

INSTANTANEOUS WATER HEATER

Selection Procedure:

1. Enter the first selection table (Table # 1) using the applicable boiler water temperature.
This step determines the column to use
2. Enter the first selection table (Table # 1) once more using the domestic water Inlet temperature. This step determines the section to use
3. Still in Table # 1, choose the applicable domestic water Outlet temperature.
This step determines the row to use
4. The intersection of the column and the row is the maximum flow of Domestic Hot Water the unit will deliver under these conditions.
5. Compare this flow with the customer flow requirements

Flow from table **MUST** be at least equal or greater than the flow requested by the customer

6. If flow is less than customer requirements, please repeat above steps using Table # 2 and then Table # 3 if needed.
7. Read off Model number from top of the Table

EXAMPLES OF SELECTIONS

Example # 1

Required to heat 42 Usgpm of Domestic water from 50 Deg F to 140 Deg F using boiler water available at 200 Deg F

- Selection:**
- 1 – Enter Table # 1, Boiler water temp = **200 Deg F**
 - 2 – Enter Table # 1, Domestic Water inlet temperature = **50 Deg F**
 - 3 – Choose the Domestic Water Outlet temperature = **140 Deg F**
 - 4 – The intersection of the column and the row = **44 usgpm**
 - 5 – Customer wants 42 usgpm (less than 44 usgpm – **Selection OK**)
 - 6 – Read the model from the top of Table # 1 **MODEL 040**

Now, that we have a Model, we can proceed with our offering. Please remember the following:

STANDARD Systems are equipped with Basic Control ONLY
STANDARD Systems offer one option ONLY – a circulator

SUPER Systems are equipped with Enhanced Control ONLY SUPER
Systems come with a circulator and offer options for anti scald and back-flushing Tees

Here is a sample of offering with different options:
 (refer to the Nomenclature on page # 1 of this section in your price book)

a) STANDARD System, Single Wall Plate & Frame with no options

Model Designation reads **I W H – 040 – W – 11 – N**

b) STANDARD System, Double-Wall Plate & Frame with a circulator

Model Designation reads **I W H – 040 – W – 21 – C**

c) SUPER System, Double-Wall Plate & Frame, with anti scald and back-flush connections

Model Designation reads **I W H – 040 – W – 22 – AB**

EXAMPLES OF SELECTIONS (cont'd)

Example # 2

Required to heat 85 Usgpm of Domestic water from 60 Deg F to 130 Deg F using boiler water available at 190 Deg F

- Selection:**
- 1 – Enter Table # 1, Boiler water temp = 190 Deg F
 - 2 – Enter Table # 1, Domestic Water inlet temperature = 60 Deg F
 - 3 – Choose the Domestic Water Outlet temperature = 130 Deg F
 - 4 – The intersection of the column and the row = 50 usgpm
 - 5 – Customer wants 85 usgpm (more than 50 usgpm – **No Good**)

GO TO THE NEXT TABLE

- 1 – Enter Table # 2, Boiler water temp = 190 Deg F
- 2 – Enter Table # 2, Domestic Water inlet temperature = 60 Deg F
- 3 – Choose the Domestic Water Outlet temperature = 130 Deg F
- 4 – The intersection of the column and the row = 88 usgpm
- 5 – Customer wants 85 usgpm (less than 88 usgpm – **Selection OK**)
- 6 – Read the model from the top of Table # 2 **MODEL 070**

The Model for above example is Model 070

Example # 3

Required to heat 35 Usgpm of Domestic water from 40 Deg F to 115 Deg F using boiler water available at 190 Deg F (typical nursing homes application)

- Selection:**
- 1 – Enter Table # 1, Boiler water temp = 190 Deg F
 - 2 – Enter Table # 1, Domestic Water inlet temperature = 40 Deg F
 - 3 – Choose the Domestic Water Outlet temperature = ?????

It's time to stop and think. Customer wants outlet temperature of 115 F. The tables will give you only outlet temperatures of 110 F & 120 Deg F. What to do ?

- Say, we choose 110 Deg F,
 Customer will get “ cooler “ hot water **NOT ACCEPTABLE**
- Say, we choose 120 Deg F,
 Customer will see “ hotter “ hot water **NOT GOOD ENOUGH**
- Solution is to include an “anti scald “ option in your offering. This will be set for 115 Deg F **NOW ACCEPTABLE**

EXAMPLES OF SELECTIONS (cont'd)

Example # 3 (cont'd)

Let's continue with the selection steps

- 3 – Choose the Domestic Water Outlet temperature = **120 Deg F**
- 4 – The intersection of the column and the row = **44 usgpm**
- 5 – Customer wants 35 usgpm (less than 44 usgpm – **Selection OK**)
- 6 – Read the model from the top of Table # 1 **MODEL 040**

The unit for above example is Model 040 with anti scald. There is some good savings for the contractor as he may not need to install an anti scald device at each apartment outlet.

At this stage we have to offer a SUPER System with the anti scald option

Example # 4

Required to heat 80 Usgpm of Domestic water from 55 Deg F to 135 Deg F using boiler water available at 180 Deg F

Selection:

- 1 – Enter Table # 1, Boiler water temp = **180 Deg F**
- 2 – Enter Table # 1, Domestic Water inlet temperature = **50 Deg F**
This is done to be on the safe side
- 3 – Choose the Domestic Water Outlet temperature = **140 Deg F**
Same approach as discussed in example # 3
- 4 – The intersection of the column and the row = **33 usgpm**
- 5 – Customer wants 80 usgpm (more than 33 usgpm – **No Good**)

GO TO TABLE # 2

Using the same approach as in Table # 1, we arrive at

- 5 – Customer wants 80 usgpm (more than 58 usgpm – **No Good**)

GO TO TABLE # 3

- 1 – Enter Table # 3, Boiler water temp = **180 Deg F**
- 2 – Enter Table # 3, Domestic Water inlet temperature = **50 Deg F**
- 3 – Choose the Domestic Water Outlet temperature = **140 Deg F**
- 4 – The intersection of the column and the row = **83 usgpm**
- 5 – Customer wants 80 usgpm (less than 83 usgpm – **Selection OK**)
- 6 – Read the model from the top of Table # 3 **MODEL 100**

The Model for above example is Model 100

INSTANTANEOUS WATER HEATER SELECTION TABLES

TABLE # 1 **M O D E L** **040**

DOMESTIC HOT WATER		BOILER ** WATER TEMPERATURE		
Inlet Temp (F)	Outlet Temp (F)	200 F	190 F	180 F
40	110	57	50	43
	120	50	44	38
	130	44	39	33
	140	40	35	30
50	110	67	58	50
	120	57	50	43
	130	50	44	38
	140	44	39	33
60	110	80	70	60
	120	67	58	50
	130	57	50	43
	140	50	44	38
** Boiler flow required = 100 usgpm		Domestic water flow (usgpm) based on boiler water temperature		

TABLE # 2 **M O D E L** **070**

DOMESTIC HOT WATER		BOILER ** WATER TEMPERATURE		
Inlet Temp (F)	Outlet Temp (F)	200 F	190 F	180 F
40	110	100	88	75
	120	88	77	66
	130	78	68	58
	140	70	61	53
50	110	117	102	88
	120	100	88	75
	130	88	77	66
	140	78	68	58
60	110	140	123	105
	120	117	102	88
	130	100	88	75
	140	88	77	66
** Boiler flow required = 175 usgpm		Domestic water flow (usgpm) based on boiler water temperature		

TABLE # 3 **M O D E L** **100**

DOMESTIC HOT WATER		BOILER ** WATER TEMPERATURE		
Inlet Temp (F)	Outlet Temp (F)	200 F	190 F	180 F
40	110	143	125	107
	120	125	109	94
	130	111	97	83
	140	100	88	75
50	110	167	146	125
	120	143	125	107
	130	125	109	94
	140	111	97	83
60	110	200	175	150
	120	167	146	125
	130	143	125	107
	140	125	109	94
** Boiler flow required = 250 usgpm		Domestic water flow (usgpm) based on boiler water temperature		