

- ...Environment friendly
- ...Easy to access components
- ...More efficient air cooled condenser coils
- ...Easy to install and maintain



The Saudi Factory for Air Conditioning Units



GPU™

Air Cooled Packaged Unit (50/60 Hz)

R-134A Refrigerant

GPU-140X to GPU-600X
12 - 50 Nominal Tons

Royal Temp...helping to preserve the environment.



Benefits

Easy installation

Royal Temp has a compact footprint design which reduces the structural steel, concrete, and fencing cost. Each unit is completely charged and factory tested and released from factory as a complete packaged for easy installation and start-up.

Reliability

Royal Temp self-contained air conditioning units are designed for optimum performance.

- Major components are properly matched to provide desired unit performance.
- Heat rejection is optimized to continuously operate during hot summer season when cooling is needed the most without tripping. Compressor is assured working without pushing its operation to the peak of envelope limit.
- Dual independent refrigerant circuits providing flexibility and unsurpassed backup using scroll compressors.
- Only when the unit violates an operating limit will the packaged unit shut down.

Quality

All Royal Temp Air Cooled Packaged Units are manufactured under ISO 9001 (2000) facility which ensures quality of the product.

Quiet Operation

Due to its quiet operation, the units are suitable for applications such as schools, offices, hospitals, hotels and other places nearby residential areas. Royal Temp will be quieter during part load operation especially at night time where there are only few fans running.

Preserving the Environment

The discovery of hole in the earth's ozone layer over Antarctica in 1985 led the movement to reduce the use of CFC's or chlorofluorocarbons. CFC's are having high ozone depleting potential. HCFC's are also containing some ozone depleting potential and are scheduled to be banned on 2030.

Being responsible in preserving the environment, you have the right choice of choosing R-134A as refrigerant because R-134A is an HFC (chlorine-free) refrigerant with a low ozone depleting potential and direct global warming potential. R-134A refrigerant is not affected by the Montreal Protocol on substance that depletes ozone layer.

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Unit Construction

Frames and panels are made up of G-19 galvanized steel sheets finished with two coats of enamel.

The evaporator enclosure is insulated with 1" thick stable glass fibers bonded with thermo-setting resins and free from coarse fibers and shot. Fibers are non-combustible when tested in accordance with BS 476 (part 4), ASTM E 84, ASTM E 136, and UL 723. Fibers characteristic is also in accordance with ASTM D 2020 and UL 181 because it does not breed or sustain mold, fungus, bacteria or rodents. Double skin panel with injected polyurethane insulation are available as an option.

Condenser section features side intake and vertical top discharge.

Electrical compartment is provided to house the electrical components. PVC wire ducts are provided inside the compartment for convenient and safe way of channeling wires or cables. Wires and cables are mark to easily identify connections.

Both evaporator and condenser sections are mounted on steel channels to facilitate easy handling and installation. The unit base provides sturdy foundation and simplified installation.

Compressors

Royal TEMP employs energy efficient semi-hermetic reciprocating compressors, scroll compressors or screw compressors (for larger capacity units) available today. They feature rugged and compact construction for heavy duty usage, efficient energy saving design, and ease of maintenance. The compressor motor is equipped with inherent thermal overload protection in the windings. As a standard accessory, compressors are equipped with suction and discharge service valves (except scroll), reversible oil pump and oil differential pressure switch (for reciprocating compressor only), oil level switch (for screw compressor), crankcase heater, oil sight glass, oil strainer, suction strainer, capacity control (except scroll), and compressor internal pressure relief valve.

Coils

The aluminum or copper finned evaporator and condenser coils are produced with multiple rows of seamless copper tubing arranged in a staggered configuration. Fins are die-formed, corrugated type to provide effective heat transfer. Tubes are mechanically expanded to shoulder of each fin to ensure optimum heat transfer. All evaporator and condenser coils are rated to meet the requirement.

Coils are available as options with corrosion protective coating and for highly corrosive environment application with copper tube copper fin electro-tinned after fabrication.

The evaporator coil assembly is pressure tested to 315 psig while submerged to warm water. The condenser coil assembly is pressure tested to 450 psig while submerged to warm water.

Condenser Fan and Motor

Condenser air fan is of the propeller type, aluminum blade with a direct driven motor. Condenser fan is mounted for vertical discharge. Fan cycling or staging is achieved by pressure switches maintain head pressure and to operate the system efficiently on low ambient condition.

Motors are of totally enclosed air over type for weather protection with permanently lubricated bearings and automatic thermal protector.

Indoor Air Fan

The indoor fans are manufactured from hot dip galvanized sheet steel scroll with aero-dynamic profile side plates to suit the corresponding air inlet size. Side plates are sheared in single piece, pressed and rib-formed in one operation to give necessary rigidity at critical points. Impellers are constructed with forward curved blades and are made from galvanized sheet steel, completely cold assembled with the absence of welding. Blades are fixed rigidly to prevent flexing. Impellers are statically and dynamically balanced. The fan is belt driven using an adjustable pitch motor sheave for precise airflow selection.

Controls

Each refrigerant circuit is equipped with safety devices such as high and low pressure switch, oil pressure switch (for reciprocating compressor), oil level control (for screw compressor), electronic motor protection, and pump down pressure controls as standard. (Note: Oil pressure switch and oil level control is not required for scroll compressors.)

Cooling and heating operations are controlled by electronic microprocessor based thermostat. Five minute lock out timer is an added feature to all models to prevent compressor re-start against thermostat jiggling.

Air Filter

High dust holding capacity, low resistance filter. It can be cleaned with regular water for prolonged use. It consists of metal aluminum mesh with unique pattern. This will allow the air to have less resistance and have the ability to depth load rather than surface load.

Optional Accessories

Economizer

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. Compressors and condenser fan motors remain in off position to save energy.

Roof Curb

For down-blow roof top unit installation, field assembled roof curbs are available on all models.

Double Skin Casing Construction

For clean room or high ambient applications, evaporator section with double skin casing construction is available. The panels are insulated with injected polyurethane insulation. The thermal coefficient is 0.0185 W/m-°K.

Power Exhaust

Together with economizer, up to 75% of the return air can be exhausted to eliminate over-pressurization of the building.

Head Pressure Control

The varying speed head pressure controller is designed to operate outdoor temperatures down to -20°F. The controller varies the speed of condenser fan motor to keep design condensing temperature. Minimum and maximum speed limit adjustment on controller will provide stable fan(s) operation.

Return Air Fan

For high external static and or 100% economizer system return air fan is recommended to use with basic units. Return fan discharges air within the unit so that all of the air can be reconditioned and return to the building or exhausted when economizer system in operation. The return fan utilizes two forward curved fans driven by its dedicated motor. Return fan operates together with the supply fan and continue to run until the supply fan stops.

Long Life Evaporator and Condenser Coil

Long life evaporator and condenser coils are available as options having copper tubes-aluminum fins with Heresite coating after fabrication, copper tubes-copper fins, and copper tubes-copper fins electro-tinned after fabrication.

Electric Heater

Optional electric heaters are of open-coil type elements. Electric heaters are factory installed complete with automatic & manual reset thermal switches and airflow switch. Stainless steel tubular elements with or without fins are available as option. Both electric heaters are designed to meet UL standard.

Electric heaters are available in various control steps or SCR (Silicon Control Rectifier) control for 0-100% stepless modulation.

Bag Filter

Bag filters are available with 18" and 22" deep with average efficiency by ASHRAE 52-76 of 60-65%, 85-90% and 90-95% efficiency. Bag filters consist of individual pockets supported by rigid galvanized header frame. Media is double locked to the face header for insured strength. Galvanized steel frame is provided for maximum strength and positive seal.

VT-VAV Zone Control System

Variable Temperature-Variable Air Volume (VT-VAV) Zone Control System provides improved comfort through the use of individual area thermostat. Save energy and money by allowing temperature setback in the unoccupied area while maintaining comfort in the occupied area.

VT-VAV System use the latest generation of microcomputer multi-zone system designed to enhance temperature control and energy savings. Powerful computerized logic panel monitors each zone thermostat and automatically selects the proper heating or cooling cycle as well as the correct number of stages. VT-VAV system is available from 2 zones up to 16 zones in single machine. System monitor/controls up to 30 nos. machine loop.

Other Optional Accessories

- Compressor and condenser fan circuit breakers
- Condenser coil guard
- Filter drier isolation valve
- Suction and discharge mufflers
- Suction vibration eliminator
- Liquid line solenoid valve
- Liquid-moisture indicator or sight glass
- Pressure gages
- Phase loss monitor
- Safety control alarm contacts

SELECTION PROCEDURE

1. Determine cooling and heating requirements at design conditions.

Given	
Total Capacity (TH)	456,458 BTUH
Sensible Capacity (SH)	331,758 BTUH
Condenser Entering Air Temperature	115°F
Evaporator Entering Air Dry Bulb Temperature (EADBT)	80°F
Evaporator Entering Air Wet Bulb Temperature (EAWBT)	67°F
Airflow	17000 CFM
External Static Pressure	0.70 in WG
Altitude	Sea level
Electrical Characteristics	230V / 3Ph / 60Hz
Dual circuit with scroll compressors	

2. Select unit based on required capacities.

Enter Capacity Data table at condenser entering air temperature of 115°F. Unit model GPU-540X at 17000 CFM will provide 490,200 BTUH Total Capacity and 379,800 BTUH Sensible Capacity at specified evaporator entering air temperature of 80°F/67°F (DB/WB).

For altitude other than sea level, multiply capacity by altitude correction factor from Table 1.

To calculate evaporator leaving air dry bulb temperature:

$$LADBT = EADBT - (SH / 1.08 \times CFM)$$

Where,

LADBT – Leaving air dry bulb temperature

EADBT – Entering air dry bulb temperature

$$\begin{aligned} LADBT &= 80 - (379,800 / 1.08 \times 17000) \\ &= 59.3^\circ\text{F} \end{aligned}$$

To calculate evaporator leaving air wet bulb temperature:

$$H_L = H_E - (TH / 4.5 \times CFM)$$

Where,

H_L – Enthalpy of leaving air

H_E – Enthalpy of entering air

From Enthalpy at Saturation Table, the corresponding enthalpy at 67°F EAWBT is 31.62 Btu/Lb.

$$\begin{aligned} H_L &= 31.62 - (490,200 / 4.5 \times 17000) \\ &= 25.21 \text{ Btu/Lb.} \end{aligned}$$

From Enthalpy at Saturation Table, at 25.21 Btu/Lb. the leaving air wet but temperature (LAWBT) is 58.2°F.

3. Determine fan speed and power requirements at design conditions.

Enter fan performance table. Select fan RPM and BHP for 17000 CFM @ an external static pressure of 0.75 in. WG.

NOTE: If any other accessories are required to be added with base unit i.e. bag filter, accessories pressure drop to be added and considered to be external pressure.

Fan RPM = 644, BHP = 10.58HP, use 15HP motor.

If unit application is above sea level, correct the fan RPM and BHP by multiplying the Altitude Correction Factor.

ALTITUDE CORRECTION FACTORS

ALTITUDE, FT	0	1000	2000	3000	4000	5000	6000	7000
COOLING CAPACITY	1.00	0.98	0.97	0.96	0.95	0.94	0.93	0.92
FAN RPM	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14
FAN BHP	1.00	1.05	1.12	1.18	1.25	1.32	1.40	1.48

4. Select unit that corresponds to power source available.



PERFORMANCE DATA (SCROLL, 60 HZ)

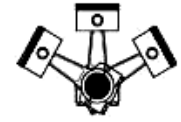
Model	Airflow CFM	Air temperature entering condenser, °F														
		85			95			105			115			125		
		TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI
140X	3800	142.9	96.3	10.2	137.7	94.1	11.4	132.4	91.8	12.6	126.6	90.4	14.2	120.2	86.9	15.7
	4500	147.5	105.7	10.2	142.2	103.4	11.4	136.3	101.0	12.7	128.8	97.3	14.2	122.9	95.9	15.8
	6000	154.7	121.0	10.3	148.2	118.7	11.6	141.9	116.2	12.8	138.5	114.6	14.5	131.4	111.9	16.1
180X	4700	188.8	124.8	14.8	181.5	121.7	16.6	174.0	118.5	18.5	166.4	116.4	20.6	158.3	113.0	23.0
	5500	194.9	134.0	15.0	187.6	130.9	16.7	179.4	127.4	18.7	171.3	124.1	20.8	162.5	120.1	23.2
	7500	205.4	155.2	15.3	197.1	151.6	16.9	188.1	148.3	18.9	179.3	144.8	21.0	169.6	141.1	23.4
210X	5300	215.4	144.6	15.9	207.2	141.1	17.8	199.4	137.6	19.8	190.5	133.6	22.1	181.8	129.9	24.6
	6500	224.7	158.9	16.1	216.2	155.5	17.9	207.4	151.4	20.0	197.7	147.4	22.3	187.8	143.4	24.8
	8700	235.2	182.7	16.3	225.7	179.2	18.5	216.4	175.5	20.2	205.5	171.2	22.5	194.9	166.9	25.0
240X	5600	230.9	152.3	17.7	223.1	150.4	19.7	213.6	146.5	22.0	204.7	142.3	24.5	194.7	138.0	27.4
	7500	244.6	175.8	17.9	235.3	171.9	20.0	226.1	168.0	22.3	215.2	163.6	24.9	205.0	159.4	27.7
	9200	252.8	194.6	18.0	242.2	190.7	20.2	232.0	186.6	22.4	221.2	182.1	25.0	209.9	177.6	27.8
270X	6700	263.8	178.2	20.6	253.8	173.7	22.9	244.2	169.3	25.5	233.1	166.1	28.5	221.8	161.0	31.8
	8500	275.7	198.1	20.8	265.1	195.4	23.1	254.3	192.4	25.8	243.1	187.4	28.8	230.8	182.0	32.1
	11000	286.8	227.8	21.0	273.9	222.8	23.4	264.0	217.8	26.0	251.0	212.7	29.0	238.1	211.1	32.3
300X	7700	299.5	200.2	22.8	289.5	195.6	25.3	280.7	188.3	28.3	268.4	184.8	31.5	255.6	179.4	35.2
	9500	313.7	217.5	23.2	303.0	214.5	25.6	290.8	209.8	28.5	278.6	206.7	31.7	265.0	200.7	35.4
	12700	328.8	254.2	23.5	315.1	249.0	26.0	303.1	243.8	28.8	288.9	238.0	32.0	275.2	232.2	35.7
330X	8400	334.1	220.7	25.5	322.0	215.3	28.4	309.7	212.1	31.7	295.4	205.7	35.4	282.1	199.8	39.4
	10500	349.0	244.8	25.8	335.5	238.8	28.7	322.7	235.7	32.0	307.4	229.2	35.7	292.4	224.9	39.8
	13800	365.2	283.5	26.1	351.0	276.1	29.1	336.0	269.4	32.3	320.1	263.5	36.0	303.4	256.5	40.1
360X	9400	356.4	244.5	26.0	343.3	238.6	28.9	330.1	235.2	32.2	314.7	228.6	35.8	299.3	221.8	40.0
	11800	372.5	276.6	26.3	358.3	270.3	29.2	343.2	263.9	32.4	326.5	257.0	36.2	310.6	250.4	40.3
	15500	387.2	317.0	26.7	372.2	310.5	29.5	356.4	303.9	32.8	339.1	296.9	36.5	320.8	294.2	40.6
390X	10000	387.1	261.5	29.3	372.7	255.0	32.6	356.6	250.7	36.4	340.8	243.8	40.5	323.5	236.3	45.2
	12800	406.4	296.2	29.6	389.4	289.6	33.1	372.4	281.8	36.8	354.9	274.6	40.9	335.8	267.0	45.6
	16600	423.1	341.7	30.1	404.6	334.5	33.4	386.4	327.0	37.1	368.0	319.3	41.3	347.0	310.7	46.0
420X	10500	418.5	281.8	31.5	403.4	274.9	35.2	387.6	267.8	39.2	369.6	259.8	43.8	352.0	254.6	48.9
	13500	440.4	316.4	31.9	423.8	308.9	35.6	405.3	301.1	39.6	386.5	296.1	44.2	367.1	290.6	49.3
	17200	456.9	359.3	32.2	437.9	352.1	35.9	419.5	343.8	40.0	400.7	335.4	44.6	377.7	332.6	50.2
480X	11700	476.2	320.2	35.4	458.1	312.2	39.4	439.6	307.1	44.0	420.2	298.4	49.0	399.6	289.6	54.6
	15000	500.2	363.5	35.7	480.8	355.0	39.8	459.0	345.9	44.4	438.0	340.0	49.4	415.6	333.7	55.0
	19400	519.5	419.0	36.1	498.7	410.6	40.2	476.0	400.2	44.8	453.7	391.5	49.8	430.1	381.5	55.4
540X	12400	524.3	349.9	41.0	505.9	341.3	45.7	484.7	334.5	51.0	463.8	325.1	57.0	441.7	315.3	63.6
	17000	558.0	409.6	41.7	537.4	400.4	46.5	513.4	389.8	51.8	490.2	379.8	57.7	464.6	372.4	64.4
	20500	573.2	449.6	42.0	552.4	439.3	46.8	527.0	430.3	52.1	503.2	426.5	58.1	476.0	414.9	64.8
600X	13500	578.5	383.7	47.6	558.4	374.0	53.1	535.1	367.0	59.2	511.1	356.3	66.2	485.9	345.0	74.0
	19000	618.4	456.6	48.5	594.2	445.9	54.1	569.1	434.9	60.3	542.0	423.3	67.3	514.2	411.1	75.1
	22100	632.7	488.3	48.9	607.4	478.1	54.5	580.3	474.9	60.6	554.6	462.1	67.7	524.8	450.4	75.5

NOTES

- Ratings are based on evaporator entering air temperature of 80°F dry bulb and 67°F wet bulb. For condition other than stated please consult factory.
- Interpolation is permissible. Do not extrapolate.

LEGENDS

TH – Total Load (MBH)
 SH – Sensible Load (MBH)
 KWI – Compressor kW Input



PERFORMANCE DATA (RECIPROCATING, 60 HZ)

Model	Airflow CFM	Air temperature entering condenser, °F														
		85			95			105			115			125		
		TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI
140X	3800	148.8	99.6	11.5	142.2	96.8	12.2	135.6	94.0	12.9	129.3	91.3	13.5	122.7	88.7	14.1
	4500	153.1	107.7	11.7	146.7	105.0	12.4	140.1	102.3	13.1	133.1	99.4	13.7	125.3	96.7	14.3
	6000	160.9	123.0	12.0	153.9	120.2	12.8	146.1	117.5	13.4	139.0	114.8	14.1	131.4	111.9	14.7
180X	4700	187.8	124.4	15.9	180.0	121.2	16.7	172.1	117.9	17.6	164.0	114.4	18.5	156.0	111.1	19.4
	5500	193.7	133.6	16.1	185.3	130.1	17.1	177.4	126.8	17.9	169.0	123.3	18.8	160.9	120.3	19.8
	7500	204.1	154.7	16.6	195.1	151.0	17.6	186.0	147.9	18.4	176.5	144.2	19.4	167.2	140.5	20.3
210X	5300	218.2	145.8	17.0	208.7	141.7	18.1	199.7	137.7	19.1	189.9	133.6	20.0	180.0	129.4	21.0
	6500	227.8	160.0	17.4	217.5	155.8	18.5	207.2	151.6	19.5	197.5	147.6	20.5	187.3	143.5	21.5
	8700	239.0	184.2	17.9	228.1	180.2	19.0	216.9	175.8	20.0	205.6	171.4	21.0	195.0	167.2	22.0
240X	5600	240.1	157.5	19.6	230.0	153.1	20.8	219.8	148.6	22.0	209.5	144.2	23.1	199.7	139.9	24.1
	7500	254.7	179.1	20.3	244.0	174.7	21.6	232.6	170.0	22.8	220.9	165.4	23.9	209.7	162.5	24.9
	9200	263.5	199.9	20.8	251.4	193.5	22.0	240.3	190.5	23.2	227.6	185.9	24.3	215.3	182.8	25.4
270X	6700	272.3	181.3	23.3	261.0	176.3	24.6	249.5	171.3	25.8	237.9	167.9	27.1	226.0	162.8	28.4
	8500	285.8	203.4	23.9	272.9	200.0	25.3	260.5	194.6	26.6	247.9	189.2	27.9	235.0	183.7	29.2
	11000	296.3	231.2	24.5	284.1	225.5	25.8	270.3	219.8	27.2	257.2	218.7	28.5	242.7	212.7	29.8
300X	7700	314.9	207.5	27.3	302.6	201.8	28.9	289.2	196.0	30.5	276.3	190.3	32.1	262.4	186.1	33.6
	9500	328.6	227.6	28.0	314.6	223.9	29.7	300.5	218.1	31.3	287.5	212.1	32.9	273.2	205.9	34.4
	12700	345.5	262.1	28.9	329.7	256.4	30.5	315.0	249.5	32.2	299.8	243.4	33.8	284.5	241.8	35.4
330X	8400	340.9	225.5	27.8	327.2	219.4	29.5	312.8	213.1	31.1	298.3	206.7	32.7	283.6	200.4	34.3
	10500	357.0	250.1	28.5	341.6	243.2	30.2	326.0	236.9	31.9	311.1	230.4	33.5	295.6	226.3	35.1
	13800	372.8	284.7	29.3	356.9	278.7	31.0	340.5	271.0	32.7	323.8	263.9	34.4	306.3	257.5	36.0
360X	9400	365.4	249.9	28.9	349.1	243.1	30.7	333.6	236.5	32.4	317.6	229.5	34.0	301.9	222.9	35.6
	11800	381.8	279.7	29.6	364.5	272.5	31.4	347.2	265.3	33.2	330.5	258.3	34.8	313.6	251.4	36.4
	15500	396.8	320.3	30.3	379.4	312.7	32.2	361.4	305.3	33.9	343.7	298.4	35.6	325.0	296.0	37.3
390X	10000	385.5	260.8	31.6	368.8	253.7	33.5	352.4	246.9	35.2	335.8	239.8	37.0	319.3	232.9	38.8
	12800	404.0	295.4	32.5	386.7	288.2	34.3	368.5	280.8	36.1	350.0	273.4	38.0	331.6	266.2	39.8
	16600	419.8	340.3	33.2	400.5	333.3	35.0	381.9	325.9	36.9	362.7	317.9	38.7	342.7	310.0	40.6
420X	10500	426.7	284.7	34.6	409.2	276.9	36.7	390.6	268.6	38.7	373.4	261.2	40.7	354.8	255.8	42.5
	13500	448.7	318.6	35.6	429.4	313.7	37.8	409.6	305.6	39.9	389.7	297.2	41.9	369.3	291.5	43.8
	17200	466.4	363.3	36.4	445.9	353.2	38.7	423.7	345.0	40.8	403.1	336.6	42.7	382.5	328.5	44.7
480X	11700	462.4	314.5	35.7	442.6	306.2	38.0	421.7	297.4	40.1	401.6	289.0	42.1	380.7	280.6	44.0
	15000	484.1	357.4	36.7	462.9	348.6	39.0	439.8	339.3	41.1	418.3	330.5	43.1	395.9	321.4	45.1
	19400	503.3	414.1	37.5	479.1	403.7	39.8	456.6	394.3	41.9	433.5	385.0	44.0	409.1	374.7	46.0
540X	12400	522.8	348.7	42.9	500.3	339.2	45.4	478.2	329.3	47.8	455.4	322.6	50.2	432.4	312.4	52.6
	17000	555.6	408.6	44.6	532.0	398.5	47.1	505.2	387.5	49.6	480.8	377.3	52.0	454.6	366.6	54.5
	20500	572.5	449.2	45.3	546.8	437.6	48.0	519.8	426.3	50.5	493.4	416.6	52.9	466.6	412.7	55.3
600X	13500	582.1	384.6	51.0	558.3	377.7	53.9	534.1	366.7	56.6	509.4	355.6	59.4	483.0	344.0	62.4
	19000	623.3	457.7	53.2	595.4	445.5	56.1	567.2	433.6	59.0	540.3	422.4	61.9	511.2	410.4	64.9
	22100	637.3	492.9	53.9	608.8	482.6	56.9	578.5	473.6	59.9	552.4	460.9	62.8	521.5	449.1	65.7

NOTES

- Ratings are based on evaporator entering air temperature of 80°F dry bulb and 67°F wet bulb. . For condition other than stated please consult factory.
- Interpolation is permissible. Do not extrapolate.

LEGENDS

TH – Total Load (MBH)
 SH – Sensible Load (MBH)
 KWI – Compressor kW Input



PERFORMANCE DATA (SCROLL, 50 HZ)

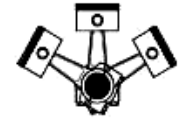
Model	Airflow CFM	Air temperature entering condenser, °F														
		85			95			105			115			125		
		TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI
140X	3800	127.0	100.5	8.5	122.3	98.3	9.5	118.0	96.4	10.3	110.8	93.7	11.8	105.5	91.3	13.2
	4500	130.4	108.7	8.5	125.3	106.4	9.5	120.8	104.3	10.4	114.2	101.4	11.9	108.3	98.7	13.2
	6000	136.0	128.0	8.6	130.5	125.5	9.6	125.8	123.3	10.5	118.5	120.2	12.0	111.9	117.2	13.3
180X	4700	168.9	129.1	12.5	162.5	126.1	14.0	157.3	123.6	15.1	148.4	119.6	17.3	140.5	116.1	19.3
	5500	173.9	140.8	12.6	167.4	137.7	14.1	159.9	134.3	15.6	151.8	131.2	17.4	144.0	127.5	19.4
	7500	182.2	164.5	12.8	174.4	161.1	14.2	166.4	157.5	15.8	157.9	153.8	17.6	149.3	150.0	19.6
210X	5300	191.4	147.3	13.2	184.5	144.0	14.8	176.4	140.3	16.5	168.5	136.8	18.4	159.9	132.9	20.5
	6500	198.4	164.4	13.3	190.5	160.8	14.9	182.5	157.2	16.6	174.3	155.0	18.5	164.9	148.3	20.7
	8700	206.8	193.3	13.5	198.6	189.5	15.0	190.0	185.5	16.8	180.8	181.3	18.6	170.9	176.7	20.8
240X	5600	205.0	156.9	14.5	197.7	153.5	16.2	191.6	152.1	17.7	181.2	145.9	20.3	171.8	141.7	22.7
	7500	216.0	182.8	14.6	207.1	179.4	16.4	198.9	176.9	18.3	188.7	172.7	20.5	179.0	167.7	22.9
	9200	221.3	205.6	14.7	212.6	201.6	16.5	203.9	197.6	18.4	194.2	193.2	20.6	183.3	188.0	23.0
270X	6700	236.2	185.2	16.8	227.2	180.9	18.7	217.6	176.3	20.9	208.1	171.8	23.4	197.0	166.8	26.2
	8500	246.4	209.6	16.9	236.2	204.9	18.9	226.3	200.3	21.2	215.3	195.7	23.6	204.1	190.8	26.4
	11000	255.2	238.2	17.0	244.6	233.4	19.0	233.3	232.5	21.3	222.5	227.3	23.8	210.6	221.7	26.6
300X	7700	269.7	187.5	18.4	259.6	185.0	20.5	251.1	181.2	22.4	238.5	176.0	25.7	227.2	171.3	28.8
	9500	279.2	209.6	18.6	269.4	205.3	20.7	258.0	201.2	23.1	245.6	195.8	25.9	233.7	190.4	29.0
	12700	290.9	241.8	18.8	279.8	237.2	20.9	267.9	232.3	23.3	256.0	227.5	26.1	242.8	226.5	29.2
330X	8400	301.4	232.5	21.1	290.2	227.2	23.6	277.9	221.2	26.3	265.8	215.5	29.4	252.2	209.5	32.8
	10500	313.4	259.3	21.4	301.1	253.5	23.8	288.5	248.5	26.5	274.7	241.8	29.6	260.6	234.8	33.0
	13800	326.1	295.1	21.6	313.1	289.3	24.0	298.3	282.8	26.8	285.0	282.3	29.8	269.4	275.2	33.3
360X	9400	319.2	254.3	21.5	307.8	249.0	23.9	294.0	242.7	26.6	278.4	235.5	29.7	266.2	230.0	33.2
	11800	331.6	286.8	21.7	318.1	280.6	24.1	304.6	274.6	26.9	288.8	268.4	29.9	274.9	265.3	33.4
	15500	342.9	336.7	21.9	329.8	330.4	24.3	315.2	323.5	27.1	300.0	315.8	30.1	284.2	313.2	33.6
390X	10000	346.7	274.9	24.7	334.3	268.6	27.5	322.4	263.1	29.8	303.8	254.5	34.1	287.9	247.2	38.0
	12800	362.4	310.3	25.0	347.0	306.3	27.8	331.9	299.4	30.9	315.2	292.6	34.3	298.1	284.1	38.3
	16600	374.2	356.6	25.3	358.7	349.6	28.0	343.0	342.5	31.1	325.9	334.7	34.6	306.8	331.2	38.6
420X	10500	375.1	293.0	26.3	361.1	286.2	29.3	345.8	279.0	32.8	330.3	271.6	36.6	313.2	263.8	40.8
	13500	391.3	330.7	26.6	376.4	327.0	29.6	358.3	316.9	33.1	343.1	312.4	36.9	325.2	303.7	41.1
	17200	404.4	375.2	26.8	389.4	368.2	29.8	371.2	360.2	33.3	353.5	358.4	37.1	333.8	349.2	41.3
480X	11700	424.3	328.0	29.0	408.1	320.4	32.4	393.5	313.3	35.4	372.4	304.0	40.6	352.3	295.2	45.3
	15000	441.4	370.9	29.2	423.9	366.4	32.7	406.6	358.5	36.6	386.8	349.7	40.9	366.1	339.3	45.7
	19400	457.2	427.2	29.4	439.8	419.3	32.9	419.5	417.1	36.8	398.4	407.2	41.2	377.4	396.8	46.0
540X	12400	473.4	356.6	33.6	454.4	347.6	37.6	434.3	338.2	42.1	414.5	329.1	47.2	393.8	320.1	52.8
	17000	497.8	417.0	34.1	478.6	408.3	38.1	457.6	398.7	42.7	435.4	390.0	47.7	412.5	379.8	53.4
	20500	511.6	460.5	34.3	490.5	459.5	38.4	468.0	448.8	43.0	446.3	438.7	48.0	421.1	427.2	53.6
600X	13500	523.9	391.6	38.9	503.2	381.8	44.4	485.2	372.9	47.2	458.0	360.8	54.7	435.1	350.4	61.3
	19000	555.0	466.6	39.6	531.5	456.0	46.8	508.5	445.8	49.5	483.6	433.2	55.5	457.4	429.8	62.1
	22100	567.6	510.1	39.9	543.1	500.0	48.0	518.4	488.3	49.8	492.8	476.7	55.7	466.8	464.7	62.4

NOTES

- Ratings are based on evaporator entering air temperature of 80°F dry bulb and 67°F wet bulb. For condition other than stated please consult factory.
- Interpolation is permissible. Do not extrapolate.

LEGENDS

TH – Total Load (MBH)
 SH – Sensible Load (MBH)
 KWI – Compressor kW Input



PERFORMANCE DATA (RECIPROCATING, 50 HZ)

Model	Airflow CFM	Air temperature entering condenser, °F														
		85			95			105			115			125		
		TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI	TH	SH	KWI
140X	3800	134.4	93.2	9.7	128.6	90.8	10.4	123.8	88.8	10.8	116.5	85.9	11.5	110.3	83.9	12.0
	4500	138.3	101.3	9.9	132.5	98.9	10.6	125.9	95.7	11.1	119.6	94.1	11.7	113.5	91.6	12.2
	6000	144.4	118.0	10.2	137.6	115.3	10.8	130.8	112.7	11.4	124.0	110.0	12.0	117.3	107.4	12.5
180X	4700	170.7	116.8	13.5	163.0	113.7	14.3	157.3	111.2	14.8	148.4	107.7	15.8	140.5	104.5	16.6
	5500	175.0	127.0	13.7	167.8	124.1	14.5	159.9	120.9	15.3	151.8	118.0	16.0	144.0	114.8	16.9
	7500	183.7	148.5	14.1	175.2	145.2	14.9	166.4	141.8	15.7	158.6	138.7	16.5	150.1	135.2	17.3
210X	5300	213.7	143.8	16.6	204.9	138.5	17.7	195.9	134.7	18.7	186.5	132.1	19.6	177.4	128.2	20.5
	6500	222.7	158.0	17.0	212.5	153.8	18.1	202.9	149.9	19.1	193.1	145.8	20.1	183.3	141.8	21.0
	8700	232.7	182.3	17.5	222.4	178.2	18.6	212.0	174.1	19.6	201.6	153.0	20.6	190.3	165.5	21.5
240X	5600	218.5	147.6	16.8	209.1	143.6	15.8	201.8	140.6	18.6	190.5	135.9	19.8	180.6	131.8	20.7
	7500	230.6	171.0	17.4	220.1	166.8	16.9	210.1	162.8	19.5	199.4	158.5	20.4	188.9	154.1	21.4
	9200	237.7	190.3	17.7	226.9	186.0	18.1	216.1	181.7	19.8	205.2	177.3	20.8	193.5	172.6	21.8
270X	6700	248.9	171.2	19.9	244.4	168.8	21.0	229.6	162.9	21.9	216.8	157.7	23.3	205.8	153.1	24.4
	8500	260.3	193.2	20.4	248.4	188.3	21.6	236.9	183.6	22.7	225.3	178.9	23.9	212.8	174.7	25.0
	11000	270.2	223.3	20.8	257.4	218.1	22.0	244.5	212.9	23.2	232.5	207.9	24.4	219.5	202.6	25.6
300X	7700	288.9	196.2	23.4	277.0	191.1	24.9	267.2	187.0	25.8	253.1	181.1	27.6	240.7	175.7	29.0
	9500	300.2	216.3	24.0	288.0	211.2	25.4	274.7	205.7	26.9	261.7	201.2	28.2	248.4	195.6	29.6
	12700	314.5	251.2	24.6	299.9	245.5	26.1	286.1	242.3	27.6	271.5	236.4	29.0	257.9	230.8	30.4
330X	8400	312.0	213.0	23.9	299.0	207.5	25.4	285.4	201.7	26.8	272.1	196.3	28.1	258.8	190.4	29.5
	10500	325.6	237.3	24.5	311.3	231.4	25.9	296.7	225.4	27.4	282.7	219.7	28.8	267.6	213.8	30.1
	13800	339.6	272.3	25.0	323.7	266.2	26.5	308.2	262.7	28.0	292.9	256.3	29.4	277.0	249.9	30.8
360X	9400	332.5	233.6	24.7	317.7	227.5	26.2	302.7	221.4	27.7	288.1	215.4	29.1	273.5	209.3	30.5
	11800	345.4	262.5	25.3	329.6	256.2	26.8	313.6	249.9	28.3	298.3	244.0	29.7	281.7	237.8	31.1
	15500	358.8	308.2	25.8	341.1	301.1	27.4	324.8	294.3	28.9	308.5	287.5	30.3	291.7	284.5	31.7
390X	10000	350.7	248.5	26.9	335.5	242.1	28.5	322.4	236.8	29.7	303.8	229.1	31.6	288.6	222.8	33.2
	12800	364.6	282.6	27.6	349.1	276.3	29.2	331.9	269.5	30.8	315.2	263.3	32.3	310.8	258.8	33.7
	16600	378.8	322.4	28.1	360.2	315.1	29.8	343.0	308.2	31.4	325.9	301.3	33.1	307.6	298.5	34.8
420X	10500	389.6	268.5	29.8	373.8	261.9	31.6	356.4	254.4	33.4	338.9	247.3	35.1	321.7	240.2	36.7
	13500	407.1	305.4	30.6	390.4	298.6	32.4	371.3	291.2	34.2	351.8	284.2	35.9	333.6	276.7	37.5
	17200	422.5	349.5	31.2	403.4	341.8	33.0	382.5	333.2	34.9	363.3	325.5	36.6	344.5	317.6	38.3
480X	11700	435.9	305.2	33.8	416.6	297.1	35.7	397.9	289.3	37.6	378.0	281.1	39.5	357.7	272.9	41.4
	15000	455.9	348.6	34.6	435.1	340.0	36.5	413.8	331.3	38.5	392.6	322.7	40.4	372.3	314.4	42.4
	19400	470.8	396.3	35.3	449.2	394.7	37.3	428.5	386.1	39.3	405.2	376.3	41.3	383.6	366.8	43.2
540X	12400	481.6	330.9	36.7	460.7	322.2	39.0	438.7	313.0	41.1	417.7	304.2	43.2	396.3	295.1	45.2
	17000	508.2	386.9	37.9	486.2	378.2	40.2	461.3	368.4	42.4	438.7	360.5	44.4	415.2	356.2	46.6
	20500	522.5	430.9	38.5	498.7	425.5	40.8	473.7	415.2	43.0	448.7	404.8	45.2	425.2	394.8	47.3
600X	13500	534.7	363.7	44.2	511.3	353.5	46.7	487.1	343.3	49.1	464.5	334.2	51.5	440.9	324.4	54.0
	19000	567.5	432.1	45.8	541.6	421.6	48.4	515.0	410.7	50.9	488.9	400.6	53.5	463.0	396.4	56.0
	22100	579.1	472.8	46.4	552.2	461.5	49.0	524.8	450.5	51.6	498.3	439.8	54.1	472.0	428.7	56.6

NOTES


- Ratings are based on evaporator entering air temperature of 80°F dry bulb and 67°F wet bulb. For condition other than stated please consult factory.
- Interpolation is permissible. Do not extrapolate.

LEGENDS

TH – Total Load (MBH)
 SH – Sensible Load (MBH)
 KWI – Compressor kW Input

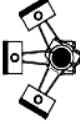
PHYSICAL DATA



Model	140X	180X	210X	240X	270X	300X	330X	360X	390X	420X	480X	540X	600X
Nominal capacity (60Hz), ton	12	16	18	20	22	25	28	30	32	35	40	45	50
Nominal capacity (50Hz), ton	10	14	16	17	20	22	25	27	29	31	35	40	44
Capacity control steps, %	100-50-0	100-50-0	100-45-0	100-50-0	100-43-0	100-50-0	100-72-44-0	100-72-44-0	100-75-50-25-0	100-75-50-25-0	100-75-50-25-0	100-72-43-22-0	100-75-50-25-0
Compressor													
Type	 Hermetic Scroll												
Quantity	2	2	2	2	2	2	3	3	4	4	4	4	4
Oil charge ckt 1, L	4.1	4.1	4.1	4.1	4.1	4.7	4.7	4.7	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.7 / 4.7
Oil charge ckt 2, L	4.1	4.1	4.1	4.1	4.7	4.7	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.1 / 4.1	4.7 / 4.7
Condenser coil with integral subcooling circuit, copper tubes / aluminum fins													
Face area, ft ²	25	28	36.67	36.67	41.67	51.67	55.83	55.83	55.83	68.89	87.75	87.75	87.75
Rows deep	3	3	3	3	3	3	3	3	3	4	3	4	4
Condenser fans & motors													
Fan diameter, in													
Fan RPM (60Hz)	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
Fan RPM (50Hz)	950	950	950	950	950	950	950	950	950	950	950	950	950
Motor HP (60Hz)	1.5	1.5	2	2	2	1.5	2	2	2	2	2	2	2
Motor HP (50Hz)	1	1	1.5	1.5	1.5	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Quantity	2	2	2	2	2	4	4	4	4	4	4	4	4
Evaporator coil, copper tubes / aluminum fins													
Face area, ft ²	12.64	15.56	17.5	18.47	22.22	25.56	27.78	31.11	33.33	34.44	38.89	41.11	44.44
Rows deep	4	4	4	4	4	4	4	4	4	4	4	4	4
Evaporator fan & motor													
Nominal airflow, CFM	4500	5500	6500	7500	8500	9500	10500	11800	12800	13500	15000	17000	19000
Motor HP	2	3	3	5	5	5	7.5	7.5	7.5	7.5	10	15	15
Refrigerant charge and operating weight													
Refrigerant charge ckt 1, kg	11	13	14	16	16	22	21	21	27	32	35	34	42
Refrigerant charge ckt 2, kg	11	13	17	16	21	22	27	27	27	32	35	45	42
Approx. operating weight, kg	602	686	779	808	898	1108	1235	1254	1404	1549	1643	1931	2048

PHYSICAL DATA



Model	140X	180X	210X	240X	270X	300X	330X	360X	390X	420X	480X	540X	600X
Nominal capacity (60Hz), ton	12	15	18	20	23	26	28	30	32	36	39	44	50
Nominal capacity (50Hz), ton	11	14	18	18	21	24	26	27	29	33	36	41	45
Capacity control steps, %	100-50-0	100-50-0	100-37-0	100-37-0	100-37-0	100-50-0	100-73-45-23-0	100-73-45-23-0	100-75-50-25-0	100-82-46-23-0	100-81-43-22-0	100-82-47-23-0	100-72-44-22-0
Compressor													
Type	 Semi-hermetic Reciprocating												
Quantity	1	1	1	1	1	1	2	2	2	2	2	2	2
Oil charge ckt 1, L	3.6	4	4.3	4.3	7.4	7.7	4	4	4	4	4	4.3	7.7
Oil charge ckt 2, L	-	-	-	-	-	-	4	4	4	4.3	7.4	7.4	7.7
Condenser coil with integral subcooling circuit, copper tubes / aluminum fins													
Face area, ft ²	25	28	36.67	36.67	41.67	51.67	55.83	55.83	55.83	68.89	87.75	87.75	87.75
Rows deep	3	3	3	3	3	3	3	3	3	4	3	4	4
Condenser fans & motors													
Fan diameter, in													
Fan RPM (60Hz)	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
Fan RPM (50Hz)	950	950	950	950	950	950	950	950	950	950	950	950	950
Motor HP (60Hz)	1.5	1.5	2	2	2	1.5	2	2	2	2	2	2	2
Motor HP (50Hz)	1	1	1.5	1.5	1.5	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Quantity	2	2	2	2	2	4	4	4	4	4	4	4	4
Evaporator coil, copper tubes / aluminum fins													
Face area, ft ²	12.64	15.56	17.5	18.47	22.22	25.56	27.78	31.11	33.33	34.44	38.89	41.11	44.44
Rows deep	4	4	4	4	4	4	4	4	4	4	4	4	4
Evaporator fan & motor													
Nominal airflow, CFM	4500	5500	6500	7500	8500	9500	10500	11800	12800	13500	15000	17000	19000
Motor HP	2	3	3	5	5	5	7.5	7.5	7.5	7.5	10	15	15
Refrigerant charge and operating weight													
Refrigerant charge ckt 1, kg	21	26	31	32	38	44	22	22	27	24	26	33	36
Refrigerant charge ckt 2, kg	-	-	-	-	-	-	26	30	27	40	43	47	47
Approx. operating weight, kg	599	688	802	810	871	1128	1312	1331	1409	1554	1626	1857	1991

FAN PERFORMANCE

Model	Airflow, CFM												ESP, IN WG											
	0.35		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0					
	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM				
GPU-140X	3800	1.28	791	1.34	812	1.56	892	1.80	968	2.05	1040	2.30	1109	2.56	1175	2.83	1238	-	-	-	-			
	4000	1.42	805	1.47	825	1.78	902	1.95	977	2.20	1048	2.46	1115	2.73	1180	3.01	1243	3.29	1302	-	-			
	4250	1.60	824	1.66	843	1.90	917	2.15	989	2.41	1058	2.68	1124	2.96	1188	3.24	1249	3.54	1308	3.83	1364			
	4500	1.80	843	1.86	862	2.11	933	2.37	1002	2.64	1069	2.92	1133	3.20	1195	3.50	1255	3.80	1313	4.11	1369			
	4750	2.01	863	2.07	881	2.33	949	2.60	1016	2.88	1080	3.17	1143	3.47	1204	3.77	1262	4.08	1319	4.39	1375			
	5000	2.26	887	2.32	904	2.59	969	2.87	1033	3.16	1096	3.45	1157	3.76	1216	4.07	1273	4.39	1329	4.72	1383			
	5250	2.51	907	2.58	923	2.85	987	3.14	1048	3.44	1109	3.74	1168	4.06	1225	4.38	1281	4.70	1336	5.04	1389			
	5500	2.81	934	2.88	949	3.16	1010	3.46	1070	3.77	1128	4.08	1185	4.40	1241	4.73	1296	5.07	1349	5.41	1401			
	5750	3.10	955	3.17	970	3.47	1028	3.77	1086	4.09	1142	4.41	1198	4.74	1252	5.08	1305	5.42	1357	5.78	1408			
	6000	3.44	982	3.51	996	3.82	1052	4.13	1108	4.46	1162	4.79	1216	5.13	1269	5.48	1321	5.83	1371	6.19	1421			
GPU-180X	4700	1.83	819	1.89	837	2.14	908	2.40	976	2.68	1042	2.96	1106	3.25	1168	3.54	1228	3.85	1286	4.16	1343			
	5000	2.09	843	2.15	860	2.42	927	2.69	992	2.97	1056	3.26	1117	3.56	1178	3.87	1236	4.18	1293	4.50	1348			
	5250	2.32	862	2.39	878	2.66	942	2.94	1005	3.23	1067	3.53	1127	3.83	1185	4.15	1242	4.47	1298	4.80	1352			
	5500	2.59	884	2.65	900	2.93	962	3.22	1022	3.52	1082	3.83	1140	4.14	1197	4.47	1252	4.80	1306	5.14	1359			
	5750	2.86	904	2.93	919	3.21	979	3.51	1037	3.82	1094	4.13	1151	4.46	1206	4.79	1260	5.13	1313	5.48	1365			
	6000	3.18	930	3.25	944	3.54	1002	3.85	1058	4.17	1113	4.49	1168	4.82	1221	5.16	1274	5.51	1326	5.87	1376			
	6250	3.50	953	3.58	967	3.88	1022	4.20	1076	4.52	1130	4.85	1183	5.19	1235	5.54	1286	5.90	1336	6.26	1386			
	6500	3.85	976	3.93	989	4.24	1043	4.57	1095	4.90	1147	5.24	1198	5.59	1249	5.94	1299	6.31	1348	6.68	1396			
	6750	4.22	999	4.30	1012	4.62	1063	4.96	1114	5.30	1165	5.65	1214	6.00	1263	6.37	1312	6.74	1359	7.12	1407			
	7000	4.61	1022	4.69	1035	5.03	1084	5.37	1134	5.72	1183	6.08	1231	6.44	1278	6.82	1326	7.20	1372	7.58	1418			
GPU-210X	7250	5.05	1048	5.13	1060	5.47	1108	5.83	1156	6.19	1203	6.55	1250	6.93	1296	7.31	1342	7.70	1387	8.09	1432			
	7500	5.52	1076	5.61	1087	5.97	1134	6.33	1181	6.69	1226	7.07	1272	7.45	1317	7.84	1361	8.24	1405	8.65	1449			
	5300	1.72	670	1.79	688	2.10	756	2.41	821	2.74	882	3.07	939	3.42	994	3.77	1046	-	-	-	-			
	5750	2.00	687	2.08	703	2.40	769	2.73	831	3.07	890	3.43	946	3.79	1000	4.16	1051	4.53	1100	4.92	1148			
	6000	2.19	700	2.27	716	2.60	780	2.94	840	3.29	898	3.66	954	4.03	1007	4.41	1058	4.79	1106	4.99	1130			
	6250	2.38	710	2.46	726	2.80	788	3.15	847	3.51	904	3.88	959	4.26	1011	4.65	1061	5.05	1110	5.45	1156			
	6500	2.59	724	2.67	739	3.02	799	3.38	857	3.75	915	4.13	966	4.52	1018	4.92	1067	5.33	1115	5.74	1161			
	6750	2.82	737	2.90	752	3.26	810	3.62	866	4.00	921	4.40	974	4.80	1025	5.21	1074	5.62	1121	6.05	1167			
	7000	3.04	748	3.12	762	3.49	819	3.86	874	4.25	927	4.65	979	5.06	1029	5.48	1078	5.90	1124	6.34	1170			
	7250	3.29	762	3.38	775	3.75	830	4.13	884	4.53	936	4.94	987	5.36	1036	5.78	1084	6.22	1130	6.66	1175			
7500	3.55	775	3.64	789	4.02	842	4.41	894	4.82	945	5.24	995	5.67	1043	6.10	1090	6.55	1136	7.00	1180				
7750	3.83	789	3.92	802	4.31	854	4.71	905	5.12	954	5.55	1003	5.99	1051	6.43	1097	6.89	1142	7.35	1186				
8000	4.12	803	4.22	815	4.61	865	5.02	915	5.44	964	5.88	1012	6.32	1058	6.78	1104	7.24	1148	7.71	1191				
8700	5.03	843	5.13	855	5.55	901	5.98	947	6.43	993	6.89	1038	7.35	1082	7.83	1125	8.32	1168	8.82	1209				

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses.
Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

- BHP - motor brake horsepower
- RPM - fan speed in revolution per minute
- CFM - airflow rate in cubic feet per minute

FAN PERFORMANCE

Model	Airflow, CFM												ESP, IN WG											
	0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.2					
	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM				
GPU-240X	5600	1.93	687	2.24	754	2.57	817	2.90	877	3.25	935	3.60	989	3.96	1041	4.33	1091	-	-	-	-			
	5900	2.14	700	2.46	764	2.80	826	3.15	885	3.50	941	3.87	995	4.24	1047	4.62	1096	5.01	1143	5.41	1189			
	6200	2.37	713	2.70	776	3.04	836	3.40	893	3.77	948	4.15	1001	4.53	1052	4.93	1101	5.33	1148	5.74	1193			
	6500	2.61	727	2.95	787	3.31	845	3.68	901	4.06	956	4.44	1008	4.84	1058	5.25	1106	5.66	1152	6.08	1197			
	6800	2.87	741	3.22	799	3.58	855	3.96	910	4.35	963	4.76	1014	5.16	1063	5.58	1111	6.00	1157	6.44	1201			
	7100	3.12	752	3.49	808	3.86	863	4.25	916	4.65	968	5.06	1018	5.48	1067	5.91	1114	6.34	1159	6.79	1203			
	7500	3.55	775	3.93	829	4.31	881	4.72	933	5.13	983	5.56	1031	5.99	1079	6.44	1125	6.89	1169	7.34	1213			
	7900	3.98	794	4.36	844	4.76	895	5.18	944	5.61	993	6.04	1040	6.49	1086	6.95	1132	7.42	1175	7.89	1218			
	8100	4.23	807	4.62	856	5.03	906	5.45	954	5.89	1002	6.33	1048	6.79	1094	7.25	1138	7.73	1182	8.21	1224			
	8500	4.73	828	5.13	875	5.55	922	5.99	969	6.44	1015	6.89	1060	7.36	1105	7.84	1148	8.33	1190	8.82	1232			
	8900	5.29	851	5.70	897	6.14	942	6.58	987	7.04	1031	7.52	1075	8.00	1118	8.49	1160	8.99	1201	9.50	1242			
	9200	5.73	868	6.15	912	6.60	956	7.05	1000	7.52	1043	8.00	1086	8.49	1128	9.00	1169	9.51	1209	10.03	1249			
6700	2.52	689	2.85	749	3.20	807	3.57	864	3.95	919	4.34	972	4.74	1023	5.14	1072	5.56	1119	5.98	1165				
7100	2.85	706	3.20	763	3.56	819	3.94	873	4.33	927	4.73	978	5.14	1028	5.57	1076	5.99	1123	6.43	1168				
7500	3.20	721	3.55	775	3.93	829	4.31	881	4.72	933	5.13	983	5.56	1031	5.99	1079	6.44	1125	6.89	1169				
7900	3.59	740	3.96	791	4.34	842	4.74	892	5.16	942	5.58	990	6.02	1038	6.47	1084	6.93	1129	7.39	1173				
8100	3.80	749	4.17	799	4.56	849	4.97	898	5.39	947	5.82	995	6.27	1041	6.72	1087	7.18	1132	7.66	1175				
8500	4.27	770	4.65	818	5.05	866	5.47	913	5.90	960	6.35	1006	6.80	1051	7.27	1096	7.75	1139	8.23	1182				
8900	4.77	792	5.17	838	5.58	883	6.01	928	6.45	973	6.91	1018	7.37	1062	7.85	1105	8.34	1147	8.84	1189				
9300	5.29	812	5.70	855	6.12	899	6.56	942	7.01	985	7.48	1028	7.96	1071	8.45	1113	8.95	1154	9.46	1195				
9700	5.88	834	6.29	875	6.73	917	7.17	959	7.64	1000	8.12	1042	8.61	1083	9.11	1123	9.62	1164	10.14	1203				
10100	6.52	858	6.95	898	7.39	938	7.85	978	8.33	1018	8.82	1058	9.32	1097	9.83	1137	10.36	1176	10.90	1214				
10500	7.19	880	7.63	918	8.09	956	8.56	995	9.04	1034	9.54	1072	10.05	1110	10.58	1149	11.11	1186	11.66	1224				
11000	8.09	907	8.54	944	9.01	980	9.49	1017	9.99	1054	10.50	1090	11.03	1127	11.56	1164	12.11	1200	12.67	1236				

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses. Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

BHP - motor brake horsepower

RPM - fan speed in revolution per minute

CFM - airflow rate in cubic feet per minute

FAN PERFORMANCE

Model	Airflow, CFM	ESP, IN WG																			
		0.45		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.2	
		BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
GPU-300X	7700	2.64	574	2.96	615	3.39	668	3.83	717	4.29	765	4.76	810	5.24	853	5.73	895	-	-	-	-
	8100	2.91	584	3.23	623	3.68	674	4.14	723	4.61	769	5.09	814	5.59	856	6.10	897	6.61	937	-	-
	8500	3.17	590	3.50	629	3.96	678	4.44	726	4.92	772	5.42	815	5.93	858	6.45	898	6.98	938	7.52	976
	8900	3.49	603	3.84	640	4.31	688	4.80	734	5.30	779	5.82	822	6.34	863	6.88	903	7.43	942	7.98	980
	9100	3.64	606	3.99	643	4.47	690	4.97	736	5.48	780	6.00	823	6.53	864	7.07	904	7.63	942	8.19	980
	9500	3.99	619	4.36	654	4.85	700	5.37	745	5.89	788	6.43	830	6.97	870	7.53	909	8.10	947	8.68	984
	10000	4.45	632	4.82	667	5.34	711	5.87	754	6.41	796	6.96	836	7.53	876	8.11	914	8.69	952	9.29	988
	10500	4.93	645	5.32	678	5.86	721	6.40	763	6.96	804	7.54	844	8.12	882	8.71	920	9.32	956	9.93	992
	11000	5.48	661	5.88	693	6.44	734	7.00	775	7.58	815	8.17	853	8.78	891	9.39	927	10.01	963	10.64	998
	11500	6.07	677	6.49	708	7.06	748	7.64	787	8.24	825	8.85	863	9.47	900	10.10	936	10.74	971	11.39	1005
	12000	6.70	693	7.13	722	7.72	761	8.32	799	8.94	837	9.56	873	10.20	909	10.85	944	11.51	978	12.18	1012
	12700	7.68	717	8.13	745	8.75	782	9.37	819	10.02	854	10.67	890	11.33	924	12.01	958	12.70	991	13.39	1024
	8400	3.02	579	3.35	618	3.81	669	4.28	717	4.76	763	5.25	807	5.76	850	6.27	891	6.80	931	7.33	969
	8800	3.30	587	3.64	625	4.10	674	4.59	721	5.08	766	5.59	809	6.11	854	6.64	892	7.18	931	7.73	969
	9200	3.61	597	3.96	634	4.44	681	4.94	727	5.45	771	5.97	814	6.50	855	7.05	895	7.60	934	8.17	972
9600	3.97	610	4.33	645	4.83	691	5.34	736	5.86	779	6.40	821	6.95	862	7.51	901	8.08	939	8.66	976	
10000	4.30	618	4.67	652	5.18	697	5.71	741	6.25	783	6.80	824	7.36	864	7.93	903	8.52	940	9.11	977	
10500	4.78	632	5.16	665	5.69	708	6.24	751	6.79	792	7.36	832	7.94	871	8.53	909	9.14	945	9.75	981	
11000	5.29	646	5.69	678	6.24	720	6.80	761	7.38	801	7.96	840	8.56	878	9.17	915	9.79	951	10.42	986	
11500	5.85	660	6.26	691	6.83	732	7.41	771	8.00	810	8.60	848	9.22	885	9.85	921	10.48	957	11.13	991	
12000	6.47	677	6.90	707	7.48	746	8.08	784	8.69	822	9.31	859	9.95	895	10.59	930	11.25	965	11.91	998	
12500	7.11	692	7.55	720	8.15	758	8.76	795	9.39	832	10.03	868	10.68	903	11.34	937	12.02	971	12.70	1004	
13100	7.84	710	8.30	738	8.92	774	9.55	810	10.20	846	10.86	881	11.53	915	12.21	948	12.90	982	13.60	1014	
13800	9.07	737	9.55	763	10.19	798	10.86	832	11.53	866	12.22	899	12.92	932	13.63	964	14.35	996	15.08	1027	

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses. Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

BHP - motor brake horsepower

RPM - fan speed in revolution per minute

CFM - airflow rate in cubic feet per minute

FAN PERFORMANCE

Model	Airflow, CFM	ESP, IN WG																				
		0.55		0.8		1.0		1.2		1.4		1.6		1.8		2		2.5		3.0		
		BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	
GPU-360X	9400	4.05	630	4.66	689	5.16	734	5.68	778	6.21	820	6.75	861	7.30	900	7.87	938	9.31	1029	-	-	
	10000	4.59	646	5.23	702	5.76	745	6.30	787	6.85	828	7.42	868	7.99	907	8.57	944	10.08	1033	11.63	1117	
	10600	5.17	659	5.83	713	6.38	755	6.94	796	7.515	836	8.10	874	8.70	912	9.30	949	10.86	1036	12.47	1119	
	11200	5.85	678	6.538	730	7.11	770	7.69	809	8.29	848	8.89	885	9.51	922	10.14	957	11.75	1043	13.42	1124	
	11800	6.53	693	7.243	742	7.834	841	8.44	871	9.054	856	9.68	893	10.32	928	10.97	963	12.63	1047	14.35	1127	
	12400	7.29	710	8.03	757	8.646	795	9.271	831	9.91	867	10.56	903	11.22	937	11.89	971	13.61	1053	15.38	1131	
	13000	8.18	730	8.948	776	9.582	812	10.23	848	10.89	882	11.56	917	12.24	950	12.93	983	14.71	1063	15.85	1140	
	13600	9.064	748	9.86	792	10.52	826	11.19	861	11.87	894	12.56	928	13.26	960	13.97	992	15.80	1070	16.95	1145	
	14200	10.05	767	10.88	809	11.55	843	12.24	876	12.94	908	13.66	941	14.38	972	15.12	1004	16.29	1080	18.14	1153	
	14800	11.11	786	11.96	827	12.66	860	13.37	891	14.09	923	14.83	954	15.57	985	15.65	1015	17.50	1089	19.40	1161	
	15200	11.89	801	12.76	841	13.47	872	14.20	903	14.93	934	15.68	965	15.76	995	16.50	1025	18.38	1098	-	-	
	15500	12.47	811	13.35	850	14.07	881	14.81	911	15.56	942	15.64	972	16.38	1002	17.12	1031	19.04	1103	-	-	
	10000	3.79	552	4.51	609	5.11	653	5.73	695	6.36	735	7.02	774	7.69	811	-	-	-	-	-	-	-
	10600	4.22	562	4.95	617	5.57	659	6.21	700	6.87	740	7.55	778	8.24	814	8.95	850	-	-	-	-	-
	11200	4.71	574	5.47	627	6.10	668	6.76	708	7.44	746	8.14	784	8.86	820	9.59	854	-	-	-	-	-
11800	5.20	585	5.98	636	6.64	676	7.32	714	8.02	752	8.73	788	9.47	823	10.22	858	12.16	939	-	-		
12400	5.77	598	6.57	647	7.24	685	7.94	723	8.66	759	9.40	795	10.15	829	10.93	863	12.92	943	15.00	1018		
12800	6.16	606	6.98	654	7.66	691	8.37	728	9.10	764	9.85	799	10.62	833	11.41	866	13.44	945	15.55	1020		
13200	6.57	614	7.40	661	8.09	697	8.81	733	9.56	768	10.32	803	11.10	836	11.90	869	13.97	947	15.44	1021		
13900	7.36	630	8.21	675	8.93	710	9.67	744	10.43	778	11.22	812	12.02	844	12.84	876	14.97	953	16.46	1026		
14600	8.21	646	9.09	689	9.82	723	10.58	756	11.37	789	12.17	821	13.00	853	13.84	884	16.02	959	17.53	1030		
15300	9.12	662	10.03	703	10.78	736	11.56	768	12.37	800	13.19	831	14.04	861	14.90	892	16.42	965	18.66	1035		
16000	10.15	680	11.08	719	11.85	751	12.65	782	13.48	812	14.32	843	15.19	872	16.08	902	17.60	973	19.89	1042		
16600	11.04	694	12.00	732	12.79	762	13.60	792	14.44	822	15.31	851	15.51	880	16.38	909	18.61	979	20.94	1046		

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses.
Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

BHP - motor brake horsepower

RPM - fan speed in revolution per minute

CFM - airflow rate in cubic feet per minute

FAN PERFORMANCE

Model	Airflow, CFM	ESP, IN WG																			
		0.55		0.8		1.0		1.2		1.4		1.6		1.8		2		2.5		3.0	
		BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
GPU-420X	10500	4.34	575	4.78	608	5.39	651	6.02	693	6.67	732	7.34	771	8.03	808	8.73	843	-	-	-	-
	11100	4.79	585	5.25	617	5.88	658	6.53	698	7.20	737	7.89	775	8.60	811	9.32	846	-	-	-	-
	11700	5.29	595	5.76	626	6.40	667	7.07	705	7.76	743	8.48	779	9.20	815	9.95	850	9.89	932	-	-
	12300	5.85	607	6.33	637	7.00	676	7.69	713	8.40	750	9.13	786	9.88	821	10.65	855	12.62	936	-	-
	12900	6.40	616	6.89	645	7.57	682	8.27	719	9.00	755	9.75	790	10.51	824	11.30	857	13.33	937	15.44	1012
	13500	7.04	629	7.55	656	8.24	693	8.97	728	9.71	763	10.48	797	11.27	830	12.07	863	14.15	941	15.64	1015
	14100	7.70	640	8.22	667	8.93	702	9.67	736	10.43	770	11.22	803	12.02	836	12.84	868	14.97	944	16.47	1017
	14700	8.44	654	8.97	679	9.70	713	10.46	746	11.23	779	12.04	811	12.86	843	13.70	874	15.87	950	17.38	1021
	15300	9.23	667	9.77	692	10.52	724	11.29	757	12.08	788	12.90	820	13.74	851	14.60	881	16.12	955	18.34	1025
	15900	10.07	681	10.62	704	11.38	736	12.17	767	12.98	798	13.82	829	14.67	859	15.55	888	17.07	961	19.34	1030
	16500	10.96	694	11.52	717	12.30	748	13.11	778	13.93	808	14.79	838	15.66	867	15.86	896	18.07	967	20.38	1035
	17200	12.07	711	12.65	733	13.45	762	14.27	792	15.12	821	15.99	849	16.17	878	17.05	906	19.31	974	21.66	1041
	11700	5.26	593	5.72	623	6.37	664	7.04	703	7.73	741	8.44	778	9.17	813	9.91	848	11.83	930	-	-
	12400	5.89	606	6.37	635	7.04	674	7.73	712	8.44	748	9.17	784	9.93	819	10.69	853	12.68	934	-	-
13100	6.58	619	7.08	647	7.76	684	8.47	721	9.21	756	9.96	791	10.73	825	11.52	858	13.57	937	15.70	1012	
13800	7.33	633	7.84	660	8.55	695	9.28	730	10.03	765	10.80	798	11.60	831	12.41	864	14.51	941	16.01	1015	
14500	8.14	647	8.67	673	9.39	707	10.14	741	10.91	774	11.70	806	12.52	839	13.35	870	15.51	946	17.02	1018	
15200	9.37	661	9.56	686	10.30	719	11.06	751	11.85	783	12.67	815	13.50	846	14.35	877	15.87	951	18.08	1022	
15900	9.99	677	10.55	701	11.31	733	12.09	764	12.90	795	13.73	826	14.59	856	15.46	886	16.98	958	19.24	1027	
16600	11.04	694	11.61	717	12.39	747	13.19	777	14.02	807	14.87	837	15.74	866	15.49	895	18.16	965	20.47	1033	
17300	12.16	710	12.75	733	13.54	762	14.37	791	15.21	820	16.08	848	16.27	877	17.14	904	19.40	973	21.76	1039	
18000	13.36	727	13.96	748	14.77	777	15.62	805	15.80	832	16.65	860	17.52	887	18.41	915	20.72	981	23.13	1046	
18700	14.64	744	15.25	764	16.08	792	16.24	819	17.09	846	17.95	872	18.84	899	19.75	925	22.10	990	24.56	1053	
19400	16.00	761	15.93	781	16.75	807	17.59	833	18.46	859	19.34	885	20.25	911	21.17	936	23.57	999	-	-	

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses. Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

BHP - motor brake horsepower

RPM - fan speed in revolution per minute

CFM - airflow rate in cubic feet per minute

FAN PERFORMANCE

Model	Airflow, CFM	ESP, IN WG																			
		0.75		1		1.25		1.5		1.75		2		2.5		3		3.25		3.5	
		BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
GPU-540X	12400	5.77	572	6.67	620	7.61	667	8.59	709	9.59	751	10.63	791	-	-	-	-	-	-	-	-
	13100	6.34	581	7.27	627	8.24	671	9.24	714	10.27	755	11.34	794	-	-	-	-	-	-	-	-
	13800	6.94	589	7.90	634	8.90	678	9.93	719	10.99	759	12.09	798	14.35	871	-	-	-	-	-	-
	14500	7.63	600	8.62	644	9.64	686	10.70	726	11.98	766	12.92	803	15.25	876	-	-	-	-	-	-
	15200	8.37	611	9.38	653	10.43	694	11.52	734	12.65	772	13.80	809	15.51	880	17.90	947	18.94	1048	-	-
	15900	9.19	624	10.24	665	11.32	705	12.44	743	13.59	780	14.77	817	16.51	886	18.95	952	20.21	984	-	-
	16600	10.03	635	11.10	675	12.21	714	13.36	751	14.54	788	15.75	823	17.50	891	20.00	956	21.29	988	22.59	1018
	17000	10.58	644	11.67	683	12.80	720	13.96	757	15.16	793	15.71	828	18.14	896	20.68	960	21.98	991	23.31	1021
	17800	11.66	657	12.78	695	13.93	732	15.13	767	15.68	802	16.89	837	19.39	903	21.99	966	23.32	996	24.68	1026
	18600	12.80	671	13.95	707	15.14	743	15.69	778	16.90	812	18.13	845	20.70	910	23.36	971	24.72	1001	-	-
	19400	14.12	688	15.31	723	15.84	757	17.05	791	18.29	824	19.56	856	22.18	919	-	-	-	-	-	-
	20500	15.98	708	16.49	742	17.70	775	18.95	807	20.23	839	21.54	870	24.25	931	-	-	-	-	-	-
	13500	6.52	577	7.46	623	8.44	667	9.45	710	10.50	751	9.64	790	-	-	-	-	-	-	-	-
	14300	7.18	585	8.15	630	9.15	672	10.20	714	11.27	754	12.38	792	14.68	865	-	-	-	-	-	-
	15100	7.97	597	8.97	640	10.01	681	11.08	721	12.19	760	13.33	798	15.70	869	17.41	937	18.62	970	-	-
15900	8.91	612	9.94	654	11.01	694	12.12	732	13.26	770	14.44	807	16.17	877	18.60	943	19.85	975	-	-	
16700	9.83	625	10.89	664	12.00	703	13.14	741	14.31	777	15.52	813	17.27	882	19.76	947	21.04	979	22.35	1009	
17500	10.82	637	11.92	676	13.05	713	14.22	750	15.42	785	15.97	820	18.42	887	20.98	951	22.29	982	23.63	1013	
18200	11.78	649	12.90	686	14.06	723	15.25	758	15.80	793	17.01	827	19.52	893	22.13	956	23.47	987	-	-	
19000	12.95	664	14.10	700	15.29	735	15.83	769	17.04	803	18.28	836	20.85	901	-	-	-	-	-	-	
19800	14.21	678	15.39	713	15.91	747	17.12	780	18.36	813	19.63	846	22.26	908	-	-	-	-	-	-	
20600	15.59	694	16.10	728	17.30	761	18.54	793	19.80	825	21.10	856	23.79	918	-	-	-	-	-	-	
21400	16.30	709	17.49	741	18.72	773	19.98	805	21.28	836	22.61	866	-	-	-	-	-	-	-	-	
22100	17.65	724	18.87	756	20.12	787	21.41	817	22.74	848	24.09	877	-	-	-	-	-	-	-	-	
GPU-600X																					

Notes

- Fan performance is based on wet coils, 2 inch clean aluminum washable filter, and casing losses. Any other pressure resistance (e.g. duct, sand trap louver, etc.) must be added together and consider as ESP to find performance of the fan.
- For power exhaust or return air fan performance please consult factory.

Legends

- BHP - motor brake horsepower
- RPM - fan speed in revolution per minute
- CFM - airflow rate in cubic feet per minute

ELECTRIC HEATER CAPACITY

Model	Standard Capacity Steps	Heater Capacity, KW										
		20	30	40	50	60	70	80	100	120	140	150
140X	2	•	•	•	•							
180X	2	•	•	•	•							
210X	2	•	•	•	•	•	•					
240X	2	•	•	•	•	•	•	•				
270X	2	•	•	•	•	•	•	•				
300X	2	•	•	•	•	•	•	•	•			
330X	2	•	•	•	•	•	•	•	•			
360X	4	•	•	•	•	•	•	•	•	•		
390X	4	•	•	•	•	•	•	•	•	•		
420X	4	•	•	•	•	•	•	•	•	•	•	
480X	4	•	•	•	•	•	•	•	•	•	•	
540X	4	•	•	•	•	•	•	•	•	•	•	•
600X	4	•	•	•	•	•	•	•	•	•	•	•

Note: Standard heater capacities as shown. For other capacities consult factory.

ELECTRIC HEATER FULL LOAD AMPERE

Heater KW		20	30	40	50	60	70	80	100	120	140	150
Full Load Amps (FLA) at different Voltage	208	55.5	83	111	139	166.5	194	222	278	333	389	416
	220	52	79	105	131	157	184	210	262	315	367	394
	230	50	75	100	125.5	151	176	200	251	301	351	377
	240	48	72	96	120	144	168	192	240	289	337	361
	380	30	45.6	60.7	76	91	106	121.5	152	182	213	228
	460	25	37.6	50	62.7	75	88	100	126	151	176	188
	480	24	36	48	60	72	84	96	120	144	168	180

ACCESSORIES PRESURE DROP

Accessories		Face Velocity, FPM						
		300	350	400	450	500	550	600
2" Pleated filter (1)	Med	0.08	0.11	0.14	0.18	0.22	0.27	0.32
	High	0.18	0.25	0.32	0.41	0.50	0.61	0.72
60-65% Ave. efficiency bag filter (1)	Med	0.04	0.06	0.08	0.10	0.12	0.15	0.17
	High	0.17	0.23	0.29	0.37	0.46	0.56	0.66
85-90% Ave. efficiency bag filter (1)	Med	0.07	0.09	0.12	0.15	0.18	0.22	0.26
	High	0.18	0.25	0.33	0.41	0.51	0.62	0.73
Open-coil type electric heater		0.010	0.015	0.017	0.020	0.022	0.025	0.027
Sheated type electric heater		0.012	0.017	0.020	0.025	0.030	0.037	0.043
Discharge plenum		0.024	0.032	0.047	0.055	0.067	0.078	0.095
Dual mixing box		0.050	0.078	0.086	0.110	0.140	0.180	0.200

NOTES:

1. Recommended all filter change-out at 1.0 in. Wg. final pressure drop. System design may dictate a lower change-out point.
2. Pressure drop units are in inches of water gage.



ELECTRICAL DATA (SCROLL)

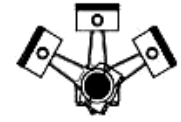
Model	Power Supply	Circuit #1			Circuit #2			Condenser Fan Motor		Evaporator Fan Motor	MCA	MOCP
		FLA	LRA	Qty	FLA	LRA	Qty	FLA	Qty	FLA		
140X	230/3/60	34	232	1	34	232	1	7.5	2	6	98	125
	380/3/60	23	153	1	23	153	1	3.7	2	3.3	62	80
	460/3/60	20	125	1	20	125	1	3.9	2	2.9	56	70
	380/3/50	20	123	1	20	123	1	4.1	2	3.4	57	70
180X	230/3/60	50	350	1	50	350	1	7.5	2	9	137	175
	380/3/60	33	195	1	33	195	1	3.7	2	5.5	87	110
	460/3/60	27	158	1	27	158	1	3.9	2	4.5	73	100
	380/3/50	27	167	1	27	167	1	4.1	2	4.9	74	100
210X	230/3/60	50	350	1	57	425	1	9.4	2	9	149	200
	380/3/60	33	195	1	39	239	1	4.8	2	5.5	97	125
	460/3/60	27	158	1	32	187	1	5.1	2	4.5	82	110
	380/3/50	27	167	1	32	198	1	5.3	2	4.9	83	110
240X	230/3/60	57	425	1	57	425	1	9.4	2	13.2	160	200
	380/3/60	39	239	1	39	239	1	4.8	2	8	105	125
	460/3/60	32	187	1	32	187	1	5.1	2	6.6	89	110
	380/3/50	32	198	1	32	198	1	5.3	2	8.6	91	110
270X	230/3/60	57	425	1	81	505	1	9.4	2	13.2	190	250
	380/3/60	39	239	1	48	290	1	4.8	2	8	117	150
	460/3/60	32	187	1	41	225	1	5.1	2	6.6	100	125
	380/3/50	32	198	1	41	225	1	5.3	2	8.6	102	125
300X	230/3/60	81	505	1	81	505	1	9.4	4	13.2	233	300
	380/3/60	48	290	1	48	290	1	4.8	4	8	135	175
	460/3/60	41	225	1	41	225	1	5.1	4	6.6	119	160
	380/3/50	41	225	1	41	225	1	5.3	4	8.6	122	160
330X	230/3/60	81	505	1	50	350	2	9.4	4	21.6	260	315
	380/3/60	48	290	1	33	195	2	4.8	4	13.1	158	200
	460/3/60	41	225	1	27	158	2	5.1	4	10.8	136	175
	380/3/50	41	225	1	27	167	2	5.3	4	11.5	138	175
360X	230/3/60	81	505	1	50	350	2	9.4	4	21.6	260	315
	380/3/60	48	290	1	33	195	2	4.8	4	13.1	158	200
	460/3/60	41	225	1	27	158	2	5.1	4	10.8	136	175
	380/3/50	41	225	1	27	167	2	5.3	4	11.5	138	175
390X	230/3/60	50	350	2	50	350	2	9.4	4	21.6	272	315
	380/3/60	33	195	2	33	195	2	4.8	4	13.1	173	200
	460/3/60	27	158	2	27	158	2	5.1	4	10.8	146	160
	380/3/50	27	167	2	27	167	2	5.3	4	11.5	147	160
420X	230/3/60	50	350	2	57	425	2	9.4	4	21.6	287	325
	380/3/60	33	195	2	39	239	2	4.8	4	13.1	186	225
	460/3/60	27	158	2	32	187	2	5.1	4	10.8	157	175
	380/3/50	27	167	2	32	198	2	5.3	4	11.5	159	175
480X	230/3/60	57	425	2	57	425	2	9.4	4	26.6	306	350
	380/3/60	39	239	2	39	239	2	4.8	4	16.1	201	225
	460/3/60	32	187	2	32	187	2	5.1	4	13.3	170	200
	380/3/50	32	198	2	32	198	2	5.3	4	15.8	173	200
540X	230/3/60	57	425	2	81	505	2	9.4	4	39	373	450
	380/3/60	39	239	2	48	290	2	4.8	4	28.6	234	250
	460/3/60	32	187	2	41	225	2	5.1	4	19.5	196	225
	380/3/50	32	198	2	41	225	2	5.3	4	21.5	199	225
600X	230/3/60	81	505	2	81	505	2	9.4	4	39	421	500
	380/3/60	48	290	2	48	290	2	4.8	4	28.6	252	300
	460/3/60	41	225	2	41	225	2	5.1	4	19.5	214	250
	380/3/50	41	225	2	41	225	2	5.3	4	21.5	217	250

NOTES:

1. Above is for Across the Line Start (ALS).
2. MCA and MOCP are based on standard evaporator fan motor.
3. MCA is based on 125% of the rated load amperes of the largest motor plus 100% of the rated load amperes of the rest of the motors.
4. MOCP is based on 225% of the rated load ampere of the largest motor plus 100% of the rated load amperes of the rest of the motors.

FLA – full load ampere
MCA – minimum circuit ampacity

LRA – locked rotor ampere
MOCP – maximum over-current protection



ELECTRICAL DATA (RECIPROCATING)

Model	Power Supply	Circuit #1			Circuit #2			Condenser Fan Motor		Evaporator Fan Motor	MCA	MOCP
		FLA	LRA	Qty	FLA	LRA	Qty	FLA	Qty	FLA		
140X	230/3/60	90	362	1	-	-	-	7.5	2	6	133	200
	380/3/60	50	201	1	-	-	-	3.7	2	3.3	73	110
	460/3/60	39	158	1	-	-	-	3.9	2	2.9	59	90
	380/3/50	39	158	1	-	-	-	4.1	2	3.4	60	90
180X	230/3/60	121	504	1	-	-	-	7.5	2	9	175	250
	380/3/60	68	280	1	-	-	-	3.7	2	5.5	97	150
	460/3/60	53	220	1	-	-	-	3.9	2	4.5	79	125
	380/3/50	53	220	1	-	-	-	4.1	2	4.9	79	125
210X	230/3/60	140	600	1	-	-	-	9.4	2	9	203	315
	380/3/60	78	333	1	-	-	-	4.8	2	5.5	113	175
	460/3/60	61	262	1	-	-	-	5.1	2	4.5	91	150
	380/3/50	61	262	1	-	-	-	5.3	2	4.9	92	150
240X	230/3/60	140	600	1	-	-	-	9.4	2	13.2	207	315
	380/3/60	78	333	1	-	-	-	4.8	2	8	115	175
	460/3/60	61	262	1	-	-	-	5.1	2	6.6	93	150
	380/3/50	61	262	1	-	-	-	5.3	2	8.6	95	150
270X	230/3/60	179	739	1	-	-	-	9.4	2	13.2	255	400
	380/3/60	99	411	1	-	-	-	4.8	2	8	141	225
	460/3/60	78	323	1	-	-	-	5.1	2	6.6	114	175
	380/3/50	78	323	1	-	-	-	5.3	2	8.6	117	175
300X	230/3/60	184	808	1	-	-	-	9.4	4	13.2	281	450
	380/3/60	107	462	1	-	-	-	4.8	4	8	161	250
	460/3/60	92	404	1	-	-	-	5.1	4	6.6	142	225
	380/3/50	92	404	1	-	-	-	5.3	4	8.6	145	225
330X	230/3/60	103	442	1	121	504	1	9.4	4	21.6	313	400
	380/3/60	57	246	1	68	280	1	4.8	4	13.1	174	225
	460/3/60	45	193	1	53	220	1	5.1	4	10.8	142	175
	380/3/50	45	193	1	53	220	1	5.3	4	11.5	144	175
360X	230/3/60	103	442	1	121	504	1	9.4	4	21.6	313	400
	380/3/60	57	246	1	68	280	1	4.8	4	13.1	174	225
	460/3/60	45	193	1	53	220	1	5.1	4	10.8	142	175
	380/3/50	45	193	1	53	220	1	5.3	4	11.5	144	175
390X	230/3/60	121	504	1	121	504	1	9.4	4	21.6	331	450
	380/3/60	68	280	1	68	280	1	4.8	4	13.1	184	250
	460/3/60	53	220	1	53	220	1	5.1	4	10.8	150	200
	380/3/50	53	220	1	53	220	1	5.3	4	11.5	152	200
420X	230/3/60	121	504	1	140	600	1	9.4	4	21.6	355	450
	380/3/60	68	280	1	78	333	1	4.8	4	13.1	197	250
	460/3/60	53	220	1	61	262	1	5.1	4	10.8	160	200
	380/3/50	53	220	1	61	262	1	5.3	4	11.5	162	200
480X	230/3/60	121	504	1	179	739	1	9.4	4	26.6	408	500
	380/3/60	68	280	1	99	411	1	4.8	4	16.1	227	315
	460/3/60	53	220	1	78	323	1	5.1	4	13.3	184	250
	380/3/50	53	220	1	78	323	1	5.3	4	15.8	188	250
540X	230/3/60	140	600	1	179	739	1	9.4	4	39	440	600
	380/3/60	78	333	1	99	411	1	4.8	4	28.6	250	315
	460/3/60	61	262	1	78	323	1	5.1	4	19.5	198	250
	380/3/50	61	262	1	78	323	1	5.3	4	21.5	201	250
600X	230/3/60	179	739	1	184	808	1	9.4	4	39	485	630
	380/3/60	99	411	1	107	462	1	4.8	4	28.6	281	350
	460/3/60	78	323	1	92	404	1	5.1	4	19.5	233	315
	380/3/50	78	323	1	92	404	1	5.3	4	21.5	236	315

NOTES:

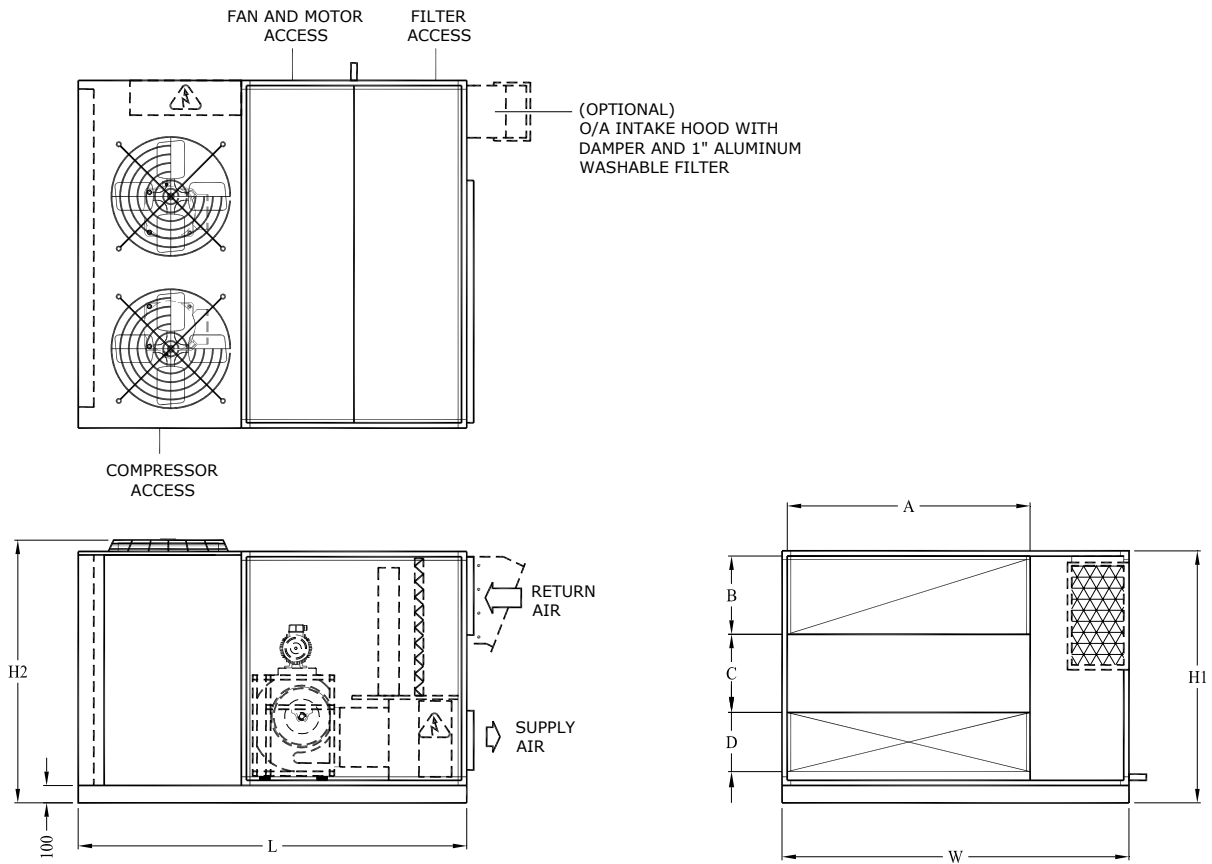
- Above is for Part-Winding Start (PWS).
- MCA and MOCP are based on standard evaporator fan motor.
- MCA is based on 125% of the rated load amperes of the largest motor plus 100% of the rated load amperes of the rest of the motors.
- MOCP is based on 225% of the rated load ampere of the largest motor plus 100% of the rated load amperes of the rest of the motors.

FLA – full load ampere
MCA – minimum circuit ampacity

LRA – locked rotor ampere
MOCP – maximum over-current protection

DIMENSIONAL DATA

GPU – 140X TO 210X



Model	L	W	H1	H2	A	B	C	D	F/A Intake (optional)	
									Width	Height
140X	2240	2000	1450	1590	1400	450	450	340	300	450
180X	2240	2000	1600	1840	1400	490	550	340	300	500
210X	2620	2000	1700	1840	1400	610	450	425	300	610

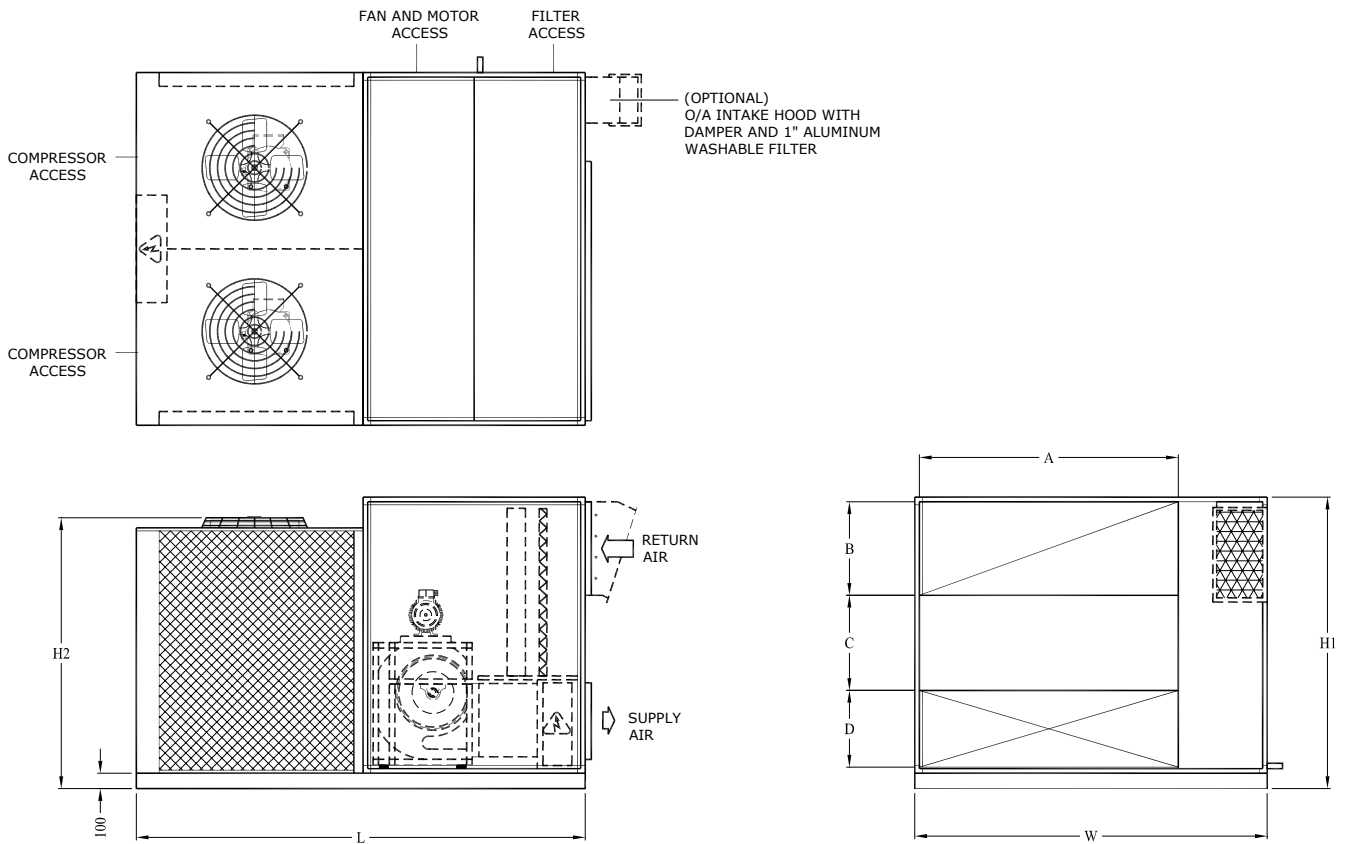
Notes

1. All dimensions in mm unless otherwise specified.
2. Drain connection is 1-1/4" NPT.
3. Unit must have the following minimum clearance;
 TOP – do not restrict
 ENDS – 1219 mm (4 ft)
 SIDES – 1219 mm (4 ft)
4. For units with bag filter, add 410 mm in the length.



DIMENSIONAL DATA

GPU – 240X TO 270X



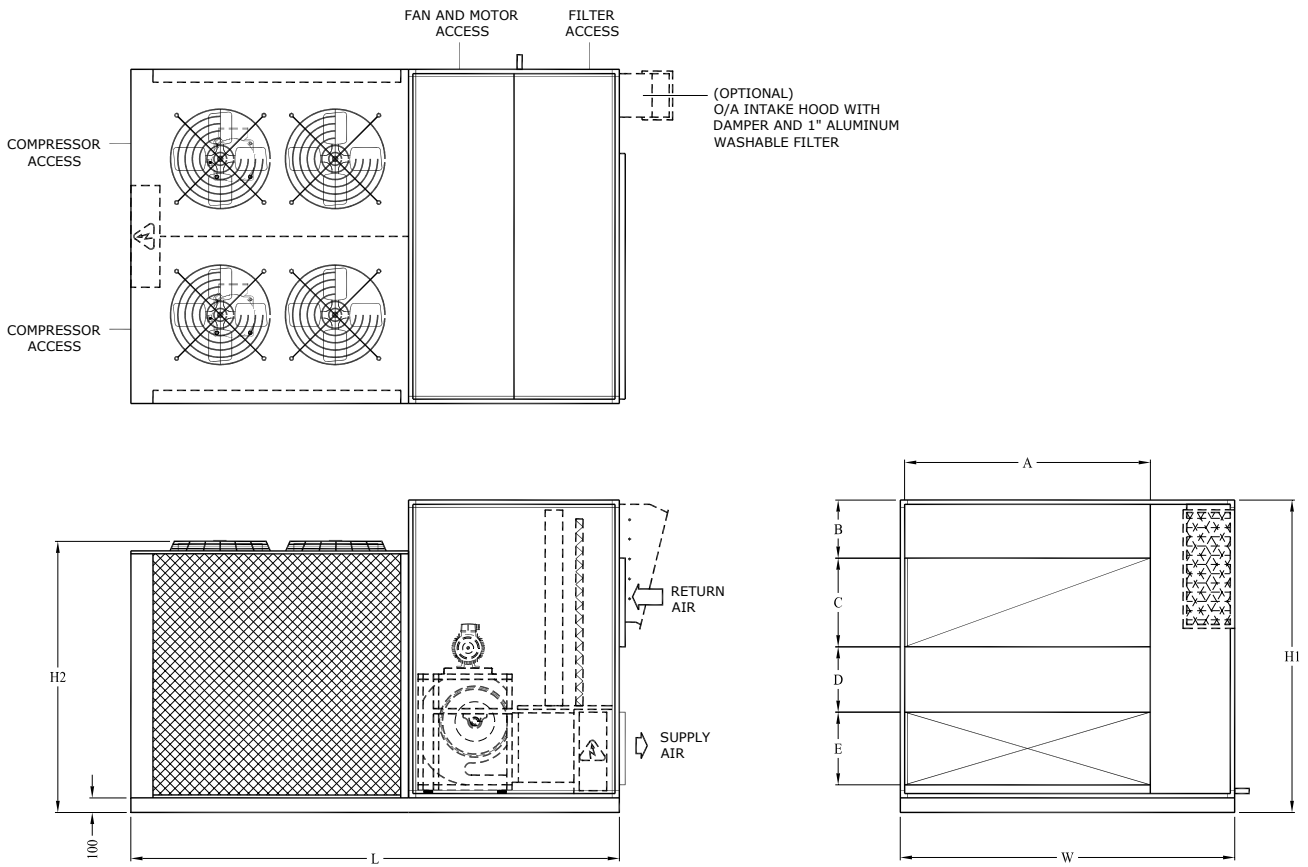
Model	L	W	H1	H2	A	B	C	D	F/A Intake (optional)	
									Width	Height
240X	2620	2000	1800	1840	1400	610	550	425	300	610
270X	2780	2300	1800	1840	1690	610	550	425	300	810

Notes

1. All dimensions in mm unless otherwise specified.
2. Drain connection is 1-1/4" NPT.
3. Unit must have the following minimum clearance;
 - TOP - do not restrict
 - ENDS - 1219 mm (4 ft)
 - SIDES - 1219 mm (4 ft)
4. For units with bag filter, add 410 mm in the length.

DIMENSIONAL DATA

GPU – 300X TO 300X

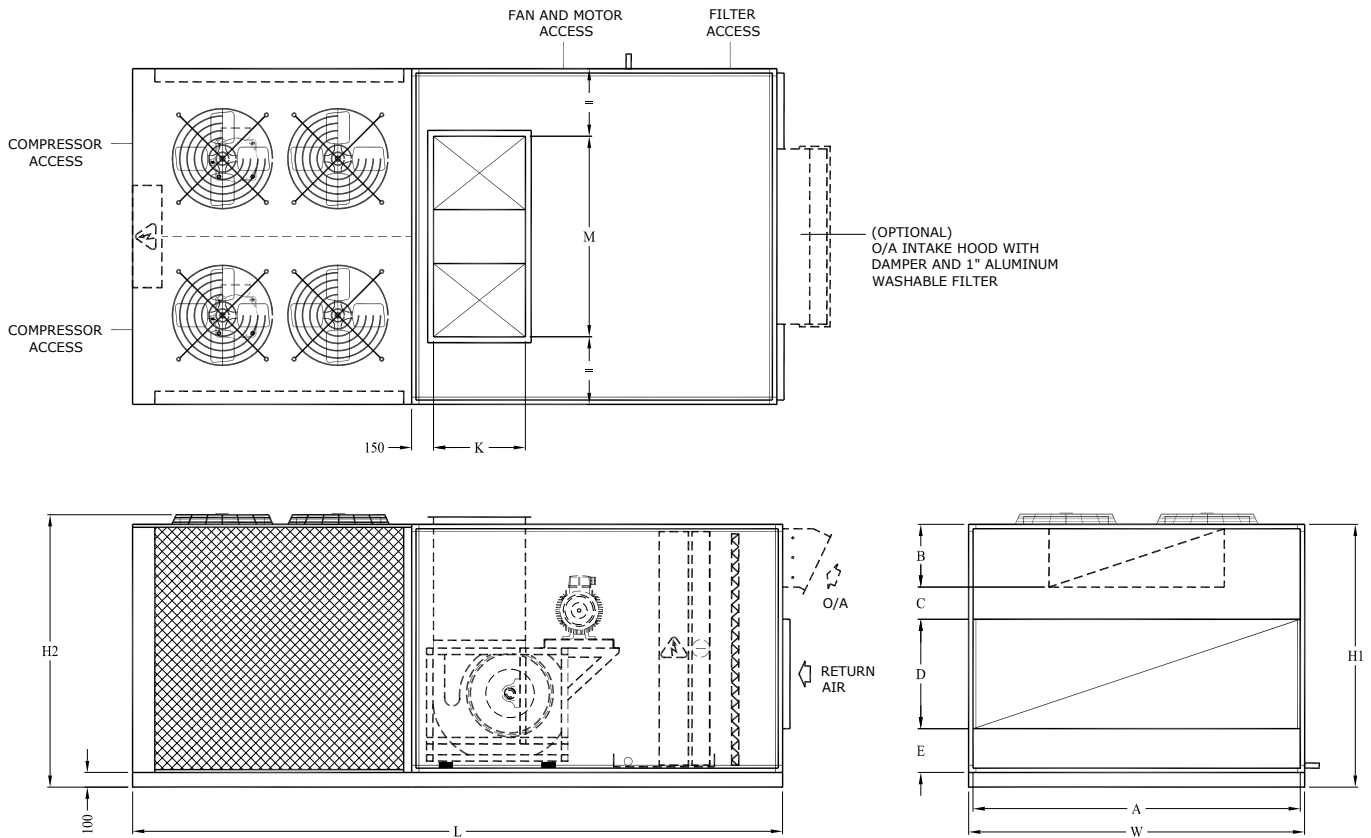


Model	L	W	H1	H2	A	B	C	D	E	F/A Intake (optional)	
										Width	Height
300X	3230	2300	2050	1940	1690	300	610	450	500	300	810
330X	3360	2300	2150	1940	1690	400	610	450	500	300	810

- Notes
1. All dimensions in mm unless otherwise specified.
 2. Drain connection is 1-1/4" NPT.
 3. Unit must have the following minimum clearance;
 - TOP – do not restrict
 - ENDS – 1219 mm (4 ft)
 - SIDES – 1219 mm (4 ft)
 4. For units with bag filter, add 410 mm in the length.

DIMENSIONAL DATA

GPU – 360X TO 390X



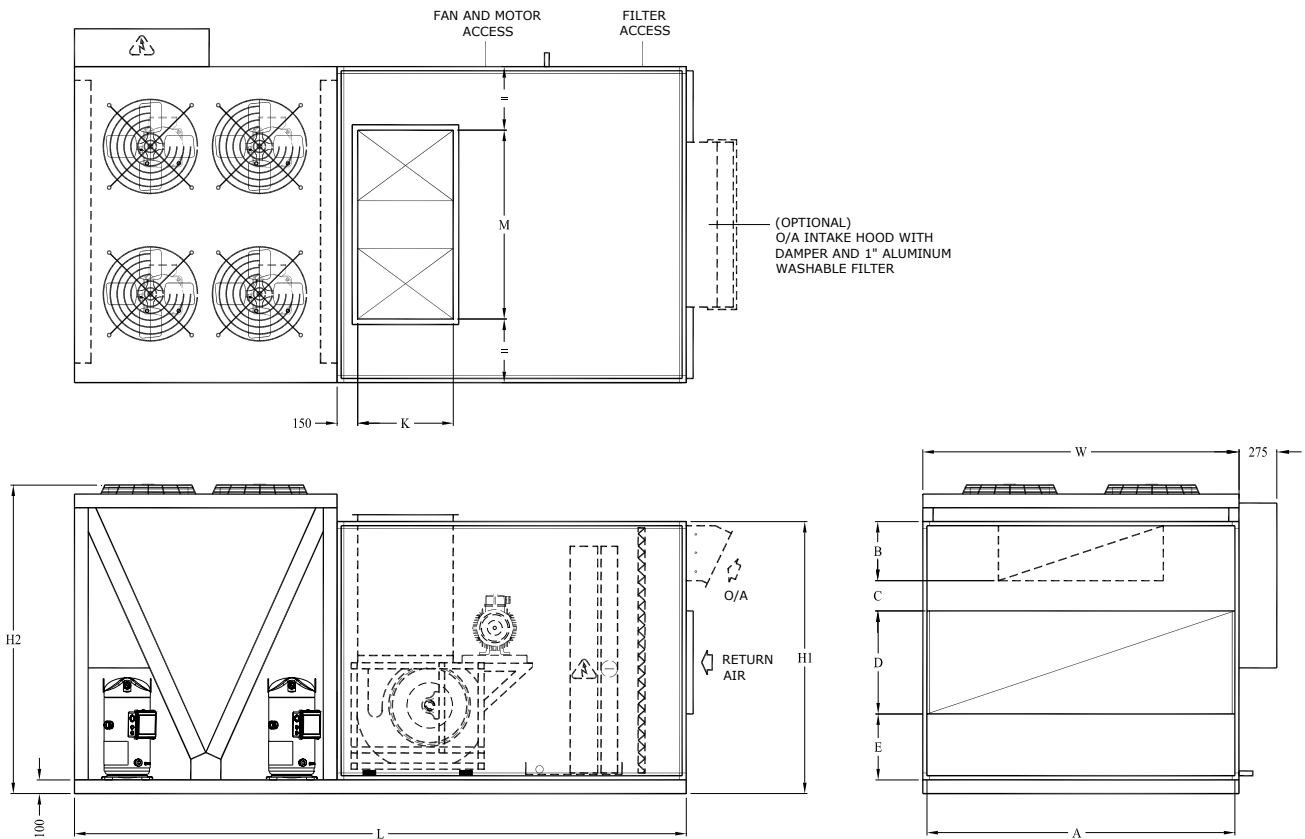
Model	L	W	H1	H2	A	B	C	D	E	K	M
360X	4450	2300	1800	1940	2240	430	220	750	300	478	1203
390X	4450	2300	1800	1940	2240	430	220	750	300	629	1374

Model	F/A Intake (optional)	
	Width	Height
360X	1200	400
390X	1200	400

- Notes**
1. All dimensions in mm unless otherwise specified.
 2. Drain connection is 1-1/4" NPT.
 3. Unit must have the following minimum clearance;
 - TOP - do not restrict
 - ENDS - 1219 mm (4 ft)
 - SIDES - 1219 mm (4 ft)
 4. For units with bag filter, add 410 mm in the length.

DIMENSIONAL DATA

GPU – 420X



Model	L	W	H1	H2	A	B	C	D	E	K	M
420X	4450	2300	1980	2320	2240	430	220	750	480	629	1374

Model	F/A Intake (optional)	
	Width	Height
420X	1200	400

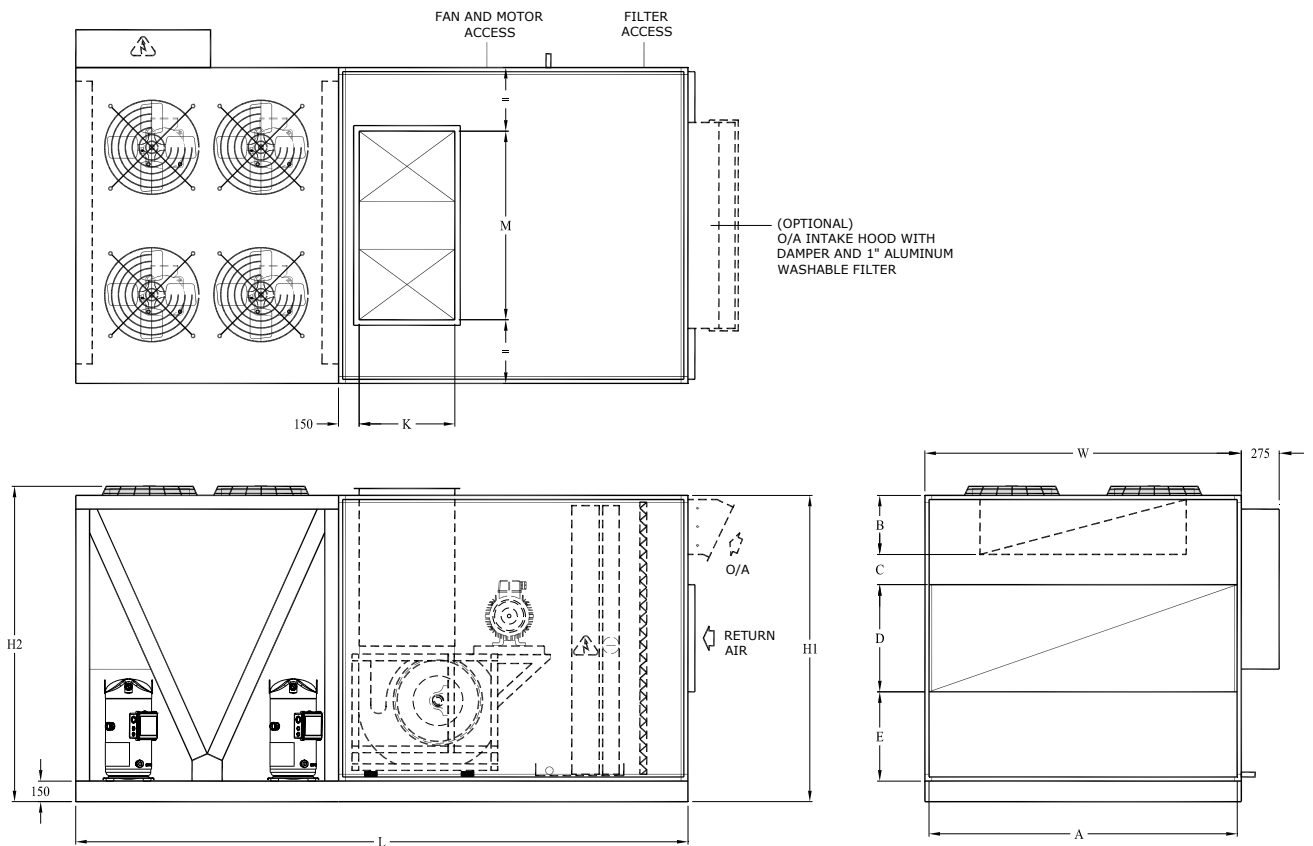
Notes

1. All dimensions in mm unless otherwise specified.
2. Drain connection is 1-1/4" NPT.
3. Unit must have the following minimum clearance;
 - TOP – do not restrict
 - ENDS – 1219 mm (4 ft)
 - SIDES – 1219 mm (4 ft)
4. For units with bag filter, add 410 mm in the length.



DIMENSIONAL DATA

GPU – 480X TO 540X



Model	L	W	H1	H2	A	B	C	D	E	K	M
480X	4450	2300	2180	2320	2240	430	220	780	650	629	1374
540X	4450	2300	2230	2320	2240	430	220	780	650	695	1374

Model	F/A Intake (optional)	
	Width	Height
480X	1500	400
540X	1500	400

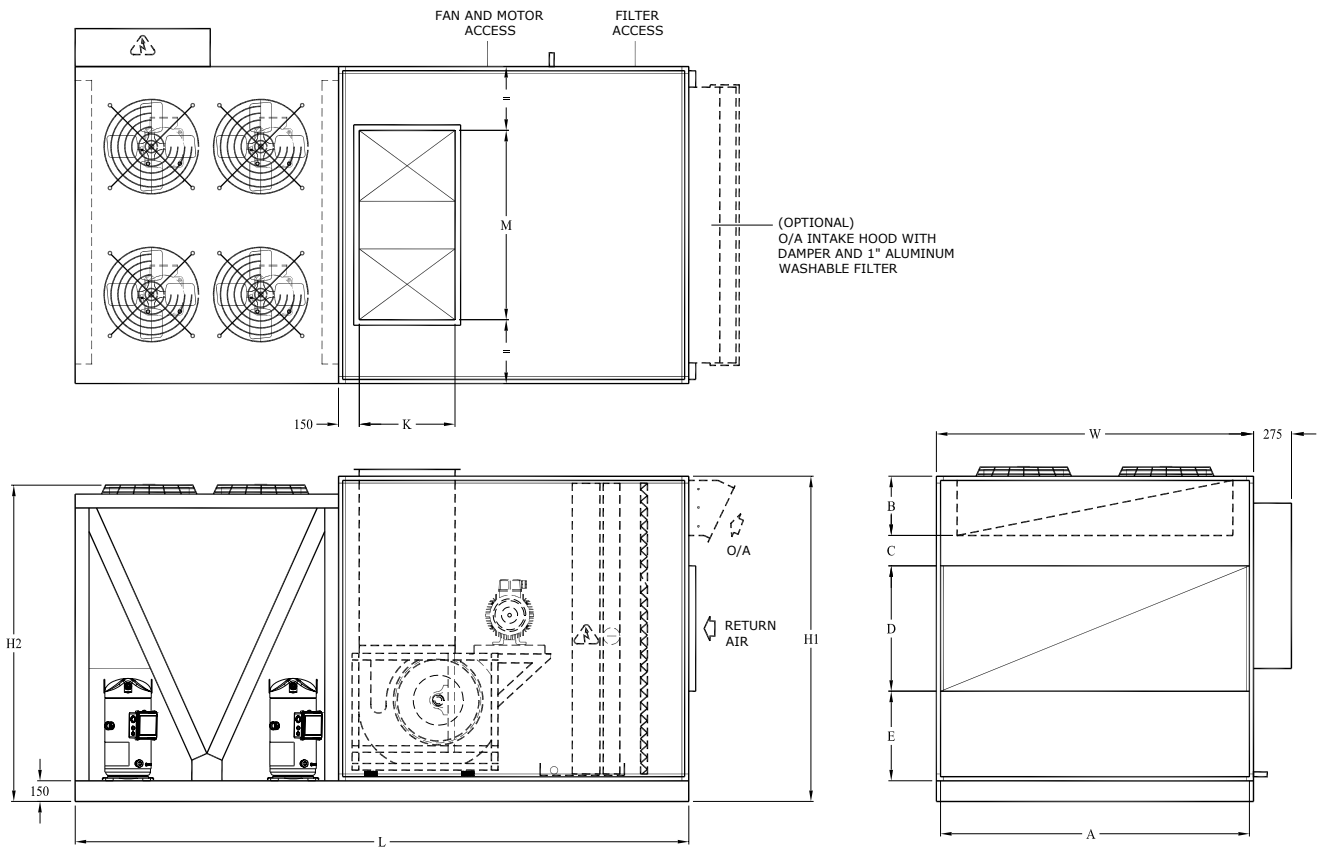
Notes

1. All dimensions in mm unless otherwise specified.
2. Drain connection is 1-1/4" NPT.
3. Unit must have the following minimum clearance;
 - TOP – do not restrict
 - ENDS – 1219 mm (4 ft)
 - SIDES – 1219 mm (4 ft)
4. For units with bag filter, add 410 mm in the length.



DIMENSIONAL DATA

GPU – 600X



Model	L	W	H1	H2	A	B	C	D	E	K	M
600X	4450	2300	2360	2320	2240	430	220	910	650	695	1374

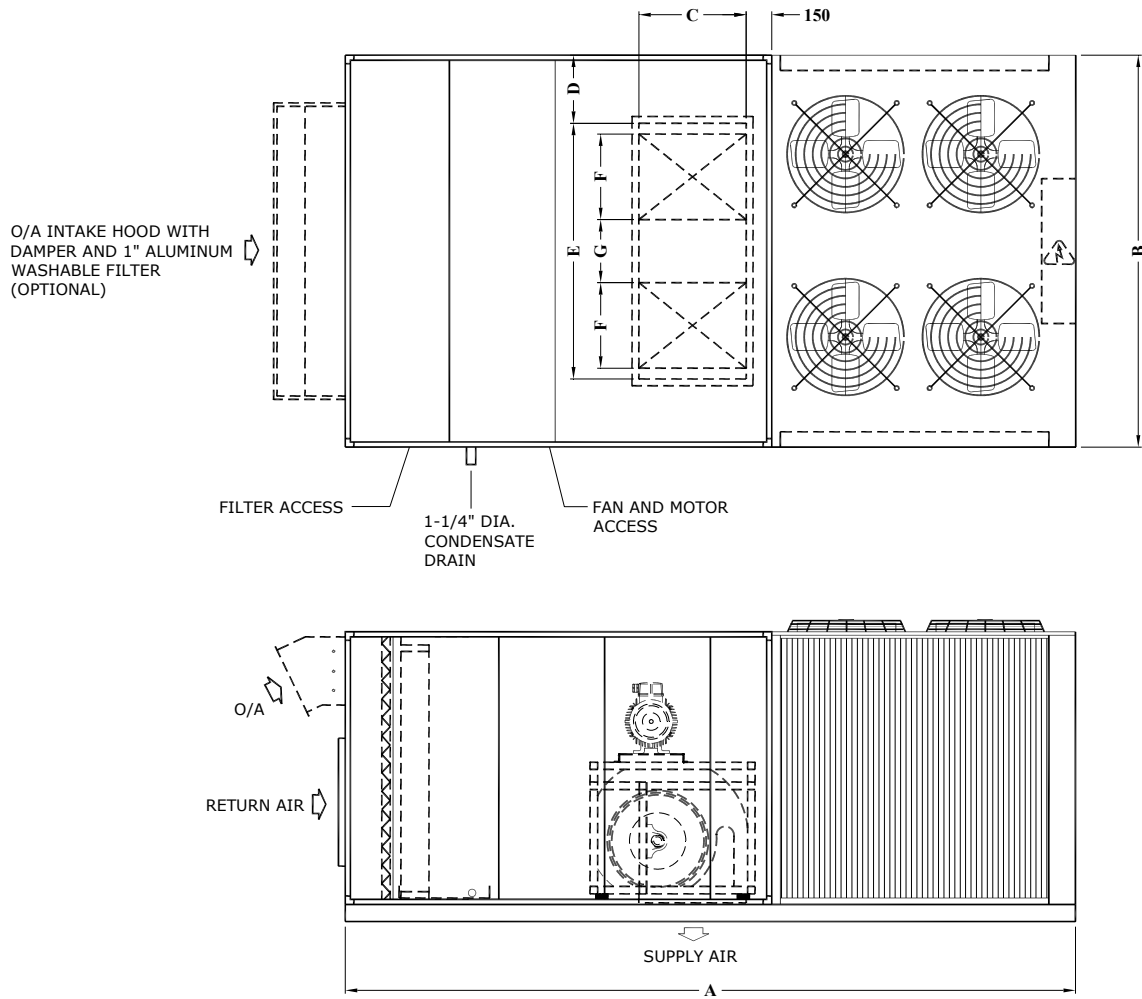
Model	F/A Intake (optional)	
	Width	Height
600X	2000	400

Notes

1. All dimensions in mm unless otherwise specified.
2. Drain connection is 1-1/4" NPT.
3. Unit must have the following minimum clearance;
 - TOP – do not restrict
 - ENDS – 1219 mm (4 ft)
 - SIDES – 1219 mm (4 ft)
4. For units with bag filter, add 410 mm in the length.



OPTIONAL UNIT ARRANGEMENT HORIZONTAL RETURN / BOTTOM SUPPLY

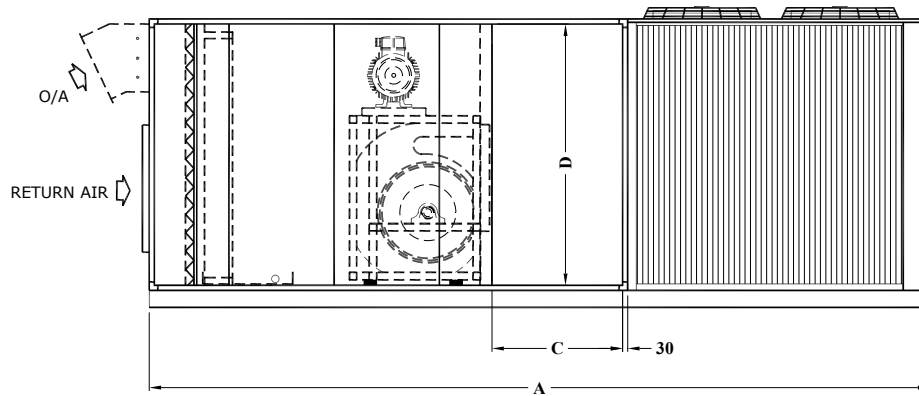
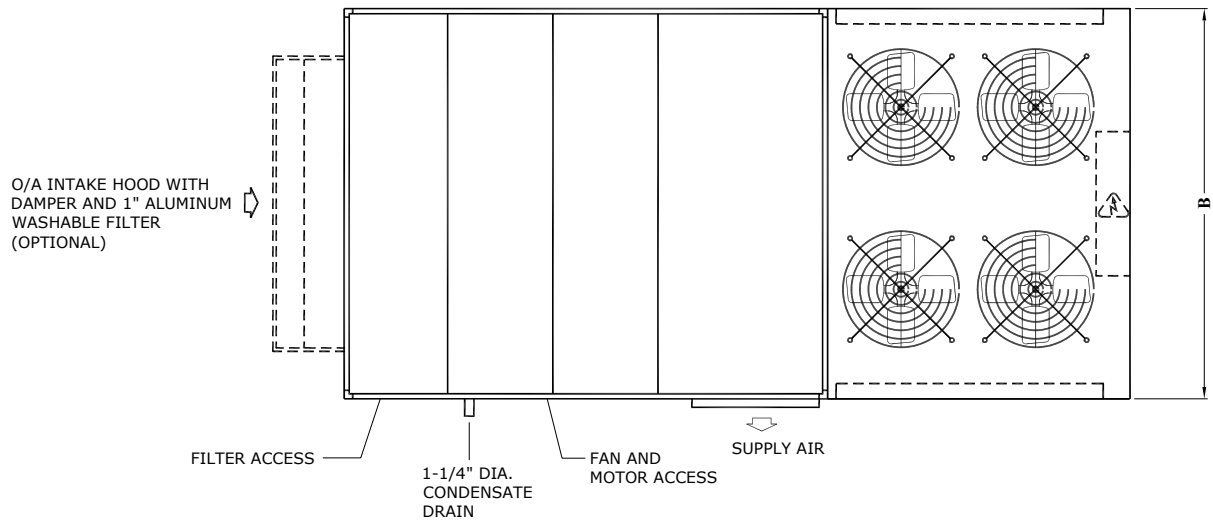


Unit Model	GPU-360X	GPU-390X	GPU-420X	GPU-480X	GPU-540X	GPU-600X
A	4450	4450	4450	4450	4450	4450
B	2300	2300	2300	2300	2300	2300
C	482	633	633	633	699	699
D	546	461	461	461	461	461
E	1207	1378	1378	1378	1378	1378
F	502	502	502	502	514	514
G	370	370	370	370	346	346

Notes

1. All dimensions in mm.
2. For units with bag filters, add 410 mm in the length.

OPTIONAL UNIT ARRANGEMENT HORIZONTAL RETURN / SIDE SUPPLY

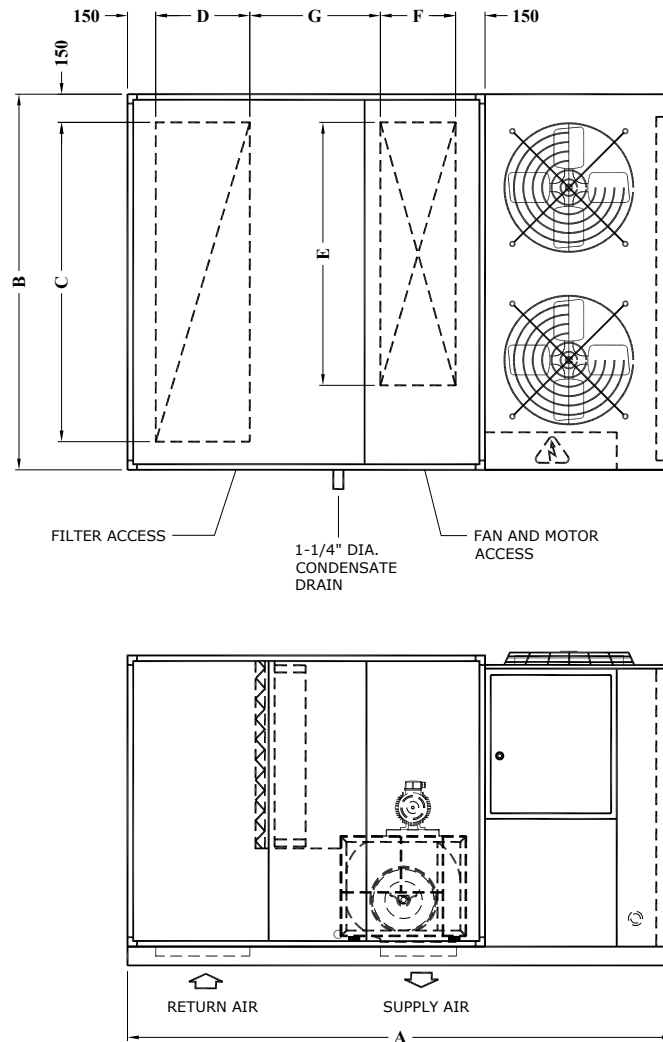


Unit Model	GPU-360X	GPU-390X	GPU-420X	GPU-480X	GPU-540X	GPU-600X
A	4900	4900	4900	4900	5200	5200
B	2300	2300	2300	2300	2300	2300
C	750	750	750	750	825	900
D	1640	1640	1820	1970	2020	2150

Notes

1. All dimensions in mm.
2. For units with bag filters, add 410 mm in the length.

OPTIONAL UNIT ARRANGEMENT BOTTOM RETURN / BOTTOM SUPPLY

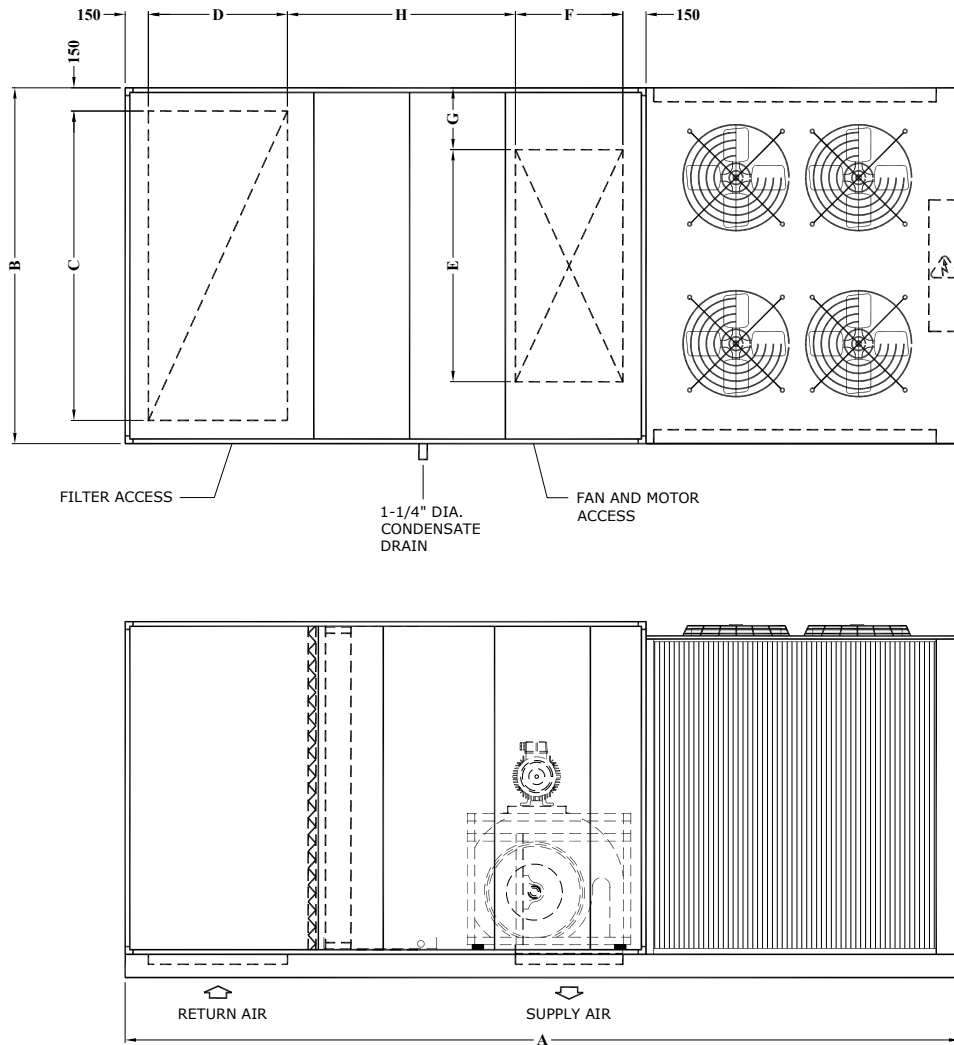


Unit Model	GPU-140X	GPU-180X	GPU-210X	GPU-240X	GPU-270X	GPU-300X	GPU-330X
A	2790	2790	3170	3170	3330	3680	3810
B	2000	2000	2000	2000	2300	2300	2300
C	1400	1400	1400	1400	1690	1690	1690
D	450	500	600	600	600	600	600
E	866	866	1044	1044	1044	1207	1207
F	345	345	408	408	408	482	482
G	755	705	842	842	842	818	818

Notes

1. All dimensions in mm.
2. For units with bag filters, add 410 mm in the length.

OPTIONAL UNIT ARRANGEMENT BOTTOM RETURN / BOTTOM SUPPLY

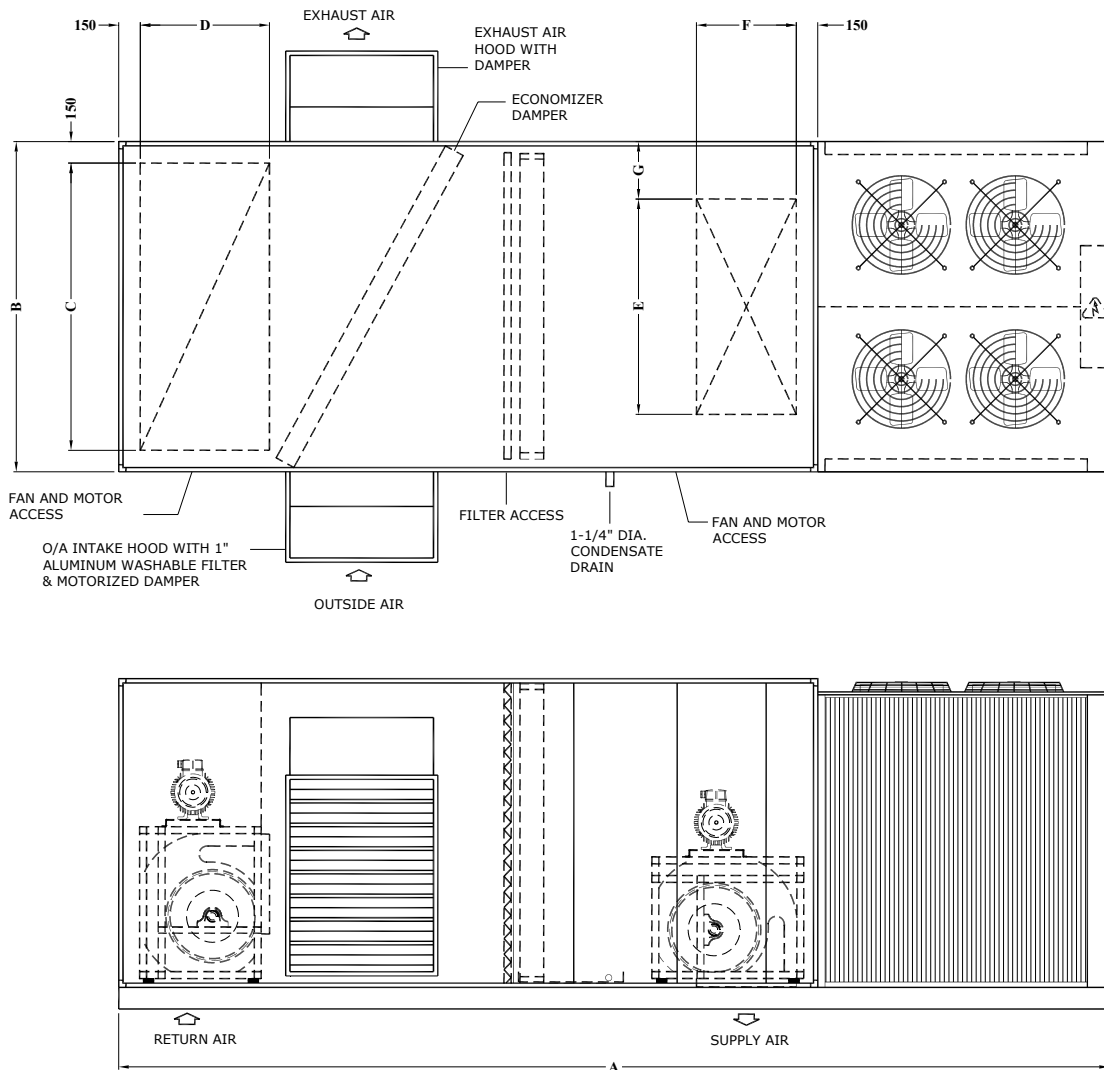


Unit Model	GPU-360X	GPU-390X	GPU-420X	GPU-480X	GPU-540X	GPU-600X
A	5000	5000	5000	5000	5000	5070
B	2300	2300	2300	2300	2300	2300
C	2000	2000	2000	2000	2000	2000
D	750	750	750	780	780	910
E	1207	1378	1378	1378	1378	1378
F	482	633	633	633	699	699
G	546	461	461	461	461	461
H	1558	1407	1407	1377	1311	1251

Notes

1. All dimensions in mm.
2. For units with bag filters, add 410 mm in the length.

OPTIONAL UNIT ARRANGEMENT UNIT WITH RETURN AIR FAN AND ECONOMIZER

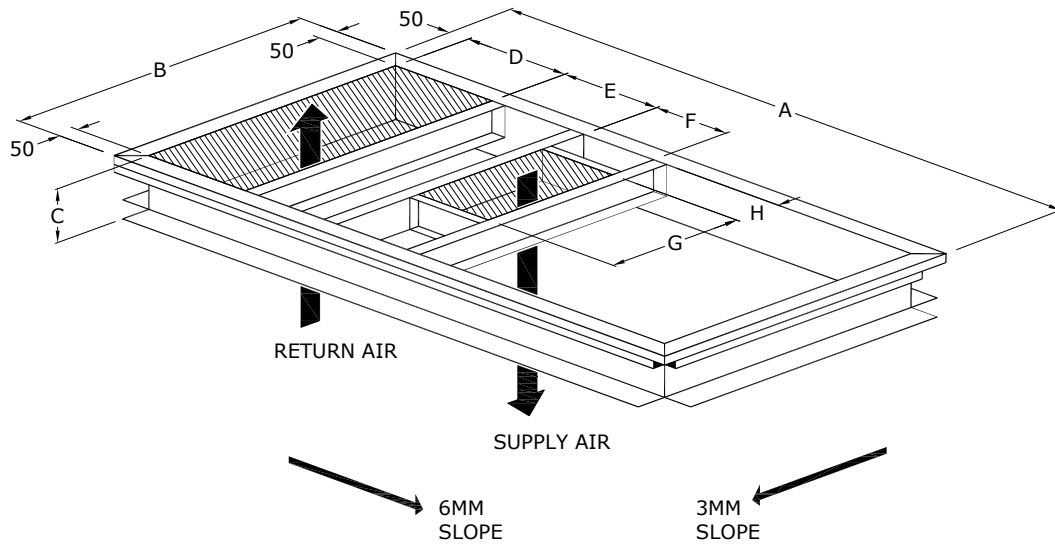


Unit Model	GPU-360X	GPU-390X	GPU-420X	GPU-480X	GPU-540X	GPU-600X
A	6760	6760	6760	6760	7060	7060
B	2300	2300	2300	2300	2300	2300
C	2000	2000	2000	2000	2000	2000
D	750	750	750	780	780	910
E	1207	1378	1378	1378	1378	1378
F	482	633	633	633	699	699
G	546	461	461	461	461	461

Notes

1. All dimensions in mm.
2. For units with bag filters, add 410 mm to the length.

ROOF CURB DIMENSIONS



Unit Model	GPU-140X	GPU-180X	GPU-210X	GPU-240X	GPU-270X	GPU-300X	GPU-330X
A	2590	2590	2970	2970	3130	3480	3610
B	1800	1800	1800	1800	2100	2100	2100
C	305	305	305	305	305	305	305
D	450	500	600	600	600	600	600
E	755	705	842	842	842	818	818
F	345	345	408	408	408	482	482
G	866	866	1044	1044	1044	1207	1207

Notes

1. All dimensions in mm.
2. H is not applicable for the above units and is equal to 0.
3. If unit is equipped with bag filter, add 410 mm in dimension "E". Correspondingly, dimension "A" will also increase by 410 mm.

Unit Model	GPU-360X	GPU-390X	GPU-420X	GPU-480X	GPU-540X	GPU-600X
A	4800	4800	4800	4800	4800	4870
B	2100	2100	2100	2100	2100	2100
C	305	305	305	305	305	305
D	750	750	750	780	780	910
E	1558	1407	1407	1377	1311	1251
F	482	633	633	633	699	699
G	1207	1378	1378	1378	1378	1378
H	546	464	461	461	461	461

Notes

1. All dimensions in mm.
2. If unit is equipped with bag filter, add 410 mm in dimension "E". Correspondingly, dimension "A" will also increase by 410 mm.

ENTHALPY AT SATURATION (Btu/lb)

Wet Bulb Temperature [°F]	Tenths of a Degree									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
35	13.01	13.05	13.10	13.14	13.18	13.23	13.27	13.31	13.35	13.40
36	13.44	13.48	13.53	13.57	13.61	13.66	13.70	13.75	13.79	13.83
37	13.87	13.91	13.96	14.00	14.05	14.09	14.14	14.18	14.23	14.27
38	14.32	14.37	14.41	14.46	14.50	14.55	14.59	14.64	14.68	14.73
39	14.77	14.82	14.86	14.91	14.95	15.00	15.05	15.09	15.14	15.18
40	15.23	15.28	15.32	15.37	15.42	15.46	15.51	15.56	15.60	15.65
41	15.70	15.75	15.80	15.84	15.89	15.94	15.99	16.03	16.08	16.13
42	16.17	16.22	16.27	16.32	16.36	16.41	16.46	16.51	16.56	16.61
43	16.66	16.71	16.76	16.81	16.86	16.91	16.96	17.00	17.05	17.10
44	17.15	17.20	17.25	17.30	17.35	17.40	17.45	17.50	17.55	17.60
45	17.65	17.70	17.75	17.80	17.85	17.91	17.96	18.01	18.06	18.11
46	18.16	18.21	18.26	18.32	18.37	18.42	18.47	18.52	18.58	18.63
47	18.68	18.73	18.79	18.84	18.89	18.95	19.00	19.05	19.10	19.16
48	19.21	19.26	19.32	19.37	19.43	19.48	19.53	19.59	19.64	19.70
49	19.75	19.81	19.86	19.92	19.97	20.03	20.08	20.14	20.19	20.25
50	20.30	20.36	20.41	20.47	20.52	20.58	20.64	20.69	20.75	20.80
51	20.86	20.92	20.97	21.03	21.09	21.15	21.20	21.26	21.32	21.38
52	21.44	21.50	21.56	21.62	21.67	21.73	21.79	21.85	21.91	21.97
53	22.02	22.08	22.14	22.20	22.26	22.32	22.38	22.44	22.50	22.56
54	22.62	22.68	22.74	22.80	22.86	22.92	22.98	23.04	23.10	23.16
55	23.22	23.28	23.34	23.41	23.47	23.53	23.59	23.65	23.72	23.78
56	23.84	23.90	23.97	24.03	24.10	24.16	24.22	24.29	24.35	24.42
57	24.48	24.54	24.61	24.67	24.74	24.80	24.86	24.93	24.99	25.06
58	25.12	25.19	25.25	25.32	25.38	25.45	25.52	25.58	25.65	25.71
59	25.78	25.85	25.92	25.98	26.05	26.12	26.19	26.26	26.32	26.39
60	26.46	26.53	26.60	26.67	26.74	26.81	26.87	26.94	27.01	27.08
61	27.15	27.22	27.29	27.36	27.43	27.50	27.57	27.64	27.71	27.78
62	27.85	27.92	27.99	28.07	28.14	28.21	28.28	28.35	28.43	28.50
63	28.57	28.64	28.72	28.79	28.87	28.94	29.01	29.09	29.16	29.24
64	29.31	29.39	29.46	29.54	29.61	29.69	29.76	29.84	29.91	29.99
65	30.06	30.14	30.21	30.29	30.37	30.45	30.52	30.60	30.68	30.75
66	30.83	30.91	30.99	31.07	31.15	31.23	31.30	31.38	31.46	31.54
67	31.62	31.70	31.78	31.86	31.94	32.02	32.10	32.18	32.26	32.34
68	32.42	32.50	32.59	32.67	32.75	32.84	32.92	33.00	33.08	33.17
69	33.25	33.33	33.42	33.50	33.59	33.67	33.75	33.84	33.92	34.01
70	34.09	34.18	34.26	34.35	34.43	34.52	34.61	34.69	34.78	34.86
71	34.95	35.04	35.13	35.21	35.30	35.39	35.48	35.57	35.65	35.74
72	35.83	35.92	36.01	36.10	36.19	36.29	36.38	36.47	36.56	36.65
73	36.74	36.83	36.92	37.02	37.11	37.20	37.29	37.38	37.48	37.57
74	37.66	37.76	37.85	37.95	38.04	38.14	38.23	38.33	38.42	38.52
75	38.61	38.71	38.80	38.90	38.99	39.09	39.19	39.28	39.38	39.47
76	39.57	39.67	39.77	39.87	39.97	40.07	40.17	40.27	40.37	40.47
77	40.57	40.67	40.77	40.87	40.97	41.08	41.18	41.28	41.38	41.48
78	41.58	41.68	41.79	41.89	42.00	42.10	42.20	42.31	42.41	42.52
79	42.62	42.73	42.83	42.94	43.05	43.16	43.26	43.37	43.48	43.58
80	43.69	43.80	43.91	44.02	44.13	44.24	44.34	44.45	44.56	44.67
81	44.78	44.89	45.00	45.12	45.23	45.34	45.45	45.56	45.68	45.79
82	45.90	46.01	46.13	46.24	46.36	46.47	46.58	46.70	46.81	46.93
83	47.04	47.16	47.28	47.39	47.51	47.63	47.75	47.87	47.98	48.10
84	48.22	48.34	48.46	48.58	48.70	48.83	48.95	49.07	49.19	49.31
85	49.43	49.55	49.68	49.80	49.92	50.05	50.17	50.29	50.41	50.54

ELECTRONIC THERMOSTATS

2 Heat / 2 Cool Non-Programmable

- Mercury free, environmentally safe
- 24 VAC system
- Manual changeover
- Zoning system compatible
- 60-minutes back-up during power interruption
- Selectable °F or °C display
- Integral five minute anti-short cycle protection
- Automatic heating system shutdown when temperature exceeds 90°F (32°C)



2 Heat / 2 Cool Programmable

- Flexible 7-day, 5-2-day or 5-1-1-day programmable: can set the time and day of the week
- Permanent memory
- Two stage heat / two stage cool
- Large display with backlight
- Selectable °F or °C display
- Accuracy: $\pm 1^{\circ}\text{F}$, $\pm 0.5^{\circ}\text{C}$
- Status led
- Configurable remote sensor compatible
- Minimum separation between heat and cool set-point in auto-change mode can be set
- Field adjustable calibration: displayed room temperature can be adjusted to match actual room temperature
- Soft-touch controls
- Keypad lockout



.....All information are subject to change due to continuous product research and development.

ROYAL TEMP

SAUDI AIR CONTROL SYSTEM
P.O. BOX 2625 RIYADH 11461, KSA
TEL. No. 00 9661 2651500
FAX No. 00 9661 2651521
e-mail: goldenstar@cyberia.net.sa

Agency:

PC-GPU-140X-600X-2007-R0

The complete line ... for all your air conditioning needs.



AIR COOLED WATER CHILLER 48 - 486 TONS
Screw-Reciprocating
Micro Computer Controlled
R - 134A - 407C



**AIR HANDLING UNITS
(SINGLE & DOUBLE SKIN)**
300 - 200,000 CFM



**PACKAGED AIR
CONDITIONING UNITS**
2 - 100 TONS



**CASSETTE TYPE
AIR - CONDITIONER**



MINI SPLIT UNIT
9,000 - 32,000 Btu/hr



OUT DOOR SPLIT A/C UNIT



**SLIM BELT DRIVE CABINET
HIGH PRESSURE FAN COIL UNITS**



**ROOM A/C UNITS
WINDOW SERIES**



AIR COOLED CONDENSING UNITS
1.2 - 155 TONS



**SLIM DUCTED CEILING
FAN COIL UNITS**



FAN COIL UNITS
200 - 1,300 CFM



PRE-INSULATED PIPE



AIRFOIL FANS
225 - 340,000 CFM



VANE AXIAL FAN
3,000 - 250,000 CFM



**VAV - VTV - BY PASS
ACOUSTIC TERMINAL UNITS**



**FLOOR STANDING
UNIT 42000 BTU / hr**

ROYAL TEMP reserves the right to change any product specifications without notice

YOU CAN CALL US FOR EXPLOSION PROOF AND HAZARD AREAS EQUIPMENT



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