

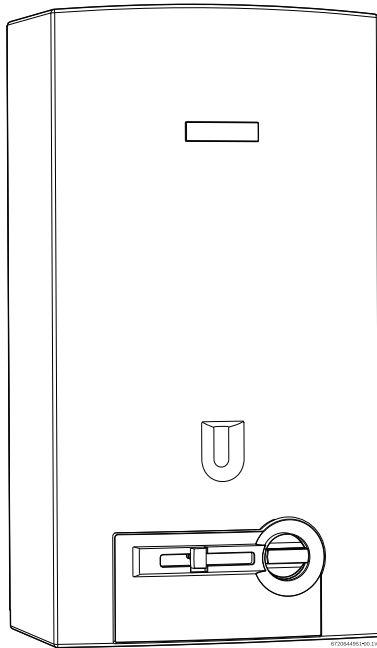
# 520PN Tankless Water Heater

Engineering  
Submittal  
Sheet



# BOSCH

## Overview and Certifications



Massachusetts  
Plumbing Board  
Approved



## Engineering Specifications

Water heater shall be a Model Therm 520 PN NG or 520 PN LP. Installation shall consist of \_\_\_ Model Therm 520 PN NG and \_\_\_ Model Therm 520 PN LP tankless water heaters as manufactured by Bosch. Heater shall be CSA listed for the USA and Canada to the current version of standard ANSI Z21.10 / CSA 4.9. Heater shall have an input of 117,000 BTU/hr with a gross output of 91,525 BTU/hr when fired with natural gas or propane. Heater shall operate on natural gas or propane with a performance energy factor of <0.78 and a thermal efficiency of <80%. Tankless water heater shall have a recovery of 142 gallons per hour at a 77°F temperature rise.

### CONSTRUCTION

Water heater shall be of gas fired, tankless design with a modulating gas valve and standing pilot. Burner shall be capable of 4:1 turndown of firing, without loss of combustion efficiency. Heat exchanger/combustion chamber shall incorporate a multi pass copper tube and fin design. Heat exchanger shall be rated for maximum working pressure not less than 150 psig. Vent shall use 5" diameter galvanized B-vent material.

### INSTALLATION

All aspects of installation of Water Heater Plant shall be in strict accordance with manufacturer's instructions. Materials shall conform to all manufacturer's recommendations including a manufacturer listed vent system.

Water heater plant piping shall be field constructed of materials as specified. Water heater shall be installed with individually isolating shutoff valves for service and maintenance, and a hot water hose connection for field testing. Unit shall have an ASME approved temperature/pressure relief valve with a setting of 150 psig. Water heater shall require a minimum gas pressure of 5.7" W.C. (Natural Gas) at 1,000 scfh (full load rated capacity). The water heater shall be provided with an individual supply gas regulator for proper gas regulation with a 3/4" NPT connection.

### MODE OF OPERATION

Control of discharge water temperature shall be set through a dial at the front of the unit with a field adjustment from high to

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### MODE OF OPERATION

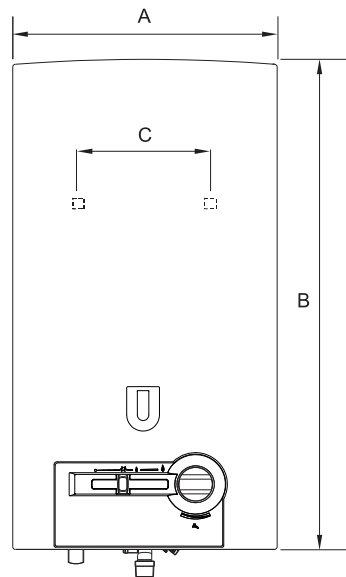
Control of discharge water temperature shall be set through a dial at the front of the unit with a field adjustment from high to low.

### WARRANTY

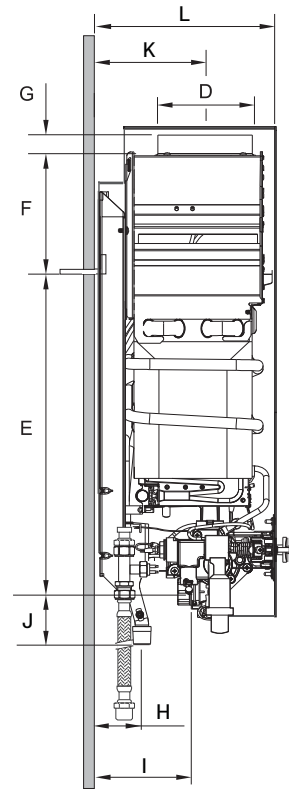
The heat exchangers shall carry a 15-year limited warranty against leakage due to defects in materials or workmanship or corrosion

in a residential, non-direct recirculation system, subject to the manufacturer's water quality requirements. All other parts and components shall carry a 2 year limited warranty against defects in materials or workmanship.

## Dimensions and Connections



Front view



Side view

### Dimensions

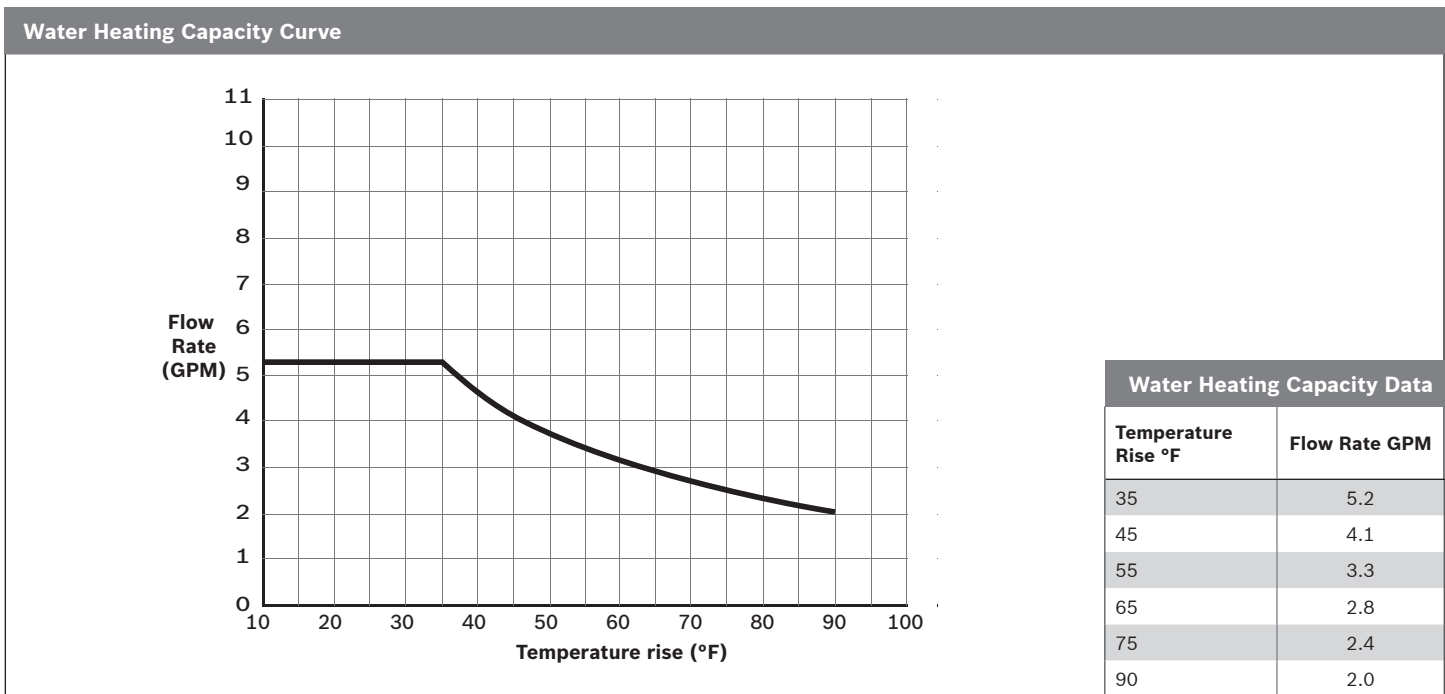
	Unit	A	B	C	D	E	F	G	H	I	J	K	L
Value	Inches	16.73	25.75	13.15	5.11	21.25	2.55	1.18	1.97	3.82	2.50	4.92	8.66

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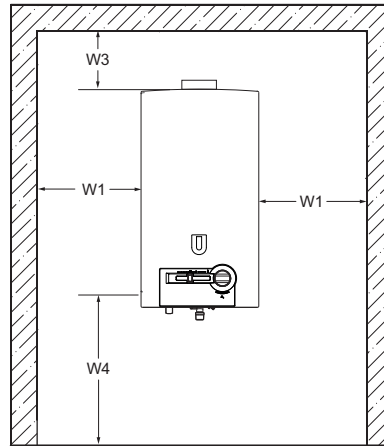
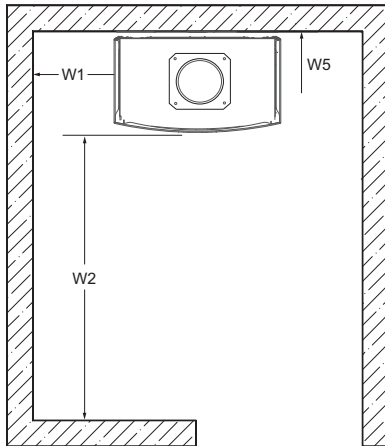


Performance Data		
	Unit	Value
Maximum gas input	BTU	117,000
Maximum output	BTU	91,525
Minimum output	BTU	23,906
Thermal efficiency	%	<80

Operational Data		
	Unit	Value
520 PN NG / Natural Gas - part number	-	7703331995
520 PN LP / Liquid Propane - part number	-	7703431997
Weight	lbs	35
Min. Inlet gas pressure NG / LP	Inch W.C.	5.7 / 10.5
Max. Inlet gas pressure NG / LP	Inch W.C.	14
Max. Working pressure	psi	150
Min. Working pressure	psi	30
Min. Activation rate	GPM	0.5
Relief valve pressure rating	psi	150
Venting category	-	I
Approved vent pipe material	-	5 inch diameter double wall Type B gas vent

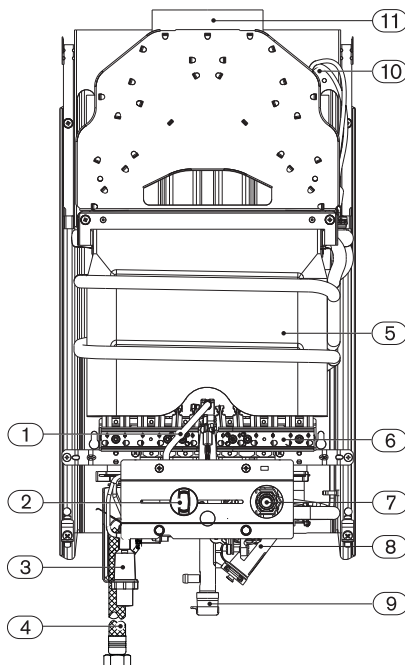


**Clearances**



Description	Unit	Minimum clearance
Side clearance W1	Inch	4
Front clearance W2	Inch	4
Top clearance W3	Inch	12
Floor clearance W4	Inch	12
Rear clearance W5	Inch	0

**Tankless Components**



**Components Legend**

- 1 Pilot gas tubing
- 2 Gas control slide
- 3 Piezo
- 4 Flexible hot outlet
- 5 Heat exchanger
- 6 Burner
- 7 Temperature adjustment knob
- 8 Water valve / cold inlet
- 9 Gas connection
- 10 Flue gas limiter
- 11 Exhaust outlet