

# Develosil HB Series

The HB Series comes up from Develosil. The conventional and properties of matter, performance just improves through-put.

## 1. Specifications

<b>New filling method</b>	The HB series adopts a different filling method so far. As a result, HB was close packed and obtained a method to fill.
<b>Particle diameter 3um</b>	The HB series was adopted particle diameter 3um. Therefore it is not necessary to build a special system.
<b>High pressure tightness</b>	In HB series, the biggest pressure is 50MPa. It is usually 20MPa.
<b>Shortening of the analysis time</b>	The HB series is designed for high-throughput and handle many samples in a short time.

## 2. Characteristic of the HB series

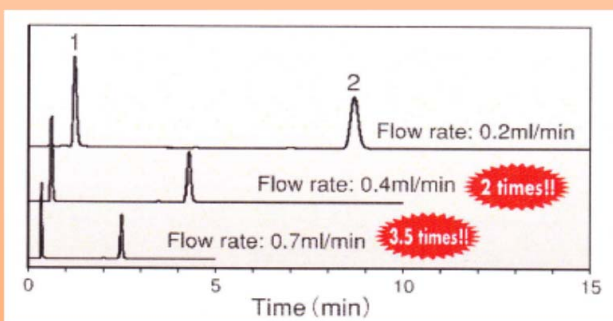


Fig.1 Example of becoming it high throughput

Conditions	
Column	Develosil HB C30-UG-3
Size	2.0x 100mm
Mobile Phase	Acetonitrile / Water = 50/ 50
Flow rate	0.2 ml / min ~ 0.7 ml / min
Temperature	40°C
Sample	1. Uracil (0.55 mg/ml) 2. Naphthalene (0.10 mg/ml)
Injection volume	0.4 uL

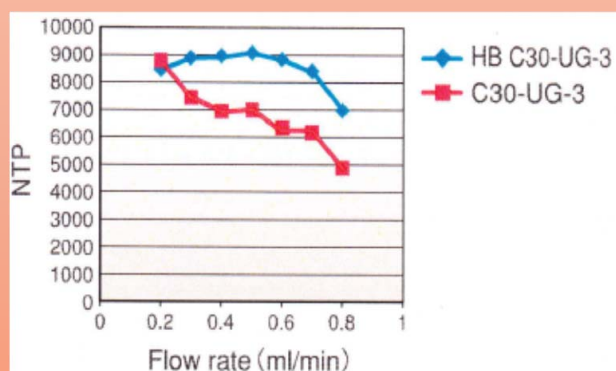


Fig.2 It is compared the number of NTP in becoming it high throughput

Conditions	
Column	Develosil HB C30-UG-3 (—) 2.0x 100mm Develosil C30-UG-3 (—) 2.0x 100mm
Mobile Phase	Acetonitrile / Water = 50/ 50
Flow rate	0.2 ml / min ~ 1.0 ml / min
Temperature	40°C
Sample	1. Uracil (0.55 mg/ml) 2. Naphthalene (0.10 mg/ml)
Injection volume	0.4 uL

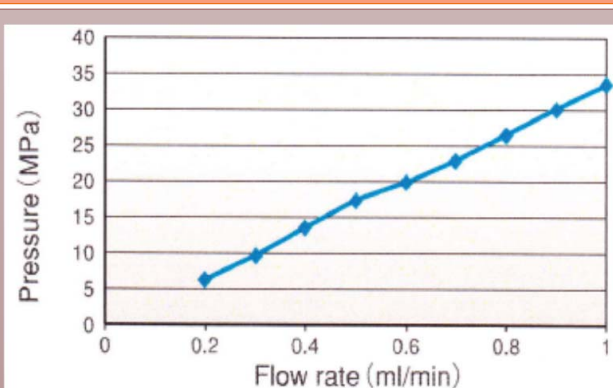
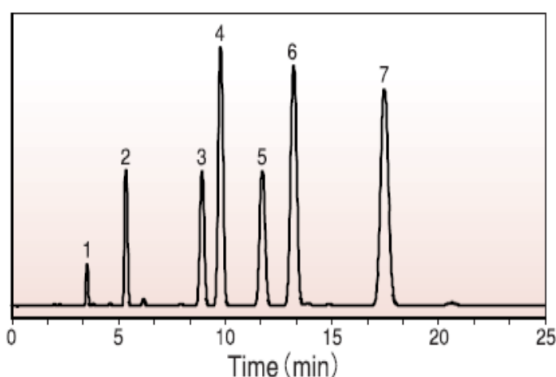


Fig.3 Relations of speed and pressure

series adopts a new filling method for high Through-put. In this way, the HB series secures separation and NTP unlike the case that speed improves a normal column. (Fig.2) In addition, the HB series is superior in pressure tightness so that, Fig.3 shows it. This series assumes the upper limit 35MPa, but this range can support by a normal system enough.

### 3. Is not through-put precocious including becoming it?

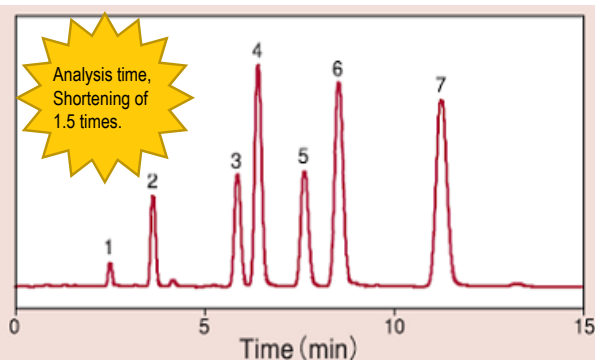
Example: Analysis of polycyclic aromatic compounds



Conditions	
Column	Dev elosil ODS-5 (4.6x 150mm)
Mobile Phase	Acetonitrile / Water = 70/ 30
Flow rate	1. 0 ml / min
Temperature	30°C
Sample	1. Benzene 2. Naphthalene 3. Phenanthre 4. Anthracene 5. Fluoranthene 6. Pyrene 7. Chrysene
Injection volume	1.0 uL

Analysis using particle diameter 5um, 4.6x150mm.  
Let's become through-put using HB series from here.

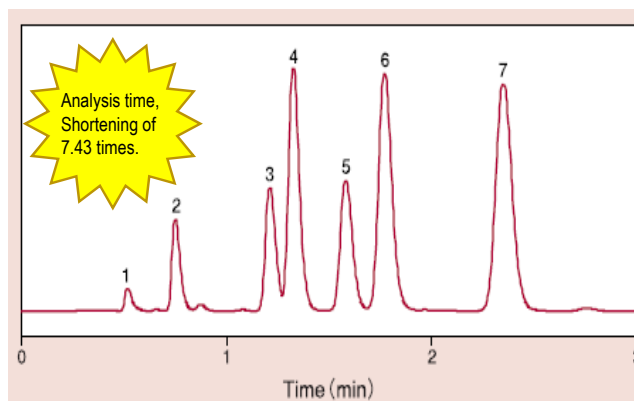
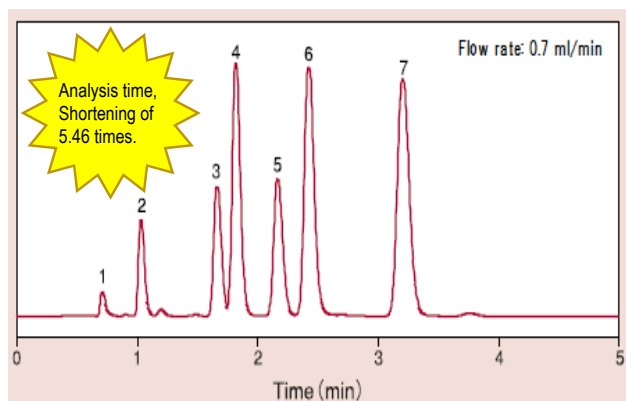
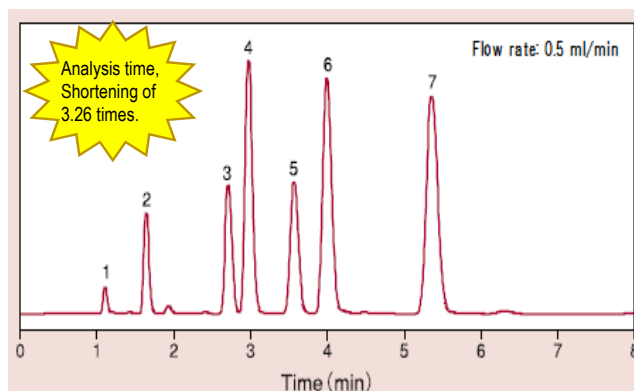
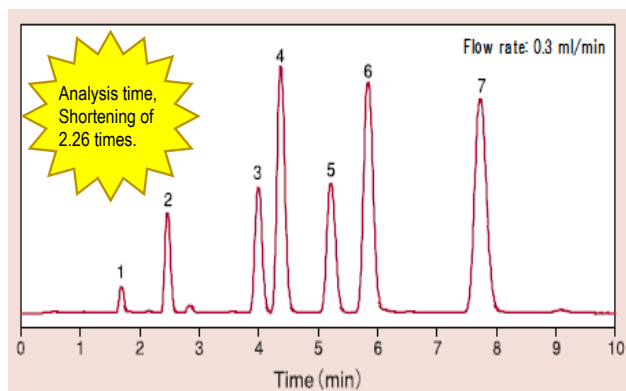
**STEP1** Let's shift to particle diameter 3um.



Conditions	
Column	Develosil HB ODS-3 (2.0x 100mm)
Mobile Phase	Acetonitrile / Water = 70/ 30
Flow rate	0.2 ml / min
Temperature	30°C
Sample	1. Benzene 2. Naphthalene 3. Phenanthre 4. Anthracene 5. Fluoranthene 6. Pyrene 7. Chrysene
Injection volume	1.0 uL

The column changes it to HB ODS-3. The length chooses 100mm to get the same selectivity. The HB series is Maine from here!!

**STEP2** Let's increase speed.



## 4. Attention for through-put

All the data in this catalogue use general-purpose HPLC, but work as a laborer not to spoil performance.

Use the flow cells of the semi-micro type

Use the tubing of inside diameter: 0.15mm, length: 500mm in front and behind column

Use a connector with the pressure tightness for a connection part

Flow cell and Tube are used to suppress the dead volume as much as possible. The extremely thin tubes cause unexpected upwar.

All the HB series becomes the setting only for 2.0mm inside diameter. The filler except the above has the handling. Please refer willingly.

All the column connection types become the setting only for Waters types.

### HB ODS-UG-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	HBUG113200351
		4	HBUG113200354
1		HBUG113200501	
4		HBUG113200504	
2.0x75mm		1	HBUG113200751
		3	HBUG113200753
2.0x100mm		1	HBUG113201001
		3	HBUG113201003
2.0x150mm		1	HBUG113201501
		3	HBUG113201503

### HB ODS-MG-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	178-3200351
		4	178-3200354
1		178-3200501	
4		178-3200504	
2.0x75mm		1	178-3200751
		3	178-3200753
2.0x100mm		1	178-3201001
		3	178-3201003
2.0x150mm		1	178-3201501
		3	178-3201503

### HB XG-C18M-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	HBXG13200351
		4	HBXG13200354
1		HBXG13200501	
4		HBXG13200504	
2.0x75mm		1	HBXG13200751
		3	HBXG13200753
2.0x100mm		1	HBXG13201001
		3	HBXG13201003
2.0x150mm		1	HBXG13201501
		3	HBXG13201503

### HB XG-C18LC-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	177-3200351
		4	177-3200354
1		177-3200501	
4		177-3200504	
2.0x75mm		1	177-3200751
		3	177-3200753
2.0x100mm		1	177-3201001
		3	177-3201003
2.0x150mm		1	177-3201501
		3	177-3201503

### HB ODS-HG-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	HBHG113200351
		4	HBHG113200354
1		HBHG113200501	
4		HBHG113200504	
2.0x75mm		1	HBHG113200751
		3	HBHG113200753
2.0x100mm		1	HBHG113201001
		3	HBHG113201003
2.0x150mm		1	HBHG113201501
		3	HBHG113201503

### HB C30-UG-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	HBUG173200351
		4	HBUG173200354
1		HBUG173200501	
4		HBUG173200504	
2.0x75mm		1	HBUG173200751
		3	HBUG173200753
2.0x100mm		1	HBUG173201001
		3	HBUG173201003
2.0x150mm		1	HBUG173201501
		3	HBUG173201503

### HB XG-C30M-3

Column size (i.d. x length)	Particle size (um)	Pack	Part number
2.0x35mm	3	1	HBUG73200351
		4	HBUG73200354
1		HBUG73200501	
4		HBUG73200504	
2.0x75mm		1	HBUG73200751
		3	HBUG73200753
2.0x100mm		1	HBUG73201001
		3	HBUG73201003
2.0x150mm		1	HBUG73201501
		3	HBUG73201503