Chain Blocks and Lever Hoists — Capacity, Headroom and the Rules Nobody Should Relearn

cBallast Technical Sourcing · Manual hoists · issued 2026-10-18 · cballast.com/documents/chain-blocks-and-lever-hoists

Choosing between a hand-chain block and a lever hoist, the specification triangle (capacity, lift height, headroom), why the rated capacity needs no 'temporary' exceptions, load-chain discipline and inspection points, and the stocked 3/4- to 5-tonne range.

Two tools, two postures

| Chain block (hand-chain hoist) | Lever hoist (ratchet) |

Operation | Vertical lifting under a fixed point — the hand chain multiplies effort through gearing | One-handed ratcheting in any orientation — lifting, pulling, tensioning, load positioning |

Stocked | 1 t, 3 t, 5 t Milwaukee blocks | 3/4 t, 1.5 t × 1.5 m, 3 t |

Chooses itself when | Repeated vertical lifts at a workstation or beam trolley | Rigging work: skidding, cross-hauling, flange alignment pulls |

The specification triangle

Capacity: the load, not the load "usually". Manual hoists carry their design factor internally; the rated tonnage is the ceiling, and the overload clutch (where fitted) is a protection, never a feature to lean on.

Lift height: the load chain's length — the stocked lever hoist states its 1.5 m fall; ordering 3 m of lift on a 1.5 m chain is discovered at the worst moment.

Headroom: the hook-to-hook minimum when fully raised — tight spaces under beams drive the choice to low-headroom patterns before capacity even enters.

Discipline that keeps hands attached

Never extend a lever with a pipe: the handle length IS the overload protection on most ratchet hoists; a cheater bar lifts the load and bends the pawls.

The load chain is a precision part: calibrated pitch riding a pocketed wheel. Lubricated lightly yes; welded, shortened with bolts, or run twisted, never — a twisted double-fall chain capsizes the bottom block's rating.

Point the hooks, check the throats: safety latches intact, no throat opening beyond the maker's gauge figure — a sprung hook retires like a sprung shackle.

Suspension counts: the beam clamp, trolley or sling above the hoist carries the same load plus dynamics — rate the whole chain of custody, not just the hoist.

Around 70 manual-hoist line items are stocked across the capacity run; quote capacity, lift, headroom limit and duty (occasional vs daily) — test certificates per the applicable standard accompany the quotation within 24 hours.

Frequently asked questions
Chain block or lever hoist for pulling a pump skid into line?Lever hoist — it ratchets in any orientation and meters force one-handed. Chain blocks want to hang vertically under a fixed point; side-loading their hand-chain gearing is misuse.Can I extend the lever for a heavier pull?No — the handle length is calibrated so a strong operator cannot overload the mechanism. A pipe extension defeats that protection and bends pawls and gears invisibly; if the load needs more force, the hoist is undersized.How do I inspect a load chain?Clean, then gauge: measure pitch elongation over several links against the maker's limit (typically 2–3 %), check for nicks, gouges, twist and corrosion pits. Elongated or damaged chain is replaced as a calibrated part — never repaired, never mixed.What does headroom mean on a hoist?The distance from the suspension hook's saddle to the load hook's saddle at full raise — the space the hoist itself consumes. Under low beams it, not capacity, usually decides the model.Are manual hoists allowed for lifting over people?Lifting over people is prohibited territory for any hoist, manual or powered — rig so the load path never crosses personnel, use tag lines for control, and barrier the drop zone. The hoist's quality does not change that rule.

Part numbers and designations are those of the original manufacturers and are given for identification. cBallast is an independent supplier. © cBallast 2026 · cballast.com