

Flow Path Calculator

The Flow Path Calculator™ takes the work out of diagramming material flow through manufacturing facilities and calculating the distance, time and cost of these moves.

Working within AutoCAD, the Flow Path Calculator automatically generates material flow diagrams and calculates material handling travel distances, time and cost. With variable-width flow lines color-coded by product, part or material handling method, users quickly see how layouts should be arranged and where excessive material handling should be eliminated from the manufacturing process. The ultimate result is a better factory layout faster!



Eliminate Wasteful Moves

The Flow Path Calculator is a factory wide product flow analysis tool that combines simple text file routings with an AutoCAD facility layout drawing to create product, part and material handling flow diagrams for quick, easy, and accurate documentation and evaluation. Flow paths can be diagrammed using Euclidian (point-to-point) flow lines or they can be automatically routed throughout the aisles. Flow Path Calculator can aggregate flow paths by product, part, material handling method or combination of two and display the result. The program will also calculate aisle congestion and color-code material handling intensity levels so you can see the high traffic areas in the facility.

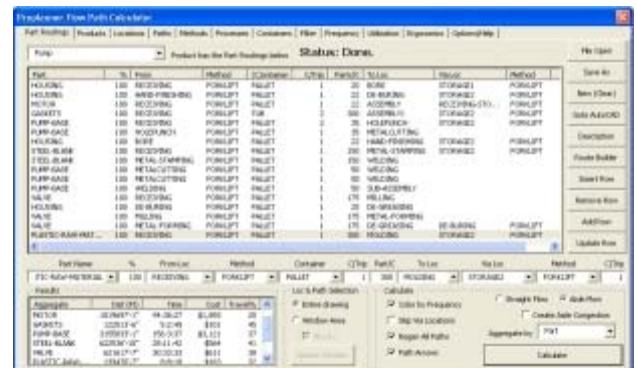


Aisle based flow shows material handling traffic.

Combine Layout with Routings

Creating material flow routings can be done in just a few minutes. The Flow Path Calculator reads routings from simple text files created within Microsoft Excel, or from within the built-in routing editor. The routing file contains data for production quantities, parts per container, from and to locations, as well as information on material handling devices.

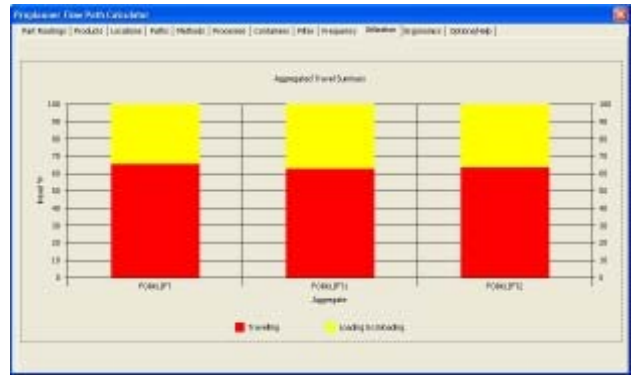
Within Excel or the Flow Path Calculator users can quickly create and modify the routing information to “see” and “evaluate” the impacts of routing changes on the flow diagram.



Create routings quickly within FPC or import larger sets of flow information from Excel.

Flow Results

The Flow Path Calculator generates a path file that summarizes data about routings, travel distances, material handling cost and more. The program will also display utilization graphs. These graphs present the percent of travel time versus material handling device loading and unloading times. Users can see these graphs by product, part, material handling device, or other method. These diagrams help improve the evaluation, understanding, and communication of the plant-wide product flows for managers and line personnel throughout the organization.



Evaluate method efficiency and utilization in easy to read bar charts.

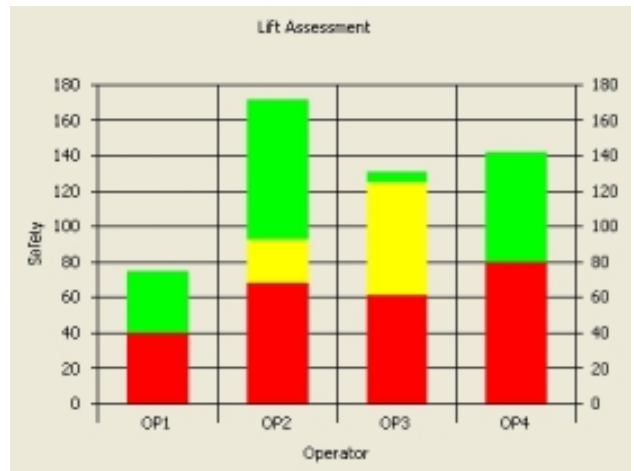
Automated Flow Diagramming Tool

Creating product flow path diagrams by hand is difficult, time consuming, and often inaccurate. In addition, it is nearly impossible to keep these drawings up-to-date, and it is often just as easy to start over from scratch as it is to modify your previous work.

The Flow Path Calculator provides a simple interface between a plain text CSV file and an AutoCAD® based factory layout drawing to easily compute and graph product flow paths.

Advanced Flow Analysis

There are many other advanced flow utilities in the Flow Path Calculator to help users improve flow analyses. For example, users can group together individual locations into groups. This allows them to analyze flow between workcells or departments. The flow filter allows users to see flow by method, between specific locations and by specific parts. Users can also define material handling processes using set times or process codes from a predetermined work measurement system such as MTM or Modapts. Additionally container sizes and stack heights can be defined for further storage requirements analysis. For material handling methods involving operators, the ergonomic assessment feature will look at the safety of the move based on lifting and carrying safety tables.



Monitor lift safety in this ergonomics bar chart

Features

- Analyze an unlimited number of flow paths and material handling methods
- Include user-defined pick-up and set-down times linked to material handling methods, container types or locations
- Determine the utilization of parts
- Diagram flow paths with unique colors per primary field, secondary field or handling method
- Set path segment thickness according to flow intensity
- Import and export using simple text files
- Filter flow paths by product, part, material handling device or combination of two.
- Automatically create variable-sized arrows at the ends and optionally at path vertices
- Automatically create straight-line flow paths, aisle-based flow paths and manually create user-defined paths
- Aggregate flows from different primary and secondary sort fields to evaluate "total flow" and congestion along routes and aisles
- Automatically import and export activity locations
- Automatically label flow paths with segment and total distances

Benefits

- Optimization of workpath setup within the facility adds to the safety and cuts time and damage costs.
- Euclidian (point-to-point) path generation can be automatically generated through given aisles. This ability makes path generation much easier than the manual method.
- Flow paths can be separated and sorted by a number of fields, making diagnostics and evaluations much more understandable and effective, by reducing clutter.
- Automatically generates flow reports and diagrams that are easy to understand.
- By combining with routings, material flow studies are done in a fraction of the time it takes to do by hand.