

# Case Study

# Par-Pak Granulators

Manufacturer: Zerma

**integra™**  
intelligent fixed speed motor control



# Case Study



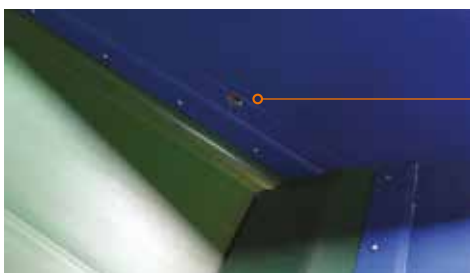
Par-Pak has 2 large granulators installed on its site in Milton Keynes, as is the normal situation in a plastics factory, the granulators were generally left running and never switched off. The granulators recycle the plastic film which is left over from the process of making plastic food containers.

It's also a space saving exercise to reduce the size of the excess plastic reels, this has a price tag in machine operating time. The integra units reduce the running cost as well as switching the granulators off after 8 min of inactivity.

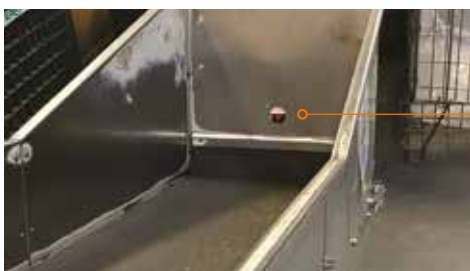
The Feeding conveyors are also switched off to save energy and also to prevent the granulators being feed accidentally when not running. The Granulators and Conveyor belts are then automatically switched back on when a new reel is put on the Conveyor belt. Suresense is saving 75%+ on these granulators;

Sequence of events in achieve these savings;

- Installed a 90kw Integra unit.
- The Integra saves energy through the loading cycle and when Idle.
- The Integra then monitors for a long period of off load and switches the Granulator off.
- The Conveyor belt is also switched off by the Integra unit
- The Integra unit then waits for the proximity sensor to detect presents of material.
- The conveyor belt is automatically started as well as the main motor.
- The process starts once again.
- Installing this intelligence save a lot of money.



Zerma  
Detector



Cumberland  
Detector

## Key Benefits



Soft Start

Integra Softstarts the granulator, reducing mechanical wear and tear + reduces peak demand.



Energy Saving

Through the Loading cycle, the Integra unit will reduce the energy consumed by the granulator.



Auto Switch Off

When the granulator is left running waiting for more product, the Integra unit will automatically detect for this and switch the granulator off.



ROI

Return On Investment  
6 Months.



Savings

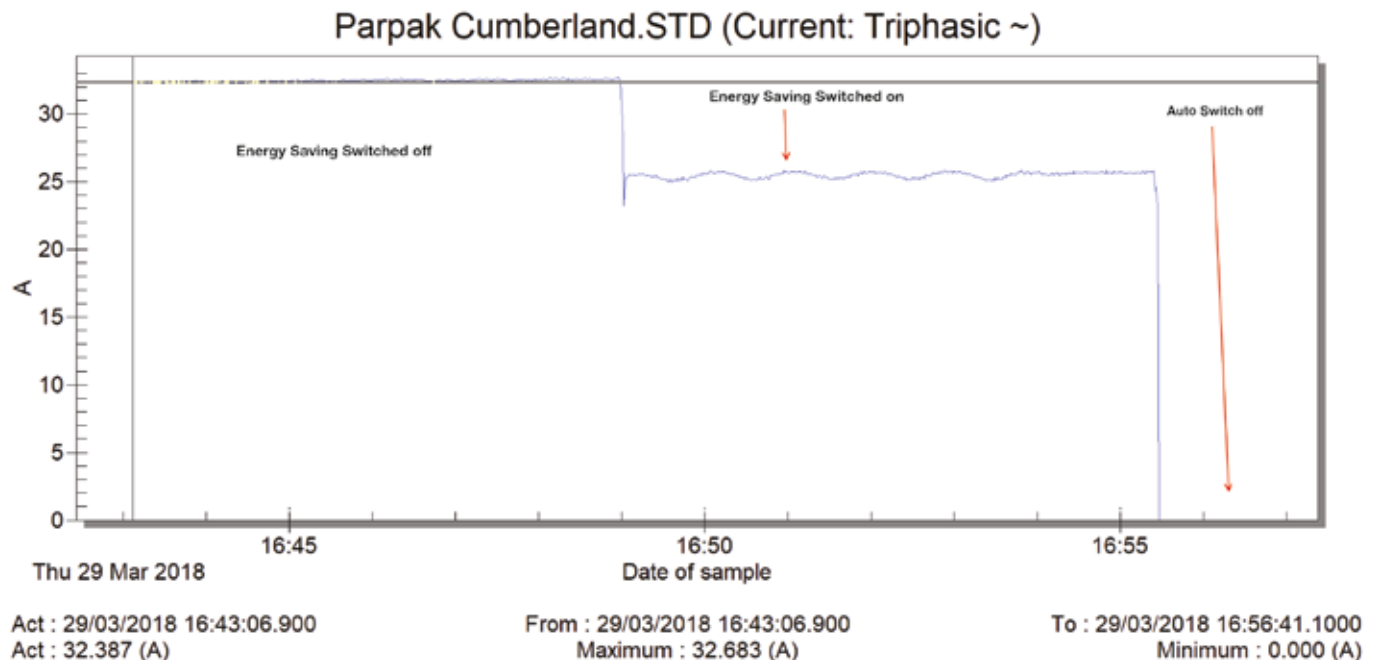
Savings Gained.



## Test Conditions

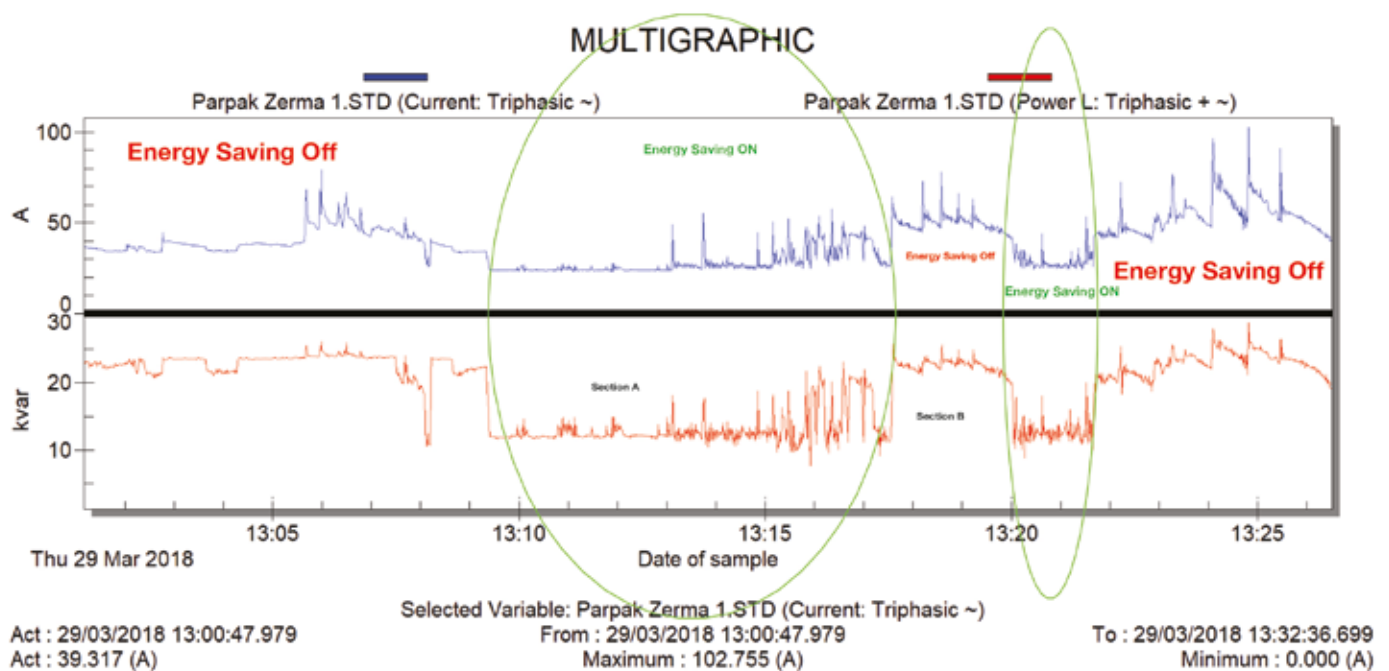
### Parpak Cumberland. STD

Current: Triphasic ~



### Parpak Zerma 1. STD

Multigraphic



# Test Conditions

## Off Load Sequence and Savings

Before

1	Date	Time	Current: Triphasic ~ (A)	Power: Triphasic + ~ (kW)	Power L: Triphasic + ~ (kvar)
308	29/03/2018	17:35.8	57.31	23.104	25.789
309	29/03/2018	17:36.8	57.966	28.509	24.146
310	29/03/2018	17:37.7	52.831	26.555	23.425
311	29/03/2018	17:38.7	56.731	29.651	23.9
312	29/03/2018	17:39.7	52.329	26.117	23.241
313	29/03/2018	17:40.6	50.926	24.611	23.077

1	Date	Time	Current: Triphasic ~ (A)	Power: Triphasic + ~ (kW)	Power L: Triphasic + ~ (kvar)
446	29/03/2018	19:48.7	44.632	18.979	21.186
447	29/03/2018	19:49.7	44.555	18.86	21.358
448	29/03/2018	19:50.7	44.337	18.978	21.021
449	29/03/2018	19:51.6	44.633	18.896	21.021
450	29/03/2018	19:52.6	44.465	18.55	21.495
451	29/03/2018	19:53.6	44.324	18.402	21.067
452	29/03/2018	19:54.5	43.345	18.055	20.492
453		Average	50.38	23.80	22.64
454		Saving Rate	39%	53%	39%

After

1	Date	Time	Current: Triphasic ~ (A)	Power: Triphasic + ~ (kW)	Power L: Triphasic + ~ (kvar)
2	29/03/2018	12:44.3	23.839	5.167	11.836
3	29/03/2018	12:45.3	24.148	5.214	12.093
4	29/03/2018	12:46.3	23.504	5.14	11.855
5	29/03/2018	12:47.2	23.594	5.077	11.544
6	29/03/2018	12:48.2	24.354	5.186	12.065
7	29/03/2018	12:49.1	23.671	5.454	11.857
8	29/03/2018	12:50.1	26.142	5.389	13.751

1	Date	Time	Current: Triphasic ~ (A)	Power: Triphasic + ~ (kW)	Power L: Triphasic + ~ (kvar)
293	29/03/2018	17:24.2	26.799	9.411	11.302
294	29/03/2018	17:25.2	28.755	10.168	13.43
295	29/03/2018	17:26.2	28.421	9.765	12.281
296	29/03/2018	17:27.1	25.165	9.934	11.122
297	29/03/2018	17:28.1	28.163	10.26	12.171
298	29/03/2018	17:29.0	25.756	9.32	11.617
299	29/03/2018	17:29.0	26.49	10.213	11.38
300		Average	30.83	11.07	13.77

## Savings with Integra

Current: Triphasic (A)	39%
Power: Triphasic + (kW)	53%
Power L: Triphasic (kvar)	39%



intelligent fixed speed motor control

## Energy Efficient

This excess consumption is not only an unnecessary cost in your energy bill, but it also serves to damage your equipment as the excess energy is released through the windings of the motor in the form of heat, vibration and noise. Integra will give your motors intelligence through monitoring the load on the shaft of the motor for every cycle of the supply. The Integra will then feed your motors the electricity that they require to run efficiently at any point in the duty cycle.

## Customers

There are a growing number of forward thinking executives and energy consultants who are taking their corporate responsibilities (CSR) very seriously. In an effort to target carbon reduction and increase their company profits, they have chosen Suresense Technologies energy saving solutions. These implementations were viewed as part of their own energy saving strategy and were driven by two other key factors, low risk and high return on investment (ROI).

## Benefits

**Integra integrates fully with its surroundings and can even switch your motors off automatically when they are not being used, or use stored energy in certain applications (such as flywheel mechanisms) to reduce your electricity consumption even further.**

