

DEKO



**rhima**  
the power of clean

DEKO D32  
Washer-disinfector-dryer



## Meeting the standards

The DEKO D-32 is designed and constructed to exceed the standard performance and design requirements stated in ISO/DIS 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 61010-2-45: Particular requirements for washer disinfectors used in medical, pharmaceutical, veterinary and laboratory fields.

Process results are guaranteed throughout:

- water pressure for washing is supplied by a high powered 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.



## Quality at a glance

The DEKO D32's compact dimensions are based on thorough ergonomic research and practical studies. With the working height of the doors, all controls at eye level and flexible usage of the wash chamber with individually removable shelves make the D32 simple and comfortable to work with.

With the horizontally front-opening door, separate transfer conveyors 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 with the assistance of gas springs and are locked securely throughout the cycle by an automatic locking system. 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.

Double-glazed, heat insulated and shockproof window allows a visual check upon the status in the wash chamber.

All parts of the machine and washing accessories coming into contact with the processed items are being cleaned and disinfected simultaneously and separate manual handling is unnecessary.

Thanks to modern manufacturing technology the Deko D32 is safe and has a smooth and harmonic look with a stylish finish.

## Touch screen technology

The DEKO D32 presents the latest technology in user interface applications in washer-disinfectors. The combined high luminance 6.5" wide angle colour TFT LCD display and control panel provides the means to view cycle information real time on the panel i.e. temperature & pressure graphs, cycle and phase name, temperature, remaining process time and a non-resettable batch number. The intelligent software provides you with advice on service actions and routine checks. The maintenance and service file system restores valuable information for technical performance follow-up and evaluation.

Pass-through models have in addition also a high brightness 4x20 character VFD information display at the unloading side to indicate remaining program time, cycle name and possible faults.



# Tracking and verifying data for your Q.A Systems

In order to guarantee that the values of the critical process variables were truly obtained and as programmed, the D32 is equipped with the highest level - Class C - independent, full process verification recording system.

The critical process values i.e. temperatures, times, pressures, detergent dosage time, flow & volume, errors, as well as descriptive cycle data can be independently recorded by three different means for your Quality Assurance System.

Integration of the latest Information technology allows you to review the operation online, download the process data into your server or PC by using a Flash Memory Card, or a direct Ethernet line. Additionally, you may secure your control with a paper printout by a process verification printer.

User identification and load tracking data can be inserted and downloaded into full tracking data systems by a bar code reader. A wireless bar code scanner makes this quick and easy.

For your security and confidence the documented files are protected from tampering by the CheckSum program.

Archive information includes: name of your institution, date & time, operator identification, cycle number, batch number, selected cycle's name, phase descriptions, detergent dosage stage & volume, chamber temperature throughout the process, washing pressure, faults and the CheckSum.



## Safe and secure

The most advanced electronic control system allows setting up practically an unlimited number of tailored programs. If required, there is an option of 12 listed cycles available at the touch of a button. Process parameters are protected by special codes and a number of tested and approved cycles can only 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.

Cleaning efficacy is increased by dosing automatically the precise adjusted volume of one or more detergent at the correct time of the wash cycle. Containers are safely positioned into an easy accessible sliding draw. The intelligent control system monitors the washing pressure constantly and secures the achievement of the pre-set process values.

Advice when detergent volume is running low is given at the start of the next cycle. If the volume is insufficient for the selected process then the cycle will not start.

## When only the best will do

The DEKO D32 is manufactured by quality polished stainless AISI 304 and acid-proof AISI 316 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 D32. 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 D32.

## Quiet, convenient and reliable

The DEKO D32 occupies its space efficiently. One unit requires only W800xD725 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 microprocessor and easily accessible components. Water is taken into the chamber directly to avoid separate cleaning and disinfection of integrated water tanks. User and Maintenance Manuals include all relevant details



and instructions as required. 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.





# KKO

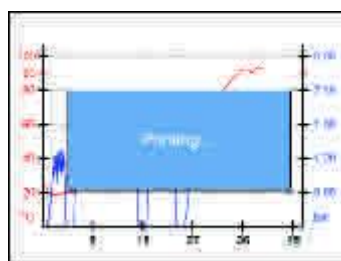
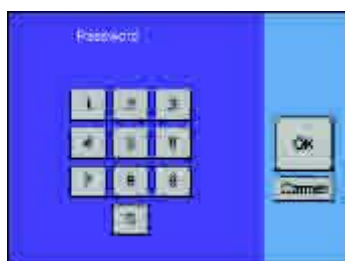


# Summary of features

- overall dim.  
W800xD725xH1970 mm
- usable wash chamber dim.  
W600xD610xH600 mm
- electricity 230/400V 3N 50Hz (or 60Hz), max 12.8 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 gas springs and electrical motor driven safety locks
- fully automatic microprocessor control including back-up batteries for a full memory protection
- VGA-TFT 6.5" touch-screen colour control panel and information display
- cycle selection & start keys
- phase indication as text
- remaining program time indication
- cycle complete indication as text and with a green led
- pressure graph
- temperature graph
- fault indication
- multi-level access code system. Special codes for: user, maintenance, authorized person
- 12 permanent program stations - unlimited number of pre-set cycles
- secure tested cycle files with no access
- customized cycle files
- access to regulation of critical process parameter values with authorized person entry code only
- VFD 4x20 high brightness information display at the unloading end
  - in-process indication
  - cycle & phase info
  - chamber temperature and remaining cycle time
- cycle complete: green led
- fault indication: red led
- independent full process tamper-proof verification recording system
- 32 Mb Flash card
- information:
  - name of institution
  - date & time
  - machine number
  - user identification
  - non-resettable cycle/batch number
  - cycle name and configuration
  - cycle start and end time
  - temperature recording throughout the cycle
  - detergent dosage verification
  - pressure registering
  - fault identification and registering
  - CheckSum
- special service and maintenance control and notifying system
  - notice to carry out routine control
  - malfunction identification in text format
  - adjustment of controls
  - calibration of measuring instruments
  - manual override step by step
  - component test mode
  - error listing
  - updates by a PC and CF card
- 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 by a pump
- independent detergent dosage volume measuring
- indication for insufficient volume of chemicals to complete cycle
- sliding draw 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 system
- drying mode may be used individually
- load temperature protection and overtemperature cut-outs
- automatic foam and washing water pressure control system
- opaque cold and hot water connection hoses 1/2" BSP
- drain outlet diameter 50mm
- automatic pipework purging system
- sound and heat insulated
- height adjustable feet
- stainless steel side panelling
- back syphon Type A air gap protection
- shut-off isolator valves
- mutable process complete buzzer
- Deko Cycle Data Viewer software for reviewing archived cycle data

## OPTIONS:

- excluding dryer
- shockproof thermally insulated double glass window(s)
- bar code scanner
- cordless bar code scanner
- Ethernet connection for real time observation and process data archiving
- network printer connection
- integrated Process verification serial ink printer
- Autoprint
- with a 64 or, 128 Mb Flash card
- max. 2 extra detergent pumps
- max. 2 adjustable rinse aid pumps
- solenoid valve, feed pump and hose for purified water



# Technical Data

Model	D32E/D	D32EK
<b>Outer dimensions mm:</b>		
Width	800	800
Depth	725	725
Height	1970	1970
Weight kgs	270	290
Usable chamber volume L	220	220
<b>Usable inner dimensions mm:</b>		
Chamber height	600	600
Chamber width	600	600
Chamber depth	610	610
Wash levels	4	4
Usable height / level, mm	95/135	95/135
Wash arms max.	5	5
<b>Basket capacity:</b>		
SPRI basket 1/2, 340x250x70 mm max.	16	16
DIN 480x255x50 mm max.	8	8
DIN 240x225x50 mm max.	16	16
DIN 120x255x50 mm max.	32	32
EURO 600x300x70 mm max.	8	8
EURO 300x300x70 mm max.	16	16
EURO 150x150x70 mm max.	32	32
<b>Water filling volumes L/one phase:</b>		
Rinse	19	19
Wash	19	19
Disinfection	19	19
<b>Electricity</b>		
230/400 V 3N 50 Hz, E-models	3x25 A	3x25 A
230/400 V 3N 50 Hz, D-models	3x16 A	3x16 A
115-127/208-220 V 3N 50/60 Hz,		
E-models	3x25 A	3x25 A
D-models	3x16 A	3x16 A
<b>Capacity &amp; effects:</b>		
Total power kW, E-models	12,8	12,8
Heating power kW, E-models	10 or 7,5	10 or 7,5
Dryer kW		2.9
Circulation pump kW	2.8	2.8
Outlet size diameter in mm	50	50
Purewater pump kW, optional	0.5	0.5
Water flow L/sec	0,5	0,5
Steam consumption kg/min, D-models	0,5	
Condense return kg/min, D-models	0,5	

Subject to changes without further notice.  
Please ask the supplier for confirmation as required

## Models:

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

E.g. Deko D32EXL= electr. heated pass-through laboratory model (no dryer)

Note. Available excl. dryer.

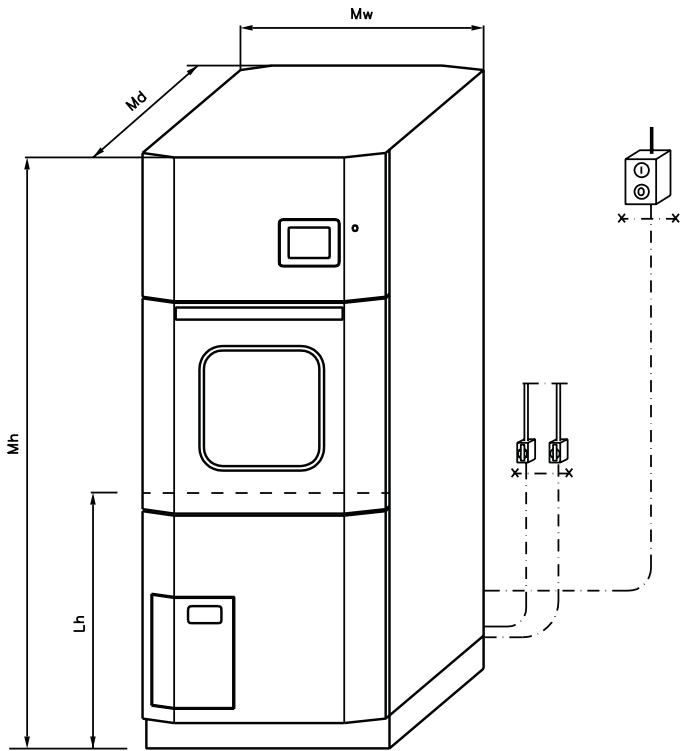
## Included as standard:

4- level shelves  
5 wash arms  
1 detergent pump

## Tests / Approvals:

ISO 9001:2000  
ISO 14001:1996  
ISO 13485  
SIS TR-3:2001  
PrEN ISO 15883-1, 15883-2  
IEC 61010-2-45  
**CE 0537**

# Overall dimensions and mass



## Description

## Value

### Outer dimensions:

Machine width $M_w$	800 mm
Machine depth $M_d$	725 mm
Machine height $M_h$	1970 mm
Loading height above floor $L_h$	850 mm

### Chamber dimensions:

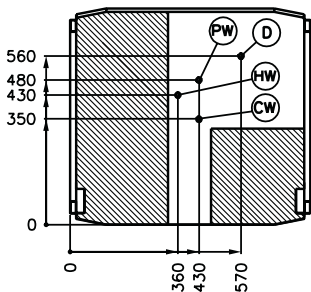
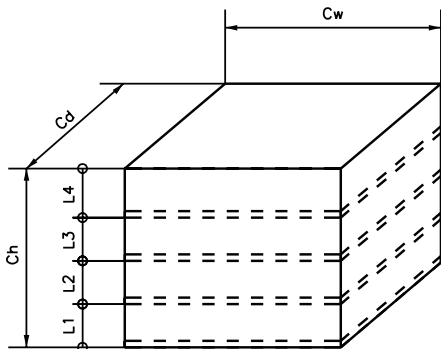
Chamber width $C_w$	600 mm
Chamber depth $C_d$	610 mm
Chamber height $C_h$	600 mm
Chamber volume	347 / 220 L (0.22 m <sup>3</sup> )

### 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 $L_4$		85 mm

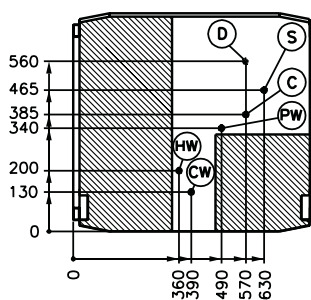
### Mass:

Weight with drying unit	290 kg
Weight without drying unit	270 kg
Floor loading	0.06 kN/cm <sup>2</sup>



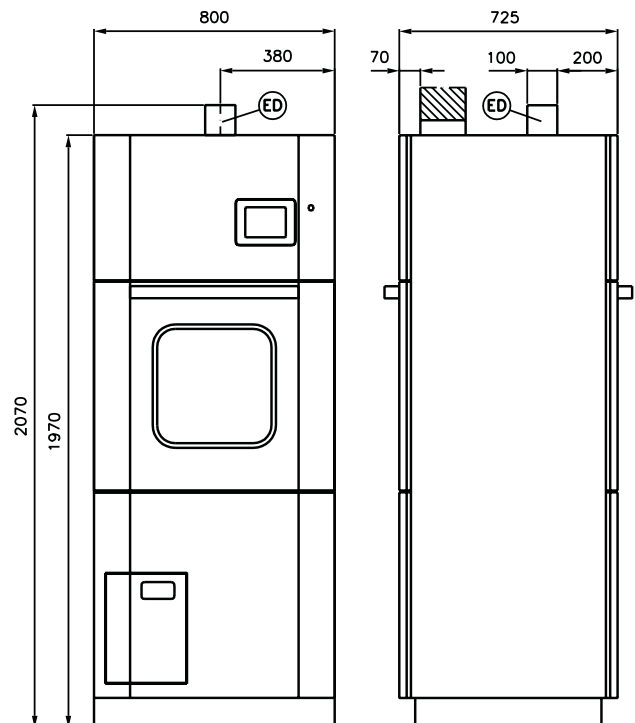
- (D) Drain connection
- (PW) Pure water connection male R3/4"
- (CW) Cold water connection female R1/2"
- (HW) Hot water connection female R1/2"
- (ED) Exhaust duct

▨ No cables or pipes allowed in this area



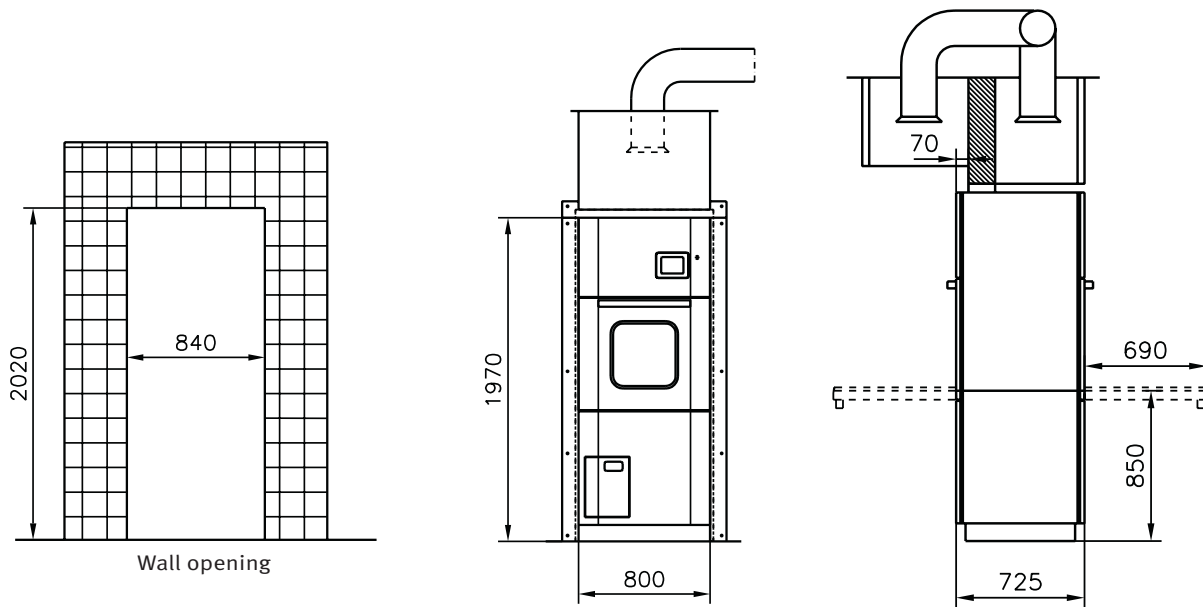
- (D) Drain connection
- (C) Condensate connection male R1/2"
- (S) Steam connection male R1/2"
- (PW) Pure water connection male R3/4"
- (CW) Cold water connection female R1/2"
- (HW) Hot water connection female R1/2"
- (ED) Exhaust duct

▨ No cables or pipes allowed in this area

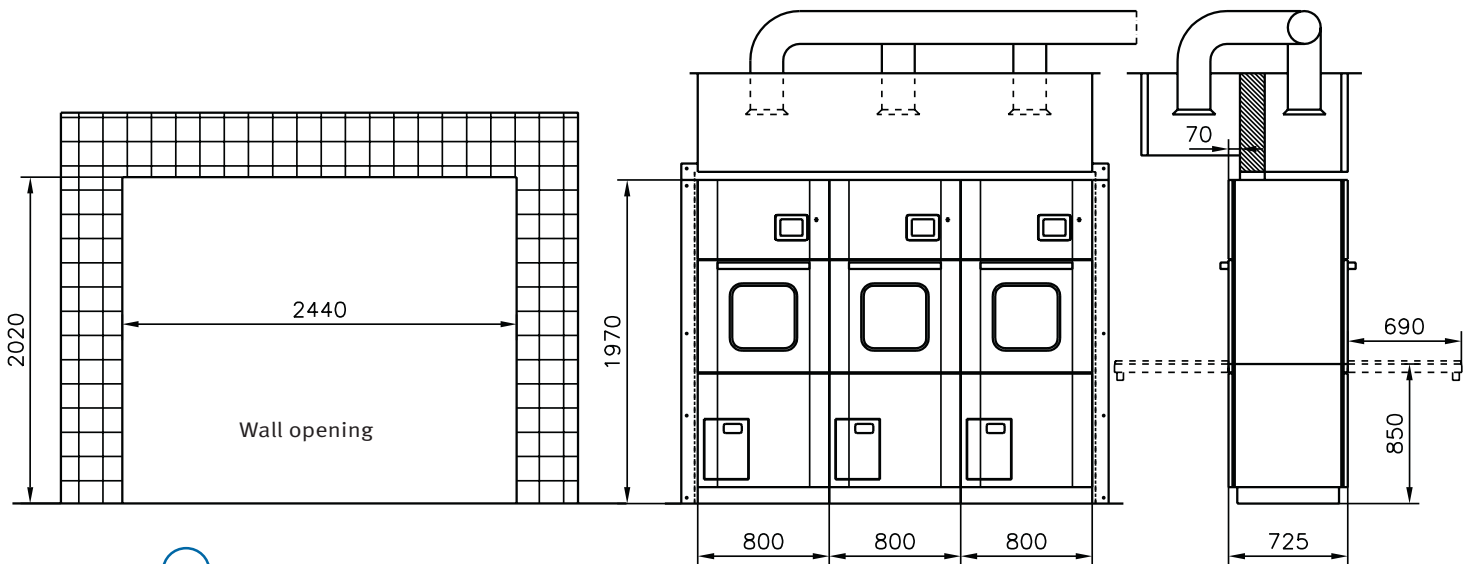


Utility connection locations, electric and steam heated model

# Installation of pass-through models



- Width of wall opening is  $n \times 800 \text{ mm} + 40 \text{ mm}$
- e.g. three machines  $3 \times 800 \text{ mm} + 40 \text{ mm} = 2440 \text{ mm}$
- Wall opening for pass-through model, side by side installation
- Please check the width by a multiple installation from the supplier.



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