

Jingyuan Product Selection Guide

晶元产品选型手册

Industrial filtration equipment for diesel, lubricants, mining, data centers, wind power and hard-to-filter materials. 面向柴油、润滑油、矿山、数据中心、风电及难过滤物料的工业过滤设备。

Selection Logic 选型逻辑

Shenyang Jingyuan Membrane Systems Co., Ltd. is a vertically integrated manufacturer of industrial filtration equipment, built around proprietary CIS (Critical Interface Sintering) rigid composite membrane technology. With a 14,000 m² manufacturing facility covering membrane sintering, metal fabrication and electrical assembly, Jingyuan delivers end-to-end quality control. All membrane-based products feature zero-consumable design (≥ 3-year service life) with online gas-pulse regeneration, eliminating disposable cartridge procurement, replacement labor and hazardous waste disposal costs. 沈阳晶元滤膜有限公司是一家垂直整合型工业过滤装备制造商，以自主研发的 CIS（临界界面熔融成型）刚性复合膜技术为核心。拥有 14,000 m² 制造基地，覆盖膜材制造、金属加工与电气总装全链条，实现端到端质量管控。全系膜产品采用零耗材设计（≥ 3 年运转寿命），支持在线气脉冲再生，减少滤芯采购、更换人工及危废处置成本。

Core Technology Platform 核心技术平台

- ▶ CIS Rigid Composite Membrane: Self-supporting 3D porous structure, 3-5 mm wall, stable pore geometry under 0.5 MPa pressure fluctuation. Zero unloading effect. | CIS 刚性复合膜：自支撑三维多孔结构，壁厚 3-5 mm，≤ 0.5 MPa 压力波动下孔径几何稳定，零卸载效应。
- ▶ Gas-Pulse Online Regeneration: N₂/compressed air pulse at 0.4-0.5 MPa removes filter cake in < 30 s. Design life ≥ 3 years. | 气脉冲在线再生：0.4-0.5 MPa 氮气/压缩空气脉冲 < 30 s 剥离滤饼。设计运转寿命 ≥ 3 年。
- ▶ Stainless Steel Wedge-Wire: V-shaped precision laser-welded gaps. Surface filtration, no deep blinding. 25-200 μm absolute. Lifetime use. | 不锈钢楔形网：V 型精密激光焊接缝隙，表面过滤无深层堵塞。25-200 μm 绝对精度，终身使用。
- ▶ High-G Centrifugal Separation: 2,200 G centrifugal force, 1-5 μm separation. Fully automatic scraper discharge. Zero consumables. | 高 G 值离心分离：2,200 G 离心力，1-5 μm 分离精度。全自动刮板排渣，零耗材运行。

Selection Logic 选型逻辑

第一步：流体类型 Step 1: Fluid Type

Diesel (≤ 20 cSt) → JY-T, JY-M, JY-219, JY-210 series 柴油 (≤ 20 cSt) → JY-T、JY-M、JY-219、JY-210 系列

Hydraulic / gear oil (32-460 cSt) → JY-G100, JY-H130, JY-H330 series 液压油 / 齿轮油 (32-460 cSt) → JY-G100、JY-H130、JY-H330 系列

Heavy oil / waste oil / resin (> 100 cSt) → JY-DX5-W wedge-wire series 重油 / 废油 / 树脂 (> 100 cSt) → JY-DX5-W 楔形网系列

Cutting fluid / emulsion → JY-N95 centrifugal separator 切削液 / 乳化液 → JY-N95 离心净化设备

Fermentation broth / catalyst slurry → JY-DCF7 dynamic shear system 发酵液 / 催化剂浆料 → JY-DCF7 动态剪切系统

第二步：流量 Step 2: Flow Rate

< 1 m³/h (onboard/mobile) → JY-210, JY-219A, JY-M50H, JY-DM50 < 1 m³/h (车载/便携) → JY-210、JY-219A、JY-M50H、JY-DM50

1-5 m³/h (compact skid) → JY-H130, JY-H330, JY-T32A, JY-G100 1-5 m³/h (紧凑撬装) → JY-H130、JY-H330、JY-T32A、JY-G100

12-25 m³/h (medium skid) → JY-A10, JY-A20, JY-DX5-W 12-25 m³/h (中型撬装) → JY-A10、JY-A20、JY-DX5-W

25-40 m³/h (large skid) → JY-A30, JY-DX40, JY-Q325 25-40 m³/h (大型撬装) → JY-A30、JY-DX40、JY-Q325

40-60 m³/h (depot scale) → JY-DL60, custom systems 40-60 m³/h (油库级) → JY-DL60、定制系统

第三步：洁净度目标 Step 3: Cleanliness Target

Particle: ISO 4406, NAS 1638 or μm rating → filter precision selection 颗粒物: ISO 4406、NAS 1638 或 μm 标称 → 确定过滤精度

Free water: target ppm level (e.g. ≤ 50 ppm) → hydrophobic membrane or coalescer stage 游离水: 目标 ppm 水平 (如 ≤ 50 ppm) → 疏水膜或聚结分离级

Diesel logistics: full-stream filtration + water removal 柴油物流: 全流过滤 + 除水

Mining & field fleets: mobile filtration + HPCR protection 矿山与野外机队: 移动过滤 + HPCR 保护

Data centers: 24/7 kidney-loop polishing + alarm integration 数据中心: 24/7 旁路循环抛光 + 报警集成

Core Product Comparison 核心产品对比

Model / 型号	Type / 类型	Flow / 流量	Precision / 精度	Life / 寿命	Form / 形态	Application / 应用场景	Key Feature / 核心卖点
JY-210	Array Filter / 阵列精滤	0-10 L/min	5/10/15/20 μm	2-3 yr	Compact Cylinder / 圆柱紧凑	Excavator, genset, agri / 工程机械、农机末端	17-core honeycomb, 6.5 kg, SS / 17 芯蜂窝, 6.5kg, 全不锈钢
JY-219A	Portable Refueler / 便携加注	20-40 L/min	2-20 μm	2-3 yr	Portable Trolley / 推车便携	Fleet refueling, field operations / 车队加油、野外作业	Filter + refuel all-in-one, 47 kg, AC/DC / 过滤加注一体, 47kg, AC/DC
JY-219F	Fuel Polisher / 燃油抛光	120 L/min	β ₅ ≥ 100	2-3 yr	Modular / 模块化	Data centers, hospital backup / 数据中心、医院备电	Kidney-loop polishing, BAS integration / 旁路循环, BAS 集成
JY-M50H	Mobile Diesel / 移动柴油	16-40 L/min	≥98% @ ≥5μm	2-3 yr	Trolley / 推车	Diesel gensets, jet fuel / 柴油发电、航煤加注	Dual-stage, 77 kg, 0.28 m ² / 双级精滤, 77kg, 0.28m ²
JY-DM50	Diesel Management / 柴油管理站	20-40 L/min	≥98% @ ≥4μm	2-3 yr	Trolley / 推车	Fleet fuel management / 车队燃油管理	Filter + meter + refuel / 净化+计量+加注一体
JY-T32A	Modular Dual-Stage / 模块化双级	40 L/min	≥98% @ ≥4μm	2-3 yr	Modular / 模块化	Construction, trucks, gensets / 工程机械、车载	Multi-angle mount, AC/DC dual / 多自由度安装, AC/DC 双电源
JY-T100	Horizontal 3-Stage / 卧式三级	60 L/min	β ≥ 200 (≥99.5%)	≥3 yr	Skid / 撬装	Gas stations, genset terminals / 加油站、发电终端	No-power design, water ≤ 50 ppm / 无动力设计, 除水 ≤ 50ppm
JY-G100	Mobile Deep Polish / 移动深度净化	10-60 L/min	2-25 μm	2-3 yr	Mobile / 移动式	Hydraulic, cutting oil, diesel / 液压油、切削液、柴油	5000Gs magnetic + 3-stage, 0.6 m ² / 强磁+三级复合
JY-H130	Mobile Universal / 移动通用型	6-40 L/min	≥98% @ ≥5μm	2-3 yr	Mobile / 移动式	Narrow spaces, Ship / 狭窄通道、船舶	0.38 m ² , 76 kg, single-person / 0.38m ² , 76kg, 单人推行
JY-H330	Mobile 3-Stage / 移动	10-40 L/min	≥98% @	2-3 yr	Mobile / 移动式	Turbine oil, dewatering / 汽轮机油、除	Coalescer + rigid membrane / 聚结分水

	式三级	L/min	≥4μm			水精滤	+刚性膜
JY-DX5-W	Heavy-Duty Wedge / 重载楔形网	5-8 t/h	25-200 μm	≥5 yr	Skid / 撬装	Heavy oil, gear oil, resin / 重油、齿轮油、树脂	304/316L wedge-wire, 10-800 cSt / 不锈钢楔形网, 全金属
JY-DX40-W	Heavy Pre-Filter / 重载前置	15-40 m³/h	25/50/100 μm	≥5 yr	Skid / 撬装	Waste oil re-refining / 废油再精炼	120° C, 184-element, SS / 高温 120° C, 184 芯超大阵列
JY-A10	Modular Skid / 模块化撬装	12 m³/h	2-15 μm	2-3 yr	Skid / 撬装	Oil depot, industrial oil / 油库、工业油澄清	Versatile base unit / 模块化基础单元
JY-A20	Modular Skid / 模块化撬装	25 m³/h	2-20 μm	2-3 yr	Skid / 撬装	Large depots, gensets / 大型油库、发电机组	Mid-to-large scale / 中大型单元
JY-A30	Large-Flow Skid / 大流量撬装	35 m³/h	2-15 μm	2-3 yr	Skid / 撬装	Ports, metallurgy, heavy industry / 港口、冶金、重工	Largest single-unit / 最大单机流量
JY-DX40	Membrane Skid / 膜分离精滤	40 m³/h	≥98% @ ≥5μm	2-3 yr	Skid / 撬装	Diesel, jet fuel terminals / 柴油、航煤、油库、矿山、炼厂终端、	8 modules, 30s backflush / 8 组膜, 30s 快速反洗
JY-Q325	Container Skid / 集装箱撬装	40 m³/h	≥98% @ ≥5μm	2-3 yr	Container / 集装箱	Depots, field power, Mine Development / 油库、野外发电/矿山开采	Explosion-proof, 7.5 kW / 防爆, 7.5kW 大流量
JY-DL60	Large-Flow Skid / 大流量撬装	40-60 m³/h	≥98% @ ≥5μm	2-3 yr	Skid / 撬装	Refinery loading, depot-scale / 炼厂、码头、大型油库发油终端	No-power design, ultra-low energy / 无动力, 极低能耗

Specialized Systems 专用系统

JY-F35 Wind Turbine Oil Change System / 风电齿轮箱换油

Ground unit + nacelle pump, < 3 hr per turbine, 80-120 m , residual oil < 3%. 650 kg, pickup-deployable. 地面主机+机舱组, < 3 小时/台, 80-120 m , 残油率 < 3%。650 kg, 皮卡装载。

JY-DCF7 Dynamic Shear Filtration / 动态剪切增强过滤

Rotating membrane discs 300-1000 rpm, Taylor-Couette shear. 15 m² area, 4.0 kW, energy ≤ 0.3 kW/m². Biopharma / catalyst recovery. 旋转膜盘 300-1000 rpm, 泰勒涡剪切。15 m² 面积, 4.0 kW, 能耗 ≤ 0.3 kW/m²。生物制药/催化剂回收。

JY-N95 Centrifugal Separator / 全自动高速离心

2,200 G, 1-5 μm separation. 25-120 L/min. PLC auto scraper discharge. CNC cutting fluid / grinding fluid / Drawing oil. 2,200 G 离心力, 1-5 μm 分离。25-120 L/min. PLC 全自动刮板排渣。CNC 切削液/磨削液/拉丝油。

JY-DX40-L + JY-DX5-W Two-Stage / 两级精密复合

Pre-filter wedge-wire (25-100 μm, ≥ 5 yr) + membrane polish (5 μm, ≥ 3 yr). 20-50 m³/h. Lube oil filling lines. 前级楔形网 (25-100 μm, ≥ 5 年) + 后级膜精滤 (5 μm, ≥ 3 年)。20-50 m³/h。润滑油灌装线。

Application Scenario Mapping 应用场景

Scenario / 场景	Challenge / 挑战	Recommended / 推荐型号	Result / 效果
Refinery & depot loading / 炼厂油库发油	Pipeline rust, tank sediment, 40-60 m ³ /h / 管线铁锈、罐底沉积、大流量	JY-DL60, JY-Q325, JY-A30	ISO 14/12/9, zero downstream complaints / 出厂达标, 下游零投诉
Gas station intake QC / 加油站入库品控	Transport contamination, water ingress / 运输污染、水分混入	JY-T100, JY-DX40	Water ≤ 50 ppm, customer satisfaction / 除水 ≤ 50ppm, 客户满意
Data center backup power / 数据中心备电	24/7 polishing, stale fuel, microbial growth / 长期储存劣化、微生物滋生	JY-219F	Kidney-loop with BAS alarm, guaranteed start / 旁路循环+BAS报警, 确保启动
Mining HPCR protection / 矿山HPCR保护	Off-spec fuel, sand, HPCR injector failure / 非标燃油、含沙、喷油嘴卡死	JY-G100, JY-T32A, JY-H130	Injector failure ↓ 70%, uptime restored / 喷油嘴故障 ↓ 70%, 恢复出勤
Construction fleet fueling / 工程机械加油	Dusty field fuel, cartridge costs / 野外燃油含尘、滤芯成本高	JY-G100, JY-219A, JY-M50H	Zero disposable cartridge, mobile deployment / 零耗材, 移动部署
Wind turbine gearbox / 风电齿轮箱换油	100 m+ tower, residual oil, downtime / 百米塔筒、残油率高、停机长	JY-F35 + JY-G100-W/JY-G100	< 3 hr changeover, residual < 3% / < 3小时换油, 残油率 < 3%
Waste oil re-refining / 废油再精炼	Metal debris, sludge, high viscosity / 金属屑、油泥、高粘度	JY-DX40-W → JY-DX5-W	Protect downstream hydrotreater, 30 m ³ /h / 保护加氢装置, 30m ³ /h
Industrial oil kidney-loop / 工业油旁路净化	Cross-contamination, multi-viscosity / 交叉污染、多粘度油品	JY-G100, JY-H130	VG 32-460 extended oil life / VG 32-460, 延长油寿命
CNC cutting fluid / 精密加工切削液	Metal fines, bacteria, odor / 金属碎屑、细菌滋生、发臭	JY-N95	1-5 μm centrifugal, 24/7 auto, zero consumable / 1-5μm离心, 24/7自动, 零耗材
Biopharma clarification / 生物制药澄清	Cell debris, membrane fouling, yield loss / 细胞碎片、膜污染、收率损失	JY-DCF7	99.9% retention, yield +10% vs centrifuge / 99.9%截留, 收率+10%

Important Notes 重要提示

- ▶ All membrane-based products: design service life ≥ 2-3 years, support gas-pulse regeneration. Replace when ΔP reaches 0.4 MPa or flow drops 20%. / 全系膜产品设计运转寿命 ≥ 2-3年, 支持气脉冲再生。压差达 0.4 MPa 或流量下降 20% 时更换。
- ▶ Wedge-wire products (JY-DX5-W, JY-DX40-W): lifetime metallic media, surface filtration, cleanable by backflush / high-pressure water. / 楔形网产品为终身金属介质, 表面过滤, 支持反冲洗/高压水清洗。
- ▶ All equipment rated for media with flash point ≥ 38° C. Gasoline / low flash-point solvents strictly prohibited. / 所有设备适用闪点 ≥ 38° C 介质。严禁用于汽油等低闪点溶剂。
- ▶ For combustible media, backflush must use dry nitrogen; compressed air is NOT permitted. / 可燃介质必须使用干燥氮气反吹; 禁止使用压缩空气。
- ▶ Explosion-proof (Ex d) configurations available on request for most models. / 多数型号可选防爆 (Ex d) 配置。
- ▶ This is a selection guide. For detailed technical proposals including P&ID, skid layout and pump sizing, contact cindy@jingyuan.hk with the Technical Inquiry Checklist. / 本手册为选型参考。如需含 P&ID、撬装布局和泵组选型的详细技术方案, 请发送技术询价参数清单至 cindy@jingyuan.hk。

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