NU2540 HRV & ERV SPECIFICATION SHEET

www.nu-airventilation.com

(Painted Option Shown)

2500 – 4000 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: 32” x 16”. Weather hoods c/w bird screen (outdoor unit).
- Cabinet L x D x H: 93 x 45 x 51” (2362 x 1143 x 1296 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
- 3/4" NPT female drain connections (left-front of unit)

Unit Weight: 1000 lbs (455 kg) Shipping Weight: 1325 lbs (600 kg)

Shipping L x D x H: 98 x 65 x 63” (NO hoods); 112 x 65 x 63” (W/ hoods)

CORE: Static Plate, Crossflow. Certified to AHRI 1060

- HRV: Polypropylene, 3 x p/n *PC2314A* (AHRI Ref.# PC24)
- ERV: Enthalpic membrane, 3 x p/n *EC2314A* (AHRI Ref.# EC24)
- FACE & BYPASS 1 x BP2314 (1030)+ 2 x PC2314 (HRV), or 2 x EC2314 (ERV)

MOTORS - FANS - FILTERS

- 2 x TEFC single-speed motors, 0.5-3.0 HP
- 2 x DWDI belt drive blowers, p/n *50072*
- 6 x MERV 8 pleated filters (standard), 14 x 23.5 x 2”, p/n *50092*.

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 23.5 x 2”, p/n *50856*
- 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
- NU2540 conforms to CSA SPE1000

CFM/MOTOR TABLE: HRV

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.50		ESP = 1.75		ESP =2.00			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
2400	1 HP	0.9	896	1.05	967	1.19	1032	1.34	1092	1.48	1149	1.62	1202	1.76	1251	1.89	1299	2 HP	2400
2500		0.98	914	1.13	984	1.28	1048	1.43	1108	1.58	1164	1.73	1216	1.88	1266	2.02	1313		2500
2600	1 1/2 HP	1.06	931	1.22	1000	1.37	1063	1.53	1122	1.69	1178	1.84	1231	2	1281	2.15	1328		2600
2700		1.14	947	1.31	1015	1.47	1078	1.63	1137	1.79	1192	1.95	1245	2.12	1294	2.28	1342		2700
2800		1.23	963	1.4	1031	1.57	1093	1.73	1151	1.9	1206	2.07	1258	2.24	1308	2.41	1355	3 HP	2800
2900		1.32	979	1.49	1046	1.67	1107	1.84	1165	2.02	1220	2.19	1272	2.36	1321	2.54	1368		2900
3000		1.41	994	1.59	1060	1.77	1122	1.95	1179	2.13	1233	2.31	1285	2.49	1334	2.67	1381		3000
3100		1.5	1009	1.69	1075	1.88	1135	2.07	1193	2.25	1246	2.44	1298	2.63	1346	2.81	1393		3100
3200	2 HP	1.6	1023	1.8	1089	1.99	1149	2.18	1206	2.37	1259	2.57	1310	2.76	1359	2.95	1405		3200
3300		1.7	1037	1.9	1102	2.1	1162	2.3	1219	2.5	1272	2.7	1323	2.9	1371				3300
3400		1.82	1054	2.02	1118	2.23	1178	2.43	1233	2.64	1286	2.84	1337						3400
3500		1.93	1067	2.14	1131	2.35	1190	2.56	1246	2.77	1298	2.98	1349						3500
3600	3 HP	2.04	1080	2.26	1143	2.47	1203	2.69	1258	2.91	1310							N/A	3600
3700		2.15	1093	2.38	1156	2.6	1215	2.82	1270										3700
3800		2.27	1106	2.5	1168	2.73	1226	2.96	1282										3800
3900		2.4	1122	2.64	1182	2.87	1240												3900
4000		2.53	1134	2.77	1194														4000

CFM/MOTOR TABLE: HRV – FACE AND BYPASS

		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1		ESP = 1.25		ESP = 1.50		ESP = 1.75		ESP =2.00			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
1600	1/2 HP	0.46	785	0.55	859	0.64	926	0.73	988	0.82	1045	0.91	1099	1.01	1150	1.1	1199		1600
1700	3/4 HP	0.52	809	0.62	882	0.71	948	0.81	1003	0.9	1066	1	1119	1.1	1169	1.2	1217	1 1/2 HP	1700
1800		0.58	832	0.69	904	0.79	969	0.89	1029	0.99	1085	1.09	1138	1.19	1188	1.3	1236		1800
1900		0.65	855	0.76	926	0.87	990	0.98	1049	1.08	1105	1.19	1157	1.3	1206	1.4	1254		1900
2000		0.72	877	0.84	947	0.96	1010	1.07	1069	1.18	1124	1.29	1175	1.4	1225	1.52	1271		2000
2100	1 HP	0.8	901	0.92	969	1.05	1032	1.17	1090	1.28	1144	1.4	1195	1.52	1244	1.64	1291	2 HP	2100
2200		0.87	922	1.01	989	1.14	1051	1.27	1109	1.39	1162	1.51	1213	1.64	1261	1.76	1308		2200
2300		0.95	942	1.09	1008	1.23	1070	1.37	1127	1.5	1180	1.63	1231	1.76	1278	1.88	1324		2300
2400	1 1/2 HP	1.04	962	1.18	1027	1.33	1088	1.47	1144	1.61	1198	1.75	1248	1.88	1295	2.02	1341		2400
2500		1.13	981	1.28	1045	1.43	1105	1.58	1161	1.73	1214	1.87	1264	2.01	1312	2.15	1357		2500
2600		1.22	1002	1.38	1066	1.54	1125	1.69	1180	1.85	1233	2	1282	2.15	1330	2.3	1375		2600
2700		1.32	1020	1.48	1083	1.64	1142	1.81	1197	1.97	1249	2.13	1298	2.29	1345	2.44	1390	3 HP	2700
2800		1.42	1038	1.59	1100	1.76	1158	1.92	1213	2.09	1264	2.26	1313	2.43	1360	2.59	1405		2800
2900	2 HP	1.53	1058	1.7	1119	1.88	1177	2.05	1231	2.23	1282	2.4	1330	2.57	1377	2.75	1422		2900
3000		1.63	1075	1.81	1136	2	1192	2.18	1246	2.36	1297	2.54	1345	2.72	1392	2.9	1436		3000

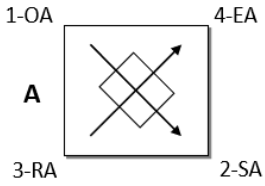
CFM/MOTOR TABLE: ERV

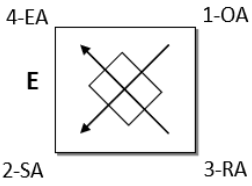
		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1.00		ESP = 1.25		ESP = 1.50		ESP = 1.75		ESP =2.00			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
2400	1 1/2 HP	1.08	981	1.22	1044	1.37	1104	1.51	1159	1.65	1212	1.84	1280	1.92	1308	2.05	1353	3 HP	2400
2500		1.17	1002	1.32	1065	1.47	1124	1.62	1179	1.77	1231	1.92	1280	2.06	1326	2.2	1371		2500
2600		1.27	1021	1.42	1083	1.58	1141	1.74	1195	1.89	1247	2.05	1296	2.19	1342	2.34	1387		2600
2700		1.37	1041	1.53	1102	1.7	1160	1.86	1214	2.02	1265	2.18	1313	2.34	1360	2.49	1404		2700
2800		1.48	1061	1.65	1122	1.82	1178	1.98	1232	2.15	1282	2.32	1331	2.49	1377	2.65	1421		2800
2900	2 HP	1.58	1078	1.76	1138	1.93	1194	2.11	1247	2.28	1298	2.45	1346	2.63	1392	2.8	1436		2900
3000		1.7	1098	1.88	1157	2.06	1212	2.24	1265	2.42	1315	2.6	1362	2.78	1408	2.96	1452		3000
3100		1.82	1116	2.01	1175	2.19	1230	2.38	1282	2.57	1331	2.75	1378	2.94	1424				3100
3200		1.94	1135	2.14	1192	2.33	1247	2.52	1298	2.71	1347	2.91	1394						3200
3300	3 HP	2.07	1153	2.27	1210	2.47	1264	2.67	1315	2.87	1363								3300
3400		2.2	1171	2.41	1227	2.61	1280	2.82	1331										3400
3500		2.34	1188	2.55	1244	2.76	1296	2.97	1347										3500
3600		2.48	1205	2.7	1260	2.91	1312											N/A	3600
3700		2.63	1221	2.85	1276														3700
3800		2.77	1237																3800
3900		2.93	1253																3900
4000																			4000

CFM/MOTOR TABLE: ERV – FACE AND BYPASS

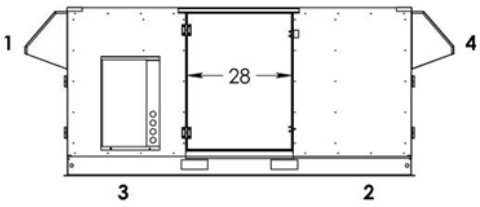
		ESP = 0.25		ESP = 0.50		ESP = 0.75		ESP = 1		ESP = 1.25		ESP = 1.50		ESP = 1.75		ESP =2.00			
CFM	Motor Size	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	Motor Size	CFM
1600	3/4 HP	0.57	876	0.66	942	0.75	1002	0.84	1059	0.94	1112	1.03	1162	1.12	1210	1.22	1256		1600
1700		0.65	904	0.74	968	0.84	1027	0.93	1083	1.03	1135	1.13	1185	1.23	1232	1.33	1278	1 1/2 HP	1700
1800		0.73	931	0.83	994	0.93	1052	1.03	1107	1.13	1158	1.24	1207	1.34	1254	1.44	1299		1800
1900	1 HP	0.82	960	0.93	1021	1.03	1078	1.14	1132	1.24	1183	1.35	1231	1.46	1278	1.57	1322		1900
2000		0.92	988	1.03	1048	1.14	1104	1.25	1157	1.36	1207	1.47	1255	1.59	1300	1.7	1344	2 HP	2000
2100	1 1/2 HP	1.01	1013	1.13	1072	1.25	1127	1.36	1179	1.48	1229	1.6	1276	1.72	1321	1.84	1364		2100
2200		1.11	1039	1.24	1098	1.37	1152	1.49	1203	1.61	1252	1.73	1299	1.86	1343	1.98	1386		2200
2300		1.22	1065	1.36	1122	1.49	1176	1.62	1227	1.75	1275	1.87	1321	2	1365	2.13	1407		2300
2400		1.33	1090	1.48	1146	1.62	1200	1.75	1249	1.89	1297	2.02	1343	2.15	1386	2.29	1428		2400
2500		1.45	1114	1.6	1170	1.75	1222	1.89	1272	2.03	1319	2.17	1364	2.31	1407	2.45	1449		2500
2600	2 HP	1.57	1138	1.73	1193	1.89	1245	2.04	1294	2.19	1340	2.33	1385	2.48	1428	2.62	1469	3 HP	2600
2700		1.7	1162	1.86	1216	2.03	1267	2.19	1315	2.35	1362	2.5	1406	2.65	1448	2.8	1489		2700
2800		1.84	1187	2.01	1240	2.18	1290	2.35	1338	2.51	1384	2.67	1428	2.83	1470	2.99	1510		2800

CONFIGURATIONS

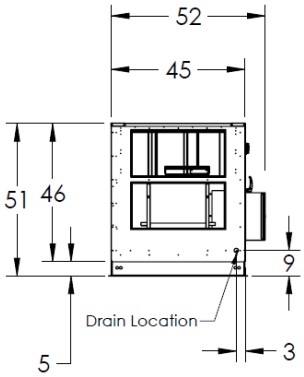




SHOP DRAWINGS – BASIC OPTIONS/CONFIGURATIONS SHOWN

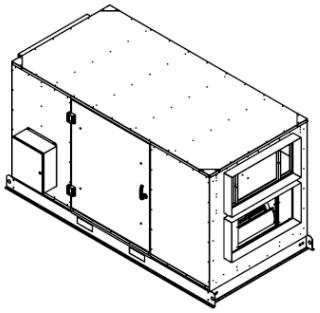


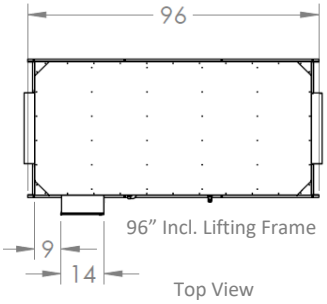
1 = Outside Air (OA) 2 = Supply Air (SA)
3 = Return Air (RA) 4 = Exhaust Air (EA)



Typ. Left View: Side Discharge

Drain Detail
(ALL CONFIGURATIONS)

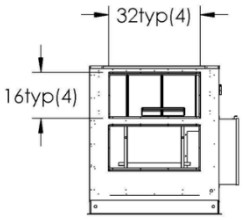




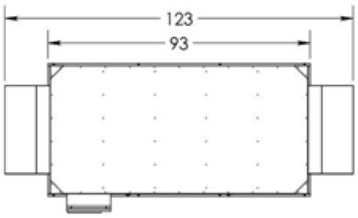
96" Incl. Lifting Frame

Top View

Service Clearances: NU2540						
Front		Back	Left	Right	Top	Bottom
RECOMMENDED	MINIMUM					
(in)	(in)	(in)	(in)	(in)	(in)	(in)
30	18	0	0	0	0	0

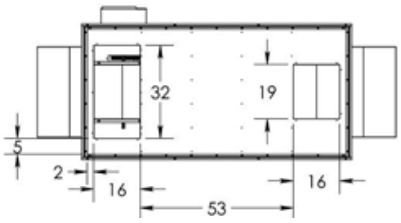


Typ. Side View:
DUCT CONNECTIONS
Side Configuration



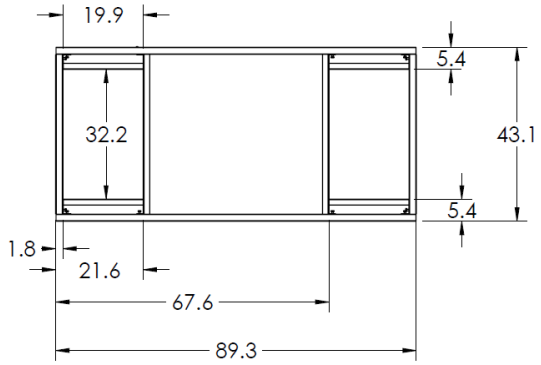
123" Incl. Hoods

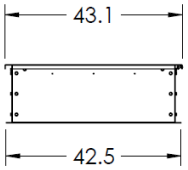
Top View

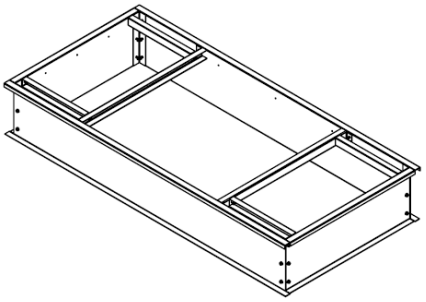


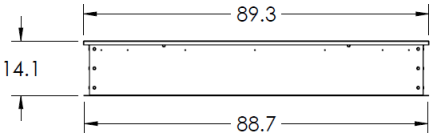
Typ. Bottom View: Downflow. NOTE: ALL BOTTOM DUCT CONNECTIONS 32 X 16

SHOP DRAWINGS – STANDARD 14-inch ROOF CURB, p/n RC303540-14

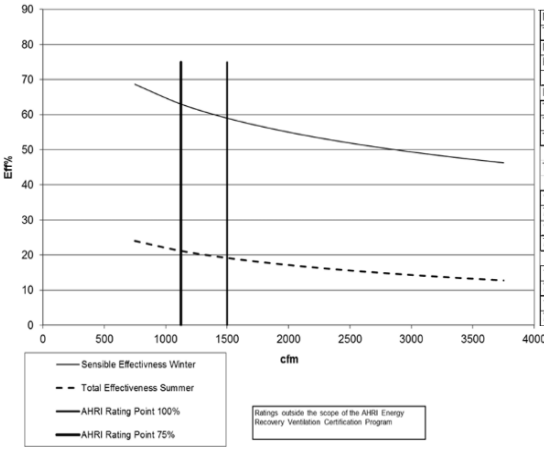








HRV PERFORMANCE – AHRI 1060

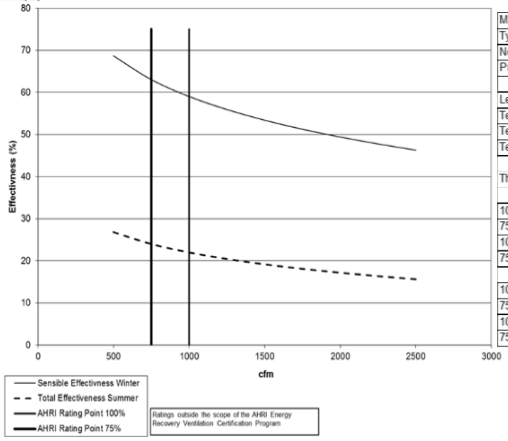


Model no.	PC 24		
Type	Plate		
Nominal Air Flow (scfm)	500		
Pressure drop (inches)	0.24		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	0.50	0.95
Test 2	0	0.00	1.00
Test 3	0.5	0.20	1.08
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	59	0	39
75% air Flow Heating	63	0	42
100% air Flow cooling	59	0	22
75% air Flow Cooling	63	0	24
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	59	0	39
75% air Flow Heating	63	0	41
100% air Flow cooling	59	0	22
75% air Flow Cooling	63	0	24

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

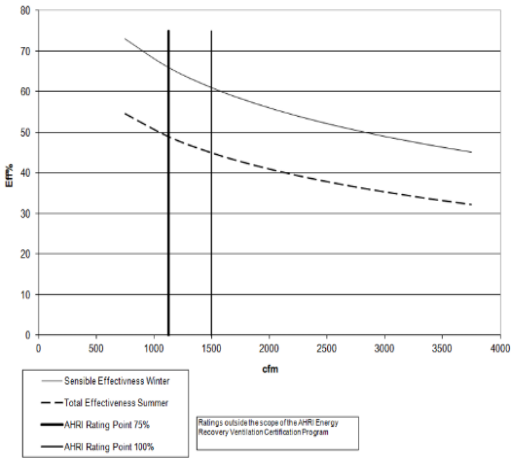


Model no.	PC 24		
Type	Plate		
Nominal Air Flow (scfm)	500		
Pressure drop (inches)	0.24		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	0.50	0.95
Test 2	0	0.00	1.00
Test 3	0.5	0.20	1.08
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	59	0	39
75% air Flow Heating	63	0	42
100% air Flow cooling	59	0	22
75% air Flow Cooling	63	0	24
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	59	0	39
75% air Flow Heating	63	0	41
100% air Flow cooling	59	0	22
75% air Flow Cooling	63	0	24

AHRI CERTIFIED

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

ERV PERFORMANCE – AHRI 1060

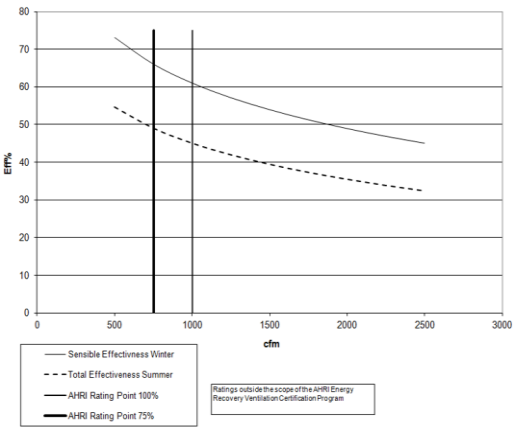


Model no.	EC-24		
Type	Plate		
Nominal Air Flow (scfm)	500		
Pressure drop (inches)	0.23		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	5	0.92
Test 2	0	0.8	1.07
Test 3	0.5	0.5	1.2
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	61	46	56
75% air Flow Heating	66	49	60
100% air Flow cooling	61	35	45
75% air Flow Cooling	66	39	49
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	61	46	56
75% air Flow Heating	66	49	60
100% air Flow cooling	61	34	44
75% air Flow Cooling	66	39	49

AHRI CERTIFIED

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

ERV PERFORMANCE FACE & BYPASS – AHRI 1060

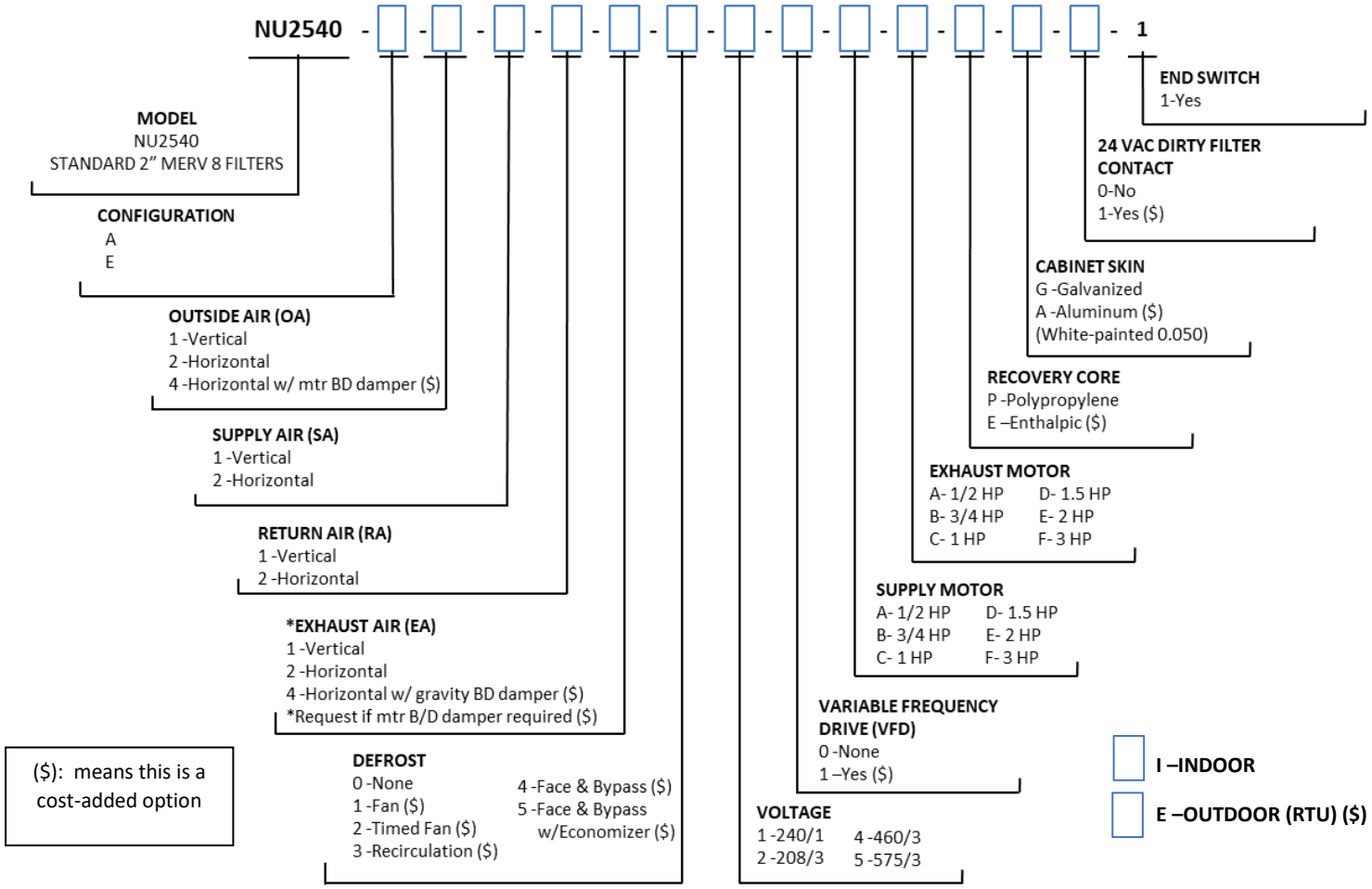


Model no.	EC-24		
Type	Plate		
Nominal Air Flow (scfm)	500		
Pressure drop (inches)	0.23		
Leakage Ratings	Diff. Pressure	EATR %	OACF
Test 1	-0.5	5	0.92
Test 2	0	0.8	1.07
Test 3	0.5	0.5	1.2
Thermal Effectiveness Ratings at 0" Pressure Differential			
	Sensible	Latent	Total
100% air Flow Heating	61	46	56
75% air Flow Heating	66	49	60
100% air Flow cooling	61	35	45
75% air Flow Cooling	66	39	49
	Net Sensible	Net Latent	Net Total
100% air Flow Heating	61	46	56
75% air Flow Heating	66	49	60
100% air Flow cooling	61	34	44
75% air Flow Cooling	66	39	49

AHRI CERTIFIED

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

PRODUCT SELECTION/ORDERING INFORMATION: NU2540



ADD-ON OPTIONS/ACCESSORIES: NU2540

- ☐ 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		