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深流绿能(上海)智能装备有限公司
Deepflow Eco-Intelligent Manufacturing Co. Ltd.

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Company Introduction



Deepflow Eco-Intelligent Manufacturing Co. Ltd. is a industrial entity based in Shanghai, aiming to become a leader in the production of high-tech systems for industrial fluid separation in the production process. The company was established thanks to the investment of three prestigious companies, which have long been recognized as leaders in the field of industrial water treatment, recycling, and comprehensive utilization of thermal energy are used for fluid and substance separation and purification design. Our headquarters is located south of Shanghai, Songjiang district, within a newly developed industrial area with over 1200 square meters of production space and more than 250 square meters of office space.

The company focuses on the design and production of high-end skid-mounted fluid separation equipment, including membrane separation equipment, mixing and flocculation systems, dryers and vacuum evaporators with heat pumps. Additionally, we provide custom-designed solutions, ensuring tailored plants that meet the specific needs of our clients. Our portfolio also includes the design and installation of integrated systems for the recovery of waste heat from industrial processes, which is then reused in water and production process operations. The use of these advanced technologies significantly reduces operational costs, making production plants extremely efficient and environmentally sustainable. Our solutions are designed to guarantee efficiency, sustainability and reliability, meeting the demands of a market increasingly focused on strict product quality, waste recycling, Low-carbon consumption and ESG requirements.

 Harnessing separation technologies and energy recovery for a sustainable tomorrow. 

AEVYA Series-Advanced Vacuum Evaporators

High-Efficiency Separation with Maximum Energy Recovery

The AEVYA series by Deepflow represents a new generation of vacuum evaporators designed for the industrial treatment of complex wastewater streams. These systems are engineered to maximize both energy efficiency and the purity of the recovered distillate, making them ideal for industries seeking sustainable solutions without compromising on performance.



At the heart of the AEVYA series lies a strong focus on energy recovery and thermal integration. Thanks to a combination of advanced heat pump technologies, optimized heat exchange surfaces, and intelligent control systems, AEVYA units dramatically reduce the energy consumption per ton of treated water. In multi-effect configurations, the series further enhances thermal reuse, ensuring lower operating costs and a reduced environmental footprint.

The evaporators are specifically designed for high-efficiency phase separation. Their internal architecture and process dynamics ensure the removal of contaminants such as heavy metals, salts, surfactants and organics, achieving a distillate quality that often surpasses even the most demanding discharge or reuse standards. This makes the AEVYA series not only a reliable option for water recovery, but also a strategic asset for zero liquid discharge (ZLD) initiatives.

Constructed with top-grade corrosion-resistant materials, and available in fully modular skids, AEVYA systems are built for durability, scalability and ease of maintenance. From compact single-effect models to high-capacity multi-effect systems, every unit is tailored to meet the specific needs of each customer.

Whether installed in chemical, pharmaceutical, plating, food or landfill leachate applications, the AEVYA evaporators combine process precision, energy optimization and purity-delivering a smart path toward environmental compliance and operational excellence.

Feature	Benefit
High-efficiency heat recovery	Minimizes energy consumption per treated ton
Closed-loop operation	Supports ZLD and water reuse targets
Superior distillate purity	Meets stringent discharge/reuse standards
Modular design	Easy to scale and maintain
Corrosion-resistant construction	Ensures long service life in harsh environments

Multi-effect evaporator with heat pump

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DE2H-05	5	100	45	36	300x360x270	4500
DE2H-06	6	100	53	47	300x360x270	4800
DE2H-08	8	100	75	57	300x360x270	5500
DE2H-10	10	100	99	86	550x240x450	6000
DE2H-12	12	100	112	97	550x240x450	6300
DE2H-14	14	100	126	120	550x240x450	6800
DE2H-15	15	100	130	121	550x240x450	7200
DE2H-18	18	100	145	142	550x240x450	7500
DE2H-20	20	100	178	150	600x240x450	8000
DE2H-24	24	100	230	171	600x240x450	8500
DE2H-30	30	100	254	195	600x240x450	8800
DE2H-36	36	100	295	223	650x240x550	9500
DE2H-42	42	100	332	241	650x240x550	10000
DE2H-48	48	100	372	273	650x240x550	10500

Single-effect evaporator with heat pump

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DEH-0E	0.5	170	7	7	200x100x220	500
DEH-0F	0.6	170	9	8	200x120x220	750
DEH-01	1.0	150	11	11	250x120x240	1200
DEH-1E	1.5	150	16	18	250x120x240	1500
DEH-02	2.0	150	27	25	320x160x260	2000
DEH-03	3.0	140	36	28	350x180x260	3000
DEH-04	4.0	140	43	33	380x180x300	3500
DEH-05	5.0	140	60	48	380x180x320	4000
DEH-06	6.0	140	71	57	380x180x320	4500
DEH-08	8.0	140	88	85	450x220x320	5000
DEH-10	10.0	140	125	98	450x220x350	5300
DEH-12	12.0	140	140	112	500x220x400	5800
DEH-14	14.0	140	170	125	580x220x420	6000
DEH-15	15.0	140	176	145	580x220x420	6500
DEH-17	17.0	140	200	163	600x250x450	7000
DEH-19	19.0	140	220	173	650x250x450	7500
DEH-24	24.0	140	245	200	650x250x450	8000



Multi-effect evaporator with steam/hot water/waste heat

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DE2S-05	5	20	5	4.5	300x250x270	3000
DE2S-06	6	20	5	4.5	300x250x270	3200
DE2S-08	8	15	5	4.5	300x250x270	3600
DE2S-10	10	12	8	6	400x240x450	4200
DE2S-12	12	12	8	6	400x240x450	4500
DE2S-14	14	12	8	6	400x240x450	4800
DE2S-15	15	12	8	6	400x240x450	5000
DE2S-18	18	12	8	6	400x240x450	5300
DE2S-20	19	10	11	15	420x240x450	6000
DE2S-24	24	10	11	15	420x240x450	6300
DE2S-30	30	10	11	15	420x240x450	6500
DE2S-36	36	8	11	15	450x240x550	7000
DE2S-42	42	8	11	15	450x240x550	7500
DE2S-48	48	8	11	15	450x240x550	8000



Single-effect evaporator with steam/hot water/waste heat

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DES-0E	0.5	50	2	1	200x100x220	500
DES-0F	0.6	40	2	1	200x120x220	750
DES-01	1.0	35	2	1	250x120x240	1200
DES-1E	1.5	25	2	1	250x120x240	1500
DES-02	2.0	22	3	2	320x160x260	1500
DES-03	3.0	15	5	2	350x180x260	2500
DES-04	4.0	12	5	2	380x180x300	3000
DES-05	5.0	12	8	3	380x180x320	3500
DES-06	6.0	12	8	3	380x180x320	4000
DES-08	8.0	10	8	3	450x220x320	4000
DES-10	10.0	10	10	5	450x220x350	5000
DES-12	12.0	10	10	5	500x220x400	5000
DES-14	14.0	8	10	5	580x220x420	5500
DES-15	15.0	8	10	5	580x220x420	5500
DES-17	17.0	8	15	7	600x250x450	6000
DES-19	19.0	8	15	7	650x250x450	6500
DES-24	24.0	8	15	7	650x250x450	7000



Evaporators with PFET Technology

Performance Beyond Conventional Standards

DeepFlow’s proprietary PFET technology represents a breakthrough in the field of wastewater concentration. Designed for highly concentrated and refractory effluents,these evaporators offer an energy-efficient,scalable and maintenance-friendly solution. Currently under patent application, PFET systems outperform even advanced MVR setups in both energy consumption and operational stability.

Exceptional Energy Efficiency

PFET units combine low-temperature evaporation with enhanced heat transfer performance. With an energy use of less than 20 kWh per ton of water treated(for plants above 12 t/d),PFET significantly lowers OpEx. Inlet temperatures above 60°C can even eliminate the need for live steam.

Anti-Fouling and Long-Term Reliability

The innovative heat exchangers used in PFET evaporators have both corrosion-resistant and anti-scaling properties. The system’s design ensures continuous micro-shaking and optimized film dynamics,avoiding deposit buildup. With an evaporation surface area up to 10× larger than MVR,the impact of potential fouling is minimized.

SKID-Mounted and Maintenance-Free

Thanks to DeepFlow’s SKID-compatible modular architecture,PFET evaporators are easy to transport,integrate and scale. They are nearly maintenance-free,with long cleaning cycles and fully automated operation,supporting continuous use with minimal operator intervention.

PFET technology is ideal for:

- Final-stage treatment after DTRO or MVR
- Salt recovery in textile and printing industries
- Landfill leachate concentration
- Chemical,dyeing and pharma wastewater treatment

Feature	Advantage
< 20 kWh/ton energy use	Lowest OpEx among all advanced evaporation systems
Anti-scaling polymer exchangers	Dual resistance to corrosion and fouling
10× surface area vs. MVR	Reduced thermal stress and higher tolerance to deposits
SKID-mounted and CIP-friendly	Modular,compact and easy to maintain
Fully automated system	Minimal operator intervention required

Polymer Film Evaporation Technology(PFET)

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DEP-0E	0.5	100	3	2	200x100x220	500
DEP-0F	0.6	80	3	2	200x120x220	750
DEP-01	1.0	60	4	2	250x120x240	1200
DEP-1E	1.5	50	5	3	250x120x240	1500
DEP-02	2.0	35	5	2	320x160x260	1500
DEP-03	3.0	32	7	4	350x180x260	2500
DEP-04	4.0	28	8	4	380x180x300	3000
DEP-05	5.0	25	9	5	380x180x320	3500
DEP-06	6.0	25	11	6	380x180x320	4000
DEP-08	8.0	25	14	8	450x220x320	4000
DEP-10	10.0	22	16	9	450x220x350	5000
DEP-12	12.0	22	19	11	500x220x400	5000
DEP-14	14.0	20	20	11	580x220x420	5500
DEP-15	15.0	20	22	12	580x220x420	5500
DEP-17	17.0	18	22	12	600x250x450	6000
DEP-19	19.0	18	25	14	650x250x450	6500
DEP-24	24.0	18	31	18	650x250x450	7000
DEP-30	30.0	18	39	22	700x250x450	7000
DEP-36	36.0	18	47	27	700x250x450	8000
DEP-42	42.0	18	55	31	800x250x450	10000
DEP-48	48.0	18	63	36	800x250x450	10000

ITHRYX Series-High-Efficiency Industrial Crystallizers

Precision Separation with Heat Recovery and Sustainable Design

The ITHRYX series provides a complete portfolio of crystallization systems engineered for high-performance separation of salts,metals and other solutes from concentrated industrial wastewater. Designed with energy efficiency and process reliability in mind,the ITHRYX lineup supports both batch and continuous operations across a wide range of capacities.

These crystallizers are the ideal final-stage solution in ZLD(Zero Liquid Discharge)treatment lines,especially when used downstream of high-capacity evaporators or disc-tube reverse osmosis(DTRO)systems. They ensure the maximum recovery of purified water and enable the conversion of brine into solid salt residues.

Vertical Crystallizers with Scraper (DCH-Heat Pump | DCS-Steam/Hot Water)

These models are ideal for batch operation and capacities up to 3 tons/day. They feature a vertical cylindrical body with internal scraping blades that prevent fouling and ensure consistent crystal growth. Compact and flexible,these units are especially suited for smaller installations requiring precise thermal control and reliable operation.

Forced Circulation Crystallizers (DCRH-Heat Pump | DCRS-Steam/Hot Water)

Designed for continuous operation at capacities above 3 tons/day,these systems utilize a powerful recirculation loop that enhances turbulence and heat transfer. This promotes efficient crystal formation,minimizes scaling,and allows for stable long-term processing in high-throughput environments.

Energy and Materials

All ITHRYX crystallizers are available in two thermal configurations:heat pump for maximum energy recovery,or waste heat integration(steam or hot water)for synergy with existing energy systems. Both versions are engineered for low specific energy consumption,reducing operational costs and environmental impact.

For challenging wastewater compositions,all models can be constructed in Titanium or Super Duplex 2507,ensuring corrosion resistance and long service life even in highly saline or chemically aggressive environments.

Whether in batch or continuous mode,the ITHRYX series offers an efficient,robust and sustainable solution for modern crystallization needs.

Feature	Advantage
Batch and continuous configurations	Suitable for both small-scale and high-capacity industrial applications
Integrated scraping system(DCH/DCS)	Prevents fouling and ensures consistent crystal formation
High thermal efficiency(DCRH/DCRS)	Optimized energy use via forced circulation and thermal integration
Corrosion-resistant construction	Option for Titanium or Super Duplex 2507 for aggressive fluids
Ideal for ZLD systems	Efficient crystallization of brines from evaporators and membrane systems
Modular and compact vertical design	Easy to install,operate and maintain in limited spaces

Vertical crystallizer with scraper,heat pump

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DCH-0A	0.1	250	3	4	160x80x180	500
DCH-0B	0.2	250	3	5	260x130x260	1000
DCH-0E	0.5	220	7	10	260x130x260	1500
DCH-0G	0.7	220	11	15	260x130x260	1800
DCH-01	1.0	200	16	20	290x150x360	2200
DCH-1E	1.5	200	22	22	290x150x360	2500
DCH-02	2.0	200	30	30	300x150x360	2800
DCH-2E	2.5	200	37	33	300x150x380	3000
DCH-03	3.0	200	45	43	320x150x400	3500

Vertical crystallizer with scraper,steam/hot water

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DCS-0A	0.1	200	2	1.5	160x80x180	500
DCS-0B	0.2	100	2	1.5	260x130x260	1000
DCS-0E	0.5	40	2	1.5	260x130x260	1500
DCS-0G	0.7	30	2	1.5	260x130x260	1800
DCS-01	1.0	60	5	3	290x150x360	2200
DCS-1E	1.5	45	5	3	290x150x360	2500
DCS-02	2.0	30	5	3	300x150x360	2800
DCS-2E	2.5	25	5	3	300x150x380	3000
DCS-03	3.0	25	6	3.5	320x150x400	3500

Forced circulation crystallizer,heat pump

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DCRH-03	3.0	220	54	42	500x180x650	3500
DCRH-04	4.0	200	64	49	500x180x650	4500
DCRH-05	5.0	200	80	66	500x180x650	5000
DCRH-06	6.0	200	96	88	500x180x650	5800
DCRH-08	8.0	200	124	107	550x180x650	6250
DCRH-10	10.0	200	152	126	600x200x650	6800
DCRH-12	12.0	200	172	138	600x200x650	7250
DCRH-14	14.0	190	194	153	600x200x650	7500
DCRH-16	16.0	190	225	180	650x200x650	8200
DCRH-18	18.0	180	252	202	650x200x650	8750
DCRH-20	20.0	180	288	208	650x225x650	9500
DCRH-24	24.0	180	324	251	650x225x650	10000



Forced circulation crystallizer,steam/hot water

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DCRS-03	3.0	40	10	8	500x180x650	3500
DCRS-04	4.0	30	10	8	500x180x650	4000
DCRS-05	5.0	30	12	10	500x180x650	4500
DCRS-06	6.0	30	12	10	500x180x650	5000
DCRS-08	8.0	25	15	15	550x180x650	5300
DCRS-10	10.0	25	19	16	600x200x650	5800
DCRS-12	12.0	25	22	18	600x200x650	6000
DCRS-14	14.0	25	24	22	600x200x650	6500
DCRS-16	16.0	25	27	25	650x200x650	7000
DCRS-18	18.0	22	31	28	650x200x650	7500
DCRS-20	20.0	20	31	28	650x225x650	8000
DCRS-24	24.0	20	33	30	650x225x650	8500



RedGan Series-High-Efficiency Horizontal Sludge Dryers

The RedGan series from Deepflow offers a reliable and energy-efficient solution for the drying of high-salinity or organic industrial sludge. Designed with a horizontal cylindrical body and external dimple-jacket heating,RedGan dryers provide effective and uniform indirect heat transfer across the entire vessel surface.



The series includes two main configurations

DYH:

Powered by an integrated heat pump,ideal for low-temperature waste streams or when steam is not available.

DYS:

utilizes steam or hot water,perfect for plants recovering waste heat or using central boilers.

- Drying is achieved through indirect heat transfer across the cylindrical shell. An internal shaft with mixing paddles and scraper arms continuously agitates and lifts the sludge,ensuring efficient drying while preventing accumulation and fouling.
- The dried sludge typically reaches a final moisture content of 20% to 30%,making it suitable for disposal,incineration,or further treatment. The system is fully enclosed,reducing odors and environmental impact.
- All RedGan models feature a unique front flange opening system with integrated Davit arm,allowing fast,safe and tool-free access for internal inspection and cleaning-without cranes or forklifts. This improves safety,reduces downtime and enhances after-sales serviceability.
- Materials of construction include corrosion-resistant options like Titanium or Super Duplex 2507,ensuring long service life even in aggressive chemical environments.

Key Benefit	Description
Dual Energy Options	Choose between heat pump(DYH)or steam/hot water(DYS)
Horizontal Jacket Heating	Ensures safe and efficient heat transfer via external dimple jacket.
Final Moisture 20–30%	Reduces sludge volume,suitable for incineration or compliant disposal.
Davit-Arm Front Opening	Integrated lifting support for safe and easy inspection-no crane needed.
Corrosion-Resistant Materials	Available in Titanium or Super Duplex 2507 for demanding waste types.
Enclosed,Odor-Free Operation	Fully sealed system limits emissions and improves work environment.

Horizontal dryer with scraper,heat pump

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DYH-01	1.0	250	19	22	250x120x220	2500
DYH-02	2.0	230	25	23	300x120x250	3000
DYH-03	3.0	230	50	46	420x180x280	4200
DYH-05	5.0	225	83	75	450x180x300	5000



Horizontal dryer with scraper, steam/hot water

型号 MODEL	处理能力 (立方米/天) Capacity (m³/d)	名义功率消耗 (瓦/升) Nominal consumption W/l	电流 (安) Current Consumption A	装机功率 (千瓦) Installed Power kW	长宽高尺寸 (厘米) Dimensions cm L×W×H	重量 (千克) Weight Kg. ~
DYS-01	1.0	55	3	2.25	225x100x220	2200
DYS-02	2.0	28	3	2.25	280x120x250	2800
DYS-05	5.0	18	6	3.5	350x150x280	3500
DYS-10	10.0	12	9	5	500x220x400	5000
DYS-15	15.0	15	15	9	550x220x420	6500
DYS-20	20.0	10	15	9	600x220x420	8000