

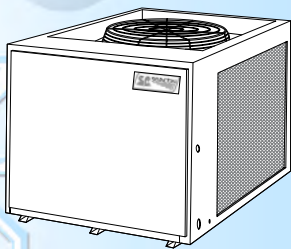
# AIR COOLED CONDENSING UNIT

MODEL: PNSA-CU

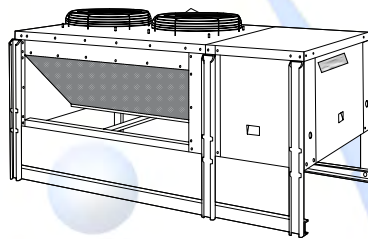
CAPACITY: 6.7 to 32.4 Nominal Tons

80,000 to 389,000 BtuH

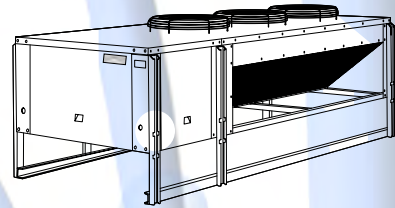
23.4 to 114 KW



PNSA-CU 007 to 009



PNSA-CU 010 to 020



PNSA-CU 025 to 035

## Features/Benefits

The PNSA-CU unit has a compact design that is up to 30% smaller than earlier air-cooled chillers. The compact footprint can yield substantial installation savings by requiring less structural steel, concrete, security fencing or architectural screening. The PNSA-CU unit is delivered as a complete package for easy installation. A quick start-up is assured once installation is complete, since each PNSA-CU unit is manufactured at an ISO 9002 listed manufacturing facility to ensure quality. In addition, all units are factory run tested under full load to provide reliable start-up.

## PHYSICAL DATA & ELECTRICAL DATA

MODEL: PNSA-CU		007	009	010	012	015	020	025	030	035	040
Nominal Cooling Capacity	BTUH	80,000	90,700	115,000	124,500	154,000	188,000	230,000	279,000	347,500	389,000
	Tons	6.67	7.56	9.58	10.38	12.83	15.67	19.17	23.25	28.96	32.42
	KWH	23.4	26.6	33.7	36.5	45.1	55.1	67.4	81.8	101.8	114.0
Rated Voltage		380V / 3P / 50Hz									
		440V / 3P / 60Hz									
Compressor Type		Hermetic					Semi-Hermetic				
Condenser Coil	Type/Material	Plate Fin / Aluminium Fin & Copper Tube Or Copper Fin									
	Face area (Sq. Ft.)	12.44	12.44	17.36	7.36	21.53	28.33	35.83	50.55	50.55	65
	Rows..Fins/In	3....14	3....14	3....14	3....14	3....14	3....14	3....14	3....14	3....14	3....14
	Tube Size (in)	3/4	3/4	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Condenser Fan	Type	Propeller Fan : Vertical Discharge : Direct Drive									
	Diameter (in)	30									
	Diameter (mm)	761									
	Rpm.	900									
	Qty./Unit	1	1	2	2	2	2	3	3	3	4
	Air Quantity (CFM)	7,000	8,000	10,000	10,000	14,000	20,000	21,000	30,000	30,000	40,000
	Air Quantity (CMH)	11,900	13,600	17,000	17,000	23,800	34,000	35,700	51,000	51,000	68,000
Refrigerant	Type	R-22 (R-407C On Request Only)									
	Charge	Holding									
Connections	(Each)										
Suction	(in.)	1-1/8	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8
Liquid	(in.)	5/8	5/8	5/8	5/8	5/8	7/8	7/8	7/8	7/8	7/8
Weight Operation	(Kgs.)	620	650	940	950	1180	1650	1980	2170	2240	2680

## ELECTRICAL DATA

MODEL : NSA-CU	007	009	010	012	015	020	025	030	035	040
Compressor										
Voltage / Phase / Hz	380V / 3P / 50Hz									
	440V / 3P / 60Hz									
FLA. (Amp.)	15.8	19.3	21.1	27.6	28.6	44	56	68	67.5	95
LRA. (Amp.)	91.1	86.5	104	135	120	173	223	253	225	345
Fan Motor (Each)										
Voltage / Phase / Hz	380V / 3P / 50Hz	220V / 1P / 50Hz			380V / 3P / 50Hz					
	440V / 3P / 60Hz	208V / 1P / 60Hz			440V / 3P / 60Hz					
FLA. (Amp.)	1.8	0.98			1.8	2.3	1.8	2.3		

Note :

RLA = Rated Load Amp.

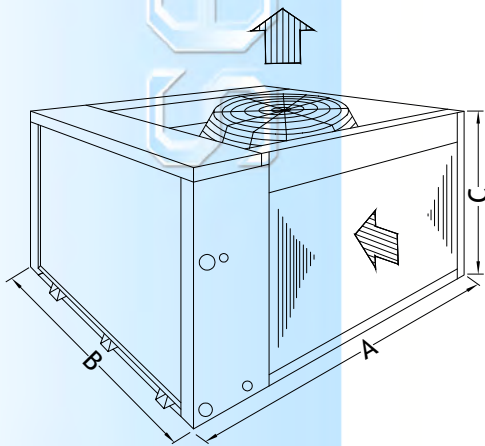
LRA = Locked Rotor Amp.

Air Flow: 1 CFM = 1.699011 CMH

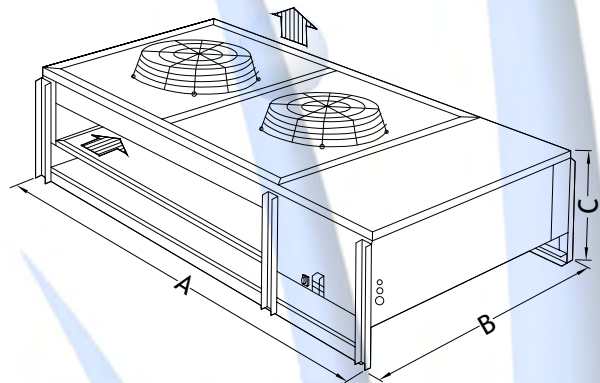
## DIMENSIONAL DATA

MODEL : PNSA-CU		007	009	010	012	015	020	025	030	035	040
Dimension (mm) (in.)											
Length	A	1114	1114	2081	2081	2386	2794	3249	3858	3858	3909
		43-7/8	43-7/8	82	82	94	110	128	152	152	154
Width	B	1015	1015	1193	1193	1193	1447	1447	1447	1447	2157
		40	40	47	47	47	57	57	57	57	85
Height	C	814	814	964	964	964	1066	1066	1218	1218	1523
		32-1/16	32-1/16	38	38	38	42	42	48	48	60
Suction Opening	M	2	2	2-1/4	2-1/4	2-1/2	2-1/2	2-3/4	3	3	3
Liquid Opening	N	1	1	1	1	1-1/4	1-1/4	1-1/4	1-3/8	1-3/8	1-1/2

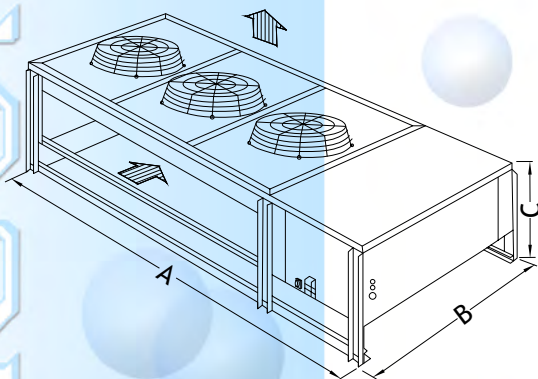
## DIMENSIONAL DRAWING



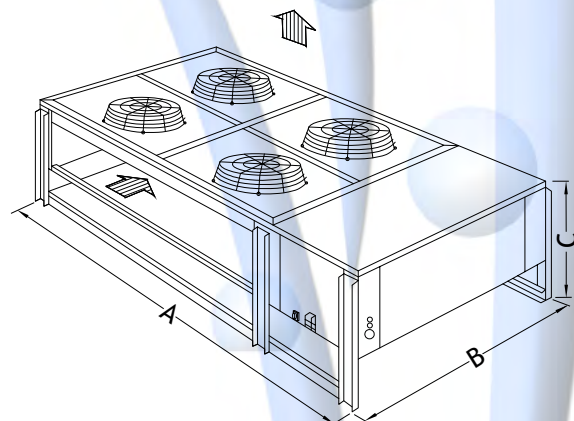
**PNSA-CU 007 TO 009**



**PNSA-CU 010 TO 020**



**PNSA-CU 025 TO 035**



**PNSA-CU 040**

PNSA-CU	SST (°C)	TEMP. AIR ENTERING CONDENSER (° C)														
		29			32			35			38			41		
		Cap.	SCT	KW	Cap.	SCT	KW	Cap.	SCT	KW	Cap.	SCT	KW	Cap.	SCT	KW
007	-1	62.0	106.0	5.97	59.5	110.0	6.04	57.0	115.0	6.14	54.2	117.6	6.20	51.0	123	6.31
	2	69.0	107.5	6.27	66.6	110.0	6.36	64.0	115.5	6.49	61.0	120.0	6.62	57.5	125	6.77
	3	77.0	109.0	6.52	74.2	114.0	6.69	72.0	117.0	6.80	68.8	121.7	7.00	65.0	127	7.21
	7	85.0	112.5	6.87	85.4	116.0	7.05	80.0	120.0	7.25	76.8	124.0	7.45	73.0	129	7.70
	10	93.5	115.0	7.21	91.0	118.5	7.41	88.0	122.0	7.62	85.0	125.8	7.84	81.5	131	8.15
009	-1	75.5	107	7.50	72.5	110.0	7.62	70.0	115.0	7.75	66.0	120.0	7.92	63.5	124	8.05
	2	82.5	110	7.96	79.2	112.5	8.04	76.5	117.5	8.21	72.7	122.0	8.40	70.0	126	8.52
	3	90.0	112	8.41	86.5	116.0	8.56	83.5	120.0	8.71	79.6	124.0	8.86	76.5	128	9.01
	7	97.7	114	8.83	94.1	118.0	9.00	90.7	122.0	9.17	87.2	126.5	9.35	84.0	130	9.50
	10	106.0	117	9.32	102.8	120.0	11.36	98.5	124.0	9.64	95.0	127.5	9.80	91.5	132	10.01
010	-1	94	105	8.06	91.0	110.0	8.27	88	115.0	8.47	85.5	120.0	8.67	82.5	124	8.83
	2	102	107	8.55	99.0	112.0	8.79	96	116.5	8.95	93.6	120.7	9.11	90.0	125	9.31
	3	111	110	9.00	108.2	114.5	9.22	105	119.0	9.44	102.1	121.3	9.56	99.0	126	9.80
	7	121	112.5	9.46	117.6	116.7	9.68	115	120.0	9.85	111.5	124.4	10.10	108.0	128.5	10.33
	10	131.5	114.5	9.93	128.5	118.6	101.7	125	121.8	10.35	121.5	126.5	10.61	117.5	130.5	10.83
012	-1	106.5	109	11.47	99.0	112.9	11.62	96.0	116.5	11.77	91.7	121.0	11.95	89.5	124	12.05
	2	113.5	111	12.05	109.5	115.0	12.24	106.0	118.7	12.45	101.5	123.3	12.62	98.7	126	12.74
	3	124.0	113	12.62	119.5	117.5	12.86	115.0	121.0	13.05	111.0	125.0	13.27	107.2	128	13.43
	7	134.5	115	13.19	130.0	119.0	13.44	124.5	123.5	13.72	120.0	126.5	13.90	116.0	130	14.12
	10	144.5	117	13.72	139.5	121.0	14.00	134	125.0	17.29	129.0	128.5	14.55	124.7	132	14.82
015	-1	125	105	10.83	120	110.0	11.16	116	115	11.54	112	119	11.84	109	123.5	12.15
	2	137	106	11.28	132	111.3	11.69	128.5	116	12.08	124	119.5	12.37	119	124	12.72
	3	150.5	108	11.75	144.5	113.0	12.19	141	117	12.56	137	120.5	12.87	131	126	13.33
	7	164	111	12.27	158.5	115.0	12.67	154	119	13.07	150	122.3	13.40	144	127.5	13.92
	10	179	113.5	12.80	173.0	117.5	13.23	168	121	13.60	163	124.5	13.95	156	129	14.40
020	-1	151.5	102	11.85	146	107	12.31	142.5	110	12.58	136.5	116	13.13	132.0	120.0	13.50
	2	166.5	104	12.40	161	108.2	12.82	156.0	112	13.20	150.5	117	13.70	145.0	121.5	14.15
	3	183.0	106	12.90	177.5	110.0	13.33	172.0	114	13.80	166.0	118.5	14.32	159.5	123.0	14.82
	7	202.0	108	13.41	195.0	111.0	13.78	188.0	116	14.36	181.5	120.0	14.83	174.0	125.0	15.50
	10	221.0	110	13.91	213.0	113.0	14.32	205.0	118	14.98	198.0	121.7	15.50	190.0	126.5	16.17
025	-1	185.5	105	16.0	180.0	108.5	16.35	173	113	16.8	168	117	17.2	163	120	17.5
	2	205.0	106	16.65	199.0	110.5	17.14	191	115	17.62	185	118.5	18.00	178	123	18.52
	3	226.0	108	17.43	217.5	112.5	17.96	210	117	18.48	203.5	120.5	18.90	196	124.5	19.40
	7	249.0	110	18.25	238.5	114.5	18.85	230	118.8	19.42	223.0	122.5	19.92	214.5	126.0	20.38
	10	272.0	112	19.03	261.0	116.5	19.67	252.5	120.0	20.17	243.5	124.0	20.76	234.5	128.0	21.37
030	-1	227	101	17.89	220	105	18.45	212	110	19.16	204	115	19.87	195	119.7	20.54
	2	250	102.5	18.54	242	106.5	19.06	234	111	19.83	225	116	20.66	216	120.3	21.38
	3	273	103.3	19.10	264	108.0	19.96	256	112.5	20.75	246	117	21.50	237	121.0	22.17
	7	296	105.5	19.88	287	110.0	20.75	278	115	21.71	268	118	22.28	258	122.0	23.06
	10	320	106.7	20.48	309	111.0	21.38	299	117	22.68	289	119.5	23.22	278	123.5	24.06
035	-1	281	106	24.00	279.5	110.0	24.66	262.5	115	25.33	253	119.5	25.93	245	123	26.50
	2	307.5	108	25.13	300.0	111	25.66	290.0	116	26.50	279	120.0	27.16	269	124	27.73
	3	337.5	109.5	26.07	330.0	112	26.53	317.5	117	27.45	305	121.5	28.30	297.5	125	29.00
	7	370.0	111.0	27.0	360.0	114	27.53	347.5	118.5	28.32	337.5	124.0	29.55	327.5	126.7	30.20
	10	403.0	112.5	27.91	392.5	116	28.73	380.0	120.5	29.78	370.0	125.5	30.95	359.0	129.0	31.76
040	-1	3099	102	27.33	302	106	27.83	297.5	110	28.33	285	115	29.16	270	119.6	29.93
	2	342	103.5	28.83	333	106.5	29.25	325.0	111	29.90	312.5	116	30.65	300	120.3	31.35
	3	377.5	105	30.00	366	109.0	30.66	355.0	113	31.33	345.0	117.5	32.08	330	122.0	32.91
	7	416.0	107	31.16	400	111.6	32.00	389.0	116	32.96	378.0	119.0	33.62	365	124.0	34.63
	10	457.5	109	32.23	441	113.5	33.37	426.0	118	34.50	414.0	122.0	35.41	402.0	126.0	36.25

SST = Saturated Suction Temp.

Cap. = Capacity MBH (1,000 Btuh)

SCT = Saturated Condensing Temp.

KW = Compressor Motor Power Input at Rated Voltage

Note :

1. Assume -9.4 °C Subcooling when selecting TXV
2. Interpolation is permissible. Do not extrapolate