Vacuum Systems

Vacuum Systems are a combination of steam ejectors and condensers in order to create low vacuum pressures. As the compression ratio of a single stage steam ejector is limited, the arrangement of more than one ejector with condensers between them can result low vacuums.

General Usage	Typical Applications in Industries
When low vacuum pressure is required and it is not achievable by means of a single stage steam ejector.	❖ Creating the vacuum pressure of condensers in ***power plants*** ❖ ***chemical reactors*** working under vacuum ❖ Drying under vacuum in chemical process industries like ***food, pharmaceutical, agricultural, textile, paper & pulp*** ❖ Vacuum distillation in ***oil refining*** ❖ Crystallization in ***chemical, food and pharmaceutical industry*** ❖ Deodorization in ***edible oil industry*** ❖ Degassing and deaeration in ***food idustry, plastic extrusion, high quality steel alloy production,, oil and beverage production*** ❖ Evaporating in ***food and beverage industry, pharmaceutical industry, sulfate process*** ❖ Rectification of ***crude oil***

Advantages
❖ No moving parts ❖ Low maintenance cost ❖ working with all types of fluids ❖ Long lifetime ❖ Safe and reliable operation ❖ Manufactured from various materials

Applicable Materials	Different Arrangements
❖ Stainless Steel body ❖ Carbon Steel body ❖ Brass tubes ❖ SS tubes ❖ CS tubes ❖ Copper tubes	❖ Condensation system with direct contact condenser ❖ Condensation with surface condenser ❖ Two-stage vacuum system for suction pressure down to approximately 4 kPa ❖ Three-stage vacuum system for suction pressure down to approximately 1 kPa ❖ four-stage vacuum system for suction pressure down to approximately 0.05 kPa ❖ Five-stage vacuum system for suction pressure down to approximately 0.001 kPa

Design Codes/ Standards	Quality Assurance
❖ HEI Standard for Steam Jet Vacuum Systems ❖ ASME Sec.VIII ❖ ASME B.31.1 ❖ ASME B.31.3	

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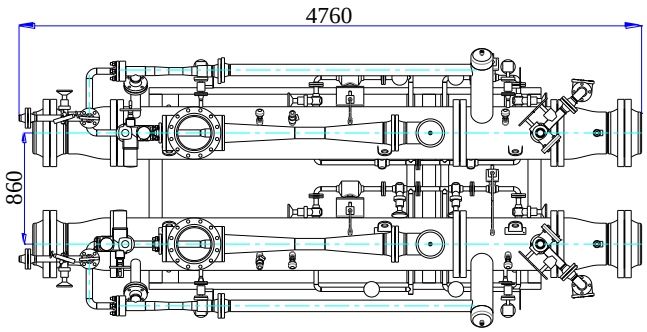
Specifications of one Type			
Item	Holding System		
Project	Parand Combined Cycle Power Plant Vacuum Package		
Purchaser	MAPNA Group		
Suction Flow Rate	Kg/hr	116	
Suction Pressure	kPa	3.4	
Suction Connection	in	10	

Previous Projects

Equipment photos / Operation photos / Applications photos