

EMS-HP-J1-04-QD

Jumper hose bundle, 1 leg, -4 dash, quick disconnect

Pre-assembled to length for maintenance and bypass; burst ratio published for the terminated assembly.

Pre-assembled 1-leg jumper bundle in -4 dash (1/4 in), quick disconnect both ends, for maintenance and bypass. Published at 1.38 MPa (200 psi) working pressure with the burst-to-working ratio stated for the terminated assembly (4.0× MAWP) and a 24.5 mm minimum bend radius. The rack-interior jumper is not specified for negative-pressure duty, and the leak path sits at the termination rather than in the hose.

ORDERING INFORMATION

Part number	EMS-HP-J1-04-QD
Leg count	1 leg
Dash size and nominal bore	-4 (1/4 in)
Termination	Quick disconnect both ends
Maximum allowable working pressure	1.38 MPa (200 psi)
Burst-to-working ratio (terminated assembly)	4.0× MAWP
Cut length	Cut to order; tolerance stated on the dimensional drawing for the bundle
Packaging	Bagged with end caps fitted, zone colour banded, one inspection record per bundle

ASSEMBLY RATINGS

Parameter	Value	Notes
Model code	EMS-HP-J1-04-QD	Code parsed as J{legs}-{dash}-{termination}.
Leg count	1 leg	1 leg for maintenance and bypass, 2 legs for supply and return to one node, 4 legs for two nodes.
Dash size and nominal bore	-4 (1/4 in)	Assembled from the hose code of the same dash size.
Internal diameter	6.1–7.2 mm	Production tolerance band of the hose used in the assembly.
Maximum allowable working pressure (MAWP)	1.38 MPa (200 psi)	Published as the rating the assembly is built to. Published as the rating the product is built to, not as an approval held. Certification and standard designations are named only; no certificate, registration, patent or file number is published for any model in this cluster.
Minimum burst pressure (terminated assembly)	5.5 MPa minimum for the terminated assembly	Tested minimum burst of the hose over 1.38 MPa (200 psi) working pressure. The ratio is stated for the terminated assembly, not for the hose alone, because the joint adds a failure surface.
Burst-to-working ratio (terminated assembly)	4.0× MAWP	The ratio is stated for the terminated assembly, not for the hose alone. Sizes -4 to -6 are specified at 4.0×; sizes with no published burst figure sit at the 3× floor and the tested value is issued with the datasheet.

Parameter	Value	Notes
Proof pressure	2.07 MPa (300 psi)	Hydrostatic proof at 1.5× MAWP with a hold, air purged first, deionised water or PG25, step-wise ramp with holds. Recorded per bundle.
Minimum bend radius	24.5 mm (governed by the shortest leg)	The finished bundle's bend radius is governed by its shortest leg. A row main bent to a 40 mm radius is out of specification, and a -4 jumper is built for it.
Cut length and tolerance	Cut to order	Cut-length tolerance is stated per bundle on the dimensional drawing, not as a family figure.
Operating temperature range	-40 °C to +120 °C	Jumper compound range. Coolant temperature at the coupling is a separate limit at roughly 60–80 °C.
Negative-pressure duty	Not specified	The rack-interior jumper is not specified for negative-pressure duty; the bundle is changed when a node is swapped.

TERMINATION, SEALS AND DOCUMENTATION

Parameter	Value	Notes
Termination	Quick disconnect both ends	QD = quick disconnect. CR = swaged ferrule, not field-repairable. CL = constant-tension clamp over a barbed insert.
Leak path at the termination	Two elastomer seals at the coupling faces; no clamp in the joint	An O-ring that has taken a compression set lets go at the moment of separation. Non-spill couplings are specified to lose 0.015 cc or less per disconnect at 0 psi and 0.063 cc or less per disconnect at 200 psi; ISO 18869:2017 defines the limit.
Seal material	EPDM 70 Shore A, or FKM	EPDM 70 Shore A for water and glycol; FKM where the fluid or the temperature demands it.
Hose reinforcement	Single-layer synthetic fibre braid	Single-layer synthetic fibre braid for the rack-interior jumper; composite reinforcement (two braid layers, or braid plus helix) for the row main.
Zone colour	Red, black and blue	Loop zoning so a mis-connected leg is visible before fill. Colour confirmed per order line.
Media	PG25 · PG50 · EG · deionised water · facility water · phosphate-ester fluids	EPDM is a non-polar hydrocarbon elastomer: good in water and glycol, poor in hydrocarbon oils. Flush the loop before the jumpers go on; a bundle is cleanest the day it is bagged.
Cleanliness state	Bagged on completion; end caps fitted	Dirtiest after the loop's first flush, which is why the flush precedes installation.
Inspection record	One per bundle	Dimensional check against the drawing, hydrostatic proof, leak-down hold and end-cap fit.
Failure modes catalogued	Hose rupture · thread stripping · O-ring deformation · leakage on disconnect · sleeve seizure	Sleeve seizure sits in the same catalogue as the pressure failures, and it is the one a maintenance crew meets first.
Standards applied	SAE J20 (201503) · ASTM D1599-18(2024) · ISO 18869:2017 · ISO 1817 · IEC 62368-1	Standard designations are named. No certificate, registration or file number is published, and no third-party approval is stated or implied for an assembly.
Hydrostatic test medium	Deionised water or PG25, air purged first	Purge all air, pressurise, then ramp in steps with holds to rupture or the specification limit.

Parameter	Value	Notes
Packaging	Bagged, end caps fitted, one inspection record per bundle	Reorder by code and the specification does not drift between batches.

APPLICATIONS

- Maintenance and bypass
- Maintenance and bypass leads
- Manifold drop where the leg count matches the rack drawing
- Replacement of a cut-to-length field assembly with a documented equivalent

COMPATIBLE WITH

- EMS-HP-E4-20 and EMS-HP-E4-100 hose coils in the same dash size
- EMS-HP-FQD, EMS-HP-FQDP and EMS-HP-FBM quick disconnects in the matching size band
- Cold plate inlets and rack manifolds in the matching dash size
- EPDM 70 Shore A or FKM seals specified per loop fluid

INCLUDED WITH THE BUNDLE

- Bundle datasheet carrying the terminated burst ratio and the cut-length tolerance
- Dimensional drawing with the leg routing
- One inspection record: dimensional check, hydrostatic proof, leak-down hold, end-cap fit

MODEL LADDER — JUMPER BUNDLES

Parameter	Value	Notes
EMS-HP-J1-04-QD	1 leg · -4 dash · Quick disconnect	Maintenance and bypass
EMS-HP-J2-04-QD	2 legs · -4 dash · Quick disconnect	Node supply and return
EMS-HP-J2-06-QD	2 legs · -6 dash · Quick disconnect	Standard node jumper
EMS-HP-J2-06-CR	2 legs · -6 dash · Swaged ferrule	Permanent install
EMS-HP-J2-06-CL	2 legs · -6 dash · Constant-tension clamp over a barbed insert	Field-serviceable joint
EMS-HP-J4-06-QD	4 legs · -6 dash · Quick disconnect	Two nodes on one bundle
EMS-HP-J2-08-QD	2 legs · -8 dash · Quick disconnect	Higher-flow node
EMS-HP-J2-16-QD	2 legs · -16 dash · Quick disconnect	Manifold drop

TERMINATION STYLES

Parameter	Value	Notes
Swaged ferrule	EMS-HP-J2-06-CR	Crimped. Ordered to length and cannot be repaired in the field; the crimp is the permanent joint.
Constant-tension or worm-drive clamp over a barbed insert	EMS-HP-J2-06-CL	Field-serviceable, and the clamp is the leak path: it holds by stored stress while EPDM cold-flows under sustained compression, so the at-pressure symptom is a slow weep at the clamp band rather than a rupture.

Parameter	Value	Notes
Quick disconnect, no clamp	EMS-HP-J1-04-QD · EMS-HP-J2-04-QD · EMS-HP-J2-06-QD · EMS-HP-J4-06-QD · EMS-HP-J2-08-QD · EMS-HP-J2-16-QD	Trades two clamps for two seals. Catalogued failure modes: thread stripping, O-ring deformation, leakage on disconnect, sleeve seizure.

NOTES

- The burst-to-working ratio is published for the terminated assembly, not for the hose alone. Sizes -4 to -6 are specified at the tested 4.0×; assemblies with no published burst figure sit at the Open Compute Project 3× floor and the tested value is issued with the datasheet.
- Cut-length tolerance is stated per bundle on the dimensional drawing, not as a family figure.
- A bundle terminates at the cold plate inlet; the cold plate itself and the coolant distribution unit are not supplied by us and are not part of this catalogue.
- Order configurations, not tested properties: leg count, cut length, zone colour and the seal material are confirmed on the order drawing.
- The clamp is the leak path on a clamped bundle. EPDM cold-flows under sustained compression, so at 1.38 MPa the joint weeps rather than bursts.
- Supplied by EMS-Trade Cooling, a Shenzhen trading house that integrates, inspects, stocks and ships. No manufacturing of this item is claimed, and no count of suppliers or production sites is published.

Full specification sheet and current pricing

EMS-Trade Cooling · ems-cool.com

Typical lead time confirmed on order acknowledgement.

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