

# Compressed Air Demand Side Opportunities

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Air Compressor Engineering

# Compressed Air is the Most Expensive Utility

1. In just one year, Electricity Costs typically **exceed** the Purchase Price of a Compressor
2. A 100 HP Air Compressor can consume up to **\$82,923** annually in electricity (8000 hrs/\$.12/KwH)
3. Compressed Air is **7X** more expensive to operate when there is an Electric Option
4. **85%** of Input Energy is dissipated as **Heat**
5. Energy Efficient Compressors and Dryers allows Demand Side opportunities to have a direct impact on **KwH savings**

# Air Knives



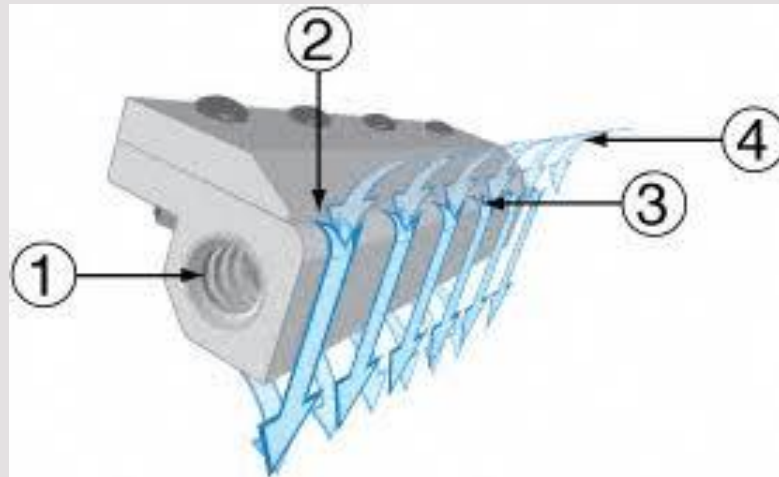
**APPLICATION:**  
Parts Drying

**BEFORE:**  
Qty (6) 24" Pipes  
with 1/16" Drilled Holes

## **OPPORTUNITY:**

Install Sonic Air Knives  
Entrained Air to Compressed Air Ratio: 40:1

# Air Knives



## Savings:

- 103 CFM
- 108,150 KwH
- \$12,978 (\$.12/KwH)

Project Cost: \$8,406.00

Incentive: \$3,362.00

## Customer Simple Payback:

- 4.6 Months

## Side Effects:

- Reduced Noise Level
- Better Drying

# Air Motors

**Applications:**  
Life Cycle Parts Tester

**Before:**  
Qty (2) Air Motors



## **OPPORTUNITY:**

Swap Out Air Motors For 1.5 HP Electric Motors

# Air Motors



## Savings:

- 37 CFM
- 37,831 Kwh
- \$5,296 (\$.14/Kwh)

**Project Cost:** \$13,000.00

**Incentive:** \$5,200.00

## Customer Simple Payback:

- 1.5 Years

## Side Effects:

- Reduced Compressor PM Cost

# Solenoid Valves

**Applications:**  
Metal Stamping Presses

**Before:**  
Blow Off Air When  
Presses Are Down



## **OPPORTUNITY:**

Install Qty (82) Solenoid Valves  
on Compressed Air Feeds

# Solenoid Valves



## Savings:

- 110CFM
- 154,000 Kwh
- \$18,480 (\$.12/Kwh)

**Project Cost:** \$28,350.00

**Incentive:** \$11,340.00

**Customer Simple Payback:**

- 11 Months

## Side Effects:

- Reduced Noise Level
- Reduced Compressor PM Cost
- Trim Compressor No Longer Required



# Thermo Electric Coolers

**Applications:**  
Electrical Cabinet Cooling

**Before:**  
Qty (6) Pneumatic Cold  
Gun Cabinet Coolers



**OPPORTUNITY:**  
Install Thermoelectric Cabinet Cooling

# Electric Thermo Coolers



## Savings:

- 82,800 Kwh
- \$9,936 (\$.12/Kwh)

Project Cost: \$28,723.00

Incentive: \$11,489.00

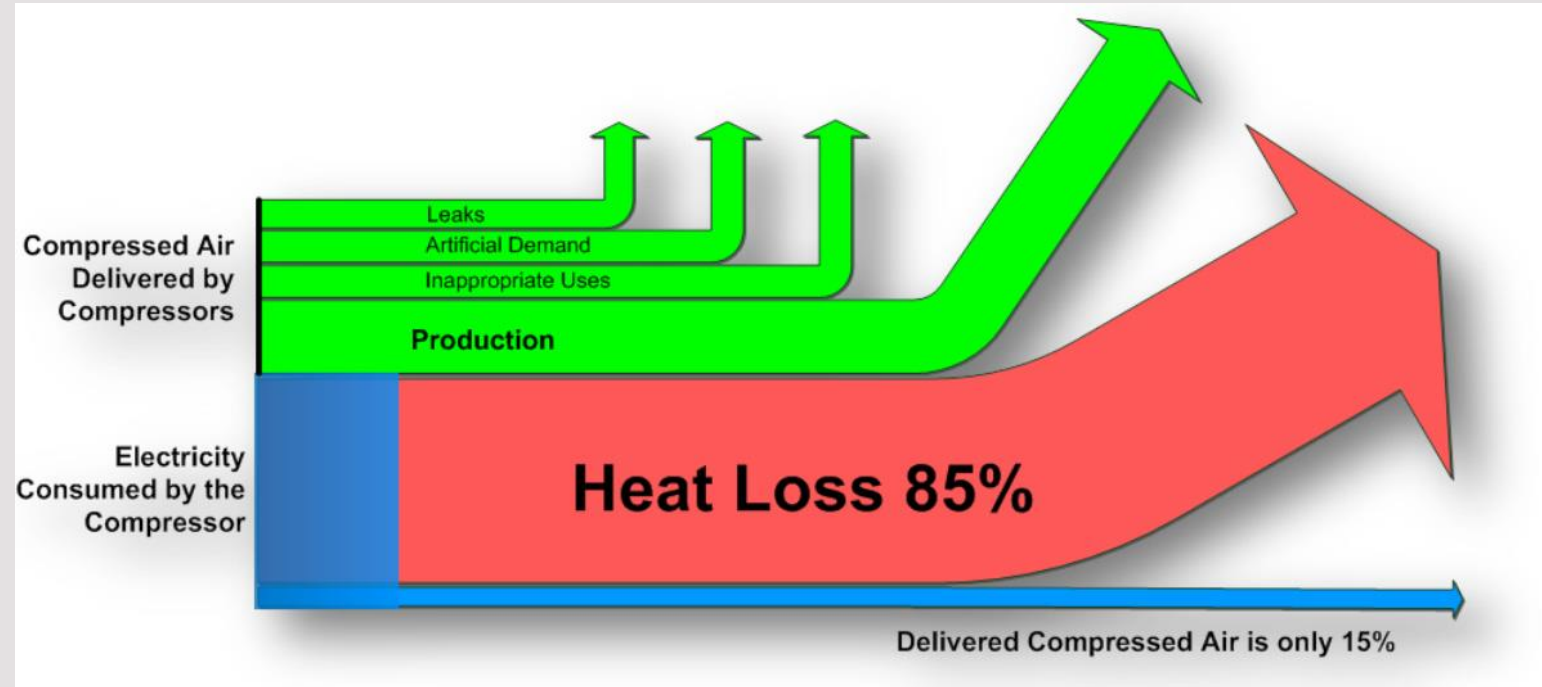
Customer Simple Payback:

- 1.7 Years

## Side Effects:

- Consistent Cabinet Operating Temperature

# Heat Recovery Ductwork



## OPPORTUNITY:

Install Temperature Controlled Ductwork for Compressor Waste Heat - (3)60HP

# Heat Recovery Ductwork



## Savings:

- 3,977 CCF/ Heating Season
- \$3,990.00 (\$ Gas Savings)

**Project Cost:** \$29,805.00

**Incentive:** \$11,922.00

## Customer Simple Payback:

- 4.5 Years

## Side Effects:

- Quieter Compressor Operation
- Better Work Environment for Employees

# Demand Activated Drains

**Applications:**  
Condensate Drains

**Before:**  
Qty (3) Timer Operated  
Solenoid Drains



**OPPORTUNITY:**

Install Pneumatic Operated No Loss Drain Alls

# Demand Activated Drains



## Savings:

- 6.2CFM
- 12,572 KwH
- \$1,634 (\$.13/KwH)

Project Cost: \$3,438.00

Incentive: \$1,634.00

Customer Simple Payback:

- 1.3 Years

## Side Effects:

- Increased Compressed Air Quality

# Leak Detection

## APPLICATION:

300HP Compressed Air System with Hoses, Quick Connects, Filter/Regulators/Lubricators. Leakage was apparent.

(Really??)



## OPPORTUNITY:

Perform a Six (6) Day Leak Detection Audit

# Leak Detection



## Savings:

- Found 149 Leaks with associated waste of 188 CFM
- 253,394 Kwh
- \$30,407 (\$.12/Kwh)

## Audit/Repair Cost:

Audit \$7,560.00

Repair \$14,962.00

## Incentive:

- 50% Audit Cost
- 50% Repair Cost

## Customer Simple Payback:

- 4.4 Months

## Side Effects:

- Eliminated Maintenance Prone Hoses and Quick Connects with Rigid Pipe
- Operator Awareness of Cost of Compressed Air



Thank you