

**The Cold Standard**

**BULLETIN 309.2**

April, 2001

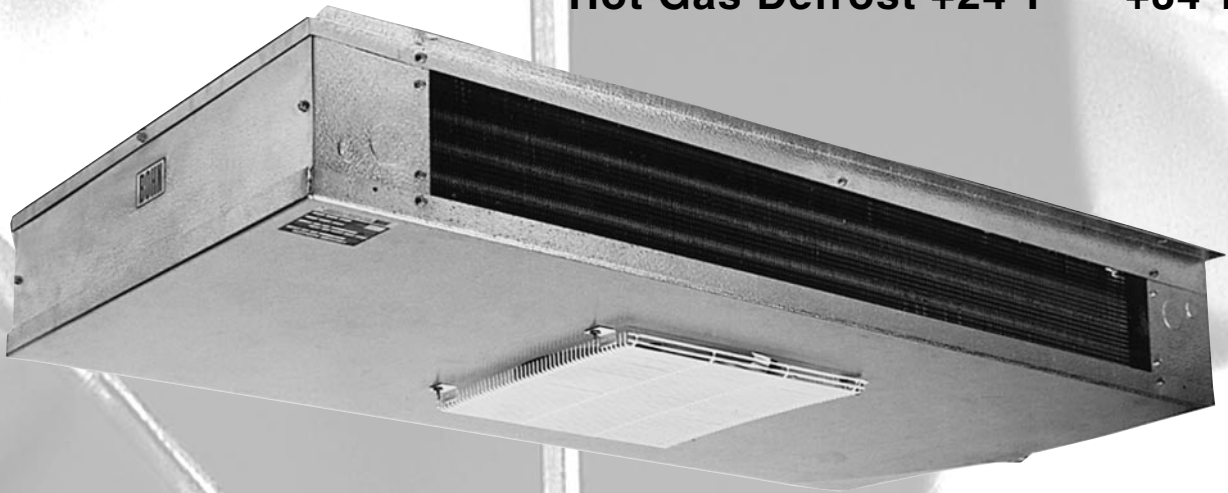
Replaces 309.1 (9/98)

# **NEW WK SERIES LOW AIR FLOW UNIT COOLERS**

**Air Defrost +35°F**

**Electric Defrost +24°F — +34°F**

**Hot Gas Defrost +24°F — +34°F**

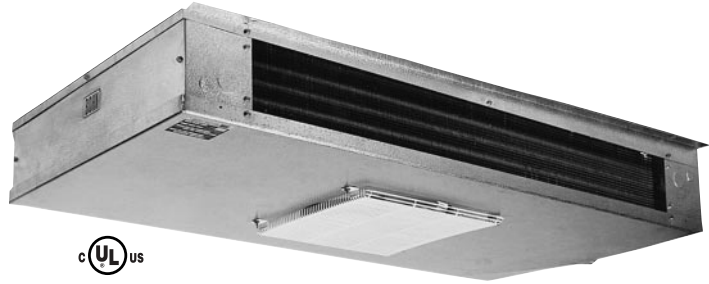


## **QUALITY IS FACTORY INSTALLED!**

- ◆ Enhanced tubing for more efficient operation.
- ◆ Solenoid wiring harness factory installed for easy installation.
- ◆ Improved motor rail design for added strength and durability.
- ◆ Wire fan guards with PVC coating for durability.
- ◆ Fan panel hangs from unit for easy servicing and installation. Simple for one person to install and service!
- ◆ Efficient terminal board design simplifies wiring between the evaporator and condensing unit.
- ◆ Sweat connections to reduce potential for leaks.

## WK Series

The WK Series is ideal for floral storage, fresh fruit and vegetables, dough retarding, fresh meat storage and preparations, and many other applications of 24°F. and above. The low air flow and quiet fans are ideal for work room applications. The generous coil surface combined with close T.D. system balance provides high humidity characteristics to minimize product shrinkage and drying. WK Series units are available in air, electric and hot gas defrost.



*Bohn Model WKE 1-fan unit*

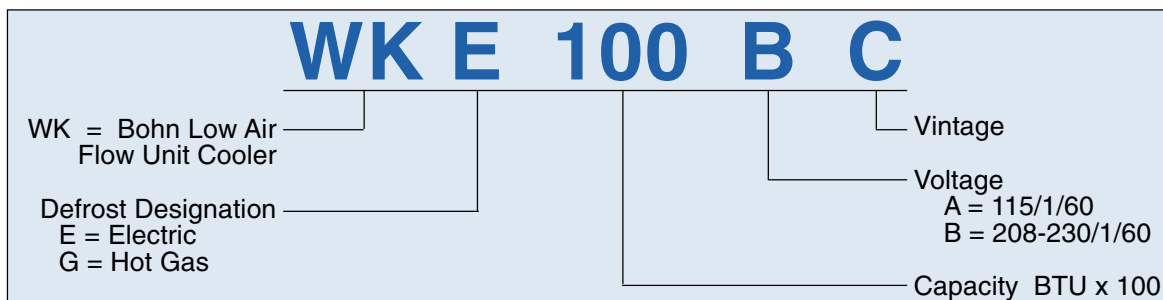
## Features

- Low height of the WK series makes it ideal for low ceiling coolers. Larger models are only 15 inches tall to allow for maximum head room and more product storage.
- The WK series has a heavy gauge, attractive grained aluminum housing with stainless steel fasteners.
- Coils are dehydrated and sealed at the factory.
- WKE electric defrost models incorporate high quality tubular heaters and a defrost termination control factory set and wired.
- Unit designed to be mounted flush against the ceiling or suspended on rods.
- Access panels on each end make expansion valve installation and electrical hookup easy.
- Motors are life lubricated and thermal overload protected.
- Fan panel is lightweight and can easily be lowered if internal inspection is required.
- A double drain pan eliminates drain pan sweating.
- Expansion valve mounts inside the cabinet.
- All WK Series units are UL listed for U.S.A. and Canada and meets NSF standards.

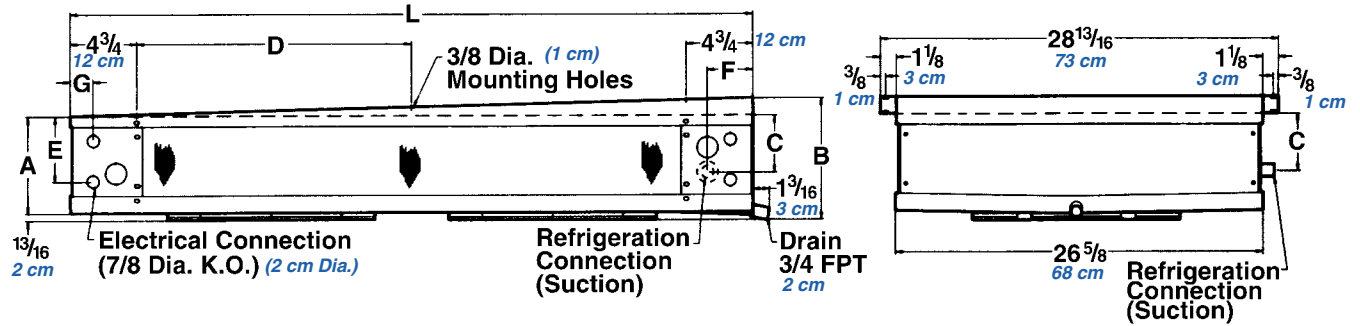
## Options

- PSC motors for 50 or 60 Hertz operation.
- Other options available. Contact your Bohn sales representative.

## Nomenclature



**Diagram 1. Dimensions for all WK Series Units.**



**Table 1. Dimensional Data for all WK Series Units.**

Model Numbers by Defrost Types			Dimensions (Inches/cm)								Connections (In.)	
			A	B	C	D	E	F	G	L	Liquid OD	Suction OD
WK 050	WKE 050	—	6 7/8 17	8 7/8 23	4 1/16 10	—	4 5/8 12	3 1/4 8	1 5/8 4	53 1/2 136	1/2	7/8
WK 075	WKE 075	—	6 7/8 17	8 7/8 23	4 1/16 10	—	4 5/8 12	3 1/4 8	1 5/8 4	75 1/2 192	1/2	7/8
WK 100	WKE 100	WKG 100	9 3/8 24	11 3/8 29	6 9/16 17	—	7 1/8 18	3 1/4 8	1 5/8 4	75 1/2 192	1/2	7/8
WK 130	WKE 130	WKG 130	13 1/8 33	15 1/8 38	10 1/8 26	—	8 1/2 22	2 11/16 7	1 1/8 3	75 1/2 192	1 1/8	1 1/8
WK 155	WKE 155	WKG 155	13 1/8 33	15 1/8 38	10 1/8 26	—	8 1/2 22	2 11/16 7	1 1/8 3	75 1/2 192	1 1/8	1 1/8
WK 180	WKE 180	WKG 180	13 1/8 33	15 1/8 38	10 1/8 26	—	8 1/2 22	2 11/16 7	1 1/8 3	75 1/2 192	1 1/8	1 1/8
WK 210	WKE 210	WKG 210	13 1/8 33	15 1/8 38	10 1/8 26	44 112	8 1/2 22	2 11/16 7	1 1/8 3	97 1/2 248	1 1/8	1 1/8
WK 270	WKE 270	WKG 270	13 1/8 33	15 1/8 38	10 1/8 26	44 112	8 1/2 22	2 11/16 7	1 1/8 3	97 1/2 248	1 3/8	1 3/8
WK 340	WKE 340	WKG 340	13 1/8 33	15 1/8 38	10 1/8 26	55 140	8 1/2 22	2 11/16 7	1 1/8 3	119 1/2 304	1 3/8	1 3/8

## AIR DEFROST PERFORMANCE / ELECTRICAL DATA

**Table 2. 60 Hz. Performance/Electrical Data for WK Air Defrost Units.**

Model No.	Capacities BTUH / kcal				Fan Data		Motor Data				Approx. Net Weight (Lbs / kg)
	10° F TD 6° C TD	15° F TD 8° C TD	50-55° F. DB 55% RH 20° TD				Shaded Pole (Std)		PSC (Opt.)		
			Total	Sensible	No.	CFM/m <sup>3</sup> h	115/1/60 Amps	230/1/60 Amps	115/1/60 Amps	230/1/60 Amps	
WK 050	5000 1260	7500 1890	10000 2520	8500 2142	1	725 1233	2.1	1.1	.9	.45	70 32
WK 075	7500 1890	11250 2835	15000 3780	12750 3213	1	730 1241	2.1	1.1	.9	.45	103 47
WK 100	10000 2520	15000 3780	20000 5040	17000 4284	2	1450 2465	4.2	2.2	1.8	.9	106 48
WK 130	13000 3276	19500 4914	26000 6552	22100 5569	2	1470 2499	4.2	2.2	1.8	.9	145 66
WK 155	15500 3906	23250 5859	31000 7812	26350 6640	2	1460 2482	4.2	2.2	1.8	.9	149 68
WK 180	18000 4536	27000 6804	36000 9072	30600 7711	3	2130 3621	6.3	3.3	2.7	1.35	160 73
WK 210	21000 5292	31500 7938	42000 10584	35700 8996	4	2840 4828	8.4	4.4	3.6	1.8	193 88
WK 270	27000 6804	40500 10206	54000 13608	45900 11567	4	2800 4760	8.4	4.4	3.6	1.8	200 91
WK 340	34000 8568	51000 12852	68000 17136	57800 14566	5	3500 5950	10.5	5.5	4.5	2.25	242 110

All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

**Table 3. 50 Hz. Performance/Electrical Data for WK Air Defrost Units.**

Model No.	Capacities BTUH / kcal				Fan Data		Motor Data		Approx. Net Weight (Lbs / kg)
	10° F TD 6° C TD	15° F TD 8° C TD	10-13° C. DB 55% RH 20° TD				PSC		
			Total	Sensible	No.	CFM/m <sup>3</sup> h	110/1/50 Amps	220/1/50 Amps	
WK 050	4800 1210	7100 1790	9500 2390	8100 2040	1	660 1122	.9	.45	70 32
WK 075	7100 1790	10700 2700	14300 3600	12100 3050	1	660 1122	.9	.45	103 47
WK 100	9500 2390	14300 3600	19000 4790	16200 4080	2	1310 2227	1.8	.9	106 48
WK 130	12400 3120	18500 4660	24700 6220	21000 5290	2	1330 2261	1.8	.9	145 66
WK 155	14700 3700	22100 5570	29500 7430	25000 6300	2	1320 2244	1.8	.9	149 68
WK 180	17100 4310	25700 6480	34200 8620	29100 7330	3	1920 3264	2.7	1.35	160 73
WK 210	20000 5040	29900 7530	39900 10050	33900 8540	4	2560 4352	3.6	1.8	193 88
WK 270	25700 6480	38500 9700	51300 12930	43600 10990	4	2530 4301	3.6	1.8	200 91
WK 340	32300 8140	48500 12220	64600 16280	54900 13830	5	3160 5372	4.5	2.25	242 110

All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

## ELECTRIC DEFROST PERFORMANCE / ELECTRICAL DATA

**Table 4. 60 Hz. Performance/Electrical Data for WKE Electric Defrost Units.**

Model No.	Capacities BTUH / kcal		Fan Data		Motor Data		Heaters		Approx. Net Weight (Lbs/kg)
	10° F TD	15° F TD	Qty	CFM/m <sup>3</sup> h	Shaded Pole (Std)	PSC	Total Watts	230/1/60 Amps	
	6° C TD	8° C TD			230/1/60 Amps	230/1/60 Amps			
WKE 050	5000 1260	7500 1890	1	725 1233	1.1	.45	2000	8.7	75 34
WKE 075	7500 1890	11250 2835	1	730 1241	1.1	.45	2400	10.5	108 49
WKE 100	10000 2520	15000 3780	2	1450 2465	2.2	.9	2800	12.2	111 50
WKE 130	13000 3276	19500 4914	2	1470 2499	2.2	.9	4000	17.4	150 68
WKE 155	15500 3906	23250 5859	2	1460 2482	2.2	.9	4000	17.4	154 70
WKE 180	18000 4536	27000 6804	3	2130 3621	3.3	1.35	4000	17.4	157 71
WKE 210	21000 5292	31500 7938	4	2840 4828	4.4	1.8	5200	22.6	203 92
WKE 270	27000 6804	40500 10206	4	2800 4760	4.4	1.8	5200	22.6	208 94
WKE 340	34000 8568	51000 12852	5	3500 5950	5.5	2.25	7000	30.4	250 113

All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

**Table 5. 50 Hz. Performance/Electrical Data for WKE Electric Defrost Units.**

Model No.	Capacities BTUH / kcal		Fan Data		Motor Data	Heaters		Approx. Net Weight (Lbs / kg)
	10° F TD	15° F TD	Qty	CFM/m <sup>3</sup> h	PSC	Total Watts	220/1/50 Amps	
	6° C TD	8° C TD			220/1/50 Amps			
WKE 050	4800 1210	7100 1790	1	660 1122	.45	1830	8.3	75 34
WKE 075	7100 1790	10700 2700	1	660 1122	.45	2200	10.0	108 49
WKE 100	9500 2390	14300 3600	2	1310 2227	.9	2560	11.6	111 50
WKE 130	12400 3120	18500 4660	2	1330 2261	.9	3660	16.6	150 68
WKE 155	14700 3700	22100 5570	2	1320 2244	.9	3660	16.6	154 70
WKE 180	17100 4310	25700 6480	3	1920 3264	1.35	3660	16.6	157 71
WKE 210	20000 5040	29900 7530	4	2560 4352	1.8	4760	21.6	203 92
WKE 270	25700 6480	38500 9700	4	2530 4301	1.8	4760	21.6	208 94
WKE 340	32300 8140	48500 12220	5	3160 5372	2.25	6400	29.1	250 113

All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

## HOT GAS DEFROST PERFORMANCE / ELECTRICAL DATA

**Table 6. 60 Hz. Performance/Electrical Data for WKG Hot Gas Defrost Units.**

Model No.	Capacities BTUH / kcal		Fan Data		Motor Data				Drain Pan Heaters			Approx. Net Weight (Lbs/kg)
	10° F TD	15° F TD	Qty	CFM/m <sup>3</sup> h	Shaded Pole (Std)		PSC (Optional)		Total Watts	230/1/60 Amps	115/1/60 Amps	
	6° C TD	8° C TD			115/1/60 Amps	230/1/60 Amps	115/1/60 Amps	230/1/60 Amps				
WKG 100	10000 2520	15000 3780	2	1450 2465	4.2	2.2	1.8	.9	350	1.5	3	131 59
WKG 130	13000 3276	19500 4914	2	1470 2499	4.2	2.2	1.8	.9	500	2.2	4.4	170 77
WKG 155	15500 3906	23250 5859	2	1460 2482	4.2	2.2	1.8	.9	500	2.2	4.4	174 79
WKG 180	18000 4536	27000 6804	3	2130 3621	6.3	3.3	2.7	1.35	500	2.2	4.4	185 84
WKG 210	21000 5292	31500 7938	4	2840 4828	8.4	4.4	3.6	1.8	650	2.8	5.7	223 101
WKG 270	27000 6804	40500 10206	4	2800 4760	8.4	4.4	3.6	1.8	650	2.8	5.7	228 103
WKG 340	34000 8568	51000 12852	5	3500 5950	10.5	5.5	4.5	2.25	875	3.8	7.6	270 122

All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

**Table 7. 50 Hz. Performance/Electrical Data for WKG Hot Gas Defrost Units.**

Model No.	Capacities BTUH / kcal		Fan Data		Motor Data PSC		Drain Pan Heaters			Approx. Net Weight (Lbs / kg)
	10° F TD	15° F TD	Qty	CFM / m <sup>3</sup> h	110/1/50	220/1/50	Total Watts	220/1/50 Amps	110/1/50 Amps	
	6° C TD	8° C TD			Amps	Amps				
WKG 100	9500 2390	14300 3600	2	1310 2227	1.8	.9	320	1.5	2.9	131 59
WKG 130	12400 3120	18500 4660	2	1330 2261	1.8	.9	460	2.1	4.2	170 77
WKG 155	14700 3700	22100 5570	2	1320 2244	1.8	.9	460	2.1	4.2	174 79
WKG 180	17100 4310	25700 6480	3	1920 3264	2.7	1.35	460	2.1	4.2	185 84
WKG 210	20000 5040	29900 7530	4	2560 4352	3.6	1.8	595	2.7	5.4	223 101
WKG 270	25700 6480	38500 9700	4	2530 4301	3.6	1.8	595	2.7	5.4	228 103
WKG 340	32300 8140	48500 12220	5	3160 5372	4.5	2.25	800	3.6	7.3	270 122

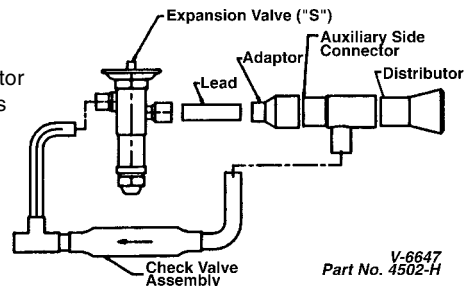
All units have 1/4" OD external equalizer and 3/4" F.P.T. drain connection.

### Optional Liquid Line Bypass Kit For Reverse Cycle Hot Gas Defrost

The WKG may be field piped for reverse cycle defrost using the optional bypass kit.

When compressor vapor, in reverse cycle defrosting, is directed back into the evaporator at the suction connection, it condenses into liquid. The field installed liquid line bypass kit directs the condensed liquid around the thermostatic expansion valve and back into the liquid line.

Bypass kits include bypass piping, check valve, and instructions. Adjustable fan control is shipped loose with hot gas units.





**Table 8. Replacement Parts List**

Part Description	Model Number				
	WK050 WKE050	WK075 WKE075	WK100 WKE100 WKG100	WK130 WKE130 WKG130	WK155 WKE155 WKG155
<b>Electrical Components</b>					
	<b>Part Number*</b>				
Motor 115/1/60 Shaded Pole	5036S (1)	5036S (1)	5036S (2)	5036S (2)	5036S (2)
Motor 208-230/1/60 Shaded Pole	5036T (1)	5036T (1)	5036T (2)	5036T (2)	5036T (2)
Motor 115/1/60 or 110/1/50 PSC	5036N (1)	5036N (1)	5036N (2)	5036N (2)	5036N (2)
Motor 208-230/1/60 or 220/1/50 PSC	5036P (1)	5036P (1)	5036P (2)	5036P (2)	5036P (2)
Defrost termination switch "WKE"	4511C	4511C	5521R	5521R	5521R
Heater**	4401S (2)	4402S (2)	4543B (4)	4544B (4)	4544B (4)
<b>Fan Components</b>					
Fan Blade	5110E (1)	5110E (1)	5110E (2)	5110E (2)	5110E (2)
Fan Guard	5505-F (1)	5505-F (1)	5505-F (1)	5505-F (1)	5505-F (1)
<b>Cabinet Components</b>					
Fan Panel / Drain Pan	C26769A2	C26770A2	C26771A2	C26771A2	C26771A2
Inner drain pan assembly: <i>Air Defrost</i>	B25196A1	B25197A1	B25197A1	B25197A1	B25197A1
Inner drain pan: <i>Electric &amp; Hot Gas Defrost</i>	B24358A2	B24358B1	B24358A7	B24358A7	B24358A7
End panel (2 per unit)	B24264A1	B24264A1	C26767A1	C26768A1	C26768A1
Side panel (4 per unit)	A20673A1	A20673A1	B24493A1	B24494A1	B24494A1
Defrost termination switch (WKG models only)			4267W	4267W	4267W

Part Description	Model Number			
	WK180 WKE180 WKG180	WK210 WKE210 WKG210	WK270 WKE270 WKG270	WK340 WKE340 WKG340
<b>Electrical Components</b>				
	<b>Part Number*</b>			
Motor 115/1/60 Shaded Pole	5036S (3)	5036S (4)	5036S (4)	5036S (5)
Motor 208-230/1/60 Shaded Pole	5036T (3)	5036T (4)	5036T (4)	5036T (5)
Motor 115/1/60 or 110/1/50 PSC	5036N (3)	5036N (4)	5036N (4)	5036N (5)
Motor 208-230/1/60 or 220/1/50 PSC	5036P (3)	5036P (4)	5036P (4)	5036P (5)
Defrost termination switch "WKE"	5521R	5521R	5521R	5521R
Heater**	4544B (4)	4545B (4)	4545B (4)	4546B (4)
<b>Fan Components</b>				
Fan Blade	5110E (3)	5110E (4)	5110E (4)	5110E (5)
Fan Guard	5505F (3)	5505F (4)	5505F (4)	5505F (5)
<b>Cabinet Components</b>				
Fan Panel / Drain Pan	40849203	40849303	40849303	40849403
Inner drain pan assembly: <i>Air Defrost</i>	B25197A1	B25198A1	B25198A1	C26774A1
Inner drain pan: <i>Electric &amp; Hot Gas Defrost</i>	B24358A7	B24358A8	B24358A8	B24358A9
End panel (2 per unit)	C26768A1	C26768A1	C26768A1	C26768A1
Side panel (4 per unit)	B24494A1	B24494A1	B24494A1	B24494A1
Defrost termination switch (WKG models only)	4267W	4267W	4267W	4267W

FOR UNITS PRIOR TO "C" REVISION, PLEASE CONSULT FACTORY.

\* Number in parenthesis is quantity per unit.

\*\* All hot gas models have two heaters.

**Table 9. Standard Nozzle Selections for WK Units (Included with unit for field installation)**

Type	No. of Fans	Distributor Tube Length	Model	No. of Circuits	Nozzles	
					R-404A**	R-22
WK Air Defrost	1	18	50	2	L- 1/2	L- 1/3
			75	4	L- 3/4	L- 1/2
	2	18	100	6	L- 1	L- 3/4
			130	12	E- 1 1/2	E- 1
			155	10	E- 2	E- 1
	3	24	180	12	E- 2	E- 1 1/2
			210	12	E- 2 1/2	E- 1 1/2
	4	24	270	20	C- 3	C- 2
			340	20	C- 4	C- 2 1/2
	WKE Electric Defrost and WKG Hot Gas Defrost	1	18	50	2	L- 1/2
75				4	L- 1	L- 3/4
2		18	100	6	L- 1 1/2	L- 3/4
			130	12	E- 1 1/2	E- 1
			155	10	E- 2	E- 1 1/2
3		24	180	12	E- 2	E- 1 1/2
			210	12	E- 2 1/2	E- 2
4		24	270	20	C- 3	C- 2
			340	20	C- 4	C- 2 1/2

\*\* also suitable for R-507, R-502, R-134a, R-401A, R-402A.

Distributor tube O.D. = 3/16" for all models.

Nozzles sized for 95° F liquid temp at expansion valve. Refer to Installation and Maintenance manual if liquid temp is not 95° F.

Room temperature of 35° F for air defrost models and 28° F for electric/hot gas models.

Consult your Bohn sales representative or the factory if evaporator TD is not 10°-15° F, (room temp - saturated suction temp).

**NOTE: REFRIGERATION SYSTEM WILL NOT PERFORM PROPERLY WITHOUT CORRECT NOZZLE!**



**The Cold Standard  
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