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-primes 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 flo
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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