RIGHT STUFF EQUIPMENT
1605 E 69TH AVE, DENVER COLORADO 80229

Automation Audit

1. Company provides the information on lines being used for packaging
    a. Products made
    b. Rates desired
    c. Rates achieved
    d. How rates are measured. KPIs
    e. Down-time events incurred
    f. Age and condition of equipment
    g. Number of people on the line
    h. Line personnel optimized
    i. SQF or other certification achieved
    j. Perceived problems with reliability or achieving the goals
2. Teams call review
    a. Discuss target lines
    b. Training for operators
    c. Maintenance
        i. Staff
        ii. Training
        iii. PM program if any
        iv. CMMS used if any
        v. Most impactful problems in last 12 months
        vi. Most regular problems in last 12 month
3. Site visit if agreed by both parties. Fee based
    a. Record machines employed
    b. Observe 1-2 hours of production
        i. Note rates per station
        ii. Note down time events
        iii. Note OEE
        iv. Note problems observed
        v. Note equipment used and potential problems
        vi. Note a constraint review
4. Report
    a. Suggestions for modified operation practices and training
    b. Suggestions for modified Maintenance practices and training
    c. Suggestion for measuring performance
    d. Suggestions for equipment changes
    e. Line constraint assessment
    f. Suggested OEE experienced
    g. Potential financial justifications
    h. CAD drawings for proposed changes. (May require a fee)

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Case study. Simple

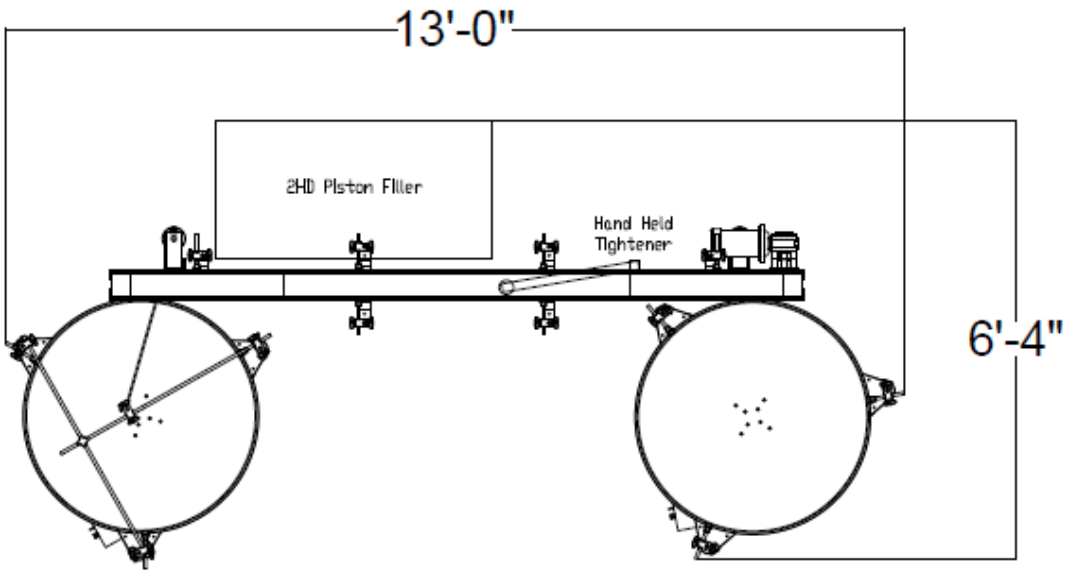
i. **Background**. A company producing personal care products for years and had a habit of frequent product changes and adding people to the process for the short runs. The business model made sense because they charged a premium for doing short runs that many co packers do not want.

ii. **Problem**. The process was very manual and people were doing work that could be simplified by adding some semi automate process.

iii. **Challenge**. Simplify and make efficient a process that would not benefit from too much automation.

iv. **Solution**. Replace the single spout piston fillers with two nozzle fillers and add a simple material handling solution that included unscrambling conveyance, pin indexing and accumulation. Effectively tripling the output for less than $25,000 and filling was handled by one person instead of three. We added a top and bottom taper to eliminate operators from hand erecting and taping the bottom of each case. The taper eliminated one FTE for less than $10,000.. The annual savings was $70,000 for a $35,000 investment.

v.



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Mid range complexity.

vi. **Background**. A company producing packets of condiments had grown steadily over the years. They had started with a single four sided pouch machine which could produce 20 ppm. This was an entry level machine for an entry level requirement, As demand exceeded capacity, additional single lane machines were bought to achieve targets. It reached the point where five machines were needed to meet the output required. This meant 5 machines producing pouches. Multiple people operating and maintaining them.

vii. **Problem**. Each machine had to have the production counted and then packaged at two semi automated packaging stations. Each machine had to have a feed supply with complicated mixing and machine product supply. The result was down time due to waiting on product. With five machines, each one had parts to be replaced, product change overs to be scheduled and executed, and maintenance was high. The Overall Equipment Efficince was poor and had decreased with the addition of each machine.

viii. **Challenge**. The challenge was to increase production further, streamline the process, reduce labor inputs per unit, simplify maintenance, and improve overall OEE. The theoretical limit of the five machines was 20 ppm x 5 or 100 ppm combined. A 65% OEE meant only 65 ppm were being produced at the end of the day.

ix. **Solution**. The five single lane machines were replaced with a single three lane machine. The three lane machine was higher quality and designed for continuous use. The machine cycles at 40 cycles per minute producing 120 ppm from a single machine. Simplification of operation, maintenance and process management resulted in a 75% OEE or 90 ppm of real production. One less maintenance person and two less operators meant 43,200 pouches per day vs 31,200 expected production and $$625 per day on reduced labor. The project also expanded to include auto case erecting, counting and case packing and coding. This saved an additional five people or $1,000 per day. The payback on the project was under one year.

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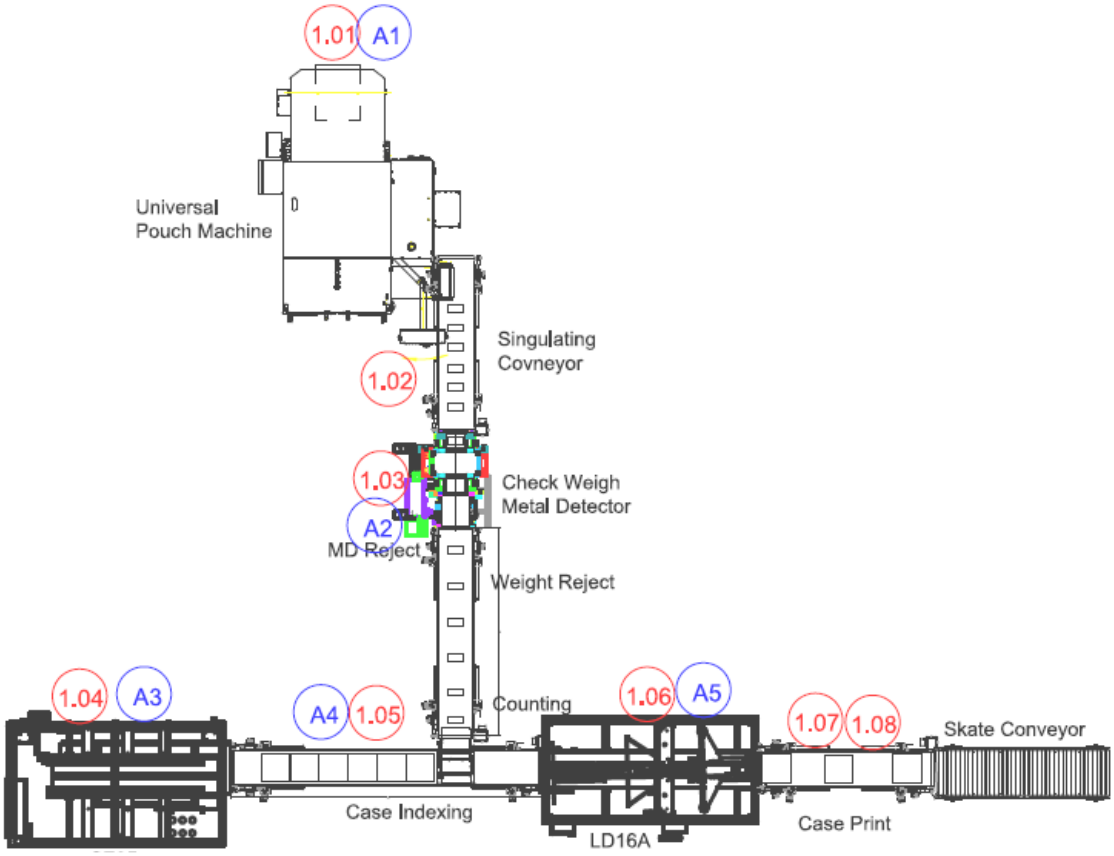

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Complex

x. **Background**. The company produces a commodity food product in a resealable stand up pouches for a value added presentation. They desired to get into the lower end of the commodity which sells at a lower price per pound, on the lower shelves at grocery. The lower end products are typically packaged in a low cost polyethylene package. They had an opportunity with large retail outlets to expand into the lower end through their business relationships

xi. **Problem**. The economics did not make sense to attempt to sell the products with mid speed equipment in the high end packaging they were using. Their package cost was over four times the cost per unit using poly film. They received the commodities in 50# bags. Their rotary packaging machines ran at 40ppm vs VFFS machines used by competitors that could 80+ppm. Their end of line was not automated for case packing, palletizing or pallet wrapping. Competition had made these investments. The cost of admission to supply was decreasing their COGS significantly.

xii. **Challenge**. Develop a line that operated in a way that the cost of goods sold would be low enough to be competitive and take advantage of the business relationship and expand output.

xiii. **Solution**. Develop a line to get their unit cost down. First, material could be brought in via 2,000# super sacks instead of 50# bags to reduce material costs. A super sack unloading system eliminated then need to handle, cut, dispense and dispose the 50# bags reducing labor. The 2000# bag was reusable for a nonfood application, so disposal was free. The bulk bags system eliminated two people managing bags. The bulk bag fed a bucket elevator which fed the scaling and bagging system which produced up to 85 one pound bags per minute. Once bags were produced, they were automatically case packed which employed case erectors, robotic case packing and robotic palletizing. A second palletizing bay was included for a future second bagging line. Once palletized, an auto stretch wrapper finished the job which meant no one touched the product until it was picked as a fully coded pallet by the forklift operator. An integrated coding software system meant that coding on the bag, case and pallet were automatically applied. No more placing the wrong labels and no returns as a result of incorrect coding.

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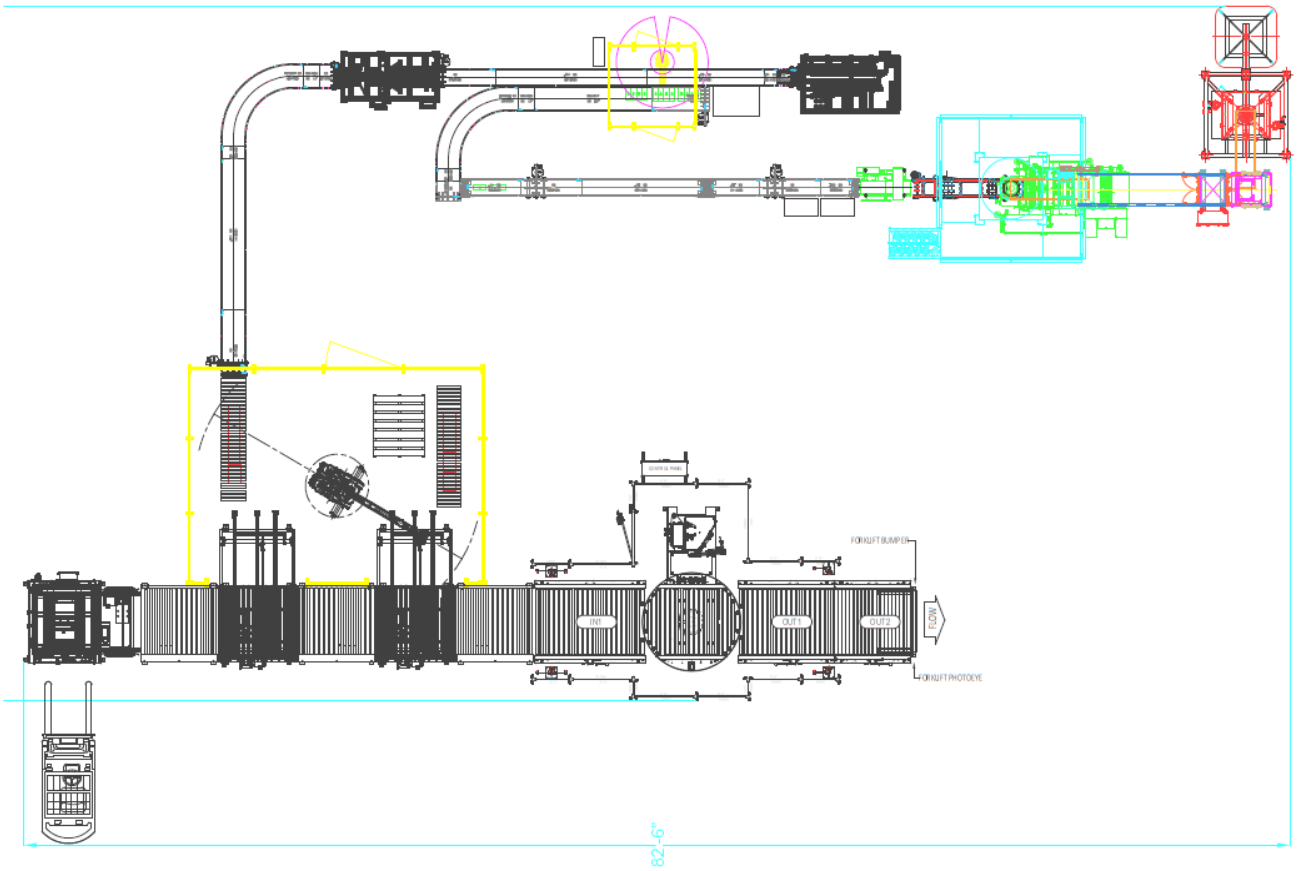

Contact us to conduct a free automation audit. Please note that not all situations will apply and determinations will be made after initial discussion.

SALES@RIGHTSTUFFEQUIPMENT.COM