

Shown are three Die-Namic presses — 75 ton, 45 ton, 60 ton — DeVilbiss Company specified and installed at the company's Toledo, Ohio, plant. Not shown are two standard geared Minster O.B.I. presses which DeVilbiss also purchased.

DeVILBISS attains "Flexibility without Penalty" with Minster Die-Namic® Process

The DeVilbiss Company, Division of Champion Spark Plug Company, Toledo, Ohio, originated when Dr. Allen DeVilbiss, a general practitioner, turned his inventive mind to the problem of medicating patients' throats and, in 1888, formed The DeVilbiss Manufacturing Company to produce medical atomizers.

Since then, the DeVilbiss name has become a household word and an industry word. The line of products marketed on an international scale ranges from vaporizers and sophisticated medical equipment, to air compressors, spray painting guns, and complex industrial coating systems.

STAMPING OPERATIONS AT DeVILBISS

In the manufacture of its broad product line, DeVilbiss produces 500 different

stampings of steel, aluminum, brass and rubber. Many of these then require a number of secondary operations, such as trimming and punching. Part runs may range from as few as 100 pieces to several thousand, and 98% of the dies used are of their own manufacture.

On nine old O.B.I. presses, die-setters needed an hour or more to change most dies. In a year, die changes added up to hours of non-productive, costly downtime.

In an effort to reduce the downtime and to increase production efficiency, DeVilbiss personnel visited two plants where the Minster Die-Namic Process was being used. The success experienced by these Die-Namic press users had a positive influence on the decision to initiate a similar program. DeVilbiss purchased five new Minster presses to replace the out-dated O.B.I.'s.

Two of the new presses are standard 60-ton and 75-ton geared O.B.I. models used for conventional dies that have unusually large die areas in relation to their tonnage requirements. The other three — 45-ton, 60-ton and 75-ton models — are equipped with the Minster Die-Namic fixture that is the key to quick die changes.

MINSTER DIE-NAMIC PROCESS INCREASES PRODUCTION EFFICIENCY

With the Minster Die-Namic Process, dies are mounted on simplified, low cost, standard upper and lower die plates which replace die sets. Now, instead of calling for a die-setter between runs, and instead of an hour or more for die changes, the press operator can swap dies in the press in a few minutes.

Chuck Winters, Manager of Process Engineering, said the Die-Namic Process lets DeVilbiss "meet part demands that come up without paying the price of hours of press downtime for die changing." Minster has helped DeVilbiss attain "flexibility without penalty," he said.

DeVilbiss has already converted 150 dies from standard die sets to Die-Namic die plates at notably reduced cost. They have reduced die storage requirements at the same time. Gary Noble, Manager of Manufacturing Engineering, said "storage requirements were cut 50% with conversion to Die-Namic dies." Also, because Die-Namic Process plates require less space than die sets, DeVilbiss can store dies and auxiliary equipment closer to the presses. With dies closer to presses, time for trucking dies from one spot to another is greatly reduced.

A new, 20-minute color-sound movie on the Die-Namic Process is now available for viewing. Please contact your Minster representative to make arrangements.



Simplified Die-Namic dies reduced die storage requirements by 50%.



DeVilbiss personnel evaluate compressor part produced on Minster Die-Namic press. Left to right: Clarence Smith, Plant Manager; Gary Noble, Manager of Manufacturing Engineering; Chuck Winters, Manager of Process Engineering.

DeVILBISS REDUCES PRODUCTION TIME

The inherent flexibility of the Die-Namic process offers savings in die design.

For example, DeVilbiss re-designed dies for spray gun triggers, combining former individual operations in a two-stage, progressive die that is strip fed by the press operator. Result: faster production at less cost.

DeVilbiss has saved thousands of dollars in operator time by automating lubrication of stock with a strip oiler of their own design. Too, they have designed and built their own point-of-operation guarding, and arranged magnetic mounting of air blow-offs so that the same blow-off can be used with several dies. The magnetic blow-offs can be quickly mounted and adjusted for optimum effect as dies are exchanged.

LOOKING BACK . . .

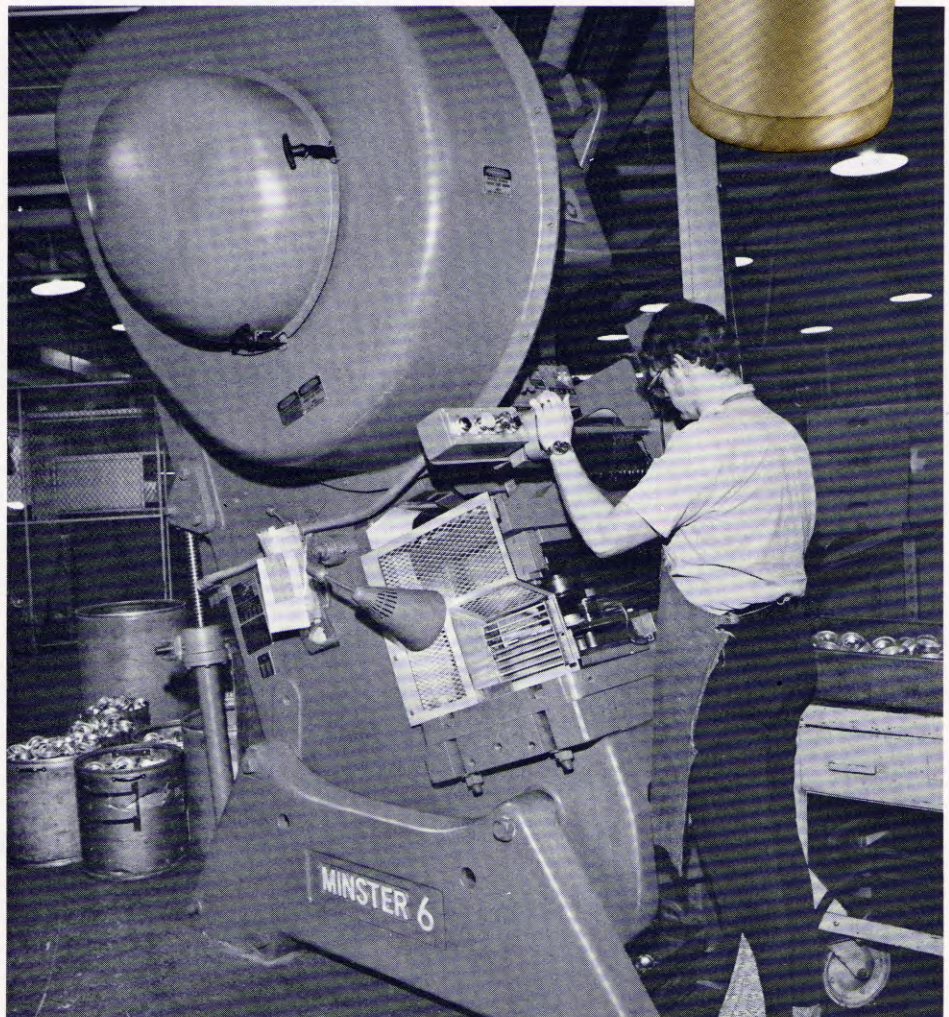
As Leonard Lechlak, Supervisor of Tool Engineering, said "Deciding on a new system like this is like buying a suit — or even choosing a wife. Going in you're never 100% sure."

Now, looking back on DeVilbiss' experience with the Minster Die-Namic Process, he says, "We're very pleased with the success we've had with these presses."

So are we, Mr. Lechlak. So are we.



Die-Namic Process flexibility let DeVilbiss combine multiple stamping and tooling operations in one or two press operations. Triggers for spray guns are now produced more efficiently, at less cost.



Utilizing Minster Die-Namic Process presses, DeVilbiss cut die changing time from an hour or more to minutes.