TEXTTOCAD
TEACHING AI TO MAKE THINGS

ROADSTER ROCKET · C6I / V1 · DEV52-S1-BENCH-01

S1 AIR station · bench acceptance

2026-11-25 · Revision 01

Qualification programme for T400 and T200, supplier RFQ and test records.

Status · programme for approval

Bench results are pending. Each branch needs 3 of 3 accepted cycles. The minimum confirmed rate after uncertainty is 0.45 kg/min.

Test profiles

Series	AIR mass, kg	Model, MPa abs	Delivery / ready, min	Mains energy, kWh
T400 × 3	88.113	30.00	195.8 / 220.8	28.82
T200 × 3	33.398	68.95	74.2 / 99.2	14.65

T400 covers the main branch of the DEV44 low-return case. T200 replenishes a C6I assisted launch. Model pressures are sizing inputs. Approved stand documentation governs operating windows, limits and permission to run. Readiness and energy are separate-branch DEV51 references with 25 min per cycle for auxiliary activities. Supplier selection and testing must confirm the upper duty point.

Programme and acceptance rules

S1-01 · Release to test

Freeze the stand identification, BAUER and booster build, vessel and fittings, system boundary, protective functions, and approved starting and ending mass, pressure and temperature windows. The test lead signs the method and abort plan against actual equipment documentation. Record release and calibration IDs. Verify recording and protection functions under the approved procedure before counted cycles.

S1-02 · Three consecutive cycles per branch

Run T400-01…03 and T200-01…03. Use one revision and one agreed profile per series, with normal operating pauses. Start subsequent cycles within approved windows, including cooling and buffer state. Keep every attempt. An intervention, abort or invalid record breaks the series. Repeat the full series after review and renewed release.

S1-03 · Timing and instrumentation

Use one timebase for refill request, delivery start, delivery end, ready release and abort. Include all pauses and derating between delivery start and end. Measure readiness from request to release. Log synchronised time, inlet and vessel P/T, branch-boundary mass flow, independent mass, mains power and energy, cooling and events. Document timing error, sampling, missing data, units and pressure reference.

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S1 acceptance rules · DEV52-S1-BENCH-01

S1-04 · Cycle mass, delivery rate and balance

Independent Δm must meet the branch target. The settled vessel must be inside the approved readiness window under the agreed uncertainty rule. Each cycle must meet q = Δm / delivery time and q − U(q) ≥ 0.45 kg/min. Reconcile |flowmeter Δm − independent Δm| ≤ balance U. Preapprove the uncertainty model, coverage factor, units and shared contributions. The weakest cycle governs the series.

S1-05 · Readiness, energy and protection

Acceptance requires confirmed settling, leak check, complete records, operation within approved limits and responsible release. Approve separate protection checks, safe verification methods and results. Include all stages, cooling, controls and buffer replenishment to an equivalent starting state in mains energy. Account for any external supply separately with an explicit boundary. Compare time to ready and kWh to references and agreed contractual limits. Report buffer recovery energy and time separately when it finishes after vessel release.

S1-06 · Decision for each series

A branch passes after 3 of 3 accepted cycles, an approved protection record and responsible sign-off. Attach raw traces, calibration, uncertainty calculation, readiness timestamps and deviations. Two passing branches validate the tested S1 duty only. The DEV44 reserve, combined cycle, on-board installation and V1 duty require separate evidence.

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