Parker D1VW Directional Valves — Model Code Breakdown

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Reading a Parker D1VW order code — size NG06/D03, the three-digit spool-function code, the centring/offset letter, coil voltage and connector codes, design series — with worked decodes of D1VW001CNJW, D1VW004CNJW, D1VW008CNJW and D1VW020HNJW, the CETOP 3/NG06 mounting interface that makes cross-brand replacement possible, the D3W/NG10 big brother, spool-function logic (closed centre, float, tandem, two-position), and the cross-reference landscape toward Bosch Rexroth 4WE6 and Eaton Vickers DG4V.

The short version

D1VW is Parker's workhorse solenoid directional valve in size NG06 (the CETOP 3 / NFPA D03 interface): the 4-ported subplate valve that starts, stops and reverses actuators on power packs, winches, hatch covers, cranes and machine tools everywhere. D3W is the same logic in NG10 (CETOP 5 / D05) for bigger flows.

The order code is positional: D1VW + three-digit spool-function code + spool-arrangement letter + seal/option letters + coil code + design letter. D1VW020BNJW reads: NG06 valve, spool function 020 (two-position, two-solenoid-position pattern per the spool chart), arrangement B (spring offset, single solenoid), N (standard nitrile seals), J (coil class/connection group, the common DC coil family), W (design series). The spool chart in Parker's bulletin is the dictionary; the letters after it are the grammar.

The spool code is function, not size. 001-class: all ports blocked in centre (closed centre) — holds a cylinder, three-position. 002-class: P blocked, A/B/T connected variants (float family). 004-class: P to T unloaded in centre (tandem/open-centre family) — pump unloads through the valve. 008/009: open-centre variants. 020: the standard two-position pattern. Choosing the centre condition is choosing what the system does at rest — the actual schematic symbol per code is the binding reference.

Arrangement letter = how many solenoids and where it rests: C = spring-centred, two solenoids, three positions (the default for 001/004-class spools); B and H = two-position spring-offset/spring-return single-solenoid forms; D = detented two-solenoid two-position. Our stocked examples show the system: D1VW004CNJW and D1VW008CNJW are spring-centred (C), the D1VW020HNJW is the two-position H form on a 020 spool.

The mounting pattern is standardised; the hydraulics are not. Any NG06 valve bolts onto any ISO 4401-03 subplate — which is why Rexroth 4WE6, Eaton Vickers DG4V-3 and Danfoss/other NG06 valves are physical drop-ins — but spool centre conditions, transition (crossover) behaviour, pressure/flow limits and coils must be matched function by function, not by the bolt pattern.

1. The code, segment by segment

Segment | Example | Meaning |

Series | D1VW | NG06 (CETOP 3, D03) solenoid directional valve; D3W = NG10 (CETOP 5, D05) |

Spool function | 001 / 002 / 004 / 008 / 020 ... | Three digits selecting the flow pattern and centre condition from the spool chart |

Arrangement | C / B / H / D | C spring-centred 3-position; B, H two-position single-solenoid forms; D detented |

Seals | N | Nitrile standard; V = FKM for HFD fluids and heat |

Coil / connection | J + voltage suffix | Coil family and connector (DIN EN 175301-803 form A plugs, Deutsch, flying leads); voltage stated on the coil (12/24 V DC, 110/230 V AC via rectified coils) |

Design series | W (+ revision digits) | Generation letter; interchangeable within the series per Parker's bulletins |

Two practical notes. First, coils are field-replaceable spares with their own part numbers — a dead coil is a ten-minute fix, not a valve change, and mixed-voltage sites stock coils, not valves. Second, the full code on the nameplate is the only safe reorder key: "a 24 V D1VW" is five hundred different valves.

2. Spool functions: what the centre condition does to the system

Spool class | Centre condition | System behaviour at rest | Classic duty |

001 | All ports blocked (closed centre) | Actuator hydraulically locked; pump must have relief/unloader | Holding loads mid-stroke; multi-valve circuits off one pump |

002 family | P blocked; A, B to T (float) | Actuator floats free; pump stays loaded path-wise as per variant | Winch free-wheel, implements following ground |

004 family | P to T; A, B blocked (tandem) | Pump unloads through valve; actuator locked | Single-valve circuits with fixed pumps — the energy saver |

008/009 family | All ports connected variants (open centre) | Pump unloaded, actuator relaxed | Simple circuits tolerant of drift |

020 | Two-position (no centre) | Flow pattern switches A/B; rests in spring position | On/off cylinders, diverting, clamp circuits |

Transition (crossover) condition — what the ports see mid-shift — is printed with each spool symbol and matters for load-holding and shock; when replacing across brands it is the detail that bites after the pressure test passed. Sizing reality for NG06: nominal flows in the tens of L/min with 350 bar class ratings; above that, move to NG10 (D3W001CNJW,

D3W004CNJW) or pilot-operated two-stage valves.

3. The interface standard: why cross-brand works at all

ISO 4401 (CETOP RP121H) fixes the port pattern: 4401-03 (NG06/D03) and 4401-05 (NG10/D05) put P, T, A, B and the bolt holes in the same places for every maker. Consequences: subplates, manifolds and sandwich modules (check, throttle, pressure-reducing sandwiches) interchange; a Rexroth 4WE6, Vickers DG4V-3, Parker D1VW or equivalent NG06 valve lands on the same manifold face. The cross-reference method that works: decode the installed valve's spool symbol, centre and transition condition, arrangement, flow/pressure duty, coil voltage and connector — then select the equivalent by symbol, never by "the 4WE6 that looks similar". We run these crosses daily; the same logic as our drive and contactor cross-references: function first, then envelope, then options.

4. Selection and system hygiene

Selecting a new NG06 valve: flow at the real pressure drop (the catalogue curves, not the nominal number), spool function from the circuit's rest requirement, arrangement from the control philosophy (three-position needs two solenoids; fail-to-position needs the right spring form), coil voltage from the control system with the connector named, seals for the fluid (water-glycol and HFD fluids take FKM/special builds), and manifold or subplate with the gauge ports the commissioning will wish it had. System hygiene decides valve life: ISO 4406 cleanliness held by proper filtration, and hoses and fittings per the hydraulic hose reference and fitting finder. Sticky or burnt valves are usually symptoms — of contamination, back-pressure on T, or a coil fed the wrong voltage — and replacing the valve without the diagnosis buys the same failure twice.

5. Spares logic for fleets and plants

The stocking pattern that works for mixed fleets: per size (NG06, NG10), hold the two or three spool functions the installed base actually uses in spring-centred and two-position forms, in 24 V DC with the site's connector — plus loose coils in every voltage present, seal kits, and subplate bolt kits (they are metric 10.9 with a torque spec, not shelf bolts). Reorder from nameplate codes photographed at installation; where plates are gone, the spool symbol cast/stamped on the body plus the segments above reconstruct the code. We decode worn plates from photographs routinely — send what remains.

How buying works at cballast. We quote Parker D1VW/D3W and the equivalent Rexroth, Eaton Vickers and peer NG06/NG10 valves by full code, with coils, seal kits, subplates and sandwiches itemised, and function-checked crosses where the installed maker is no longer preferred. 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 does D1VW020BNJW mean?Parker NG06 (CETOP 3/D03) solenoid directional valve: spool function 020 (the standard two-position pattern), arrangement B (single solenoid, spring offset), N nitrile seals, J coil group with its connector, W design series. The coil's voltage is specified by the coil part itself — on an order, state it explicitly.
What is the difference between D1VW and D3W?Size: D1VW is NG06 (ISO 4401-03/D03, flows in the tens of L/min); D3W is NG10 (ISO 4401-05/D05) for roughly double the flow envelope. The code grammar — spool function digits, arrangement letter, seals, coil, series — is the same.
Which spool do I need — closed centre, float or tandem?By what the system must do at rest: closed centre (001 class) locks the actuator and suits multi-valve circuits with pressure-compensated or unloaded pumps; float (002 class) lets the actuator move freely; tandem (004 class) unloads a fixed pump through the valve while holding the actuator — the default for simple single-valve power packs. The transition condition matters too; match it on replacements.
Is a Rexroth 4WE6 a direct replacement for a Parker D1VW?Physically yes — both are ISO 4401-03 valves and bolt to the same subplate. Functionally only if spool symbol, centre and transition condition, arrangement, flow/pressure duty, coil voltage and connector are matched. Cross by the schematic symbol and nameplate code; we confirm crosses line by line with the data.
Can I just replace the coil instead of the valve?Usually, yes: coils are field-replaceable and have their own part numbers — the first check on a dead valve is supply voltage and coil resistance. A burnt coil with correct supply, though, often points at a jammed spool (contamination) overheating it: diagnose before fitting the third coil.
Who supplies Parker D1VW valves and coils by code?cballast.com quotes D1VW/D3W valves, coils, seal kits and subplates by full nameplate code, and function-verified equivalents from Rexroth and Eaton Vickers where preferred. Photograph the nameplate and write to sales@cballast.com.

References and related guides

Sources referenced: Parker directional control valve bulletins for D1VW/D3W (spool charts, code structure, performance curves); ISO 4401 / CETOP RP121H mounting interfaces; ISO 4406 fluid cleanliness; peer documentation for Bosch Rexroth 4WE6 and Eaton Vickers DG4V families.

Hydraulic hose reference — Parker, Gates, Alfagomma

Hydraulic fitting finder

Hydraulic quick couplings selection

Hydraulic seal size finder

CJC fine filter inserts and oil filtration

Questions on a code, a spool symbol or a cross: write to sales@cballast.com. We answer whether or not you buy from us.

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