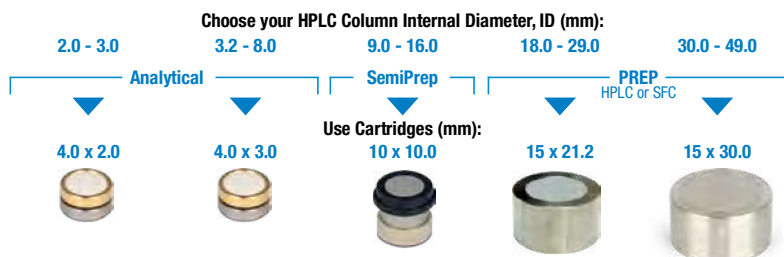


## Cartridges and Holders

Step 1: Choose column ID

Step 2: Match column phase



### Ordering Information

Material	Description	pH Stability	/10pk		/3pk	ea	ea
<b>Cartridges for General Purpose/Pharmaceutical</b>							
C18	(ODS, Octadecyl)	1.5 - 10	<a href="#">AJ0-4286</a>	<a href="#">AJ0-4287</a>	<a href="#">AJ0-7221</a>	<a href="#">AJ0-7839</a>	<a href="#">AJ0-8301</a>
C12	(Dodecyl)	1.5 - 10	<a href="#">AJ0-6073</a>	<a href="#">AJ0-6074</a>	<a href="#">AJ0-7275</a>	<a href="#">AJ0-7842</a>	<a href="#">AJ0-8304</a>
C8	(MOS, Octyl)	1.5 - 10	<a href="#">AJ0-4289</a>	<a href="#">AJ0-4290</a>	<a href="#">AJ0-7222</a>	<a href="#">AJ0-7840</a>	<a href="#">AJ0-8302</a>
C5	(Pentyl)	1.5 - 10	<a href="#">AJ0-4292</a>	<a href="#">AJ0-4293</a>	<a href="#">AJ0-7372</a>	—	—
C1	(TMS)	2 - 9	—	<a href="#">AJ0-4299</a>	—	—	—
Silica	—	—	<a href="#">AJ0-4347</a>	<a href="#">AJ0-4348</a>	<a href="#">AJ0-7223</a>	<a href="#">AJ0-7229</a>	<a href="#">AJ0-8312</a>
HILIC	(HILIC)	1.5 - 8	<a href="#">AJ0-8328</a>	<a href="#">AJ0-8329</a>	<a href="#">AJ0-8902</a>	—	—
NH <sub>2</sub>	(Amino, Aminopropyl)	1.5 - 11	<a href="#">AJ0-4301</a>	<a href="#">AJ0-4302</a>	<a href="#">AJ0-7364</a>	<a href="#">AJ0-8162</a>	<a href="#">AJ0-8309</a>
CN	(Cyano, Cyanopropyl)	2 - 7.5	<a href="#">AJ0-4304</a>	<a href="#">AJ0-4305</a>	<a href="#">AJ0-7313</a>	<a href="#">AJ0-8220</a>	<a href="#">AJ0-8311</a>
Phenyl	(Phenylhexyl)	1.5 - 10	<a href="#">AJ0-4350</a>	<a href="#">AJ0-4351</a>	<a href="#">AJ0-7314</a>	<a href="#">AJ0-7841</a>	<a href="#">AJ0-8303</a>
PFP(2)	(Pentafluorophenyl)	1.5 - 8	<a href="#">AJ0-8326</a>	<a href="#">AJ0-8327</a>	<a href="#">AJ0-8376</a>	<a href="#">AJ0-8377</a>	<a href="#">AJ0-8378</a>
SCX	(SA, Strong Cation Exchanger)	2.5 - 7.5	<a href="#">AJ0-4307</a>	<a href="#">AJ0-4308</a>	—	<a href="#">AJ0-8595</a>	<a href="#">AJ0-8596</a>
SAX	(SB, Strong Anion Exchanger)	2.5 - 7.5	—	<a href="#">AJ0-4311</a>	—	—	—
RP-1	(Reversed Phase - Polymer)	0 - 14	—	<a href="#">AJ0-5809</a>	<a href="#">AJ0-7368</a>	<a href="#">AJ0-8358</a>	—
Polar-RP	(Ether-linked Phenyl)	1.5 - 7	<a href="#">AJ0-6075</a>	<a href="#">AJ0-6076</a>	<a href="#">AJ0-7276</a>	<a href="#">AJ0-7845</a>	—
Fusion-RP	(C18 Polar Embedded)	1.5 - 10	<a href="#">AJ0-7556</a>	<a href="#">AJ0-7557</a>	<a href="#">AJ0-7558</a>	<a href="#">AJ0-7844</a>	—
AQ C18	(Polar Endcapped C18)	1.5 - 7.5	<a href="#">AJ0-7510</a>	<a href="#">AJ0-7511</a>	<a href="#">AJ0-7512</a>	<a href="#">AJ0-7843</a>	<a href="#">AJ0-8305</a>
Gemini™ NX-C18	(C18 Twin-NX™ Technology)	1 - 12	<a href="#">AJ0-8367</a>	<a href="#">AJ0-8368</a>	<a href="#">AJ0-8369</a>	<a href="#">AJ0-8370</a>	<a href="#">AJ0-8371</a>
Gemini C18	(C18 Twin™ Technology)	1 - 12	<a href="#">AJ0-7596</a>	<a href="#">AJ0-7597</a>	<a href="#">AJ0-7598</a>	<a href="#">AJ0-7846</a>	<a href="#">AJ0-8308</a>
Gemini C6-Phenyl	(C6-Phenyl Twin Technology)	1 - 12	<a href="#">AJ0-7914</a>	<a href="#">AJ0-7915</a>	<a href="#">AJ0-9156</a>	<a href="#">AJ0-9157</a>	<a href="#">AJ0-9158</a>
Luna™ Omega Polar C18	(Polar Functional C18)	1.5 - 10	<a href="#">AJ0-7600</a>	<a href="#">AJ0-7601</a>	<a href="#">AJ0-9519</a>	<a href="#">AJ0-7603</a>	<a href="#">AJ0-7604</a>
Luna Omega PS C18	(Mixed-Mode C18)	1.5 - 10	<a href="#">AJ0-7605</a>	<a href="#">AJ0-7606</a>	<a href="#">AJ0-9520</a>	<a href="#">AJ0-7608</a>	<a href="#">AJ0-7609</a>
<b>Cartridges for Chiral</b>							
<i>For use with chiral columns, such as Lux™ Cellulose-1, -2, -3, -4, i-Cellulose-5, i-Amylose-1, -3, &amp; Amylose-1, -2 (Phenomenex); CHIRALCEL® OD-H®, OJ-H® &amp; CHIRALPAK® AD®-H, IA®, IC®, IG® (DAICEL Corporation)</i>							
Lux i-Amylose-1	Amylose tris (3, 5-dimethylphenylcarbamate)	2 - 9	—	<a href="#">AJ0-8641</a>	<a href="#">AJ0-8642</a>	<a href="#">AJ0-8643</a>	<a href="#">AJ0-8644</a>
Lux i-Amylose-3	Amylose tris (3-chloro-5-methylphenylcarbamate)	2 - 9	<a href="#">AJ0-8651</a>	<a href="#">AJ0-8650</a>	<a href="#">AJ0-8652</a>	<a href="#">AJ0-8653</a>	<a href="#">AJ0-8654</a>
Lux i-Cellulose-5	Cellulose tris (3, 5-dichlorophenylcarbamate)	2 - 9	<a href="#">AJ0-8631</a>	<a href="#">AJ0-8632</a>	<a href="#">AJ0-8633</a>	<a href="#">AJ0-8634</a>	—
Lux Cellulose-1	Cellulose tris (3, 5-dimethylphenylcarbamate)	2 - 9	<a href="#">AJ0-8402</a>	<a href="#">AJ0-8403</a>	<a href="#">AJ0-8404</a>	<a href="#">AJ0-8405</a>	<a href="#">AJ0-8406</a>
Lux Cellulose-2	Cellulose tris (3-chloro-4-methylphenylcarbamate)	2 - 9	<a href="#">AJ0-8398</a>	<a href="#">AJ0-8366</a>	<a href="#">AJ0-8399</a>	<a href="#">AJ0-8400</a>	—
Lux Cellulose-3	Cellulose tris (4-methylbenzoate)	2 - 9	<a href="#">AJ0-8621</a>	<a href="#">AJ0-8622</a>	<a href="#">AJ0-8623</a>	<a href="#">AJ0-8624</a>	<a href="#">AJ0-8625</a>
Lux Cellulose-4	Cellulose tris (4-chloro-3-methylphenylcarbamate)	2 - 9	<a href="#">AJ0-8626</a>	<a href="#">AJ0-8627</a>	<a href="#">AJ0-8628</a>	<a href="#">AJ0-8629</a>	<a href="#">AJ0-8630</a>
Lux Amylose-1	Amylose tris (3, 5-dimethylphenylcarbamate)	2 - 9	<a href="#">AJ0-9337</a>	<a href="#">AJ0-9336</a>	<a href="#">AJ0-9344</a>	<a href="#">AJ0-9338</a>	<a href="#">AJ0-9339</a>
Lux AMP	—	1 - 11.5	<a href="#">AJ0-8475</a>	<a href="#">AJ0-8476</a>	—	—	—
<b>HPLC Guard Cartridge Holders (one-time purchase only)</b>			<b>/kit</b>	<b>/holder</b>	<b>/kit</b>	<b>/kit</b>	<b>/kit</b>
Reusable Holder			<a href="#">KJ0-4282</a>	<a href="#">AJ0-9281</a>	<a href="#">AJ0-8223</a>	<a href="#">AJ0-8277</a>	
<b>SFC Guard Cartridge Holders</b>			<b>/kit</b>	<b>/holder</b>	<b>/kit</b>	<b>/kit</b>	<b>/kit</b>
Reusable Holder			<a href="#">KJ0-4282</a>	<a href="#">AJ0-9281</a>	<a href="#">AJ0-8617</a>	<a href="#">AJ0-8618</a>	

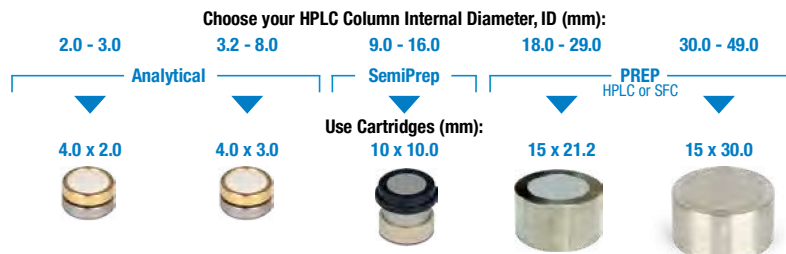
\*For all core-shell and/or < 3µm particle columns use 2.1 to 4.6mm ID SecurityGuard ULTRA Holder and Cartridges, see page 335

Continued on next page

## Cartridges and Holders (cont'd)

Step 1: Choose column ID

Step 2: Match column phase



### Ordering Information (continued)

Material	Description	pH Stability	2.0 - 3.0	3.2 - 8.0	9.0 - 16.0	18.0 - 29.0	30.0 - 49.0
<b>Cartridges for Core-Shell Media</b>			—	—	/3pk	ea	ea
<i>For core-shell media columns, such as Kinetex™ and Aeris™ (Phenomenex).</i>							
EVO C18	(ODS, Octadecyl)	1 - 12	*	*	AJO-9306	AJO-9304	AJO-9305
C18	(ODS, Octadecyl)	1.5 - 8.5	*	*	AJO-9278	AJO-9145	AJO-9204
C8	(MOS, Octyl)	1.5 - 8.5	*	*	—	AJO-9205	—
PFP	(Pentafluorophenyl)	1.5 - 8.5	*	*	—	AJO-9146	—
F5	(Pentafluorophenylpropyl)	1.5 - 8.5	*	*	AJO-9323	AJO-9324	—
Phenyl-Hexyl	(Phenylhexyl)	1.5 - 9	*	*	—	AJO-9147	AJO-9216
Biphenyl	(Biphenyl)	1.5 - 8.5	*	*	AJO-9280	AJO-9272	—
HILIC	(HILIC)	2 - 7.5	*	*	—	AJO-9277	—
C18-Peptide	(ODS, Octadecyl)	1.5 - 9	*	*	AJO-9317	AJO-9318	—
<b>Cartridges for Protein and Polypeptide Reversed Phase</b>			/10pk	/10pk	/3pk	ea	ea
<i>For use with silica columns for separation of proteins &amp; peptides, such as Jupiter™ (Phenomenex) and other widepore or 300 Å brands.</i>							
Widepore C18	(ODS, Octadecyl)	1.5 - 10	AJO-4320	AJO-4321	AJO-7224	AJO-7230	AJO-8313
Widepore C5	(Pentyl)	1.5 - 10	AJO-4326	AJO-4327	AJO-7371	—	—
Widepore C4	(Butyl)	1.5 - 10	AJO-4329	AJO-4330	AJO-7225	AJO-7231	AJO-8314
<i>For use with columns like Biozen™ (Phenomenex).</i>							
Peptide PS-C18 3 µm	(Positive Functional C18)	1.5 - 8.5	AJO-7605	AJO-7606	—	—	—
Ion-Exchange	(Weak Cation Exchanger)	2 - 12	AJO-9401	AJO-9400	—	—	—
<b>Cartridges for Synthetic DNA / RNA Analysis</b>			/10pk	/10pk	/3pk	ea	ea
<i>For use with columns like Clarity™ (Phenomenex).</i>							
Oligo-RP™	(C18 Twin Technology)	1 - 12	AJO-8134	AJO-8135	AJO-8136	AJO-8210	—
Oligo-XT	(ODS, Octadecyl)	1 - 12	*	*	AJO-9516	AJO-9517	AJO-9518
<b>Cartridges for Silica GFC (Gel Filtration Chromatography)</b>			—	/10pk	—	ea	—
<i>(Aqueous SEC) For use with silica GFC columns, such as Yarra™ and BioSep™ (Phenomenex); ZORBAX™ GF-Series (Agilent); Bio-Sil® (Bio-Rad®).</i>							
GFC-2000	—	2 - 7.5	—	AJO-4487	—	AJO-8588	—
GFC-3000	—	2 - 7.5	—	AJO-4488	—	AJO-8589	—
GFC-4000	—	2 - 7.5	—	AJO-4489	—	AJO-8590	—
<b>Cartridges for Polymer GPC (Gel Permeation Chromatography)</b>			—	/3pk	—	—	—
<i>(Organic GPC) For use with polymer GPC columns, such as Phenogel™ (Phenomenex); PLgel™ (Agilent®); SDV® (PSS); Styragel® (Waters®); GPC Series (Shodex®); TSKgel® (Tosoh Bioscience®)</i>							
GPC***	—	0 - 14	—	AJO-9292	—	—	—
<b>Cartridges for Carbohydrate/Organic Acid</b>			—	/10pk	—	—	—
<i>For organic acid and carbohydrate analysis, such as Rezex™ (Phenomenex); Aminex® (Bio-Rad); Sugar-Pak™ (Waters).</i>							
Carbo-H <sup>+</sup>	—	1 - 8	—	AJO-4490	—	—	—
Carbo-Ag <sup>+</sup> **	—	Neutral	—	AJO-4491	—	—	—
Carbo-Pb <sup>2+</sup>	—	Neutral	—	AJO-4492	—	—	—
Carbo-Ca <sup>2+</sup>	—	Neutral	—	AJO-4493	—	—	—
<b>HPLC Guard Cartridge Holders (one-time purchase only)</b>			/kit	/holder	/kit	/kit	/kit
Reusable Holder	—	—	KJO-4282	AJO-9281	AJO-8223	AJO-8277	—
<b>SFC Guard Cartridge Holders</b>			/kit	/holder	/kit	/kit	/kit
Reusable Holder	—	—	KJO-4282	AJO-9281	AJO-8617	AJO-8618	—

\*For all core-shell and/or < 3 µm particle columns use 2.1 to 4.6 mm ID SecurityGuard ULTRA Holder and Cartridges, see page 335

\*\*For use with saccharide and oligosaccharide columns in Ag<sup>+</sup> form.

\*\*\*Not compatible with HFIP solvent.

## UHPLC Column Protection

- Extends HPLC, core-shell, and < 3 μm particle column lifetime
- Virtually no change in chromatography
- Pressure rated to 20000 psi (1378 bar)
- Simple to use

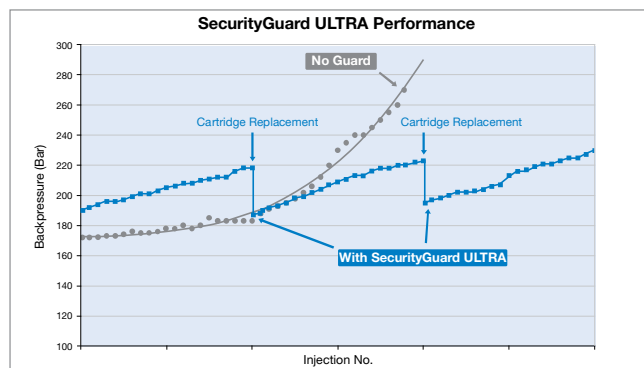
### Universal Fit

Use SecurityGuard ULTRA with virtually all UHPLC columns 2.1 to 4.6 mm ID. The extremely low dead volume of this unique product minimizes sample peak dispersion. It will efficiently remove microparticulates and chemical contaminants from the flow stream without contributing to system backpressure or dead volume (<0.3 μL).

### Increases Column Lifetime, Guaranteed!

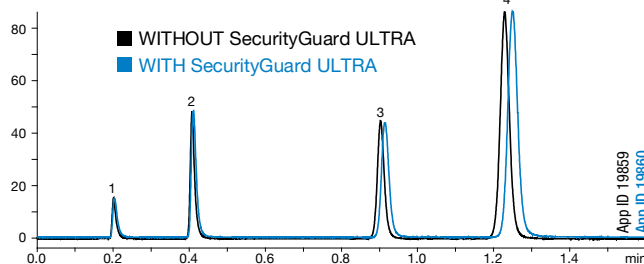
When contaminants and particulates build up at the head of your column or on the guard cartridge, system backpressures can increase dramatically. By simply replacing the SecurityGuard ULTRA cartridge, instead of your column, you are able to regain normal operating conditions and reclaim original column performance.

### Accelerated lifetime test using endogenous biological matrix on Kinetex 2.6 μm C18 50 x 4.6 mm ID column



### Protects with No Loss of Column Performance!

SecurityGuard ULTRA's unique design minimizes sample peak dispersion to maintain column performance without altering your chromatography results.



Conditions for both columns:

Column: Kinetex 1.7 μm XB-C18  
 Dimensions: 50 x 2.1 mm  
 Guard Cartridge: SecurityGuard ULTRA C18 (ODS) 2.1 mm ID  
 Part No.: [AJ0-8768](#)  
 Mobile Phase: Acetonitrile / Water (50:50)  
 Flow Rate: 0.5 mL/min

Detection: UV @ 254 nm  
 Sample: 1. Uracil  
 2. Acetophenone  
 3. Toluene  
 4. Naphthalene

See SecurityGuard ULTRA in action:  
[www.phenomenex.com/SecurityGuardULTRA](http://www.phenomenex.com/SecurityGuardULTRA)

2012 R&D 100  
 Award Recipient



## SecurityGuard ULTRA Cartridges

### Ordering Information

Material	Description	pH Stability	Column ID (mm)		
			2.1	3.0	4.6
<b>Cartridges for General Purpose/ Pharmaceutical</b>					
			/3pk	/3pk	/3pk
EVO C18	(ODS, Octadecyl)	1.0 – 12.0	<a href="#">AJ0-9298</a>	<a href="#">AJ0-9297</a>	<a href="#">AJ0-9296</a>
C18	(ODS, Octadecyl)	1.5 – 8.5*	<a href="#">AJ0-8782</a>	<a href="#">AJ0-8775</a>	<a href="#">AJ0-8768</a>
C8	(MOS, Octyl)	1.5 – 8.5*	<a href="#">AJ0-8784</a>	<a href="#">AJ0-8777</a>	<a href="#">AJ0-8770</a>
PFP	(Pentafluorophenyl)	1.5 – 8.5*	<a href="#">AJ0-8787</a>	<a href="#">AJ0-8780</a>	<a href="#">AJ0-8773</a>
F5	(Pentafluorophenyl)	1.5 – 8.5*	<a href="#">AJ0-9322</a>	<a href="#">AJ0-9321</a>	<a href="#">AJ0-9320</a>
Biphenyl	(Biphenyl)	1.5 – 8.5*	<a href="#">AJ0-9209</a>	<a href="#">AJ0-9208</a>	<a href="#">AJ0-9207</a>
Phenyl	(Phenylhexyl)	1.5 – 8.5*	<a href="#">AJ0-8788</a>	<a href="#">AJ0-8781</a>	<a href="#">AJ0-8774</a>
HILIC	(HILIC)	2.0 – 7.5	<a href="#">AJ0-8786</a>	<a href="#">AJ0-8779</a>	<a href="#">AJ0-8772</a>
Polar C18	(Polar Functional C18)	1.5 – 8.5*	<a href="#">AJ0-9532</a>	<a href="#">AJ0-9531</a>	<a href="#">AJ0-9530</a>

### Cartridges for General Purpose/Pharmaceutical (Fully Porous Columns)

For fully porous columns like Luna™ Omega (Phenomenex)

C18	(ODS, Octadecyl)	1.5 – 8.5*	<a href="#">AJ0-9502</a>	<a href="#">AJ0-9501</a>	<a href="#">AJ0-9500</a>
Polar C18	(Polar Functional C18)	1.5 – 8.5*	<a href="#">AJ0-9505</a>	—	—
PS C18	(Positive Functional C18)	1.5 – 8.5*	<a href="#">AJ0-9508</a>	—	—

### Cartridges for Protein and Peptide Reversed Phase

For use with columns like Aeris™ (Phenomenex)

Widepore C18	(ODS, Octadecyl)	1.5 – 8.5*	<a href="#">AJ0-8783</a>	—	<a href="#">AJ0-8769</a>
Widepore C8	(MOS, Octyl)	1.5 – 8.5*	<a href="#">AJ0-8785</a>	—	<a href="#">AJ0-8771</a>
Widepore C4	(Butyl)	1.5 – 8.5*	<a href="#">AJ0-8899</a>	—	<a href="#">AJ0-8901</a>
Peptide C18	(ODS, Octadecyl)	1.5 – 8.5*	<a href="#">AJ0-8948</a>	—	<a href="#">AJ0-8946</a>

### For use with columns like Biozen™ (Phenomenex)

Glycan	(Amide Polyol)	2.0 – 7.5	<a href="#">AJ0-9800</a>	—	—
Peptide PS-C18 1.6 μm (Positive Functional C18)		1.5 – 8.5*	<a href="#">AJ0-9803</a>	—	—
Peptide XB-C18	(ODS, Octadecyl)	1.5 – 9.0**	<a href="#">AJ0-9806</a>	—	<a href="#">AJ0-9808</a>
WidePore C4	(Butyl)	1.5 – 9.0**	<a href="#">AJ0-9816</a>	—	<a href="#">AJ0-9818</a>
Intact XB-C18	(MOS, Octyl)	1.5 – 9.0**	<a href="#">AJ0-9812</a>	—	<a href="#">AJ0-9814</a>
Oligo	(ODS, Octadecyl)	1.0 – 12.0	<a href="#">AJ0-9820</a>	—	<a href="#">AJ0-9822</a>
SEC-2	(Diol)	1.5 – 8.5	—	—	<a href="#">AJ0-9850</a>
SEC-3	(Diol)	1.5 – 8.5	—	—	<a href="#">AJ0-9851</a>

### Cartridges for Synthetic DNA / RNA Analysis

For use with columns like Clarity™ (Phenomenex)

Oligo-MS C18	(ODS, Octadecyl)	1.5 – 8.5*	<a href="#">AJ0-9068</a>	—	—
Oligo-XT	(ODS, Octadecyl)	1.0 – 12.0	<a href="#">AJ0-9515</a>	—	<a href="#">AJ0-9514</a>

### Cartridges for Silica GFC (Gel Filtration Chromatography)

(Aqueous SEC) For use with silica GFC columns such as Yarra™ (Phenomenex)

X150	—	1.5 – 8.5	—	—	<a href="#">AJ0-9512</a>
X300	—	1.5 – 8.5	—	—	<a href="#">AJ0-9513</a>

\*pH stable 1.5–8.5 under gradient conditions. pH stable 1.5–10 under isocratic conditions.  
 \*\*pH range is 1.5–9 under gradient conditions. pH range is 1.5–10 under isocratic conditions.  
[AJ0-9000](#) is the universal holder designed for use with 2.1 mm, 3.0 mm and 4.6 mm ID cartridges.



## SecurityGuard ULTRA Cartridge Holder

### Ordering Information

Part No.	Description	Unit
<a href="#">AJ0-9000</a>	SecurityGuard ULTRA Cartridge Holder	ea

Initial SecurityGuard ULTRA installation and cartridge replacement, requires 3 wrenches, which must be purchased separately: one 3/8 in. wrench ([AQ0-8959](#); fits Kinetex, Aeris, and Oligo-MS column end-fittings), and two 5/16 in. wrenches ([AQ0-8903](#); fits ULTRA cartridge and holder). See p. 427

