

Microfluidics Model M110EH Configurations – Standard items

Please note these tables are offered as a guide, they do not represent comprehensive options and do not represent a specification or proposal.

M 110EH BioPharma Microfluidizer Models Comparison	Industrial	Basic	Enhanced	Aseptic
Included: Standard flow and pressure features of the M110EH-30 with the 1 liter reservoir, chambers and drive				
Minimum sample size	120ml	200ml	200ml	200ml
Flushed Diaphragm Product Pressure Transducer with calibration	Option	Included	Included	Included
Class VI seals and gaskets certified	NA	Included	Included	Included
Seal Quench	Option	Included	Included	Included
Surface finished to 20Ra and electro-polished (where possible) and all surfaces passivated	Option	Included	Included	Included
IQ/OQ package: On CD (MS Word) and hard copy in English	Option	Included	Included	Included
Turn-Over Package: Complete document package including manuals, drawings, materials certifications and calibrations (where applicable). One CD (MS Word) and hard copy in English	Option	Included	Included	Included
2 Liter open 316 stainless steel reservoir, pharmaceutical grade, ground and polished 20 Ra, electro-polished and passivated	Option	Optional	Optional	Optional
Regulatory Options				
FAT: Factory Acceptance Test to standard MFIC protocol with de-ionized water as processed fluid	Option	2 days	2 days	3 days
SAT and IQ/OQ execution: Includes on site visit by factory technician	Option	2 days	2 days	2 days
Start-up and training: Includes factory technician on site for start-up and maintenance training	Option	1 day	2 days	2 days

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Models	Indust.	Basic	Enhanced	Aseptic
Cleaning Options				
Steam In Place allows complete steam sterilization of product contact surfaces including: Diaphragm priming valve, diaphragm valves in piping, six RTDs, steam traps, steam regulator, certifications, single port inlet (for product, UCIP, steam and sterile air), Nema 4x box for wire termination, document package	NA	NA	NA	Incl.
Frame Options				
Standard M110EH-30 frame and enclosure	NA	Incl.	NA	NA
Extended stainless steel cart for accessory mounting Enhanced and Aseptic include an extended cart to accommodate component mounting, 203 cm (80") long vs. 76 cm (30") and weigh 410 kg (900 lbs) vs. 205 kg (450 lbs).	NA	NA	Incl.	Incl.
Heat Exchanger Options				
Standard industrial HEX	Incl.	NA	NA	NA
Sanitary product HEX: Straight through single tubesheet with manual CIP relief valve for safety & return line for product recirculation	NA	Incl.	Incl.	NA
Sanitary product heat exchanger: Straight through single tubesheet with UCIP, rupture disc for safety and return line for product recirculation	NA	NA	NA	Incl.
Product heat exchanger coolant flow modulation control	NA	NA	Option	Incl.
Process Monitoring Options				
Temperature monitoring options	Option	NA	NA	NA
Temperature monitoring assembly including: 2 type T thermocouples, dual digital displays and calibrations	Option	Incl.	NA	NA
Stroke counter, mechanical	Option	Option	NA	NA
Process Monitoring via Yokagawa display and HMI panel with RTD temperature sensors and calibration	NA	NA	Incl.	Incl.
Flow totalizer, integrating to Yokagawa Process Monitor	NA	NA	Incl.	Incl.
Feed Pump Options				
Feed pump, pharmaceutical grade (mounted on side of machine) double diaphragm air pump with sanitary feed pressure gauge	Option	Option	NA	NA
Feed pump, pharma grade dbl diaphragm & feed pressure transducer with calib & integration with Yokagawa Process Monitor	NA	NA	Option	Option