

PACKAGED AIR CONDITIONERS  
2 - 5 TONS



High efficiency...

Low noise...

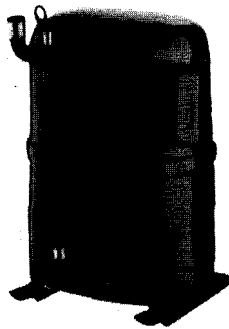
Micro processor controlled.

The 2—5 tons single-stage cooling units are designed for energy efficiency, low noise, flexibility and low installation cost with integral electric heat. All models are designed for outdoor installation and are completely wired, refrigerant - 22 charged tested and ready for connection to power supply, thermostat and ductwork.

#### Cabinet.

The corrosion resistant galvanized steel cabinet is finished by two coats of attractive enamel . The cabinet is fully insulated and mounted on galvanized steel channels to facilitate easy handling and installation.

#### Compressors.



Hermetically sealed high efficient, Low noise compressor used for each model and are specially designed for applications requiring maximum cooling efficiency. As an added safeguard, the compressor motor is equipped with inherent overheat / overload protection in the windings and a self regulating crankcase heater to protect refrigerant migration to the crankcase; (only for GPU-60)

#### Coils.

The aluminum finned condenser coils are U Formed for maximum efficiency. Fins are die-formed corrugated, high efficient type. Tubes are mechanically expanded to shoulder of each fin to ensure maximum heat transfer. All evaporator coils are rated in accordance to the ARI standard.

#### Condenser Fan.

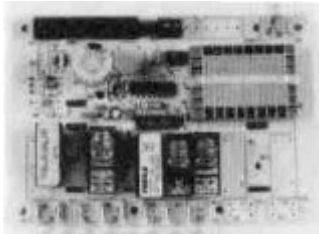
Condenser air fan is of the propeller type, Aluminum blade with a direct driven motor. Motor is of definite purpose made air over type with plastic water slinger on shaft for weather protection. Condenser fan is mounted for vertical discharge to keep the sound to a minimum.

#### Indoor Air fan.

A forward curved, statically and dynamically balanced centrifugal blower is used for the evaporator air. The fan is large enough to handle wide range of air volume in stable condition and Low noise. The blower is direct driven type with two speed for wide range of application.

## Controls.

The refrigerant system have a low pressure cutout switch to stop compressor in case system pressure drop below normal operating pressure.



POWER MODULE



CONTROL MODULE

Unit operation is monitored by a purpose made microprocessor board (power module) which is located inside the unit control box. When the system energize mode switch is press on control module, the air conditioning control is activated and energize the cooling or heating relays to maintain the set point of control module.

A 3-minute integral lock out timer prevent compressor restart against Thermostat "jiggling" and an LED flashes on control module.

LED is only lit continuously and compressor switched on when time delay elapsed. Cooling, heating and fan operation status appear on control module.

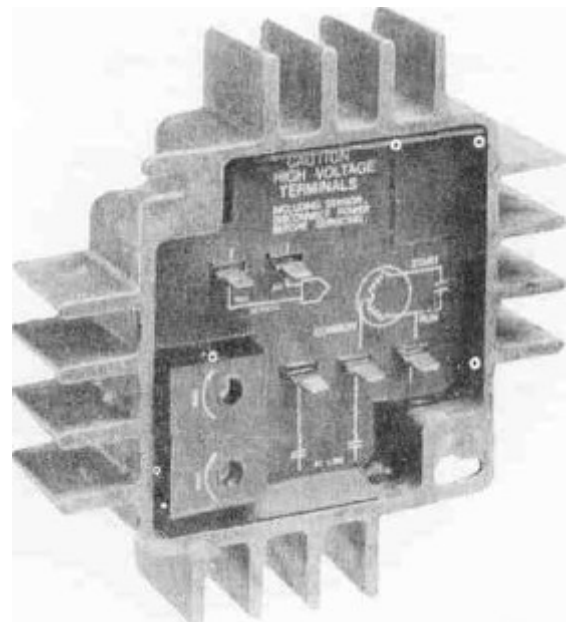
## ACCESSORIES.

### Economizer Package.

The factory assembled economizer package provides free cooling on mid-season. Automatically control the dampers to admit outside air to satisfy the Thermostat cooling demand. Compressor and outdoor fan remain off position to save energy.

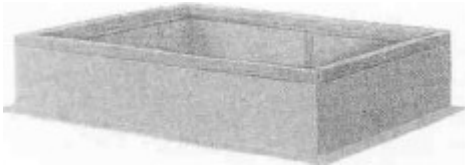
### Head Pressure Control.

The vari-speed head pressure control is a solid state controller designed to operate outdoor temperatures down to 35°F. The controller modulate the condenser fan motor to keep designed condensing temperature. Minimum and Maximum speed limit adjustment on controller will provide stable fans operation.



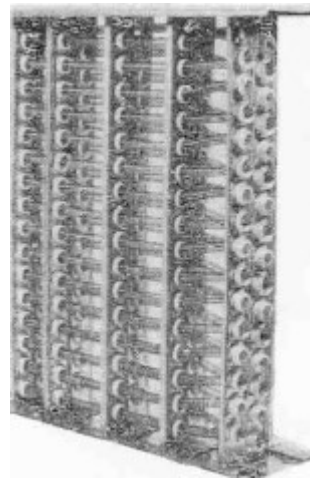
## Roof Curb.

For downblow unit installation field assembled roof curbs are available. The unit channels straddle the roof curb allowing the solid, water proof bottom pan of the unit to rest on the curb.



## Electric heater.

Optional electric resistance heaters are factory installed in discharge side of indoor fan. Complete with automatic thermal overload, contactors, power terminals and wired for two step controls. Where heaters are factory installed, unit powersupply is single point at main power terminal block.



## Downblow plenum.

For downblow roof top installations a factory installed insulated plenum section is available. Plenum eliminate field fabrication of discharge ductwork and available with filter rack, filters 25% outside air damper. bird screen and rainhood.

- Copper fins condenser and evaporator coils.
- Sheathed electric heater element.
- Electrotinned or phenolic coated condenser and evaporator coils.
- SCR Controlled heaters for stepless operation.

# Performance Data and Specifications

	GPU024-1	GPU030-1	GPU036-1	GPU036-3	GPU042-1	GPU042-3
Total Cooling-BTUH Sens.Cooling-BWH (1)	23200 16800	28000 20900	35000 26200	35000 26200	40000 30400	40000 30400
Indoor Blower Type Size - D x W Motor H.P. (std.)	DD 9x7 1/5	DD 9x7 1/3	DD 10 x 8 1/3	DD 10 x 8 1/3	DD 9x9 1/3	DD 9x9 1/3
Evaporator Coil Face Area (ft <sup>2</sup> ) Fin/in. No. of Row	3.33 14 2	3.33 14 2	3.33 14 3	3.33 14 3	6.22 14 2	6.22 14 2
Outdoor Fan Fan Dia.(in.) Motor H.P.	18 1/6	18 1/6	18 1/6	18 1/6	22 1/4	22 1/4
Condenser Coil Face Area (ft <sup>2</sup> ) Fin/in. No. of Rows	12.1 16 1	12.1 16 1	12.1 16 1	12.1 16 1	16.2 19 1	16.2 19 1
Electrical Ph Volte Compr.RLA Compr.LRA Indoor Blw FLA Outdoor Blw FLA Min.Circuit Amp. M.O.P. (2)	1 208/230 12.1 57.0 1.3 1.0 17.5 30	1 208/230 14.7 78.0 2.3 1.0 21.7 35	1 208/230 17.6 87.0 2.3 1.0 25.3 40	3 208/230 11.5 70.0 2.3 1.0 17.7 25	1 208/230 19.2 97.0 2.3 1.6 27.9 45	3 208/230 12.8 78.0 2.3 1.6 19.9 30
Net Weight Shipping Weight	240 255	245 260	265 280	265 280	335 350	325 350

- (1) Capacity 0 80/67 F Inside air ft 95 F outside air  
 (2) M.O.P. (Maximum Overcurrent Protection)  
 (3) For 50 Hz power, multiply cooling capacity by 0.88

## Altitude Correction Multipliers.

To be applied to rated performance to determine performance at other than sea level.

ALTITUDE ABOVE SEA LEVEL-FT.	0	2000	3000	4000	5000	6000	7000
Cooling Capacity	1.00	0.98	0.97	0.96	0.95	0.93	0.92

# Performance Data and Specifications

	GPU048-1	GPU048-3	GPU048-4	GPU060-1	GPU060-3	GPU060-4
Total Cooling-BTUH Sens. Cooling-BTUH (1)	45000 34200	45000 34200	45000 34200	55000 40700	55000 40700	55000 40700
Indoor Blower Type Size - D x W Motor H.P. (std.)	DD 9x9 1/2	DD 9x9 1/2	DD 9x9 1/2	DD 10 x 8 3/4	DD 10 x 8 3/4	DD 10 x 8 3/4
Evaporator Coil Face Area (ft <sup>2</sup> ) Fin/In. No. of Row	6.22 14 3	6.22 14 3	6.22 14 3	6.22 14 3	6.22 14 3	6.22 14 3
Outdoor Fan Fan Dia.(In.) Motor H.P.	22 1/4	22 1/4	22 1/4	22 1/4	22 1/4	22 1/4
Condenser Coil Face Area (ft <sup>2</sup> ) Fin/In. No. of Rows	16.2 19 1	16.2 19 1	16.2 19 1	16.2 19 1	16.2 19 1	16.2 19 1
Electrical Ph Volts Compr.RLA Compr.LRA Indoor Blw FLA Outdoor Blw FLA Min.Circuit Amp. M.O.P. (2)	1 208/230 20.0 110.0 3.6 1.6 30.2 50	3 208/230 12.8 78.0 3.6 1.6 21.2 30	3 460 6.1 39.0 1.4 0.8 9.9 15	1 208/230 27.6 142.0 4.3 1.6 40.4 60	3 208/230 19.2 124.0 4.3 1.6 29.9 45	3 460 9.6 62.0 2.2 0.8 15.0 20
Net Weight Shipping Weight	340 365	340 365	340 365	355 380	355 380	355 380

- (1) Capacity • 80/67 F inside air ft 95 F outside air  
 (2) M.O.P. (Maximum Overcurrent Protection)  
 (3) For 50 Hz power, multiply cooling capacity by 0.88

## Heater Selection Table

MODEL	POWER SUPPLY	TOTAL HEATER(KW)	STEP1	STEP2	MIN.AMPACITY	AVAILABILITY		
GPU24-1	220-230 1 60	5	5		27	GPU 24-1	GPU 24-1	GPU 36-1 THRU GPU 60-1
GPU30-1		7.5	7.5		40			
GPU36-1		10	10	-	54			
GPU42-1		15	7.5	7.5	61			
GPU48-1		20	10	10	107			
GPU60-1								
GPU36-3	220-230 3 60	7.5	7.5	—	22	GPU 36-3 THRU GPU 60-3		
GPU42-3		10	10	-	30			
GPU46-3		15	15	-	46			
GPU60-3		20	10	10	59			
GPU48-4	460-3-60	15	15	-	23	GPU 48-4 THRU GPU40-4		
GPU60-4		20	15	-	30			

# Evaporator Blower Data

MODEL	SPEED	VOLTS	EXTERNAL STATIC PRESSURE (inches WG.)																		
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0								
GPU024-1	LOW	230	CFM	860	855	850	835	805	785												
			WATTS	310	305	295	280	285	245												
	208	CFM	830	825	820	810	780	780													
		WATTS	290	285	275	260	250	240													
HIGH	230	CFM	1020	1010	1000	970	930	900	885	820	775	725									
		WATTS	390	370	350	330	315	300	280	280	240	220									
208	CFM	1000	995	980	950	910	880	835	785	725	700										
	WATTS	365	345	325	310	295	280	280	240	220	200										

GPU030-1	LOW	230	CFM	1055	1040	1030	1005	970	935													
			WATTS	465	445	435	415	395	375													
	208	CFM	1010	995	985	980	930	900														
		WATTS	440	420	410	390	370	350														
HIGH	230	CFM	1300	1250	1220	1180	1100	1050	1000	950	905	855										
		WATTS	570	550	540	510	480	480	430	410	385	380										
208	CFM	1270	1225	1195	1140	1080	1035	985	935	885	840											
	WATTS	530	510	500	475	450	430	405	385	380	340											

GPU036-1 GPU036-3	LOW	230	CFM	1295	1255	1220	1185	1105	1025	980												
			WATTS	425	405	385	380	340	315	290												
	208	CFM	1115	1090	1080	1035	1010	980	880													
		WATTS	385	350	340	320	305	290	280													
HIGH	230	CFM	1525	1435	1355	1300	1235	1145	1050	970	895	815										
		WATTS	405	470	450	430	410	385	360	340	315	300										
208	CFM	1435	1375	1305	1245	1185	1110	1015	950	875	800											
	WATTS	480	440	415	400	375	350	330	320	305	290											

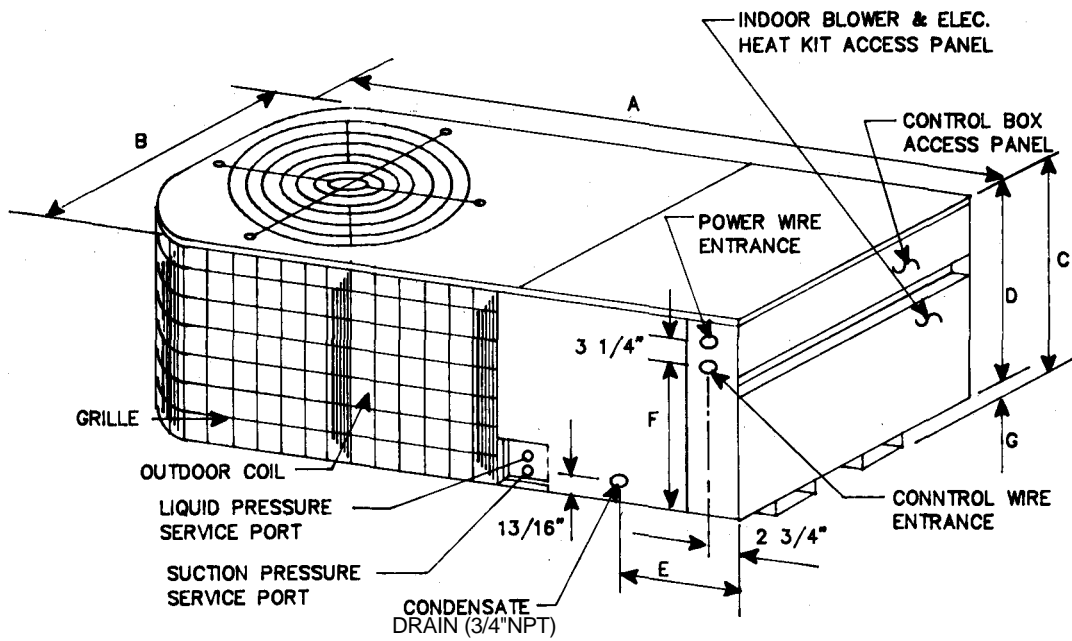
GPU042-1 GPU042-3	LOW	230	CFM	1390	1375	1385	1355	1330	1280	1205												
			WATTS	480	440	425	420	410	380	350												
	208	CFM	1320	1310	1300	1285	1280	1220	1150													
		WATTS	430	415	400	395	385	355	330													
HIGH	230	CFM	1725	1830	1590	1580	1520	1400	1315	1195	1075	950										
		WATTS	550	520	510	500	480	430	410	390	370	350										
208	CFM	1840	1550	1515	1485	1445	1330	1250	1140	1025	905											
	WATTS	525	495	485	475	455	410	380	330	300	290											

GPU048-1 GPU048-3 GPU048-4	LOW	230	CFM	1895	1805	1585	1540	1520	1435	1395												
			WATTS	590	555	530	515	495	480	440												
	208	CFM	1580	1520	1490	1485	1425	1340	1230													
		WATTS	570	535	510	490	480	410	370													
HIGH	230	CFM	1750	1880	1825	1595	1555	1510	1380	1295	1180	1050										
		WATTS	820	590	570	580	540	510	450	410	380	380										
208	CFM	1895	1835	1585	1580	1540	1445	1290	1195	1075	950											
	WATTS	585	580	545	530	510	480	390	340	310	300											

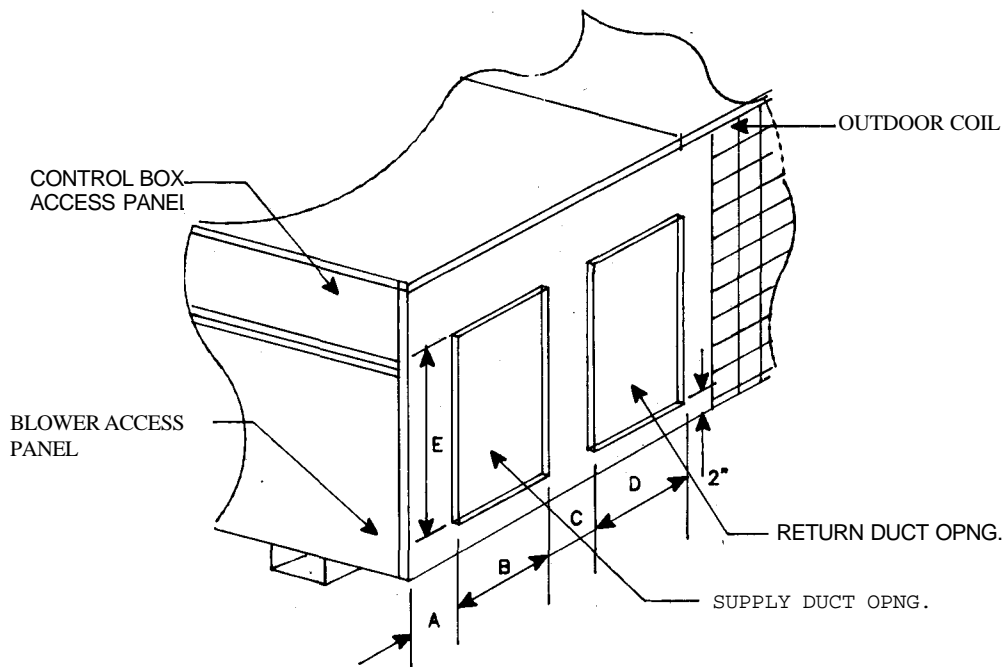
GPU060-1 GPU060-3 GPU060-4	LOW	230	CFM	1975	1915	18	1805	1740	1880	1585												
			WATT	910	885	85	800	750	705	540												
	208	CFM	1880	1825	17	1715	1855	1580	1490													
		WATT	820	780	75	720	890	850	520													
HIGH	230	CFM	2270	2200	21	2025	1980	1845	1720	1585	1400	1275										
		WATT	1045	1005	35	915	875	830	780	730	880	825										
268	CFM	2180	2095	20	1930	1885	1755	1840	1490	1335	1215											
	WATT	990	940	35	870	840	795	745	895	845	815											

## NOTES:

1. Data shown is dry coil. wet coil pressure drop is approx. 0.1" H<sub>2</sub>O.
2. Data shown doesnot Include filter pressure drop.



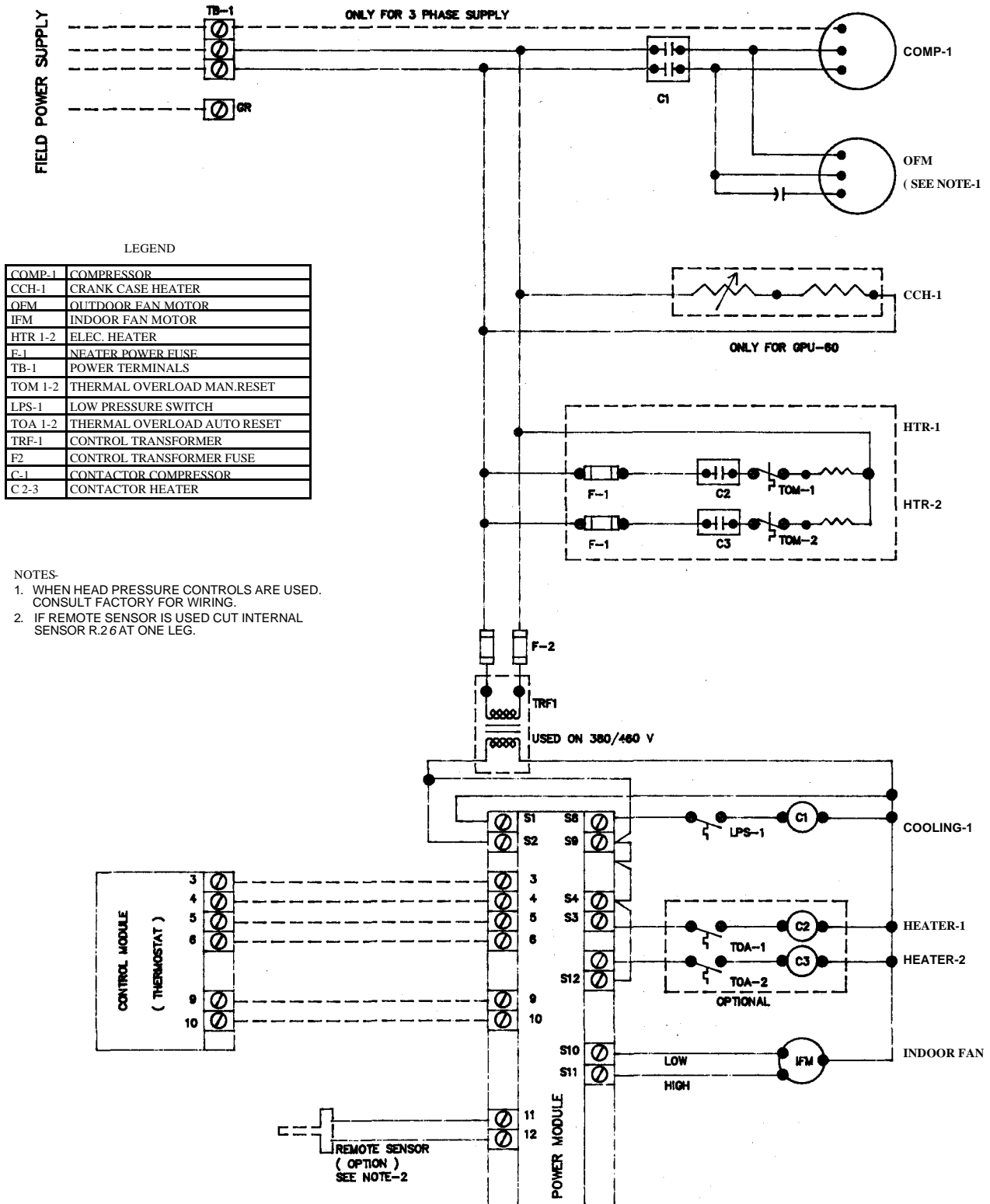
MODEL NUMBERS	A	B	C	D	E	F	G
GPU024. 030	56 1/4"	24"	26 7/8"	25"	19 1/2"	19 13/16"	3 1/4"
GPU036, 042, 048.060	63"	32"	34 3/8"	32 1/2"	21 7/8"	27 5/16"	1 7/8"



MODEL NUMBERS	A	B	C	D	E
GPU024. 030	3 5/8"	12"	3"	12"	16"
GPU036, 042, 048. 060	33/4"	14"	5"	14"	16"

# Schematic Wiring diagram.

## GPU-24 , GPU-60.



Consult factory for Economizer Package wiring.

# Sequence of Operation

## Cooling

Energize the power circuit and set the temperature to the desired temperature. Press the system energize switch on Thermostat. Upon a rise in room temperature, cooling stage in Thermostat closes, energizing compressor, indoor fan and condenser fan to satisfy the set point of Thermostat. If the unit stops by Thermostat, a lockout timer will prevent restart the compressor for a period of 3 minutes. If unit operation is interrupted by the low pressure switch, the refrigeration circuit shut down. To restart the system, push manual reset of low pressure switch.

## Heating

If room temperature fails below set point of Thermostat, electric heater energize to keep room temperature at Thermostat set point.

## Operation Status Indication

LED indication on Thermostat includes fan operation, cooling stages, heating stages, lockout mode and clogged filter (option).

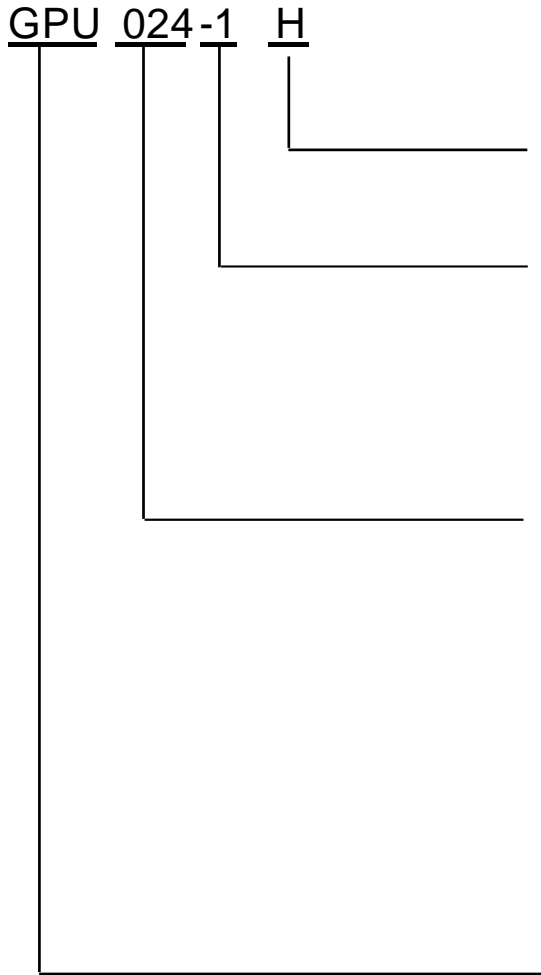
## Remote Sensor (Option)

If the units are used for public buildings, remote sensor is recommended to avoid tampering the Thermostat setting.

## Sleep Mode (Option)

An external switch will reset the set point value of Thermostat (Consult factory for more details).

# Model Identification.



C - COOLING ONLY

H - HEATING/COOLING

## Electrical Designator

1 - 208/230 VAC, 1 Ph, 60 Hz

3 - 208/240 VAC, 3 Ph, 60 Hz

4 - 460 VAC, 3 Ph, 60 Hz

## Nominal Capacity

024 - 24,000 BTUH

030 - 30,000

036 - 36,000

042 - 42,000

048 - 48,000

060 - 60,000

## Unit Type

PRODUCT CODE