

鼎立大理石切割厂主营高质量的大理石和花岗岩切割和成型，并在这些大理石和花岗岩上制作各种花纹。

我们感兴趣的应用是在车床切割系统上驱动切割刀的皮带电动机。这些电动机几乎每时每刻都在运行，而且经常开机关机，因此皮带需要经常维护。

鼎立的工作时间是每天8至10小时，每周5天，因此测试当时的节能率很理想（大于18%），收回成本的年数也在客户满意的范围之内。这是因为有软起动功能，可以有效的保护电机，虽然更换皮带并不是很贵，但是会影响正常生产，此外，在切割时如果皮带突然断裂会对大理石和花岗岩造成损害。



其中一台切割车床正在工作

在这个例子当中，Envirostart 只是短时间的安装在了电动机上，并且是安装在原有的外围设备上。在这种情况下操作就很简单，因为电动机是全压起动，通过靠近车床切割端的简单的电子机械开关系统来控制的



安装了Envirostart之后，工作电流由13.5A降到了11A。另外一个好处是皮带起动时的噪音消除了，并且温度也降下来了。



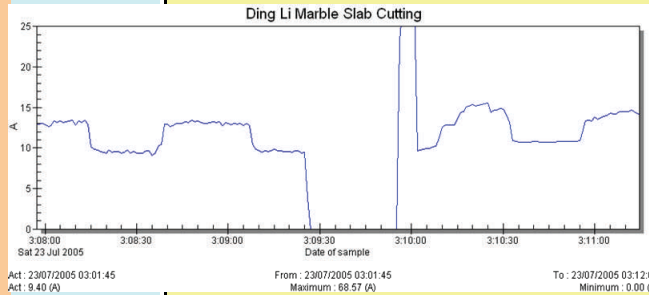
# 2005年7月中国南京鼎立大理石切割厂设备安装测试报告（平均 节能为18%）

## EnviroStart Three Phase G6 Soft Start & MEC Audit Analysis

Date: 21.7.2005 Customer: Ding Li Marble

| Application            | Motor Identity | MEC Or SS | Motor Plate kW | Motor Plate A | Motor Power in A Meas | Motor Power Factor Meas | Hours Motor Runs/Day On Load | Hours Motor Runs/Day in Off Load | Days Motor Runs/Year | Motor Load % | E/Start Std Size | kW/Day Without E/Start | Motor Cost/Day Without E/Start | kW/Day With E/Start | Motor Cost/Day With E/Start | Savings as a % | Savings in £ per day | Savings in £ per year | P/Back in Years | EnviroStart Type Required | Cost of EnviroStart Unit (No Installation) |
|------------------------|----------------|-----------|----------------|---------------|-----------------------|-------------------------|------------------------------|----------------------------------|----------------------|--------------|------------------|------------------------|--------------------------------|---------------------|-----------------------------|----------------|----------------------|-----------------------|-----------------|---------------------------|--------------------------------------------|
| 1 Cutting Machine      | 3              | MEC       | 15.0kW         | 28.0A         | 13.0A                 | 0.30Pf                  |                              | 8                                | 350                  | 46           | 15.0kW           | 63.7kW                 | £4.14                          | 55.4kW              | £3.60                       | 13.0           | £0.54                | £188.29               | 2.10            | 400-TPMECG6-15            | £395                                       |
| 2                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 3                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 4                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 5                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 6                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 7                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 8                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 9                      |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 10                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 11                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 12                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 13                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 14                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 15                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 16                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 17                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 18                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 19                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 20                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 21                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 22                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 23                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 24                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 25                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 26                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 27                     |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |
| 28 Miscellaneous Costs |                |           |                |               |                       |                         |                              |                                  |                      |              |                  |                        |                                |                     |                             |                |                      |                       |                 |                           |                                            |

The savings shown here are greater than 18% however this would be affected by the loading created by the thickness and duration of the cuts. Typically we would



|             |                   |
|-------------|-------------------|
| MEC Savings | Cost of all Units |
| £188        | £395              |

### Summary Information

|                            |         |                       |                    |                                    |                       |                                         |  |
|----------------------------|---------|-----------------------|--------------------|------------------------------------|-----------------------|-----------------------------------------|--|
| Total kW of Motors Audited |         | kW/Year Savings Shown |                    | kW/day Savings Shown on This Sheet |                       | P/B Period in Years Based on SS & MEC's |  |
| 15.00kW                    |         | 2,897kW               |                    | 8.28kW                             |                       | 2.10 Years                              |  |
| Electricity Cost/kWh       | Site Pf | Site Voltage          | Days/Yr Motors Run | Hours/Day Motors Run               | Average Savings/Motor | P/B Period in Years Based on MEC's Only |  |
| £0.065                     | 0.94Pf  | 376V                  | Days 350           | Hours 8.00                         | 13.00                 | 2.10 Years                              |  |



靠近切割车间的大理石存放处

Report compiled by  
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