



# VARIABLE FREQUENCY DRIVES

## REBATE APPLICATION / CALCULATION WORKSHEET

Austin Energy Commercial Rebate Program  
721 Barton Springs Rd., Austin, TX 78704-1194  
(512) 974-STAR - (512) 482-5455 (FAX)

Business/Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
Contact Person \_\_\_\_\_ Phone \_\_\_\_\_

The following formulas are applied to all Variable Frequency Drive retrofits when used with HVAC equipment. The formulas apply to Air Handling Units, Cooling Tower Fans, and Secondary Chilled Water pumps. These formulas only apply to the installation of variable (not constant) torque VFDs. **The rebate is calculated at \$250 per Direct kW.**

### Air Handling Units:

If you had Inlet Guide Vane Air Volume Controls: Direct kW = 0.08 kW/hp x Motor hp

If you had Outlet Damper Air Volume Controls: Direct kW = 0.19 kW/hp x Motor hp

If you had a Constant Volume System with no Air Volume Controls: Direct kW = 0.13 kW/hp x Motor hp

### Cooling Tower Fans:

DFex and OFex are the diversity and oversize factors of the existing cooling towers. The table below shows the default diversity factors and the formula below shows the oversize factor calculation.

#### Diversity Factor:

Number of Cooling Tower Fan Motors	DFex
1 or 2	1.0
2 to 4	0.9
Over 4	0.8

Oversize Factor [at design conditions, (@97°F DB and 75°F WB)]

OFex = Cooling Tower Rated Capacity / [Building Peak Load Tons]

Direct kW =

0.62 kW/hp x No. or Fan Motors x Fan Motor hp x [(1/OFex) - (1/OFex)<sup>3</sup>] x DFex

### Secondary Chilled Water Pumps:

DFex and OFex are the diversity and oversize factors of the existing secondary chilled water pumping system. The table below shows the default diversity factors and the formula below shows the oversize factor calculation.

#### Diversity Factor:

Number of Secondary Chilled Water Pumps	DFex
1 or 2	1.0
2 to 4	0.9
Over 4	0.8

Oversize Factor [at design condition, (@97°F DB and 75°F WB)]

OFex =

Design Chilled Water Flow Rate (GPM) / Required Chilled Water Flow Rate at Peak Conditions (GPM)

Direct kW = 0.62 kW/hp x Pump Motor hp x [1-(1/OFex)<sup>3</sup> x DFex

Air Handling Units

Office Use Only Approved by	Air Volume (type) Inlet Guide Vanes, Outlet Damper, or Constant Volume	Motor hp	Number of Motors	Rebate

Cooling Tower Fans

Office Use Only Approved by	Number of Cooling Tower Fans	Cooling Tower Rated Capacity (Tons)	Building Peak Load (Tons)	Motor hp	Rebate

Secondary Chilled Water Pumps

Office Use Only Approved by	Number of Secondary Chilled Water Pumps	Design Chilled Water Flow Rate (GPM)	Required Chilled Water Peak Flow Rate (GPM)	Pump Motor hp	Rebate

**Include invoice(s) with this application.**

I certify that the above listed product was installed in accordance with the guidelines and requirements of the Commercial Rebate Program and that all documentation and enclosed invoice(s) are true and correct to the best of my knowledge.

**Vendor/Contractor Signature**

**Date**

**ADDITIONAL CUSTOMER AGREEMENT CLAUSE**

As a qualified Austin Energy customer, I understand that the rebate I am applying for will under no circumstances exceed 50% of the installed cost of the work as verified on the enclosed invoices(s). In order to receive the rebate, I also agree to the following conditions: 1. The rebate received by the Customer at the above referenced property is conditioned upon the Customer retaining Austin Energy as its provider of electricity at the above referenced property for a period of five (5) years following final inspection and approval. 2. If Customer ceases using Austin Energy as its provider of electricity within the aforesaid period, then a prorated portion shall become due and payable to Austin Energy. The amount to be refunded will be decreased by 20% per annum for each of the 5 years of the refund period. 3. The Customer is responsible for keeping all rebated equipment in place and properly maintained in working order for this same time period. The Customer agrees to allow an Austin Energy Representative to inspect the referenced facility for compliance with this requirement for the duration of this agreement.

**Customer Signature**

**Date**