

## Instruction Manual

### 80209 Pellet Dispenser for 14, 20, 45 and 190 mg pellets and 80209-Det and 80209-sDet Pellet Detectors



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## Introduction

The Campden Instruments 80209 Pellet Dispenser is a standard accessory for the Campden range of test chambers. The pellet dispenser is supplied a length of connecting tubing. A reward area (delivery trough) suitable for both pellets and liquid feed can also be supplied under part number 80210. The dispenser has been designed and extensively tested for use with most popular brands and sizes of food pellets. The dispenser is supplied with a selector disc suitable for 45mg pellets as standard, alternative discs suitable for 14, 20 and 190mg pellets are available. Other discs can be supplied on request.

Pellet Detectors (80209-Det and 80209-sDet) are also available for connecting to the outlet of the dispenser. The detector can be used for the detection of pellet jams or an empty pellet reservoir. The detector simply attaches to the dispenser outlet tube and connects (via a 4 way plug/socket) to the dispenser control pcb. The detector is supplied in two versions: 80209-Det is suitable for 45mg and larger pellets whilst 80209-sDet is suitable for pellets smaller than 45mg.

The Reward Area delivery trough is covered under separate documentation.

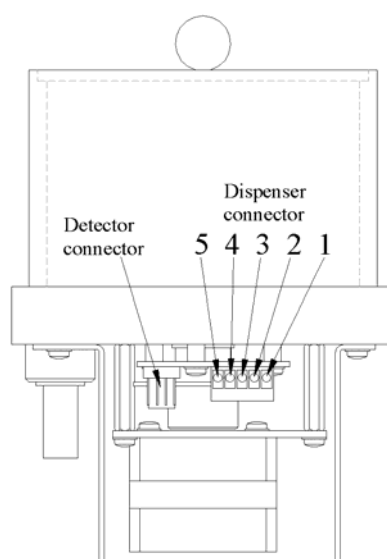
## Operation

Connections to the dispenser are made via the 5 way terminal block on the edge of the control pcb (see illustration below). A 2.5 mm diameter flat tipped screwdriver will be required.

Connections are as follows:

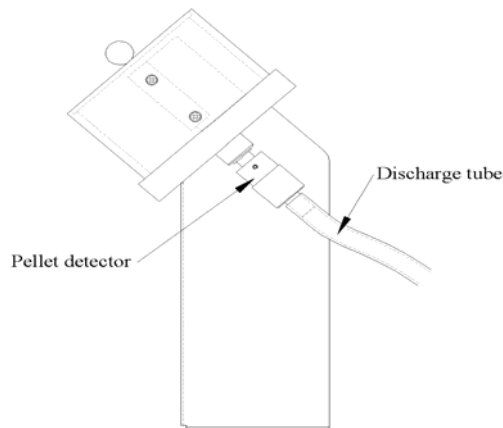
1. Status (Low = 0V, High = 24/28V)
2. Error (Low = 0V, High = 24/28V)
3. 0V
4. Operate
5. 24/28 VDC

The detector (if used) should be plugged into the 4 pin polarised connector on the dispenser control pcb and be fitted to the dispenser outlet tube and (see illustrations below). The detector should be secured to the dispenser outlet with the single setscrew. Note that for correct alignment of the detector, the setscrew should be horizontal.



To operate the Pellet Dispenser, connect the unit as above. Connect the Operate terminal to 0v for >.20mS. Release and reapply for the next dispense operation.

The status line will go low whilst the dispenser is operating. High indicates that the dispenser is ready. The Error line is only active when a detector is connected; if the detector does not detect that a pellet has been fed, the dispenser will automatically try to dispense another pellet. After 9 unsuccessful attempts the Error line will go low. This will therefore indicate that either the reservoir bowl is empty or there is a pellet jam.



To change the pellet wheel proceed as follows:

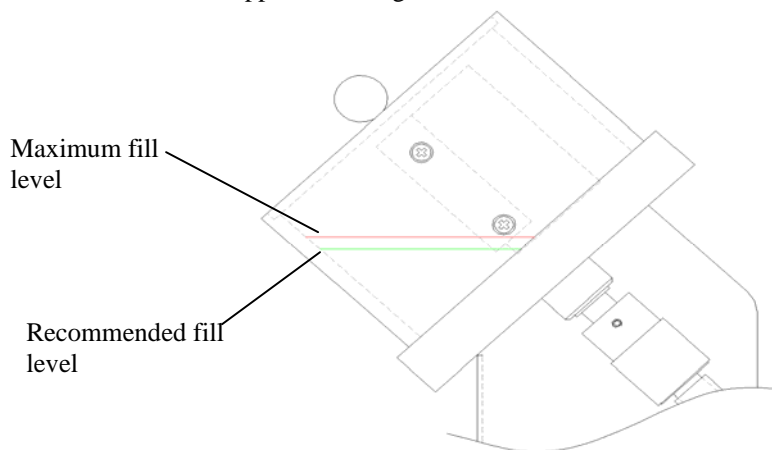
Empty the pellet reservoir bowl and remove the two screws (in the side of the bowl) that secure the curved pellet guide. Remove the guide from the bowl. Loosen and remove the central screw securing the pellet wheel (hint: use a small screwdriver positioned through one of the wheel recesses into the discharge outlet to prevent the wheel turning as the securing screw is loosened). Remove the pellet wheel (if the pellet wheel is tight on the central spigot, carefully push it upwards with a small screwdriver through the discharge hole).

Position the replacement wheel on the spigot (note that the wheel has one (or two) steel pins in its face – the pin(s) must face downwards) and fit the retaining screw but do not tighten it. Operate the dispenser once or twice and check the position of the pellet recesses in the wheel relative to the discharge hole. Realign the wheel as required such that the recesses align with the discharge hole at each index and tighten the securing screw. Recheck the index alignment.

Refit the pellet guide into the bowl – do not over-tighten the securing screws. The pellet guide should not be in contact with the wheel, nor should it too far away that pellets can get trapped in the gap.

### Helpful Tips for Reliable Operation

1. Store pellets in a cool, dry location in a sealed container together with any desiccant provided by the manufacturer.
2. Keep the pellet dispenser in a low humidity area to prevent pellet dust sticking to the mechanism and interfering with dispensing.
3. Keep the lid on the pellet dispenser hopper to keep pellets as fresh as possible.
4. Never overfill the hopper – see diagram.



If the hopper is overfilled excessive dust will be created, there will be an increased risk of multiple pellets being fed, pellets will jam, etc.

Avoid the use or inclusion of broken pellets to minimise the amount of dust in the mechanism.

5. NEVER clean the unit with liquid soap or any solvents. Doing so can damage the control electronics, leave residues that may cause pellet dust to accumulate or even melt the plastic components.

## 6. Pellet Suppliers:

TestDiet® Division of LabDiet®, a Purina Mills, LLC company

505 North 4<sup>th</sup>

Richmond, IN 47374 USA

(317) 966 1885

[www.testdiet.com](http://www.testdiet.com)

*Note: TestDiet now provides all the original formulations developed by P J Noyes and sold for a time by Research Diets*

BioServ

One 8<sup>th</sup> Street, Suite 1

Frenchtown, NJ 08825 USA

(908) 996 2155

[www.bio-serve.com](http://www.bio-serve.com)

### Maintenance

All electrical instruments and equipment should be periodically tested to ensure that they remain safe to use. In some countries this may be a statutory requirement. Your local Health and Safety Executive (or equivalent) will be able to advise on this matter.

The units contain no user-serviceable parts. Contact your dealer or Campden Instruments if you require assistance.

Due to the action of the index wheel selecting pellets, dust will be created. Certain pellets will create more dust than others. Some of this dust will accumulate under the index wheel. If this dust is not removed it will impair the effectiveness of the feeder eventually accumulating to the point where the feeder will stall. It is therefore essential that any dust is regularly removed. It is not possible to give guidance on the frequency of this aspect of maintenance, because of variation in pellets.

If dust does accumulate to the point where stalling occurs, it may be necessary to remove the pellet index wheel to facilitate dust removal. In this eventuality remove the pellet guide (two screws). Loosen and remove the pellet guide wheel screw, withdraw the pellet index wheel and thoroughly clean the bowl and wheel. Dust may be dislodged using a soft, dry brush. Refit the pellet wheel as described in the previous section. Run a trial batch of pellets to ensure reliable feeding.

The pellet detector operates on an IR light beam principle: all pellets create dust that will settle on the IR emitter and detector eventually impairing the pellet detector effectiveness. Regular cleaning of the emitter and detector with a small brush (supplied with each detector) will dislodge dust accumulations and help maintain efficiency.

### Specifications

Voltage requirements: 24-28 VDC

Operating current: <200mA

Standby current: <100mA

Feed rate: 400mS between pellets. Tested with 45mg and 90mg pellets without drop detector fitted

Maximum bowl capacity: 190mg pellets: 300

45mg pellets: 1700

20mg pellets: 3700

14mg pellets: 4000

### Part numbers:

80209-14 Pellet Dispenser for 14mg pellets (red disc) (excluding stand)

80209-20 Pellet Dispenser for 20mg pellets (black disc) (excluding stand)

80209-45 Pellet Dispenser for 45mg pellets (excluding stand)

80209-190 Pellet Dispenser for 190mg pellets (excluding stand)

80209-1 Stand to mount on operant box

80209-W190 190mg pellet wheel

80209-W20 20mg pellet wheel

80209-W14 14mg pellet wheel

(The 14mg pellet wheel is coloured red for easy differentiation from the 20mg wheel)

80209-Det Pellet detector for 45mg and larger pellets

80209-sDet Pellet detector for pellets smaller than 45mg

80210 Reward Area (delivery trough)