

# YMC Glass Columns

For Laboratory  
Scale Applications




**Biocompatible**

**Self-packing**

**Easy Handling**

# Glass Columns for Lab and Pilot Scale



Column Line	ECO <sup>PLUS</sup>	ECO	YMC Pilot <sup>PLUS</sup>	YMC Pilot
				
Main Features	<p><b>Glass columns for medium and high pressure applications</b></p> <ul style="list-style-type: none"> <li>• Easy assembly with Quick-Lock system</li> <li>• Faster runs due to high pressure limits</li> <li>• Highest reproducibility by calibrated glass body</li> </ul>	<p><b>Glass columns for low and medium pressure applications</b></p> <ul style="list-style-type: none"> <li>• Easy piston adjustment</li> <li>• Heating/cooling jacket for temperature sensitive applications</li> <li>• 1 m long glass bodies for SEC applications</li> </ul>	<p><b>Glass columns for pilot scale BioLC applications</b></p> <ul style="list-style-type: none"> <li>• Bubble-free column packing due to drain function</li> <li>• Easy unpacking with removable column body</li> <li>• 100% biocompatibility</li> </ul>	<p><b>Glass columns for pilot scale applications</b></p> <ul style="list-style-type: none"> <li>• For temperature sensitive applications</li> <li>• Solvent resistant version available</li> <li>• Longer bed length range for SEC applications</li> </ul>
Available ID's [mm]	5, 10, 15, 25, 35, 50 <sup>1</sup>	10, 15, 25, 50, 70, 80 <sup>1</sup>	70, 100, 140, 200	100, 140, 200, 300 <sup>1</sup>
Available Length [mm]	125, 250, 500 <sup>1</sup>	120, 200, 450, 750, 1000 <sup>1</sup>	500, 850	500, 850 <sup>1</sup>
Column Volume range [L]	0–1 <sup>1</sup>	0–5 <sup>1</sup>	0–25	0–50 <sup>1</sup>
Connections	¼"-28G (incl. in accessory bag)	¼"-28G (incl. in accessory bag)	TriClamp or valves	TriClamp or valves
Tubing	5 – 15 mm ID: 1/16" OD (0.8 x 1.6 mm) 25 – 50 mm ID: 1/8" OD (1.6 x 3.2 mm)	10 – 15 mm ID: 1/16" OD (0.8 x 1.6 mm) 25 – 80 mm ID: 1/8" OD (1.6 x 3.2 mm)	70 – 100 mm ID: ¼" OD (4.35 x 6.35 mm) 140 – 200 mm ID: ¼" ID (6 x 8 mm)	¼" OD (4.35 x 6.35 mm)
Column stand available/required	No/No	Yes/No	Yes/Yes	Yes (included)
Packing adapter available	Yes	Yes	No	Yes
Certification	FDA, BSE/TSE <sup>2</sup>	FDA, BSE/TSE <sup>2</sup>	FDA, BSE/TSE, USP Class VI	FDA, BSE/TSE <sup>2</sup>
How to connect to ÄKTA systems	Adapter 10/32 or M6	Adapter 10/32 or M6	TC25	TC25

<sup>1</sup> Customisation possible · <sup>2</sup> Available upon request

# Mode and YMC Resin Compatibility



Mode	ECO <sup>PLUS</sup>	ECO	YMC Pilot <sup>PLUS</sup>	YMC Pilot
IEX	+	+	+	+
SEC	○	+	○	+
HIC	+	+	+	+
Affinity	+	+	+	+
MMC	+	+	+	+
RP	+	○	-	○
NP	+	○	-	○

Mode	Base Material	YMC Resin	ECO <sup>PLUS</sup>	ECO	YMC Pilot <sup>PLUS</sup>	YMC Pilot
IEX	Polymer-based	BioPro IEX Q75	+	+	+	+
		BioPro IEX S75	+	+	+	+
		BioPro IEX SmartSep Q10/20/30	+	+	+	+
		BioPro IEX SmartSep S10/20/30	+	+	+	+
SEC	Silica-based	YMC*Gel Diol-HG-120	○	+	○	+
		YMC*Gel Diol-HG-200	○	+	○	+
		YMC*Gel Diol-HG-300	○	+	○	+
RP	Hybrid-Silica and Silica-based	YMC-Triart Prep C18-S	+	○	-	○
		YMC*Gel ODS-A-HG	+	○	-	○
		YMC*Gel ODS-AQ-HG	+	○	-	○
		YMC-Triart Prep C8-S	+	○	-	○
		YMC*Gel C8-HG	+	○	-	○
		YMC*Gel C4-HG	+	○	-	○

You are looking for pre-packed glass columns? Our **packing service** includes packing of new ECO and ECO<sup>PLUS</sup> glass columns and refill for your used column. Stationary phases from YMC as well as from other suppliers can be packed.

+ Compatible  
 ○ Depends on requirements  
 - Not compatible

# ECO Glass Columns | Overview



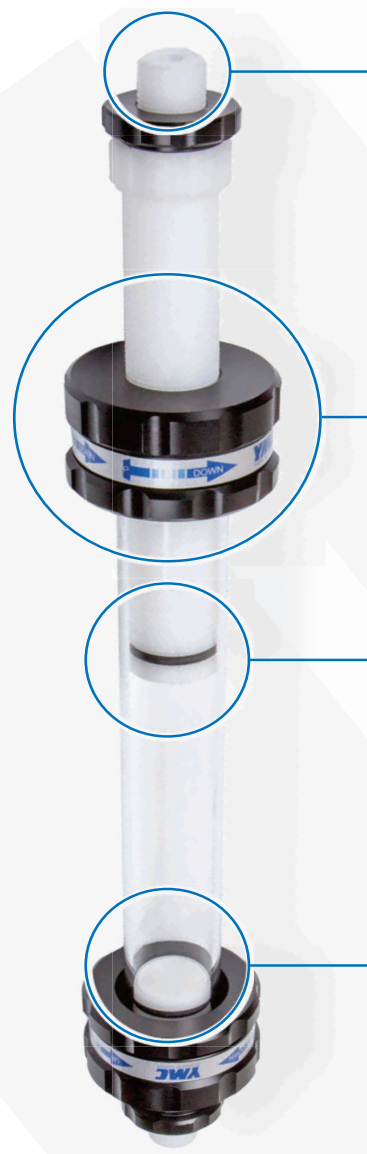
ECO columns are glass columns suitable for all types of soft gel and medium pressure LC applications.

Your advantages are:

- Easy handling and self-packing
- Compatible with any LC system
- For use with all types of soft gels

Specifications	
Area of application	Low to medium pressure LC
Inner diameters	10, 15, 25, 50, 70, 80 mm
Bed lengths	120; 200; 450; 750; 1,000 mm
Versions	AB (Aqueous Buffer) SR (Solvent Resistant)
Temperature range	4–40°C
Packing adapter	available
Optional heating/cooling jacket	available
Column stand	available for 25, 50, 70, 80 mm ID

Pressure resistance						
ID [mm]	10	15	25	50	70	80
Pressure limit [bar]	30	25	15	10	5	5



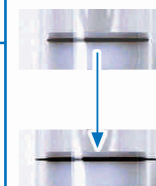
### External tubing connection

- ✓ Quick and easy tubing replacement
- ✓ No tube twisting during piston adjustment
- ✓ Tubing replacement possible with a packed column



### Linear Piston movement

- ✓ Homogenously packed column beds
- ✓ Excellent column performance
- ✓ Increased resin lifetime



### Sealing principle: squeezed O-ring

- ✓ Reliable sealing in a temperature range from 4 to 40°C
- ✓ Easy replacement and simple maintenance
- ✓ High quality materials for a long lifetime



### Fully porous frits

- ✓ Optimum flow distribution
- ✓ Securely fixed in the piston
- ✓ Different materials and porosities available

# ECO Glass Columns | Specifications

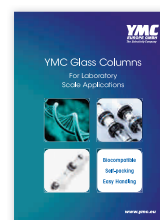


Inner diameter column (mm)	Pressure limit (bar)	One adjustable piston (Vario)		Two adjustable pistons (Multivario)	
		Bed length range (mm)	Column volume range (mL)	Bed length range (mm)	Column volume range (mL)
10	30	0-120	0-9	0-120	0-9
		80-200	7-15	0-200	0-15
		330-450	28-35	220-450	19-35
		630-750	54-58	520-750	44-58
		880-1,000	75-78	780-1,000	66-78
15	25	0-120	0-19	0-120	0-19
		80-200	16-32	0-200	0-32
		330-450	63-73	210-450	40-73
		630-750	120-122	510-750	97-122
		880-1,000	163-163	760-1,000	145-163
25	15	0-120	0-60	0-120	0-60
		80-200	50-100	0-200	0-100
		330-450	190-230	220-450	130-230
		630-750	365-390	520-750	300-390
		880-1,000	510-520	770-1,000	445-520
50	10	0-120	0-235	0-120	0-235
		80-200	180-390	0-200	0-390
		330-450	730-885	230-450	510-885
		630-750	1,390-1,480	530-750	1,170-1,480
		880-1,000	1,945-1,970	780-1,000	1,725-1,970
70	5			0-120	0-425
				0-200	0-710
				70-450	290-1,610
				370-750	1,530-2,680
				620-1,000	2,560-3,570
80	5			0-120	0-560
				0-200	0-940
				70-450	380-2,120
				370-750	1,980-3,530
				620-1,000	3,320-4,710

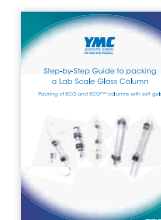
Solvent	AB-Version		SR-Version	
	10-50 mm ID	70-80 mm ID	10-50 mm ID	70-80 mm ID
Acetone	Not resistant	Resistant	Not resistant	Not resistant
Acetonitrile	Limited resistant	Resistant	Limited resistant	Limited resistant
Ammonium dihydrogen phosphate	Limited resistant	Resistant	Limited resistant	Limited resistant
Cyclohexane	Limited resistant	Not resistant	Limited resistant	Limited resistant
Dichloromethane	Limited resistant	Not resistant	Limited resistant	Limited resistant
EDTA (3%)	Resistant	Resistant	Resistant	Resistant
Acetic acid (6%)	Resistant	Resistant	Resistant	Limited resistant
Ethanol	Resistant	Resistant	Resistant	Resistant
Ethyl acetate	Not resistant	Limited resistant	Limited resistant	Limited resistant
n-Hexane	Resistant	Not resistant	Resistant	Resistant
Isopropanol	Resistant	Resistant	Resistant	Resistant
Methanol	Limited resistant	Resistant	Resistant	Resistant
NaOH (2M)	Limited resistant	Resistant	Resistant	Limited resistant
HCl (1M)	Not resistant	Not resistant	Resistant	Not resistant
Urea (8M)	Resistant	Resistant	Resistant	Resistant
NaCl (1M)	Resistant	Resistant	Resistant	Limited resistant
Na <sub>2</sub> SO <sub>4</sub> (0.5M)	Resistant	Resistant	Resistant	Limited resistant

Not resistant  
Limited resistant  
Resistant

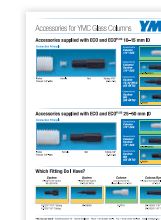
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Brochures



Column packing



Connection to your system

# ECO<sup>PLUS</sup> Glass Columns | Overview



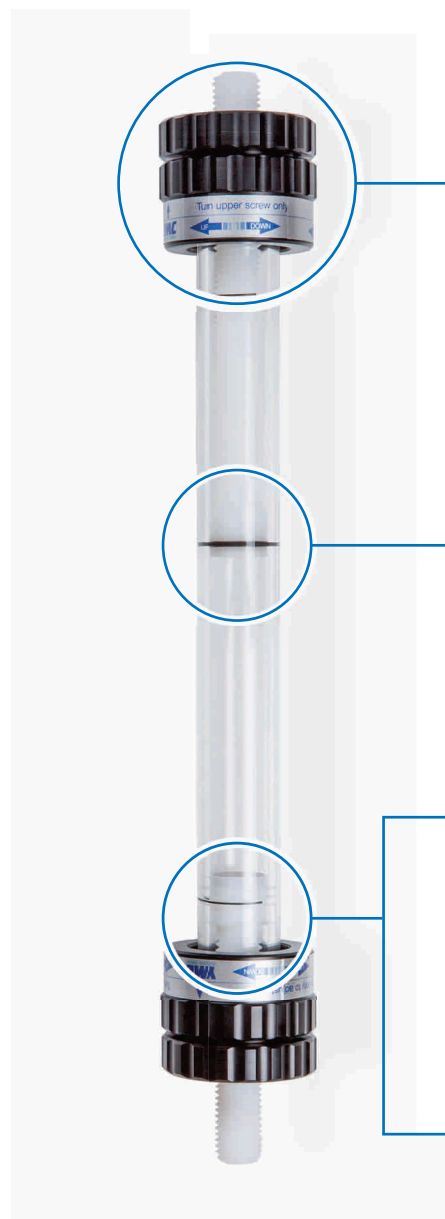
ECO<sup>PLUS</sup> columns are the first choice for high pressure LC applications.

Your advantages are:

- Increased throughput
- Easy assembly with Quick-Lock system
- High reproducibility due to calibrated glass body

Specifications	
Area of application	medium to high pressure LC
Inner diameters	5, 10, 15, 25, 35, 50 mm
Bed lengths	125, 250, 500 mm
Versions	AB (Aqueous Buffer) SR (Solvent Resistant)
Temperature range	4–40°C
Packing adapter	available
Optional heating/cooling jacket	not available

Pressure resistance						
ID [mm]	5	10	15	25	35	50
Pressure limit [bar]	AB: 80 SR: 80	AB: 80 SR: 50	AB: 70 SR: 50	AB: 50 SR: 50	AB: 40 SR: 40	AB: 30 SR: 15



### Quick-lock system

- ✓ Quick assembly
- ✓ Reliable closing mechanism
- ✓ Easy piston adjustment



### Sealing principle: permanent sealing

- ✓ Reliable sealing even at high pressures
- ✓ High quality materials for optimum chemical resistance
- ✓ Quick and easy maintenance



### Column body: Calibrated precision glass

- ✓ Highest reproducibility in packing
- ✓ Excellent column performance
- ✓ 5 mm ID columns: perfect for method development



### Fully porous frits

- ✓ Optimum flow distribution
- ✓ Securely fixed in the piston
- ✓ Different materials and porosities available

# ECO<sup>PLUS</sup> Glass Columns | Specifications



**YMC**

Inner diameter column (mm)	Short pistons		Short/Long Pistons		Long pistons	
	Bed length range (mm)	Volume range (mL)	Bed length range (mm)	Volume range (mL)	Bed length range (mm)	Volume range (mL)
<b>5</b>	30–125	0.6–2.4	0–125	0–2.4	0–125	0–2.4
	150–250	3.0–4.9	70–250	1.4–4.9	0–250	0–4.9
	400–500	7.9–9.8	320–500	6.3–9.8	240–500	4.8–9.8
<b>10</b>	40–125	3.2–9.8	0–125	0–9.8	0–125	0–9.8
	160–250	13–19	80–250	6.2–19	0–250	0–19
	410–500	33–39	330–500	26–39	250–500	20–39
<b>15</b>	30–125	6–22	0–125	0–22	0–125	0–22
	155–250	28–44	75–250	14–44	0–250	0–44
	405–500	72–88	325–500	58–88	245–500	44–88
<b>25</b>	30–125	15–60	0–125	0–60	0–125	0–60
	160–250	80–120	80–250	40–120	0–250	0–120
	410–500	205–245	330–500	165–245	250–500	125–245
<b>35</b>	35–125	35–120	0–125	0–120	0–125	0–120
	160–250	155–240	80–250	80–240	0–250	0–240
	410–500	395–480	330–500	320–480	250–500	245–480
<b>50</b>	40–125	80–245	0–125	0–245	0–125	0–245
	170–250	335–490	90–250	180–490	0–250	0–490
	415–500	815–980	340–500	670–980	255–500	500–980

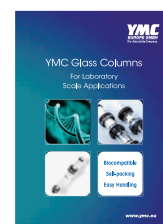
Solvent	AB-Version	SR-Version	
	5–50 mm ID	5–35 mm ID	50 mm ID
Acetone	Resistant	Resistant	Resistant
Acetonitrile	Limited resistant	Resistant	Resistant
Ammonium dihydrogen phosphate	Resistant	Limited resistant	Limited resistant
Cyclohexane	Not resistant	Resistant	Resistant
Dichloromethane	Not resistant	Resistant	Resistant
EDTA (3%)	Resistant	Resistant	Resistant
Acetic acid (6%)	Resistant	Limited resistant	Limited resistant
Ethanol	Resistant	Resistant	Resistant
Ethyl acetate	Limited resistant	Resistant	Resistant
n-Hexane	Not resistant	Resistant	Resistant
Isopropanol	Resistant	Resistant	Resistant
Methanol	Resistant	Resistant	Resistant
NaOH (2 M)	Resistant	Limited resistant	Limited resistant
HCl (1 M)	Resistant	Limited resistant	Limited resistant
Urea (8 M)	Resistant	Resistant	Resistant
NaCl (1 M)	Resistant	Limited resistant	Limited resistant
Na <sub>2</sub> SO <sub>4</sub> (0.5 M)	Resistant	Limited resistant	Limited resistant

Not resistant

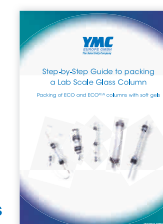
Limited resistant

Resistant

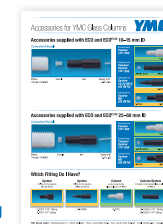
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Brochures



Column packing



Connection to your system

# YMC Pilot Glass Columns | Overview



YMC Pilot columns are designed for use in pilot and production scale applications with organic solvents or aqueous buffers.

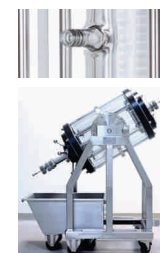
Your advantages are:

- Full resin compatibility
- Easy operations
- Customise your YMC Pilot column

Specifications	
Area of application	Pilot scale applications
Inner diameters	100, 140, 200, 300 mm*
Bed lengths	500, 850 mm*
Versions	AB (Aqueous buffer) SR (Solvent resistant)
Temperature range	4–40°C
Packing adapter	available
Optional heating/cooling jacket	available
Column stand	included, rotatable racks available

\* Customisation possible

Pressure resistance				
ID [mm]	100	140	200	300
Pressure limit [bar]	10	7	5	3



### Customisations possible

- ✓ Heating/cooling jackets for temperature sensitive applications
- ✓ Rotatable racks for easy unpacking
- ✓ Additional column dimensions possible



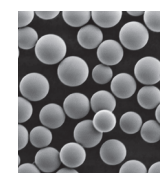
### Reliable sealing: squeezed O-ring

- ✓ Long lasting, high quality materials
- ✓ Fast replacement
- ✓ Easy piston adjustment



### Fully porous frits

- ✓ Optimum flow distribution
- ✓ Excellent packing results
- ✓ Different materials and porosities available



### Full resin compatibility

- ✓ Organic solvent resistant version (SR)
- ✓ Biocompatible aqueous buffer version (AB)
- ✓ Longer bed length range for SEC



# YMC Pilot Glass Columns | Specifications



Inner diameter	100				140			
	500 mm		850 mm		500 mm		850 mm	
Version	AB	SR	AB	SR	AB	SR	AB	SR
Bed Length [mm]	70-420 <sup>1</sup>	20-430 <sup>1</sup>	420-770 <sup>1</sup>	310-780 <sup>1</sup>	70-410 <sup>1</sup>	20-440 <sup>1</sup>	420-760 <sup>1</sup>	330-790 <sup>1</sup>
Column Volume [L]	0.6-3.2	0.2-3.3	3.3-6.0	2.5-6.1	1.1-6.3	0.4-6.7	6.5-11.6	5.1-12.1
Pressure Limit [bar]	10	10	10	10	7	7	7	7
Temperature Range [°C]	4-40	4-40	4-40	4-40	4-40	4-40	4-40	4-40
Total Weight [kg]	19	27	23	31	34	42	42	51
Weight Adjustable End Piece [kg]	4	9	4	9	6	11	6	11
Weight Fixed End Piece [kg]	2	5	2	5	4	7	4	7
Footprint [mm]	450x420	450x420	450x420	450x420	480x440	480x440	480x440	480x440
Maximum Column Height [mm]	1,750	1,770	2,100	2,120	1,750	1,780	2,100	2,130

Inner diameter	200				300			
	500 mm		850 mm		500 mm		850 mm	
Version	AB	SR	AB	SR	AB	SR	AB	SR
Bed Length [mm]	90-430 <sup>1</sup>	20-460 <sup>1</sup>	440-780 <sup>1</sup>	360-810 <sup>1</sup>	20-390 <sup>1</sup>	80-450 <sup>1</sup>	330-740 <sup>1</sup>	430-800 <sup>1</sup>
Column Volume [L]	2.9-13.5	0.7-14.4	13.9-25.5	11.4-25.4	1.4-26.6	5.6-30.8	22.8-50.7	29.7-54.8
Pressure Limit [bar]	5	5	5	5	3	3	3	3
Temperature Range [°C]	4-40	4-40	4-40	4-40	4-40	4-40	4-40	4-40
Total Weight [kg]	49	67	59	77	83	126	96	139
Weight Adjustable End Piece [kg]	9	19	9	19	25	48	25	48
Weight Fixed End Piece [kg]	6	15	6	15	18	38	18	38
Footprint [mm]	600x500	600x500	600x500	600x500	650x550	650x550	650x550	650x550
Maximum Column Height [mm]	1,800	1,830	2,150	2,180	1,920	1,830	2,270	2,180

<sup>1</sup>depending on packing material and packing method

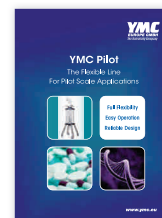
Solvent	AB Version	SR Version
Acetone	Not resistant	Resistant
Acetonitrile	Limited resistant	Resistant
Ammonium dihydrogen phosphate	Resistant	Limited resistant
Cyclohexane	Not resistant	Resistant
Dichloromethane	Not resistant	Resistant
0.1 M EDTA (3%)	Resistant	Resistant
1 M Acetic acid (6%)	Resistant	Limited resistant
Ethanol	Resistant	Resistant
Ethyl acetate	Limited resistant	Resistant
n-Hexane	Not resistant	Resistant
Isopropanol	Resistant	Resistant
Methanol	Resistant	Resistant
2 M NaOH (8%)	Resistant	Limited resistant
1 M HCl (4%)	Resistant	Not resistant
8 M Urea (36%)	Resistant	Resistant
1 M NaCl	Resistant	Limited resistant
0.5 M Na <sub>2</sub> SO <sub>4</sub>	Resistant	Limited resistant

Not resistant

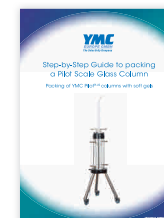
Limited resistant

Resistant

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Brochures



Column packing



Technical Notes

# YMC Pilot<sup>PLUS</sup> Glass Columns | Overview



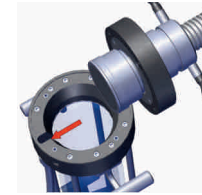
YMC Pilot<sup>PLUS</sup> columns are the new standard for pilot scale applications. They are completely biocompatible and characterised by safe and easy handling.

Your advantages are:

- Fully biocompatible
- Easy unpacking and cleaning
- Excellent column performance

Specifications	
Area of application	Pilot scale BioLC
Inner diameters	70, 100, 140, 200mm
Bed lengths	500, 850mm
Version	AB (Aqueous buffer)
Temperature range	4–40°C
Column stand	W: wheeled version L: levelled version
Infilling assistance tool	included

Pressure resistance				
ID [mm]	70	100	140	200
Pressure limit [bar]	16	10	7	5



### Unique drain function

- ✓ Bubble free piston insertion
- ✓ Excellent packing results
- ✓ No delay in packing process



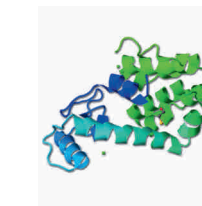
### Innovative sealing principle: permanent sealing

- ✓ Extremely small dead areas
- ✓ Tool-free maintenance
- ✓ Easy piston adjustment



### Removable column body

- ✓ Clean and fast unpacking
- ✓ Easy cleaning
- ✓ Tool-free fixation in the column stand



### Regulatory support

- ✓ Metal free flow path for BioLC applications
- ✓ Material certificates for all wetted parts available: FDA, BSE/TSE, USP Class VI
- ✓ Spare parts readily available

# YMC Pilot<sup>PLUS</sup> Glass Columns | Specifications



Inner diameter	70		100	
Glass body length	500 mm	850 mm	500 mm	850 mm
Bed Length [mm]	100–450 <sup>1</sup>	250–800 <sup>1</sup>	100–450 <sup>1</sup>	250–800 <sup>1</sup>
Column Volume [L]	0.4–1.7	1.0–3.0	0.8–3.5	2.0–6.2
Pressure Limit [bar]	16	16	10	10
Temperature Range [°C]	4–40	4–40	4–40	4–40
Total Weight [kg]	19	23	20	24
Weight Adjustable End Piece [kg]	3.2	3.7	3.5	4.0
Footprint [mm]	620	620	620	620
Maximum Column Height [mm]	1,700	2,250	1,700	2,250

Inner diameter	140		200	
Glass body length	500 mm	850 mm	500 mm	850 mm
Bed Length [mm]	100–450 <sup>1</sup>	250–800 <sup>1</sup>	100–450 <sup>1</sup>	250–800 <sup>1</sup>
Column Volume [L]	1.5–6.9	3.8–12.3	3.1–14.1	7.8–25.1
Pressure Limit [bar]	7	7	5	5
Temperature Range [°C]	4–40	4–40	4–40	4–40
Total Weight [kg]	37	45	38	47
Weight Adjustable End Piece [kg]	7.3	7.8	8.0	8.6
Footprint [mm]	750	750	750	750
Maximum Column Height [mm]	1,750	2,300	1,750	2,300

<sup>1</sup>depending on packing material and packing method

Solvent	Wetted Parts: Borosilicate glass 3.3, FEP, PE, PTFE, PEEK, 75 Fluoroprene XP41
Acetone	Not resistant
Acetonitrile	Limited resistant
Ammonium dihydrogen phosphate	Resistant
Cyclohexane	Limited resistant
Dichloromethane	Not resistant
0.1 M EDTA (3%)	Resistant
1 M Acetic acid (6%)	Resistant
Ethanol	Resistant
Ethyl acetate	Not resistant
n-Hexane	Limited resistant
Isopropanol	Resistant
Methanol	Resistant
2 M NaOH (8%)	Resistant
1 M HCl (4%)	Resistant
8 M Urea (36%)	Resistant
1 M NaCl	Resistant
0.5 M Na <sub>2</sub> SO <sub>4</sub>	Resistant

Not resistant

Limited resistant

Resistant

Contact us for more detailed information regarding:



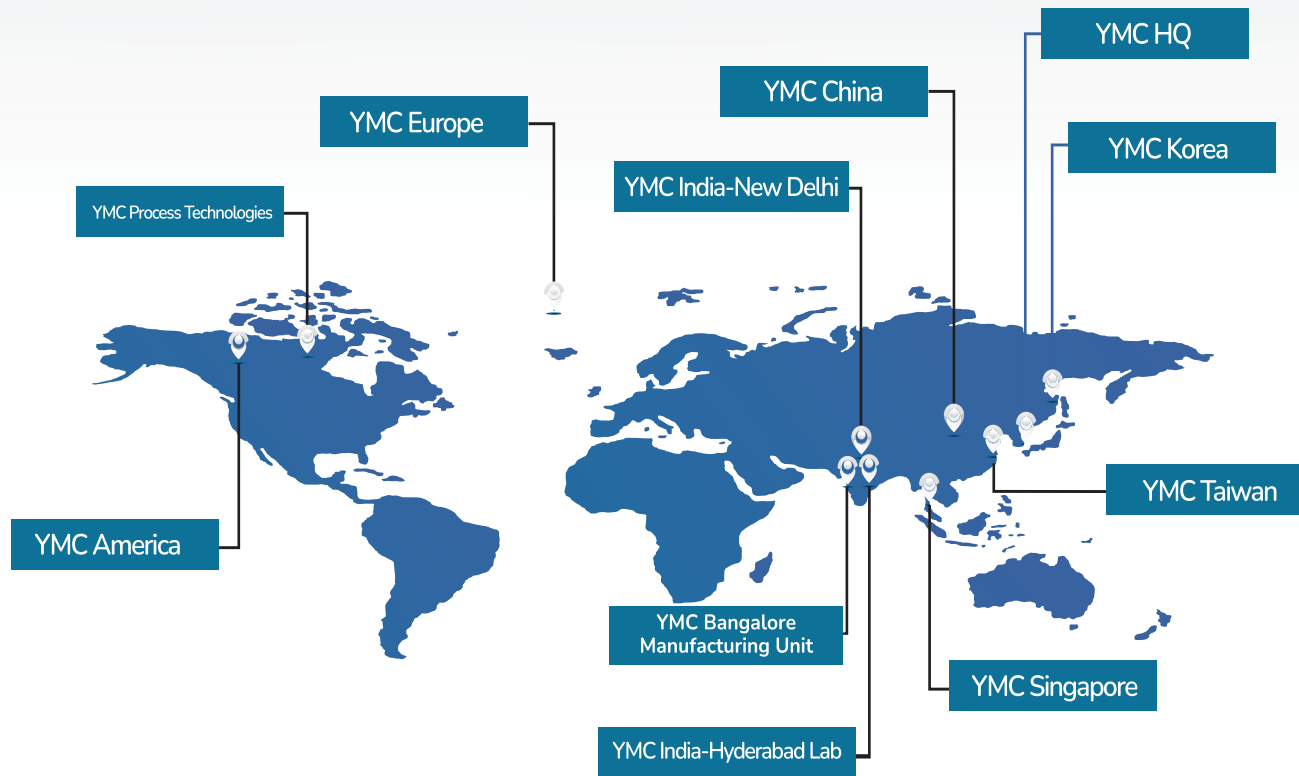
Brochures



Column packing



White papers



## WORLD WIDE PRESENCE

YMC America Inc  
[www.ymcamerica.com](http://www.ymcamerica.com)

YMC Shanghai Rep Office  
[www.ymchina.com](http://www.ymchina.com)

YMC Singapore Tradelinks Pte. Ltd.  
[www.ymc.sg](http://www.ymc.sg)

YMC Europe GmbH  
[www.ymceurope.com](http://www.ymceurope.com)

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[www.ymc.sg](http://www.ymc.sg)

YMC Korea Co., Ltd.  
[www.ymckorea.com](http://www.ymckorea.com)

**YMC** Europe GmbH

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**YMC** (India) Private Limited

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