



Acceptance Certificate

Cold room 04 · Refrigeration, controls and HACCP sensors · EQ-00127

Certificate no.	AP-2026-127	Date	15 Jul 2026
Client	Riverside DC GmbH	Contractor	JuKoTech GmbH
Location	Central warehouse North, Frankfurt am Main	Equipment	Cold room 04 (EQ-00127)
Cooling source	Booster rack (EQ-00114), transcritical CO ₂ booster	Refrigerant	R744 (CO ₂) · safety class A1 · GWP 1
Attendees	Site management, Central warehouse North (client); project manager and technician (JuKoTech GmbH)		

1 Scope

- Cold room 04 enclosure, internal dimensions 6.00 × 4.00 × 2.80 m, hinged door 1.20 × 2.10 m with door frame heater, LED lighting and person-trapped alarm
- R744 air cooler on the medium-temperature stage of the booster rack, electronic expansion valve, electric defrost
- Case controller connected to the rack controller and to the JuKo platform
- CO₂ gas detection in the cold room with sounder and beacon
- HACCP sensors: 2 temperature probes transmitting to the JuKo platform
- Commissioning of the booster rack (EQ-00114) for this cooling point; warranty confirmation issued separately

2 Design data

Room temperature	Setpoint +2.0 °C · alarm limits 0.0 / +4.0 °C	Cooling capacity	6.8 kW at t ₀ = -8 °C
Defrost	electric, 4 × daily, terminates at +8 °C, max. 30 min	Gas detection	pre-alarm 5,000 ppm · main alarm 10,000 ppm

3 Tests performed

No.	Test	Requirement / method	Result	Rating
1	Strength and tightness test with nitrogen	to EN 378-2, record dated 10 Jul 2026	passed	pass
2	Leak test with refrigerant R744	electronic leak detector at all joints, valves and control devices of the cooling point	no leakage found	pass
3	Pull-down test	from +18.6 °C to +2.0 °C, requirement max. 4 h	reached after 2 h 15 min (08:10–10:25)	pass

No.	Test	Requirement / method	Result	Rating
4	Temperature stability, 2 h hold	+2.0 °C ±1.0 K	+1.6 ... +2.5 °C	pass
5	Defrost	manual start, temperature-terminated	18 min, ended at +8 °C, air cooler ice-free	pass
6	Door frame heater	function, power draw (rating plate 100 W)	96 W, frame free of ice and condensation	pass
7	Temperature alarm test	upper limit +4.0 °C simulated; forwarding to client portal and e-mail	alarm raised after delay, portal notification and e-mail received	pass
8	Door alarm test	door open longer than 5 minutes	alarm raised after 5 min	pass
9	Person-trapped alarm	triggered from inside, signal to the gatehouse	visual and audible signal at the gatehouse	pass
10	CO₂ gas detection	test gas, pre-alarm and main alarm	both stages triggered, sounder and beacon, signal to the rack controller	pass
11	HACCP sensor commissioning	2 probes, comparison with a calibrated reference thermometer, max. ±0.5 K, 1-min logging interval	+0.1 K / -0.2 K; readings and limits visible in the client portal	pass

4 Measured values at steady state (11:30)

Quantity	Value
Room temperature (reference thermometer)	+2.1 °C
HACCP probe 1 / 2	+2.2 °C / +1.9 °C
Evaporating temperature t_0	-8.4 °C
Evaporating pressure, medium-temperature stage	26.7 bar (gauge)
Superheat	6.2 K
Air-off temperature, air cooler	-2.6 °C
Air cooler fan current	2 × 0.62 A
Defrost heater power	3.4 kW

5 Defects and outstanding items

No significant defects were found. One minor item remains open:

No.	Description	Category	Deadline	Responsible
1	Impact protection left of the cold room door not yet fitted (delivery pending); no effect on function or temperature holding.	minor	31 Jul 2026	JuKoTech GmbH

6 Documents handed over

- Operating manual and wiring diagram
- Pressure and tightness test record dated 10 Jul 2026
- Commissioning record for the cooling point and the booster rack
- System logbook to EN 378-4
- Cold room 04 enabled in the client portal (site management role)

7 Declaration of acceptance

The client hereby declares acceptance of the works listed under 1. The works have been performed as contracted; the minor outstanding item listed under 5 will be remedied by the deadline. The client reserves its rights with respect to this item.

Upon acceptance, the risk passes to the client and the 24-month warranty period begins; it ends on **15 Jul 2028**. The terms and conditions of JuKoTech GmbH (as of February 2026) apply in addition.

Client – Riverside DC GmbH

Frankfurt am Main, 15 Jul 2026

Name in block capitals, signature

Contractor – JuKoTech GmbH

Frankfurt am Main, 15 Jul 2026

Name in block capitals, signature