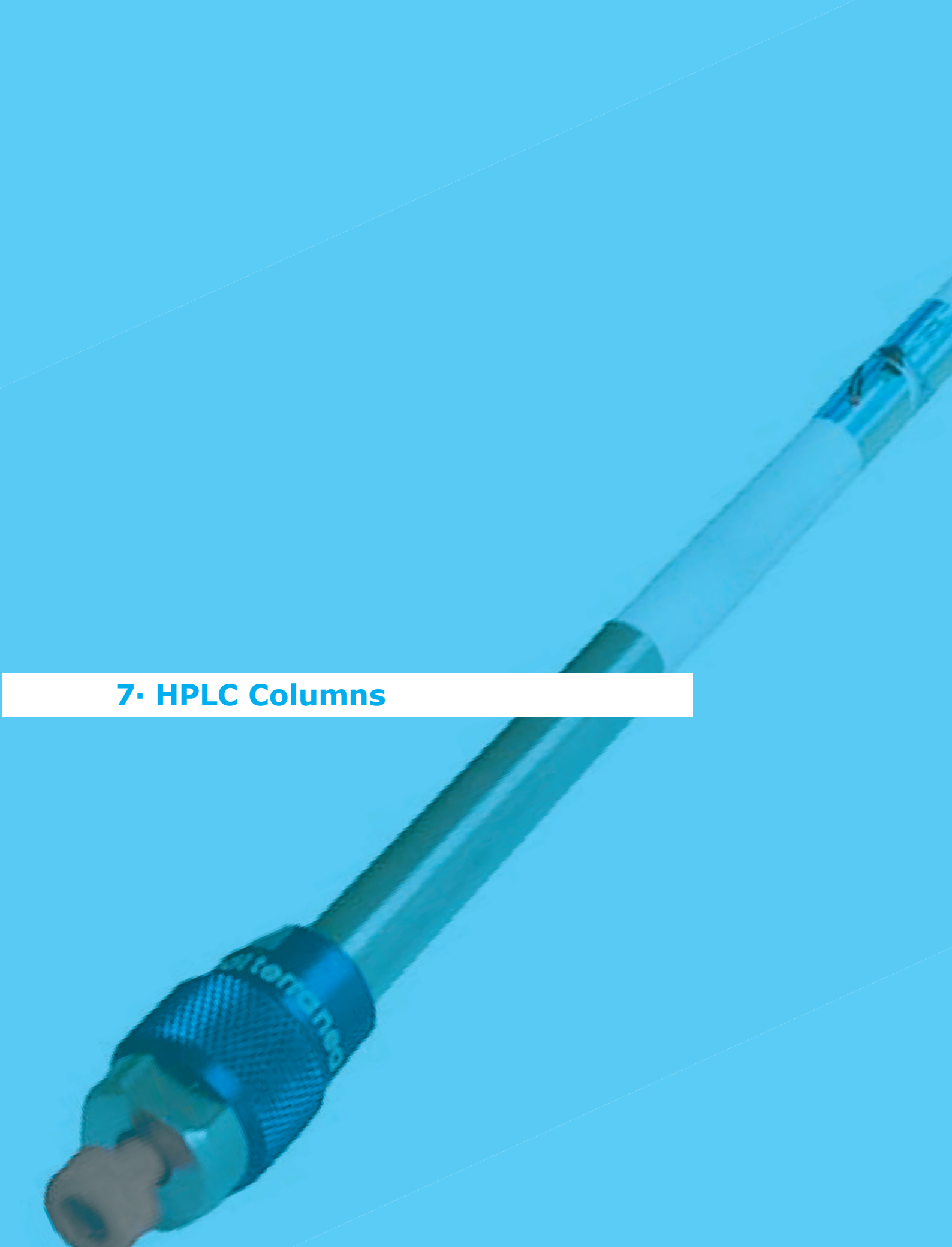
7· HPLC Columns



GIBNIK HPLC COLUMNS

Analytical Columns

To get HPLC columns with maximum efficiency and peak symmetry, GIBNIK uses tubing and connections designed and fully optimized to provide you superior performance than achievable with columns from the major manufacturers.
The analytical column, use the best bonding reagents, packing support materials ans proprietary procedures. The tubing uniformity and polished interior finish generates higher efficiencies than columns from the major manufacturers. The latest in current research trends are included in GIBNIK analytical columns; including smaller particle size, greater particle uniformity, reduced tubing internal diameters and shorter columns for LC-GC and LC-MS applications. GIBNIK columns are designed with a new generation of tubing interior surfaces, connections, end-fittings and packing procedures. Our proprietary procedures allows us to manufacture columns as small as 2 mm ID with 3 µm particles and columns as short as 5 cm long with 2 mmID with no loss in theoretical efficiency.

Microbore Columns

Low dispersion Chromatography

These columns of 2 and 3 mm of internal diameter, packed with the same packing than 3 and 5 µm analytical column, contribute to an important solvent saving and at the time a detectability considerable increase.

Sensibility of detection

Since the detectability depends on the grade of dilution of the sample while it passes through the column, a reduction of the internal diameter of the column redounds directly in a minor dilution and therefore in an increment of the detection sensibility.

Solvent Saving

The same chromatogram obtained with a conventional 4,6 mm ID column working at 2 mL/min can be obtained with a flow of 0,4 mL/min when it is worked with a 2,1 mm ID microbore column. This represents a 80 % saving of the eluyent wasted in HPLC, which means that for a standard job in a chromatograph will represent a saving of 15 liters of solvent.

Column (mm)	Eluyent Waste	Detectability
4.6	480	1
4.0	363	1.322
3.2	232	2.066
2.1	100	4.798
1.0	22.68	21.16

Ultrarapid Columns

High-Speed Chromatography

The use of ultrarapid columns is ideal when short times of analysis are needed (0.5-3.0 min) and high efficiencies of separation. These columns 3-10 cm of length, are packed with spherical packs of 3 µm, and offer efficiencies of 5-15000 N columns (equivalent to 120-150000 N/m), mores than enough for the majority of separations.

Sensibility of detection

Reducing the size of particle the dispersion of the sample in the inside of the column decreases also. In this way, the use of ultrarapid column give a significant improvement of the limit of detection when compared with the one obtained with analytical conventional columns.

High Resolution

Columns of 15-25 cm length packaged with 3 µm packs achieve efficiencies of over 30000 N/column, which can be very useful when very complex samples require high separation capabilities.

Economy

The reduced time of analysis that is achieved with these columns and therefore the elevated number of samples that can be processed per time unit, compared with conventional columns, allows optimizing to the full the performance of one chromatographic equipment. The extensive selection of available phases allows turning any chromatographic separation into ultrarapid, with all the advantages that this bears.

Instrumentation

The use of this kind of columns does not require any especial chromatographic equipment.

Preparative Columns

Preparative Chromatography

Preparative columns had been developed with the same criteria of quality and versatility that has taken us to lead the market on HPLC analytical columns.

Versatility

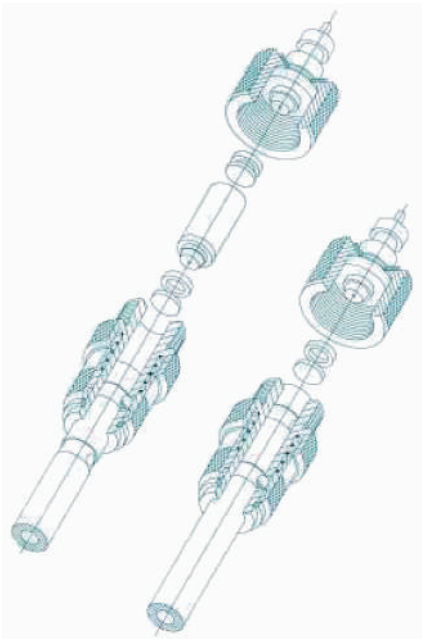
GIBNIK offers the highest range of phases of the market, covering practically all kind of functional groups. This simplifies enormously the transposition from the analytical scale to the preparative. Beside, a complete range of dimensions of column, from 7.8 mm to 21 mm of diameter, with lengths up to 25 cm and with a high selection of particle size, makes it easy the definition of the ideal configuration of column in relation to its volume capacity and the kind of chromatographic equipment available in the laboratory.

Quality

Each column is individually tested to guarantee that will fulfil the high standard of quality demanded, controlling the parameters of efficiency, peak symmetry and selectivity.

Analytical quality packing

The preparative columns packaged with 5 and 10 µm analytical packing offer exactly the same benefit levels then the correspondent analytical columns. Its high pressure packing ensures a high stability and consequently a long life of use.
The packing of preparative columns quality are the recommended for 20 mm ID or upper columns. These packings are manufactured under the same quality standards, with the difference that they present a particle size normally bigger and a size dispersion not as adjusted as the analytical packings.



1· GIBNIK KWIK-SNAP HPLC

Columns-Cartridges

GIBNIK KWIK-SNAP Quality

GIBNIK has always achieved its best in offering top-quality products and services. This quality-excellence philosophy has helped GIBNIK achieve HPLC market leadership wherever its products are marketed. Our research scientists have utilized the same quality-excellence philosophy to meticulously design the new KWIK-SNAP HPLC Cartridge System. KWIK-SNAP Cartridges are made from chosen materials and select bonded packings that guarantee the greatest column efficiency, peak symmetry and reproducibility.
In addition, GIBNIK proprietary Novabond™ packing procedures are the result of years of exhaustive research and detailed manufacturing of HPLC columns. Novabond packing procedures provide you with the best column efficiency, peak symmetry and column lifetime available on the market.

GIBNIK KWIK-SNAP Easy Handling

The mechanism for rapid connection designed in the KWIK-SNAP Cartridge System does not require you to use any tools for its assembly or dismantling. This design feature makes KWIK-SNAP columns simple and easy to handle.

GIBNIK KWIK-SNAP Functional Design

Without requiring any additional accessories, the KWIK-SNAP Cartridge System permits the insertion a 1cm-long precolumn at the head of the analytical cartridge. This is achieved without introducing any dead volume, thereby maximizing column efficiency and peak symmetry

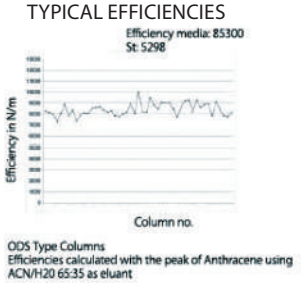
GIBNIK KWIK-SNAP Efficiency

The KWIK-SNAP HPLC Cartridge supplies the highest theoretical efficiency. These typically high efficiencies are achieved due to the zero dead-volume connections and proprietary KWIK-SNAP packing procedures.

Particle Size µm	Typical Efficiecies N/m
3	120-150.000
5	80-110.000
10	35-65.000

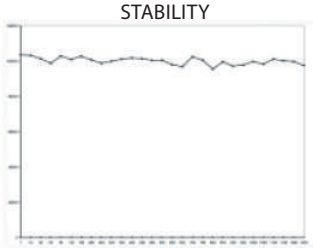
OTHER CONFIGURATIONS ON APPLICATION

TYPICAL EFFICIENCIES



ODS Type Columns
Efficiencies calculated with the peak of Anthracene using ACN/H20 65:35 as eluant

STABILITY



Nº of injections

GIBNIK KWIK-SNAP Stability

The design of the GIBNIK KWIK-SNAP HPLC Cartridge System ensures not only maximum efficiencies, but also long useful lifetimes. GIBNIK KWIK-SNAP Cartridges provide maximum stability for packing materials in the precolumn and anlytical column cartridges, no matter how frequently the precolumn is exchanged.

GIBNIK KWIK-SNAP Reproducibility

Only the best bonded packings are available in the GIBNIK KWIK-SNAP HPLC Cartridges in order to guarantee the best column-to-column reproducibility for selectivity, resolution, stability and chromatographic efficiency.

GIBNIK KWIK-SNAP Versatility

GIBNIK provides a wide range of bonded packings and configurations in the GIBNIK KWIK-SNAP HPLC Cartridge System. This includes the most popular bonded packings on the market as well as packings for special applications. The GIBNIK KWIK-SNAP versatility of packings represents a great advantage over other cartridge systems that normally limit the range of packings to one or a few select packings.

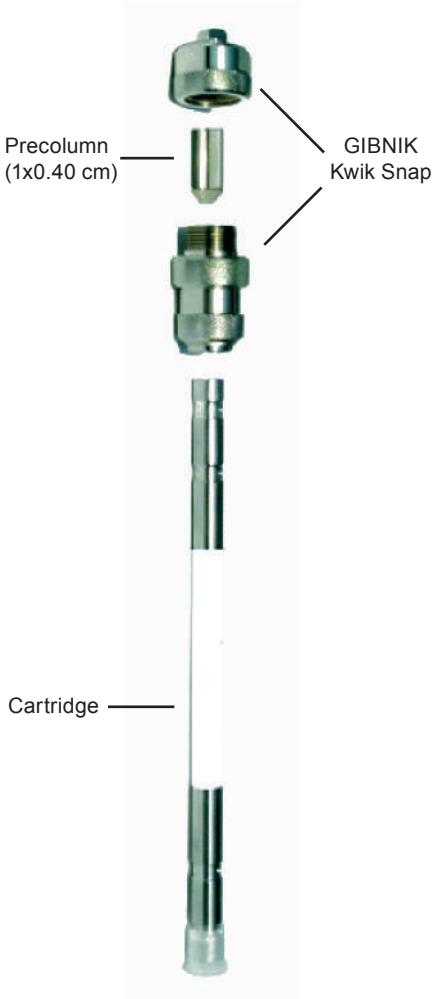
- Packings of 3, 4 and 10 µm
- Lengths of 7.5, 15 and 25 cm
- Different internal diameters
- Packings of Nucleosil 100, Nucleosil 120, Kromasil, Hypersil, Lichrosorb, Lichrosphere, Supersphere

Guarantee

At GIBNIK, we guarantee the maximum quality of our products. This starts with quality in the mechanical components and finishes with final computarized quality control test on each GIBNIK KWIK-SNAP HPLC Cartridge. Our quality controls ensure that you will receive only those cartridges which conform to the high quality demanded in our GIBNIK KWIK-SNAP Cartridge specifications.

Economy

To the criteria of maximum functionality and quality, we have also integrated the criterion of economy in the GIBNIK KWIK-SNAP Cartridge System. The Novabond bonding and packing processes are rigidly controlled to produce superior yealds of high-quality products. The Novabond processing makes GIBNIK KWIK-SNAP the most economical choice in the global HPLC market.



HPLC CARTRIDGES KIT & ACCESSORIES

Description	Item nº
GIBNIK KWIK-SNAP Fast coupling accessorie (pk2)	KKS-029-000
Teflon Seals (pk10)	KKS-015324

GUARD COLUMN CARTRIDGE

Function	Pkg	Reference
SILICA	5 units	KKS-015325
ODS	5 units	KKS-015326
CN	5 units	KKS-015327
NH2	5 units	KKS-015328
SAX	5 units	KKS-015329
SCX	5 units	KKS-015330
CARBOHID	5 units	KKS-015531
ANIONS	5 units	KKS-015335
C-8	5 units	KKS-015510
DIOL	5 units	KKS-015511
C6H5	5 units	KKS-015512
C-1	5 units	KKS-015513

HPLC COLUMN-CARTRIDGES

KWIK-SNAP CARTRIDGE MEDITERRANEA SEA 0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
Sea18	3	KKS-010063	KKS-010064	KKS-010065	KKS-010066
Sea8	3	KKS-010465	KKS-010466	KKS-010467	KKS-010468
Sea4	3	KKS-010469	KKS-010470	KKS-010471	KKS-010472
Sea18	5	KKS-010035	KKS-010036	KKS-010037	KKS-010038
Sea8	5	KKS-010423	KKS-010424	KKS-010425	KKS-010426
Sea4	5	KKS-010427	KKS-010428	KKS-010429	KKS-010430

KWIK-SNAP CARTRIDGE EXCEL 120 0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-A	3	KKS-016427	KKS-016428	KKS-015731
ODS-B	3	KKS-015732	KKS-015733	KKS-015734
Si	3	KKS-015735	KKS-015736	KKS-015737
C8	3	KKS-015738	KKS-015739	KKS-015740
C4	3	KKS-015741	KKS-015742	KKS-015743
C1	3	KKS-015744	KKS-015745	KKS-015746
NH2	3	KKS-015747	KKS-015748	KKS-015749
CN	3	KKS-015750	KKS-015751	KKS-015752
Phenyl	3	KKS-015753	KKS-015754	KKS-015755
ODS-A	5	KKS-015693	KKS-015694	KKS-015695
ODS-B	5	KKS-015696	KKS-015697	KKS-015698
Si	5	KKS-015705	KKS-015706	KKS-015707
C8	5	KKS-015708	KKS-015709	KKS-015710
C4	5	KKS-015714	KKS-015715	KKS-015716
C1	5	KKS-015717	KKS-015718	KKS-015719
NH2	5	KKS-015720	KKS-015721	KKS-015722
CN	5	KKS-015723	KKS-015724	KKS-015725
Phenyl	5	KKS-015726	KKS-015727	KKS-015728

KWIK-SNAP CARTRIDGE EXCEL 300 0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-A	5	KKS-416417	KKS-416418	KKS-416419
C8	5	KKS-416420	KKS-416421	KKS-416422
C4	5	KKS-416423	KKS-416424	KKS-416425

KWIK-SNAP CARTRIDGE EXTRASIL
0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
ODS-1	3	KKS-015666	KKS-015667	KKS-015668
ODS-2	3	KKS-015669	KKS-015670	KKS-015671
Si	3	KKS-015672	KKS-015673	KKS-015674
C-1	3	KKS-015675	KKS-015676	KKS-015677
C-6	3	KKS-015678	KKS-015679	KKS-015680
C-8	3	KKS-015681	KKS-015682	KKS-015683
CN	3	KKS-015684	KKS-015685	KKS-015686
NH2	3	KKS-015687	KKS-015688	KKS-015689
Phenyl	3	KKS-015690	KKS-015691	KKS-015692
ODS-1	5	KKS-015600	KKS-015601	KKS-015602
ODS-2	5	KKS-015603	KKS-015604	KKS-015605
Si	5	KKS-015606	KKS-015607	KKS-015608
C-1	5	KKS-015609	KKS-015610	KKS-015611
C-6	5	KKS-015612	KKS-015613	KKS-015614
C-8	5	KKS-015615	KKS-015616	KKS-015617
CN	5	KKS-015618	KKS-015619	KKS-015620
NH2	5	KKS-015621	KKS-015622	KKS-015623
Phenyl	5	KKS-015624	KKS-015625	KKS-015626
SCX	5	KKS-015627	KKS-015628	KKS-015629
SAX	5	KKS-015630	KKS-015631	KKS-015632
ODS-1	10	KKS-015633	KKS-015634	KKS-015635
ODS-2	10	KKS-015636	KKS-015637	KKS-015638
Si	10	KKS-015639	KKS-015640	KKS-015641
C-1	10	KKS-015642	KKS-015643	KKS-015644
C-6	10	KKS-015645	KKS-015646	KKS-015647
CN	10	KKS-015651	KKS-015652	KKS-015653
NH2	10	KKS-015654	KKS-015655	KKS-015656
SCX	10	KKS-015660	KKS-015661	KKS-015662
SAX	10	KKS-015663	KKS-015664	KKS-015665

KWIK-SNAP CARTRIDGE ADVANTIX
0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
ODS	5	KKS-010249	KKS-010250	KKS-010251	KKS-010252

KWIK-SNAP CARTRIDGE HYPERPACK
0.40 cmID

Function	µm	length (cm)			
		7.5	10	15	25
C8	5	KKS-011049	KKS-011050	KKS-011051	KKS-011052

KWIK-SNAP CARTRIDGE NUCLEOSIL 100
0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	3	KKS-015462	KKS-015463	KKS-015464
C18	3	KKS-015465	KKS-015466	KKS-015467
Si	5	KKS-015514	KKS-015515	KKS-015516
C18	5	KKS-015517	KKS-015518	KKS-015519
C8	5	KKS-015520	KKS-015521	KKS-015522
C2	7	KKS-015523	KKS-015524	KKS-015525
C6H5	5	KKS-015526	KKS-015527	KKS-015528
CN	5	KKS-015529	KKS-015530	KKS-015531
NO2	5	KKS-015532	KKS-015533	KKS-015534
NH2	5	KKS-015535	KKS-015536	KKS-015537
N(CH3)2	5	KKS-015538	KKS-015539	KKS-015540
DIOL	7	KKS-015118	KKS-015119	KKS-015120
SAX	5	KKS-015121	KKS-015122	KKS-015123
SB	5	KKS-015124	KKS-015125	KKS-015126
Si	10	KKS-016598	KKS-015541	KKS-015542
C18	10	KKS-015543	KKS-015544	KKS-015545
C8	10	KKS-015546	KKS-015547	KKS-015548
CN	10	KKS-015549	KKS-015550	KKS-015551
NO2	10	KKS-015552	KKS-015553	KKS-015554
NH2	10	KKS-015555	KKS-015556	KKS-015599
SAX	10	KKS-015151	KKS-015152	KKS-015153
SB	10	KKS-015154	KKS-015155	KKS-015156

KWIK-SNAP CARTRIDGE NUCLEOSIL 120
0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	3	KKS-015468	KKS-015469	KKS-015470
C8	3	KKS-015471	KKS-015472	KKS-015473
C18	3	KKS-015474	KKS-015475	KKS-015476
Si	5	KKS-015100	KKS-015101	KKS-015102
C18	5	KKS-015103	KKS-015104	KKS-015105
C8	5	KKS-015106	KKS-015107	KKS-015108
C6H5	7	KKS-015109	KKS-015110	KKS-015111
CN	7	KKS-015112	KKS-015113	KKS-015114
NH2	7	KKS-015115	KKS-015116	KKS-015117
Si	10	KKS-015130	KKS-015131	KKS-015132
C18	10	KKS-015133	KKS-015134	KKS-015135
C8	10	KKS-015136	KKS-015137	KKS-015138

KWIK-SNAP CARTRIDGE LICHROSORB
0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
RP-18	5	KKS-015199	KKS-015200	KKS-015201
RP-8	5	KKS-015202	KKS-015203	KKS-015204
CN	5	KKS-015211	KKS-015212	KKS-015213
RP-18	10		KKS-015182	KKS-015183
RP-8	10	KKS-015184	KKS-015185	KKS-015186
DIOL	10	KKS-015187	KKS-015188	KKS-015189
CN	10	KKS-015193	KKS-015194	KKS-015195
RP-SELECT B	10	KKS-015561	KKS-015562	KKS-015563

KWIK-SNAP CARTRIDGE LICHROSPHER 0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
100 RP-18	5	KKS-015241	KKS-015242	KKS-015243
100RP-18 ec	5	KKS-015244	KKS-015245	KKS-015246
100 RP-8	5	KKS-015247	KKS-015248	KKS-015249
100 RP-8 ec	5	KKS-015250	KKS-015251	KKS-015252
100 NH2	5	KKS-015253	KKS-015254	KKS-015255
100 CN	5	KKS-015256	KKS-015257	KKS-015258
100 DIOL	5	KKS-015259	KKS-015260	KKS-015261
60 RP-SELECT B	5	KKS-015572	KKS-015573	KKS-015574
Si 100	10	KKS-015214	KKS-015215	KKS-015216
100 RP-18	10	KKS-015217	KKS-015218	KKS-015219
100RP-18 ec	10	KKS-015220	KKS-015221	KKS-015222
100 RP-8	10	KKS-015223	KKS-015224	KKS-015225
100 RP-8 ec	10	KKS-015226	KKS-015227	KKS-015228
100 NH2	10	KKS-015229	KKS-015230	KKS-015231
100 CN	10	KKS-015232	KKS-015233	KKS-015234

KWIK-SNAP CARTRIDGE SUPERSHER 0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si 60	4		KKS-015263	KKS-015264
60 RP-8	4	KKS-015265	KKS-015266	KKS-015267
100 RP-18	4	KKS-015268	KKS-015269	KKS-015270
60 RP-8 ec	4	KKS-015271	KKS-015272	KKS-015273
100 RP-18 ec	4	KKS-015274	KKS-015275	KKS-015276

KWIK-SNAP CARTRIDGE PARTISIL 0.40 cmID

Function	µm	length (cm)		
		7.5	15	25
Si	5	KKS-015423	KKS-015424	KKS-015425
ODS 3	5	KKS-015426	KKS-015427	KKS-015428
C8	5	KKS-015429	KKS-015430	KKS-015431
PAC	5	KKS-015432	KKS-015433	KKS-015434
Si	10	KKS-015435	KKS-015436	KKS-015437
ODS	10	KKS-015438	KKS-015439	KKS-015440
ODS 2	10	KKS-015441	KKS-015442	KKS-015443
ODS 3	10	KKS-015444	KKS-015445	KKS-015446
PAC	10	KKS-015447	KKS-015448	KKS-015449
SAX	10	KKS-015450	KKS-015451	KKS-015452
SCX	10	KKS-015453	KKS-015454	KKS-015455

2· GIBNIK MEDITERRANEA SEA18

The mediterranea™ sea18 column provides a performance level that, until now, has not been reached in efficiency, inertness, pH robustness, reproducibility and reliability. mediterranea™ sea18 columns simplify and make your HPLC work more pleasant. You won't worry about the extreme basic or acidic natures of your samples with the mediterranea™ sea18 column.

New Generation HPLC Column

Purity of Silica

After evaluating many materials as a base for the global-best reverse phase chromatographic packing, the clear consensus is that the special characteristics of silica packings classify them as unsurpassable. No other packing material, apart from ultrapure silica, achieves the perfect balance of physical resistance, functional use, chemical inertness, reproducibility and efficiency. Ultra-pure silica is also compatible with practically all solvents.

An essential condition for obtaining the global-best reverse phase packing is extremely pure silica. The silica particle, on which the new mediterranea™ sea18 packing is based, is obtained from ultra-pure materials, using rigorously controlled manufacturing processes to ensure that the slightest possibility of contamination is avoided. The mediterranea™ sea18 silica required intensive optimisation of numerous processing factors to achieve a perfectly spherical, rigid and inert particle possessing unusually low metal content. The almost total absence of metals is one of the pillars over which the extraordinary properties of the mediterranea™sea18 column reside.

More than 98% of the silica surface area responsible for chromatographic separation of the sample is found inside the particle - within the pores. This explains the extreme importance of obtaining a very homogeneous pore distribution and the least possible number of nanopores. For most reverse-phase silica packings, these nanopores are not properly chemically bonded, endcapped or deactivated. So when nanopores are accessible to analytes, surface-analyte interactions frequently dominate. These surface-analyte interactions slow down the chromatographic process ("load transfer"), often resulting in decreased column efficiency. These treacherous nanopores may also negatively influence the phenomenon of dewetting which occurs with totally aqueous mobile phases.

Multifunctional Endcapping Deactivation (MED)

The endcapping process is a critical step in obtaining a perfectly deactivated mediterranea™ sea18 column. Our proprietary Multifunctional Endcapping Deactivation (MED) technology maximizes surface-bonding, blocking practically all the active centres that may have remained on the surface of the silica after bonding the C18 chains. Thanks to our new MED technology, the mediterranea™ sea18 column enjoys an unusual low level of silanol activity - helping you to obtain symmetrical peaks from even the most basic and acidic pharmaceuticals and their metabolites. mediterranea™ sea18 bonding chemistries will help you to achieve an extraordinary resistance and column lifetime when running at extreme pH levels.

Moreover, the mediterranea™ sea18 column has been designed to show an excellent retention of polar compounds in a 100 % aqueous environment without the problems of unwanted interactions which inefficiently endcapped conventional packings produce. Packing chemistry based on the new MED technology, "multifunctional endcapping deactivated", achieves levels of deactivation, resistance to extreme pH values and versatility in its chromatographic applications never reached by conventional or polar-embedded reverse phase packings. The MED technology has been rigorously developed to achieve the maximum reproducibility, with the objective that its chromatographic separations will be, column to column, exactly the same.

Specifications:

- Efficiency, inertness, PH-robutness, reproducibility and reliabiliy has not been reach until now
- Purity of Silica
- MED Technology (Multifunctional Endcapping Deactivation)
- Optimised Porosity SEA(Surface enhanced accessibility)
- 100 % aqueous or reverse phase standard
- Excellent results in the test of characterization of phase NIST SRM870
- Possible to work with eluents from pH 1 to pH 12
- Extremely low bleed allows its use in LC/MS applications

MEDITERRANEA SEA COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Sea18	5	KKS-010000	KKS-010001	KKS-010002	KKS-010003	KKS-010004	KKS-010005	KKS-010006
Sea8	5	KKS-010355	KKS-010356	KKS-010357	KKS-010358	KKS-010359	KKS-010360	KKS-010361
Sea4	5	KKS-010362	KKS-010363	KKS-010364	KKS-010365	KKS-010366	KKS-010367	KKS-010368

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Sea18	5	KKS-010007	KKS-010008	KKS-010009	KKS-010010	KKS-010011	KKS-010012	KKS-010013
Sea8	5		KKS-410368	KKS-410369	KKS-410370	KKS-410371	KKS-410372	KKS-410373
Sea4	5	KKS-410374	KKS-410375	KKS-410376	KKS-410377	KKS-410378	KKS-410379	KKS-410380

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Sea18	3	KKS-010039	KKS-010040	KKS-010041	KKS-010042	KKS-010043	KKS-010044	KKS-010045
Sea8	3	KKS-010431	KKS-010432	KKS-010433	KKS-010434	KKS-010435	KKS-010436	KKS-010437
Sea4	3	KKS-010438	KKS-010439	KKS-010440	KKS-010441	KKS-010442	KKS-010443	KKS-010444

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Sea18	3	KKS-010046	KKS-010047	KKS-010048	KKS-010049	KKS-010050	KKS-010051	KKS-010052
Sea8	3	KKS-410431	KKS-410432	KKS-410433	KKS-410434	KKS-410435	KKS-410436	KKS-410437
Sea4	3	KKS-410438	KKS-410439	KKS-410440	KKS-410441	KKS-410442	KKS-410443	KKS-410444

MICROBORE COLUMNS

0.21 cm ID

Function	µm	length (cm)				
		3	5	10	15	20
Sea18	3	KKS-010053	KKS-010054	KKS-010055	KKS-010056	KKS-010057
Sea8	3	KKS-010445	KKS-010446	KKS-010447	KKS-010448	KKS-010449
Sea4	3	KKS-010450	KKS-010451	KKS-010452	KKS-010453	KKS-010454
Sea18	5	KKS-010014	KKS-010015	KKS-010016	KKS-010017	KKS-010018
Sea8	5	KKS-010381	KKS-010382	KKS-010383	KKS-010384	KKS-010385
Sea4	5	KKS-010386	KKS-010387	KKS-010388	KKS-010389	KKS-010390

0.30 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
Sea18	3	KKS-010058	KKS-010059	KKS-010060	KKS-010061	KKS-010062	
Sea8	3	KKS-010455	KKS-010456	KKS-010457	KKS-010458	KKS-010459	
Sea4	3	KKS-010460	KKS-010461	KKS-010462	KKS-010463	KKS-010464	
Sea18	5	KKS-010019	KKS-010020	KKS-010021	KKS-010022	KKS-010023	KKS-010024
Sea8	5	KKS-010391	KKS-010392	KKS-010393	KKS-010394	KKS-010395	KKS-010396
Sea4	5	KKS-010397	KKS-010398	KKS-010399	KKS-010400	KKS-010401	KKS-010402

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)		
		10	15	25
Sea18	5	KKS-010025	KKS-010026	KKS-010027
Sea8	5	KKS-010403	KKS-010404	KKS-010405
Sea4	5	KKS-010413	KKS-010414	KKS-010415

1.00 cm ID

Function	µm	length (cm)		
		5	10	15
Sea18	5	KKS-010028	KKS-010029	KKS-010030
Sea8	5	KKS-010406	KKS-010407	KKS-010408
Sea4	5	KKS-010416	KKS-010417	KKS-010418

2.12 cm ID

Function	µm	length (cm)			
		5	10	15	25
Sea18	5	KKS-010031	KKS-010032	KKS-010033	KKS-010034
Sea8	5	KKS-010409	KKS-010410	KKS-010411	KKS-010412
Sea4	5	KKS-010419	KKS-010420	KKS-010421	KKS-010422

3· GIBNIK EUROPA Columns for Peptides and Proteins

Manufactured using novel proprietary technologies, analytical and preparative Europa columns are simply the best reverse phase columns available today. As a result of these, we launch into the market the Line of Europa HPLC columns, one of the best columns in the fi eld of analysis of biomolecules. The Europa HPLC columns for peptides and proteins, provide the best performance and unsurpassed effi ciency, reliability and reproducibility. There is still a consensus that the best material to use as chromatographic packing continues to be silica. The particles of silica material are physically resistant, enable multiple functions, present maximum levels of effi ciency and are also compatible with practically all solvents.
The silica particle on which the Europa columns is based is the result of an optimisation process, starting with extremely pure materials with unusually low metal content, and obtaining a perfectly spherical, rigid and inert particle.
Furthermore, the propietary "porifi cation process" (Surface Enhanced Accessibility, SEA) for Europa silica has achieved high surface area without sacrifi cing important properties like physical resistence and high loading capacity- making it ideal for preparative-scale processing.
In addition, the Surface Enhanced Accessibility manufacturing process creates a porous structure that ensures maximum transfer speeds for solutes between the stationary and mobile phases- resulting in higher separation effi ciency.
Our "Ultra-Fast" Europa columns are made in 3-5 cm length in order to get quick analytical results, whereas the "High Effi ciency" columns are normally in 15-25 cm lengths to obtain best resolution.
The Europa Columns are uniquely designed with optimized pore size distribution; 120Å for Peptide and 300Å for the Protein Columns.
Europa columns are available for:
Peptides: Europa C18 with 0.21, 0.30, 0.40, 0.46, 0.78, 1.0 and 2.12 cm.
Proteins: Europa C18, C8 and C4 with 0.21, 0.30, 0.40, 0.46, 0.78, and 2.12 cm.

Purity of silica
The responsibility for chromatographic separation of peptides and proteins is found inside the particle-within the pores. To obtain a very homogeneous pore distribution the least possible number of nanopores is essential.
For most reverse-phase silica packings, these nanopores are not properly chemically bonded, endcapped or deactivated. So when nanopores are accessible to the peptides and proteins, surfacepeptide and protein interactions frequently dominate. These interactions often result in a decrease of column efficiency.

Specifications:
- Ultra high purity, totally spherical silica gel
- High density bonding for extreme performance proprietary fully end-capped silica
- Porous Size: 120 Å, narrow particle size distribution
- Surface Area 300 m^2/g
- % of Carbon 19 %
- High loading capacity of crude peptides
- Stable under basic and extreme acidic conditions
- Packed with 5µm sized silica particles

EUROPA COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Peptide 120 - C18	5	KKS-010116	KKS-010117	KKS-010118	KKS-010119	KKS-010120	KKS-010121	KKS-010122
Protein 300 - C18	5	KKS-010158	KKS-010159	KKS-010160	KKS-010161	KKS-010162	KKS-010163	KKS-010164
Protein 300 - C8	5	KKS-010151	KKS-010152	KKS-010153	KKS-010154	KKS-010155	KKS-010156	KKS-010157
Protein 300 - C4	5	KKS-010081	KKS-010082	KKS-010083	KKS-010084	KKS-010085	KKS-010086	KKS-010087

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
Peptide 120 - C18	5	KKS-010123	KKS-010124	KKS-010125	KKS-010126	KKS-010127	KKS-010128	KKS-010129
Protein 300 - C18	5	KKS-010172	KKS-010173	KKS-010174	KKS-010175	KKS-010176	KKS-010177	KKS-010178
Protein 300 - C8	5	KKS-010165	KKS-010166	KKS-010167	KKS-010168	KKS-010169	KKS-010170	KKS-010171
Protein 300 - C4	5	KKS-010088	KKS-010089	KKS-010090	KKS-010091	KKS-010092	KKS-010093	KKS-010094

MICROBORE COLUMNS

0.21 cm ID

Function	µm	length (cm)				
		3	5	10	15	20
Peptide 120 - C18	5	KKS-010130	KKS-010131	KKS-010132	KKS-010133	KKS-010134
Protein 300 - C18	5	KKS-010184	KKS-010185	KKS-010186	KKS-010187	KKS-010188
Protein 300 - C8	5	KKS-010179	KKS-010180	KKS-010181	KKS-010182	KKS-010183
Protein 300 - C4	5	KKS-010095	KKS-010096	KKS-010097	KKS-010098	KKS-010099

0.30 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
Peptide 120 - C18	5	KKS-010135	KKS-010136	KKS-010137	KKS-010138	KKS-010139	KKS-010140
Protein 300 - C18	5	KKS-010195	KKS-010196	KKS-010197	KKS-010198	KKS-010199	KKS-010200
Protein 300 - C8	5	KKS-010189	KKS-010190	KKS-010191	KKS-010192	KKS-010193	KKS-010194
Protein 300 - C4	5	KKS-010100	KKS-010101	KKS-010102	KKS-010103	KKS-010104	KKS-010105

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)		
		10	15	25
Peptide 120 - C18	5	KKS-010141	KKS-010142	KKS-010143
Protein 300 - C18	5	KKS-010211	KKS-010212	KKS-010213
Protein 300 - C8	5	KKS-010201	KKS-010202	KKS-010203
Protein 300 - C4	5	KKS-010106	KKS-010107	KKS-010108

1.00 cm ID

Function	µm	length (cm)		
		10	15	25
Peptide 120 - C18	5	KKS-010144	KKS-010145	KKS-010146
Protein 300 - C18	5	KKS-010214	KKS-010215	KKS-010216
Protein 300 - C8	5	KKS-010204	KKS-010205	KKS-010206
Protein 300 - C4	5	KKS-010109	KKS-010110	KKS-010111

2.12 cm ID

Function	µm	length (cm)			
		5	10	15	25
Peptide 120 - C18	5	KKS-010147	KKS-010148	KKS-010149	KKS-010150
Protein 300 - C8	5	KKS-010207	KKS-010208	KKS-010209	KKS-010210
Protein 300 - C4	5	KKS-010112	KKS-010113	KKS-010114	KKS-010115

4· GIBNIK EXCEL Columns

EXCEL™ is a range of totally new packings that employ the most advanced procedures of synthesis and chemical functionalization, resulting in some column packings that completely surpass other silica-based packings on the market.
To manufacture the silica particle, the basis of all EXCEL packings, we begin with materials of extreme purity and follow strictly controlled processes. In this way, we get a totally porous, spherically perfect particle, without surface irregularities and with an extremely low content of metals (Al, Fe, Ti and Zn).
The rigorous control of the process variables also allows us to obtain a material with a perfectly reproducible porosity and surface area, and with a practical absence of micropores. In other competitors' packings, these micropores cause chromatographic problems due to incomplete substitution of the support, while with EXCEL packings micropores are totally eliminated.
We are therefore able to offer you a complete line of HPLC packings with characteristics of reproducibility, purity, deactivation, fluido-dynamic behaviour and chemical and physical stability that are difficult to beat.

- Exceptional batch-to-batch reproducibility
- Ultra-pure silica
- Extremely low content of metals
- Perfect sphericity
- Meticulously controlled materials
- Maximum pH range (between 1.5 and 11.0)
- 3, 5 and 10 µm particles
- Easily scaled-up, from microbore to preparative HPLC
- Available with 300A pore size for biochromatography
- Exceptional long lifetime
- Wide range of packings
- Fully deactivated after functional bonding

EXCEL 120 COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-016336	KKS-016337	KKS-016338	KKS-016339	KKS-016340
ODS-B	5	KKS-016341	KKS-016342	KKS-016343	KKS-016344	KKS-016345
Si	5	KKS-016356	KKS-016357	KKS-016358	KKS-016359	KKS-016360
C8	5	KKS-016361	KKS-016362	KKS-016363	KKS-016364	KKS-016365
C4	5	KKS-016366	KKS-016367	KKS-016368	KKS-016369	KKS-016370
C1	5	KKS-016371	KKS-016372	KKS-016373	KKS-016374	KKS-016375
NH2	5	KKS-016376	KKS-016377	KKS-016378	KKS-016379	KKS-016380
CN	5	KKS-016381	KKS-016382	KKS-016383	KKS-016384	KKS-016385
Phenyl	5	KKS-016386	KKS-016387	KKS-016388	KKS-016389	KKS-016390

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-416336	KKS-416337	KKS-416338	KKS-416339	KKS-416340
ODS-B	5	KKS-416341	KKS-416342	KKS-416343	KKS-416344	KKS-416345
Si	5	KKS-416356	KKS-416357	KKS-416358	KKS-416359	KKS-416360
C8	5	KKS-416361	KKS-416362	KKS-416363	KKS-416364	KKS-416365
C4	5	KKS-416366	KKS-416367	KKS-416368	KKS-416369	KKS-416370
C1	5	KKS-416371	KKS-416372	KKS-416373	KKS-416374	KKS-416375
NH2	5	KKS-416376	KKS-416377	KKS-416378	KKS-416379	KKS-416380
CN	5	KKS-416381	KKS-416382	KKS-416383	KKS-416384	KKS-416385
Phenyl	5	KKS-416386	KKS-416387	KKS-416388	KKS-416389	KKS-416390

0.30 cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-021355	KKS-021356
ODS-B	5	KKS-021357	KKS-021358
Si	5	KKS-021381	KKS-021382
C8	5	KKS-021383	KKS-021384
C4	5	KKS-021385	KKS-021386
C1	5	KKS-021387	KKS-021388
NH2	5	KKS-021389	KKS-021390
CN	5	KKS-021391	KKS-021392
Phenyl	5	KKS-021393	KKS-021394

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	3	KKS-013415	KKS-013416	KKS-013417	KKS-013418	KKS-013419
ODS-B	3	KKS-013420	KKS-013421	KKS-013422	KKS-013423	KKS-013424
Si	3	KKS-013425	KKS-013426	KKS-013427	KKS-013428	KKS-013429
C8	3	KKS-013430	KKS-013431	KKS-013432	KKS-013433	KKS-013434
C4	3	KKS-013435	KKS-013436	KKS-013437	KKS-013438	KKS-013439
C1	3	KKS-013440	KKS-013441	KKS-013442	KKS-013443	KKS-013444
NH2	3	KKS-013445	KKS-013446	KKS-013447	KKS-013448	KKS-013449
CN	3	KKS-013450	KKS-013451	KKS-013452	KKS-013453	KKS-013454
Phenyl	3	KKS-013455	KKS-013456	KKS-013457	KKS-013458	KKS-013459

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	3	KKS-413460	KKS-413461	KKS-413462	KKS-413463	KKS-413464
ODS-B	3	KKS-413465	KKS-413466	KKS-413467	KKS-413468	KKS-413469
Si	3	KKS-413470	KKS-413471	KKS-413472	KKS-413473	KKS-413474
C8	3	KKS-413475	KKS-413476	KKS-413477	KKS-413478	KKS-413479
C4	3	KKS-413480	KKS-413481	KKS-413482	KKS-413483	KKS-413484
C1	3	KKS-413485	KKS-413486	KKS-413487	KKS-413488	KKS-413489
NH2	3	KKS-413490	KKS-413491	KKS-413492	KKS-413493	KKS-413494
CN	3	KKS-413495	KKS-413496	KKS-413497	KKS-413498	KKS-413499
Phenyl	3	KKS-413500	KKS-413501	KKS-413502	KKS-413503	KKS-413504

MICROBORE COLUMNS

0.21cm ID

Function	µm	length (cm)	
		10	20
ODS-A	3	KKS-021407	KKS-021408
ODS-B	3	KKS-021409	KKS-021410
Si	3	KKS-021411	KKS-021412
C8	3	KKS-021413	KKS-021414
C4	3	KKS-021415	KKS-021416
C1	3	KKS-021417	KKS-021418
NH2	3	KKS-021419	KKS-021420
CN	3	KKS-021421	KKS-021422
Phenyl	3	KKS-021423	KKS-021424
ODS-B	5	KKS-021353	KKS-021354
Si	5	KKS-021395	KKS-021364
C8	5	KKS-021365	KKS-021366
C4	5	KKS-021367	KKS-021368
C1	5	KKS-021369	KKS-021370
NH2	5	KKS-021371	KKS-021372
CN	5	KKS-021373	KKS-021374
Phenyl	5	KKS-021375	KKS-021376

0.30cm ID

Function	µm	length (cm)	
		10	20
ODS-A	3	KKS-021425	KKS-021426
ODS-B	3	KKS-021427	KKS-021428
Si	3	KKS-021429	KKS-021430
C8	3	KKS-021431	KKS-021432
C4	3	KKS-021433	KKS-021434
C1	3	KKS-021435	KKS-021436
APS	3	KKS-021437	KKS-021438

SEMIPREPARATIVE COLUMNS

0.78cm ID

Function	µm	length (cm)	
		15	25
ODS-A	5	KKS-016167	KKS-016168
ODS-B	5	KKS-016171	KKS-016172
Si	5	KKS-016175	KKS-016176
C8	5	KKS-016179	KKS-016180
C4	5	KKS-016183	KKS-016184
C1	5	KKS-016187	KKS-016188
NH2	5	KKS-016191	KKS-016192
CN	5	KKS-016195	KKS-016196
Phenyl	5	KKS-016199	KKS-016200

1.00cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-016169	KKS-016170
ODS-B	5	KKS-016173	KKS-016174
Si	5	KKS-016177	KKS-016178
C8	5	KKS-016181	KKS-016182
C4	5	KKS-016185	KKS-016186
C1	5	KKS-016189	KKS-016190
NH2	5	KKS-016193	KKS-016194
CN	5	KKS-016197	KKS-016198
Phenyl	5	KKS-016201	KKS-016202

EXCEL 300 COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-016400	KKS-016401	KKS-016402	KKS-016403	KKS-016404
C8	5		KKS-016406	KKS-016407	KKS-016408	KKS-016409
C4	5		KKS-016411	KKS-016412	KKS-016413	KKS-016414

0.40cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-A	5	KKS-416400	KKS-416401	KKS-416402	KKS-416403	KKS-416404
C8	5	KKS-416405	KKS-416406	KKS-416407	KKS-416408	KKS-416409
C4	5	KKS-416410	KKS-416411	KKS-416412	KKS-416413	KKS-416414

0.30cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-021401	KKS-021402
C8	5	KKS-021403	KKS-021404
C4	5	KKS-021405	KKS-021406

5· GIBNIK EXTRASIL Columns

The new range of Tracer Extrasil packings has been specially developed to replace one of the most popular packings on the market (WS).
All the physical and chromatographic parameters evaluated show a total equivalence between both materials, and what is more important, this has been certified by the excellent results obtained by the many users who upto now have tried this packing.

Economy
Tracer Extrasil represents the most economical choice of HPLC packings.

Reproducibility
An advanced manufacturing process and a strict control of each one of its steps ensures a maximum reproducibility and efficiency in every one of the columns.

Guarantee
The confidence we have in our product enables us to offer a complete guarantee on these columns, so that if for any reason whatever a client thinks that a TRACER EXTRASIL column does not operate in an identical manner to the equivalent WS packing, we will refund his money.

Characteristics of the material
As shown in the following table,the new packing TRACER EXTRASIL is perfectly equivalent to the reference material in all its physicochemical characteristics.

Characteristics		
Extrasil	**Particle Size**	**WS Packing**
3,5 & 10 µm	**Pore Size**	**3,5 & 10 µm**
80 Å	**Surface area**	**80 Å**
220 m²/g	**Carbon content**	**220 m²/g**
4 %	C1	4 %
6 %	C6	6 %
6 %	C8	6 %
7 %	ODS-1	7 %
12 %	ODS-2	12 %
3.5 %	CN	3.5 %
2 %	NH2	2 %
3.0 %	Phenyl	3.0 %
-	8AX	-
-	SCX	-

Distribution of particle size
In the development of this new material there has been special care in optimization of the size of the particle, given that this control is essential to get the best efficiency and stability in the packing.
The comparison made with the WS packing shows once more the total equivalence of these two materials.

Applications
In addition to the complete agreement between the comparative data for both packings, the definitive proof comes from their comparison in a wide range of applications.

EXTRASIL COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
ODS-1	5	KKS-016050	KKS-016051	KKS-016052	KKS-016053	KKS-016054
ODS-2	5	KKS-016055	KKS-016056	KKS-016057	KKS-016058	KKS-016059
Si	5	KKS-016060	KKS-016061	KKS-016062	KKS-016063	KKS-016064
C1	5	KKS-016065	KKS-016066	KKS-016067	KKS-016068	KKS-016069
C6	5	KKS-016070	KKS-016071	KKS-016072	KKS-016073	KKS-016074
C8	5	KKS-016075	KKS-016076	KKS-016077	KKS-016078	KKS-016079
CN	5	KKS-016080	KKS-016081	KKS-016082	KKS-016083	KKS-016084
NH2	5	KKS-016085	KKS-016086	KKS-016087	KKS-016088	KKS-016089
Phenyl	5	KKS-016090	KKS-016091	KKS-016092	KKS-016093	KKS-016094
SAX	5	KKS-016095	KKS-016096	KKS-016097	KKS-016098	KKS-016099
SCX	5	KKS-016100	KKS-016101	KKS-016102	KKS-016103	KKS-016104
ODS-1	10	KKS-016105	KKS-016106	KKS-016107	KKS-016108	KKS-016109
ODS-2	10	KKS-016110	KKS-016111	KKS-016112	KKS-016113	KKS-016114
Si	10	KKS-016115	KKS-016116	KKS-016117	KKS-016118	KKS-016119
C1	10	KKS-016156	KKS-016157	KKS-016158	KKS-016159	KKS-016160
C6	10	KKS-016120	KKS-016121	KKS-016122	KKS-016123	KKS-016124
CN	10	KKS-016130	KKS-016131	KKS-016132	KKS-016133	KKS-016134
NH2	10	KKS-016135	KKS-016136	KKS-016137	KKS-016138	KKS-016139
SAX	10	KKS-016151	KKS-016152	KKS-016153	KKS-016154	KKS-016155
SCX	10	KKS-016146	KKS-016147	KKS-016148	KKS-016149	KKS-016150

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
ODS-1	5	KKS-416050	KKS-416051	KKS-416052	KKS-416053	KKS-416054
ODS-2	5	KKS-416055	KKS-416056	KKS-416057	KKS-416058	KKS-416059
Si	5	KKS-416060	KKS-416061	KKS-416062	KKS-416063	KKS-416064
C1	5	KKS-416065	KKS-416066	KKS-416067	KKS-416068	KKS-416069
C6	5	KKS-416070	KKS-416071	KKS-416072	KKS-416073	KKS-416074
C8	5	KKS-416075	KKS-416076	KKS-416077	KKS-416078	KKS-416079
CN	5	KKS-416080	KKS-416081	KKS-416082	KKS-416083	KKS-416084
NH2	5	KKS-416085	KKS-416086	KKS-416087	KKS-416088	KKS-416089
Phenyl	5	KKS-416090	KKS-416091	KKS-416092	KKS-416093	KKS-416094
SAX	5	KKS-416095	KKS-416096	KKS-416097	KKS-416098	KKS-416099
SCX	5	KKS-416100	KKS-416101	KKS-416102	KKS-416103	KKS-416104
ODS-1	10	KKS-416105	KKS-416106	KKS-416107	KKS-416108	KKS-416109
ODS-2	10	KKS-416110	KKS-416111	KKS-416112	KKS-416113	KKS-416114
Si	10	KKS-416115	KKS-416116	KKS-416117	KKS-416118	KKS-416119
C1	10	KKS-416156	KKS-416157	KKS-416158	KKS-416159	KKS-416160
C6	10	KKS-416120	KKS-416121	KKS-416122	KKS-416123	KKS-416124
CN	10	KKS-416130	KKS-416131	KKS-416132	KKS-416133	KKS-416134
NH2	10	KKS-416135	KKS-416136	KKS-416137	KKS-416138	KKS-416139
SAX	10	KKS-416151	KKS-416152	KKS-416153	KKS-416154	KKS-416155
SCX	10	KKS-416146	KKS-416147	KKS-416148	KKS-416149	KKS-416150

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-1	3	KKS-013200	KKS-013201	KKS-013202	KKS-013203	KKS-013204
ODS-2	3	KKS-013205	KKS-013206	KKS-013207	KKS-013208	KKS-013209
Si	3	KKS-013210	KKS-013211	KKS-013212	KKS-013213	KKS-013214
C1	3	KKS-013215	KKS-013216	KKS-013217	KKS-013218	KKS-013219
C6	3	KKS-013220	KKS-013221	KKS-013222	KKS-013223	KKS-013224
C8	3	KKS-013226	KKS-013227	KKS-013228	KKS-013229	KKS-013230
CN	3	KKS-013231	KKS-013232	KKS-013233	KKS-013234	KKS-013235
NH2	3	KKS-013236	KKS-013237	KKS-013238	KKS-013239	KKS-013240
Phenyl	3	KKS-013241	KKS-013242	KKS-013243	KKS-013244	KKS-013245

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
ODS-1	3	KKS-413200	KKS-413201	KKS-413202	KKS-413203	KKS-413204
ODS-2	3	KKS-413205	KKS-413206	KKS-413207	KKS-413208	KKS-413209
Si	3	KKS-413210	KKS-413211	KKS-413212	KKS-413213	KKS-413214
C1	3	KKS-413215	KKS-413216	KKS-413217	KKS-413218	KKS-413219
C6	3	KKS-413220	KKS-413221	KKS-413222	KKS-413223	KKS-413224
C8	3	KKS-413226	KKS-413227	KKS-413228	KKS-413229	KKS-413230
CN	3	KKS-413231	KKS-413232	KKS-413233	KKS-413234	KKS-413235
NH2	3	KKS-413236	KKS-413237	KKS-413238	KKS-413239	KKS-413240
Phenyl	3	KKS-413241	KKS-413242	KKS-413243	KKS-413244	KKS-413245

MICROBORE COLUMNS

0.21 cm ID

Function	µm	length (cm)	
		10	20
ODS-1	5	KKS-021200	KKS-021201
ODS-2	5	KKS-021202	KKS-021203
Si	5	KKS-021204	KKS-021205
C1	5	KKS-021206	KKS-021212
C6	5	KKS-021207	KKS-021208
C8	5	KKS-021209	KKS-021210
CN	5	KKS-021211	KKS-021213
NH2	5	KKS-021214	KKS-021215
Phenyl	5	KKS-021216	KKS-021217
SAX	5	KKS-021218	KKS-021219
SCX	5	KKS-021220	KKS-021221

0.30 cm ID

Function	µm	length (cm)	
		10	20
ODS-1	5	KKS-021236	KKS-021237
ODS-2	5	KKS-021238	KKS-021239
Si	5	KKS-021240	KKS-021241
C1	5	KKS-021242	KKS-021243
C6	5	KKS-021244	KKS-021245
C8	5	KKS-021246	KKS-021247
CN	5	KKS-021248	KKS-021249
NH2	5	KKS-021250	KKS-021251
Phenyl	5	KKS-021252	KKS-021253
SAX	5	KKS-021254	KKS-021255
SCX	5	KKS-021256	KKS-021257

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)	
		15	25
ODS-1	5	KKS-014501	KKS-014502
ODS-2	5	KKS-014505	KKS-014506
Si	5	KKS-014509	KKS-014510
C1	5	KKS-014513	KKS-014514
C6	5	KKS-014517	KKS-014518
C8	5	KKS-014521	KKS-014522
CN	5	KKS-014525	KKS-014526
NH2	5	KKS-014529	KKS-014530
Phenyl	5	KKS-014533	KKS-014534
SAX	5	KKS-014537	KKS-014538
SCX	5	KKS-014541	KKS-014542
ODS-1	10	KKS-014545	KKS-014546
ODS-2	10	KKS-014549	KKS-014550
Si	10	KKS-014553	KKS-014554
C6	10	KKS-014557	KKS-014558
CN	10	KKS-014565	KKS-014566
NH2	10	KKS-014569	KKS-014570
Phenyl	10	KKS-014573	KKS-014574
SAX	10	KKS-014577	KKS-014578
SCX	10	KKS-014581	KKS-014582

1.00 cm ID

Function	µm	length (cm)	
		10	20
ODS-A	5	KKS-014503	KKS-014504
ODS-B	5	KKS-014507	KKS-014508
Si	5	KKS-014511	KKS-014512
C8	5	KKS-014515	KKS-014516
C4	5	KKS-014519	KKS-014520
C1	5	KKS-014523	KKS-014524
NH2	5	KKS-014527	KKS-014528
CN	5	KKS-014531	KKS-014532
Phenyl	5	KKS-014535	KKS-014536
SAX	10	KKS-014539	KKS-014540
SCX	10	KKS-014543	KKS-014544
ODS-1	10	KKS-014547	KKS-014548
ODS-2	10	KKS-014551	KKS-014552
Si	10	KKS-014555	KKS-014556
C6	10	KKS-014559	KKS-014560
CN	10	KKS-014567	KKS-014568
NH2	10	KKS-014571	KKS-014572
Phenyl	10	KKS-014575	KKS-014576
SAX	10	KKS-014579	KKS-014580
SCX	10	KKS-014583	KKS-014584

6· GIBNIK ADVANTIX ODS Columns

New packing made of spherical ultra-pure silica particles, with extremely low metals content, functionarized with groups octadecilsylane of polar embedded type. This polar group included in the base of hidrocarbonades chains confers to the packing a high deactivation in front of basic compounds, being able to chromatograph with perfectly symmetric peaks all kind of bases, inlcuding the most difficult ones. Working with acid pH's are able to easily cromatograph acid compounds, basic and quelants.
Also, the polar group included in the functionalization of the packing provides an especial selectivity very useful in the resolution of mixtures separated in conventional C18 packings.

ADVANTIX COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-010221	KKS-010222	KKS-010223	KKS-010224	KKS-010225	KKS-010226	KKS-010080

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-410221	KKS-410222	KKS-410223	KKS-410224	KKS-410225	KKS-410226	KKS-410080

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-010253	KKS-010254	KKS-010255	KKS-010256	KKS-010257	KKS-010258	KKS-010259

0.40 cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-410253	KKS-410254	KKS-410255	KKS-410256	KKS-410257	KKS-410258	KKS-410259

MICROBORE COLUMNS

0.21 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010260	KKS-010261	KKS-010262	KKS-010263	KKS-010264	KKS-010265
ODS	5	KKS-010227	KKS-010228	KKS-010229	KKS-010230	KKS-010231	KKS-010232

0.3 cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010266	KKS-010267	KKS-010268	KKS-010269	KKS-010270	KKS-010271
ODS	5	KKS-010233	KKS-010234	KKS-010235	KKS-010236	KKS-010237	KKS-010238

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010239	KKS-010240	KKS-010241

1.00 cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010242	KKS-010243	KKS-010244

2.12 cm ID

Function	µm	length (cm)			
		5	10	15	25
ODS	5	KKS-010245	KKS-010246	KKS-010247	KKS-010248

7· GIBNIK HYPERPACK ODS Columns

Due to its characteristics of pore size, surface area, percentage of covering (%C), and the kind of silica it is build of, it is the suitable alternative to Hypersil ODS packings. Its chromatographic behavior exactly reproduces the one of this popular packing, being able to transfer the chromatographic methods without any kind of adjustment.

HYPERPACK ODS COLUMNS

ANALYTICAL COLUMNS

0.46cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	5	KKS-011000	KKS-011001	KKS-011002	KKS-011003	KKS-011004	KKS-011005	KKS-011006
C8	5	KKS-011021	KKS-011022	KKS-011023	KKS-011024	KKS-011025	KKS-011026	KKS-011027

0.40cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-410298	KKS-410299	KKS-410300	KKS-410301	KKS-410302	KKS-410303	KKS-410304
C8	3		KKS-011060	KKS-011061	KKS-011062	KKS-011063	KKS-011064	KKS-011065
ODS	5	KKS-411000	KKS-411001	KKS-411002	KKS-411003	KKS-411004	KKS-411005	KKS-411006
C8	5	KKS-410081	KKS-410082	KKS-410083	KKS-410084	KKS-410085	KKS-410086	KKS-410087

ULTRARAPID COLUMNS

0.46cm ID

Function	µm	length (cm)						
		3	4	5	10	15	20	25
ODS	3	KKS-010298	KKS-010299	KKS-010300	KKS-010301	KKS-010302	KKS-010303	KKS-010304
C8	3	KKS-011053	KKS-011054	KKS-011055	KKS-011056	KKS-011057	KKS-011058	KKS-011059

MICROBORE COLUMNS

0.21cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010305	KKS-010306	KKS-010307	KKS-010308	KKS-010309	KKS-010310
C8	3	KKS-011066	KKS-011067	KKS-011068	KKS-011069	KKS-011070	KKS-011071
ODS	5	KKS-010272	KKS-010273	KKS-010274	KKS-010275	KKS-010276	KKS-010277
C8	5	KKS-011028	KKS-011029	KKS-011030	KKS-011031	KKS-011032	KKS-011033

0.3cm ID

Function	µm	length (cm)					
		3	5	10	15	20	25
ODS	3	KKS-010311	KKS-010312	KKS-010313	KKS-010314	KKS-010315	KKS-010316
C8	3	KKS-011072	KKS-011073	KKS-011074	KKS-011075	KKS-011076	KKS-011077
ODS	5	KKS-010278	KKS-010279	KKS-010280	KKS-010281	KKS-010282	KKS-010283
C8	5	KKS-011160	KKS-011034	KKS-011035	KKS-011036	KKS-011037	KKS-011038

SEMIPREPARATIVE COLUMNS

0.78cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010284	KKS-010285	KKS-010286
C8	5	KKS-011039	KKS-011040	KKS-011041

1.00cm ID

Function	µm	length (cm)		
		10	15	25
ODS	5	KKS-010287	KKS-010288	KKS-010289
C8	5	KKS-011042	KKS-011043	KKS-011044

2.12cm ID

Function	µm	length (cm)			
		5	10	15	25
ODS	5	KKS-010290	KKS-010291	KKS-010292	KKS-010293
C8	5	KKS-011045	KKS-011046	KKS-011047	KKS-011048

8· GIBNIK NUCLEOSIL Columns

Nucleosil is a totally porous silica packing, which is available with a full range of substituents. For its high quality level it has come to be one of the most popular HPLC packings.
There are a great variety of particle sizes, so that practically all the field of chromatography is covered, from ultrarapid columns with packings of 3µm, to preparative scale, with packings of 25-40µm, the same selectivity being always maintained. The packings of 3, 5, 10µm are characterized by their well adapted distribution of particle sizes, which produces a high efficiency and great stability in the HPLC columns.
The Nucleosil packings are also distinguished by their great stability when subject to extreme values of pH ,being able to work between pH 1 and 9. These values are unreachable by the majority of silica packings.

NUCLEOSIL COLUMNS

ANALYTICAL COLUMNS - NUCLEOSIL 100

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-011331	KKS-011333	KKS-011335	KKS-011337	KKS-011339
C18	5	KKS-011341	KKS-011343	KKS-011345	KKS-011347	KKS-011349
C8	5	KKS-011351	KKS-011353	KKS-011355	KKS-011357	KKS-011359
Phenyl	5	KKS-011361	KKS-011363	KKS-011365	KKS-011367	KKS-011369
C2	7	KKS-016031	KKS-016032	KKS-016033	KKS-016034	KKS-016035
CN	5	KKS-011371	KKS-011373	KKS-011375	KKS-011377	KKS-011379
DIOL	7	KKS-011391	KKS-011393	KKS-011395	KKS-011397	KKS-011399
NH2	5	KKS-011381	KKS-011383	KKS-011385	KKS-011387	KKS-011389
NO2	5	KKS-016036	KKS-016037	KKS-016038	KKS-016039	KKS-016040
N(CH3)2	5	KKS-016041	KKS-016042	KKS-016043	KKS-016044	KKS-016045
SA	5	KKS-011401	KKS-011403	KKS-011405	KKS-011407	KKS-011409
SB	10	KKS-011411	KKS-011413	KKS-011415	KKS-011417	KKS-011419
Si	10	KKS-016600	KKS-016601	KKS-016602	KKS-016603	KKS-016604
C18	10	KKS-016605	KKS-016606	KKS-016607	KKS-016608	KKS-016609
C8	10	KKS-016610	KKS-016611	KKS-016612	KKS-016613	KKS-016614
CN	10	KKS-016615	KKS-016617	KKS-016618	KKS-016619	KKS-016620
NH2	10	KKS-016621	KKS-016622	KKS-016623	KKS-016624	KKS-016625
NO2	10	KKS-016626	KKS-016627	KKS-016628	KKS-016629	KKS-016630
SA	10	KKS-016631	KKS-016632	KKS-016633	KKS-016634	KKS-016635
SB	10	KKS-016636	KKS-016637	KKS-016638	KKS-016639	KKS-016640

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-411331	KKS-411333	KKS-411335	KKS-411337	KKS-411339
C18	5	KKS-411341	KKS-411343	KKS-411345	KKS-411347	KKS-411349
C8	5	KKS-411351	KKS-411353	KKS-411355	KKS-411357	KKS-411359
Phenyl	5	KKS-411361	KKS-411363	KKS-411365	KKS-411367	KKS-411369
C2	5	KKS-416031	KKS-416032	KKS-416033	KKS-416034	KKS-416035
CN	5	KKS-411371	KKS-411373	KKS-411375	KKS-411377	KKS-411379
DIOL	5	KKS-411391	KKS-411393	KKS-411395	KKS-411397	KKS-411399
NH2	5	KKS-411381	KKS-411383	KKS-411385	KKS-411387	KKS-411389
NO2	5	KKS-416036	KKS-416037	KKS-416038	KKS-416039	KKS-416040
N(CH3)2	5	KKS-416041	KKS-416042	KKS-416043	KKS-416044	KKS-416045
SA	5	KKS-411401	KKS-411403	KKS-411405	KKS-411407	KKS-411409
SB	10	KKS-411411	KKS-411413	KKS-411415	KKS-411417	KKS-411419
Si	10	KKS-416600	KKS-416601	KKS-416602	KKS-416603	KKS-416604
C18	10	KKS-416605	KKS-416606	KKS-416607	KKS-416608	KKS-416609
C8	10	KKS-416610	KKS-416611	KKS-416612	KKS-416613	KKS-416614
CN	10	KKS-416615	KKS-416617	KKS-416618	KKS-416619	KKS-416620
NH2	10	KKS-416621	KKS-416622	KKS-416623	KKS-416624	KKS-416625
NO2	10	KKS-416626	KKS-416627	KKS-416628	KKS-416629	KKS-416630
SA	10	KKS-416631	KKS-416632	KKS-416633	KKS-416634	KKS-416635
SB	10	KKS-416636	KKS-416637	KKS-416638	KKS-416639	KKS-416640

ANALYTICAL COLUMNS - NUCLEOSIL 120

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
Si	5	KKS-016300	KKS-016301	KKS-016302	KKS-016303	KKS-016304
C18	5	KKS-016305	KKS-016306	KKS-016307	KKS-016308	KKS-016309
C8	5	KKS-016310	KKS-016311	KKS-016312	KKS-016313	KKS-016314
C4	5	KKS-016162	KKS-016163	KKS-016164	KKS-016165	KKS-016166
P	7	KKS-016315	KKS-016316	KKS-016317	KKS-016318	KKS-016319
CN	7	KKS-016320	KKS-016321	KKS-016322	KKS-016323	KKS-016324
NH2	7	KKS-016325	KKS-016326	KKS-016327	KKS-016328	KKS-016329
Si	10	KKS-016641	KKS-016642	KKS-016643	KKS-016644	KKS-016645
C18	10	KKS-016646	KKS-016647	KKS-016648	KKS-016649	KKS-016650
C8	10	KKS-016651	KKS-016652	KKS-016653	KKS-016654	KKS-016655

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
Si	5	KKS-416300	KKS-416301	KKS-416302	KKS-416303	KKS-416304
C18	5	KKS-416305	KKS-416306	KKS-416307	KKS-416308	KKS-416309
C8	5	KKS-416310	KKS-416311	KKS-416312	KKS-416313	KKS-416314
C4	5	KKS-416162	KKS-416163	KKS-416164	KKS-416165	KKS-416166
P	7	KKS-416315	KKS-416316	KKS-416317	KKS-416318	KKS-416319
CN	7	KKS-416320	KKS-416321	KKS-416322	KKS-416323	KKS-416324
NH2	7	KKS-416325	KKS-416326	KKS-416327	KKS-416328	KKS-416329
Si	10	KKS-416641	KKS-416642	KKS-416643	KKS-416644	KKS-416645
C18	10	KKS-416646	KKS-416647	KKS-416648	KKS-416649	KKS-416650
C8	10	KKS-416651	KKS-416652	KKS-416653	KKS-416654	KKS-416655

ULTRARAPID COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
100 C18	3	KKS-013110	KKS-013111	KKS-013112	KKS-013113	KKS-013119
120 C18	3	KKS-013101	KKS-013103	KKS-013105	KKS-013107	KKS-013109
120 C8	3	KKS-013115	KKS-013116	KKS-013117	KKS-013118	KKS-013124

0.40 cm ID

Function	µm	length (cm)				
		4	10	15	20	25
100 C18	3	KKS-413110	KKS-413111	KKS-413112	KKS-413113	KKS-413119
120 C18	3	KKS-413101	KKS-413103	KKS-413105	KKS-413107	KKS-413109
120 C8	3	KKS-413115	KKS-413116	KKS-413117	KKS-413118	KKS-413124

MICROBORE COLUMNS - NUCLEOSIL 120

0.21 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-021125	KKS-021126
C18	5	KKS-021127	KKS-021128
C8	5	KKS-021129	KKS-021130
C6H5	5	KKS-021131	KKS-021132
C2	7	KKS-021133	KKS-021134
CN	5	KKS-021135	KKS-021136
DIOL	7	KKS-021137	KKS-021096
NH2	5	KKS-021097	KKS-021098
NO2	5	KKS-021099	KKS-021100
N(CH3)2	5	KKS-021101	KKS-021102
SA	5	KKS-021103	KKS-021104
SB	5	KKS-021105	KKS-021106

0.30 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-021258	KKS-021259
C18	5	KKS-021260	KKS-021261
C8	5	KKS-021262	KKS-021263
C6H5	5	KKS-021264	KKS-021265
C2	5	KKS-021266	KKS-021267
CN	5	KKS-021268	KKS-021269
DIOL	5	KKS-021270	KKS-021271
NH2	5	KKS-021272	KKS-021273
NO2	5	KKS-021274	KKS-021275
N(CH3)2	5	KKS-021350	KKS-021276
SA	5	KKS-021277	KKS-021278
SB	6	KKS-021279	KKS-021280

MICROBORE COLUMNS - NUCLEOSIL 100

0.21 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-021115	KKS-021116
C18	5	KKS-021065	KKS-021067
C8	5	KKS-021117	KKS-021118
C6H5	5	KKS-021119	KKS-021120
CN	7	KKS-021121	KKS-021122
NH2	5	KKS-021123	KKS-021124

0.30 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-021283	KKS-021284
C18	5	KKS-021281	KKS-021282
C8	5	KKS-021285	KKS-021286
C6H5	5	KKS-021287	KKS-021288
CN	5	KKS-021289	KKS-021290
NH2	5	KKS-021291	KKS-021292

SEMIPREPARATIVE COLUMNS NUCLEOSIL 120

0.78 cm ID

Function	µm	length (cm)	
		15	25
Si	5	KKS-014294	KKS-014296
C18	5	KKS-014286	KKS-014288
C8	5	KKS-014302	KKS-014304
C4	5	KKS-014600	KKS-014601
C6H5	7	KKS-014310	KKS-014312
CN	7	KKS-014318	KKS-014320
NH2	7	KKS-014326	KKS-014328
Si	10	KKS-014366	KKS-014368
C18	10	KKS-014358	KKS-014360
C8	10	KKS-014374	KKS-014376

1.00 cm ID

Function	µm	length (cm)	
		10	20
Si	5	KKS-014298	KKS-014300
C18	5	KKS-014290	KKS-014292
C8	5	KKS-014306	KKS-014308
C4	5	KKS-014602	KKS-014603
C6H5	5	KKS-014314	KKS-014316
CN	5	KKS-014322	KKS-014324
NH2	5	KKS-014330	KKS-014332
Si	5	KKS-014370	KKS-014372
C18	5	KKS-014362	KKS-014364
C8	5	KKS-014378	KKS-014380

SEMIPREPARATIVE COLUMNS NUCLEOSIL 100

0.78 cm ID

Function	µm	length (cm)	
		15	25
Si	5	KKS-014476	KKS-014477
C2	7	KKS-014488	KKS-014489
C8	5	KKS-014484	KKS-014485
C18	5	KKS-014480	KKS-014481
PHENYL	7	KKS-014492	KKS-014493
CN	5	KKS-014496	KKS-014497
DIOL	7	KKS-014585	KKS-014586
NH2	5	KKS-014589	KKS-014590
N(CH3)2	5	KKS-014597	KKS-014598
SA	5	KKS-014770	KKS-014771
SB	5	KKS-014774	KKS-014775

1.00 cm ID

Function	µm	length (cm)	
		10	25
Si	5	KKS-014478	KKS-014479
C2	7	KKS-014490	KKS-014491
C8	5	KKS-014486	KKS-014487
C18	5	KKS-014482	KKS-014483
PHENYL	7	KKS-014494	KKS-014495
CN	5	KKS-014498	KKS-014499
DIOL	7	KKS-014587	KKS-014588
NH2	5	KKS-014591	KKS-014592
N(CH3)2	5	KKS-014599	KKS-014769
SA	5	KKS-014772	KKS-014773
SB	5	KKS-014776	KKS-014777

9· GIBNIK LICHROSORB Columns

This traditional irregular packing is packed following completely opitimized methods, ensuring maximum efficiency, stability and reproducibility in all the columns.
With this irregular packing, the efficiencies normally obtained are of 30-40000 N/m for the 5 µm packings, and 50-70,000 N/m for the 5 µm.

LICHROSORB COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
RP-8	5	KKS-011441	KKS-011443	KKS-011445	KKS-011447	KKS-011449
RP-18	5	KKS-011431	KKS-011433	KKS-011435	KKS-011437	KKS-011439
DIOL	5	KKS-011451	KKS-011453	KKS-011455	KKS-011457	KKS-011459
CN	5	KKS-011471	KKS-011473	KKS-011475	KKS-011477	KKS-011479
RP-8	10	KKS-011501	KKS-011503	KKS-011505	KKS-011507	KKS-011509
RP-18	10	KKS-011491	KKS-011493	KKS-011495	KKS-011497	KKS-011499
DIOL	10	KKS-011511	KKS-011513	KKS-011515	KKS-011517	KKS-011519
CN	10	KKS-011531	KKS-011533	KKS-011535	KKS-011537	KKS-011539

0.40 cm ID

Function	µm	length (cm)				
		3	4	5	10	15
RP-8	5	KKS-411441	KKS-411443	KKS-411445	KKS-411447	KKS-411449
RP-18	5	KKS-411431	KKS-411433	KKS-411435	KKS-411437	KKS-411439
DIOL	5	KKS-411451	KKS-411453	KKS-411455	KKS-411457	KKS-411459
CN	5	KKS-411471	KKS-411473	KKS-411475	KKS-411477	KKS-411479
RP-8	10	KKS-411501	KKS-411503	KKS-411505	KKS-411507	KKS-411509
RP-18	10	KKS-411491	KKS-411493	KKS-411495	KKS-411497	KKS-411499
DIOL	10	KKS-411511	KKS-411513	KKS-411515	KKS-411517	KKS-411519
CN	10	KKS-411531	KKS-411533	KKS-411535	KKS-411537	KKS-411539

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)	
		15	25
RP-18	7	KKS-014429	KKS-014431

1.00 cm ID

Function	µm	length (cm)	
		15	25
RP-18	7	KKS-014433	KKS-014436

10· GIBNIK LICHROSPHER Columns

Lichrospher´s spherical packing of 5 and 10 µm particle size, giving all the advantages that are common to all the spherical packings: high permeability, high efficiency and excellent column stability.

LICHROSPHER COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
100 RP-18	5	KKS-011551	KKS-011553	KKS-011555	KKS-011557	KKS-011559
100 RP-18ec	5	KKS-011561	KKS-011563	KKS-011565	KKS-011567	KKS-011569
100 RP-8	5	KKS-011571	KKS-011573	KKS-011575	KKS-011577	KKS-011579
100 RP-8ec	5	KKS-011581	KKS-011583	KKS-011585	KKS-011587	KKS-011589
100 NH2	5	KKS-011591	KKS-011593	KKS-011595	KKS-011597	KKS-011599
100 CN	5	KKS-011601	KKS-011603	KKS-011605	KKS-011607	KKS-011609
100 DIOL	5	KKS-011611	KKS-011613	KKS-011615	KKS-011617	KKS-011619
60 RP-Select B	5	KKS-016813	KKS-016814	KKS-016815	KKS-016816	KKS-016817
Si 100	10	KKS-011621	KKS-011623	KKS-011625	KKS-011627	KKS-011629
100 RP-18	10	KKS-011631	KKS-011633	KKS-011635	KKS-011637	KKS-011639
100 RP-18ec	10	KKS-011641	KKS-011643	KKS-011645	KKS-011647	KKS-011649
100 RP-8	10	KKS-011651	KKS-011653	KKS-011655	KKS-011657	KKS-011659
100 RP-8ec	10	KKS-011661	KKS-011663	KKS-011665	KKS-011667	KKS-011669
100 CN	10	KKS-011681	KKS-011683	KKS-011685	KKS-011687	KKS-011689
60 RP-Select B	10	KKS-016808	KKS-016809	KKS-016810	KKS-016811	KKS-016812

0.40 cm ID

Function	µm	length (cm)				
		3	4	5	10	15
100 RP-18ec	5	KKS-411561	KKS-411563	KKS-411565	KKS-411567	KKS-411569
100 RP-8	5	KKS-411571	KKS-411573	KKS-411575	KKS-411577	KKS-411579
100 RP-8ec	5	KKS-411581	KKS-411583	KKS-411585	KKS-411587	KKS-411589
100 NH2	5	KKS-411591	KKS-411593	KKS-411595	KKS-411597	KKS-411599
100 CN	5	KKS-411601	KKS-411603	KKS-411605	KKS-411607	KKS-411609
100 DIOL	5	KKS-411611	KKS-411613	KKS-411615	KKS-411617	KKS-411619
60 RP-Select B	5	KKS-416813	KKS-416814	KKS-416815	KKS-416816	KKS-416817
Si 100	10	KKS-411621	KKS-411623	KKS-411625	KKS-411627	KKS-411629
100 RP-18	10	KKS-411631	KKS-411633	KKS-411635	KKS-411637	KKS-411639
100 RP-18ec	10	KKS-411641	KKS-411643	KKS-411645	KKS-411647	KKS-411649
100 RP-8	10	KKS-411651	KKS-411653	KKS-411655	KKS-411657	KKS-411659
100 RP-8ec	10	KKS-411661	KKS-411663	KKS-411665	KKS-411667	KKS-411669
100 CN	10	KKS-411681	KKS-411683	KKS-411685	KKS-411687	KKS-411689
60 RP-Select B	10	KKS-416808	KKS-416809	KKS-416810	KKS-416811	KKS-416812

SEMIPREPARATIVE COLUMNS

0.78 cm ID

Function	µm	length (cm)	
		15	25
RP-18	10	KKS-014437	KKS-014439
RP-18 ec	10	KKS-014445	KKS-014447

1.00 cm ID

Function	µm	length (cm)	
		15	25
RP-18	10	KKS-014441	KKS-014443
RP-18 ec	10	KKS-014449	KKS-014451

11· GIBNIK SUPERSPHER Columns

A totally porous spherical packing, with a particle size of 4µm, giving a compromise alternative between the packings of 3 and 5µm.

SUPERSPHER COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
60 Si	4	KKS-011701	KKS-011703	KKS-011705	KKS-011707	KKS-011709
60 RP-8	4	KKS-011711	KKS-011713	KKS-011715	KKS-011717	KKS-011719
100 RP-18	4	KKS-011721	KKS-011723	KKS-011725	KKS-011727	KKS-011729
60 RP-8ec	4	KKS-011731	KKS-011733	KKS-011735	KKS-011737	KKS-011739
100 RP-18ec	4	KKS-011741	KKS-011743	KKS-011745	KKS-011747	KKS-011749

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
60 Si	4	KKS-411701	KKS-411703	KKS-411705	KKS-411707	KKS-411709
60 RP-8	4	KKS-411711	KKS-411713	KKS-411715	KKS-411717	KKS-411719
100 RP-18	4	KKS-411721	KKS-411723	KKS-411725	KKS-411727	KKS-411729
60 RP-8ec	4	KKS-411731	KKS-411733	KKS-411735	KKS-411737	KKS-411739
100 RP-18ec	4	KKS-411741	KKS-411743	KKS-411745	KKS-411747	KKS-411749

12· GIBNIK PARTISIL Columns

Partisil´s high quality irregular packing with a very high surface area. Different degrees of coating for the ODS packings permit optimum selectivity. Partisil ODS is 5% coated, while Partisil ODS2 has 15% and the Partisil ODS3 is covered by a 10% of carbon.

PARTISIL COLUMNS

ANALYTICAL COLUMNS

0.46 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-016205	KKS-016206	KKS-016207	KKS-016208	KKS-016209
ODS3	5	KKS-016211	KKS-016212	KKS-016213	KKS-016214	KKS-016215
C8	5	KKS-016217	KKS-016218	KKS-016219	KKS-016220	KKS-016221
PAC	5	KKS-016222	KKS-016223	KKS-016224	KKS-016225	KKS-016226
Si	10	KKS-016227	KKS-016228	KKS-016229	KKS-016230	KKS-016231
ODS	10	KKS-016330	KKS-016331	KKS-016332	KKS-016333	KKS-016334
ODS2	10	KKS-011817	KKS-011819	KKS-011821	KKS-011823	KKS-011825
ODS3	10	KKS-011827	KKS-011829	KKS-011831	KKS-011833	KKS-011835
PAC	10	KKS-016232	KKS-016233	KKS-016234	KKS-016235	KKS-016236
SAX	10	KKS-011837	KKS-011839	KKS-011841	KKS-011843	KKS-011845
SCX	10	KKS-016237	KKS-016238	KKS-016239	KKS-016240	KKS-016241

0.40 cm ID

Function	µm	length (cm)				
		10	12,5	15	20	25
Si	5	KKS-416205	KKS-416206	KKS-416207	KKS-416208	KKS-416209
ODS3	5	KKS-416211	KKS-416212	KKS-416213	KKS-416214	KKS-416215
C8	5	KKS-416217	KKS-416218	KKS-416219		
PAC	5		KKS-416223	KKS-416224	KKS-416225	KKS-416226
Si	10	KKS-416227	KKS-416228	KKS-416229	KKS-416230	KKS-416231
ODS	10	KKS-416330	KKS-416331	KKS-416332	KKS-416333	KKS-416334
ODS2	10	KKS-411817	KKS-411819	KKS-411821	KKS-411823	KKS-411825
ODS3	10	KKS-411827	KKS-411829	KKS-411831	KKS-411833	KKS-411835
PAC	10	KKS-416232	KKS-416233	KKS-416234	KKS-416235	KKS-416236
SAX	10				KKS-411843	KKS-416245
SCX	10	KKS-416237	KKS-416238	KKS-416239	KKS-416240	KKS-416241

13· GIBNIK TSK GEL SUPER ODS

TSKgel Super-ODS is a reverse phase column that contains 2 µm particles of silica with 150 A pore size. This column is the best choice when it is required to shorten the analysis time for all types of compounds up to 20,000 Daltons, including the most basic.

- Efficiencies of 200,000N/m
- 2 µm particles
- Extremely short analysis times
- Reduced working pressures
- Lower costs of analysis

TSK GEL REVERSED PHASE - TSK GEL SUPER-ODS COLUMNS

ANALYTICAL COLUMNS
0.46 cm ID

Function	µm	length (cm)		
		7,5	15	25
ODS-80TS 80A	5	KKS-TH-17200	KKS-TH-17201	KKS-TH-17202
ODS-80TM 80A	5	KKS-TH-16651	KKS-TH-08148	KKS-TH-08149
Octyl-80TS 80A	5		KKS-TH-17344	KKS-TH-17345
CN-80TS 80A	5		KKS-TH-17348	KKS-TH-17349
ODS-120A 120A	5		KKS-TH-07636	KKS-TH-07124
ODS-120T 120A	5		KKS-TH-07637	KKS-TH-07125
TMS-250 250A	10	KKS-TH-07190		

0.20 cm ID

Function	µm	length (cm)	
		15	25
ODS-80TS 80A	5	KKS-TH-18150	KKS-TH-18151
ODS-120T 120A	5	KKS-TH-18152	KKS-TH-18153

ULTRARAPID COLUMNS
0.46 cm ID

Function	µm	length (cm)	
		5	10
Super-ODS, 110A	2	KKS-TH-18154	KKS-TH-18197
Super-Octyl, 110A	2	KKS-TH-18275	KKS-TH-18276
Super-Phenyl, 110A	2	KKS-TH-18277	KKS-TH-18278

GUARD COLUMN TSK GEL
0.4 cm ID

Function	µm	length (cm)
		2,6
Super-ODS Guard filtes	2	KKS-TH-18207
Cartridge Holder		KKS-TH-18206

GUARD COLUMNS AND FILTERS

MEDITERRANEA SEA/EUROPA

AND EXCEL GUARD COLUMNS AND FILTERS

KKS-010069

KKS-010067

KKS-010068

Guard column

Description	item nº
Filters	
Prefilter Adaptor (Frit not included)	KKS-010067
Frits 0,5 um pore pk/10 units	KKS-010069
Frits 2,0 um pore pk/10 units	KKS-010070
Guard Columns	
Guard column Adaptor	KKS-010068
Mediterranea Sea Guard Columns	
Guard column Sea 18 10 x 3,2 mm 5 units	KKS-010071
Guard column Sea 8 10 x 3,2 mm 5 units	KKS-010073
Guard column Sea 4 10 x 3,2 mm 5 units	KKS-010074
Europa Guard Columns	
Guard Columns Peptide C 18 10x32 mm pk/5	KKS-C-160-19
Guard Columns Protein C 18 10 x 32 mm pk/5	KKS-C-160-16
Guard Columns Protein C 4 10x 32 mm pk/5	KKS-C-160-13
Guard Columns Protein C 8 10 x 32 mm pk/5	KKS-C-160-14
Excel Guard Columns	
ODS guard column, 5 units	KKS-C-160-1
Si guard column, 5 units.	KKS-C-160-2
C8 guard column, 5 units.	KKS-C-160-3
NH2 guard column, 5 units.	KKS-C-160-4
CN guard column, 5 units.	KKS-C-160-6
C6H5 guard column , 5 units.	KKS-C-160-8
C4 guard column, 5 units	KKS-C-160-17
C1 guard column, 5 units.	KKS-C-160-20

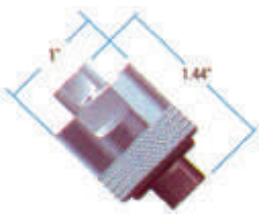
ANALYTICAL COLUMNS GUARD COLUMNS

Description	item nº
Holder for analytical colums	KKS-C-160
ODS guard column, 5 units	KKS-C-160-1
Si guard column, 5 units.	KKS-C-160-2
C8 guard column, 5 units.	KKS-C-160-3
NH2 guard column, 5 units.	KKS-C-160-4
SAX guard column, 5 units.	KKS-C-160-5
CN guard column, 5 units.	KKS-C-160-6
PAH guard column, 5 units.	KKS-C-160-7
C6H5 guard column , 5 units.	KKS-C-160-8
CARBOHYDRATES guard column , 5 units.	KKS-C-160-9
Anion guard column, 5 units.	KKS-C-160-10
SCX guard column , 5 units.	KKS-C-160-11
C2 guard column , 5 units.	KKS-C-160-12
WP300 C4 guard column , 5 units	KKS-C-160-13
WP300 C8 guard column , 5 units	KKS-C-160-14
DIOL catridges, 5 units	KKS-C-160-15
WP300 C18 guard column, 5 units	KKS-C-160-16
C4 guard column, 5 units	KKS-C-160-17
PRP-1 guard column, 5 units.	KKS-C-160-18
Peptide C18 guard column 5 units	KKS-C-160-19
C1 guard column, 5 units.	KKS-C-160-20
C6 guard column, 5 units.	KKS-C-160-21

holder (KKS-C-160) + guard column

PREPARATIVE COLUMNS GUARD COLUMNS

Description	item nº
Semi prep Holder	KKS-UP-C-1000
Semi-Preparative Cartridge ODS, 1 cm x 2.12 cm ID (2 units)	KKS-C-360-1
Semi-Preparative Cartridge Si 1 cm x 2.12 cm ID (2 units)	KKS-C-360-2
Semi-Preparative Cartridge C 8 1 cm x 2.12 cm ID (2 units)	KKS-C-360-3
Semi-Preparative Cartridge NH2, 1 cm x 2.12 cm ID (2 units)	KKS-C-360-4
Semi-Preparative Cartridge CN 1 cm x 2.12 cm ID (2 units)	KKS-C-360-6
Semi-Preparative Cartridge Protein C 4 1 cm x 2.12 cm ID (2 units)	KKS-C-360-13
Semi-Preparative Cartridge Protein C 8, 1 cm x 2.12 cm ID (2 units)	KKS-C-360-14
Semi-Preparative Cartridge Protein C 18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-16
Semi-Preparative Cartridge Peptide C18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-17
Semi-Preparative Cartridge Mediterranea Sea 18 1 cm x 2.12 cm ID (2 units)	KKS-C-360-18



KKS-UP-C-1000