



1

EQUIPMENT FOR SMALL RODENTS



TECNIPLAST

Headquarters and Italian operations:
TECNIPLAST S.p.a. • Italy
Tel. +39 0332 80 97 11 • Fax +39 0332 45 83 15
www.tecniplast.it • E-mail: tecnicom@tecniplast.it

TECNIPLAST DEUTSCHLAND GmbH
Tel. 08805 921320 • Fax 08805 9213299
E-mail: info@tecniplast.de • http://www.tecniplast.de

TECNIPLAST UK Ltd.
BCM Box 3058 • London WC1N 3XX • Tel. 0845 0504556
Fax 0845 0505557 • E-mail: info@tecniplastuk.com

TECNIPLAST FRANCE S.A.
Lyon • Tel. 04 72 52 84 41 • Fax 04 72 17 02 66
http://www.tecniplast.fr

TECNIPLAST USA Inc.
P.O. Box 1457 • Exton, PA 19341
Toll Free (U.S. & Canada): 877.669.2243
E-mail: info@tecniplastusa.com • http://www.tecniplastusa.com

TECNIPLAST AUSTRALIA Pty. Ltd.
P.O. Box 41, Rydalmere BC Australia 1701
Tel. + 61 2 8845 6500 • Fax + 61 2 8845 6505
E-mail: info@tecniplast.com.au

For other countries please consult our web site: www.tecniplast.it.



CAT001/ING - 09/07 - REV.01

CONTENTS

4	Company Profile
6	Tecniplast Product Compliance with International Guidelines
8	Cage Selection
10	Plastic Cages and Components
11	Plastic Cages
12	Wire Lids
13	Rats and Guinea Pigs: Raised and Semi-Raised Lids
14	Accessories
16	Water Bottles
17	Bottle Caps and IWT Bottle Crates
18	Filter Tops
20	Racks
22	Shelf Style Racks
24	Physical Properties of Tecniplast Materials
25	Washing, Autoclaving and Disinfection Guidelines
26	Packaging

COMPANY PROFILE

The expansion of business within the European and world markets has given TECNIPLAST a number of opportunities to employ its many special talents in providing solutions to customer requirements.

At TECNIPLAST we are permanently applying effort to the development of our diverse range of animal care products and to improving quality standards and technical expertise therein.

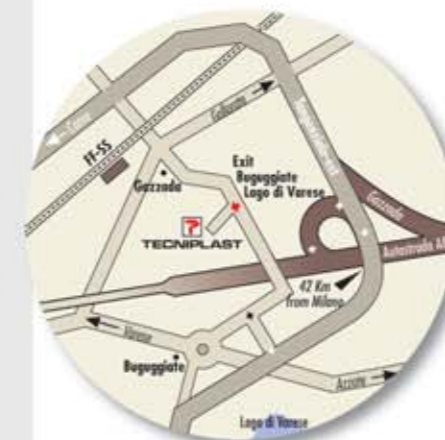
Our constant investment in new products, tooling, technologies, automation, production capability, stock availability, staff recruitment and training, together with a UNI EN ISO 9001: 2000 certified quality management system and a UNI EN ISO 14001: 2004 environmental certification, stand clearly in favour of a company that have lead the field since the early 1950's.

Tecniplast was also the first company in its field to gained TÜV certification for our IVC equipment, in compliance with Performing Evaluation Criteria for IVC Systems.

This dedication to quality and customer satisfaction is supported by long-established and valued partnerships with our dealers and associated companies.

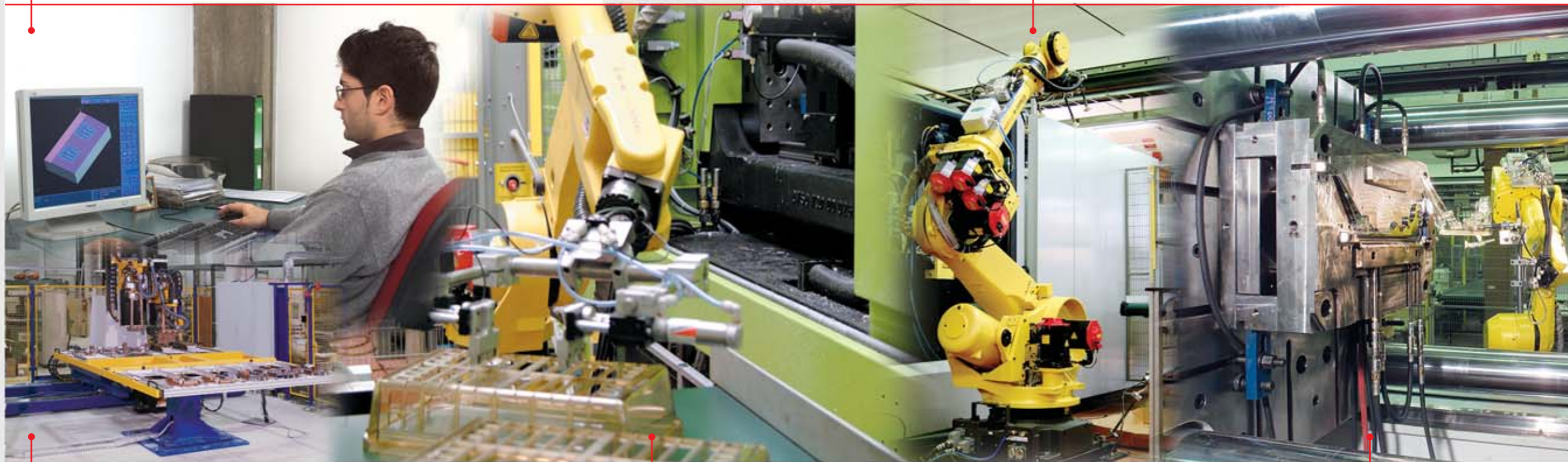
These team members offer a further dimension of experience and skills, combined with the advantage of local knowledge, plus prompt assistance and service. As clients, you always have access to specialist suppliers having a comprehensive knowledge of current trends, and receiving regular product training at our headquarters in Italy.

The ever widening range of TECNIPLAST husbandry equipment used in biomedical research is designed and manufactured in our 19000 m² production facilities. Some consists of design, development and in-house manufacture of tools and moulds, modern injection moulding facilities and a large metal work unit. As well as producing top quality equipment, TECNIPLAST is regularly involved, together with its network of specialists and consultants, in the design and construction of new animal facilities and in the refurbishment of existing ones. TECNIPLAST developments include Laminar Air Flow units for waste disposal and cage changing; the TECNIPLAST Flow Division with a dedicated Team of specialists for the design and manufacture of laminar flow equipment operates in separate 1700 m² premises. Separate 4000 m² facility is dedicated to the manufacture and commissioning of high productivity washing machines and automated solutions under the name of IWT. These machines are designed to care and enhance the longevity of caging and racking products whilst minimising energy consumption and hence environmental impact. TECNIPLAST, now more than ever, means solutions to your needs!



Technical office - 3D designing

Automated moulding department



Automated metal workshop

Automated moulding department

Automated mould workshop

TECNIPLAST PRODUCT COMPLIANCE WITH INTERNATIONAL GUIDELINES

Because caging equipment is one of the most important elements in the physical and social environment of the animals used in experimental procedures, TECNIPLAST has developed, with customers valued help, the largest range of cages meeting or exceeding current rules and guidelines (Council of Europe EEC Directive 86/609 and the Guide for the Care and Use of Laboratory Animals)*. Many TECNIPLAST products are also designed to comply with the stricter provisions of the UK regulations†, the Swiss Ordinance‡ and the Revision of Appendix A of the Convention: General and Specific Provisions (ETS 123 - Rev. A).

Minimum floor area and height according to EU recommendations and Revision of Appendix A (ETS 123)

Species	Minimum floor area - cm ²		Cage height - cm		Cage height cm
	EU	ETS 123 - Rev. A*	EU	ETS 123 - Rev. A	
Mice	180	330	12	12	12,7
Hamsters	180	800	12	14	15,2
Rats	350	800 (0-600g)	14	18	17,8
		1500 (>600g)			
Guinea Pigs	600	1800 (0-450g)	18	23	17,8
		2500 (>450g)*			

*(See Catalogue 2W - Guinea Pigs)

Minimum floor area according to USA recommendations

Species	Weight - g	Surface cm ²
Mice	<10	38,71
	10 - 15	51,62
	15 - 25	77,42
Hamsters	>25	96,78
	60	64,5
	up to 80	83,85
Rats	up to 100	103,2
	>100	122,55
	<100	109,68
Guinea Pigs	100 - 200	148,40
	200 - 300	187,11
	300 - 400	258,08
	400 - 500	387,12
	>500	451,64

Minimum floor area and height according to UK recommendations (Home Office)

Species	Weight g	Min. floor area per animal		Min. height cm
		Groups cm ²	Singly cm ²	
Mice	up to 30	60	200	12
	over 30	100	200	12
Hamsters	up to 60	80	300	15
	60 to 90	100	300	15
	90 to 120	120	300	15
	over 120	165	300	15
Rats	up to 50	100	500	18
	50 to 150	150	500	18
	150 to 250	200	500	18
	250 to 350	250	700	20
	350 to 450	300	700	20
	450 to 550	350	700	20
	over 550	400	800	20
Guinea Pigs	up to 150	200	700	20
	150 to 250	300	700	20
	250 to 350	400	900	20
	350 to 450	500	900	23
	450 to 550	600	900	23
	550 to 650	700	1000	23
	over 650	750	1250	23

* Guide for the Care and Use of Laboratory Animals, Institute of Laboratory Animal Resource, Commission Life Sciences, National Research Council, National Academy Press, Washington, D.C. 1996.

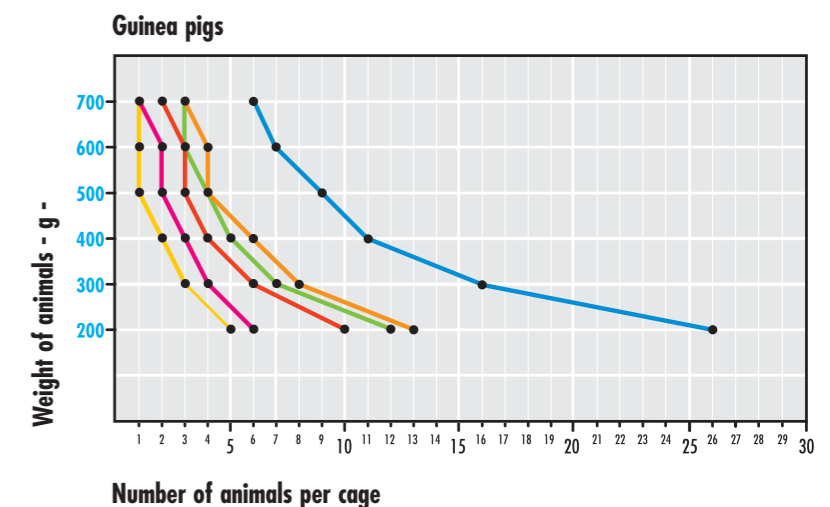
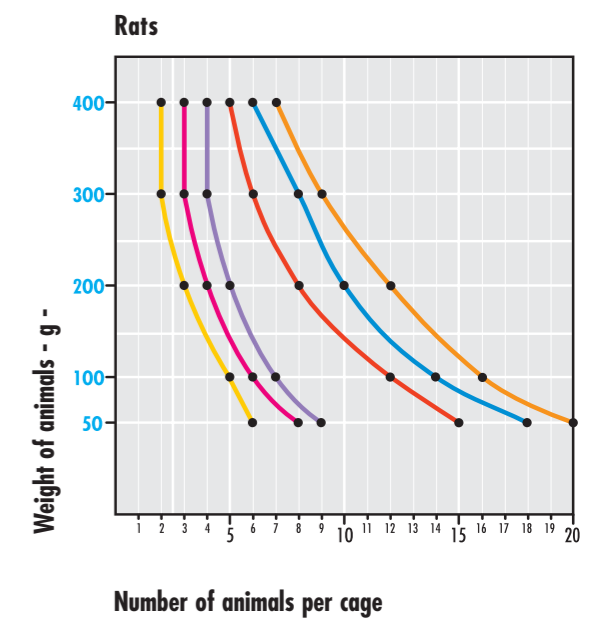
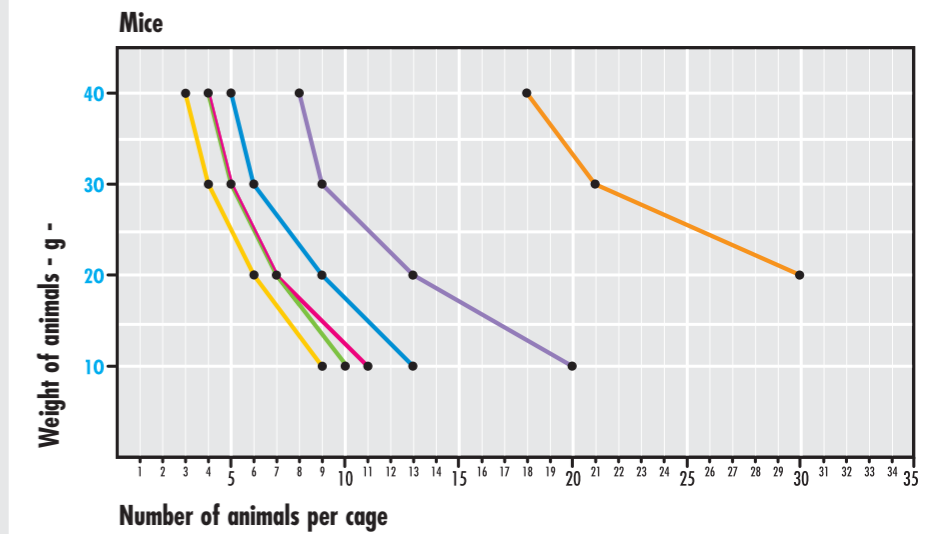
† Code of Practice for the housing and care of animals used in scientific procedures. Home Office Animals (Scientific Procedures) ACT 1986.

‡ Schweiz Tierschutzverordnung, Schweiz. vom 27. Mai 1981, Änderung vom 23. Oktober 1991.

Number of animals per cage according to EU recommendations & Revision of Appendix A (ETS 123)



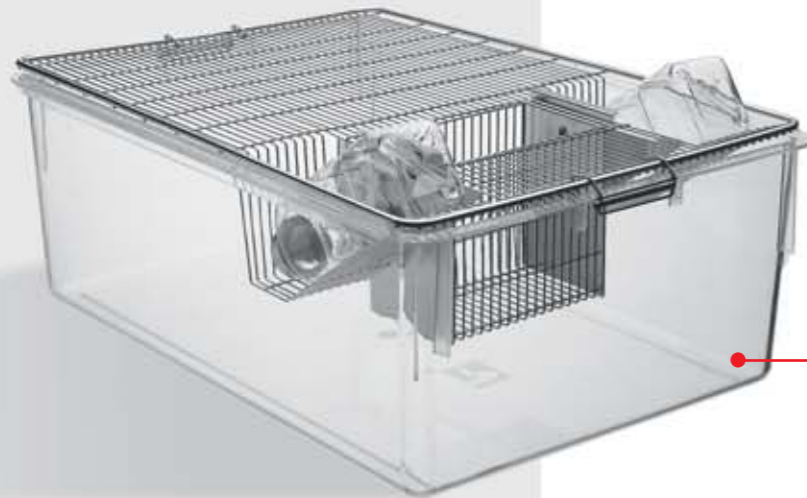
** Also compliant with Revision of Appendix A (ETS 123)



The above charts were obtained from table 3 and diagrams 1 - 2 - 3 - 4 as established by EEC provision 86/609 - some of the values have been rounded up.

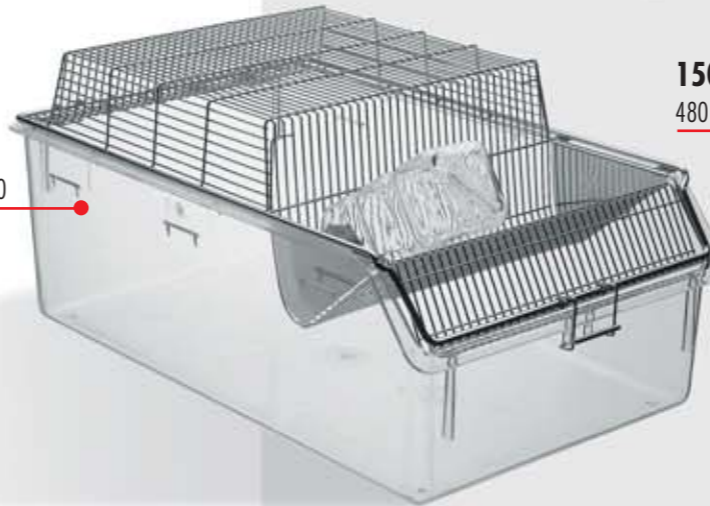
CAGE SELECTION

The most complete choice of options
to accommodate every need and budget



2000P
610 x 435 x 215 mm - floor area cm² 2065

1354G* Eurostandard Type IV**
595 x 380 x 200 mm - floor area cm² 1820



1500U* Eurostandard Type IV S**
480 x 375 x 210 mm - floor area cm² 1500

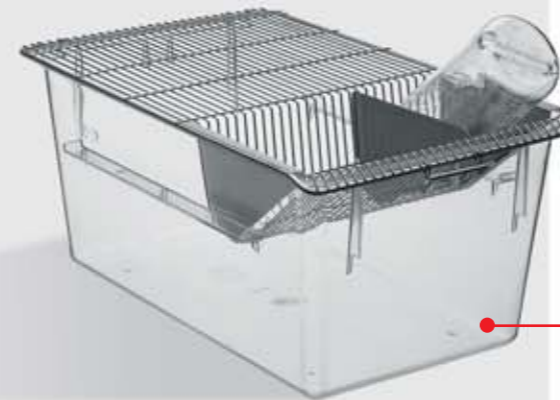


Designed to facilitate animal wellbeing, meet research requirements and minimise experimental variables

Provisions and recommendations reported in the previous pages refer to the minimum space required for the housing of laboratory animals. The choice of a suitable cage must be based on experience and professional know how.



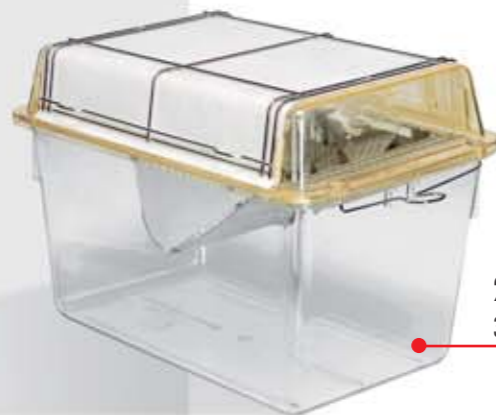
2154F
480 x 265 x 210 mm - floor area cm² 940



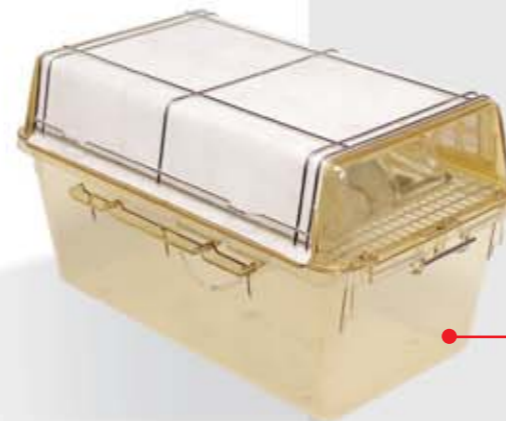
1290D Eurostandard Type III**
425 x 266 x 155 mm - floor area cm² 820



1291H Eurostandard Type III H**
425 x 266 x 185 mm - floor area cm² 800



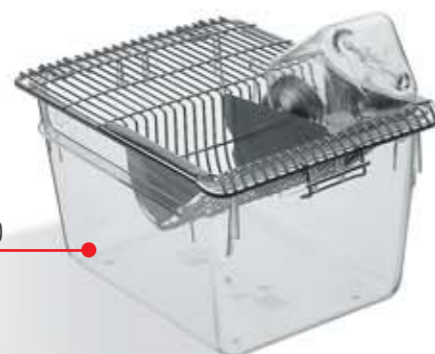
2150E
355 x 235 x 190 mm - floor area cm² 580



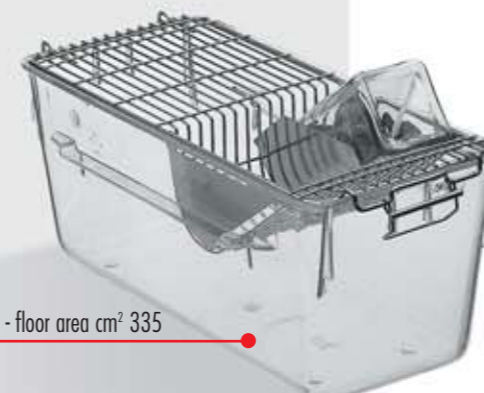
1284L* Eurostandard Type II L
365 x 207 x 140 mm - floor area cm² 530



1145T
369 x 156 x 132 mm - floor area cm² 435



1264C* Eurostandard Type II
267 x 207 x 140 mm - floor area cm² 370



1144B
332 x 150 x 130 mm - floor area cm² 335

The above are overall dimensions L x W x H.
Illustrated configurations are representative only. Refer to pages 12 to 15, 20 and 21 for available options.

* Both cages fit same racks - refer to page 23.

** Both cages fit same racks - refer to page 23.

*** Both cages fit same racks - refer to page 23.

PLASTIC CAGES AND COMPONENTS

Plastic cage bodies

Plastic materials provide warm surfaces ideal for housing laboratory rodents and are convenient to use, clean and maintain.

Most TECNIPLAST plastic cages have solid bottoms because of the various recommendations* to keep rodents on solid floors whenever possible. However mesh bottom cages with tray are also available (refer to page 23).

All cage sizes are complete with front and back stacking lugs to increase steam circulation during sterilisation and reduce pressure on the side runners.

* Refer to Guide for the Care and Use of Laboratory Animals, Institute of Laboratory Animal Resource, Commission on Life Sciences, National Research Council, National Academy Press, Washington, D.C. 1996.



Wire lids

Utilising the highest quality, certified Stainless Steel TECNIPLAST wire lids are noted for their superior design, construction and attention to detail. Lids with in-built U-shaped feed hoppers feature a folding, or removable, divider to aid stacking and storage. Alternatively, lids are available flat without feed hopper with raised height, to meet the physiological needs of rats or fitted with special drop-in feeders. All TECNIPLAST lids are electro-polished for safe handling.

Filter tops

Provide a protective barrier at cage level functioning as an animal - sized Petri dish.

The filter top overlaps the bottom cage lip and the complete unit can be handled without breaking the cage level barrier.

Compared to competitive designs**, the larger filter area of TECNIPLAST filter tops allow more efficient gaseous exchange with lower build-up of

ammonia, carbon dioxide and relative humidity in the cage environment.

For other cage components refer to pages 16 to 19.

**Hasenau J.J., Baggs R.B., Kraus A. L., Contemporary Topics, Vol. 32, pages 11 to 16, 1993.

PLASTIC CAGES

TECNIPLAST durable cages are made to withstand repeated handling, washing, disinfecting and contact with animal waste. Available in the following materials:

1 **Polycarbonate** (PC) is transparent, with an exceptional impact strength and heat resistance. Autoclavable up to 121°C (250°F). Frequent autoclaving reduces life span because of hydrolysis. Alkaline residuals and amine corrosion inhibitors from steam generators may dull or damage Polycarbonate.

2 **H-Temp™** High Temperature Polysulfone (PSU) is a transparent* plastic highly resistant to alkaline, acid detergents and steam additives. Even after repeated autoclaving it maintains clarity and strength assuring a long life span and good return on investment. Autoclavable up to 150°C (302°F).

* Excellent visibility into cages with a 80% light transmission reducing animal exposure to excessive lighting.

3 **U-Temp™** is a super heat resistant transparent amber* Polyetherimide (PEI) plastic with a good impact strength. Autoclavable up to 160°C (320°F). Thanks to superior hydrolytic stability and resistance to most acid and basic solutions, it maintains good impact strength and transparency even after 1000 hours of autoclaving at 134°C (273°F). Recommended in large facilities where boiler additives contaminate steam provided by a central generator plant. The remarkable long life and performance of this material make **U-Temp™** cages the right choice for long term economy.

* Excellent visibility into cages with a 65% light transmission reducing animal exposure to excessive lighting.



H-Temp™
Poly sulfone



U-Temp™

	Polycarbonate	H-Temp™	U-Temp™
1144B	-001	-00SU	-00PI
1145T	-001	-00SU	-00PI
1264C	-001	-00SU	-
1284L	-001	-00SU	-00PI
1290D	-001	-00SU	-
1291H	-001	-00SU	-00PI
2150E	-001	-00SU	-
2154F	-001	-00SU	-
1500U	-001	-00SU	-00PI
1354G	-001	-	-
2000P	-001	-00SU	-

*** NO RELEASE OF BISPHENOL A**
even after repeated washing and autoclaving cycles!

Please refer to Physical Properties, Chemical Resistance and Cleaning Guidelines on pages 30 and 31 of this catalogue for selection of the correct material, according to your needs. Our Technical Service Department is always available to help you, Should you require further assistance. See back cover for addresses.

WIRE LIDS

TECNIPLAST uses only first choice, certified AISI 304 Stainless Steel. Guaranteed uniform quality, with minimal dirt traps. Excellent stackability for ease of handling and storage. Designed to ensure perfect fit and positive locking, throughout the complete cage range. Choose from a wide range of styles according to the application or species in use.

Series -012

With in-built U-shaped feed hopper and removable divider (to be ordered separately - refer to page 16). Features solid sheet sides, swing-clip lock and push-pull action for quick access to cage occupants.

Note: this series is NOT suitable for use with filter top.

Series -114

Same as Series -116 but featuring front spring-clip closure. Suitable for use with filter tops.

Series -014 same as -114 but without hinged divider.

Warning: do NOT autoclave these lids on cage body (irrespective of material) as spring-clip may cause cage-wall warping!



-116

Series -116

With in-built U-shaped feed hopper and hinged divider which collapses to allow nesting of lids. Features solid sheet sides, swing-clip lock and bottle protection washer designed to prevent chewing of non-metal bottle tops.

Series -016 same as -116 but without hinged divider.

Note: internal fitting is compatible with filter tops.

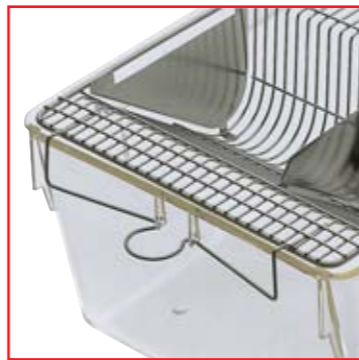
-012



-025

Series -025

Flat lid, without feed hopper. Designed for use with post-surgery animals or infusion work.



-114

Available for 2150E & 2154F only

◆ Removable dividers to be ordered separately - refer to page 14

◇ 2 dividers

▲ Can be used with mice

* To be ordered as 1290D016, 1290D116, 1290D012 and 1290D025

** To be ordered as 1400U016 and 1400U116

RATS AND GUINEA PIGS: RAISED AND SEMI-RAISED LIDS

Series -123

Raised lid (60 mm increased height) for cages 1290D and 1291H (Eurostandard Type III and III H respectively). With in-built U-shaped feed hopper and hinged divider which collapses to allow nesting of lids.

Features solid sheet sides and front spring-clip closure.

Note: increased height precludes use with filter tops. Do NOT autoclave these lids on cage body (irrespective of material) as spring-clip may cause cage-wall warping.

Series -119

70 mm raised lid for cage 1354G (Eurostandard Type IV), with opening for drop-in hoppers (to be ordered separately - refer to table next page). Features swing-clip lock, dual bottle depressions (to accommodate bottle ACBT0700), allows push-pull action, plus top-opening hatch for quick access to cage occupants.

Series -120

70 mm raised lid for cage 1354G (Eurostandard Type IV), with in-built U-shaped feed hopper and hinged divider which collapses to allow nesting of lids. Features solid sheet sides and swing-clip lock. External fitting, with push-pull action for easy access to cage occupants.

Series -224

40 mm semi-raised lid available for cages 1500U and 2000P, featuring drop-in hoppers (to be ordered separately - refer to table below), swing-clip lock, dual bottle depressions with protection washers (to accommodate two bottles cat. No. ACBT0700), push-pull action, plus top-opening hatch for quick access to cage occupants.

-123



-120



-119



-224



-962/-965



Drop-in hoppers

-950



	Inner fitting lid without divider	Inner fitting lid with hinged divider	Outer fitting lid with sheet sides*	Flat Lid	Species
1144B	-016	-116	-	-	mice
1145T	-016	-116	-	-	mice
1264C	-016	-116	-	-025	mice
1284L	-016	-116	-	-	mice
1290D	-016	-116	-012	-025	mice
1291H*	-016	-116	-	-	rats/hamsters
2150E	-014	-114	-	-	rats/hamsters
2154F	-014	-114	-	-025	rats/hamsters
1500U**	-016	-116	-	-	rats
1354G	-015	-115	-012^	-	rats
2000P	-014^	-214^	-	-	rats

	Lid without divider	Lid with divider	Raised height mm	Top hatch access mm	Drop-in hopper		Species
					Guinea Pigs	Rats	
1290D	-023	-123	60	-	-	-	rats
1291H	-023	-123	60	-	-	-	rats
1354G	-017	-117	25	-	-	-	rats
	-020	-120	70	-	-	-	rats
	-	-119*	70	220 x 225	-965	-952	rats/guinea pigs
1500U	-	-224**(*)	40	165 x 220	-965**(*)	-952**(*)	rats/guinea pigs
2000P	-	-224**	40	220 x 225	-962	-950	rats/guinea pigs

(*) To be ordered as 1400U224

(***) To be ordered as 1354G965 and 1354G952

◆ Two water bottles ACBT0750

◆◆ Two water bottles ACBT0700

ACCESSORIES

Removable dividers

The lid in-built food hopper and bottle holder can be separated by these removable dividers. To be used with lids of the -012 Series only. (Supplied without hinged divider).
Made of AISI 304 SS solid sheet.



	For lids -012
1290D	-812
1291H	-812
1354G	-812

Powder feeders

Made of AISI 304 SS, TECNIPLAST powder feeders are located inside the cages and hang from the cage lip. Provided with one or more partitions so they can be accessed simultaneously by two or more animals. These feeders are designed with small compartments to prevent mice from entering, nesting and to reduce waste and spillage.

Available in the following standard design:

Series -929

Simple "J"-Form, designed solely for use with lids Series -012 whose form closes the top opening of the internal feeder. Features anti-spill lip at front and separation wires across to prevent 'nesting'.



Series -922, -923 and -927

Unique two-part design consisting of lower tray/hopper to be filled with powdered feed, whilst the upper lid/divider section slides down directly onto the food. A series of SS cross-wires on the bottom of the top section provides many small slots through which the animal feeds, encouraging the consumption of fine particles (ensuring ingestion of test medium), whilst helping to reduce wastage. Ideal for powdered feed studies.

	Powder feeder Cat. No.	No. of compartments	Species	Remarks
1290D	-929	4	Rats	J-Form: anti-spill through
	-927	7	Mice	Two-part: vertical sliding
1291H	-922	2	Rats	Two-part: vertical sliding
	-923	3	Rats	Two-part: vertical sliding
2150E	-922	2	Rats	Two-part: vertical sliding
2154F	-922	2	Rats	Two-part: vertical sliding
1354G	-929	4	Rats	J-Form: anti-spill through

Raised bottom grids

Made of AISI 304 SS wire mesh can be dropped into solid bottom cages to separate animals from their waste. It has 30 mm elevation for mice and for rats/guinea pigs. Features convenient handle for easy insertion and removal.



	H = 30 mm
1144B	-150
1145T	-150
1264C	-150
1284L	-150
1290D	-150
1291H	-150
2154F	-150
1500U	-150
1354G	-150

Label holders

Card holders, in either vertical or horizontal form, are available with a choice of attachments as follows:

- spring hook design, which allows label holder to swivel and permits writing without removing the card.

Note: suitable only for Tecniplast plastic cages, having lugs pre-drilled for label holder attachment.

- Wire hook design, suitable for hanging on virtually any cage or lid.

Label holder Cat. No.	L x H mm	Style	Suits cards L x (H)* mm
ACPC0050	75 x 105	Vertical with hook	70 x (50÷100)
ACPC0055	105 x 75	Horizontal with spring	100 x (50÷90)
ACPC0060	75 x 105	Vertical with spring	70 x (50÷100)
ACPC0056	130 x 77	Horizontal with spring	125 x (50÷90)
ACPC0046**	80 x 60	Horizontal with spring	75 x (50÷80)
ACPC0045PL	105 x 75	Plastic horizontal with hook	100 x (50÷90)
ACPC0055PL	105 x 75	Plastic horizontal with spring	100 x (50÷90)
ACPC0056PL	130 x 77	Plastic horizontal with spring	125 x (50÷90)
ACPC0065PL	130 x 77	Plastic horizontal with hook	125 x (50÷90)

* Accommodates card heights within this range.
** Wide format, specific for cage 2000P.



WATER BOTTLES



TECNIPLAST wide range of water bottles is made of glass-clear Polycarbonate (PC) complying with Title 21 FDA requirements. Autoclavable at 121°C (250°F) for 20 minutes. Important features include the following:

- Consistent thickness;
- Rigid walls, cannot be squeezed when handling;
- Rugged, shatterproof, long-lasting due to reduced hydrolysis even when autoclaved repeatedly;
- Wide mouth (Ø 44.5 mm) to aid filling and emptying, whilst also ensuring effective wash cleanliness;
- Embossed, moulded graduations as aid to volume measurement (note: ACBT0700 - 0702 Ungraduated).

The most popular sizes/styles are optionally available in amber U-Temp™ (PEI), which afford superior chemical and autoclave resistance = longer life and value for money (refer to pages 30 and 31 for comparative Physical Properties, Chemical Resistance and Cleaning Guidelines).

Bottles with Silicone rings

Easier placing and removal of caps.

Silicone seal ring* ensures leak proof service when bottles are autoclaved with caps in place.

Silicone seal is long lasting and does not need to be removed for cleaning when bottles are autoclaved.

Bottles with cone-shaped neck

Clean and simple-bottle and cap only. For an easy removal do not press hard when placing caps on bottles. Do not autoclave with Stainless Steel caps in place!

Glass-fibre-reinforced Nylon caps (see next page) are quick to be placed and removed and allow bottles to be autoclaved with caps in place.



150 ml 200 ml 250 ml 260 ml 400 ml 500 ml 700 ml 750 ml 1000 ml

	Capacity ml		Overall dimensions Ø x h mm	Polycarbonate bottle with Silicone ring*	H-Temp™ bottle with Silicone ring*	U-Temp™ bottle with Silicone ring*
	Graduated	Total				
1144B - 1145T	150	190	Ø 54 x 110	ACBT0152	-	ACBT0152PI
	200	240	Ø 55 x 110	ACBT0202	-	ACBT0202PI
1264C	250	280	Ø 56 x 156	ACBT0252	-	-
1284L - 2150E	260	300	Ø 55 x 128	ACBT0262	ACBT0262SU	ACBT0262PI
1264C - 1284L - 2150E	400	450	Ø 72 x 122	ACBT0402	ACBT0402SU	ACBT0402PI
1290D - 1291H	500	600	Ø 74 x 180	ACBT0502	-	-
1291H - 2154F - 1500U	700***	720	Ø 72 x 182	ACBT0702	ACBT0702SU	ACBT0702PI
1354G - 2000P**	750	900	Ø 84 x 210	ACBT0752	-	-
1354G - 2000P**	1000	1100	Ø 83 x 225	-	-	-

*Spare Silicone ring Cat. No. ACBTG800

**Please contact us for compatibility with racks

***Ungraduated: nominal capacity

BOTTLE CAPS

TECNIPLAST metal bottle caps are totally made of polished AISI 316 Stainless Steel to be corrosion resistant.

Chew-proof, cap and sipper tube one-piece design. A perfect long lasting product guaranteed by our specially developed production processes, constant quality standards and attention to detail.

It is available with the 1,8 mm standard nozzle opening, with 0,8 mm opening and also with dual ball-bearings (as recommended for guinea pigs, rabbits or for water consumption control and drug dispensing).

Glass-fibre-reinforced Nylon caps with 25 mm AISI 316 Stainless Steel nozzles are also available.

Comparatively low-cost, easy to place and remove. Should be used with cage lids provided with bottle protecting washer to prevent chewing.



ACCP2521
ACCP2511 ACCP2522
ACCP2512 ACCP0111 ACCP550 ACCP6521

Hole mm	Nozzle mm		Cap for bottles with cone-shaped or Silicone ring neck	Nylon cap for bottles with cone-shaped or Silicone ring neck
	External diameter	Length		
Ø 1,8	6,5	25	ACCP2521	ACCP2522
Ø 1,0	6,5	25	ACCP2511	ACCP2512
Ø 0,8	cone	-	ACCP0111	-
Ø 2,2	8	65	ACCP6521	-
Ø 1,8	6,5	35	ACCP3521	-
With balls	8	50	ACCP550	-

Cap removers

Cat. No. ACCPLC01



BOTTLE CRATES



Made of AISI 304 Stainless Steel high quality wire-work with horizontal slide-in separate lid and low friction plastic feet, for emptying, washing and filling TECNIPLAST water bottles.

Thanks to uniform modular dimension, available with a capacity of 24 or 18 bottles (refer to table), the full range of bottle sizes can be handled, utilising a single washer or filler.

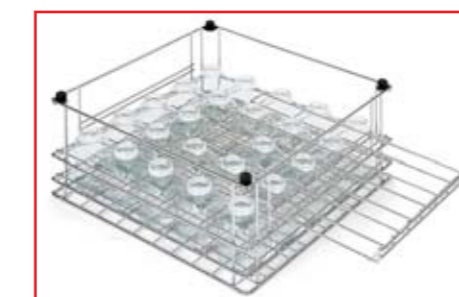
Please contact your local distributor for details on the range of bottle washers and/or fillers available from IWT, a TECNIPLAST company for washing, disinfection and automation. Two mesh crates, Cat. No. 9LBCA001 and 9LBCA003, are also available for miscellaneous load.

* This model comes with a pop-down lid to be ordered separately, Cat. N° 9LBCACUN3.

** S/s wire mesh crate for bottle caps.

Note: crates of different capacity are available ON DEMAND.

Code	N° of Bottles	Suits Bottle Grad. Vol mm	Overall Dimensions L x W x H mm
9LBCB24250	24	150 - 200 - 250 - 260	500 x 500 x 215
9LBCB24400	24	400	500 x 500 x 215
9LBCB24501	24	400 - 500 - 700	500 x 500 x 280
9LBCB18263*	18	200 - 260	500 x 267 x 245
9LBCB18403*	18	400	500 x 267 x 245
9LBCB18503*	18	500 - 700	500 x 267 x 295
9LBCB182641*	18	260 - 400	500 x 267 x 245
9LBCA001	-	-	500 x 500 x 150
9LBCA003	-	-	500 x 500 x 257
9LBCC6490	-	-	500 x 500 x 145
9LBCMMAGIC**	-	-	500 x 430 x 150



24 bottle crate (Code 9LBCB24400)

For more information, please check IWT catalogue W-DPO04/ING and IWT website at www.iwtsrl.com.

FILTER TOPS

TECNIPLAST patented Filter Top (Mini-Isolator™) Cage System creates a protective barrier at cage level, with major advantages for the protection of both animals and staff.

Animal Protection:

- Proven microbial protection⁽¹⁾;
- Protection against pathogenic contaminants introduced by animal care takers⁽²⁾;
- A better micro-environment inside the cage, due to reduced fluctuations in temperature and humidity, plus the elimination of draughts;
- Enhance animal health reducing infant mortality and respiratory problems.

Staff Protection:

- Reduced air-borne contaminants in the working environment;
- A significant lowering of respiratory associated allergic reactions amongst animal care staff (ref. American National Institute of Safety and Health Recommendations⁽³⁾).

In conventional and clean conventional animal units the following handling procedures are recommended:

- Filter top cages should be handled routinely without breaking the cage isolation;
- Cages should be opened in a Laminar Flow Changing Station;
- Aseptic procedures are required during changing/handling;
- Cages should be provided with sterile or pasteurised diet, bedding and water.

Pat. No.: 1126621, 2065440, 886785, 8026879, 83012, 637805



	Autoclavable filter tops	Clamp-locking autoclavable filter tops	Replacement filter sheets*
1144B	-400SU	-400SU-C	-420
1145T	-400SU	-400SU-C	-420
1264C	-400SU	-400SU-C	-420
1284L	-400SU	-400SU-C	-420
1290D	-400SU	-400SU-C	-420
1291H	-400SU	-400SU-C	-420
2150E	-400SU	-	-420
2154F	-400SU	-	-420
2000P	-400SU	-	-420



Cat. No. MACH14

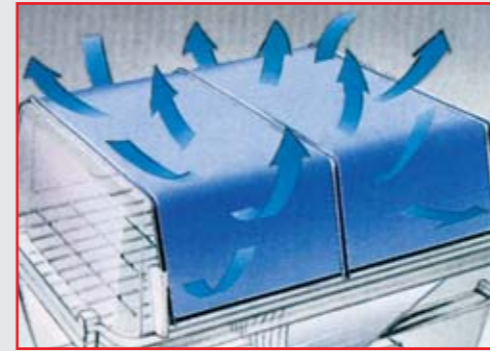
TECNIPLAST filter tops can optionally be supplied fitted with Nylon Lock Clamps to prevent accidental dislodgement of filter cover. Easy to use, yet remain secure even if the cage is inadvertently dropped. If not required, clamps can easily be removed.

Note: not compatible with lids of Series -114 or -014.
Warning: do not autoclave cages with clamps locked.

*100% Polyester
Atmospheric dust efficiency: 92% retention of 8-10 µ particles (ASHRAE Test Duct+Counter, Counter 350ft/min.)

Due to their large filtration area (on both the horizontal and vertical surface) TECNIPLAST Filter Covers maintain an efficient gaseous interchange with the external environment, resulting in lower levels of intra-cage NH₃ and CO₂ compared with competitive systems⁽⁴⁾.

Contact our Customer Service at tecnicom@tecnipplast.it for questions on population density, animal, cage changing frequency, filter sheet replacement and other variables that can influence the concentration of the above mentioned gas contaminants.



TECNIPLAST Filter top cage consists of:

- A plastic cage base - refer to page 11;
- An AISI 304 SS wire lid - refer to page 13;
- An H-Temp™ (PSU) durable filter cover (with or without lock clamps) with a retained filter sheet*.

Plus the following accessories:

- Water bottle and cap - refer to pages 18 and 19;
- SS 304 label holder - refer to page 17.

In conventional and clean conventional animal units, or whenever autoclaved supplies have to pass through contaminated areas, filter topped cages can be autoclaved as complete units. Do NOT autoclave plastic cages with lids series -114 and -014 on, since the spring clip could cause cage wall warping!

References

- (1) Dillehay D. L., Lehner N. D. M., Haverkamp M. J., *The effectiveness of microisolation cage system and Sentinel Mice for controlling and detecting MHV and Sendai virus infections*, *Lab Animal Science*, 40 (1990).
- (2) Keller, L. S. F., White W. J., Snider M. T., et al. *An evaluation of the primary enclosure environment in three animal caging systems*, *Lab Animal Science*, 39: 237-242 (1989).
- (3) Moshe Shalev MSc, *Asthma in Animal Caretakers*, *Lab Animal*, Vol. 28, n°1 Jan (1999) *Occupational Health and Safety in the Care and Use of Research Animals. Committee on Occupational Safety and Health in Research Animal Facilities - Institute of Laboratory Animal Resources - Commission on Life Sciences - National Research Council, (1997).*
- (4) Hasenau, J. J., Baggs R. B., Kraus A. L., *Microenvironments in Microisolation Cages Using BALB/c and CD-1 Mice Contemporary Topics*. Vol. 32, No. 1 (1993).



CS5 CHANGING STATION

Tecniplast provides integrated solutions for your housing needs. Contact us to be informed on our wide range of cage changing stations and allergen containment solutions.



Filter tops are available in nine different sizes!

They consist of a H-Temp™ frame* ①, a filter material ② and a reinforced SS retainer ③ to hold the Polyester filter sheet securely and minimise accidental tearing. Transparent frame permits easy observation of cage occupants. Autoclavable at 134°C (273°F) for 10 minutes.



*The frame is available only in H-Temp

RACKS

TECNIPLAST AISI 304 Stainless Steel racks, fitted with Glass-fibre-reinforced Nylon cage suspension runners, are widely accepted as the industry standard. They are unparalleled with respect to husbandry and hygiene considerations, occupational health and safety requirements, ergonomics, reduced noise levels, and aesthetic appeal. Their design permits excellent view of all cages and their occupants!

Having pioneered tubular SS construction of racks, TECNIPLAST today utilise 3D CAD-system design, automated cutting, punching and TIG welding construction processes; attention to detail, such as uniform polishing and finishing conclude the work. Together they are your guarantee of a long-lasting product that offers exceptional value for money.

TECNIPLAST's unique 'T-profile' suspension runners are specifically designed to minimise dirt-traps, whilst permitting safe, simple and silent positioning of cages without risk of damage. They are far superior to metal runners or channels of other racks. Used in conjunction with automatic watering, the front and back stops on these runners help slide in position and maintain the cage adjacent to the watering valve.

Other features are:

- SS solid top sheet to reduce the exposure to draught and excessive light of the top rows ;
- Tubular base corners are all rounded for improved safety and to avoid damage to wall covering; four plastic revolving buffers can also be bolted on request (specify when ordering Cat. No. ACSCP1 for the set of four);
- The castors (two braked) are entirely made of AISI 304 SS and come complete with a Polyurethane-coated Nylon wheel. Castors withstand autoclave cycles at 121°C when not loaded with cages. Alternatively, whenever frequent autoclaving, higher holding temperatures, or when racks are autoclaved fully loaded, select castors with Glass-fibre-reinforced Nylon wheels (Cat. No. ACRL123PNFN and Cat. No. ACRF123PNFN).



Castors



Nylon runners



Accessories:

- Individual Support Frame: AISI 304 Stainless Steel, coupling the cage and waste tray when placed on laboratory benches or shelf-style racks.

Note: NOT required when cages are used with double runner suspended-cage racking.

- Waste Collection Tray: white moulded Polycarbonate, lightweight, stackable and easy to clean thanks to rounded corners and the absence of sharp edges. Practical, silent and autoclavable at 121°C.

	Polycarbonate body with cut-away base	SS Floor grid		Accessories	
		11 x 11 mm mesh	7 x 7 mm mesh	Tray (PC)	Individual support frame (SS)
1264C	-051	-	-524	-382	-905
1284L	-051	-	-524	-382	-905
1290D	-051	-525	-524	-382	-905
1291H	-051	-525	-524	-382	-905
1354G	-051	-525	-524	-382	-905

Double runner rack for mesh bottom cages



Mesh bottom cages



Mesh bottom cages are basically solid bottom cages whose base has been removed and replaced by an electro-polished AISI 304 Stainless Steel floor grid. They are recommended whenever rodents need to be housed on mesh flooring, with excrement collected in a separate PC waste tray.

Note: rats and guinea pigs are housed on 11 x 11 mm mesh, whilst mice require a 7 x 7 mm grid spacing.

Racks with double runners for the cage and individual tray can be used either with mesh or solid bottom cages providing a high degree of flexibility. Individual support frames can be used when cages are placed either on benches or shelf style racks.

	No. of cages	Rack for solid bottom cages	Rack for mesh bottom cages	Dimensions L x W x H mm
1144B	64	2B64B1000	-	1500 x 480 x 1870
1145T	42	2T42B1000	-	1128 x 500 x 1647
	48	2T48B1000	-	1128 x 500 x 1857
	64	2T64B1000	-	1490 x 500 x 1870
	128	2T128B1000	-	1494 x 865 x 1851
1264C	30	2CL30B1000*	2CL30B2000*	1250 x 480 x 1870
1284L	30	2CL30B1000*	2CL30B2000*	1250 x 480 x 1870
	36	2L36B1000	-	1482 x 480 x 1867
	42	2L42B1000	-	1482 x 480 x 1870
	48	2L48B1000H	-	1482 x 480 x 1992
	56	2L56B1000	-	1730 x 480 x 1992
	60	2L60B1000BF	-	1240 x 880 x 1867
	70	2L70B1000	-	1240 x 880 x 1867
	72	2L72B1000BF	-	1482 x 880 x 1867
96	2L96B1000	-	1842 x 880 x 1865	
1290D	24	2D24B1000**	2D24B2000	1220 x 520 x 1870
1291H	18	2H18B1000	-	918 x 515 x 1937
	20	2H20B1000**	-	1220 x 520 x 1650
	20	-	2H20B2000	1220 x 520 x 1870
	24	2H24B1000**	-	1220 x 520 x 1940
	30	2H30B1000	-	1510 x 480 x 1943
2150E	25	2E25B1000	-	1300 x 540 x 1870
	30	2E30B1000	-	1300 x 540 x 1870
2154F	20	2F20B1000	-	1200 x 580 x 1870
	25	2F25B1000	-	1470 x 580 x 1870
1500U	20	2U20B1000***	-	1650 x 600 x 1790
1354G	18	2G18B1000***	-	1250 x 690 x 1870
	20	2G20B1000H***	-	1650 x 690 x 1870
	20	-	2G20B2000	1650 x 690 x 1870
	24	2G24B1000	-	1650 x 690 x 1870
2000P	15	2P15B1000	-	1400 x 730 x 1870
	18	2P18B1000*	-	1400 x 730 x 1980

* Can be used both with cages 1264C and 1284L
 ** Can be used both with cages 1290D and 1291H with some limitations - please contact our Customer Service (tecnicom@tecniplast.it)
 *** Can be used both with cages 1500U and 1354G - please contact our Customer Service (tecnicom@tecniplast.it)
 ♦ Rack 2P18B1000 cannot be used with filter top cages

SHELF STYLE RACKS

Available in three different designs, they can accommodate a variety of cage sizes for more flexible animal housing.

All TECNIPLAST shelf style racks are made of AISI 304 SS polished tubular and 2B finish solid sheet shelves to provide high quality, rigid study, long lasting units. Solid sheet shelves are easier to clean because of the limited number of dirt traps compared to mesh, perforated sheet or grid shelves. Solid shelves also reduce the fall of bedding, hair and other particles into lower cages and reduce animal exposure to excessive light. Vertical ventilation effectiveness can be compromised, though.

Adjustable shelf racks

Adjustable shelves have brackets at each corner for a quick change of shelf height by screws. The design of this rack permits the selection of the desired number of shelves and their later addition or removal, offers a high density capacity and also flexibility to accommodate changed cage size during the years. They can be used as single or double sided racks (with cage Series 1264C). Refer to the table below for size options and number of cages per shelf.



Number of cages per shelf			
Cages	Shelf length		
	1524 mm	1651 mm	1780 mm
1144B - 1145T	8	9	10
1264C	12	14	14
1284L	6	7	8
1290D - 1291H	5	5	6
2150E	5	6	7
2154F	5	5	6
1500U	3	4	4

How to order adjustable shelf racks

Select optimal shelf length according to room dimension, cage size(s), number of cages. Select preferred upright height, taking into consideration ergonomics and whether or not the top shelf is to be utilised for cages. Note: longer uprights are recommended when the top shelf is intended to act as a roof (for example: when using conventional open caging). Calculate the number of shelves required, based on height of both the uprights and the cage(s) being housed. Note: generally five to seven shelves per rack are required. Select appropriate castors according to the application. The standard medium-duty castors (suffix 125C) have Polyurethane-coated Nylon wheels which are autoclave resistant at 121°C, provided racks are NOT loaded with cages. Alternatively, when frequent autoclaving, higher holding temperatures, or when racks are autoclaved fully loaded, select castors with fibre glass reinforced Nylon wheels (Cat. No. ACRL123PNFN and Cat. No. ACRF123PNFN).

Adjustable shelf rack components		
Cat. No	Description	Dimensions L x W mm
2UNR0060	shelf	1524 x 585
2UNR0065	shelf	1651 x 585
2UNR0070	shelf	1780 x 585
2UNRPT1676*	set of 4 uprights	H 1676
2UNRPT1834*	set of 4 uprights	H 1834
ACROTLIB125C	castors	Ø 125
ACROTFRE125C	braked castors	Ø 125
ACRL123PNFN	Glass-fibre-reinforced Nylon castors	Ø 125
ACRF123PNFN	braked Glass-fibre-reinforced Nylon castors	Ø 125

*Does not include the castor height (= 155 mm)



Demountable shelf racks

Completely demountable with shelves, easily removable - without tools.

Solid sheet shelves have side and back lips for added security of cage position. Normally used as single sided racks only. Available in two different sizes.

As a standard, demountable racks are fitted with Polyurethane-coated Nylon castor wheels.

Glass-fibre-reinforced Nylon wheels, as per page 24, can optionally be fitted.

Demountable shelf racks				
Cat. No.	Number of shelves	Dimensions L x W x H mm	Cage size	Number of cages per shelf
2UN1D500	6	1220 x 390 x 1800	1144B	7
			1145T	6
			1264C - 1284L - 2150E	5
2UN2D500	5	1780 x 560 x 1900	1290D - 1291H	6
			1500U - 1354G	4

Welded shelf rack

Fully welded for maximum strength and rigidity.

Simple design for easier cleaning and significant comparative low cost. One size only available.

For standard or fibre glass reinforced Nylon castors, refer to page 24.

Welded shelf rack				
Cat. No.	Number of shelves	Dimensions L x W x H mm	Cage size	Number of cages per shelf
2UN5B106	5 (6*)	1320 x 550 x 1740	1144B	7
			1264C - 1284L	5
			1145T	6
			1290D	4

* The roof can be used as extra shelf



PHYSICAL PROPERTIES OF TECNIPLAST PLASTIC MATERIALS

Thermal properties

Material	Code	Suggested autoclaving Temp. °C	HDT °C ⁽¹⁾	Water Absorption ⁽²⁾	Transparency	Rigidity	Sterilisation ⁽³⁾				
							Autoclave	Radiation	Gas	Dry-Heat	Disinfection
Polycarbonate	PC	121	138	0,35	Clear	Rigid	Yes	Yes	Yes	No	Yes
H-Temp™ ⁽⁴⁾	PSU	134	165	0,30	Clear	Rigid	Yes	Yes	Yes	No	Yes
U-Temp™ ⁽⁵⁾	PEI	134	210	0,70	Clear/Amber	Rigid	Yes	Yes	Yes	Yes	Yes
Nylon ⁽⁶⁾	PA	134	215	1,50	Opaque	Rigid	Yes	Yes	Yes	No	Yes

Chemical Resistance

Chemical Resistance Classification:

- E=Excellent: 30 days of constant exposure cause no damage. Plastic may even tolerate for years.
- G=Good: Little or no damage after 30 days of constant exposure to the reagent.
- F=Fair: Some effect after 7 days of constant exposure to the reagent.
- N=Not Recommended: Not for continuous use. Immediate damage may occur. The effect will be a more severe crazing, cracking, loss of strength, discolouration, deformation.

Classes of Substance at 20°C	Polycarbonate PC	H-Temp™ PSU	U-Temp™ PEI	Nylon PA
Acids, diluted or weak	E	E	E	F
Bases	N	E	E	F
Esters	N	N	E	E
Oxidant agents, strong	N	G	E	N

This Chemical Resistance Summary Chart is a general guide only. As so many factors can affect the chemical properties of a given product, you should test under your own conditions. If any doubt exists about specific applications of TECNIPLAST products, please contact TECNIPLAST Technical Service at tecnicom@tecniplast.it.

- (1) Heat Deflection Temperature is the temperature at which a bar of the thermoplastic will deflect 0.01" under 66 psi. Due to stress influences, rigid plastics should NOT be exposed to such heat levels.
- (2) Water absorption: the % of water absorbed by a 3.175 mm (1/8") sample over 24 hours exposure.
- (3) Sterilisation:
 - Autoclaving: 121°C (250°F) for 20 minutes - clean and rinse items with softened water before autoclaving. Certain chemicals which have no appreciable effect on plastics at room temperature may cause deterioration at

autoclaving temperatures unless removed with softened water before.

- Gas: Ethylene Oxide, Formaldehyde, Hydrogen Peroxide.
 - Dry Heat: 160°C for 120 minutes.
 - Radiation: gamma irradiation at 25 kGy (2.5 Mrad) with non-stabilised plastic;
 - Disinfectants: Benzalkonium Chloride, Formalin, Formaldehyde, Ethanol.
- (4) H-Temp™ is a TECNIPLAST trademark for Polysulfone. Compared to standard PC (Makrolon) this material can be

exposed to autoclaving cycles up to 150°C max.

- (5) U-Temp™ is a TECNIPLAST trademark for Polyetherimide. Compared to PSU and PC this material can be exposed to autoclaving cycles up to 160°C max for a longer time whilst maintaining initial transparency and impact resistance.
- (6) Nylon is purposely reinforced with Glass-fibre to improve physical and heat performances.

WASHING, AUTOCLAVING AND DISINFECTION GUIDELINES

A. Washing

- 1 In order to reduce the effects of hard water (e.g. milky-grey discolouration of cages that are washed frequently) a softener should ideally be used in the supply to the cage washer.
- 2 55°C is the optimum temperature at which to wash plastic cages (60°C max). Higher temperatures (80 to 85°C) may be used for short contact periods to neutralise and rinse cages.
- 3 Alkaline detergents are more effective in the removal of organic residues from surfaces and as such they are the choice for machine washing of animal cages. However, if in contact with Polycarbonate at medium to high strength or for extended periods of time, alkaline detergents will cause corrosion or hydrolysis. They must therefore be thoroughly neutralised using a short acid rinse cycle before rinsing with fresh water. Regular checks should be made to ensure that any water remaining on cages is either neutral or slightly acidic.
- 4 Acid detergents can be used where urine or hard water scaling is a problem without the need to neutralise them but they are generally less effective in removing organic soiling.
- 5 Rinse aids used to speed up the drying of the cage surfaces should be avoided. Consult the manufacturer of your cage washer in order to establish that the cycle programmes being used are correct for the care of plastic materials. There should be a gradual increase in temperature during the wash cycle rather than exposing the cages to thermal shock.
- 6 In case of hand washing, do NOT use an alkali detergents, especially if sinking the cages in a pre-soak tank.

B. Autoclaving

- 1 Although considered autoclavable, PC parts will gradually weaken after repeated autoclaving. We recommend autoclaving of PC parts only when necessary.
- 2 If cages are washed prior to autoclaving, it is important to be certain there are no detergent and rinse aids residues on the surface because the extreme heat and pressure of the autoclave will cause the residue to be baked on, causing loss in clarity or chemical damage of the plastic surface.
- 3 Effective steam sterilisation depends upon proper temperature controls and an appropriate steam supply. Alkaline corrosion inhibitors from boiler feed water may destroy plastic materials or dull the cage surface.
- 4 Use as short an autoclave cycle as possible. Minimum exposure of 20 minutes at 121°C is recommended. Take care to avoid cycles which incorporate thermal pulsing.
- 5 Do not stack more than 10 cage bodies.
- 6 Although complete cages, including diet and bedding, can be autoclaved together, be aware that the heating of these materials may release potentially damaging substances which can attack plastics, causing clouding or cracking. The use of high quality bedding, excluding wood residues in particular, is vitally important in such instances.
- 7 If you need to autoclave cages with bedding inside, use suitable plastic bags with a high steam permeability. Please contact us for supplying suitable plastic bags.



C. Disinfection

- 1 Check with the disinfectant manufacturer regarding the use of their product on plastic cages.
- 2 Never heat cages and bottles that contain disinfectant

Stainless Steel

TECNIPLAST use the highest quality certified Stainless Steel. When properly cared for, Stainless Steel is less likely to discolour, rust or corrode than other type of Steel. SS products that are washed with detergents must be thoroughly rinsed and dried to prevent discolouration.

AISI 304

Stainless Steel - EURONORM - UNI - X5CrNi1810
Applications: lids, racks, card holders and wire work.
DO NOT USE hydrochloric acid (HCl). Also avoid contact with hydrochloric acid vapours (e.g. due to floor cleaning).
Avoid direct contact with detergents containing chlorine.

AISI 316

Stainless Steel - EURONORM - UNI - X5CrMo17122
Applications: bottle caps, valves and accessories for autowatering systems.

H-Temp™, U-Temp™ and CS5 Changing Station are Tecniplast Trademarks. All specifications and descriptions are subject to change without notice.

PACKAGING

PLASTIC CAGES

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1144B	20	55 x 34 x 34	10,8	10
1145T	10	44,5 x 37 x 31	6,8	6
1264C	10	44 x 27 x 31,5	5,2	4,6
1284L	10	44,5 x 37 x 31	6,6	5,8
1290D	10	55 x 47 x 29	10,4	9,2
1291H	5	55 x 47 x 29	7,2	6
2150E	5	43 x 37 x 24,5	5,6	5
2154F	5	55 x 47 x 29	8,2	7
1500U	5	50 x 39 x 71	11,4	10
1354G	5	60 x 40 x 50	11,2	9,8
2000P	5	59 x 44,5 x 62	16,4	14,6

WIRE LIDS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1144B016/-116	20	41 x 27 x 14	6,9	6,5
1145T016/-116	10	38,5 x 25 x 17,5	4,4	4,0
1264C016/-116	10	33 x 20 x 16,5	4,4	3,8
1264C025	10	33 x 23 x 17	3,8	3,6
1284L016/-116	10	44 x 19 x 17	5,0	4,8
1290D016/-116	10	47 x 25 x 17	7,0	6,5
1290D012	10	48 x 28 x 17,5	8,2	7,6
1290D025	10	48 x 28 x 17,5	7,1	6,5
2150E014/-114	5	40 x 21 x 13,5	2,8	2,6
2154F014/-114	5	52 x 28 x 14	4,4	3,8
2154F025	5	52 x 24,5 x 14	3,3	2,7
1400U016/-116	5	63 x 38 x 18,5	6,4	5,4
1354G015/-115	5	63 x 38 x 18,5	7,8	7,2
1354G012	5	63 x 38 x 18,5	8,7	7,7
2000P014/-214	5	65 x 42,5 x 20	10,0	8,8

SEMI-RAISED AND RAISED LIDS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1290D023/-123	10	55 x 47 x 29	9,2	-
1354G017/-117	5	63 x 38 x 18,5	8,4	-
1354G020/-120	5	64 x 40 x 33	9,6	-
1354G119	5	64 x 40 x 33	-	-
1400U224	5	63 x 38 x 18,5	-	-
2000P224	5	63 x 65 x 32	10	-

REMOVABLE DIVIDERS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1290D812	10	Plastic bag	1,15	1,15
1354G812	5	Plastic bag	0,686	0,686

RAISED BOTTOM GRIDS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1144B150	20	34 x 30 x 20	5,2	4,6
1145T150	15	34 x 30 x 20	5	4,5
1264C150	10	24 x 24 x 17	2,2	1,9
1284L150	10	38 x 25 x 17,8	3,57	3,17
1290D150	10	38,5 x 22,5 x 22	5	4,59
1291H150	10	38,5 x 22,5 x 22	4,6	4,2
2154F150	5	52 x 24,5 x 14	3	2,4
1500U150	5	56 x 33 x 16	4,4	3,66
1354G150	5	56 x 33 x 16	5,2	4,46

LABEL HOLDERS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
ACPC0050	10	Plastic bag	0,456	0,456
Multi case	5 x 10	22 x 17 x 11,5	2,37	2,27
ACPC0055	10	Plastic bag	0,502	0,502
Multi case	5 x 10	22 x 17 x 11,5	2,6	2,5
ACPC0060	10	Plastic bag	0,462	0,462
Multi case	5 x 10	22 x 17 x 11,5	2,4	2,3
ACPC0056	10	Plastic bag	0,593	0,593
Multi case	5 x 10	22 x 17 x 11,5	3	2,9
ACPC0046	10	Plastic bag	0,31	0,31
Multi case	5 x 10	22 x 17 x 11,5	1,6	1,5
ACPC0045PL	10	Plastic bag	0,33	0,3
Multi case	10 x 10	33 x 23 x 17	3,3	3,0
ACPC0065PL	10	Plastic bag	0,39	0,36
Multi case	10 x 10	33 x 23 x 17	3,9	3,6

WATER BOTTLES

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
ACBT0150	12	22 x 17 x 11,5	0,67	0,56
ACBT0152	12	22 x 17 x 11,5	0,67	0,56
ACBT0152PI	12	22 x 17 x 11,5	0,67	0,56
Multi case	6 x 12	38,5 x 36 x 23	4,53	3,36
ACBT0200	12	22 x 17 x 11,5	0,63	0,53
ACBT0202	12	22 x 17 x 11,5	0,63	0,53
ACBT0202PI	12	22 x 17 x 11,5	0,63	0,53
Multi case	6 x 12	38,5 x 36 x 23	4,29	3,18
ACBT0250	12	24 x 18 x 15,5	0,87	0,74
ACBT0252	12	24 x 18 x 15,5	0,87	0,74
Multi case	6 x 12	51,5 x 38 x 25	5,9	4,44
ACBT0262	12	24 x 18 x 15,5	0,92	0,8
ACBT0262PI	12	24 x 18 x 15,5	0,92	0,8
Multi case	6 x 12	51,5 x 38 x 25	6,2	4,8
ACBT0400	12	31 x 23 x 12,5	0,92	0,76
ACBT0402	12	31 x 23 x 12,5	0,92	0,76
ACBT0402PI	12	31 x 23 x 12,5	0,92	0,76
Multi case	6 x 12	64 x 40 x 33	6,81	4,56
ACBT0500	12	30 x 23 x 18,5	1,28	1,07
ACBT0502	12	30 x 23 x 18,5	1,28	1,07
Multi case	6 x 12	58 x 48 x 31	8,77	6,42
ACBT0700	12	30 x 23 x 18,5	1,14	0,92
ACBT0702	12	30 x 23 x 18,5	1,14	0,92
ACBT0702PI	12	30 x 23 x 18,5	1,14	0,92
Multi case	6 x 12	58 x 48 x 31	7,9	5,52
ACBT0750	12	34 x 26 x 23	1,7	1,4
ACBT0752	12	34 x 26 x 23	1,7	1,4
Multi case	6 x 12	74 x 55 x 36	-	8,4
ACBT1000	12	34 x 26 x 23	1,86	1,61
Multi case	6 x 12	74 x 55 x 36	9,66	9,66

BOTTLE CAPS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
ACCP2521	12	Plastic bag	0,382	0,382
Multi case	6 x 12	30 x 23 x 18,5	2,502	2,292
ACCP2522	12	Plastic bag	0,214	0,214
Multi case	6 x 12	30 x 23 x 18,5	1,494	1,284
ACCP2511	12	Plastic bag	0,392	0,392
Multi case	6 x 12	30 x 23 x 18,5	2,562	2,352
ACCP2512	12	Plastic bag	0,218	0,218
Multi case	6 x 12	30 x 23 x 18,5	1,518	1,308
ACCP0111	12	Plastic bag	0,27	0,27
Multi case	6 x 12	24 x 18 x 15,5	1,75	1,62
ACCP550	12	Plastic bag	0,5	0,5
Multi case	6 x 12	30 x 23 x 18,5	3,21	3
ACCP6521	12	Plastic bag	0,515	0,515
Multi case	6 x 12	30 x 23 x 18,5	3,3	3,09
ACCP3521	12	Plastic bag	0,403	0,403
Multi case	6 x 12	30 x 23 x 18,5	2,628	2,418

FILTER TOPS

Code	No. per Case	Case Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
1144B400SU/-SUC	20	42 x 37 x 34	8	7,2
1145T400SU/-SUC	10	43 x 37 x 24,5	4,9	4,2
1284L400SU/-SUC	10	44 x 39 x 25	5,76	4,87
1290D400SU/-SUC	10	55 x 47 x 29	8,6	7,4
2150E400SU/-SUC	5	38 x 25 x 24	3,2	2,71
2154F400SU/-SUC	5	50 x 30 x 30	5	4,3
2000P400SU/-SUC	5	63 x 45 x 32	12,6	10,99

RACKS

Code	No. per Crate	Crate Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
2A56B1000	1	125 x 48 x 187	35	34
2B64B1000	1	150 x 48 x 187	40	39
2M64B3000	1	142 x 48 x 150	35	34
2M81B3000	1	160 x 58 x 165	50	59
2CL30B1000	1	125 x 48 x 187	35	34
2CL30B2000	1	125 x 48 x 187	35	34
2D24B1000	1	122 x 52 x 187	35	34
2D24B2000	1	122 x 52 x 187	35	34
2H20B1000	1	122 x 52 x 165	35	34
2H20B2000	1	122 x 52 x 187	35	34
2H24B1000	1	122 x 52 x 194	35	34
2N24B3000	1	122 x 65 x 187	50	49
2E25B1000	1	130 x 54 x 187	40	39
2E25B2000	1	130 x 54 x 187	40	39
2E30B3000	1	130 x 54 x 187	40	39
2F20B1000	1	120 x 58 x 187	40	39
2F20B2000	1	120 x 58 x 187	40	39
2F25B1000	1	147 x 58 x 187	50	49
2U20B1000	1	165 x 60 x 175	55	54
2G18B1000	1	125 x 69 x 187	50	49
2G20B1000	1	165 x 69 x 175	60	59
2G20B2000	1	165 x 69 x 187	60	59
2G24B1000	1	165 x 69 x 187	60	59
2P15B1000	1	140 x 73 x 187	60	59
2P15B2000	1	140 x 73 x 187	60	59
2P18B1000	1	140 x 73 x 198	60	59

DEMOUNTABLE SHELF RACKS

Code	No. per Crate	Crate Size (cm)	Gross Weight (Kg)	Net Weight (Kg)
2UN1D500	1	182 x 44 x 35	45	40
2UN2D500	1	182 x 65 x 29	45	40

WELDED SHELF RACKS

Code	No. per Crate	Crate Size (cm)	Crate Gross Weight (Kg)	Crate Net Weight (Kg)
2UN5B106	1	132 x 55 x 174	50	49