Make-Up Air



Comfortable energy efficient kitchen ventilation starts here.

At Larkin Industries, our goal is to manufacture well-designed kitchen ventilation systems with environmentally sustainable options at the most competitive prices available. Using only heavy gauge materials, advanced machinery and skilled craftsmanship, our products are among the best in the industry. Larkin products are designed to be simple to operate, effortless to install, and easy to maintain.

Our goal is to create a long-term relationship with our business partners by providing them with the highest level of customer service, quality products and the most competitive prices in the industry. Your Larkin representative is only a phone call or email away, and is always prepared to help you design a kitchen ventilation system that will provide years of comfort and efficiency.

We listen to you, our customer, when designing our diverse product line.

Larkin believes in continuous improvement. Our engineers are continually developing and redesigning products, responding to the needs of our customers. Extensive prototype modeling and testing, results in products that have higher efficiencies with lower installation and operating costs. Larkin engineers are focused on delivering reliable and convenient products that result in a positive ventilation experience.

Reliability and top performance are assured through extensive testing.

Larkin products are comprehensively tested for structural integrity, aerodynamic performance, sound levels, mechanical operation, vibration, temperatures, environmental impact and more.Larkin products carry several certifications including AMCA, UL, and ETL.

A single source for all your kitchen ventilation needs.

Whether it's a large project or a small one, Larkin will build and deliver your entire kitchen system quickly and efficiently. Our products range from kitchen hoods, exhaust fans, dedicated make-up air, packaged rooftops, controls, variable volume systems, fire suppression, utility distribution and more.



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XKSFB / XKSFD

Model XKSFB (belt drive) and XKSFD (direct drive) supplies untempered make-up air where needed. Choose from a downturned or extended weatherhood. Both are designed to provide compliance to NFPA 96 when used with a combination package. Horizontal and downblast discharge arrangements are available. Airflow ranges from 800 to 9,800 cfm (1,359 to 16,650 m³/hr).



Standard Construction Features

Lifting Lugs – Located on the base rail for ease of rigging and installation.

NEMA-3R Disconnect – Factory-mounted and wired to the motor. All wiring and electrical components comply with the National Electric Codes (NEC) and are either UL/cUL US Listed or Recognized.

G90 Galvanized Construction – Provides superior corrosion resistance and ensures the appearance is maintained for the life of the unit.

UL Class 2 Washable Filters – Effortlessly removable and cleanable one-inch aluminum mesh filters are sized such that air velocities do not exceed 900 ft/min.

Vibration Isolators – True vibration isolators contain two independent studs with rubber neoprene to support the drive assembly and blower, for long life and quiet operation.

Hinged Access Door – Allows straightforward access to motor, drives and blowers for maintenance.

UL 705 Product Certification – Assures the safety of electrical components and connections within power ventilators.

Blower Assemblies – Double-width, double inlet forward-curved fans are statically and dynamically balanced. Ground and polished shafts mounted in permanently lubricated ball bearings, with a minimum L_{10} life in excess of 100,000 hours, provide unparalleled quality and reliability.

Motor – Energy efficient motors, complying with EPACT standards for single speed ODP and TEFC enclosures are carefully matched to the fan load. Single-phase motors provided with the XKSFB and XKSFD are thermally protected at 2 hp and less.

Drive Assembly – Drives are sized for a minimum of 150% of the driven horsepower. Machined cast pulleys are adjustable for final system balancing. Belts are static-free and oil-resistant.



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XKSFD and XKSFB models are ETL Listed.



Accessories

Speed Controller – Available on the XKSFD, the speed controller provides an economical means of system balancing.

Special Coatings – Permatector[™] coating is available for a durable, long lasting finish. Decorative coatings are also available in a variety of colors to match existing building fixtures. Consult your Larkin representative for coating selections.

Discharge Blower Arrangements – Multiple discharge arrangements are available to meet job-specific requirements.

Intake Dampers – Powered or gravity dampers prevent unintended air transfer between the outside and space.

Unit Mounted Control Center – Factory-mounted supply fan starter, overloads, and a Class II transformer for a secondary voltage in the unit.

NEMA-3R Remote Starter Control Panel – Provides power to the supply and exhaust fans through either a single-point connection or multiple power connections. Starters, disconnects, Class II transformers, and fusing is provided for each voltage source.

- Multiple supply voltages
- Wide range of horsepowers
- Disconnect switch(es)
- Control transformer for low voltage remote switching

- Terminal strips
- Fuse blocks
- Electronic motor overload protection

Weatherhood - With a combination package

- Downturn Weatherhood provides a minimum of 36 inches of vertical separation between supply and exhaust airstreams.
- Extended Weatherhood provides 10 feet of horizontal separation between supply and exhaust streams.

Both configurations are designed to satisfy NFPA 96, simplifying the installation while meeting codes.

Supply Voltages – Multiple voltages in single and three phase are available to conveniently match building power.

Roof Curbs – Prefabricated roof curbs are available to reduce installation time and costs by ensuring compatibility between the fan and the roof opening. All curbs are lined with fiberglass insulation to prevent condensation and to reduce sound levels. Combination packages allow an exhaust fan and make-up air fan to be mounted on a common curb, with weatherhood options complying with NFPA 96 Standards. See the roof curb section in this catalog for more information.

Standard Arrangements

Models XKSFB and XKSFD have a compact design that is available in both downblast discharge (arrangement DB) and horizontal discharge (arrangement HZ). Installations may be as stand alone supply fans as pictured at right or as combination packages with exhaust and supply fans on a common curb.



Arrangement DB

Arrangement HZ



Arrangement DB3

Overview

Larkin direct gas-fired heaters provide tempered make-up air to restaurant and other food service facilities. Larkin direct gas-fired heaters use an ultra-efficient line burner to reduce energy costs, while maintaining tight temperature control. The line burners are constructed of durable stainless steel mixing plates and cast aluminum manifolds for years of reliable performance. Three models of direct gas-fired make-up air units are available to serve a variety heating and cooling applications. Seven available blower sizes provide airflow capacities up to 15,000 cfm (25,485 m³/hr) and static pressure capabilities up to 2.0 in. wg (497 Pa).



XDG and XDGK models shall be ETL Listed to ANSI Z83.4 and CAN 3.7. XDGX shall be ETL Listed to ANSI Z83.4-1999, CSA 3.7-M99 (for 100% outdoor air) or ANSI Z83.18-2000 (for recirculation).

XDGK

Model XDGK is designed to be the most economical, compact, and simple approach to 100% outdoor air kitchen applications. Airflow volumes range from 1,500 to 8,500 cfm (2,548 to 14,442 m³/hr) with heating capacities up to 800,000 BTU/hr.

XDG

Model XDG sets the standard for an efficient approach to 100% outdoor air applications. Airflow volumes range from 800 to 15,000 cfm (1,359 to $25,485 \text{ m}^3/\text{hr}$) with heating capacities up to 1,600,000 BTU/hr.

Cooling options:

• Evaporative cooling up to 12,000 cfm (20,388 m³/hr)

XDGX

Model XDGX is a highly configurable, 100% efficient direct gas-fired heating and ventilating unit. It's modular design provides the most configuration flexibility and expanded heating and airflow capacities, which is designed for providing make-up air to commercial and industrial facilities. In addition to 100% outdoor air operation, variable volume airflow options are available. Airflow volumes range from 800 to 15,000 cfm (1,359 to 25,485 m³/hr) with heating capacities up to 2,000,000 BTU/hr.

Cooling options:

- Evaporative cooling up to 15,000 cfm (25,485 m³/hr)
- Chilled water or split direct expansion (DX) cooling up to 11,000 cfm (18,689 m³/hr)
- Packaged direct expansion (PDX) cooling up to 7,500 cfm (12,743 m³/hr)
- Evaporative cooling options are available for combination heating and cooling requirements.









Standard Construction

Durable Construction – Designed for maximum weather resistance, all housings are constructed of heavy-gauge G90 galvanized steel. Lifting lugs are standard. XDGK and XDGX only.

Direct Gas-Fired System – Larkin's direct gas-fired make-up air units feature:

 High-quality cast aluminum burners with stainless steel mixing plates, for rustfree operation



- Maxitrol electronic modulation burner control
- 25:1 turndown ratio

Control Center – The control center includes the following standard components:

- Magnetic motor starter
- Control transformer
- Disconnect switch

Premium grade control components are selected for reliable operation. All electrical components are UL Listed, Recognized or Classified and factory prewired for single point power connection.

Reliable Fan Performance/Durable Construction -

Double-width, double inlet, forward-curved wheels for high-efficiency and low sound levels are constructed of heavy-gauge steel. Wheels are statically and dynamically balanced to ensure vibration-free operation. The entire fan and motor assembly is mounted on vibration isolators to minimize noise transmission into the building. Adjustable motor sheaves are standard.

Access Panels – Large access panels are provided for easy inspection and maintenance of motors, drives, fan wheels, filters, and heater controls.

Factory Wired and Tested – All units are tested prior to shipment. Units are checked for proper operation of the gas train, electrical components and airflow.

Weatherhood – A filtered weatherhood with G90 galvanized steel construction is standard. The filtered weatherhood includes aluminum mesh filters mounted in the intake, eliminating the need for an additional filter section. (XDGK only)

Discharge Temperature

Control – Control of discharge air temperature is accomplished with ³ a standard factory-installed sensor located at the fan discharge. A Maxitrol 14 system modulates the gas valve to provide the desired discharge temperature. (XDGK only)



Fiberglass Insulation – Standard 1-inch foil-faced fiberglass insulation is used to line the housing, preventing condensation and forming an acoustical barrier. (XDGK only)

Inlet Air Sensor – An on/off type duct stat automatically energizes the gas system when the inlet air temperature falls below the desired setting. (XDGK only)



Weatherhoods

Weatherhoods with standard G90 galvanized steel construction are available.



Birdscreen Weatherhood

The birdscreen weatherhood features a wire mesh intake, which prevents large debris from damaging the filters. An additional filter section is required.



Filtered Weatherhood

The filtered weatherhood includes aluminum mesh filters mounted in the intake, eliminating the need for an additional filter section.



Louvered Weatherhood

The louvered weatherhood includes a louvered intake and aluminum mesh filters in a compact design that requires no additional filter section.

V-Bank Filter Section – A V-bank filter section is standard on units with a birdscreen weatherhood. Specify either 2-inch washable aluminum mesh filters or 2-inch disposable filters.

Duct Adapter – Provides easy means for attaching ductwork to curb and allows installation of top section of duct prior to setting the unit on the curb.

Roof Curb – Factory provided roof curbs are available to ensure compatibility between the make-up air unit and roof curb. Standard construction is G90 galvanized steel and includes 1-inch insulation.

Discharge Damper – A discharge damper prevents both backdrafts when the fan is not in operation and condensation inside the unit during cold weather conditions. A wide variety of backdraft and control dampers are available for field installation.



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Accessories

Special Coatings – Permatector[™] coating is available for a durable, long lasting finish. Decorative coatings are also available in a variety of colors to match existing building fixtures. Consult your Larkin representative for coating selections.

Roof Curbs – Factory provided roof curbs are available to ensure compatibility between the make-up air unit and roof curb. Standard construction is G90 galvanized steel. See the roof curbs section in this catalog for more information.

Duct Adapter – Duct adapter is available with factory supplied roof curbs. The duct adapter allows for easy alignment of the supply duct connection.

V-Bank Filter Section – V-bank filter sections are available with 2-inch washable aluminum mesh or 2-inch 30% efficient disposable filters.

Weatherhoods – Three weatherhoods are available: birdscreen, filtered, and louvered. Standard construction is G90 galvanized steel.

Motorized Dampers – Intake or discharge dampers are available to prevent backdrafts when the supply fan is not in operation. Intake dampers are factory-mounted and wired. Discharge dampers ship loose for field mounting in the supply air duct.

Fiberglass Insulation – One-inch fiberglass insulation is available to line the housing to prevent the formation of condensation and to form an acoustical barrier.

Double Wall Construction – An interior metal liner is available to isolate the 1-inch fiberglass insulation from the airstream.

Exhaust Fan Starter(s) – Exhaust fan starters are available factory-mounted and wired. Exhaust fan starters allow for an electrical interlock between the supply and exhaust fan(s).

Freeze Protection – Electronic freeze protection is available to automatically shut down the supply fan when the discharge temperature is below the adjustable set point for an extended amount of time. This prevents the unit from discharging non-tempered air into the building and freezing pipes and other temperature sensitive items.

Inlet Air Sensor (Heat) – The heating inlet air sensor will automatically turn the heat on and off based on the outdoor air temperature.

Service Receptacle – A 115 volt GFCI outlet is mounted externally in a NEMA-3R box for the convenience of service personnel. A separate 115 volt power source is required.

Auxiliary Contacts – Normally open and normally closed contacts are available for supply fan status and supply fan interlocks.

Air Filter Gauge – Indicates when filters become dirty. An indicator light may be wall/beam mounted or provided with a remote control panel.

Propane Gas – A propane heater may be provided in lieu of natural gas.

Gas Pressure Regulator – Required if building gas line pressure exceeds the maximum inlet gas pressure of the make-up air unit. Ships separately for field installation.



Temperature Controls

Discharge Temperature Control –

Control of discharge air temperature is accomplished

with a factory-installed sensor located at the fan discharge. A Maxitrol 14 system modulates the gas valve to provide the desired discharge temperature.



External Control -

or 4-20 mA signal.

The discharge temperature can be controlled by an external signal. This option provides a factory-installed interface, allowing easy integration into your building management system. The discharge temperature can be controlled using a 2-10 VDC



Discharge Temperature Control with Room Override – The room override option, available with the Maxitrol 14 system,



boosts the discharge temperature when the space temperature is too cool. Discharge sensor is factoryinstalled. Room sensor may be wall/beam mounted or included on a remote control panel.

Cooling Options

Evaporative Cooling – The optional evaporative cooling section includes a galvanized steel housing with a louvered intake, 2-inch aluminum mesh filters and a stainless steel evaporative cooling module. The evaporative cooling media is Munters GLASdek and has a depth of 12 inches for 90% cooling effectiveness.

The entire section mounts directly to the front of the unit, eliminating transition or ductwork by others. Drain and overflow are conveniently tapped through the side of the cooling section. The supply line connection is field located where convenient. Freeze protection, automatic drain and fill, and the Water Wizard[™] evaporative optimizer are also available.

Cooling Coils – Chilled water, split direct expansion (DX) or packaged direct expansion (PDX) cooling is available (XDGX only). The cooling section includes the cooling coil, sloped stainless steel drain pan and insulated double-wall construction. Drain and coil connections are stubbed through the wall for convenience.

For proper coil sizing, contact your local Larkin representative. Four-row and six-row chilled water or split DX coils are available with airflow capacities up to 11,000 cfm (18,689 m³/hr).

Packaged direct expansion (PDX) is available for cooling up to 7,500 cfm (12,743 m^3 /hr).



Options

	XDGK	XDG	XDGX
Intake Options			
Birdscreen Weatherhood	-	Optional	Optional
Filtered Weatherhood	Standard	Optional	Optional
Louvered Weatherhood	_	Optional	Optional
Temperature Controls			
Discharge Temperature Control	Standard	Optional	Optional
Discharge Temperature Control w/ Room Override	—	Optional	Optional
External Temperature Control	-	_	Optional
Discharge Options			
Downblast Discharge	Optional	Optional	Optional
Horizontal Discharge	Optional	Optional	Optional
Upblast Discharge	-	_	Optional
Combination Package	-	Optional	Optional
Cooling Options			
Evaporative	-	Optional	Optional
Split Direct Expansion (DX)	-	—	Optional
Packaged Direct Expansion (PDX)	-	_	Optional
Chilled Water	-	—	Optional
Accessories			
Special Coatings	Optional	Optional	Optional
Roof Curbs	Optional	Optional	Optional
Duct Adapter	Optional	Optional	Optional
V-Bank Filter Section	-	Optional	Optional
Fiberglass Insulation	Standard	Optional	Optional
Double Wall Construction	-	Optional	Optional
Exhaust Fan Starter(s)	-	Optional	Optional
Air Filter Gauge	-	Optional	Optional
Freeze Protection	-	Optional	Optional
Inlet Air Sensor – Heat	Optional	Optional	Optional
Service Receptacle	-	-	Optional
Auxiliary Contacts	-	Optional	Optional
Intake Dampers	Optional	Optional	Optional
Discharge Dampers	-	Optional	Optional
Gas Pressure Regulator	Optional	Optional	Optional
Propane Heater	Optional	Optional	Optional
Variable Air Volume	—	—	Optional



Roof Mounted Installation

Downblast, Upblast or Horizontal Discharge

Model XDGX is available for stand alone installations as shown below. Downblast (arrangement DB), upblast (arrangement UB), or horizontal (arrangement HZ) discharge may be specified.



Upblast Discharge - Arrangement UB



Horizontal Discharge - Arrangement HZ



Downblast Discharge - Arrangement DB

Thru-Wall Installation

Model XDGX (Housing 12, 22, and 32 only) is available with a pre-engineered thru-wall installation option, which is ideal when a roof penetration is not desirable. Factory options that facilitate easy installation and ensure problem-free operation:



Weatherhood – A full downturn design with generous intake area to minimize intake velocity and moisture entrainment.

Thru-Wall Sleeve – Sleeve provides attachment interface between weatherhood and burner section. Accommodates walls up to 15 inches in depth.

Filter Section – Aluminum mesh media filters outdoor air and strips fine mist from the air. A drain pan weeps moisture out the front of the wall sleeve.



Overview

Larkin indirect gas-fired heaters provide tempered make-up air to restaurants and other food service facilities. Larkin indirect gas-fired heaters use an 80% efficient tubular style heat exchanger for high performance and tight temperature control. Larkin's heat exchanger design features horizontally firing burners and power venting with post purge cycle, which together provide flexibility, maximum heat exchanger life, and make stainless steel burners unnecessary and drip pans obsolete. Two models of indirect gas-fired make-up air units are available to serve a variety of heating and cooling applications. Seven available blower sizes can provide airflow capacities up to 15,000 cfm (25,485 m³/hr) and static pressure capabilities up to 2.0 in. wg (497 Pa).



XIG and XIGX models are ETL and cETL Listed to ANSI Z83.8-2002 and CGA 2.6. Indirect gas-fired units are Listed to UL 1995. Both are harmonized standards between USA and Canada.



XIGK

Model XIGK features a power ventilated, 80% efficient, ETL Listed, indirect gas-fired furnace.

Model XIGK is designed as a simple, compact, economical make-up air unit for indoor or outdoor applications where a direct gas-fired system is not appropriate. These units come standard with vibration isolators,

integrated downturn plenum, fiberglass insulation, inlet air sensor, large access panels and factory wired and tested.

Airflow volumes range from 800 to 5,000 cfm (1,359 to 8,495 m^3 /hr) with heating capacities up to 400,000 BTU/hr (input).

XIG

Model XIG features a unique indirect furnace that includes an integrated downturned plenum. This eliminates the need for an additional section to achieve a downblast discharge.

Model XIG is ideally suited for make-up air applications where a direct gasfired system is not appropriate. The XIG is a single-piece housing offering simplicity in an economical design for indoor or outdoor applications. These units

come standard with vibration isolators, downturn plenum, furnace control, and optional accessories are available including special coatings, freeze protection, and motorized dampers.

Airflow volumes range from 800 to 7,000 cfm (1,359 to 11,893 m^3 /hr) with heating capacities up to 400,000 BTU/hr (input).

Cooling options:

• Evaporative cooling up to 7,000 cfm (11,893 m³/hr)

XIGX

Model XIGX expands on the XIG model with a modular design that offers broad configuration flexibility and higher capacities.

Model XIGX is ideally suited for indirect gas-fired make-up air applications where a direct gas-fired system is not appropriate. The XIGX has a modular design for broad configuration flexibility. In addition to 100% outdoor air operation, variable volume airflow options are available.

Airflow volumes range from 800 to 15,000 cfm (1,359 to 25,485 m³/hr) with heating capacities up to 1,200,000 BTU/hr (input).

Cooling options:

- Evaporative cooling up to 14,000 cfm (23,786 m³/hr)
- Chilled water or split direct expansion (DX) cooling up to 11,000 cfm (18,689 m³/hr)
- Packaged direct expansion (PDX) cooling up to 7,500 cfm (12,743 m³/hr)



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Standard Construction

Indirect Gas-Fired Furnaces – Larkin's indirect gasfired make-up air units feature:

- Power vented with post purge cycle
- ETL Listed to ANSI standard Z83.8 and CGA 2.6
- 80% thermal efficiency
- Gas control options include up to 8:1 staged turndown and up to 4:1 modulating turndown
- Aluminized steel or stainless steel heat exchanger
- Direct spark ignition system
- Easy access burner controls
- Insulated double wall construction

Control Center - The

control center includes the following standard components:

 Magnetic motor starter with solid state overload protection



- Control transformer with fusing
- Disconnect switch
- Separately fused motor
- Distribution terminal strip

Premium grade control components are selected to provide you with years of reliable operation. All electrical components are UL Listed, Recognized or Classified and factory prewired for single point power connection.

Vibration Isolators – The entire fan and motor assembly is mounted on neoprene vibration isolators to minimize noise transmission into the building.

Filters – Filter options include 2-inch pleated 30% efficient filters or 2-inch washable aluminum mesh filters.

Integrated Downturn Plenum – Larkin's unique indirect furnace design includes an integrated downturned plenum, eliminating the need for an additional section to achieve a downblast discharge. Model XIGK, XIG only.

Durable Construction – Designed for maximum weather resistance, XIGK and XIG housings are constructed of heavy-gauge G90 galvanized steel. Insulated double-wall construction and lifting lugs are standard.

Reliable Fan Performance - Double-width, double

inlet forward-curved wheels for high-efficiency and low sound levels are constructed of heavy-gauge steel. Wheels are statically and dynamically balanced to ensure vibration-free operation.



Access Panels – Large access

panels are provided for easy inspection and maintenance of motors, drives, fan wheels, filters, and heater controls.

Factory Wired and Tested – All units are tested prior to shipment to ensure Larkin's high level of quality. Units are checked for proper fan, furnace and controls operation.



Indoor Venting Options

When your application calls for indoor installation, Larkin offers multiple venting options:



Cooling Options

Evaporative Cooling – Adding evaporative cooling may simply be done by adding an evaporative cooling section. The evaporative cooling section includes a galvanized steel housing with a louvered intake, 2-inch aluminum mesh filters and a stainless steel evaporative cooling module. The evaporative cooling media is Munters CELdek or GLASdek and has a depth of 12 inches for 90% cooling effectiveness.

The entire section mounts directly to the front of the unit, eliminating transition or ductwork by others. Drain and overflow are conveniently tapped through the side of the cooling section. The supply line connection is field located where convenient. Freeze protection, automatic drain and fill, and the Water Wizard[™] are available.

Airflow capacities for evaporative cooling is up to 14,000 cfm (23,786 m³/hr). The evaporative cooling section for the housing size 32 ships separately.

Cooling Coils – Chilled water, split direct expansion (DX) or packaged direct expansion (PDX) cooling is available with the model XIGX. The cooling section includes the cooling coil, sloped stainless steel drain pan and insulated double-wall construction. Drain and coil connections are stubbed through the wall for convenience.

For proper coil sizing, contact your local Larkin representative. Four-row and six-row chilled water or split DX coils are available with airflow capacities up to 11,000 cfm (18,689 m³/hr).

Packaged direct expansion (PDX) is available for cooling up to 7,500 cfm (12,743 m^3 /hr).



Furnace Control

Choose from staged or modulating furnace control.

Staged Control – XIG

Control	Operation Points*							
1-Stage	100%							
2-Stage	50, 100%							
8-Stage	121/2, 25, 371/2, 50, 621/2, 75, 871/2, 100%							

* Percentage of maximum furnace output

Staged Control – XIGX

Control	Operation Points*
2-Stage	50, 100%
8-Stage	121/2, 25, 371/2, 50, 621/2, 75, 871/2, 100%
16-Stage⁺	6¼, 12½, 18¾, 25,, 81¼, 87½, 93¾, 100%
24-Stage⁺	41/6, 81/3, 121/2, 162/3,, 871/2, 912/3, 955/6, 100%

* Percentage of maximum furnace output

* Multiple furnace units only

Temperature Control

Discharge Temperature Control -

Model XIG and XIGX controls heat output based on discharge temperature. A factory-mounted discharge temperature sensor feeds information back to the unit control center. The furnace(s) either stage or modulate the heat output to satisfy the

discharge temperature set point. The set point is easily field adjustable with a dial located in the furnace control center. For make-up air applications, single-stage furnace control is not recommended.

Discharge Temperature Control with Room Override – The room override option enables

a make-up air unit to boost its heat output when the space temperature is cooler than desired. When the space temperature is satisfied, the XIG and XIGX will control heat output based on the normal discharge temperature



set point. When the space is too cool, the discharge temperature will be elevated, typically by 20°F (-7°C), until the override thermostat is satisfied. Room sensor may be wall/beam mounted or included on a remote control panel.

External Control – The discharge temperature can be controlled by an external signal. This option provides an factory-installed interface, allowing easy integration into your building management system. The discharge temperature can be controlled using a 2-10 VDC or 4-20 mA signal.

Selectra



2:1 Mod. Anywhere from 50 to 100% 4:1 Mod. Anywhere from 25 to 100%

Operation Points'

* Percentage of maximum furnace output

Modulating Control – XIG

Control

Modulating Control – XIGX

Control	Operation Points*
2:1 Mod.	Anywhere from 50 to 100%
4:1 Mod.	Anywhere from 25 to 100%
8:1 Mod.⁺	Anywhere from 121/2 to 100%
12:1 Mod.*	Anywhere from 81/3 to 100%

* Percentage of maximum furnace output

⁺ Multiple furnace units only



Weatherhoods

Weatherhoods with standard G90 galvanized steel construction are available.



Birdscreen Weatherhood

The birdscreen weatherhood includes a mesh screen that prevents large debris from entering the unit. An additional filter section for smaller debris is required.



Filtered Weatherhood

The filter weatherhood includes aluminum mesh filters installed in the weatherhood, eliminating the need for an additional filter section. Redundant filtering is possible with the addition of a filter section to the filtered weatherhood. A filtered weatherhood should be your first choice when a cost competitive solution is needed for your makeup air application. Standard on XIGK.



Louvered Weatherhood

The louvered weatherhood is designed to keep debris and moisture out of the unit and your building in the most compact design possible. This combo weatherhood includes aluminum mesh filters and a moisture reducing louver to reduce water entering the unit.

Remote Control Panels

Kitchen style remote panels feature lighted toggle switches and a stainless steel face plate for flush mounting to a wall. The junction box is also included.





Options

Air Filter Gauge – Indicates when filters become dirty. An indicator light may be wall/beam mounted or provided with a remote control panel.

Motorized Dampers – Intake or discharge dampers are available to prevent backdrafts when the fan is not in operation. Intake dampers are factory-mounted and wired.

Exhaust Fan Starter(s) – Up to two exhaust fan starters may be added to the control center.

Inlet Air Sensor – An on/off type duct stat automatically de-energizes the gas system and interrupts the flow of gas to the burners when the inlet air temperature is above the desired setting.

115 Volt Service Receptacle – A 115 volt GFCI outlet is mounted externally in a NEMA-3R box for the convenience of field service personnel. A separate 115 volt power source is required.

Roof Curbs – Factory provided roof curbs are available to ensure compatibility between the make-up air unit and roof curb. Standard construction is G90 galvanized steel. See the roof curbs section in this catalog for more information.

Equipment Supports – Factory provided equipment supports may be required in addition to a roof curb, depending on the specified unit configuration. Standard construction is G90 galvanized steel.

Freezestat – An on/off type discharge duct stat (with a timer) prevents the discharge of cold air into the building when the furnace(s) is not providing adequate tempering. **Special Coatings** – Permatector[™] powder coating is available if a painted look is desired. Decorative baked enamel coatings are also available in a variety of colors to match existing building fixtures. Consult your Larkin representative for coating selections.

Fiberglass Insulation – Fiberglass insulation is used to line the housing to prevent the formation of condensation and to form an acoustical barrier.

Variable Frequency Drive – A variable frequency drive is available to automatically vary the fan speed.

Propane Gas – A propane heater may be provided in lieu of natural gas.

Duct Adapter – Duct adapter is available with factory supplied curbs and allows an easy method for connecting ductwork to curb.

Double Wall Construction – An interior metal liner is available to isolate insulation from the airstream. Oneinch thick insulation is included with this option.

Gas Pressure Regulator – Required if building gas line pressure exceeds the maximum inlet gas pressure of 14 in. wg.

Weatherhood – A galvanized steel weatherhood with birdscreen is standard on 100% outdoor air units. A louvered intake is optional.



Options

	XIGK	XIG	XIGX
Cooling Options			
Evaporative	—	Optional	Optional
Split Direct Expansion (DX)	—	_	Optional
Packaged Direct Expansion (PDX)	—	_	Optional
Chilled Water	_	_	Optional
Furnace Control			
Staged Control	Standard	Optional	Optional
Modulation Control	—	Optional	Optional
Temperature Controls			
Discharge Temperature Control	Standard	Optional	Optional
Discharge Temperature Control w/ Room Override	—	Optional	Optional
External Temperature Control	—	—	Optional
Intake Options			
Birdscreen	_	Optional	Optional
Filtered	Standard	—	Optional
Louvered	—	Optional	Optional
Remote Control Panels			
Kitchen Style	Optional	Optional	Optional
Accessories			
Air Filter Gauge	—	Optional	Optional
Motorized Dampers	Optional	Optional	Optional
Exhaust Fan Starter(s)	—	Optional	Optional
Inlet Air Sensor	Optional	Optional	Optional
115 Volt Service Receptacle	Optional	Optional	Optional
Roof Curbs	Optional	Optional	Optional
Equipment Supports	_	_	Optional
Freezestat	Optional	Optional	Optional
Special Coatings	Optional	Optional	Optional
Fiberglass Insulation	Standard	Optional	Optional
2-Speed Motor	_	_	Optional
Variable Frequency Drive (VFD)	_	_	Optional
Propane Gas	Optional	Optional	Optional
Duct Adapter	<u> </u>	Optional	Optional
Double-Wall Construction	<u> </u>	_	Optional
Gas Pressure Regulator	Optional	_	Optional
Weatherhood	Optional	Optional	Optional
Aluminum or Stainless Steel Heat Exchanger	Optional	Optional	Optional



Overview

Larkin's non-gas-fired units are designed to provide fresh make-up air to restaurants and other food service facilities where natural or propane gas is either not available or not desired for heating. The Larkin model XMSX utilizes coil heating and/or cooling tempering options for high performance operation. Seven available blower sizes provide airflow capacities up to 15,000 cfm (25,485 m³/hr) and static pressure capabilities up to 2.0 in. wg (497 Pa).



Electric heating coils with SCR control, hot water, and/or steam heating, provide efficient heating in any climate when gas-fired equipment is not an option. Chilled water, direct expansion, and evaporative coolers provide cooling when required. XMSX housings incorporate a flexible design, and are constructed of durable G90 galvanized steel suitable for indoor or outdoor installations. Larkin XMSX make-up air units are available with a wide range of construction and control accessories for maximum flexibility and performance.

Standard Construction

Model XMSX is ideally suited for make-up air applications where hot water, steam or electric heat is desired. The XMSX has a modular design for broad configuration flexibility. In addition to 100% outdoor air operation, recirculation and variable volume airflow options are available.

Airflow volumes range from 800 to 15,000 cfm (1,359 to 25,485 m³/hr). These units feature belt driven, doublewidth, forward-curved fans, vibration isolation, intake filters, and a variety of heating and cooling options.

Reliable Fan Performance - Double-width, double

inlet forward-curved wheels for high-efficiency and low sound levels are constructed of heavygauge steel. Wheels are balanced to ensure vibration-free operation.

Control Center (Optional) -

The control center includes the following standard components:

- Magnetic motor starter with solid state overload protection
- Control transformer with fusing
- Disconnect switch
- Individual motor fusing
- Distribution terminal strip

Premium grade control components are selected for reliable operation. All electrical components are UL Listed, Recognized or Classified and factory prewired for single point power connection.





assembly is mounted on vibration isolators to minimize

Vibration Isolators – The entire fan and motor

are standard. **Shafts** – Shafts are precision turned, ground and polished steel, sized so that the first critical speed is at

least 25% over the maximum operating speed. Bearings – Shafts rotate in permanently lubricated, heavy-duty ball bearings. Bearings are selected for a minimum average L_{10} life in excess of 100,000 hours at maximum operation speeds.

Access Panels – Large access panels are provided for easy inspection and maintenance of motors, drives, fan wheels, filters, and heater controls.

Factory Wired and Tested – All units are tested prior to shipment. Units are checked for proper fan and controls operation.



XMSX models are ETL Listed and Listed to UL 1995 with the exception to electric heat.



Heating Options

Hot water, steam and electric heating options are available with the model XMSX. The heating section consists of the heating coil factory-installed in a pre-engineered coil housing.

For proper coil sizing, contact your Larkin representative. All heating options are available with airflow capacities up to 15,000 cfm (25,485 m³/hr).

Hot Water and Steam – Hot water and steam coils are available in either a 100% thru-coil airflow or face and bypass arrangement. Coils have copper tubes with permanently expanded aluminum fins and are tested and rated in accordance with AHRI 410.

Electric Heat – Electric heaters are UL Listed and feature open coil heating elements. Heater control cabinets are installed completely within the heating section, are factory wired up to 220 kW and meet all requirements of the National Electric Code.

Cooling Options

Evaporative Cooling – The evaporative cooling section includes a galvanized steel housing with a louvered intake, 2-inch aluminum mesh filters and a stainless steel evaporative cooling module. The evaporative cooling media is Munters CELdek or GLASdek and has a depth of 12 inches for 90% cooling effectiveness.

The entire section mounts directly to the front of the XMSX unit, eliminating transition or ductwork by others. Drain and overflow are conveniently tapped through the side of the cooling section. The supply line connection is field located where convenient. Freeze protection and automatic drain and fill options are also available.

Airflow capacity for evaporative cooling is up to 15,000 cfm (25,485 m³/hr). The evaporative cooling section for the housing size 32 and 35 ships separately.

Cooling Coils – Chilled water, split direct expansion (DX) or packaged direct expansion (PDX) cooling is available with the model XMSX. The cooling section includes the cooling coil, sloped stainless steel drain pan and insulated double wall construction. Drain and coil connections are stubbed through the wall for convenience.

For proper coil sizing, contact your local representative. Four-row and six-row chilled water or split DX coils are available with airflow capacities up to 11,000 cfm (18,689 m³/hr).

Packaged direct expansion (PDX) is available for cooling up to 7,500 cfm (12,743 m³/hr).



Options

Air Filter Gauge – The air filter gauge indicates when filters become dirty. An indicator light may be wall/beam mounted or provided with a remote control panel.

Motorized Dampers – Intake or discharge dampers are available to prevent backdrafts when the fan is not in operation. Intake dampers are factory-mounted and wired.

Exhaust Fan Starter(s) – Exhaust fan starters may be added to the control center.

Inlet Air Sensor – An on/off type duct stat automatically de-energizes the gas system and interrupts the flow of gas to the burners when the inlet air temperature is above the desired setting.

115 Volt GFCI Service Receptacle – A 115 volt GFCI outlet is mounted externally in a NEMA-3R box for the convenience of field service personnel. A separate 115 volt power source is required.

Roof Curbs – Factory provided roof curbs are available to ensure compatibility between make-up air unit and roof curb. Standard construction is G90 galvanized steel. See the roof curbs section in this catalog for more information.

Smoke Detector – Photoelectric smoke detector is available for duct mounting.

Freezestat – An on/off type discharge duct stat (with a timer) prevents the discharge of cold air into the building when the unit is not providing adequate tempering.

Equipment Supports – Factory provided equipment supports may be required in addition to a roof curb, depending on the specified unit configuration. Standard construction is G90 galvanized steel.

Special Coatings – Permatector[™] powder coating is available if a painted look is desired. Decorative baked enamel coatings are also available in a variety of colors to match existing building fixtures. Consult your Larkin representative for coating selections.

Fiberglass Insulation – Fiberglass insulation is used to line the housing to prevent the formation of condensation and to form an acoustical barrier.

Weatherhood – A galvanized steel weatherhood with birdscreen is available. A DRIFdek mist eliminator is an optional weatherhood accessory.

Duct Adapter – Duct adapter is available with factory supplied curbs and allows an easy method for connecting ductwork to curb.

Double Wall Construction – An interior metal liner is available to isolate insulation from the airstream. Oneinch thick insulation is included with this option.

Variable Frequency Drive – A variable frequency drive is available to automatically vary the fan speed.

Arrangements

Downblast or Horizontal Discharge

Model XMSX is available in either downblast (arrangement DB) or horizontal (arrangement HZ) discharge.



Horizontal Discharge - Arrangement HZ



Providing unconditioned make-up air through ceiling diffusers or perforated kitchen hood plenums can create an uncomfortable work environment during summer months in commercial kitchens. Although conditioned make-up air can increase comfort levels, the need to cool and dehumidify this air to a 55°F supply air temperature can be detrimental to the food preparation process and can significantly increase equipment first cost. The packaged DX cooling option for the XDGX, XIGX, and XMSX models is designed to cool the kitchen make-up air to a 70-75°F supply air condition to improve space comfort and enhance employee productivity...at an economical first cost.

- Kitchen ventilation applications
- 1,000 to 7,500 cfm
- 3-16 nominal cooling tons
- Direct or indirect gas, hot water, or electric heating
- Optional variable air volume (VAV)

Direct Gas-Fired unit with Integral Packaged DX Cooling



Condenser fans are efficient, direct-drive, statically and dynamically balanced.

Condenser and Evaporator Coils have copper tubes with permanently expanded aluminum fins. Evaporator coils are mounted on a stainless steel drain pan. Thermal Expansion Valves provide refrigerant control. Head pressure control provides further control at low–load conditions. **Compressors** are quiet-running, hermetic scroll-type. They are mounted in an isolated compartment to be serviceable without affecting airflow, and are mounted on neoprene isolators to minimize vibration transmission and noise.

The packaged DX systems available with XDGX, XIGX and XMSX products are designed specifically for providing comfortable supply air conditions for commercial kitchen applications. The pre-engineered package is piped and charged at the factory, providing single-source responsibility and reduced installation costs.

Standard Feature	Benefit
R-410A refrigerant	Environmentally friendly.
High pressure manual reset Low pressure automatic reset	Ensures the refrigeration system will operate in a safe performance range.
Liquid line filter-dryer	Removes water, debris and other contaminants from the refrigerant.
Service / charging valves	Simplified maintenance resulting in lower maintenance costs.
Sight glass / moisture indicator	Provides a view into the system.





Roof Curbs

Larkin offers prefabricated roof curbs, which reduce installation time and costs by ensuring compatibility between the unit, curb and roof opening. A wide variety of roof curbs are available, including: flanged, straight-sided, canted, pitched, and ridged. Extensions are also available and can provide an accessible mounting location for dampers.

Roof Curb	Roof Type/ Application	Description	Model and Service
	Flat, insulated or non-insulated roof decks	Welded, straight-sided construction with rigid fiberglass insulation and 2-inch mounting flange. These curbs are designed for roof decks that are covered with 2 to 6 inches of insulation. Models GPI and GPIP are	GPI - Galvanized 12 in. high, with or without damper tray, square sizes for stock fans
	Flat, pitched or ridged, insulated or non-insulated roof decks	standard with fully welded construction, wood nailer, 1-inch insulation and 2-inch flashing flange. Model GPI is for use on flat roofs and GPIP for pitched roofs. Models are available in heights of 12 to 24 inches.	GPI - Aluminum or galvanized, other heights, non-stock square and rectangular sizes
	Flat, non- insulated roof decks	Welded, canted construction with rigid fiberglass insulation. This curb is designed for use on flat, non- insulated roof decks. It consists of a fully welded body and 1-inch of insulation.	GPS - All types, sized to meet your requirements
Adapters			
	Adaptors/ Reducers	Used to match new fans to existing roof curbs. Welded galvanized steel or aluminum.	Curb Adaptors and Reducers
Equipment Supports			
	Insulated and non-insulated roof decks	Welded aluminum or galvanized steel. Available in heights of 8, 12 and 14 inches and widths of 4, 6 and 8 inches.	GESS - All types, sized to meet your requirements

For complete product information contact your local Larkin representative

XKSFB-109-H15-01

CFM	\sim			Total Static Pressure (in. wg)							
			0.125	0.250	0.375	0.500	0.750	1.000	1.250	1.500	2.000
1 200	1 / 10	RPM	593	678	762	842	987	1118	1236		
1,300	1,413	Bhp	0.15	0.19	0.23	0.27	0.35	0.43	0.52		
1 600	1 700	RPM	691	764	833	902	1032	1153	1265	1371	1561
1,600	1,739	Bhp	0.26	0.30	0.35	0.40	0.50	0.60	0.69	0.80	1.02
1 000	2.065	RPM	793	859	918	976	1091	1201	1303	1404	1588
1,900	2,005	Bhp	0.41	0.47	0.52	0.58	0.70	0.82	0.93	1.04	1.28
0.000	0.001	RPM	899	956	1011	1061	1161	1261	1356	1448	
2,200	2,391	Bhp	0.61	0.68	0.74	0.80	0.94	1.08	1.22	1.35	

XKSFB-110-H15-01

CFM	\sim			Total Static Pressure (in. wg)								
	Οv	-	0.125	0.250	0.375	0.500	0.750	1.000	1.250	1.500	2.000	
0.400	0 100	RPM	741	781	834	885	977	1066	1153	1234	1392	
2,400	2,123	Bhp	0.54	0.59	0.65	0.72	0.85	0.98	1.12	1.27	1.57	
0.750	0 400	RPM	839	871	913	958	1046	1124	1202	1279	1423	
2,750	2,433	Bhp	0.80	0.85	0.91	0.99	1.14	1.29	1.44	1.60	1.93	
2 100	0 7 4 0	RPM	940	967	996	1036	1118	1192	1262	1330		
3,100	2,743	Bhp	1.13	1.18	1.24	1.32	1.50	1.67	1.84	2.01		
0.450	0.050	RPM	1041	1064	1089	1119	1191	1264				
3,450	3,053	Bhp	1.55	1.60	1.66	1.73	1.92	2.12				

XKSFB-112-H15-01

CFM				Total Static Pressure (in. wg)								
	UV		0.125	0.250	0.375	0.500	0.750	1.000	1.250	1.500	2.000	
0 700	1 701	RPM	507	561	617	671	768	860	941	1014		
2,700	1,701	Bhp	0.40	0.47	0.55	0.63	0.78	0.94	1.09	1.24		
2 200	0 1 1 5	RPM	596	641	687	733	821	902	979	1052	1183	
3,300	2,115	Bhp	0.68	0.77	0.87	0.96	1.15	1.33	1.52	1.72	2.09	
2 000	2 500	RPM	691	729	766	804	881	956	1027	1093	1221	
3,900	2,300	Bhp	1.09	1.19	1.30	1.41	1.63	1.86	2.08	2.28	2.76	
1 500	0.005	RPM	787	817	852	884	951	1017	1082	1146		
4,500	2,000	Bhp	1.64	1.74	1.87	2.00	2.25	2.51	2.77	3.03		

XKSFB-115-H25-01

CFM			Total Static Pressure (in. wg)								
	00		0.125	0.250	0.375	0.500	0.750	1.000	1.250	1.500	2.000
4 700	0 1 4 6	RPM	524	567	608	1.31	722	790	856	915	1031
4,700	2,140	Bhp	1.02	1.16	1.31	1.45	1.74	2.03	2.34	2.63	3.29
5 400	0 465	RPM	589	628	665	700	768	832	891	950	1056
5,400	2,400	Bhp	1.49	1.66	1.83	1.99	2.32	2.65	2.98	3.33	4.01
6 100	0 705	RPM	656	691	724	757	819	877	934	988	1090
0,100	2,700	Bhp	2.10	2.29	2.47	2.66	3.04	3.40	3.79	4.16	4.94
0.000	0 105	RPM	723	755	786	815	872	928	979	1031	
6,800	3,105	Bhp	2.86	3.07	3.28	3.48	3.91	4.33	4.72	5.15	

XKSFB-118-H25-01

				Total Static Pressure (in. wg)									
OFIVI	UV		0.125	0.250	0.375	0.500	0.750	1.000	1.250	1.500	2.000		
6 500	0 145	RPM	438	473	510	544	608	667	723	776			
0,500	2,140	Bhp	1.26	1.42	1.60	1.78	2.13	2.47	2.83	3.20			
7 500	0 475	RPM	495	526	557	588	646	702	754	802	897		
7,500 2,475	2,475	Bhp	1.87	2.06	2.26	2.46	2.86	3.27	3.66	4.05	4.92		
9 500	0.005	RPM	554	580	607	636	690	740	790	835	922		
0,000	2,000	Bhp	2.66	2.87	3.09	3.32	3.79	4.22	4.69	5.14	6.04		
0 5 0 0	0 105	RPM	614	637	661	685	735	783	827	872	954		
9,300	3,130	Bhp	3.67	3.86	4.13	4.37	4.90	5.41	5.90	6.43	7.43		

Power rating (Bhp) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.



Dimensional Data - Stand Alone

Arrangement HZ and DB - Standard Weatherhood



Housing Size	А	В	С	D
H05	18.4	31.6	20.0	19.4
H08	18.4	31.8	36.9	19.4
H15	25.3	71.1	31.9	39.5
H25	34.0	81.4	40.3	47.4

All dimensions in inches.



XKSFD-70-H05-01

	AMPS	MPS Watts		CFM/Static Pressure (in. wg)								
RPM			0.000	0.100	0.125	0.250	0.375	0.500	0.625	0.750	1.000	
1,600	3.77	405	813	783	776	741	707	671	637	603	527	

XKSFD-80-H08-01

RPM	AMPS	Watts		CFM/Static Pressure (in. wg)									
			0.000	0.100	0.125	0.250	0.375	0.500	0.625	0.750	1.000		
1,610	8.32	830	1672	1617	1604	1542	1484	1427	1367	1306	1171		

XKSFD-90-H08-01

		S Watts		CFM/Static Pressure (in. wg)								
RPM	AIVIPS		0.000	0.100	0.125	0.250	0.375	0.500	0.625	0.750	1.000	
1,100	7.8	735	2249	2175	2156	2044	1900	1701	1424	1114		

Power rating (Bhp) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.



Arrangement DB3 - Standard Weatherhood



Housing Size	А	В	С	D
H05	14.5	41.0	20.0	21.3
H08	14.5	41.0	36.9	21.3
H15	22.3	80.4	31.9	40.8
H25	29.5	99.5	40.3	52.3

All dimensions in inches



Arrangement DBC - Extended Weatherhood





Housing Size	А	В	С	D
H05	14.5	171.1	20.0	21.3
H08	14.5	165.8	36.9	21.3
H15	22.3	145.3	31.9	40.8
H25	29.5	152.5	40.3	52.3





Housing Size	A*	B*	C*
H05	25.0	50.0	70.1
H08	35.4	52.9	82.5
H15	42.9	55.0	131.8
H25	58.8	66.1	164.3

All dimensions in inches

Arrangement DBC - Extended Weatherhood



Housing Size	A*	B*	C*
H05	25.0	50.0	200.3
H08	35.4	52.9	207.3
H15	42.9	55.0	196.6
H25	58.8	66.1	217.3



XDG Housing 15

			0.75	1.00	1.25	1.50	1.75	2.00
	1500	RPM	1014	1140	1255	1361	1460	
	1500	BHP	0.45	0.54	0.63	0.73	0.84	
	2000	RPM	1113	1219	1321	1417	1510	1597
2500	2000	BHP	0.77	0.9	1.02	1.14	1.26	1.37
	2500	RPM	1244	1329	1419	1503		
	2500	BHP	1.25	1.39	1.56	1.72		
2000	RPM	912	1013	1110	1199			
	2000	BHP	0.59	0.71	0.84	0.96		
	2500	RPM	995	1082	1166	1247	1325	1402
ADGK-110		BHP	0.93	1.07	1.21	1.36	1.51	1.67
	2000	RPM	1097	1172	1244	1315	1386	1455
	3000	BHP	1.39	1.55	1.72	1.88	2.05	2.23
	2000	RPM	794	879	960	1033	1101	
	3000	BHP	0.95	1.12	1.3	1.47	1.63	
VDOK 110	2200	RPM	870	947	1018	1085	1152	1215
ADGK-112	3000	BHP	1.54	1.76	1.97	2.18	2.41	2.64
	4500	RPM	951	1017	1082			
	4000	BHP	2.25	2.51	2.77			

XDG Housing 25

			Total Static Pressure (in. wg)							
			0.75	1.00	1.25	1.50	1.75	2.00		
	4000	RPM	681	756	822	892	956	1017		
4000 VDCK 115	4000	BHP	1.28	1.54	1.78	2.10	2.42	2.75		
XDGK-115	6500	RPM	850	906	960	1013				
	0500	BHP	3.52	3.91	4.30	4.72				
	6000	RPM	591	652	711	764	819	872		
	0000	BHP	1.81	2.13	2.48	2.80	3.22	3.65		
XDGK-118	9500	RPM	690	740	790					
	6500	BHP	3.78	4.22	4.69					

Stand Alone - Arrangement DB



Housing Size				
H15	30.9	76.5	29.6	31.4
H25	48.0	88.0	39.0	49.5



XDG Housing 10

Madal					otal Static Pre				Maximum
			0.75	1.00	1.25	1.50	1.75	2.00	MBH
	900	RPM	1109	1216	1311	1399			100
	800	BHP	0.26	0.31	0.35	0.40			120
VDC 100	1 000	RPM	1228	1325	1415	1500	1579		150
XDG-100	1,000	BHP	0.41	0.47	0.53	0.59	0.65		150
	1 200	RPM	1347	1445	1530				190
1	1,200	BHP	0.59	0.68	0.75				160
	1 500	RPM	1014	1140	1255	1361	1460		225
	1,300	BHP	0.45	0.54	0.63	0.73	0.84		225
	1,950	RPM	1102	1210	1312	1411	1504		295
XDG-109		BHP	0.73	0.86	0.97	1.1	1.2		290
	2,400	RPM	1216	1306	1397	1484			065
	2,400	BHP	1.1	1.3	1.4	1.6			300
	2 000	RPM	912	1013	1110	1199			205
	2,000	BHP	0.59	0.71	.084	.096			300
	0.500	RPM	995	1082	1166	1247	1325		200
XDG-110	2,500	BHP	0.93	1.1	1.2	1.4	1.5		380
	2 000	RPM	1097	1172	1244	1315	1386		100
	3,000	BHP	1.4	1.6	1.7	1.9	2.1		400

XDG Housing 20

Madal				1	Total Static Pr	essure (in. wo			Maximum
			0.75	1.00	1.25	1.50	1.75	2.00	
	2 600	RPM	761	853	934	1009			205
	2,000	BHP	0.7	0.9	1.0	1.2			390
	2 500	RPM	839	920	993	1065	1133	1195	500
XDG-112 3,500	3,500	BHP	1.3	1.5	1.7	1.9	2.1	2.3	530
	4 400	RPM	939	1006	1073	1137	1197		670
	4,400	BHP	2.1	2.4	2.6	2.9	3.1		070
	4 000	RPM	681	756	822	892			610
	4,000	BHP	1.3	1.5	1.8	2.1			610
		RPM	757	823	884	943	998	1049	800
XDG-115	5,250	BHP	2.2	2.5	2.8	3.2	3.5	3.8	800
	6 500	RPM	850	906	960	1013	1062		000
	0,300	BHP	3.5	3.9	4.3	4.7	5.1		000

XDG Housing 30

Madal				1	Total Static Pr	essure (in. wo			Maximum
			0.75	1.00	1.25	1.50	1.75	2.00	MBH
	6 500	RPM	609	668	724	777			000
	0,500	BHP	2.1	2.5	2.8	3.2			990
	° 000	RPM	668	721	772	819	864	910	1000
XDG-118 8,0	8,000	BHP	3.3	3.7	4.2	4.6	5.0	5.5	1220
	9,500	RPM	736	783	827	872	914		1450
		BHP	4.9	5.4	5.9	6.4	6.9		1430
	10.000	RPM	590	634	678	723	765	803	1505
	10,000	BHP	4.0	4.5	5.0	5.6	6.1	6.6	1525
VDC 100	10 500	RPM	672	711	748	784	820	855	1600
XDG-120	12,500	BHP	6.9	7.5	8.1	8.7	9.3	10.0	1600
	15,000	RPM	763	795	829	861	892	921	1000
		BHP	10.9	11.6	12.3	13.1	13.8	14.5	1600

Note: The air performance data shown does not include internal static pressure losses due to items such as filters, dampers, and coils. For exact air performance data based on specific unit configuration, contact your local Larkin representative.



XDG Dimensions

Stand Alone - Arrangement DB

В

Α-



rection of the second s

H10	159.5	47	35.5
H20	172.8	57.8	50
H30	199	63.3	58.8

All dimensions in inches

*Based on largest available XRUB exhaust fan

Housing Size	
H10	400
H20	800
H30	1600

Housing				□*	0	D	\\/id+b
H10	31.8	27.5	26.3	27.8	78.3	33.8	28
H20	34.8	30.3	32.3	30.3	86.3	33.8	37
H30	65.3	33.3	28.3	33	101.8	42.5	48

D

All dimensions in inches

*The birdscreen weatherhood requires an additional filter section. The additional filter section is optional with the filtered or louvered weatherhood.

С

0

XDGX Dimensions



*C - For Packaged DX units, cooling coil is upstream of the burner section

H12	29.9	31.5	13.8	21.5	30	50.4	44.5	37.6	42.5	39	33.6
H22	45.6	47.1	16.9	24	30	69.4	59.5	52.3	52.2	44.9	44.1
H32	47.3	48.7	16.9	25.8	g	8	70	52.5	66	48.7	53.1



XDGX Housing 12

Blower Size			Total Static Pressure (in. wg)								
			0.75	1.00	1.25	1.50	1.75	2.00			
	900	RPM	1109	1216	1311	1399	-	-			
109	800	BHP	0.26	0.31	0.35	0.40	-	-			
100	1 200	RPM	1347	1445	1530	-	-	-			
	1,200	BHP	0.59	0.68	0.75	-	-	-			
	1 500	RPM	1014	1140	1255	1361	1460	-			
100	1,500	BHP	0.45	0.54	0.63	0.73	0.84	-			
109	2 400	RPM	1216	1306	1397	1484	1569	1648			
	2,400	BHP	1.1	1.3	1.4	1.6	1.7	1.9			
	2 000	RPM	912	1013	1110	1199	-	-			
110	2,000	BHP	0.59	0.71	0.08	0.10	-	-			
110	2 000	RPM	1097	1172	1244	1315	1386	1455			
	3,000	BHP	1.4	1.6	1.7	1.9	2.1	2.2			

XDGX Housing 22

Blower Size										
			0.75	1.00	1.25	1.50	1.75	2.00		
	2 600	RPM	761	853	934	1009	-	-		
2,600	2,000	BHP	0.7	0.9	1.0	1.2	-	-		
112	4 400	RPM	939	1006	1073	1137	1197	1254		
	4,400	BHP	2.1	2.4	2.6	2.9	3.1	3.3		
	4 000	RPM	681	756	822	892	-	-		
115	4,000	BHP	1.3	1.5	1.8	2.1	-	-		
	6 500	RPM	850	906	960	1013	1062	1110		
	6,500	BHP	3.5	3.9	4.3	4.7	5.1	5.5		

XDGX Housing 32

			0.75	1.00	1.25	1.50	1.75	2.00		
	6 500	RPM	609	668	724	777	-	-		
0,000	0,500	BHP	2.1	2.5	2.8	3.2	-	-		
110	9,500	RPM	736	783	827	872	914	954		
		BHP	4.9	5.4	5.9	6.4	6.9	7.4		
	10.000	RPM	590	634	678	723	765	803		
120	10,000	BHP	4.0	4.5	5.0	5.6	6.1	6.6		
	15 000	RPM	763	795	829	861	892	921		
	15,000	BHP	10.9	11.6	12.3	13.1	13.8	14.5		

Note: The air performance data shown does not include internal static pressure losses due to items such as filters, dampers, and coils. For exact air performance data based on specific unit configuration, contact your local Larkin representative.

H12	400
H22	1200
H32	2000



			Blower Size								
MBH	Housing Size	108	109	110	112	115					
10	75	✓	\checkmark								
10	100	✓	\checkmark								
10	125	✓	\checkmark								
10	150		\checkmark	\checkmark							
10	175		\checkmark	\checkmark	\checkmark						
20	200		\checkmark	\checkmark	\checkmark						
20	225		\checkmark	\checkmark	\checkmark						
20	250		\checkmark	\checkmark	✓	✓					
20	300			\checkmark	✓	✓					
30	325			\checkmark	\checkmark	\checkmark					
30	350			\checkmark	\checkmark	\checkmark					
30	400			\checkmark	\checkmark	\checkmark					

XIG Furnace, Housing and Blower Availability

XIG Air Performance Data

Blower					Total Static Pr	essure (in. wg)		
Size	CEIVI		0.75	1.00	1.25	1.50	1.75	2.00
	900	RPM	1109	1216	1311	1399	-	-
100	000	BHP	0.26	0.31	0.35	0.40	-	-
106	1 200	RPM	1347	1445	1530	-	-	-
	1,200	BHP	0.59	0.68	0.75	-	-	-
	1 500	RPM	1014	1140	1255	1361	1460	-
100	1,500	BHP	0.45	0.54	0.63	0.73	0.84	-
2,	0.400	RPM	1216	1306	1397	1484	1569	1648
	2,400	BHP	1.1	1.3	1.4	1.6	1.7	1.9
	0.000	RPM	912	1013	1110	1199	-	-
110	2,000	BHP	0.59	0.71	0.08	0.10	-	-
	2 000	RPM	1097	1172	1244	1315	1386	1455
	3,000	BHP	1.4	1.6	1.7	1.9	2.1	2.2
	2 600	RPM	761	853	934	1009	-	-
110	2,000	BHP	0.7	0.9	1.0	1.2	-	-
112	4 400	RPM	939	1006	1073	1137	1197	1254
	4,400	BHP	2.1	2.4	2.6	2.9	3.1	3.3
	1 000	RPM	681	756	822	892	-	-
115	4,000	BHP	1.3	1.5	1.8	2.1	-	-
	7 000	RPM	889	943	994	1044	1093	1138
	7,000	BHP	4.2	4.6	5.0	5.5	5.9	6.3

Note: The air performance data shown does not include internal static pressure losses due to items such as filters, dampers and furnaces. For exact air performance data based on specific unit configuration, contact your local Larkin representative.



XIG Dimensional Data Arrangement HZ and DB





Housing Size	Max MBH
H10	175
H20	300
H30	400

Without Evaporative Cooling

Housing Size	Outdoor Air	Intake	А	В	Width	
10	1000/	Standard	70.0	26.0	43.5	
10	100%	Louvered	10.0	11.5		
20	100%	Standard	76.2	26.0	52.5	
20	100%	Louvered	70.5	11.5		
30	100%	Standard	95.2	26.0	52.5	
	100%	Louvered	00.0	11.5		

With Evaporative Cooling

* Maximum evaporative cooler air volume (CFM).

	Housing Size	Outdoor Air	Evap* (CFM)	А	В	Width
	10	100%	3500	70.0	26.0	52.5
		100%	7000	10.0	30.0	68.8
	20	100%	3500	76.2	26.0	52.5
		100%	7000	10.5	30.0	68.8
	30	100%	3500	85.3	36.0	52.5
		100 %	7000	00.0	50.0	68.8

Arrangement DBC



Without Evaporative Cooling

Housing Size	Intake	А	Width		
10	Standard	182.0	48.0		
	Louvered	167.5	48.0		
20	Standard	183.0	50 F		
20	Louvered	168.5	52.5		
20	Standard	181.0	50 F		
30	Louvered	167.0	52.5		

With Evaporative Cooling

Housing Size	Evap* (CFM)	А	Width
Housing	3500	160.5	52.5
10	7000	109.5	68.8
Housing	3500	190	52.5
20	7000	102	68.8
Housing	3500	101	52.5
30	7000	191	68.8

 $^{\ast}\,$ Maximum evaporative cooler air volume (CFM).

** Arrangement DBC dimensions are based on the largest compatible XRUB fan. For specific dimensions, contact your local Larkin representative. All dimensions in inches.



XIGX Housing 12

Blower				Т	otal Static Pr	essure (in. wo	g)		Max MBH
Size	CFIVI		0.50	0.75	1.00	1.25	1.50	1.75	(Input)
	200	RPM	993	1109	1216	1311	1399	-	100
100	800	BHP	0.21	0.26	0.31	0.35	0.40	-	100
1,200	RPM	1238	1347	1445	1530	-	-	150	
	1,200	BHP	0.51	0.59	0.68	0.75	-	-	150
	1 500	RPM	880	1014	1140	1255	1361	1460	200
100	1,000	BHP	0.36	0.45	0.54	0.63	0.73	0.84	200
109	2 500	RPM	1154	1244	1329	1419	1503	1587	250
	2,000	BHP	1.1	1.2	1.4	1.6	1.7	1.9	200
	2 500	RPM	906	995	1082	1166	1247	1325	250
011	2,000	BHP	0.79	0.93	1.1	1.2	1.4	1.5	200
	2 500	RPM	1131	1202	1275	1340	1401	1464	050
	3,500	BHP	1.8	2.0	2.2	2.4	2.6	2.8	200

XIGX Housing 22

Blower			Total Static Pressure (in. wg)							
Size			0.50	0.75	1.00	1.25	1.50	1.75	(Input)	
	0,600	RPM	662	761	853	934	1009	-	350	
110	2,600	BHP	0.58	0.72	0.86	1.0	1.2	-		
112	4 400	RPM	871	939	1006	1073	1137	1197	600	
	4,400	BHP	1.8	2.1	2.4	2.6	2.9	3.1		
	5 000	RPM	671	741	808	871	931	986	600	
115 7,00	5,000	BHP	1.7	2.0	2.3	2.6	2.9	3.2	000	
	7 000	RPM	833	889	943	994	1044	1093	000	
	7,000	BHP	3.7	4.2	4.6	5.0	5.5	5.9	000	

XIGX Housing 32

Blower			Total Static Pressure (in. wg)							
Size			0.50	0.75	1.00	1.25	1.50	1.75	(Input)	
	7 000	RPM	566	627	685	738	790	839	1.050	
110	110	BHP	2.1	2.5	2.8	3.2	3.6	4.0	1,050	
118	10.000	RPM	712	759	805	849	891	933	1,200	
	10,000	BHP	5.0	5.5	6.1	6.6	7.1	7.7		
	10.000	RPM	542	590	634	678	723	765	1 000	
120	10,000	BHP	3.6	4.0	4.5	5.0	5.6	6.1	1,200	
	15,000	RPM	731	763	795	829	861	892	1 000	
		BHP	10.2	10.9	11.6	12.3	13.1	13.8	1,200	

Note: The air performance data shown does not include internal static pressure losses due to items such as filters, dampers and furnaces. For exact air performance data based on specific unit configuration, contact your local Larkin representative.



Indirect Gas-Fired





*AA - Filtered Weatherhood

*C - For Packaged DX units, cooling coil is upstream of the burner section

Housing Size	A	AA	AAA	В	C Low Hig	h PDX	D	Furnace Size	E	F	Width
H12	29.9	31.5	13.8	21.5	30.0 50.	4 44.5	42.5	100-250	33.2	39	44.6
								150-300	22.0		44.6
H22	45.6	47.1	16.9 24.0 30.0 69.4 59	4 59.5	59.5 52.2	350-400	00.2	44.9	53.9		
								500-600	66.4		44.6
								350-400	33.2		
H32	47.3 48.7 16.9 25.8 98.0	70	70 66	500-800	66.4	48.7	52.2				
								1050-1200	99.6		

XIGK



Housing Size	Width	А	В	С	
H05	31.625	00 7E	00 F	24.0	
H15	40.125	39.75	92.5	34.0	

All dimensions are shown in inches.

The model XIGK is available for stand-alone installation with a downblast discharge (Arrangement DB).

Model	CFM				Maximum Furnace Size				
AIGK			0.75	1.00	1.25	1.50	1.75	2.00	Input MBH
109-H05	1 500	RPM	1014	1140	1255	1361	1460		
	1,500	BHP	0.45	0.54	0.63	0.73	0.84		000
	0.400	RPM	1216	1306	1397	1484	1569	1648	200
	2,400	BHP	1.10	1.30	1.40	1.60	1.70	1.90	
	2,000	RPM	912	1013	1110	1199			
		BHP	0.59	0.71	0.08	0.10			200
110-005	0.000	RPM	1097	1172	1244	1315	1386	1455	
	3,000	BHP	1.40	1.60	1.70	1.90	2.10	2.20	
	0.000	RPM	761	853	934	1009			
	2,000	BHP	0.70	0.90	1.00	1.20			400
112-HID	F 000	RPM	1014	1075	1135	1192	1250	1306	
	5,000	BHP	2.90	3.20	3.50	3.70	4.00	4.30	



F

Modular Supply

XMSX Housing Size 12

Madal			Total Static Pressure (in. wg)								
IVIOUEI			0.50	0.75	1.00	1.25	1.50	1.75			
XMSX-108	900	RPM	993	1109	1216	1311	1399				
	000	BHP	0.21	0.26	0.31	0.35	0.40				
	1 200	RPM	1238	1347	1445	1530					
	1,200	BHP	0.51	0.59	0.68	0.75					
XMSX-109	1,500	RPM	880	1014	1140	1255	1361	1460			
		BHP	0.36	0.45	0.54	0.63	0.73	0.84			
	2,500	RPM	1154	1244	1329	1419	1503	1587			
		BHP	1.1	1.2	1.4	1.6	1.7	1.9			
XMSX-110	2,500	RPM	906	995	1082	1166	1247	1325			
		BHP	0.79	0.93	1.1	1.2	1.4	1.5			
	2 500	RPM	1131	1202	1275	1340	1401	1464			
	3,500	BHP	1.8	2.0	2.2	2.4	2.6	2.8			

XMSX Housing Size 22

Madal					Total Static Pr	essure (in. wg)			
IVIOUEI	CLINI		0.50	0.75	1.00	1.25	1.50	1.75	
XMSX-112	2 600	RPM	662	761	853	934	1009		
	2,000	BHP	.58	.72	.86	1.0	1.2		
	3,500	RPM	756	839	920	993	1065	1133	
		BHP	1.0	1.3	1.5	1.7	1.9	2.1	
	4,400	RPM	871	939	1006	1073	1137	1197	
		BHP	1.8	2.1	2.4	2.6	2.9	3.1	
XMSX-115	5,000	RPM	671	741	808	871	931	986	
		BHP	1.7	2.0	2.3	2.6	2.9	3.2	
	6,000	RPM	749	812	870	929	982	1035	
		BHP	2.6	2.9	3.3	3.7	4.0	4.4	
	7 000	RPM	833	889	943	994	1044	1093	
	7,000	BHP	3.7	4.2	4.6	5.0	5.5	5.9	

XMSX Housing Size 32

Madal			Total Static Pressure (in. wg)								
IVIOUEI			0.50	0.75	1.00	1.25	1.50	1.75			
XMSX-118	7 000	RPM	566	627	685	738	790	839			
	7,000	BHP	2.1	2.5	2.8	3.2	3.6	4.0			
	9 500	RPM	636	690	740	790	836	880			
	0,000	BHP	3.3	3.8	4.2	4.7	5.1	5.6			
	10,000	RPM	712	759	805	849	891	933			
		BHP	5.0	5.5	6.1	6.6	7.1	7.7			
XMSX-120	10.000	RPM	542	590	634	678	723	765			
	10,000	BHP	3.6	4.0	4.5	5.0	5.6	6.1			
	12,500	RPM	633	672	711	748	784	820			
		BHP	6.3	6.9	7.5	8.1	8.7	9.3			
	15 000	RPM	731	763	795	829	861	892			
	15,000	BHP	10.2	10.9	11.6	12.3	13.1	13.8			

Note: The air performance data shown does not include internal static pressure losses due to items such as filters, dampers and coils.

For exact air performance data based on specific unit configuration, contact your local Larkin representative.



XMSX





V-Bank







*AA - Filtered Weatherhood

*C - For Packaged DX units, cooling coil is upstream of the burner section

Housing	٨	<u>۸</u> ۸	^ ^ ^				D		_	E	W/idth
Size	A	AA	AAA	D	U	Low	High	PDX			vviduri
H12	29.9	31.5	13.8	21.5	43.9	30	50.4	44.5	42.5	39.0	33.6
H22	45.6	47.1	16.9	24.0		30	69.4	59.5	52.2	44.9	44.1
H32	47.3	48.7	16.9	25.8	48.0	98	3.0	70	66.0	48.7	53.1

Housing Size	Max kW
H12	70
H22	140
H32	220







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