BIOSPECTRIX
ADVANCED LABORATORY SOLUTIONS

GLASS MOLECULAR DISTILLATION

Transparent processing • High vacuum • Laboratory & pilot-scale systems



TRANSPARENT PROCESS

HIGH VACUUM

PILOT SCALE

COMPOSITE PTFE SCRAPER

MAGNETIC COUPLING SEALING

TRANSPARENT GLASS SYSTEM

SAFETY CIRCUIT SYSTEM

RELIABLE PERFORMANCE
Consistent results

EFFICIENT SEPARATION
High efficiency operation

VERSATILE APPLICATIONS
Lab & pilot-scale use

A CLEARER WAY TO CONTROL MOLECULAR DISTILLATION

Glass molecular distillation systems provide directprocess visibility while supporting high-vacuum operation, controlled film formation, efficient heattransfer and product recovery.

01 COMPOSITE PTFE SCRAPER

Uniform downward-flowing liquid film with continuous renewal of the evaporating surface.

02 MAGNETIC COUPLING SEALING

Magnetically coupled drive with sealing designed to maintain a high vacuum level.

03 TRANSPARENT GLASS SYSTEM

Clear glass construction makes the process easy to observe while reducing corrosion concerns.

04 SAFETY CIRCUIT SYSTEM

Automatic safety circuit supports safer operation during diffusion-pump cooling.

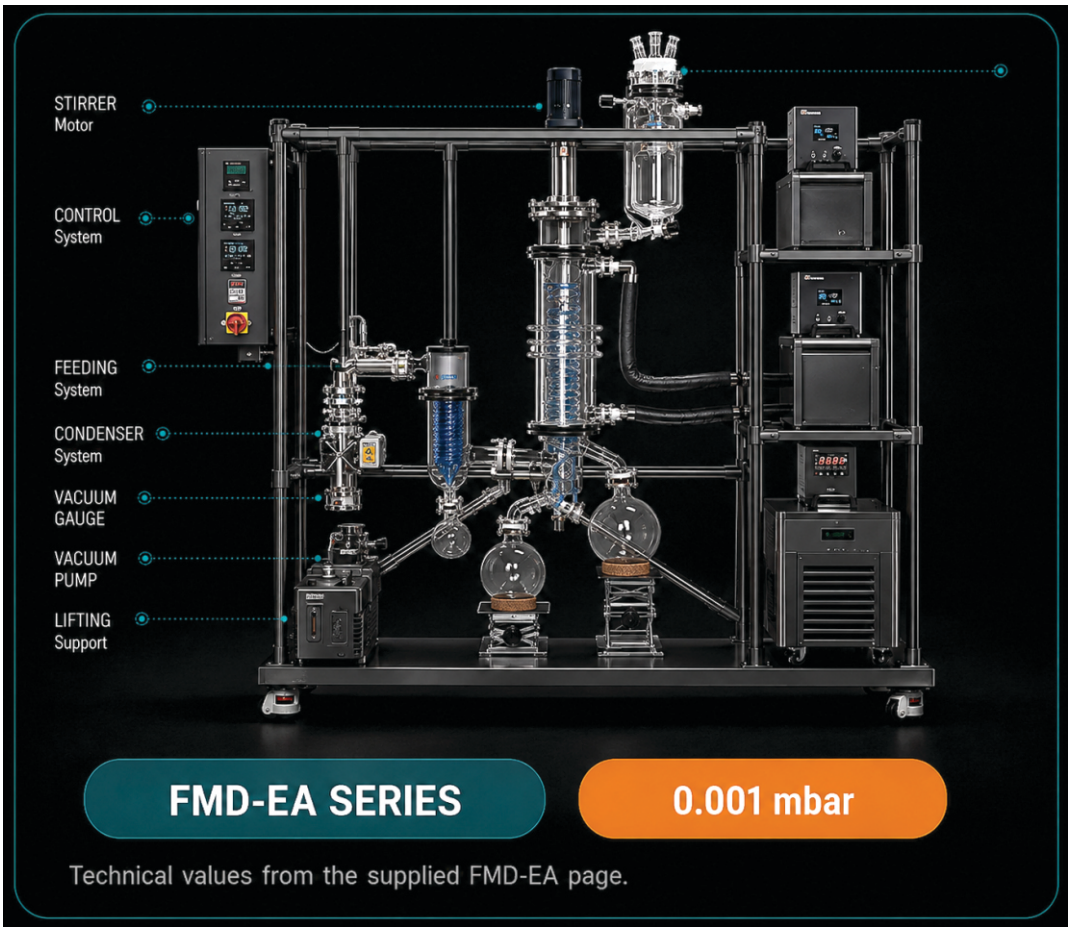
KEY ADVANTAGES

- **HIGH PROCESS VISIBILITY**
  Observe the complete process and monitor operating conditions.
- **EASY TO CLEAN**
  Glass construction supports convenient cleaning and
- **REDUCED SCALE FORMATION**
  Design helps minimize the tendency for scale formation.
- **MOBILE & STABLE**
  Heavy-duty stainless-steel frame with swivel casters and leveling
- **HIGH-PERFORMANCE COOLING**
  Compatible cooling configuration can support low-temperature
- **LAB & PILOT SCALE**
  Suitable for laboratory R&D and small-scale production.

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BSFMD-EA SERIES

- High-vacuum glass molecular distillation
- Configurable process system



A FEEDING MODES

Manual knob valve, peristaltic pump or gear-pump continuous feeding options.

B DISCHARGE MODES

Manual discharge or continuous discharge using an optional gear pump.

C HEATING TRACING

Electric heating belt, double jacket or heat-tracing jacket options.

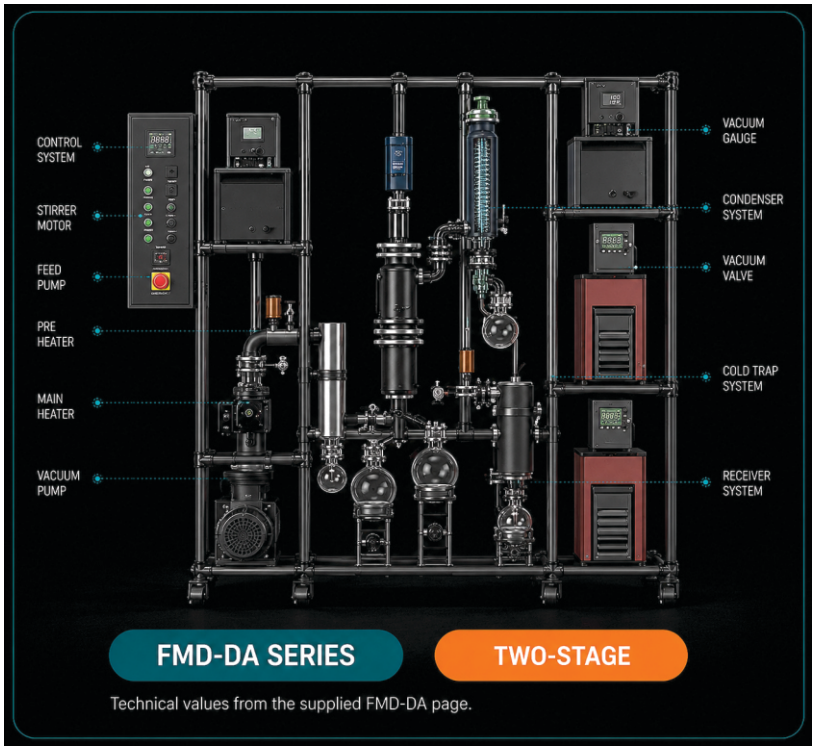
TECHNICAL PARAMETERS

Parameter	BSFMD-60EA	BSFMD-80EA	BSFMD-100EA	BSFMD-150EA	BSFMD-200EA	BSFMD-230EA
Evaporation area (m²)	0.06	0.1	0.15	0.25	0.35	0.5
Handling capacity (L/h)	0.1–3.0	0.3–5.0	0.5–8.0	1.0–15.0	1.5–20.0	2.0–30.0
Internal condensation area (m²)	0.1	0.15	0.2	0.4	0.5	0.65
Number of scraper group	3	3	4	6	6	6
Stirring speed (rpm)	0–450	0–450	0–450	0–280	0–280	0–186
Agitation control	Variable-frequency speed control					
Scraper drive seal form	Magnetically coupled seal					
Type of scraper	Combined push scraper					
Scraping material	Composite PTFE scraper					
Feed tank volume (L)	2.0	2.0	3.0	5.0	5.0	5.0
Collecting bottle volume (L)	1.0	1.0	1.0–2.0	3.0–5.0	5.0	5.0
Cold trap	Standard arrangement					
Condenser	Optional / At choice					
System vacuum (mbar)	0.001 (no-load)					
Power supply	220V/380V, 50Hz/60Hz					
Certification standard	CE / CE certification					

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FMD-DA SERIES

Two-stage configuration for enhanced molecular distillation processing



TWO-STAGE CONFIGURATION

The supplied FMD-DA diagram incorporates first- and second-stage evaporation sections with dedicated heating, cooling, vacuum and thermostatic equipment.

VARIABLE-FREQUENCY AGITATION

MAGNETIC COUPLING SEAL

A FEEDING & DISCHARGE

Manual knob, peristaltic or gear pump options; manual or continuous discharge.

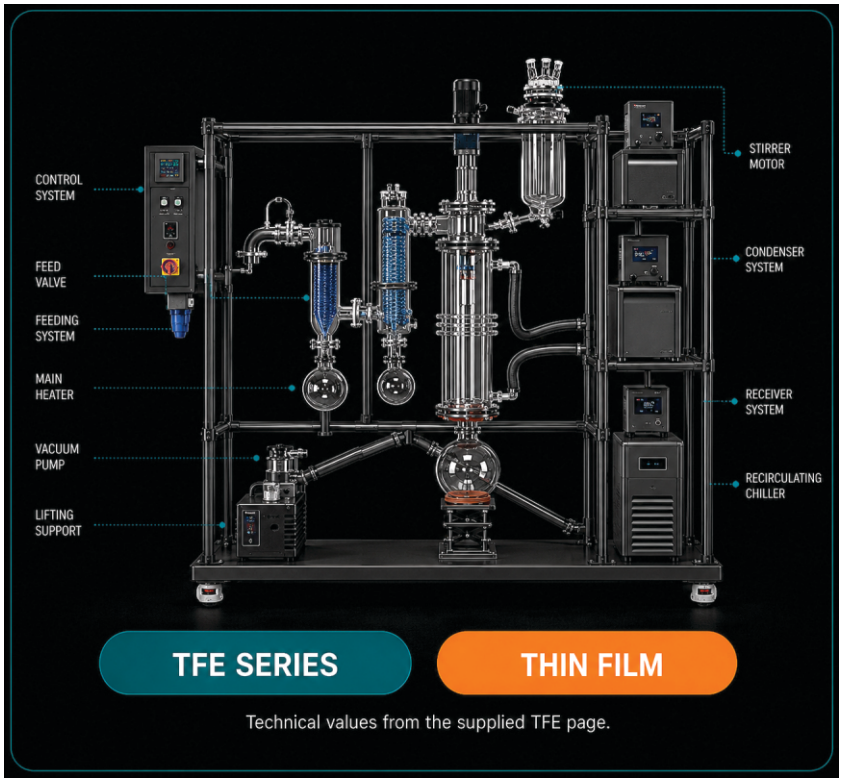
TECHNICAL PARAMETERS

Parameter	BSFMD-60DA	BSFMD-80DA	BSFMD-100DA	BSFMD-150DA	BSFMD-200DA	
Evaporation area (m²)	0.06	0.1	0.15	0.25	0.35	0.5
Handling capacity (L/h)	0.1–3.0	0.3–5.0	0.5–8.0	1.0–15.0	1.5–20.0	
Internal condensation area (m²)	0.1	0.15	0.2	0.4	0.5	0.65
Number of scraper group	3	3	4	6	6	
Stirring speed (rpm)	0–450	0–450	0–450	0–280	0–280	0–186
Agitation control	Variable-frequency speed control					
Scraper drive seal form	Magnetically coupled seal					
Type of scraper	Combined push scraper					
Scraping material	Composite PTFE scraper					
Feed tank volume (L)	2.0	2.0	3.0	5.0	5.0	
Collecting bottle volume (L)	1.0	1.0	1.0–2.0	3.0–5.0	5.0	5.0
Cold trap	Standard arrangement					
Condenser	Optional / At choice					
System vacuum (mbar)	0.001 (no-load)					
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TFE SERIES

- Thin-film evaporation
- Large film area
- High-throughput processing



SYSTEM APPLICATIONS

- **ORGANIC PESTICIDE METHAMIDOPHOS** — Desolvation / concentration
- **GLYCERIN** — Separation and purification
- **STYRENE** — Production
- **PHOSPHOLIPID** — Concentration
- **SPECIFIC-CONCENTRATION CAUSTIC** — Controlled concentration
- **SUGAR SOLUTION** — Concentration
- **HONEY** — Quality improvement
- **RUBBER** — Production

LARGE FİLM AREA

HIGH THROUGHPUT

CONFIGURABLE SYSTEM

TECHNICAL PARAMETERS

Parameter	BSTFE-60	BSTFE-80	BSTFE-100	BSTFE-150	BSTFE-200	BSTFE-230
Evaporation area (m²)	0.06	0.1	0.15	0.25	0.35	0.5
Handling capacity (L/h)	0.5–3.5	0.8–6.0	1.2–8.5	2.5–15.0	3.5–20.0	5.0–30.0
Internal condensation area (m²)	0.2	0.25	0.3	0.5	0.6	1.0
Number of scraper group	3	3	4	6	6	6
Maximum film formation (m²/m)	95	159	239	480	672	960
Stirring speed (rpm)	0–450	0–450	0–450	0–280	0–280	0–186
Agitation control	Variable-frequency speed control					
Scraper drive seal form	Magnetically coupled seal					
Type of scraper	Combined push scraper					
Scraping material	Composite PTFE scraper					
Feed tank volume (L)	2.0	2.0	3.0	3.0	5.0	5.0
Collecting bottle volume (L)	1.0	1.0	1.0–2.0	3.0–5.0	5.0	5.0
Cold trap	Standard arrangement					
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