Personnel protective equipment

In order to reduce the risks during working with the column, always use the recommended personnel protective equipment. The following protective equipment is required:

Symbol	PPE	Phase of Life	Action
	Protective gloves	Operation	Column packing Column unpacking
		Initiation	Cleaning
	Safety goggles	Operation	All actions
		Initiation	Cleaning Pressure testing
	Protective clothing	Operation	All actions
		Initation	Cleaning Pressure testing

Delivery inspection

YMC recommends retaining and storing the original packaging and the foam cushion. This ensures safe storage and, if necessary, safe onward transport.

Delivery inspection is performed as follows:

1. Check the delivery for visible transport damage.
2. Check the delivery for the completeness of parts.
3. Compare the column description on the glass body with the data of the delivery note.

In the event of any discrepancies or irregularities during the delivery inspection, notify YMC Europe GmbH and/or the appropriate contact person at YMC.

Transport damage

Procedure, if you observe any visible transport damage:

1. Refuse or reserve acceptance of the delivery.
2. Record the transport damage on the delivery note of the transporter or in the transport documents.
3. Inform YMC Europe GmbH and/or the responsible supplying agent.

Specifications

Parameter	Standard Columns
Inner Diameters [mm]	10, 15, 26, 50
Bed Lengths [mm]	200, 300, 500, 700
Pressure Range* [bar]	30–10
Temperature Range [°C]	4–40
Wetted parts	POM piston, PE frits, EPDM O-ring, borosilicate glass 3.3 column body

* Pressure range depends on the inner diameter of the column.

Chemical Resistance

The resistance of the column is based on the resistance of the each wetted parts. The stated chemical resistances apply to temperatures up to 40°C.

	EPDM	FEP	PE	POM	Glass
Acetone	+	+	+	+	+
Acetonitrile	•	+	+	•	+
Ammonium dihydrogen phosphate	+	+	+	+	+
Ammonium hydroxide (30%)	+	+	+	+	+
Cyclohexane	-	+	•	+	+
Dichloromethane	-	+	-	•	+
0.1 M EDTA (3%)	+	+	+	+	+
1 M Acetic acid (6%)	+	+	+	+	+
Ethanol	+	+	+	+	+
Ethyl acetate	•	+	+	•	+
n-hexane	-	+	•	+	+
Isopropanol	+	+	+	+	+
Methanol	+	+	+	+	+
Phosphoric acid (6%)	+	+	+	-	+
Sulfuric acid (6%)	+	+	+	-	+
THF	-	+	-	•	+
Toluene	-	+	-	•	+
NaOH (2 M)	+	+	+	+	+
HCl (1 M)	+	+	+	-	+
Urea (8 M)	+	+	+	+	+
NaCl (1 M)	+	+	+	+	+
Na_2SO_4 (0.5 M)	+	+	+	+	+

+ = Resistant • = Limited resistant - = Not resistant

If your solvent is not listed, please contact us for a chemical resistance check.

YMC EUROPE GMBH

Quick Guide

YMC Glass Columns for Laboratory Scale

YMC ECO

Intended use

The laboratory scale YMC ECO glass columns are only to be used for the separation of substances via chromatographic techniques. The product is only for the use with liquids that have a pressure <0.5 bar above the atmospheric pressure at the intended maximum temperature (40 °C). Every use which is outside these specifications is defined as not intended use. The intended use includes the compliance with the advice and terms in the manual. You can find the detailed manual on the website www.ymc.eu for download.

General safety instructions

In order to avoid accidents and injuries,

- operate the glass column only within its intended use.
- follow all general and special safety instructions as well as all warnings in the manual.
- follow danger signs and sign giving instructions.
- follow the rules and regulations for prevention of accidents at the site of operation.
- comply with all inspection and maintenance intervals.

Personnel requirements

The various tasks described in the manual make different demands on the qualifications and training of the persons carrying them out.
The user must:

- have competent and proficient training.
- be trained in dealing with pressure devices.
- have read and understood this quick guide before use.

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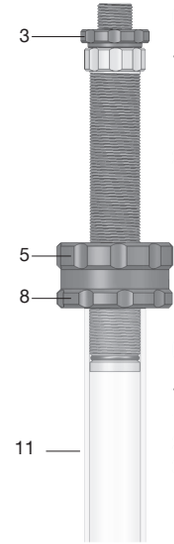


Opening the column

To open the column, proceed as follows:

1. Loosen the screw nut (3) by turning it anti-clock-wise. Hold the outer spindle during loosening.
   ✓ The O-ring is loosened.
2. Fix the counter screw (8) and turn the counter nut (5) anti-clock-wise.
   ✓ The end piece can be removed now from the glass body.

Closing the column

To close the column, proceed as follows:

1. Insert the end piece with loosened O-ring.
2. Tighten the counter nut (5) and counter screw (8).
3. Tighten the screw nut (3) by turning it clock-wise. Hold the outer spindle during tightening.
   ✓ The O-ring is now sealed.

Piston adjustment

The piston of the YMC ECO columns moves linearly up and down.
The end piece is inserted and the counter screw connection is closed.

The piston is adjusted as follows:

1. O-ring seals by turning the screw nut clockwise.
   ✓ O-ring is sealed if a constant black line appears in the glass body.
2. Hold the closed counter screw connection.
3. By turning the counter screw connection clockwise, the piston moves up. By turning the counter screw connection anti-clockwise, the piston moves down.

Tubing connection

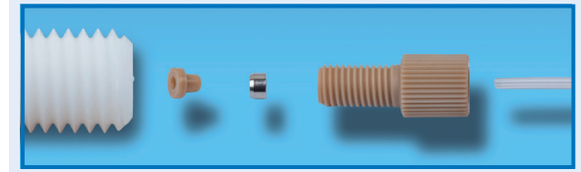
YMC ECO glass columns are supplied with a connection kit containing two tubing sizes, 1/16” and 1/8”, as well as matching fittings and plugs. The tubing is connected to the piston outlet using a ferrule with a crimp ring and a nut. Due to the external tubing connection the tubing sizes can be chosen freely.

Recommended tubing sizes:

- 10-15 mm ID: 1/16“ tubing
- 26-50 mm ID: 1/8“ tubing

Accessories YMC ECO, 1/16” tubing

Connection Principle



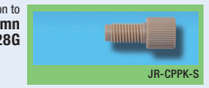
Piston
Thread: 1/4"-28G

Ferrule

Nut

Tubing 1/16"
(0.8 x 1.6 mm)

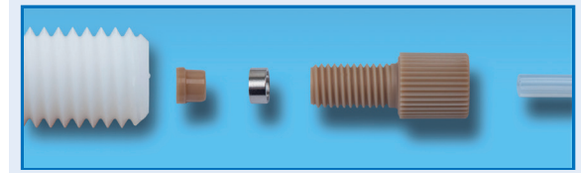
Connection to
Column 1/4"-28G



Connection to
Column 1/4“-28G

Accessories YMC ECO, 1/8” tubing

Connection Principle



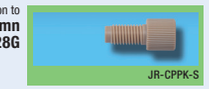
Piston
Thread: 1/4"-28G

Ferrule

Nut

Tubing 1/8"
(1.6 x 3.2 mm)

Connection to
Column 1/4"-28G



Connection to
Column 1/4"-28G