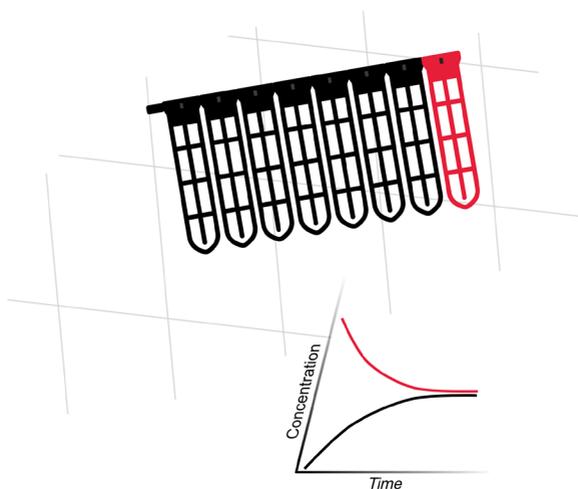


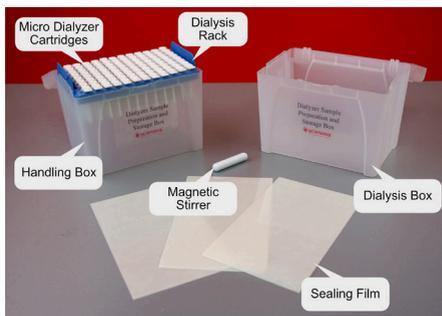
Xpress Magnetic Mixing Dialysis Box

Manual & Data Sheet



Handling & Instructions

Please consider that the samples are in connection via the dialysis buffer. Therefore this dialysis device is especially suitable for samples with the same or similar salt content or buffer. If your samples contain undesired dialysable substances for other samples then you should not dialyse them at the same time. Otherwise the result could be a cross contamination of samples with undesired substances.



1. Fill dialysis samples (volumes from 10–100 μl (MD100) or 50–300 μl (MD300)) into the cartridges of the Handling Box. You can protect the samples with the self adhesive sealing film.
2. Place the Dialysis Box at the center of your magnetic stirrer. Put the Magnetic Stirrer Bar into the Dialysis Box. Check the center position of the Magnetic Stirrer Bar for optimal results. You can use the self adhesive bumpers to mark and fix the position at the magnetic stirrer. Fill in 600 ml (MD100) or 550 ml (MD300) of your dialysis buffer into the Dialysis Box (dialysis buffer should be at the marked line at the side wall of the Dialysis Box).
3. Remove the insert from the Handling Box with the filled cartridges and put it into the prepared Dialysis Box. Close the lid of the Dialysis Box.
4. Switch on the magnetic stirrer. For optimal results set magnetic stirrer speed to 600 rpm. Lower speed will reduce the dialysis efficiency, higher speed could result in a overflow of the dialysis buffer from the Dialysis Box.

◀ ⓘ Important notice

◀ Figure 1
Xpress Magnetic Mixing Dialysis Box

Please refer also to the Manual & Data Sheet for the MD100 or MD300 for more details on specifications, handling, instructions, and chemical resistance.

Note:

Pipette tips must be vertical and inserted firmly into opening.

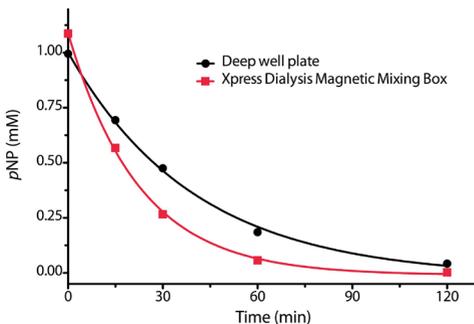
Video demonstration

For a demonstration of the handling of the Xpress Magnetic Mixing Dialysis Box go to:

https://youtu.be/2AkrTzq_GII

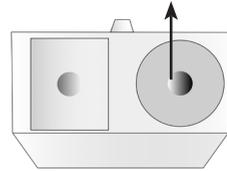


- Select a suitable dialysis time for your sample. Dialysis time depends on the concentration of the salt or buffer of your sample, the desired target concentration, temperature and the dialysis membrane. It is recommended to pretest conditions with your samples and dialysis conditions to determine optimal dialysis time. Dilution at equilibrium can be calculated through the ratio of sample volume to dialysis buffer volume. For example if the 96 samples of 100 μl contain 100 mM NaCl and your dialysis buffer of 600 ml does not contain NaCl the equilibrium concentration will be:
 $96 \times 100 \mu\text{l} / 600 \text{ ml} \times 100 \text{ mM} = 1.6 \text{ mM}$.
 For further dilution it is recommended to remove and change the dialysis buffer.
- After dialysis switch off the magnetic stirrer. Place the open Handling Box beside the Dialysis Box. Remove the insert with the cartridges from the Dialysis Box and put it into the Handling Box. Now it is also possible to exchange the dialysis buffer from the Dialysis Box and start dialysis of the samples with new dialysis buffer.
- Remove the sealing film from the cartridges and aspirate the samples from the cartridge with a pipette (set to 130 μl (MD100) or 330 μl (MD300) in order to aspirate your samples completely).



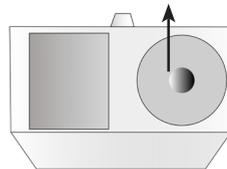
▼ Figure 2

Opening for sample loading/removing



Head of a MD100 dialyzer
(one segment)

Opening for buffer loading/removing
(for usage in deep well plates)



Head of a MD300 dialyzer
(one segment)

▲ Figure 3

◀ Figure 4

Example: Comparison of dialysis in Xpress Magnetic Mixing Box with 96-deep well plate

Conditions: MD100 in Xpress Magnetic Dialysis Box or 96-deep-well-plate, MWCO 6–8, 12–14 kDa, **dialysis buffer:** 1.8 ml PBS pH 7.4, **sample:** 100 μl 1 mM p-nitrophenol in PBS pH 7.4, **method:** buffer exchange intervall 30 min, **determination method:** Tecan Sunrise Photometer, $\lambda=420 \text{ nm}$, performed at room temperature, non shaken, n=3.

Notes

List of delivered parts

Starter Kit	Refill Kit
Dialysis box	
Handling box	Handling box
12 cartridges Micro Dialyzer	12 cartridges Micro Dialyzer
2 Sealing films	1 Sealing film
8 Self adhesive positioning bumpons	
1 Magnetic stirrer bar (30 mm)	
Manual	Manual

This product ("Product") is warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

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I 201806

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*Xpress Magnetic Mixing Dialysis Box
(Magnetic stirrer not included in delivery)*