

# USE OF DENOMINATORS FOR INDUSTRIAL ENGINEERING AND QUALITY CONTROL

Denominators have helped many companies improve product quality and reduce the cost of defective work by providing timely and accurate data on rejections. Even where high-speed computers are available; our MULTIPLE-TALLIES frequently do the analytical job much more quickly and at a lower cost – no problem of programming issues, nor the delay of being placed on an extended computer schedule. Some users are producers of missile-borne instruments, pharmaceuticals, toys, television tubes, textiles, electrical controls, baked goods, flooring, poultry and citrus fruits. Whether the count of rejections by designated categories is done at final or in-process inspection, **DENOMINATORS** solve the common problem of quick and reliable summation of findings. The Quality Control Engineer needs to take prompt corrective action to minimize or eliminate costly sub-standard production, and use of **DENOMINATORS** allows this to happen – quickly.

## DIMENSIONAL VARIATIONS

MULTIPLE TALLIES are used daily throughout industry to tabulate such variations from engineering drawings as thickness, circumference, concentricity, etc. from production random samples. This continuous evaluation minimizes the costly manufacture of defective work and ensures that only products of acceptable specification are shipped to customers.

## SPOTTING THE SOURCE OF REJECTS

In one well-known electronics plant, the analysis of Rejection Reports does more than summarize the causes of rejection by fault. Manufacturing difficulties can also be promptly tracked down to specific operations, and often to the personnel involved. This frequently leads to improved assembly methods and better operator training. Detailed daily reports are quickly tallied on a DENOMINATOR. The title strips on the individual counting units identify the various faults by operation and personnel. Formerly, under pencil and paper methods this was a time-consuming task. The firm now reports that the use of MULTIPLE TALLIES enables the Quality Control Department prepare reliable and timely analytical reports.

## VISUAL INSPECTION

The nature and number of defects or flaws in finished products are the essential elements in grading. DENOMINATORS are at work daily in many textile mills performing this important function. While sometimes there may be no complete “rejection,” there is a final inspection to determine the degree of perfection and grade of inferior products. Typical of this type of examination is the “perch” inspection in textile mills, where bolts of cloth are passed over a back lighted rack, or perch, and examined for streaks, section marks, discoloration, mis-weaves, mis-picks and so on. The number of such flaws designates the bolt as “First Quality,” “B-Second,” or “as Is.” Pairers in hosiery mills similarly grade and count the number of pairs inspected on each shift.

Other products, such as flowers and citrus fruits, are graded at final inspection and counts made of the quantities of each grade. Such reports are again very revealing as to relative quality of the finished product, even though the causes of downgrading are often the ungovernable caprices of Nature.

## MACHINE STOPPAGES

Similarly, a Multiple-Tally will provide the necessary data for Warper Stoppage Reports. A counter is provided for each of the 9 Yarn Causes, 6 Creeler Causes and 5-6 Miscellaneous Causes. Readouts are made after each shift and posted to a Weekly Summary Sheet.

## POULTRY INSPECTION

On the Eviscerating Line, inspectors tabulate on Denominators the reasons why each bird is rejected – Tumors, Bruises, Over-scald, Contamination and the like. These counts are placed on U.S. Department of Agriculture Reports.

## GLASS MANUFACTURING

Whether it be containers or other glass products, all production receives much precise scrutiny to ensure high quality end products. Extensive tabulations are made of such defects as Blisters, Poor Trim, Check Edges, Cold Glass, Out-of-Flat, Plunger Marks, Over Press, Pits, Bad Crack off and the like.

## APPLICATIONS UNLIMITED

**MARKET RESEARCH DEPARTMENTS** use these counters to summarize market survey questionnaires, where the consumer answers by checking multiple-choice questions or to analyze a great variety of raw data on order size, geographical distribution, job classifications and the like to determine the effectiveness of certain promotions and so on.

**PUBLISHING COMPANIES** use Denominators to analyze the many categories of readership as a part of the circulation verification for ABC, BPA and other types of audits. Some magazines tabulate the many inquiries about the editorial content and personalities in their articles. Editors use this information to guide them in planning their future issues.

**OTHERS:** Traffic Surveys, Laboratory Studies, Laundry Bundle Counts, Telephone Counts and Food Portion Tabulations.

TALLY COUNTERS SINCE 1914

**THE DENOMINATOR COMPANY, INC.**

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www.denominatorcompany.com



# Single and Multiple-Tally® Counters

(4-Digit Counters are Standard)

At **The Denominator Company** we realize that counting needs vary. Our Denominators vary, too – in order to fit the needs of our customers. Denominators are available in rows of up to 24 counters and can be tiered 12 rows high. A unique unit interlock secures rows in a concave bank for easy reach and reading. Our finest counter mechanism is enclosed in an attractive metal case with a smooth satin finish and flush dial windows for ease in reading and cleaning.



**8 UNIT COUNTER (2X4)**

**DOUBLE UNIT COUNTER (1 x 2)**



**SINGLE UNIT COUNTER (1 X 1)**



## Denominators With Totalizers

(3-Digit Counters are Standard but 4-Digits are Available)

These machines, known as LAB-COUNT DENOMINATORS can be furnished with either a Locking or Non-Locking Totalizer. Both kinds register and accumulate the counts on the individual counters, providing only one Key Top or Push Button is depressed at a time.

The LOCKING TYPE (LT) locks all counters at every 100 counts, thus providing direct percentage readings after the first 100 counts. A release button quickly unlocks the DENOMINATOR for the next 100 counts and so on. Individual percentages can then be readily determined by dividing the counter readings by the number

of hundreds counted. This feature positively prevents any inadvertent counting beyond each 100 counts. Over-counting can lead to serious inaccuracies and makes percentage calculations difficult.

The NON-LOCKING TYPE (LT) continuously accumulates the counts on the individual counters without the operator having to unlock the machine after each 100 units.

Totalizers are available on machines from two to 15 units in a horizontal row. They can be tiered up just like our Multiple-Tallies.



**8 COUNTERS PLUS TOTALIZER (1X9 LT) or (1X9 NLT)**

### MANY FEATURES

- ❖ Short Stroke
- ❖ Light Touch
- ❖ Non-slip Keys
- ❖ Easy-to-Read
- ❖ Gang Reset
- ❖ Rugged
- ❖ Quick Change Titles
- ❖ Choice of 21 Key Top Colors

### GENERAL INFORMATION

**COLOR CODING:** At no extra charge, Key Tops are available in Maroon, Rosewood, Yellow, White, Brown and light, dark or Alpine Green, light or dark Gray, Black, dark, light or pale Blue, Chartreuse, Citrus, Orange, Purple, Red, Tan or Toffee and arranged to your specifications. Many have found that the use of color speeds up count.

**MOUNTING OPTIONS:** Single counters and all multiple counters in one row are available with base plates with non-slip pads and mounting holes in the extended flanges for attachment to a desk, bench or other surface. Mounting screws are also supplied.

**DESIGNATION TAPE:** Your DENOMINATOR will be shipped with pressure-sensitive tape on the machine. Titles can be placed on the tape in pen, pencil or crayon. When the tape is placed on a plastic sheet, designations can be typed on the tape. Additional 30 foot rolls of tape may be obtained from our stock.

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