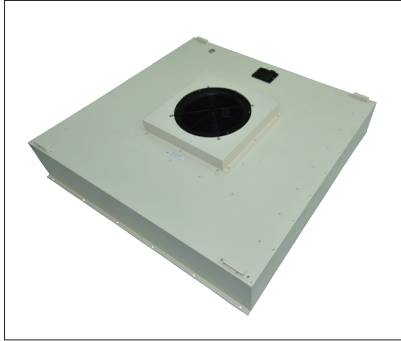




CLEAN ROOM EQUIPMENT CONTENTS

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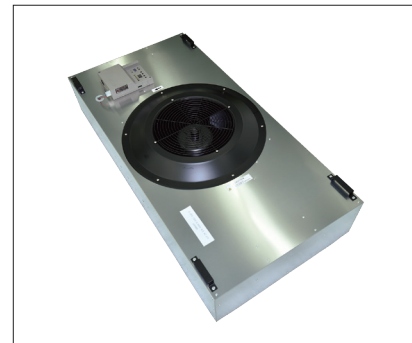
Fan Filter Unit



FFU는 크린룸의 환경 구성시 천정면에 위치하는 공기 조화 기기의 일종으로 필터와 결합하여 공기를 순환 시켜 크린룸의 청정도를 유지하는 장치

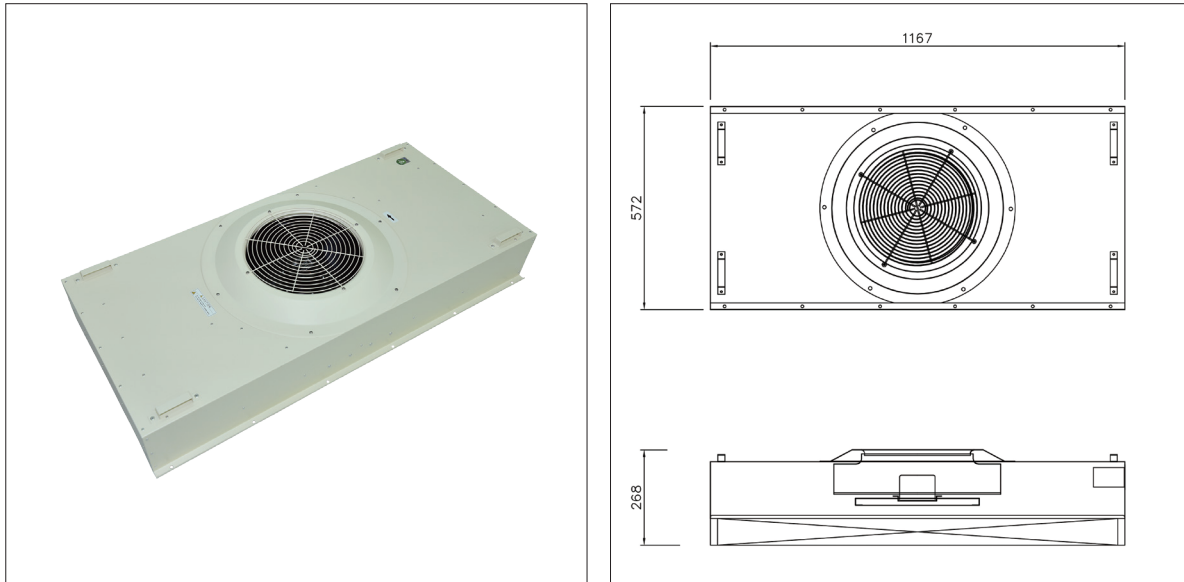


Equipment FAN FILTER UNIT



ME (Mini-Environment)에 설치되는 EFU (Equipment Fan Filter Unit)는 더 슬림하게 더 정밀한 풍속을 초박형 고성능화함으로써 크기 별로 다양하게 개발해 대응하고 있으며, 내부 압력의 변화에도 일정하게 풍속을 유지하게 제어특성이 변화될 수 있도록 하는 능동형 EFU로 개발 되었습니다.

◆ EFU BL 350-1206

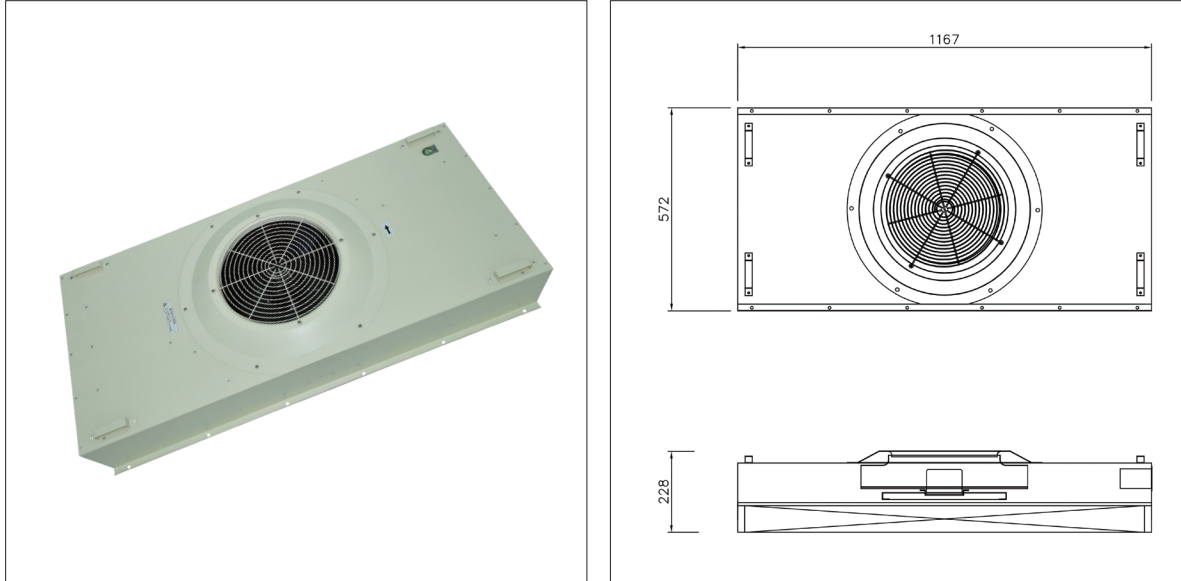


Fan Filter Unit

NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	LIU206BTP

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3μm	
SIZE	1,167 X 572 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.8 ~ 0.1m/s	
MOTOR TYPE	EBM M3G084(BLDC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

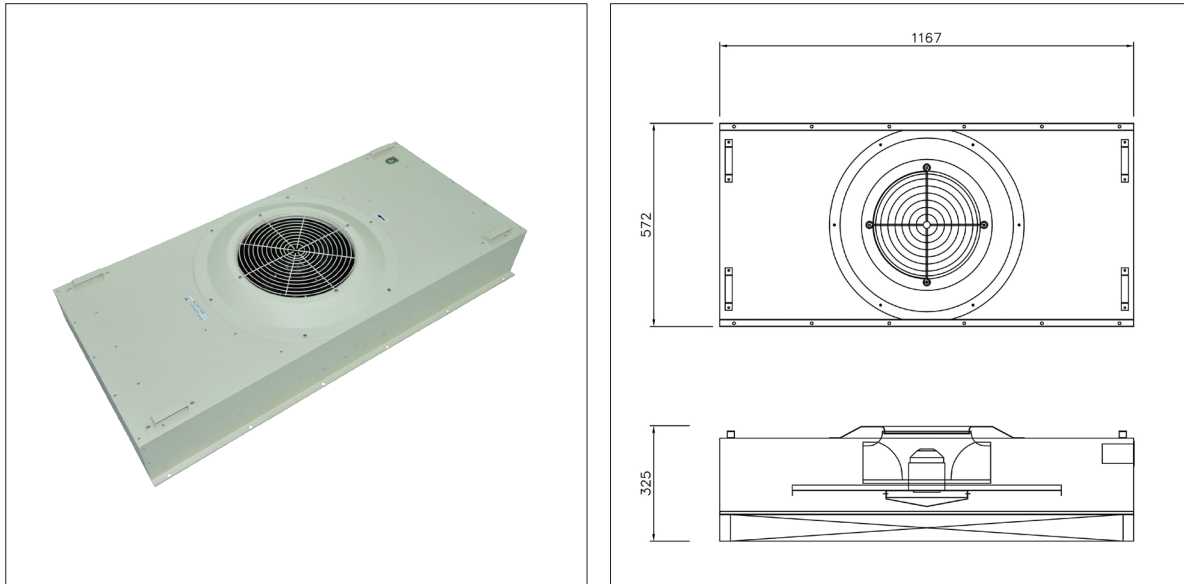
◆ EFU BL 350-1206-S



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	LIU206BTP

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3 μ m	
SIZE	1,167 X 572 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat /Face Guard/ EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.5 ~ 0.1m/s	
MOTOR TYPE	EBM M3G084(BLDC)	
POWER	1 $\emptyset$ X 200 ~ 240V X 50/60Hz	

◆ EFU AC355-1206

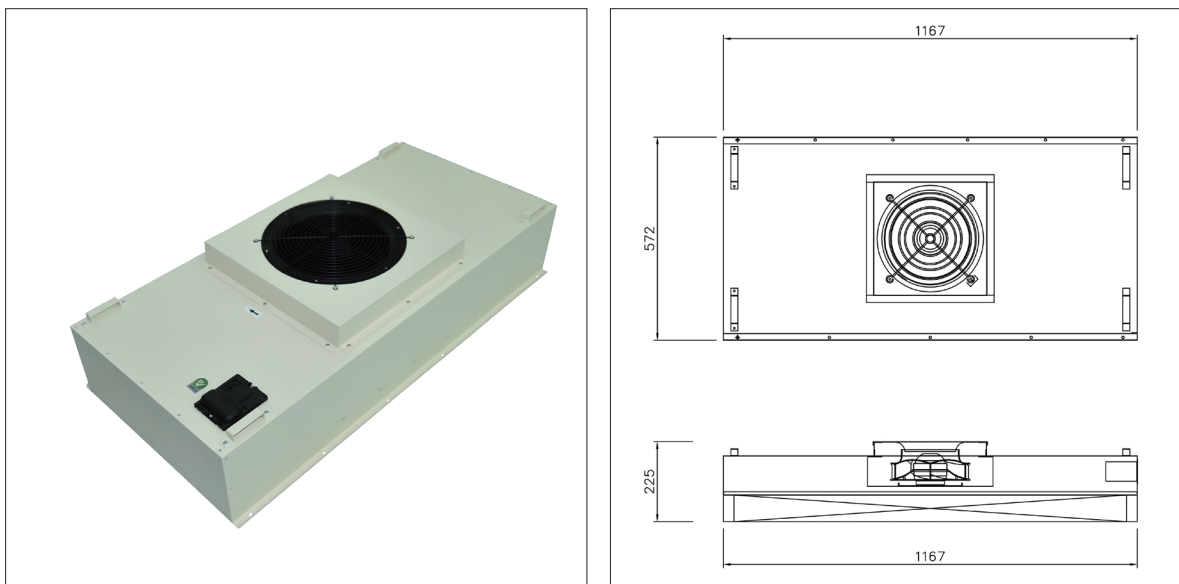


Fan Filter Unit

NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	PWM111S

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @0.3μm	
SIZE	1167X572X75t (Gasket 3t/3t)	
TYPE	Mini pleat /Face Guard/ EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.8~0.1m/s	
MOTOR TYPE	EBM R4E355 AK0505 (AC)	
POWER	1Ø X 200~240V X 50/60Hz	

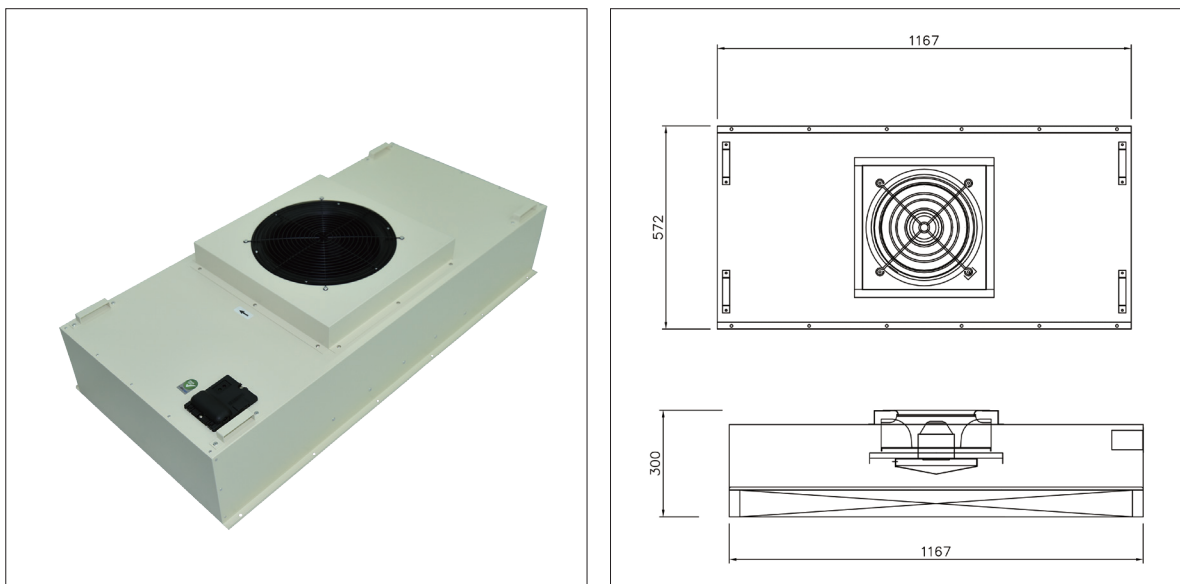
◆ EFU AC225-1206



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	PWM111S

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @0.3μm	
SIZE	1,167 X 572 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.5 ~ 0.1m/s	
MOTOR TYPE	EBM R2E225 RA 92-09 (AC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

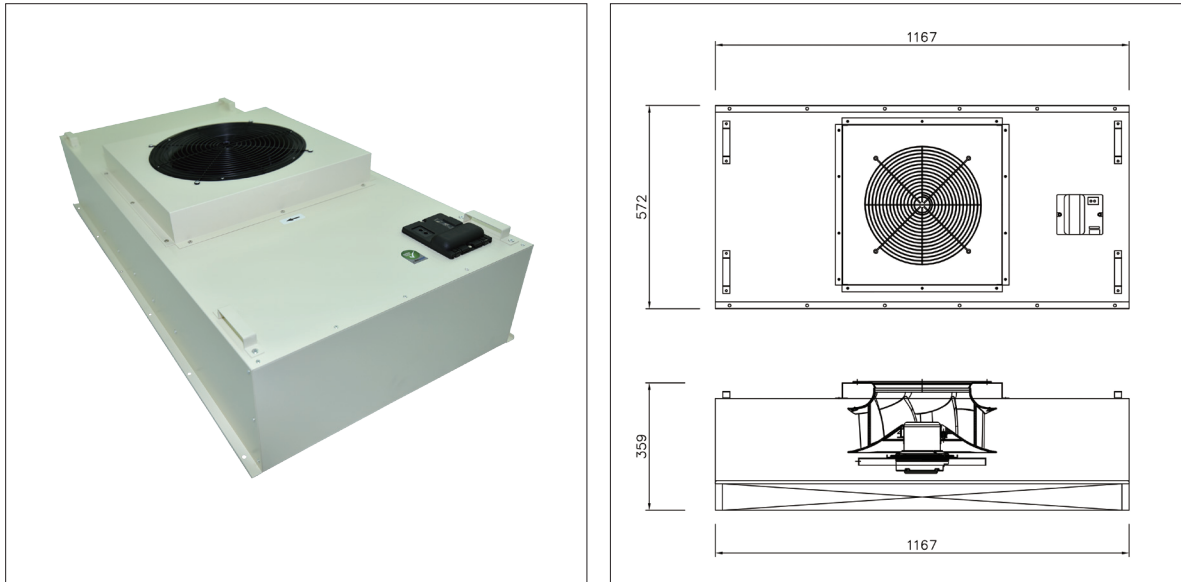
◆ EFU AC310-1206



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	PWM111S

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @0.3μm	
SIZE	1167X572X75t (Gasket 3t/3t)	
TYPE	Mini pleat /Face Guard/ EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.5~0.1m/s	
MOTOR TYPE	EBM R4E310 (AC)	
POWER	1Ø X 200~240V X 50/60Hz	

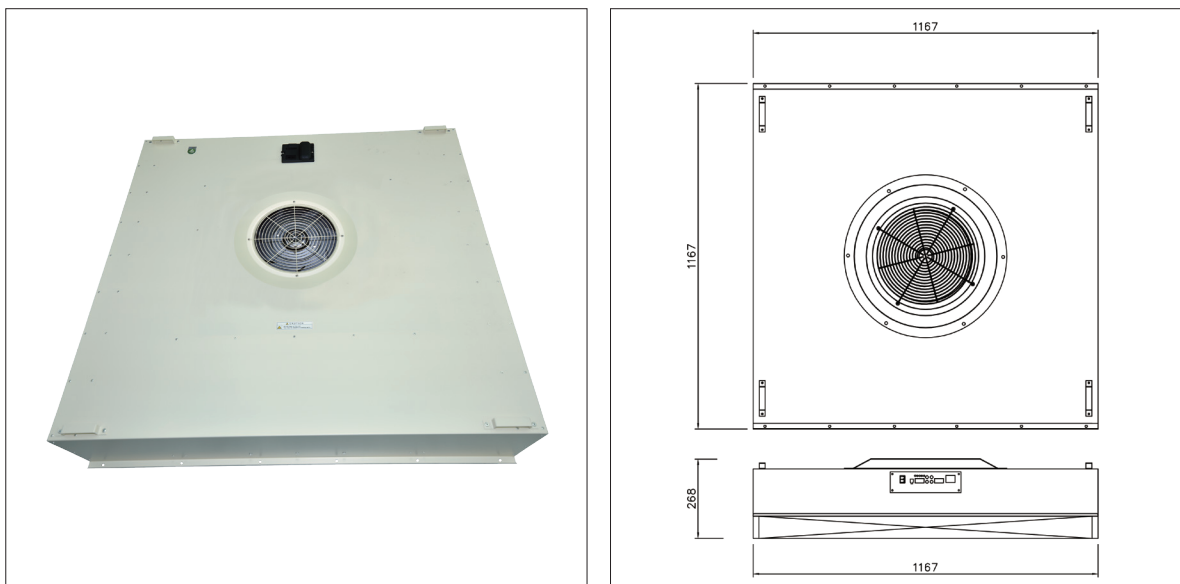
◆ EFU R3G400-1206



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	DSP100

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3μm	
SIZE	1,167 X 572 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	1.2 ~ 0.1m/s	
MOTOR TYPE	EBM R3G400RP4561 (BLDC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

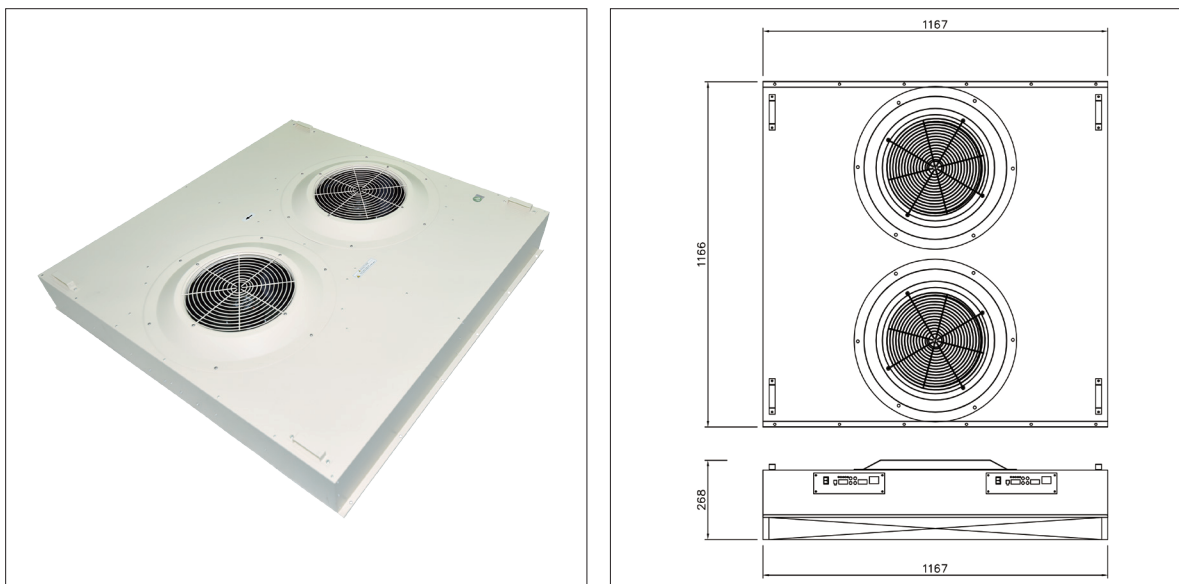
◆ EFU BL350-1212



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	LIU206BTP

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3μm	
SIZE	1,167 X 1,167 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.5 ~ 0.1m/s	
MOTOR TYPE	EBM M3G084(BLDC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

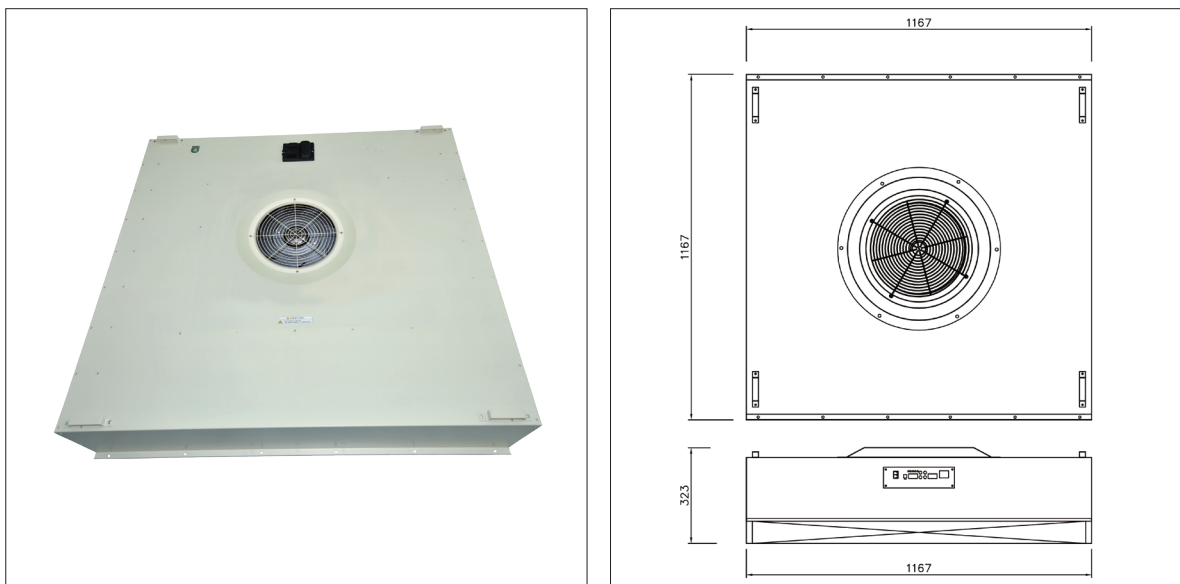
◆ EFU BL350-1212-2FAN



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	2	LIU206BTP

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3μm	
SIZE	1,167 X 1,167 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.8 ~ 0.1m/s	
MOTOR TYPE	EBM M3G084(BLDC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

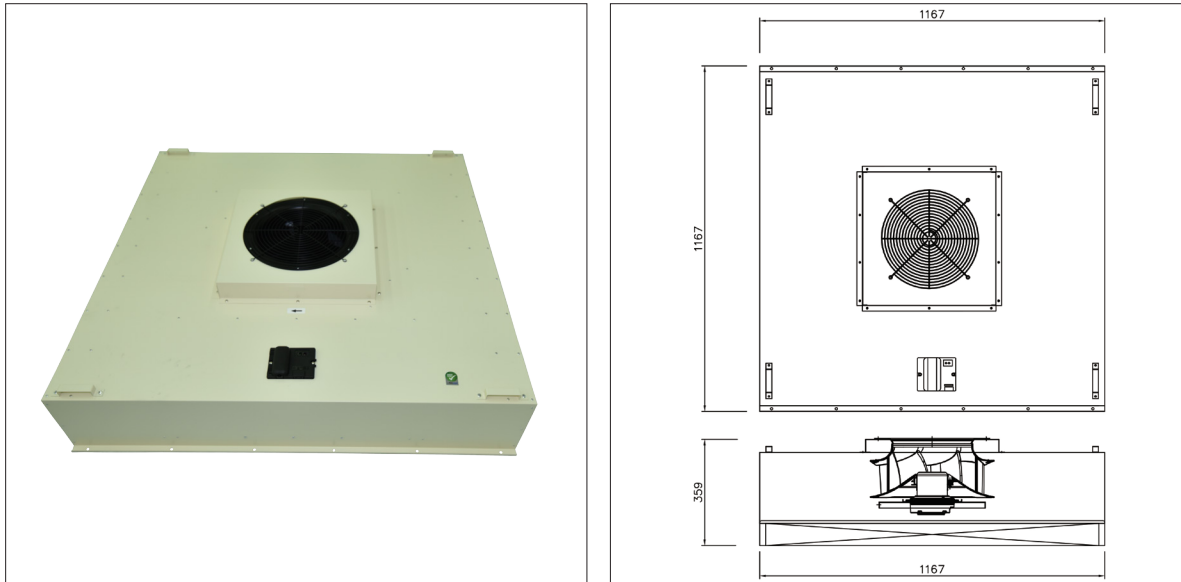
◆ EFU AC355-1212



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	PWM111S

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @0.3μm	
SIZE	1167X1167X75t (Gasket 3t/3t)	
TYPE	Mini pleat /Face Guard/ EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.5~0.1m/s	
MOTOR TYPE	EBM R4E355 AK0505(AC)	
POWER	1Ø X 200~240V X 50/60Hz	

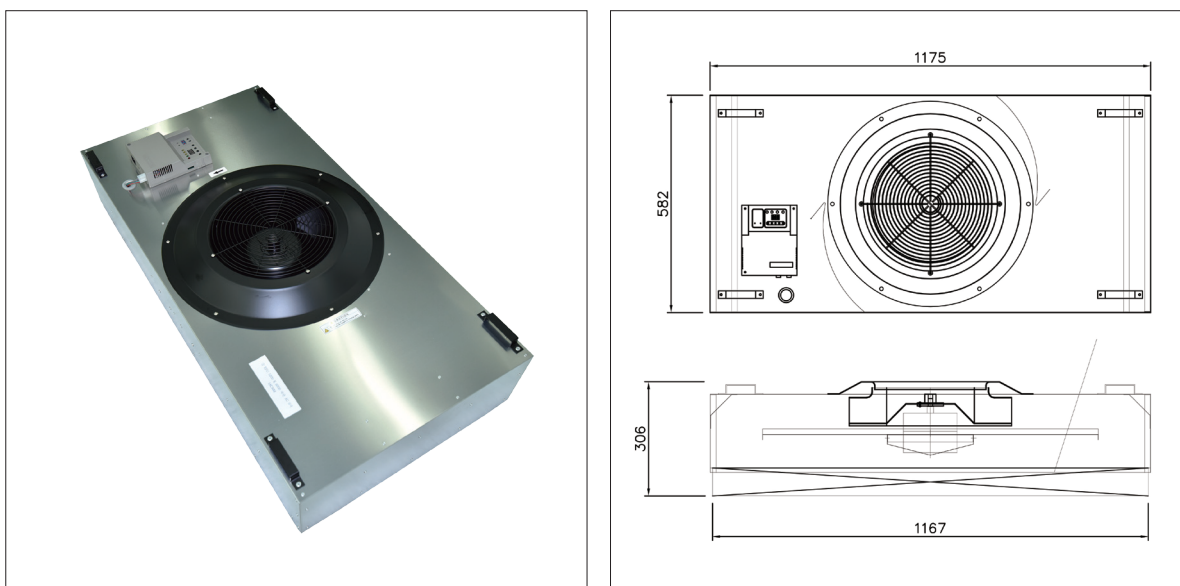
◆ EFU-R3G400-1212



NO	DESCRIPTION	Q'TY	MAT'L
1	FAN UNIT ASSEMBLY	1	AL 1.0 t
2	FILTER ASSEMBLY	1	
3	CONTROLLER	1	DSP100

Classification	Spec'	REMARK
FILTER	HEPA FILTER	
EFFICIENCY	99.97% @ 0.3μm	
SIZE	1,167 X 1,167 X 75t (Gasket 3t/3t)	
TYPE	Mini pleat / Face Guard / EPDM Gasket	
MEDIA	Glass Fiber	
SPEC	Initial pressure resistance 11.5mmAq at Air Velocity 0.35m/s	
EXTERNAL STATIC PRESSURE	0mmAq	
AIR VELOCITY(max~)	0.8 ~ 0.1m/s	
MOTOR TYPE	EBM R3G400RP4561 (BLDC)	
POWER	1Ø X 200 ~ 240V X 50/60Hz	

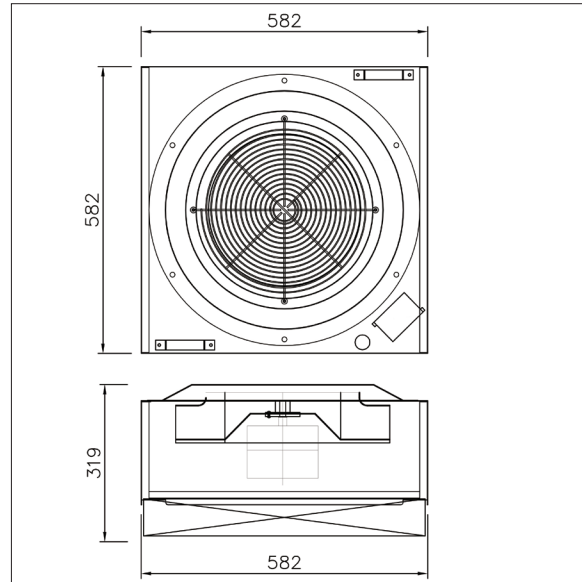
◆ EFU-AC130-1206



NO	DESCRIPTION	Q'TY	MAT'L
1	BELL MOUTH	1	SCP 1.6t
2	OVER CASING	1	AL 1.0 t
3	HANDLE	4	STEEL 1.6T
4	FILTER	1	
5	LCU	1	SFC210-3S

Classification	Spec'(18CMM)	Spec'(28CMM)
POWER	1Ø x 220V X 60/50Hz	1Ø x 220V X 60/50Hz
SIZE	1,175x582x210H	1,175x582x280H
EXTERNAL STATIC PRESS	9mmAq	9mmAq
Air velocity	0.45m/sec(max),0.4m/sec,0.35m/sec	0.7m/sec(max),0.6m/sec,0.5m/sec
Electric current	0.6A	1.4A
Power consumption	135W(±5%)	290W(±5%)
Noise level	50~65db	62~70db
Weight	19kg	24kg
Vibration	0.6~1.0mm/s	0.6~1.0mm/s
Air filter (hepa)	D.O.P TEST 0.3µm@99.97% OVER	D.O.P TEST 0.3µm@99.97% OVER
SIZE	1,167 X 572 X 75t (Gasket 3t)	1,167 X 572 X 75t (Gasket 3t)
STATIC pressure	Initial Pressure resistance 9mmAq at air velocity 0.4m/sec	Initial Pressure resistance 9mmAq at air velocity 0.4m/sec

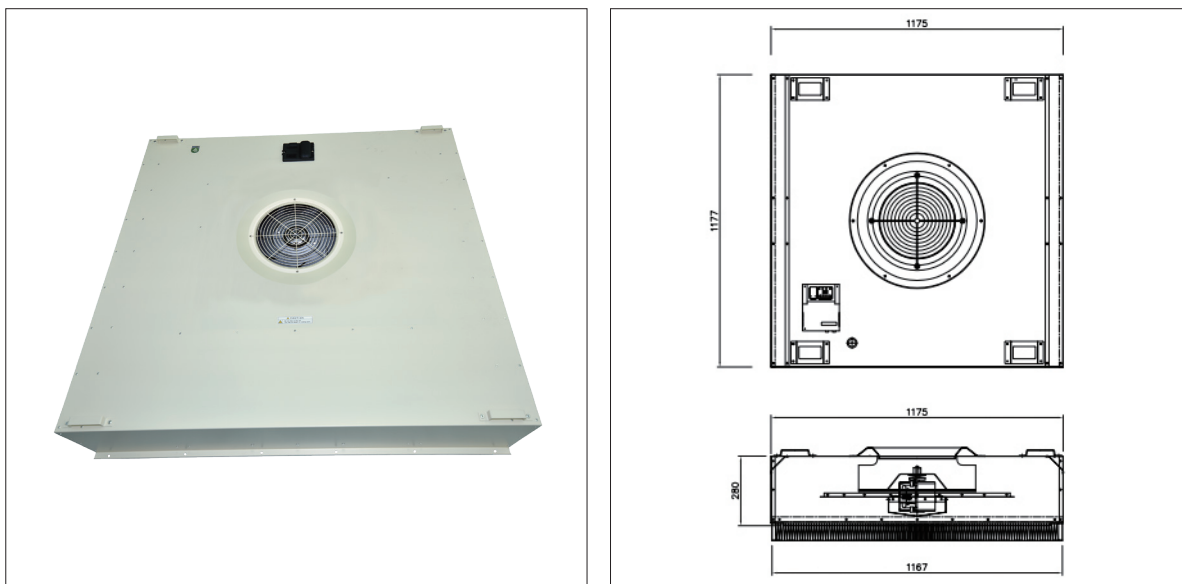
◆ EFU-AC130-0606S



NO	DESCRIPTION	Q'TY	MAT'L
1	OVER CASING	1	AL 1.0 t
2	BELL MOUTH	1	1.2T
3	TERMINAL BOX	1	15A
4	FILTER	1	

Classification	Spec'
POWER	1Ø x 220V X 60/50Hz
SIZE	582 x 582 x 210H
EXTERNAL STATIC PRESS	9mmAq
Air velocity	0m/sec~0.44m/sec
Electric current	0.5A
Power consumption	135W(±5%)
Noise level	50 ~ 65db
Weight	14kg
Vibration	0.6 ~ 1.0mm/s
Air filter (hepa)	D.O.P TEST 0.3µm @ 99.97% OVER
Filter SIZE	572 X 572 X 75t (Gasket 3t)
STATIC pressure	Initial Pressure resistance 8mmAq at air velocity 0.5m/sec

◆ EFU-AC260-1212



NO	DECRPTION	Q'TY	MAT'L
1	CASING	1	AL 1.2 t
2	FAN	1	TURBO 470*85
3	MOTOR ASS'Y	1	
4	FILTER	1	
5	LCU	1	SFC 210 3S

Classification	Spec'
POWER	1Ø x 220V X 60/50Hz
SIZE	1,200 x1,200x315H
EXTERNAL STATIC PRESS	9mmAq
Air velocity	-
Electric current	-
Power consumption	290W(±5%)
Noise level	-
Weight	-
Air volume	36CMM(MAX)
Air filter (hepa)	D.O.P TEST 0.1µm@99.99995% OVER
Filter SIZE	1167 X 1167 X 75t (Gasket 3t)
STATIC pressure	Initial Pressure resistance 8mmAq at air velocity 0.5m/sec

| Blower Filter Unit (B.F.U)

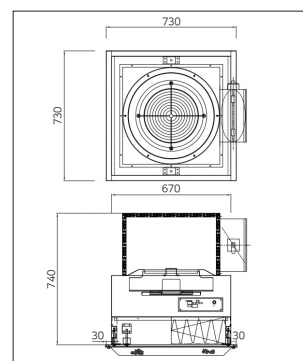


| Medical Clean Unit (M.C.U)



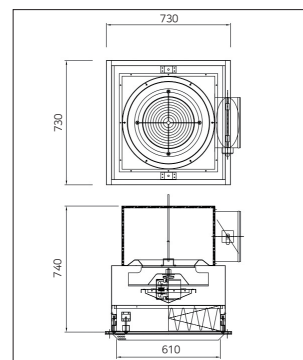
1. BFU-BL350-0606

ITEM	SPECIFICATION
EXTERNAL STATIC PRESSURE	34mmAq
Air VOLUME	28CMM
Motor type	EBM M3G084 (BLDC)
Power	1Ø X 200~240V X 50/60hz
Equip' weight (except Filter)	-



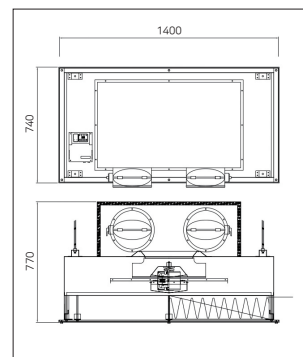
2. BFU-AC260-0606

ITEM	SPECIFICATION
EXTERNAL STATIC PRESSURE	34mmAq
Air velocity (Max,~)	0.8~0.1 m/s , 28CMM
Motor type	국산 AC 6극, 290W
Power	1Ø X 200~240V X 50/60hz
Equip' weight (except Filter)	-



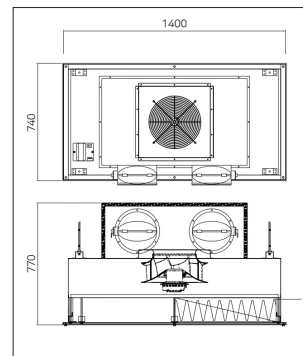
3. BFU-AC260-1206

ITEM	SPECIFICATION
EXTERNAL STATIC PRESSURE	-
Air volume Max,~)	30CMM_3STEP
Motor type	국산 AC ,6p , 290W
Power	1Ø X 200~240V X 50/60hz
Equip' weight (except Filter)	-



4. BFU-R3G400-1206

ITEM	SPECIFICATION
EXTERNAL STATIC PRESSURE	5mmAq
Air velocity (Max,~)	0~0.8 m/s ,36CMM
Motor type	EBM R3G400RP4561 (BLDC)
Power	1Ø X 200~240V X 50/60hz
Equip' weight (except Filter)	55KG



◆ HEPA FILTER UNIT



Cleanroom의 Class를 유지하기 위한 천정설치형 CLEAN UNIT이며, HEPA FILTER를 채용하며 덕트와 연결하여 원하는 청정도를 쉽게 얻을수 있다

MODEL	HB-600*600	HB-1200*600
FILTER SIZE	610*610*150t	610*1220*150t
FILTER EFFI	HEPA-DOP 99.97% 이상 0.3μm	
AIR VOL(CMM)	18CMM	36CMM
보 온	ATIRON 20T	
재 질	STEEL (분체도장) 또는 GI 또는 STS(편칭망)	
TYPE	도장 TYPE(용접), 조립 TYPE (리벳)	

◆ CLEAN BOOTH

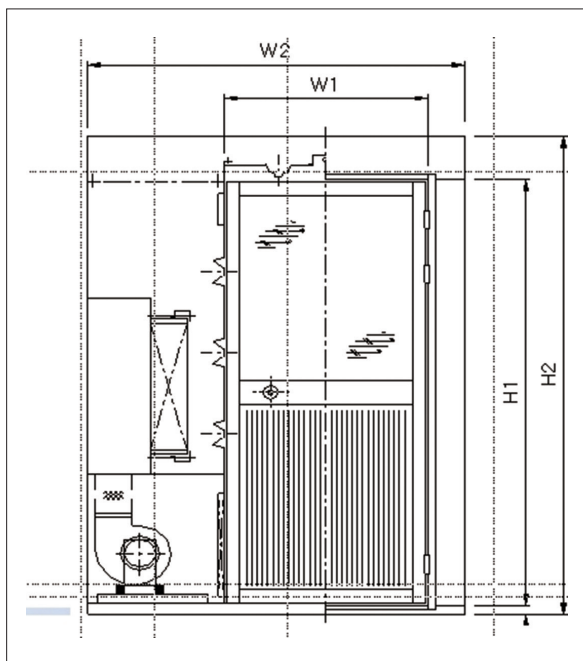
Cleanroom 내에서 국부적으로 고청정도를 필요로 하는 곳에 사용하며, Lay-out 변경에 따라 이동이 가능하다.(CLASS 10 ~ 1000)



SPECTION	
TYPE	FFU - 1200*600 (CB-224)
FRAME	AL. PROFILE
FACE	ANTI STATIC FILM ,CURTAIN
DOOR	ANTI STATIC FOLDING DOOR
FFU	17 CMM, 3STEP
FILTER	HEPA & ULPA
특 징	국부적 고청정도 유지 가능 저비용,단시간 설치 유연성 및 확장성 뛰어남, 별도 주문 제작가능

◆ AIR SHOWER

CLEAN ROOM이나 청정작업실에 입실시 외부로부터 오염물질이 유입되는것을 방지하기 위하여 고속의 청정공기로 인체에 부착된 분진 또는 미생물류를 세정제거하는 CLEAN UP 장치이다.

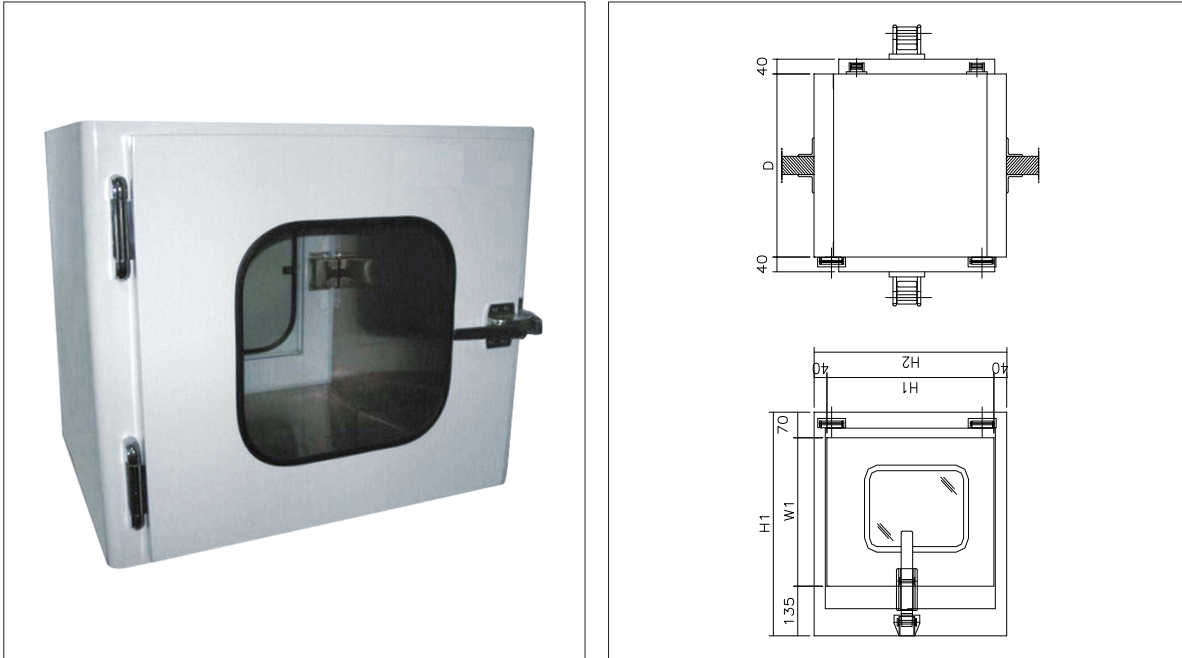


MODEL	W1	W2	H2	D	공 통
AS-12	800	1,500	2,200	1,000	STS 및 강판제 소부 도장 FILTER -PRE HEPA CONROL -MICOM 전원 -220V/ 380V, 3Ø, 60hz
AS-23	800	1,500	2,200	1,500	
AS-34	800	1,500	2,200	2,000	
AS-대물	2,000	4,200	2,650	2,500	

- ◆ AUTO DOOR 및 DOOR 추가는 별도 주문에 의해 제작
- ◆ 기타 현장여건에 따른 특별사양도 설계제작

◆ PASS BOX

Cleanroom의 벽체에 설치하여 재료의 출입중에 발생하는 오염을 최소화하는 장치이다



Model	W1(IN)	W2	H1(IN)	H2	D(IN)	공통
PB-01	500	700	500	640	500	CASING-Oven baked melamine Coating Finish
PB-02	600	800	600	740	600	Interior-sts304
CPB-03	700	900	700	840	700	Interlock-Mechanical

- ◆ 전등 및 UV LAMP는 별도 추가 사항입니다.
- ◆ 현장여건에 따른 특별 사양도 설계,제작 합니다.

◆ CLEAN BENCH

클린룸이나 청정 작업실내에서 국부실험시 고속 청정공기로 크린벤치 장치내 분진 또는 미생물 세정제거 장치입니다.



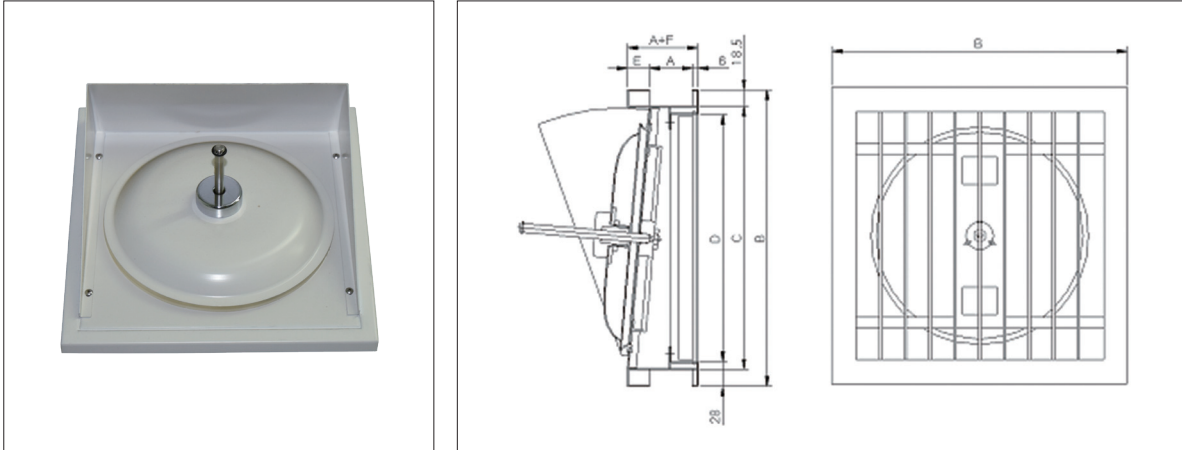
◆ CLEAN LOCKER

클린룸 의 전실에 설치, 출입인원의 발생하는 오염을 최소화하여 크린복으로 환복하는데 기존 의 크린복을 보관하는 장치



◆ RELIEF DAMPER

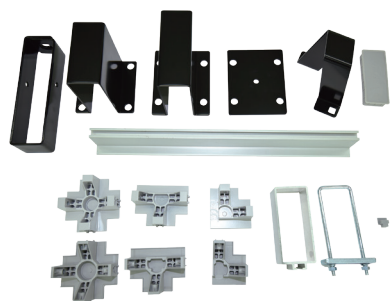
실내외 또는 인접실과의 공기 차압을 제어하는 기기로서, 실내정압을 일정하게 유지하여 실외 오염공기가 Cleanroom 으로의 유입,오염시키는 것을 방지한다.



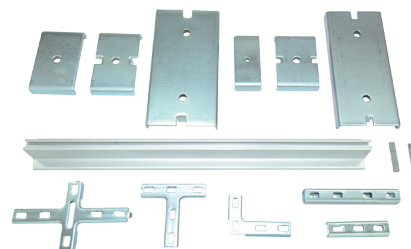
MODEL	A	B	C	D
RE-190	280	245	226	20
RE-250	340	302	285	25
A=WALL THICKNESS(mm)				

- ◆ 기종에 따라 압력차가 설정되어 있다.
- ◆ 기구가 간단하며 브레이드가 원형이므로 밀착성이 좋고 개폐가 원활하다.
- ◆ 차압은 자동으로 조정된다.
- ◆ 전기, 전자적 센서를 사용하는 것이 아니므로 영구적이다.

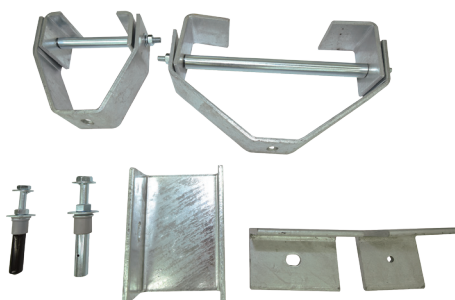
크린룸 설치자재 (BRACKET)



SQ PIPE BRACKET



C 형강 BRACKET

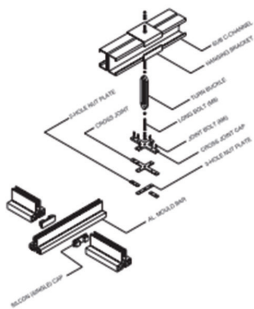


INSERT

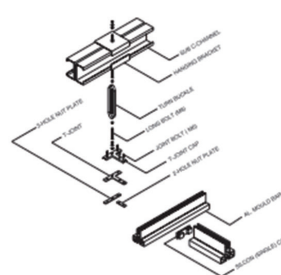
◆ Syetem Ceiling Isometric



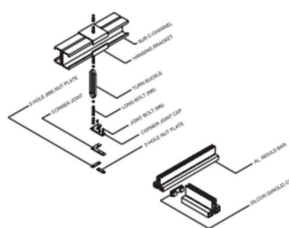
Cross Joint



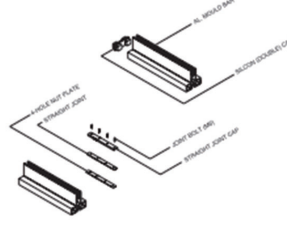
T - Joint



Corner Joint



Straight Joint



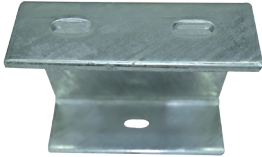
◆ SQ PIPE BRACKET

SQ PIPE BRACKET "A"	SQ PIPE BRACKET "B"	SQ PIPE BRACKET "C"
SQ PIPE BRACKET "D"	SQ PIPE BRACKET "E"	SQ PIPE BRACKET "E-1"
다이캐스팅 "+"	다이캐스팅 "T"	다이캐스팅 "L"
M-BAR "500L"		

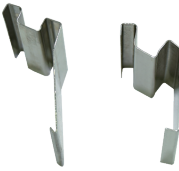
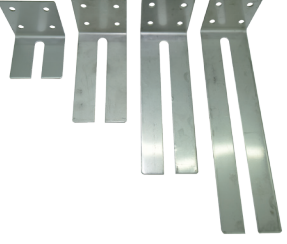
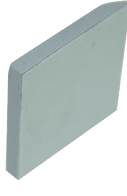
◆ C 형강 BRACKET

C형강 BRACKET "A"	C형강 BRACKET "B"	C형강 BRACKET "C"
C형강 BRACKET "D"	C형강 BRACKET "E"	C형강 BRACKET "F"
크로스 조인트 "+"	티 조인트 "T"	엘 조인트 "L"
스트레이트 조인트	M-BAR 500L	실리콘 가스켓

◆ INSERT

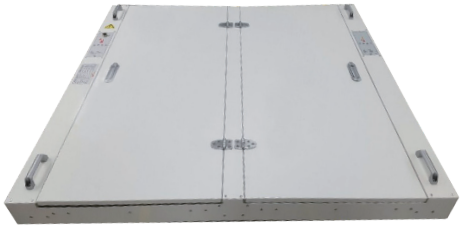
		
DECK INSERT M12	DECK INSERT M16	“ㄷ” INSERT
		
“ㄱ” INSERT	빔 클램프 “200용”	빔 클램프 “300용”

◆ 기타 부속자재

		
블라인드 판넬 STS CLIP	블라인드 고정 B/K	다이캐스팅 상부 보강조인트
		
발란싱 브라켓	M BAR STOP 브라켓	RUBBER PAD "4.5T,7.5T"

TD LIGHTING

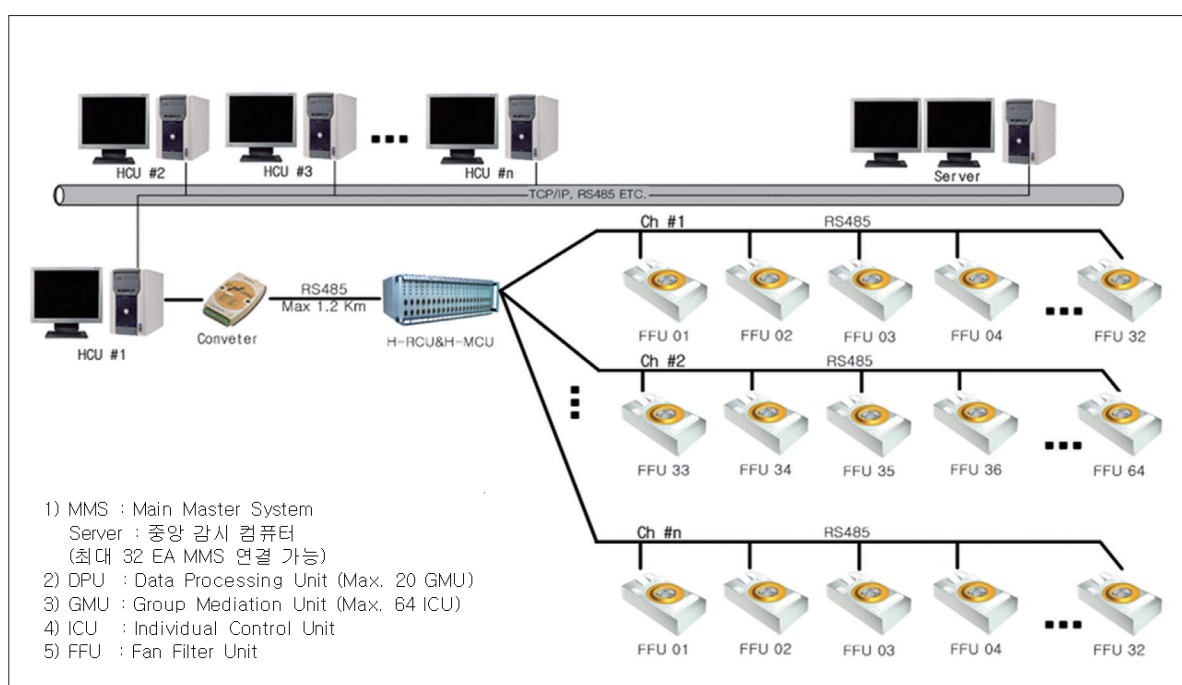
크린룸내부에 조명이 필요한곳에 설치하는 기기로서 LED 램프를 포함한 다양한 종류의제품을 생산하고 있다.

	
TDL FL32W	TDL LED 15.8 W
	
PANEL 1206 LEDW-4	PANEL 1212 LED22W-8

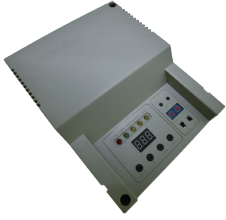
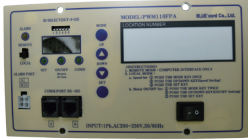
L.C.U 자동제어

- 1) F.F.U 통합제어
- 2) 크린룸 천정부의 구조내에 Fan Filter Unit 내부의 FAN 제어를 1대 또는 그룹제어가 가능하도록 구성합니다. 리모트 운전 또는 로컬운전이 가능케 하는 제어시스템입니다.

◆ FFU CONTROL SYSTEM



◆ L.C.U

		
SFC210S-3STEP	PWM-110FPA-무단	PWM-111S-무단
		
LIU-206BTP	MCUL32	케이블