



PICCOLO

SHORT MICROBORE COLUMNS

The *Piccolo* family of microbore HPLC columns is a unique high performance product for LC-MS and other high-speed, small volume applications. These efficient columns are the only products of their type that are individually tested. A *Certificate of Analysis* accompanies each column.

In addition to analytical microbore applications *Piccolo* columns are ideal guards for protecting longer microbore HPLC columns as illustrated on the back page.

Piccolo column void volumes range from approximately 5µl to 300nL, making them perfect for a wide variety of trapping, desalting, and trace enrichment applications. These small columns can be conveniently used with micro injection and switching valves as pictured below.



Sizes	5 × 1.0mm 10 × 1.0mm 2.5 × 0.5mm 2.5 × 0.3mm
Threads	6-32 (female)
Frits	Titanium with 0.5µm porosity
Body	PEEK (polyetheretherketone)
Pressure Limit	5,000 PSI (340 Bar)
Phases	Available with a wide range of sorbent types
C of A	Each Piccolo includes a certificate of analysis and test chromatogram
Flow	Mobile phase flow can be in either direction
Applications	LC-MS Ballistic gradients Desalting Trap column Trace enrichment Microbore guard



CLIQUEUS Piccolo

CLIQUEUS C8 5µm 2.5x0.3mm CP-M2M3-C085	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm CP-M2M5-C085	5x1.0mm CP-M501-C085	10x1.0mm CP-0101-C085
CLIQUEUS C18 5µm 2.5x0.3mm CP-M2M3-C185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm CP-M2M5-C185	5x1.0mm CP-M501-C185	10x1.0mm CP-0101-C185
CLIQUEUS Cyano 5µm 2.5x0.3mm CP-M2M3-CNP5	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm CP-M2M5-CNP5	5x1.0mm CP-M501-CNP5	10x1.0mm CP-0101-CNP5
CLIQUEUS Phenyl 5µm 2.5x0.3mm CP-M2M3-PHN5	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm CP-M2M5-PHN5	5x1.0mm CP-M501-PHN5	10x1.0mm CP-0101-PHN5



HAISIL 100 Piccolo

HAISIL 100 C8 5µm 2.5x0.3mm HP-M2M3-M085	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm HP-M2M5-M085	5x1.0mm HP-M501-M085	10x1.0mm HP-0101-M085
HAISIL 100 C18 5µm 2.5x0.3mm HP-M2M3-M185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm HP-M2M5-M185	5x1.0mm HP-M501-M185	10x1.0mm HP-0101-M185



HAISIL 300 Piccolo

HAISIL 300 C4 5µm 2.5x0.3mm HP-M2M3-W045	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm HP-M2M5-W045	5x1.0mm HP-M501-W045	10x1.0mm HP-0101-W045
HAISIL 300 C8 5µm 2.5x0.3mm HP-M2M3-W085	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm HP-M2M5-W085	5x1.0mm HP-M501-W085	10x1.0mm HP-0101-W085
HAISIL 300 C18 5µm 2.5x0.3mm HP-M2M3-W185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm HP-M2M5-W185	5x1.0mm HP-M501-W185	10x1.0mm HP-0101-W185



HAISIL HL Piccolo

HAISIL HL C18 5µm 2.5x0.3mm LP-M2M3-C185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm LP-M2M5-C185	5x1.0mm LP-M501-C185	10x1.0mm LP-0101-C185
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KROMASIL Piccolo

KROMASIL 100 C18 5µm 2.5x0.3mm KP-M2M3-C185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm KP-M2M5-C185	5x1.0mm KP-M501-C185	10x1.0mm KP-0101-C185
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PHALANX Piccolo

PHALANX C18 5µm 2.5x0.3mm PP-M2M3-C185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm PP-M2M5-C185	5x1.0mm PP-M501-C185	10x1.0mm PP-0101-C185
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TARGA Piccolo

TARGA C8 5µm 2.5x0.3mm TP-M2M3-C085	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm TP-M2M5-C085	5x1.0mm TP-M501-C085	10x1.0mm TP-0101-C085
TARGA C18 5µm 2.5x0.3mm TP-M2M3-C185	0.3, 0.5 and 1.0mm I.D. PICCOLO Columns 2.5x0.5mm TP-M2M5-C185	5x1.0mm TP-M501-C185	10x1.0mm TP-0101-C185



Higgins Analytical manufactures a wide range of small column and cartridge formats with polymeric phases from Polymer Labs Ltd.

This powerful array of media provides chromatographers with unique solutions for challenging HPLC applications. In addition to not having the pH limitations inherent to all silica-based sorbents, these polymeric phases provide an orthogonal

tool for addressing difficult protocols and multidimensional techniques. The relatively high capacity and unique selectivity of these robust phases can often provide a separation under harsh conditions that cannot be addressed with popular silica-based columns.

The rigid porous structure and chemical stability of Polymer Labs media make them compatible with the wide range

organic solvents typically used in modern HPLC methods. In addition to insuring long mechanical and chemical life times, this robustness also provides an ability for these polymeric phases to be rejuvenated under chemical and thermal conditions that would be unthinkable to subject a conventional HPLC column.

The uniform hydrophobicity and absence of acidic silanols make this family of polymeric phases ideal for many biomolecule separations.

POLYMERIC Reverse Phase Piccolo

POLYMERIC PLRP-S 100Å 3µm

2.5x0.3mm PLP-M2M3-RP13	2.5x0.5mm PLP-M2M5-RP13
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-RP13	10x1.0mm PLP-0101-RP13
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POLYMERIC PLRP-S 300Å 3µm

2.5x0.3mm PLP-M2M3-RP33	2.5x0.5mm PLP-M2M5-RP33
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-RP33	10x1.0mm PLP-0101-RP33
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POLYMERIC PLRP-S 1000Å 5µm

2.5x0.3mm PLP-M2M3-RPK5	2.5x0.5mm PLP-M2M5-RPK5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-RPK5	10x1.0mm PLP-0101-RPK5
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POLYMERIC PLRP-S 4000Å 5µm

2.5x0.3mm PLP-M2M3-RP4K5	2.5x0.5mm PLP-M2M5-RP4K5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-RP4K5	10x1.0mm PLP-0101-RP4K5
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POLYMERIC Strong Anion Exchange Piccolo

POLYMERIC SAX 1000Å 5µm

2.5x0.3mm PLP-M2M3-AXK5	2.5x0.5mm PLP-M2M5-AXK5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-AXK5	10x1.0mm PLP-0101-AXK5
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POLYMERIC SAX 4000Å 5µm

2.5x0.3mm PLP-M2M3-AX4K5	2.5x0.5mm PLP-M2M5-AX4K5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-AX4K5	10x1.0mm PLP-0101-AX4K5
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POLYMERIC Strong Cation Exchange Piccolo

POLYMERIC SCX 1000Å 5µm

2.5x0.3mm PLP-M2M3-SCXK5	2.5x0.5mm PLP-M2M5-SCXK5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-SCXK5	10x1.0mm PLP-0101-SCXK5
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POLYMERIC SCX 4000Å 5µm

2.5x0.3mm PLP-M2M3-SCX4K5	2.5x0.5mm PLP-M2M5-SCX4K5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-SCX4K5	10x1.0mm PLP-0101-SCX4K5
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POLYMERIC Weak Anion Exchange Piccolo

POLYMERIC WAX 1000Å 5µm

2.5x0.3mm PLP-M2M3-WAXK5	2.5x0.5mm PLP-M2M5-WAXK5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-WAXK5	10x1.0mm PLP-0101-WAXK5
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POLYMERIC WAX 4000Å 5µm

2.5x0.3mm PLP-M2M3-WAX4K5	2.5x0.5mm PLP-M2M5-WAX4K5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-WAX4K5	10x1.0mm PLP-0101-WAX4K5
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POLYMERIC Weak Cation Exchange Piccolo

POLYMERIC WCX 1000Å 5µm

2.5x0.3mm PLP-M2M3-WCXK5	2.5x0.5mm PLP-M2M5-WCXK5
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0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-WCXK5	10x1.0mm PLP-0101-WCXK5
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POLYMERIC WCX 4000Å 5µm

2.5x0.3mm PLP-M2M3-WCX4K5	2.5x0.5mm PLP-M2M5-WCX4K5
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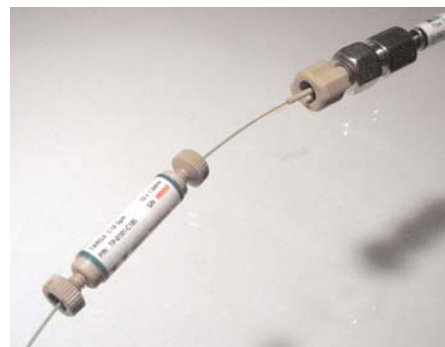
0.3, 0.5 and 1.0mm I.D. PICCOLO Columns

5x1.0mm PLP-M501-WCX4K5	10x1.0mm PLP-0101-WCX4K5
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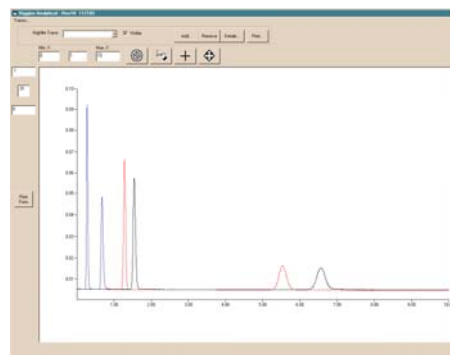
Higgins Analytical develops and manufactures a wide range of stainless steel and PEEK (polyetheretherketone) High Performance Liquid Chromatography (HPLC) columns and cartridges. These unique offerings address many needs of chromatographers desiring fast analysis times, efficient system and column protection, and chemical inertness.

Special application areas include LC/MS, combinatorial chemistry, column switching techniques, in-line filtration, and guard column requirements. Products are supplied and supported worldwide by a network of responsive distributors.

We are a quality-oriented chromatography company dedicated to providing performance products, expert support, and rapid delivery to research and quality control laboratories worldwide.



10x1.0mm Piccolo being used as a guard column for a 50x1.0mm analytical microbore column.



10x1.0mm Piccolo Column performance as an Analytical Column and as a Guard Column.

Blue Trace: 10x1mm Targa C18 5µm Piccolo Guard Column alone

Red Trace: 50x1mm TARGA C18 5µm Analytical Column

Black Trace: 10x1mm Guard coupled to 50x1mm Analytical Column

*Peak #1: Dimethyl Phthalate
Peak #2: Fluorene
60% MeCN/water, 50µL/min
System Variance ~6µL² at 50µL/min*



**Higgins
Analytical**

*Expert Manufacturers of
HPLC Consumables*

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