



2000

TECHNICAL & SERVICE MANUAL

Series PEHD Ceiling Concealed

<indoor unit> Service ref.

Models PEHD-1.6EKA2.UK

PEHD-1.6EKHA2.UK

PEHD-2EKA2.UK

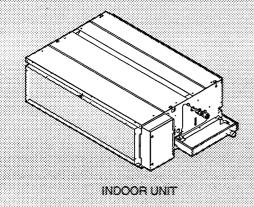
PEHD-2EKHA2.UK

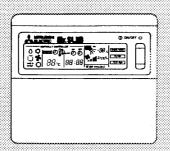
PEHD-2.5EKA2.UK

PEHD-2.5EKHA2.UK

This manual does not cover the following outdoor units. When servicing them, please refer to the service manual No.OC150A and this manual as a set.

PUH-1.6VKA₃.UK PUH-2VKA₂.UK PUH-2.5VKA₂.UK





REMOTE CONTROLLER

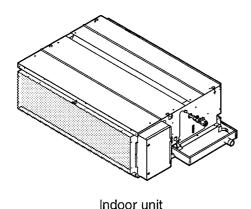
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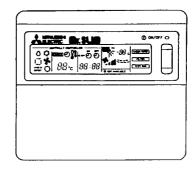
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The Slim Line. From Mitsubishi Electric



Series PEHD Ceiling Concealed





Remote controller

Models	Cooling capacity / Hea	ating capacity (240V)
	Btu/h	W
PEHD-1.6EK(H)A ₂	15,000/15,700(19,100)	4,400/4,600(5,600)
PEHD-2EK(H)A ₂	19,100/21,500(24,900)	5,600/6,300(7,300)
PEHD-2.5EK(H)A ₂	23,200/24,600(29,700)	6,800/7,200(8,700)

1. NEXT GENERATION AIR-CONDITIONING VENTILATION INTERLOCKING SYSTEM "Mr.SLIM" + "LOSSNAY"

Proper ventilation is important to improve the quality of indoor environments. It eliminates unclean air, which is not only unpleasant, but unhealthy. This "Mr.SLIM" + "LOSSNAY" ventilation interlocking system achieves high air quality with minimum energy consumption.

LOSSNAY's unique total heat exchanger reduces heating and cooling expenses by about 25 percent annually(in comparison with our existing models). In addition, its mechanism of simultaneous forced air supply and exhaust enables it to deliver high quality air.

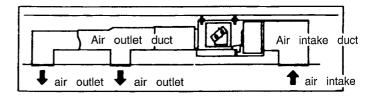
Together, "Mr.SLIM" + "LOSSNAY" system makes next-generation air conditioning possible. This system is both people and environment friendly.

2. TOTALLY INVISIBLE INDOOR UNIT BEHIND THE CEILING

The totally hidden indoor unit that lies above the ceiling surface enables you to utilize full floor space while allowing for flexible interior design. This new feature is recommended for stores and offices where the user's own imagination is allowed to be incorporated.

3. MOST SUITABLE FOR SIMULTANEOUS TWO ROOM AIR CONDITIONING

Using air ducts for cooling/heating airflow that matches the structure and purpose of the room enables you to provide two air outlets for simultaneous cooling/heating of two rooms.



4. HIGH EXTERNAL STATIC PRESSURE

The exceptional external static pressure of 70Pa allows long ducts to be used more extensively to achieve convenient location of indoor units.(The factory setting is 30Pa.)

5. DRAIN WATER LIFT-UP MECHANISM(OPTION KIT)

This allows more versatility when selecting drain piping layouts.

6. ADVANCED MICROPROCESSOR

(1) Easy to use microprocessor

1) Ultra-thin remote controller

The streamlined, square controller is designed to blend well with any interior. Also, the sophisticated micro-processor allows you to easily carry out a wide range of operations.

2) Attractive liquid crystal display (LCD)

The unit's operation mode, set temperature, room temperature, timer setting, and fan speed are displayed on the remote controller's easy-to-read Liquid Crystal Display (LCD)

3) Convenient 24-hour ON-OFF timer

The timer switches Mr.SLIM on and off automatically at the time you set. Once the timer is set, the remaining time is shown on the LCD.

4) Self-diagnostic feature indicates faults instantly

If a problem occurs, the unit will stop operating and the set temperature indicator will change to a self-diagnostic indicator, which shows the location of the trouble.

If the check switch is pressed twice, the unit stops operating and the check mode is initiated. The location of the most recent problem that was stored in the memory is displayed on the LCD. This is extremely useful for maintenance purposes.

5) Useful memory feature for storing instructions

The previous set value is memorized so that constant temperature control can be achieved. For example, if a power failure occurs, the temperature will not have to be re adjusted afterwards.

(2) Non-polar two-wire remote controller cable

The slim, non-polar, two-wire remote controller cable makes installation simple and trouble free. Also, the remote controller wire can be extended up to 500m.

(3) Automatic cooling/heating changeover operation

An automatic cooling and heating changeover operation system allows you to easily control comfortable year-round air conditioning.

Once the desired temperature is set, unit operation switches automatically between cooling and heating, in accordance with the room temperature. In addition, the use of an outdoor unit fan speed controller allows cooling even when outdoor temperatures are as low as - 5°C.

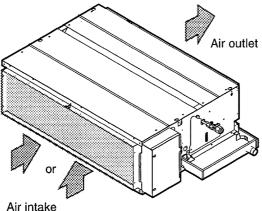
7. INNOVATIVE MICROPROCESSOR CONTROL SYSTEM

The most significant feature of PEHD-EK series is the advanced microprocessor control. The development of this system is due to the recent world-wide trend in the air conditioning of larger buildings. They are moving away from centralized duct systems to using individual split type units instead. There are a number of reasons for this change. First of all, the duct's costly and troublesome installation is eliminated. Second, the overall air conditioning balance is excellent in split type units. Lastly, the operation costs are low due to the flexible control of each unit. This system was developed exclusively by Mitsubishi Electric because of high demand. The microprocessor control makes individual control, group control, control using two remote controllers, and remote on/off and individual control possible without troublesome equipment modifications.

2

PART NAMES AND FUNCTIONS

Indoor Unit

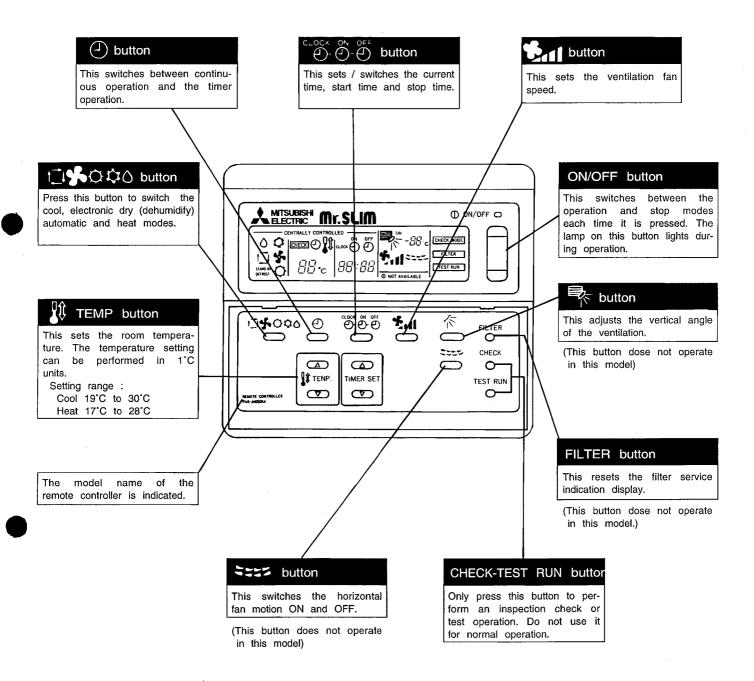


(sucks the air inside the room into the unit)

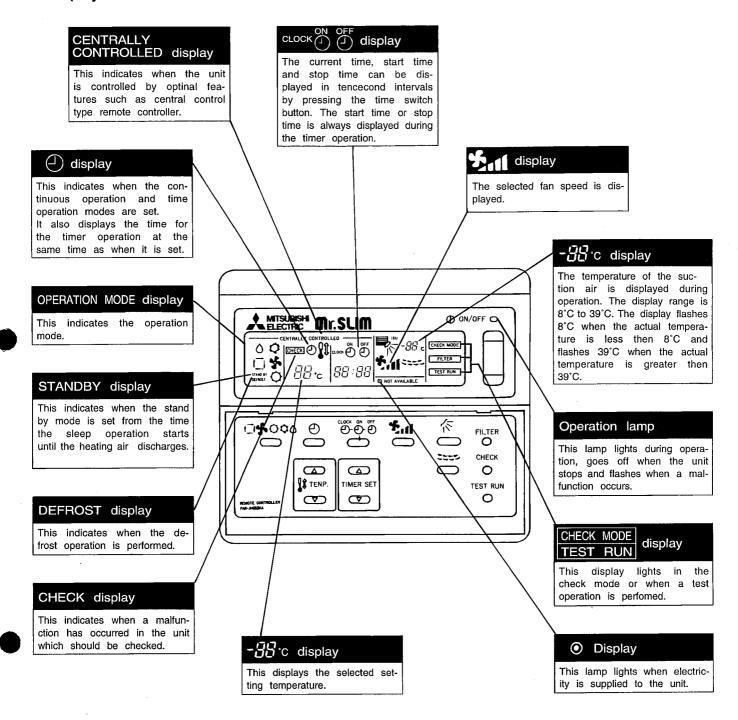
Remote controller

 Once the operation of the unit is set, subsequent operations can be performed only by pressing the ON/OFF button repeatedly.

Operation buttons



Display



Caution

- Only the (•) display lights whe the unit is stopped and power is supplied to the unit.
- When power is turned ON for the first time, the (CENTRAL CTRL) display appears to go off momentarily but this is not a malfunction.
- When the central control remote control unit, which is sold separately, is used the ON OFF button, button and II TEMP button do not operate.
- "NOT AVAILABLE" is displayed when the button and the button and the louver function.

SPECIFICATION

Ite	m		Model	PEHD-1.6E	K(H)A₂.UK
	inction			Cooling	Heating
			Btu/h	15,000	15,700 (19,100)
Ca	apacity	*4	W	4,400	4,600 (5,600)
То	tal input	*4	kW	1.57	1.54 (2.54)
	Model name		L	PEHD-1.6E	
F	Power supply			~/N,50Hz,	
ŀ	Input	-	kW	0.13	0.13 (1.13)
İ	Running current		Α	0.55	0.55 (4.71)
F	Starting current		Α	0.92	0.92 (5.08)
ŀ	External finish			Galvanize	
İ	Heat exchanger			Plate f	in coil
± İ	Fan(drive) x No.			Centrifugal	(direct)x2
31	Fan motor output	•	kW	*1 0.0	
<u>س</u>	Airflow(Low-High)	2	CMM,(CFM)		388-494)
8	External static pressure		Pa(mmAq)	*2 30(3)/70(7)	
INDOOR UNIT	Booster heater	·	kW	1.	
_	Operation control & Thermo	ostat	l .	Remote cont	
ľ	Noise level(Low-High)	*5	dB(A)	*3 34-	
ŀ	Cond.drain conn.O.D.		mm,(in)	32 (1	-1/4)
Ī		W	mm,(in)	935 (36	
	Dimensions	D	mm,(in)	700 (27	·
		Н	mm,(in)	295 (1	
ľ	Weight		kg,(lbs)	33 (73) [
	Model name		<u> </u>	PUH-1.	
f	Power supply			~/N, 220-24	40V ,50Hz
ı	Input		kW	1.44	1.41
Ī	Running current		Α	6.74	6.60
ı	Starting current		Α	33	33
Ī	External finish			Munsell	5Y7/1
Ì	Refrigerant control			Capillar	y tube
ľ	Compressor			Herm	
בוֹ	Model			RH247	VFCT
TIND.	Motor output		kW	1	2
	Stater type			Line	start
TDOOR	Protection devices			Inner thermosta	ut,HP switch
ĕŀ	Heat exchanger			Plate f	in coil
5	Fan(drive) x No.			Propeller	
١	Fan motor output		kW	0.0	
ŀ	Airflow		CMM,(CFM)	45 (1	
}	Defrost method		,(3)	Reverse	
}	Noise level		dB(A)	49	
ŀ	-	W	mm,(in)	870 (3	
	Dimensions	D	mm,(in)	295+24 (11	
		Н Н	mm,(in)	650 (2)	
ŀ	Weight		kg,(lbs)	53 (1	
+	Refrigerant		J. J. J/	R-2	
⊢ ∱	Charge		kg,(lbs)	2.2 (
Z		Liquid		9.52	
	Pipe size O.D.	•	mm,(in)	15.88	
REFRIGERANT PIPING			r side	Flar	
ĽΦ	Connection method		or side	Flar	
분ㅏ	Between the indoor		ifference	Max.	
	& outdoor unit		length	Max.	

 \pm 1. External static pressure at 70Pa

*2. Ex-works at 30Pa

*3. External static pressure at 30Pa

*4. Rating conditions <JIS B 8615, 8616>

(INDOOR) Cooling: 27°CDB, 19°CWB (OUTDOOR) Cooling: 35°CDB *5. Noise level: Sound pressure level

Heating: 20°CDB Heating: 7°CDB, 6°CWB

Ite	m		Model	PEHD-2EK	(H)A ₂ .UK
	nction			Cooling	Heating
			Btu/h	19,100	21,500 (24,900)
Ca	pacity	*4	W	5,600	6,300 (7,300)
To	tal input	*4	kW	2.35	2.37 (3.37)
	Model name	<u> </u>	1000	PEHD-2EH	
1	Power supply			~/N, 50Hz,	`
1	Input		kW	0.15	0.15 (1.15)
-	Running current		A	0.63	0.63 (4.79)
-	Starting current	· · · ·	A	1.1	1.1 (5.26)
-	External finish			Galvanize	
	Heat exchanger			Plate f	
l⊨⊦	Fan(drive) x No.			Centrifuga	
INDOOR UNIT	Fan motor output		kW	*1 0.0	
١٣	Airflow(Low-High)		CMM,(CFM)	••	(476-600)
18	External static pressure		Pa(mmAq)	*2 30(3) / 70(7)	
19	Booster heater		kW	1.	
=	Operation control & Thermo	ostat		Remote cont	rol & Built-in
1 1	Noise level(Low-High)	*5	dB(A)	*3 36-	
1 1	Cond.drain conn.O.D.		mm,(in)	32 (1	
		W	mm,(in)	935 (36	
	Dimensions	D	mm,(in)	700 (27	
		H	mm,(in)	295 (1	
1	Weight	I	kg,(lbs)	33 (73)	
	Model name		<u> </u>	PUH-2	
	Power supply			~/N, 220-2	
	Input		kW	2.20	2.22
	Running current	•	Α	9.86	9.95
	Starting current		Α	45	45
	External finish			Munsel	I 5Y7/1
	Refrigerant control			Capilla	ry tube
	Compressor			Hern	netic
l⊑l	Model			NH38\	/MDT
I I	Motor output		kW	1.	7
	Stater type			Line	start
OUTDOOR	Protection devices			Inner thermos	tat, HP switch
12	Heat exchanger			Plate f	in coil
18	Fan(drive) x No.			Propeller (
-	Fan motor output		kW	0.0	`
	Airflow		CMM,(CFM)	45 (1	590)
	Defrost method			Revers	e cycle
	Noise level		dB(A)	4:	
		W	mm,(in)	870 (3	4-1/4)
	Dimensions	D	mm,(in)	295+24 (11	
		Н	mm,(in)	650 (2	
	Weight		kg,(lbs)	64 (*	
	Refrigerant			R-:	
b	Charge		kg,(lbs)	2.2 (
اگھ	Pipe size O.D.	Liquid		9.52	
黨			mm,(in)	15.88	
REFRIGERANT PIPING	Connection method		r side	Flai	
出			or side	Fla	
læ	Between the indoor	Height d		Max.	
	& outdoor unit	Piping	length	Max.	40m

st 1. External static pressure at 70Pa

*4. Rating conditions <JIS B 8615, 8616>

(INDOOR) Cooling: 27°CDB, 19°CWB (OUTDOOR) Cooling: 35°CDB *5. Noise level: Sound pressure level

Heating: 20°CDB Heating: 7°CDB, 6°CWB

^{*2.} Ex-works at 30Pa

^{*3.} External static pressure at 30Pa

Ita			Model	PEHD-2.	5EK(H)A2.UK
Ite	nction			Cooling	Heating
			Btu/h	23,200	24,600 (29,700)
Ca	pacity	* 4	W	6,800	7,200 (8,700)
To	tal input	* 4	kW	2.63	2.40 (3.90)
-10	Model name		I.VV		5EK(H)A ₂ .UK
 	Power supply				Iz, 220-240V
}	Input		kW	0.17	0.17 (1.67)
	Running current		A	0.72	0.72 (6.96)
	Starting current		A	1.6	1.6 (7.84)
	External finish				ized sheets
	Heat exchanger				e fin coil
 -	Fan(drive) x No.			Centrifu	gal (direct)x2
NDOOR UNIT	Fan motor output	v. 4	kW).116
<u> </u>	Airflow(Low-High)		CMM,(CFM)		1 (600-740)
유	External static pressure		Pa(mmAq)		7) at Hi-notch
۱ĕ ا	Booster heater		kW	35(0)7.13	1.5
=	Operation control & Thermo	stat	1	Remote co	ontrol & Built-in
	Noise level(Low-High)	*5	dB(A)		37-41
•	Cond.drain conn.O.D.		mm,(in)		(1-1/4)
		W	mm,(in)		5 (46-1/8)
	Dimensions	D	mm,(in)		(27-9/16)
	2	Н	mm,(in)		(11-5/8)
	Weight		kg,(lbs)		3) [44(97)]
	Model name		3,()		-2.5VKA ₂
	Power supply			~/N, 220	-240V, 50Hz
	Input		kW	2.46	2.23
	Running current		A	10.68	9.78
	Starting current		Α	52	52
	External finish		L	Mun	sell 5Y7/1
	Refrigerant control			Capi	llary tube
	Compressor			He	ermetic
l⊨∣	Model	,		NH	11VMDT
TIND	Motor output		kW		2
	Stater type		<u> </u>	Liı	ne start
ŏ	Protection devices			Internal the	mostat, HP switch
OUTDOOR	Heat exchanger			Plat	e fin coil
181	Fan(drive) x No.			Propel	er(direct)x1
	Fan motor output		kW		0.085
	Airflow		CMM,(CFM)		50
	Defrost method			Reve	erse cycle
	Noise level		dB(A)		52
		W	mm,(in)		(34-1/4)
	Dimensions	D	mm,(in)		11-5/8 add 1)
		Н	mm,(in)		(25-5/8)
	Weight		kg,(lbs)		3 (150)
	Refrigerant				R-22
l⊨ ∣	Charge kg,(lbs) 2.8 (6.2) Liquid mm,(in) 9.52 (3/8)				
Žσ	Pipe size O.D.				
REFRIGERANT PIPING			mm,(in)		88 (5/8)
뚪	Connection method		or side	1	Flared
出门			or side		Flared
ا ۳	Between the indoor		ifference		ax.50m
	& outdoor unit	Piping	length	<u> </u>	ax.50m

^{* 1.} External static pressure at 70Pa

Cooling: 27°CDB, 19°CWB (INDOOR) (OUTDOOR) Cooling: 35°CDB * 5. Noise level: Sound pressure level

Heating: 20°CDB Heating: 7°CDB, 6°CWB

^{* 2.} Ex-works at 30Pa

^{* 3.} External static pressure at 30Pa

^{* 4.} Rating conditions < JIS B 8615, 8616>

1. PERFORMANCE DATA

1) COOLING CAPACITY

	Indoor					Out	door inta	ake air Di	3°C				
Service Ref.	intake air	2	0	2	5	3	0	3	5	40		4	5
,	WB°C	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
	16	4,479	1.35	4,356	1.41	4,180	1.51	3,991	1.61	3,793	1.71	3,590	1.36
PEHD-1.6EK(H)A ₂ .UK	18	4,765	1.38	4,642	1.44	4,453	1.55	4,259	1.65	4,057	1.76	3,850	1.46
	20	5,056	1.40	4,937	1.46	4,743	1.58	4,541	1.69	4,334	1.80	4,123	1.57
	22	5,350	1.43	5,249	1.49	5,047	1.61	4,840	1.73	4,629	1.85	4,409	1.67
	16	5,701	2.16	5,544	2.26	5,320	2.41	5,079	2.58	4,827	2.74	4,570	2.18
DELID OFICIAL LIK	18	6,065	2.21	5,909	2.30	5,667	2.47	5,421	2.64	5,163	2.81	4,901	2.34
PEHD-2EK(H)A2.UK	20	6,434	2.24	6,283	2.34	6,037	2.52	5,779	2.70	5,516	2.88	5,247	2.50
	22	6,810	2.28	6,681	2.39	6,423	2.58	6,160	2.77	5,891	2.96	5,611	2.68
	16	6,922	2.51	6,732	2.62	6,460	2.80	6,168	2.99	5,862	3.18	5,549	2.53
PEHD-2.5EK(H)A₂.UK	18	7,364	2.56	7,175	2.67	6,882	2.87	6,582	3.07	6,270	3.26	5,951	2.71
	20	7,813	2.60	7,630	2.71	7,330	2.93	7,018	3.14	6,698	3.35	6,372	2.91
	22	8,269	2.65	8,112	2.77	7,800	2.99	7,480	3.21	7,154	3.44	6,814	3.11

Note C A: Capacity(W) P.C.: Power consumption(kW)

Cooling capacity correction factors

Service Ref.	Refrigerant piping length(one way)											
Service nei.	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m		
PEHD-1.6EK(H)A2.UK	1.00	0.993	0.984	0.978	0.969	0.961	0.956	0.948	-	-		
PEHD-2EK(H)A₂.UK	1.00	0.992	0.983	0.978	0.966	0.959	0.950	0.945	•	-		
PEHD-2.5EK(H)A ₂ .UK	1.00	0.989	0.980	0.970	0.960	0.950	0.940	0.930	0.920	0.910		

2) HEATING CAPACITY

	Indoor					Out	door inta	ake air Di	3°C				
Service Ref.	intake air	-1	0		-5		0		5	10		15	
	WB°C	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
	15	3,192	1.14	3,643	1.25	4,136	1.37	4,669	1.49	5,240	1.63	5,846	2.11
PEHD-1.6EK(H)A2.UK	20	3,054	2.22	3,500	1.34	3,979	1.47	4,494	1.61	5,042	1.76	5,626	2.03
· ·	25	2,940	1.30	3,358	1.43	3,822	1.58	4,328	1.72	4,876	1.88	5,460	1.97
	15	4,372	1.80	4,990	1.97	5,664	2.17	6,395	2.37	7,176	2.58	8,007	3.34
PEHD-2EK(H)A₂.UK	20	4,183	1.93	4,794	2.13	5,450	2.33	6,155	2.55	6,905	2.78	7,705	3.21
	25	4,026	2.06	4,599	2.27	5,235	2.50	5,928	2.73	6,678	2.98	7,478	3.12
	15	4,996	1.87	5,703	2.05	6,473	2.25	7,309	2.46	8,201	2.68	9,151	3.47
PEHD-2.5EK(H)A₂.UK	20	4,780	2.01	5,479	2.21	6,229	2.42	7,035	2.65	7,892	2.89	8,805	3.34
	25	4,601	2.14	5,256	2.36	5,983	2.59	6,775	2.84	7,632	3.09	8,547	3.24

Note C A : Capacity(W)

P.C.: Power consumption(kW)

Heating capacity correction factors

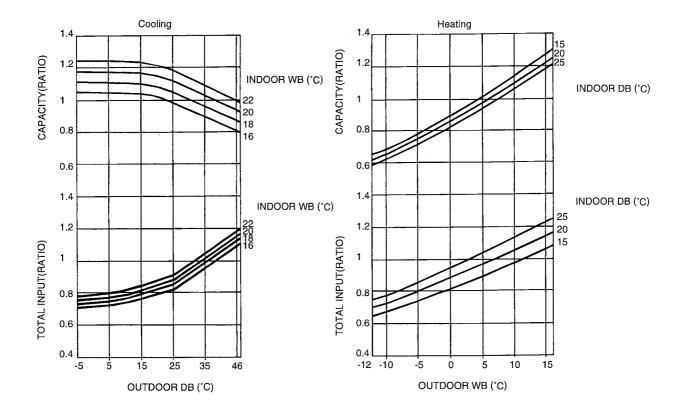
Service Ref.	Refrigerant piping length(one way)											
Service Hei.	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m		
PEHD-1.6EK(H)A2.UK	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	-	-		
PEHD-2EK(H)A2.UK	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	-	-		
PEHD-2.5EK(H)A2.UK	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990		

2. PERFORMANCE CURVE

PEHD-1.6EK(H)A2.UK

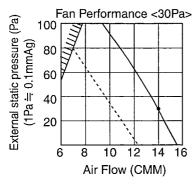
PEHD-2EK(H)A2.UK

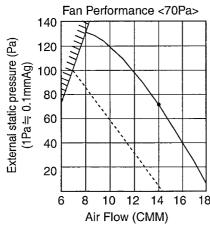
PEHD-2.5EK(H)A2.UK



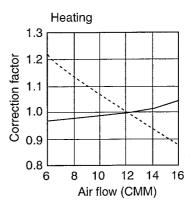
3. FAN PERFORMANCE AND CORRECTED AIR FLOW

PEHD-1.6EK(H)A2.UK

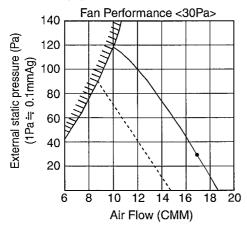


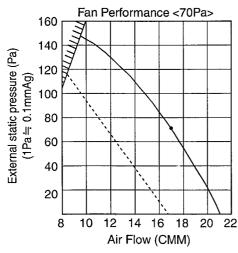


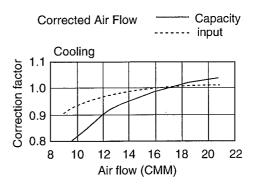
Corrected Air Flow Capacity input Cooling 1.1 Cooling 0.9 0.8 6 8 10 12 14 16 Air flow (CMM)

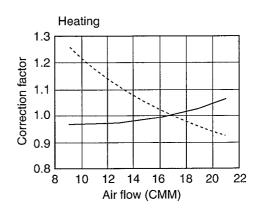


PEHD-2EK(H)A2.UK

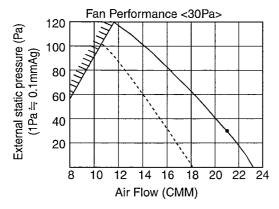


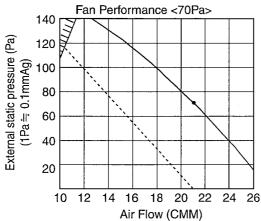


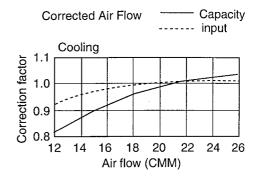


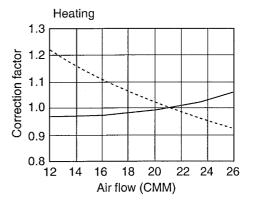


PEHD-2.5EK(H)A2.UK









4. ELECTRICAL DATA

Indoor ······220V 50Hz 1phase Outdoor ··· 220V 50Hz 1phase

	Models	Indoor	PEHD-1.6	EK(H)A2.UK	PEHD-2E	K(H)A ₂ .UK	PEHD-2.5	EK(H)A₂.UK
	Modess	Outdoor	PUH-1.6VKA		PUH-	2VKA	PUH-2	2.5VKA
Mod	е		Cool	Heat	Cool	Heat	Cool	Heat
Cap	acity(W)		4,300	4,500 (5,350)	5,500	6,100 (6,950)	6,600	7,100 (8,350)
Tota	Total input(kW)		1.48	1.44 (2.29)	2.25	2.27 (3.12)	2.56	2.31 (3.56)
_	Input(kW)		0.12	0.12 (0.97)	0.13	0.13 (0.98)	0.15	0.15 (1.40)
Indoor	Current(A)		0.55	0.55 (4.41)	0.60	0.60 (4.45)	0.69	0.69 (6.36)
=	Starting curre	nt(A)	0.92	0.92 (4.76)	1.05	1.05 (4.89)	1.53	1.53 (7.16)
ъ	Input(kW)		1.36	1.32	2.12	2.14	2.41	2.16
Outdoor	Current(A)		6.79	6.59	9.83	9.93	11.18	10.02
o	Starting curre	nt(A)	30	30	41	41	48	48

Indoor ······230V 50Hz 1phase Outdoor··· 230V 50Hz 1phase

	Models	Indoor	PEHD-1.6	EK(H)A₂.UK	PEHD-2E	K(H)A ₂ .UK	PEHD-2.5	EK(H)A₂.UK
	Models	Outdoor	PUH-	1.6VKA	PUH-	2VKA	PUH-2.5VKA Cool Heat 6,700 (8,550) 2.60 (3.76) 0.16 (1.56) 0.70 (6.78) 1.56 (7.64)	
Mod	Mode		Cool	Heat	Cool	Heat	Cool	Heat
Capa	acity(W)		4,350	4,550 (5,450)	5,550	6,200 (7,100)	6,700	7,150 (8,550)
Tota	Fotal input(kW)		1.53	1.49 (2.39)	2.30	2.32 (3.22)	2.60	2.36 (3.76)
	Input(kW)		0.13	0.13 (1.03)	0.14	0.14 (1.04)	0.16	0.16 (1.56)
Indoor	Current(A)		0.55	0.55 (4.48)	0.61	0.61 (4.52)	0.70	0.70 (6.78)
=	Starting curre	ent(A)	0.92	0.92 (4.83)	1.07	1.07 (4.96)	1.56	1.56 (7.64)
ъ	Input(kW)		1.40	1.36	2.16	2.18	2.44	2.20
Outdoor	Current(A)		6.76	6.57	9.78	9.87	10.94	9.86
[ŏ	Starting curre	ent(A)	32	32	43	43	50	50

Indoor.....240V 50Hz 1phase Outdoor...240V 50Hz 1phase

	Models	Indoor	PEHD-1.6	EK(H)A₂.UK	PEHD-2E	K(H)A2.UK	PEHD-2.5	EK(H)A₂.UK
	Models	Outdoor	PUH	-1.6VKA	PUH-	2VKA	PUH-	2.5VKA
Mod	e	1	Cool	Heat	Cool	Heat	Cool	Heat
Cap	acity(W)		4,400	4,600 (5,600)	5,600	6,300 (7,300)	6,800	7,200 (8,700)
Tota	l input(kW)		1.57	1.54 (2.54)	2.35	2.37 (3.37)	2.63	2.40 (3.90)
Ž	Input(kW)		0.13	0.13 (1.13)	0.15	0.15 (1.15)	0.17	0.17 (1.67)
Indoor	Current(A)		0.55	0.55 (4.71)	0.63	0.63 (4.79)	0.72	0.72 (6.96)
드	Starting curre	ent(A)	0.92	0.92 (5.08)	1.10	1.10 (5.26)	1.60	1.60 (7.84)
ō	Input(kW)		1.44	1.41	2.20	2.22	2.46	2.23
Outdoor	Current(A)		6.74	6.60	9.86	9.95	10.68	9.78
Q	Starting curre	ent(A)	33	33	45	45	52	52

5. STANDARD OPERATION DATA

Models			PEHD-1.6E	EK(H)A2.UK	PEHD-2EK(H)A2.UK		PEHD-2.5EK(H)A2.UK	
Mode	}		Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity	W	4,400	4,600	5,600	6,300	6,800	7,200
P	Input	kW	1.57	1.54	2.35	2.37	2.63	2.40
	Indoor unit model		PEHD-1	.6EK(H)A	PEHD-2	EK(H)A	PEHD-2.	5EK(H)A
	Phase . Hz		1,	50	1,	50	1,	50
cuit	Volts		2	40	. 24	10	24	10
	Amperes		0.55	0.55	0.63	0.63	0.72	0.72
trica	Outdoor unit-model		PUH-	1.6VKA	PUH-2	:VKA	PUH-2	2.5VKA
Electrical circuit	Phase,Hz	1,	50	1,	50	1,	50	
	Volts	2	40	24	10	240		
	Amperes		6.74	6.6	9.86	9.95	10.68	9.78
, <u>=</u>	Discharge pressure	MPa	1.76	1.51	1.93	2.15	2.05	1.65
ircu	Suction pressure	MPa	0.54	0.41	0.47	0.37	0.52	0.37
°	Discharge temperature	°C	76.6	66.8	87.3	101.4	85	73.8
Refrigerant circuit	Condensing temperature	°C	47.1	-	51.2	-	53.7	-
efriç	Suction temperature	°C	8	0.2	4.8	-2.1	7.4	-2.4
	Ref.Pipe length	m	5	5	5	5	5	5
ide	Intake air temperature	DB.C	27.0	20.0	27.0	20.0	27.0	20.0
Indoor side	intake all temperature	WB°C	19.0	15.0	19.0	15.0	19.0	15.0
Judy L	Discharge air temperature	DB°C	15.4	35.1	14.5	40.4	14.7	39.1
Outdoor side	Intake air temperature	DB°C	35.0	7.0	35.0	7.0	35.0	7.0
out,	mano an temperature	WB°C	24.0	6.0	24.0	6.0	24.0	6.0
SHF			0.74	<u>-</u>	0.76	-	0.76	-
	BF		0.21	-	0.19	_	0.19	-

5 HI

REFRIGERANT SYSTEM DIAGRAM

R.V.coil Unit: mm

Heating : ON Cooling : OFF

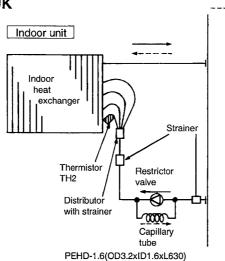
Refrigerant flow in cooling

Refrigerant flow in heating

PEHD-1.6EK(H)A2.UK

PEHD-2EK(H)A2.UK

PEHD-2.5EK(H)A2.UK



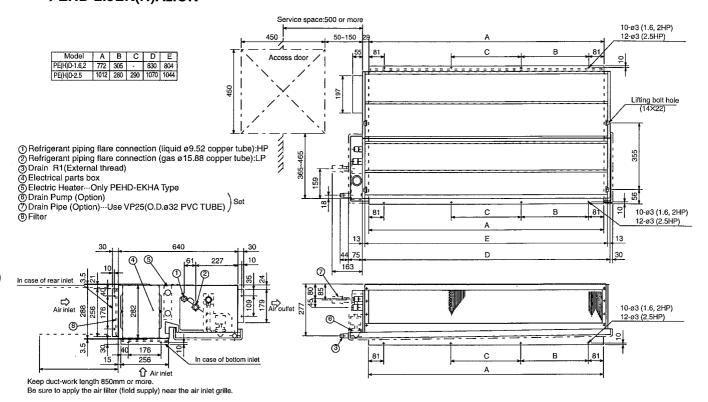
PEHD-1.6(OD3.2xID1.6xL630) PEHD-2(OD3.2xID1.8xL300) PEHD-2.5(OD3.2xID1.8xL430)

6

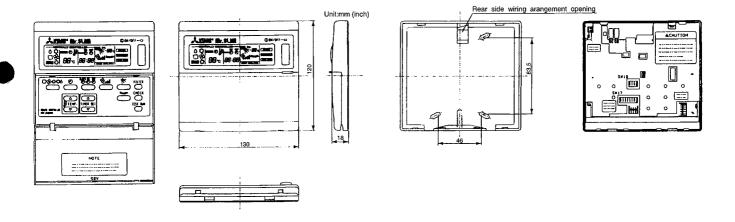
OUTLINES & DIMENSIONS

1. INDOOR UNIT

PEHD-1.6EK(H)A2.UK PEHD-2EK(H)A2.UK PEHD-2.5EK(H)A2.UK

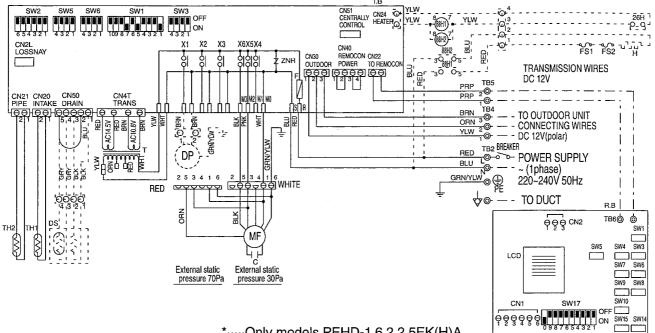


2. REMOTE CONTROLLER



WIRING DIAGRAM

MODELS:PEHD-1.6,2,2.5EK(H)A2 WIRING DIAGRAM



SYMBOL EXPLANATION

*....Only models PEHD-1.6,2,2.5EK(H)A #....Option parts

0					
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C	Capacitor(fan motor)	SW1(R.B)	Switch(ON/OFF)	TB4	Terminal block (indoor/outdoor connecting line)
CN1 <r.b></r.b>	Connector(program timer)	SW3(R.B)	Switch(cooling/drying operation mode)	TB5, TB6	Terminal block (remote controller transmission line)
CN2 <r.b></r.b>	Connector(remote switch)	SW4(R.B)	Switch(automatic operation mode)	TH1	Thermistor (room temperature sensor 0°C/15kΩ.25°C/5.4kΩ)
CN2L <r.b></r.b>	Connector(lossnay)	SW5(R.B)	Switch(heating operation mode)	TH2	Thermistor (pipe temperature sensor 0°C/15kΩ.25°C/5.4kΩ)
CN51 <r.b></r.b>	Connector(centrally control)	SW6(R.B)	Switch(lowers set temperature)	X1(l.B)	Auxiliary relay (drain pump)
F <i.b></i.b>	Fuse<6.3A>	SW7(R.B)	Switch(raises set temperature)	X4(I.B)	Auxiliary relay (fan motor)
* FS1??FS2	Thermal fuse(10A)	SW8(R.B)	Switch(timer time)	X5(I.B)	Auxiliary relay (fan motor)
* H	Electric heater	SW9(R.B)	Switch(timer.continuous and ON/OFF)	X6(I.B)	Auxiliary relay (fan motor)
I.B	Indoor controller board	SW10(R.B)	Switch(fan speed high/low selector)	ZNR	Varistor
LCD	Liquid crystal display	SW14(R.B)	Switch(test run)	* 26H	Thermal switch(over heat prevention)
R.B	Remote controller board	SW15(R.B)	Switch(inspection)	* 88H1	Contactor(electric heater)
SW1(I.B)	Switch(mode selector)	SW17(R.B)	Switch(address selector)	* 88H2	Contactor(electric heater)
SW2(I.B)	Switch(address selector)	T	Transformer	CN50	Drain sensor connector
SW3(I.B)	Switch(emergency operation)	TB2		# DP	Drain pump
SW5(I.B)	Switch(model selector)	MF	Fan motor(with inner thermostat)	# DS	Drain sensor
SW6(LB)	Switch(model selector)				

NOTES

1. Since the indoor transfomer(T) is connected with 240V power, if 220,230V power is used. Change the wiring connection showing fig: *1

fig:*1	
When power supply is D-	240 YELLOW
230V	230 ORANGE
220V	[220] RED
2200	

- Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
- ①:connector, [] :PC board insertion tab.
- . Emergency operation

If a trouble occurs with either the remote controller or the indoor microcomputer and no other trouble exists, emergency operation for cooling or heating can be performed by changing the setting of dip switch(SW3<I.B>)on the indoor controller board (emergency dry operation is not possible).

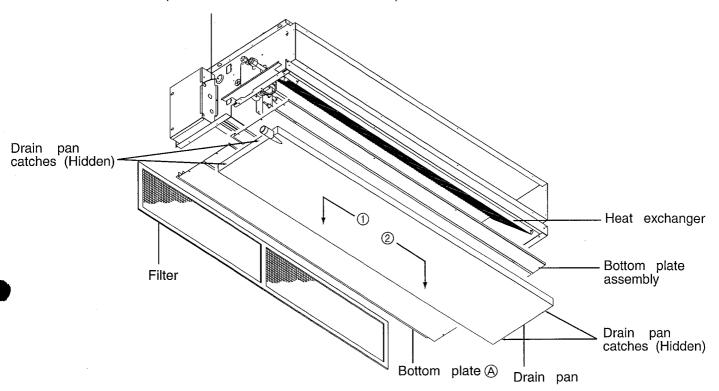
[Check items]

- (1) Make sure that no other trouble exists with the outdoor unit. Trouble with the outdoor unit prevents emergency operation. (If any trouble exists with the outdoor unit, the trouble location will be displayed on the remote controller and the trouble position will be shown on the outdoor controller board LED.See electric circuit diagram of the outdoor unit for details.)
- (2) Make sure that there is no trouble with the indoor fan. Emergency operation will be a continuous run with the power ON/OFF(ON/OFFwith the remote controller is not possible).

- [Emergency operation procedure]
 (1) Set the dip switch(SW3<I.B>)on the indoor controller board to 1 2 3 on and 4 off for cooling, and 2 3 4 on and 1 off for heating.
- (2) Turn on the outdoor unit side circuit breaker.
- (3) During emergency operation indoor fan runs at High speed.
- (4) Thermostat will not function. Cold air blows out for defrosting during heating thus do not operate de frosting for
- (5) Emergency cooling should be limited to 10 hours maximum(the indoor unit heat exchanger may freeze).

Figure1.

Disconnect the fan motor connecter (and the booster heater connector)



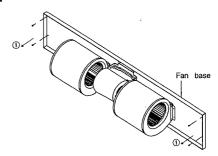
I. Removing the fan motor

- 1. Removing the 9 screws that fix the bottom plate (A), and remove it.
- 2. Removing the drain pan as follows:
 - (1) Remove the screw that fixes the drain pan.
 - (2) Slide the drain pan in the direction ①, Figure1 and unhook the drain pan catch near the drain pipe.
 - (3) Slide the drain pan in the direction ②, Figure 1 and unhook the 2 catches on the other side of the drain pipe.
- 3. Remove the 8 screws that fix the bottom plate assembly, and remove it.
- 4. Disconnect the fan motor connector from the controller box.

(For the models with booster heater, disconnect the booster heater connector as well.)

5. Remove the fan plate as follow:

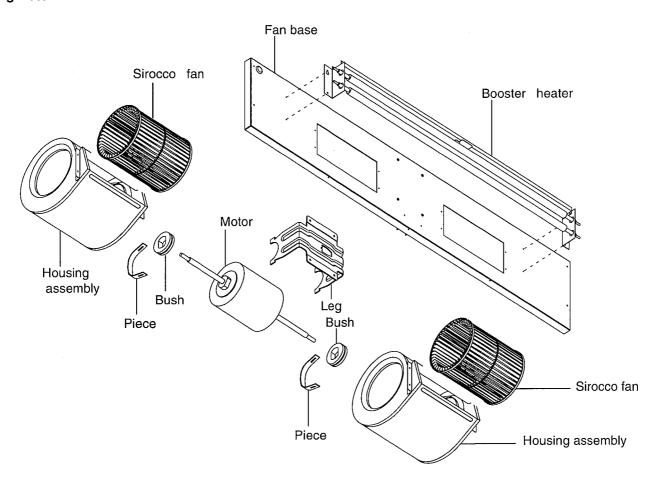
Figure2.



- (1)Remove the 4 screws 1
- (2) Slide down the fan plate to remove.
- Remove the sirocco fan setting screw and the motor fixture setting screw to remove the motor fixture.

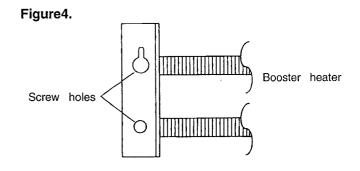
Remove the other motor fixture as well, and then remove the fan motor.

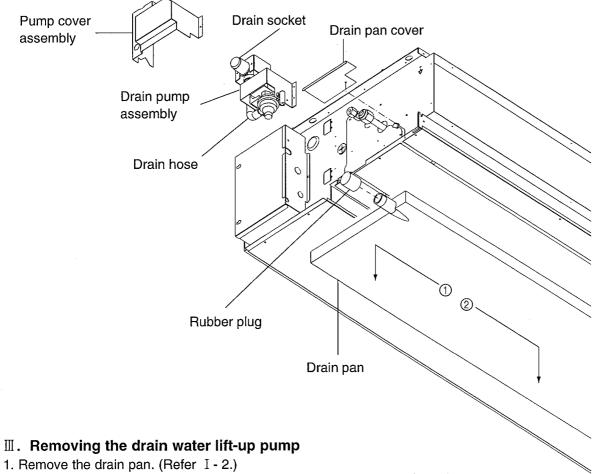
Figure3.



II. Removing the booster heater

- 1. Remove the bottom plate, drain pan, and bottom plate assembly. (Refer I -1~3.)
- 2. Disconnect the booster heater connector from the controller box.
- 3. Remove the 2 lower screws on the both sides of the booster heater.
- 4. Loosen the 2 upper screws on the both sides of the booster heater.
- 5. Removing the booster heater.



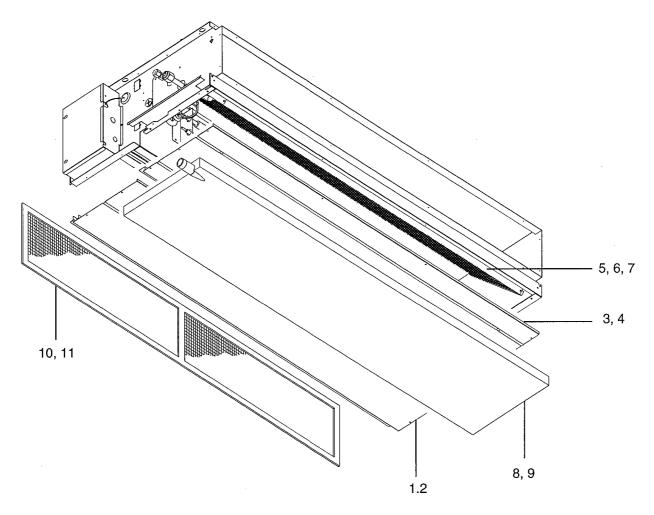


- 2. Disconnect the drain pump connector and drain sensor connector from the controller box.
- 3. Remove the two screws of the pump cover assembly.
- 4. Remove the drain hose from drain socket.
- 5. Remove the three screws of the drain pump assembly.
- 6. Remove the earth screw and four nuts of the drain pump assembly.
- 7. Remove the drain pump from drain pump assembly.

9 | PARTS LIST

PEHD-1.6EKA2.UK, PEHD-1.6EKHA2.UK PEHD-2EKA2.UK, PEHD-2EKHA2.UK PEHD-2.5EKA2.UK, PEHD-2.5EKHA2.UK

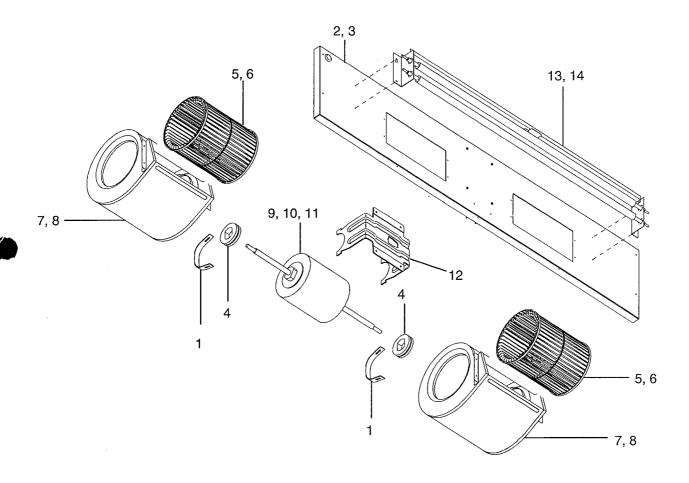
EXTERNAL PARTS



							Qt'y	//set		ς	
No.	Part No.	Part Name	Drawing No.	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-		Spec.
				1.6EKA₂	1.6EKHA₂	2EKA₂	2EKHA₂	2.5EKA2	2.5EKHA₂		
1		Bottom plate 1	W638939Z03	1	1	1	1				
2		Bottom plate 1	W638917Z03					1	1		
3		Bottom plate 2 ass'y	W638940G02	1	1	1	1				
4		Bottom plate 2 ass'y	W638918G02					1	1		
5		H.EX.General ass'y	W268511G01	1	1						
6		H.EX.General ass'y	W268511G02			1	1				
7		H.EX.General ass'y	W268511G03					1	1		
8		Drain pan ass'y	W638942G01	1	1	1	1				
9		Drain pan ass'y	W638920G01					1	1		
10		Filter	W638181G01	1	1	1	1				
11		Filter	W638181G02					1	1		

PEHD-1.6EKA2.UK, PEHD-1.6EKHA2.UK PEHD-2EKA2.UK, PEHD-2EKHA2.UK PEHD-2.5EKA2.UK, PEHD-2.5EKHA2.UK

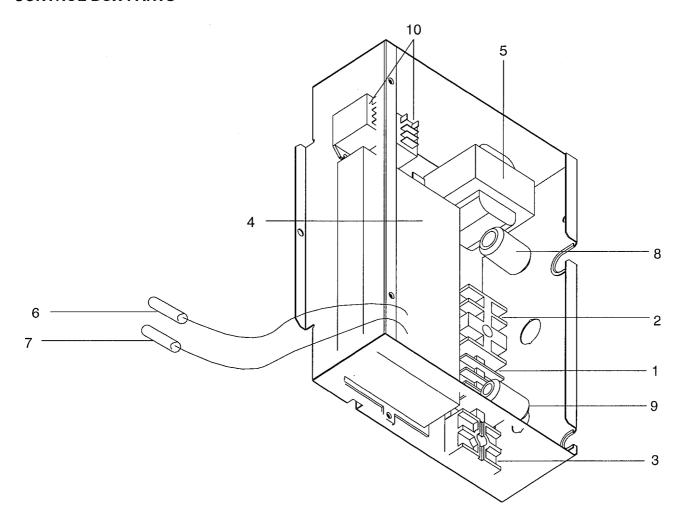
BLOWER PARTS



							Qt'y	/set		 į.	
No.	Part No.	Part Name	Drawing No.	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-		
				1.6EKA₂	1.6EKHA₂	2EKA₂	2EKHA ₂	2.5EKA₂	2.5EKHA₂		
1		Attachment	W353715H01	2	2	2	2	2	2		
2		Fan base ass'y	W638932G02	1	1	1	1				
3		Fan base ass'y	W638905G02					1	1		
4		Bush	W818836H01	2	2	2	2	2	2		
5		Sirocco fan	W122296G01	2	2	2	2				
6		Sirocco fan	W122297G01					2	2		
7		Housing ass'y	W638949G03	2	2	2	2				
8		Housing ass'y	W638949G04					2	2		
9		Motor	P714315X02	1	1						<mf></mf>
10	1	Motor	P714316X02			1	1				<mf></mf>
1163	WEYOK	Motor	P714774X01					1	1		<mf></mf>
12		Motor support	W241060H03	1	1	1	1	1	1		
13		Heater ass'y 3	P493639X02		1		1				
14		Heater ass'y 4	P493640X02						1		

PEHD-1.6EKA2.UK, PEHD-1.6EKHA2.UK PEHD-2EKA2.UK, PEHD-2EKHA2.UK PEHD-2.5EKA2.UK, PEHD-2.5EKHA2.UK

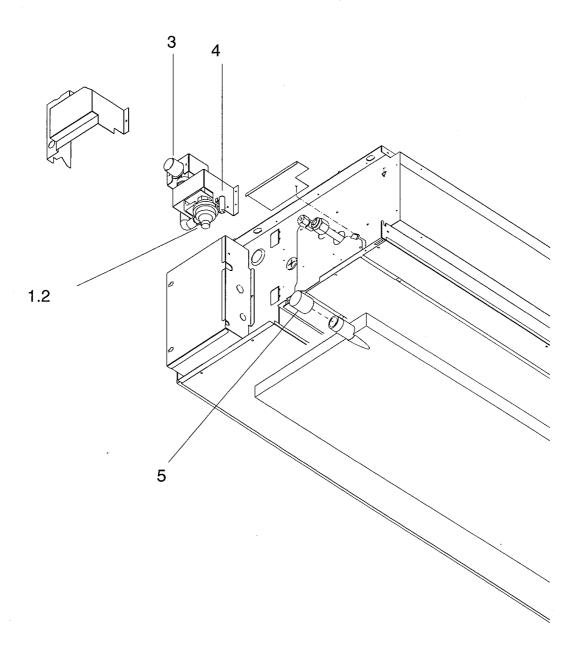
CONTROL BOX PARTS



				Qt'y/set							
No.	Part No.	Part Name	Drawing No.	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-		Spec.
				1.6EKA2	1.6EKHA	2EKA₂	2EKHA₂	2.5EKA₂	2.5EKHA₂		
1		Terminalbed	P436109X01	1	1	1	1	1	1		< TB4 >
2		Terminalbed	P436110X01	1	1	1	1	1	1		< TB2>
3		Terminalbed	BA73S950H02	1	1	1	1	1	1		< TB5 >
4		Controller	RG00C006G02	1	1	1	1	1	1		< I.B >
5		Transformer work DWG.	W855468G06	1	1	1	1	1	1		<t></t>
6		Thermistor S	BG71V163H03	1	1	1	1	1	1		< RT1 >
7		Thermistor H	BG71V164H08	1	1	1	1	1	1		< RT2>
8		Ferrite core	P419114X01	1	- 1	1	1	1	1		
9		Ferrite core	P419115X01	1	1	1	1	1	1		
10		Start relay	P421221X01		2		2		2		LY1F< 88H1,2>

PEHD-1.6EKA2.UK, PEHD-1.6EKHA2.UK PEHD-2EKA2.UK, PEHD-2EKHA2.UK PEHD-2.5EKA2.UK, PEHD-2.5EKHA2.UK

DRAIN WATER LIFT-UP PUMP PARTS (OPTIONAL PARTS)



							Qt'y	//set		
No.	Part No.	Part Name	Drawing No.	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-	PEHD-	Spec.
				1.6EKA₂	1.6EKHA₂	2EKA₂	2EKHA₂	2.5EKA2	2.5EKHA₂	
1		Drain pump-94	BG56J144G13	1	1	1	1	1	1	
2		Cushion	DB26F111H03	4	4	4	4	4	4	
3		Drain socket ass'y	BB00P145G17	1	1	1	1	1	1	
4		Drain sensor ass'y	DE00H343G21	1	1	1	1	1	1	
5		Rubber plug	P312040X01	1	1	1	1	1	1	

10 OPTIONAL PARTS

1. REFRIGERANT PIPES

Part No.	PAC-05FFS-E	PAC-07FFS-E	PAC-10FFS-E	PAC-15FFS-E		
Pipe length	5m	7m	10m	15m		
Pipe size OD		Liquid:/ø9.52 Gas:/ø15.88				
Connection method		Indoor unit:Flared	Outdoor unit:Flared			

Note 1. How to connect refrigerant pipes.

Factory supplied optional piping contains refrigerant at above atmospheric pressure. As long as the connection takes no more than 5 minutes, no air will enter, and there will be no need for air purging. Remove the blind caps and make the connections within 5 minutes. After the connections for the indoor and outdoor units are made, open the stop valve on the outdoor unit to allow refrigerant gas to flow. If piping length exceeds 5m, an additional charge of refrigerant is needed.

Note 2. The following main parts are contained in the optional refrigerant piping kit.

Heat insulating cover, vinyl tapes, nipples, sleeve and flange(for wall hole), connecting cables.

2. TIMER

Part No.	PAC-SC32PTA
Model Name	Program timer

2-1 Program timer specifications

Part name	Program timer
Part No.	PAC-SC32PTA
Exterior dimensions(mm)	5-4/32X4-23/32X23/32(130X120X18mm)
Installation	Wall mount
Type of clock	Quartz
Clock accuracy	±50second/month at 25 °C
Display-Time	Liquid crystal display
-Week	Liquid crystal display
-Timer setting unit	Liquid crystal display
Program cycle	24 hours
Timer setting unit	30 minutes
No. of set points	48/day
Power rating	5V DC ± 5%(Supplied by Remote Controller)

2-2 Feature of program timer

(1) Daily timer function

Daily timer can be set in 30 minute units for up to 24 hours. Each unit can be set for unit ON, unit OFF, or setback operation.

(2) Setback operation(PAC-SK65PT)

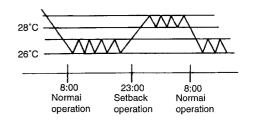
Set back operation is useful for reducing running costs.

e.g.AT a hotel with a 24-hour system

8:00~23:00 Cooling operation with set temperature at 26 °C 23:00~8:00 Setback operation with 2 degrees of setback As shown in the chart on the right, the set temperature rises 2 degrees automatically during the setback operation. When the setback operation ends, normal operation will begin.

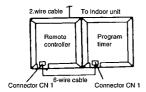
(3) Weekly timer function

Daily timer function can apply to each day of the week.



2-3 HOW to connect program timer

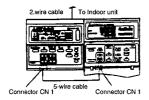
- (1) Install the program timer next to the remote controller the same way as the remote controller is installed.
- (2) Connect the program timer and the remote controller with a 6-wire cable as shown in the figure below.



NOTE: While the program timer is connected to the remote controller, the 24 hour ON/OFF timer on the remote controller will not operate.

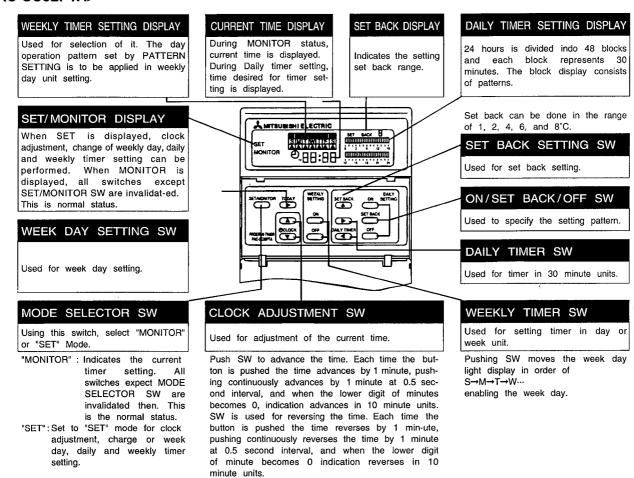
How to connect program timer

- (1) Install the program timer next to the remote controller the same way as the remote controller is installed.
- (2) Connect the program timer and the remote controller with a 5-wire cable as shown in the figure below.



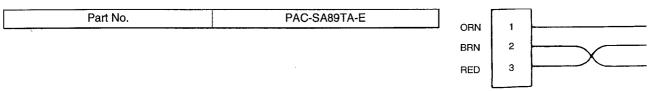
NOTE: While the program timer is connected to the remote controller, the 24 hour ON/OFF timer on the remote controller will not operate.

2-4 Names and functions <PAC-SC32PTA>



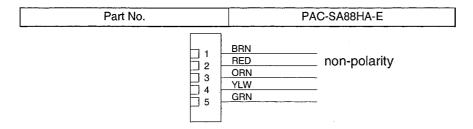
3. TIMER ADAPTER

This adapter is needed for system control and for operation via external contacts. Adapter connection is described on page 27.



4. MULTIPLE REMOTE CONTROLLER ADAPTER

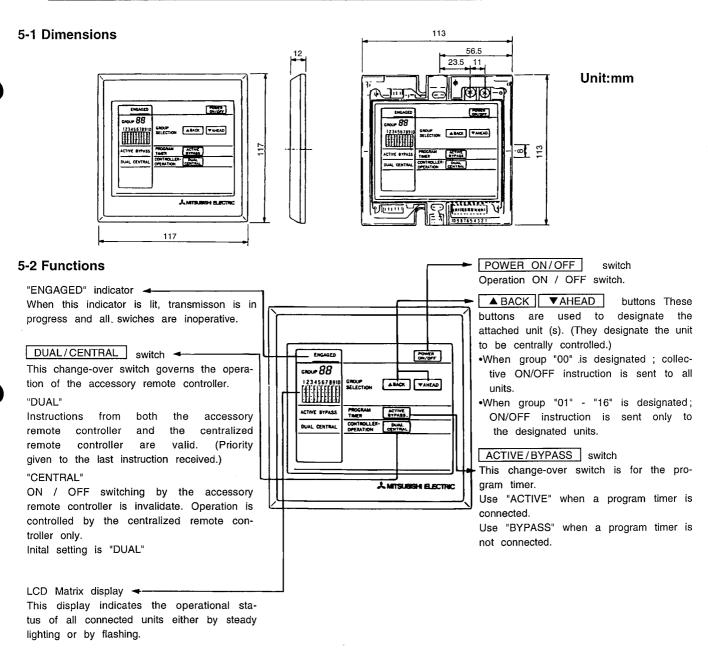
This adapter is needed for remote indication(operation/check.)



5. CENTRALIZED REMOTE CONTROLLER

Allows individual or combined control of up to 16 units. When using the PAC-805RC, the program timer adapter (PAC-825AD) is also needed.



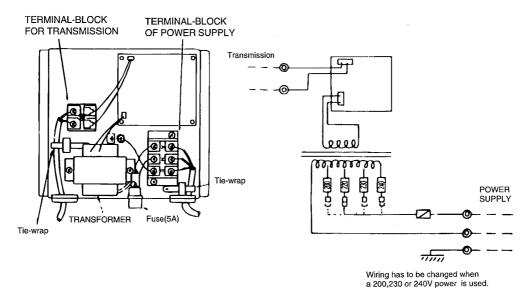


Independent "DUAL / CENTRAL" and "ACTIVE / BYPASS" setting of all the groups is prossible. When the power supply to the centralized remote controller is cut due to power failure, all settings will return to the original "DUAL" and "BYPASS".

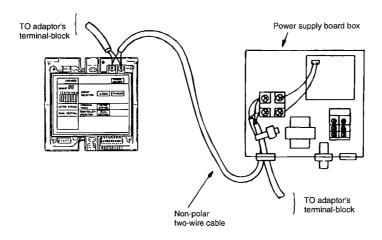
5-3 Connection method

(1) Connection in the power supply cord.

- 1. Connect the power supply cord to the power supply terminal-block and fix in-place with a tie-wrap. Connect a single phase 200V AC(220, 230, 240V) to (A)(1).
 - As (E) is the GND terminal, be sure to ground the earth wire.
- 2. Connect the transmission line to the transmission terminal-block and fix it in-place with a tie-wrap. Use a Ø1.6 (AWG14)or above two-wire cable for the transmission line.
 - CAUTION: Never connect the power supply cord to the transmission terminal-block.

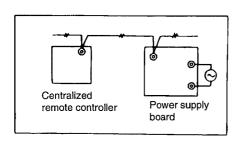


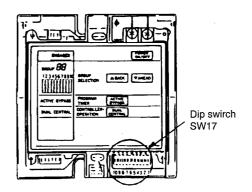
- (2) Connection method of centralized remote controller and power supply board.
 - 1. Connect the centralized remote controller and power supply board with a non-polar, two-wire cable.



2. Wiring diagram

3. Be sure to set the maximum address number with the dipswitch SW17 on the centralized remote controller.



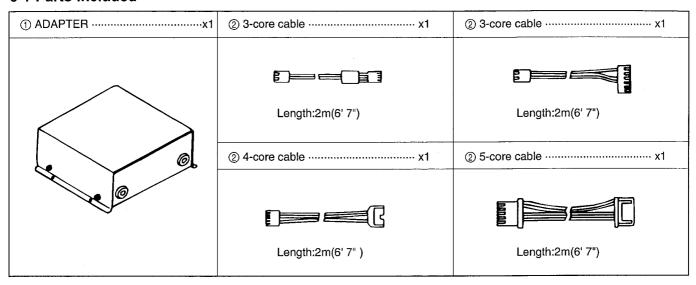


6. PROGRAM TIMER ADAPTER

This adapter is needed when a program timer(PAC-SK65PT)or a centralised remote controller(PAC-805RC)is used.

Part No.	PAC-825AD	
	I	

6-1 Parts included



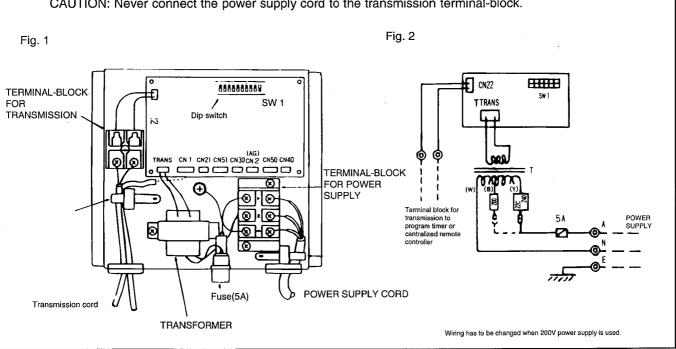
6-2 Connection method

Connection and wiring methods differ with the type of the indoor unit used. Confirm the type before carrying out the work.

(1) Connections in the adapter box

- 1. Connect the power supply cord to the terminal-block and fix in-place with a tie-wrap. Connect a single phase 200V AC(220, 230, 240V) to AN.
 - As (E) is the GND terminal, be sure to ground the earth wire.
- 2. Connect the transmission line to the transmission terminal-block and fix it in-place with a tie-wrap (when a centralized remote controller is being used).

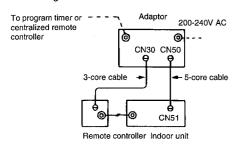
CAUTION: Never connect the power supply cord to the transmission terminal-block.



(2) When the centralised remote controller is used, set the address number with the dipswitch SW1 of the program timer adapter.

Fig. 4

Fig. 3

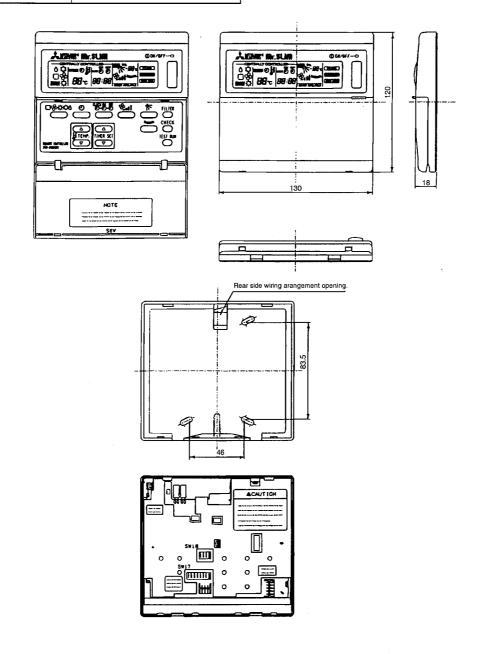


Maximum length of each cable is 10m.

7. OPTIONAL REMOTE CONTROLLER

This is for the control using two remote controllers.

Part No.	PAC-JH050KA
Applied model	PEHD-1.6/2/2.5EK(H)A2.UK



8. DRAIN WATER LIFT-UP MECHANISM

This allows more versatility when selecting drain piping layouts.

Part No.	PAC-SK002DM-F
Applied model	PEHD-1.6EK(H)A ₂ .UK, PEHD-2EK(H)A ₂ .UK, PEHD-2.5EK(H)A ₂ .UK

Mr.SLIM**



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