

Rotalock Valves, Adapters and Gaskets — Thread-to-Line Size Reference for Compressors and Vessels

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The rotalock sizes used on compressors, receivers and accumulators (3/4-16 to 2 1/4-12 UNF), which solder line size each stocked valve and adapter pairs with, straight versus angled patterns, and the PTFE gasket sizes to renew at every disturbance.

What a rotalock connection is

A rotalock is the removable service connection used on hermetic/semi-hermetic compressors, receivers and accumulators: a straight UNF-threaded union nut pulls a valve or adapter sealing face against the component's spigot with a PTFE gasket between. It lets a compressor or vessel be swapped without unbrazing, and lets a service valve (with gauge port) or a plain solder adapter be chosen at installation time. Sizes are named by the nut thread — nominally 3/4"-16, 1"-14, 1 1/4"-12, 1 3/4"-12 and 2 1/4"-12 UNF — and each thread size pairs with a range of solder line sizes.

Stocked valves (with gauge port)

Rotalock | Line (ODS) | Listing |

3/4" | 3/8" | ROT100S05C |

1" | 5/8" | 3405 |

1 1/4" | 1/2" | 80000018 |

1 1/4" | 3/4" | 8168029 |

1 3/4" | 7/8" | 80000016 |

1 3/4" | 1 1/8" | 80000002 |

1 3/4" | 1 5/8" | 80000007 |

Stocked adapters (plain solder, no valve)

Rotalock | Line | Pattern | Listing |

1" | 1/2" | Straight | U1600S08 |

1" | 5/8" | Straight / angled | 564104 / U1600S11 |

1" | 3/8" | Angled | 564202 |

1 1/4" | 5/8"—1 1/8" | Straight | 503471050, 506072050, 564113, 564110, 506173050 |

1 1/4" | 7/8" | Angled | 536000050 |

1 3/4" | 1 1/8"—1 3/8" | Straight | 2861, 508073050 |

2 1/4" | 1 3/8"—1 5/8" | Straight | 509040050, 509053050 |

Gaskets — renew every time

The PTFE sealing washer is a one-use part: once crushed it will not re-seat reliably, and a weeping rotalock on the suction side pulls air and moisture into the plant. Stocked sizes: 3/4", 1" and 1 3/4". Fit dry (no sealant), align the spigot squarely, and torque the nut with two wrenches — one holding the valve body so the solder joint never takes the twist.

Practice notes

Choose a valve where you will ever want to isolate or gauge at that point (compressor suction/discharge, receiver outlet); choose an adapter where the rotalock is only a mechanical joint.

Angled patterns solve tight compressor compartments without bending the line — common on 1" × 5/8" suction connections of small condensing units.

Back-seat service valves fully open for normal running (gauge port closed); mid-seat only for gauge readings.

When replacing a compressor, match its rotalock sizes from the table rather than re-using fatigued nuts; nuts are part of the valve/adapter supply.

For vessels and relief arrangements that hang off these connections, see the vessel sizing guide.

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