

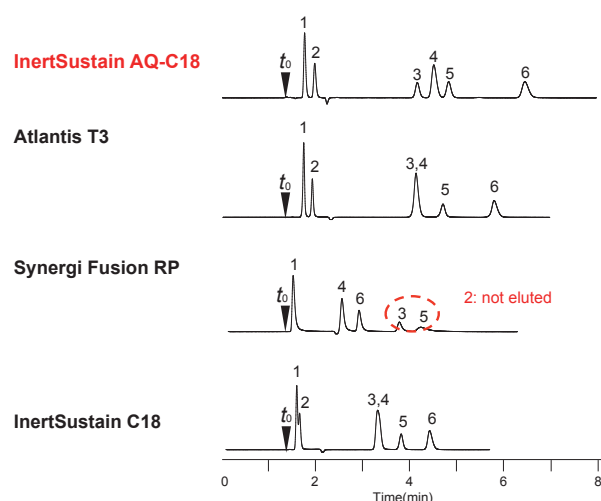
InertSustain AQ-C18

- Base Material : High Purity ES Silica Gel
- Particle Size : 1.9 μm , 3 μm , 5 μm
- Surface Area : 350 m^2/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 0.85 mL/g
- Functional Group : Octadecyl
- End-capping : Yes
- Carbon Loading : 13%
- USP Code : L1, L96
- pH Range : 1 - 10



InertSustain AQ-C18 columns are designed to achieve strong retention for highly polar compounds, which is the most challenging goals in developing reversed phase methods. The optimization of bonding of the C18 groups at equal distance to the silica gel enable InertSustain AQ-C18 to offer significant retention for highly polar compounds even under water rich mobile phases.

Figure 1 : Superior Retention for Highly Polar Compound



Conditions

Column : 5 μm , 150 $\times$ 4.6 mm I.D.
 Eluent : 0.1 % HCOOH in H₂O
 Flow Rate : 1.0 mL/min
 Col. Temp. : 40 °C
 Detection : UV 210 nm

Sample :

1. Pyridoxamine (Vitamin B6)
2. Thiamin (Vitamin B1)
3. Nicotinic acid (Vitamin B3)
4. Pyridoxal (Vitamin B6)
5. Nicotinamide (Vitamin B3)
6. Pyridoxine (Vitamin B6)

Figure 2: InertSustain AQ-C18 Provided Strong Retention for all Basic, Neutral and Acidic Compounds under 100% Water Mobile Phase

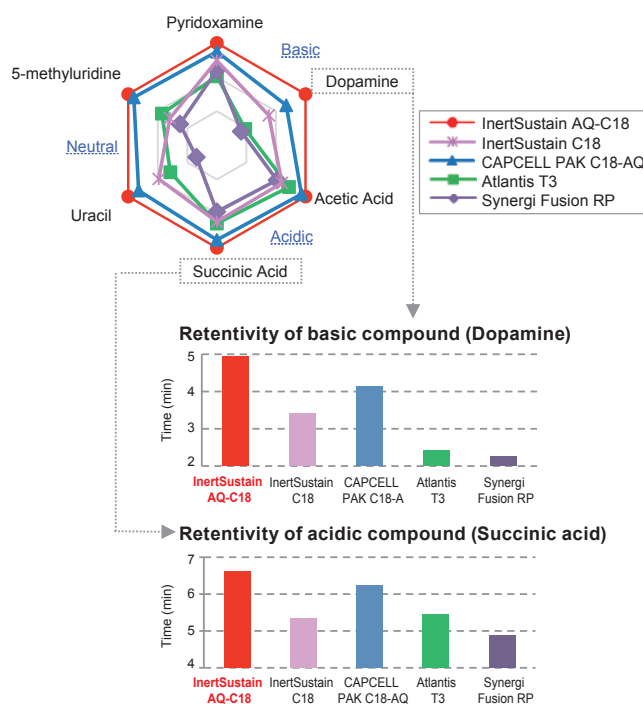
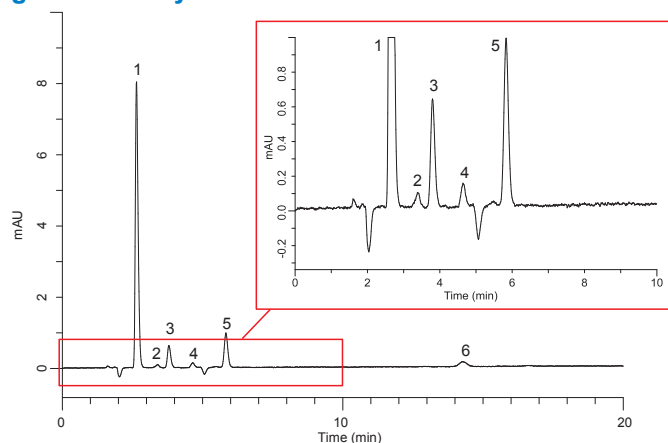


Figure 3 : Analysis of Nucleotide in Fish Meat



Conditions

Column : InertSustain AQ-C18
 (5 μm , 150 $\times$ 4.6 mm I.D.)
 Eluent : 50 mM K₂HPO₄ in H₂O (pH 7.0, H₃PO₄)*
 Flow Rate : 1.0 mL/min
 Col.Temp. : 40 °C
 Detection : UV 260 nm
 Injection Vol. : 1 μL

Sample : 1. IMP
 2. ATP
 3. ADP
 4. AMP
 5. Hyp
 6. Ino
 (each 5 mg/L)

* ; Equilibrate the column CH₃CN/H₂O=1/1, v/v after the analysis.
 When storing the column for a long period of time, store it with 100% CH₃CN 100%.

Analytical Columns

Particle Size: 1.9 µm	Length \ I.D. (mm)	2.1	3.0		
	50	5020-89938	5020-89941		
	100	5020-89939	5020-89942		
	150	5020-89940	5020-89943		
HP Series Particle Size: 3 µm 50 MPa (500 bar)	Length \ I.D. (mm)	2.1	3.0	4.6	
	30	5020-89920	5020-89926	5020-89932	
	50	5020-89921	5020-89927	5020-89933	
	75	5020-89922	5020-89928	5020-89934	
	100	5020-89923	5020-89929	5020-89935	
	150	5020-89924	5020-89930	5020-89936	
	250	5020-89925	5020-89931	5020-89937	
Particle Size: 3 µm	Length \ I.D. (mm)	1.0	1.5		
	30	5020-89871	5020-89877		
	50	5020-89872	5020-89878		
	75	5020-89873	5020-89879		
	100	5020-89874	5020-89880		
	150	5020-89875	5020-89881		
	250	5020-89876	5020-89882		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	30	5020-89831	5020-89839	5020-89847	5020-89855
	50	5020-89832	5020-89840	5020-89848	5020-89856
	75	5020-89833	5020-89841	5020-89849	5020-89857
	100	5020-89834	5020-89842	5020-89850	5020-89858
	125	5020-89835	5020-89843	5020-89851	5020-89859
	150	5020-89836	5020-89844	5020-89852	5020-89860
	250	5020-89837	5020-89845	5020-89853	5020-89861
	Length \ I.D. (mm)	1.0	1.5		
	30	5020-89741	5020-89747		
	50	5020-89742	5020-89748		
	75	5020-89743	5020-89749		
	100	5020-89744	5020-89750		
	150	5020-89745	5020-89751		
	250	5020-89746	5020-89752		
Particle Size: 5 µm	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	30	5020-89701	5020-89709	5020-89717	5020-89725
	50	5020-89702	5020-89710	5020-89718	5020-89726
	75	5020-89703	5020-89711	5020-89719	5020-89727
	100	5020-89704	5020-89712	5020-89720	5020-89728
	125	5020-89705	5020-89713	5020-89721	5020-89729
	150	5020-89706	5020-89714	5020-89722	5020-89730
	250	5020-89707	5020-89715	5020-89723	5020-89731

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)	
			Particle Size		Particle Size	
			3 μm	5 μm	3 μm	5 μm
1.0	10	1.0	5020-89910	5020-89808	5020-89911	5020-89809
1.5, 2.1		1.5	5020-89912	5020-89810	5020-89913	5020-89811
2.1, 3.0		3.0	5020-89908	5020-89806	5020-89909	5020-89807
4.0, 4.6		4.0	5020-89906	5020-89804	5020-89907	5020-89805
2.1, 3.0	20	3.0	5020-89916	5020-89814	5020-89917	5020-89815
4.0, 4.6		4.0	5020-89914	5020-89812	5020-89915	5020-89813
Holder for Cartridge Guard Column E				For 10 mm Length		5020-08500
				For 20 mm Length		5020-08550

Inertsil ODS-3V

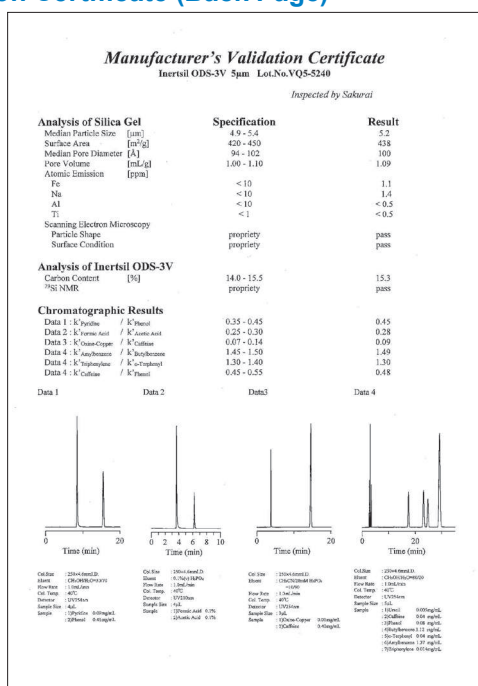
(Specifically Qualified HPLC columns for GLP/GMP Compliance Validation)

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 3 µm, 5 µm
- Surface Area : 450 m²/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Functional Group : Octadecyl
- End-capping : Yes
- Carbon Loading : 15 %
- USP Code : L1
- pH Range : 2 - 7.5



Inertsil ODS-3V offers all of the outstanding chromatographic benefits of Inertsil ODS-3 with the added benefit of a more thoroughly documented, validated QC procedure consistent with the demands of GLP/GMP compliance. Each Inertsil ODS-3V is delivered with a Manufacturer's Validation Certificate showing the detailed results of every QA and QC step in manufacturing. The use of Inertsil ODS-3V columns provides an extra measure of assurance of consistent performance from column to column and batch to batch. Inertsil ODS-3V columns are also available in 3-column-sets packed with your choice of 3 different silica batches or a single silica batch to assist in reproducibility studies.

Details of Manufacturer's Validation Certificate (Back Page)



Analytical Columns

	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
Particle Size: 3 µm	50	5020-30112	5020-30122	5020-30132	5020-30142
	75	5020-30113	5020-30123	5020-30133	5020-30143
	100	5020-30114	5020-30124	5020-30134	5020-30144
	150	5020-30115	5020-30125	5020-30135	5020-30145
	250	5020-30116	5020-30126	5020-30136	5020-30146
Particle Size: 5 µm	Length \ I.D. (mm)	3.0	4.0	4.6	
	150	5020-01821	5020-01811	5020-01801	
	250	5020-01822	5020-01812	5020-01802	

Validation Packs (3-Column-Sets)

Inertsil ODS-3V columns are also available in 3-column-sets packed with your choice of 3 different silica batches or a single silica batch to assist in reproducibility studies. Choose the column dimension and one of the following batch requirements. All three columns with single batch 2. Two columns with single batch and other a different batch 3. All three columns with different batches.

	Length \ I.D. (mm)	3.0	4.0	4.6
Particle Size: 5 µm	150	5020-	5020-	5020-
	250	5020-	5020-	5020-

Inertsil Ph-3

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 2 μm , 3 μm , 5 μm
- Surface Area : 450 m^2/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Functional Group : Phenyl Groups
- End-capping : No
- Carbon Loading : 9.5 %
- USP Code : L11
- pH Range : 2 - 7.5



Just like InertSustain Phenyl, Inertsil Ph-3 have phenyl groups directly bonded to the silica gel which provides pure reverse phase characteristics that are critical to resolving highly polar compounds like acidic and basic pharmaceuticals. The near perfect phenyl phase coverage on this material results in symmetric, narrow peaks for even the most polar compounds while using simple eluents like aqueous acetonitrile or methanol.

Figure 1 : Comparison of Selectivity with Inertsil ODS-3

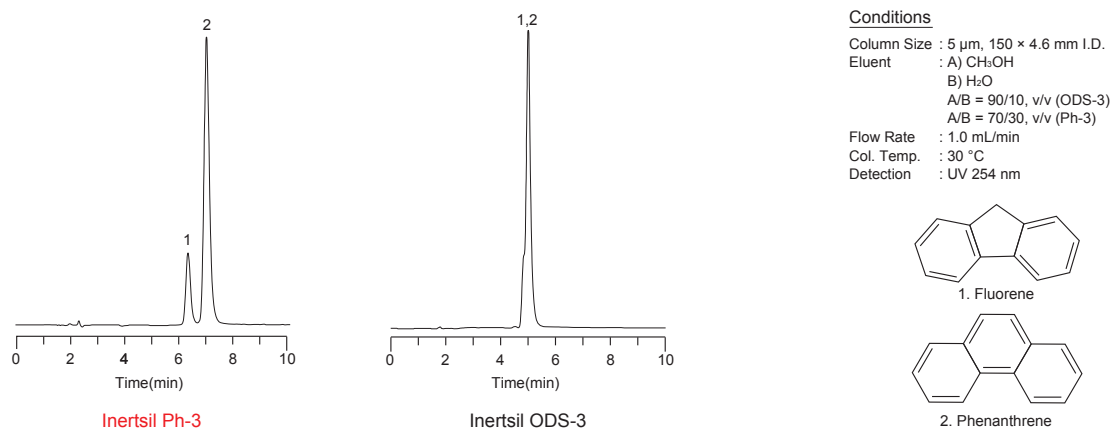
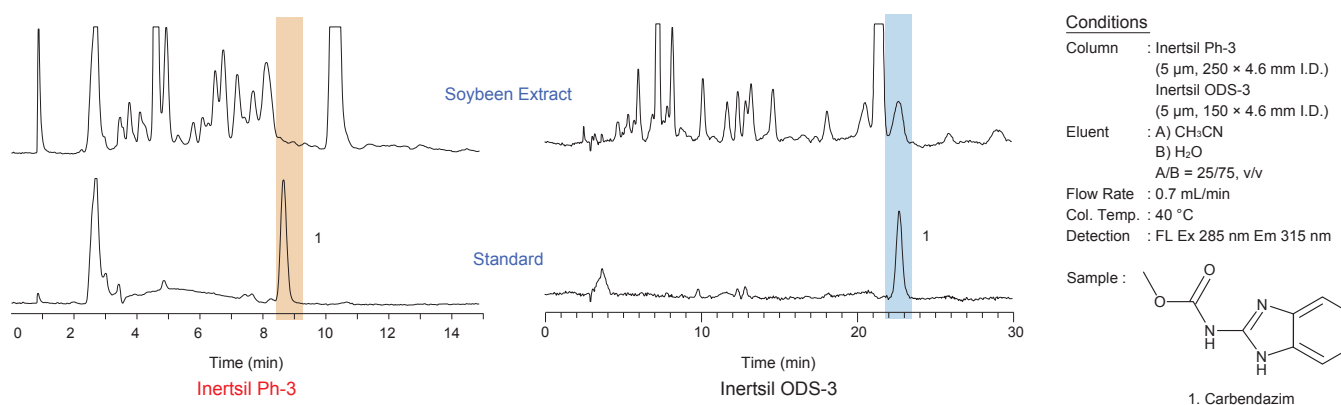


Figure 2 : Application on Pesticide Detection Test



Analytical Columns

Particle Size: 2 µm	Length \ I.D. (mm)	2.1	3.0		
	30	5020-85130	5020-85135		
	50	5020-85131	5020-85136		
	75	5020-85132	5020-85137		
	100	5020-85133	5020-85138		
	150	5020-85134	5020-85139		
HPSeries Particle Size: 3 µm 50 MPa (500 bar)	Length \ I.D. (mm)	2.1	3.0	4.6	
	30	5020-14111	5020-14114	5020-14117	
	50	5020-14112	5020-14115	5020-14118	
	75	5020-14113	5020-14116	5020-14119	
	100	5020-14041	5020-14044	5020-14047	
	150	5020-14042	5020-14045	5020-14048	
	250	5020-14043	5020-14046	5020-14049	
Particle Size: 3 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-85011	5020-85021		
	50	5020-85012	5020-85022		
	75	5020-85013	5020-85023		
	100	5020-85014	5020-85024		
	150	5020-13622	5020-13620		
	250	5020-	5020-		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-05011	5020-05021	5020-05031	5020-05041
	50	5020-05012	5020-05022	5020-05032	5020-05042
	75	5020-05013	5020-05023	5020-05033	5020-01930
	100	5020-05014	5020-05024	5020-01933	5020-05044
	150	5020-05015	5020-05025	5020-05035	5020-01931
	250	5020-05016	5020-05026	5020-05036	5020-01932
Particle Size: 5 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-85111	5020-85121		
	50	5020-85112	5020-85122		
	75	5020-85113	5020-85123		
	100	5020-85114	5020-85124		
	150	5020-13612	5020-13610		
	250	5020-85116	5020-85126		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-05111	5020-05121	5020-05131	5020-05141
	50	5020-05112	5020-05122	5020-05132	5020-05142
	75	5020-05113	5020-05123	5020-05133	5020-05143
	100	5020-05114	5020-05124	5020-05134	5020-05144
	150	5020-05115	5020-05125	5020-01922	5020-01920
	250	5020-05116	5020-05126	5020-01923	5020-01921

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-19217	5020-19216	5020-19267	5020-19266
1.5, 2.1		1.5	5020-19317	5020-19316	5020-19367	5020-19366
2.1, 3.0		3.0	5020-19117	5020-19116	5020-19167	5020-19166
4.0, 4.6		4.0	5020-19017	5020-19016	5020-19067	5020-19066
2.1, 3.0	20	3.0	5020-19517	5020-19516	5020-19567	5020-19566
4.0, 4.6		4.0	5020-19417	5020-19416	5020-19467	5020-19466
Holder for Cartridge Guard Column E				For 10 mm Length		5020-08500
				For 20 mm Length		5020-08550

Cartridge Guard Column E



Cartridge Guard Column E

Cartridge guard column E designed with a special holder and cartridge, universal self-adjusting connections, reusable by changing cartridges.

Cartridges contain the same high performance packing material that are used in our GL Sciences analytical columns. Easy-to-use, convenient, and disposable guard columns protect your more expensive analytical columns.

Line-up list

InertSustain C18

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)		Cartridge E Holder/Cartridge Set (2 Cartridge E Guard Column & Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-19250	5020-19249	5020-19300	5020-19299
1.5, 2.1		1.5	5020-19350	5020-19349	5020-19400	5020-19399
2.1, 3.0		3.0	5020-19150	5020-19149	5020-19200	5020-19199
4.0, 4.6		4.0	5020-19050	5020-19049	5020-19100	5020-19099
2.1, 3.0	20	3.0	5020-19550	5020-19549	5020-19600	5020-19599
4.0, 4.6		4.0	5020-19450	5020-19449	5020-19500	5020-19499

InertSustain AQ-C18

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)		Cartridge E Holder/Cartridge Set (2 Cartridge E Guard Column & Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-89910	5020-89808	5020-89911	5020-89809
1.5, 2.1		1.5	5020-89912	5020-89810	5020-89913	5020-89811
2.1, 3.0		3.0	5020-89908	5020-89806	5020-89909	5020-89807
4.0, 4.6		4.0	5020-89906	5020-89804	5020-89907	5020-89805
2.1, 3.0	20	3.0	5020-89916	5020-89814	5020-89917	5020-89815
4.0, 4.6		4.0	5020-89914	5020-89812	5020-89915	5020-89813

Inertsil ODS-3

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)			Cartridge E Holder/Cartridge Set (2 Cartridge E Guard Column & Holder)		
			Particle Size			Particle Size		
			3 µm	4 µm	5 µm	3 µm	4 µm	5 µm
1.0	10	1.0	5020-19205	5020-19204	5020-19203	5020-19255	5020-19254	5020-19253
1.5, 2.1		1.5	5020-19305	5020-19304	5020-19303	5020-19355	5020-19354	5020-19353
2.1, 3.0		3.0	5020-19105	5020-19104	5020-19103	5020-19155	5020-19154	5020-19153
4.0, 4.6		4.0	5020-19005	5020-19004	5020-19003	5020-19055	5020-19054	5020-19053
2.1, 3.0	20	3.0	5020-19505	5020-19504	5020-19503	5020-19555	5020-19554	5020-19553
4.0, 4.6		4.0	5020-19405	5020-19404	5020-19403	5020-19455	5020-19454	5020-19453

Inertsil ODS-HL

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 pcs)		Cartridge E Holder/Cartridge Set (2 Cartridge E Guard Column & Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-87305	5020-87209	5020-87306	5020-87210
1.5, 2.1		1.5	5020-87307	5020-87211	5020-87308	5020-87212
2.1, 3.0		3.0	5020-87303	5020-87207	5020-87304	5020-87208
4.0, 4.6		4.0	5020-87301	5020-87205	5020-87302	5020-87206
2.1, 3.0	20	3.0	5020-87311	5020-87215	5020-87312	5020-87216
4.0, 4.6		4.0	5020-87309	5020-87213	5020-87310	5020-87214

Reversed Phase Columns

HILIC Columns

Normal Phase Columns

SEC Columns

Ion Exchange Columns

Application Specific Columns

Guard Columns

Preparative Columns

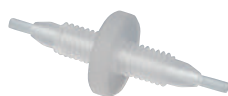
Capillary Columns

Applications

Cat. No. Index

Filters, Impurity Remove Columns

Pre-Column Coupler



Pre-column Coupler (PCTFE)



Pre-column Coupler SUS

Pre-column Coupler is an easy-to-use tool to connect guard columns and analytical columns. Pre-column Coupler has two designs, one is using PCTFE material, except common organic solvents, acidic solvent and basic solvent also can be used. And another one is stainless design, it can be used under high pressure.

• Specification

Max. operating pressure : PCTFE : 14.7 MPa (147 bar), SUS : 80 MPa (800 bar)

Tube O.D. : 1/16 inch

Length : 29.2 mm (UP type), 32 mm (W type), 40 mm (SUS type)

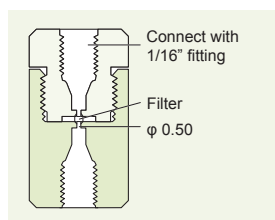
Item	I.D.	Material	Connection	Cat.No.
Pre-column Coupler UP	0.18 mm	PCTFE	Paker type (UP type)	6010-49200
	0.25 mm			6010-49201
	0.50 mm			6010-49202
Pre-column Coupler W	0.25 mm	PCTFE	Waters type	6010-49251
	0.50 mm			6010-49211
Pre-column Coupler SUS	0.10 mm	SUS	—*	6010-49210
	0.25 mm			6010-49250

* Product Pre-column Coupler SUS does not fixed with Ferrules, therefore columns with 10-32UNF specification all can be used.

Pre-Column Filter



Pre-column filter



• Specification

Fit in tube O.D. : 1/16 inch

Screw specification : 10-32UNF

Filter pore size : 2 μm

Max. operating pressure : SUS : 41.4 MPa (414 bar), PEEK : 34.5 MPa (345 bar)

Item	Jacket Material	P/N	Qty. (pc)	Cat.No.
Pre-column filter 2 μm	Stainless	A-315	1	6010-55100
Replacement pre-column filter 2 μm	—	A-101	1	6010-55110
PEEK pre-column filter 2 μm	PEEK	A-355	1	6010-55300
Replacement PEEK pre-column filter 2 μm	—	A-700	1	6010-55310

Pre-Clean ORG



Pre-clean ORG

- A guard column to install between the pump and injector, to remove the impurity in aqueous organic eluent.
- Protect analytical LC columns, and prolong analytical columns lifetime.
- Easy-to-replace.
- Also can be used as an in-line filter, semimicro columns are most appropriate for column clog.
- 2 types for two different flow rates.

Item	I.D. (mm)	Length (mm)	Recommend Flow Rate (mL/min)	Cat.No.
Pre-clean ORG replacement cartridge 2ea	7.6	30	1.0~20 mL/min	5020-12755
Pre-clean ORG holder and cartridgex2ea	7.6	30	1.0~20 mL/min	5020-12760
Pre-clean ORG holder	—	—	—	5020-12750
Pre-clean ORG semi replacement cartridge 2ea	4.0	10	0.1~2.0 mL/min	5020-12780
Pre-clean ORG semi holder and cartridgex2ea	4.0	10	0.1~2.0 mL/min	5020-12790
Pre-clean ORG semi holder	—	—	—	5020-12770