

# INTRODUCTION

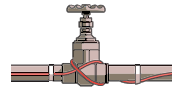
Raychem commercial and residential self-regulating heating products are the ideal solution for pipe freeze protection, roof and gutter de-icing and crankcase heating applications. These products include WinterGard, WinterGard Plus and WinterGard Wet cut-to-length heating cable systems, Gardian preassembled heating cables and FreezGuard crankcase heaters. This application and design guide applies to these Raychem heating products only and is intended to assist in the selection of the appropriate heating cable, connection kits and accessories. Following the recommendations in this guide and those of your Pentair Thermal Management representative will result in the selection of a reliable and energy-efficient system.

## HEATING CABLES SELECTION GUIDE

Application	WinterGard	WinterGard Plus	WinterGard Wet	Gardian 120 V	Gardian 240 V	FreezGuard
Freeze Protection						
Pipes in dry areas	•	•	•	•	•	
Pipes in wet areas			•	•	•	
Roof and Gutter De-icing			•	•		
Crankcase Heating						•

# PRODUCT LINE

120 Volt, 3 watt



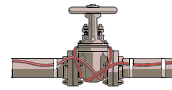
Cut-to-length for small pipes

There's a heating cable just right for the job:

**WinterGard heating cable, 3 watts/ft**

Catalog #	Description	Voltage	Reel Length (ft)
H311100	TruckPak*	120	100
H311250	Reel	120	250

120 Volt, 6 watt  
240 Volt, 6 watt



Cut-to-length for large pipes

**WinterGard Plus heating cable, 6 watts/ft**

Catalog #	Description	Voltage	Reel Length (ft)
H611050	Box	120	50
H611100	TruckPak*	120	100
H611250	Reel	120	250
H621050	Box	240	50
H621100	TruckPak*	240	100
H621250	Reel	240	250

\*TruckPak consists of a 100-foot cable reel, two power connections, one splice/tee kit, one roll of application tape, and 10 "Electric Traced" labels.

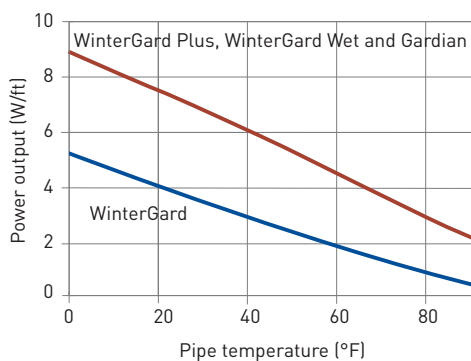
# GENERAL INFORMATION

Table 13: Product Data

	WinterGard	WinterGard Plus		WinterGard Wet		Gardian	
	H311100 H311250	H611050 H611100 H611250	H621050 H621100 H621250	H612050 H612100 H612250 H612500 H6121000	H622050 H622100 H622250 H622500 H6221000	W51-6P W51-12P W51-18P W51-24P W51-50P W51-75P W51-100P	W52-6L W52-12L W52-18L W52-24L
Nominal service voltage	120	120	208 – 240	120	208 – 240	120	208 – 240
Minimum power output at 40°F on pipes (W/ft)	3	6	6	6	6	6	6
Nominal power output in drains, ice and snow	n/a	n/a	n/a	8	8	8	n/a
Maximum circuit length (ft) for pipes	250	200	400	200	400	n/a	n/a
Maximum circuit length (ft) for roof and gutter de-icing	n/a	n/a	n/a	200	400	n/a	n/a
Maximum circuit breaker size (A)	30	30	30	30	30	30	30
Weight per 100 ft (lb)	6	6	6	9	9	n/a	n/a
Maximum exposure temp. (°F)	150	150	150	150	150	150	150
Environment*	Dry area pipes	Dry area pipes		Dry and wet area pipes, drains and roof & gutter de-icing		Pipes only	
Approvals							
UL System Listed	(2)	(2)	(2)	(2, 3)	(2, 3)		
CSA Certified	(4)	(4)	(4)	(4)	(4)	(1)	(1)

\* Use only in ordinary (nonhazardous) areas. Do not expose to any chemicals. In wet areas, use only WinterGard Wet or Gardian.

- (1) c-CSA-us Certified to US and Canadian Standards.
- (2) 718K Pipe Heating Cable.
- (3) 877Z Roof De-Icing and Snow Melting Equipment.
- (4) CSA.



Power Output vs Pipe Temperature on Metal Pipes