

Graco Husky AODD Pumps — Size Logic, Wetted Materials and Where Air Pumps Win

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Why air-operated double-diaphragm pumps tolerate what centrifugals cannot (dry running, dead-heading, solids, shear-sensitive fluids), the Husky model-number-to-port-size logic from 515 to 3300, choosing housing and elastomer materials by chemistry, conductive builds for flammables, and the PTFE-everything ChemSafe line.

What the air section buys you

An AODD pump is two diaphragm chambers shuttled by compressed air: no rotating seal, no close clearances, no electrical gear at the pump. The operating consequences sell it — it dead-heads safely (air pressure balances, flow stops, nothing overheats), runs dry without damage, self-primers with suction lift, passes solids the ball checks can swallow, and turns down by throttling the air. The price is pulsating flow (dampeners exist — and pipe strain from pulsation is one reason flexible connectors sit at AODD manifolds) and air consumption that makes it a transfer/dosing tool, not a 24/7 circulation pump.

Husky size logic

Model | Nominal port | Stocked build examples |

Husky 515 | 1/2 3 | PP / Santoprene, PP / PTFE, BSPT ports |

Husky 1050 | 1 3 | polypropylene, conductive PP, PVDF |

Husky 1590 | 1-1/2 3 | aluminium / Santoprene |

Husky 2200 / 3300 | 2 3 / 3 3 | 2200 PP, FKM balls, PTFE-overmold diaphragm, 3300 PP |

The model number tracks the port size — 515 "H 1/2 3, 1050 "H 1 3, 1590 "H 1-1/2 3, 2200 "H 2 3, 3300 "H 3 3 — and port size tracks flow. Within a model, the build string lists housing / seats / balls / diaphragms, and that is where chemistry is decided: polypropylene for broad aqueous chemistry, PVDF for aggressive oxidising media, aluminium for solvents/petroleum duty, conductive PP where flammable liquids demand a grounded, static-dissipative pump, Santoprene for abrasion, PTFE for chemical immunity. The ChemSafe 1040 and ChemSafe 205 take it to the end of the axis — PTFE seats, balls and diaphragms for the media that eat everything else.

Ordering and running notes

Quote the full build, not "a 1 3 Husky": the stocked 1050s alone span three housings, and seats/balls/diaphragms multiply from there. The plate's configuration number pins it.

Elastomer checks and diaphragms are the service kit — wet-end and air-end kits are separate line items; abrasive duty consumes ball checks first.

Air quality counts: a filter-regulator at the pump (see the compressed-air guide) prevents most air-valve stalls.

Suction lift and solids figures are per model and build — state both in the enquiry when they matter, plus the fluid, concentration and temperature.

Over 3,500 Graco line items are stocked — around 620 Husky builds plus kits — under the brand page, quoted within 24 hours against configuration number or duty description.

Frequently asked questions

Can an AODD pump run against a closed valve? Yes — when discharge pressure equals air pressure the pump simply stalls, holding pressure without damage, and restarts when the valve opens. It is one of the few pump types where dead-heading is an operating mode, not a failure. What does the number in Husky 1050 mean? The size class — in practice the nominal port: 515 is the 1/2 3 pump, 1050 the 1 3, 1590 the 1-1/2 3, 2200 and 3300 the 2 3 and 3 3. Flow capability follows the port. When is a conductive polypropylene pump required? When pumping flammable liquids or operating in ATEX-zoned areas where static must bleed to ground — standard PP is an insulator and can accumulate charge. Conductive PP builds plus proper grounding straps answer it. Why does my diaphragm pump cycle but not deliver? Classic causes in order: suction air leak (it will still cycle happily), a worn or stuck ball check, iced or dirty air valve, or a torn diaphragm pumping into the air exhaust — check the exhaust for product first. Santoprene or PTFE diaphragms? Santoprene for abrasive slurries and general chemical duty with long flex life; PTFE (overmolded builds in stock) where chemistry rules it — acids, solvents, anything that attacks elastomers — accepting a somewhat different stroke feel and cost.

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