

## Friedrich® FDTGH Series Super High Efficiency Condensing Tankless Gas Water Heaters

### EASY INSTALLATION

- PVC Vent runs up to 60' (2"), 150' (3")
- Enhanced design is up to 20% smaller and lighter making one-person installs even easier

### READY FOR RETROFITS

- **Industry Best!** 1/2" side to side clearance allows you to safely work in spaces the competition can't
- 1/2" Gas line compatibility up to 24 ft (subject to local code)

### KEY FEATURES

- **Exclusive!** Hot-start Programming™ ensures the unit is in a ready state between back-to-back usage, minimizing any cold water bursts
- Built-in Wi-Fi powered by EcoNet® technology for direct control from your device (on select models)
- LeakGuard® - All-inclusive leak detection and prevention system that detects any leak that comes from the unit (on indoor Wi-Fi models)



### FDTGH Series Models

Indoor Models  
(Outdoor Conversion Kit Available:  
**RTGH-X**)  
11,000-199,900 BTU/h  
Natural Gas and  
Liquid Propane Models\*

\*Swap P for N in model number for Liquid Propane model



These products meet a stringent set of our internally defined sustainability standards.

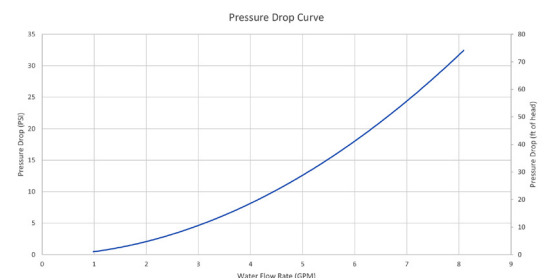


### Specifications

Friedrich Model Number	FDTGH-68DVLN-3	FDTGH-84DVLN-3	FDTGH-90DVLN-3	FDTGH-95DVLN-3 FDTGH-95DVELN-3	
Built-in LeakGuard™ Model Number	FDTGH-95DVELN-3 (Wi-Fi Model)				
Gas Input Rate	MAX	120,000 BTU/h	157,000 BTU/h	180,000 BTU/h	199,900 BTU/h
	MIN	11,000 BTU/h	11,000 BTU/h	11,000 BTU/h	11,000 BTU/h
Uniform Energy Factor (UEF)	0.90		0.93		
Hot Water Flow Rate Capacity - Gallons Per Minute (GPM)	MAX (35°F)	6.6	8.4	9.0	9.5
	45°F Rise	5.1	6.7	7.7	8.5
	67°F Rise	3.4	4.6	5.2	5.7
Number of Bathrooms <sup>1</sup>	2.5	3	3 - 4	4	
Temp. Range	100°F - 140°F				
Temp. Setting from Factory	120°F				
High Temp. Upgrade Available	No				
Freeze Protection	-30°F Air Intake <sup>2</sup> , -4°F Ambient				
Installation Type	Indoor (Outdoor Conversion Kit sold separately: RTGH-X)				
Heat Exchanger Material	Primary: Copper - Secondary: Stainless Steel				
Minimum Activation Flow	0.4 GPM				
Minimum Continuous Flow	0.26 GPM				
Maximum Altitude	7,800 ft.				
Ultra Low NOx	Meets 14 ng/J NOx requirements - SCAQMD Rule 1146.2 compliant				
Warranty	15 year Heat Exchanger   5-Year Parts   1-Year Labor				
Height	23.7"				
Width	17.7"				
Depth	9.8"				
Weight (Lbs.)	52.9				
Venting Diam. Allowed	2" / 3"				
Max. Single Vent Run (straight pipe)	60 ft (2") / 150 ft (3")				
Venting Materials	Sched. 40 PVC, CPVC, Polypropylene				
Manifold Controls (max. units)	6 Units <sup>3</sup>				
Controls	Built-in digital display				
Power Supply	120V 60Hz				
Max. Power Consumption	85W (Normal use), 0.7 Amps				
	132W (Antifreeze), 1.1 Amps				
	3.5W (Standby), 0.03 Amps <sup>4</sup>				
Gas Connection	3/4" NPT				
Hot Water Connection	3/4" NPT				
Cold Water Connection	3/4" NPT				
Condensate Connection	1/2" NPT				
Vent Connections Diameter	2" Band Connections (Adapter required to vent with 3" PVC from unit)				

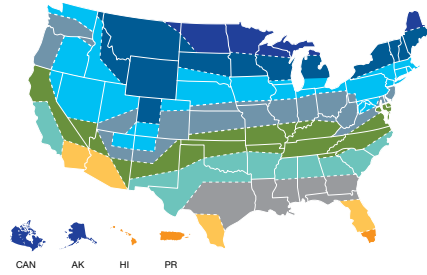
All models are available in Natural Gas or Propane (LP). For Propane replace the N with P for LP model.

Clearances	
Top / Bottom	12"
Front	1/2" <sup>5</sup>
Sides	1/2"
Back / From Vent Pipe	0"



<sup>1</sup> Based on simultaneous showers using 2.0 GPM flow rate pre-mixed with cold water line. Flow rates vary depending on temperature of incoming cold water and water heater set temperature. Refer to 9 zone ground water temperature map for accurate sizing. <sup>2</sup> For indoor application, this is the temperature of outdoor intake air. <sup>3</sup> Manifolds with standard RJ11 communication cables. <sup>4</sup> If anti freeze is on and combustion is on, total W will be 217W (85+132). <sup>5</sup> Recommended 24" clearance for service.

## US Ground Water Temperature Zone Map



### Average Flow Rates (GPM) by Application

Low Flow Faucet	0.5
Bathroom Faucet	1
Kitchen Faucet	1.5
Shower	2
Dishwasher	2
Washing Machine	3

Flow rates may vary.

## Flow Rate Capacity Table by Zone (Gallons Per Minute - GPM)

Use the U.S. Ground Water Temperature Map to locate your zone. Then use the Flow Rate Capacity Table to determine model flow rate by zone. Flow rates calculated for tankless set temperature of 120°F with a mixed shower temperature of 105°F. Ground water temperatures vary seasonally.

MODEL #	Zone 1 37°F	Zone 2 42°F	Zone 3 47°F	Zone 4 52°F	Zone 5 57°F	Zone 6 62°F	Zone 7 67°F	Zone 8 72°F	Zone 9 77°F
FDTGH-95	4.6	4.9	5.3	5.6	6.1	6.6	7.2	8.0	8.9
FDTGH-90	4.2	4.4	4.7	5.1	5.5	6.0	6.5	7.2	8.0
FDTGH-84	3.6	3.9	4.1	4.4	4.8	5.2	5.7	6.3	7.0
FDTGH-68	2.8	3.0	3.2	3.4	3.7	4.0	4.3	4.8	5.4

## Venting

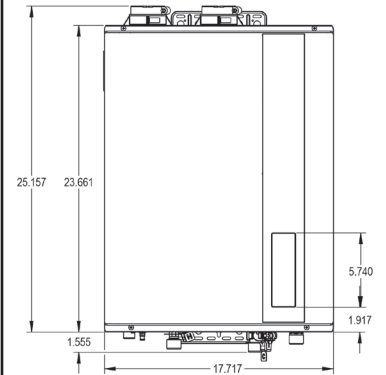
SINGLE UNIT: MAX. EQUIVALENT VENT LENGTHS - STRAIGHT PIPE		
Number of 90° Elbows	Max Length 2" straight pipe	Max. length 3" straight pipe
0	60 ft. (18.3 m)	150 ft. (45.7 m)
1	54 ft. (16.5 m)	144 ft. (43.9 m)
2	48 ft. (14.6 m)	138 ft. (42.7 m)
3	42 ft. (12.8 m)	132 ft. (40.2 m)
4	36 ft. (11.0 m)	126 ft. (38.4 m)
5	30 ft. (9.1 m)	120 ft. (36.6 m)
6	24 ft. (7.3 m)	114 ft. (34.7 m)

Min. Vent Length Straight Pipe	
Number of 90° Elbows	Min. Length 2" 3" pipe
1	1.0 ft (0.3 m)

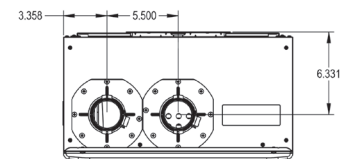
Equivalent Ft. of Elbows		
	2" Pipe	3" Pipe
90° Elbow	6 ft (1.83 m)	6 ft (1.83 m)
45° Elbow	3 ft. (0.9 m)	3 ft. (0.9 m)

Venting Materials Allowed: Schedule 40 PVC, CPVC, Polypropylene

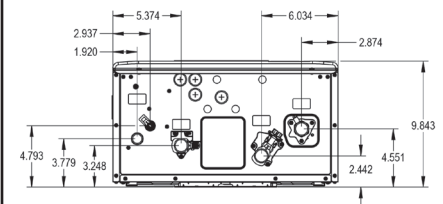
## Dimensions



### TOP VIEW



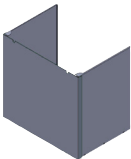








### BOTTOM VIEW



Hanging bracket and bird screens are included with water heater.

## Parts & Accessories

Condensate Neutralizer	Recirculation Pump	Pipe Cover	Horizontal Vent Termination	Concentric Vent Termination	AllClear® Water Treatment System	Isolation Valve Kit	Manifold Cables	Outdoor Conversion Kit
RTG20329AR (optional)	AP17920	RTG20329AT	2" US: SP20285 3" US: SP20286	2" - SP20897 3" - SP20245	RTG20251	RTG20326	RCPN-AMP03-0013111101-0003 (48")	RTGH-X
								

In keeping with its policy of continuous progress and product improvement, Friedrich reserves the right to make changes without notice.

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