Properties" with a close button in the top right corner. The window contains the following elements:

- A header instruction: "Assign a Part from the Name list or create a new one."
- A "Name:" dropdown menu currently showing "332-W7002-1".
- "New" and "Remove" buttons.
- Three tabs: "Description", "Preprocess", and "PostProc". The "PostProc" tab is selected and highlighted in green.
- On the right side, three buttons: "Apply", a button with a green checkmark, and a button with a red "X".
- Inside the "PostProc" tab, there is a large rectangular area containing:
 - An unchecked checkbox labeled "No Batch".
 - A "Release Delay:" label followed by a green input field containing "200".
 - A "Conveyor Speed:" label followed by a green spin box containing "60". This spin box is highlighted with a black border.
 - A "Good part drop Pivot adjust:" label followed by a green input field containing "0" and the text "FBU".
 - An unchecked checkbox labeled "Post Process".
 - A "Resistance range:" label followed by two grey input fields, both containing "0", separated by a hyphen, and the text "k.ohm".

OPTIONAL COILING ASSIST

During the coiling process, the wire may have trouble coiling in the bowl due to a lack of friction between the bowl and wire. This optional coiling assist features two rubber GRIPPER BLOCKS (5-148001) built into the bowl, 180° apart, to help in the coiling process as the wire is being transferred into the bowl.



MAINTENANCE

- Check the control buttons and switches monthly to ensure they are working properly.
- Monthly, while the coiling bowl is spinning use your hand to stop the bowl. If it is difficult to stop, then adjust the clutch pressure (see section **CD-19 & CD-22 CONTROLS** on page 7).
- Once a year, check the Brake Clutch Pads for a buildup of dust or dirt. If dust or dirt is found blow it out with compressed air.



- Once a year check the Belt for wear or missing teeth.

