

QUESTIONNAIRE

MOLECULAR SIEVE DEHYDRATION

GENERAL DATA

Client (end user)	
Address, telephone, email	
Project code/name	
Site location	
Responsible project manager	
Form completed by (name, company)	
Date	

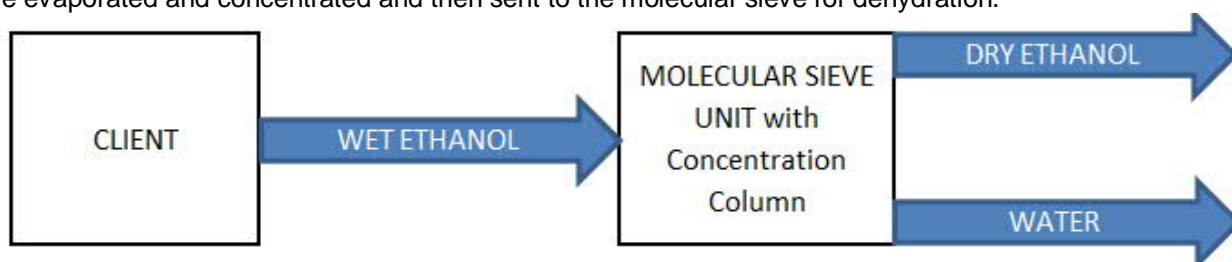
1. PROJECT DATA

Provisional time schedule	
Contract award	
Plant start-up	
Implementation of a new plant	<input type="checkbox"/> Yes <input type="checkbox"/> No
Expansion of an existing plant	<input type="checkbox"/> Yes <input type="checkbox"/> No
Budget available	<input type="checkbox"/> No, development of new business case <input type="checkbox"/> Approval pending feasibility study <input type="checkbox"/> Approval pending financing <input type="checkbox"/> Financing approved

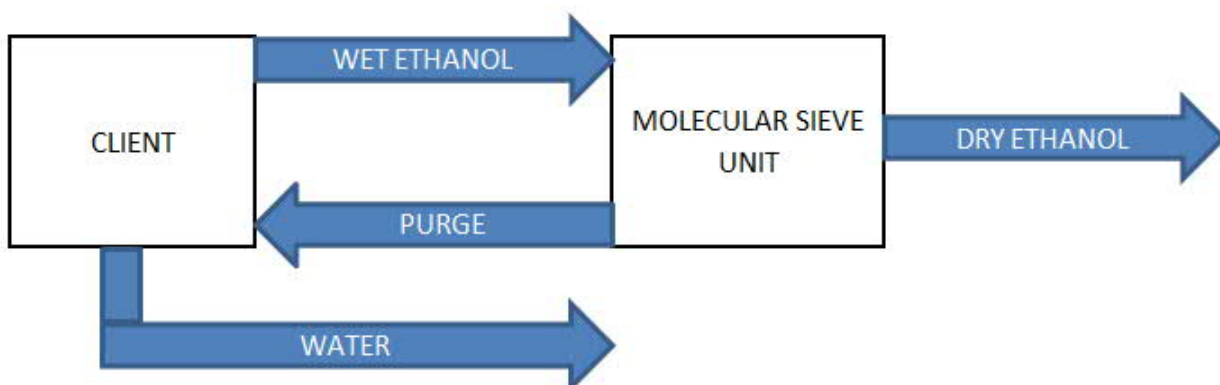
2. BASIC DATA FOR PRODUCTION

Choice of system

System A includes a concentration column in the dehydration unit. Client delivers hydrous ethanol feed in liquid form. In the concentration column the hydrous alcohol and the purge stream from the molecular sieve are evaporated and concentrated and then sent to the molecular sieve for dehydration.



System B consists of a molecular sieve unit without concentration column. Client delivers rectified hydrous ethanol feed to the MSU. The molecular sieve separates feed in dry ethanol and regeneration stream (=purge), which is fed back to client's column for re-rectification. Depending on feed and product concentration, purge contains about 20-30% of the product ethanol amount plus the rest of the water.



Choice of system	<input type="checkbox"/> System A <input type="checkbox"/> System B
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Production data

Production capacity in liters per day	
Operating time in days per year in continuous process. (24 hours per day, 7 days per week)	
Feedstock (source)	
Process feed Flow rate	

Physical state (liquid, vapor) Pressure, bar a Temperature, °C	
Composition Ethanol, % wt Water, % wt By-products/impurities, % wt (please specify in detail)	
Dehydrated ethanol (please provide standard or product specification, if available) Water content max., ppm wt Temperature, °C Pressure, bar a	

3. UTILITIES

Cooling water supply

Secured supply quantity during the whole working time of the factory, m ³ /h	
Temperature, °C max/min	

Power supply

Available voltage up to the main distributing frame in the plant, V / ± V	
Available frequency, Hz / ± Hz	
Connected load, MW	
Typical downtime due to power outages (short time, a few hours, days) and how frequently	

Steam Supply

Available steam pressure, bar g	
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Steam temperature, °C	
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4. BUILDING SITE

<p>Available area for erection of the plant Please adjoin map to this questionnaire.</p> <p>Altitude of the site above sea-level, m</p> <p>Seismic factor</p>	
Place of installation	<input type="checkbox"/> Inside building <input type="checkbox"/> Outdoors
<p>Climatic conditions on site / in building</p> <p>Outdoor temperature, °C min/max</p> <p>Relative humidity, % min/max</p> <p>Wet bulb temperature, °C min/max</p> <p>Special conditions (floodwater, rainfall, wind velocity, snow loads)</p>	
<p>Storage capacities</p> <p>Available/required capacities (tanks, pumping station) in weeks for:</p> <p>Raw material</p> <p>Solid auxiliary material (nutrient salts)</p> <p>Liquid auxiliary material (sulfuric acid)</p> <p>Alcohol</p> <p>Thick sludge</p>	
Buildings	<input type="checkbox"/> Erection in existing building (attach plans) <input type="checkbox"/> Erection in new steel structure <input type="checkbox"/> Skid-mounted unit preferred

