



ULTRA-CLEAN IONIZATION SOLUTIONS



Micro Series	4210 (u)(n)	4214 (un)	4630 Quadbar	4635 Quadbar	fusiON In-line
Feature	<ul style="list-style-type: none"> Model 4210: CDA or N₂ high output tungsten emitters for general use in-line applications Model 4210u: CDA with Single-crystal Silicon emitters for ISO 14644-1 Class 3 Model 4210un: N₂ with Single-crystal Silicon emitters for ultra-clean applications 	Self-balanced, no calibration required; unlike other N ₂ ionizers which depend on the trace gases in the nitrogen stream to produce ionization, it is designed to ionize N ₂ (99.999%) gas flow in ultra-clean semiconductor and other high purity processes	Unique quadrupole ensure effective ionization as close as 3" from the product	<ul style="list-style-type: none"> Quadrupole configuration with unique cross-channel air cartridge around emitter points for independent air delivery in tight space Standard Cartridge: Fits around emitter points to provide CDA or N₂ Jet Cartridge: High-velocity jet for air centered between all 4 emitter points to greatly reduced discharge times 	<ul style="list-style-type: none"> Fast decay times through output tubes; tubes may be split into multiple tubes to service multiple locations Use nitrogen kit for pure N₂ or 1-2% CDA mixture application for optimal performance
Discharge	4210: 10 sec 4210u: 5 sec 4210un: 10 sec Measured through 6" long, 1/4" ID Teflon tube held 6" from the CPM, airflow rate of 2 scfm	<10 sec @ 6" (15.2 cm) w/o manifold <100 sec @ 19.6" (49.8 cm) w/manifold	<30 sec @ 12" (30.5 cm) Directly under emitter points (80-100 fpm airflow)	<15 sec @ 12" (30.5 cm) standard cartridge <6 sec @ 12" (30.5 cm) jet cartridge Directly under emitter points (0.53 cfm purging gas airflow)	<5 sec @ 6" (15 cm) (10 psi gas pressure)
Balance	<±25V @ 6" (15.2 cm) (specified flow & pressure)	±25V @ 6" (15.2 cm)	Intrinsically balanced ±50V @ 6" & 12" Directly under emitter points with airflow	Intrinsically balanced ±50V @ 6" & 12" Directly under emitter points with airflow	<±50V
Ion Emission	IsoStat Technology	High Frequency AC Technology	Steady-state DC Technology	Steady-state DC Technology	Steady-state DC Technology
Cleanroom Class	4210: ISO 14644-1 Class 5 4210u: ISO 14644-1 Class 3 4210un: ISO 14644-1 Class 3	ISO 14644-1 Class 1 (0.1 µm particles) Extended ISO Class 1 (0.01 µm particles)	ISO 14644-1 Class 1 (24 VDC) ISO 14644-1 Class 2 (24 VAC)	ISO 14644-1 Class 1 (24 VDC) ISO 14644-1 Class 2 (24 VAC)	ISO 14644-1 Class 4
Airflow	CDA or N ₂ (min 1.5 cfm @ 10-50 psi)	N ₂ 3.53 cfm @ 30 psi (100 lpm @ 207 kPa), max	Laminar Flow (80-100 fpm)	CDA or N ₂ 0-25 lpm @ 0-7 psi	CDA or N ₂ (0.8 scfm @ 5 psi to 3.6 scfm @ 50 psi)
Dimension	2.38"D x 4.75"L x 3.13"W (6.06 x 12.0 x 7.95 cm)	6.01"L x 2.86"W x 1.26"H (15.2 x 7.26 x 3.20 cm)	1.4"H x 1.3"W x 4.5"L (3.56 x 3.30 x 11.4 cm) w/flange	1.42"H x 1.32"W x 4.50"L (3.61 x 3.35 x 11.4 cm) w/flange	2.52"H x 1.28"W x 4.50"L (6.40 x 3.25 x 11.4 cm) w/flange & air connectors
Weight	2.31 lb (1.04 kg)	1.4 lb (0.64 kg)	0.22 lb (0.10 kg)	0.24 lb (0.11 kg)	0.30 lb (0.136 kg)