

Hydrogen Chloride

HCl

Grade	Semicon 4N5	ULSI 5N	ULSI PLUS 5N				
Purity, %	99.995	99.999	99.999	Metals, ppbw			
Oxygen	≤4.0 ppmv	≤1.0 ppmv	≤1.0 ppmv	Cd	≤5	Pb	≤50
Nitrogen	≤10.0 ppmv	≤2.0 ppmv	≤2.0 ppmv	Cr	≤400	Zn	≤50
Carbon Dioxide	≤10.0 ppmv	≤4.0 ppmv	≤4.0 ppmv	Cu	≤100		
Carbon Monoxide		≤1.0 ppmv	≤1.0 ppmv	Fe	≤500		
Methane	≤2.0 ppmv	≤1.0 ppmv	≤1.0 ppmv				
Water	≤10.0 ppmv	≤1.0 ppmv	≤1.0 ppmv	Total Metals:		≤1,000	
Iron (Fe)		≤0.5 ppmw					

- A lot analysis is provided for each order – Individual analysis is also available upon request.
- Pneumatic valves, JIS connections available upon request.

CYLINDER	Internal Volume	Liters	439	49	43.8	
	Cylinder Sizes >>		QI	QK	QB/QF	
	Content	kg	272.7	29.55	25.0	
		lbs	600	65	55	
	Change Point*	lbs	67.8	7.6	6.8	

*Recommended Cylinder Change Point at NTP, based on Phase Break, or the amount of product left in the cylinder when the liquid phase has completely evaporated and only gaseous product is left (estimate based on ideal gas behavior).

SHIP	DOT Shipping Name	Hydrogen Chloride, Anhydrous	UN Number	UN 1050	Shipped as
	DOT Classification	2.3 Poison Gas Hazard Zone C (Gas Poisonous by Inhalation)	ECCN #	EAR99	Liquefied Gas
	DOT Label	POISON GAS INHALATION HAZARD CORROSIVE GAS	Harmonized #	2806.10.0000	

TECHNICAL DATA	Cylinder Pressure @NTP	613 psig 44.1 atm	Vapor Pressure					
	Specific Volume @NTP	0.662 m ³ /kg 10.6 ft ³ /lb	Temp, °C	0.0	15.5	21.0	32.2	43.3
	CAS No	7647-01-0	Press, psig	360	540	613	799	1020
	CGA/DISS/JIS	330/634/W26-14R	Temp, °F	32	60	70	90	110
	Molecular Weight	36.46 g/mol	RFO Data					
	TLV	5 ppm	Size, mm	0.254	0.3556	0.508	0.762	1.016
			Size, inches	0.010	0.014	0.020	0.030	0.040
		Flow, sccm	22157	42300	87285	194713	335713	
		Flow, scf/h	47	90	185	413	711	

NTP = 21°C or 70°F and 101.3 kPa or 1 atm

Cylinder	Treatment	Nominal Diameter (OD)xHeight*		Material of Construction	
		cm	Inches	Cylinder	Valve
QI	ULTRA-LINE®	61x211	24x83	CS	Hst/SS
QK	ULTRA-LINE®	23.5x140/144/153	9.25x55/56.5/60	CS	Hst
QB	ULTRA-LINE II®	23x130/134/143	9x51/52.5/56	CS	Hst
QF	ULTRA-LINE®	23x130/134/143	9x51/52.5/56	CS	Hst

*Height is reported as the distance from the bottom of the cylinder to the cylinder neck/ center of the valve outlet/ top of the handwheel
CS: Carbon Steel SS: Stainless Steel ASB: Aluminum Silicon Bronze Hst: Hastalloy

⚠ WARNING: This product can expose you to chemicals including Carbon Monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.