

Copper Solder Fittings for ACR Pipework — Couplings, Street Patterns, Reducers and Oil Traps

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Navigating wrought copper solder fittings in ACR sizes: C and FTG end types, the 9600-series couplings and 9607/9606 bends, fitting reducers, adapters female-solder to NPT, and why oil traps (9698 series) belong at the base of suction risers — with sizes stocked from 1/4 to 3 1/8 inch.

End types in one minute

Wrought fittings use two end geometries: C — the solder cup a tube enters; FTG — a fitting end sized like tube OD so it enters another fitting's cup. A "street" fitting (C × FTG) chains directly into the previous fitting, saving a stub and a joint — the compact way around tight corners. All catalogue listings name their pattern explicitly.

The stocked families

Couplings (9600 series), 1/4" to 3 1/8": 1/4", 5/8", 7/8", 1 1/8", 2 1/8", 3 1/8".

Bends 90°/45° in long-radius patterns (9606/9607 classes) across the same sizes — e.g. 90° long 1/4" and the full elbow family in the solder-fittings listings.

Fitting reducers (FTG × C): step sizes without a bushing stack — 1 3/8" × 5/8" among the full matrix.

Adapters female-solder × NPT for valve and vessel threads: 5/8" × 1/2" MNPT, 7/8" × 3/4" FNPT, 1 1/8" × 1" MNPT, solder-to-solder size jumps (1 3/8" × 1 1/4").

Brass transitions for equipment connections: 1 1/4" M × 1" F.

Service access built into the line: couplings with brazed-in Schrader ports (1/2", 5/8", 7/8") — see the access-port practice.

Oil traps: the 9698 series

Suction gas drags oil back to the compressor only when velocity is adequate; a vertical riser defeats gravity unless the layout helps. The P-trap at the base of every suction riser collects oil until slugs of it are carried up with the gas; a second trap mid-riser is practice beyond ~4–6 m of rise. The 9698 trap assemblies are stocked per line size: 5/8", 7/8", 1 1/8", 1 3/8", 1 5/8", 2 1/8". Keep the trap tight to the riser base (small volume = frequent carry-over), and pitch horizontal suction runs toward it. Double-risers for wide capacity-modulation plants are designed per the OEM manual — the trap family provides the bends either way.

Brazing the family

All of this joins by capillary brazing: clean to bright, correct clearance (the fittings provide it), CuP alloy copper-to-copper, silver-flux alloy onto the brass/NPT adapters, nitrogen purge throughout — the alloy guide and purge guide carry the method. Support within 300 mm of concentrated masses (traps full of oil are heavier than they look — the clamp guide's spacing applies), and pressure-test the assembly per EN 378 before insulation closes it in. Hard-drawn tube itself is stocked per size and rating — e.g. 7/8" × 1.14 mm, 62 bar, coils for the small bores (3/8" × 15 m).

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