

PRODUCT SPECIFICATION

DEKO 2000 X2

Washer Disinfector

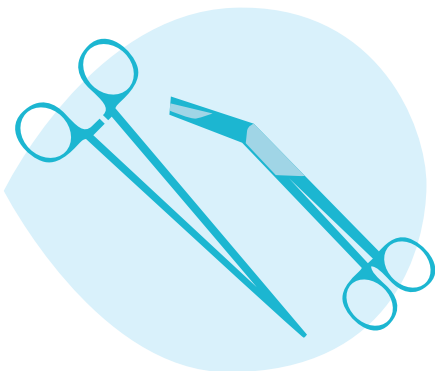


Preventing infections since 1976.

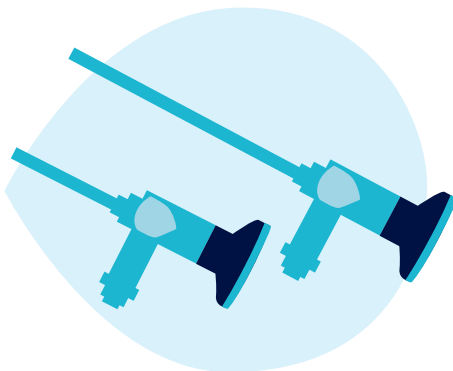
DEKO
MEDTECH

Intended use

The DEKO 2000 X2 Washer Disinfector ensures automatic cleaning and thermal disinfection of reusable surgical and MIS instruments, rigid scopes, anaesthetic and respiratory equipment, hollowware, glassware, transit containers, rubber and plastic goods and other similar and related equipment used in medical and laboratory applications.



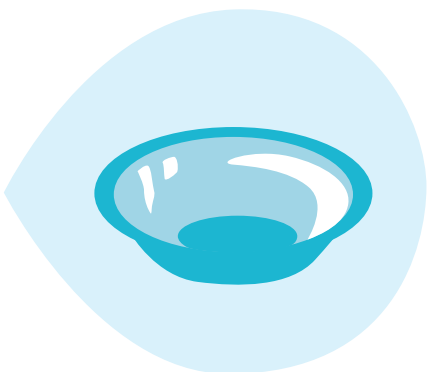
Reusable surgical and MIS instruments



Rigid scopes



Anaesthetic and respiratory equipment



Hospital bowls and other plasticware



Glassware



Transit containers

Main Features

DEKO 2000 X2's large capacity and dynamic wash pump offer efficiency and a high throughput. Performance and design according to EN ISO 15883 Part 1 & 2 guarantee process quality and long-lasting reliability even in the busiest operating environment.



Impressive performance

With a wash pump capacity of 800L/min, DEKO 2000 X2 offers effective washing power with moderate water consumption.

Monitored washing and drying results

Independent process control and recording to verify actualized process parameters providing assurance of quality.

Space saving loading solution

Independently removable, sliding wash shelves and modular racks offer ergonomic, space-saving and customizable solutions to all washing needs.

Tailor with options

In addition to comprehensive standard features, DEKO 2000 X2 options allow customizing to serve the most stringent customer requirements.

Premium quality

The robust construction, high quality components and precise process control secure years of reliable service even under the most demanding use.



Features and functionalities

– benefits for the user

Large capacity

With a 220 l chamber, DEKO 2000 X2 accommodates up to 8 DIN 1/1 or 16 DIN 1/2 trays. Up to 4 independently removable, sliding washing levels with rotating washing arms. Automatically connecting / closing wash arm connectors. Chamber roof and bottom equipped with rotating washing arms. Wash arms equipped with removable end caps. Standard delivery 2 washing shelves. Max. usable height 605 mm with bottom washing level.

Efficient drying

Fast dryer with HEPA filter EU13. Automatic filter quality monitoring and change indication. Drying temperature adjustable between 60–95 °C, time range 15–90 min. Available on request without dryer.

Water pump

High-powered 800L/min. circulation water pump. Water consumption approximately 24 L/washing phase.

Panels and door(s)

Framework, panels and wash chamber all made of stainless EN 1.4301 steel and fully recyclable. All outer panels and tempered window(s) heat and sound insulated. Interlocking hinged door(s) with insulated glass and safety locks allow visual monitoring of process cycle and function as loading levels when open.

Double-door machines are delivered with stainless steel panelling for wall opening: 4 x 100 mm wide side panels and 2 x 100 mm high top panels.

Advanced State-of-the-art control

Fully automatic PLC control including back-up batteries for full memory protection. Multi-level access code system protects any unauthorized changes to washing cycles and set parameters. Separate codes for user, maintenance and authorized person. Special service and maintenance control system restore valuable information for technical performance follow-up and evaluation and enables component testing. Process control and independent recording accuracy compliant with ISO EN 15883-1 & 2 for washer disinfectors.

Display (loading side)

Large 7" colour display showing selected cycle, batch number, current cycle phase, chamber temperature, washing pressure and remaining cycle time. Pressure and temperature indication available as graphs. Service instructions, warnings and error indications in signal colors.

Process status indication, unloading side

Coloured led-indicators on unloading side for clear and simple visual detection of process status.

Pressure control for foam and washing water

To secure powerful washing efficacy, automatic foam and washing water pressure control ensure proper water pressure is maintained during water circulation and throughout the whole washing cycle. In case of excess foam or sudden drop of circulating water pressure, machine automatically drains the chamber and restarts the aborted process cycle step from the beginning (max. 3 times). Failure to reach the predefined parameters will result in an interruption of the cycle and an error notification on the display. Load temperature protection and overtemperature cut-outs for secure operation.

Independent tamper-proof process recorder

Machine is equipped with a temperature recorder, sensors and signal processing independent from the controller, to record the attainment of programmed washing and disinfection conditions.

Machine stores all cycle process data such as:

- name of institution
- date & time
- machine identification
- sequential cycle number
- cycle name and configuration
- cycle start and end time
- temperature
- water pressure

Internal storage of 32 GB for recording all process data, transferable to external USB memory stick or throughout an optional network connectivity (FTP over Ethernet) to external fileservers.

By default, verification is executed according to EN ISO 15883-1, clause 5.11.4 level b). Level c) is attained when the machine is equipped with a conductivity meter.

Network connectivity (Ethernet) (optional feature)

Network connectivity feature allows:

- remote monitoring of the machine over network
- logging process events over network to email client
- sending process data printouts to local and network printer
- storing process data to external fileservers (FTP over Ethernet)

See "DEKO WD networking, System description" for more information.

Remote access (optional feature)

Capability for remote access allowing remote service support. See "Deko WD networking, System description" for more information.

Boss entry port

Machine is equipped with boss entry port to insert temperature sensors to perform IQ, OQ, PQ (when requested by the user).

Wash programs

Program library with 6 different factory-set programs tested and approved to meet standard EN ISO 15883 requirements. Programs are easily adaptable to suit special washing and disinfection requirements. Internal memory provides a pre-set cycle library for creating a practically unlimited number of programs. User adjustable audible indicator notifying end of cycle. Cycle duration typically between 10–60 minutes depending on the load items and cycle setup.

Media connections

Water connections with slow closing valves and flexible hoses prevent the transfer of sound and vibration. Media connections are located on the bottom half of the machine.

- Opaque cold and hot water connection hoses
- Drain outlet valve diameter 50 mm
 - 20 mm when equipped with an outlet pump
- Pure water connection
- Back syphon Type A air gap protection
- Shut-off isolator valves
- Exhaust air condenser

Detergent dosing

- Suction tube: Adjustable suction tube to ensure fit for all types of detergent containers.
- Adjustable detergent pump: Dosing of process chemicals by means of detergent pump with flow sensor. Optional second detergent pump with flow sensor and low level indicator.
- Flow meter for detergent dosing: Measures the volume of dosed detergent and verifies the requested dosing volume.
- Detergent low-level indication: The detergent suction hose equipped with a float switch monitors sufficient detergent availability advising user to replace the container when detergent level is below minimum.

- Detergent dosing flushing cycle: Special flushing cycle to remove detergent build-up (precipitate) by hot water from the dosing system.
- Back syphon protection: Type A air gap solution to prevent back syphon from water supply.
- Integrated detergent container compartment: Fits 2 x 5 l detergent containers. Optional lockable door.
- Rinse aid pump (optional feature): For dosing rinse aid to final rinse water.

Panel printer

Panel printer to print process data (see "Independent tamper-proof process recorder") on loading or unloading side. Available on request without printer.

Purewater feed options (optional feature)

For purewater feed, machine may be equipped with a) a solenoid valve when connected to pressurized purewater resource or b) a pump and a solenoid valve when connected to unpressurized purewater feed. Purewater can be used in all water process phases.

Conductivity meter (optional feature)

Integrated conductivity meter for monitoring final rinse water. If conductivity is above pre-set control value, alarm is shown on display and washing cycle is terminated.

Emergency stop switch(-es) (optional feature)

Emergency stop switch(es) available on request for loading and unloading side.

Drip tray with leakage sensor (optional feature)

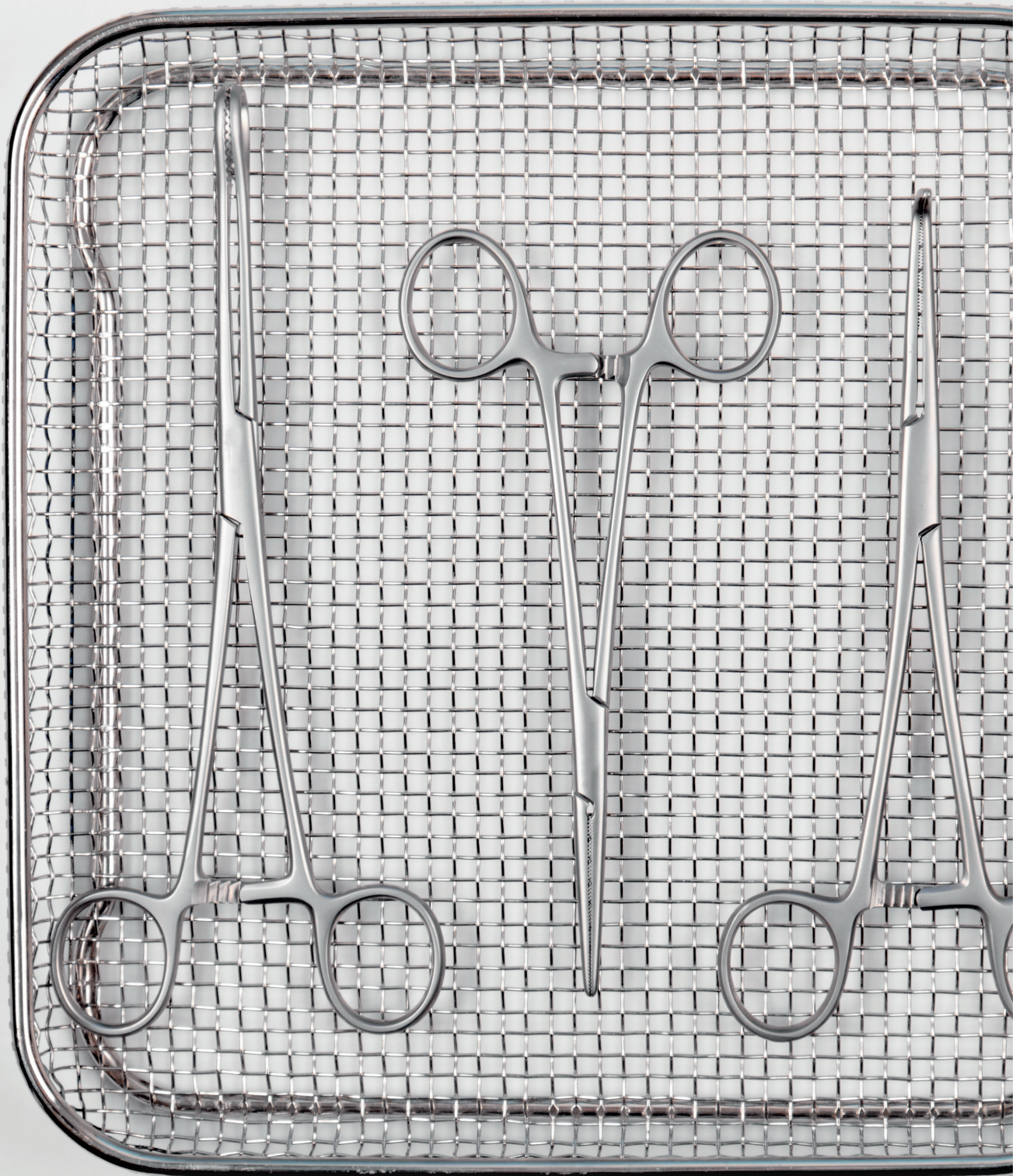
Separate stainless steel drip tray for possible leakage recognition. Alarm shown on display.

Sample drawing tap (optional feature)

For testing final rinse water quality, machine is equipped with a sample drawing tap. Final rinse is paused shortly to allow water sample drawing after which process is continued.

Laboratory applications

DEKO 2000 X2 laboratory model is specially equipped for processing laboratory utensils: including specialized wash shelves & wash arms for laboratory glassware, solenoid valve for purewater feed and coupling to conductivity measuring.



Loading capacity

DIN 480 x 255 x 50 mm
max. 4 x 2 = 8

SPRI I 450 x 340 x 70 mm
max. 4 x 1 = 4
SPRI III 250 x 170 x 70 mm
max. 4 x 4 = 16

DIN 240 x 255 x 50 mm
max. 4 x 4 = 16

SPRI II 340 x 250 x 70 mm
max. 4 x 4 = 16

DIN 120 x 255 x 50 mm
max. 4 x 8 = 32

SPRI III 250 x 170 x 70 mm
max. 4 x 8 = 32

Technical info

| Model | DEKO 2000 X2 |
|---|---------------------------------------|
| Material | Stainless EN 1.4301 steel |
| User interface / Display | |
| 7" colour Touch-Screen | X |
| Door functioning | |
| Manual hinged door | X |
| Single door model with door interlock | X |
| Double doors / pass-through model with door interlock | X |
| Washing mechanics | |
| Rotating washing arms | Max. 5 |
| Removable washing levels | 1-4 |
| Wash arms equipped with easily removable end caps | X |
| Measurements | |
| Width (mm) | 800 |
| Depth (mm) | 710 |
| Height (mm) | 1970 |
| Chamber volume, l (gross) | 332 |
| Chamber volume, l (effective) | 220 |
| Wash chamber dimensions, mm (gross) | W 700 x D 620 x H 765 |
| Wash level dimensions, mm (effective) | W 600 x D 605 x H 95-605 |
| Wash levels, max load (trays/baskets) | 8 DIN 1/1 OR 16 SPRI II |
| Loading height, mm | 840 |
| Weight, kg (w/o drying unit) | 250 (230) |
| Floor loading, kN/cm ² | 0.05 |
| Adjustable feet for levelling ±10 mm | X |
| Media connections and consumption | |
| Back syphon protection | Back syphon Type A air gap protection |
| Cold water (CW, 5-20 °C) inlet hose | R1/2" female thread, l. 3 m |
| Hot water (HW, 45-65 °C) inlet hose | R1/2" female thread, l. 3 m |
| Min – max water pressure, bar | 1-8 |
| Min. water flow (CW/HW), l/s | 0.5 |
| Steam heated models: | |
| Steam, st/st hose | R1/2" male thread, l. 1.2 m |
| Exhaust, st/st hose | R1/2" male thread, l. 1.2 m |
| Min – max steam pressure, bar | 2.maalis |
| Steam consumption, kg/min | 0.5 |
| Condense return, kg/min | 0.5 |
| Pure water inlet | valve R3/4" male thread |
| Pure water min – max water pressure, bar | 0-6 |
| Water volume per cycle, l | 24 |
| Floor drain outlet | ø 50 mm |
| Drain outlet pump | O |
| Floor drain outlet, with outlet pump | ø 20 mm |
| Exhaust air condenser | X |
| Exhaust duct | ø 90 mm |
| Required property ventilation (exhaust air) capacity, l/s | 30 |
| Power and other technical features | |
| Total power, kW | 12,8 |
| Heating power, kW | 10 / 7,5 * |
| Dryer total power, kW | 2,9 |
| Dryer fan, kW | 0,4 |
| Air throughput, m ³ /h | 110 |
| Wash pump, kW | 2,8 |
| Wash pump capacity, l/min | 800 |

| Model | DEKO 2000 X2 |
|---|---|
| Power and other technical features | |
| Pure water pump, kW | 0.57 |
| Pure water pump capacity, L/min | 260 |
| Total maximum heat transmission (W/m ²) | 174 |
| Maximum fascia heat transmission (W) | 120 |
| Mean sound power level (A), dB | 72 |
| Peak sound power level (A), dB | 75 |
| Electric connection * | U 400–415V 3N AC 50/60Hz 3x25A U 400–415V 3N AC 50/60Hz 3x16A U 200–240V 3PH AC 50/60Hz 3x35A U 400–415V 3N AC 50/60Hz 3x16A / steam heated U 400–415V 3N AC 50/60Hz 3x10A / steam heated U 200–240V 3PH AC 50/60Hz 3x16A / steam heated |
| Controls/Programmes | |
| Programmability | X |
| Pre-set programmes | 6 |
| Customizable programme positions | Unlimited |
| Cycle status display | X |
| Cycle complete indication with mutable buzzer | X |
| Password protected modes | 3 |
| Automatic detergent dosing system | |
| Suction tube | Adjustable / Telescopic |
| Integrated detergent container compartment for 2 x 5 l containers | X |
| Lockable door for detergent compartment | O |
| Detergent low level indication | X |
| Independent detergent volume verification | X |
| Additional detergent pump incl. flow sensor and low level indicator | O |
| Rinse aid pump | O |
| Process control | |
| Load temperature protection and over temperature cut-outs | X |
| Pressure control for foam and washing water | X |
| Boss entry port for test temperature sensor leads | X |
| Independent tamper-proof process verification | X |
| Independent tamper-proof process recorder | X |
| Panel printer | X |
| Network connectivity (Ethernet) | O |
| Remote access | O |
| Emergency stop switch(es) | O |
| Sample drawing tap | O |
| Solenoid valve for purewater | O (L) |
| Pump & solenoid valve for unpressurized purewater feed | O |
| Integrated conductivity meter | O |
| Coupling to conductivity measuring | L |
| Drip tray with leakage sensor | O |
| Automatic maintenance reminder | X |
| Standard compliance | |
| EN ISO 15883 | EN ISO 15883-1, -2 |
| IEC 61010-1 | X |
| IEC 61010-2-040 | X |
| IEC 61326-1 | X |
| CE 0537 | X |
| EN ISO 14971 | X |
| EN ISO 13485 | X |
| EN 1717 | X |

X = Standard O = Optional (L) = Standard in laboratory model ⁽²⁾ = Double door (pass-through) model * = Regional options

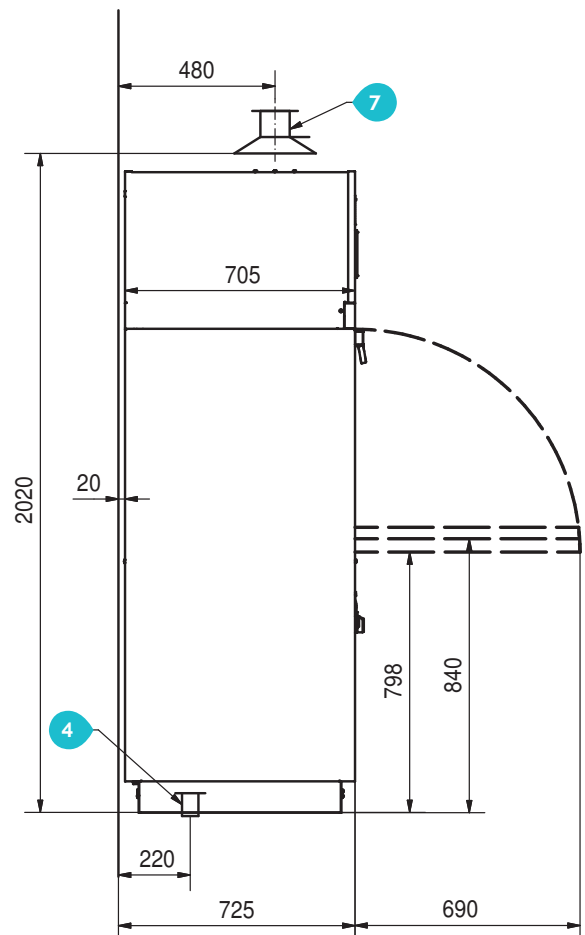
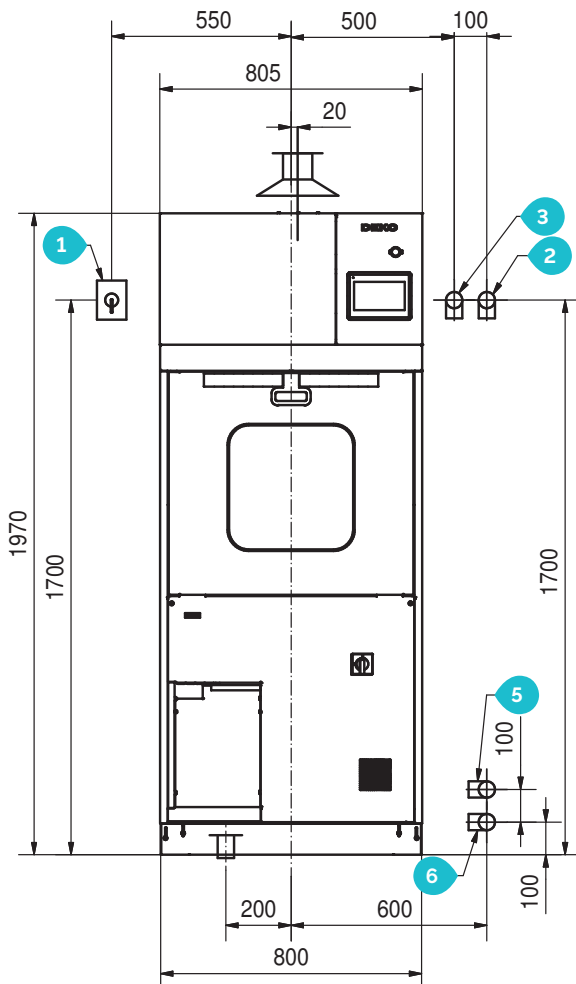
Installation, single door model

1. Circuit breaker ¹
2. Cold water R1/2" (female), shut off valve ¹
3. Warm water R1/2" (female), shut off valve ¹
4. Drain outlet NS dia 50 mm
4.1 Alternative drain outlet dia 20 mm with outlet pump ²
5. Steam connection R1/2" (male) – only steam heated models!

6. Exhaust connection R1/2" (male) – only steam heated models!
7. Exhaust duct dia 90 mm

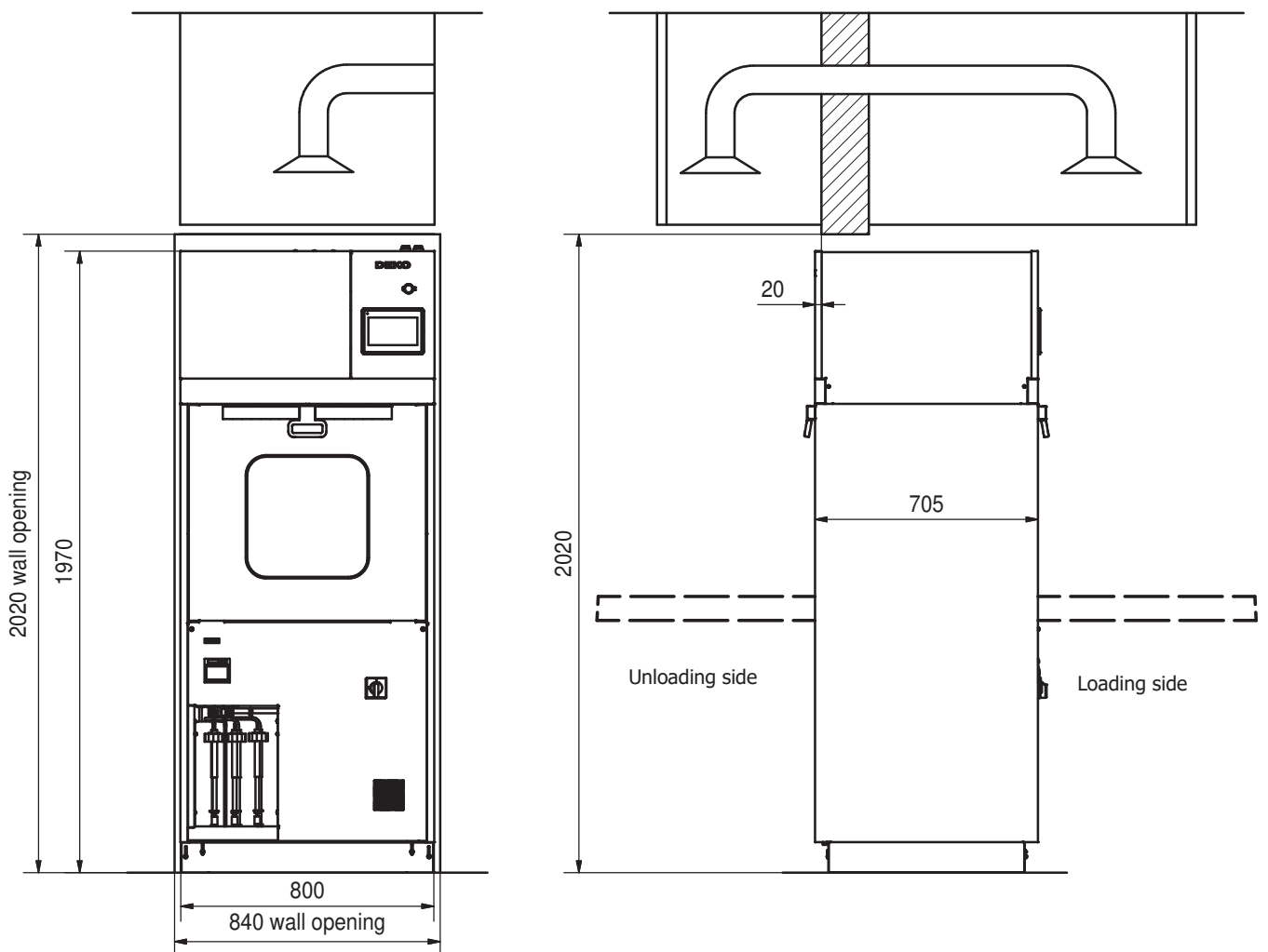
¹ Supply by the buyer/installation party

² Option



Installation, double door (pass-through) model

Wall opening width: 800 mm / machine + 40 mm, height: 2020 mm





Preventing infections since 1976.

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