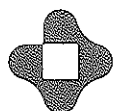


TSK guardgel Series  
for Glass Column

# INSTRUCTION MANUAL



TOSOH

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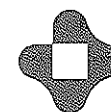
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### 1. Introduction

When samples to be separated contain impurities which are adsorbed by the packing materials, column performance tends to decline as impurities accumulate on the inlet side of the column. In such a case analytical columns can be protected from contamination by connecting guard columns before the analytical columns. It is highly recommended to use guard columns, especially in the separation of biological substances. Please use these kits as much as possible in order to prevent possible trouble occurrence.

### 2. Specifications of TSKguardgel kit

#### 2-1. TSKguardgel

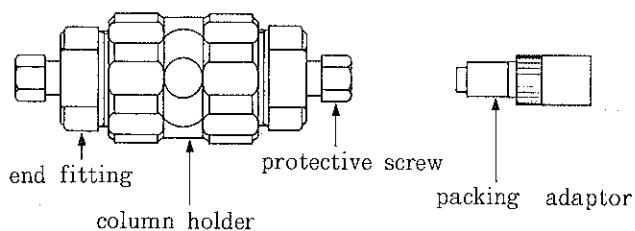
Cat. No.	Type	Vol (ml)	Columns to be connected	Slurry Solvent
07207	TSKguardgel DEAE-5PW	5	TSKgel DEAE-5PW	MeOH/H <sub>2</sub> O (50/50)
07208	TSKguardgel SP-5PW	5	TSKgel SP-5PW	
13070	TSKguardgel CM-5PW	5	TSKgel CM-5PW	
07651	TSKguardgel Phenyl-5PW	5	TSKgel Phenyl-5PW	
08644	TSKguardgel Ether-5PW	5	TSKgel Ether-5PW	
14019	TSKguardgel Phenyl-5PW RP	5	TSKgel Phenyl-5PW RP	
13130	TSKguardgel HA-10000	5	TSKgel HA-1000	10mM Phosphate buffer (pH6.8)
08648	TSKguardgel Chelate-5PW	5	TSKgel Chelate-5PW	H <sub>2</sub> O
13122	TSKguardgel Heparin-5PW	5	TSKgel Heparin-5PW	
13124	TSKguardgel Blue-5PW	5	TSKgel Blue-5PW	
13126	TSKguardgel Boronate-5PW	5	TSKgel Boronate-5PW	
13128	TSKguardgel ABA-5PW	5	TSKgel ABA-5PW	

\* Each guardgel has the same ion-exchanger or corresponding group as that of the gel in the corresponding column.

## 2-2. TSKguardgel kit

Cat.No	Type	Contents of kit *
08806	TSKguardgel DEAE-5PW kit glass	TSKguardgel DEAE-5PW
08807	TSKguardgel SP-5PW kit glass	TSKguardgel SP-5PW
14024	TSKguardgel CM-5PW kit glass	TSKguardgel CM-5PW
08808	TSKguardgel Phenyl-5PW kit glass	TSKguardgel Phenyl-5PW
14025	TSKguardgel Ether-5PW kit glass	TSKguardgel Ether-5PW
14022	TSKguardgel Phenyl-5PW RP kit glass	TSKguardgel Phenyl-5PWRP
14023	TSKguardgel HA-1000 kit glass	TSKguardgel HA-1000
14442	TSKguardgel Chelate-5PW kit glass	TSKguardgel Chelate-5PW
14445	TSKguardgel Heparin-5PW kit glass	TSKguardgel Heparin-5PW
14448	TSKguardgel Blue-5PW kit glass	TSKguardgel Blue-5PW
14451	TSKguardgel Boronate-5PW kit glass	TSKguardgel Boronate-5PW
14454	TSKguardgel ABA-5PW kit glass	TSKguardgel ABA-5PW

\* Including one set of holder, frits, packing adaptor and guardgel

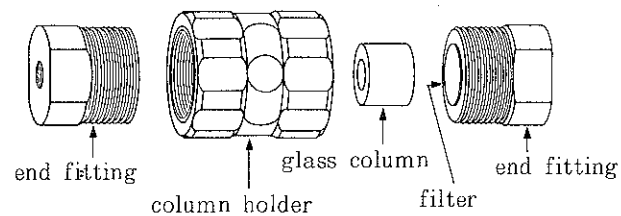


Sketch of Guard Column (glass)

## 2-3. Holder and Parts

Configuration of TSKguardgel holder (empty guard column)

Cat.No	Type	Description
08809	TSKguardgel holder (blue)	column size : 8 mmID × 1 cm (glass) consist of end fittings, a column holder and protective screws
08600	End fitting	
08620	Packing adaptor	



## 3. How to Use the Guard column

- (1) Connect the guard column between the sample injection valve and the analytical column.
- (2) In case the guard column is used everyday, the guard gel is better to be exchanged once a week with new one.

#### 4. Packing Method of Guard Gel into Guard Column

The guard column is packed with the guard gel according to the following procedure.

Use the solvent listed in section 2-1.

(1) On shipping the end fittings, glass column, and protective screws are assembled to the column holder.

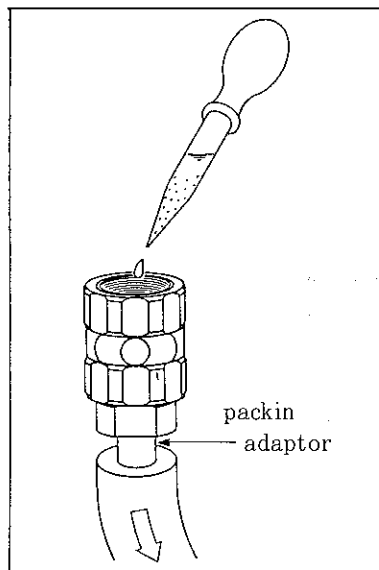
Remove the one side of end fitting from the column holder then remove the protective screw from the other side of end fitting.

Fix the supplied packing adaptor to the above end fitting.

The other side of packing adaptor is connected with rubber hose which is lead to aspirator.

(2) Stir the gel slurry enough to become homogeneous.

(3) Fill the holder with the gel slurry using a fountain pen filler.



(4) Suck the slurry solvent with an aspirator connected with a rubber hose.

(5) Fill the holder with the gel slurry again and repeat the following procedure again until the gel is packed in the holder sufficiently.

(6) Fix the end fitting to the holder.

(7) Connect the packed column to the pump and delivery distilled water or buffer at the flow rate of 1ml/min.

The volume of delivered solvent should be more than 1ml.

#### 5. Notices

(1) The column is made of glass which is very weak to impact strength, so handle it with care.

(2) The end fitting and protective screw are made of plastics, so the strong force to turn will damage them.