

DEA-BML-5

Thin Film Evaporation/Wiped Film Evaporators



—Design

Thin film evaporators are horizontal evaporator with wiper basket, gear motors and external condenser.

The vapour nozzle is typically arranged at the upper end of the evaporator in order to facilitate the transfer of the vapours to the external condenser.

Dea offers thin film evaporators from 0.058 to 3 m² .

—Operation

Feed liquid is admitted into still under high vacuum, immediately spread into a

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very thin film and forced quickly down the evaporation surface. Heated walls and high vacuum drive the more volatile components (distillate) to the external condenser as the less volatile components (residue) continue down the cylinder. The resulting fractions, thus separated, exit through individual discharge outlets. Depending on application, the desired product is either the distillate or the residue fraction. Small amounts of condensable low MW compounds collect in cold trap upstream of vacuum system. For high solvent loads, an optional external condenser may be installed immediately downstream of the still.

——Particular features

- Continuous distillation process.
- Low operating pressures (100~10000Pa ,100Pa=1mbar).
- Short residence time.
- High evaporation rates.
- Processing of high-boiling, high-viscosity or crystallizing products is possible.
- Can be used as a reboiler for column.
- Low fouling on evaporator wall.

——Fields of application

- For separation of large quantities of components with high volatility.
- For residue removal or decolorization.
- For products with high-viscosity and easy to crystallize.
- For heat sensitive materials.

设备名称	单位	数量	材质
Equipment Name	Unit	Amount	Material
实验刮板薄膜蒸发器	套	1	S316L/S304/GG-17
Lab wiped film Evaporator(TFE) for hemp	Set	1	S316L/S304/GG-17
Quote Time: JAN 10th, 2019			
项目	单位	数量	备注
Item	Unit	Amount	Details
Distiller & Fittings			
减速仪表电机	台	1	电机转速: 1400rpm/50Hz 减速比: 1: 3.6 减速机转速: 390RPM 功率: 0.12KW/220v-60Hz
Deceleration meter motor	set	1	Motor speed: 1400rpm/50Hz Reduction ratio: 1: 3.6 Reducer speed: 390RPM Power: 0.12KW/220v-60Hz



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电机调速器	套	1	型号: VCD100A4 频率调节范围: 1~50Hz 调速范围: 80~390RPM
Motor speed controller 	set	1	Type: VCD100A4 Frequency adjustment range: 1~50Hz Speed range: 80~390RPM
传动及密封装置	套	1	型号: M20-47-100 密封形式: 复合密封
Transmission and sealing device	set	1	Type: M20-47-100 Sealing form: Composite sealing
刮轮装置	套	1	材料: S316L/PTFE
Film system 	set	1	Material: S316L/PTFE

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薄膜蒸发器桶体(油夹套)	套	1	材质: S316L 蒸发器换热面积: 0.058m ² 内置冷凝器换热面积: 0.065m ² 进料量 (单位: ml/h) : 2000-6000
Thin film evaporator barrel With oil jacket 	set	1	Material: S316L Evaporator heat transfer area : 0.058m ² Feed amount (unit : ml/h) : 2000-6000 Heating Type: heat conduction oil
接收瓶	只	2	GG-17 2L
2L Glass Receiver with valves 	set	2	Borosilicate glass Volume:2L
5L Heavy phase Receiver (with water jacket)	Set	1	S304 volume :5L

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<p>冷凝器</p>	<p>件</p>	<p>1</p>	<p>材质: S316L 换热面积: 0.65 m2</p>
<p>Condenser</p> 	<p>set</p>	<p>1</p>	<p>Material: Stainless steel S316L Heat transfer area: 0.65m2 Mode: Horizontal, Raw material's vapor in shell, Cooling water in tube</p>
<p>Electrical Instruments</p>			
<p>温度测量仪表(蒸汽温度)</p>	<p>台</p>	<p>1</p>	<p>型号: XMT-E9000 仪表尺寸: 96*96mm 输入: K型热电偶 输出: SSR 调节方式: PID 自整定</p>
<p>Temperature measuring devices (vapour temperature)</p> 	<p>set</p>	<p>1</p>	<p>Type: XMT-E9000 Size: 96*96mm Input: K-type thermocouple Output: Solid State Relays Control form: PID</p>
<p>电气控制柜</p>	<p>套</p>	<p>1</p>	<p>基本尺寸: 500*400*200mm 控制柜进线要求: 国标 2.5 平方以上单芯电线</p>

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<p>Electrical control cabinet</p> 	Set	1	<p>Basic size: 500*400*200mm Wire requirement: More than 2.5 square single-core wire Power: 0.2KW 220V-50/60Hz single phase OR three phase</p>
Others			
落地安装架	套	1	不锈钢方管架
Frame	Set	1	Stainless steel 202 tube frame
尺寸及重量	套	1	1100*500*1750mm (L*W*H) 150KG
Size & weight	set	1	1100*500*1750mm (L*W*H) 150KG
包装			木箱
Package			Wooden box
WFE BML-5 (FOB Price:\$7,800.00)			
选装件 Attachments			
1. Vacuum System B (FOB Price:\$1610.00)			
真空设备 B	套	1	<p>空载极限真空 0.2mbar 前级泵：二级旋片真空泵 抽气速率 4L/S 电机功率：0.5KW 型号：2X-4C</p>
<p>Vacuum pump B</p> 	Set	1	<p>No-load ultimate vacuum pressure 0.5mbar Fore Pump: Double vane vacuum pump Exhaust rate:4L/S Motor power: 0.5KW Type: 2X-4C</p> <p>The vacuum system B is not suitable for solvent distillation.</p>

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冷阱	套	1	S304 冷冻介质: 干冰/液氮
Cold trap 	Set	1	Stainless steel304 Freezing medium: Solid carbon dioxide /Liquid nitrogen
真空微调阀	套	1	材质: 304 适用范围: $10^5 \sim 1.3 \times 10^{-2}$ Pa, 最小可调量 1.3×10^{-2} Pa.L/S, 最大可调量 4000Pa.L/S
Micro adjustable vacuum valve 	Set	1	Material: Stainless steel 304 Adjustment range: $10^5 \sim 1.3 \times 10^{-2}$ Pa, min 1.3×10^{-2} Pa.L/S, max 4000Pa.L/S
数显真空仪表	套	1	型号 ZDR-1 型, 测量范围: $1 \times 10^5 \sim 1 \times 10^{-1}$ Pa, 电源: 90-260V/50Hz/ 50Hz,
Pirani vacuum gauge	Set	1	Type: ZDR-1, Display range: $1 \times 10^5 \sim 1 \times 10^{-1}$ Pa, Measuring range: $5 \times 10^3 \sim 1 \times 10^{-1}$ Pa, Power: 90-260V/50Hz/ 50Hz,

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<p>测量电阻规管</p>	套	2	型号: ZJ-52T
<p>Pirani gauge tube</p> 	Set	2	Type: ZJ-52T (Including a spare instrument)
<p>尺寸及重量</p>	套	1	700*300*600mm (L*W*H) 50KG
<p>Size & weight</p>	Set	1	700*300*600mm (L*W*H) 50KG
<p>功率及电压</p>	套	1	0.55 KW/220V 请根据当地电压配置变压器
<p>Power & voltage</p>	Set	1	<p>Power: 0.55KW 220V-50/60Hz single phase OR three phase</p> <p>You need a transformer according to your local voltage.</p>
<p>2. Feed system (FOB Price:\$2360.00)</p>			
<p>高位进料容器(水夹套)</p>	台	1	材料: S304 容积: 5L
<p>High feed container (with water jacket)</p>	Set	1	Material: S304 volume :5L


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<p>恒温热水装置</p>	<p>套</p>	<p>1</p>	<p>功率: 1.5KW 温度范围: 室温~95℃ 控温精度: ±1℃</p>
<p>Electric water heating units</p> 	<p>Set</p>	<p>1</p>	<p>Power: 1.5KW Temperature: Room temp ~95℃ Temperature accuracy: ±1℃</p>
<p>进料计量泵</p>	<p>套</p>	<p>1</p>	<p>驱动器 BT100-2J, 泵头 YZ II 25 标配 15#硅胶管 数量: 2M 参考流量: 0~160ml/min (20℃常压 下水测量数据) 计量方式: 转速 范围: 0.1-100RPM</p>
<p>Feed measuring pump</p>	<p>Set</p>	<p>1</p>	<p>Stepper motor: BT100-2J, Pump head: YZ II 25 15#Silicone tube: 2M Reference Flow: 0~160ml/min (Atmospheric pressure, 20℃, water)</p>

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			<p>Measure form: Motor Speed Range: 0.1-100RPM</p> <p>Suitable for liquid materials, but some solvents can not be used.</p>
<p>尺寸及重量</p>	<p>套</p>	<p>1</p>	<p>250*150*150mm (L*W*H) 2KG</p>
<p>Size & weight</p>	<p>Set</p>	<p>1</p>	<p>250*150*150mm (L*W*H) 2KG</p>
<p>功率及电压</p>	<p>套</p>	<p>1</p>	<p>0.2KW/220V-50Hz/110-60Hz 请根据当地电压选择并邮件告之</p>
<p>Power & voltage</p>	<p>Set</p>	<p>1</p>	<p>Power: 0.2KW 220V-50Hz single phase OR 110V-/60Hz single phase</p> <p>(If you choose to buy this part, Please inform us your local voltage by email.)</p>
<p>3. Electric oil heat (FOB Price:\$1450.00)</p>			
<p>恒温热油装置</p>	<p>套</p>	<p>1</p>	<p>功率: 1.5KW 温度范围: 室温~200℃ 控温精度: ±1℃</p>
<p>Electric oil heating units for Thin film evaporator barrel</p>	<p>Set</p>	<p>1</p>	<p>Power: 1.5KW Temperature: Room temp ~200℃ Temperature accuracy: ±1℃</p> <p>Power: 1.5KW 220V-50/60Hz single phase OR three phase</p>

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4. Pipe insulation system (FOB Price:\$500.00)

<p>Heat tracing tape for feed inlet & product outlet sections</p> 	set	1	<p>Easily applied & removed. Power: 0.5KW 220V-50/60Hz single phase</p>
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(Total FOB Price:\$13,720.00=7800+1610+2360+1450+500)

注：1.本报价的有效期为一个月
2.付款方式：预付 50%,发货前 50%
3.供货期： 8-10 周（不包括货运时间）

PS: The price will be valid for one month.
50% in advance and remainder when the item is ready to ship .

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Period of production is 8-10 weeks.

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Reference picture: BML-5



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