



# PEP Ecopassport<sup>®</sup>

Product Environmental Profile – IntelliPak<sup>®</sup> 1 Rooftop Unit

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Product Environmental Profile - PEP Ecopassport.  
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations."

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## Company Description

Trane Technologies® is a world leader in heating and cooling systems, services, and solutions. Together with our brands, Trane® and Thermo King®, we bring efficient and sustainable climate innovations to buildings, homes, and transportation.

Trane helps customers succeed by providing innovative solutions that optimize indoor environments through a broad portfolio of energy-efficient heating, ventilating, and air conditioning systems, buildings, contracting and energy services, parts support, and advanced controls for homes and commercial buildings.

Trane serves engineers, contractors, and building owners on all continents and in an array of markets including education, healthcare, government, industrial/ manufacturing, data centers, lodging, retail, and commercial real estate. With more than 900 U.S. patents to date, Trane creates comfortable and energy-efficient environments around the world.

Trane systems and services have a reputation for reliability, high quality, and advanced innovation; and are available through a powerful distribution network. Trane employees and distributors are respected industry-wide for their skills and performance in designing, manufacturing, marketing, and supporting commercial and residential systems.

Product Information	
Reference Product	IntelliPak® 1 Rooftop Unit
Product Description	<p>Industry-leading performance has characterized IntelliPak® for decades. The new IntelliPak® 1 continues to perform, even as the energy efficiency bar gets higher. IntelliPak® 1 includes innovative Trane technologies that deliver outstanding energy efficiency, optimize building systems for occupant comfort and simplify maintenance, including:</p> <ul style="list-style-type: none"><li>• <b>Outstanding energy efficiency.</b> 3 tiers of efficiency for most tonnages to meet specific application and regulatory needs.</li><li>• <b>Driven by Symbio® 800 controller.</b> Flexibility with building automation and connectivity.</li><li>• <b>Low-GWP refrigerant.</b> Utilizes R-454b with factory-installed leak detection system.</li><li>• <b>Packed with features for comfort and reliability.</b> Includes electronic expansion valves, optimized economizer controls, AMCA-rated ultra-low leak dampers, double-wall construction, stainless steel drain pan, modulating exhaust/return fans, multiple airflow configurations for more flexibility.</li></ul>
Functional Unit	To produce 1 kW of cooling, according to the appropriate usage scenario defined the AHRI 340/360 standard and during the 22-year reference lifetime of the product
Declared Unit	<p>To produce cooling thanks to air-to-air cooling of 158 kW according to the appropriate usage scenario and during the 22-year lifetime of the product.</p> <p><i>Note: the mathematical relationship between the functional and declared unit is such that the declared unit divided by its capacity in kW equals the functional unit.</i></p>
Other Products Covered	List of other products covered in this PEP is presented in the section which concerned the extrapolation rules
Reference Lifetime*	22 Years

\*Reference lifetime was defined as 22 years by the Product Category Rules which governed this analysis.

Technical Characteristics	
Data Point	Intellipak® 1 Rooftop Unit
Product Category (as defined in PSR)	Rooftop
Cooling Technology	Air-to-air
Reversible or Non-reversible	Non-reversible
Cooling Capacity*	539 MBh 158 kW
IEER*	15.1 BTU/W-hr 4.43 kW/kW
Refrigerant Used	R-454B
Refill Threshold**	90%

\*Capacity and IEER at AHRI 340/360 conditions

\*\*Refill threshold denotes the ratio of refrigerant (expressed as a %) at which a refill back up to the original charge takes place. Per the Product Category Rules, the refill threshold is considered 90% by default.

Constituent Materials >> Total weight of the reference product: 3,404 kg					
Plastics as % of weight		Metals as % of weight		Others as % of weight	
Product only: 3,404 kg					
Polyurethane	0.8%	Steel	55.2%	Rubber	2.3%
Other plastics	0.2%	Cast Iron	23.8%	Refrigerant	2.1%
		Aluminum	6.4%	Other miscellaneous	2.3%
		Other metals	6.9%		
Packaging only: 0 kg					
	0%		0%		0%
Total plastics	1.0%	Total metals	92.3%	Total others	6.7%

Life Cycle Stages	
<b>Manufacturing</b>	The manufacturing stage includes the production of raw and intermediate materials, as well as transportation to the manufacturer's last logistic platform for Intellipak® 1 rooftop units. The final assembly of the product is carried out at Trane's plant in Clarksville, TN, USA. As a member of SteelZero, Trane has pledged to procure, specify or stock 50% net-zero steel by 2030 and 100% net-zero steel by 2050. The main process steps for production include cutting, rolling, machining, brazing, welding, painting, sub- and final assemblies, and end-of-the-line testing.
<b>Distribution</b>	The transport from Trane's manufacturing facility to the customer was considered. The distance was calculated using averages for all shipped orders in 2024.
<b>Installation</b>	The installation stage includes diesel consumed by machinery used to move and place the product during installation.
<b>Use</b>	The use stage is conducted in alignment with the PSR, which models energy use of this air-cooled rooftop unit associated with comfort cooling applications over its 22-year lifetime. The conditions outlined AHRI Standard 340/360 were used to set product capacity and efficiency. Refrigerant leak, replacement parts, and electricity usage are considered in this stage. Default refrigerant leak amounts from the PSR were used.
<b>End of Life</b>	The end-of-life stage includes transportation to the end-of-life facility of the disposal of product. End of life fates were modeled by material for the region where they are being disposed, in this case the United States.
<b>Benefits and loads beyond the system boundaries</b>	Throughout the life cycle of the product, net loads and benefits beyond system boundaries are included.

Data Quality and Software	
<b>Geographical Representativeness</b>	The geographical scope of this PEP is North America.
<b>Temporal Representativeness</b>	Primary data was collected from 2024. Secondary data refers to the Ecoinvent database published in 2023. The temporal coverage for each secondary process used in the LCA model is specified in the documentation section of individual Ecoinvent datasets.
<b>Technological Representativeness</b>	Overall technology representativeness is considered good.
<b>Software and Database Used</b>	Sima Pro desktop 9.6.0.1 Ecoinvent Database Version 3.10

	Energy Model Used
Manufacturing	Manufacturing electricity considers the eGRID specific region from which the product is being manufactured in Ecoinvent's datasets.
Distribution	No energy consumption occurs during the distribution stage.
Installation	No energy consumption occurs during the installation stage.
Use	Use stage electricity is modeled using an average North American grid mix dataset.
End of Life	No energy consumption occurs during the end-of-life stage.
Benefits and loads beyond the system boundaries	End of life benefits consider average North American electricity.

## Environmental Impacts

### EN 15804 + A2 Environmental Impact Indicators, per kW corresponding to the functional unit

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Climate change - total	GWP	1.53E+03	kg CO2 eq	2.25E+02	2.47E+00	5.54E-01	3.70E-01	2.09E+01	1.27E+03	1.55E+01	-9.17E+01
Climate change - fossil fuels	GWPf	1.52E+03	kg CO2 eq	2.25E+02	2.47E+00	5.54E-01	3.70E-01	1.95E+01	1.26E+03	1.26E+01	-9.17E+01
Climate change - biogenics	GWPb	1.22E+01	kg CO2 eq	1.49E-01	2.87E-04	6.63E-05	0.00E+00	1.40E+00	7.70E+00	2.94E+00	2.32E-02
Climate change - land use and land use transformation	GWPlu	3.96E+00	kg CO2 eq	1.22E-01	7.11E-05	1.62E-05	0.00E+00	1.76E-02	3.82E+00	6.83E-04	-3.49E-02
Ozone depletion	ODP	1.37E-04	kg CFC-11 eq	1.30E-04	3.27E-08	7.47E-09	0.00E+00	1.42E-07	6.70E-06	3.64E-08	-2.91E-07
Acidification	AP	5.17E+00	mole of H+ eq	1.74E+00	6.48E-03	1.55E-03	0.00E+00	1.11E-01	3.31E+00	1.04E-02	-6.11E-01
Eutrophication, freshwater	Epf	9.68E-02	kg P eq	9.30E-03	6.03E-06	1.28E-06	0.00E+00	7.72E-04	8.66E-02	9.24E-05	-2.12E-03
Eutrophication, marine aquatic	Epm	7.75E-01	kg of N eq	2.43E-01	2.33E-03	5.77E-04	0.00E+00	2.25E-02	5.00E-01	6.62E-03	-9.59E-02
Eutrophication, terrestrial	Ept	8.66E+00	mole of N eq	2.73E+00	2.55E-02	6.33E-03	0.00E+00	2.32E-01	5.63E+00	3.26E-02	-1.06E+00
Photochemical ozone formation	POCP	3.26E+00	kg NMVOC eq	8.50E-01	9.66E-03	2.34E-03	0.00E+00	7.26E-02	2.32E+00	1.21E-02	-3.17E-01
Abiotic resource depletion – elements	ADPe	9.61E-03	kg Sb eq	9.02E-03	1.44E-07	3.16E-08	0.00E+00	5.03E-04	6.28E-05	1.68E-05	-2.65E-04
Abiotic resource depletion – fossil fuels	ADPf	2.65E+04	MJ	2.20E+03	3.25E+01	7.29E+00	0.00E+00	2.44E+02	2.40E+04	3.48E+01	-7.95E+02
Water use	WU	3.46E+02	m3 world eq	3.76E+01	3.00E-02	6.64E-03	0.00E+00	2.36E+00	3.07E+02	-6.31E-01	-5.89E+00

Note: characterization factors use the -1/+1 biogenic carbon storage assessment methodology

Inventory Flow Indicators, per kW corresponding to the functional unit											
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	PERE	3.52E+03	MJ	1.53E+02	5.22E-02	1.21E-02	0.00E+00	2.42E+01	3.34E+03	8.96E-01	-4.36E+01
Use of renewable primary energy resources used as raw materials	PERM	1.74E+01	MJ	1.74E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	PERT	3.53E+03	MJ	1.70E+02	5.22E-02	1.21E-02	0.00E+00	2.42E+01	3.34E+03	8.96E-01	-4.36E+01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	PENRM	1.64E+01	MJ	1.64E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.90E+00
Use of non-renewable primary energy resources used as raw materials	PENRE	2.65E+04	MJ	2.18E+03	3.25E+01	7.29E+00	0.00E+00	2.44E+02	2.40E+04	3.48E+01	-7.93E+02
Total use of non-renewable primary energy resources	PENRT	2.65E+04	MJ	2.20E+03	3.25E+01	7.29E+00	0.00E+00	2.44E+02	2.40E+04	3.48E+01	-7.95E+02
Use of secondary materials	USM	8.80E+00	kg	8.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	URSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	UNRSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	NUFW	1.61E+01	m3	1.09E+00	1.09E-03	2.44E-04	0.00E+00	9.26E-02	1.49E+01	-1.30E-02	-2.00E-01
Hazardous waste disposed	HWD	1.30E+00	kg	1.07E-01	2.64E-04	5.89E-05	0.00E+00	6.71E-03	6.23E-01	5.61E-01	-9.65E-03
Non-hazardous waste disposed	NHWD	4.26E+01	kg	7.17E+00	1.35E-03	2.95E-04	0.00E+00	2.07E+00	1.19E+01	2.15E+01	-7.90E-01
Radioactive waste disposed	RWD	1.36E-01	kg	1.68E-03	1.17E-06	2.72E-07	0.00E+00	5.01E-04	1.34E-01	1.54E-05	-1.17E-04
Components for re-use	CRU	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	2.10E+01	kg	4.55E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E+01	0.00E+00
Materials for energy recovery	MER	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	EE	3.21E+00	MJ	2.77E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.18E+00	0.00E+00

TRACI 2.1 Environmental Impact Indicators, per kW corresponding to the functional unit											
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Ozone depletion	OD	1.77E-04	kg CFC-11 eq	1.63E-04	3.46E-08	7.91E-09	0.00E+00	2.12E-07	1.42E-05	4.05E-08	-7.59E-07
Global warming	GW	1.51E+03	kg CO2 eq	2.21E+02	2.44E+00	5.48E-01	3.24E-01	1.99E+01	1.25E+03	1.31E+01	-8.98E+01
Smog	SG	4.79E+01	kg O3 eq	1.51E+01	1.48E-01	3.68E-02	6.03E-05	1.33E+00	3.11E+01	1.86E-01	-6.09E+00
Acidification	A	4.37E+00	kg SO2 eq	1.45E+00	5.82E-03	1.40E-03	0.00E+00	9.51E-02	2.81E+00	9.25E-03	-5.22E-01
Eutrophication	E	8.30E-01	kg N eq	1.14E-01	3.96E-04	9.47E-05	0.00E+00	1.03E-02	7.00E-01	5.48E-03	-2.84E-02
Carcinogenics	C	7.79E-06	CTUh	4.28E-06	1.78E-09	4.15E-10	0.00E+00	8.10E-08	3.41E-06	2.75E-08	-4.56E-07
Non carcinogenics	NC	1.16E-04	CTUh	6.15E-05	3.87E-07	8.04E-08	0.00E+00	2.53E-06	5.03E-05	7.82E-07	-6.20E-06
Respiratory effects	RE	2.20E+00	kg PM2.5 eq	2.32E-01	9.88E-04	2.23E-04	0.00E+00	2.00E-02	1.95E+00	1.85E-03	-8.31E-02
Ecotoxicity	EX	6.29E+02	CTUe	4.19E+02	8.06E+00	1.66E+00	0.00E+00	1.23E+01	1.79E+02	8.89E+00	-1.13E+02
Fossil fuel depletion	FFD	1.67E+03	MJ surplus	1.34E+02	4.58E+00	1.03E+00	0.00E+00	1.77E+01	1.51E+03	4.42E+00	-3.62E+01

# EN 15804 + A2 Environmental Impact Indicators, per device corresponding to the reference product

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Climate change - total	GWP	2.42E+05	kg CO2 eq	3.55E+04	3.90E+02	8.76E+01	5.85E+01	3.30E+03	2.00E+05	2.45E+03	-1.45E+04
Climate change - fossil fuels	GWPF	2.40E+05	kg CO2 eq	3.55E+04	3.90E+02	8.76E+01	5.85E+01	3.08E+03	1.99E+05	1.98E+03	-1.45E+04
Climate change - biogenics	GWpB	1.93E+03	kg CO2 eq	2.35E+01	4.54E-02	1.05E-02	0.00E+00	2.22E+02	1.22E+03	4.64E+02	3.66E+00
Climate change - land use and land use transformation	GWPlu	6.25E+02	kg CO2 eq	1.93E+01	1.12E-02	2.56E-03	0.00E+00	2.78E+00	6.03E+02	1.08E-01	-5.51E+00
Ozone depletion	ODP	2.17E-02	kg CFC-11 eq	2.06E-02	5.16E-06	1.18E-06	0.00E+00	2.25E-05	1.06E-03	5.75E-06	-4.60E-05
Acidification	AP	8.18E+02	mole of H+ eq	2.74E+02	1.02E+00	2.45E-01	0.00E+00	1.75E+01	5.23E+02	1.64E+00	-9.65E+01
Eutrophication, freshwater	Epf	1.53E+01	kg P eq	1.47E+00	9.52E-04	2.02E-04	0.00E+00	1.22E-01	1.37E+01	1.46E-02	-3.35E-01
Eutrophication, marine aquatic	Epm	1.22E+02	kg of N eq	3.84E+01	3.68E-01	9.12E-02	0.00E+00	3.56E+00	7.89E+01	1.05E+00	-1.51E+01
Eutrophication, terrestrial	Ept	1.37E+03	mole of N eq	4.32E+02	4.04E+00	1.00E+00	0.00E+00	3.66E+01	8.89E+02	5.15E+00	-1.68E+02
Photochemical ozone formation	POCP	5.15E+02	kg NMVOC eq	1.34E+02	1.53E+00	3.70E-01	0.00E+00	1.15E+01	3.66E+02	1.92E+00	-5.02E+01
Abiotic resource depletion – elements	ADPe	1.52E+00	kg Sb eq	1.43E+00	2.28E-05	5.00E-06	0.00E+00	7.95E-02	9.92E-03	2.66E-03	-4.19E-02
Abiotic resource depletion – fossil fuels	ADPf	4.19E+06	MJ	3.47E+05	5.13E+03	1.15E+03	0.00E+00	3.86E+04	3.79E+06	5.50E+03	-1.26E+05
Water use	WU	5.47E+04	m3 world eq	5.94E+03	4.73E+00	1.05E+00	0.00E+00	3.73E+02	4.84E+04	-9.97E+01	-9.30E+02

Note: characterization factors use the -1/+1 biogenic carbon storage assessment methodology

Inventory Flow Indicators, per device corresponding to the reference product											
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	PERE	5.56E+05	MJ	2.42E+04	8.24E+00	1.91E+00	0.00E+00	3.82E+03	5.27E+05	1.42E+02	-6.89E+03
Use of renewable primary energy resources used as raw materials	PERM	2.76E+03	MJ	2.76E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	PERT	5.58E+05	MJ	2.69E+04	8.24E+00	1.91E+00	0.00E+00	3.82E+03	5.27E+05	1.42E+02	-6.89E+03
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	PENRM	2.60E+03	MJ	2.60E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.00E+02
Use of non-renewable primary energy resources used as raw materials	PENRE	4.19E+06	MJ	3.45E+05	5.13E+03	1.15E+03	0.00E+00	3.86E+04	3.79E+06	5.50E+03	-1.25E+05
Total use of non-renewable primary energy resources	PENRT	4.19E+06	MJ	3.47E+05	5.13E+03	1.15E+03	0.00E+00	3.86E+04	3.79E+06	5.50E+03	-1.26E+05
Use of secondary materials	USM	1.39E+03	kg	1.39E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	URSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	UNRSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	NUFW	2.54E+03	m3	1.73E+02	1.73E-01	3.85E-02	0.00E+00	1.46E+01	2.36E+03	-2.05E+00	-3.15E+01
Hazardous waste disposed	HWD	2.05E+02	kg	1.68E+01	4.18E-02	9.31E-03	0.00E+00	1.06E+00	9.84E+01	8.87E+01	-1.52E+00
Non-hazardous waste disposed	NHWD	6.74E+03	kg	1.13E+03	2.13E-01	4.66E-02	0.00E+00	3.27E+02	1.89E+03	3.39E+03	-1.25E+02
Radioactive waste disposed	RWD	2.15E+01	kg	2.66E-01	1.85E-04	4.29E-05	0.00E+00	7.92E-02	2.12E+01	2.44E-03	-1.84E-02
Components for re-use	CRU	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	3.32E+03	kg	7.19E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E+03	0.00E+00
Materials for energy recovery	MER	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	EE	5.07E+02	MJ	4.37E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.02E+02	0.00E+00

TRACI 2.1 Environmental Impact Indicators, per device corresponding to the reference product											
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Use B1	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Ozone depletion	OD	2.80E-02	kg CFC-11 eq	2.57E-02	5.46E-06	1.25E-06	0.00E+00	3.35E-05	2.24E-03	6.40E-06	-1.20E-04
Global warming	GW	2.38E+05	kg CO2 eq	3.49E+04	3.85E+02	8.66E+01	5.12E+01	3.15E+03	1.97E+05	2.08E+03	-1.42E+04
Smog	SG	7.58E+03	kg O3 eq	2.39E+03	2.34E+01	5.81E+00	9.53E-03	2.10E+02	4.92E+03	2.93E+01	-9.62E+02
Acidification	A	6.91E+02	kg SO2 eq	2.29E+02	9.20E-01	2.21E-01	0.00E+00	1.50E+01	4.44E+02	1.46E+00	-8.25E+01
Eutrophication	E	1.31E+02	kg N eq	1.80E+01	6.26E-02	1.50E-02	0.00E+00	1.62E+00	1.11E+02	8.65E-01	-4.48E+00
Carcinogenics	C	1.23E-03	CTUh	6.76E-04	2.81E-07	6.56E-08	0.00E+00	1.28E-05	5.38E-04	4.35E-06	-7.20E-05
Non carcinogenics	NC	1.83E-02	CTUh	9.71E-03	6.12E-05	1.27E-05	0.00E+00	4.00E-04	7.95E-03	1.24E-04	-9.80E-04
Respiratory effects	RE	3.48E+02	kg PM2.5 eq	3.66E+01	1.56E-01	3.52E-02	0.00E+00	3.16E+00	3.07E+02	2.92E-01	-1.31E+01
Ecotoxicity	EX	9.93E+04	CTUe	6.62E+04	1.27E+03	2.62E+02	0.00E+00	1.94E+03	2.82E+04	1.40E+03	-1.78E+04
Fossil fuel depletion	FFD	2.64E+05	MJ surplus	2.11E+04	7.24E+02	1.63E+02	0.00E+00	2.80E+03	2.38E+05	6.99E+02	-5.71E+03

## Extrapolation Factors

IntelliPak® 1 products are part of a homogenous family of Trane rooftop units. Additional products covered by this PEP are detailed below, with the reference product denoted in blue.

IntelliPak®1 20
IntelliPak®1 25
IntelliPak®1 30
IntelliPak®1 40
IntelliPak®1 50
IntelliPak®1 55
IntelliPak®1 60
IntelliPak®1 70
IntelliPak®1 75
IntelliPak®1 90
IntelliPak®1 105
IntelliPak®1 115
IntelliPak®1 130

For products other than the reference product, the environmental impacts can be calculated using the extrapolation rules below. The following tables contain factors to be used in the extrapolation of LCIA results for the IntelliPak® 1 Rooftop units covered in this report. These scaling factors are intended to allow interested parties to determine the environmental impacts of IntelliPak® 1 products of interest.

Extrapolation coefficients are given for the environmental impact of the functional unit, i.e. the emission of 1 kW cooling power. For each stage of the life cycle, the environmental impacts of the product concerned are calculated by multiplying the impacts of the declaration corresponding to the reference product by the extrapolation coefficient. The “Total” column should be calculated by adding the environmental impacts of each stage of the life cycle.

To use these scaling factors, individuals should:

1. Identify the LCIA result of interest and product of interest.
2. Multiply the results in the reference product’s environmental impact indicator table, found on page 4-7, by the corresponding cell in the table that pertains to the product of interest, found below.

Product	Extrapolation Factors – Declared Unit									Extrapolation Factors – Functional Unit								
	A1-A3	A4	A5	B1	B2	B6	B7	C1-C4	D	A1-A3	A4	A5	B1	B2	B6	B7	C1-C4	D
IntelliPak®1 20	0.60	0.60	1.00	1.00	1.00	0.41	0.60	0.60	0.60	1.23	1.23	2.06	2.06	2.06	0.85	1.23	1.23	1.23
IntelliPak®1 25	0.60	0.60	1.00	1.00	1.00	0.55	0.60	0.60	0.60	1.05	1.05	1.75	1.75	1.75	0.96	1.05	1.05	1.05
IntelliPak®1 30	0.65	0.65	1.00	1.00	1.00	0.61	0.65	0.65	0.65	1.00	1.00	1.54	1.54	1.54	0.93	1.00	1.00	1.00
IntelliPak®1 40	0.92	0.92	1.00	1.00	1.00	0.86	0.92	0.92	0.92	1.07	1.07	1.16	1.16	1.16	1.00	1.07	1.07	1.07
IntelliPak®1 50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
IntelliPak®1 55	1.00	1.00	1.00	1.00	1.00	1.12	1.00	1.00	1.00	0.86	0.86	0.86	0.86	0.86	0.97	0.86	0.86	0.86
IntelliPak®1 60	1.14	1.14	1.00	1.00	1.00	1.17	1.14	1.14	1.14	0.92	0.92	0.80	0.80	0.80	0.94	0.92	0.92	0.92
IntelliPak®1 70	1.16	1.16	1.00	1.00	1.00	1.48	1.16	1.16	1.16	0.74	0.74	0.64	0.64	0.64	0.94	0.74	0.74	0.74
IntelliPak®1 75	1.21	1.21	1.00	1.00	1.00	1.59	1.21	1.21	1.21	0.71	0.71	0.59	0.59	0.59	0.93	0.71	0.71	0.71
IntelliPak®1 90	1.70	1.70	1.00	1.00	1.00	1.95	1.70	1.70	1.70	0.79	0.79	0.47	0.47	0.47	0.91	0.79	0.79	0.79
IntelliPak®1 105	1.78	1.78	1.00	1.00	1.00	2.31	1.78	1.78	1.78	0.73	0.73	0.41	0.41	0.41	0.95	0.73	0.73	0.73

## Comparability

EPDs published within the same product category, though originating from different programs, may not be comparable. Full conformance with a PCR allows PEP comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible.



## References

- Air-Conditioning, Heating, and Refrigeration Institute. (2022). <https://www.ahrinet.org/search-standards/ahri-340360-i-p-performance-rating-commercial-and-industrial-unitary-air-conditioning-and-heat-pump>. Retrieved from <https://www.ahrinet.org/standards/search-standards>: <https://www.ahrinet.org/system/files/2023-06/AHRI%20Standard%20340-360-2022%20%28I-P%29.pdf>
- AISI & SMA. (2021). *Determination of Steel Recycling Rates in the United States*. American Iron and Steel Institute and Steel Manufacturers Association.
- ANSI/ASHRAE/IES. (2022). *Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings*. Peachtree Corners, GA, USA: American Society of Heating, Refrigerating and Air-Conditioning Engineers. Retrieved from <https://www.ashrae.org/>.
- CEN. (2019). *EN 15804+A2: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products*. European Committee for Standardization.
- ISO. (2006). *Environmental labels and declarations - Type III environmental declarations - Principles and Procedures*. Geneva: International Organization for Standardization.
- ISO. (2006). *ISO 14040/Amd 1:2020: Environmental management - Life cycle assessment - Principles and framework*. Geneva: International Organization for Standardization.
- ISO. (2006). *ISO 14044/Amd 1:2017/Amd 2:2020: Environmental Management - Life cycle assessment - Requirements and Guidelines*. Geneva: International Organization for Standardization.
- The Aluminum Association. (2025). *Infinitely Recyclable*. Retrieved from The Aluminum Association: <https://www.aluminum.org/Recycling>
- Trane. (2025). *IntelliPak® Rooftop Units*. Retrieved from Trane: [https://elibrary.tranetechnologies.com/public/commercial-hvac/Literature/Installation%20Operation%20and%20Maintenance/RT-SVX090C-EN\\_05022025.pdf](https://elibrary.tranetechnologies.com/public/commercial-hvac/Literature/Installation%20Operation%20and%20Maintenance/RT-SVX090C-EN_05022025.pdf)
- Trane Technologies. (2025). *2024 Sustainability Report*. Retrieved from Trane Technologies: <https://www.tranetechnologies.com/content/dam/cs-corporate/pdf/sustainability/annual/2024-Sustainability-Report.pdf>
- US Department of Energy. (2024). *Incorporate Minimum Efficiency Requirements for Heating and Cooling Products into Federal Acquisition Documents*. Retrieved from Federal Energy Management Program: <https://www.energy.gov/femp/incorporate-minimum-efficiency-requirements-heating-and-cooling-products-federal-acquisition>
- US EPA. (2024, November). *Durable Goods: Product-Specific Data*. Retrieved from United States Environmental Protection Agency: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/durable-goods-product-specific-data>
- US EPA. (2024, November). *Other Nonferrous Metals: Material-Specific Data*. Retrieved from United States Environmental Protection Agency: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/other-nonferrous-metals-material-specific>
- US EPA. (2024, November). *Plastics: Material-Specific Data*. Retrieved from United States Environmental Protection Agency: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data>
- US EPA. (2024, November). *Rubber and Leather: Material-Specific Data*. Retrieved from United States Environmental Protection Agency: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/rubber-and-leather-material-specific-data>
- US EPA. (2025). *Stationary Refrigeration Safe Disposal Requirements*. Retrieved from United States Environmental Protection Agency: <https://www.epa.gov/section608/stationary-refrigeration-safe-disposal-requirements>

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The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)	
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019	
The components of the present PEP may not be compared with components from any other program.	
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"	



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