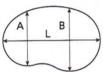


Heater Selection Guide

SELECTING THE CORRECT SIZE HEATER FOR POOLS & SPAS

Pool Sizing

Determine your pool's surface area in square feet:







Area = $(A+B)\times L\times .45$

B)x L x .45 Area = R x R x 3.14

Area = LxW

Locate in the desired table below, the surface area equal to or just greater than the pool's surface area, read to the left and select the appropriate heater.

For indoor pool installations divide the pool's surface area by 3.

Tables are based on a 30° F temperature rise, $3\frac{1}{2}$ MPH average wind velocity and elevation of up to 2,000 feet above sea level.

Recommended Universal H-Series for Swimming Pools

Surface Area
1200
1050
900
750
600
450

Recommended H100 Induced Draft Model for Above Ground Pools

H100 Induced Draft Heater will raise temperature of Above Ground Pool in 8 Hour period as follows:

Te	mperature Rise in 8 H	Hours
Pool Size	Gallons	Avg. Temp Rise (f)
15' Round	5,300	15.2°
18' Round	7,600	10.4°
12' x 24' Rectangle	8,600	9.6°
21' Round	10,000	8.0°
24' Round	13,500	5.6°
27' Round	17,000	4.8°

We highly recommend that your Hayward Above Ground Pool heater be used in conjunction with a solar blanket to maximize your heating efficiency.

Example:

Rectangular pool: 20 feet x 30 feet:

20 x 30 = 600 ft.2 Surface Area

Recommended H-Series Model Heater - H200

Saving Money by Saving Energy

Selecting a high efficiency heater for your new installation, or replacing an older inefficient model can have a significant impact on your fuel bill. Here are some additional energy saving tips.

- Check your pool chemistry regularly to maintain top operating condition.
- Set your pool water's temperature between 78° to 82° for most applications
- Use a pool cover or thermal blanket on your pool when it's not in use.
 Evaporation accounts for 70% of heat loss from your pool.
- Add wind breaks to your pool. A 7-mph wind at the surface of a pool can increase energy consumption 300%!

Spa Sizing

Determine your spa capacity in gallons (Surface area x average depth x 7 ½).

The reference tables list the time required in minutes to raise the temperature of the spa/hot tub by 30°F. Locate in the desired table below the spa/hot tub size in gallons equal to or just greater than the spa/hot tub size in gallons. Select the desired time to raise the spa/hot tub temperature 30°F, read to the left and select the appropriate heater.

This guide can be adjusted for other temperature rises. For example, if you desire a $15^{\circ}F$ increase in temperature, simply divide the time for $30^{\circ}F$ rise by the ratio of 30/15 = 2.

Note: Heat losses and/or heat absorbed by spa walls or other objects will add to heat-up time.

Spa sizing is based on an insulated and covered spa. Always cover your spa or hot tub when not in use to minimize heat loss and evaporation.

Recommended Universal H-Series for Spas/Hot Tubs

Spa/Tub Size in Gallons											
200	300	400	500	600	700	800	900	1000			
T	ime in i	minutes	to Rais	se Spa/	Tub Ten	nperatu	re 30°F				
9	14	19	23	28	33	37	42	47			
11	16	21	27	32	37	43	48	54			
12	19	25	31	37	44	50	56	62			
15	22	30	37	45	52	60	67	75			
19	28	37	47	56	66	75	84	94			
25	37	50	62	75	87	100	112	125			
	9 11 12 15 19	Time in 19 14 11 16 12 19 15 22 19 28	200 300 400 Time in minutes 9 14 19 11 16 21 12 19 25 15 22 30 19 28 37	200 300 400 500 Time in minutes to Rais 9 14 19 23 11 16 21 27 12 19 25 31 15 22 30 37 19 28 37 47	200 300 400 500 600 Time in minutes to Raise Spa/ 9 14 19 23 28 11 16 21 27 32 12 19 25 31 37 15 22 30 37 45 19 28 37 47 56	200 300 400 500 600 700 Time in minutes to Raise Spa/Tub Ten 9 14 19 23 28 33 11 16 21 27 32 37 12 19 25 31 37 44 15 22 30 37 45 52 19 28 37 47 56 66	200 300 400 500 600 700 800 Time in minutes to Raise Spa/Tub Temperatu 9 14 19 23 28 33 37 11 16 21 27 32 37 43 12 19 25 31 37 44 50 15 22 30 37 45 52 60 19 28 37 47 56 66 75	200 300 400 500 600 700 800 900 Time in minutes to Raise Spa/Tub Temperature 30°F 9 14 19 23 28 33 37 42 11 16 21 27 32 37 43 48 12 19 25 31 37 44 50 56 15 22 30 37 45 52 60 67 19 28 37 47 56 66 75 84			

Recommended H100 Induced Draft Model for Spas

			5	Spa/Tub	Size in	Gallon	S		
	200	300	400	500	600	700	800	900	1000
Model		Time in	minute	s to Ra	ise Spa	/Tub Te	mperat	ure 30°	F
H100	38	56	74	94	112	132	150	168	188

Recommended CSpaXI Models

	Spa/Tub Size in Gallons												
	200	300	400	500	600	700	800	900	1000				
Model		Time in	minute	s to Ra	ise Spa	/Tub Te	mperat	ure 30°	F				
CSPAXI55	160	240	320	400	480	560	640	720	800				
CSPAXI11	80	120	160	200	240	280	320	360	400				

Example:

Want a 300 gallon spa to go from 70°F to 100°F in 120 minutes.

subtract→ 100°F 70°F

30°F Requested Temperature Rise

Recommended CSPA Model Heater - CPAXI11

eating

Heater Technical Information

GAS PIPE SIZING



Hayward heaters use a full gas fire design. To ensure adequate gas firing and proper performance, the following guidelines should be used to size gas piping.

- Make sure the 1st and 2nd stage regulators are large enough to handle the BTU listed for each model.
- Reduction of the gas supply pipe or tubing to the inlet of the valve must be made at the valve only — Natural or Propane.
- 3. Do not use flexible connectors on any gas connections.

- If more than one appliance is installed on the gas line, contact your local gas company or Hayward for proper pipe size.
- If you have any question concerning the installation of the proper gas line size, call Hayward before you install the line.

Low Pressure Natural Gas Pipe Sizing: (Based upon an inlet gas pressure of 0.5 psig or less at a pressure drop of 0.5 in-wc)

DW Flessule No	Model	H150	H200	H250	H300	H350	H400		
Distance from gas	BTU/hr input	150,000	200.000	250,000	300,000	350,000	400,000		
meter to heater	Line Material	ilipat 100,000 El (B)		Material Iron or Plastic Pipe Iron or Plastic Pipe		Iron or Plastic Pipe			
	50 feet	3/4"	1"	1" 1"		1 1/4"	1 1/4"		
and the second	00 feet	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"		
100 to 2		1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"		
200 to 3		1 1/4"	1 1/4"	1 1/2"	2"	2"	2"		

Low Pressure Propane Gas Pipe Sizing: (Based upon an inlet gas pressure of 11 in-wc at a pressure drop of 0.5 inch w.c.)

MACCO CONTRACTOR OF THE PROPERTY OF THE PROPER	Madel	H15		H20		H25	50	H30	10	H35	50	H400	0
Distance from tank regulator outlet to	Model BTU/hr input	150,0		200,0		250,0		300,0	000	350,0	000	400,0	
heater gas valve inlet	Line Material	Iron Pipe	Tubing	Iron Pipe		Iron Pipe	Tubing						
MARCO TO THE PARTY OF THE PARTY	50 feet	3/4"	7/8"	3/4"	7/8"	1"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	_
Marie .	00 feet	3/4"	1 1/8"	1"	1 1/8"	1"	1 1/8"	1"	_	1 1/4"	_	1 1/4"	_
2000年		1"	1 1/8"	1"	_	1 1/4"	_	1 1/4"	_	1 1/4"	_	1 1/4"	
100 to 2		1 1 1		1 1/4"		1 1/4"	_	1 1/4"	_	1 1/4"	_	1 1/2"	_
200 to 3	UU teet			1 74		1 74		. , ,					

High Pressure "2-Stage" Systems

High Pressure Natural Gas Pipe Sizing "First Stage": (Based upon an inlet gas pressure of 2 psig at a pressure drop of 1 psi)

mign Pressure Na	iturar das ripe o	izing That otage			LICOS	H350	H400
Distance from outlet	ance from outlet Model H150 H200		H250	H300			
of 1st stage regulator	t stage regulator et of 2nd stage BTU/hr input 150,000 200,000 et of 2nd stage		250,000	300,000	350,000	400,000	
to inlet of 2nd stage			Iron or Plastic Pipe	Iron or Plastic Pipe	Iron or Plastic Pipe	Iron or Plastic Pipe	Iron or Plastic Pipe
regulator			1/2"	1/2"	1/2"	1/2"	1/2"
		161	16"	1/2"	1/5"	3/4"	3/4"
50 to 10	00 feet	1/2"	1/2	1/2	24"	3/4"	3/4"
100 to 15	50 feet	1/2"	1/2"	1/2"	3/4"	3/4	9/4
The same of the sa					The foreign person of the Contract of the Cont		-1

Low Pressure Natural Gas Pipe Sizing "Second Stage": (Based upon an inlet gas pressure of 10 in-wc at a pressure drop of 0.5 in-wc)

LUW FICSSUIC ING	turur duo r ipo o	zing coom	-			11050	11400
Distance from	Model	H150	H200	H250	H300	H350	H400
outlet of 2nd stage	BTU/hr input	150,000	200,000	250,000	300,000	350,000	400,000
regulator to heater	Line Material	Iron or Plastic Pine		Iron or Plastic Pipe			
gas valve inlet		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
U to I	0 feet	9/4	7.4				

It is **VERY IMPORTANT** when installing a propane heater on a 2-stage regulation system to follow the gas line sizing chart below without exception. **High Pressure Propane Gas Pipe "First Stage":** (Based upon an inlet gas pressure of 10 psig at a pressure drop of 1 psi)

High Pressure Pr	ohaire das Libe	I II St Ota	go . (Duc	ocu aport ar	i iiiiot gai		1 0		-	LIOT	-0	11400	2
Distance from	Model	H15	50	H20	10	H25	50	H30	00	H35	DU	H400	,
tank regulator	BTU/hr input	150,0	000	200,0	000	250,0	000	300,0	000	350,0	000	400,00	00
outlet to heater gas valve inlet	Line Material	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing
	50 feet	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
50 to 1		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	1/2"	5/8"
100 to 1		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	1/2"	5/8"	1/2"	5/8"
100 10 1										CONTRACTOR OF THE PERSON OF TH	WE STORY		

Low Pressure Natural Gas Pipe Sizing "Second Stage": (Based upon an inlet gas pressure of 11 in-wc at a pressure drop of 0.5 in-wc)

Low Pressure Na	itural Gas Pipe 5	izing Set	conu Su	aye . (Dasi	eu upon e	all lillet gas	product					1140	
Distance from	Model	H15	50	H200		H250		H300		H35	00	H400	J
outlet of 2nd stage	BTU/hr input	150,0	000	200,0	000	250,0	000	300,0	000	350,0	000	400,0	00
regulator to heater gas valve inlet	Line Material	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing	Iron Pipe	Tubing
0	10 feet	1/2"	5/8"	1/2"	5/8"	1/2"	3/4"	3/4"	3/4"	3/4"	7/8"	3/4"	7/8"