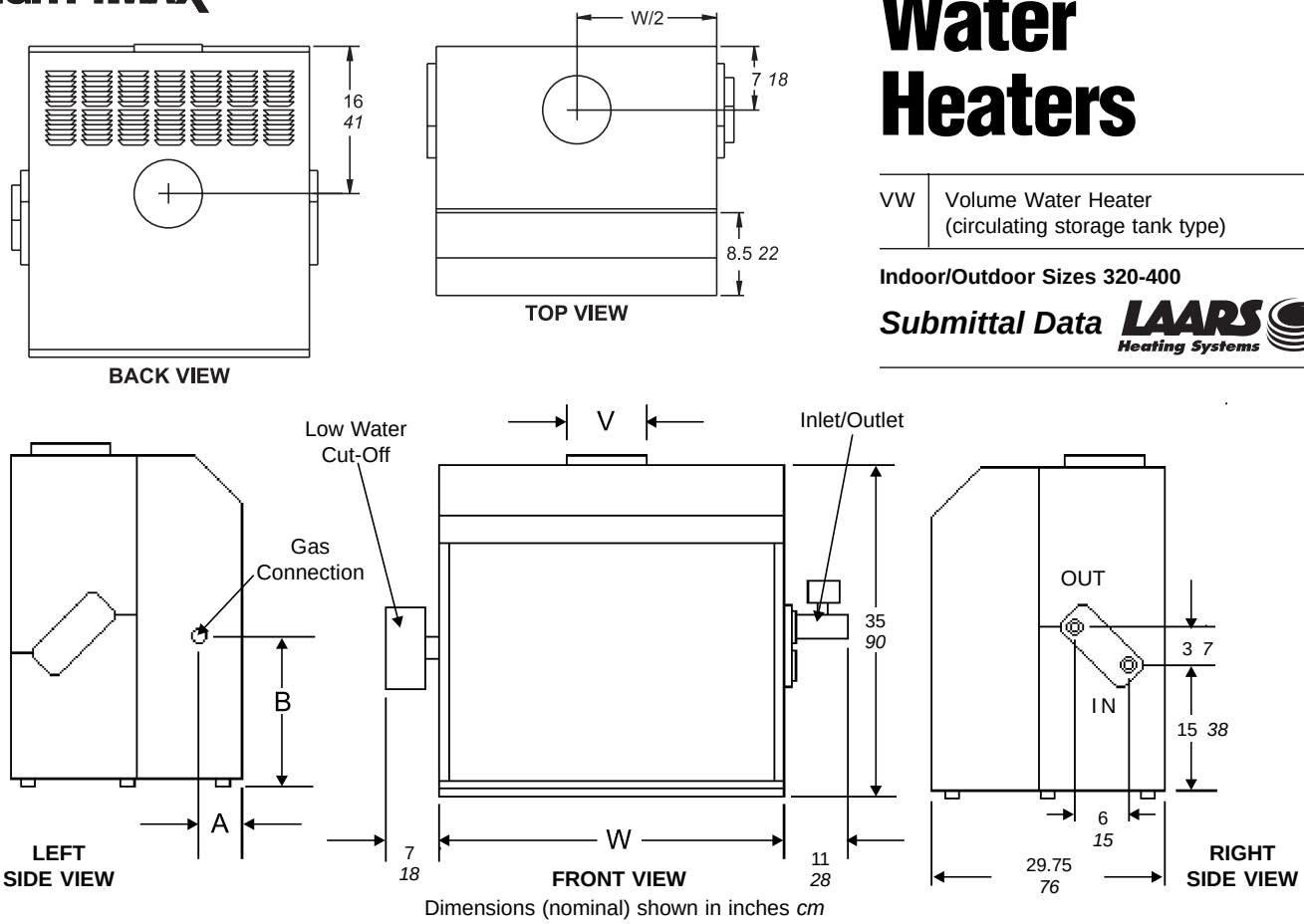
MIGHTYMAX

Volume Water Heaters

VW	Volume Water Heater (circulating storage tank type)

Indoor/Outdoor Sizes 320-400

Submittal Data LAARS Heating Systems



Dimensions (nominal) shown in inches *cm*

Standard Equipment

- 85% Efficiency
- Meets ASHRAE 90.1 requirements
- Less than 15 p.p.m. NOx
- ASME 160 lb. w.p. heat exchanger
- 24V control system
- Natural or Propane Gas
- Forced-draft venturi system with woven metal fiber burner
- Combustion chamber with lightweight alumina-silica insulation board
- Inclined combustion chamber for front service of burner assembly
- Vertical or non-vertical venting
- 10 tube, copper finned heat exchanger with glass-lined cast iron tubs and bronze headers
- Redundant automatic gas valves with negative-pressure regulator
- Hot surface proved ignitor
- Operating control c/w LCD
- Manual reset high temperature limit
- Venturi differential pressure switch
- Vent stack pressure switch
- Low water cutoff
- Water flow switch
- Pressure relief valve (125 psi)
- Field interlock
- 115/24vac transformer
- Temperature/Pressure gauge
- On/Off toggle switch
- 2 amp fuse
- EM² Energy Management Monitor
- Accessory: Vent Connector Location - Top

Dimensional Data

MODEL	INPUT MBTU/h	*kW*	OUTPUT MBTU/h	*kW*	WATER NPT in.	GAS NPT in.	"A" in.	*mm*	"B" in.	*mm*	"W" WIDTH in.	*mm*	"V" VENT in.	*mm*	SHIPPING WEIGHT lbs.	*kg*
VW0320M	320	*94*	272	*80*	1-1/2	3/4	7	*178*	17.75	*451*	20.75	*527*	6	*152*	335	*152*
VW0400M	399	*117*	340	*100*	1-1/2	3/4	7	*178*	17.75	*451*	24	*610*	7	*178*	355	*161*

1. Dimensions are nominal.

Recovery Tables

MODEL SIZE — gph *mL/s* Delivered — Required Water Temperature Rise									
	40°F ***22°C***	**50°F** ***28°C***	**60°F** ***33°C***	**70°F** ***39°C***	**80°F** ***44°C***	**90°F** ***50°C***	**100°F** ***56°C***	**120°F** ***67°C***	**140°F** ***78°C***
VW0320M	824	659	549	471	412	366	330	275	235
	865	*692*	*576*	*495*	*433*	*384*	*347*	*289*	*247*
VW0400M	1028	822	685	587	514	457	411	343	294
	1079	*863*	*719*	*616*	*540*	*480*	*432*	*360*	*309*

Pump Requirements

Note:
Operating the heater so as to exceed the maximum heat exchanger temperature rise or 20°F (11°C) may cause damage to the heater.

			Soft or Normal Water						Hard Water					
	Pipe Size		Flow		Headloss		Temp, Rise		Flow		Headloss		Temp. Rise	
Model	in.	*mm*	gpm	*L/s*	ft.	*m*	°F	*°C*	gpm	*L/s*	ft.	*m*	°F	*°C*
0320M	1.5	*38*	51	*3.2*	25.9	*8*	10.5	*6*	68	*4.3*	46.0	*14*	7.9	*4*
	2.0	*51*	51	*3.2*	13.9	*4*	10.5	*6*	68	*4.3*	24.7	*8*	7.9	*4*
0400M	1.5	*38*	51	*3.2*	26.0	*8*	13.1	*7*	68	*4.3*	46.3	*14*	9.8	5
	2.0	*51*	51	*3.2*	14.1	*4*	13.1	*7*	68	*4.3*	25.0	*8*	9.8	5

Note: 1. Pressure dop includes allowance for 30 feet 9.1m of piping and normal fittings. If piping is shorter or of larger diameter, pump power may be reduced substantially. Contact Laars Representative for assistance.

2. Heaters for soft water application should be equipped with cupronickel heat exchangers.
   Soft Water: 0 to 7.5 Grains/gallon
   Normal Water: 7.5 to 17 Grains/gallon
   Hard Water: More than 17 Grains/gallon

Gas Supply Pressure and Minimum Clearances

Heater Gas Supply Pressure

	LPG		NAT. GAS	
	W.C.	*kPa*	W.C.	*kPa*
Minimum Supply	9.0	*2.2*	5.0	*1.2*
Maximum Supply	14.0	*3.4*	9.0	*2.2*

Recommended Minimum Clearance from Combustible Material

	Indoor		**Outdoor**	
	in.	***cm***	**in.**	***cm***
Top	18	*46*	Unobstructed	
Water Conn. Side	12	*31*	12	*31*
Opposite Side	6	*15*	6	*15*
Rear	6	*15*	6	*15*
Front	Alcove		Unobstructed	
Vent Connector	6*		*15*	—
Flooring	Combustible		Combustible	

Service clearance = 24" (61cm) at front of heater.
* 1" (25mm) if double wall vent is used.

LAARS Heating Systems

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