

TECHNICAL GUIDE FOR BUYERS AND ENGINEERS

Process Skid Specification and Supplier Selection Guide

A successful skid project starts with a clear specification and the right fabricator. This guide covers what to define before you request a quotation, how to judge a supplier, and what to expect through factory acceptance testing (FAT) and delivery.

01
Specify
What to define before you ask for a quotation: P&ID, performance targets, materials, site and documents.

02
Select
How to compare skid suppliers on expertise, facility, certification, testing and export capability.

03
Verify and ship
What a proper FAT covers, and how a project runs from RFQ to commissioning support.

Why Choose a Process Skid

A process skid is a complete process system (pumps, vessels, heat exchangers, valves, instruments, piping and control panel) built on a common steel base, tested in the workshop and delivered ready to connect. For new plants, expansions and upgrades, it is usually faster and more predictable than building the same system piece by piece on site. Larger systems are split into modules that are joined on site.

Advantage	What it means for your project
Shorter schedule	Fabrication and testing happen in the workshop while civil work, utilities and permits proceed on site in parallel.
Lower installation risk	Welding, piping and wiring are completed and checked under workshop conditions, not in rain, wind or crowded site areas.
Predictable quality	Controlled environment, documented inspection and a full test before the skid leaves the factory.
Single-point responsibility	One supplier covers process, mechanical, electrical and control interfaces, which reduces scope gaps between contractors.
Compact and serviceable	Planned layout, one-side valve access and consistent design make operation and maintenance easier.
Easy to ship and repeat	Modular sections suit container or break-bulk shipping, and a proven design can be repeated for capacity expansion.

Where Process Skids Are Used

Application area	Typical skid types
Water treatment and environmental protection	Reverse osmosis and desalination skids, wastewater, produced water and leachate treatment skids, dosing and filtration skids, evaporation systems.
Carbon capture and CO_2 processing	CO_2 capture skids with supporting pump, heat exchange and utility modules.
Chemical and industrial process	Chemical dosing, blending, transfer and metering skids; pump and blower packages; custom reactor or process skids built to your P&ID.
Heat transfer	Heat exchanger skids and air cooled heat exchanger packages for process cooling and heat recovery.

Reference project: CO_2 capture skid, Canada

Rockerhill has supplied a skid-mounted CO_2 capture system for a project in Canada. Projects of this type combine tight space, strict documentation, and clear acceptance criteria, which is why we plan the specification, design reviews and FAT together from the start. The same approach is applied to every Rockerhill skid, whether it is a water treatment, environmental or industrial process package.

Project data sheet and photos are available on request through the RFQ form at www.rockerhillcn.com.

How to Specify a Process Skid

Define performance first. State what the skid must achieve (capacity, product or effluent quality, operating modes, availability) and the limits it must respect. Name specific brands or components only where you must match existing equipment or spare-parts stock. Over-specifying components takes time and can block a better design.

Provide a P&ID with a scope boundary. The piping and instrument diagram is the most important single document. It should show the main equipment, valves, instruments, flow rates, pressures, temperatures and line sizes, and mark which items are inside the supplier's scope of supply and where the skid ends (tie-in points). If you only have a process description, a short outline of the skid's purpose and how it connects to the plant is a good start; the supplier can develop the P&ID.

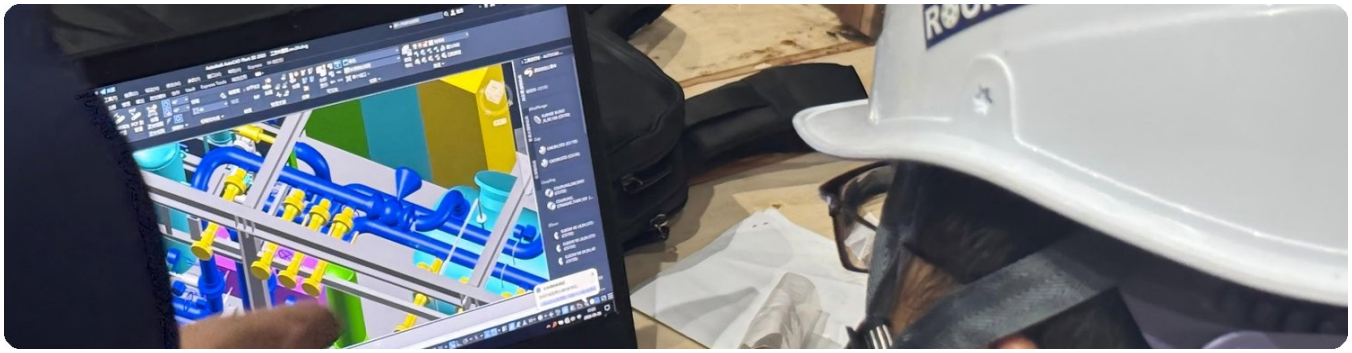


FIG. 1 3D piping and equipment layout reviewed with the project team before fabrication starts.

Specification item	What to include
1. Process data	Flow rates (minimum, normal, maximum); feed composition and contaminants; temperature and pressure; required outlet quality; operating and standby modes.
2. Materials	Wetted-part materials (SS304, SS316L, duplex, higher alloys, lined or plastic parts, coated carbon steel); corrosion and chloride limits; gasket and seal types.
3. Mechanical and piping	Line sizes and piping class; flange and valve standards; pressure vessel code; welding procedure and NDE requirements.
4. Electrical and instruments	Voltage and frequency; motor standard; enclosure rating; hazardous-area classification; instrument types; wire and tag labelling.
5. Controls	PLC preference; HMI requirements; communication protocol; remote monitoring; alarm and interlock philosophy.
6. Site and environment	Ambient temperature range; indoor or outdoor; coastal or corrosive atmosphere; wind and seismic; noise limits; available utilities.
7. Layout and transport	Maximum dimensions and weight; inlet and outlet connection side; valve access; lifting points; container or break-bulk shipping.
8. Documentation	P&ID, general arrangement and 3D model, datasheets, material certificates, test records, O&M manual, document language.
9. Testing and acceptance	Pressure and leak tests; loop checks; functional test; FAT procedure; whether you will witness FAT in person or by video.
10. Support	Commissioning and training; spare parts list; warranty period; remote support.

Quick start: what Rockerhill needs to prepare your quotation

A P&ID or process description, design flow and pressure, feed and product data, preferred materials, site conditions, applicable codes and certificates, and your delivery destination. Missing items are not a problem; we list our assumptions in the proposal so you can confirm them.

How to Select a Process Skid Supplier

Building and testing off site lets site preparation continue in parallel, but only if the supplier can deliver what the specification asks for. Use these criteria to compare suppliers.

Criterion	Questions to ask	What good looks like
Industry expertise	Has the supplier built skids for your fluid, capacity and industry? Can they show a comparable reference?	Relevant references; familiarity with your piping and equipment standards.
Engineering and services	Are concept design, P&ID, 3D modelling, controls, fabrication, testing, shipping and commissioning support in-house or subcontracted?	A clear scope with named responsibilities.
Facility	Is there indoor fabrication and test space with enough lifting capacity?	Work that is not delayed by weather; space for a full FAT.
Certifications and codes	Which codes, certificates, and welder or procedure qualifications can they provide for your project?	Written confirmation before the quotation is accepted.
Testing and QC	What tests (hydro, leak, NDE, loop check, functional) are done, and who witnesses them?	Written test procedures, photos, signed reports.
Documentation	Which drawings and records are delivered, and at what stage?	Customer review points before fabrication starts.
Export capability	Do they handle export packing, container loading, sea freight and shipping documents?	Proven experience shipping modules overseas.
Communication and support	Which language and time zone, how fast do they respond, and how are spare parts and remote support handled?	One project contact and defined response times.

Factory Acceptance Testing (FAT)

FAT reduces start-up problems and shortens the time to production, because defects are found and fixed in the workshop instead of on site. Agree the FAT procedure before fabrication starts. A good FAT covers:

- Document and drawing check against the approved P&ID and general arrangement
- Dimensional and visual inspection, including weld quality and tag marking
- Pressure and leak tests, with NDE where the code or specification requires it
- Electrical, instrument and control loop checks
- Functional run with water or a simulated process, including alarms and interlocks
- Punch list close-out, final report with photos, and packing inspection before shipment

Rockerhill performs FAT before shipment, and witness testing can be arranged in person or by video.



FIG. 2 Control panel wiring and inspection ahead of loop checks.

Project Workflow with Rockerhill

1	2	3	4	5	6
RFQ and process data review	Proposal, P&ID and scope	Detailed design and 3D review	Fabrication and QC	FAT and export packing	Shipping and commissioning support



FIG. 3 Welding during skid fabrication. Welded joints are inspected and recorded as part of QC.

Involve your skid supplier early. Early engagement gives the greatest savings in cost and schedule, and it lets the supplier flag missing data or conflicting requirements before they become expensive changes. Give the supplier enough time to prepare a quotation that matches your written specification; a rushed quotation is where scope gaps start.

Points to agree early on overseas projects

- Delivery terms (Incoterms) and the delivery point
- How the skid is split into modules, plus the lifting and site handling plan
- Export packing method and protection for sea freight
- Document language, format and submission schedule
- Spare parts list and commissioning support scope
- Applicable codes, certificates and inspection agencies, confirmed in writing before order

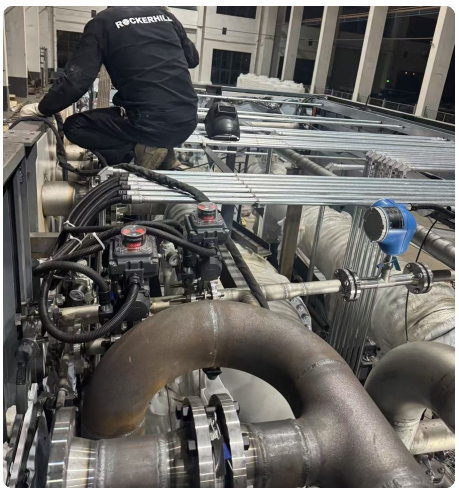


FIG. 4 Actuated valves with position feedback, a flow instrument and stainless piping during assembly.

About Rockerhill

ROCKERHILL GLOBAL LIMITED designs and manufactures custom process skids and skid-mounted process systems for water treatment, environmental protection, carbon capture and industrial process applications. We supply complete skid packages, including process design, fabrication, testing and export delivery, so your project has one point of responsibility.

Request a quotation

Send your P&ID, process data or specification through the RFQ form at **www.rockerhillcn.com**. Our engineers will reply with questions, a proposed scope and a budgetary price.