

# EMS-HP-FQD-02

## Latched UQD coupling, size 02, 316 stainless steel

Rack-side quick disconnect at the branch take-off; mates by latch in the OCP envelope.

Universal Quick Disconnect (UQD), latched in size 02, supplied in 316 stainless steel, for small-bore branch take-off. Published with the rating band for its material group rather than one number for the family (Burst 3× MAWP minimum · ISO 18869:2017 leakage limits), and with the minimum burst requirement of 3× the maximum allowable working pressure that applies to the coupling as well as to the hose. Catalogued failure modes are thread stripping · o-ring deformation · leakage on disconnect · sleeve seizure.

### ORDERING INFORMATION

|                       |                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Part number           | EMS-HP-FQD-02                                                                               |
| Family                | Universal Quick Disconnect (UQD), latched                                                   |
| Size                  | 02 (coupling size designation, not a bore in mm)                                            |
| Body material         | 316 stainless steel                                                                         |
| Pressure rating basis | Per material group and per size band; Burst 3× MAWP minimum · ISO 18869:2017 leakage limits |
| Interface standard    | ISO 18869:2017 · OCP UQD envelope                                                           |
| Typical position      | small-bore branch take-off                                                                  |
| Packaging             | Individually bagged with the model code on the label; batch leak-test record on request     |

### RATINGS, MATERIALS AND INTERFACE

| Parameter                                         | Value                                                 | Notes                                                                                                                                                                                                                  |
|---------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model code                                        | EMS-HP-FQD-02                                         | Every code in this family carries the EMS-HP-prefix.                                                                                                                                                                   |
| Family                                            | Universal Quick Disconnect (UQD), latched             | Mating behaviour is fixed by the rack design, so the family is the first selection.                                                                                                                                    |
| Size                                              | 02 (coupling size designation, not a bore in mm)      | Size band for the rating. Ratings are published per material group and per size band.                                                                                                                                  |
| Mating method                                     | Latch, Open Compute Project envelope                  | Universal Quick Disconnect envelope. Confirm the mating half on the rack drawing.                                                                                                                                      |
| Body material                                     | 316 stainless steel                                   | Confirmed per order line; the pressure band follows the material group actually supplied.                                                                                                                              |
| Maximum allowable working pressure / rating class | Burst 3× MAWP minimum · ISO 18869:2017 leakage limits | Valid per code, per body material and per size band; no single figure covers the whole coupling family. The 316 stainless steel body carries its own band, and the rating for this code is confirmed on the datasheet. |
| Minimum burst requirement                         | 3× the maximum allowable working pressure             | Open Compute Project practice, and it applies to the coupling as well as to the hose. No tested burst figure is published per code; the tested value for the delivered batch is issued with the datasheet.             |

| Parameter                       | Value                                                                                 | Notes                                                                                                                                                                                                                                             |
|---------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature band                | <b>Seal dependent</b>                                                                 | No single temperature band covers the family. EPDM 70 Shore A for water and glycol, FKM where the fluid or the temperature demands it; the seal sets the real ceiling. Coolant in service at the coupling runs roughly 60–80 °C in this category. |
| Sealing method                  | <b>Elastomer seal at each coupling face; no clamp in the joint</b>                    | The sealing element sets the temperature ceiling more often than the body material does.                                                                                                                                                          |
| Seal material                   | <b>EPDM 70 Shore A, or FKM</b>                                                        | EPDM 70 Shore A for water and glycol; FKM where the fluid or the temperature demands it. EPDM 70 is the standard compound designation by hardness.                                                                                                |
| Interface standard              | <b>ISO 18869:2017 · OCP UQD envelope</b>                                              | ISO 18869:2017 defines the performance and leakage limits for quick-disconnect couplings in liquid cooling. The standard designation is named; no certificate, registration or file number is published.                                          |
| Failure modes catalogued        | <b>Thread stripping · O-ring deformation · leakage on disconnect · sleeve seizure</b> | Catalogued from the pressure and endurance tests on quick disconnects in this category. Sleeve seizure sits in the same catalogue as the pressure failures.                                                                                       |
| Leak test                       | <b>100 % helium leak testing at the coupling</b>                                      | A declared practice in this category. Ask for the batch test record.                                                                                                                                                                              |
| Media                           | <b>PG25 · PG50 · EG · deionised water · facility water · phosphate-ester fluids</b>   | EPDM is a non-polar hydrocarbon elastomer: good in water and glycol, poor in hydrocarbon oils.                                                                                                                                                    |
| Galvanic position               | <b>Couples with a copper cold plate through an ion-bearing glycol</b>                 | Keep the anode-to-cathode area ratio favourable: a small aluminium anode against a large copper cathode corrodes first. Isolate with a polymer-body coupling where the loop allows, and control coolant conductivity.                             |
| Pressure test medium and method | <b>Deionised water or PG25, air purged first</b>                                      | Purge all air, pressurise, then ramp in steps with holds to rupture or the specification limit.                                                                                                                                                   |
| Typical position                | <b>small-bore branch take-off</b>                                                     | Confirmed against the loop drawing before the order is released.                                                                                                                                                                                  |

## SELECTION AND INSTALLATION LIMITS

| Parameter                               | Value                                             | Notes                                                                                                                                                                                      |
|-----------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rating validity                         | <b>Material group, size band and gasket</b>       | One pressure rating for a whole fitting family is a specification error. Where only a class figure exists, the class is published and the rating is stated as material and size dependent. |
| Temperature against pressure            | <b>Separate limits</b>                            | A rating taken at ambient is not valid at loop temperature; the de-rating curve belongs to the material group and the seal.                                                                |
| Coolant in service at the coupling      | <b>60–80 °C roughly</b>                           | The band this category runs at; confirm against the loop's own temperature record.                                                                                                         |
| Isolation where the loop allows         | <b>Polymer-body coupling</b>                      | Breaks the metal couple against a copper cold plate. Where the loop does not allow it, control coolant conductivity and keep the anode area small.                                         |
| Bare aluminium in a copper-bearing loop | <b>Not permitted without an inhibitor package</b> | A small aluminium anode against a large copper cathode corrodes first.                                                                                                                     |

| Parameter                 | Value                                          | Notes                                                                                                                       |
|---------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Mixed-standard protection | <b>Standard printed beside the code</b>        | An adapter that matches on thread pitch and not on standard leaks; the standard is published with the code for that reason. |
| Commissioning             | <b>Pressure test before the loop is filled</b> | Purge all air first. Sleeve seizure and leakage on disconnect are met at commissioning more often than at pressure.         |

## APPLICATIONS

- Small-bore branch take-off
- Rack-side connections where the mating behaviour is already fixed by the rack design
- Loop plumbing between manifold, pump, chiller and heat exchanger
- Replacement of a mixed-standard joint with a documented interface

## COMPATIBLE WITH

- EMS-HP-E series EPDM hose in the matching dash size
- EMS-HP-J series jumper bundles terminated in the matching size band
- EPDM 70 Shore A or FKM seals specified per loop fluid
- PG25, PG50, EG, deionised water, facility water and phosphate-ester fluids

## INCLUDED WITH THE COUPLING

- Datasheet carrying the material-group pressure band for the size ordered
- Dimensional drawing with the interface standard at each end
- Batch leak-test record on request

## MODEL LADDER — QUICK DISCONNECT AND BLIND-MATE CODES

| Parameter      | Value                                                    | Notes                                           |
|----------------|----------------------------------------------------------|-------------------------------------------------|
| EMS-HP-FQD-02  | <b>UQD, latched · size 02 · 316 stainless steel</b>      | Small-bore branch take-off                      |
| EMS-HP-FQD-04  | <b>UQD, latched · size 04 · 316 stainless steel</b>      | Standard node connection                        |
| EMS-HP-FQD-08  | <b>UQD, latched · size 08 · 316 stainless steel</b>      | Higher-flow node                                |
| EMS-HP-FQDP-04 | <b>UQD, latched · size 04 · high-performance polymer</b> | Weight-sensitive rack; removes the metal couple |
| EMS-HP-FBM-04  | <b>Blind mate (UQDB) · size 04 · 316 stainless steel</b> | Rack slides onto the manifold                   |
| EMS-HP-FBM-08  | <b>Blind mate (UQDB) · size 08 · 316 stainless steel</b> | Blind-mate manifold drop                        |

## MODEL LADDER — THREADED, FLANGED AND CAMLOCK CODES

| Parameter     | Value                              | Notes                    |
|---------------|------------------------------------|--------------------------|
| EMS-HP-FJC-06 | <b>JIC 37° flare · -6 (3/8 in)</b> | Pump, manifold port      |
| EMS-HP-FJC-08 | <b>JIC 37° flare · -8 (1/2 in)</b> | Pump, manifold port      |
| EMS-HP-FBP-06 | <b>BSPP (G) · G3/8</b>             | European skid connection |
| EMS-HP-FCL-08 | <b>Camlock · 1 in</b>              | Fill and drain           |

| Parameter     | Value                                | Notes                         |
|---------------|--------------------------------------|-------------------------------|
| EMS-HP-FCL-16 | Camlock · 2 in                       | Facility water header         |
| EMS-HP-FFL-25 | Flange, Class 125/150 pattern · DN25 | Pump, chiller, heat exchanger |
| EMS-HP-FFL-50 | Flange, Class 125/150 pattern · DN50 | Pump, chiller, heat exchanger |
| EMS-HP-FBT-06 | Barbed tail with clamp · -6 (3/8 in) | Field-attachable repair       |
| EMS-HP-FBT-08 | Barbed tail with clamp · -8 (1/2 in) | Field-attachable repair       |

## NOTES

- Ratings are published per material group and per size band. Where only a class figure exists, the class is published and the rating is stated as material and size dependent; one pressure rating for a whole fitting family is a specification error.
- The 3× maximum-allowable-working-pressure minimum burst requirement applies to the coupling as well as to the hose. No tested burst figure is published per coupling code; the tested value is issued with the datasheet.
- Temperature is a separate limit from pressure. A rating taken at ambient does not survive elevated-temperature de-rating unchanged.
- Scope: couplings and adapters only. No coolant distribution units and no cold plates are supplied.
- Standard and certification designations are named. No certificate, registration, patent or file number is published, and no third-party approval is stated or 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](http://ems-cool.com)

Typical lead time confirmed on order acknowledgement.

EMS-HP-FQD-02

Rev. A

2026-09-19