





## Capacities, Electrical & Weights

Sheet No.  
**GXDDR-2**

This humidifier is a forced combustion type that can be used with natural gas or liquid propane. The burner can be easily removed to access the side entry exchanger for cleaning. It is designed to work with low-pressure gas between 5" W.C. up to 14" W.C.

### Unit Capacities in Pounds per Hour (kg/hr)† Weights in lbs. (kg) and Electrical Specification

Model No.	Steam Capacity Lb/Hr (kg/Hr)	No. of Burners	*BTU Input	Exhaust Manifold Vent Size (cm)	Shipping Weight (kg)	Operating Weight (kg)	120 Volt, 60 Hz
							Full Load Amps
GXDDR-3	110 (49.9)	1	150,000	4" (10.2)	201 lbs. (91.2)	420 lbs. (190.5)	5.0
GXDDR-4	300 (136.1)	1	400,000	4" (10.2)	390 lbs. (176.9)	710 lbs. (322.1)	5.0
GXDDR-8	600 (272.2)	2	800,000	6" (15.2)	827 lbs. (375.1)	1391 lbs. (630.9)	10.0
GXDDR-12	900 (408.2)	3	1,200,000	8" (20.3)	1125 lbs.(510.3)	2072 lbs. (939.9)	15.0

† Actual humidifier capacity may vary due to the heat loss from the humidifier reservoir. The ambient air temperature, air velocity and injection tube system will affect the rate of heat loss from the reservoir.

\* Altitude adjustment:

100% up to 2000'

Over 2000', 4% de-rate per 1000'

### Gas Piping Pressure Drop Data

EQUIVALENT LENGTH OF STRAIGHT PIPE IN FEET									
	20	30	40	20	60	80	100	150	200
<b>CFH GAS WITH .2" PRESSURE DROP</b>									
<b>Pipe Size in Inches</b>									
3/4"	152	120	105	93	84	73	66	54	45
1"	300	250	210	190	180	150	135	110	75
1 1/4"	520	425	360	325	300	260	230	190	165
1 1/2"	800	690	560	500	480	410	370	300	260
2"	1700	1400	1200	1100	1000	850	750	600	540
2 1/2"	3000	2500	2100	1900	1800	1550	1375	1100	950
<b>EQUIVALENT LENGTHS OF STANDARD PIPE IN FEET FOR LISTED FITTINGS</b>									
Fitting Type	3/4	1	1 1/4	1 1/2	2	2 1/2	Nominal		
Std. Tee	2.4	5.5	7.5	9	12	13.5	Pipe Size		
Std. Elbow	4.4	2.7	3.7	4.5	5.5	6.1	in Inches		

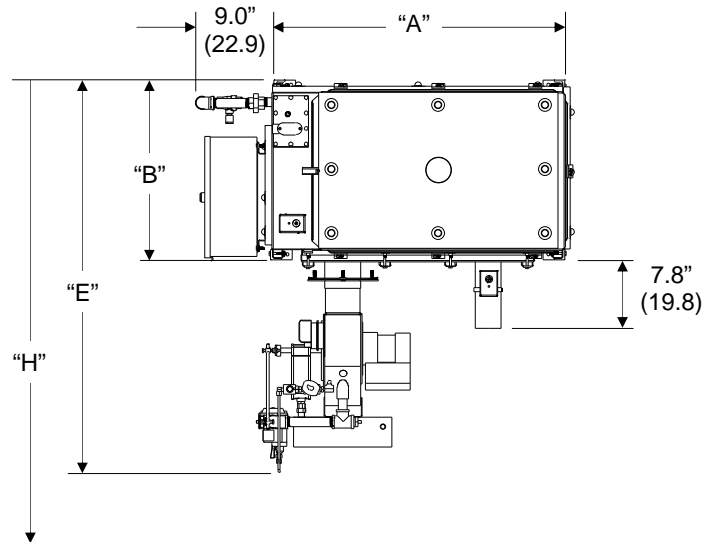
### Gas Input CFH for GXDDR-Series Humidifiers

Model No.	Max BTU/Hr Input	Max CFH (Nat. Gas)	Max CFH (Propane)
GXDDR-3	150,000	150	60
GXDDR-4	400,000	400	160
GXDDR-8	800,000	800	320
GXDDR-12	1,200,000	1200	480

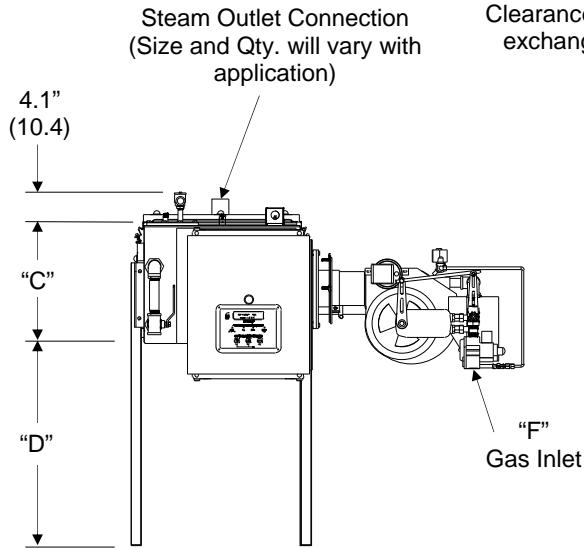
**Required Clearance:**

For recommended service and maintenance purposes the following clearances should be maintained:

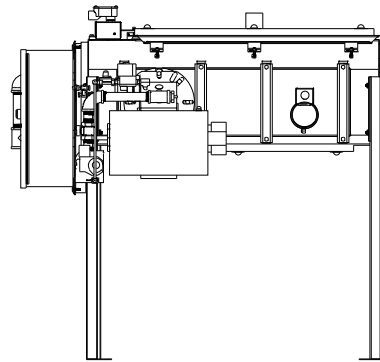
- Right side, see Top View for required clearance
- Front side, NEC requires 36" clearance to control cabinet
- Left side, 6" for access
- Rear, 6" for access
- Top, 12" for cover and float plate assembly removal



**Top View**



**Front View**



**Right Side View**

Clearance required for exchanger removal

**Unit Dimensions in Inches (cm)**

Model No.	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"
GXDDR-3	34.0" (86.4)	21.1" (53.7)	13.8" (34.9)	24.0" (60.9)	45.9" (116.5)	3/4"-NPT	3.0" (7.62)	50.0" (127.0)
GXDDR-4	54.0" (137.2)	30.1" (76.5)	13.8" (34.9)	24.0" (60.9)	54.7" (138.9)	3/4"-NPT	3.0" (7.62)	66" (167.6)

Heat exchangers have a top and bottom. There is a break (crease) on the bottom side of the heat exchanger. Do not install heat exchanger upside-down.

All dimensions are approximate and subject to change at manufacturer's discretion.

**Required Clearance:**

For recommended service and maintenance purposes the following clearances should be maintained:

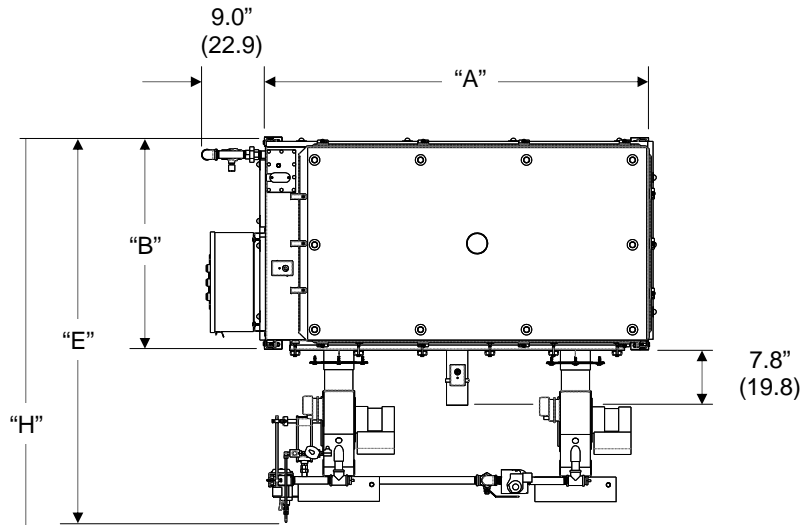
Right side, see Top View for required clearance

Front side, NEC requires 36" clearance to control cabinet

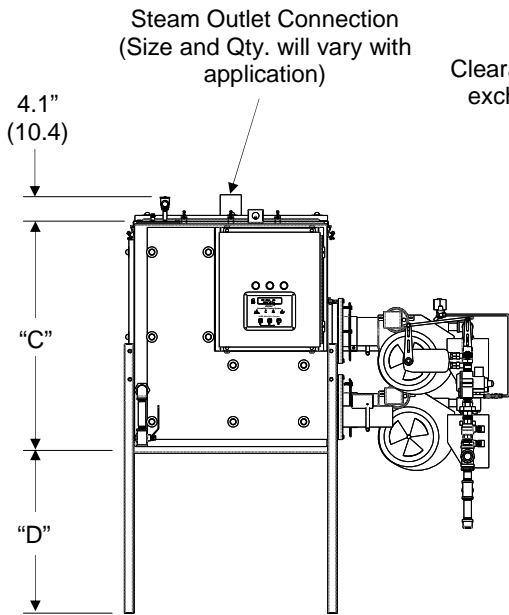
Left side, 6" for access

Rear, 6" for access

Top, 17" for cover and float plate assembly removal

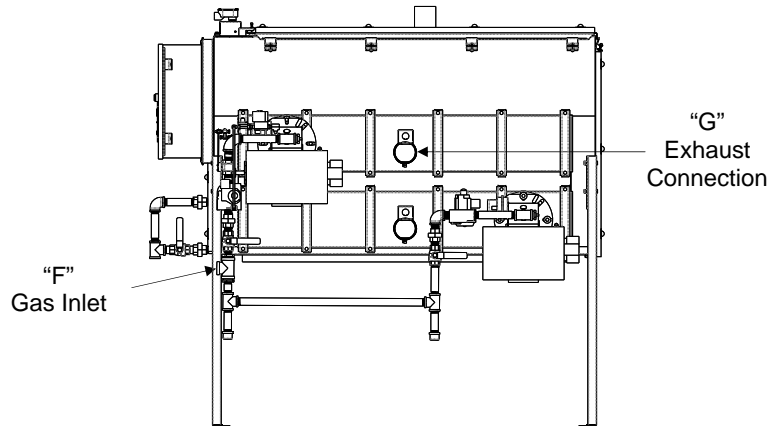


**Top View**



**Front View**

Clearance required for exchanger removal



**Right Side View**

**Unit Dimensions in Inches (cm)**

Model No.	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"
GXDDR-8	54.0" (137.2)	30.1" (76.5)	32.5" (82.6)	24.0" (60.9)	54.7" (138.9)	1"-NPT	3.0" (7.6)	66.0" (167.6)

Heat exchangers have a top and bottom. There is a break (crease) on the bottom side of the heat exchanger. Do not install heat exchanger upside-down.

All dimensions are approximate and subject to change at manufacturer's discretion.

**Required Clearance:**

For recommended service and maintenance purposes the following clearances should be maintained:

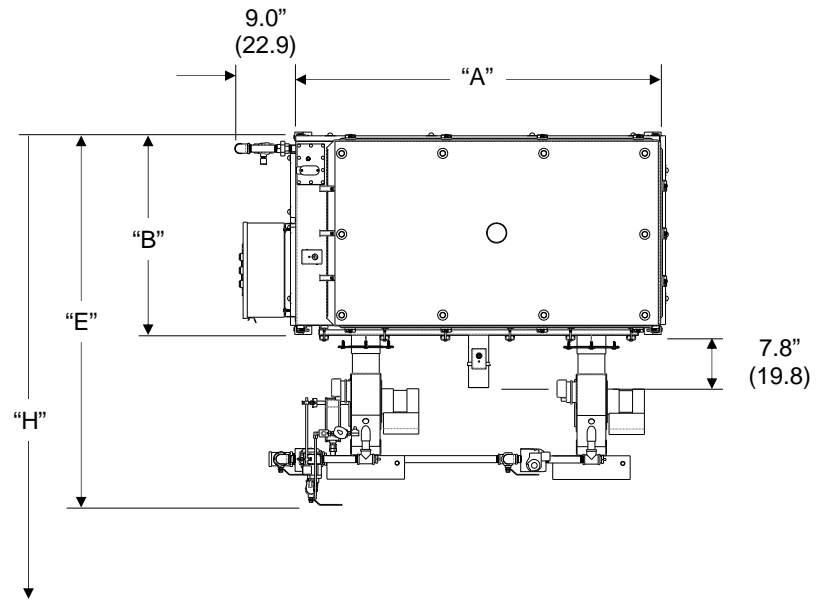
Right side, see Top View for required clearance

Front side, NEC requires 36" clearance to control cabinet

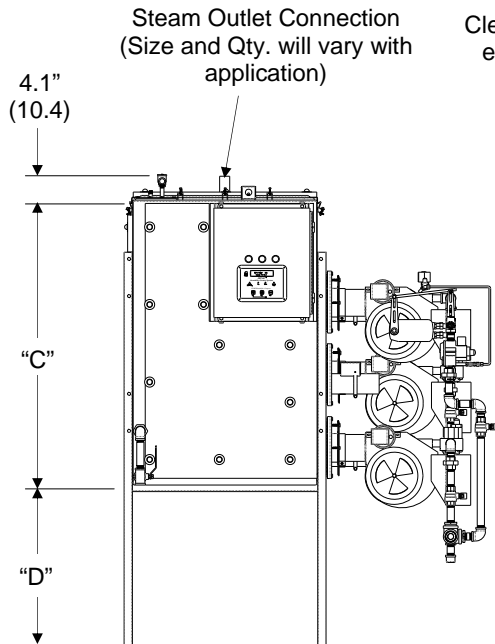
Left side, 6" for access

Rear, 6" for access

Top, 17" for cover and float plate assembly removal

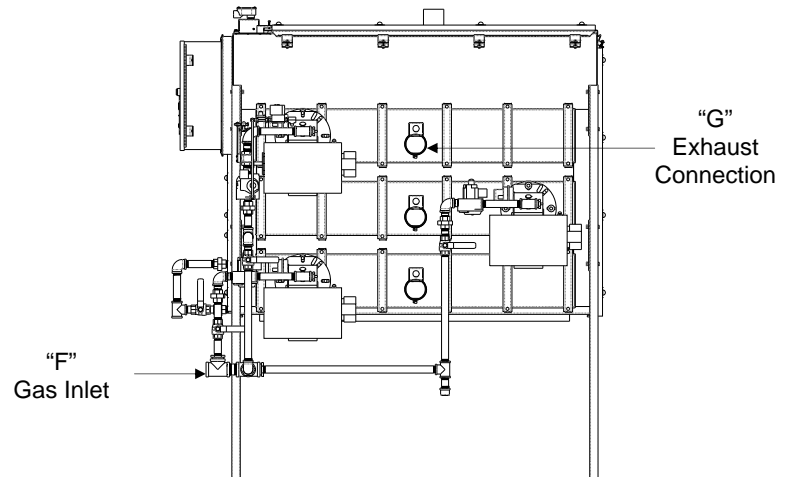


**Top View**



**Front View**

Clearance required for exchanger removal



**Right Side View**

**Unit Dimensions in Inches (cm)**

Model No.	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"
GXDDR-12	54.0" (137.2)	30.1" (76.5)	43.5" (110.5)	24.0" (60.9)	55.8" (141.1)	1-1/4"-NPT	3.0" (7.6)	66.0" (167.6)

Heat exchangers have a top and bottom. There is a break (crease) on the bottom side of the heat exchanger. Do not install heat exchanger upside-down.

All dimensions are approximate and subject to change at manufacturer's discretion.



**Specification Sample**  
**"GXDDR" Series**

Sheet No.  
**GXDDR-6**

## **Humidifier**

1. The humidifier (patent no. 6,705,535) shall be forced draft combustion gas burner type humidifier as manufactured by PURE Humidifier Co. of Chaska, Minnesota.
2. The humidifier shall be tested and approved by ETL/ETL-C Testing Laboratories, Inc to AGA/CGA standards.
3. The humidifier shall have an evaporating reservoir with a gasket sealed cover which is capable of operating at pressures of at least 19"-48 cm (W.C.) without steam or water leaks. The reservoir shall be made of type 304 stainless steel with welded joints.
4. The humidifier shall be designed to facilitate easy removal of the gas heat exchanger for periodic scale removal and inspection. The cover and gas heat exchanger shall be secured to the unit by the use of quick release clamps. The gas heat exchanger shall be removable from the side of the humidifier without disturbing the cover or injection tube system's steam supply piping.
5. The gas heat exchanger shall be constructed of type 304 stainless steel with 2" round heat transfer tubes. Tubes shall be self cleaning via expansion and contraction of tubes. Coating of tubes is not required.
6. The humidifier shall require only 2 sides for service access.
7. The forced draft combustion burner shall be capable of expelling flue gases up to 100 ft (31 m) without the use of a power vent (sidewall or roof vented).
8. Unit shall be covered (except front face) with 3/4" (1.90 cm) thick fiberglass duct insulation. Insulation material shall have aluminum facing.
9. Provide support legs made of 1 1/4" x 1 1/4" x 1/4" (3.2 cm) angle iron and painted with enamel gray paint. Distance from humidifier bottom to floor shall be 24" (61 cm).
10. Humidifier control cabinet shall be factory mounted and wired to the face of the humidifier reservoir.
11. A stainless steel float operated low water cut-off switch shall be provided. The float switch shall provide positive low water cut-out of the burner.
12. A stainless steel float operated water fill valve mounted on the top near the front shall be provided. The fill valve shall provide automatic refilling of the humidifier reservoir. The water inlet shall be located to allow a minimum water gap of 1-1/2" (3.81 cm).
13. The humidifier shall have a 3/4" (1.9 cm) overflow pipe to prevent overflowing of the humidifier reservoir.
14. The humidifier shall be provided with an ETL listed JIC NEMA 12 control cabinet, shipped factory mounted and wired to the reservoir. The control cabinet shall be made of 14 gauge steel with ANSI 61 gray polyester powder coating, continuous hinge and oil-resistant gasket. The panel shall include a factory wired sub-panel with gas valve interlock, fused control circuit transformer, numbered terminal block and main power fuse(s).
15. The control cabinet shall have a factory wired time delay relay circuit. The delay circuit shall prevent cycling of the low water interlock circuit due to water fluctuations within the humidifier reservoir.
16. An INTAC® programmable electronic microprocessor humidifier control system shall be mounted and pre-wired to the humidifier control panel door. The INTAC® controller shall provide low water cut-off and safety switch interlock functions.

***Reference the "Options" page for a description of the options which can be added to the base specification.***





## Options "GXDDR" Series

Sheet No.  
**GXDDR-8**

### To Humidifier

**Freeze Protection.** A factory installed temperature sensor shall be mounted onto the humidifier reservoir. The system shall maintain the water temperature above freezing.

**Standby Water Temperature Sensing.** Consists of a temperature sensor to maintain water temperature at a selected level for fast response upon a call for humidity.

### Injection Tubes

**Injection tube(s) and Flexible Hose.** Each unit shall include one or more 10 ft. (305 cm) sections of 1 ½" (3.8 cm) I.D. flexible hose and a 1 ½" (3.8 cm) O.D. stainless steel injection tube long enough to extend across the duct. Steam ports shall direct steam upward into the airflow. The reservoir cover shall have a matching connection so the flexible hose can be connected with two stainless steel hose clamps. A two-piece duct plate shall be provided to seal the duct opening.

**Fast-Pac Multiple Tube Assembly.** Tube assembly consists of a stainless steel supply/condensate header with a 3/4"-NPT drain connection and horizontal 1 1/2"Ø stainless steel injection tubes.

**Insty-Pac Multiple Tube Assembly.** Tube assembly consists of a steam supply/seperator header constructed of stainless steel with steam inlet, condensate drain outlet and steam jacketed injection tubes welded to header. Steam jacketed injection tubes constructed of stainless steel with punched steam ports of the proper size and spacing to deliver the maximum specified capacity.

### To Control Cabinet

**Control Panel Door Lock.** Control cabinet shall be provided with a factory installed key lock on the cabinet door.

### Controls

**VAV Control.** The INTAC® software shall accept a modulating high-limit humidity input and space controlling RH input and modulate the heater output to prevent over saturation of the supply air due to changes in the quantity of airflow. A compatible space and duct humidity sensor shall be shipped loose for field installation.

**Air Flow Proving Switch.** A diaphragm operated air flow proving switch with adjustable range of .05" W.C. to 12.0" W.C. shall be provided for field installation. Switch rating shall be 2.5 amps at 120V.

**Duct High-Limit.** A high-limit humidistat shall be provided for duct installation. The high-limit shall be field set to prevent over saturation within the supply duct.

### Venting

**Sealed Combustion Air Kit.** Consists of a 5" round stainless steel adaptor that allows outside air to be piped directly to the intake of the burner for combustion.

**Outdoor Enclosure.** Curb/slab mounted weather proof enclosure. Humidifier is factory installed and shipped in enclosure, ready for field gas, water and electrical connections.

858.435.2236

www.QAppliedSystems.com

info@QAppliedSystems.com



*Reference the "Specification Sample" for the humidifier base specification.*