

Energy Analyzer Pro: Leveraging Mini-Splits for Fit Products

September 2025

DAIKIN COMFORT TECHNOLOGIES NORTH AMERICA, INC.



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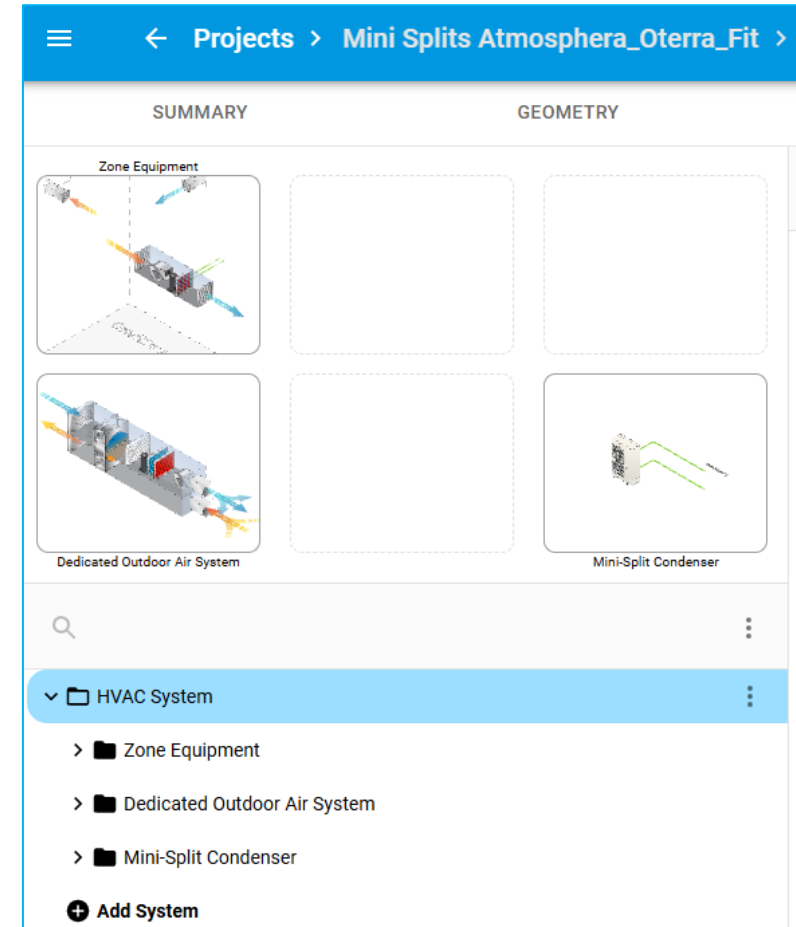


Leveraging EA Pro for similar products

As of summer 2025, EA Pro includes product-specific performance data (“models”) for the following Daikin Comfort Products:

- VRV
 - Emerion (3 phase)
 - Aurora (3 phase)
 - T-Series Water-Cooled (3 phase)
 - IV-S (1 phase)
 - VRV-S R32 (1 phase)
- Mini-Splits
 - Atmosphaera
 - Oterra

However, other Daikin Comfort product lines can also be modeled in EA Pro by leveraging similar products included in the tool.



EA Pro HVAC page navigation tree

Using Atmosphaera to model Fit

For example, we can use Atmosphaera as a basis to model Fit products.

This is because both product lines have similar operating characteristics, such as:

- Operational temperature range
- Percent capacity versus outdoor & indoor temperatures
- Inverter compressors

EXPANDED HEATING DATA — NORMAL HEATING MODE

DH7VSA2410A* + DFVE36CP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	31.5	28.5	26.1	24.2	23.2	22.6	21.2	26.9	25.3	23.6	21.9	20.9	20.2	18.5	17.0	15.1	12.1	9.5
T/R	40	36	33	30	29	28	26	34	32	30	28	26	25	23	21	19	14	11
KW	2.26	2.19	2.13	2.09	2.06	2.04	2.01	2.98	2.90	2.82	2.74	2.69	2.66	2.57	2.49	2.41	2.09	1.73
AMPS	8.4	8.1	7.9	7.7	7.6	7.5	7.4	11.5	11.1	10.8	10.5	10.3	10.1	9.7	9.4	9.1	7.8	6.3
COP	4.08	3.82	3.59	3.40	3.30	3.24	3.10	2.65	2.55	2.45	2.34	2.28	2.23	2.11	2.00	1.91	1.81	1.80
HI PR	385	365	349	337	330	326	318	335	327	319	312	308	305	298	293	281	262	231
LO PR	156	137	122	110	104	100	92	81	74	67	60	56	54	47	42	33	28	25

DH7VSA3610A* + DFVE48DP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	47.4	42.9	39.4	36.5	35.0	34.1	32.1	46.4	43.1	40.0	36.9	35.1	33.9	31.1	29.0	24.6	17.7	12.9
T/R	37	33	31	28	27	26	25	34	31	29	27	26	25	23	21	18	13	9
KW	3.43	3.32	3.23	3.15	3.11	3.08	3.02	5.15	5.00	4.85	4.70	4.61	4.54	4.39	4.25	4.06	3.01	2.44
AMPS	13.3	12.8	12.4	12.1	11.9	11.8	11.6	19.9	19.2	18.6	18.0	17.6	17.4	16.7	16.2	15.4	11.1	8.7
COP	4.05	3.79	3.57	3.39	3.30	3.24	3.11	2.64	2.53	2.42	2.30	2.24	2.19	2.08	2.00	1.87	1.88	1.80
HI PR	388	370	355	343	337	333	326	366	356	345	334	327	322	310	300	288	244	212
LO PR	147	129	115	104	99	95	88	71	65	59	54	51	48	43	40	31	26	21

DH7VSA4210A* + DFVE60DP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	55.1	50.1	46.0	42.7	41.0	40.0	37.7	51.6	48.2	44.8	41.2	39.0	37.6	34.0	31.0	27.1	20.9	16.0
T/R	44	39	36	34	32	31	29	41	38	35	32	30	29	26	24	21	16	12
KW	4.12	3.95	3.81	3.70	3.64	3.60	3.52	5.99	5.78	5.57	5.33	5.17	5.07	4.80	4.54	4.36	3.53	2.92
AMPS	16.9	16.1	15.5	15.0	14.7	14.6	14.2	24.4	23.5	22.6	21.6	20.9	20.4	19.3	18.2	17.4	13.9	11.3
COP	3.92	3.71	3.53	3.38	3.30	3.25	3.14	2.53	2.44	2.36	2.27	2.21	2.17	2.07	2.00	1.92	1.90	1.86
HI PR	428	404	385	370	363	358	348	382	369	356	343	336	331	318	308	291	260	232
LO PR	151	133	118	106	100	97	89	74	68	63	57	53	51	45	39	33	29	24

DH7VSA4810A* + DFVE60DP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	64.4	58.4	53.5	49.5	47.5	46.3	43.6	56.0	52.3	48.5	44.7	42.3	40.7	36.8	33.6	29.4	24.1	17.3
T/R	43	39	36	33	32	31	29	39	37	34	31	29	28	25	23	20	16	12
KW	4.82	4.61	4.44	4.29	4.22	4.17	4.07	6.49	6.27	6.03	5.77	5.61	5.49	5.20	4.92	4.73	4.14	3.16
AMPS	17.9	17.1	16.4	15.8	15.5	15.3	14.9	24.4	23.5	22.6	21.5	20.9	20.4	19.3	18.2	17.4	15.1	11.3
COP	3.91	3.71	3.53	3.38	3.30	3.25	3.14	2.53	2.44	2.36	2.27	2.21	2.17	2.07	2.00	1.92	1.87	1.86
HI PR	431	407	387	371	363	358	348	380	367	354	342	334	329	316	306	290	267	231
LO PR	150	132	117	105	99	95	87	74	69	63	57	54	51	45	39	33	28	24

Heating Capacity Tables SS-DH7VS-R32

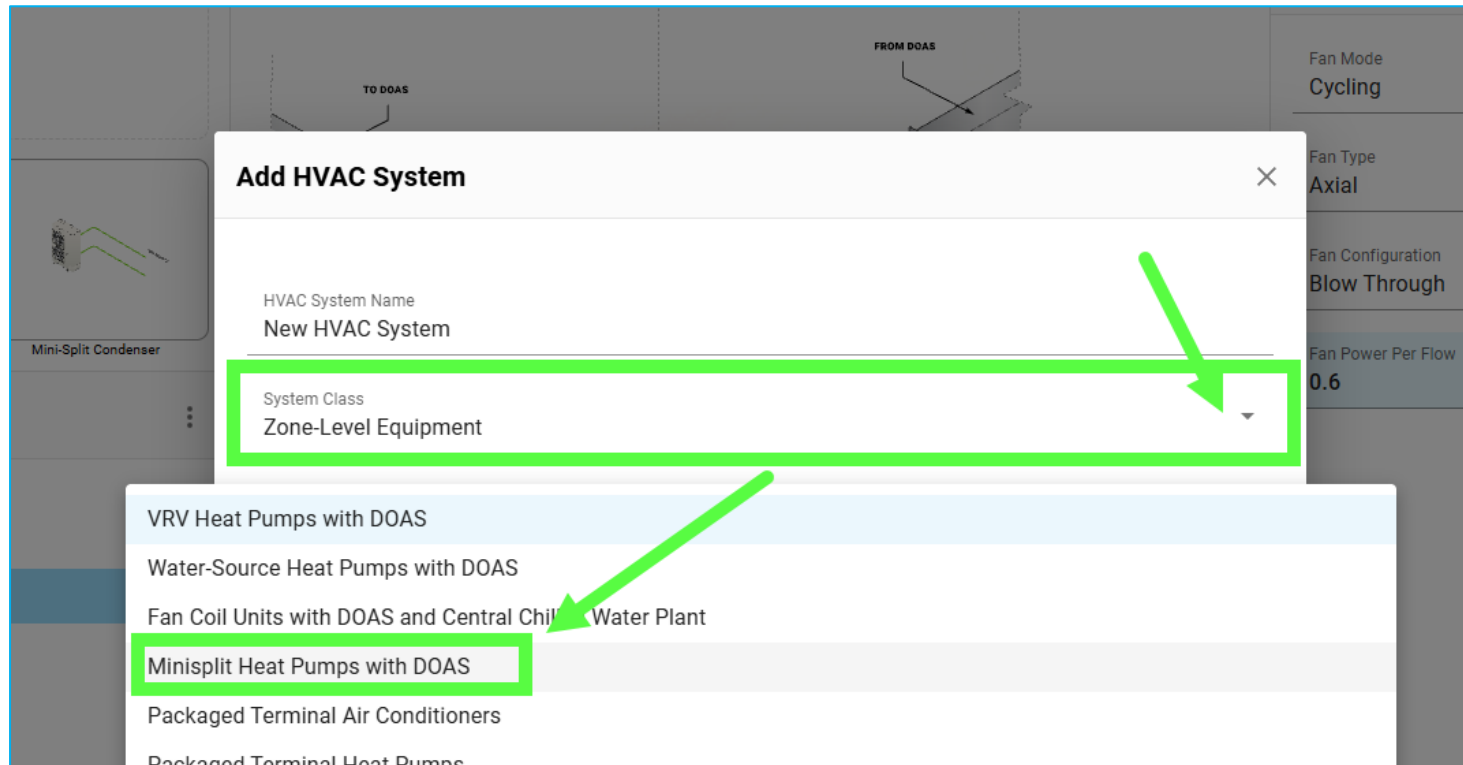


Using Atmosphaera to model Fit

(The following example and efficiency analysis will focus on Fit model combination DH7VSA4210A* (outdoor unit) & DFVE60DP1300A* (indoor unit). For simplicity, this combination and approach can be used as a typical model for other Fit combinations.)

To approximately model a Fit system, please follow these steps:

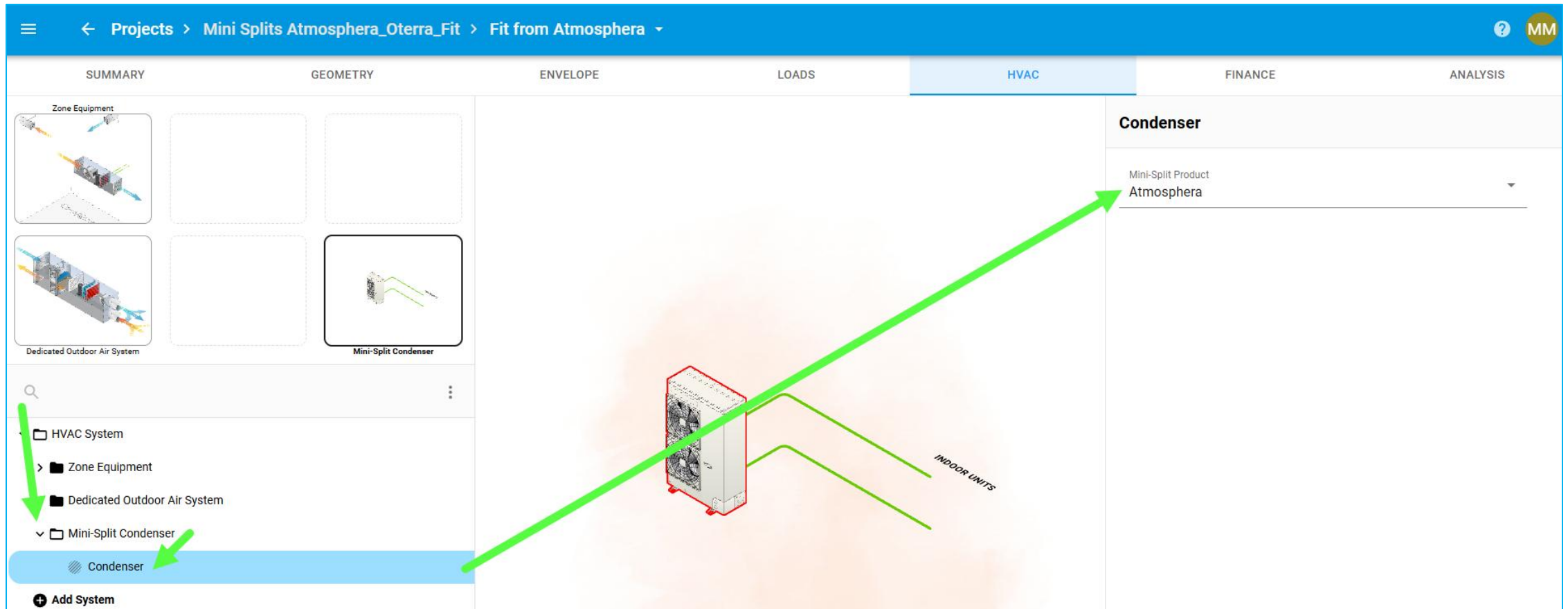
1.) Under System Class *Zone-Level Equipment*, select *Minisplit Heat Pumps with DOAS*



Minisplit System Selection in EA Pro

Using Atmosphaera to model Fit

2.) In the HVAC tab, click on *Condenser* under Mini-Split Condenser. Select *Atmosfera* under Mini-Split Product.



EA Pro HVAC page adjustments

Using Atmosphaera to model Fit

3.) Under Zone Equipment / Unit Fan / Fan Power Per Flow, enter 0.6 W/CFM.

The screenshot displays the EA Pro HVAC software interface for configuring a 'Fit from Atmosphaera' project. The top navigation bar shows the project path: 'Projects > Mini Splits Atmosphaera_Oterra_Fit > Fit from Atmosphaera'. The main interface is divided into several tabs: SUMMARY, GEOMETRY, ENVELOPE, LOADS, HVAC (selected), FINANCE, and ANALYSIS. On the left, a 'Zone Equipment' panel shows a tree view with 'Unit Fan' selected under 'Zone Equipment'. The central 3D model illustrates a room with a mini-split unit, showing 'Return Air' and 'Supply Air' flow directions. On the right, the 'Unit Fan' configuration panel is visible, with the 'Fan Power Per Flow' set to 0.6 W/CFM. Other settings include Fan Mode (Cycling), Fan Type (Axial), and Fan Configuration (Blow Through).

EA Pro HVAC page adjustments

Using Atmosphaera to model Fit

4.) Under Zone Equipment / Unit Cooling Coil / Cooling Coil EER, enter 12.5.

(In general, it's also recommended to keep Capacity Method set to *Autosize*)

The screenshot displays the Atmosphaera software interface for configuring HVAC systems. The top navigation bar shows the project path: **Projects > Mini Splits Atmosphaera_Oterra_Fit > Fit from Atmosphaera**. The main interface is divided into several tabs: **SUMMARY**, **GEOMETRY**, **ENVELOPE**, **LOADS**, **HVAC** (selected), **FINANCE**, and **ANALYSIS**. On the left, a tree view under **HVAC System > Zone Equipment** lists components: **Unit Fan**, **Unit Cooling Coil** (highlighted in blue), **Unit Heating Coil**, **Unit Aux Heating Coil**, and **Other Heating**. Below this are **Dedicated Outdoor Air System** and **Mini-Split Condenser**. The central 3D model shows a room with a mini-split unit, with arrows indicating **Return Air** and **Supply Air** flows. On the right, the **Unit Cooling Coil** configuration panel is shown with the following settings: **Cooling Coil Type** set to **DX Air**, **Cooling Efficiency Method** set to **EER**, **Cooling Coil EER** set to **12.5**, and **Capacity Method** set to **Autosize**. A green arrow points from the **Unit Cooling Coil** in the tree view to the **Cooling Coil EER** field in the configuration panel.

EA Pro HVAC page adjustments

Using Atmosfera to model Fit

5.) Under Zone Equipment / Unit Heating Coil / Heating Coil COP, enter 4.13.

The screenshot displays the EA Pro HVAC software interface. The top navigation bar shows the project path: Projects > Mini Splits Atmosfera_Oterra_Fit > Fit from Atmosfera. The main interface is divided into several tabs: SUMMARY, GEOMETRY, ENVELOPE, LOADS, HVAC (selected), FINANCE, and ANALYSIS. On the left, a 'Zone Equipment' panel shows a tree view with 'Unit Heating Coil' selected and highlighted in blue. A green arrow points from this selection to the 'Unit Heating Coil' configuration panel on the right. This panel includes a 3D model of the unit with 'Return' and 'Supply Air' arrows. The configuration panel on the right shows the following settings:

- Heating Coil Type: DX Air
- Heating Coil COP: 4.13
- Capacity Method: Autosize

EA Pro HVAC page adjustments

Fan Watts / CFM



Submittal Data Sheet

daikin ah inverter, 5ton_r32
DFVE60DP1300

PERFORMANCE

Product Model No.	DFVE60DP1300	Product Model Name:	daikin ah inverter, 5ton_r32
Type:	Air Handler	Cooling Capacity (Nominal) (Btu/hr):	60,000
Blower Motor Rating (HP):	1		

PRODUCT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Airflow Rate (High) (CFM):	
Min. Circuit Amps MCA (A):	6.8/6.5	Suction Valve Connection Size (inch):	7/8
Max Overcurrent Protection (MOP) (A):	15/15	Liquid Valve Connection Size (inch):	3/8
Dimensions (HxWxD) (in):	58 x 24-1/2 x 21	Condensate Connection (inch):	

DFVE60DP1300 Submittal

For Mini-Split systems in EA Pro, indoor unit fan power is modeled using its Watts / CFM. This is the ratio of its input power at rated conditions (measured in watts) to its airflow at rated conditions (measured in CFM). Ideally, this ratio can be obtained using fan curve or table data that includes input power at various conditions. However, input power details for the DFVE60DP1300A* are not published. The closest data available that we can use is the electrical data in its submittal.

In this case, input power can be estimated using the following:

$$\text{Input Power (Watts)} \sim \text{Volts} \times \text{MCA} \times 0.8 \times \text{Load Factor}$$

The 0.8 accounts for the inherent safety factor included within the calculation of MCA.

The Load Factor is an estimate of its rated power in the given application over its maximum input power. (This AHU's electrical system is sized for larger applications at higher airflow than our application. Its nominal size is 60 MBH, while our application is 42 MBH.) Also, rated airflow conditions are typically not at the unit's maximum capacity for pressure and flow. In our application, we'll estimate Load Factor ~0.66.

So:

$$\text{Input Power (Watts)} \sim 230\text{V} \times 6.5\text{A} \times 0.8 \times 0.66$$
$$\sim 790 \text{ Watts}$$



Fan Watts / CFM

Rated airflow can be found in the DH7VS specification sheet: 1320 CFM:

So:

Watts/CFM ~ 790 Watts / 1320 CFM

~ 0.6 Watts/CFM

IDB*		Airflow		OUTDOOR AMBIENT TEMPERATURE																																														
				65°F				75°F				85°F				95°F				105°F				115°F																										
				59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71																							
80	1120	MBh	26.4	42.1	45.6	47.6	36.7	43.2	44.5	46.5	42.6	41.4	42.7	44.6	38.3	38.8	40.1	42.0	35.4	35.9	37.2	39.0	32.5	33.1	34.2	36.1	0.91	0.76	0.60	0.47	0.85	0.74	0.61	0.47	0.85	0.76	0.63	0.50	0.85	0.78	0.65	0.51	1.00	0.80	0.67	0.53	1.00	0.85	0.72	0.58
		S/T	29	29	23	19	31	26	23	19	32	27	23	20	28	26	23	19	28	26	23	19	33	31	27	23	1.46	2.41	2.90	2.93	2.38	3.27	3.26	3.29	3.42	3.68	3.67	3.70	4.12	4.11	4.11	4.13	4.60	4.60	4.59	4.62	4.95	4.95	4.94	4.97
		ΔT	5.9	9.5	11.4	11.5	9.4	12.7	12.7	12.8	13.1	14.2	14.2	14.3	15.8	15.8	15.8	15.9	17.6	17.6	17.6	17.7	18.8	18.8	18.8	18.9	257	272	275	279	310	316	318	322	363	361	362	367	408	409	411	416	460	461	463	468	520	521	523	528
		Amps	120	119	123	134	120	121	129	140	121	125	134	145	122	129	138	149	125	132	141	152	132	140	150	161	31.1	46.9	46.3	48.3	41.1	43.9	45.2	47.1	41.5	42.1	43.3	45.2	38.9	39.5	41.0	42.6	36.0	36.6	37.8	39.6	33.1	33.7	34.9	36.7
		Hi PR	0.96	0.82	0.67	0.54	0.92	0.81	0.68	0.54	0.90	0.83	0.70	0.57	1.00	0.85	0.72	0.59	1.00	0.87	0.74	0.61	1.00	0.92	0.79	0.66	1.70	2.74	2.92	2.95	2.72	3.29	3.29	3.32	3.70	3.70	3.69	3.72	4.14	4.14	4.10	4.16	4.62	4.62	4.61	4.64	4.97	4.97	4.97	4.99
		Lo PR	6.9	10.6	11.5	11.6	10.6	12.8	12.8	12.9	14.3	14.3	14.3	14.4	15.9	15.9	16.7	16.0	17.7	17.7	17.7	17.8	18.9	18.9	18.9	19.0	264	278	278	282	317	318	320	325	362	363	365	370	411	412	418	418	463	464	466	470	523	524	526	531
	1320	MBh	31.1	46.9	46.3	48.3	41.1	43.9	45.2	47.1	41.5	42.1	43.3	45.2	38.9	39.5	41.0	42.6	36.0	36.6	37.8	39.6	33.1	33.7	34.9	36.7	0.96	0.82	0.67	0.54	0.92	0.81	0.68	0.54	0.90	0.83	0.70	0.57	1.00	0.85	0.72	0.59	1.00	0.87	0.74	0.61	1.00	0.92	0.79	0.66
	S/T	28	28	22	18	30	25	22	18	27	25	22	18	27	25	21	18	26	25	21	18	31	29	25	21	1.70	2.74	2.92	2.95	2.72	3.29	3.29	3.32	3.70	3.70	3.69	3.72	4.14	4.14	4.10	4.16	4.62	4.62	4.61	4.64	4.97	4.97	4.97	4.99	
	ΔT	6.9	10.6	11.5	11.6	10.6	12.8	12.8	12.9	14.3	14.3	14.3	14.4	15.9	15.9	16.7	16.0	17.7	17.7	17.7	17.8	18.9	18.9	18.9	19.0	264	278	278	282	317	318	320	325	362	363	365	370	411	412	418	418	463	464	466	470	523	524	526	531	
	Amps	120	120	125	136	120	123	131	142	120	127	136	147	123	131	141	151	127	134	143	154	134	142	152	163	35.8	45.9	47.2	49.2	46.0	44.7	46.0	48.0	42.3	42.9	44.1	46.1	39.7	40.3	41.5	43.4	36.8	37.4	38.6	40.4	33.9	34.4	35.6	37.4	
	Hi PR	0.97	0.84	0.71	0.57	0.94	0.84	0.71	0.58	0.94	0.87	0.74	0.60	1.00	0.89	0.76	0.62	1.00	0.91	0.78	0.64	1.00	0.96	0.83	0.69	1.95	2.95	2.94	2.97	3.09	3.31	3.31	3.34	3.72	3.72	3.71	3.74	4.16	4.16	4.15	4.18	4.64	4.64	4.63	4.66	4.99	4.99	4.98	5.01	
	Lo PR	7.8	11.6	11.5	11.6	12.0	12.9	12.9	13.0	14.4	14.4	14.4	14.5	16.0	16.0	16.0	16.1	17.8	17.8	17.8	17.9	19.0	19.0	18.9	19.0	270	278	280	285	323	321	323	328	365	366	368	373	413	414	416	421	465	466	468	473	526	527	529	534	
1520	MBh	35.8	45.9	47.2	49.2	46.0	44.7	46.0	48.0	42.3	42.9	44.1	46.1	39.7	40.3	41.5	43.4	36.8	37.4	38.6	40.4	33.9	34.4	35.6	37.4	0.97	0.84	0.71	0.57	0.94	0.84	0.71	0.58	0.94	0.87	0.74	0.60	1.00	0.89	0.76	0.62	1.00	0.91	0.78	0.64	1.00	0.96	0.83	0.69	
S/T	28	24	20	17	29	24	20	17	26	24	21	17	26	24	20	17	25	24	20	17	30	28	24	20	1.95	2.95	2.94	2.97	3.09	3.31	3.31	3.34	3.72	3.72	3.71	3.74	4.16	4.16	4.15	4.18	4.64	4.64	4.63	4.66	4.99	4.99	4.98	5.01		
ΔT	6.9	10.6	11.5	11.6	12.0	12.9	12.9	13.0	14.4	14.4	14.4	14.5	16.0	16.0	16.0	16.1	17.8	17.8	17.8	17.9	19.0	19.0	18.9	19.0	270	278	280	285	323	321	323	328	365	366	368	373	413	414	416	421	465	466	468	473	526	527	529	534		
Amps	120	119	128	138	120	125	133	144	122	129	138	149	125	133	142	153	129	137	146	157	136	145	154	166	39.0	49.0	50.3	52.0	42.2	42.8	44.0	45.9	42.2	42.8	44.0	46.0	39.6	40.2	41.4	43.3	36.7	37.3	38.5	40.3	33.8	34.3	35.5	37.3		
Hi PR	1.00	0.85	0.70	0.56	1.00	0.83	0.70	0.57	1.00	0.86	0.73	0.59	1.00	0.87	0.75	0.61	1.00	0.90	0.77	0.63	1.00	1.00	0.82	0.68	1.69	2.72	2.90	2.93	2.71	3.28	3.27	3.30	3.69	3.68	3.68	3.71	4.12	4.12	4.11	4.14	4.61	4.60	4.60	4.63	4.96	4.96	4.95	4.98		
Lo PR	6.8	10.6	11.4	11.5	10.6	12.8	12.7	12.9	14.3	14.3	14.2	14.4	15.9	15.9	15.8	16.0	17.7	17.6	17.6	17.7	18.8	18.8	18.8	18.9	262	277	276	281	315	317	319	324	361	362	364	368	409	410	412	417	461	462	464	469	521	523	525	529		
85	1120	MBh	31.1	47.0	46.4	48.4	41.2	44.0	45.2	47.2	41.5	42.1	43.4	45.3	39.0	39.5	40.8	42.7	36.0	36.6	37.8	39.7	33.2	33.7	34.9	36.7	1.00	0.85	0.70	0.56	1.00	0.83	0.70	0.57	1.00	0.86	0.73	0.59	1.00	0.87	0.75	0.61	1.00	0.90	0.77	0.63	1.00	1.00	0.82	0.68
S/T	34	34	27	23	35	30	26	23	32	30	27	23	32	30	26	23	31	30	26	23	37	35	31	27	1.69	2.72	2.90	2.93	2.71	3.28	3.27	3.30	3.69	3.68	3.68	3.71	4.12	4.12	4.11	4.14	4.61	4.60	4.60	4.63	4.96	4.96	4.95	4.98		
ΔT	6.8	10.6	11.4	11.5	10.6	12.8	12.7	12.9	14.3	14.3	14.2	14.4	15.9	15.9	15.8	16.0	17.7	17.6	17.6	17.7	18.8	18.8	18.8	18.9	262	277	276	281	315	317	319	324	361	362	364	368	409	410	412	417	461	462	464	469	521	523	525	529		
Amps	119	119	125	135	120	122	131	142	120	127	136	147	123	131	140	150	126	134	143	154	134	142	151	163	35.7	47.7	47.1	49.0	45.9	44.6	45.9	47.9	42.2	42.8	44.0	46.0	39.6	40.2	41.4	43.3	36.7	37.3	38.5	40.3	33.8	34.3	35.5	37.3		
Hi PR	1.00	0.92	0.77	0.63	1.00	0.90	0.77	0.64	1.00	0.93	0.80	0.66	1.00	0.95	0.82	0.68	1.00	1.00	0.84	0.70	1.00	1.00	0.89	0.75	1.95	2.74	2.93	2.96	3.08	3.30	3.30	3.32	3.71	3.71	3.70	3.73	4.15	4.14	4.14	4.17	4.63	4.63	4.62	4.65	4.98	4.98	4.97	5.00		
Lo PR	7.8	10.7	11.5	11.6	11.9	12.9	12.8	13.0	14.4	14.4	14.3	14.4	16.0	16.0	15.9	16.0	17.8	17.7	17.7	17.8	18.9	18.9	18.9	19.0	269	279	279	284	321	320	322	326	363	365	367	371	412	413	415	420	464	465	467	472	524	525	527	532		
85	1320	MBh	39.6	46.6	47.9	49.9	44.8	45.4	46.7	48.7	43.0	43.6	44.8	46.8	40.5	41.0	42.2	44.1	37.5	38.0	39.3	41.1	34.5	35.1	36.3	38.1	1.00	0.85	0.70	0.56	1.00	0.83	0.70	0.57	1.00	0.86	0.73	0.59	1.00	0.87	0.75	0.61	1.00	0.90	0.77	0.63	1.00	1.00	0.82	0.68
S/T	33	32	25	22	34	29	25	22	31	29	25	22	30	29	25	22	30	28	25	22	35	33	29	25	1.95	2.74	2.93	2.96	3.08	3.30	3.30	3.32	3.71	3.71	3.70	3.73	4.15	4.14	4.14	4.17	4.63	4.63	4.62	4.65	4.98	4.98	4.97	5.00		
ΔT	6.8	10.6	11.4	11.5	10.6	12.8	12.7	12.9	14.3	14.3	14.2	14.4	15.9	15.9	15.8	16.0	17.7	17.6	17.6	17.7	18.8	18.8	18.8	18.9	269	279	279	284	321	320	322	326	363	365	367	371	412	413	415	420	464	465	467	472	524	525	527	532		
Amps	119	121	127	13																																														

EER (Cooling)

SS-DH7VS-R32

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IDB*		AIRFLOW		OUTDOOR AMBIENT TEMPERATURE															
				65°F				75°F				85°F				95°F			
				ENTERING INDOOR WET BULB TEMPERATURE															
		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71		
80	1120	MBh	26.4	42.1	45.6	47.6	36.7	43.2	44.5	46.5	42.6	41.4	42.7	44.6	38.3	38.8	40.1	42.0	
		S/T	0.91	0.76	0.60	0.47	0.85	0.74	0.61	0.47	0.85	0.76	0.63	0.50	0.85	0.78	0.65	0.51	
		ΔT	29	29	23	19	31	26	23	19	32	27	23	20	28	26	23	19	
		kW	1.46	2.41	2.90	2.93	2.38	3.27	3.26	3.29	3.42	3.68	3.67	3.70	4.12	4.11	4.11	4.13	
		Amps	5.9	9.5	11.4	11.5	9.4	12.7	12.7	12.8	13.1	14.2	14.2	14.3	15.8	15.8	15.8	15.9	
		Hi PR	257	272	275	279	310	316	318	322	363	361	362	367	408	409	411	416	
		Lo PR	120	119	123	134	120	121	129	140	121	125	134	145	122	129	138	149	
	1320	MBh	31.1	46.9	46.3	48.3	41.1	43.9	45.2	47.1	41.5	42.1	43.3	45.2	38.9	39.5	41.0	42.6	
		S/T	0.96	0.82	0.67	0.54	0.92	0.81	0.68	0.54	0.90	0.83	0.70	0.57	1.00	0.85	0.72	0.59	
		ΔT	28	28	22	18	30	25	22	18	27	25	22	18	27	25	21	18	
		kW	1.70	2.74	2.92	2.95	2.72	3.29	3.29	3.32	3.70	3.70	3.69	3.72	4.14	4.14	4.10	4.16	
		Amps	6.9	10.6	11.5	11.6	10.6	12.8	12.8	12.9	14.3	14.3	14.3	14.4	15.9	15.9	16.7	16.0	
		Hi PR	264	278	278	282	317	318	320	325	362	363	365	370	411	412	411	418	
		Lo PR	120	120	125	136	120	123	131	142	120	127	136	147	123	131	141	151	
	1520	MBh	35.8	45.9	47.2	49.2	46.0	44.7	46.0	48.0	42.3	42.9	44.1	46.1	39.7	40.3	41.5	43.4	
		S/T	0.97	0.84	0.71	0.57	0.94	0.84	0.71	0.58	0.94	0.87	0.74	0.60	1.00	0.89	0.76	0.62	
		ΔT	28	24	20	17	29	24	20	17	26	24	21	17	26	24	20	17	
		kW	1.95	2.95	2.94	2.97	3.09	3.31	3.31	3.34	3.72	3.72	3.71	3.74	4.16	4.16	4.15	4.18	
Amps		7.8	11.6	11.5	11.6	12.0	12.9	12.9	13.0	14.4	14.4	14.4	14.5	16.0	16.0	16.0	16.1		
Hi PR		270	278	280	285	323	321	323	328	365	366	368	373	413	414	416	421		
Lo PR		120	119	128	138	120	125	133	144	122	129	138	149	125	133	142	153		

SS-DH7VS-R32

EER stands for “Energy Efficiency Ratio”, and it’s a measure of cooling efficiency. Taken at rated conditions, it’s the ratio of the system’s total cooling capacity (in thousands of BTUs per hour) to its total input power (in kilowatts).

Referencing the specification sheet for our application, the EER for the **system*** would be:

$$EER = \frac{41 \text{ MBH}}{4.1 \text{ kW}}$$

$$= 10 \text{ MBH/kW}$$

(* More on this in following slides.)



COP (Heating)

EXPANDED HEATING DATA — NORMAL HEATING MODE

DH7VSA2410A* + DFVE36CP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	31.5	28.5	26.1	24.2	23.2	22.6	21.2	26.9	25.3	23.6	21.9	20.9	20.2	18.5	17.0	15.1	12.1	9.5
T/R	40	36	33	30	29	28	26	34	32	30	28	26	25	23	21	19	14	11
KW	2.26	2.19	2.13	2.09	2.06	2.04	2.01	2.98	2.90	2.82	2.74	2.69	2.66	2.57	2.49	2.41	2.09	1.73
AMPS	8.4	8.1	7.9	7.7	7.6	7.5	7.4	11.5	11.1	10.8	10.5	10.3	10.1	9.7	9.4	9.1	7.8	6.3
COP	4.08	3.82	3.59	3.40	3.30	3.24	3.10	2.65	2.55	2.45	2.34	2.28	2.23	2.11	2.00	1.91	1.81	1.80
Hi PR	385	365	349	337	330	326	318	335	327	319	312	308	305	298	293	281	262	231
LO PR	156	137	122	110	104	100	92	81	74	67	60	56	54	47	42	33	28	25

DH7VSA3610A* + DFVE48DP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	47.4	42.9	39.4	36.5	35.0	34.1	32.1	46.4	43.1	40.0	36.9	35.1	33.9	31.1	29.0	24.6	17.7	12.9
T/R	37	33	31	28	27	26	25	34	31	29	27	26	25	23	21	18	13	9
KW	3.43	3.32	3.23	3.15	3.11	3.08	3.02	5.15	5.00	4.85	4.70	4.61	4.54	4.39	4.25	4.06	3.01	2.44
AMPS	13.3	12.8	12.4	12.1	11.9	11.8	11.6	19.9	19.2	18.6	18.0	17.6	17.4	16.7	16.2	15.4	11.1	8.7
COP	4.05	3.79	3.57	3.39	3.30	3.24	3.11	2.64	2.53	2.42	2.30	2.24	2.19	2.08	2.00	1.87	1.88	1.80
Hi PR	388	370	355	343	337	333	326	366	356	345	334	327	322	310	300	288	244	212
LO PR	147	129	115	104	99	95	88	71	65	59	54	51	48	43	40	31	26	21

DH7VSA4210A* + DFVE60DP1300A*

	OUTDOOR AMBIENT TEMPERATURE																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	55.1	50.1	46.0	42.7	41.0	40.0	37.7	51.6	48.2	44.8	41.2	39.0	37.6	34.0	31.0	27.1	20.9	16.0
T/R	44	39	36	34	32	31	29	41	38	35	32	30	29	26	24	21	16	12
KW	4.12	3.95	3.81	3.70	3.64	3.60	3.52	5.99	5.78	5.57	5.33	5.17	5.07	4.80	4.54	4.36	3.53	2.92
AMPS	16.9	16.1	15.5	15.0	14.7	14.6	14.2	24.4	23.5	22.6	21.6	20.9	20.4	19.3	18.2	17.4	13.9	11.3
COP	3.92	3.71	3.53	3.38	3.30	3.25	3.14	2.53	2.44	2.36	2.27	2.21	2.17	2.07	2.00	1.92	1.90	1.86
Hi PR	428	404	385	370	363	358	348	382	369	356	343	336	331	318	308	291	260	232
LO PR	151	133	118	106	100	97	89	74	68	63	57	53	51	45	39	33	29	24

SS-DH7VS-R32

COP stands for “Coefficient of Performance”, and it’s an efficiency ratio of a refrigeration cycle. In general, it can be used to describe cooling cycles or heat pump heating cycles. But in our application, it is used to describe heat pump heating efficiency. Taken at rated conditions, it is equal to the ratio of the system’s total heating capacity to its total input power – with both values measured in the same units of measurement. (Therefore, COP is dimensionless.)

The following conversion factor can be used:

$$1kW = 3.412MBH .$$

Referencing the specification sheet for our application, the COP for the **system** would be:

$$COP = \frac{41 MBH}{3.64 kW} \times \frac{1 kW}{3.412 MBH} = 3.30$$

EER & COP for Daikin Comfort* products in EA Pro

Typically, published values for EER and COP include *total* system power in the denominator, including all components – indoor fan(s), compressor(s), outdoor fan(s), etc. However, for Daikin Comfort products in EA Pro, indoor unit fan power is modeled separately from outdoor unit power*. Therefore, for their EER and COP values, input powers have to be adjusted to only account for outdoor power. This reduces the amount of power in the denominator – effectively increasing the EER and COP values.

For the Fit models in our application, we can use a rule-of-thumb that the outdoor units' power is approximately 80% of the total system power. Accordingly, EER and COP are updated for EA Pro by dividing by 0.8:

$$EER_{EAPro} = \frac{41 \text{ MBH}}{4.1 \text{ kW} \times 0.8}$$
$$= 12.5 \text{ MBH/kW}$$

$$COP_{EAPro} = \frac{41 \text{ MBH}}{3.64 \text{ kW} \times 0.8} \times \frac{1 \text{ kW}}{3.412 \text{ MBH}}$$
$$= 4.13$$

*Efficiency metrics may be configured differently for Daikin Applied products in EA Pro. Please refer to training materials specific to those products. For support on Daikin Applied products in EA Pro, please contact energymodeling@daikinapplied.com.

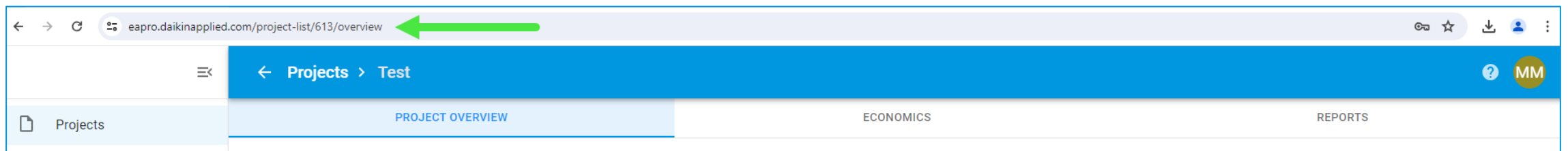


Tip: Requesting EA Pro Support

- To send a help request email, click your initials in circle at top right and then click on Support to draft an email to Applications Engineering (applications.engineering@daikincomfort.com).



- If you have a question specific to one of your projects, please include the URL of your project in the body of the email:



END