PROGRESSIVTUBE[®] PASSIVE SOLAR WATER HEATING SYSTEM



The **ROGRESSIVTUBE**[®] passive solar water heater is a self-contained, single unit system that integrates the solar collector and storage tank. In most applications, it functions as a pre-heater to an instantaneous or conventional water heater.

The PROGRESSIVTUBE[®] requires only local water pressure and solar radiation to operate. No pumps, controls, mechanical or electrical components are required. Once installed, the system will work automatically. When hot water is used, solar preheated water is drawn into the conventional water heater, reducing electrical or gas usage for water heating. The PROGRESSIVTUBE[®] is among the most efficient solar systems rated by national testing and certification agencies. All PROGRESSIVTUBE[®] systems meet or exceed all applicable national plumbing and building codes. Our systems are virtually maintenance free and feature a twenty-five year design life. Whether your purchase decisions depends on simple pay back, return on investment or life cycle analysis, PROGRESSIVTUBE[®] can exceed your expectations.

The all copper collector/storage tank absorbs solar radiation through its selective surface coating by raising the temperature of the water stored in the collector. It is well insulated with closed cell foam and double-glazed for increased heat retention.

The 4" diameter copper tubes are welded into a series flow pattern so that the top of the lower tube feeds the bottom of the next tube. This allows the collector to contain the colder replacement water in the lower tubes where it is heated by the sun as it flows from one tube to the next. Each time hot water is used, the innovative design eliminates the cooling down of the remaining heated water that normally occurs in other types of solar water heating systems.

Not only does this design ensure the delivery of the hottest water, but it also provides more hot water at a higher temperature and with a faster recovery time than solar systems of similar capacity.







PROGRESSIVTUBE[®] **SPECIFICATIONS**

FLUID CONNECTION: Inlet and outlet connections are made of nominal ¾" diameter Type "L" hard copper pipes. This allows for fast, leak free sweat fitting plumbing connections. **GLAZING GASKETS:** A continuous gasket made of special long life EPDM synthetic rubber is compressed by the glazing caps to seal out the weather. The inner glazing spline is made of high-temperature tolerant EPDM. **GLAZING:** Outer glazing is tempered low-iron solar glass with 91% transmittance. Inner glazing is Teflon[®] film, known for its high temperature tolerance (525 F) and its long term durability and stability, transmittance 96%. The ³/₄" air space between glazings reduces heat loss.



CASE: The baked-on bronze acrylic finish of the hard temper, T6, extruded aluminum framewall and glazing caps, alloy 6061, assures years of attractive rust-free appearance. All rivets and bolts are aluminum or stainless steel. Aluminum back sheet .025".

INSULATION: Rigid closed cell polyisocyanurate foam board, the most efficient insulation available, is used to maximize heat retention. Sides and ends of the unit have 1.5" board, R-valve 10; bottom has 2" board, Rvalve 14' between tank tubes has 1.5" board, R-valve 10.

ABSORBER/STORAGE TANK: Constructed entirely of copper, the 4" diameter tubes are welded to the interconnecting pipes to form a series flow pattern. The tank is pressured rated to 300 psi and is coated with high-temperature а "selective" solar radiation absorption surface that maximizes heat and gain reduces heat loss.

PROGRESSIVTUBE[®] SYSTEMS PERFORMANCE RATINGS

The PROGRESSIVTUBE[®] and its mounting systems have successfully passed static wind load testing to 180 m.p.h. PROGRESSIV TUBE[®] PT-30-CN, PT-40-CN and PT-50-CN models and/or systems meet the following standards:





Standard for Solar Water Heaters



Solar Ratings & Certification Corp. SRCC Standard 200-88 (RA 92) SRCC OG – 300



Uniform Solar Energy Code International Association of Plumbing & Mechanical Officials

MODEL	FSEC Qnet		SRCC Solar Energy Factor
	BTU/Day	KWh	
PT-20-CN	11,600	3.40	1.0
PT-30-CN	22,100	6.48	1.4
PT-40-CN	28,400	8.33	1.6
PT-50-CN	28,700	8.42	1.6

PROGRESSIVTUBE[®] **SPECIFICATIONS**

	PT-20CN	PT-30-CN	PT-40-CN	PT-50-CN
Volumetric Capacity	67.2 liters / 17.9 gal.	116.7 liters / 30.84 gal.	156.7 liters / 41.40 gal.	186.2 liters / 49.2 gal.
Gross Area	1.167 m ² / 12.56 ft ²	2.23 m ² / 23.98 ft ²	$2.98 \text{ m}^2 / 32.10 \text{ ft}^2$	2.98 m ² / 32.10 ft ²
Transp. Frontal Area	$1.001 \text{ m}^2 / 10.77 \text{ ft}^2$	2.04 m ² / 21.91 ft ²	2.77 m ² /29.84 ft ²	2.77 m ² /29.84 ft ²
Dry Weight	41.7 kg / 92 lbs	76.2 kg / 174 lbs	99.7 kg / 220 lbs	120.0 kg / 265 lbs
Wet Weight	109.36 kg / 241.1 lbs	192.7 kg / 425 lbs	255.4 kg / 563 lbs	301.0 kg / 664 lbs
Flow Pattern	Series	Series	Series	Series
Test Pressure	2068 KPa / 300 psi	2068 KPa / 300 psi	2068 KPa / 300 psi	2068 KPa / 300 psi
Design Pressure	1034 KPa / 150 psi	1034 KPa / 150 psi	1034 KPa / 150 psi	1034 KPa / 150 psi
Max. Design Temp.	176°C / 350°F	176°C / 350°F	176°C / 350°F	176°C / 350°F
Normal Oper Temp.	4°C to 93°C / 40°F to 200°F	4°C to 93°C / 40°F to 200°F	4°C to 93°C / 40°F to 200°F	4°C to 93°C / 40°F to 200°F

DIMENSIONS – METRIC / INCHES

Α	212.73 cm / 83.75"	247.5 cm / 97.44"	247.5 cm / 97.44"	247.5 cm / 97.44"
В	55.25 cm / 21.752"	90.0 cm / 35.44"	120.5 cm / 47.44"	120.5 cm / 47.44"
С	207.16 cm / 81.56"	241.9 cm / 95.25"	241.9 cm / 95.25"	241.9 cm / 95.25"
D	49.37 cm / 19.44"	84.1 cm / 33.125"	114.6 cm / 45.125"	114.6 cm / 45.125"
E	215.27 cm / 84.75"	250.0 cm / 98.44"	250.0 cm / 98.44"	250.0 cm / 98.44"
F	19.7 cm / 7.75"	19.7 cm / 7.75"	19.7 cm / 7.75"	19.7 cm / 7.75"
G	212.56 cm / 83.69"	247.2 cm / 97.3125"	247.2 cm / 97.3125"	247.2 cm / 97.3125"
Н	6.9 cm / 2.75"	6.9 cm / 2.75"	6.9 cm / 2.75"	6.9 cm / 2.75"
Ι	2.5 cm / 1.0"	2.5 cm / 1.0"	2.5 cm / 1.0"	2.5 cm / 1.0"
J	8.9 cm / 3.5"	8.9 cm / 3.5"	8.9 cm / 3.5"	8.9 cm / 3.5"
K	7.6 cm / 3.0"	7.6 cm / 3.0"	7.6 cm / 3.0"	7.6 cm 3.0"
L	13.9 cm / 5.5"	13.9 cm / 5.5"	13.9 cm / 5.5"	13.9 cm / 5.5"
М	36.2 cm / 14.25"	70.5 cm / 27.75"	100.9 cm / 39.75"	100.9 cm / 39.75"
Ν	54.93 cm / 21.625"	89.7 cm / 35.3125"	120.2 cm / 47.3125"	120.2 cm / 47.3125"
р	9.2 cm / 3.625"	9.2 cm / 3.625"	9.2 cm / 3.625"	9.2 cm / 3.625"
Q	15.6 cm / 6.125"	15.6 cm / 6.125"	15.6 cm / 6.125"	15.6 cm / 6.125"
R	6.2 cm / 2.44"	6.2 cm / 2.44"	6.2 cm / 244"	6.2 cm / 2.44"



PROGRESSIVTUBE[®] PLUMBING VALVE KIT COMPONENTS

3-Way System

(3-Way valve comes with or without anti-scald)

*Gas water heaters must use the Anti-Scald Valve. Please consult our Installation Manual for plumbing schematics.



Qty	Description	Part No.
1	Aquamix™ Anti-Scald Valve (3/4")	ASV
3	Cast Bronze "T" Fittings (3/4")	BZT ¾"
2	Bronze Boiler Drains	BD
1	Pressure Relief Valve (150 PSI)	PRV
1	Full Port 2-Way Ball Valve (3/4")	BV2Way
2	Full Port 3-Way Ball Valve (3/4")	BV3Way
1	Vacuum Breaker (1/2")	VCB
1	Cast Bronze "T" Fitting (1/2")	BZT 1⁄2"



2-Way System

(2-Way valve comes with or without anti-scald)

*Gas water heaters must use the Anti-Scald Valve. Please consult our Installation Manual for plumbing schematics.



Qty		Description	Part No.
	1	Aquamix™ Anti-Scald Valve (3/4")	ASV
	3	Cast Bronze "T" Fittings (3/4")	BZT ¾"
	2	Bronze Boiler Drains	BD
	1	Pressure Relief Valve (150 PSI)	PRV
	1	Full Port 2-Way Ball Valve (3/4")	BV2Way
	1	Full Port 3-Way Ball Valve (3/4")	BV3Way
	1	Vacuum Breaker (1/2")	VCB
	1	Cast Bronze "T" Fitting (1/2")	BZT ½"

PROGRESSIVTUBE[®] PLUMBING DIAGRAMS

2-WAY SYSTEM FOR ELECTRIC WATER HEATE



SRCC OG-300 3-WAY SYSTEM



2-WAY SYSTEM FOR GAS WATER HEATER



DIRECT SOLAR SYSTEM



2-WAY SYSTEM FOR TANKLESS WATER HEATER



ITEM LIST

- 1- Supply shut off valve
- 2- 3-way Ball Valve
- 3- 2-way Ball Valve
- 4- Tempering Valve or Mixing Valve
- 5- Boiler Drains
- 6- Pressure Relief Valve
- 7- Water Heater
- 8- Pressure Relief Valve
- 9- Roof Flashing
- 10- Vacuum Breaker
- 11- ProgressivTube®

$PROGRESSIVTUBE^{\texttt{B}} \quad M \text{OUNTING SYSTEMS}$

A) Mounting system for pitch roof: PTMS (4) 3/8" x 1" Bolts (4) 3/8" x 2-¼" Bolts 🔍 (8) 3/8" Lock Nuts (4) UMB (4) Clamps B) Mounting system for flat roof: PTMS with STS (2) 3/8" x 2 ¼" Bolts 🔍 (2) 3/8" Lock Nuts (2) Alum Sq. Tubes Mounting system for pitch roof, collector set flush in the roof: FHMS **C)** (4) Clamps

