INDUSQUIP MARKETING CC

ENERGY SAVING & EFFICIENCY USING AC VSD DRIVES

CASE STUDY

Our Variable Speed Drive produces Energy savings for Plastic Extruder Plant

Indusquip Marketing continues to assist countless Companies with Power Analyser recordings, advice and solutions to **"Energy Savings".**

In this specific case our Variable Speed Drive produces Energy savings for a Plastic Extruder Plant.

Indusquip Marketing assisted a Plastic Recycling Company with to ENERGY SAVINGS on Main Plastic Extruder.
The savings in this application was 102.1 amps @ 400volts.

The Customer background

A Plastic recycling Company had installed Power Factor correction on their Main Supply as part of their strategy to reduce their large electrical account. The Company was disappointed with claimed results versus actual results and still had a problem with large electricity bills. The Plastic recycler then approached Indusquip Marketing, based on a referral from another company regarding their problem with high energy consumption and excessive costs.

Indusquip Marketing offers existing & potential clients free Power Analyser recordings and evaluation on critical motors. A full Power analyser recording was undertaken on the clients 200kW DC Motors as well as notations made of motor speed, pulley dimensions, gearbox ratios, etc.

The DC Motors average current drawn, during operation was 182 amps.

INITIAL TESTS - BEFORE

MOTOR TYPE : DC MOTOR

STARTER DETAILS : DC DRIVE

STARTING CURRENT : 240 amps

RUNNING CURRENT : 182 amps

All recordings and information were analysed and Indusquip Marketing's recommendation was to fit a New High Efficiency 132kW AC Motor with a 132kW AC Drive (Variable Speed Drive) to replace the existing 200kW DC Motor and Drive.

The resultant fitment of AC Drive and Motor, produced a significant drop in current drawn on the same extruder. The average current drawn under full load operation reduced to 79.9 amps.
Variable Speed Drives offer both PF correction and reduction in current (amps).

The Energy Savings achieved

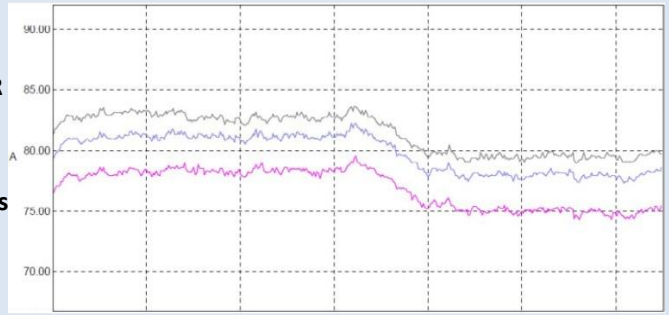
The reduction in kilowatt / hour was 102.1 amps. The actual Monetary savings in this particular case was exceptional, due to clients Production hours. On average their cost of electricity was 75 cents per kWh - Rand savings in 1 year would amount to R404 000-00 in electricity and the payback period was less than 1 year.

TESTS- AFTER VSD WAS INSTALLED

MOTOR TYPE :
WEM HIGH EFFICIENCY MOTOR

STARTER DETAILS :
INVT VARIABLE SPEED DRIVE

RUNNING CURRENT : 79.9 amps



Extra benefits

The AC Drive and Motor assisted the company, by being able to manage and improve overall production on his extruder because of availability of extra current. The removal of the DC Motor with high capital cost and maintenance has been replaced with a Standard, much lower cost AC Motor which are readily available. There has also been a substantial decrease in electricity charges in both kilowatt per hour and kVA demand.

Summary

The use of an AC Drive and AC motor will insure that only the energy that the process actually requires, is consumed and you only pay for the energy used. Numerous companies have also report reduction in noise and motor temperatures after we have installed an AC Drive and AC Motor.

Indusquip Marketing's motto, "Energy Savings are application specific" are reinforced with the latest IEC specification IEC 60034-31: Application guide for selection of energy efficient motors.

Excerpts from IEC60034-31 – "In comparing motor efficiency not only the increase of efficiency but also the respective power factor has to be taken into account**".** "When a replacement of a standard motor with a high efficiency motor is envisaged in existing applications, the correct power-demand and sizing of motor should be evaluated"

Indusquip Marketing are actively involved in successful Energy savings in a number of Industries – Plastic, Rubber, Irrigation, Cement, Sugar, Mining, Lifting , to name a few. Indusquip Marketing offers quality and competitively priced AC Drive and AC Motor solutions.