Instantaneous Water Heaters (I.W.H.)					
IWH-ModelSize-Heat	Source	- H. Ex. Type - Con	trol T ype – Options		
<u>Model size</u> =	040 070 100	(Unit maximum flo (of water hea (40 to 140	w in US gpm) ited from) Deg. F)		
<u>Heat Source</u> =	W	Hot water	S ** Steam		
Heat Exchanger Type = ** Available at a later date	1 2 3** 4** 5**	Plate & Frame - sin Plate & Frame - Do Shell & Tube - sing Shell & Tube - Dou Brazed Plate unit	ngle W all ouble-W all gle W all tubing uble-W all tubing		
<u>Control Type</u> =	1 2	Basic (Star Enhanced (Sup	ndard S ystem) er S ystem)		
<u>Options</u> =	N A B C	No Options Anti S cald B ack-F lush connec Circulator	stions		
Examples of Model Desi	<u>gnatio</u>	n (using Boiler wa	<u>ter) for:</u>		
• U nit providing 70 U Double-W all Plate & Fram	S gpm (e H .E x	of continuous supply with Basic control 8	v of heated water, using c k no Options	X	
Model designation		IWH - 070	D - W - 21 - N		
• Unit providing 95 Usgpm of continuous supply of heated water, using a single Wall Plate & Frame Heat Exchanger with Enhanced controls and antiscald					
Model designation		IWH - 100) - W - 12 - A		
• Unit providing 30 Usgpm of continuous supply of heated water, using a Double-Wall Plate & Frame Heat Exchanger with Enhanced controls, anti scald & back-flush options					
Model designation		IWH - 040) - W - 22 - AB		
• Unit providing 65 US gpm of continuous supply of heated water, using a single W all Plate & Frame H.Ex. with Basic control and a circulator					
Model designation		IWH - 070) - W - 11 - C		



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 2 - Enter Table # 1, Domestic Water inlet temperature 3 - Choose the Domestic Water Outlet temperature 4 - The intersection of the column and the row 5 - Customer wants 42 usgpm (less than 44 usgpm - 	= 200 Deg F = 50 Deg F = 140 Deg F = 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 3 – Choose the Domestic Water Outlet temperature 4 – The intersection of the column and the row 5 – Customer wants 85 usgpm (more than 50 usgpm - 	= 60 Deg F = 130 Deg F = 50 usgpm No Good)
	GO TO THE NEXT TABLE	
	A Fatas Table # O Dailes water to see	400 D E

1 - Enter Table # 2, Boiler water temp= 190 Deg F2 - Enter Table # 2, Domestic Water inlet temperature= 60 Deg F3 - Choose the Domestic Water Outlet temperature= 130 Deg F4 - The intersection of the column and the row= 88 usgpm5 - 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

NOT GOOD ENOUGH

- Say, we choose 120 Deg F, Customer will see " hotter " hot water
- 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

|--|

MODEL

TABLE # 1		MODEL 040		
DOMESTIC H	HOT WATER	WATER BOILER ** WATER TEMPERATURE		
Inlet Temp (F)	Outlet Temp (F)	200 F	190 F	180 F
	110	57	50	43
40	120	50	44	38
40	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
	110	80	70	60
60	120	67	58	50
00	130	57	50	43
	140	50	44	38
** Boiler flow required = 100 usgpm Domestic water flow (usgpm) based on boiler water temperature				r water temperature

TABLE	#	2

MODEL 070

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

TABLE # 3

MODEL

TABLE # 3		MODEL 100			
DOMESTIC H	IOT WATER	BOIL	BOILER ** WATER TEMPERATURE		
Inlet Temp (F)	Outlet Temp (F)	200 F	190 F	180 F	
	110	143	125	107	
40	120	125	109	94	
40	130	111	97	83	
	140	100	88	75	
	110	167	146	125	
50	120	143	125	107	
50	130	125	109	94	
	140	111	97	83	
	110	200	175	150	
60	120	167	146	125	
	130	143	125	107	
	140	125	109	94	
** Boiler flow requ	ired = 250 usgpm	m Domestic water flow (usgpm) based on boiler water temperature			