

Pipe Clamps and Supports for Refrigeration Lines — Insulated Clamps, Heavy-Duty Two-Piece and Model 308–327 Reference

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Supporting refrigerant lines without crushing insulation or creating cold bridges: insulated pipe clamps with load-bearing inserts, heavy-duty two-piece clamps for plant rooms, light clamps by model number for 5/8 to 2 5/8 inch lines, spacing practice and rail-system mounting.

Three clamp classes

Insulated clamps — a clamp shell around a load-bearing closed-cell insert the same wall as the line insulation — are the correct support for every cold line: the insert carries the pipe weight, the vapour barrier stays continuous, and no steel touches cold copper. The catalogue lists them per pipe OD and insulation wall (13/19 mm) including Tyco-pattern versions; they pair with the walls chosen in the insulation guide.

Light series clamps (models 308–327) — zinc-plated two-screw clamps for dry suction/liquid lines inside units and plant rooms where insulation is interrupted anyway: 5/8" model 308, 3/4" model 310, 1 1/8" model 316, 1 3/8" model 320, 2 1/8" model 325, 2 5/8" model 327.

Heavy-duty two-piece clamps — bolted halves with rubber lining for discharge lines, risers and anywhere pulsation lives: 19–23 mm (3/4"–7/8"), 24–28 mm, 33–37 mm, 40–45 mm (1 5/8").

Spacing practice

Copper refrigerant lines sag and work-harden if under-supported. Field spacing that has stood the test (reduce near compressors and valves):

Line OD | Max support spacing |

1/2" | 1.2 m |

5/8"–7/8" | 1.5 m |

1 1/8"–1 3/8" | 2.0 m |

1 5/8"–2 1/8" | 2.5 m |

Add a support within 300 mm each side of valves, driers and vibration eliminators; heavy components must never hang on the tube. At the compressor, the first two supports take the pulsation — use the heavy-duty class and check them at every service. Vertical risers: support at the base and at every floor, with the clamp gripping (via insert) so the riser's weight is not carried by a branch tee.

Mounting systems

Clamps mount to strut/rail systems with rail (channel) nuts — M8, M10 — or hang from threaded rod: steel M10 × 1000, acid-resistant A4 M8 for washdown and marine spaces, grooved snap-length rod (M8 grooved), with pendant brackets (200 mm Sendzimir) and pendant eye bolts (M8 × 120) for suspended runs. Anchoring into concrete uses drop-in or wedge anchors sized per the load — see the anchor guide.

The two failure patterns to design out

Cold bridge: any steel path from clamp to cold pipe condenses, drips, rusts and eventually wets the insulation bore along metres of line — hence inserts on every cold line, no exceptions, including the "temporary" support someone adds during service. Fretting: a loose clamp lets the tube saw itself against steel at pulsation frequency; discharge lines fail this way within a year. Rubber-lined heavy-duty clamps, torqued, with the line straight (no preload) prevent it. On survey, run a hand along the line at every support — warmth, movement or witness dust tells you which pattern is incubating.

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