

Crushing

교반.파쇄.분산.유화.균질기



- *Lab High-Speed Dispersers*
- *Lab Homo-Mixer*
- *Lab Rotor/Stator Dispersers & Homogenizers*
- *Lab & Small Production Inline Dispersers*
- *Lab Combination Dispersers & Homogenizers*



KOREA PROCESS

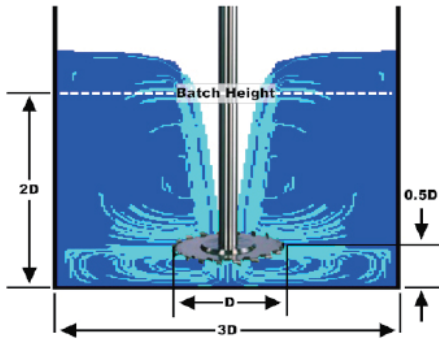
한국코프로텍(주)

Lab High-Speed Dispersers

파쇄 · 분산 · 유화 · 균질기

NEW

High Speed Dispenser Introduction



High Speed Dispenser is mainly used for dissolving and mixing Liquid–solid or Liquid–liquid. Through the high speed rotation toothed disc, the strong shearing, crashing and friction forces generated between the materials and dispersing disc can disperse, dissolve and mix the materials efficiently and effectively. High Speed Dispenser is widely used in industries such as paint, printing ink, daily chemical, flavor & fragrances, dyestuff, pharmaceuticals, food, papermaking, pesticide and rubber etc. KOREA PROCESS company provides various regular dispersion machines (Power ranges from 1.5–132kW) and also various customized dispersion machines.

MSD-L400 / MSD-L750 / MSD-L1000 High Speed Dispenser



▶ MSD-L400



▶ MSD-L750



▶ MSD-L1000

Features

This machine combines the grinding, dispersing and mixing functions as a whole. Through the high speed rotation of dispersing disc, the materials have strong shearing, impact and friction with the disc. So the materials disperse and dissolve quickly and is mixed uniformly. It features compact structure, stable performance, easy cleaning and convenient disassembly. The speed regulator is equipped with digital display which can display the rotation speed. This machine is widely used in scientific research and new product development in laboratories.

Specifications

Model	MSD-L400	MSD-L750	MSD-L1000
Motor power	400 W	750 W	1100 W
Power Supply	220 V, 50/60 Hz	220 V, 50/60 Hz	220 V, 50/60 Hz
Handling capacity	0.2 - 2 L	1 - 5 L	5 - 20 L
Rotation speed range	0 - 8000 rpm	0 - 8000 rpm	0 - 8000 rpm
Speed regulation mode	Electronic stepless speed regulator		
Speed display	Digital Display		

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

■ Rotor/stator homogenizer 원리

Shear is the relative velocity of one layer of liquid compared to the adjacent layer.

It is inversely proportional to viscosity.

Shear rate is defined as the relative velocities of liquid layers across two surfaces.

$$\text{ie, shear rate } V_s = \frac{\text{Tip/Peripheral speed (m/s)}}{\text{Rotor/stator gap (Ds)}}$$

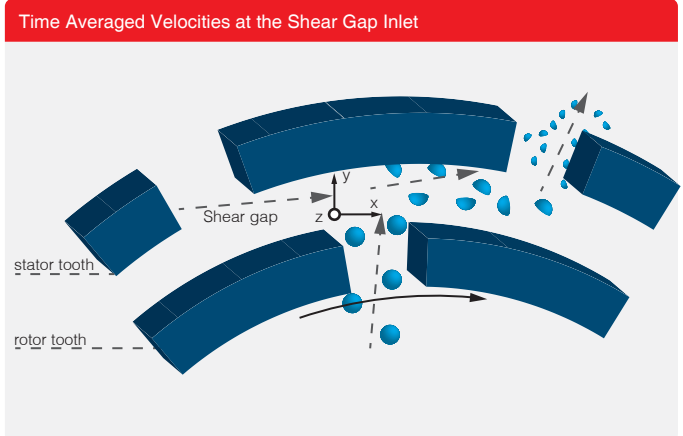
$$V_s = \frac{V_u}{D_s}$$

The shear rate is influenced by

The tip (peripheral speed) of the rotor

The distance between the rotor/stator

The distance for the Korea Process Homogenizer is between 0.3 - 1mm



Tip speed (peripheral or circumferential speed) of the rotor is represented by

$$n = \frac{3.1416 \times D \text{ (diameter)}}{60} \times \text{RPM} = \text{Metres/Sec}$$

Tip speed varies according to the diameter of the rotor and the RPM of the motor.

Generally the faster the tip speed, the greater the processing capabilities of the system, depending on the final particle size required which will also influence the motor choice.

Liquid enters rotor/stator vertically.

Liquid momentum is changed through 90° and squeezed radially through stator slits due to centrifugal force.

Liquid enters the gap between the rotor/stator and is subjected to centrifugal thrust.

The fluid stream is cut off from entering the stator slits momentarily as the rotor and stator slits align during rotor rotation.

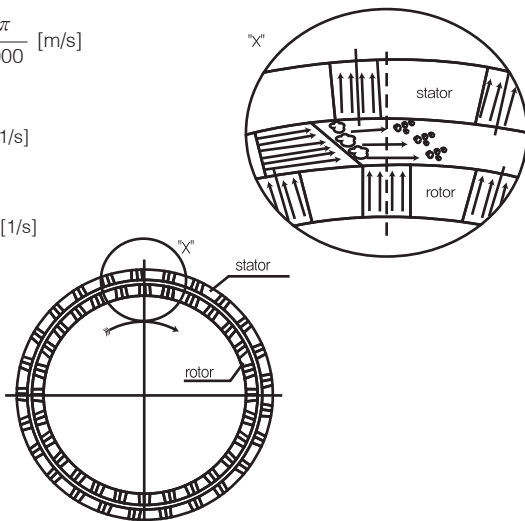
The liquid stream seeks an alternative path and at this point the liquid is subjected to three dimensional shear especially at the edge of the rotor pins.

Acceleration and breaking occurs with high shear rate and turbulence resulting in intense mixing.

$$V_u = \frac{n \cdot d_r \cdot \pi}{60 \cdot 1000} \text{ [m/s]}$$

$$V_s = \frac{V_u}{d_s} \text{ [1/s]}$$

$$f_{su} = \frac{z \cdot n}{60} \text{ [1/s]}$$



V_u = tip speed(m/s)

V_s = shear rate(1/s)

f_s = shear frequency(1/s)

n = rotor speed(1/min)

d_r = rotor outside diameter(mm)

d_s = distance between rotor and stator(ca 0.4~1mm depending on machine)

z = number of feeth of rotor

Lab Disper-Mix[®], Disperser & Homo-Mixer

파쇄 · 분산 · 유화 · 균질기

KT25/KT30/KT50 Disper-Mix[®], Disperser & Homo-Mixer, Batch operation



▶ KT25 Disper-Mix[®]



▶ KT30 Disper-Mix[®]



▶ KT50 Disper-Mix[®]

특징

- Rotor/Stator 방식을 이용하여 고속회전으로 균일한 혼합, 분산이 가능
- 나노 물질 분산 전처리 공정 적용
- 기기의 과부하 보호 기능
- Sample 의 점도는 최대 10,000 mPas 까지 처리
- Smooth starting 기능으로 갑작스런 작동에 의한 Sample 의 넘침 현상 최소화
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- Sample 의 특성, 처리용량, 점성에 따라 Dispersing tool 선정 가능

▶ Optional accessories (page 17), Dispersing elements (page 15,16)

Specifications

Model	KT25 Disper-Mix [®]	KT30 Disper-Mix [®]	KT50 Disper-Mix [®]
Motor capacity	500 W	500 W	1,500 W
Speed range	3,500 ~ 30,000 rpm	10,000 ~ 30,000 rpm	2,500 ~ 14,000 rpm
Speed adjustment	stepless	stepless	stepless
Max. Volume (H ₂ O)	10,000 ml	20,000 ml	30,000 ml
Max. viscosity	10,000 mPas	10,000 mPas	10,000 mPas
Noise without dispersing element	70 dB	70 dB	70 dB
Overload protection	Yes	Yes	Yes
Smooth run-on/start	Yes	Yes	Yes
Material dispersing tool	SUS 316L	SUS 316L	SUS 316L
Dimension [W x D x H]	57 x 58 x 260 mm	70 x 70 x 255 mm	125 x 120 x 367 mm
Weight	1.5 kg	1.3 kg	4.8 kg



KT30-S-60S



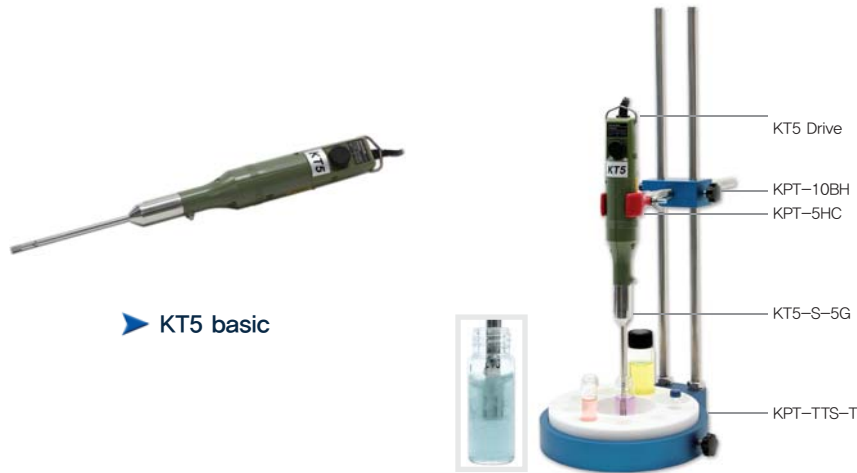
KT30-S-60M

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

KT5 basic, Batch operation

▶ Optional accessories (page 17), Dispersing elements (page 15)



▶ KT5 basic



Hand-held type

특징

- 가벼운 무게와 한 손에 잡히는 소형 분산기로 Hand-held type 으로 사용가능
- 소량의 Sample 분산 및 균질화, 조직 분쇄 용도로 사용
- 0 ~ 21,000 rpm 범위의 속도 조절
- 0.5 ml ~ 50 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이

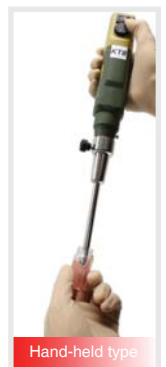
Specification

Model	KT5 basic
Ident. No.	K105000
Motor capacity	50 W
Speed range	0 ~ 21,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	0.5 ~ 50 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	below 70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	35 x 35 x 180 mm
Weight	0.4 kg

KT8 basic, Batch operation



▶ KT8 basic



Hand-held type

특징

- 가벼운 무게와 한 손에 잡히는 소형 분산기로 Hand-held type 으로 사용가능
- 소량의 Sample 분산 및 균질화, 조직 분쇄 용도로 사용
- 5,000 ~ 25,000 rpm 범위의 속도 조절
- 0.5 ml ~ 50 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이

Specification

Model	KT8 basic
Ident. No.	K108000
Motor capacity	100 W
Speed range	5,000 ~ 25,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	0.5 ~ 50 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	below 70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	42 x 44 x 220 mm
Weight	0.4 kg

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

KT10 basic, Batch operation

▶ Optional accessories (page 17), Dispersing elements (page 15)



특징

- 가벼운 무게와 한 손에 잡히는 소형 분산기로 Hand-held type 으로 사용가능
- 소량의 Sample 분산 및 균질화, 조직 분쇄 용도로 사용
- 10,000 ~ 32,000 rpm 범위의 속도 조절
- 0.5 ml ~ 200 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이

Specification

Model	KT10 basic
Ident. No.	K110000
Motor capacity	90 W
Speed range	10,000 ~ 32,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	0.5 ~ 200 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	below 70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	50 x 57 x 150 mm
Weight	0.8 kg

KT15-D, Batch operation



특징

- 가벼운 무게와 한 손에 잡히는 소형 분산기로 Hand-held type 으로 사용가능
- 소량의 Sample 분산 및 균질화, 조직 분쇄 용도로 사용
- 8,000 ~ 30,000 rpm 범위의 속도 조절
- 0.5 ml ~ 500 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- 회전속도 Digital display
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이

Specification

Model	KT15 -D
Ident. No.	K810055
Motor capacity	160 W
Speed range	8,000 ~ 30,000 rpm
Speed display	digital
Volume range (H ₂ O)	0.5 ~ 500 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	below 70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	50 x 80 x 260 mm
Weight	1 kg

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

KT20-DT, Batch operation

▶ Optional accessories (page 80), Dispersing elements (page 18)



▶ KT20-DT

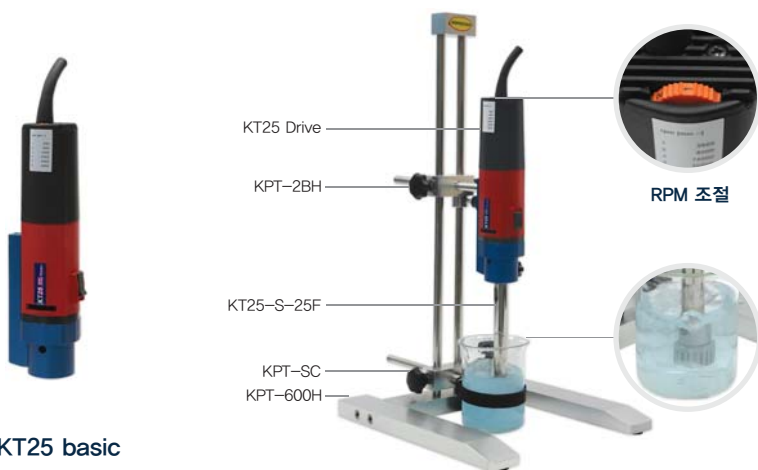
특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 2,800 ~ 28,000 rpm 범위의 속도 조절
- 1 ml ~ 1,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- 회전속도 Digital display, 타이머 시간 설정 및 확인
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이

Specification

Model	KT20-DT
Ident. No.	K810051
Motor capacity	360 W
Speed range	2,800 ~ 28,000 rpm
Speed display	digital
Timing range	1 ~ 9.9 min
Volume range (H ₂ O)	1 ~ 1,000 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	220 x 320 x 430 mm
Weight	8 kg

KT25 basic, Batch operation



▶ KT25 basic

특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 3,500 ~ 30,000 rpm 범위의 속도 조절
- 50 ml ~ 10,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용



▶ KSW 18
Cutting Rotor



▶ KSZ 18
Shredding Rotor

Specification

Model	KT25 basic
Ident. No.	K125000
Motor capacity	500 W
Speed range	3,500 ~ 30,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	50 ~ 10,000 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	57 x 58 x 260 mm
Weight	1.5 kg

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

KT30 basic, Batch operation

Optional accessories (page 17), Dispersing elements (page 15)



특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 10,000 ~ 30,000 rpm 범위의 속도 조절
- 0.5 ml ~ 20,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Sample 의 점도는 최대 10,000 mPas 까지 처리
- Smooth starting 기능으로 갑작스런 작동에 의한 Sample 의 넘침 현상 최소화
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용

적용 분야

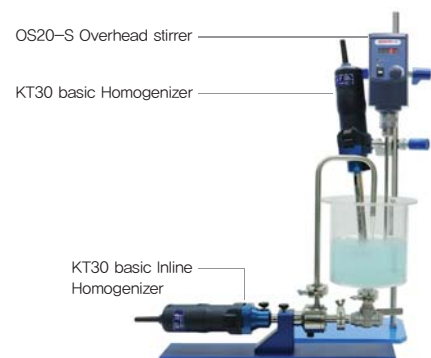
- Nano-dispersing
- Biotechnology
- Human & veterinary medicine
- Clinical medicine
- Pharmaceutical industry
- Cosmetics industry
- Food industry
- Petrochemistry
- Paint & lacquer industry
- Polymer industry
- Raw material industry
- etc.

Specification



Model	KT30 basic
Ident. No.	K130000
Motor capacity	500 W
Speed range	10,000 ~ 30,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	0.5 ~ 20,000 ml
Max. viscosity	10,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	70 x 70 x 255 mm
Weight	1.3 kg

KT30 연속 순환식 분산 응용



Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

NEW KT30 basic, Batch operation

▶ Optional accessories (page 17), Dispersing elements (page 15)



▶ NEW KT30 basic

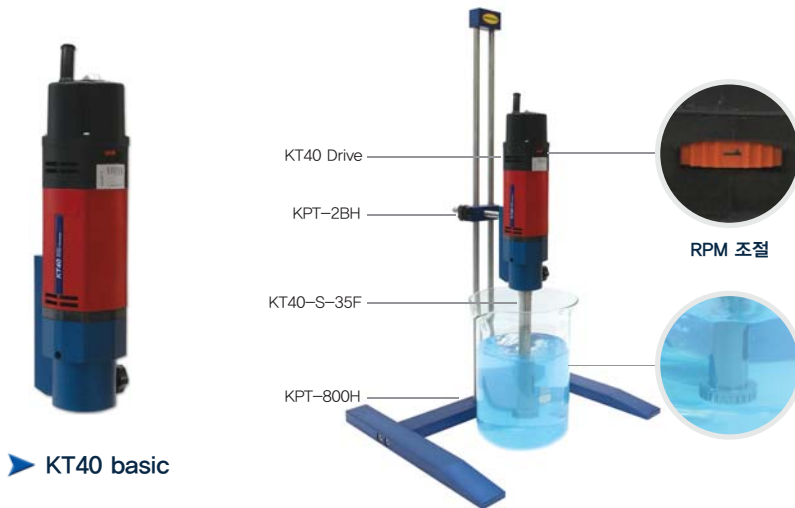
특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 10,000 ~ 29,000 rpm 범위의 속도 조절
- 0.5 ml ~ 20,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Smooth starting 기능으로 갑작스런 작동에 의한 Sample 의 넘침 현상 최소화
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용

Specification

Model	NEW KT30 basic
Ident. No.	K130000N
Motor capacity	800 W
Speed range	10,000 ~ 29,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	0.5 ~ 20,000 ml
Max. viscosity	10,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	72 x 67 x 260 mm
Weight	1.4 kg

KT40 basic, Batch operation



▶ KT40 basic

특징

- 고성능 Motor (1,050 W) 사용으로 강력하고 안정적인 교반, 분산이 가능
- 3,500 ~ 25,000 rpm 범위의 속도 조절
- 200 ml ~ 25,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용

Specification

Model	KT40 basic
Ident. No.	K140000
Motor capacity	1,050 W
Speed range	3,500 ~ 25,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	200 ~ 25,000 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	74 x 75 x 330 mm
Weight	2.7 kg

Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

KT50 basic, Batch operation

▶ Optional accessories (page 17), Dispersing elements (page 16)



▶ KT50 basic

특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 2,500 ~ 14,000 rpm 범위의 속도 조절
- 500 ml ~ 30,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용

Specification

Model	KT50 basic
Ident. No.	K150000
Motor capacity	1,500 W
Speed range	2,500 ~ 14,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	500 ~ 30,000 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	125 x 120 x 367 mm
Weight	4.8 kg

KT60 basic, Batch operation



▶ KT60 basic

특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- 2,500 ~ 23,000 rpm 범위의 속도 조절
- 1,000 ml ~ 35,000 ml (H₂O) 의 처리 용량
- 기기의 과부하 보호 기능
- Dispersing tool 은 기기와 쉽게 탈부착 할 수 있고, 간편히 2~3단계로 분해되서 조립과 세척이 용이
- 다양한 종류의 Dispersing tool 으로 사용하고자 하는 Sample 분산에 효과적으로 적용

Specification

Model	KT60 basic
Ident. No.	K160000
Motor capacity	1,800 W
Speed range	2,500 ~ 23,000 rpm
Speed adjustment	stepless
Volume range (H ₂ O)	1,000 ~ 35,000 ml
Max. viscosity	5,000 mPas
Noise without dispersing element	70 dB
Overload protection	Yes
Smooth run-on/start	Yes
Dimension [W x D x H]	125 x 120 x 367 mm
Weight	4.8 kg

Lab & Small Production Inline Dispersers

파쇄 · 분산 · 유화 · 균질기

KT25 basic inline, Circulation dispersing system



▶ KT25 basic inline



특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- Flow chamber 를 사용하여 연속적으로 순환하여 사용할 수 있고, 분산 후 다른 공정으로 이동 가능
- 기존 Batch type 의 분산기 보다 분산 시간을 50% 까지 단축
- 최대 12 l/min 처리 용량
- 3,500 ~ 30,000 rpm 범위의 속도 조절
- Vacuum / Pressurized 작업 가능
- 기기의 과부하 보호 기능
- 다양한 종류의 Dispersing tool, Module 으로 Sample 특성에 효과적으로 적용
- DSM (Digital RPM 측정기) 을 사용하여 Homogenizer RPM 측정
- 제품 기본 구성은 KT25 basic, KFC25 Flow chamber, Dispersing tool, KMB30 Mounting base 입니다.

Specification

Model	KT25 basic inline
Ident. No.	K125100
Motor capacity	500 W
Speed range	3,500 ~ 30,000 rpm
Flow rate (H ₂ O)	12 l/min
Max. viscosity	5,000 mPas
Max. operating temperature	180 °C
Chamber volume	30 ml
Min. vacuum	1 mbar
Max. pressure	3 bar
Noise without dispersing element	70 dB
Overload protection	Yes
Dimension [W x D x H]	100 x 510 x 110 mm
Weight	3 kg

Accessories

▶ Hopper



Model	Stainless steel hopper	Acrylic hopper
Ident. No.	K130154	K130155
Hopper Volume	1 L	3.2 L
Outer diameter	139 mm	170 mm
Inner diameter	114 mm	160 mm
Height	147 mm	180 mm

▶ KFC25 Flow chamber



Model	Single chamber (1-generator)	Double chamber (3-generator)
Ident. No.	K125151	K125152
Chamber Volume	30 ml	90 ml
Vacuum	1 mbar	1 mbar
Pressure	3 bar	3 bar

▶ KMB30 Mounting base



Model	KMB 30
Ident. No.	K130153
Dimension (W x D x H)	100 x 510 x 110 mm

▶ Exchangeable dispersing elements

- KT25-SI-25G
- KT25-SI-25M
- KT25-SI-25F

▶ Dispersing elements (page 16)

Lab & Small Production Inline Dispersers

파쇄 · 분산 · 유화 · 균질기

KT30 basic inline, Circulation dispersing system



▶ KT30 basic inline



특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- Flow chamber 를 사용하여 연속적으로 순환하여 사용할 수 있고, 분산 후 다른 공정으로 이동 가능
- 기존 Batch type 의 분산기 보다 분산 시간을 50% 까지 단축
- 최대 14 l/min 처리 용량
- 10,000 ~ 30,000 rpm 범위의 속도 조절
- Vacuum / Pressurized 작업 가능
- 기기의 과부하 보호 기능
- 다양한 종류의 Dispersing tool, Module 으로 Sample 특성에 효과적으로 적용
- DSM (Digital RPM 측정기) 을 사용하여 Homogenizer RPM 측정
- 제품 기본 구성은 KT30 basic, KFC30 Flow chamber, Dispersing tool, KMB30 Mounting base 입니다.

Specification

Model	KT30 basic inline
Ident. No.	K130100
Motor capacity	500 W
Speed range	10,000 ~ 30,000 rpm
Flow rate (H ₂ O)	14 l/min
Max. viscosity	10,000 mPas
Max. operating temperature	180 °C
Chamber volume	35 ml
Min. vacuum	1 mbar
Max. pressure	3 bar
Noise without dispersing element	70 dB
Overload protection	Yes
Dimension [W x D x H]	100 x 510 x 110 mm
Weight	3.5 kg

Accessories

▶ Hopper



Model	Stainless steel hopper	Acrylic hopper
Ident. No.	K130154	K130155
Hopper Volume	1 L	3.2 L
Outer diameter	139 mm	170 mm
Inner diameter	114 mm	160 mm
Height	147 mm	180 mm

▶ KFC30 Flow chamber



Model	Single chamber (1-generator)	Double chamber (3-generator)
Ident. No.	K130151	K130152
Chamber Volume	35 ml	105 ml
Vacuum	1 mbar	1 mbar
Pressure	3 bar	3 bar

▶ KMB30 Mounting base



Model	KMB 30
Ident. No.	K130153
Dimension (W x D x H)	100 x 510 x 110 mm

▶ Exchangeable dispersing elements

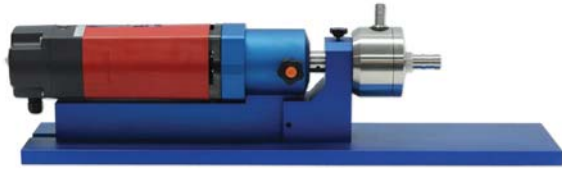
- KT30-SI-30G
- KT30-SI-30M
- KT30-SI-30F

▶ Dispersing elements (page 16)

Lab & Small Production Inline Dispersers

파쇄 · 분산 · 유화 · 균질기

KT50 basic inline, Circulation dispersing system



▶ KT50 basic inline



특징

- 고성능 Motor 사용으로 안정적인 교반, 분산이 가능
- Flow chamber 를 사용하여 연속적으로 순환하여 사용할 수 있고, 분산 후 다른 공정으로 이동 가능
- 기존 Batch type 의 분산기 보다 분산 시간을 50% 까지 단축
- 최대 25 l/min 처리 용량
- 2,500 ~ 14,000 rpm 범위의 속도 조절
- Vacuum / Pressurized 작업 가능
- 기기의 과부하 보호 기능
- 다양한 종류의 Dispersing tool, Module 으로 Sample 특성에 효과적으로 적용
- DSM (Digital RPM 측정기) 을 사용하여 Homogenizer RPM 측정
- 제품 기본 구성은 KT50 basic, KFC50 Flow chamber, Dispersing tool, KMB50 Mounting base 입니다.

Specification

Model	KT50 basic inline
Ident. No.	K150100
Motor capacity	1,500 W
Speed range	2,500 ~ 14,000 rpm
Flow rate (H ₂ O)	25 l/min
Max. viscosity	5,000 mPas
Max. operating temperature	180 °C
Chamber volume	100 ml
Min. vacuum	1 mbar
Max. pressure	3 bar
Noise without dispersing element	70 dB
Overload protection	Yes
Dimension [W x D x H]	150 x 700 x 160 mm
Weight	15 kg

Accessories

▶ Hopper



Model	Stainless steel hopper	Acrylic hopper
Ident. No.	K150154	K150155
Hopper Volume	5 L	3.2 L
Outer diameter	200 mm	170 mm
Inner diameter	180 mm	160 mm
Height	300 mm	180 mm

▶ KFC50 Flow chamber



Model	Single chamber (1-generator)	Double chamber (3-generator)
Ident. No.	K130151	K130152
Chamber Volume	100 ml	300 ml
Vacuum	1 mbar	1 mbar
Pressure	5 bar	5 bar

▶ KMB50 Mounting base



Model	KMB 50
Ident. No.	K150153
Dimension (W x D x H)	150 x 700 x 160 mm

▶ Exchangeable dispersing elements

- KT50-SI-50G
- KT50-SI-50M
- KT50-SI-50F

▶ Dispersing elements (page 16)

Lab Combination Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

Lab Combination Dispersers

Circulation Dispensing System



Lab Rotor/Stator Dispersers & Homogenizers

파쇄 · 분산 · 유화 · 균질기

T 8 basic / T 25 basic



▶ T 8 basic



▶ T 25 basic

Features

Competitively priced dispersing instrument for volumes of 0.5 to 2,000 ml (H₂O).
A wide speed range allows you to work at high circumferential speed.

- Electronic speed control
- Electronic overload protection
- Quick release button for dispersing element

T 25 digital / DI 25 digital



▶ T 25 digital



▶ DI 25 digital

Features

High-performance dispersing instrument for volumes from 1 to 2,000 ml (H₂O).
The spectrum of applications ranges from homogenizing waste water sample to the use in laboratory reactors, to dispersion tasks under vacuum / pressure and sample preparation in medical diagnostics.

- Three types of shaft bearings
- Standard version with digital display
- Rotor-Stator configurations have thirty years of proven, guaranteed comparability of test results

참고 방출 파격 세일 !

Specification

Model	T 8 basic	T 25 basic
Ident. No.	8002000	2953000
Motor capacity	100 W	500 W
Speed range	5,000 ~ 25,000 rpm	6,500 ~ 24,000 rpm
Speed display	scale	scale
Speed adjustment	stepless	stepless
Volume range (H ₂ O)	0.5 ~ 50 ml	1 ~ 2,000 ml
Max. viscosity	5,000 mPas	5,000 mPas
Noise without dispersing element	64 dB	73 dB
Overload protection	Yes	Yes
Smooth run-on/start	Yes	Yes
Dimension [W x D x H]	42 x 44 x 250 mm	65 x 80 x 240 mm
Weight	0.4 kg	1.6 kg

Specification

Model	T 25 digital	DI 25 digital
Ident. No.	3565000	3717000
Motor capacity	500 W	500 W
Speed range	3,400 ~ 24,000 rpm	3,400 ~ 24,000 rpm
Speed display	digital	digital
Speed adjustment	stepless	stepless
Volume range (H ₂ O)	1 ~ 2,000 ml	1 ~ 2,000 ml
Max. viscosity	5,000 mPas	5,000 mPas
Noise without dispersing element	73 dB	73 dB
Overload protection	Yes	Yes
Smooth run-on/start	Yes	Yes
Dimension [W x D x H]	65 x 80 x 240 mm	65 x 80 x 240 mm
Weight	1.6 kg	1.6 kg

Exchangeable Rotor & Stator Dispersing Tools

Dispersing elements (Batch type) **KT5 basic, KT8 basic, KT10 basic**



Model	KT5-S-5G	KT5-S-8G	K8-S-5G	KT8-S-8G	KT10-S-5G	KT10-S-8G	KT10-S-10G
Ident. No.	K105001	K105003	K108001	K108002	K110001	K110002	K110003
Working range (H ₂ O, mm)	0.5~10	0.5~50	0.5~10	0.5~50	0.5~10	1~100	1~200
Diam. of the stator (mm)	5	8	5	8	5	8	10
Shaft length (mm)	145	145	85	110	145	145	145
Ultimate Fineness suspension (µm)	5~25	5~25	5~25	5~25	5~25	5~25	5~25
Ultimate Fineness emulsion (µm)	1~10	1~10	1~10	1~10	1~10	1~10	1~10

Dispersing elements (Batch type) **KT15-D, KT20-DT**



Model	KT15-S-6G	KT15-S-8G	K15-S-10G	KT20-S-10G	KT20-S-14G	KT20-S-18G
Ident. No.	K810156	K810157	K810158	K810152	K810153	K810155
Working range (H ₂ O, mm)	0.5~10	1~50	10~500	1~100	10~500	10~1,000
Diam. of the stator (mm)	6	8	10	10	14	18
Shaft length (mm)	150	167	185	135	152	178
Ultimate Fineness suspension (µm)	5~25	5~25	5~25	5~25	10~50	10~50
Ultimate Fineness emulsion (µm)	1~10	1~10	1~10	1~10	1~10	1~10

Dispersing elements (Batch type) **KT25 basic, KT30 basic, KT40 basic**



Model	KT25-S-25G	KT25-S-25M	KT25-S-25F	KT25-S-50S	KT30-S-5G	KT30-S-10G	KT30-S-20G
Ident. No.	K125005	K125007	K125008	K125011	K131001	K131002	K131003
Working range (H ₂ O, mm)	50~3,000	50~5,000	50~3,000	1,000~10,000	0.5~10	0.5~200	10~2,000
Diam. of the stator (mm)	25	25	25	50	5	10	20
Shaft length (mm)	193	193	193	336	128	150	220
Ultimate Fineness suspension (µm)	1~50	high-speed mixer	5~25	high-speed mixer	5~25	10~50	10~50
Ultimate Fineness emulsion (µm)	1~10	high-speed mixer	1~10	high-speed mixer	1~10	1~10	1~10



Model	KT30-S-20F	KT30-S-30G	KT30-S-30F	KT30-S-40G	KT30-S-60S	KT30-S-60M	KT40-S-35G
Ident. No.	K131004	K131005	K131007	K131009	K131010	K131011	K140004
Working range (H ₂ O, mm)	10~2,000	100~5,000	100~5,000	500~10,000	1,000~20,000	500~20,000	200~10,000
Diam. of the stator (mm)	20	30	30	40	60	60	35
Shaft length (mm)	220	220	220	220	366	250	290
Ultimate Fineness suspension (µm)	1~50	5~25	5~25	high-speed mixer	high-speed mixer	high-speed mixer	5~50
Ultimate Fineness emulsion (µm)	1~10	1~10	1~10	high-speed mixer	high-speed mixer	high-speed mixer	1~10



Model	KT40-S-35M	KT40-S-35F	KT40-S-65S
Ident. No.	K140005	K140006	K140010
Working range (H ₂ O, mm)	200~15,000	200~10,000	1,000~25,000
Diam. of the stator (mm)	35	35	65
Shaft length (mm)	290	290	386
Ultimate Fineness suspension (µm)	high-speed mixer	5~25	high-speed mixer
Ultimate Fineness emulsion (µm)	high-speed mixer	1~10	high-speed mixer

▶ Rotor

· Addition rotor for dispersing element:
KT25-S-20G, KT30-S-20G, KT40-S-30G



Model	KSW 18 Cutting Rotor	KSZ 18 Shredding Rotor
Rotor diameter	13/20 mm	13/20 mm
Circumferential speed	16.1 m/s	15.9 m/s
Materials in contact with medium	stainl. steel AISI 316L	
Application	viscous, fibrous tissue, shredding	

Exchangeable Rotor & Stator Dispersing Tools

Dispersing elements (Batch type) **KT50 basic**



Model	KT50-S-45G	KT50-S-45M	KT50-S-45F	KT50-S-70S
Ident. No.	K150004	K150005	K150006	K150010
Working range (H ₂ O, mm)	500~20,000	500~25,000	500~15,000	1,000~30,000
Diam. of the stator (mm)	45	45	45	70
Shaft length (mm)	345	345	5~25	406
Ultimate Fineness suspension (µm)	5~50	high-speed mixer	345	high-speed mixer
Ultimate Fineness emulsion (µm)	1~10	high-speed mixer	1~10	high-speed mixer

Dispersing elements (Batch type) **KT60 basic**



Model	KT60-S-60G	KT60-S-60M	KT60-S-60F	KT60-S-75S
Ident. No.	K160001	K160002	K160003	K160005
Working range (H ₂ O, mm)	1,000~25,000	1,000~30,000	1,000~20,000	1,000~35,000
Diam. of the stator (mm)	60	60	60	75
Shaft length (mm)	350	350	350	426
Ultimate Fineness suspension (µm)	5~50	high-speed mixer	5~25	high-speed mixer
Ultimate Fineness emulsion (µm)	1~10	high-speed mixer	1~10	high-speed mixer

Dispersing elements (Inline type) **KT25 basic Inline, KT30 basic Inline**



Model	KT25-SI-25G	KT25-SI-25M	KT25-SI-25F	KT30-SI-30G	KT30-SI-30M	KT30-SI-30F
Ident. No.	K125011	K125012	K125013	K130011	K130012	K130013
Diam. of the rotor (mm)	19	14	19	23	19	23
Diam. of the stator (mm)	25	25	25	30	30	30
Shaft length (mm)	142	142	142	142	142	142
Peripheral speed at 30,000 1/min	29.8	21.9	29.8	31.6	29.8	31.6
Materials in contact with medium	FFPM/SIC/STS316L	FFPM/SIC/STS316L	FFPM/SIC/STS316L	FFPM/SIC/STS316L	FFPM/SIC/STS316L	FFPM/SIC/STS316L
Suitable for solvent	yes	yes	yes	yes	yes	yes
Ultimate Fineness suspension (µm)	10~50	high-speed mixer	5~25	10~50	high-speed mixer	5~25
Ultimate Fineness emulsion (µm)	1~10	high-speed mixer	1~10	1~10	high-speed mixer	1~10

Dispersing elements (Inline type) **KT50 basic Inline**



Model	KT50-SI-50G	KT50-SI-50M	KT50-SI-50F
Ident. No.	K150011	K150012	K150013
Diam. of the rotor (mm)	36	31	36
Diam. of the stator (mm)	50	50	50
Shaft length (mm)	146	146	146
Peripheral speed at 30,000 1/min	26.4	22.7	26.4
Materials in contact with medium	FFPM/SIC/STS316L	FFPM/SIC/STS316L	FFPM/SIC/STS316L
Suitable for solvent	yes	yes	yes
Ultimate Fineness suspension (µm)	10~50	high-speed mixer	5~25
Ultimate Fineness emulsion (µm)	1~10	high-speed mixer	1~10

Various Stands / Fitting Accessories

Stands



Model	KPT-TTS-S	KPT-TTS-T	KPT-MS-mini	KPT-600H	KPT-800H
Ident. No.	K510001	K510002	K510003	K510006	K510007
Diameter of support rod	10 mm	10 mm	10 mm	13 mm	13 mm
Dimensions (W x D)	180 x 200 mm	180 x 200 mm	250 x 385 mm	300 x 340 mm	500 x 420 mm
Height	470 mm	470 mm	470 mm	600 mm	800 mm
Max. load	1 Kg	1 Kg	1 Kg	5 Kg	5 Kg



Model	KPT-800P	KPT-700U	KPT-1000H	KPT-1000TH
Ident. No.	K510005	K510010	K510008	K510009
Diameter of support rod	16 mm	19 mm	34 mm	34 mm
Dimensions (W x D)	200 x 320 mm	390 x 300 mm	460 x 420 mm	460 x 420 mm
Height	800 mm	700 mm	1,000 mm	500 ~ 1,000 mm
Max. load	5 Kg	3 Kg	10 Kg	10 Kg

Boss heads



Model	KPT-5BH	KPT-10BH	KPT-1BH	KPT-2BH	KPT-50BH
Ident. No.	K530001	K530002	K530003	K530004	K530006
Diameter of rod	11 mm	13 mm	6~16 mm	13 mm	16 mm
Material	aluminum	aluminum	aluminum	aluminum	aluminum

Holding clamps



Model	KPT-5HC	KPT-10HC
Ident. No.	K520001	K520002
Diameter of rod	13 mm	13 mm
Length	280 mm	280 mm

Strap clamps



Model	KPT-SC	KPT-50SC
Ident. No.	K520003	K520005
Diameter of rod	13 mm	13 mm
For vessel diameter	50~300 mm	50~300 mm

Lab High Pressure Homogenizers

파쇄 · 분산 · 유화 · 균질기



NEW

▶ KHP-150 High pressure homogenizer



▶ KHP-150

⚙️ Features

High Pressure Homogenizer is exclusively designed for processing the samples with in for mentation tank. It is mainly used to crush the germs of E.coil and yeast for bio-engineering laboratories, pharmaceutical companies in which the samples are processed on a scale. It can also be used in chemical and materials industry for emulsification and homogenization. The machine bears the characteristics of high pressure, small volume, easy operation, high processing efficiency and large amounts of samples due to using the key components imported

⚙️ Specification

Model	KHP-150
Ident. No.	K810286
Maximum working pressure	1200bar/120Mpa/17400psi
Maximum design pressure	1500bar/150Mpa/21750psi
Maximum capacity	12L/h
Minimum capacity	30ml
Cooling	Built-in cooler
Motor Power	1.5KW/380V/60Hz
Dimensions [L x W x H]	800 x 460 x 450 mm
Weight	120 kg

▶ KJG-IA High pressure homogenizer



▶ KJG-IA

⚙️ Features

Acting on high-pressure principle, the instrument is used for extruding cells, especially suitable for smashing thick-wall cells, germs and denser solution samples. Being fast, noiseless, less heating and no metal ion contamination, it has wide application of such research fields as protein study, nucleic acid extraction, cell disruption in genetic engineering labs of colleges, scientific research institutes and pharmaceutical factories.

⚙️ Specification

Model	KJG-IA
Ident. No.	K810034
Voltage	380V
Pressure device	Hydraulic System
Sample tube	Ø25mm Stainless
Capacity	50ml/times Continuous increase samples for scientific research
Maximum operating pressure	256Mpa(37120PSI)
Max Pressure stroke	170mm
Pressure plate speed	6.8mm/s
Largest volume of sample	50ml/times
Dimensions	555 x 600 x 1170mm

Lab Paddle Blenders

파쇄 · 분산 · 유화 · 균질기



NEW

KPB-series, Laboratory Paddle Blenders



▶ KPB-04



▶ KPB-09



▶ KPB-11
(heat sterilization type)

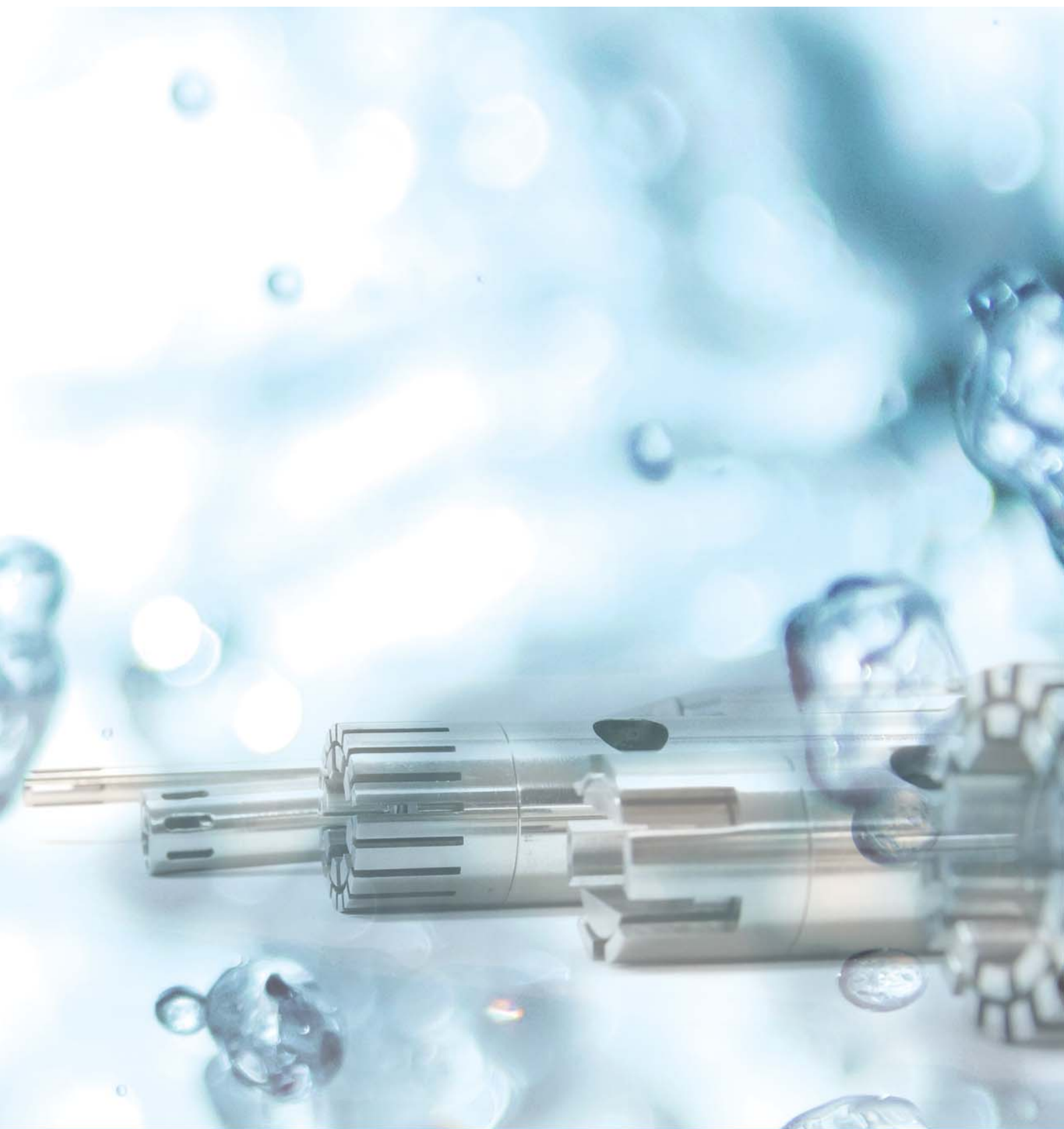
Features

Germfree Homogenizer, also known as flap homogenizer, is widely used in the homogenization treatment for animal tissue and biological samples, also used for the following testing areas: food, pharmaceutical, cosmetics, clinics molecule, toxin and bacteria, particularly suitable for preparation of micro-organism testing samples. The device is made of stainless steel and can effectively separate the surface of solid sample from a sample with germs inside. The samples are packed in germfree disposable homogenization bags, and thus is in no contact with any parts of the instrument. It has such feature as soft homogenization, no pollution, no damage, no temperature-rise, no sterilizing treatment, no need to wash the utensils, so as to meet the requirements for being fast, accurate and repeatable. This product is also suitable for homogenizing tumor tissues(such as liver, intestines cancer, stomach cancer, breast cancer) not only can to obtain large numbers of single cells(2×10^5 within 2 minutes) but also crush tissues cells (such as liver cells) more gently. The time for homogenization could be prolonged when necessary, to achieve a soft broken.

Specifications

Model	KPB-04
Ident. No.	K810036
Power	300 W
Supply	220V/60 HZ
Timing	30, 180, 600 sec or continuous working
Rap Speed	6-9 times/sec
Capacity	3-400 ml
Motor speed	500-1500 rpm
Attenuation	1:6
Display	LCD
Setting	Keyboard setting
Net weight	22.5 Kg
Dimensions	400 x 350 x 300 mm

Model	KPB-09/KPB-11
Ident. No.	K810038/K810040
Rattling Time	0.1~99 minutes (to 0.1minutes step) or 6~5940 seconds
Rattling speed	3~12 times/sec (to 0.1 times/second step) Pause Function
Parameter storage	More than 10 groups of multi-stage programming parameters are stored
Effective Volume	3~400 ml
Slap Box	Stainless steel
Rattling Spacing	0~5 mm adjustable
Temperature (KPB-11)	Ambient temperature ~ 50 °C
Setting Range (KPB-11)	0°C~60°C, Display the temperature in the box
Disinfection function (KPB-11)	Light disinfection in rattling box, The working chamber can be pre-sterilized. (Single-disinfection cycle 5min, disinfection wavelength 253.7nm)
Maximum Power	300W(KPB-09)/500W(KPB-11)
Supply	220V/60Hz
Dimensions	420x245x340 mm
Weight	18.5 kg



한국코프로텍(주)
Korea Process Technology Co., Ltd.
Human · Passion · Creation

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KOREA PROCESS
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