caliente Xtreme
bakeable UHV valve

- All Metal Angle Valves
- Stainless Steel Body
- High Conductance
- Clean Operation
- UHV Rated

- Temp. Operating Range -250°C to 400°C
- Hundreds of Cycles (w/ Moderate Bakeouts)
- After 50 Cycles Needs Seal Replacement (Max. Temperature Bakeouts)
- Hundreds of Cycles For The Same Seal (Are Possible With Moderate Bakeouts)

The Caliente Xtreme all metal sealed angle valves are intended for use in UHV or cryogenic applications where temperature extremes preclude the use of rubber sealed valves. Approved for use in beamline facilities, these valves have a temperature operating range from -250°C to 400°C. The pulled-port method is used for the fabrication of the stainless steel bodies resulting in higher conductance and better cleanliness.

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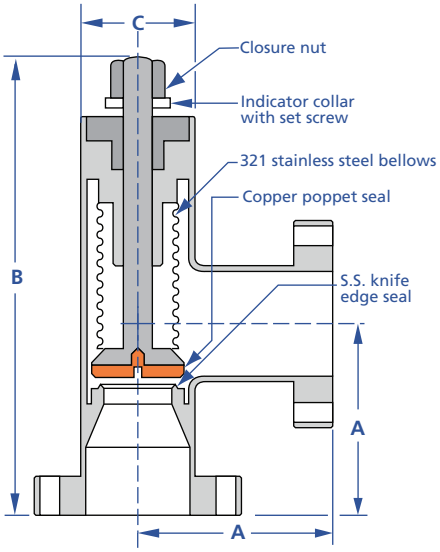
Xcaliente Xtreme bakeable UHV valves

The life of the copper poppet seal is dependent upon the temperature at which the valve is used. Maximum temperature bakeouts may require copper poppet seal replacement after 50 cycles, while hundreds of cycles are possible with moderate bakeouts. As many as 10,000 cycles have been obtained from the same seal during testing.



SPECIFICATIONS

Port ODs: 3/4 and 1 1/2 inch / 19 to 38 mm (CF16, CF35, CF63)
Finish: Electropolished
Assembly: Clean room
Materials **Pulled port body:** 304 stainless steel **Bellows:** Formed 321 stainless steel **Poppet seal:** OFHC Copper
Actuation: Manual using self-lubricating bronze nuts with ACME threads
Operating temperature: -250°C to 400°C
Maximum bakeout temperature Open: 400°C Closed: 300°C
Vacuum rated: ≥1x 10^{-10} mbar - UHV
Helium leak rate: ≤10^{-10} mbar l/sec.
Options: Heater jackets and controllers

ORDERING PN	SIZE	DESCRIPTION	CONDUCTANCE (l/sec)		A	B	C	TORQUE SPECIFICATIONS (lb/in)		
	ROTATABLE		MOLECULAR	VISCOUS		(OPEN)		SEATING	NORMAL	MAX.
P104364	1.33 CF	Caliente Xtreme Compact Manual Angle Valve	3	56	1.50 (38)	5.40 (137)	1.50 (38)	130	-	216
P107283	1.33 CF	Caliente Xtreme High-Profile Manual Angle Valve	6	-	1.53 (39)	5.23 (133)	1.50 (38)	260	-	520
P104365	2.75 CF	Caliente Xtreme Compact Manual Angle Valve	10	356	2.45 (62)	6.87 (175)	1.50 (38)	260	-	780
P107281	2.75 CF	Caliente Xtreme High-Profile Manual Angle Valve	61	-	2.70 (68)	7.4 (188)	2.13 (54)	60	50	120
P107282	4.50 CF	Caliente Xtreme High-Profile Manual Angle Valve	126	-	4.26 (108)	12.0 (304)	3.0 (76)	120	100	200
					Dimensions: Inches (millimeters)					

REPLACEMENT PARTS

ORDERING PN	DESCRIPTION	FLANGE	NOMINAL PORT OD
P107288	Copper Poppet Seal for Compact Caliente Xtreme Valve	1.33 CF	0.75 (19)
P107286	Copper Poppet Seal for High-Profile Caliente Xtreme Valve	1.33 CF	0.75 (19)
P107285	Copper Poppet Seal for Compact Caliente Xtreme Valve	2.75 CF	1.50 (38)
P107287	Copper Poppet Seal for High-Profile Caliente Xtreme Valve	2.75 CF	1.50 (38)
P107284	Copper Poppet Seal for High-Profile Caliente Xtreme Valve	4.50 CF	2.5 (63.5)

A dial indicator at the top of the valve indicates the proper torque for closure and also when the seal should be replaced. The copper poppet seal is easily replaced by opening the valve with a slotted screw driver. The seal is removed through the side port and a new one replaced in a like manner. After seal replacement the valve must be torqued to a higher value than during normal operation to make it seat. Do not exceed the maximum torque specifications. (See torque specifications table.) After closing the valve to its normal torque value loosen the set screw below the closure nut, rotate the indicator to the furthest counter-clockwise line on top of the valve and retighten the set screw.
The valve may be closed to this mark indefinitely. Periodic checks with a torque wrench will indicate seat Wear and the proper mark to use for alignment. When the indicator has reached the last mark we recommend seal replacement.

POTENTIAL APPLICATIONS

Ultra High Vacuum

- Electron Tube Manufacturing
- High Energy Physics
- Surface Analysis (Auger Spectroscopy)
- Laser Induced Plasma Deposition
- Molecular Beam Epitaxy (MBE)
- Outer Space Simulation
- Thermal Vacuum Chambers

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