

<応用のポイント>

【サゲル】 機器ごとの必要スバックが明確でないものも、関係者で基準(例:昇温時間)を決めて明確化

| <b>題名</b><br><small>(20文字以内で簡潔に)</small><br>蒸気送気圧力減圧化による省エネ  |     |            |           |     |    |    |  |    |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|--|-----|------------|-----------|-----|----|----|--|----|----|----|----|------|----|-----|---|----|----|-----------|--|--|--|--|--|-----|-----|----|----|----|----|---|-----|----------|---|---|---|---|---|---|----------|---|---|---|---|---|---|----------|---|---|---|---|---|---|---|-----|----------|---|---|---|---|---|---|----------|---|---|---|---|---|---|---|-----|----------|---|---|---|---|---|---|------------|---|---|---|---|---|---|
| 造りすぎ   | 手待ち | 運搬         | 加工        | 在庫  | 動作 | 不良 | TPS  | 会議 | 根回 | 資料 | 調整 | アライド | 月初 | ごっこ |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| 改善前【現状と問題点】(具体的な数値で)   |     |            |           |     |    |    | 改善後【実施内容と工夫点】  |    |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| 【現状】<br>・各工程の洗浄液加温の為に、原動力から蒸気を120kPaで送気しているが以下の問題があった<br>稼働時間帯：120kPa<br>非稼働時間帯：50kPa ※AM2:10~5:40 (3.5H)<br><br>【問題点】<br>『原価』<br>設備の必要蒸気圧力に合わせた送気圧力になっておらず、配管放熱ロスによる蒸気使用量が多く発生している<br>蒸気使用量：0.02ton/H×20.5H/日×20日/月<br>= <b>8.2ton/月</b><br><br>『環境』<br>蒸気配管放熱ロスによるCO2発生量<br>0.02ton/H×20.5H/日×20日/月×0.1702ton/ton<br>= <b>1.396ton/月</b> |     |            |           |     |    |    | 【着眼点】<br>設備の必要蒸気圧力に合わせた送気圧力にできないか？<br>【実施内容】<br>稼働時間帯の蒸気送気圧力を50kPaに変更した<br>【工夫点】<br>・蒸気使用設備の洗い出しと必要蒸気圧力の調査<br>※設備の昇温時間にて判断   |    |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     |            |           |     |    |    | <table border="1"> <thead> <tr> <th rowspan="2">号</th> <th rowspan="2">設備</th> <th rowspan="2">機種</th> <th colspan="6">送気圧力(kPa)</th> </tr> <tr> <th>120</th> <th>100</th> <th>80</th> <th>60</th> <th>50</th> <th>40</th> </tr> </thead> <tbody> <tr> <td rowspan="3">■</td> <td rowspan="3">洗浄機</td> <td>KWB-4414</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>×</td> </tr> <tr> <td>KWB-4416</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>×</td> </tr> <tr> <td>KWB-4418</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>×</td> </tr> <tr> <td rowspan="2">■</td> <td rowspan="2">洗浄機</td> <td>KWB-4674</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td>KWB-4509</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td rowspan="2">■</td> <td rowspan="2">洗浄機</td> <td>KWB-4677</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td>IPV(加温、加湿)</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> </tr> </tbody> </table> |    |    |    |    |      |    |     | 号 | 設備 | 機種 | 送気圧力(kPa) |  |  |  |  |  | 120 | 100 | 80 | 60 | 50 | 40 | ■ | 洗浄機 | KWB-4414 | ○ | ○ | ○ | ○ | ○ | × | KWB-4416 | ○ | ○ | ○ | ○ | ○ | × | KWB-4418 | ○ | ○ | ○ | ○ | ○ | × | ■ | 洗浄機 | KWB-4674 | ○ | ○ | ○ | ○ | ○ | ○ | KWB-4509 | ○ | ○ | ○ | ○ | ○ | ○ | ■ | 洗浄機 | KWB-4677 | ○ | ○ | ○ | ○ | ○ | ○ | IPV(加温、加湿) | ○ | ○ | ○ | ○ | ○ | ○ |
| 号  | 設備  | 機種         | 送気圧力(kPa) |     |    |    |  |    |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     |            | 120       | 100 | 80 | 60 | 50   | 40 |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| ■  | 洗浄機 | KWB-4414   | ○         | ○   | ○  | ○  | ○  | ×  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     | KWB-4416   | ○         | ○   | ○  | ○  | ○  | ×  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     | KWB-4418   | ○         | ○   | ○  | ○  | ○  | ×  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| ■  | 洗浄機 | KWB-4674   | ○         | ○   | ○  | ○  | ○  | ○  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     | KWB-4509   | ○         | ○   | ○  | ○  | ○  | ○  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| ■  | 洗浄機 | KWB-4677   | ○         | ○   | ○  | ○  | ○  | ○  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
|  |     | IPV(加温、加湿) | ○         | ○   | ○  | ○  | ○  | ○  |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |
| 【改善投資】(改善に要した費用・工数)<br>・設備調査工数：14H÷36月⇒0.34H/月   |     |            |           |     |    |    | 【効果】<br>『原価』 蒸気使用量低減： <b>4.1ton/月</b><br>『環境』 CO2低減： <b>0.698ton/月</b> ∴ <b>8.376ton/年</b>   |    |    |    |    |      |    |     |   |    |    |           |  |  |  |  |  |     |     |    |    |    |    |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |          |   |   |   |   |   |   |   |     |          |   |   |   |   |   |   |            |   |   |   |   |   |   |

|    | 改善前  | 改善後  | 効果         |
|----|--|--|------------|
| 原価 | 0.02ton/H×20.5H/日×20日/月<br>= 8.2ton/月                  | 0.01ton/H×20.5H/日×20日/月<br>= 4.1ton/月                  | 4.1ton/月   |
| 環境 | 0.02ton/H×20.5H/日×20日/月<br>×0.1702ton/ton = 1.396ton/月 | 0.01ton/H×20.5H/日×20日/月<br>×0.1702ton/ton = 0.698ton/月 | 0.698ton/月 |