Alfa Laval Purifier Spares — MAB, MAPX, MOPX, S-Series

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Keeping marine disc-stack separators running: the Alfa Laval family map from manual MAB units through MAPX/MOPX self-cleaning machines to the modern S- and P-series, what minor and major service kits actually contain, bowl gasket kits and disc stacks as the recurring spend, gravity disc selection by fuel density for purifier operation, the operating-water components that cause most "mystery" discharge faults, identification by serial and type plate, and the RFQ pattern that gets the right kit to the right port.

The short version

Marine fuel and lube treatment runs on disc-stack separators, and Alfa Laval's families dominate the installed base: MAB (small manual-cleaned units on gensets and small ships), MAPX / MOPX (the classic self-cleaning purifier/clarifier generations), FOPX/LOPX/WHPX (duty-specific HFO/lube/water variants of that era), and the modern S-series and P-series with their control systems. Identification is by the type plate: model, size number and serial — "MAPX 207" means family MAPX, frame 207.

The spend pattern is kits, not parts: minor/intermediate service kits (O-rings, seal rings, consumables for the yearly class of service) and major service kits (adds bearings, friction/coupling elements and the deeper seals) — plus the two big recurring hardware items, bowl gasket kits (e.g. MOPX 207 bowl gasket kit, MAPX 207 separator gasket kit) and disc stacks (MOPX 207 disc stack).

Purifier operation stands on the gravity disc: the ring that sets the oil/water interface for the fuel's density — selected from the machine's chart, changed when bunkers change. Worn or wrongly chosen discs flood the bowl or lose oil overboard; a gravity disc set on board is operating equipment, not a spare.

Most "separator broken" calls are operating-water and seal calls: the bowl opens and closes hydraulically on operating water through small valves, nozzles and rubber — when discharge behaviour goes strange, the operating-water components and bowl seal ring are the suspects long before the heavy rotating parts.

Hours and honesty: service intervals follow the maker's schedule by running hours (intermediate and major scopes; exact hours per model and duty from the manual/PMS). Kits bought to the schedule ride routine freight; kits bought after a bowl refuses to close fly business class.

1. The family map

Family | Character | Where it lives | Spares reality |

MAB | Manual-clean bowl, simple and tough | Gensets, small vessels, lube duty | Bowl seals, gaskets, bearings — small kits, long life |

MAPX | Self-cleaning purifier generation | HFO/MDO and lube treatment across the world fleet | Gasket kits, gravity discs, operating-water parts, disc stacks — e.g. MAPX 207 kit |

MOPX | The MAPX era's larger/later siblings | Main fuel treatment rooms | Same pattern at bigger frame — bowl gasket kits, disc stacks |

FOPX / LOPX / WHPX | Duty-coded variants (fuel / lube / water) | Per system | Family logic identical; kits are model-and-size specific |

S-series (S 801–987 class) / P-series | Modern machines, EPC control, Alcap-style sensing replacing gravity-disc operation on many duties | Current builds and refits | Service kits per schedule; control-side parts (sensors, valves) join the list |

Purifier vs clarifier in one line: a purifier separates water and sediment from oil continuously (interface held by the gravity disc or Alcap control); a clarifier polishes sediment only, no water outlet. The same frame often runs either way with different bowl tops — which is why the type plate and bowl configuration both belong in an RFQ.

2. Kits and big items — what each actually buys

Item | Contents / role | When |

Intermediate (minor) service kit | Bowl and frame O-rings, seal rings, small consumables for the annual-class scope | Per maker hours — the routine open-and-renew |

Major service kit | Minor scope plus spindle/motor bearings, friction elements (clutch pads), pump wear parts, deeper seals | The multi-year scope; pairs with a shop or rider visit on big frames |

Bowl gasket kit | The large bowl seal ring and bowl O-ring set — the sealing that decides opening/closing behaviour | At every major, and whenever discharge behaviour degrades |

Disc stack | The separation surface itself — dozens of titanium-or-steel conical discs | On damage, corrosion, or efficiency loss; inspected at majors |

Gravity disc set | Rings covering the density range — MAPX 207/209 set | Operating equipment: on board always, reselected at bunker changes |

Operating-water components | Solenoid/operating valves, nozzles, seals in the opening/closing water path | First suspects on discharge faults; cheap to hold aboard |

Friction blocks / coupling pads | The soft-start clutch that spins the bowl up | On slip symptoms (slow run-up, smell) and at

majors |

3. Gravity disc selection — the five-minute job that protects the bunker

On gravity-disc purifiers the disc's bore sets where the oil/water interface sits in the bowl. The machine's manual carries the selection chart: enter fuel density at separation temperature (bunker analysis figure corrected per the chart), read the disc diameter. The operating rules that matter: re-select at every bunker change that moves density meaningfully; when between two discs, the maker's chart guidance governs (the conservative choice holds the seal); a machine that loses its water seal (oil overboard alarms, broken discharge) with a correct disc is telling you about worn sealing or wrong operating temperature, not asking for a different ring. Modern Alcap-class machines (S-series on many duties) replaced the manual selection with transducer-controlled water handling — on those, the "gravity disc question" becomes a sensor-and-valve conversation instead. Either way, separation temperature discipline (HFO typically treated hot per the fuel spec) is half of separation efficiency, and the engine-side fuel system guides plus our bilge-water compliance guide frame the system this machine serves.

4. Identification and the RFQ pattern

RFQ element | Where it comes from | Why |

Model and size (e.g. MAPX 207, MOPX 207, S 871 class) | Type plate on the frame | Kits are model-size specific; "MAPX" alone is not orderable |

Serial number and year | Type plate | Generations change kit contents mid-family — the serial pins the parts list |

Duty and bowl configuration | System drawing / bowl top (purifier or clarifier) | Separates kit variants and gravity-disc vs clarifier questions |

Scope wanted | PMS hours — intermediate, major, or named parts | Kit-level ordering beats part-number archaeology for cost and completeness |

Running problems if any | Discharge behaviour, run-up time, vibration, leakage | Lets the quote add the right small parts (operating-water valves, friction pads) that fix the actual fault |

Port and window | Vessel schedule | Kits are stock-or-weeks items depending on frame; the window decides the channel |

Documentation: survey-relevant overhauls want traceable paperwork — works certificates per EN 10204 classes on request — and the channel (OEM-pattern or qualified equivalent) stated per line, the same honesty rule we apply to turbocharger spares. Planning synergy: separator majors belong in the drydock and survey spares plan, because the machine's downtime windows are the vessel's.

How buying works at cballast. We quote intermediate and major kits, bowl gasket kits, disc stacks, gravity disc sets and the operating-water small parts against plate data — OEM-pattern or stated equivalents — consolidated to the port call. Accounts are vetted at onboarding; first order prepaid; established accounts on credit terms with repeat discounts; public bodies and utilities invoiced against purchase order from the first order. RFQs to sales@cballast.com.

Frequently asked questions

What spare parts does an Alfa Laval purifier need?On the schedule: intermediate service kits (seals and O-rings) and major kits (adding bearings and friction elements), plus bowl gasket kits, a disc stack held or inspected, a full gravity disc set on board, and the operating-water small parts. Model and size from the type plate make each of these one orderable line.
How do I select the gravity disc?From the machine's chart using the fuel's density corrected to separation temperature: the chart returns the disc bore. Re-select whenever bunkers change density materially. If the water seal still breaks with the chart-correct disc, look at bowl sealing, operating water and temperature — not at a different ring.
What is the difference between a purifier and a clarifier?A purifier continuously discharges separated water (interface controlled by gravity disc or Alcap-class sensing); a clarifier removes sediment only and has no continuous water outlet. Many frames convert between the two with bowl-top hardware — say which configuration runs when ordering kits.
Why won't my separator bowl open or close properly?Operating water, almost always: blocked nozzles, a tired solenoid/operating valve, scale in the water path, or a worn bowl seal ring. These are cheap on-board parts — check and renew them before suspecting the heavy rotating assembly. Persistent trouble after that points at the bowl gasket kit scope.
How often should a fuel oil separator be serviced?Per the maker's hours in the manual and your PMS — an intermediate scope in the annual class of running hours and a major scope on the multi-year cycle, moved earlier by hard duty (high-ash HFO, hot engine rooms). The kits are defined to those scopes, which is why ordering by scope beats ordering by individual part numbers.
Can I buy non-OEM separator spares?Qualified equivalents exist for wear and sealing parts and are widely used; critical rotating parts and survey-bound scopes favour OEM-pattern with documentation. We state the channel per line and attach EN 10204-class certificates on request, so the choice is explicit.
Who supplies Alfa Laval separator spares?cballast.com quotes kits, gasket sets, disc stacks, gravity discs and operating-water parts for the MAB/MAPX/MOPX era and the modern S/P families, against type-plate data and the vessel's window. Write to sales@cballast.com.

References and related guides

Standards and sources referenced: Alfa Laval separator manuals and service-kit structure (MAB, MAPX/MOPX, FOPX/LOPX/WHPX, S/P-series families); marine fuel treatment practice per engine makers' fuel specifications; EN 10204 for documentation.

Drydock & special survey spares planning

Marine turbocharger spares

15 ppm bilge separator compliance — MEPC.107(49)

Wärtsilä 32 spare parts reference

Mechanical seal identification & selection

ISO 4406 cleanliness codes & particle counters

Questions on a kit scope or a plate you cannot read: write to sales@cballast.com. We answer whether or not you buy from us.

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