

Commercial Manual COSTERA Series

Air Cooled Horizontal Package Unit

15 TON



- Condenser side manufactured in large galvanized steel sheet. Air Handling side made of 1" double-walled heavy-gauge galvanized steel panels with insulation.
- Powder coated paint system: For a long

 lasting professional finish. Additional Modine Luvata corrosion resistant spray added for extra protection.
- Scroll type compressor, which offers greater protection against liquid damage. More efficient throughout its operational range; It operates at lower sound and vibration levels than traditional compressors.
- Easy-access panel to compressors.
- Certified electric motor (PSC motor).

- Evaporator and condenser coil made of copper tubes and aluminum fins with added Modine-Luvata corrosion resistant spray.
- Compact unit of two cooling circuits.
- High and low pressure switches.
- Bi-metal electrical protector.
- · High capacity filter dryer.
- Pulley-transmission centrifugal motor-fan coupling.
- Fully insulated evaporator-fan compartment with easy-access hinged panels.
- Stainless steel rivet-nut machine-threaded hex head screw-fixed service panels.
- Reinforced iron metal base with forklift openings.

Table of Contents

- 3 Precautions
- 4 Technical Specifications
- **5** Blower Performance Data
- 6 System Performance Data
- 7 Unit Dimensions
- 9 Safety Distance
- 10 Safe Handling
- **11** Refrigeration Diagram
- 12 Electric Diagram
- **14** Suggestions for Installation
- 15 Suggestions for Ignition
- **16** Maintenance Recommendations
- **17** Exploded View
- 18 Parts List GXPK180DG4AB
- 19 Parts List GXPK180DG7AB
- 20 Notes

This document will provide relevant information about the equipment. All the information included in this manual is subject to changes without prior notice. The suggestions of this manual are addressed to the personnel in charge of planning, installing, implementing, and maintaining the equipment, having corresponding knowledge for the realization of these type of works.



WARNING

Installation, adjustment, alteration, service or maintenance can cause personal injuries, death, or property damage.

The installation and service must be carried out by a professional or equivalent professional installer or a service agency.



CAUTION

Physical contact with edges while applying excessive force or rapid movement with metal can cause personal injury. Be careful when working near these areas during installation or during the service of this equipment.

Precautions

In the following document you can find several useful suggestions on the ignition, use and maintenance of your air cooled horizontal package unit. Preventive care will help you save time and money during the useful life of the unit.

Precaution

- Contact an authorized technician in case of requiring the repair or maintenance of this unit.
- Contact an authorized installer to install this unit.
- In case of replacement of supply cables, this activity can only be carried out by authorized personnel.
- The installation must be carried out only by authorized personnel in accordance with wiring standards.
- The electrical installation must be carried out in accordance with current legal norms.
- Make sure the electric service is adequate for the selected equipment model.
- Make sure the equipment is correctly installed. To avoid electrical discharges and possible fires, the correct connection is important.
- If the voltage supplied to this equipment is outside the specified range, the equipment will not
 work and this can cause the main components of the equipment (compressors motors) and
 other electrical components to burn out.
- Do not store or use gasoline or other flammable products near this equipment or other artifacts.

Incorrect manipulation due to lack of knowledge of the instructions or suggestions described in this manual can harm the unit. We do not assume any responsibility for damages derived from incorrect, inappropriate or not planned use, or to consequences of unauthorized repairs or modifications. Keep in mind that this document is only valid for the specified equipment and not for complete installation.

Technical Specifications

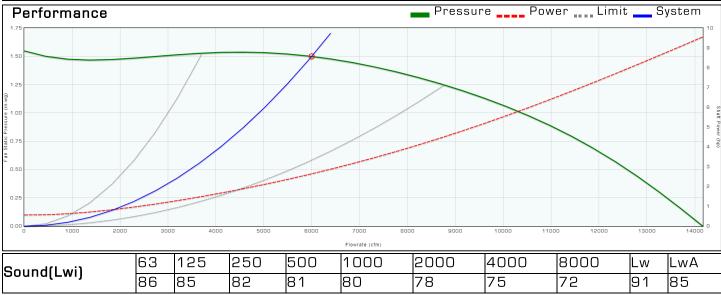
	CVDV490DC4AB	CVDV/190DC7AB
	GXPK180DG4AB	GXPK180DG7AB
GENERAL DATA		
Cooling Capacity (BTU/h)	180,000	180,000
Cooling Tons	15	15
Efficiency ^[1] EER	12	12
EVAPORATOR FAN		
Transmission	Pulley	Pulley
Number of Fans	1	1
Rated Air Flow ^[1] (CFM)	6000	6000
Blower (DxW)	18 x 18	18 x 18
Number of Motors	1	1
Current (A)	8.4	4.2
Power (HP)	3	3
RPM	1800	1800
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Copper	Copper / Copper
Rows	3	3
Fins Per Inch	13	13
CONDENSER FAN		
Number of Fans	2	2
Туре	Axial	Axial
Number of Motors	2	2
Current (A)	2.2	1.2
Power (HP)	709	789
RPM	984	1062
Fan Diameter (mm)	630	630
CONDENSER COIL		
Type (Tube / Fin)	Copper / Copper	Copper / Copper
Rows	3	3
Fins Per Inch	17	17
COMPRESSOR		
Refrigerant	R410a	R410a
Quantity	2	2
Type	Scroll	_ Scroll
RLA ⁽²⁾	27.9 / 25.0	13.6 / 12.2
LRA ^[3]	164.0	100.0
ELECTRICAL DATA	13.15	
V/Ph/Hz	(208-230/3/60)	(460/3/60)
Operating Current ^[1] (A)	69.0	34.0
Unit Total Amperage ^[1] (A)	69.0	34.0
Minimum Circuit Ampacity (A)	76.0	38.0
Max. Overload Protection (A)	104.0	51.0
	1300	1300
NET WEIGHT (kg)		
GROSS WEIGHT (kg)	1310	1310

Notes: ¹ Data corresponding to a certain operation condition based on the AHRI 210/240 or 360 standard. ² This Rated Load Amps data (RLA) corresponds to a single compressor. ³ This Locked Rotor Amps data (LRA) corresponds to a single compressor. ⁴ The information provided in the table can change without prior notice.



Blower Performance Data

Flow 6000 cfm	Pressure 1.50 in-wg		Altitude Oft	Density 0.075 lb/ft ³			Vav Set Point 0.00 in-wg
Flow 6000 cfm	Pressure 1.50 in-wg			Total Efficiency 63.4 %	Speed 715 rpm	Outlet Velocity	Efficiency Rating FEG71
		Max. Speed 1200 rpm					TurnDown 100 %



Notes: Airflow performance data are obtained in accordance with AMCA 210-07. Installed performance will vary depending on extent of cabinet geometry

Sound data are estimated from industry experience for the type of product selected. Data should be used for comparison purposes only and do not represent installed values.

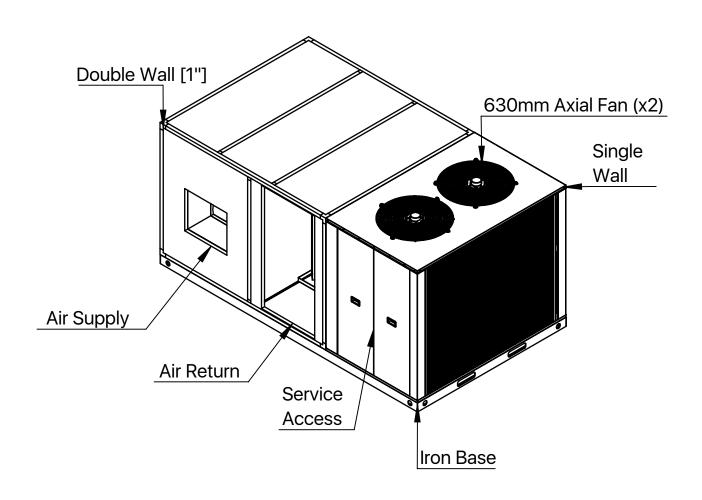
System Performance Data

		73	() MBh SHC PI(KW)	181 64 18	80	112	77	86	118	139	2, 88	138	163	66	127	156	185	108	173	206				73	MBh SHC PI	78	144 93 21	-	75	95	134	98	109	133	158	96	123	151	179	COT	75 136 36
105		29	SHC PI(KW	_			+			+							+					125		29			85 14	100 15				-							+		_
			MBh	121	121	127	147	147	148	155	169	171	181	188	188	191	205	206	210	224					_	101	101	105	122	122	129	141	141	142	151	156	156	158	170	1/1	171
			PI(KW	∞	6 6	12	6	11	13	12	11	t 7	18	12	15	17	8	13	9 6	22					PI(KW	11	12	14	11	13	T &	13	15	18	21	14	18	77	24	OT .	0
		61	SHC	73	89	119	92	110	130	149	107	157	176	122	148	174	200	134	193	223				61	SE	77	6	103	80	95	129	93	112	132	152	106	128	151	173	TTO	7/2
) MBh	75	89	119	93	110	130	149	107	157	176	122	148	174	200	134	193	223					_	74	87	66	77	91	108	8	108	126	146	101	123	144	166	717	126
				18	18	18	22	21	21	21	75		25	28	78	78	88	e 8		3 8					PI (K	19	19	19	24	24	72	27	27	27	27	31	31	31	31	0	0
		73		69			83			+							+							73	+			$\stackrel{\cdot \cdot \cdot}{\rightarrow}$				+			+				+		
				195	193	193	237	235	235	235	272	2/2	272	305	305	302	302	335	33.5	335	ن				_	155	155	155	191	189	189	219	219	219	219	245	245	245	245	202	200
	ılet (°F)						+			+				-			\dashv				erature (ılet (°F)	-		13	13	14	16			-			-				-		
95	t Bulb Ir	67	_				-			+				_			+				nt Temp	120	t Bulb Ir	67	+							+			-				+		_
	š						156	156	157	+				200	700	203	218			238	Ambie		×		_			-				+			+				+		_
										+							+											_							+				+		_
		61		_			+			+				_			+							61	+			-	83			+			+				+		_
			_	8	95	127				+							\dashv				-				_							+			+				+		
				_			-			-				_			_								\neg			_				+			+				+		_
		73	_	-			+			,				_			+							73	_							_			+				-		_
					208	200	255	253	253	+				328	328	328	328	360	36.	36(_	167	167	-				+			235	264	797	797	264	767	200
				11			+			+				_			\dashv									13	13	_				-			+				+		_
82		67		-			-			+				\vdash			+					115		29	-			-				+			+				-		_
					137	143	165	165	166	+		191		212	212		\dashv		736	252					_	114	115	119	138	138	135	+			+				+		
							+			+							\dashv							_	\neg	0 6	11	12				+							+		_
		61					+			+				-			+							61	-			112				+			+				+		
	<u> </u>		MB	<u> </u>						\dashv					-		\dashv						<u> </u>		+						-	-			+				+		
	Airflow Ent D	<u> </u>		75	3600		75		4800 85	6 i	75	6000	06	75	2200 80		6	75	8400 85	06			w Ent E					90	75	4800	85 0	75		85	90	75	7200 80		90	0	0
	85 95 105	85 95	Ent DB 85 95 105 (*F) 41 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 73 61 67 74 <	Ent DB (**P) MBh SHC PI(KW) PI(KW)	HATE SHELD S	Ent DB Assistant CFP Assistant CFP	HATELY BLANCE HA	HATE HATE HATE HATE HATE HATE HATE HATE	Harmonian Harmon	Hamiltonian Hamilt	Herton He	HATEL HATE HATE HATE HATE HATE HATE HATE HATE	Harmon Ha	Harman Ha	Harman H	HATE HATE HATE HATE HATE HATE HATE HATE	Hamiltonian Hamiltonian	Hamilton Hamilton	HT-B HT-B HT-B HT-B HT-B HT-B HT-B HT-B	FFT SS SS	HATE HATE HATE HATE HATE HATE HATE HATE	Hamman Sanda Sanda Marian Mari	Hamman Santa	Paris Pari	Hamp Serie Meni Serie	This color Thi	This color Thi	Hampoore Hamp							Indicate Indicate	Part Part			Part Part		Thing since Marie Marie

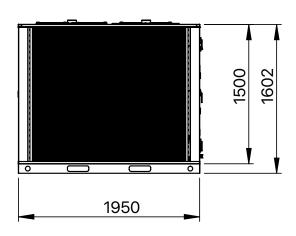
Notes: ¹ Data corresponding to a certain condition. The capacities described do not take into account the heat generated by the indoor fan. ² MBh = Total Gross Capacity. ³ SHC = Sensible Heat Capacity.



Unit Dimensions



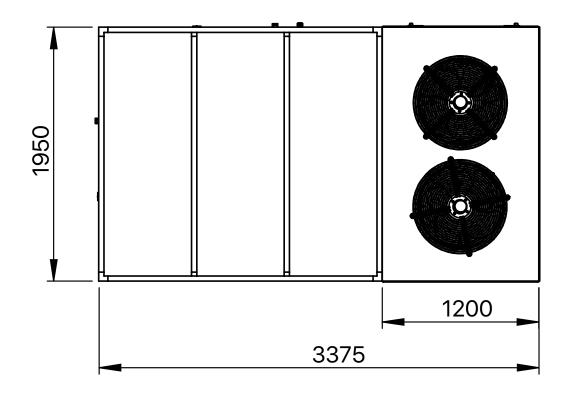


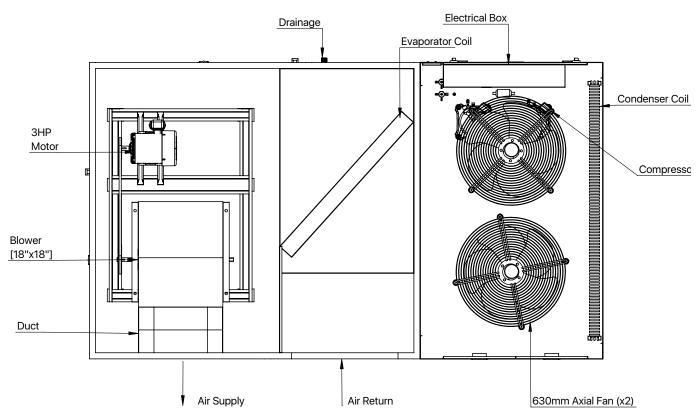


Note: All measurements are in millimeters (mm).

Unit Dimensions

TOP VIEW

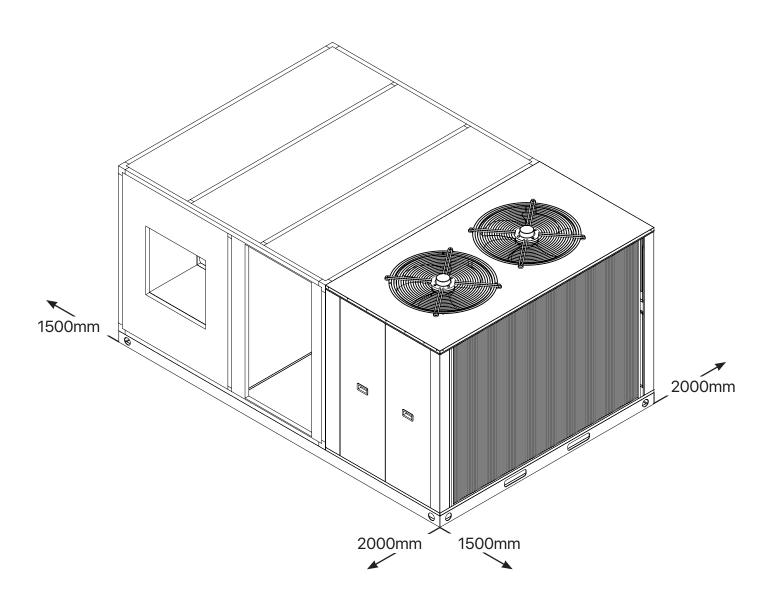




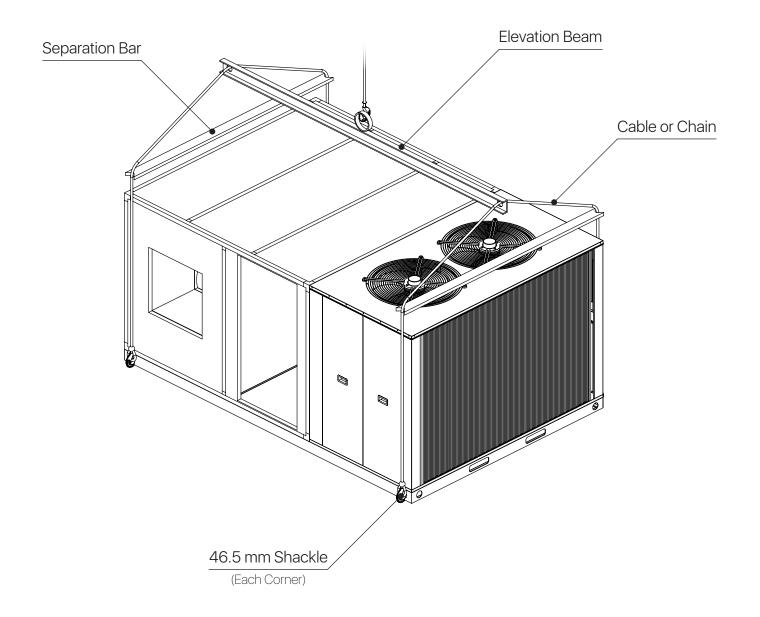
Note: All measurements are in millimeters (mm).

Safety Distance

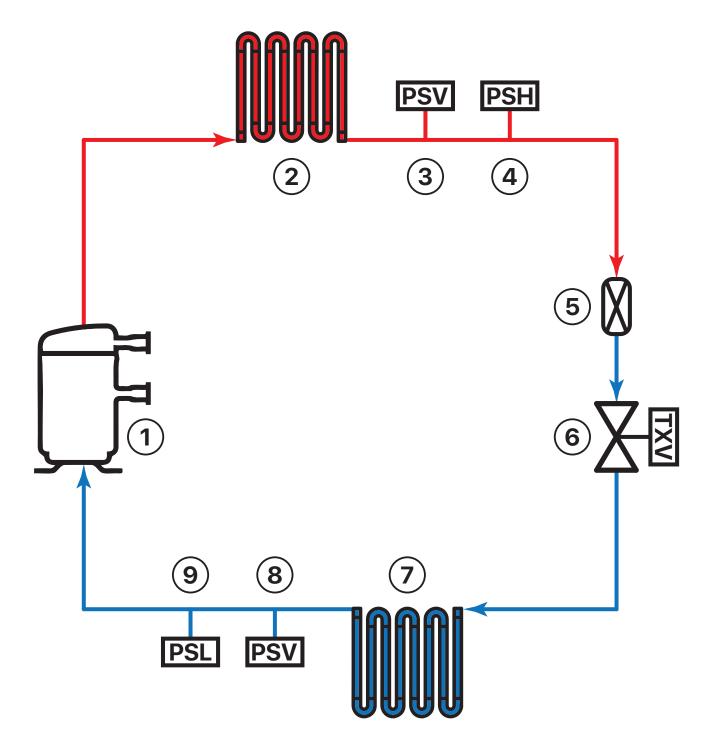
The following minimum free spaces must be observed for the proper performance and capacity of the unit.



Safe Handling



Refrigeration Diagram



REF.	DESCRIPTION
1	SCROLL COMPRESSOR
2	CONDENSER COIL AND AXIAL FAN
3	ACCESS VALVE FOR PRELOAD AND CONTROL
4	HIGH PRESSURE SWITCH
5	FILTER DRYER

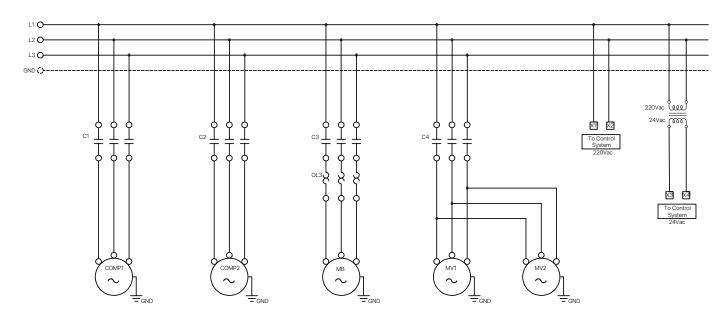
DESCRIPTION
EXPANSION VALVE (TXV)
EVAPORATOR COIL AND BLOWER FAN
ACCESS VALVE FOR PRELOAD AND CONTROL
LOW PRESSURE SWITCH

Electric Diagram

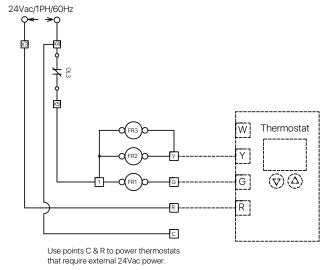
While performing the electrical installation, the authorized technician must verify that they are complying with the electrical circuit of the equipment shown below:

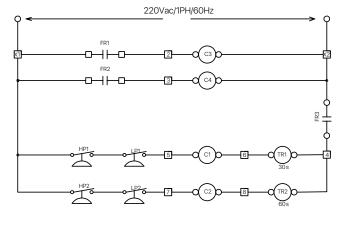
208V-230V / 3PH / 60Hz

(POWER)



(CONTROL)





A

WARNING

High Voltage: Disconnect all supply source before manipulating this unit. Multiple energy sources can be present. Not doing so can cause property damage, personal injury or death.

Elements:

COMP: Compressor
MB: Blower Motor
MV: Condenser Motor
L: AC Supply Lines
FR: Auxiliary Relay
G: Fan Signal
Y: Condenser Signal
W: Dehumidifier Signal (N/A)
R: Common 24Vac Lines
C: Auxiliary 24Vac Lines

P: High Pressure Switch
Low Pressure Switch
R: Timer

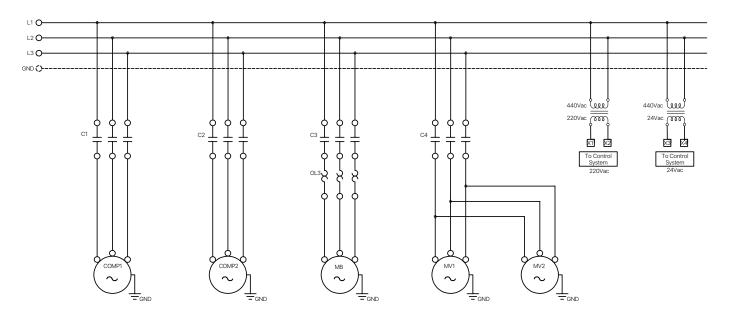
TR: Timer
C1: Contactor
OL: Thermal Relay
GND: Ground
Factory Wiring
Field Wiring

Electric Diagram

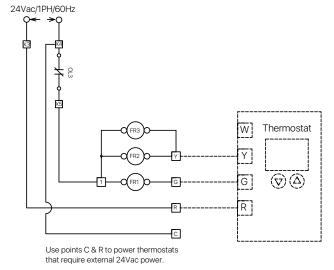
While performing the electrical installation, the authorized technician must verify that they are complying with the electrical circuit of the equipment shown below:

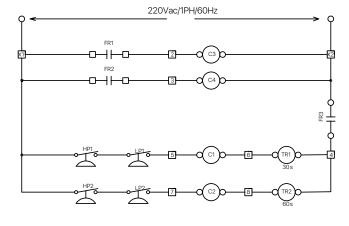
460V / 3PH / 60Hz

(POWER)



(CONTROL)





A

WARNING

High Voltage: Disconnect all supply source before manipulating this unit. Multiple energy sources can be present. Not doing so can cause property damage, personal injury or death.

Elements:

COMP: Compressor
MB: Blower Motor
MV: Condenser Motor
L: AC Supply Lines
FR: Auxiliary Relay
G: Fan Signal
Y: Condenser Signal
W: Dehumidifier Signal (N/A)
R: Common 24Vac Lines
C: Auxiliary 24Vac Lines

P: High Pressure Switch
P: Low Pressure Switch
R: Timer

TR: Timer
C1: Contactor
OL: Thermal Relay
GND: Ground
Factory Wiring
Field Wiring

Suggestions for Installation

The conditions that must be taken into account in general before installing the equipment:

The works on the units must be carried out only by professionals. Do not connect the power supply until all the work is finished.

Considerations to take into account

- 1. It is very important in direct transmission equipment that air outlets are not linked in the same duct before a minimum distance of 1.5 meters and preferably at a distance of 2 meters.
- 2. Make sure the suspension support is strong enough to support the weight of the unit.
- 3. Most of the equipment weight is located in the refrigerant condensation zone, take into account for the installation of the base where the equipment will rest.
- 4. Select a place for an easy drainage connection. It is important to install a drainage trap.
- 5. Be sure to install the equipment level to ensure proper operation of the unit.
- 6. Select a place far from gases or explosive or combustible materials.
- 7. Preview the necessary free spaces for maintenance and technical assistance services.
- 8. Verify that the model, options and tension, indicated in the characteristics plate are correct.
- 9. Verify that the energy supply meets the specifications that appear on the equipment plate.
- 10. All field wiring must be carried out by duly qualified personnel. The wiring must be adjusted to the applicable local regulations.
- 11. Siga los requerimientos apropiados que establecen el código eléctrico nacional sobre las conexiones a masa.
- 12. Follow the appropriate requirements that establish the National Electric Code on mass connections.
- 13. Visually inspect the exterior of the unit, including the ceiling, to detect possible signs of damage during transport.
- 14. Perform a visual verification of the internal components to identify whether there is transport damage, as soon as possible, after the reception of the unit.
- 15. Avoid obstructions in the supply and return of air so the inner air will circulate properly.

Suggestions for Ignition

Briefly, the steps for the ignition and commissioning of the equipment are as follows (only an authorized technician can do it):

Never do work without the help of professionals. Before making any connection, be sure not to have connected or energized the equipment or sources of equipment until all the work is finished.

Steps for ignition of the unit

- 1. From the breaker box, take electric power to the equipment. Verify that the capacity of the disjunct is the required to protect the equipment.
- 2. Connect lines to the power beems, indicated as L1 and L2 of the electric box or L1, L2 and L3 for three-phase equipment.
- 3. Confirm that the ground connection is reliable and that the ground cable is connected to the special device of the building. Never connect the ground cable with gas, water, telephone cables, etc.
- 4. From the equipment, wire the three control lines R, G, Y & O*, indicated in the electric box to the respective thermostat terminals.
- 5. The operation of the air conditioning system is controlled by the interior thermostat. You must adjust the thermostat to a set temperature (set point) to keep the interior temperature at the level you select.
- 6. The frequent thermostat movement produces faster cycles, which is potentially harmful to the compressor. For no reason move the thermostat temperature selector for at least 5 minutes after the compressor has turned off.
- 7. Ensure that all connections are correctly made, subject and according to the electrical diagrams provided.
- 8. Action switches (installed in the field) to energize the equipment.
- 9. Supply sufficient electrical capacity and respect the electrical cable section necessary for specified consumption.

Maintenance Recommendations

With due maintenance and care, the air conditioning unit will work successfully. Before maintaining, consider the following security precautions:

WARNING!

To prevent damage to the equipment and personal injury or death, disconnect all electricity supply to the equipment before removing access panels to perform some maintenance work. Disconnect electricity to the interior and exterior units.

NOTE: It is possible that there is more than one electric disconnection switch.

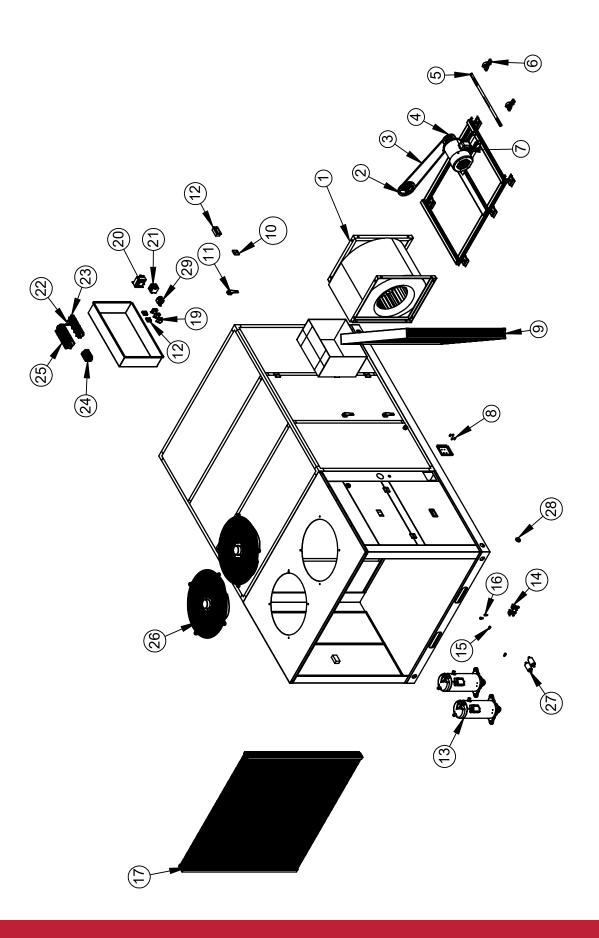
WARNING!

Although special care has been taken to minimize acute edges in the construction of your equipment, be extremely careful when handling the pieces or putting your hand inside it.

Recommendations

- 1. Clean the air filter carefully, this in order to avoid a restricted air flow, which decreases the efficiency of the unit and its useful life.
- 2. Check the status of the evaporator coil. It is ideal that there is no obstruction, in order to guarantee the free flow of the coil.
- 3. In case it is necessary to clean the coil, you can do it with a detergent solution and rinse it with water. This may require coil extraction. Be careful not to fold or damage the fins.
- 4. Do not allow waste to accumulate around the unit or above it.
- 5. Periodically inspect the equipment power. Make sure to have the necessary power for the operation of this. The current of the main components of the system must be monitored according to the equipment plate.
- 6. Periodically inspect work pressures in the system (high and low pressure). They should not exceed their operation rank in normal use conditions.
- 7. It is recommended to verify parameters such as overheating and refrigerant overcooling. Which under normal conditions of use will have values between 8 and 15 ° F for overheating, and values between 5 and 15 ° F in overcooling.
- 8. Periodically review the condenser fan status to avoid dirt or friction between sheets that can unbalance the fans.
- 9. Periodically review that there is no obstruction in the equipment drainage to avoid overflowing water from the equipment.

Exploded View



Parts List - GXPK180DG4AB

REF.	PART NAME	QTY.	PART NUMBER
1	18" X 18" X 1-1/4" CENTRIFUGAL FAN	1	20010034
2	BK45H DRIVE BELT PULLEY TRANSMISSION	1	53035006
2.1	1-1/8" DRIVEN PULLEY BUSHING	1	53041003
3	BK115H DRIVE PULLEY POLEA 1 GROOVE	1	53031289
3.1	1-1/4" HQ DRIVE PULLEY BUSHING	1	53041005
4	B77 BELT	1	53040088
5	1-1/4" AISI 4140 STEEL SHAFT X 80CM	1	73222007
6	1-1/4" ECCENTRIC BUSHING PILLOW BLOCK BEARING	2	5320003
7	3HP THREE-PHASE MOTOR	1	10060003
8	1/4" ACCESS VALVE	4	16CO56002
8.1	1/4" ACCESS VALVE WITH NUT	4	16CO56001
9	15TR EVAPORATOR HEAT EXCHANGER	1	1EA1303-50044X
10	PROFILE AIRPACK HINGE	6	59040014
11	NYLON HANDLE	5	51110010
12	LARGE RECESSED HANDLE	2	59040001
13	7,5TR SCROLL COMPRESSOR	2	14021184
14	7,5TR R410A EXPANSION VALVE	2	31040006
15	R410 LOW PRESSURE SWITCH	2	31020017
16	R410A HIGH PRESSURE SWITCH	2	31020016
17	15TR CONDENSER HEAT EXCHANGER	1	1CA1703-58065X
18	TIMER	2	16010001
19	FAN RELAY	3	15010002
20	220V A 24V 75VA TRANSFORMER	1	15110013
21	POWER TERMINAL BLOCK	3	13110008
22	GROUND TERMINAL BLOCK	1	13110007
23	7-10 AMP THERMAL RELAY	1	13031073
23.1	22- 32 AMP THERMAL RELAY	2	13031085
23.2	1.8-2.8 AMP THERMAL RELAY	2	13031090
24	CONTROL TERMINAL BLOCK	14	13110010
25	18A-3P-220V CONTACTOR	1	13030052
25.1	9A-3P-220V CONTACTOR	2	13030056
25.2	32A-3P-220V CONTACTOR	2	13030058
26	AXIAL FAN WITH 630MM DIAMETER	2	10039020
27	1/2 FILTER DRYER	2	23010012

Parts List - GXPK180DG7AB

REF.	PART NAME	QTY.	PART NUMBER
1	18" X 18" X 1-1/4" CENTRIFUGAL FAN	1	20010034
2	BK45H DRIVE BELT PULLEY TRANSMISSION	1	53035006
2.1	1-1/8" DRIVEN PULLEY BUSHING	1	53041003
3	BK115H DRIVE PULLEY POLEA 1 GROOVE	1	53031289
3.1	1-1/4" HQ DRIVE PULLEY BUSHING	1	53041005
4	B77 BELT	1	53040088
5	1-1/4" AISI 4140 STEEL SHAFT X 80CM	1	73222007
6	1-1/4" ECCENTRIC BUSHING PILLOW BLOCK BEARING	2	5320003
7	3HP THREE-PHASE MOTOR	1	10060003
8	1/4" ACCESS VALVE	4	16CO56002
8.1	1/4" ACCESS VALVE WITH NUT	4	16CO56001
9	15TR EVAPORATOR HEAT EXCHANGER	1	1EA1303-50044X
10	PROFILE AIRPACK HINGE	6	59040014
11	NYLON HANDLE	5	51110010
12	LARGE RECESSED HANDLE	2	59040001
13	7,5TR SCROLL TYPE COMPRESSOR	2	14021184
14	7,5TR R410A EXPANSION VALVE	2	31040006
15	R410 LOW PRESSURE SWITCH	2	31020017
16	R410A HIGH PRESSURE SWITCH	2	31020016
17	15TR CONDENSER HEAT EXCHANGER	1	1CA1703-58065X
18	TIMER	2	16010001
19	FAN RELAY	3	15010002
20	440V A 220V 100VA TRANSFORMER	1	15110014
21	POWER TERMINAL BLOCK	3	13110008
22	GROUND TERMINAL BLOCK	1	13110007
23	4 - 6.3 AMP THERMAL RELAY	1	13031074
23.1	11 -17 AMP THERMAL RELAY	2	13031086
23.2	1.2 -1.8AMP THERMAL RELAY	2	13031089
24	CONTROL TERMINAL BLOCK	14	13110010
25	9A-3P-220V CONTACTOR	1	13030056
25.1	9A-3P-220V CONTACTOR	2	13030056
25.2	CONTACTOR 25A-3P-220V	2	13030054
26	AXIAL FAN WITH 630MM DIAMETER	2	10039020
27	1/2 FILTER DRYER	2	23010012
28	440V A 24V 75VA TRANSFORMER	1	15110013











In accordance with its continuous progress policy and product improvement, Goodman reserves the right to make changes without prior notice.