

Acclaim® Reversed-Phase Columns

Care and Use Instructions

Introduction

Dionex Acclaim high performance bonded phase silica columns are designed to meet the high standards set by modern HPLC and LC-MS methods. The bonded phases are applied to high purity silica with 120 Å or 300 Å pore size and provide efficiencies that exceed industry standards. The Acclaim 120 columns exhibit excellent peak shapes for pharmaceutical and environmental analytes, which result in high sensitivity and reliable quantification. Acclaim 300 columns are ideally suited to the high resolution separation of peptides and small proteins. Acclaim PolarAdvantage (PA) and Polar Advantage II (PA2) columns are suited to small molecules, especially polar molecules requiring a highly aqueous mobile phase. PA2 features an extended pH range from 1.5 to 10.5. Acclaim OA is designed for the determination of hydrophilic organic acids. Acclaim Surfactant is specially designed for the resolution of anionic, cationic, and nonionic detergents. Acclaim guard cartridges should be used to protect the analytical column from particulate and contaminants which could decrease performance. The manufacture of all Acclaim columns is controlled and documented according to ISO 9001 guidelines at the Dionex Sunnyvale manufacturing facility. Certificates of Quality Assurance and Lot Validation accompany each analytical column.

Monitoring Column Performance

Using the conditions described on the Quality Assurance Certificate, test the Acclaim column prior to use and confirm it performs as indicated. Repeat this test procedure periodically to ensure performance is still optimal.

Selecting a Mobile Phase

Acclaim columns are compatible with mobile phases containing water/acetonitrile or water/methanol. Acclaim 120 C18 and C8 columns may yield unsatisfactory results with 100% aqueous mobile phases. If a mobile phase containing less than 15% organic solvent is required, Dionex recommends Acclaim PolarAdvantage (PA) and PA2 columns, which are compatible with 0–100% organic. Acclaim 300 columns

may be used with 5–100% organic. For control of mobile phase pH between pH 2 and pH 8, buffer salts such as phosphate, acetate or Tris may be used. When making alkaline buffers for Acclaim PA2, we recommend amine-type buffers such as ammonia or diethylamine. When adding organic solvent to salt and buffer solutions, it is important to remember this may result in a precipitation of the salt, often in the column, leading to possible damage to the column. Always check the solubility of buffer salts in solvent-buffer mixtures before running new methods.

Organic acids analysis with Acclaim OA uses a special mobile phase; see the Product Manual for Acclaim OA (Document No. 031996 on the Dionex Reference Library CD-ROM) for detailed instructions.

The Unique application and recommended condition for some columns are in their respective Product Manuals: Acclaim Surfactant column (Doc. No. 031840), the Explosives column (Doc. No. 025205), the Mixed-Mode WAX-1 (Doc No. 065165). These manuals are also on the Dionex Reference Library CD-ROM.

Acclaim 120 and PolarAdvantage columns are shipped in 70:30 acetonitrile:deionized water. Acclaim 300 columns are shipped in acetonitrile. Before running the gradient program, ensure that the mobile phase is compatible with the 70% acetonitrile storage solution.

Mobile Phase Preparation

Filtering

Buffer salts used for the preparation of mobile phases often contain insoluble particulates. If these are allowed to flow into the column, they will be trapped at the head of the column by the inlet frit, plugging the column over time. To avoid this the mobile phase should be filtered through a 0.45 µm or finer porosity filter media.

Degassing

In order to avoid problems associated with the loss of prime in the pump, mobile phases should be degassed prior to use.

Installing the Column

Before installing the column, purge all the pump lines with liquid to remove air and ensure the system is clean.

Connect the column between the injection valve and the detector, with the flow arrow on the label pointing towards the detector. The column end-fittings are compatible with standard 10-32 fittings and Parker ferrule dimensions. Use the shortest lengths of tubing practical to minimize system volume. The tubing i.d. should not exceed 0.010 inches (0.25 mm) for 4.6 mm i.d. columns and 0.005 inches (0.12 mm) for 2.1 mm i.d. columns. If using a guard column, install it according to the instructions in the guard packet, using the low dead volume column coupler (P/N 059457).

Equilibrating the Column

Once the column is installed, pump at least 10 column volumes of mobile phase through the column, and up to 200 column volumes if additives such as ion pairing reagents are present in the mobile phase. The column is equilibrated when the baseline is stable and several injections produce stable retention times.

Troubleshooting

The inability to reproduce the efficiency of the test chromatogram may be indicative of excess tubing and/or too large a flow cell. When using a 2.1 mm i.d. column, the detector cell volume should be 3 µL or less and the tubing should be 0.005 inches (0.12 mm) or smaller. For a 4.6 mm i.d. column, use 0.010 inches (0.25 mm) i.d. tubing or smaller. Keep tubing lengths to a minimum.

The inability to reproduce the peak asymmetry of the test chromatogram may be indicative of improperly cut tubing. All tubing must have straight ends and be fitted with well-seated and properly positioned ferrules.

An increase in backpressure may indicate the guard is plugged with particulates. Replace the guard.

An increase in peak tailing for metal sensitive analytes, such as chelators and some amines, may be indicative of metal accumulation on the column from the system or mobile phase. Use a metal-free system for these analytes.

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Long-Term Storage

If the column will not be used for a week or more, flush the column with 10 column volumes of a solvent to deionized water mobile phase such as 70:30 acetonitrile:deionized water. Plug the column to keep the bed wetted. Do not allow the column to dry out.

Warranty

Dionex warrants all products sold by them will be of good quality and workmanship. The products will be fit for their intended purposes when used in accordance with Dionex instructions. Dionex reserves the right not to honor this warranty if the products are abused or modified by the customer. The foregoing warranty is exclusive and in lieu of all other express and implied warranties including, but not limited to, fitness for any other purpose(s). In no event will Dionex be liable for consequential, economic or incidental damages of any nature.

Acclaim 120 Analytical Columns

P/N	Description
059122	C8, 3 µm, 2.1 x 50 mm
059123	C8, 3 µm, 2.1 x 100 mm
059124	C8, 3 µm, 2.1 x 150 mm
059125	C8, 3 µm, 4.6 x 50 mm
059126	C8, 3 µm, 4.6 x 100 mm
059127	C8, 3 µm, 4.6 x 150 mm
059134	C8, 5 µm, 2.1 x 50 mm
059135	C8, 5 µm, 2.1 x 100 mm
059136	C8, 5 µm, 2.1 x 150 mm
059137	C8, 5 µm, 2.1 x 250 mm
059138	C8, 5 µm, 4.6 x 50 mm
059139	C8, 5 µm, 4.6 x 100 mm
059140	C8, 5 µm, 4.6 x 150 mm
059141	C8, 5 µm, 4.6 x 250 mm
059128	C18, 3 µm, 2.1 x 50 mm
059129	C18, 3 µm, 2.1 x 100 mm
059130	C18, 3 µm, 2.1 x 150 mm
066272	C18, 3 µm, 3.0 x 33 mm
066273	C18, 3 µm, 3.0 x 75 mm
059131	C18, 3 µm, 4.6 x 50 mm
059132	C18, 3 µm, 4.6 x 100 mm
059133	C18, 3 µm, 4.6 x 150 mm
059142	C18, 5 µm, 2.1 x 50 mm
059143	C18, 5 µm, 2.1 x 100 mm

059144	C18, 5 µm, 2.1 x 150 mm
059145	C18, 5 µm, 2.1 x 250 mm
059146	C18, 5 µm, 4.6 x 50 mm
059147	C18, 5 µm, 4.6 x 100 mm
059148	C18, 5 µm, 4.6 x 150 mm
059149	C18, 5 µm, 4.6 x 250 mm

Acclaim 300 Analytical Columns

P/N	Description
060263	300, C18, 3 µm, 2.1 x 50 mm
060264	300, C18, 3 µm, 2.1 x 150 mm
060265	300, C18, 3 µm, 4.6 x 50 mm
060266	300, C18, 3 µm, 4.6 x 150 mm

Acclaim OA Analytical Columns

P/N	Description
062903	OA, 5 µm, 4 x 150 mm
062902	OA, 5 µm, 4 x 250 mm

Acclaim PolarAdvantage (PA) Analytical Columns

P/N	Description
063174	PA, C16, 3 µm, 2.1 x 50 mm
061316	PA, C16, 3 µm, 2.1 x 100 mm
061317	PA, C16, 3 µm, 2.1 x 150 mm
066274	PA, C16, 3 µm, 3.0 x 33 mm
066275	PA, C16, 3 µm, 3.0 x 75 mm
061318	PA, C16, 3 µm, 4.6 x 150 mm
061319	PA, C16, 5 µm, 4.6 x 50 mm
061320	PA, C16, 5 µm, 4.6 x 150 mm
061321	PA, C16, 5 µm, 4.6 x 250 mm

Acclaim PolarAdvantage II (PA2) Analytical Columns

P/N	Description
063187	PA2, C18, 3 µm, 2.1 x 150 mm
066276	PA2, C16, 3 µm, 3.0 x 33 mm
066277	PA2, C16, 3 µm, 3.0 x 7.5 mm
063189	PA2, C18, 3 µm, 4.6 x 50 mm
063191	PA2, C18, 3 µm, 4.6 x 150 mm
063197	PA2, C18, 5 µm, 4.6 x 150 mm
063199	PA2, C18, 5 µm, 4.6 x 250 mm

Acclaim Surfactant Analytical Columns

P/N	Description
063201	Surfactant, 5 µm, 4.6 x 150 mm
063203	Surfactant, 5 µm, 4.6 x 250 mm

Acclaim Guards

P/N	Description
059447	120, C18, 5 µm, 2.0 x 10 mm, 2 ea
059446	120, C18, 5 µm, 4.3 x 10 mm, 2 ea
059449	120, C8, 5 µm, 2.0 x 10 mm, 2 ea
059448	120, C8, 5 µm, 4.3 x 10 mm, 2 ea
060395	300, C18, 3 µm, 2.0 x 10 mm, 2 ea
060393	300, C18, 3 µm, 4.3 x 10 mm, 2 ea
062925	OA, 5 µm, 4.3 x 10 mm, 2 ea
061331	PA, C16, 5 µm, 2.0 x 10 mm, 2 ea
061332	PA, C16, 5 µm, 4.3 x 10 mm, 2 ea
063193	PA2, C18, 5 µm, 2.0 x 10 mm, 2 ea
063195	PA2, C18, 5 µm, 4.3 x 10 mm, 2 ea
063215	Surfactant, 5 µm, 4.3 x 10 mm, 2 ea
064303	Explosives E1, 5 µm, 4.3 x 10 mm, 2 ea
064307	Explosives E2, 5 µm, 4.3 x 10 mm, 2 ea
064986	Mixed-Mode WAX-1, 5 µm, 4.3 x 10 mm, 2 ea

Acclaim Guard Accessories

P/N	Description
059456	SST Guard Cartridge Holder
059457	Guard to Analytical Coupler
059526	Guard Kit (holder and coupler)

Acclaim Explosives Columns

P/N	Description
064305	Explosives E1, 5 µm, 4.6 x 250 mm
064309	Explosives E2, 5 µm, 4.6 x 250 mm

Acclaim Mixed-Mode WAX-1 Columns

P/N	Description
064894	Mixed-Mode WAX-1, 5 µm, 4.6 x 150 mm
064985	Mixed-Mode WAX-1, 5 µm, 4.6 x 250 mm