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Chromatography-Columns & Accessories

01/2022

Survey: Product Range

page 2

HPLC-columns

Price-Groups / EUR & Part-Numbers: HPLC-Columns 3

HPLC-Columns New or Refill by MZ-Analysentechnik

Available HPLC-Packings:	μBondapak™	4
	Hypersil™	4
	Inertsil™	4
	Kromasil™	4
	LiChrosorb™	4
	LiChrospher™	5
	MZ-Aqua Perfect™	5
	Nucleosil™ 100 • 300	5
	Orbit™ 100	5
	PerfectChrom™ 60 • 100	5
	PerfectBond™	6
	PerfectSil™ 100 • 120 • 300 • 1000	6
	PerfectSil™ Target	6
	PerfectSil™ Target HD	6
	Superspher™	6
	Waters Spherisorb™	6



MZ-PAH - Separation of Polyaromatic Hydrocarbons	7
MZ-PBM - Separation of Pesticides	7
PerfectChrom™ - The Perfect Choice for Reliable Routine Analysis	8
Orbit™ - State-of-the-Art in Routine Analytics	9
PerfectSil™ - High Quality by MZ-Analysentechnik	10
PerfectSil™ Target - Excellent Performance + Peaksymmetry	12
PerfectSil™ Target HD - Reversed Phase with Extended pH-Stability	13
PerfectSil™ 300 - High Quality for Bioseparation	14
MZ-Aqua Perfect - C18 for up to 100 % Aqueous Media	15
PerfectBond™ - State-of-the-Art-Replacement for classical Applications	16
Kromasil®-Special Columns - NEW! AmyCoat™ & CelluCoat™	17
HPLC-Guard Columns and Cartridges + Part-Numbers	18

Accessories

Syringes	18
IDEX™ Health & Science Valves	19
Parts & Accessories PEEK / Biocompatible	20
Parts & Accessories Stainless Steel	21

GPC-/SEC-Columns

MZ-Gel SDplus LS - for Detection via Light Scattering	22
MZ-Gel SDplus - für Organic Media	23



2022



MZ-Analysentechnik: Developments and Trademarks

- ➔ PerfectSil® Target
- ➔ MZ-AquaPerfect
- ➔ MZ-Gel SDplus
- ➔ PerfectChrom®
- ➔ MZ-PAH
- ➔ MZ Super-FG
- ➔ PerfectBond®
- ➔ MZ-PBM
- ➔ Orbit
- ➔ PerfectSil®
- ➔ Orbit



Manufacturing of HPLC-Columns: Available Packings

- ➔ MZ-AquaPerfect®
- ➔ PerfectSil® Target
- ➔ Kromasil®
- ➔ Superspher®
- ➔ PerfectSil®
- ➔ Orbit®
- ➔ LiChrosorb®
- ➔ µBondapak®
- ➔ PerfectChrom®
- ➔ Hypersil®
- ➔ LiChrospher®
- ➔ Spherisorb®
- ➔ PerfectBond®
- ➔ Inertsil®
- ➔ Nucleosil®
- ➔ Zorbax®

Product Range HPLC-Products - Sales & Service

SURVEY PRODUCT RANGE

<p>Nouryon eka KROMASIL® Classic · KROMASIL® Eternity KROMASIL® Chiral · KROMASIL® SFC</p> <p>SCAS Sumika Chemical Analysis Service, Ltd. SUMICHIRAL® · SUMIPAX®</p> <p>RESTEK Freude an Chromatografie RAPTOR® · ULTRA® · ALLURE® · RTX® · Rxi® · PINNACLE® · VIVA® · STABILWAX®</p> <p>MITSUBISHI CHEMICAL MCI GEL® · SEPABEADS®</p> <p>ChromaNik Nyk ChromaNik Technologies Inc. SUNNIEST® · SUNSHELL® · SUNRISE® · SUNARMOR®</p> <p>advancedmaterialstechnology</p> <p>HALO HALO 5</p>	<p>GL Sciences Inc. INERTSIL® · TITANSFER® · BIOPTIC® · INERTSUSTAIN®</p> <p>Daicel CHIRALCEL® · CHIRALPAK® · CHROMPAK® · CROWNPAK®</p> <p>Imtakt UNISON® · CADENZA® · Scherzo® · INTRADA®</p> <p>SHISEIDO CAPCELL® · PROTONAVI® · CERAMOSPHER® · SUCREBEAD®</p> <p>SHINWA CHEMICAL INDUSTRIES ULTRON™ ES-OVM / -PEPSIN</p> <p>Advanced Chromatography Technologies ACE AQ® · ACE C18-HL® · ACE CAPILLARY® · ACE C18-AR®</p>	<p>MERCK LiCHROSPHER® · LiCHROSORB® · PUROSPHER® · CHROMOLITH® · ZIC®-pHILIC · ZIC®-HILIC</p> <p>INDUSTRIES CHROMEGABOND® · AQUASEP® · FLUOROSEP® (PERFLUOROPHENYL)</p> <p>SGE Analytical Science PROTECOL® · PEEKSIL® · eVOL®</p> <p>MN MACHEREY-NAGEL NUCLEOSIL® · NUCLEODUR®</p> <p>MEGA MEGA (now you can GC analysis) ULTRA-FAST® · MEGA-DEX® · Heli-flex AT® · Econo-Cap EC®</p> <p>United Chemical I.T. Technologies SELECTRA® COLUMNS · QUICK QUCHEERS®</p>	<p>Waters µBONDAPAK® · ACQUITY® · XBRIDGE® · PROTEINPAK® · SYMMETRY®</p> <p>HI CHROM PARTISIL® · PARTISPHERE® · BECKMANN ULTRASPHERE®</p> <p>Thermo SCIENTIFIC HYPERASIL® GOLD · HYPERCARB® · SYNCHRONIS® · BioBASIC® · BDS®</p> <p>SIGMA-ALDRICH Supelcosil® · DISCOVERY® · ASTEC®</p> <p>sePac ANTIBODIX® · PROTEOMIX® · ZENIX® · SRT® · CARBOMIX®</p> <p>S*PURE EXTRACT-CLEAN® · GAGEPURE® · SECLUTE® · ULTRACLEAN®</p>
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Extended Product Range - Sales Only

- Agilent Technologies Zorbax® • Accubond® • Evidex® • GC-Products • LC-Accessories
- Restek GC-Columns ... Hamilton LC-Product range • LC-Syringes
- Perkin Elmer Brownlee® Mitsubishi Chemical MCI™ Gel® • Diaion® • Sepabeads®

Accessories + Consumables

MZ-Analysentechnik delivers quick and reliably all kind of accessories for LC and GC. We handpick our suppliers for best quality at reasonable prices



Price List HPLC-Columns

january 1st 2022

Column dimension** Length x ID	Price Groups											
	D		E		E2		F		G		H	
	New	Refill*	New	Refill*	New	Refill*	New	Refill*	New	Refill*	New	Refill*
50 x 2.1 mm	247.--	210.--	253.--	216.--	271.--	234.--	319.--	282.--	344.--	307.--	397.--	360.--
100 x 2.1 mm	269.--	232.--	275.--	238.--	295.--	258.--	347.--	310.--	375.--	338.--	407.--	370.--
125 x 2.1 mm	280.--	243.--	286.--	249.--	308.--	271.--	362.--	325.--	388.--	351.--	435.--	398.--
150 x 2.1 mm	287.--	250.--	294.--	257.--	315.--	278.--	372.--	335.--	400.--	363.--	463.--	426.--
200 x 2.1 mm	303.--	266.--	309.--	272.--	333.--	296.--	393.--	356.--	424.--	387.--	489.--	452.--
250 x 2.1 mm	312.--	275.--	319.--	282.--	343.--	306.--	404.--	367.--	436.--	399.--	503.--	466.--
50 x 3.0 mm	217.--	194.--	246.--	223.--	265.--	242.--	294.--	271.--	319.--	296.--	367.--	344.--
100 x 3.0 mm	236.--	211.--	268.--	243.--	289.--	264.--	320.--	295.--	327.--	302.--	399.--	374.--
125 x 3.0 mm	246.--	220.--	279.--	253.--	300.--	274.--	333.--	307.--	367.--	341.--	416.--	390.--
150 x 3.0 mm	253.--	226.--	287.--	260.--	308.--	281.--	343.--	316.--	372.--	345.--	428.--	401.--
200 x 3.0 mm	266.--	239.--	303.--	276.--	325.--	298.--	362.--	335.--	392.--	365.--	450.--	423.--
250 x 3.0 mm	274.--	247.--	312.--	285.--	336.--	309.--	372.--	345.--	404.--	377.--	465.--	438.--
20 x 4.0 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
33 x 4.0 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
40 x 4.0 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
50 x 4.0 mm	217.--	194.--	246.--	223.--	265.--	242.--	294.--	271.--	319.--	296.--	367.--	344.--
60 x 4.0 mm	219.--	196.--	249.--	226.--	269.--	246.--	297.--	274.--	323.--	300.--	372.--	349.--
75 x 4.0 mm	222.--	199.--	253.--	230.--	272.--	249.--	302.--	279.--	327.--	304.--	377.--	354.--
100 x 4.0 mm	236.--	211.--	268.--	243.--	289.--	264.--	320.--	295.--	327.--	302.--	399.--	374.--
125 x 4.0 mm	246.--	220.--	279.--	253.--	300.--	274.--	333.--	307.--	347.--	321.--	416.--	390.--
150 x 4.0 mm	253.--	226.--	287.--	260.--	308.--	281.--	343.--	316.--	367.--	340.--	428.--	401.--
200 x 4.0 mm	266.--	239.--	303.--	276.--	325.--	298.--	362.--	335.--	392.--	365.--	450.--	423.--
250 x 4.0 mm	274.--	247.--	312.--	285.--	336.--	309.--	372.--	345.--	404.--	377.--	465.--	438.--
300 x 4.0 mm	310.--	272.--	343.--	305.--	370.--	332.--	410.--	372.--	444.--	406.--	510.--	472.--
20 x 4.6 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
33 x 4.6 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
40 x 4.6 mm	212.--	192.--	242.--	222.--	260.--	240.--	288.--	268.--	313.--	293.--	359.--	339.--
50 x 4.6 mm	219.--	196.--	246.--	223.--	265.--	242.--	294.--	271.--	319.--	296.--	367.--	344.--
60 x 4.6 mm	222.--	199.--	249.--	226.--	269.--	246.--	297.--	274.--	323.--	300.--	372.--	349.--
75 x 4.6 mm	236.--	213.--	253.--	230.--	272.--	249.--	302.--	279.--	327.--	304.--	377.--	354.--
100 x 4.6 mm	246.--	221.--	268.--	243.--	289.--	264.--	320.--	295.--	327.--	302.--	399.--	374.--
125 x 4.6 mm	253.--	227.--	279.--	253.--	300.--	274.--	333.--	307.--	347.--	321.--	416.--	390.--
150 x 4.6 mm	253.--	226.--	287.--	260.--	308.--	281.--	343.--	316.--	367.--	340.--	428.--	401.--
200 x 4.6 mm	266.--	239.--	303.--	276.--	325.--	298.--	362.--	335.--	392.--	365.--	450.--	423.--
250 x 4.6 mm	274.--	247.--	312.--	285.--	336.--	309.--	372.--	345.--	404.--	377.--	465.--	438.--
300 x 4.6 mm	310.--	272.--	343.--	305.--	370.--	332.--	410.--	372.--	444.--	406.--	510.--	472.--

* Please ask for availability of refill-service in your area - further details on request.

**All packings are available in semiprep and prep dimensions with 8, 10, 20, 30, 40 & 50 mm ID, please request your quote.

Part-No. HPLC-Columns



Please check the following pages for materialcode & price group of your desired packing media. Please inquire for availability and details of refill service. The part-no. for ordering is a combination of materialcode and column dimension as shown in the following example:

Example: PerfectSil 120 ODS-2 5 µm (Materialcode **1425** / Price group D)

HPLC-Column **250** x **4.0** mm

=> **Part-No.: MZ1425-250040**

all prices in EUR excluding VAT

Available HPLC-Packings

January 2022

In addition to HPLC-Columns for analytical purposes we pack columns in prep- and semi-prep dimensions with 8 - 50 mm ID. All preparative columns are individually manufactured to meet the same quality standards as analytical columns as for each packing media we use an especially optimized packing protocol.

Please ask for a quotation - we offer very competitive prices.



Available HPLC-Packings

Hypersil™ Thermo Scientific

spherical • 120 Å / 170 m²g⁻¹ (BDS C18 130 Å)

	size	ec	carbon-content	USP	code	price-group
Hypersil SAS C1	3 µm	-	2.5 %	L13	6023	G
Hypersil SAS C1	5 µm	-	2.5 %	L13	6025	E2
Hypersil SAS C1	10 µm	-	2.5 %	L13	6020	E2
Hypersil MOS C8	3 µm	-	6.5 %	L7	6033	G
Hypersil MOS C8	5 µm	-	6.5 %	L7	6035	E2
Hypersil ODS C18	3 µm	+	10 %	L1	6043	G
Hypersil ODS C18	5 µm	+	10 %	L1	6045	E2
Hypersil ODS C18	10 µm	+	10 %	L1	6040	E2
Hypersil CPS -CN	5 µm	-	4 %	L10	6055	E2
Hypersil CPS -CN	10 µm	-	4 %	L10	6050	E2
Hypersil APS -NH2	3 µm	-	1.9 %	L8	6063	G
Hypersil APS -NH2	5 µm	-	1.9 %	L8	6065	E2
Hypersil APS-2	3 µm	-	1.9 %	L8	6083	G
Hypersil APS-2	5 µm	-	1.9 %	L8	6085	E2
Hypersil APS-2	10 µm	-	1.9 %	L8	6080	E2
Hypersil -Phenyl	5 µm	-	5 %	L11	6075	E2

Complete range of columns by Thermo Scientific available:
www.mz-at-shop.de

LiChrosorb™ Merck / EMD

irregularly shaped • 60 Å / 550 m²g⁻¹ • 100 Å / 300 m²g⁻¹

LiChrosorb Si 60	5 µm	-	-	L3	0015	E2
LiChrosorb Si 60	7 µm	-	-	L3	0017	E2
LiChrosorb Si 60	10 µm	-	-	L3	0010	E2
LiChrosorb Si 100	5 µm	-	-	L3	0025	E2
LiChrosorb Si 100	7 µm	-	-	L3	0027	E2
LiChrosorb Si 100	10 µm	-	-	L3	0020	E2
LiChrosorb RP-8	5 µm	-	9.5 %	L7	0045	E2
LiChrosorb RP-8	7 µm	-	9.5 %	L7	0047	E2
LiChrosorb RP-8	10 µm	-	9.5 %	L7	0040	E2
LiChrosorb RP-18	5 µm	-	17 %	L1	0055	E2
LiChrosorb RP-18	7 µm	-	17 %	L1	0057	E2
LiChrosorb RP-18	10 µm	-	17 %	L1	0050	E2
LiChrosorb-NH2	5 µm	-	4 %	L8	0065	E2
LiChrosorb-NH2	7 µm	-	4 %	L8	0067	E2
LiChrosorb-NH2	10 µm	-	4 %	L8	0060	E2
LiChrosorb-CN	5 µm	-	7 %	L10	0075	E2
LiChrosorb-CN	7 µm	-	7 %	L10	0077	E2
LiChrosorb-CN	10 µm	-	7 %	L10	0070	E2
LiChrosorb DIOL	5 µm	-	8 %	L20	0085	E2
LiChrosorb DIOL	7 µm	-	8 %	L20	0087	E2
LiChrosorb DIOL	10 µm	-	8 %	L20	0080	E2

Complete range of columns by MERCK / EMD available:
www.mz-at-shop.de

µBondapak™ Waters

irregularly shaped • 125 Å / 300 m²g⁻¹

	size	ec	carbon-content	USP	code	price-group
µBondapak C18	10 µm	-	10.0 %	L1	8100	G

Complete range of columns by Waters available:
www.mz-at-shop.de

Inertsil™ GL-Sciences

spherical • 150 Å / 320 m²g⁻¹ • 100 Å / 450 m²g⁻¹

Inertsil 150 Å ODS-2	5 µm	+	18,5 %	L1	2010	E2
Inertsil 100 Å ODS-3	5 µm	+	15 %	L1	2050	E2
Inertsil 150 Å C8	5 µm	+	10,5 %	L7	2030	E2
Inertsil 150 Å C4	5 µm	+	7,5 %	L26	2035	E2
Inertsil Phenyl	5 µm	-	10 %	L11	2040	E2

Complete range of columns by GL Sciences available:
www.mz-at-shop.de

Kromasil™ Nouryon

spherical • 80 Å / 540 m²g⁻¹ • 110 Å / 320 m²g⁻¹

Kromasil 60 SIL	3.5 µm	-	-	L3	0500	F
Kromasil 60 SIL	5 µm	-	-	L3	0501	E
Kromasil 60 SIL	7 µm	-	-	L3	0502	E
Kromasil 60 SIL	10 µm	-	-	L3	0503	E
Kromasil 60 SIL	13 µm	-	-	-	0504	E
Kromasil 60 SIL	16 µm	-	-	-	0505	E
Kromasil 100 SIL	3.5 µm	-	-	L3	0510	F
Kromasil 100 SIL	5 µm	-	-	L3	0511	E
Kromasil 100 SIL	7 µm	-	-	L3	0512	E
Kromasil 100 SIL	10 µm	-	-	L3	0513	E
Kromasil 100 SIL	13 µm	-	-	-	0514	E
Kromasil 100 SIL	16 µm	-	-	-	0515	E
Kromasil 100 C1	5 µm	-	4.7 %	L13	0521	E
Kromasil 100 C1	7 µm	-	4.7 %	L13	0522	E
Kromasil 100 C1	10 µm	-	4.7 %	L13	0523	E
Kromasil 100 C1	13 µm	-	4.7 %	-	0524	E
Kromasil 100 C1	16 µm	-	4.7 %	-	0525	E
Kromasil 100 C4	3.5 µm	+	8.0 %	L26	0530	F
Kromasil 100 C4	5 µm	+	8.0 %	L26	0531	E
Kromasil 100 C4	7 µm	+	8.0 %	L26	0532	E
Kromasil 100 C4	10 µm	+	8.0 %	L26	0533	E
Kromasil 100 C4	13 µm	+	8.0 %	-	0534	E
Kromasil 100 C4	16 µm	+	8.0 %	-	0535	E
Kromasil 100 C8	3.5 µm	+	12.0 %	L7	0540	F
Kromasil 100 C8	5 µm	+	12.0 %	L7	0541	E
Kromasil 100 C8	7 µm	+	12.0 %	L7	0542	E
Kromasil 100 C8	10 µm	+	12.0 %	L7	0543	E
Kromasil 100 C8	13 µm	+	12.0 %	-	0544	E
Kromasil 100 C8	16 µm	+	12.0 %	-	0545	E
Kromasil 100 C18	3.5 µm	+	19.0 %	L1	0550	F
Kromasil 100 C18	5 µm	+	19.0 %	L1	0551	E
Kromasil 100 C18	7 µm	+	19.0 %	L1	0552	E
Kromasil 100 C18	10 µm	+	19.0 %	L1	0553	E
Kromasil 100 C18	13 µm	+	19.0 %	-	0554	E
Kromasil 100 C18	16 µm	+	19.0 %	-	0555	E
Kromasil 100 NH2	5 µm	+	1.5 %	L8	0561	E
Kromasil 100 NH2	7 µm	+	1.5 %	L8	0562	E
Kromasil 100 NH2	10 µm	+	1.5 %	L8	0563	E
Kromasil 100 NH2	13 µm	+	1.5 %	-	0564	E
Kromasil 100 NH2	16 µm	+	1.5 %	-	0565	E

Complete range of columns by Nouryon available:
www.mz-at-shop.de

LiChrospher™ Merck / EMD

 spherical • 60 Å / 650 m²g⁻¹ • 100 Å / 420 m²g⁻¹

LiChrospher Si 60	5 µm	-	-	L3	0115	F
LiChrospher Si 60	10 µm	-	-	L3	0110	F
LiChrospher Si 100	5 µm	-	-	L3	0125	F
LiChrospher Si 100	10 µm	-	-	L3	0120	F
LiChrospher 100RP-8	5 µm	-	12.5 %	L7	0135	F
LiChrospher 100RP-8	10 µm	-	12.5 %	L7	0130	F
... 100RP-8 endc.	5 µm	+	13.0 %	L7	0136	F
... 100RP-8 endc.	10 µm	+	13.0 %	L7	0131	F
... 100RP-18	5 µm	-	21.0 %	L1	0145	F
... 100RP-18	10 µm	-	21.0 %	L1	0140	F
... 100RP-18 endc.	5 µm	+	21.5 %	L1	0146	F
... 100RP-18 endc.	10 µm	+	21.5 %	L1	0141	F
LiChrospher 100-NH2	5 µm	-	4.6 %	L8	0155	F
LiChrospher 100-NH2	10 µm	-	4.6 %	L8	0150	F
LiChrospher 100-CN	5 µm	-	6.6 %	L10	0165	F
LiChrospher 100-CN	10 µm	-	6.6 %	L10	0160	F
LiChrospher 100 DIOL	5 µm	-	8.0 %	L20	0175	F
LiChrospher 100 DIOL	10 µm	-	8.0 %	L20	0170	F
... 60 RP-Select B	5 µm	+	11.5 %	L7	0185	F
... 60 RP-Select B	10 µm	+	11.5 %	L7	0180	F

 Complete range of columns by MERCK / EMD available:
 www.mz-at-shop.de

Nucleosil™ 100 Macherey-Nagel

 spherical • 100 Å / 350 m²g⁻¹

Nucleosil Si 100	3 µm	-	-	L3	3013	F
Nucleosil Si 100	5 µm	-	-	L3	3015	E2
Nucleosil Si 100	7 µm	-	-	L3	3017	E2
Nucleosil Si 100	10 µm	-	-	L3	3010	E2
Nucleosil 100 C8	3 µm	-	8.5 %	L7	3023	F
Nucleosil 100 C8	5 µm	-	8.5 %	L7	3025	E2
Nucleosil 100 C8	7 µm	-	8.5 %	L7	3027	E2
Nucleosil 100 C8	10 µm	-	8.5 %	L7	3020	E2
Nucleosil 100 C18	3 µm	+	15 %	L1	3033	F
Nucleosil 100 C18	5 µm	+	15 %	L1	3035	E2
Nucleosil 100 C18	7 µm	+	15 %	L1	3037	E2
Nucleosil 100 C18	10 µm	+	15 %	L1	3030	E2
Nucleosil 100 C6H5	5 µm	-	8 %	L11	3045	E2
Nucleosil 100 C6H5	7 µm	-	8 %	L11	3047	E2
Nucleosil 100 -NH2	5 µm	-	3.5 %	L8	3055	E2
Nucleosil 100 -NH2	10 µm	-	3.5 %	L8	3050	E2
Nucleosil 100 -CN	5 µm	-	5 %	L10	3065	E2
Nucleosil 100 -CN	10 µm	-	5 %	L10	3060	E2
Nucleosil 100 -OH	5 µm	-	5 %	L20	3075	E2
Nucleosil 100 -OH	7 µm	-	5 %	L20	3077	E2

 Complete range of columns by Macherey-Nagel available:
 www.mz-at-shop.de

Nucleosil™ 300 Macherey-Nagel

 spherical • 300 Å / 100 m²g⁻¹

Nucleosil 300 C4	5 µm	+	2 %	L26	3305	E2
Nucleosil 300 C4	7 µm	+	2 %	L26	3307	E2
Nucleosil 300 C4	10 µm	+	2 %	L26	3310	E2
Nucleosil 300 C8	5 µm	-	3 %	L7	3325	E2
Nucleosil 300 C8	7 µm	-	3 %	L7	3327	E2
Nucleosil 300 C8	10 µm	-	3 %	L7	3320	E2
Nucleosil 300 C18	5 µm	+	6.5 %	L1	3335	E2
Nucleosil 300 C18	7 µm	+	6.5 %	L1	3337	E2
Nucleosil 300 C18	10 µm	+	6.5 %	L1	3330	E2
Nucleosil 300 OH	7 µm	-	1.5 %	L20	3357	E2

 Complete range of columns by Macherey-Nagel available:
 www.mz-at-shop.de

MZ-Aqua Perfect™ MZ-AT

 spherical • 120 Å / 310 m²g⁻¹ • 200 Å / 220 m²g⁻¹

MZ-Aqua Perfect C18	3 µm	+	15 %	L1	0610	F
MZ-Aqua Perfect C18	5 µm	+	15 %	L1	0612	E
MZ-Aqua Perfect C18	7 µm	+	15 %	L1	0613	E
MZ-Aqua Perfect C18	10 µm	+	15 %	L1	0614	E
... 200 C18	3 µm	+	11 %	L1	0620	F
... 200 C18	5 µm	+	11 %	L1	0622	E

Orbit™ 100 MZ-AT

 spherical • 100 Å / 340 m²g⁻¹

Orbit 100 C18	3.5 µm	+	19 %	L1	0902	E2
Orbit 100 C18	4 µm	+	19 %	L1	0904	E2
Orbit 100 C18	5 µm	+	19 %	L1	0901	D
Orbit 100 C18	10 µm	+	19 %	L1	0906	D
Orbit 100 C8	3.5 µm	+	12 %	L7	0912	E2
Orbit 100 C8	5 µm	+	12 %	L7	0911	D
Orbit 100 C8	7 µm	+	12 %	L7	0915	D
Orbit 100 C8	10 µm	+	12 %	L7	0916	D
Orbit 100 C4	3.5 µm	+	7 %	L26	0922	E2
Orbit 100 C4	5 µm	+	7 %	L26	0921	D
Orbit 100 C4	10 µm	+	7 %	L26	0926	D
Orbit 100 CN	3.5 µm	-	6.5 %	L10	0879	E2
Orbit 100 CN	5 µm	-	6.5 %	L10	0875	D
Orbit 100 Sil	3.5 µm	-	0 %	L3	0931	E2
Orbit 100 Sil	5 µm	-	0 %	L3	0930	D
Orbit 100 Sil	10 µm	-	0 %	L3	0932	D

PerfectChrom™ MZ-AT

 spherical • 60 Å / 550 m²g⁻¹ • 100 Å / 350 m²g⁻¹

PerfectChrom 60 Sil	5 µm	-	-	L3	1575	D
PerfectChrom 60 Sil	10 µm	-	-	L3	1577	D
PerfectChrom 100 Sil	5 µm	-	-	L3	1525	D
PerfectChrom 100 Sil	10 µm	-	-	L3	1527	D
PerfectChrom 100 C18	3 µm	+	17 %	L1	1503	F
PerfectChrom 100 C18	5 µm	+	17 %	L1	1505	D
PerfectChrom 100 C18	10 µm	+	17 %	L1	1500	D
PerfectChrom 100 C18	15 µm	+	17 %		1506	D
PerfectChrom 100 C18L	5 µm	+	8.5 %	L1	1494	D
PerfectChrom 100 C18L	10 µm	+	8.5 %	L1	1496	D
PerfectChrom 100 C18M	5 µm	+	12 %	L1	1504	D
PerfectChrom 100 C8	3 µm	+	8 %	L7	1513	F
PerfectChrom 100 C8	5 µm	+	8 %	L7	1515	D
PerfectChrom 100 C8	10 µm	+	8 %	L7	1510	D
PerfectChrom 100 C8M	5 µm	+	6 %	L7	1514	D
PerfectChrom 100 C1	5 µm	-	4 %	L13	1535	D
PerfectChrom 100 C4	5 µm	+	6 %	L26	1539	D
PerfectChrom 100 C6	5 µm	+	7 %	L15	1543	D
PerfectChrom 100 CN	5 µm	-	6 %	L10	1555	D
PerfectChrom 100 CN	7 µm	-	6 %	L10	1556	D
PerfectChrom 100 CN	10 µm	-	6 %	L10	1557	D
PerfectChrom 100 CN-M	10 µm	-		L10	1584	D
PerfectChrom 100 Diol	5 µm	-	5 %	L20	1559	D
PerfectChrom 100 Diol	10 µm	-	5 %	L20	1560	D
PerfectChrom 100 NH2	5 µm	-	3.5 %	L8	1551	D
PerfectChrom 100 NH2	10 µm	-	3.5 %	L8	1552	D
... 100 Phenyl	3 µm	-	11.5 %	L11	1545	F
... 100 Phenyl	5 µm	-	11.5 %	L11	1547	D
... 100 Phenyl	10 µm	-	11.5 %	L11	1549	D
... 100 Phenyl M	5 µm	-	8.5 %	L11	1531	D
... 100 Phenyl M	10 µm	-	8.5 %	L11	1550	D
... 100 Phenyl L	5 µm	-	6 %	L11	1532	D

Available HPLC-Packings

PerfectBond™ MZ-AT

spherical • technical data & details: check page 16

PerfectBond ODS-H	3 µm	+	10.0 %	L1	1194	F
PerfectBond ODS-H	5 µm	+	10.0 %	L1	1195	E
PerfectBond ODS-HD	3 µm	+	18.5 %	L1	1200	G
PerfectBond ODS-HD	5 µm	+	18.5 %	L1	1198	F
PerfectBond C18 ODS	5 µm	+	10.0 %	L1	1190	E
PerfectBond C18	10 µm	+	10.0 %	L1	1011	E
PerfectBond BDS 18	5 µm	+	11.0 %	L1	1245	F
PerfectBond C8-HD	3 µm	+	10.5 %	L7	1202	G
PerfectBond C8-HD	5 µm	+	10.5 %	L7	1204	F
PerfectBond C8-H	3 µm	+	6.5 %	L7	1193	F
PerfectBond C8-H	5 µm	+	6.5 %	L7	1192	E
PerfectBond C8	5 µm	+	7.0 %	L7	1018	E
PerfectBond C1	3 µm	-	5.0 %	L13	1180	F
PerfectBond C1	5 µm	-	5.0 %	L13	1182	E
PerfectBond NH2	5 µm	-	-	L8	1240	E
PerfectBond Ph	5 µm	+	6.0 %	L11	1220	E
PerfectBond Ph-H	5 µm	+	5.0 %	L11	1222	E
PerfectBond Si	30-50 µm	-	-	L27	1027	D
PerfectBond C30	3 µm	+	-	-	1253	H
PerfectBond C30	5 µm	+	-	-	1255	G

PerfectSil™ MZ-AT
spherical • 80Å/220m²g⁻¹ • 100Å/450m²g⁻¹ • 120Å/300m²g⁻¹ • 300Å/100 m²g⁻¹

PerfectSil 80 ODS-2	3 µm	+	11.5 %	L1	1663	F
PerfectSil 80 ODS-2	5 µm	+	11.5 %	L1	1660	D
PerfectSil 100 Sil	5 µm	-	-	L3	0705	D
PerfectSil 100 ODS-3	3 µm	+	15.0 %	L1	0708	F
PerfectSil 100 ODS-3	4 µm	+	15.0 %	L1	0709	E
PerfectSil 100 ODS-3	5 µm	+	15.0 %	L1	0710	D
PerfectSil 100 C8-3	5 µm	+	9.0 %	L7	0715	D
PerfectSil 100 Phenyl-3	5 µm	-	9.5 %	L11	0735	D
PerfectSil 100 NH2	5 µm	-	8.0 %	L8	0720	D
PerfectSil 100 CN-3	5 µm	-	4.0 %	L10	0725	D
PerfectSil 100 Diol	5 µm	-	-	L20	0730	D
PerfectSil 120 Sil	5 µm	-	-	L3	1410	D
PerfectSil 120 Sil	10 µm	-	-	L3	1412	D
PerfectSil 120 ODS	3 µm	+	15.0 %	L1	1421	F
PerfectSil 120 ODS	5 µm	+	15.0 %	L1	1420	D
PerfectSil 120 ODS	7 µm	+	15.0 %	L1	1398	D
PerfectSil 120 ODS	10 µm	+	15.0 %	L1	1400	D
PerfectSil 120 ODS-L	3 µm	+	13.0 %	L1	1675	F
PerfectSil 120 ODS-L	5 µm	+	13.0 %	L1	1680	E
PerfectSil 120 ODS-2	3 µm	+	17.0 %	L1	1424	F
PerfectSil 120 ODS-2	5 µm	+	17.0 %	L1	1425	D
PerfectSil 120 C1	3 µm	-	5.0 %	L13	1429	F
PerfectSil 120 C1	5 µm	-	5.0 %	L13	1430	D
PerfectSil 120 C4	3 µm	+	8.0 %	L26	1433	F
PerfectSil 120 C4	5 µm	+	8.0 %	L26	1435	D
PerfectSil 120 C8	3 µm	+	11.0 %	L7	1441	F
PerfectSil 120 C8	5 µm	+	11.0 %	L7	1440	D
PerfectSil 120 C8	10 µm	+	11.0 %	L7	1442	D
PerfectSil 120 CN	3 µm	-	7.5 %	L10	1379	F
PerfectSil 120 CN	5 µm	-	7.5 %	L10	1380	D
PerfectSil 120 Diol	10 µm	-	-	L20	1340	D
PerfectSil 120 NH2	3 µm	-	4.0 %	L8	1446	F
PerfectSil 120 NH2	4 µm	-	4.0 %	L8	1444	F
PerfectSil 120 NH2	5 µm	-	4.0 %	L8	1445	D
PerfectSil 120 Phenyl	3 µm	-	9.5 %	L11	1447	F
PerfectSil 120 Phenyl	4 µm	-	9.5 %	L11	2446	F
PerfectSil 120 Phenyl	5 µm	-	9.5 %	L11	1448	D
PerfectSil 120 Phenyl-M	5 µm	-	6.0 %	L11	1449	D
PerfectSil 120 Phenyl-L	5 µm	-	4.0 %	L11	2448	D
PerfectSil 200 ODS	5 µm	+	12.0 %	L1	1418	E
PerfectSil 300 Sil	5 µm	-	-	L3	1450	E
PerfectSil 300 Sil	10 µm	-	-	L3	1840	D
PerfectSil 300 Sil	15-20 µm	-	-	-	1845	D
PerfectSil 300 ODS C18	5 µm	+	9.0 %	L1	1455	E2
... 300 ODS C18	10 µm	+	9.0 %	L1	1805	D
... 300 ODS C18	15-20 µm	+	9.0 %	-	1810	D
PerfectSil 300 C4	5 µm	+	3.0 %	L26	1460	E2
PerfectSil 300 C4	10 µm	+	3.0 %	L26	1830	D
PerfectSil 300 C4	15-20 µm	+	3.0 %	-	1835	D
PerfectSil 300 C8	5 µm	+	5.0 %	L7	1465	E2
PerfectSil 300 C8	10 µm	+	5.0 %	L7	1820	D
PerfectSil 300 C8	15-20 µm	+	5.0 %	-	1825	D
PerfectSil 300 Diol	5 µm	-	5.0 %	L20	1858	E2
PerfectSil 1000 Sil	5 µm	-	-	L3	1475	D

PerfectSil™ Target MZ-AT
spherical • 100 Å / 450 m²g⁻¹

PerfectSil Target Sil 100	3 µm	-	-	L3	0803	F
PerfectSil Target Sil 100	5 µm	-	-	L3	0800	E
PerfectSil Target ODS-3	3 µm	+	17 %	L1	0802	F
PerfectSil Target ODS-3	5 µm	+	17 %	L1	0801	E
PerfectSil Target ODS-3	10 µm	+	17 %	L1	0806	E
PerfectSil Target C8-3	3 µm	+	9 %	L7	0812	F
PerfectSil Target C8-3	5 µm	+	9 %	L7	0811	E
PerfectSil Target CN-3	5 µm	-	7 %	L10	0818	E

PerfectSil™ Target HD MZ-AT
spherical • 100 Å / 450 m²g⁻¹

PerfectSil Target ODS-3 HD	3 µm	+	25 %	L1	0833	F
PerfectSil Target ODS-3 HD	5 µm	+	25 %	L1	0831	E2
PerfectSil Target ODS-3 HD	10 µm	+	25 %	L1	0830	E2
PerfectSil Target C8 HD	3 µm	+	15 %	L7	0843	F
PerfectSil Target C8 HD	5 µm	+	15 %	L7	0845	E2

Spherisorb™ Waters
spherical • 80 Å / 220 m²g⁻¹

Spherisorb Si	5 µm	-	-	L3	7015	E
Spherisorb Si	10 µm	-	-	L3	7010	E
Spherisorb C1	3 µm	-	2.2 %	L13	7023	G
Spherisorb C1	5 µm	-	2.2 %	L13	7025	E
Spherisorb C1	10 µm	-	2.2 %	L13	7020	E
Spherisorb C6	3 µm	+	4.7 %	L15	7033	G
Spherisorb C6	5 µm	+	4.7 %	L15	7035	E
Spherisorb C6	10 µm	+	4.7 %	L15	7030	E
Spherisorb C8	3 µm	+	5.8 %	L7	7043	G
Spherisorb C8	5 µm	+	5.8 %	L7	7045	E
Spherisorb C8	10 µm	+	5.8 %	L7	7040	E
Spherisorb ODS-1 C18	3 µm	+/-	6.2 %	L1	7053	G
Spherisorb ODS-1 C18	5 µm	+/-	6.2 %	L1	7055	E
Spherisorb ODS-1 C18	10 µm	+/-	6.2 %	L1	7050	E
Spherisorb ODS-2 C18	3 µm	+	11.5 %	L1	7063	G
Spherisorb ODS-2 C18	5 µm	+	11.5 %	L1	7065	E
Spherisorb ODS-2 C18	10 µm	+	11.5 %	L1	7060	E
Spherisorb -CN	3 µm	-	3.1 %	L10	7073	G
Spherisorb -CN	5 µm	-	3.1 %	L10	7075	E
Spherisorb -CN	10 µm	-	3.1 %	L10	7070	E
Spherisorb -NH2	3 µm	-	1.9 %	L8	7083	G
Spherisorb -NH2	5 µm	-	1.9 %	L8	7085	E
Spherisorb -Phenyl	3 µm	-	2.5 %	L11	7093	G
Spherisorb -Phenyl	5 µm	-	2.5 %	L11	7095	E
Spherisorb -Phenyl	10 µm	-	2.5 %	L11	7090	E

Complete range of columns by Waters available:
www.mz-at-shop.de

Superspher™ Merck / EMD
spherical • 60 Å / 700 m²g⁻¹ • 100 Å / 350 m²g⁻¹

Superspher Si 60	4 µm	-	-	L3	0214	G
Superspher 60 RP-8	4 µm	-	12.5 %	L7	0224	G
Superspher 60 RP-8 (e)	4 µm	+	13 %	L7	0234	G
Superspher 100 RP-18	4 µm	-	21 %	L1	0254	G
... 100 RP-18 (e)	4 µm	+	21.6 %	L1	0264	G
... 60 RP-Select B	4 µm	+	11.5 %	L7	0244	G

Complete range of columns by MERCK / EMD available:
www.mz-at-shop.de

MZ-PAH: Separation of Polyaromatic Hydrocarbons

Especially developed for the separation of Polyaromatic Hydrocarbons: **MZ-PAH** Columns by MZ-Analysentechnik.

MZ-PAH-Columns are well-known for their outstanding performance:

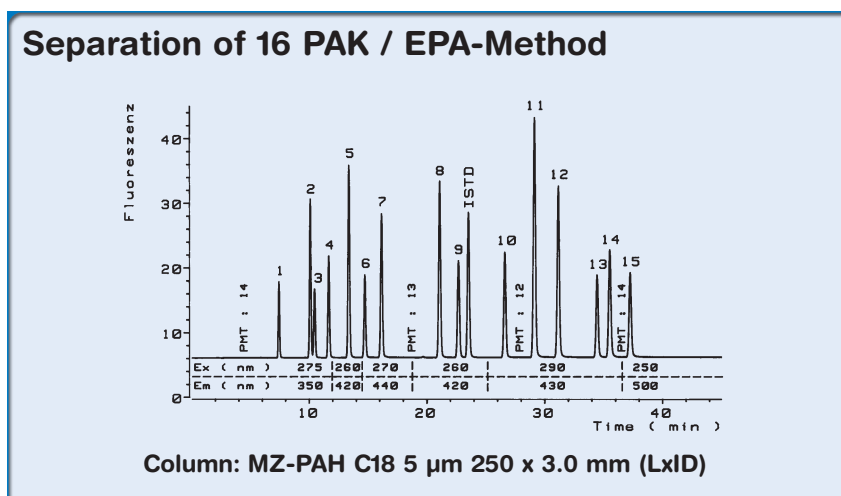
- ➔ Excellent selectivity
- ➔ Guaranteed separation of 6 PAK (DIN 38407-F8) and 16 PAK (EPA Method 610)
- ➔ High efficiency: > 75,000 m⁻¹
- ➔ High reproducibility between column-to-column
- ➔ Long lifetime
- ➔ Refillable stainless steel column

MZ-PAH 3 µm

Length x ID	Part-No.	€
150 x 3.0 mm	MZ1100-150030	376.--
Refill-Service		
150 x 3.0 mm	MZ1100-150030R	338.--
Guard Cartridges		
10x3.0 mm 5pc	MZ1100-VK1030	205.--
20x3.0 mm 5pc	MZ1100-VK2030	205.--

MZ-PAH 5 µm

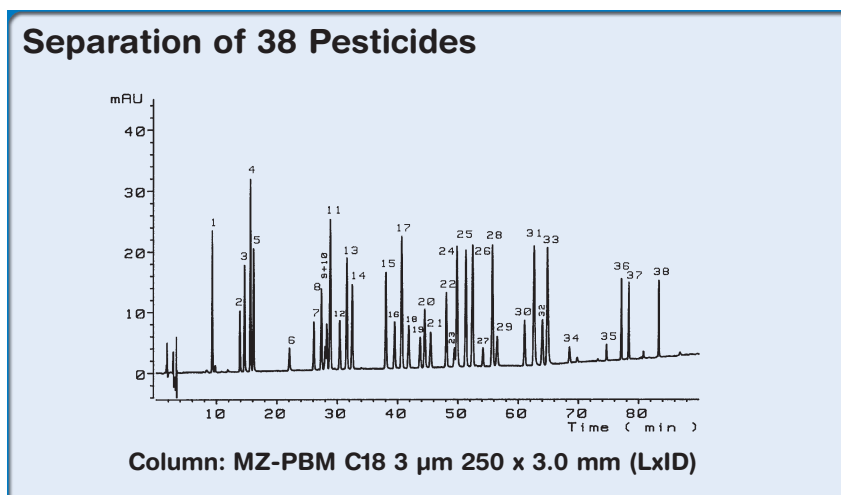
Length x ID	Part-No.	€
250 x 2.1 mm	MZ1111-250021	333.--
250 x 3.0 mm	MZ1111-250030	333.--
250 x 4.0 mm	MZ1111-250040	384.--
Refill-Service		
250 x 2.1 mm	MZ1111-250021R*	282.--
250 x 3.0 mm	MZ1111-250030R*	282.--
250 x 4.0 mm	MZ1111-250040R*	338.--
Guard Cartridges		
10x2.1 mm 5pc	MZ1111-VK1021	205.--
20x2.1 mm 5pc	MZ1111-VK2021	205.--
10x3.0 mm 5pc	MZ1111-VK1030	205.--
20x3.0 mm 5pc	MZ1111-VK2030	205.--
10x4.0 mm 5pc	MZ1111-VK1040	205.--
20x4.0 mm 5pc	MZ1111-VK2040	205.--



MZ-PBM: Separation of Pesticides

Especially developed for the separation of nitrogen-containing pesticides: **MZ-PBM** - proven by being part of DIN 38407-F12.

- ➔ Outstanding selectivity for nitrogen-containing pesticides
- ➔ High efficiency: > 110.000 m⁻¹
- ➔ High reproducibility from batch-to-batch thanks to a unique functionalization procedure
- ➔ Long lifetime
- ➔ Refillable stainless steel column



MZ-PBM 3 µm

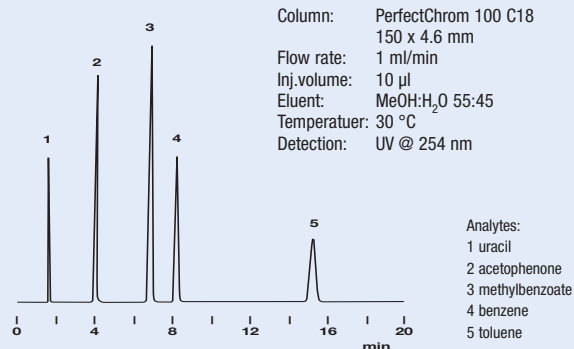
Length x ID	Part-No.	€
250 x 2.1 mm	MZ1122-250021	333.--
250 x 3.0 mm	MZ1122-250030	333.--
250 x 4.0 mm	MZ1122-250040	384.--
Refill-Service		
250 x 2.1 mm	MZ1122-250021R	282.--
250 x 3.0 mm	MZ1122-250030R	282.--
250 x 4.0 mm	MZ1122-250040R	338.--
Guard Cartridges		
10x2.1 mm 5pc	MZ1122-VK1021	205.--
20x2.1 mm 5pc	MZ1122-VK2021	205.--
10x3.0 mm 5pc	MZ1122-VK1030	205.--
20x3.0 mm 5pc	MZ1122-VK2030	205.--
10x4.0 mm 5pc	MZ1122-VK1040	205.--
20x4.0 mm 5pc	MZ1122-VK2040	205.--

PerfectChrom®

The Perfect Choice for Reliable Routine Analytics

- ➔ Complex range of chemistries
- ➔ Each column tested individually
- ➔ Manufacturing process ISO 9001-certified
- ➔ Available as bulk media
- ➔ Refillable stainless steel column
- ➔ Best value for your money

Polar Compounds



PerfectChrom™								Technical Data				
Material	Particle Size	ec	C-Content	USP	Surface Area	Pore Size	Code	Dimension L x ID	3 µm		5/10/15 µm	
									New	Refill	New	Refill
PerfectChrom 60 Sil	5 µm	-	-	L3	550 m ² /g	60 Å	1575	50 x 2.1 mm	319.--	282.--	247.--	210.--
PerfectChrom 60 Sil	10 µm	-	-	L3	550 m ² /g	60 Å	1577	100 x 2.1 mm	347.--	310.--	269.--	232.--
PerfectChrom 100 Sil	5 µm	-	-	L3	350 m ² /g	100 Å	1525	125 x 2.1 mm	362.--	325.--	280.--	243.--
PerfectChrom 100 Sil	10 µm	-	-	L3	350 m ² /g	100 Å	1527	150 x 2.1 mm	372.--	335.--	287.--	250.--
PerfectChrom 100 C18	3 µm	+	17 %	L1	350 m ² /g	100 Å	1503	200 x 2.1 mm	393.--	356.--	303.--	266.--
PerfectChrom 100 C18	5 µm	+	17 %	L1	350 m ² /g	100 Å	1505	250 x 2.1 mm	404.--	367.--	312.--	275.--
PerfectChrom 100 C18	10 µm	+	17 %	L1	350 m ² /g	100 Å	1500	50 x 3.0 mm	294.--	271.--	217.--	194.--
PerfectChrom 100 C18	15 µm	+	17 %	L1	350 m ² /g	100 Å	1506	100 x 3.0 mm	320.--	295.--	236.--	211.--
PerfectChrom 100 C18L	5 µm	+	8.5 %	L1	350 m ² /g	100 Å	1494	125 x 3.0 mm	333.--	307.--	246.--	220.--
PerfectChrom 100 C18L	10 µm	+	8.5 %	L1	350 m ² /g	100 Å	1496	150 x 3.0 mm	343.--	316.--	253.--	226.--
PerfectChrom 100 C18M	5 µm	+	12 %	L1	350 m ² /g	100 Å	1504	200 x 3.0 mm	362.--	335.--	266.--	239.--
PerfectChrom 100 C8	3 µm	+	8 %	L7	350 m ² /g	100 Å	1513	250 x 3.0 mm	372.--	345.--	274.--	247.--
PerfectChrom 100 C8	5 µm	+	8 %	L7	350 m ² /g	100 Å	1515	20 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 C8	10 µm	+	8 %	L7	350 m ² /g	100 Å	1510	33 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 C8M	5 µm	+	6 %	L7	350 m ² /g	100 Å	1514	40 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 C1	5 µm	-	4 %	L13	350 m ² /g	100 Å	1535	50 x 4.0 mm	294.--	271.--	217.--	194.--
PerfectChrom 100 C4	5 µm	+	6 %	L26	350 m ² /g	100 Å	1539	60 x 4.0 mm	297.--	274.--	219.--	196.--
PerfectChrom 100 C6	5 µm	+	7 %	L15	350 m ² /g	100 Å	1543	75 x 4.0 mm	302.--	279.--	222.--	199.--
PerfectChrom 100 CN	5 µm	-	6 %	L10	350 m ² /g	100 Å	1555	100 x 4.0 mm	320.--	295.--	236.--	211.--
PerfectChrom 100 CN	7 µm	-	6 %	L10	350 m ² /g	100 Å	1556	125 x 4.0 mm	333.--	307.--	246.--	220.--
PerfectChrom 100 CN	10 µm	-	6 %	L10	350 m ² /g	100 Å	1557	150 x 4.0 mm	343.--	316.--	253.--	226.--
PerfectChrom 100 CN-M	10 µm	-	-	L10	350 m ² /g	100 Å	1584	200 x 4.0 mm	362.--	335.--	266.--	239.--
PerfectChrom 100 Diol	5 µm	-	5 %	L20	350 m ² /g	100 Å	1559	250 x 4.0 mm	372.--	345.--	274.--	247.--
PerfectChrom 100 Diol	10 µm	-	5 %	L20	350 m ² /g	100 Å	1560	300 x 4.0 mm	410.--	372.--	310.--	272.--
PerfectChrom 100 NH2	5 µm	-	3.5 %	L8	350 m ² /g	100 Å	1551	20 x 4.6 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 NH2	10 µm	-	3.5 %	L8	350 m ² /g	100 Å	1552	33 x 4.6 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 Phenyl	3 µm	-	11.5 %	L11	350 m ² /g	100 Å	1545	40 x 4.6 mm	288.--	268.--	212.--	192.--
PerfectChrom 100 Phenyl	5 µm	-	11.5 %	L11	350 m ² /g	100 Å	1547	50 x 4.6 mm	294.--	271.--	219.--	196.--
PerfectChrom 100 Phenyl	10 µm	-	11.5 %	L11	350 m ² /g	100 Å	1549	60 x 4.6 mm	297.--	274.--	222.--	199.--
PerfectChrom 100 Phenyl M	5 µm	-	8.5 %	L11	350 m ² /g	100 Å	1531	75 x 4.6 mm	302.--	279.--	236.--	213.--
PerfectChrom 100 Phenyl M	10 µm	-	8.5 %	L11	350 m ² /g	100 Å	1550	100 x 4.6 mm	320.--	295.--	246.--	221.--
PerfectChrom 100 Phenyl L	5 µm	-	6 %	L11	350 m ² /g	100 Å	1532	125 x 4.6 mm	333.--	307.--	253.--	227.--
								150 x 4.6 mm	343.--	316.--	253.--	226.--
								200 x 4.6 mm	362.--	335.--	266.--	239.--
								250 x 4.6 mm	372.--	345.--	274.--	247.--
								300 x 4.6 mm	410.--	372.--	310.--	272.--



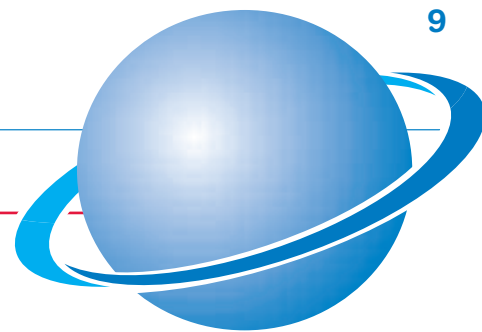
Part-No.



Example:

PerfectChrom 100 C18 3 µm (1503)
HPLC-Column 150 x 4.0 mm
=> Part-No.: **MZ1503-150040**
Please inquire details for Refill-Service

Also available as preparative HPLC-columns with ID 8 - 50 mm, please inquire.



Orbit State-of-the-Art for Routine Analytics

Our completely new-developed product-line Orbit is based on extremely pure and ultra-stable porous silica with 100 Å mean pore size. The State-of-the-Art base silica is especially optimized for the requirements of today's routine analytics. Orbit is as well robust and shows an excellent chromatographic resolution plus it offers a high co-stefficiency - which may be further increased employing our Refill-service at very reasonable prices.

Customers from routine analytics are thus now enabled to use the latest stationary phase technology without loss in suitability for daily use or a trade-off in chromatographic resolution. Orbit features excellent chromatographic separations with high efficiencies and symmetrical peak shape - while an excellent reproducibility from batch to batch and column to column is given.

Like all HPLC-columns from MZ-Analyse-technik, Orbit HPLC-columns are ma-

nufactured under fully ISO9001-certified conditions and ship with a quality certificate including the original test chromatogram.

Orbit can be packed in the full range of column dimensions (also available in semi-prep and preparative scale) and is shipping with 3.5; 5 or 10 µm particle size and typical chemistries needed for standard separation tasks in routine analysis - see table below.



Technical Data	Orbit
Pore size	100 Å
Pore volume	0,9 cm ³ /g
Surface area (BET)	340 m ² /g
Morphology	spherical
Silica purity	> 99,999 %
Endcapping	complete
Carbon Contents	CN: 6.5 %C C4: 7 %C C8: 12 %C C18: 19 %C

Material-Codes	
Orbit 100 C18	3.5 µm = 0902
Orbit 100 C18	4 µm = 0904
Orbit 100 C18	5 µm = 0901
Orbit 100 C18	10 µm = 0906
Orbit 100 C8	3.5 µm = 0912
Orbit 100 C8	5 µm = 0911
Orbit 100 C8	7 µm = 0913
Orbit 100 C8	10 µm = 0916
Orbit 100 C4	3.5 µm = 0922
Orbit 100 C4	5 µm = 0921
Orbit 100 C4	10 µm = 0926
Orbit 100 CN	3.5 µm = 0875
Orbit 100 CN	5 µm = 0875
Orbit 100 Sil	3.5 µm = 0931
Orbit 100 Sil	5 µm = 0930
Orbit 100 Sil	10 µm = 0932

i Part-no.

MZ	CODE	-LEN	IDØ
four-digit Materialcode	length in mm	ID in 1/16 mm	

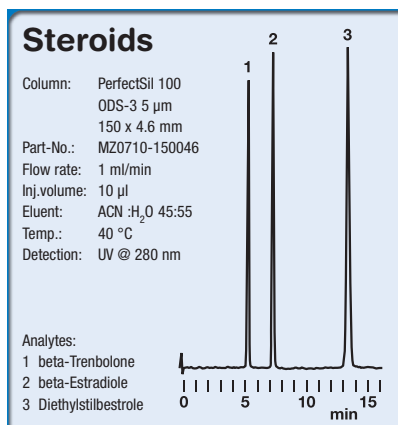
Example: Orbit C18 5 µm (**0901**) **250** x **4.6** mm
=> **Part-no.: MZ0901-250046**
Please inquire details for Refill-Service

L x ID in mm	3.5 & 4 µm		5 & 10 µm	
	New	Refill	New	Refill
50 x 2.1	271.--	234.--	247.--	210.--
100 x 2.1	295.--	258.--	269.--	232.--
125 x 2.1	308.--	271.--	280.--	243.--
150 x 2.1	315.--	278.--	287.--	250.--
200 x 2.1	333.--	296.--	303.--	266.--
250 x 2.1	343.--	306.--	312.--	275.--
50 x 3.0	265.--	242.--	217.--	194.--
100 x 3.0	289.--	264.--	236.--	211.--
125 x 3.0	300.--	274.--	246.--	220.--
150 x 3.0	308.--	281.--	253.--	226.--
200 x 3.0	325.--	298.--	266.--	239.--
250 x 3.0	336.--	309.--	274.--	247.--
20 x 4.0	260.--	240.--	212.--	192.--
33 x 4.0	260.--	240.--	212.--	192.--
40 x 4.0	260.--	240.--	212.--	192.--
50 x 4.0	265.--	242.--	217.--	194.--
60 x 4.0	269.--	246.--	219.--	196.--
75 x 4.0	272.--	249.--	222.--	199.--
100 x 4.0	289.--	264.--	236.--	211.--
125 x 4.0	300.--	274.--	246.--	220.--
150 x 4.0	308.--	281.--	253.--	226.--
200 x 4.0	325.--	298.--	266.--	239.--
250 x 4.0	336.--	309.--	274.--	247.--
300 x 4.0	370.--	332.--	310.--	272.--
20 x 4.6	260.--	240.--	212.--	192.--
33 x 4.6	260.--	240.--	212.--	192.--
40 x 4.6	260.--	240.--	212.--	192.--
50 x 4.6	265.--	242.--	219.--	196.--
60 x 4.6	269.--	246.--	222.--	199.--
75 x 4.6	272.--	249.--	236.--	213.--
100 x 4.6	289.--	264.--	246.--	221.--
125 x 4.6	300.--	274.--	253.--	227.--
150 x 4.6	308.--	281.--	253.--	226.--
200 x 4.6	325.--	298.--	266.--	239.--
250 x 4.6	336.--	309.--	274.--	247.--
300 x 4.6	370.--	332.--	310.--	272.--

Also available as semi-prep and prep - please inquire.

PerfectSil®

High Quality by MZ-Analysentechnik



- Well-established in various labs world-wide
- Highly reproducible
- Each column tested individually
- Available particle sizes: 3; 5 & 10 µm
- Highly pure silica skeleton > 99,999 %
- Large variety of available chemistries
- Available in 100 and 120 Å pore size
- Excellent chemical and mechanical stability
- Manufactured under fully ISO 9001-certified conditions
- Refill-service available



PerfectSil™	Technical Data								Dimension L x ID	3 µm		5/10 µm*	
	material code	particle size	pore size	surface area	pore volume	carbon contents	silica purity	end-capped		New	Refill	New	Refill
PerfectSil 100 Sil	0705	5 µm	100 Å	450 m ² /g	1.05 ml/g	-	99.999	-	50 x 2.1 mm	319.--	282.--	247.--	210.--
PerfectSil 100 ODS-3	0708	3 µm	100 Å	450 m ² /g	1.05 ml/g	15.0 %	99.999	+	100 x 2.1 mm	347.--	310.--	269.--	232.--
PerfectSil 100 ODS-3	0710	5 µm	100 Å	450 m ² /g	1.05 ml/g	15.0 %	99.999	+	125 x 2.1 mm	362.--	325.--	280.--	243.--
PerfectSil 100 C8-3	0715	5 µm	100 Å	450 m ² /g	1.05 ml/g	9.0 %	99.999	+	150 x 2.1 mm	372.--	335.--	287.--	250.--
PerfectSil 100 Phenyl-3	0735	5 µm	100 Å	450 m ² /g	1.05 ml/g	9.5 %	99.999	-	200 x 2.1 mm	393.--	356.--	303.--	266.--
PerfectSil 100 NH2	0720	5 µm	100 Å	450 m ² /g	1.05 ml/g	8.0 %	99.999	-	250 x 2.1 mm	404.--	367.--	312.--	275.--
PerfectSil 100 CN-3	0725	5 µm	100 Å	450 m ² /g	1.05 ml/g	4.0 %	99.999	-	50 x 3.0 mm	294.--	271.--	217.--	194.--
PerfectSil 100 Diol	0730	5 µm	100 Å	450 m ² /g	1.05 ml/g	-	99.999	-	100 x 3.0 mm	320.--	295.--	236.--	211.--
PerfectSil 120 Sil	1410	5 µm	120 Å	300 m ² /g	1.00 ml/g	-	99.999	-	125 x 3.0 mm	333.--	307.--	246.--	220.--
PerfectSil 120 Sil	1412	10 µm	120 Å	300 m ² /g	1.00 ml/g	-	99.999	-	150 x 3.0 mm	343.--	316.--	253.--	226.--
PerfectSil 120 ODS	1421	3 µm	120 Å	300 m ² /g	1.00 ml/g	15.0 %	99.999	+	200 x 3.0 mm	362.--	335.--	266.--	239.--
PerfectSil 120 ODS	1420	5 µm	120 Å	300 m ² /g	1.00 ml/g	15.0 %	99.999	+	250 x 3.0 mm	372.--	345.--	274.--	247.--
PerfectSil 120 ODS	1398	7 µm	120 Å	300 m ² /g	1.00 ml/g	15.0 %	99.999	+	20 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectSil 120 ODS	1400	10 µm	120 Å	300 m ² /g	1.00 ml/g	15.0 %	99.999	+	33 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectSil 120 ODS-L	1675	3 µm	120 Å	300 m ² /g	1.00 ml/g	13.0 %	99.999	+	40 x 4.0 mm	288.--	268.--	212.--	192.--
PerfectSil 120 ODS-L*	1680	5 µm	120 Å	300 m ² /g	1.00 ml/g	13.0 %	99.999	+	50 x 4.0 mm	294.--	271.--	217.--	194.--
PerfectSil 120 ODS-2	1424	3 µm	120 Å	300 m ² /g	1.00 ml/g	17.0 %	99.999	+	60 x 4.0 mm	297.--	274.--	219.--	196.--
PerfectSil 120 ODS-2	1425	5 µm	120 Å	300 m ² /g	1.00 ml/g	17.0 %	99.999	+	75 x 4.0 mm	302.--	279.--	222.--	199.--
PerfectSil 120 C1	1429	3 µm	120 Å	300 m ² /g	1.00 ml/g	5.0 %	99.999	-	100 x 4.0 mm	320.--	295.--	236.--	211.--
PerfectSil 120 C1	1430	5 µm	120 Å	300 m ² /g	1.00 ml/g	5.0 %	99.999	-	125 x 4.0 mm	333.--	307.--	246.--	220.--
PerfectSil 120 C4	1433	3 µm	120 Å	300 m ² /g	1.00 ml/g	8.0 %	99.999	+	150 x 4.0 mm	343.--	316.--	253.--	226.--
PerfectSil 120 C4	1435	5 µm	120 Å	300 m ² /g	1.00 ml/g	8.0 %	99.999	+	200 x 4.0 mm	362.--	335.--	266.--	239.--
PerfectSil 120 C8	1441	3 µm	120 Å	300 m ² /g	1.00 ml/g	11.0 %	99.999	+	250 x 4.0 mm	372.--	345.--	274.--	247.--
PerfectSil 120 C8	1440	5 µm	120 Å	300 m ² /g	1.00 ml/g	11.0 %	99.999	+	300 x 4.0 mm	410.--	372.--	310.--	272.--
PerfectSil 120 C8	1442	10 µm	120 Å	300 m ² /g	1.00 ml/g	11.0 %	99.999	+	100 x 4.6 mm	320.--	295.--	246.--	221.--
PerfectSil 120 CN	1379	3 µm	120 Å	300 m ² /g	1.00 ml/g	7.5 %	99.999	-	125 x 4.6 mm	333.--	307.--	253.--	227.--
PerfectSil 120 CN	1380	5 µm	120 Å	300 m ² /g	1.00 ml/g	7.5 %	99.999	-	150 x 4.6 mm	343.--	316.--	253.--	226.--
PerfectSil 120 NH2	1446	3 µm	120 Å	300 m ² /g	1.00 ml/g	4.0 %	99.999	-	200 x 4.6 mm	362.--	335.--	266.--	239.--
PerfectSil 120 NH2	1445	5 µm	120 Å	300 m ² /g	1.00 ml/g	4.0 %	99.999	-	250 x 4.6 mm	372.--	345.--	274.--	247.--
PerfectSil 120 Phenyl	1447	3 µm	120 Å	300 m ² /g	1.00 ml/g	9.5 %	99.999	-	300 x 4.6 mm	410.--	372.--	310.--	272.--
PerfectSil 120 Phenyl	1448	5 µm	120 Å	300 m ² /g	1.00 ml/g	9.5 %	99.999	-	100 x 4.6 mm	320.--	295.--	246.--	221.--
PerfectSil 120 Phenyl-M	1449	5 µm	120 Å	300 m ² /g	1.00 ml/g	6.0 %	99.999	-	125 x 4.6 mm	333.--	307.--	253.--	227.--
PerfectSil 120 Phenyl-L	2448	5 µm	120 Å	300 m ² /g	1.00 ml/g	4.0 %	99.999	-	150 x 4.6 mm	343.--	316.--	253.--	226.--

Dimension L x ID	3 µm		5/10 µm*	
	New	Refill	New	Refill
50 x 2.1 mm	319.--	282.--	247.--	210.--
100 x 2.1 mm	347.--	310.--	269.--	232.--
125 x 2.1 mm	362.--	325.--	280.--	243.--
150 x 2.1 mm	372.--	335.--	287.--	250.--
200 x 2.1 mm	393.--	356.--	303.--	266.--
250 x 2.1 mm	404.--	367.--	312.--	275.--
50 x 3.0 mm	294.--	271.--	217.--	194.--
100 x 3.0 mm	320.--	295.--	236.--	211.--
125 x 3.0 mm	333.--	307.--	246.--	220.--
150 x 3.0 mm	343.--	316.--	253.--	226.--
200 x 3.0 mm	362.--	335.--	266.--	239.--
250 x 3.0 mm	372.--	345.--	274.--	247.--
20 x 4.0 mm	288.--	268.--	212.--	192.--
33 x 4.0 mm	288.--	268.--	212.--	192.--
40 x 4.0 mm	288.--	268.--	212.--	192.--
50 x 4.0 mm	294.--	271.--	217.--	194.--
60 x 4.0 mm	297.--	274.--	219.--	196.--
75 x 4.0 mm	302.--	279.--	222.--	199.--
100 x 4.0 mm	320.--	295.--	236.--	211.--
125 x 4.0 mm	333.--	307.--	246.--	220.--
150 x 4.0 mm	343.--	316.--	253.--	226.--
200 x 4.0 mm	362.--	335.--	266.--	239.--
250 x 4.0 mm	372.--	345.--	274.--	247.--
300 x 4.0 mm	410.--	372.--	310.--	272.--
20 x 4.6 mm	288.--	268.--	212.--	192.--
33 x 4.6 mm	288.--	268.--	212.--	192.--
40 x 4.6 mm	288.--	268.--	212.--	192.--
50 x 4.6 mm	294.--	271.--	217.--	196.--
60 x 4.6 mm	297.--	274.--	222.--	199.--
75 x 4.6 mm	302.--	279.--	226.--	203.--
100 x 4.6 mm	320.--	295.--	246.--	221.--
125 x 4.6 mm	333.--	307.--	253.--	227.--
150 x 4.6 mm	343.--	316.--	253.--	226.--
200 x 4.6 mm	362.--	335.--	266.--	239.--
250 x 4.6 mm	372.--	345.--	274.--	247.--
300 x 4.6 mm	410.--	372.--	310.--	272.--

Also available as preparative HPLC-columns with ID 8 - 50 mm, please inquire.



Part-no.



Example:

PerfectSil 120 ODS 5 µm (1421)

HPLC-Column 250 x 4.6 mm

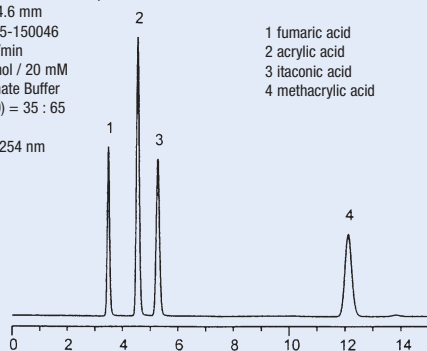
=> Part-no.: MZ1421-250046

Please inquire details for Refill-Service

PerfectSil® 100 C8-3

Carboxylic Acids

Column: PerfectSil® 100 C8-3 5 µm
150 x 4.6 mm
Part-No.: MZ0715-150046
Flow rate: 1.0 ml/min
Eluent: Methanol / 20 mM Phosphate Buffer (pH 7.0) = 35 : 65
Temperature: 40 °C
Detection: UV @ 254 nm
Inj.-Volume: 1 µL

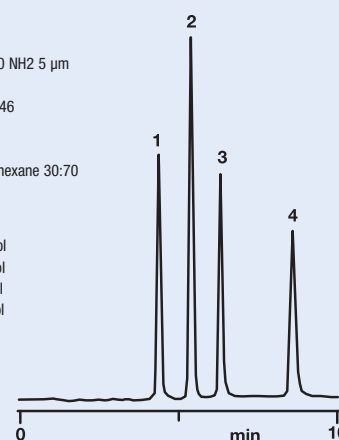


PerfectSil® 100 NH2

Tocopherol

Column: PerfectSil® 100 NH2 5 µm
250 x 4.6 mm
Part-No.: MZ0720-250046
Flow rate: 1 ml/min
Inj. volume: 1 µl
Eluent: ethylacetate : hexane 30:70
Temperature: 30 °C
Detection: UV @ 290 nm

1 α-Tocopherol
2 β-Tocopherol
3 γ-Tocopherol
4 δ-Tocopherol



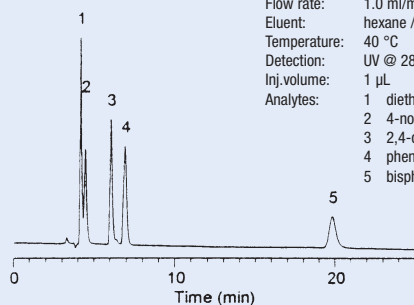
PerfectSil® 100 CN-3

Separation of Phenoles

Normal-phase mode

Column: PerfectSil® 100 CN-3 5 µm
250 x 4.6 mm
Part-No.: MZ0725-250046
Flow rate: 1.0 ml/min
Eluent: hexane / ethanol = 90/10
Temperature: 40 °C
Detection: UV @ 280 nm
Inj. volume: 1 µL

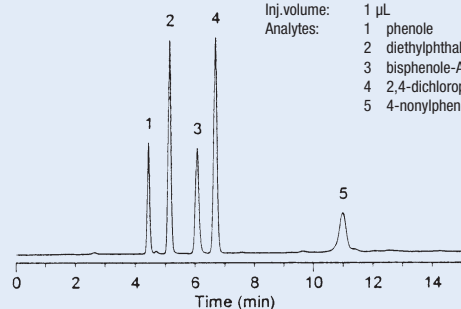
Analytes:
1 diethylphthalate
2 4-nonylphenole
3 2,4-dichlorophenole
4 phenole
5 bisphenole-A



RP-Mode

Column: PerfectSil® 100 CN-3 5 µm
250 x 4.6 mm
Part-No.: MZ0725-250046
Flow rate: 1.0 ml/min
Eluent: acetonitrile / 20 mM phosphate-buffer (pH 3.0) = 45/55

Temperature: 40 °C
Detection: UV @ 280 nm
Inj. volume: 1 µL
Analytes:
1 phenole
2 diethylphthalate
3 bisphenole-A
4 2,4-dichlorophenole
5 4-nonylphenole

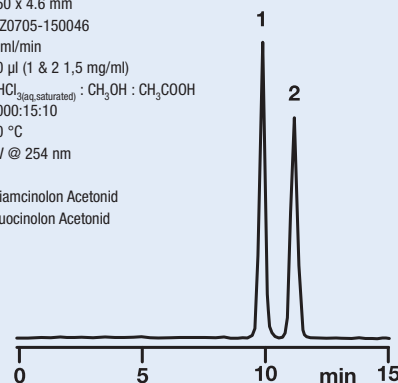


PerfectSil® 100 Si

Fluocinolon Acetonide

Column: PerfectSil® 100 Si 5 µm
150 x 4.6 mm
Part-No.: MZ0705-150046
Flow rate: 1 ml/min
Inj. volume: 20 µl (1 & 2 1.5 mg/ml)
Eluent: CHCl₃(₃₀sat.) : CH₃OH : CH₃COOH
1000:15:10
Temperature: 30 °C
Detection: UV @ 254 nm

1 Triamcinolon Acetonid
2 Fluocinolon Acetonid

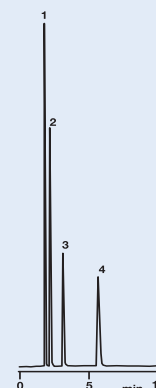


PerfectSil® 120 ODS-2

Nitrosoaminderivates

Column: PerfectSil® 120 ODS-2 5 µm
150 x 4.6 mm
Part-No.: MZ1425-150046
Flow rate: 1 ml/min
Eluent: CH₃CN / 10 mM KH₂PO₄
60 / 40
Temperature: 40 °C
Detection: UV @ 230 nm

1 N-Nitrosodimethylamine
2 N-Nitrosodiethylamine
3 N-Nitrosodi-n-propylamine
4 N-Nitrosodiphenylamine

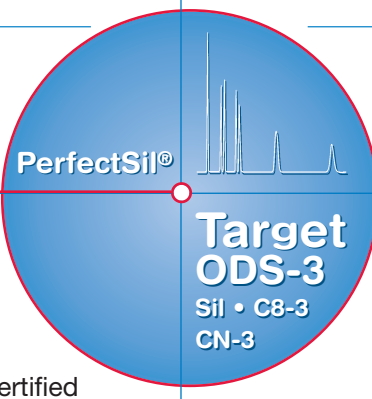


PerfectSil® Target

Excellent Performance + Peak Symmetry = Aim Achieved

- ➔ Chemistries: Sil • ODS-3 • C8-3 • CN-3
- ➔ Available particle size: 3 & 5 µm
- ➔ Highly pure silica: 99,999 %
- ➔ High mechanical & chemical resistibility
- ➔ Elaborated endcapping
- ➔ Excellent peak symmetry - even for basic compounds
- ➔ Exquisite reproducibility
- ➔ Each column tested individually
- ➔ Particularly suitable for LC/MS
- ➔ Manufacturing process ISO 9001-certified
- ➔ Ships with HPLC-Column

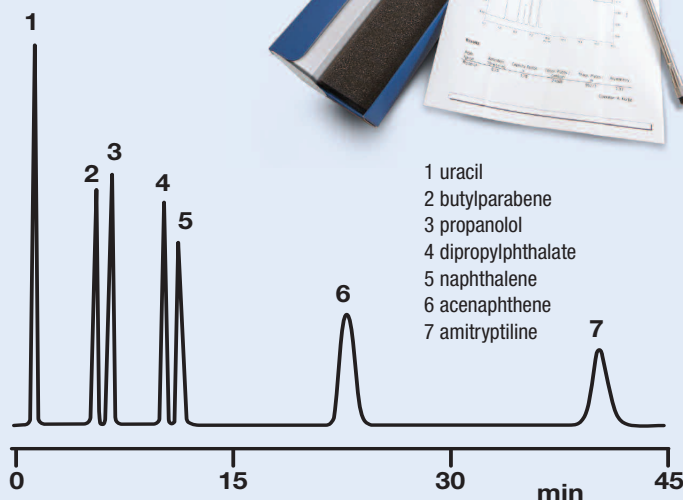
Quality Certificate
including authentic
test-chromatogram



Technical Data	ODS-3
Pore size	100 Å
Pore volume	1.1 cm ³ /g
Surface area (BET)	450 m ² /g
Carbon Contents	17 %
Silica purity	> 99,999 %
Total metal impurities	< 5 ppm

Amitryptilin

PerfectSil Target ODS-3 5 µm 200 x 4.6 mm
Part-No.: MZ0801-200046
Flow rate: 1.5 ml/min
Inj. volume: 5 µl
Eluent: methanol / 20 mM phosphate buffer
pH=7.0
Temperature: 40 °C
Detection: UV @ 254 nm



1 uracil
2 butylparabene
3 propanolol
4 dipropylphthalate
5 naphthalene
6 acenaphthene
7 amitryptiline



L x ID in mm	3 µm		5/10 µm	
	New	Refill	New	Refill
50 x 2.1	319.--	282.--	253.--	216.--
100 x 2.1	347.--	310.--	275.--	238.--
125 x 2.1	362.--	325.--	286.--	249.--
150 x 2.1	372.--	335.--	294.--	257.--
200 x 2.1	393.--	356.--	309.--	272.--
250 x 2.1	404.--	367.--	319.--	282.--
50 x 3.0	294.--	271.--	246.--	223.--
100 x 3.0	320.--	295.--	268.--	243.--
125 x 3.0	333.--	307.--	279.--	253.--
150 x 3.0	343.--	316.--	287.--	260.--
200 x 3.0	362.--	335.--	303.--	276.--
250 x 3.0	372.--	345.--	312.--	285.--
20 x 4.0	288.--	268.--	242.--	222.--
33 x 4.0	288.--	268.--	242.--	222.--
40 x 4.0	288.--	268.--	242.--	222.--
50 x 4.0	294.--	271.--	246.--	223.--
60 x 4.0	297.--	274.--	249.--	226.--
75 x 4.0	302.--	279.--	253.--	230.--
100 x 4.0	320.--	295.--	268.--	243.--
125 x 4.0	333.--	307.--	279.--	253.--
150 x 4.0	343.--	316.--	287.--	260.--
200 x 4.0	362.--	335.--	303.--	276.--
250 x 4.0	372.--	345.--	312.--	285.--
300 x 4.0	410.--	372.--	343.--	305.--
20 x 4.6	288.--	268.--	242.--	222.--
33 x 4.6	288.--	268.--	242.--	222.--
40 x 4.6	288.--	268.--	242.--	222.--
50 x 4.6	294.--	271.--	246.--	223.--
60 x 4.6	297.--	274.--	249.--	226.--
75 x 4.6	302.--	279.--	253.--	230.--
100 x 4.6	320.--	295.--	268.--	243.--
125 x 4.6	333.--	307.--	279.--	253.--
150 x 4.6	343.--	316.--	287.--	260.--
200 x 4.6	362.--	335.--	303.--	276.--
250 x 4.6	372.--	345.--	312.--	285.--
300 x 4.6	410.--	372.--	343.--	305.--

Also available as preparative HPLC-columns with ID 8 - 50 mm, please inquire.



Part-no.

MZ **CODE** - **LEN** **IDØ**
four-digit Materialcode length in mm ID in 1/10 mm

Material-Code

PerfectSil Target...

Sil 100 3 µm = **0803**
Sil 100 5 µm = **0800**
ODS-3 3 µm = **0802**
ODS-3 5 µm = **0801**
ODS-3 10 µm = **0806**
C8-3 3 µm = **0812**
C8-3 5 µm = **0811**
CN-3 5 µm = **0818**

Example: PerfectSil Target ODS-3 5 µm (**0801**) **200** x **4.6** mm
=> **Best.-Nr.: MZ0801-200046**

Please inquire for details of Refill-Service

PerfectSil® Target HD



Reversed-Phase with extended pH-Stability

Some applications in modern reversed-phase-HPLC require extreme pH-conditions, causing most of today's silica-based stationary phase materials to show degradation. With those applications in mind, we developed **PerfectSil® Target HD** to enable permanent operation at a pH-range from pH = 2-11. Without any noticeable loss of performance or sign of degra-

ation, **PerfectSil® Target HD** is based upon the same highly pure silica skeleton as **PerfectSil® Target**.

PerfectSil® Target HD is surface-shielded against basic and acidic degradation via application of a special post-treatment procedure after functionalisation with a virtually complete multiple-step endcapping procedure. The uniform reversed-phase chemi-

stry - combined with its fully accessible

100 Å-Poresystem, an optimized packing procedure and our state-of-the-art stainless steel column hardware - enables us to produce and deliver HPLC-columns at the highest level of quality.

- Elaborated endcapping
- Maximum shielding of silica-surface
- pH-Range: pH = 2-11
- Excellent chemical stability
- Extended usability range
- Outstanding reproducibility from batch-to-batch and column-to-column
- Excellent peak symmetries for basic substances
- Enables to employ extremely steep gradients

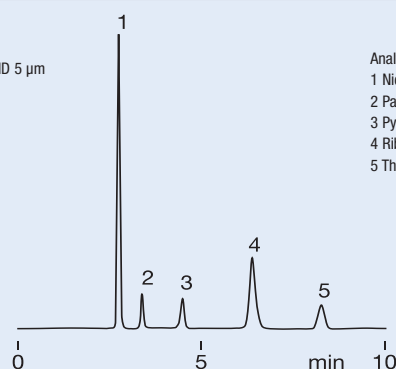
Technical Data	Target HD
Pore Size	100 Å
Pore Volume	1.1 cm ³ /g
Surface Area (BET)	450 m ² /g
Carbon Content	ODS-3 HD: 25.0 % C8 HD: 15.0 %
pH-Stability	pH 2-11
Endcapping	complete
Silica Purity	> 99,999 %
Metal Impurities	< 5 ppm

L x ID in mm	3 µm		5/10 µm	
	New	Refill	New	Refill
50 x 2.1	344.--	307.--	319.--	282.--
100 x 2.1	375.--	338.--	347.--	310.--
125 x 2.1	388.--	351.--	362.--	325.--
150 x 2.1	400.--	363.--	372.--	335.--
200 x 2.1	424.--	387.--	393.--	356.--
250 x 2.1	436.--	399.--	404.--	367.--
50 x 3.0	319.--	296.--	294.--	271.--
100 x 3.0	327.--	302.--	320.--	295.--
125 x 3.0	367.--	341.--	333.--	307.--
150 x 3.0	372.--	345.--	343.--	316.--
200 x 3.0	392.--	365.--	362.--	335.--
250 x 3.0	404.--	377.--	372.--	345.--
20 x 4.0	313.--	293.--	288.--	268.--
33 x 4.0	313.--	293.--	288.--	268.--
40 x 4.0	313.--	293.--	288.--	268.--
50 x 4.0	319.--	296.--	294.--	271.--
60 x 4.0	323.--	300.--	297.--	274.--
75 x 4.0	327.--	304.--	302.--	279.--
100 x 4.0	327.--	302.--	320.--	295.--
125 x 4.0	347.--	321.--	333.--	307.--
150 x 4.0	367.--	340.--	343.--	316.--
200 x 4.0	392.--	365.--	362.--	335.--
250 x 4.0	404.--	377.--	372.--	345.--
300 x 4.0	444.--	406.--	410.--	372.--
20 x 4.6	313.--	293.--	288.--	268.--
33 x 4.6	313.--	293.--	288.--	268.--
40 x 4.6	313.--	293.--	288.--	268.--
50 x 4.6	319.--	296.--	294.--	271.--
60 x 4.6	323.--	300.--	297.--	274.--
75 x 4.6	327.--	304.--	302.--	279.--
100 x 4.6	327.--	302.--	320.--	295.--
125 x 4.6	347.--	321.--	333.--	307.--
150 x 4.6	367.--	340.--	343.--	316.--
200 x 4.6	392.--	365.--	362.--	335.--
250 x 4.6	404.--	377.--	372.--	345.--
300 x 4.6	444.--	406.--	410.--	372.--

with ID 8 - 50 mm, please inquire.

Vitamins

Column: PerfectSil Target ODS-3 HD 5 µm
150 x 4.6 mm
Part-No.: MZ0831-150046
Flow Rate: 1.0 ml/min
Inj. volume: 5 µl
Eluent: ACN : 0.2% H₃PO₄
+ 5mM IPCC-06 / 10:90
Temperature: 40 °C
Detection: UV @ 210 nm



Analytes:
1 Nicotinamide
2 Pantothenic acid
3 Pyridoxine
4 Riboflavinphosphate
5 Thiamine

Part.-No.

MZ **CODE** - **LEN** **IDØ**
four-digit Materialcode length in mm ID in 1/10 mm

Example:

PerfectSil Target ODS-3 HD 3 µm (0833) 150 x 4.0 mm

=> Best.-Nr.: **MZ0833-150040**

Please inquire for details of Refill-Service

Material-Code

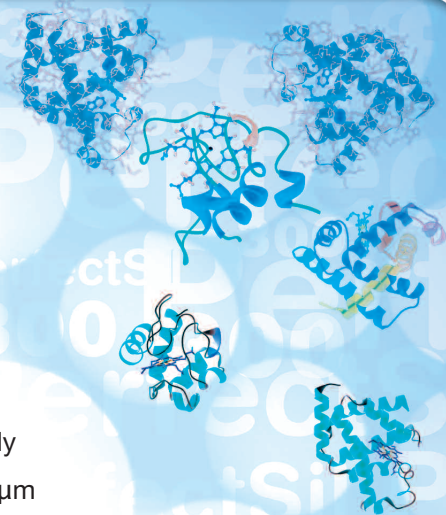
PerfectSil Target...

ODS-3 HD 3 µm = **0833**
ODS-3 HD 5 µm = **0831**
ODS-3 HD 10 µm = **0830**
C8 HD 3 µm = **0843**
C8 HD 5 µm = **0845**

PerfectSil® 300

High Quality for Bioseparations

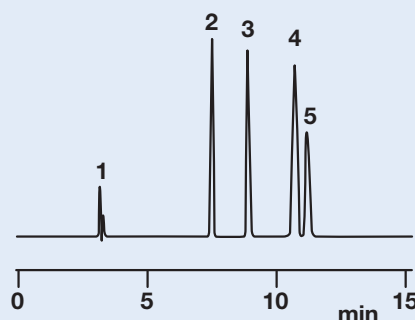
- State-of-the-art technology
- Ultra pure silica 99,999 %
- High-end surface chemistry
- Enables steep gradients
- Very low phase bleeding
- Suitable for LC/MS-applications
- High mechanical stability
- Excellent chemical stability
- Highly reproducible
- Refillable high-quality stainless-steel hardware
- Each column tested individually
- Available particle size: 5 & 10 µm
- 300 Å pore size for biopolymers
- Manufacturing process fully ISO 9001-certified



Peptide Hormones

Column: PerfectSil 300
C4 5 µm
250 x 4.6 mm
Part-No.: MZ1460-250046

Flow rate: 1 ml/min
Inj. volume: 10 µl
Eluent: A: 0.1 % TFA/water
B: 0.09 % TFA in ACN:water 90:10 (v/v)
Gradient: 0 min: A:B 90:10 linear to
8 min: A:B 75:25 linear to
14 min: A:B 70:30 isocratic to
15-20 min recalibration A:B 90:10
Detection: UV @ 215 nm



Analytes:
1 dead time marker / inj.
2 vasotocine
3 vasopressine
4 isotocine
5 oxytocine

PerfectSil™ 300

Technical Data

	code	particle size	pore-size	surface area	pore volume	carbon contents	silica purity	end-capped	price-group
PerfectSil 300 Sil	1450	5 µm	300 Å	100 m ² /g	1.05 ml/g	-	99.999	-	E
PerfectSil 300 Sil	1840	10 µm	300 Å	100 m ² /g	1.05 ml/g	-	99.999	-	D
PerfectSil 300 Sil	1845	15-20 µm	300 Å	100 m ² /g	1.05 ml/g	-	99.999	-	D
PerfectSil 300 ODS C18	1455	5 µm	300 Å	100 m ² /g	1.05 ml/g	9.0 %	99.999	+	E2
PerfectSil 300 ODS C18	1805	10 µm	300 Å	100 m ² /g	1.05 ml/g	9.0 %	99.999	+	D
PerfectSil 300 ODS C18	1810	15-20 µm	300 Å	100 m ² /g	1.05 ml/g	9.0 %	99.999	+	D
PerfectSil 300 C4	1460	5 µm	300 Å	100 m ² /g	1.05 ml/g	3.0 %	99.999	+	E2
PerfectSil 300 C4	1830	10 µm	300 Å	100 m ² /g	1.05 ml/g	3.0 %	99.999	+	D
PerfectSil 300 C4	1835	15-20 µm	300 Å	100 m ² /g	1.05 ml/g	3.0 %	99.999	+	D
PerfectSil 300 C8	1465	5 µm	300 Å	100 m ² /g	1.05 ml/g	5.0 %	99.999	+	E2
PerfectSil 300 C8	1820	10 µm	300 Å	100 m ² /g	1.05 ml/g	5.0 %	99.999	+	D
PerfectSil 300 C8	1825	15-20 µm	300 Å	100 m ² /g	1.05 ml/g	5.0 %	99.999	+	D
PerfectSil 300 Diol	1858	5 µm	300 Å	100 m ² /g	1.05 ml/g	5.0 %	99.999	-	E2

Please check tables on [page 3](#) of this brochure for information about prices and available column dimensions for analytical HPLC columns. Information about guard cartridges and holders can be found on [page 18](#). All stationary phases are also available as semiprep and preparative HPLC columns with ID from 8 - 50 mm - please inquire.

Each HPLC-column is packed individually upon order in a non-batch process. Upon request - as for example for validation purposes - we pack columns according to specific needs as column-sets, pack columns as batch process on pre-demand and if needed we may perform customer-specific batch-reservation of packing media. Please inquire for details and conditions.



Part-no.

MZ **CODE** - **LEN** **IDØ**

four-digit Materialcode length in mm ID in 1/10 mm

Example:

PerfectSil 300 ODS 5 µm (**1455**)

HPLC-column **250** x **4.6** mm

=> **Part-no.: MZ1455-250046**

Please inquire for details of Refill-Service



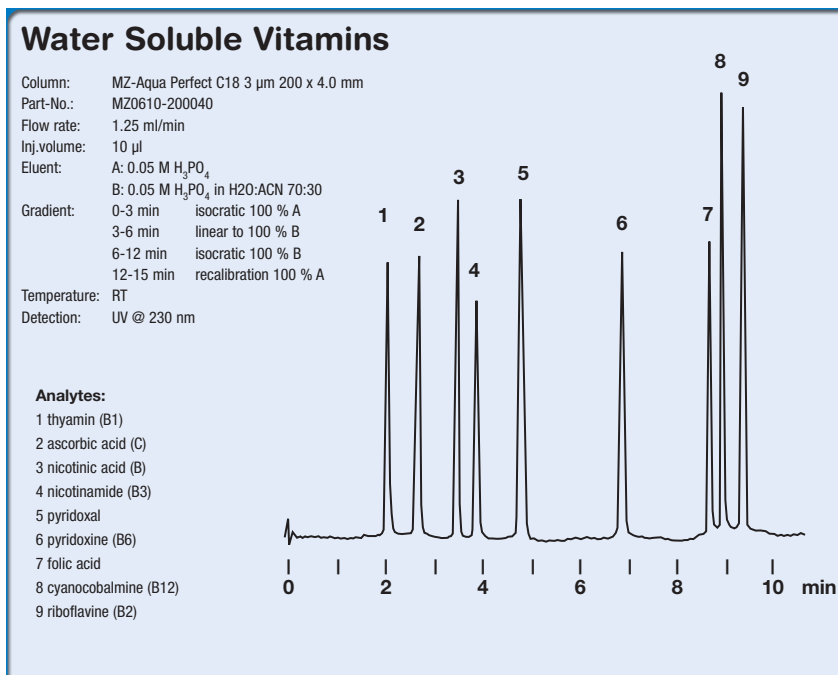
MZ-Aqua Perfect

C18 for up to 100% Aqueous Applications

- ➔ Elaborate C18-chemistry combined with new hydrophilic endcapping
- ➔ Compatible with up to 100% aqueous eluents
- ➔ Enables design of extremely steep gradients
- ➔ Short recalibration time
- ➔ Excellent reproducibility
- ➔ Highly pure & totally porous base silica
- ➔ Spherical particles with low polydispersity
- ➔ High chemical and mechanical resistibility
- ➔ Manufacturing process fully ISO 9001-certified
- ➔ Low back-pressure
- ➔ High durability

Technical Data

particle size	3/5/7/10 µm
morphology	spherical
pore size	120 / 200 Å
surface area (BET)	310 / 220 m ² /g
carbon contents	15 / 11 % C



Applications

tricyclic antidepressants • theophylline • water-soluble vitamins • organic acids • catecholamines • caffeine • all kind of C18 applications

Part-No.



Example: MZ-AquaPerfect 5 µm (0612) 250 x 4.6 mm
 => Part-no.: MZ0612-250040

Please inquire details for Refill-Service

Materialcodes MZ-AquaPerfect

C18	3 µm = 0610
C18	5 µm = 0612
C18	7 µm = 0613
C18	10 µm = 0614
200 C18	3 µm = 0620
200 C18	5 µm = 0622

L x ID in mm	3 µm		5/7/10 µm	
	New	Refill	New	Refill
50 x 2.1	319.--	282.--	253.--	216.--
100 x 2.1	347.--	310.--	275.--	238.--
125 x 2.1	362.--	325.--	286.--	249.--
150 x 2.1	372.--	335.--	294.--	257.--
200 x 2.1	393.--	356.--	309.--	272.--
250 x 2.1	404.--	367.--	319.--	282.--
50 x 3.0	294.--	271.--	246.--	223.--
100 x 3.0	320.--	295.--	268.--	243.--
125 x 3.0	333.--	307.--	279.--	253.--
150 x 3.0	343.--	316.--	287.--	260.--
200 x 3.0	362.--	335.--	303.--	276.--
250 x 3.0	372.--	345.--	312.--	285.--
20 x 4.0	288.--	268.--	242.--	222.--
33 x 4.0	288.--	268.--	242.--	222.--
40 x 4.0	288.--	268.--	242.--	222.--
50 x 4.0	294.--	271.--	246.--	223.--
60 x 4.0	297.--	274.--	249.--	226.--
75 x 4.0	302.--	279.--	253.--	230.--
100 x 4.0	320.--	295.--	268.--	243.--
125 x 4.0	333.--	307.--	279.--	253.--
150 x 4.0	343.--	316.--	287.--	260.--
200 x 4.0	362.--	335.--	303.--	276.--
250 x 4.0	372.--	345.--	312.--	285.--
300 x 4.0	410.--	372.--	343.--	305.--
20 x 4.6	288.--	268.--	242.--	222.--
33 x 4.6	288.--	268.--	242.--	222.--
40 x 4.6	288.--	268.--	242.--	222.--
50 x 4.6	294.--	271.--	246.--	223.--
60 x 4.6	297.--	274.--	249.--	226.--
75 x 4.6	302.--	279.--	253.--	230.--
100 x 4.6	320.--	295.--	268.--	243.--
125 x 4.6	333.--	307.--	279.--	253.--
150 x 4.6	343.--	316.--	287.--	260.--
200 x 4.6	362.--	335.--	303.--	276.--
250 x 4.6	372.--	345.--	312.--	285.--
300 x 4.6	410.--	372.--	343.--	305.--

Also available as preparative HPLC-columns with ID 8 - 50 mm, please inquire.

all prices in EUR excluding VAT

PerfectBond®

State-of-the-Art- + Best Value-Replacement for Classical Applications

Our recently introduced product-line **PerfectBond™** is based on a series of selected state-of-the-art silica (99.999 % purity), to provide modern replacements for traditional stationary phases. The **PerfectBond™**-product-range is continuously extended, enabling us to offer our customers reliable and cost-effective replacements for various well-known classical stationary phases.

Classical stationary phases like μ Bondapak™ are still frequently used for many applications. Mainly because of their unique selectivity and retentivity - and despite disadvantages

like high back-pressure resulting from the nature of irregularly shaped particle morphology. In case of μ Bondapak™ we offer **PerfectBond™ C18** as excellent replacement: based on spherical and totally porous base silica, all chromatographic performance values are widely enhanced.

PerfectBond™ is based upon an ultra pure, state-of-the-art-silica, which is absolutely spherical and functionalized under ISO-9001-certified conditions. We carefully select base silica, chemistry and carbon load to get an optimum match of the classical material. This enables us

to deliver replacements for traditional stationary phases with the same retentivity and selectivity as the original material. **PerfectBond™-HPLC**-columns feature lower backpressure and enhanced efficiency than the original. Replace your classic column with a **PerfectBond™-HPLC**-Column and note the improved cost-efficiency resulting from longer column-lifetime and possibilities of refill-service.

Our range of **PerfectBond™-HPLC**-columns is continuously growing. Please inquire, if or when we can provide a state-of-the-art replacement for your "classical" HPLC-column.

Technical Data PerfectBond™-Series

	particle size	code	price group	pore size	surface area	chemistry	carbon contents	endcapping	morphology	silica purity
PerfectBond ODS-H	3 μ m	1194	F	120 Å	170 m ² /g	C18	10.0 %	+	spherical	99.999 %
PerfectBond ODS-H	5 μ m	1195	E	120 Å	170 m ² /g	C18	10.0 %	+	spherical	99.999 %
PerfectBond ODS-HD	3 μ m	1200	G	150 Å	320 m ² /g	C18	18.5 %	+	spherical	99.999 %
PerfectBond ODS-HD	5 μ m	1198	F	150 Å	320 m ² /g	C18	18.5 %	+	spherical	99.999 %
PerfectBond BDS 18	5 μ m	1245	F	130 Å	170 m ² /g	C18	11.0 %	+	spherical	99.999 %
PerfectBond C18 ODS	5 μ m	1190	E	125 Å	300 m ² /g	C18	10.0 %	+	spherical	99.999 %
PerfectBond C18 <i>Replacement for μBondapak™C18 10 μm</i>	10 μ m	1011	E	125 Å	300 m ² /g	C18	10.0 %	+	spherical	99.999 %
PerfectBond C8-HD	3 μ m	1202	G	150 Å	320 m ² /g	C8	10.5 %	+	spherical	99.999 %
PerfectBond C8-HD	5 μ m	1204	F	150 Å	320 m ² /g	C8	10.5 %	+	spherical	99.999 %
PerfectBond C8-H	3 μ m	1193	F	120 Å	170 m ² /g	C8	6.5 %	+	spherical	99.999 %
PerfectBond C8-H	5 μ m	1192	E	120 Å	170 m ² /g	C8	6.5 %	+	spherical	99.999 %
PerfectBond C8	5 μ m	1018	E	125 Å	300 m ² /g	C8	7.0 %	+	spherical	99.999 %
PerfectBond C1	3 μ m	1180	F	120 Å	170 m ² /g	C1	5.0 %	-	spherical	99.999 %
PerfectBond C1	5 μ m	1182	E	120 Å	170 m ² /g	C1	5.0 %	-	spherical	99.999 %
PerfectBond C30	3 μ m	1253	H			C30		+	spherical	99.999 %
PerfectBond C30	5 μ m	1255	G			C30		+	spherical	99.999 %
PerfectBond Ph	5 μ m	1220	E	120 Å	200 m ² /g	Phenyl	6.0 %	+	spherical	99.999 %
PerfectBond Ph-H	5 μ m	1222	E	120 Å	170 m ² /g	Phenyl	5.0 %	+	spherical	99.999 %
PerfectBond Si	30-50 μ m	1027	D	100 Å	320 m ² /g	Si	-	-	spherical	99.999 %

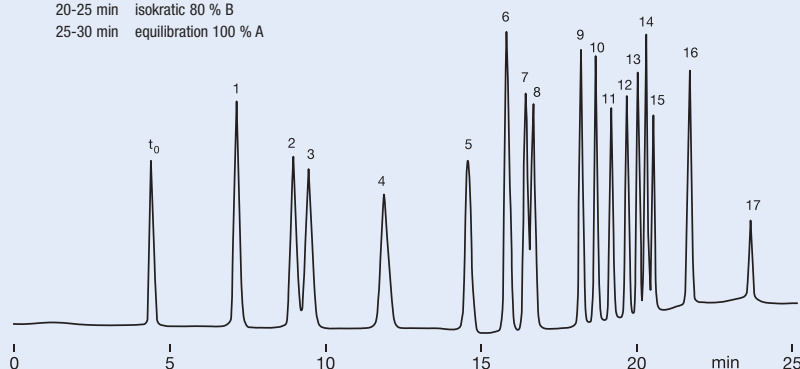
please refer to table and figures on page 3 for part-no. and price

Chlorophenoles

Column: PerfectBond ODS-HD 5 μ m
250 x 4.0 mm
Flow rate: 1 ml/min
Temperature: 30 °C
Detection: UV @ 280 nm
Eluent: A: 50 % Methanol/H₂O + 0,1 % H₃PO₄
B: 100 % Methanol
Gradient: 0-10 min isocratic 100 % A
10-20 min linear to 80 % B
20-25 min isocratic 80 % B
25-30 min equilibration 100 % A

Analytes:

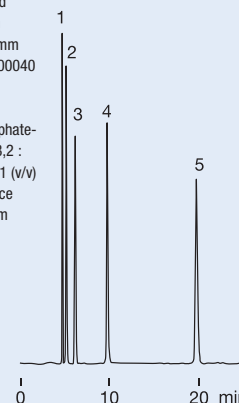
- 2-chlorophenole
- 4-chlorophenole
- 3-chlorophenole
- 2,6-dichlorophenole
- 2,3-dichlorophenole
- 2,5-dichlorophenole
- 2,4-dichlorophenole
- 3,4-dichlorophenole
- 3,5-dichlorophenole
- 2,3,6-trichlorophenole
- 2,3,4-trichlorophenole
- 2,4,6-trichlorophenole
- 2,4,5-trichlorophenole
- 2,3,5-trichlorophenole
- 2,3,5,6-tetrachlorophenole
- 2,3,4,5-tetrachlorophenole
- pentachlorophenole



Amino Acids / Peptides

Column: PerfectBond
C18 10 μ m
300 x 4.0 mm
Part-No.: MZ1011-300040
Flow rate: 1.3 ml/min
Inj. volume: 5 μ l
Eluent: 0,1M Phosphate-
Buffer pH 3,2 :
ACN / 89:11 (v/v)
Detection: Fluorescence
385/515 nm

- Analytes:
- Cysteine
 - Cysteinylglycine
 - Homocysteine
 - Glutathione
 - N-Acetylcysteine



➡ Please ask us for the optimum **PerfectBond™**-replacement for your classical stationary phase media:

phone +49-6131-68 66 19

High Performance Packings by
Nouryon, Separation Products

Nouryon Kromasil®

Best value for your money



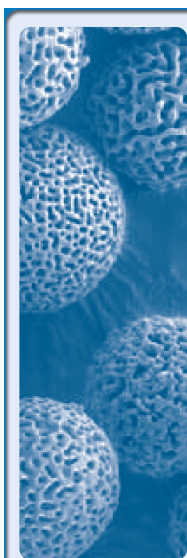
Kromasil® is produced in multi-kilogram lots with excellent batch-to-batch reproducibility. Thanks to its outstanding performance combined with great price, Kromasil® is first choice for the whole range of applications in modern HPLC.

Kromasil® HPLC-Columns		100 C1 • C4 • C8 • C18 • NH ₂				60 SIL • 100 SIL			
Semiprep & Prep	Dimension	5/7 µm		10/13/16 µm		5/7 µm		10/13/16 µm	
		New	Refill	New	Refill	New	Refill	New	Refill
	40 x 8 mm	please inquire							
	125 x 8 mm								
	250 x 8 mm								
	250 x 10 mm								
50 x 20 mm									
250 x 20 mm	Also available: columns with ID 30; 40 & 50 mm - please inquire								

Kromasil®-Bulk Media

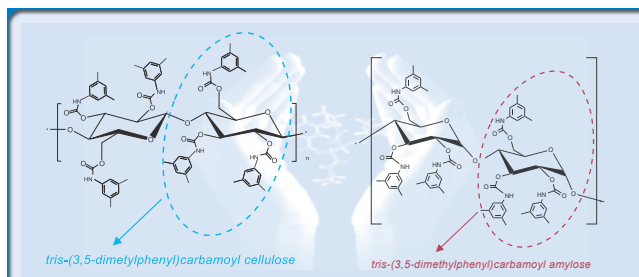
60 SIL & 100 SIL					€/g	C1 / C4 / C8 / C18 / NH ₂ / CN / Diol					€/g
	10 g	50 g	100 g	> 100 g			10 g	50 g	100 g	> 100 g	
3.5 µm						7 µm					
5 µm						10 µm					
7 µm					please inquire	13 µm					please inquire
10 µm						16 µm					
13 µm						Other chemistries and particle sizes available. Please ask for an individual quotation, if you need larger quantities of Kromasil®-bulk media.					
16 µm											

Kromasil® Chiral - CelluCoat™ & AmyCoat™



Kromasil® Chiral is based upon an ultra-stable silica skeleton. CelluCoat™ and AmyCoat™ are chirally-functionalized via covalently-bound polymeric layer of tris-(3,5-dimethylphenyl)carbonyl cellulose (CelluCoat™) respectively tris-(3,5-dimethylphenyl) carbonyl amylose (AmyCoat™). The excellent chemical and mechanical stability of these recently developed materials enables operation at high flow rates in combination with high efficiencies.

NEW! Preconditioned chiral columns CelluCoat™ RP and AmyCoat™ RP ready-to use for reversed-phase-applications.



Kromasil Chiral Test-Kit 50 x 4.6 mm 3 µm					price on request
1 column each: AmyCoat • AmyCoat RP • CelluCoat • CelluCoat RP 3 µm					
Length x ID	3 µm	5 µm	10 µm	25 µm	
50 x 4.6 mm					
150 x 4.6 mm					please inquire
250 x 4.6 mm					

Chiral Bulk Media & Prep Scale available - please inquire.

Guard Columns

GUARD COLUMNS

Guard Cartridges Analytical / Narrowbore

Part-No.

price/€

MZ-guard cartridges for analytical/narrow-bore HPLC-columns are available in dimensions with 3 different lengths and 4 different ID's. Please check below for suitable cartridge holders.

Guard Cartridges 5 pieces
ID: 2.1 mm, 3.0 mm, 4.0 mm and 4.6 mm
Length: 5 mm, 10 mm and 20 mm

see below



12519.--

Part-Number for Cartridges (please check page 4ff for materialcodes):



Example: guard cartridges (5 pcs.)
Inertsil ODS-2 5 µm (Materialcode **2010**)
Dimension **20** x **4,0** mm (LxID)
=> **Part-No.:** **MZ2010-VK2040**

Cartridge Holder Analytical / Narrowbore

Part-No.

price/€

suitable for MZ-Columns ID 2.1; 3.0; 4.0 & 4.6 mm

cartridge holder **integrated** (suitable for cartridges of 20 and 10 mm length)

VI 74000



82.--

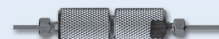
cartridge holder **integrated** (suitable for cartridges of 5 mm length)

VI 74005

71.--

cartridge holder **free standing for standard fitting** (suitable for cartridges of 20 mm length)

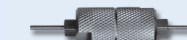
FG 71020



68.--

cartridge holder **free standing for standard fitting** (suitable for cartridges of 10 mm length)

FG 71010



68.--

cartridge holder **free standing for standard fitting** (suitable for cartridges of 5 mm length)

FG 71005



68.--

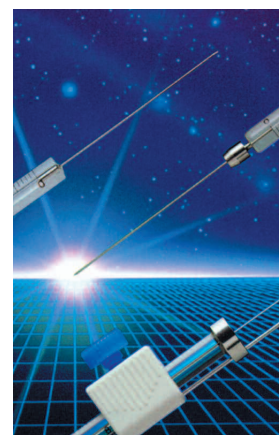
SYRINGES

HPLC-Syringes



Exmire® HPLC-High Quality Sampling Syringes

volume	smallest amount	code	price/€
5 µl	0.1 µl	MSR 05	on request
10 µl	0.2 µl	MSR 10	on request
25 µl	0.5 µl	MSR 25	on request
50 µl	1.0 µl	MSR 50	on request
100 µl	2.0 µl	MSR 100	on request
250 µl	5.0 µl	MSR 250	on request
500 µl	10.0 µl	MSR 500	on request



We offer the complete product range from „IDEX HEALTH & SCIENCE VALVES“. The following list includes the most frequently requested parts. Please inquire for prices of parts not listed here.


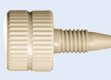




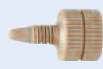








Part-No.	Product	Price/€
RH7010-039	rotor seal Vespel for 7010/7000/7040	127.--
RH7010-040	stator für 7010/7125	367.--
RH7010-071	rotor seal Tefzel for 7010/7000/7040	123.--
RH7010-999	RheBuild Kit for 7010	133.--
RH7021	sample loop stainless steel 10 µl	61.--
RH7022	sample loop stainless steel 20 µl	55.--
RH7023	sample loop stainless steel 50 µl	63.--
RH7024	sample loop stainless steel 100 µl	62.--
RH7025	sample loop stainless steel 200 µl	inquire
RH7026	sample loop stainless steel 500 µl	73.--
RH7027	sample loop stainless steel 1 ml	84.--
RH7028	sample loop stainless steel 2 ml	123.--
RH7029	sample loop stainless steel 5 ml	216.--
RH7000	switching valve	857.--
RH7030	3-way switching valve	889.--
RH7060	6-positions switching valve	984.--
RH7125	sample injector	1,651.--
RH7725	sample injector with MBB <i>front-loading, follow-up of 7125</i>	1,333.--
RH7725i	sample injector with position sensing switch and MBB	1,397.--
RH8125	syringe loading injector <i>front-loading for micro-HPLC</i>	1,905.--
RH8125-038	rotor seal for 8125/8126	146.--
RH7520-999	RheBuilt Kit for 7520/7526	inquire
RH3725i	sample injector PEEK <i>front-loading, preparative scale</i>	1,905.--
RH3725i-038	sample injector stainless steel <i>front-loading, preparative scale</i>	2,033.--
RH9010	sample injection valve PEEK <i>rear-loading, for analytical HPLC</i>	1,333.--
RH9725	sample injector PEEK with MBB (ex-9125) <i>front-loading, for analytical HPLC</i>	1,333.--
RH9055-020	sample loop PEEK 5 µl	46.--
RH9055-021	sample loop PEEK 10 µl	54.--
RH9055-022	sample loop PEEK 20 µl	58.--
RH9055-023	sample loop PEEK 50 µl	58.--
RH9055-024	sample loop PEEK 100 µl	54.--
RH9055-025	sample loop PEEK 200 µl	77.--
RH9055-026	sample loop PEEK 500 µl	93.--
RH9055-027	sample loop PEEK 1 ml	107.--
RH9055-028	sample loop PEEK 2 ml	153.--
RH7335	0.5 µm column inlet filter, ID 3.0 mm	286.--
RH7335-010	Replacement filter discs for RH7335 5/pk	165.--



Tools & Accessories - PEEK / Biocompatible

HPLC-ACCESSORIES

Part-No.	Product				Price/€
AP0313	PEEK-tubing	AD 1/16" x 0.13 mm ID	3 m		31.50
AP0317		AD 1/16" x 0.17 mm ID	3 m		31.50
AP0325		AD 1/16" x 0.25 mm ID	3 m		31.50
AP0350		AD 1/16" x 0.50 mm ID	3 m		31.50
AP0375		AD 1/16" x 0.75 mm ID	3 m		31.50
					
AP0513	PEEK-tubings kit	AD 1/16" x 0.13 mm ID	50; 100; 200 mm		27.--
AP0517	- pre-cut -	AD 1/16" x 0.17 mm ID	50; 100; 200 mm		27.--
AP0525	5 pieces of each length	AD 1/16" x 0.25 mm ID	50; 100; 200 mm		27.--
AP0550		AD 1/16" x 0.50 mm ID	50; 100; 200 mm		27.--
AP0575		AD 1/16" x 0.75 mm ID	50; 100; 200 mm		27.--
AP5001	 fingertight-fittings	PEEK	10 pcs		55.--
	coupler universal fingertight PEEK				
AP5103		0.13 mm ID („red“)	1 piece		19.--
AP5108		0.18 mm ID („yellow“)	1 piece		19.--
AP5101		0.25 mm ID („blue“) / universal	1 piece		19.--
AP5105		0.50 mm ID („orange“)	1 piece		19.--
AP5201	 union PEEK	1/16"	1 set		18.--
	(incl. 2 fingertight-fittings)				
AP5301	 tee-piece PEEK	1/16"	1 set		60.--
	(incl. 3 fingertight-fittings)				
AP5401	 cross PEEK	1/16"	1 set		89.--
	(incl. 4 fingertight-fittings)				
AP5601	 plug PEEK	1/16"	1 piece		4.50
	fingertight				
AN5501	 plug Nylon	1/16"	10 pieces		7.--
AN5510			100 pieces		39.--
AR6200	Clean-Cut for cutting polymeric tubings				15.--
					
AR6201	Replacement blade for Clean-Cut				2.--
AR6300	Guillotine-Cutter				7.50
					
AR6301	Replacement blade for Guillotine-Cutter				2.75
AP7500	Last-drop mobile phase-filter with 2,5 µm PTFE-Fritt				24.50
					
elbow for PEEK-tubing					
AP0901	90°				1.50
					
AP1801	180°				1.50
					

Tools & Accessories - Stainless Steel

Part-No.	Product			Price/€
AS0301	Stainless Steel tubing	AD 1/16" x 0.13 mm ID	3 m	31.50
AS0318		AD 1/16" x 0.18 mm ID	3 m	31.50
AS0325		AD 1/16" x 0.25 mm ID	3 m	31.50
AS0350		AD 1/16" x 0.50 mm ID	3 m	31.50
AS0370		AD 1/16" x 0.75 mm ID	3 m	31.50
AS0310		AD 1/16" x 1.00 mm ID	3 m	31.50
AS0501	Stainless Steel tubing	AD 1/16" x 0.13 mm ID	50 mm	2.50
AS0341	- pre-cut -	AD 1/16" x 0.13 mm ID	100 mm	4.40
AS0201		AD 1/16" x 0.13 mm ID	200 mm	5.50
AS0525		AD 1/16" x 0.25 mm ID	50 mm	2.50
AS0125		AD 1/16" x 0.25 mm ID	100 mm	4.40
AS0225		AD 1/16" x 0.25 mm ID	200 mm	5.50
AS0550		AD 1/16" x 0.50 mm ID	50 mm	2.50
AS0150		AD 1/16" x 0.50 mm ID	100 mm	4.40
AS0250		AD 1/16" x 0.50 mm ID	200 mm	5.50
AS0570		AD 1/16" x 0.75 mm ID	50 mm	2.50
AS0170		AD 1/16" x 0.75 mm ID	100 mm	4.40
AS0270		AD 1/16" x 0.75 mm ID	200 mm	5.50
AS1001	stainless steel ferrules	1/16"	10 pcs	19.--
AS1010	stainless steel ferrules	1/16"	100 pcs	152.--
AR1101	stainless steel ferrules	1/16" Rheodyne	10 pcs	19.--
AS2001	fitting screws	stainless steel short	10 pcs	26.--
AS2101	fitting screws	stainless steel long	10 pcs	26.--
AS2201	fitting screws	stainless steel extra large	10 pcs	39.--
AS3301	plug stainless steel	1/16"	1 piece	18.--
AS3001	ZDV-union stainless steel	1/16"	1 piece	32.50
AS3101	tee-piece stainless steel	1/16"	1 piece	85.--
AS3201	cross stainless steel	1/16"	1 piece	99.--
Accessories for HPLC-Columns				
AS0110	sieve (glass fibre) analytical		10 pcs	5.--
AS0115	PTFE sealing gasket		25 pcs	12.--
AS0101	sieve (metal) analytical	5 µm	10 pcs	8.--
AS0105	sieve (metal) analytical	3 µm	10 pcs	9.--
AS0120	sieve sandwich 3 µm for column end 2.1; 3.0; 4.0 & 4.6 mm ID		1 Set	3.--
	(2 metal sieves. 3 glass fibre sieves. 1 sealing gasket)			
AS0121	sieve sandwich 5 µm		1 Set	3.--

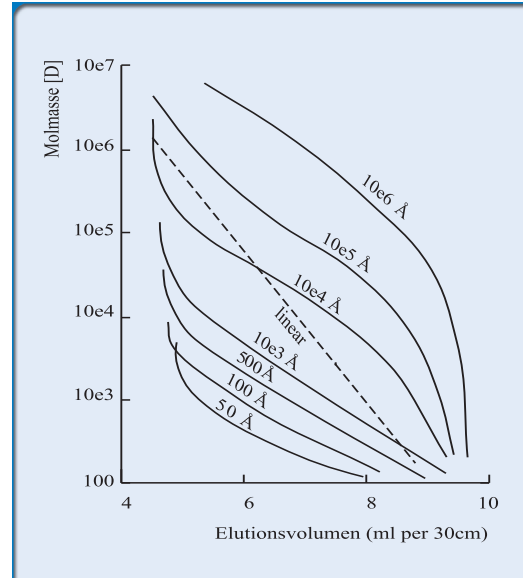
AS6001	65.--	stainless steel tubing cutter	
AS6000	19.--	pliers for stainless steel tubings	
AS7500	24.50	Last-drop mobile phase-filter with 2.0 µm stainless steel frit	
AR6100	52.--	Rheotool	
AC7000	288.--	EasyFlange Kit	

MZ-Gel SD^{plus} LS - for Detection via Light Scattering

MZ-Gel SD^{plus} LS is a proprietary development of MZ-Analysestechnik based on highly-crosslinked and totally porous high-performance styrene-divinyl-benzene copolymer. It is derived from **MZ-Gel SD^{plus}** as base material by a special post-treatment to meet the special requirements of detection via light-scattering. Therefore **MZ-Gel SD^{plus} LS** features an extremely low phase-bleeding plus the extraordinary capabilities like the HPLC-like separation efficiency of the well-known original material.

Molecular Mass Range & Exclusion Limit

Porosity	Molecular Mass Range		Exclusion Limit
50 Å	<	2,000	3,000
100 Å	<	3,000	5,000
500 Å	<	20,000	20,000
10e3 Å	1,000 -	40,000	70,000
10e4 Å	4,000 -	500,000	700,000
10e5 Å	10,000 -	2,000,000	4,000,000
10e6 Å	200,000 -	10,000,000	> 10,000,000
Linear	1,000 -	1,000,000	> 2,000,000



Materialcodes

MZ-Gel SD^{plus} LS

Porosity	3 µm	5 µm	10 µm
50 Å	5554	5556	5531
100 Å	5014	5016	5011
500 Å	5054	5056	5051
1,000 Å	5304	5306	5301
10 ⁴ Å	-	5406	5401
10 ⁵ Å	-	5506	5501
10 ⁶ Å	-	5606	5601
Linear	-	5006	5001

Analytical 8 mm ID

Length x ID	Particle Size	Porosity	price/€	
			New	Refill
300 x 8 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	1,122.--	1,020.--
	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	982.--	880.--
	5 µm	linear	1,068.--	966.--
	10 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	763.--	661.--
600 x 8 mm	10 µm	linear	870.--	768.--
	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	1,404.--	1,250.--
	5 µm	linear	1,613.--	1,460.--
	10 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	1,110.--	956.--
50 x 8 mm	10 µm	linear	1,259.--	1,105.--
	5 µm	all porosities + linear	342.--	301.--
	10 µm	all porosities + linear	342.--	301.--

Part-No.



Example:

MZ-Gel SD^{plus} LS 100 Å 5 µm (5016);
SEC-Column 300 x 8.0 mm

=> Part-no.: **MZ5016-300080**

Please inquire details for Refill-Service

Microbore

250 x 3 mm	5 µm	all porosities + linear	670.--	568.--
40 x 3 mm	5 µm	all porosities + linear	250.--	200.--
250 x 2 mm	5 µm	all porosities + linear	670.--	568.--
40 x 2 mm	5 µm	all porosities + linear	250.--	200.--

Narrowbore 4.6 mm ID (saving up to 70 % of solvent)

300 x 4,6 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	1,125.--	1,023.--
	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	840.--	738.--
	5 µm	linear	926.--	824.--
40 x 4,6 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	250.--	200.--
	5 µm	all porosities + linear	250.--	200.--
	10 µm	all porosities + linear	250.--	200.--

MZ-Gel SD_{plus}

TECHNICAL DATA

MZ-Gel SD _{plus}	3 μm	5 μm	10 μm
particle shape	spherical	spherical	spherical
available porosities [\AA]	50-10 ³ \AA	50-10 ⁶ \AA + linear	50-10 ⁶ \AA + linear
plate numbers: min. guaranteed [m^{-1}]	100,000	60,000	50,000
plate numbers: typical [m^{-1}]	120,000	80,000	60,000
pressure stability [bar]	160	160	160
backpressure per 30 cm [bar]*	40	25	15
max. flow rate analytical 8 mm ID	1.5 ml/min	1.5 ml/min	3 ml/min
max. flow rate narrow bore 4.6 mm ID	0.6 ml/min	0.6 ml/min	0.6 ml/min
max. flow rate preparative 20 mm ID		10 ml/min	20 ml/min
temperature range	max. 100 °C	max. 100 °C	max. 140 °C

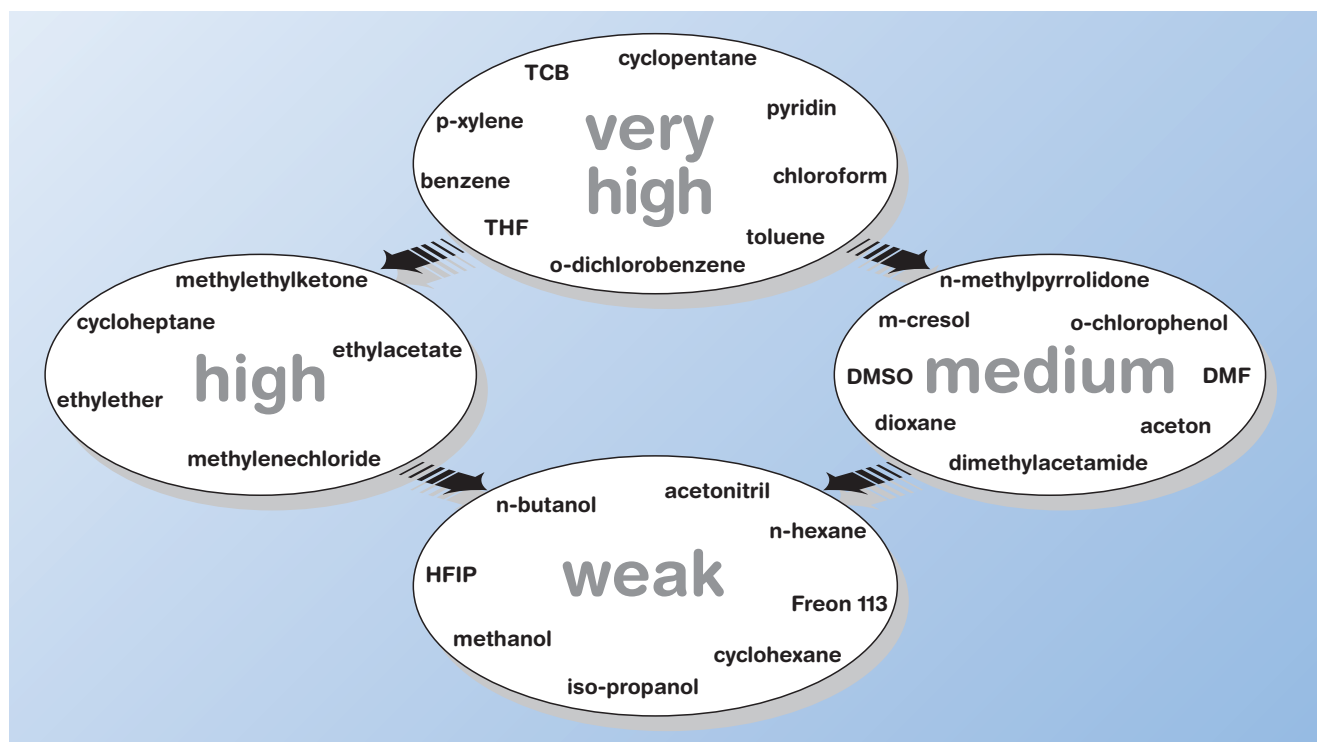
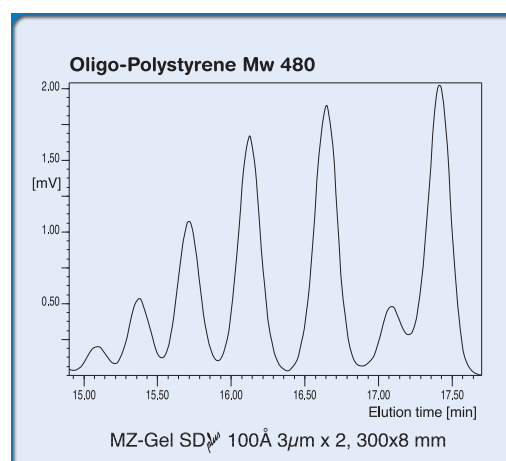
* based on column 300 x 8 mm, flow rate 1 ml/min, eluent THF

SOLVENT COMPATIBILITY CHART

MZ-Gel SD_{plus} GPC-columns are manufactured, tested and shipped by default in THF.

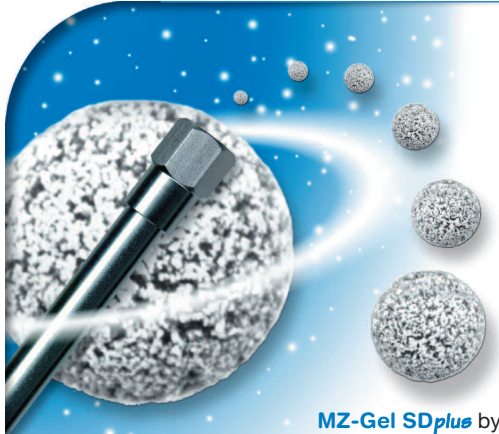
By request we can deliver these columns filled with any other common solvent. Please follow the solvent compatibility chart below if you intend to change the solvent due to the swelling of the polymer.

The swelling capacity of GPC-eluents is classified in four categories from low up to very high. This offers the following possibilities for changing the eluent:



GPC-solvents: swelling capacity and possibilities for changing the eluent

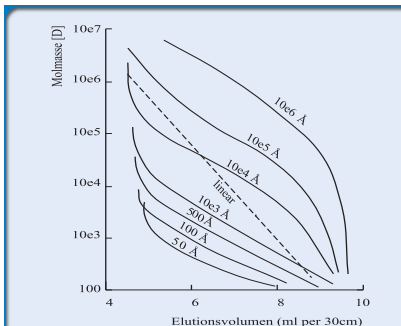
MZ-Gel SD^{plus} - for Organic Media



MZ-Gel SD^{plus} by

MZ-Analyse-technik is a high-performance styrene-/divinylbenzene-copolymer, tightly classed with a narrow pore size distribution. The excellent quality of this highly cross linked packing media enables us to pack GPC-columns with both a long lifetime and extraordinary high column efficiencies.

For example: columns with 3 µm particle size are delivered with guaranteed theoretical plate-numbers: > 100,000 m⁻¹



Codes MZ-Gel SD^{plus}

Porosity	3 µm	5 µm	10 µm
50 Å	5553	5555	5530
100 Å	5013	5015	5010
500 Å	5053	5055	5050
1,000 Å	5303	5305	5300
10 ⁴ Å	-	5405	5400
10 ⁵ Å	-	5505	5500
10 ⁶ Å	-	5605	5600
Linear	-	5005	5000

Analytical 8 mm ID

Length x ID	Particle Size	Porosity	Price/€	
			New	Refill
300 x 8 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	1,023.--	921.--
	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	895.--	793.--
	5 µm	linear	972.--	870.--
	10 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	698.--	596.--
	10 µm	linear	795.--	693.--
600 x 8 mm	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	1,279.--	1,125.--
	5 µm	linear	1,468.--	1,315.--
	10 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	1,015.--	861.--
	10 µm	linear	1,150.--	996.--
50 x 8 mm	5 µm	all porosities + linear	312.--	271.--
	10 µm	all porosities + linear	312.--	271.--

Microbore

250 x 3 mm	5 µm	all porosities + linear	614.--	512.--
40 x 3 mm	5 µm	all porosities + linear	214.--	164.--
250 x 2 mm	5 µm	all porosities + linear	614.--	512.--
40 x 2 mm	5 µm	all porosities + linear	214.--	164.--

Narrowbore 4.6 mm ID (saving up to 70 % of solvent)

300 x 4.6 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	1,023.--	921.--
	5 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	767.--	665.--
	5 µm	linear	844.--	742.--
40 x 4.6 mm	3 µm	50 Å; 100 Å; 500 Å; 10 ³ Å	214.--	164.--
	5 µm	all porosities + linear	214.--	164.--
	10 µm	all porosities + linear	214.--	164.--

Preparative 20 mm ID

300 x 20 mm	10 µm	50 Å; 100 Å; 500 Å; 10 ³ Å; 10 ⁴ Å; 10 ⁵ Å; 10 ⁶ Å	2,037.--	1,782.--
	10 µm	linear	2,305.--	2,050.--
50 x 20 mm	10 µm	all porosities + linear	497.--	349.--

Analytical

Narrowbore

Microbore



Part-No.

MZ	CODE	LEN	IDØ
four-digit Materialcode	length in mm	ID in 1/10 mm	

Example:

MZ-Gel SD^{plus} 100 Å 5 µm (5015);
SEC-Column 300 x 8.0 mm

=> Part.-No.: MZ5015-300080

Please inquire details for Refill-Service