suresense technologies

CASE STUDY
HEBEI - CHINA

Pump Jack Applications

integra™

intelligent fixed speed motor control

suresense.co.uk

CASE STUDY

Introduction

The Pump Jack test was carried out on the Hebei Oil field just south of Beijing China, there are a total of 250 000 Pump Jacks in china spread between the three main oil providers China Petrol / Sinopec / China Marine oil.

The pumps operate 100% of the year, the only condition that will stop them working is a breakdown of a component.

The Integra units operate in extreme conditions +40 in the summer to – 30 in the winter. Special applications have been developed to make sure the Pump Jack continues production no matter what. If the temperature remains extremely high for a long period of time the Integra bypasses itself and allows its heatsink to cool and restart automatically.

Analysis Details

Type of Machine:	**Pump Jack**
Device:	**Circulator AR5-L**

Key Benefits

Soft Start
Integra Softstarts the pump jacks, reducing mechanical wear and tear + reduces peak demand.

Energy Saving
Through the Loading cycle, the Integra unit will reduce the energy consumed by the pump jack.

Auto Switch Off
When the pump jacks are left running, the Integra unit will automatically detect for this and switch the pump jacks off.

18-24 MONTHS

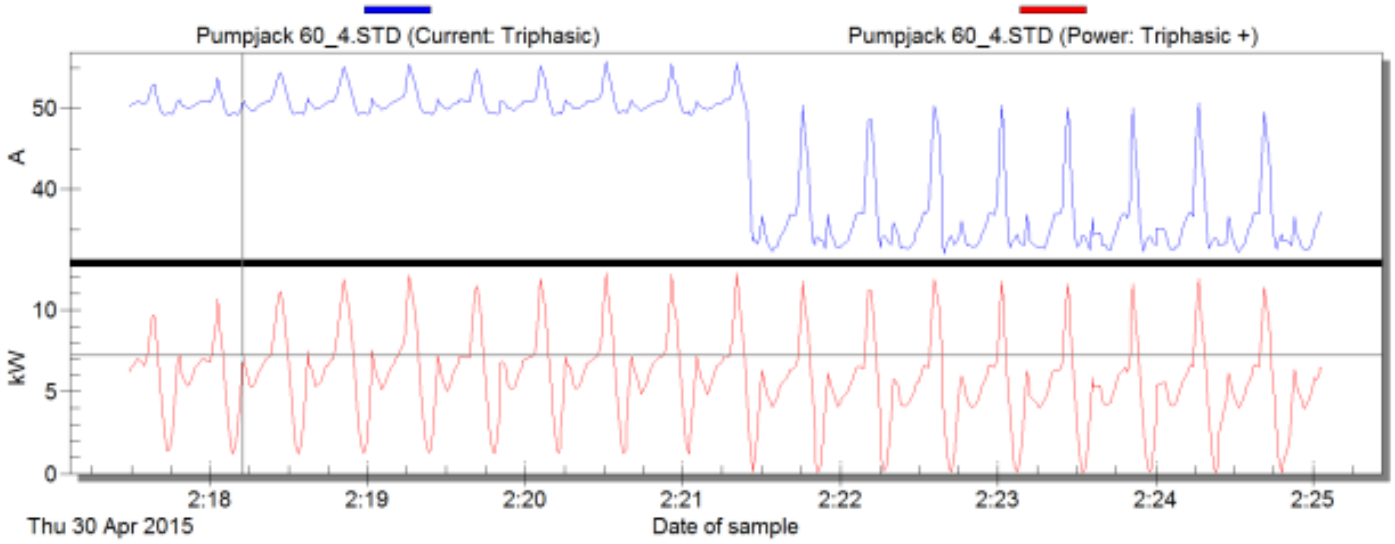
ROI
Return On Investment 6 Months.

15% PLUS

Savings
Savings Gained.

Test Conditions

Multigraphic



Selected Variable: Pumpjack 60_4.STD (Power: Triphasic +)

Act : 30/04/2015 02:18:12.500
Act : 7.231 (kW)

From : 30/04/2015 02:17:29.260
Maximum : 12.269 (kW)

To : 30/04/2015 02:25:03.400
Minimum : 0.064 (kW)

Test Conditions

Off Load Savings Data

Without Integra:

1	Date	Time	Current: Triphasic (A)	Power: Triphasic + (kW)	Power L: Triphasic + (kvar)
232	30/04/2015	21:10.1	49.913	5.138	32.251
233	30/04/2015	21:11.1	50.081	5.619	32.52
234	30/04/2015	21:12.0	50.392	6.193	32.492
235	30/04/2015	21:13.0	50.6	6.62	32.412
236	30/04/2015	21:14.9	50.703	6.815	32.549
237	30/04/2015	21:15.9	51.053	7.212	32.836
238	30/04/2015	21:16.9	51.04	7.147	32.798
239	30/04/2015	21:17.8	51.118	7.203	32.778
240	30/04/2015	21:18.8	51.831	8.259	33.06
241	30/04/2015	21:19.7	53.802	10.546	33.651
242	30/04/2015	21:20.7	55.604	12.259	33.972
243		Average	50.82	6.22	32.68

With Integra:

1	Date	Time	Current: Triphasic (A)	Power: Triphasic + (kW)	Power L: Triphasic + (kvar)
421	30/04/2015	24:23.1	33.983	0.082	15.899
422	30/04/2015	24:24.0	33.387	0.768	15.464
423	30/04/2015	24:24.0	33.011	2.453	14.963
424	30/04/2015	24:27.0	33.335	4.518	13.222
425	30/04/2015	24:27.9	36.602	6.148	14.629
426	30/04/2015	24:28.9	34.476	5.277	13.555
427	30/04/2015	24:29.8	33.646	4.795	13.739
428	30/04/2015	24:30.8	32.557	4.352	13.185
429	30/04/2015	24:31.8	32.193	4.017	13.092
430		Average	36.40	5.29	15.05
431		Savings	28%	15%	54%

Results:

Current	28% Reduction
Power (kW)	15% Reduction
KVAR	54% Reduction