



ML-200

Gas Barrier Non-Contacting Mixer Seal for Pharmaceutical Applications

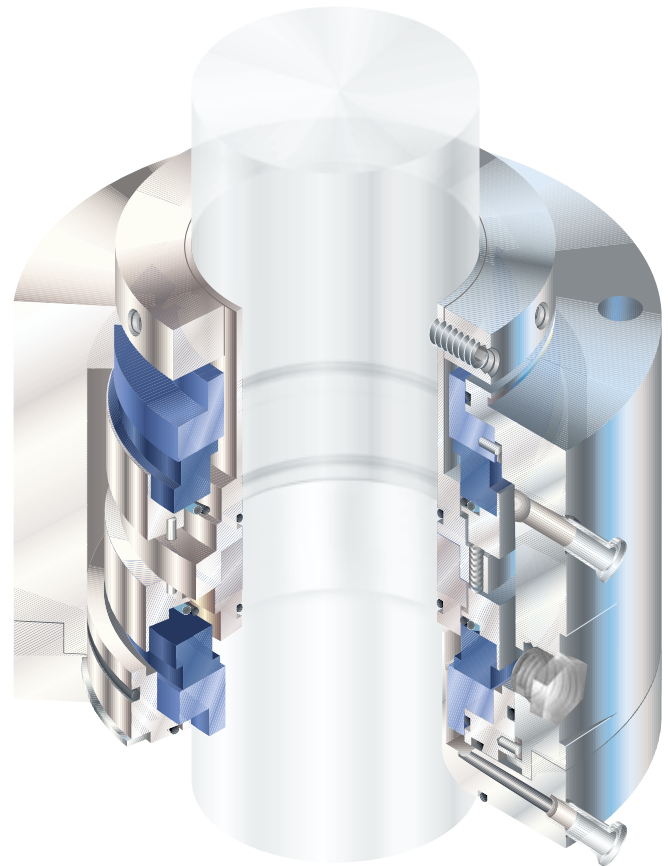
Flowserve offers the ML-200 to meet the ever increasing demands of the pharmaceutical and biotech industry in top entry mixers. The patented non-contacting gas sealing face geometry of the ML-200 utilizes pressurized gas barrier fluid to eliminate risk of product contamination.

Standard ML-200 Design Features

- Dry nitrogen barrier gas
- Face lift-off with pressure only
- Non-contacting faces - no wear debris
- Handles 0.125" FIM runout excursion
- Zero emissions dual seal
- Cartridge design
- Convertible chassis to MW-200 or MD-200

Ask for these features to build your pharmaceutical ML-200 for your custom application

- Non-pooling low-point drain design
- FDA compliant materials
- USP Class VI Polymers
- Suitable for vessel steam in place (SIP) and clean in place (CIP)
- Debris well feature to distribute steam to the lower faces during SIP
- Welded ferrel connection to eliminate threads
- Electropolish and/or passivation on product surfaces
- Heating or cooling spool to stabilize temperature excursions



Standard Operating Window

Maximum Barrier Pressure	150 PSIG (10.3 barg)
Maximum Vessel Pressure	100 PSIG (6.9 barg)
Temperature Limits	-40 to 300°F (-40 to 150°C)
Maximum Speed	500 RPM (6 Meter/sec)
Shaft Size	1.000 to 9.000 inch (25mm to 230 mm)

Barrier media: air or nitrogen

* Cryogenic designs available upon request

ML-200 Features for Pharmaceutical Applications (when requested)

All FDA recognized materials

Cartridge, shaft centered design eliminates piloted gland

Cleanable and drainable O-ring grooves

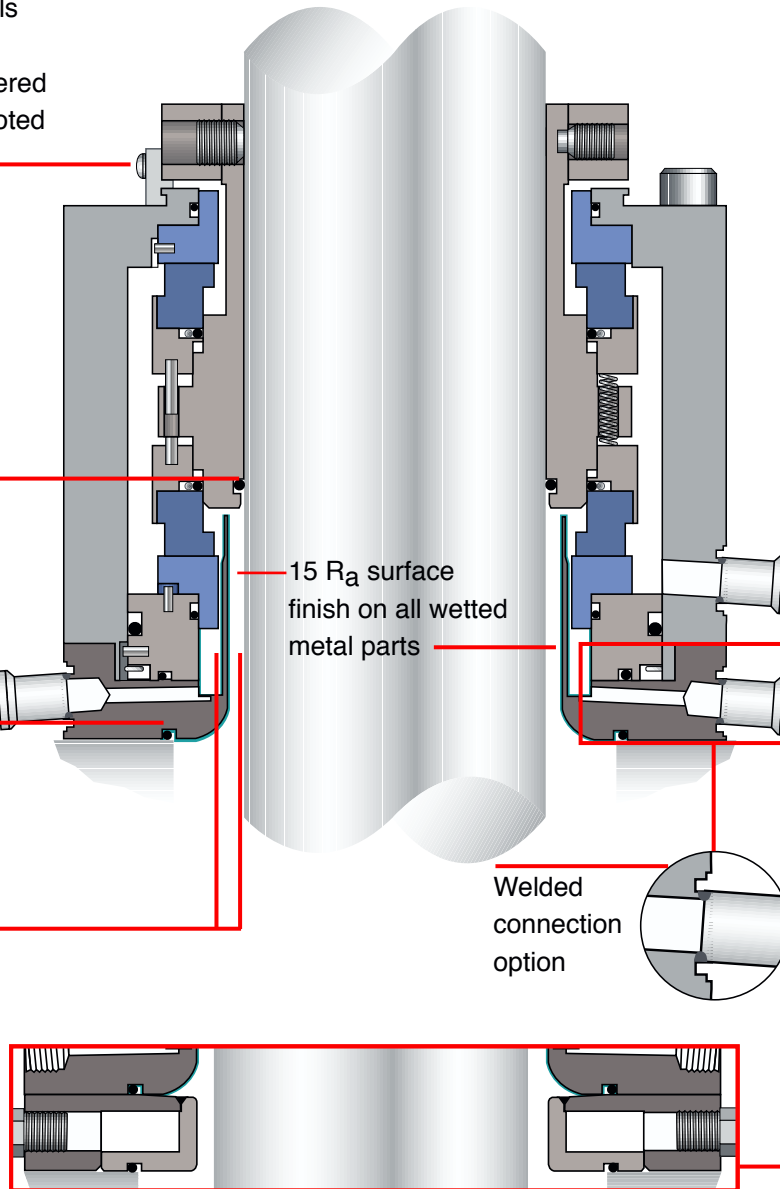
Sanitary gland allows for easy cleaning and sterilizing

15 Ra surface finish on all wetted metal parts

Non-pooling, drainable design

Welded connection option

Heating spool option designed for cryogenic applications



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