

Choosing the correct Water Source Heat Pump

To select the Edwards Heat Pump Coil which meets your requirements, use the Heating Mode Chart on the bottom of this page. Performance data is derived from laboratory and computer tests. Calculations are based on water and R-22. All temperatures for calculations are in Fahrenheit.

- Step 1. Determine basic operating conditions.
- Entering water temperature (W1)
 - Leaving water temperature (W2)
 - Evaporator temperature/saturated suction temperature (SST)
 - Evaporator capacity (QE)
- Step 2. Calculate range (R)
 $R = W1 - W2$
- Step 3. Calculate refrigerant approach (A)
 $A = W2 - SST$
- Step 4. Evaporator capacity in BTUH
 $Q_e = GPM \times 500 \times R$
- Step 5. Refer to chart below for 8 degree range. For other ranges, contact the factory.
- Step 6. Select column in chart based on Approach calculated in Step 3.

- Step 7. Select model number which operated at a capacity in thousands of BTUH (MBH) equal to or greater than the evaporator capacity required.

Example

- Determine basic operating conditions.
- Entering water temperature (W1) = 70 degrees
 - Leaving water temperature (W2) = 62 degrees
 - Saturated suction temperature (SST) = 45 degrees
 - Evaporator capacity (QE) in BTUH = 36,000

Calculate range (R)

$$R = 70 - 62 = 8$$

Calculate approach (A)

$$A = 62 - 45 = 17$$

Select an Edwards evaporator.

At the 17 degree approach column, select model SEC-3-F with a capacity of 38,000 BTUH and 3.1 PSI water pressure drop.

Approach Temperature 8 degrees F range

MODEL	6		7		8		9		10		11		12		17		20		GPM @17
	MBH	PD	MBH	PD	MBH	PD	MBH	PD	MBH	PD	MBH	PD	MBH	PD	MBH	PD	MBH	PD	
HEC-1/2-F/SEC-1/2-F	2.9	0.07	3.2	0.08	3.4	0.09	3.7	0.1	3.9	0.12	4.2	0.13	4.6	0.15	6.2	0.27	7.1	0.35	1.6
HEC-3/4-F/SEC-3/4-F	4.2	0.18	4.5	0.21	4.8	0.24	5.2	0.27	5.6	0.31	6.0	0.35	6.5	0.41	8.8	0.71	10.1	0.92	2.2
HEC-1-F/SEC-1-F	5.7	0.42	6.1	0.48	6.6	0.54	7.1	0.6	7.6	0.7	8.2	0.8	8.9	0.9	12.0	1.6	13.8	2.1	3.0
HEC-1 1/2 F/SEC-1 1/2-F	11.1	0.5	12.0	0.6	12.9	0.7	13.8	0.8	14.9	0.9	16.0	1.0	17.3	1.2	23.4	2.1	26.9	2.7	5.9
HEC-2-F/SEC-2-F	13.8	1.0	14.8	1.1	15.9	1.3	17.1	1.4	18.4	1.7	19.8	1.9	21.5	2.2	29.0	3.8	33.4	5.0	7.3
SEC-2 1/2-F	16.3	1.6	17.5	1.8	18.8	2.0	20.2	2.3	21.7	2.7	23.3	3.0	25.3	3.5	34.2	6.2	39.4	8.0	8.6
SEC-3-F	18.1	0.8	19.4	0.9	20.9	1.0	22.4	1.2	24.1	1.3	25.9	1.5	28.1	1.8	38.0	3.1	43.7	4.0	9.5
SEC-4-F	23.8	1.7	25.6	1.9	27.5	2.2	29.5	2.5	31.7	2.9	34.1	3.3	37.0	3.8	50.0	6.6	57.5	8.6	12.5
BEC-5-F	27.8	0.9	29.9	1.0	32.1	1.1	34.5	1.3	37.1	1.5	39.9	1.7	43.3	1.9	58.5	3.4	67.3	4.4	14.6
SEC-5-F	32.5	1.6	35.0	1.8	37.6	2.0	40.4	2.3	43.4	2.7	46.7	3.0	50.7	3.5	68.4	6.2	78.7	8.0	17.1
SEC-6-F	36.1	0.8	38.8	0.9	41.	1.0	44.9	1.2	48.2	1.3	51.9	1.5	56.3	1.8	76.0	3.1	87.4	4.0	19.0
SEC-8-F	47.5	1.7	51.1	1.9	54.9	2.2	59.1	2.5	63.5	2.9	68.2	3.3	74.1	3.8	100.0	6.6	115.0	8.6	25.0
SEC-10-F	65.0	1.6	69.9	1.8	75.2	2.0	80.8	2.3	86.8	2.7	93.4	3.0	101.3	3.5	136.8	6.2	157.3	8.0	34.2

PD = WATER PRESURE DROP LBS/SQ INCH.