

# MediaScout® MaxiChrom 100-X

## The universal, disposable column system for preparative applications and scale-up development



### Introduction

MediaScout® MaxiChrom 100-X columns (X = 50 – 300 mm) are professionally packed with any resin or chromatography media chosen by the user, preferably with materials of particle size larger than 50 µm. They are individually **flow-packed** to take account of the varying compressibility of each resin. Bed heights are fixed to an accuracy of ± 1mm. MaxiChrom 100-X chromatography columns are designed for preparative applications and/or scale-up development work. The column hardware is fully incinerable, which makes the columns particularly useful for single use in bio-pharmaceutical production.

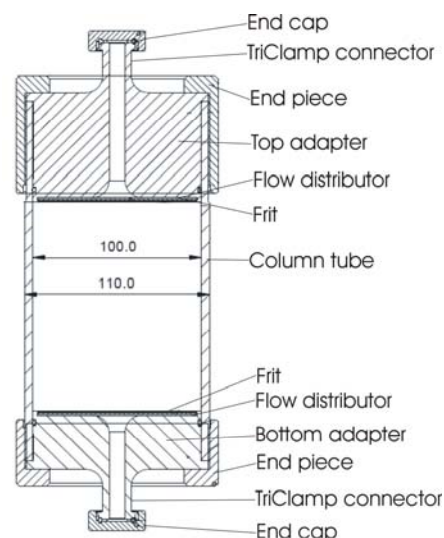
### Product Description

MediaScout® MaxiChrom 100-X columns are delivered ready to use, packed with chromatography media on customer demand from a large collection of commercially available resins or gel products for bioseparation. Unless otherwise requested, packed media are equilibrated with 20% ethanol or a mixture of 20% ethanol and 150 mM sodium chloride (ion exchangers, IMAC and HIC resins). Columns are sealed with threaded end caps, including a TriClamp® ½" gasket and may be stored at room temperature.

Components of MediaScout® MaxiChrom columns are made from bio-compatible polymers. End pieces and filter adapters are from polyoxymethylene (POM), column tubes from acrylic glass and O-rings are from Viton®. Frits and flow distributors are made from polypropylene. Columns may be connected directly to, and operated by, normal liquid delivery systems (e.g. gear or peristaltic pumps) or chromatography workstations, using standard quarter inch Mini TriClamp® fittings to make connections between liquid delivery system and column. It is recommended to continuously measure the operating pressure drop by connecting a pressure gauge in-line between pump and column.

MediaScout® MaxiChrom 100-X columns may be reused as long as the resin remains in acceptable condition, which will depend largely upon the care taken, the cleaning performed and the tolerance of the resin to user conditions. The columns are not designed to be repacked. The column hardware

can be completely incinerated. Sterilization of packed columns by autoclaving is possible with many of the commercially available sorbents.



**Fig. 1** Parts of the MediaScout® MaxiChrom 100-X column. X refers to the fixed bed height and may be varied in a range from 5.0 cm up to 30 cm.

The most important properties of MediaScout® MaxiChrom columns are summarized in table 1. Figure 1 shows a technical sketch, including the basic construction of MaxiChrom columns and listing the individual parts.

**Table 1 Properties of MediaScout® MaxiChrom 100-X columns (two examples with different bed heights outlined)**

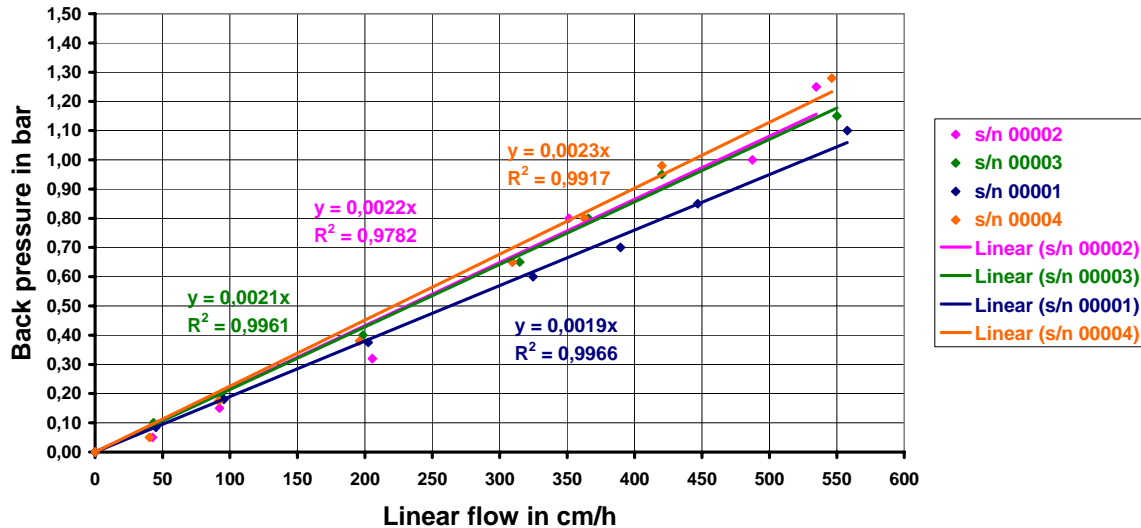
Column Type	Inner Diameter × Length	Column Cross Section	Column Volume	Flowrate <sup>1</sup>	Max. Flowrate <sup>1</sup>
	(mm × mm)	cm <sup>2</sup>	ml	ml/min / cm/h	ml/min / cm/h
MaxiChrom 100-127	100 × 127	78.5	1000	300 / 229	< 800 / 611
MaxiChrom 100-200	100 × 200	78.5	1500	300 / 229	< 800 / 611

Resin packing	flow packing to defined compression, according to resin specification
Connectors	standard Mini TriClamp® ½"
Performance	depending on chromatographic medium
Pressure maximum	1.5 bar
Temperature range	Operation/Storage: 5°C - 60°C / 5°C - 30°C
Storage conditions	equilibrated with 20% ethanol (ion exchangers with additional 150 mM sodium chloride)
Materials	Polyoxymethylene (POM) (column tube, filter adaptor, end piece, end cap), Viton® (o-rings)
Filter plates (frits)	Polypropylene/polyethylene (17 µm pore size, others on inquiry)
Chemical stability <sup>2</sup>	Columns are tolerant to aqueous buffers and salt solutions, pH 2-14, 1 M alkaline solutions, 1 M non-oxidizing mineral acids, 8 M urea, 6 M guanidine hydrochloride, ethanol, isopropanol and detergents <sup>1</sup> . They are not compatible with strong oxidants and most organic solvents

<sup>1</sup>This depends on the chromatography material

<sup>2</sup>The chemical stability refers to the column hardware parts only. The individual packed chromatography media may have different stability. To avoid damage to the chromatography media, please refer to the relevant manufacturer's data.

**MaxiChrom 100x127**  
**Pressure flow rate characteristics**  
**SDR HyperD<sup>®</sup>**



**Fig. 2** MaxiChrom 100-127 column, packed with SDR HyperD<sup>®</sup> to 12.7 cm bed height (1 L column volume). Pressure versus linear flow rate curves are shown for four individual columns, run with 20% ethanol. The pressure drop was measured by a mechanical pressure gauge (0 – 6 bar), connected in-line between pump and column inlet.

## Applications

Due to the extensive range of different chromatography media which can be packed in MaxiChrom columns, they may be used for a large number of applications and purposes, including resin screening, process methods

development and method validation, as well as for a variety of preparative applications. One particularly prominent application is the removal of detergents from aqueous solutions.

## Ordering information

MediaScout<sup>®</sup> MaxiChrom columns are packed to order with any commercially available particulate separation material, most of which are available ex-stock. Atoll GmbH will be pleased to pack any resin that you wish to send for packing in any of the MediaScout<sup>®</sup> system formats.

For details, including the current resin selection list, please visit the Atoll website shop within

<http://www.atoll-bio.de>

### List of Trademarks

Viton<sup>®</sup> is a trade mark of DuPont Performance Elastomers  
 TriClamp<sup>®</sup> is a registered trademark of Tri-Clover Alfa Laval Group  
 Tri-Clamp<sup>®</sup> is a registered trade mark of Ladish Company