

# 2017 Compressed Air Commercial & Industrial Retrofit



## ***Instructions for completing the Retrofit COMPRESSED AIR Incentive Worksheet***

### **General Notes:**

1. A vendor proposal is required for an Incentive and must include the Compressed Air Plant Proposal Information found on page three in these instructions.
2. The Compressed Air Incentive must be completed and the Incentive approved prior to purchasing and installing the equipment.
3. Compressors under 15 HP are not eligible for Incentives.
4. Compressors over 75 HP are not eligible for a prescriptive Incentive but may be eligible for a Custom Incentive.
5. Invoices will be required for payment of Incentives.
6. The Incentive, in conjunction with all other sources of funding, cannot exceed the total project cost.

### **Eligibility Requirements:**

To be eligible for Incentives, the equipment must meet the following requirements:

#### **Compressors**

1. Nameplate horsepower of compressors must be equal to or greater than 15 HP and less than or equal to 75HP. Compressors with manufacturers ratings only in kilowatts will be assumed to have horsepower ratings equal to Compressor *kW* rating (motor only) / 0.746.
2. Existing compressor being replaced must use modulating control. Compressors with other control methods must use the Custom Incentive process.
3. Prescriptive Incentives are only applicable to **single compressor systems**. Multiple compressor systems of any size that serve a common distribution system may submit applications as a Custom Incentive. Projects that have multiple and comprehensive measures shall be processed as a Custom Incentive.
4. Prescriptive Incentives are only applicable to compressors with an operating pressure of 145 psi or below. Compressors with higher operating pressures shall be processed as a Custom Incentive.
5. Prescriptive Incentives are only applicable to oil flooded Rotary Screw Compressors. Other compressor types may be eligible for an Incentive as a Custom Incentive project.
6. Compressor control shall be Variable Speed Drive (VSD).
7. Compressors must operate a minimum of 2000 hours a year.
8. Air compressors with VSDs must have as a minimum a 3% impedance series reactor in its AC power input connection.

#### **Storage**

1. Primary storage is required on all compressors receiving incentives.
2. Incentives are only available for air storage tank(s) in association with new compressor equipment installations.

#### **Dryers**

1. New dryers being installed are not eligible for Incentives.

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## Calculation of Incentives

1. Refer to the back side of the Incentive application entitled “**Retrofit Compressed Air Incentive Worksheet**” to determine the following incentives as applicable:

## Air Compressor Incentive

1. Enter air compressor nominal horsepower (from manufacturer’s data) in column (A).
2. Enter the air compressor capacity (acfm) (manufacturers rating at the actual compressor operating pressure.)
3. Enter the compressor control code found in Table “**1 Compressor Control Codes & Storage Requirements.**”
4. Enter if additional storage is to be provided (yes or no).
5. Enter Incentive (\$) per HP in column (B) found in Table “**2 High Efficiency Air Compressor Incentive per HP.**”
6. To calculate the air compressor Incentives multiply the Compressor Horsepower from column (A) by the Incentive per HP from column (B).

## Additional Primary Storage Incentive

1. In column A, calculate the “Minimum Storage Required” (gals) by multiplying the “Minimum Gallons per CFM” for the compressor type found in “**1 Compressor Control Codes & Storage Requirements.**” Table by the cfm noted in the Compressor Incentive Calculation.
2. In column B, calculate the “Maximum Storage Eligible” (gals) by multiplying the “Maximum Gallons per CFM” for the compressor type found in “**1 Compressor Control Codes & Storage Requirements.**” Table by the cfm noted in the “Compressor Incentive Calculation”.
3. In column C enter any existing storage (gals).
4. In column D, calculate the “Minimum New Storage Required” (gals) by subtracting the “Minimum Storage Required”, column A from the “Existing Storage”, column C.
5. In column E, calculate the “Maximum New Storage Eligible” (gals) by subtracting the “Maximum Storage Eligible”, column B from the “Existing Storage”, column C.
6. In column F, enter the “Storage to be installed” (gals).
7. To calculate the Storage Incentive multiply the “Storage to be installed”, column F by \$2.75/gal. Note that the gallons stated in “Storage to be installed”, column F can not exceed the “Maximum New Storage Eligible”, column E.

## Total Retrofit Compressed Air Incentive

1. Calculate the total Incentive by summing the Air Compressor and Storage Incentives.

## Post-Installation:

### *Utility Representative must verify that:*

1. The single compressor has been installed and operating as follows:
  - a. System operating pressure \_\_\_\_\_ psi
  - b. Original primary storage capacity \_\_\_\_\_ gallons
  - c. Additional primary storage capacity \_\_\_\_\_ gallons
  - d. Total primary storage capacity \_\_\_\_\_ gallons
  - e. Final gallons per compressor CFM \_\_\_\_\_
  - f. Verify compressor manufacturer, compressor model, horsepower, and rated CFM
2. The compressor matches the Compressor Incentive Application information. If the equipment has changed from what was approved for the initial Incentive offer, the substituted equipment specifications must be submitted and reviewed by the utility to verify compliance with technical requirements and approved before an Incentive is considered.
3. The invoice or proof of payment has been submitted.
4. The Utility Representative & Customer have signed & dated the post installation inspection block on the Incentive form.

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## COMPRESSED AIR PLANT PROPOSAL INFORMATION

The following information shall be included in the proposal requesting an Incentive. Please describe the major components of the existing compressor and compressed air system.

Existing Compressor Description (Manufacturer & Model)	Rated HP & cfm	Operating Pressure (psi)	Control Type	Hours/Wk	Annual Hours	Loading Hours/Wk (% CFM)
Ex: Gardner Denver Modulating 50 HP Model: #ABCDEF	50hp 220CFM	110 psi	Mod	100 hrs	5,200 hrs/yr	10hr@90% 30hr@30% 50hr@60%
1.						
2.						

Proposed Compressor Description (Manufacturer & Model)	Rated HP & acfm	Operating Pressure (psi)	Control Type	Hours/Wk	Annual Hours	Loading Hours/Wk (% CFM)
Ex: Gardner Denver Modulating 50 HP Model: #ABCDEF	50hp 220CFM	110 psi	VSD	100 hrs	5,200 hrs/yr	10hr@90% 30hr@30% 50hr@60%
1.						

The following information shall also be included in the proposal:

### Compressor

How many shifts \_\_\_\_\_ and how does production vary? \_\_\_\_\_

What is the current system pressure at the furthest point from the compressor? \_\_\_\_\_ psi

What is the minimum pressure required for proper equipment operation? \_\_\_\_\_ psi

Any significant operational problems

- Inadequate pressure Yes  No
- Moisture or air quality Yes  No
- Production problems due to pressure fluctuations Yes  No
- Other \_\_\_\_\_

Compressor Age \_\_\_\_\_

Compressor Cooling Medium (air, chilled water) \_\_\_\_\_

### **Leak Identification and Remediation**

Date of Last Leak Survey if Any \_\_\_\_\_

Survey Provider and Survey Type (eg ultrasonic) \_\_\_\_\_

Estimate Leak Level from Survey \_\_\_\_\_

Follow-up Leak Remediation Efforts \_\_\_\_\_

For Compressed Air Challenge technical and training information please visit <http://www.knowpressure.org>.