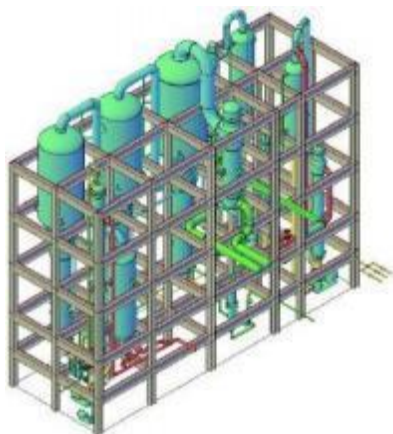


Multi-effect TMR Evaporator System



Hongmao TVR evaporator system is a evaporation and concentration equipment that uses secondary steam many times according to the principle of vacuum low-temp. evaporation to save steam energy. The structure is divided into falling film, forced falling film, forced circulation and so on.

Suitable for evaporation of heat-sensitive, high concentration, high viscosity and corrosive materials, and suitable for concentration of corn steeping liquid and maltose syrup in starch & glucose industry, fruit juice and flavored semen in food industry, liquid milk in dairy industry, sugar juice in sugar industry and distiller's grains filtrate in alcohol industry.

Features:

- (1) The whole system is designed reasonably and beautifully, running stably, highly efficient and energy-saving, and low steam consumption.
- (2) High concentration ratio, falling film evaporation, so that the viscosity of the material liquid easy to evaporation, and short time concentration.
- (3) Low evaporation temp, suitable for the concentration of heat-sensitive materials.
- (4) High separation effect and greater flexible operation.
- (5) Equipped with CIP cleaning pipeline. The equipment can be cleaned on the spot. The whole equipment is easy to operate without dead Angle.
- (6) The power control is realized by the control cabinet, and the automatic control system can be installed according to the user's requirements.

Technical parameters

Model	Evaporation capacity kg/h	Steam consumption kg/h	Each effect vacuum, mmHg			Each effect temp. °C			Steam pres. MPa	Feed DS,%	Discharge DS, %
			1 st effect	2 nd effect	3 rd effect	1 st effect	2 nd effect	3 rd effect			
HM-EV1.0-T	1000.0	250-300	0.0	448.0	640.0	99.0	76.0	53.0	0.6-1.0	6-7 (corn steeping liquid)	42-48 (corn steeping liquid)
HM-EV3.0-T	3000.0	750-900									
HM-EV4.5-T	4500.0	1200-1350									
HM-EV6.0-T	6000.0	1600-1800									
HM-EV9.0-T	9000.0	1500-2700									
HM-EV12.0-T	12000.0	3000-3600									
HM-EV15.0-T	15000.0	3750-4500									
HM-EV20.0-T	20000.0	5000-6000									
HM-EV25.0-T	25000.0	6250-7500									

Hongmao relies on the professional design, the strict production management, the fine processing procedure, provides the high efficiency and energy saving equipment system for the customer. Manufacturing factory has passed the international ISO9001 quality system certification, and with the design and manufacturing capacity of pressure vessels. Customers can choose Chinese GB, International ISO, American standard ASME, European standard PED and other standards for equipment design and production according to their needs.



MVR Evaporator System

Hongmao MVR evaporator system compress the secondary steam generated by the steam according to the principle of mechanical compression, so as to raise its temperature to a certain extent and return the heating system to replace the raw steam as the heat source of the heater, so as to make full use of the waste steam, recover the latent heat, improve the thermal efficiency, and achieve the purpose of saving steam energy. At the same time, it also reduces the demand for external cooling resources, reduces energy consumption and reduces pollution. This product is mainly used in multi - effect evaporation and crystallization equipment.

Comparison and Evaluation Table of MVR and Five-effect Evaporator:

Evaporation type		Five-effect evaporator	MVR evaporator
Evaporation capacity × evaporator qty.		100tph×1set	100tph×1set
Energy consumption	Steam, t/h	27.4	5.56
	Pump electricity consumption, KWH	465	430
	MVR electricity consumption, KWH	0	1890
	Cooling water consumption, m3/h	1300	300
Annual energy consumption	Steam price, RMB/ton	180	
	Electricity price, RMB / KWH	0.55	
	Running days, days / year	330	
	Annual steam consumption cost around, ten thousand RMB / year	3900	790
	Annual power consumption cost around, ten thousand RMB / year	200	1000
	Annual energy consumption around, ten thousand RMB / year	4100	1800
Main material		304/316L	
The payback period for the investment of fixed assets that are overinvested due to the use of MVR evaporator		Around 230 days	

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