NU0820 HRV & ERV SPECIFICATION SHEET

www.nu-airventilation.com

(Painted Option Shown)

800 – 2000 CFM (NOMINAL)

INDOOR & ROOFTOP APPLICATIONS

MULTIPLE CONFIGURATIONS

FACTORY AIR BALNCED TO PROJECT SPECIFICATIONS

SPECIFICATIONS

CABINET/CONSTRUCTION

- Double wall construction, 22 ga (standard); 1 inch insulation
- Duct connections: 24" x 12". Weather hoods c/w bird screen (outdoor unit).
- Cabinet L x D x H (inches): 46 x 46 x 60 (1170 x 1170 x 1525 mm)
- Removable access door with 1/4 turn, lockable handle
- Door-mounted differential pressure ports for air flow balancing
- NEMA 3R enclosure with non-fused disconnect
- 1/2" poly drain connections, (bottom only). Drain kit p/n *DAK-U* provided.

Unit Weight: 650 lbs (294 kg) Shipping Weight: 780 lbs (354 kg)
Shipping L x D x H: 68 x 56 x 72" (No hoods); 82 x 56 x 72" (W/ hoods)

CORE: Static Plate, Crossflow. Certified to AHRI 1060

-HRV: Polypropylene, 2 x p/n *PC1721A* (AHRI Ref.# PC18)
-ERV: Enthalpic membrane, 2 x p/n *EC1721A* (AHRI Ref.# EC18)
-FACE & BYPASS: 1 x BP1714 + 2 x PC1714 (HRV), or 2 x EC1714 (ERV)

MOTORS - FANS - FILTERS

- 2 x TEFC single-speed motors, 0.5-1.5 HP
- 2 x DWDI belt drive blowers p/n *50071*
- 6 x MERV 8 pleated filters (standard), 14 x 17.5 x 2", p/n *50078*.

CONTROL

- Starter panel has Manual (full-time) or Auto/Remote (24 VAC) options.
- Factory installed VFD's present options for additional control means.
- 7-Day programmable timer p/n *50395*

FROST CONTROL – 6 OPTIONS (details see: PRODUCT SELECTION)

-None
-Exhaust only (temperature ON/OFF)
-Timed exhaust (temperature ON/Timed OFF)
-Recirculation
- Face & Bypass (F&P)
- F&P with Economizer

OPTIONS & ACCESSORIES

- 0.050 painted (white) aluminum outer skin
- Factory installed VFD's
- MERV 13 filters, 14 x 17.5 x 2" p/n *50211*
- Dirty filter contacts/sensors
- Insulated, low leakage Outside Air backdraft damper (motorized)
- Exhaust Air backdraft damper (gravity OR motorized/insulated)
- Non-insulated roof curb 14" (standard). Custom sizes: 18", 24".
- 7-Day programmable timer, p/n *50395*

WARRANTY - COMPLIANCE

- 2 years on internal components
- 15 years on polypropylene (HRV) cores; 5 years on Enthalpy (ERV) cores
- NU0820 conforms to CSA SPE1000

CFM/MOTOR TABLE: HRV

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.5			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
800	1/2 HP	0.16	723	0.23	879	0.32	1006	0.41	1115	0.5	1209	0.59	1295	3/4 HP	800
900		0.19	758	0.28	909	0.37	1035	0.47	1145	0.57	1242	0.67	1327		900
1000		0.23	796	0.33	943	0.43	1067	0.53	1175	0.64	1273	0.75	1361		1000
1100		0.27	826	0.37	969	0.48	1091	0.6	1199	0.71	1296	0.83	1385	1 HP	1100
1200		0.32	860	0.43	998	0.55	1118	0.67	1225	0.79	1322	0.92	2.06		1200
1300		0.37	886	0.49	1021	0.61	1139	0.74	1245	0.87	1342	1	1431		1300
1400		0.43	917	0.55	1047	0.68	1163	0.82	1268	0.96	1364	1.1	1452	1.5 HP	1400
1500		0.48	942	0.62	1067	0.75	1181	0.9	1285	1.04	1381	1.19	1469		1500
1600	3/4 HP	0.55	971	0.69	1092	0.83	1203	0.98	1306	1.14	1400	1.29	1488		1600
1700		0.62	1000	0.77	1116	0.92	1224	1.07	1325	1.23	1418	1.4	1506		1700
1800		0.7	1027	0.84	1135	1	1240	1.16	1340	1.33	1432	1.5	1519		1800
1900	1 HP	0.78	1057	0.93	1158	1.09	1260	1.26	1357	1.44	1449			N/A	1900
2000		0.87	1083	1.02	1177	1.18	1276	1.36	1371						2000

CFM/MOTOR TABLE: HRV – FACE AND BYPASS

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.5			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
800	1/2 HP	0.22	850	0.3	983	0.39	1095	0.48	1191	0.57	1278	0.67	1359	3/4 HP	800
900		0.27	898	0.36	1026	0.46	1137	0.56	1234	0.66	1320	0.76	1400		900
1000		0.32	937	0.42	1062	0.53	1171	0.64	1269	0.75	1358	0.86	1437	1 HP	1000
1100		0.38	979	0.49	1100	0.61	1207	0.72	1304	0.84	1392	0.96	1474		1100
1200		0.45	1018	0.57	1136	0.69	1241	0.81	1337	0.94	1424	1.07	1506		1200
1300	3/4 HP	0.52	1055	0.65	1170	0.78	1273	0.91	1367	1.04	1454	1.18	1535	1.5 HP	1300
1400		0.6	1090	0.73	1202	0.87	1303	1.01	1396	1.15	1483	1.3	1563		1400
1500		0.68	1123	0.82	1232	0.97	1332	1.11	1424	1.26	1509	1.42	1589		1500

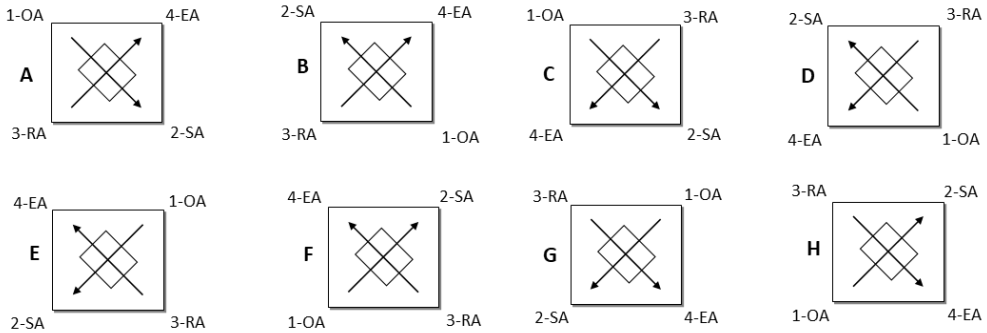
CFM/MOTOR TABLE: ERV

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.5			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
800	1/2 HP	0.18	790	0.27	932	0.35	1052	0.44	1153	0.53	1244	0.63	1327	3/4 HP	800
900		0.23	835	0.32	972	0.42	1090	0.51	1193	0.61	1283	0.71	1366		900
1000		0.28	876	0.38	1010	0.48	1125	0.59	1227	0.7	1320	0.81	1402	1 HP	1000
1100		0.33	914	0.44	1044	0.55	1157	0.67	1259	0.78	1351	0.9	1436		1100
1200		0.39	951	0.51	1077	0.62	1188	0.75	1288	0.87	1379	1	1464		1200
1300		0.45	985	0.58	1107	0.7	1217	0.83	1316	0.97	1406	1.1	1491	1.5 HP	1300
1400	3/4 HP	0.53	1022	0.66	1141	0.79	1248	0.93	1345	1.07	1435	1.22	1519		1400
1500		0.6	1053	0.74	1168	0.88	1273	1.03	1370	1.17	1459	1.33	1542		1500
1600		0.68	1083	0.82	1195	0.97	1298	1.12	1393	1.28	1481	1.44	1564		1600
1700	1 HP	0.77	1116	0.92	1224	1.07	1325	1.23	1418	1.4	1506			N/A	1700
1800		0.86	1148	1.02	1253	1.18	1351	1.35	1443						1800
1900		0.96	1175	1.12	1276	1.29	1372	1.46	1463						1900
2000	1.5 HP	1.06	1205	1.23	1303	1.41	1397								2000

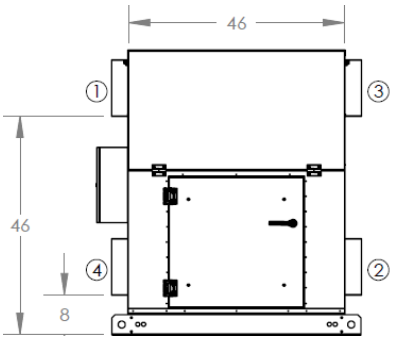
CFM/MOTOR TABLE : ERV – FACE AND BYPASS

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.5			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
800	1/2 HP	0.29	963	0.38	1078	0.46	1176	0.56	1265	0.65	1346	0.75	1422	3/4 HP	800
900		0.36	1021	0.45	1133	0.55	1231	0.65	1317	0.76	1397	0.86	1472	1 HP	900
1000		0.43	1076	0.54	1183	0.65	1280	0.76	1367	0.87	1446	0.98	1519		1000
1100	3/4 HP	0.52	1131	0.64	1235	0.75	1329	0.87	1416	1	1495	1.12	1567	1.5 HP	1100
1200		0.62	1184	0.74	1284	0.87	1376	1	1461	1.13	1540	1.26	1614		1200

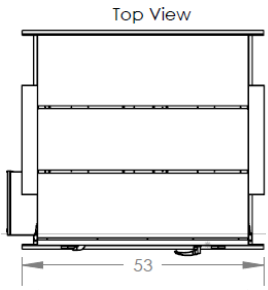
CONFIGURATIONS



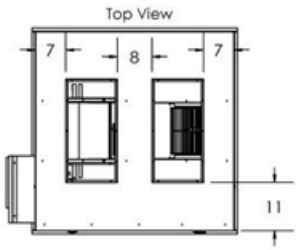
SHOP DRAWINGS – BASIC OPTIONS/CONFIGURATIONS SHOWN



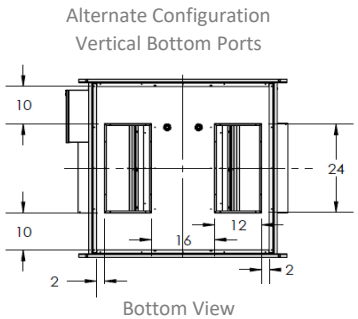
1 = Outside Air (OA) 2 = Supply Air (SA)
3 = Return Air (RA) 4 = Exhaust Air (EA)



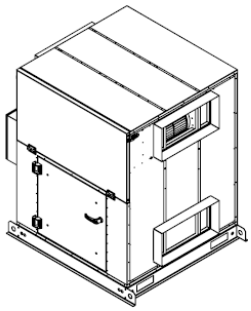
(Lifting Frame)



Alternate Configuration
Vertical Top Ports

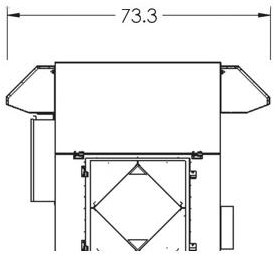


Bottom View

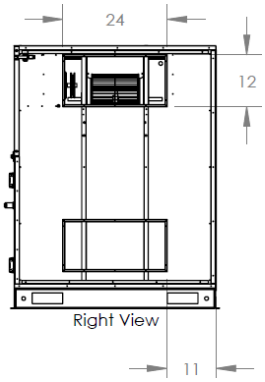


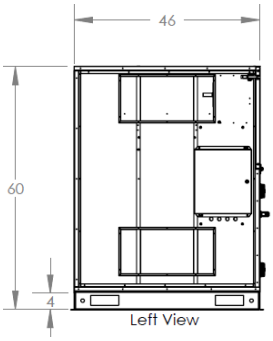
Service Clearances: NU0820						
Front		Back	Left	Right	Top	Bottom
RECOMMENDED	MINIMUM					
(in)	(in)	(in)	(in)	(in)	(in)	(in)
30	24	0	*21	*21	0	0

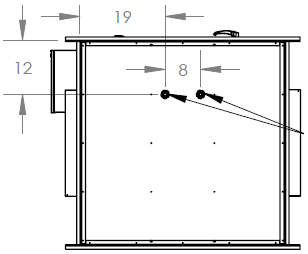
*Allows for starter box access according to orientation/placement of unit.



Front View: Alternate Application
with Factory Supplied Weather Hoods



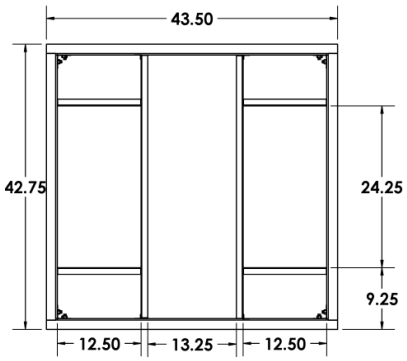


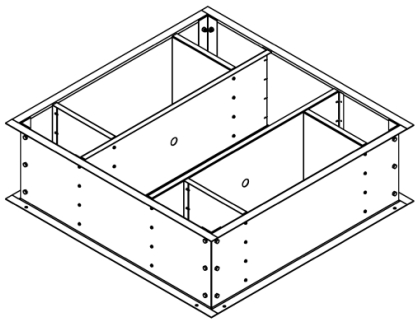


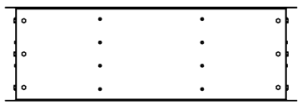
(ALL CONFIGURATIONS)

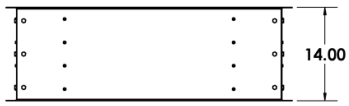
Drain Location
1/2" ID, 5/8" OD
Fittings, Poly Pipe
Supplied

SHOP DRAWINGS – STANDARD 14-inch ROOF CURB, p/n RC0820-14

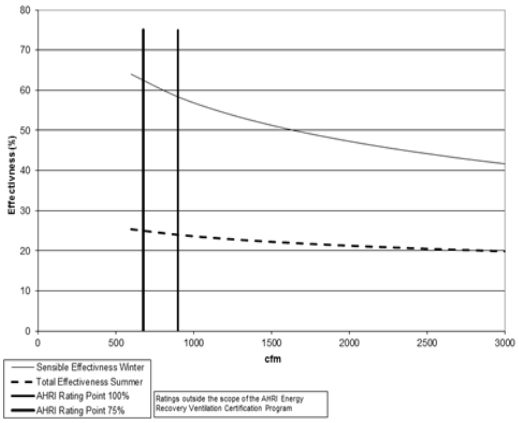








HRV PERFORMANCE – AHRI 1060

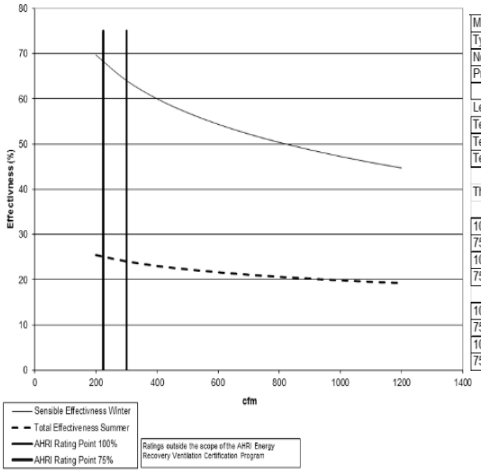


Model no.	PC 18		
Type	Plate		
Nominal Air Flow (scfm)	300		
Pressure drop (inches)	0.12		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	0.50	0.95
Test 2	0	0.00	1.00
Test 3	0.5	0.20	1.08
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	64	0	40
75% air Flow Heating	68	0	43
100% air Flow cooling	62	0	24
75% air Flow Cooling	66	0	25
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	64	0	40
75% air Flow Heating	68	0	43
100% air Flow cooling	62	0	23
75% air Flow Cooling	66	0	25

AHRI CERTIFIED

Energy recovery component is certified by AHRI to AHRI Standard 1060. Actual performance in packaged equipment may vary.

HRV PERFORMANCE FACE & BYPASS – AHRI 1060



Model no.	PC 18		
Type	Plate		
Nominal Air Flow (scfm)	300		
Pressure drop (inches)	0.12		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	0.50	0.95
Test 2	0	0.00	1.00
Test 3	0.5	0.20	1.08
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	64	0	40
75% air Flow Heating	68	0	43
100% air Flow cooling	62	0	24
75% air Flow Cooling	66	0	25
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	64	0	40
75% air Flow Heating	68	0	43
100% air Flow cooling	62	0	23
75% air Flow Cooling	66	0	25

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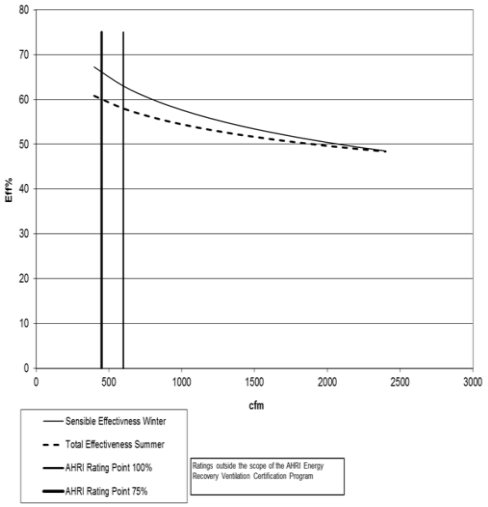
ERV PERFORMANCE – AHRI 1060



Model no.	EC-18		
Type	Plate		
Nominal Air Flow (scfm)	300		
Pressure drop (inches)	0.33		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	5.00	0.92
Test 2	0	0.80	1.07
Test 3	0.5	0.50	1.20
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	63	47	58
75% air Flow Heating	66	49	60
100% air Flow cooling	63	36	46
75% air Flow Cooling	66	39	49
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	63	47	57
75% air Flow Heating	66	49	60
100% air Flow cooling	63	35	46
75% air Flow Cooling	66	39	49

AHRI CERTIFIED

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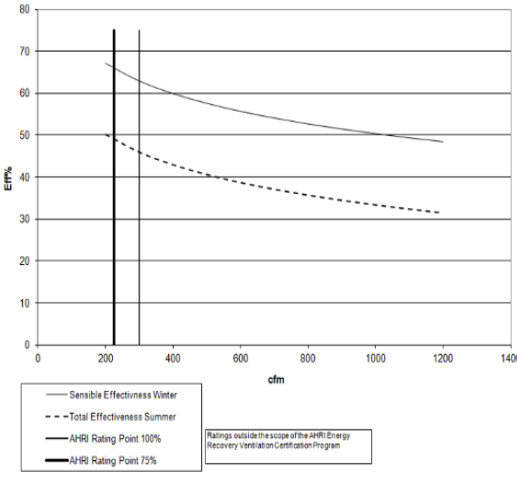
ERV PERFORMANCE FACE & BYPASS – AHRI 1060



Model no.	EC-18		
Type	Plate		
Nominal Air Flow (scfm)	300		
Pressure drop (inches)	0.33		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	5	0.92
Test 2	0	0.8	1.07
Test 3	0.5	0.5	1.2
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	63	47	58
75% air Flow Heating	66	49	60
100% air Flow cooling	63	36	46
75% air Flow Cooling	66	39	49
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	63	47	57
75% air Flow Heating	66	49	60
100% air Flow cooling	63	35	46
75% air Flow Cooling	66	39	49

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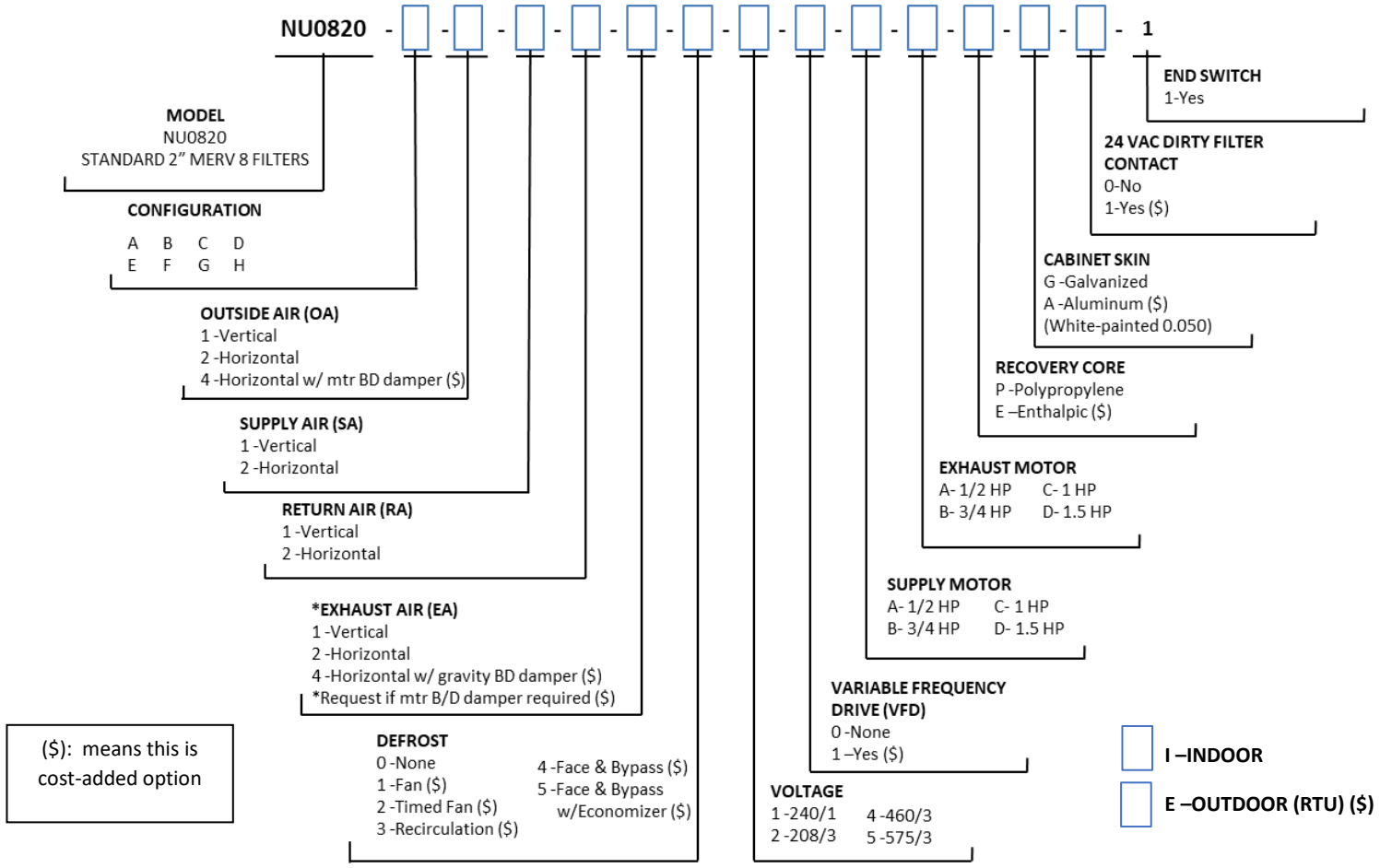
PRODUCT SELECTION/ORDERING INFORMATION: NU0820



($): means this is cost-added option

ADD-ON OPTIONS/ACCESSORIES: NU0820

- ☐ Motorized Damper, Exhaust Air (EA) ($)
- ☐ 2" MERV 13 Filters ($)
- ☐ Filters, Extra Set (of 6), MERV 8 ($)
- ☐ Filters, Extra Set (of 6), MERV 13 ($)
- ☐ 7-Day Programmable Timer ($)
- ☐ Roof Curb, Uninsulated, 14" ($)
- ☐ Roof Curb, Uninsulated, 18" ($)
- ☐ Roof Curb, Uninsulated, 24" ($)

FROST CONTROL RECOMMENDATIONS*

TYPE	WINTER DESIGN TEMP.		FACTORY DEFAULT TIMING**	
	° C	° F	RUN	DEFROST
0 – NONE	> -5	> 23	n/a	n/a
1 – FAN SHUT-DOWN	> -10	> 14		
2 – TIMED FAN SHUT-DOWN	> -15	> 5	60 min.	10 min.
3 – RECIRCULATION	> -15	> 5	60 min.	10 min.
4 – FACE & BYPASS	Uninterrupted ventilation and free cooling.			

1 – Supply fan shuts off when EA 0C (32F). Normal operation resumes when EA is 8C (47F).

2 – Supply fan shuts off for defined time when OA is nominal 0C (32F).

3 – Non-negative pressure defrost when EA is nominal 0C (32F).

4 – Heat exchanger bypassed in a temperature activated cycle.

*notwithstanding other design considerations such as building pressure, preheat, delivered air temp., etc.
**Field adjustable.

PROJECT INFORMATION

Unit (e.g. HRV-1)	
Project Tag	
Project Location	
Specified By	
Version, Date	

DESIGN INFORMATION

Air Stream	Airflow	ESP
Supply		
Exhaust		
Air Temp. (C or F)	**Winter**	**Summer**
RA, DB		
RA, WB		
OA, DB		
OA, WB		