



Automation

## PEGASUS™ Cage Automation

### Features

- 45% less footprint than other cage automation systems
- Processes up to 600 rodent cages per hour
- Effective reduction of allergen exposure
- Handles all kinds of cages and accessories
- Return On Investment in 5-7 years



CAGE AUTOMATION  
**PEGASUS**™

*"Automation is not meant to replace people with robots.  
The point is to make a better  
and more efficient working environment."*

**mw**t

a **TECNIPLAST** company



# Automation

## PEGASUS™ Cage Automation

### 1/Introduction

PEGASUS is the most reliable, versatile automated cage processing system for modern laboratory animal facilities housing large numbers of valuable rodents. Inevitably they have to process many cages and therefore need all the necessary equipment to keep things running smoothly, efficiently and economically. The optimum solution is an integrated approach embracing washing, handling and logistics, all provided by a "single source responsibility" supplier under a long-term partnership of mutual trust and respect.

### 2/Throughput & Reliability

Pegasus can effectively process up to 600 rodent cages per hour when fully integrated with an IWT tunnel washer, no-clog waste disposal system and an accurate bedding dispensing system. At IWT we have long used Fanuc robots in our own manufacturing process - so we can vouch for their reliability and the service level provided by our partner. As to performance, IWT AUTOMATION equipment has been extensively validated in recent years and the data comes straight from the field - 97% UPTIME is guaranteed. In any event, the system is designed to be operated in MANUAL MODE.

### 3/Versatility

Pegasus can handle cages from all manufacturers in the lab animal market, as well as allergen lids and trolleys. Filter tops, wire lids, bottles and miscellaneous items can also be processed in a universal crate.

### 4/Financial Break even

Subject to minimum cage processing numbers, investment in this type of robotic system can be paid back in the medium term (4-6 years). 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.

### 5/Footprint

According to the space available in the wash area and the number of cages to be processed per week, PEGASUS in its compact version may occupy up to 45% less footprint than any other standard cage automation system. This means cost saving without compromising functionality since one single system covers all requirements: handling, dumping, loading, washing, drying and refilling.

### 6/Allergen Protection

The introduction of articulated robots for cage handling and vacuum technology for bedding delivery and waste disposal offers significant productivity gains, whilst addressing serious occupational health issues. A study carried out in Europe (Sweden) focused on Airborne Rat Urinary Allergen (RUA) showed that the safe level of exposure or maximum exposure limit (MEL) for laboratory animal allergens is below 5ng/m<sup>3</sup>. A comparative study of manual cage emptying in the washing area versus a robotic system confirmed that the automated system brings the level of exposure down to around 1 ng/m<sup>3</sup>.

### 7/Integration

Our long experience serving the lab animal market teaches us that the optimum solution is an integrated approach embracing washing, handling and logistics, all provided by a "single source responsibility" supplier under a long-term partnership of mutual trust and respect.

### 8/Ergonomics & Logistics

The most costly health problems such as musculo-skeletal disorders-MSD (i.e. back injuries, carpal tunnel syndrome) and rodent allergen sensitisation are chronic in nature. With this in mind, IWT has recently designed different types of logistics trolleys to cover the various ways of transporting cages:

- disassembled components.
- integral cage setup (cage bottom, wire lid and filter top).

These solutions ensure a smooth flow with a minimum of manual handling.

Introduction

1



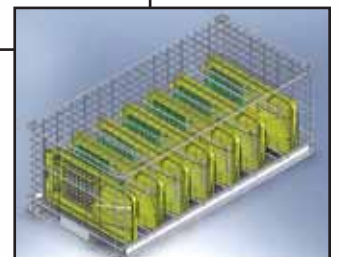
Throughput & Reliability

2



Versatility

3



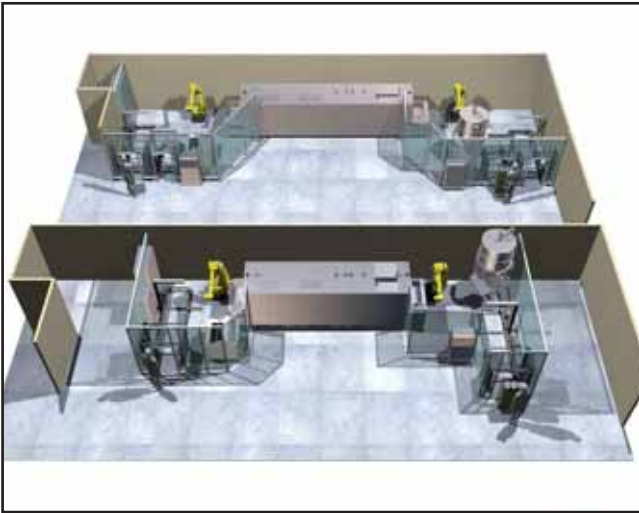
## Financial Break even

# 4



## Footprint

# 5



## Allergen Protection

# 6



## TECHNICAL SHEET

**9CASPEG02** Standard Cage automatic washing, emptying and filling system featuring a pass-through configuration. Overall dimension 14000 x 4000 x 2200 mm

**9CASPEG03** Compact Cage automatic washing, emptying and filling system featuring a pass-through configuration. Overall dimension 10000 x 2500 x 2000 mm

SERVICE	CONNECTION	SERVICE REQUIREMENTS
Electrical supply	Electrical Box	400V 50Hz / 480V 60Hz three-phases + n + earth Max installed power: 33kW for Code 9CASPEG02 22kW for Code 9CASPEG03
Cold Water	1" gas	Dynamic pressure: 2-3 bar (29-44 PSI) Supply temperature: from 15°C to max 60°C from 59°F to max 140°F Consumption: 560 l/h (148 gallons/h) at 2 bar (29 PSI) 250 l (66 gallons) initial fill Supply flow rate 3600 l/h (951 gallons/h)
Drain	Ø 100 mm Internal Drain line	Max flow rate 2 l/s (0,5 gallons/s)
Exhaust	N°1 squared bolted flange	Flow rate: 4000 m³/h (2353 CFM) Max fan static pressure 170 mm water (1700 Pa) Max ductwork resistance 35 mm water (350 Pa)
Compressed air	1/2" gas	Dynamic pressure: 6 bar (87 PSI) Quality: filtered, dry and oil free Max flow: 600 l/min (21.2 CFM) at 6 bar (87 PSI) Consumption flow: 300 l/min (10.6 CFM) at 6 bar (87 PSI)
Steam	DN 40 PN 16	Dynamic pressure: 3-5 bar (44-72 PSI) Quality: filtered and dry Max flow: 350 Kg/h (770 lbs/h) Consumption flow: 220 Kg/h (484 lbs/h)
Condense return	DN 25 PN 16	Max flow: 350 Kg/h (770 lbs/h)

## Integration

# 7



## Ergonomics & Logistics

# 8



## Options

- Teleservice package including digital mode and software upgrading (9CASTSPD).
- Video-Surveillance package including #2 digital telecameras to be installed in the dirty and clean side of the washing area to remote the digital video signals to the slaved control panel, and software upgrading (9CASVSF).
- Self-start package (9CASSSF).
- Single night-door at the end of the tunnel washer to keep barrier though tunnel washer when the system is off (9CASTUNDR).
- Real View™ purpose hardware and software set-up to remote cycle data, inclusive of the self-diagnostic package (9VIEWPEG).
- Real View™ - dedicated Data Storage PLC for receiving data from up to #6 IWT units, channelling them to the customer's PC. Inclusive of electrical-box, receiving PLC and licensed software (9VIEWAPS01).
- Factory Acceptance test validation protocol (9PEGFAT).
- SAT - IQ - OQ - PQ - Validation protocol (9PEGVAL).
- Factory microbiological challenge test (9PEGMBT).

## Accessories

- Universal transport trolley to accommodate cage bases (9CASUTTR).
- Drop-in allergen lid for 9CASUTTR, autoclavable and automatically processed by the system (9CASLID).
- S/s single tubular hook to push the trolley. Code 9BATMTT1 and 9CASUTTR (9CASHK).
- Transport-presentation rack for lids and tops (7 rows) without docking system (9CASUPRU7).
- Transport-presentation rack for lids and tops (7 rows) with docking system (9CASUPRL7).
- Transport-presentation rack for lids and tops (6 rows) without docking (9CASUPRU6).
- Transport-presentation rack for lids and tops (6 rows) with docking system (9CASUPRL6).



HEADQUARTERS

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ISO-9001:2000 - Cert. n° 3406/f1

## Related Products

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



**Tunnel Washer**, lowest water and energy consumption in the industry, high throughput and environment-friendly.



**Logistic trolleys** offer safety and ergonomic features that enable high load-density for moving cages and bottles, crates, pallets and covers.



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



**BHS**: highly reliable automated system using a combination of proven technologies to ensure totally smooth and simple material disposal and dispensing operations, cutting operator exposure and effort to a minimum.