MOTTA LUBRICATION | TECHNICAL GUIDANCE

F3000 FIRE-RESISTANT HYDRAULIC FLUID HFC Water-Glycol Type

OPERATION AND HANDLING INSTRUCTIONS

N.º de documento	Revisión	Fecha de emisión	Release status
MOTTA-F3000-OHI-ES	REV.02	2026-09-13	Emitido para use

Use con the current producto TDS, SDS, the fabricante del equipo's instructions y site fire-Seguridad rules. Emitido by MOTTA Lubricants. The current Revisión de Este documento is published at motta-lube.com/documentos/ — if your copy differs, that list governs.

1 Alcance

Este documento applies to the conVersión, filling, in-service control, water management y fluid change de MOTTA F3000, an HFC water-glycol fire-resistant hydraulic fluid, in industrial hydraulic sistemas near hot surfaces or ignition sources. For use only by trained personnel on equipo whose condition has been confirmed.

F3000 is fire resistant, not fireproof. It reduces the risk de a hydraulic leak feeding a fire; it does not replace guarding, shielding, leak control or any other fire-protección measure required on site.

Not covered: mineral y sintético aceite hidráulicos (see MOTTA-Y-OHI); phosphate-ester (HFD) y water-in-aceite (HFB) fire-resistant fluids; y sistemas whose manufacturer has not approved an HFC fluid. The fabricante del equipo's instructions, el producto TDS y SDS, site fire-Seguridad rules y local regulations take precedence.

- User responsibility: confirm the sistema y every component is approved para HFC fluid — pumps, seals, hoses, accumulators, filters y interior COAtings.
- Operator responsibility: record water content, viscosity, pH, make-up quantities y abnormal events.
- Technical boundary: Este documento does not replace equipo design, fire-risk assessment or professional engineering judgement.

MOTTA productos covered by this handbook

Producto	grados	Standards y nivel de desempeños	Formatos de envase
MOTTA F3000	HFC type	ISO 12922 · ISO 6743-4	18L / 200L

grados, standards y Formatos de envase as published on each producto's Ficha técnica at motta-lube.com/productos/. Where a data sheet y this table differ, the data sheet governs.

ISO 6743-4 HFC y ISO 12922 are the fluid type y specification F3000 is formulated toward, as stated on its data sheet. No fire-resistance approval by a testing body, y no equipo-manufacturer approval, is claimed unless separately documented.

2 Selección y previa al uso inspection

Important: water is a designed component de F3000, not a contaminant. The data sheet gives a typical water content de 44 %. Too little water raises viscosity y reduces fire resistance; too much water lowers viscosity y protección antidesgaste. Nunca manage F3000 by the rules para mineral aceite hidráulico, donde water is removed.

Traducción de la versión inglesa. En caso de diferencia, prevalece la versión inglesa.

Item	Suitable	Not suitable
Seals y hoses	Nitrile (NBR) y fluorocarbon (FKM), as confirmed by the seal or hose maker	Polyurethane, which degrados in water; cork, leather y paper
Metals	Steel, cast iron; copper alloys as confirmed by the component maker	Zinc y galvanised surfaces, cadmium, magnesium; aluminium only donde the component maker approves it
Depósito interior	Unpainted, or a COAting rated para water-glycol fluid	Conventional aceite-resistant paint, which can lift y block filters
Filter elements	Glass-fibre or sintético media	Cellulose (paper) media

- Pumps: pump pressure y speed ratings are often lower para HFC fluid than para mineral aceite. Use the pump maker's rating para water-glycol service.
- Suction side: F3000 is denser than mineral aceite y contains water, so it cavitates more readily. Keep the pump inlet flooded y suction lines short y generously sized, y No fit fine suction strainers.
- Verify el producto name, lote number y intact seal. Label every transfer container para F3000 only.

3 ConVersión, Purgaring y filling

- Converting from mineral aceite: drain the whole sistema, including cylinders, accumulators, coolers, lines y low points. mineral aceite does not mix con water-glycol fluid y will separate out.
- Before filling, replace seals, hoses, filter elements y interior COAtings that are not suitable (Section 2). Follow the fabricante del equipo's conVersión procedure.
- Purgar con F3000, drain the Purgaring charge, then fill. Fill through a filter con limpieza equipo used only para F3000.
- After filling, take a sample y record water content, viscosity y pH con the lote number. This is the new-fluid reference para every later result.

4 Start-up

- Vent the pump y sistema antes de start-up; run at low pressure y no load first.
- Listen para cavitation noise at the pump y watch para foam in the Depósito antes de increasing load.
- In the first weeks después de conVersión, verificar filters more often: residual deposits are loosened by the new fluid.
- Re-verificar the level, all joints para leaks y seal condition después de the initial run.

5 In-service control

Test at a fixed interval y trend every result against the new-fluid reference recorded at filling.

Item	Minimum requisito	Key judgement point
Water content	At a fixed interval, by the Método your laboratory or supplier sets	Moving away from the new-fluid reference needs correction; a continuing drift needs its cause found
Viscosidad	With each water verificar	Rising viscosity usually means water loss; falling viscosity means water gain
pH	At a fixed interval	A falling pH points at depleted corrosion inhibitor or contamination
Temperature	Record Depósito temperatura	Water evaporates y cavitation risk rises as temperatura climbs
Apariencia	Watch para separation, a floating aceite layer, sludge or odour	Points at contamination or additive breakdown

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Item	Minimum requisito	Key judgement point
Seals y hoses	Inspect para leaks, swelling, shrinkage or cracking	Material change points at incompatibilidad

Key control: judge water content by measurement, Nunca by appearance. A clear fluid can be well outside its water target.

6 Water management y top-up

- Water lost by evaporation (level falling, viscosity rising, no leak): add deionised or distilled water in the quantity the analysis calls for, in small steps, then re-test.
- Fluid lost by leakage (level falling, water content unchanged): top up con F3000 only.
- Nunca add tap water. Its hardness salts react con the additives y form deposits.
- Water content above the reference: find the source — cooler leak, wash-down, condensation — antes de any correction. Adjust only by the Método your supplier or laboratory sets.
- Keep Depósito covers y breathers closed; an open Depósito near a hot surface loses water quickly.

7 Fluid-change judgement

Judge the fluid on its trend y on whether a correction holds, not on a single result.

Observation	Continue in service	Requires attention	Change fluid
Water content	At the reference	Drifting; corrected by make-up	Cannot be held at the reference by make-up
pH	Near the new-fluid Valor	Falling	Low y not recovered después de correction
Apariencia	Uniform	Slight haze or sediment	Separated phases, sludge, a mineral-aceite layer or strong odour
Filters	Normal intervals	Blocking faster than usual	Repeated rapid blocking con sludge in the element

Nota: the above is a field-screening reference only. It is not a producto guarantee or a universal scrap criterion. Your fluid supplier's or laboratory's limits take precedence.

8 Shutdown y abnormal-condition Manejo

Where a situation involves a leak or spray near a hot surface, site fire-Seguridad rules take precedence over this table.

Situation	Primary action
Water content far outside the reference	Stop, trace evaporation, water ingress or leakage, correct y re-test antes de restart
Cavitation noise or foam	Reduce load; verificar level, suction line, inlet strainer y air leaks; verificar water content
Seal or hose leakage, swelling or cracking	Check material compatibilidad; replace con a material approved para HFC fluid
mineral aceite found in the Depósito	Find the source; remove the aceite layer; assess whether the fluid must be changed
Leak near a hot surface	Isolate y shut down; treat as a fire risk even con a fire-resistant fluid; limpieza up per the SDS

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9 Valores de referencia — indicativos, no una especificación de MOTTA

The figures below are published industry references, given so that a reading can be judged on site when the máquina documentación is not to hand. They are screening prompts, not scrap limits. Where the fabricante del equipo, the component manufacturer or your aceite analysis laboratory states a figure, that figure governs y this table does not apply.

Specification reference

Reference	What it covers	Published by
ISO 6743-4	Classification de hydraulic fluids — HFC is the water-polymer (water-glycol) fire-resistant type	ISO
ISO 12922	Specifications para fire-resistant hydraulic fluids, including HFC	ISO
ISO 7745	Guidelines para the use de fire-resistant fluids in hydraulic sistemas	ISO

When a reading is worth investigating

What is measured	Prompt to investigate	Why this figure
Water content	Any sustained move away from the new-fluid reference de the lote in use	Viscosidad, protección antidesgaste y fire resistance all depend on it; the data sheet gives 44 % as typical
Cinemática viscosity at 40 °C	More than ±10 % from the new-fluid reference	Common condition-monitoring screening Valor; in this fluid it is also the quickest verificar on water balance
pH	Below 8.5, or falling steadily from the new-fluid Valor	A commonly used lower screening Valor para water-glycol fluids; low pH points at depleted corrosion inhibitor
Sustained Depósito temperatura	Above 50 °C	A common upper limit para water-glycol fluids: water evaporates faster y cavitation risk rises
mineral aceite in the Depósito	Any separate aceite layer	mineral aceite does not mix con water-glycol fluid; it loads filters y points at a leak from another sistema
Filter differential indicator	In the bypass or alarm band	Once filtration is bypassed the limpieza target above is no longer being held

Measure water content by the Método your supplier or laboratory specifies, y keep to one Método so results can be trended.

A single result is a reason to look, not a reason to drain. Establish the new-aceite reference para el producto actually in use, trend against it, y find the cause antes de changing the aceite — changing the aceite does not remove a contamination source or a mechanical fault.

10 Almacenamiento y Eliminación

- Keep containers tightly closed so water does not evaporate; store under cover, away from heat y frost.
- No use galvanised containers or containers that have held mineral aceite or another hydraulic fluid.
- Label stock y transfer containers clearly para F3000 to prevent Mezcla con aceite-based fluids.
- Collect used F3000 separately from residuos mineral aceite — it is an aqueous glycol residuos. Nunca discharge it to drains or saceite; hand it to a compliant Eliminación organisation under local regulations.

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Use y documento information

Precaución: Este documento provides general operating orientación. It is not engineering design, a fire-Seguridad procedure, legal advice or a guarantee de results para any specific equipo, process, country or site.

- Conditions de use: confirm material compatibilidad, pump suitability y fire-Seguridad requisitos Antes del uso. Any unconfirmed substitution or Mezcla requires a written technical assessment first.
- Data y limits: water content, viscosity, pH y other figures are governed by el producto TDS y SDS, the fabricante del equipo's documentos y your laboratory. Este documento sets no general guaranteed Valores.
- Seguridad y environment: this producto is fire resistant, not fireproof, y does not replace other fire-protección measures. Almacenamiento, Manejo, filling y Eliminación must follow the SDS, site rules y local law.
- Limitation: to the extent permitted by aplicable law, MOTTA gives no warranty para loss arising from material incompatibilidad, inadequate water management, unconfirmed Mezcla or failure to follow mandatory requisitos. This does not exclude liability that cannot be excluded or limited by law.

Revisión 02: moved to the current MOTTA documento format; corrected seal, metal, COAting y filter-media compatibilidad; separated make-up para evaporation loss from make-up para leakage; added temperatura, suction-side y conVersión orientación; added reference Valores, the table de MOTTA productos covered, y the copyright y trademark notice.

Recommended Records to Retain

Record	Details to retain
equipo	Unidad number, manufacturer, pump type, HFC approval reference, Depósito volume.
Producto	Full producto name, lote number, fill quantity, new-fluid water content, viscosity y pH.
ConVersión	Date, previous fluid, parts replaced, Purgaring record, person responsible.
Monitoring	Date, water content, viscosity, pH, temperatura, appearance.
Make-up	Date, deionised water or F3000, quantity, reason.
Abnormal event	Leaks, cavitation, contamination, filter blocking, action taken.

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