2019

InvestSmart Business Energy Upgrades
HVAC Equipment Catalog

01/01/2019

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1 HVAC Measures

This Equipment Catalog describes the eligibility requirements and rebate amounts for qualifying HVAC measures under the InvestSmart Program Business Energy Upgrades. It also includes instructions on how to complete the Rebate Application and information regarding any required additional documentation. JEA provides rebates for many types of energy efficient technologies. Please read the following sections carefully to ensure that you purchase and install qualifying equipment.

In order to be eligible for rebates through InvestSmart, all equipment must meet the following requirements:

- Equipment must be new and installed in a manner that meets or exceeds code regulations and adheres to industry standards.
- Equipment may be installed in either retrofit or new construction/major renovation applications, except where indicated in individual measures.
- Replaced equipment must be disposed of in accordance with local, state, or federal codes and regulations and cannot be re-installed elsewhere.
- Rebates will be capped at 50% net customer cost (with the exception of PTAC units, which are capped at 90% net customer cost) and a possible rebate buy-down to a simple payback of no less than 1 year. Rebates will be capped at $100,000 per customer per program year.

Pre-qualification of Business Energy Upgrades eligible measures is not required **except** for retrofit lighting equipment and occupancy sensors. Additional eligibility and submittal requirements for **HVAC** technologies are outlined in this Equipment Catalog.

Rebates for additional measures may be available. For more information about rebates, eligibility requirements, rebate levels, other JEA energy efficiency programs, or general inquiries, visit jea.com/investsmart, email us at jeaefficiencyrebates@nexant.com, or contact Customer Service Center 888-345-4609.

1.1 Unitary Air Conditioners and Air Cooled Heat Pumps

Measure Description:
JEA offers rebates for higher efficiency air-cooled unitary HVAC equipment based on the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) standards. The eligibility requirements and rebate levels are described below.

Equipment Eligibility:

- Heat pumps and unitary air conditioners are eligible for rebates if they are air-cooled units that *meet or exceed all of the applicable efficiency ratings shown in **Table 1-1** for air conditioning units and **Table 1-2** and **1-3** for heat pump units* at AHRI Standard Rating Conditions.
- Equipment must be efficiency rated by AHRI, meet applicable AHRI standards, be UL listed and use a minimum ozone-depleting refrigerant.

- Split system equipment components must comprise a matched system per AHRI.
- Units located within **½ mile of the oceanfront, or within the distance recommended by the equipment manufacturer, whichever is greater,** must have corrosion resistant outside coil materials or coils coated with a factory-applied (or equal), anti-corrosive coating. Corrosion resistance must meet or exceed ASTM B117.85 standards.

Exclusions:
Window and room air conditioners are ***not*** eligible for these rebates.

Rebates:
Two levels of rebates are available for three-phase air-cooled unitary air conditioners and heat pumps based on the AHRI-rated cooling capacity of the installed equipment. Rebates will be paid for the highest efficiency for which the unit qualifies (Level 1 or Level 2, not both). A flat $150/unit rebate is available for qualifying single-phase air-cooled unitary heat pumps based on the AHRI-rated cooling capacity of the installed equipment.

The rebate levels are as follows (1 ton = 12,000 Btu/h):

Level 1: $25/ton and $20/ton of cooling capacity for unitary air conditioners and heat pumps, respectively

Level 2 (for units <65,000 Btu/h): $40/ton + [($15/ton) x (SEER – $SEER_{min}$)] of capacity for air conditioners

$30/ton + [($15/ton) x (SEER – $SEER_{min}$)] of capacity for heat pumps

Where: SEER is the efficiency rating of the installed unit

$SEER_{min}$ is the minimum efficiency requirement for Level 2 in **Tables 1-1 & 1-2**

Level 2 (for units ≥65,000 Btu/h): $40/ton + [($15/ton) x (IEER – $IEER_{min}$)] of capacity for air conditioners

$30/ton + [($15/ton) x (IEER – $IEER_{min}$)] of capacity for heat pumps

Where: IEER is the efficiency rating of the installed unit

$IEER_{min}$ is the minimum efficiency requirement for Level 2 in **Tables 1-1 & 1-2**

Examples:

- 10 ton, 12.4 EER, 12.5 IEER AC Unit qualifies for "Level 1" $25/ton rebate:
  $25 x 10 tons = $250 rebate
- 10 ton, 12.9 EER, 13.0 IEER AC Unit qualifies for "Level 2" $40/ton rebate:
  $40 x 10 tons = $400 rebate
- 10 ton, 13.0 EER, 13.1 IEER AC Unit qualifies for "Level 2" $40/ton rebate plus bonus rebate for exceeding Level 2 minimum efficiency requirement:
  $40 x 10 tons = $400 base rebate, plus
  $15/ton x (13.0 IEER – 13.5 IEER) = $7.50 x 10 tons = $75 bonus rebate
  Total: $400 + $75 = $475 rebate

Items to submit with Rebate Application:

- Dated sales receipt or detailed invoice indicating the total project cost, differentiating the labor and material. (Please note: JEA reserves the right to cancel any project that has not submitted all required supporting documentation within 90 days of the receipt of the initial application.)
- Manufacturers specification sheets documenting efficiency or unit AHRI reference number(s).

Instructions for Rebate Application:
In the Rebate Application, fill in the following:

- "Efficiency" as the AHRI SEER or IEER and EER value (whichever applies)
- "Measure Size" as the AHRI-rated cooling capacity at Standard Test Conditions in tons (1 ton = 12,000 Btu/h).

Table 1-1 Three Phase Air-Cooled Unitary Air Conditioners

Eligibility Requirements and Rebate Amounts

AC Size	System Type	Equipment Code	Level 1 $25/ton Requirements	Level 2 $40/ton+ Requirements
<65,000 Btu/h	Split System	AC3SS65	14.0 SEER 12.0 EER	≥15.0 SEER ≥12.5 EER
	Single Package	AC3SP65	14.0 SEER 11.6 EER	≥15.0 SEER ≥12.0 EER
≥65,000 Btu/h and <135,000 Btu/h	Split System and Single Package	AC135	12.4 EER 12.5 IEER	≥12.9 EER ≥13.0 IEER
≥135,000 Btu/h and <240,000 Btu/h	Split System and Single Package	AC240	12.0 EER 12.1 IEER	≥12.5 EER ≥12.6 IEER
≥240,000 Btu/h and <760,000 Btu/h	Split System and Single Package	AC760	11.0 EER 11.1 IEER	≥11.3 EER ≥11.4 IEER
≥760,000 Btu/h	Split System and Single Package	ACL	10.2 EER 10.3 IEER	≥10.7 EER ≥10.8 IEER

Table 1-2 Three Phase Air-Cooled Unitary Heat Pumps

Eligibility Requirements and Rebate Amounts

HP Size	System Type	Equipment Code	Level 1 $20/ton Requirements	Level 2 $30/ton+ Requirements
<65,000 Btu/h	Split System	HP3SS65	14.0 SEER 12.0 EER 8.0 HSPF	≥15.0 SEER ≥12.5 EER ≥9.0 HSPF
	Single Package	HP3SP65	14.0 SEER 11.6 EER 8.0 HSPF	≥15.0 SEER ≥12.0 EER ≥8.5 HSPF
≥65,000 Btu/h and <135,000 Btu/h	Split System and Single Package	HP135	12.4 EER 12.5 IEER 3.5 COP	≥12.9 EER ≥13.0 IEER ≥3.6 COP
≥135,000 Btu/h and <240,000 Btu/h	Split System and Single Package	HP240	12.0 EER 12.1 IEER 3.3 COP	≥12.5 EER ≥12.6 IEER ≥3.5 COP
≥240,000 Btu/h and <760,000 Btu/h	Split System and Single Package	HP760	11.0 EER 11.1 IEER 3.3 COP	≥11.3 EER ≥11.4 IEER ≥3.3 COP

Table 1-3 Single Phase Air-to-Air Unitary Heat Pumps & Single Phase Air Conditioners

Eligibility Requirements and Rebate Amounts

HP/AC Size	System Type	Equipment Code	Minimum Efficiency Requirements	Rebate ($/system)
<65,000 Btu/h (single phase)	Split System and Packaged	HP1SS65	15.0 SEER 12.5 EER 8.5 HSPF	$150/System

1.2 Chillers

Measure Description:
Chillers are commonly used to provide cooling for a variety of building HVAC cooling loads and process loads. Chillers come in different types (centrifugal, rotary, screw, scroll, and reciprocating) and reject heat either through air-cooled or water-cooled condensers. High efficiency chillers can yield significant long term energy cost savings compared to standard efficiency units.

Equipment Eligibility:
Chillers must:

- Be purchased and installed.
- Equal or exceed the minimum efficiency requirements per **Table 1-4** below as rated in accordance with ARI Standard 550/590.
- Reflect Variable Frequency Drives (VFD) installed on the chiller compressor in the Integrated Part Load Value (IPLV) kW/ton rating, if applicable.
- Not be a backup service unit.
- Air-cooled condensers located within **½ mile of the oceanfront, or within the distance recommended by the equipment manufacturer, whichever is greater**, must have corrosion resistant outside coil materials or coils coated with a factory-applied (or equal), anti-corrosive coating. Corrosion resistance must meet or exceed ASTM B117.85 standards.

Items to submit with Rebate Application:

- Dated sales receipt or detailed invoice indicating the total project cost, differentiating the labor and material. (Please note: JEA reserves the right to cancel any project that has not submitted all required supporting documentation within 90 days of the receipt of the initial application.)
- Manufacturer's equipment specification sheet showing the unit's Full Load and IPLV kW/ton ratings at ARI rated conditions.

Instructions for Rebate Application:
In the Rebate Application, fill in the following:

- "Efficiency" as the AHRI-rated IPLV kW/ton rating (including impacts of compressor VFD if applicable)
- "Measure Size" as the AHRI-rated cooling capacity at Standard Test Conditions in tons (1 ton = 12,000 Btu/hr)

Measure Rebate:
Equipment that meets the minimum Full Load and IPLV (in kW/ton) efficiency requirements shown in **Table 1-4** will be paid an equipment rebate of $5/ton.

For units **exceeding** the minimum efficiency requirements, an **additional rebate** of $175/ton times the IPLV efficiency increase in kW/ton above the minimum efficiency is paid using the following equation (lower

IPLV kW/ton = higher efficiency):

Chiller Rebate = (Tons x $5/ton) + (Tons x $175/kW x (Min Eligible IPLV kW/ton – Chiller rated IPLV kW/ton))

Example: The rebate for a 200 ton air-cooled chiller with an IPLV kW/ton of 0.79 kW/ton is:
(200 tons x $5/ton) + (200 tons x $175/kW x (0.910 kW/ton – 0.79 kW/ton) = $5,200

Chiller Type	Size (Tons)	Equipment Code	Minimum Program Requirements				Rebate
			Path A		Path B		
			Full Load (kW/Ton)	IPLVmin (kW/Ton)	Full Load (kW/Ton)	IPLVmin (kW/Ton)	
Air Cooled With Condenser	All	CHAC	1.255	0.910	NA	NA	$5 * Tons + $175 * Tons * (IPLVmin - IPLV)
Air Cooled Without Condenser	All	CHNC	1.255	0.910	NA	NA	
Water Cooled Positive Displacement (Rotary, Screw, Scroll, Reciprocating)	< 75	CHWC-SC075	0.780	0.590	0.800	0.560	
	≥ 75 & < 150	CHWC-SC150	0.775	0.580	0.790	0.551	
	≥ 150 & < 300	CHWC-SC300	0.680	0.550	0.718	0.510	
	≥ 300	CHWC-SCL	0.620	0.510	0.639	0.460	
Water Cooled Centrifugal	< 300	CHWC-CE300	0.634	0.570	0.639	0.424	
	≥ 300 & < 600	CHWC-CE600	0.576	0.520	0.600	0.371	
	≥ 600	CHWC-CEL	0.570	0.510	0.590	0.371	

Table 1-2 – Chiller Eligibility Requirements and Rebate Amounts

1.3 Packaged Terminal Units

Measure Description:
Packaged Terminal Air Conditioners (PTACs) and Packaged Terminal Heat Pumps (PTHPs) are designed primarily to provide cooling (and heating for heat pumps) for a room or small zone and are specifically for permanent through-the-wall installations. These electrically-powered units are generally sized under 13,500 Btu/hr, are typically designed to be installed in a separate through-the-wall sleeve on an exterior wall, and are typically found in hotels. This is not the same as a window unit air conditioner or heat pump adapted for through-the-wall use.

Equipment Eligibility:

- PTAC and PTHP units must have AHRI-certified efficiencies that meet or exceed the minimum requirements shown in **Table 1-5**. Heat Pumps must meet both efficiency requirements.

- All units located **within ½ mile of the oceanfront, or within the distance recommended by the equipment manufacturer, whichever is greater**, must have corrosion resistant outside coil materials or coils coated with a factory-applied (or equal), anti-corrosive coating. Corrosion resistance must meet or exceed ASTM B117.85 standards.

Items to submit with Rebate Application:

- Dated sales receipt or detailed invoice indicating the total project cost, differentiating the labor and material. (Please note: JEA reserves the right to cancel any project that has not submitted all required supporting documentation within 90 days of the receipt of the initial application.)
- Manufacturers specification sheets documenting unit ARI reference number(s) and efficiency(ies).

Instructions for Rebate Application:

In the Rebate Application, fill in the following:

- "Efficiency" as the AHRI SEER and EER value (whichever applies)
- "Measure Size" as the AHRI-rated tons of the unit (1 ton = 12,000 Btu/hr)

Measure Rebate:

Rebate amounts for qualifying measures are listed below in **Table 1-5**.

Table 1-5 – Packaged Terminal Units Eligibility Requirements and Rebate Amounts

Equipment Type	Size Category	Equipment Code	Minimum Efficiency Requirements	AHRI Standard	Rebate ($/ton)
Package Terminal Air Conditioners (PTAC)	≤ 8,000 Btu/hr	PTAC80	11.8 EER	310/380	$50/ton
	> 8,000 and ≤ 10,000 Btu/hr	PTAC105	11.4 EER		
	> 10,000 and ≤ 13,000 Btu/hr	PTAC135	10.7 EER		
	> 13,000 Btu/hr	PTACL	10.0 EER		
Package Terminal Heat Pumps (PTHP)	≤ 8,000 Btu/hr	PTHP80	11.8 EER & 3.0 COP Heating	310/380	
	> 8,000 and ≤ 10,000 Btu/hr	PTHP105	11.4 EER & 2.9 COP Heating		
	> 10,000 and ≤ 13,000 Btu/hr	PTHP135	10.7 EER & 2.8 COP Heating		
	> 13,000 Btu/hr	PTHPL	10.0 EER & 2.7 COP Heating		

1.4 Air Conditioner and Heat Pump Tune-Ups

Measure Description:
JEA offers rebates for "Tune-Ups" of existing air conditioning and heat pump systems. The eligibility requirements and rebate levels are described below. PTACs and PTHPs are not eligible for these rebates.

Equipment Eligibility:
The requirements for eligibility for an Air Conditioner and Heat Pump "Tune-up" rebate are:

- Equipment must meet refrigerant charge requirements.
- The Air Conditioner and Heat Pump Tune-Up form must be completed by a qualified technician.
- Equipment must be a minimum of 3 years old and not received a tune up rebate in the last 3 years.

Items to submit with Rebate Application:

- Dated sales receipt or detailed invoice indicating the total project cost, differentiating the labor and material. (Please note: JEA reserves the right to cancel any project that has not submitted all required supporting documentation within 90 days of the receipt of the initial application.)
- Manufacturer's specification sheets documenting efficiency or unit AHRI reference number(s).
- Heat pump tune-up form which can be found at jeaefficiencyrebates@nexant.com, or by contacting Customer Service Center at 888-345-4609.

Instructions for Rebate Application:
In the Rebate Application, fill in the following:

- "Measure Size" as the AHRI-rate cooling capacity at Standard Test Conditions in tons (1 ton=12,000Btu/h).
- "Efficiency" as the AHRI SEER or IEER value (whichever applies)

The rebate for air-cooled unitary air conditioners and heat pumps will be paid according to **Table 1-6** below.

Table 1-6 – Air Conditioner and Heat Pump Tune-Up Rebate Amount

Rebate Measure	Equipment Code	Rebate ($/system)
Air Conditioner and Heat Pump Tune-Up	HPTU	$50/system

1.5 Variable Frequency Drives (VFDs) For HVAC Equipment

Measure Description:
Variable Frequency Drives (VFDs) are electronic controls that regulate motor speed and torque, resulting in reduced energy consumption under variable load conditions.

Equipment Eligibility:
Incentives are offered to customers installing VFDs on HVAC equipment in a retrofit or new construction application provided that the following criteria are met:

- VFDs are installed on motors capable of reduced speed operation.
- VFDs are installed on fan or pump motors greater than or equal to 1 HP and less than or equal to 200 HP, and these motors are serving HVAC loads (e.g. air handling units, chilled water pumps, etc.).
- Previously installed throttling or bypass devices used as system load controls such as inlet vanes, bypass dampers, three-way valves, or throttling valves are permanently removed, retrofitted, or disabled temperature.
- VFD speed is automatically controlled by appropriate means, such as differential pressure, flow, or temperature.

Exclusions:
The following VFD measures are excluded from consideration for rebates:

- Variable frequency drives required by IECC 2006 (e.g., VAV fan motors greater than 25 HP in New Construction projects)
- VFDs on chillers or air compressors
- Fan and pump motors that would otherwise be regulated by on/off cycling
- Used or rebuilt VFDs
- Motors with less than 2,000 annual operating hours

VFDs larger than 200 HP and VFDs installed on chillers, air compressors, or non-HVAC equipment may qualify as Custom Business Energy Upgrades. For more information, visit the InvestSmart website at jea.com/investsmart before you purchase your equipment.

Items to submit with Rebate Application:

- Dated sales receipt or detailed invoice indicating the total project cost, differentiating the labor and material. (Please note: JEA reserves the right to cancel any project that has not submitted all required supporting documentation within 90 days of the receipt of the initial application.)

Instructions for Rebate Application: In the Rebate Application, fill in the following:

- "Efficiency" as "NA"
- "Measure Size" as the nameplate motor HP

Measure Rebate:
The rebate amount for qualifying measures is listed below in **Table 1-7**.

Table 1-7– VFD Eligibility Requirements and Rebate Amount

Equipment Code	Measure Description	Rebate ($/unit)
VFD	VFD ≥1 HP and ≤ 200 HP	$50/HP

2 Sample Rebate Worksheet

The following is an example for (2) 4-ton, Single Package, High Efficiency (14 SEER) Unitary Air Conditioner and (2) newly installed 10 HP VFDs.

Parameter	Measure 1	Measure 2	Measure 3
Equipment Code	AC3SP65	VFD	
Project Type (Retrofit or New Construction)	Retrofit	New Construction	
Installation Date	1/1/2012	1/1/2012	
Equipment Location (e.g. Roof, Mechanical Room)	Roof	Mechanical Room	
Equipment End Use (e.g. Supply Fan, CHW Pump)	Heating & Cooling – Office Space	Supply Fan	
Age of replaced equipment (for Retrofits)	25	NA	
Dealer Name	Acme HVAC	Acme VFDs	
Manufacturer	Widget, LLC	Widget VFD, LLC	
Model Number	MNABC123	ABC123	
Serial Number (if no serial number, use NA)	X14G234789356	Y2499475023857	
Annual Operating Hours	4,000	5,304 (see Schedule)	
Efficiency(ies) (as described in Equipment Catalog)	14.0 SEER		
Measure Size (as described in Equipment Catalog)	4 tons	10H	
Measure Rebate ($) (as found in equipment catalog at jea.com)	$25/ton x 4 tons	$500	
Number of Measures	2	2	
Total Rebate ($) (# of Measures * Measure Rebate)	$200	$1000	

Please refer to the appropriate table in the HVAC Equipment Catalog

Your company's name or Installing Contractor

8,760= Refrigeration
4,320= HVAC, etc 12hrs/day

Cooling ONLY—3 phase
<65,000 Btu = SEER & EER
>65,000 Btu = EER & IEER
Heat pumps ONLY—3phase
<65,000 Btu = SEER, EER & HSPF
>65,000 Btu = EER, IEER & COP rating
<65,000 Btu = SEER, EER & HSPF

Equipment Schedule for VFD's

Days	*Hours*	*Annual Hours*
Monday - Friday	6am - 8pm	3,640
Saturday - Sunday	6am - 10pm	1,664
	Total	**5,304**

****Be sure to include a copy of the invoice indicating the total project cost (differentiating the labor and material)****

To locate equipment catalog:
-www.jea.com/InvestSmart
-Select HVAC
-Select HVAC Rebate Details and Eligibility