

THE HIDDEN COST OF MANUAL SAMPLE HANDLING VS. RUDOLPH LABORATORY AUTOMATION

How automation saves time, reduces errors,
and lowers total operating cost

MANUAL
MULTIPLE STEPS



AUTOMATED
ONE LOAD.
MULTIPLE RESULTS.

VS.



WHO THIS MATTERS TO



Flavors



Fragrances



Beverages



Liquid Foods



Nutraceuticals



Oils



Lotions

and other
Liquid Products

COMMON MEASUREMENTS

Refractive
Index (RI)

Optical
Rotation

Density

pH

Color

MANUAL WORKFLOW

3-5 INSTRUMENT INTERACTIONS PER SAMPLE



15-50 MINUTES PER SAMPLE

5-10 minutes per test



HIGH TECHNICIAN INVOLVEMENT

Continuous hand-on time



HIGHER RISK OF ERRORS

Manual entry, labeling, transcription



HIGHER LABOR COSTS

\$7.50 - \$ 33.00 per sample*

AUTOMATED WORKFLOW

1 SAMPLE LOAD



15-50 MINUTES PER SAMPLE

5-10 minutes per test



HIGH TECHNICIAN INVOLVEMENT

Continuous hand-on time



HIGHER RISK OF ERRORS

Manual entry, labeling, transcription



HIGHER LABOR COSTS

\$7.50 - \$ 33.00 per sample*



MULTIPLE MEASUREMENTS FROM A SINGLE LOAD

RI, Optical Rotation, Density, pH, Color - performed automatically in one continuous flow

KEY BENEFITS OF LABORATORY AUTOMATION



REDUCED LABOR

Frees skilled staff to focus on higher-value work.



HIGHER THROUGHPUT

Process more samples in less time with consistent results.



BETTER DATA INTEGRITY

Barcode ID and automatic data capture reduce errors to nearly zero.



BARCODE TRACEABILITY

Eliminate manual ID entry, misreads, and sample-result mismatches.



INSTRUMENT CONSOLIDATION

One sample pathway. One automated cleaning cycle. Simpler operations.



Run 60-100 samples per batch, even overnight.

STRONG ROI. FAST PAYBACK

Manual handling costs add up everyday. Automations reduces active labor per sample and delivers a quick return on investments.



HIGH LABOR COST
MANUAL WORKFLOW



LOWER LABOR COST
AUTOMATED WORKFLOW



BREAK-EVEN IN DAYS, WEEKS, OR MONTHS

Depending on sample volume

TALK TRACK: HOW TO POSITION WITH CUSTOMERS

- ✔ The hidden cost is not the instrument- it's a technicians time
- ✔ Automation turns multiple handling steps into one continuous workflow.
- ✔ Barcode identification improves traceability and reduces manual errors.
- ✔ Automation increases throughput without increasing staff.
- ✔ One significant manual error can cost more than the investment difference in automation

