

EMS-HP-E5-100

EPDM cooling hose, -5 dash (5/16 in), 100 m coil

Rack-interior jumper hose, cold plate to manifold and manifold to cold plate; single-layer synthetic fibre braid.

Peroxide-cured EPDM hose, -5 dash (5/16 in), 7.7–8.3 mm bore, supplied in a 100 m coil. Published at 1.38 MPa (200 psi) working pressure against a 5.5 MPa burst (4.0× MAWP) with a 31.5 mm minimum bend radius. Specified for the rack-interior jumper run, where a bend held below the minimum radius kinks the braid and the hose later fails at the ferrule rather than at the tube.

ORDERING INFORMATION

Part number	EMS-HP-E5-100
Dash size and nominal bore	-5 (5/16 in)
Coil length	100 m
Maximum allowable working pressure	1.38 MPa (200 psi)
Minimum burst pressure	5.5 MPa minimum
Burst-to-working ratio	4.0× MAWP
Reinforcement	Single-layer synthetic fibre braid
Packaging	Coil, bagged and end-capped, with the model code and layline markings on the coil label

DIMENSIONS AND PRESSURE

Parameter	Value	Notes
Dash size and nominal bore	-5 (5/16 in)	SAE J20 (201503) dash convention. Nominal bore, not a measured bore.
Internal diameter	7.7–8.3 mm	Production tolerance band measured on the delivered coil, not a single nominal figure.
Outside diameter	14.5–15.5 mm	Range across the tolerance band; governs ferrule and clamp selection.
Maximum allowable working pressure (MAWP)	1.38 MPa (200 psi)	Published as the rating the hose 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	5.5 MPa minimum	Tested minimum burst over 1.38 MPa (200 psi) maximum allowable working pressure, a 4.0× ratio. Short-time hydrostatic failure by ASTM D1599-18(2024), deionised water or PG25, air purged first.
Burst-to-working ratio	4.0× MAWP	Tested figure, not a target. The same ratio is published for the terminated assembly on a bundle datasheet, where the failure surfaces include the ferrule and the thread.
Proof pressure	2.07 MPa (300 psi)	1.5× MAWP, the conventional piping factor. Hydrostatic proof, air purged first, deionised water or PG25, step-wise ramp with holds to the specification limit.

Parameter	Value	Notes
Minimum bend radius	31.5 mm	Per-size minimum in millimetres. A hose forced below this radius has a shortened service life: the braid kinks and the damage shows at the ferrule later. Routing clearance required equals the minimum bend radius.
Weight per metre	0.18 kg/m	Weight per metre of the finished hose, used for coil handling and for hanger spacing.
Operating temperature range	-40 °C to +120 °C	Jumper compound range. The grid construction publishes -40 °C to +99 °C. Coolant temperature at a coupling is a third limit and is set by the elastomer seal in the coupling.
Coolant temperature at the coupling	60–80 °C nominal	Separate limit from the hose range; set by the elastomer seal in the coupling rather than by the tube compound.
Burst test medium and method	Deionised water or PG25, air purged first	ASTM D1599-18(2024) short-time hydrostatic failure. Purge all air, pressurise, then ramp in steps with holds to rupture or the specification limit.

CONSTRUCTION, MEDIA AND DOCUMENTATION

Parameter	Value	Notes
Tube compound and cure	Peroxide-cured EPDM	Peroxide crosslink carries no sulphur residues. Declared as the supplier position on the compound, with ISO 1817 immersion as the test that settles it: 168 h at 70 °C in PG50, volume swell and mass change reported. A sulphur-cured inner rubber releases precipitates into the coolant and they lodge in cold-plate micro-channels.
Cover compound and flame rating	UL 94 V-0 cover compound	Vertical burn on the outer rubber, IEC 60695 alongside when a fire dossier is requested. The rating applies to the cover compound and not to the finished assembly, and no third-party approval document is in hand for a hose model.
Reinforcement	Single-layer synthetic fibre braid	One synthetic fibre layer over the tube. This is the construction specified where a small bend radius is required at the rack face.
Negative-pressure duty	Not specified	The rack-interior jumper is not specified for negative-pressure duty. Negative pressure appears during start-stop and flow adjustment; composite reinforcement is the specification that prevents collapse, and it belongs to the grid class.
Compound hardness	60–80 Shore A (EPDM 70 typical)	Hose tube and cover compounds. Tensile strength and elongation by ASTM D412, heat and air ageing by ASTM D573, ozone cracking in a chamber by ASTM D1149-18(2025).
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. Chlorinated or ozonated water is a dechlorination and oxidation exposure, which is why an ISO 1817 immersion result carries more weight than a compatibility chart.

Parameter	Value	Notes
Fluid immersion test	168 h at 70 °C in PG50	ISO 1817 immersion with volume swell and mass change reported. No published swell limit exists for a data-centre hose, so no swell limit is published here as our own; a swell limit appears on a model datasheet only when that model's report is in hand.
Coil length	100 m	Order configuration, not a tested property. No published data-centre hose sheet states standard coil lengths, so the length is confirmed on the order drawing.
Storage and shelf life	3 years, bagged, out of sunlight	Elastomer shelf-life reviews find no justification for a shelf life shorter than 3 years. Keep the coil away from electric motors and welding equipment; ozone is deleterious to elastomeric seals, so a storage room should not contain ozone-generating equipment.
Standards applied	SAE J20 (201503) · SAE J1037 · ASTM D412 · ASTM D573 · ASTM D2000 · ISO 1817 · ASTM D1149-18(2025) · ASTM D1599-18(2024)	Standard designations are named. No certificate, registration or file number is published, and no third-party approval is stated or implied for a hose model.
Inspection record	Dimensional check and 1.5× working-pressure proof	One record per coil. The burst ratio for the code is issued with the datasheet.

APPLICATIONS

- Cold plate to manifold supply and return inside the rack
- Node jumper tails in a rack interior
- Maintenance and bypass leads terminated with quick disconnects
- Rack-side working stock held at 20 m coils and cut to the drawing

COMPATIBLE WITH

- EMS-HP-J series pre-assembled jumper bundles for the same dash size
- EMS-HP-FQD and EMS-HP-FBM quick disconnects in the matching size band
- EMS-HP-FBT barbed tail adapters for field-attachable repair
- EPDM 70 Shore A or FKM seals; EPDM for water and glycol, FKM where the fluid or the temperature demands it

INCLUDED WITH THE COIL

- Model code and layline markings on the coil label
- Declaration of conformity to the standards named on this datasheet
- Dimensional check record and 1.5× working-pressure proof record for the coil

MODEL LADDER — EPDM HOSE (JUMPER CLASS)

Parameter	Value	Notes
-4 (1/4 in)	EMS-HP-E4-20 · EMS-HP-E4-100	20 m and 100 m coils · 24.5 mm · 1.38 MPa (200 psi)
-5 (5/16 in)	EMS-HP-E5-20 · EMS-HP-E5-100	20 m and 100 m coils · 31.5 mm · 1.38 MPa (200 psi)
-6 (3/8 in)	EMS-HP-E6-20 · EMS-HP-E6-100	20 m and 100 m coils · 37 mm · 1.38 MPa (200 psi)

Parameter	Value	Notes
-8 (1/2 in)	EMS-HP-E8-20 · EMS-HP-E8-100	20 m and 100 m coils · 69 mm · 1.00 MPa (145 psi)
-10 (5/8 in)	EMS-HP-E10-20 · EMS-HP-E10-100	20 m and 100 m coils · bend radius on the drawing · 1.00 MPa (145 psi)

NOTES

- Burst-to-working ratio: every hose and assembly code in this cluster publishes one. Sizes -4 to -6 carry the tested 4.0× figure; sizes with no published burst figure are specified at the Open Compute Project 3× floor and the tested value is issued with the datasheet.
- Coil length is an order configuration, not a tested property. 20 m, 50 m and 100 m are order lengths and are confirmed on the order drawing.
- The peroxide-cured against sulphur-cured distinction is published as a supplier position on the compound, with ISO 1817 fluid immersion named as the test that settles it. No swell limit is published as our own unless the report for the model is in hand.
- Minimum bend radius is a per-size figure in millimetres. A hose forced below it has a shortened service life.
- UL 94 V-0 applies to the cover compound, not to the finished assembly. No third-party approval document is in hand for a hose model, and none is implied.
- 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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