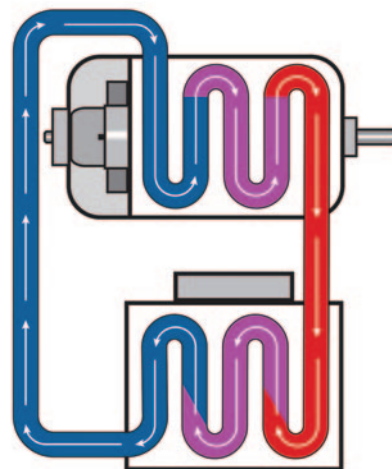




Nidec Minster 600-ton FX2
high performance servo press.



Nidec Minster's leading liquid cooling technology leads to longer component life and an overall cleaner operating environment.

for the highest output possible.

WHAT ARE THOSE IMPORTANT AREAS I SHOULD EVALUATE WHEN PURCHASING A SERVO PRESS?

Rated distance off bottom versus speed. This specification often includes an asterisk in most sales literature due to the limitless combinations of the servo motor's and drive's capabilities to supply torque at higher speeds.

While the rated forward tonnage is seemingly an obvious specification, make sure to confirm whether the press is designed to reliably run at peak tonnage at peak production rates for any application. You will find some presses to be "de-rated" from the rated peak tonnage.

While the forward tonnage is a readily-identified specification, the rated reverse tonnage — the ability for a press to withstand the forces created by snap-through — is not. The reverse tonnage rating is often cited as a percentage of the forward tonnage.

ARE THERE ANY CONCERNS WITH THE FEED AND/OR PART TRANSFER ON A SERVO PRESS?

In a word - Absolutely.

How frustrating would it be to have a \$50,000 feed being the governor of

FFJournal FAQs

FREQUENTLY ASKED QUESTIONS

DO I COMPROMISE SPEED WITH A SERVO PRESS?

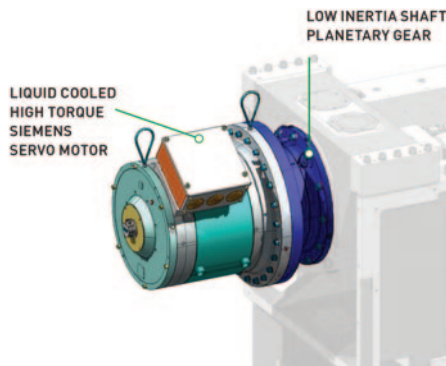
You could actually discover an increase in productivity depending on how the tool was utilized prior to being placed in a servo press.

Servo presses provide the ultimate in flexibility that can provide superior quality and versatility. Although, keep in mind that most immediate productivity gains discovered with a servo press are found through simply changing the length of the stroke.

For more complex parts that may require numerous changes in slide velocity

during the stroke, you very well might realize an overall increase in parts per minute (PPM) when you factor part quality and die life.

Servo technology will also allow for lower impact forces that will protect and lengthen the life of the press and its components. However, this lower velocity comes at a price in terms of lower PPM. With all of the focus on the servo drive, itself, do NOT lose focus on the fundamental structure of the press. Ideally, you want a press that can run high rates while withstanding high loads and quickly dissipating the resulting vibration



Engineered to enable higher acceleration and deceleration rates, Nidec Minster's low inertia drive creates a faster response through each press stroke. Lower torque requirements also result in higher efficiency forming.

your \$1,000,000 servo press?

A servo feed's motor needs to be sized to provide the performance that can meet or exceed the production capabilities of the press. Having the feed tied into the same drive as the press will ensure the fastest communication (almost instantaneous) between the two pieces of equipment as opposed to two different processors exchanging signals.

The same correlation can be made with a part transfer. To truly optimize the productivity, the press and transfer should be integrated into the same drive.

WHAT IS THE BENEFIT OF LIQUID COOLED VS AIR COOLED MOTOR?

You can answer this question with another question, "What is the biggest enemy of a motor's efficiency?" The answer is "Heat."

Operating at high temperatures, motors are less efficient and subject to premature failure. Liquid-cooled motors ensure that the motors operate at a consistent and optimum temperature thus providing high efficiency, performance, cleanliness, and reliability.

Air-cooled motors simply recirculate the ambient air which is typically hot and contaminated.

IS A LOW- INERTIA DRIVE IMPORTANT IN A SERVO PRESS?

Only if you desire high production rates.

In an attempt to simplify the importance, let's start with the assumption that all servo presses can execute the same slide velocity profiles. If that is indeed the case, then why, again, is low



Nidec Minster P2H-FX high speed servo press.

inertia important?

The major difference between servo presses can be found with the acceleration and deceleration of the rotating members (gears, shafts, motors, etc.). Look for those drives that can provide quicker velocity transitions that ultimately produce the highest output rate.

Depending on the motion profile, this difference can sometimes reach up to 40 percent. Not only do the low-inertia drives provide superior production rates, the same can be said for stopping times thus decreasing chances of damage to the tool.

The positive gains of a low-inertia drive can be shown and proven through simulations.

IS IT A DIFFICULT TRANSITION FROM A MECHANICAL PRESS TO A SERVO PRESS?

There should be no issue transitioning to a servo press. A servo press will have much the same properties and operation standards as the mechanical press. However, to get the most out of your servo press and its versatility, learning the control and operation and functions of the servo press is paramount. Make certain

to take advantage of Nidec Press & Automation training to fully utilize the servo press capabilities.

WILL THE SERVO PRESS COST MORE TO MAINTAIN?

A servo press will be subject to the same maintenance schedule and costs (oil filters, etc.) associated to the mechanical components on a crank driven press with the exception of the clutch and brake. This is assuming that the press mechanical drive components are designed to handle the forces associated with the multiple forming modes such as pendulum, restrrike and multipoint.

However, a servo press has significantly higher percentage of its value in the controls and motors when compared to a mechanical press. The life cycle of the components that will need replaced such as capacitors, drives, PLC's, etc. due to degradation or obsolescence is much shorter for electrical components as compared to mechanical components. ■

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