



Mustang® Q and S XT Acrodisc® Units



- For laboratory use.
- Mustang XT chromatography units contain 16 layers of a strong anion (Mustang Q) or strong cation (Mustang S) exchange membrane capable of binding biomolecules of opposite charge.
- Ideal for evaluation, process development, and validation.
- Can be used as a stand-alone chromatographic device for small scale preparations, or to assist with scale-down studies for Mustang XT5, XT140 and XT5000 capsules.
- The XT Acrodisc Unit is intended for a single use.

Certification

Pall Life Sciences certifies that the enclosed disposable units are:

1. Manufactured in accordance with 21 CFR Part 820, Quality System Requirements.
2. In compliance with published product specifications.
3. Mustang Q and S XT Acrodisc units are fully traceable to raw components.
4. Housing component materials meet USP Class VI requirements for plastics.

The certificate of compliance provided does not apply to products that have been opened or damaged by conditions outside the control of Pall Life Sciences.

Ordering Information

Part Number	Description	Pkg
MSTGXT25Q16	Mustang Q XT Acrodisc Unit	4/pkg
MSTGXT25S16	Mustang S XT Acrodisc Unit	4/pkg

Specifications

Materials of Construction

Housing: Polypropylene

Media: 16 layer Mustang Q 0.8 µm membrane

16 layer Mustang S 0.65 µm membrane

Connections

Female Luer-Lok® inlet and outlet

Membrane Bed Volume

0.86 mL

Differential Pressure

< 15 psi at 10 mL/min

Maximum Operating Temperature and Pressure

37 °C (99 °F)

4 bar (400 kPa, 60 psi)

Mean Dynamic Binding Capacity*

BSA ~ 70 mg/mL membrane volume for Mustang Q XT Acrodisc Unit

Lysozyme ~ 30 mg/mL membrane volume for Mustang S XT Acrodisc Unit

*Note on Optimization:

The yield is contingent on flow rate, surface charge, type and concentration of protein, pH, ionic strength, and other components of the sample solution.

Instructions for Use

It is strongly recommended to filter process buffers and feed samples through an appropriately sized 0.2 µm filter prior to loading.

1. Store capsule under dry, clean conditions, out of direct sunlight and within the original protective package until installation.
2. Inspect the unit for damage before use. If damage or any other irregularities are observed, the product should be replaced.
3. Capsules may be operated using a syringe or may be connected to an automated chromatography system (adapters may be required). The recommended flow rate is 8-10 mL/min.
4. Purge air from the syringe or the tubing of the chromatographic system with equilibration buffer prior to connecting to the capsule.
5. To purge air from the inlet side of the unit, hold the unit with the inlet facing upward, and connect the tubing or syringe to the outlet side of the capsule. Pump buffer into the outlet side of the unit until air is completely displaced from the inlet side.
6. To purge air from the outlet side of the unit, connect tubing or syringe to the inlet of the capsule, and rotate the capsule so that the outlet is facing upward. Pump buffer into the inlet side of the unit until air is completely displaced from the outlet side. Continue pumping buffer for 10 membrane volumes or until stable signals are observed in the UV, pH, and conductivity traces. Clamp unit firmly in place with the outlet side up and check for leaks.
7. Precondition the membrane with 5 mL of 1M NaOH followed by 5 mL of 1M NaCl in appropriate buffer.
8. Equilibrate the unit with the appropriate buffer. Monitor pH and conductivity to ensure membrane equilibration. Zero the UV detector to establish baseline. Perform load, wash, and elution steps according to desired protocol.

For further information please contact Pall at:

Lab Technical Support at 800-521-1520 (in USA and Canada),

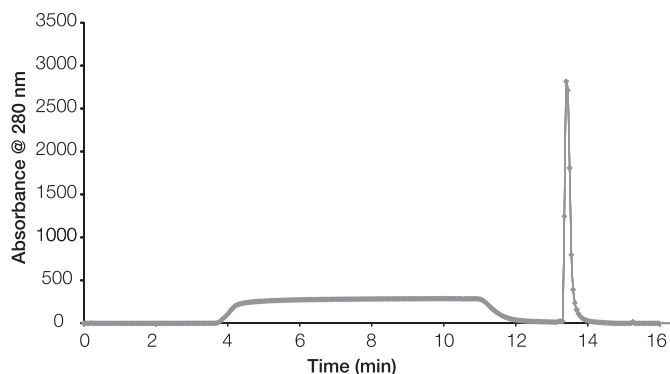
+800.PALL.LIFE (outside USA and Canada)

(Fax: 516-801-9548 or E-mail: biopharm@pall.com)

Performance

Figure 1

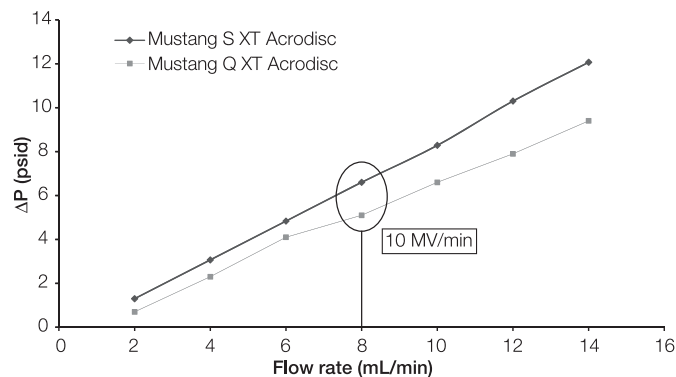
Mustang Q XT Acrodisc Unit BSA Binding Breakthrough Curve



A solution of 1.6 mg/mL BSA in 25 mM Tris pH 8.0 was pumped through the unit at 10 mL/min.

Figure 2

Flow Rate v ΔP for Mustang S XT Acrodisc and Mustang Q XT Acrodisc Units



Complementary Products

Other scalable products with Mustang Q and S membrane

Part Number	Description	Pkg
XT5MSTGQPM6	Mustang Q XT5, 5 mL Q chemistry with membrane for scale-down process development	1/pkg
XT140MSTGQP05	Mustang Q XT140, 140 mL Q chemistry membrane for pilot scale process development	1/pkg
XT5000MSTGQP1	Mustang Q XT5000, 5 L Q chemistry membrane volume for clinical manufacturing	1/pkg
CLM05MSTGQP1	Mustang Q Capsule, with Mustang Q membrane 0.8 µm, 10 mL	1/pkg
CL3MSTGQP1	Mustang Q Capsule, with Mustang Q membrane 0.8 µm, 60 mL	1/pkg
NP6MSTGQP1	Mustang Q Capsule, with Mustang Q membrane 0.8 µm, 260 mL	1/pkg
NP7MSTGQP1	Mustang Q Capsule, with Mustang Q membrane 0.8 µm, 520 mL	1/pkg
NP8MSTGQP1	Mustang Q Capsule, with Mustang Q membrane 0.8 µm, 780 mL	1/pkg
CLM05MSTGSP1	Mustang S Capsule, with Mustang S membrane 0.8 µm, 10 mL	1/pkg
CL3MSTGSP1	Mustang S Capsule, with Mustang S membrane 0.8 µm, 60 mL	1/pkg
NP6MSTGSP1	Mustang S Capsule, with Mustang S membrane 0.8 µm, 260 mL	1/pkg
NP7MSTGSP1	Mustang S Capsule, with Mustang S membrane 0.8 µm, 520 mL	1/pkg
NP8MSTGSP1	Mustang S Capsule, with Mustang S membrane 0.8 µm, 780 mL	1/pkg

Mustang Technology Literature Available

Part Number	Literature	Title
USD 2599	Brochure	Pall Mustang Q XT Chromatography Capsules The High Throughput, Scalable, and Reusable Ion Exchange Membrane Chromatography
USD 2185	Brochure	Pall Mustang Q Capsules The High Throughput Disposable Capsules for Process Scale Anion Exchange Chromatography

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