8 inputs determine the right air dryer.

A distributor-facing pre-quote checklist. If the customer answers most of these at the first call, the second call is the quote.

01 **What dew point does the end-use actually need at the use point?**

Spec sheets sometimes overshoot. **Bottling and packaging are happy at +38°F.** Painting, laser optics, electronics, and pharma typically need -40°F or drier. Outdoor or freezer-line distribution defaults to -40°F to avoid in-line condensation.

02 **What's the dryer flow rate (SCFM) and the inlet pressure (PSIG)?**

Dryer plates rate at **100 PSIG, 100°F inlet**. Higher inlet temp derates capacity sharply — every 18°F over rating cuts capacity roughly in half. Get the actual inlet condition, not the compressor's discharge plate.

03 **Indoor or outdoor install? What's the ambient temperature range at the install location?**

Refrigerated dryers struggle below 50°F ambient and need shelter from direct sun. Desiccant towers tolerate a wider range. Outdoor exposure → NEMA 4 enclosure callout. **If the answer is "in an unconditioned shed in Minnesota,"** the conversation changes.

04 **Is the dryer's footprint in a hazardous-classified area?**

Class I Div 2, ATEX Zone 1/2, IECEx — any of these flip the entire spec to explosion-proof construction. Confirm **before** quoting; substituting an EP unit at order time is a 6-8 week lead-time event, not a stocking item.

05 **How much purge air can the system afford?**

Heatless desiccant uses ~15% of dried capacity as purge. If the compressor was sized to flow, that's a ~15% capacity hit. If purge is a problem → heated or heated-blower desiccant cuts it to 4–7% but adds capex and an electrical heater. Refrigerated has zero purge.

06 **Cleanliness class — is this air going somewhere with an ISO 8573-1 requirement?**

Pharmaceutical, food contact, medical breathing, semiconductor — these jobs come with an ISO class spec for particulates, water, and oil. The dryer hits the water class; filtration before and after hits particulate and oil. **If they cite a class, write it on the quote.**

07 **Continuous duty or intermittent? Shift-only or 24/7?**

Refrigerated cycling and digital-scroll designs save energy on intermittent loads. Continuous heavy-duty plant air leans non-cycling. Desiccant always favors continuous duty — the regen cycle prefers steady flow.

08 **Is there existing pre-filtration upstream of the dryer location?**

Desiccant media gets ruined by oil carryover, fast. A coalescing filter ahead of every desiccant install is non-negotiable. If the line doesn't have one, the dryer quote needs to **include it** or the dryer warranty doesn't survive the first quarter.