



- Reliable clog-free system
- Effective reduction of allergen exposure
- Processes all types of bedding, wet and dry
- Processes all kinds of environmental enrichment
- Dispenses precise bedding volumes
- Return On Investment in 1-2 years



*"The first system was installed in August 2005 and we now have 3 such units in place. Now we are ready to buy another one - no clogging and no problems with the waste removal system."*





# AUTOMATION

## BHS - Bedding Handling System

### 1/Introduction

The BHS developed by IWT is a highly reliable automated system using a combination of proven technologies (shredder, laminar flow, mechanical mixing, vacuum generators and augers) to ensure totally smooth and simple material disposal and dispensing operations, cutting operator exposure and effort to a minimum.

### 2/Reliability

Fine shredding prevents clogging upstream of conveyance since the material is rendered uniform in size and weight. A superior design solution whereby the heat generated by the shredder blades themselves is transferred to reduce the humidity of the wet bedding further increases reliability.

### 3/Flexibility

The IWT system alone is able to reliably process all types of bedding, both wet and dry, and all types of enrichment (wooden blocks, cardboard tubes, enviro-dri, shredded paper, etc ..). No need for operators to waste time sorting out enrichment to prevent clogging downstream.

### 4/Allergen Protection

The operator works entirely in front of the horizontal laminar airflow. As a result a high degree of air cleanliness is achieved within the whole breathing zone. Airflow control and suction points within critical bedding handling zones such as the waste dust collection bin are also provided in order to protect the operator against exposure to dust, allergens and any sort of airborne contaminant generated during bedding, dumping and scraping.

### 5/Accurate Dispensing

IWT mechanical dispensing technology via mixer/auger is extremely precise (error margin below 5%) and favours standardisation of experiment conditions and reduction of material waste (with a consequent reduction in costs).

### 6/Versatility

The system is purposely configured so as to be compatible with different local waste management systems and to comply to local waste regulations (ATEX 94/9 CE and NFPA 68) and various approaches to the storage and handling of clean bedding.

### 7/Financial Break even

Subject to minimum cage processing numbers, the investment in this type of automatic system can be paid back in the short term thanks to lower running costs. The positive impact is felt in terms of reduced staff, compensation costs, personnel recruitment/training and absenteeism, as well as a reduction in spares and component stock levels and storage occupancy. The pay-back may thus be achieved in between 1 and 2 years, depending on the options and the amount of the overall investment.

### 8/Green Concept Design

Competitors have tried to reduce clogging events by increasing the diameter of the piping for the vacuum transport system or over-sizing vacuum pumps (taking up an absurdly large space in the facility). The IWT solution requires only a small vacuum pump since reliability is achieved via an integrated approach. Just one small (8-12 KW) vacuum pump can easily manage hundreds and hundreds of metres of piping in the facility. Utility costs for waste disposal are thus reduced.

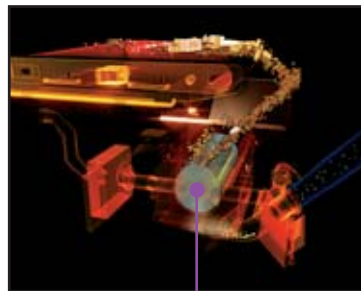
### 9/Hygienic

All component parts are made of AISI 304 stainless steel. This makes them easy to clean, with a non-porous surface minimising potential contamination.

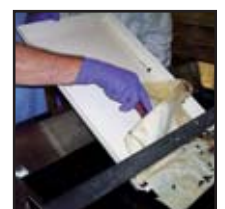
#### Introduction



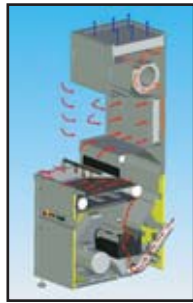
#### Reliability



#### Flexibility



## Allergen Protection **4**



- Soiled shredder bedding/air max
- Environment air
- Pre-filtered air
- HEPA filtered air

## Accurate Dispensing **5**



## Versatility **6**



## Financial Break Even **7**



### TECHNICAL SHEET

#### Waste Disposal System

SERVICE	CONNECTION	SERVICE REQUIREMENTS
Electrical supply	Electrical Box	400V 50Hz / 480V 60Hz three-phases + n + earth Max installed power: 18kW
Compressed air	1/2" gas	Dynamic pressure: 6 bar (87 PSI) Quality: filtered, dry and oil free Max flow: 50 l/min. (1.76 CFM) at 6 bar (87 PSI)
Air Exhaust	N°1 round pipe 114 mm	Flow rate: 2000 m³/h (1176 CFM) Max fan static pressure 30 mm water (300 Pa) Max ductwork resistance 10 mm water (100 Pa)
Air suction	-	1000 m³/h (588 CFM)

#### Bedding Dispensing System

SERVICE	CONNECTION	SERVICE REQUIREMENTS
Electrical supply	Electrical Box	400V 50Hz / 480V 60Hz three-phases + n + earth Max installed power: 14kW
Compressed air	1/2" gas	Dynamic pressure: 6 bar (87 PSI) Quality: filtered, dry and oil free Max flow: 50 l/min. (1.76 CFM) at 6 bar (87 PSI)
Air Exhaust	N°1 round pipe 114 mm	Flow rate: 2000 m³/h (1176 CFM) Max fan static pressure 30 mm water (300 Pa) Max ductwork resistance 10 mm water (100 Pa)

## Green Concept Design **8**



## Hygienic **9**



# Options

## Dumping hopper

- Laminar flow cabinet to be integrated with dumping hopper (9BDSLH36M).

## Cyclone separator

- S/S enclosure (9BDSKEB).
- S/S suction ring around discharge area (9BDSKSR).

## Reinforced container

- Roll off 10 m<sup>3</sup> container (70% volume only for waste bedding) (9BDSCO10).
- Roll off 12 m<sup>3</sup> container (70% volume only for waste bedding) (9BDSCO12).

## Loading hopper

- Suction ring plus S/S safety grid (small bedding bag application) (9BDISHSR).
- S/S cone for big tote bedding bag (9BDISHBB).

## Bedding dispenser

- Upgrading dispenser with double dosage points via mixer/auger (9BDISDU2AM).
- Upgrading dispenser with suction ring for double dosage points (9BDISDUAP2).

## Filter unit

- HEPA filter plus support (9BDSWF).
- S/S been with automatic discharge valve (9BDSFUBIN).

## Vacuum pump

- 2.2 kW slaved pump (9BDSLP).

# Related Products

To maximize operational efficiency and learn more about these products contact your local representative.



**Pegasus:** the most reliable, versatile automated cage processing system for modern laboratory animal facilities housing large numbers of valuable rodents.



**Ares:** the most reliable, flexible semi-automated cage-handling system for medium-small laboratory animal facilities housing valuable rodents.



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