

**AIR COOLED — CONDENSING UNITS
COPELAWELD HERMETIC COMPRESSORS****APPLICATION ENGINEERING MANUAL
COPELAWELD AIR COOLED CONDENSING UNITS****Preface**

Copelaweld hermetic compressors are available as indoor and outdoor air-cooled condensing units for R22 high temperature applications. They range from 1-1/2 to 9 hp (models 0152 through 0902).

Unit Selection

Select the appropriate model number from the performance data, then add the prefix HICA for indoor, or HOCA for outdoor to obtain a complete unit.

Accessories

The accessories may be applied to either indoor or outdoor units, however, please refer to Compressor Unit Reference for recommended applications.

Control Panels

Control panels are only available with air defrost and are provided in this section due to electrical differences between hermetic and semi-hermetic compressors.

HICA AIR COOLED CONDENSING UNITS — INDOOR COPELAWELD HERMETIC COMPRESSORS

R22 HIGH TEMPERATURE

Condensing Unit Model	Sat. Suc. Temp. (°F)	80° Ambient			85° Ambient			90° Ambient			95° Ambient			100° Ambient			105° Ambient		
		Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)
0152VH	45	21300	1.66	109	20600	1.71	114	19700	1.77	118	19000	1.83	122	18200	1.89	127	17300	1.95	131
COMPR.	40	19300	1.58	107	18500	1.63	111	17800	1.69	116	17100	1.74	120	16400	1.80	124	15600	1.85	129
MODEL	35	17300	1.50	104	16600	1.55	109	16000	1.61	113	15300	1.66	118	14600	1.71	122	14000	1.76	127
CRA-0150	30	15500	1.43	102	14900	1.48	106	14200	1.53	111	13600	1.58	116	13000	1.62	120	12400	1.67	125
0202VH	45	27700	2.08	109	26700	2.16	113	25700	2.23	118	24700	2.31	122	23700	2.39	126	22700	2.46	131
COMPR.	40	25000	1.98	106	24100	2.05	111	23200	2.13	115	22300	2.20	120	21300	2.27	124	20400	2.34	129
MODEL	35	22500	1.89	104	21600	1.95	108	20800	2.02	113	20000	2.08	117	19100	2.15	122	18300	2.21	126
CRD-0200	30	20100	1.80	102	19300	1.86	106	18600	1.92	111	17800	1.97	115	17100	2.03	120	16300	2.09	124
0252VH	45	36700	2.71	108	35400	2.81	112	34200	2.91	117	32900	3.02	121	31600	3.12	126	30400	3.22	130
COMPR.	40	33200	2.59	105	32000	2.68	110	30900	2.78	114	29700	2.87	119	28600	2.97	123	27400	3.06	128
MODEL	35	29900	2.47	103	28900	2.55	108	27800	2.64	112	26700	2.73	117	25700	2.81	121	24600	2.90	126
CRG-0250	30	26800	2.34	101	25800	2.42	106	24900	2.50	110	23900	2.58	115	22900	2.66	119	22000	2.74	124
0312VH	45	43700	3.32	108	42000	3.43	113	40400	3.53	117	38800	3.64	121	37200	3.75	126	35500	3.85	130
COMPR.	40	39400	3.16	106	37900	3.25	110	36400	3.35	115	34900	3.45	119	33400	3.55	123	31900	3.65	128
MODEL	35	35400	2.99	103	34000	3.09	108	32600	3.18	112	31200	3.27	117	29900	3.36	121	28500	3.45	126
CRJ-0300	30	31600	2.84	101	30300	2.92	106	29100	3.01	110	27800	3.09	115	26600	3.18	119	25300	3.26	124
0352VH	45	55100	3.85	103	53100	3.98	108	51200	4.11	112	49200	4.24	117	47300	4.37	121	45300	4.50	126
COMPR.	40	49700	3.67	101	47900	3.79	106	46100	3.91	110	44300	4.03	115	42500	4.15	119	40700	4.26	124
MODEL	35	44700	3.50	99	43100	3.60	104	41400	3.71	109	39700	3.82	113	38100	3.92	118	36400	4.03	122
CRL-0350	30	40000	3.32	98	38400	3.42	102	36900	3.52	107	35400	3.61	111	33900	3.71	116	32400	3.80	121
0402VH	45	61300	4.54	106	59100	4.71	111	57000	4.87	115	54800	5.03	120	52700	5.20	124	50500	5.36	129
COMPR.	40	55700	4.35	104	53700	4.50	109	51800	4.65	113	49800	4.80	118	47800	4.96	122	45800	5.11	127
MODEL	35	50500	4.15	102	48600	4.29	107	46800	4.43	111	45000	4.57	116	43200	4.72	120	41400	4.86	125
CRM-0400	30	45400	3.96	100	43800	4.09	105	42100	4.22	109	40500	4.35	114	38800	4.48	119	37200	4.61	123
0502VH	45	68500	5.40	110	66000	5.56	114	63700	5.72	118	61200	5.89	123	58800	6.05	127	56400	6.22	132
COMPR.	40	62200	5.10	107	60000	5.25	112	57800	5.40	116	55500	5.55	121	53300	5.70	125	51100	5.85	129
MODEL	35	56300	4.82	105	54200	4.96	109	52200	5.10	114	50100	5.23	118	48000	5.37	123	46000	5.51	127
CRN-0500	30	50700	4.55	103	48800	4.68	107	46800	4.80	112	44900	4.93	116	43000	5.05	121	41100	5.18	125
0752VH	45	111000	8.46	110	107000	8.65	114	102000	8.85	118	97500	9.04	123	93000	9.23	127	88400	9.42	131
COMPR.	40	101000	7.99	108	96800	8.16	112	92600	8.33	116	88300	8.49	120	84100	8.66	124	79900	8.83	129
MODEL	35	91300	7.54	105	87400	7.68	109	83500	7.83	114	79600	7.97	118	75700	8.12	122	71800	8.26	126
BRE-0750	30	82100	7.10	103	78500	7.23	107	74800	7.35	111	71200	7.48	116	67600	7.60	120	64000	7.73	124
0902VH	45	125000	9.71	109	121000	9.93	114	116000	10.15	118	111000	10.37	122	106000	10.60	126	102000	10.82	131
COMPR.	40	114000	9.16	107	110000	9.35	111	105000	9.55	116	101000	9.74	120	96200	9.94	124	91800	10.13	129
MODEL	35	103000	8.63	105	99000	8.80	109	94900	8.97	113	90800	9.14	118	86600	9.31	122	82500	9.48	126
BRG-0900	30	92800	8.13	102	88900	8.28	107	85100	8.43	111	81300	8.57	116	77500	8.72	120	73700	8.87	124

Capacity data is based on 65° suction gas temperature and 10° F liquid sub-cooling at the refrigerator's tubing entrance. Net capacity will be increased 4% for each additional 10° of liquid sub-cooling. Use of a liquid suction heat exchanger installed at the refrigerator's tubing outlet is recommended.

HOCA AIR COOLED CONDENSING UNITS — OUTDOOR COPELAWELD HERMETIC COMPRESSORS

R22 HIGH TEMPERATURE

Condensing Unit Model	Sat. Suc. Temp. (°F)	80° Ambient			85° Ambient			90° Ambient			95° Ambient			100° Ambient			105° Ambient		
		Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)	Capacity (btu/hr)	Comp. Power (kw)	Cond. Temp. (°F)
0152VH	45	20300	1.73	115	19600	1.78	119	18800	1.84	123	18000	1.90	127	17300	1.95	132	16500	2.01	136
COMPR.	40	18500	1.64	112	17700	1.69	116	17000	1.75	120	16300	1.80	125	15600	1.85	129	14900	1.91	133
MODEL	35	16600	1.56	109	16000	1.61	113	15300	1.66	118	14600	1.71	122	14000	1.76	126	13300	1.81	131
CRA-0150	30	14900	1.48	106	14300	1.52	111	13700	1.57	115	13100	1.62	120	12500	1.66	124	11900	1.71	129
0202VH	45	26500	2.17	114	25500	2.25	118	24500	2.32	123	23500	2.40	127	22500	2.47	131	21600	2.55	136
COMPR.	40	24000	2.06	111	23100	2.13	116	22200	2.20	120	21300	2.27	124	20400	2.34	129	19500	2.41	133
MODEL	35	21600	1.96	108	20800	2.02	113	20000	2.08	117	19200	2.14	122	18400	2.21	126	17500	2.27	131
CRD-0200	30	19300	1.85	106	18600	1.91	110	17900	1.97	115	17100	2.03	119	16400	2.08	124	15700	2.14	128
0252VH	45	35200	2.83	113	33900	2.93	118	32700	3.03	122	31500	3.13	126	30200	3.23	131	29000	3.33	135
COMPR.	40	32000	2.69	110	30800	2.79	115	29700	2.88	119	28500	2.97	124	27400	3.06	128	26300	3.15	132
MODEL	35	28900	2.55	108	27800	2.64	112	26800	2.72	117	25800	2.81	121	24700	2.89	126	23700	2.98	130
CRG-0250	30	25900	2.42	105	25000	2.49	110	24100	2.57	114	23100	2.65	119	22200	2.72	123	21200	2.80	128
0312VH	45	41700	3.45	114	40100	3.55	118	38500	3.65	122	37000	3.76	126	35400	3.86	131	33800	3.96	135
COMPR.	40	37800	3.26	111	36300	3.36	115	34800	3.46	119	33400	3.55	124	31900	3.65	128	30400	3.75	132
MODEL	35	34000	3.09	108	32700	3.18	112	31300	3.26	117	30000	3.36	121	28600	3.45	125	27300	3.53	130
CRJ-0300	30	30400	2.92	105	29200	3.00	110	28000	3.08	114	26700	3.17	119	25500	3.25	123	24300	3.33	127
0352VH	45	53100	3.99	108	51200	4.11	112	49300	4.24	117	47400	4.36	121	45500	4.49	125	43600	4.62	130
COMPR.	40	48100	3.78	105	46300	3.90	110	44600	4.01	114	42800	4.13	119	41000	4.24	123	39300	4.36	128
MODEL	35	43300	3.59	103	41700	3.69	108	40100	3.80	112	38500	3.90	117	36800	4.01	121	35200	4.11	126
CRL-0350	30	38800	3.40	101	37300	3.49	106	35800	3.59	110	34400	3.68	115	32900	3.77	119	31400	3.87	124
0402VH	45	58800	4.73	111	56800	4.89	116	54600	5.05	120	52600	5.21	124	50400	5.37	129	48400	5.53	133
COMPR.	40	53700	4.50	109	51700	4.65	113	49800	4.80	118	47900	4.95	122	45900	5.10	127	44000	5.25	131
MODEL	35	48700	4.29	106	47000	4.42	111	45200	4.56	115	43400	4.70	120	41600	4.84	124	39800	4.98	129
CRM-0400	30	44000	4.07	104	42400	4.20	109	40700	4.33	113	39100	4.46	118	37500	4.59	122	35900	4.71	127
0502VH	45	65400	5.61	115	63000	5.77	120	60700	5.92	124	58400	6.08	128	56000	6.24	132	53700	6.40	137
COMPR.	40	59600	5.28	112	57400	5.43	117	55300	5.57	121	53100	5.72	125	50900	5.86	130	48700	6.01	134
MODEL	35	54100	4.97	110	52100	5.10	114	50100	5.24	118	48000	5.37	123	46000	5.50	127	44000	5.64	132
CRN-0500	30	48800	4.67	107	46900	4.80	112	45100	4.92	116	43200	5.04	120	41400	5.16	125	39500	5.28	129
0752VH	45	105000	8.71	115	101000	8.89	119	96600	9.08	123	92200	9.26	127	87800	9.45	131	83500	9.63	136
COMPR.	40	96000	8.19	112	92000	8.35	117	87900	8.51	121	83800	8.67	125	79700	8.83	129	75700	9.00	133
MODEL	35	87200	7.69	110	83300	7.83	114	79600	7.97	118	75800	8.11	122	72000	8.26	126	68200	8.40	130
BRE-0750	30	78600	7.22	107	75000	7.34	111	71600	7.47	115	68000	7.59	120	64500	7.71	124	61000	7.83	128
0902VH	45	119000	9.99	115	115000	10.20	119	110000	10.42	123	106000	10.63	127	101000	10.85	131	96400	11.06	135
COMPR.	40	109000	9.38	112	105000	9.57	116	100000	9.76	120	96000	9.95	124	91600	10.14	129	87400	10.33	133
MODEL	35	98800	8.81	109	94800	8.98	113	90800	9.14	118	86700	9.31	122	82700	9.47	126	78800	9.64	130
BRG-0900	30	89100	8.27	107	85400	8.42	111	81700	8.56	115	77900	8.70	119	74200	8.85	124	70500	8.99	128

Capacity data is based on 65° suction gas temperature and 10°F liquid sub-cooling at the refrigerator's tubing entrance. Net capacity will be increased 4% for each additional 10° of liquid sub-cooling. Use of a liquid suction heat exchanger installed at the refrigerator's tubing outlet is recommended.

ACCESSORY DATA — AIR COOLED CONDENSING UNITS COPELAWELD HERMETIC COMPRESSORS

Unit Model Copelaweld Hermetic	*Suction Line Filter	*Suction Line Accumulator	*Motor Contactor(s) In Enclosure (208-230V)	Drier/Sightglass	Winter Control Alco (1) (Outdoor Only)	Winter Control Sporlan (1) (Outdoor Only)	Crankcase Heater	*Liquid Line Solenoid Valve	Ball Bearing Cond. Fans (Std. Outdoor)	Oversize Receiver Kits (1)		Fan Cycling Control	Shipping Crate (Indoor Units Only)
										Receiver	Drier/Sightglass		

*Field Installed

R22 HIGH TEMPERATURE

0152	65DM	Std.	65DV	42EG	38EP	44EP	Std.	76DM	22EG	01EG	43EG	31ES	24EG
0202	65DM	Std.	65DV	42EG	39EP	45EP	Std.	76DM	18EG	01EG	43EG	31ES	24EG
0252	65DM	Std.	65DV	42EG	40EP	46EP	Std.	76DM	18EG	01EG	43EG	31ES	24EG
0312	65DM	Std.	65DV	42EG	40EP	46EP	Std.	76DM	18EG	01EG	43EG	31ES	24EG
0352	66DM	Std.	65DV	42EG	41EP	47EP	Std.	76DM	22EG	01EG	43EG	32ES	26EG
0402	66DM	Std.	65DV	42EG	41EP	47EP	Std.	76DM	19EG	01EG	43EG	32ES	26EG
0502	66DM	Std.	65DV	42EG	41EP	47EP	Std.	76DM	19EG	01EG	43EG	32ES	26EG
0752	66DM	Std.	66DV	44EG	42EP	48EP	Std.	48DV	20EG	03EG	75EG	32ES	26EG
0902	67DM	Std.	67DV	44EG	43EP	49EP	Std.	48DV	20EG	03EG	75EG	32ES	26EG

CONTROL PANELS — AIR COOLED CONDENSING UNITS COPELAWELD HERMETIC COMPRESSORS

Refrigerator Type		Defrost	208-230/3/60 Condensing Unit Models										460/3/60 Condensing Unit Models (4)						Defrost Timer Model
Display Case	Unit Cooler	Termination	0152-0202		0252-0312		0352-0502		0752		0902		0252-0312		0352-0502		0752-0902		
			Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	
Dairy, Meat, Deli Produce (33°)	SC, SK, GH, GL, S, SX	Pressure	IK11	—	IK106	—	IK107	—	IK114	—	IK115	—	IM10	—	IM78	—	IM79	—	8245
		Off-Cycle	IK19	OK11	IK108	OK68	IK109	OK69	IK116	OK74	IK117	OK75	IM16	OM10	IM80	OM57	IM81	OM58	NONE
Self Service Meat, Deli, Prod. Service	SC, SK, GH, GL, S, SX	Temperature (or time) (2)	IK35	—	IK112	—	IK113	—	IK120	—	IK121	—	IM28	—	IM84	—	IM85	—	8145
		Time - Over 110 Min. (2)	—	OK19	—	OK70	—	OK71	—	OK76	—	OK77	—	OM16	—	OM59	—	OM60	A633
Meat & Deli			IK27	OK27	IK110	OK72	IK111	OK73	IK118	OK78	IK119	OK78	IM22	OM22	IM82	OM61	IM83	OM62	4004
Panel Disconnect Size (Amps)			20	20	30	30	30	30	50	50	50	50	15	15 (3)	15	15 (3)	30	30 (3)	REFER- ENCE DATA
Motor Contactor Size (Amps)			25	25	25	25	30	30	30	30	40	40	25	25	25	25	30	30	
Fan Contactor Size (Amps)			0	—	0	—	25	25	25	25	25	25	—	—	25	25	25	25	
Auxiliary Protector (Amps)			15(2P)	15(2P)	15(2P)	15(2P)	15(3P)	15(3P)	15(3P)	15(3P)	15(3P)	15(3P)	15(2P)	15(2P)	15(3P)	15(3P)	15(3P)	15(3P)	

NOTES:

- (1) When winter control is selected, an oversize receiver must also be selected.
- (2) See Section 10 for defrost termination thermostat. These panels provide time-terminated defrost when a defrost termination thermostat is not required.
- (3) "Motor Disconnect Amps" for Outdoor 460 Volts.
- (4) The pilot circuit for 460 volt units requires a separate 208-230/1/60 electrical supply.

SINGLE — PHASE CONTROL PANELS

The standard 208-volt, three phase control panels for compressor unit models 0152 through 502 can be modified for single-phase application as follows:

First select a standard three-phase control panel — be sure to select a control panel with a maximum defrost amperage equal to or greater than the single-phase amperage requirement. Then, to the panel selected, add the single phase modification kit as shown in the table below.

<i>Unit Model</i>	<i>Single-phase Kit</i>	<i>Applicable Control Panels</i>
0152-0202	11DV	IK11, IK19, IK27, IK35 OK11, OK19, OK27
0252-0402	38FC	IK106, IK108, IK110, IK112 OK68, OK70, OK72
0502	39FC	IK115, IK117, IK119, IK121
0502	40FC	OK75, OK77, OK79