

EMS-FF-C200

Coolant fill cart, 200 L tank, over 60 L/min

Dual-pump cart filling up to eight racks, servers or CDUs at once, with concurrent fill and drain

EMS-FF-C200 is the 200 L class, the reference build of the fill cart ladder: dual pump, flow above 60 L/min, and up to 8 racks, servers or CDUs filled at once against a rack-class TCS flow of 10–100 L/min. Filtration sits on the discharge of the fill pump, one 25 µm protection-rated element per pump, and the reference footprint is 1 120 × 920 × 1 350 mm at 0.8 kW on a 220 V single-phase supply. The failure it exists to catch is a multi-rack commissioning round metered by dipstick instead of by recorded volume per fill point.

ORDERING INFORMATION

Part number	EMS-FF-C200
Tank volume	200 L
Pump arrangement	Dual pump
Pump flow	Exceeds 60 L/min
Fill points	Up to 8 racks, servers or CDUs at once
Discharge filter	One 25 µm element per pump
Power	90–267 V AC, 50/60 Hz single-phase
Reference footprint	1 120 × 920 × 1 350 mm at 0.8 kW

TANK AND HYDRAULIC DUTY

Parameter	Value	Notes
Tank volume	200 L	Reference build of the fill cart ladder
Pump arrangement	Dual pump	Dual-pump architecture allows concurrent fill and drain
Pump flow	Exceeds 60 L/min	Against a rack-class TCS flow of 10–100 L/min and a facility side up to 140 L/min
Concurrent duty	Concurrent fill and drain	A partial-fill or fluid-exchange round runs without taking the loop out of service
Fill points	Up to 8 racks, servers or CDUs at once	Fill-point count is what sizes the tank, not one loop
Fluid-volume comparison	200 L is roughly 22× the 5.7 L secondary circuit of a 100 kW rack CDU	The cart is sized by how many loops are filled in one commissioning window
Pump head	Not published for this product	Reference only, not our rating: a rack CDU's own internal fill pump runs at about 1.0 L/min and stops at 15 psi (1.0 bar) inlet pressure
Design envelope of the loop it fills	6.9 bar (100 psig) nominal operating pressure and 60 °C (140 °F) fluid temperature	Published envelope of the technology cooling pipework

FILTRATION

Parameter	Value	Notes
Discharge filtration	One 25 µm element per pump, on the discharge of the fill pump	Cart-level filtration on the fill-pump discharge is a design requirement, not an option. The 25 µm figure is a protection rating.
Micron category of the 25 µm element	Protection rating: the operating element on the cart discharge	It is not a strainer rating and it is not the commissioning staging sequence.
Commissioning staging upstream of it	100 µm, then 50 µm, then 25 µm	Commissioning staging is a procedure, not the protection rating of the cart's element.
Cleanliness end point	0 particles at or above 50 µm	Piping cleanliness class CCC = C(C13/D9/E-N00). The 50 µm figure is a cleanliness acceptance limit: it is not a protection rating, a commissioning staging step or an inlet strainer rating.
External filtration rule	External filtration is installed at the discharge of major equipment	Thermal fill stations must also have a serviceable inline filter in the supply line.
Serviceable element	Replaceable element per pump	Wet filters attract and retain contaminants, so replacement is often preferable to cleaning on a construction site.

CONTROL AND INSTRUMENTATION

Parameter	Value	Notes
Controller	Industrial PLC	Carries the fill and drain logic and the metering read-out.
Operator interface	7-inch touchscreen HMI	Tilttable HMI on the cart.
Pressure and flow sensing	Digital pressure and flow sensors	Readings at the cart rather than at the loop.
Fluid-quality monitoring	Real-time fluid-quality monitoring at the cart	Monitors the fluid the cart delivers.
Overfill protection	Fitted	Level monitoring plus a metering read-out per fill point.
Metering resolution	Fluid delivered per point is recorded	A 100 kW rack CDU secondary holds 5.7 L, so metering resolution matters more than tank size on a multi-rack round.
Air management after fill	Pumps at 25–30 % for a minimum of 30 minutes, then +10 % every 15 minutes up to 75 %	Minimum allowable pump speed is 15 %; idle fluid collects sediment and prevents the protective oxide layer forming.

POWER, FOOTPRINT AND MATERIALS

Parameter	Value	Notes
Power input	90–267 V AC, 50/60 Hz single-phase	Universal input, so one SKU ships without modification.
Reference electrical build	220 V / 1 PH / 50 Hz at 0.8 kW	Published reference build of the 200 L class.
Reference footprint	1 120 × 920 × 1 350 mm	Published for the 200 L build.
Reference temperature rows	5–60 °C and –20 to 60 °C	Two published rows on the same reference build; the applicable row depends on duty and is confirmed on order acknowledgement.
Reference pressure row	3.0 bar	Published pressure row on the reference build; it is not a pump head figure.
Wetted materials	SUS304 stainless steel with EPDM and PTFE seals	Wetted path of the cart and its hoses.

Parameter	Value	Notes
Seal grade	Peroxide-cured EPDM recommended	Sulfur-cured EPDM can introduce sulfate into the heat-transfer fluid; the technology-cooling limit is <10 ppm
Brass rule	Brass above 15 % zinc requires dezincification verification to ISO 6509 at ≤100 µm depth	Annual zinc analysis by ICP where brass is wetted The 100 µm figure is a dezincification penetration depth under ISO 6509: it is not a protection rating, a commissioning staging step or an inlet strainer rating.
Connector formats	UQD04 and FD83	Two of the major formats in this equipment class
Mobility	Portable cart on castors	The 100–500 L tank class is a portable cart for commissioning and maintenance

APPLICATIONS

- Multi-rack commissioning rounds where up to 8 fill points are served from one cart
- Fluid exchange on a live floor, using concurrent fill and drain
- Row-scale top-up where the make-up volume is metered per point
- The first coolant filtration stage a new loop meets

INCLUDED IN THE DELIVERED SET

- 200 L tank on a portable cart with castors
- Dual pump with one 25 µm protection-rated element per pump
- PLC with a 7-inch touchscreen HMI
- Digital pressure and flow sensors with overfill protection and per-point metering
- UQD04 and FD83 connector formats

COMPATIBLE WITH

- EMS-CL-PG15 to EMS-CL-PG55 inhibited propylene glycol coolants
- EMS-CL-PGC concentrate for on-site dilution
- EMS-FF-FL75, EMS-FF-FL340 and EMS-FF-FL1300 flush skids for the flush that precedes the fill
- EMS-FF-FS20, EMS-FF-FS60 and EMS-FF-FS150 filtration skids for the permanent stage that follows it

SCOPE

- The cart fills and drains a loop; it does not distribute coolant to a rack. No coolant distribution units and no cold plates

FILL CART LADDER BY VOLUME

Parameter	Value	Notes
EMS-FF-C120	120 L tank	Single rack or in-row unit, top-up duty; single or dual pump
EMS-FF-C200	200 L tank	Up to 8 racks, servers or CDUs at once; dual pump, over 60 L/min
EMS-FF-C500	500 L tank	Row and room-scale commissioning, partial-fill and top-up rounds; dual pump, concurrent fill and drain

NOTES

- Pump head is not published for this product. The comparable reference is a rack CDU fill pump cutting out at 1.0 bar (15 psi) inlet pressure at about 1.0 L/min, and that figure is a reference, not a rating of this cart.

- The 3.0 bar reference pressure row on the 200 L build is a published operating row, not a pump head figure.
- The 25 µm element is a protection rating: the operating element on the fill-pump discharge. The 100 → 50 → 25 µm sequence is commissioning staging and is a separate category.
- Two temperature rows are published for the same reference build, 5–60 °C and –20 to 60 °C; both are carried as sourced and the applicable row is confirmed on order acknowledgement.
- Certification names are published on the badge cards; approval documents are shown on request.
- Scope: no coolant distribution units and no cold plates.

Full specification sheet and current pricing	EMS-FF-C200
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Typical lead time confirmed on order acknowledgement.	2026-09-19