DEKO

DEKO 2000 | Instrument washer · disinfector-dryer

rhima

The DEKO 2000 is designed and constructed to meet the performance and design requirements stated in EN ISO 15883-1 Washer-disinfectors - Part 1: General requirements and in Part 2: Requirements and tests for surgical instruments, anaesthetic and respiratory equipment, hollowware, utensils, glassware etc., as well as, the safety requirements stated in IEC 61010-2-40: Particular requirements for washer-disinfectors used in medical, pharmaceutical, veterinary and laboratory fields.

RELIABLE PERFORMANCE, LARGE CAPACITY AND ADVANCED STATE-OF-THE-ART CONTROL

Process results are guaranteed throughout

- water pressure for washing is supplied by a high powered 800 litres per minute circulation pump
- pipework and the number of loading shelves fitted with rotating spray arms are calculated to have the maximum soil removal efficacy
- wide selection of disinfection temperatures and cycle times to secure the microbial killing impact
- fast HEPA filtered drying

Cycles can be altered to meet almost any special requirement, though the standard requirements are met with the fixed, tested and approved programs inserted by the manufacturer.

The washing spray patterns are delivered through five rotating spray arms and purpose designed racks to guarantee the contact with all surfaces and crevices of instruments with the most intricate design.

The DEKO 2000's compact dimensions are based on thorough ergonomic research and practicality studies. The opening height of the doors, all controls at eye level and flexible usage of the wash chamber with individually removable shelves make the DEKO 2000 simple and comfortable to work with.

EASE AND SAFETY OF USE

With the horizontally front-opening doors, separate transfer carts can be avoided and the loading and unloading is made easier, safer and more hygienic. Any residual fluid dripping from the load is collected on the inner door surface, which is washed and decontaminated during each completed cycle.

The doors open & close smoothly and are locked securely throughout the cycle. Clear text on the display and a green indicator light will advise when the doors are unlocked for opening. An audible indicator may be added to draw attention to the ending of the cycle.

Shockproof windows allow a visual check upon the status in the wash chamber.

The DEKO 2000 is equipped with a Programmable Logic Control system. The user interface with a graphic display provides clear instructions and information on the operation and on-going cycle. Pass-through models have in addition also indicators at the unloading side for on-going cycle, process completed and fault.

The advanced control system allows setting up practically an unlimited number of tailored programs. There is an option of 6+6 most commonly used cycles available at the touch of a button and a cycle memory library with scroll selection.

PLC AND TOUCH-SCREEN

Process parameters are protected by special codes and a number of tested and approved cycles can be set fixed, only to be altered by the manufacturer. Use of the machine solely by authorised and trained personnel is facilitated by a 3-level access code system.

Accurate instrumentation and the fast processor secure that the circumstances in the process are held within the pre-set limits in order to obtain the required cleaning and disinfection result. Protection to thermo-labile medical devices is provided by double overheating prevention.

In order to guarantee that the values of the critical process variables were truly obtained and as programmed, the DEKO 2000 can be optionally equipped with an integrated process verification printer.

VERIFYING THE PROCESS DATA

The 7” TFT Touch Screen Operator and Display Panel can also download cycle data directly through Intranet or save on SD card, i.e.: institution name, date and time, operator and machine identification, cycle number, selected cycle name, phase descriptions, washing pressure, detergent dose stage and volume (option), chamber temperature throughout the process and faults.

Security is provided by a three tier password system that allows user, edit and service level access. The precise, electronic control of the Deko 2000 saves time, energy and consumables. The PLC’s process control and independent recording accuracy are compliant with the most stringent requirements of ISO EN 15883-1 & 2 for instrument washer disinfectors.

The DEKO 2000 occupies its space efficiently. One unit requires only W800xD710 mm of floor space. Connections to water, electricity, drain and ventilation are provided with all necessary safety features. Regular control & maintenance of the machine is made quick and easy by the service mode of the PLC and easily accessible components. Water is taken into the chamber directly to avoid separate cleaning and disinfection of integrated water holding tanks.

RELIABILITY

Any information, advice, personnel training and service calls are attended to with the utmost dedication and urgency. Availability of spares is guaranteed for the minimum of 15 years after date of shipment and the complete programme and software lodged securely with an independent body.

FOR THE PROFESSIONALS

The DEKO 2000 is manufactured by polished stainless AISI 304 stainless steel, it is easy to keep clean and can withstand continuous use. Galvanised and painted metals and other non-compatible materials are totally avoided in the manufacture of the DEKO 2000. Special attention has been paid to sound and heat insulation by using double sheet constructions and the most efficient and environmentally friendly materials.

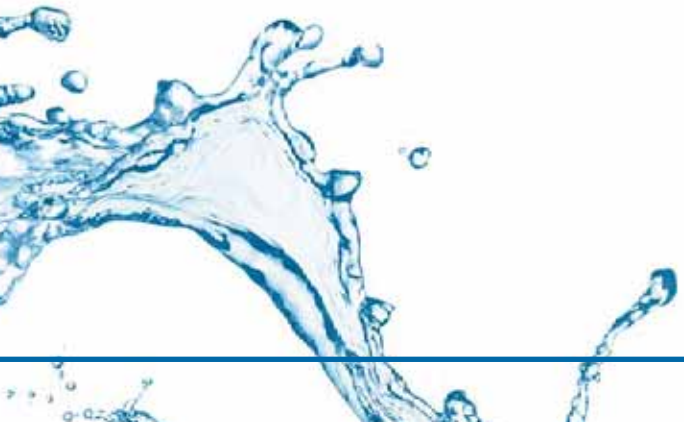
Durability and reliability in continuous, heavy and busy institutional operating circumstances have been the key factors in the design of the DEKO 2000.

SUMMARY OF FEATURES

- overall dim. W800xD710xH1970 mm
- usable wash chamber dim. W600xD610xH610 mm
- electricity U 400V 3N AC 50Hz (or 60Hz), max 13 kW, 3 x 25A. Other voltages as required
- powerful circulation water pump, output 800L/min
- framework, panels and wash chamber all made of stainless steel. No mild steel or galvanized steel frame constructions.
- interlocking opening doors provided with springs and safety locks
- fully automatic PLC control
- 7“ colour Touch-Screen control panel & display , 6+6 cycle selection & start keys & cycle library
- phase indication as text
- remaining cycle time indication
- cycle complete indication as text and with a green led
- multi-level access code system. Special codes for: user, maintenance, authorized person
- access to regulation of critical process parameter values with authorized person entry code only
- 4 independently removable, sliding wash shelves
- automatically connecting / closing wash arm connectors
- 5 rotating wash arms with removable caps facilitating easy cleaning of the inner surfaces of the wash arm. No tools required for removing the wash arms.
- adjustable automatic detergent dosage pump
- indication for insufficient volume of chemicals to complete cycle
- integrated place for process chemical containers
- boss entry port for test temperature sensor leads
- high efficiency dryer with a pre-filter and a HEPA filter Class H13
- ventilation connection provided with a spigot up-stand sleeve and condensate back-flow protection
- filter quality monitoring and change indication
- load temperature protection and overtemperature cut-outs
- automatic foam and washing water pressure control system
- sound and heat insulated
- shockproof window(s)
- stainless steel side panelling
- back syphon Type A air gap protection
- unloading end:
  - in-process indication
  - cycle complete: green led
  - fault indication: red led
- independent process verification recording system - information:
  - institution name
  - date and time
  - machine number
  - non-resettable cycle number
  - cycle name and configuration
  - cycle start and end time
  - temperature recording throughout the cycle
  - fault identification and registering

OPTIONS

- excluding dryer
- extra detergent dosing pumps
- adjustable rinse aid pump
- solenoid valve, feed pump and hose for purified water
- detergent dose volume verification (optional)
- washing pressure registering (optional)
- mutable process complete buzzer
- conductivity measuring
- integrated process verification printer



Outer dimensions

Width	800 mm
Depth	710 mm
Height	1970 mm
Weight	250 kg

Usable inner dimensions

Chamber height	600 mm
Chamber width	600 mm
Chamber depth	610 mm
Usable chamber volume	220 l

Wash levels

Levels	4
Usable height / level	95/135 mm
Wash arms	max. 5

TECHNICAL DATA

Basket capacity

SPRI basket 1/2, 340x250x70 mm		max.16
DIN	480x255x50 mm	max. 8
DIN	240x225x50 mm	max. 16
DIN	120x255x50 mm	max. 32
EURO	600x300x70 mm	max. 8
EURO	300x300x70 mm	max. 16
EURO	150x150x70 mm	max. 32

Appr. water filling volumes L/one phase

Rinse	24 l
Wash	24 l
Disinfection	24 l

Electricity

U 400V 3N AC 50/60Hz, E-models	3 x 25A
U 400V 3N AC 50/60Hz, D-models	3 x 16A
U 200-240V 3PH AC 50/60Hz, E-models	3 x 35A
U 200-240V 3PH AC 50/60Hz, D-models	3 x 16A

Capacity & effects

Total power, E-models	12,8 kW
Heating power, E-models	10 or 7,5 kW
Dryer	2.9 kW
Circulation pump	2.8 kW
Outlet size diameter in	50 mm
Purewater pump, optional	0.1 kW

Water flow L/sek

Steam consumption, D-models	0,5 kg/min
Condense return, D-models	0,5 kg/min

Models

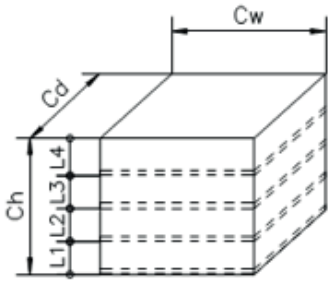
E = electrically heated
D = steam heated
X = pass-through
L = laboratory

E.g. Deko DEKO 2000EXL = electr. heated pass-through laboratory model incl. dryer

Note. Available also excl. dryer.

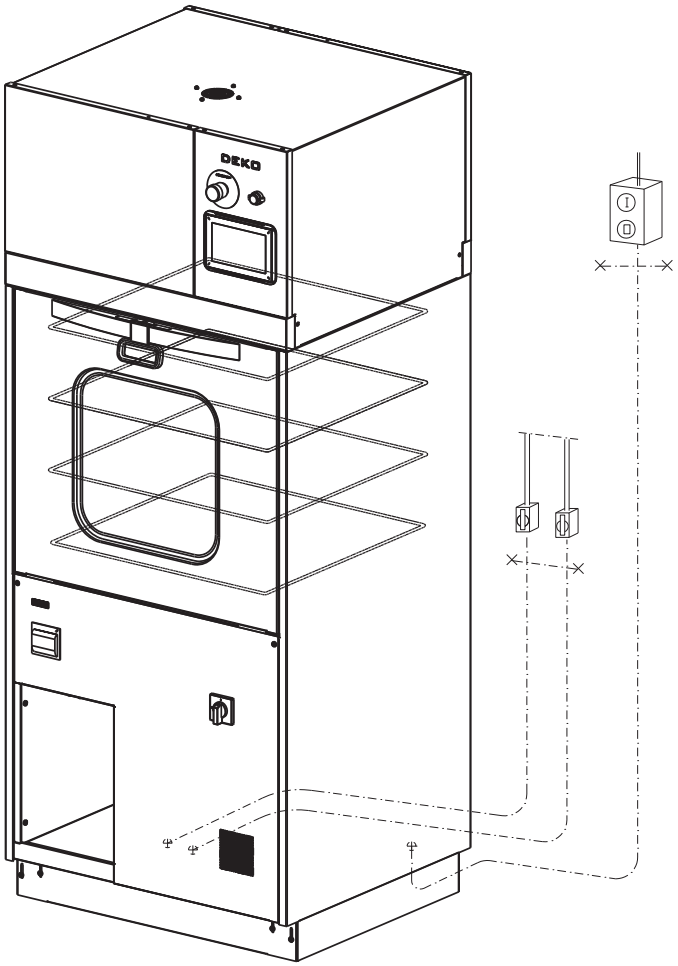
Tests / Approvals

ISO 14001
ISO 13485
SIS TR-3:2001
EN ISO 15883-1, 15883-2
IEC 61010-2-40
CE 0537



Levels

Lower level L_1 min/max 95/135 mm
Middle level L_2 min/max 95/135 mm
Middle level L_3 min/max 95/135 mm
Upper level L_4 95 mm



Outer dimensions

Width M_w	800 mm
Depth M_d	710 mm
Height M_h	1970 mm
Loading height above floor L_h	850 mm

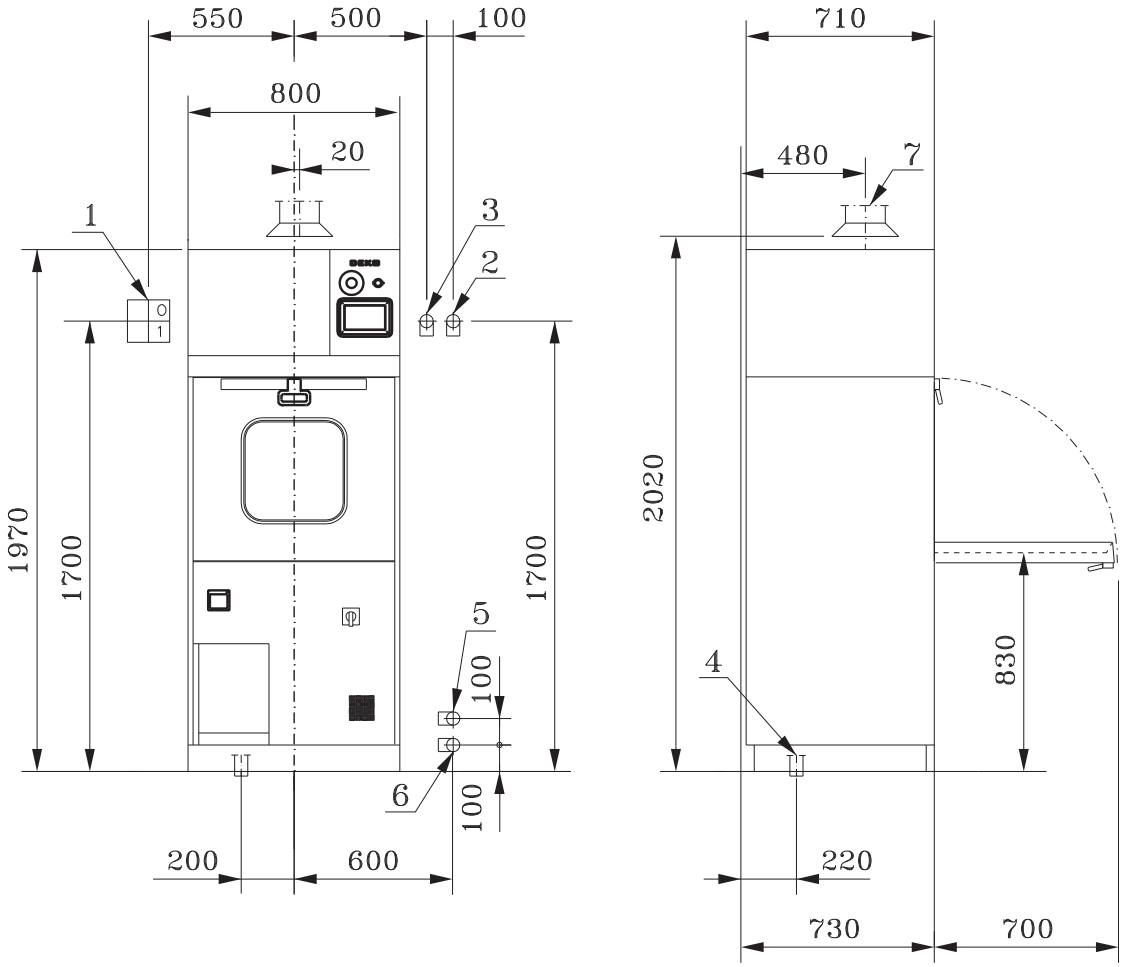
Chamber dimensions

Width C_w	600 mm
Depth C_d	610 mm
Height C_h	610 mm
Volume	347 / 220 L (0.22 m^3)

Mass

Weight with drying unit	250 kg
Weight without drying unit	230 kg
Floor loading	0.05 kN./cm^2

INSTALLATION OF SINGLE DOOR MACHINE



1. Circuit breaker (supplied by the buyer)
2. Cold water R1/2” (female),
   shut off valve (supplied by the buyer)
3. Warm water R1/2” (female),
   shut off valve (supplied by the buyer)
4. Drain outlet NS dia 50 mm
5. Steam connection R1/2” (male)
6. Condensate connection R1/2”(male)
7. Exhaust duct dia 90 mm

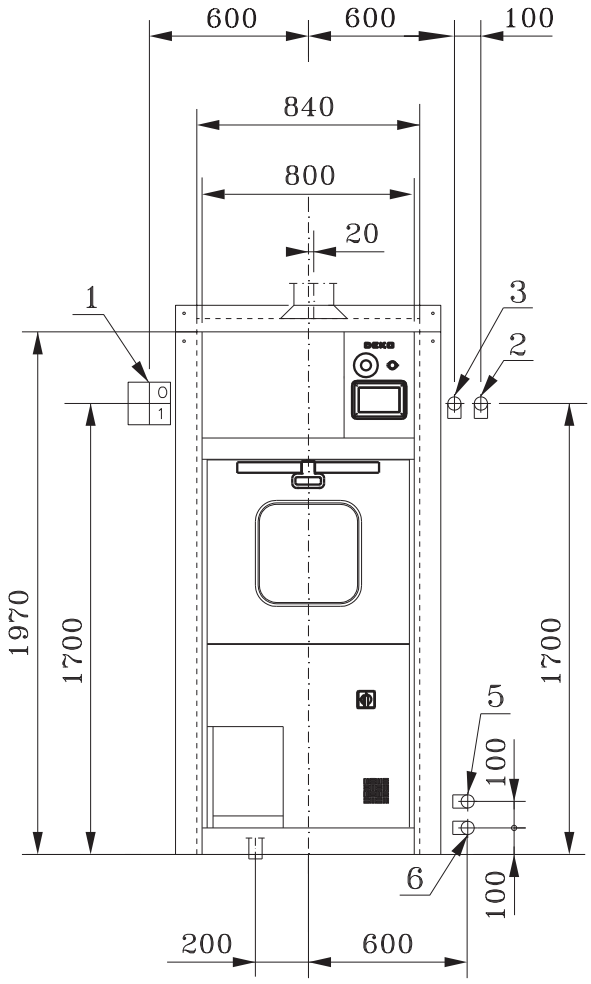
Wall opening for pass-through model, side by side installation

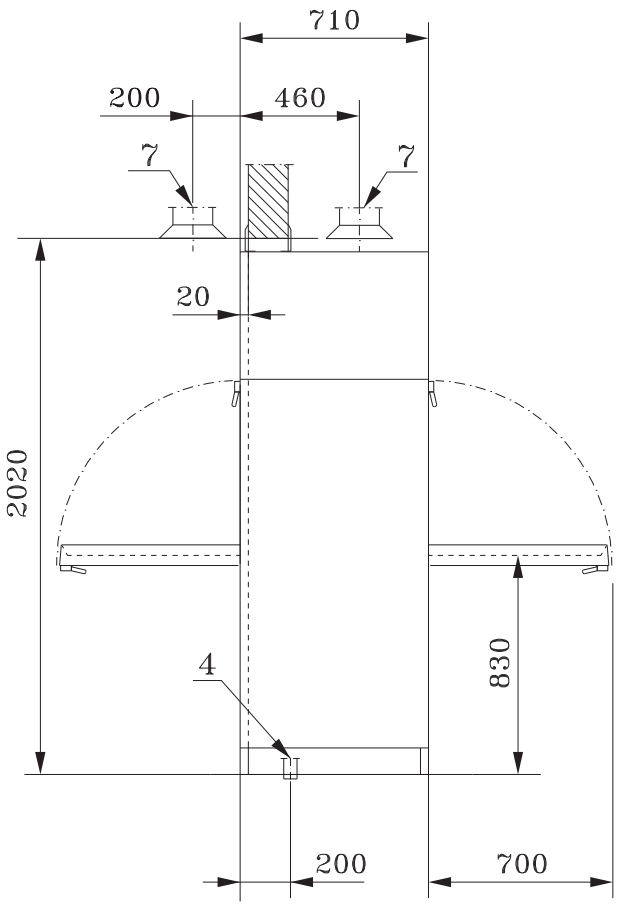
Width of wall opening is nx800 mm + 40 mm

e.g. three machines 3x800 mm + 40 mm
= 2440 mm

Please check the opening
requirements by the supplier.

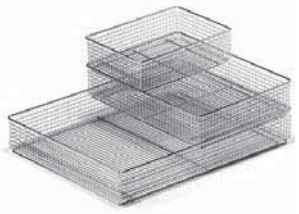
PASS THROUGH MODEL, 1-UNIT





Instruments

381 170
Utensil basket
incl. lid
340 x 250 x 200 mm



381 200
Instrument wire tray 1/1
450 x 340 x 70 mm

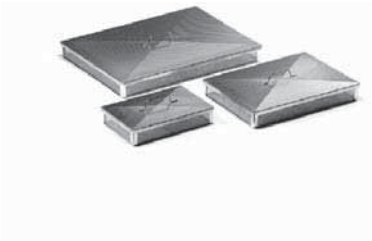
381 201
Lid for 381200

381 210
Instrument wire tray 1/2
340 x 250 x 70 mm

381 211
Lid for 381210

381 220
Instrument wire tray 1/4
250 x 170 x 70 mm

381 221
Lid for 381220



381 202
Fine mesh tray
430 x 320 x 50 mm

381 203
Lid for 381202

381 212
Fine mesh tray
320 x 230 x 50 mm

381 213
Lid for 381212

381 222
Fine mesh tray
230 x150 x 50 mm

381 223
Lid for 381222

381 300
Deko ½ universal basket
440 x 290 x 180 mm

381 301
Divider

381 100
Sterilization basket
585 x 395 x 195 mm
• stackable in and on top of each other

381 110
Sterilization basket
585 x 395 x 100 mm

381 101
Divider grid for 381100

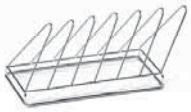
381 102
Compartment grid for
20 sterilization pouches
• fits into sterilization baskets

381 103
Lid for sterilization
baskets, 600 x 400 mm

381 460
Shoe rack,
28 holders

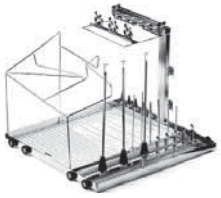
381 483
Insert for Oras shower
heads and hoses
• 7 sets

381 684
Rack for Speculas



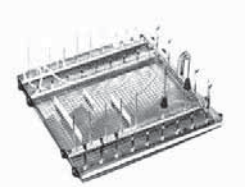
381 685
Holder for kidney dishes

381 310
Rack for Anaesthetic
equipment

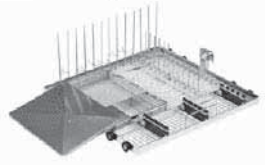


381 314
Rack for AN equipment
• long hoses

381 209
Tray for 6 Opto instruments
• includes tray 381210

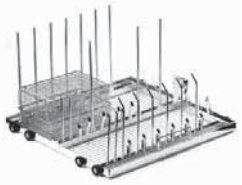


381 318
Rack for optics, hoses
and rigid scopes



381 340
Rack for rigid scopes
• incl. fine mesh tray
381212 and lid 381213

381 343
Rack for laparoscopes
• incl. trays 381210, 381212 and
lids 381211, 381213



381 350
Rack for Bird hoses
• incl. 2 x tray 381220

381 360
Rack for suction hoses

381 365
Rack for milk bottle
nipples, incl. lid
• 48 jet tubes, H 50 mm

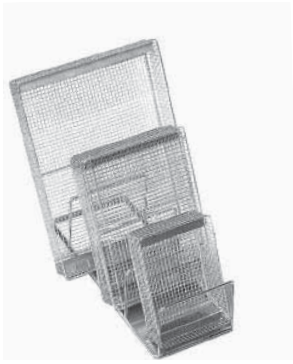
381 370
Rack for optical equipment

N 119 348
Replacement sieve
for rack 381 370

381 686
Rack for hollow
instruments

PV6 666 2
MIS-rack

Dental



381 205
Instrument tray 1/1
with end plates, 450 x 340 x 70 mm

381 201
Lid 450 x 340 mm

381 215
Instrument tray ½
with end plates, 340 x 250 x 70 mm

381 211
Lid 340 x 250 mm

381 225
Instrument tray ¼
with end plates, 250 x 170 x 70 mm

381 221
Lid 250 x 170 mm

381 216
Holder for 3 instrument trays

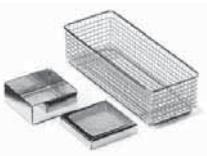
381 385
Rack for dental hoses

381 397
Dental hose rack

381 217
Basket for e.g. dental mirrors
• incl. basket 381219
250 x 170 x 100 mm

381 625
Dental tray rack 1/1 for
base wash level
• for 24 pcs trays

381 626
Dental tray rack ½ for
base wash level
• for 12 trays



381 230
Fine mesh box 90 x 90 x 40 mm,
incl. lid for small items

381 235
Instrument tray
250 x 100 x 70 mm

381 640
St/st tray
280 x 180 x 16 mm

381 227
Carrier for dental
250 x 170 x 70 mm
• 30 angle pieces
• only for outer cleaning

Laboratory

381 500
Sector basket, H 135 mm

381 501
Lid

381 502
Divider, H 50

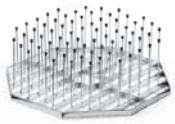
381 503
Divider, H 90

381 503
Divider, H 125

381 503
Divider, H 180

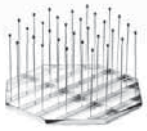
381 510
Sector basket, H 210 mm

381 515
Peg rack
12 pcs

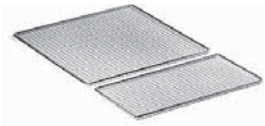


381 520
Peg rack
H 150 mm, 72 pcs

381 530
Peg rack
H 250 mm, 26 pcs



381 535
Pressure lid, diam. 520 mm
- for peg racks 381520 and 381530



381 531
Pressure lid 1/1
600 x 600 mm

381 532
Pressure lid ½
600 x 300 mm

381 540
Basket for microscope slides
- 120 compartments 26 x 8 mm
- incl. basket 381219 and lid 381221

381 550
Compartment for culture dishes
- 48 pcs 360 x 345 x 140 mm
- compartments 102 x 16 mm

381 555
Bottle washing rack, includes support stars
- 54 pcs
- Standard version:
  27 pcs: D8, H150mm
  27 pcs: D6, H100mm
- replaceable tubes

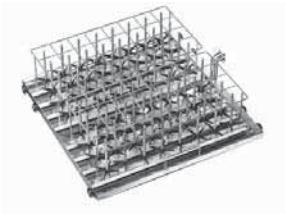
381 725
Tension key for spray tubes

381 580
Half circle tray for beakers

381 590
Pipettes washing trolley

389 000 B
Tailor-made racks for large bottles per specific dimensions

Bottles



381 603
Bottle washing rack with compartments, support stars. Tailor-made per specific dimensions.

381 700
Bottle washing rack, 150 gr - 2 x 32 pcs

381 710
Bottle washing rack, 250 gr - 2 x 32 pcs

381 720
Bottle washing rack, 500 gr - 2 x 18 pcs

381 701
Bottle carrier, 150 gr.

381 702
Lid - 32 pcs

381 711
Bottle carrier, 250 gr.

381 712
Lid - 32 pcs

381 721
Bottle carrier, 500 gr.

381 722
Lid - 18 pcs

N23 658
Bottle support, D8 mm

N23 659
Bottle support, D6 mm

N23 674
Bottle support, D4 mm

N24 365
Height adjust. support D6 or D 8 mm

N24 366
Height regulator diam. 8 mm

N24 435
Height regulator diam. 6 mm

N24 436
Height regulator diam. 4 mm

381 556
Bottle support, D4 mm, standard height 120 mm

381 557
Bottle support, D6 mm, standard height 120 mm

381 558
Bottle support, D8 mm, standard height 180 mm

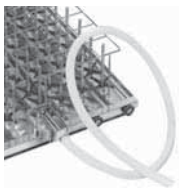
Spray tubes

N26 060 D
Spray tube cap

PV1 081 37
Plastic tube with silicone foil 3/4

PV1 055 22
Plastic tube with silicone foil 7/8

- incl. N66763 base, N66764 cap and NP66891 silicone foil



381 320
Testing connector for spray tube racks

Wash shelves

374 073 A
Instrument middle shelf incl. wash arm

374 078 A
Middle shelf for laboratory equipment, incl. washing arm

Quality
ISO 9001

Version 1.0

Rhima Australia Pty Ltd
ABN 63 007 242 604
72-74 Woodlands Drive Braeside 3195
PO Box 605 Braeside Vic 3195
Tel: 1300 347 944 or 03 8586 5444
Fax: 03 8586 5454
www.rhima.com.au