



# LONGO

**Largest Independent Electrical-Mechanical Sales & Service Firm  
in the Tri-State Area**

## Variable Frequency Drives

Save time, money, and your nerves with Longo's **"line to load"** capability. Unlike traditional procedures where electricians install the VFD's and then control specialists sort out the electricians' work, Longo does it all. **Longo has the experience and resources** to understand the relationships involved between voltage, power, torque and all the other critical variables. From there we choose the correct installation site and procedure to ensure a minimum of interference.

Longo can provide the drives, softstarts and combination starters for low and medium voltage units for all applications. We also provide the vital expertise to ensure the installations meet your expectations of reliability and performance.

While reaping the benefits of VFD's appears straightforward, the installation does require attention to detail. Poorly designed applications or improper installations can quickly turn a



**Longo, your single VFD source provides:**

**-New equipment sales**

**-Installation of single units or complete turnkey drive systems**

**-On site, 24/7, service to troubleshoot, repair and maintain your drives**

**-Rewind, rebuild and upgrade your inverter duty motors**

**-Experience in applications for all major industries**

**-Payback analysis**

**Distributor and authorized service for  
Cutler-Hammer Siemens Lenze AC-Tech**

**DAILY PICKUP IN THE NORTHEAST**

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*Service Through Knowledge<sup>®</sup> Since 1945*

# VFD Payback Summary

ABC COMPANY

Date: 5/1/2008

Cost of Electricity: \$ 0.120 / KWh

Total Project Cost: \$ 360,000  
 Rebate:   
 Net Project Cost: \$360,000

Payback: 1.29 Years

Additional savings through demand reduction not included.

Unit #	Quantity	Motor HP	Oversizing % (100% Load HP/Motor HP)	Annual Run hours	Motor Efficiency	Drive Efficiency	Drive System Type	Annual Energy Usage (KWh)		Annual Energy Cost (\$)		Annual Energy Saved (KWh)	Annual Energy Saved (\$)
								Existing	Upgrade	Existing	Upgrade		
1	2	100	100%	8760	93.5%	99%	Outlet Damper	1,283,648	494,049	\$ 154,038	\$ 59,286	789,599	\$ 94,752
2	1	60	100%	8760	92.7%	99%	Outlet Damper	388,418	149,494	\$ 46,610	\$ 17,939	238,924	\$ 28,671
3	1	40	100%	8760	92.5%	99%	Outlet Damper	259,505	99,878	\$ 31,141	\$ 11,985	159,627	\$ 19,155
4	4	150	100%	4260	95.2%	99%	Outlet Damper	1,839,278	707,899	\$ 220,713	\$ 84,948	1,131,378	\$ 135,765
5							Outlet Damper	-	-	\$ -	\$ -	-	\$ -
6							Outlet Damper	-	-	\$ -	\$ -	-	\$ -
TOTALS									1,451,320	452,502	174,158	2,319,528	\$ 278,343

Note: Savings calculation performed using the following typical load profile information.

Load Profile Outlet Damper		Load Profile VFD		3,770,848		Duty Cycle					
%CFM	% Power	% CFM	% Power	% CFM	% Hours	Unit #1	Unit #2	Unit #3	Unit #4	Unit #5	Unit #6
20%	64%	20%	5%	20%	5%	5%	5%	5%	5%	5%	5%
30%	72%	30%	8%	30%	8%	8%	8%	8%	8%	8%	8%
40%	80%	40%	14%	40%	12%	12%	12%	12%	12%	12%	12%
50%	87%	50%	20%	50%	16%	16%	16%	16%	16%	16%	16%
60%	94%	60%	31%	60%	18%	18%	18%	18%	18%	18%	18%
70%	99%	70%	41%	70%	16%	16%	16%	16%	16%	16%	16%
80%	104%	80%	54%	80%	12%	12%	12%	12%	12%	12%	12%
90%	107%	90%	70%	90%	8%	8%	8%	8%	8%	8%	8%
100%	111%	100%	100%	100%	5%	5%	5%	5%	5%	5%	5%
Total				100%	100%	100%	100%	100%	100%	100%	100%

## Savings? What kind of savings?

A lot of factors can come into play when figuring out the actual savings on a drive installation. At Longo we can prepare a complete payback analysis prior to any work so that the ROI is clear and concise. However, here is a real world example with a recent project for a major building management firm in NYC that puts saving into black and white.

**We installed 11 variable frequency drives on their air handler fans for their HVAC system. The cost of the project was \$147,500 and their savings will be \$143,365 per year, every year!**

**You know the inherent benefits of installing the drives; now it is just a matter of how to have them installed in the most effective and efficient way...a turn key project from Longo.**

