

# DSF

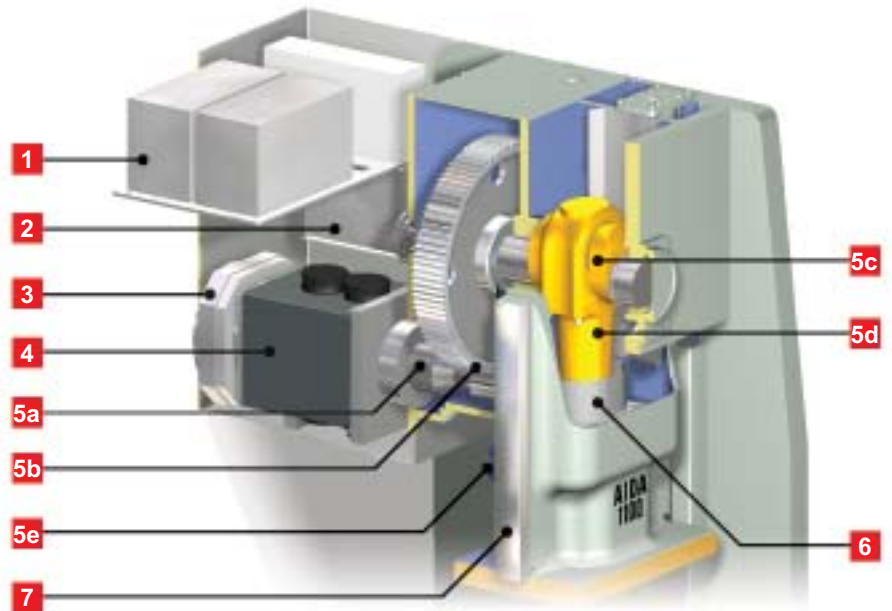
DIRECT DRIVE  
**SERVOFORMER**



**DSF-C1 | DSF-N1 | DSF-N2**

Gap Frame and Straightside Servo Presses | 80 - 300 Tons





## AIDA DSF-C1, DSF-N1, DSF-N2 SERIES CRITICAL FEATURES & BENEFITS

### 1 AIDA ECO Servo Power Management System

- Storage of excess servo motor energy
- Energy efficient
- Minimal power source capacity requirements

### 2 Amplifier/Servo-Controller

- Compact with no secondary cooling equipment

### 3 Mechanical Safety Brake

- Promotes operator safety for unintended slide motion
- Interlocked with emergency stop push-button and light curtains

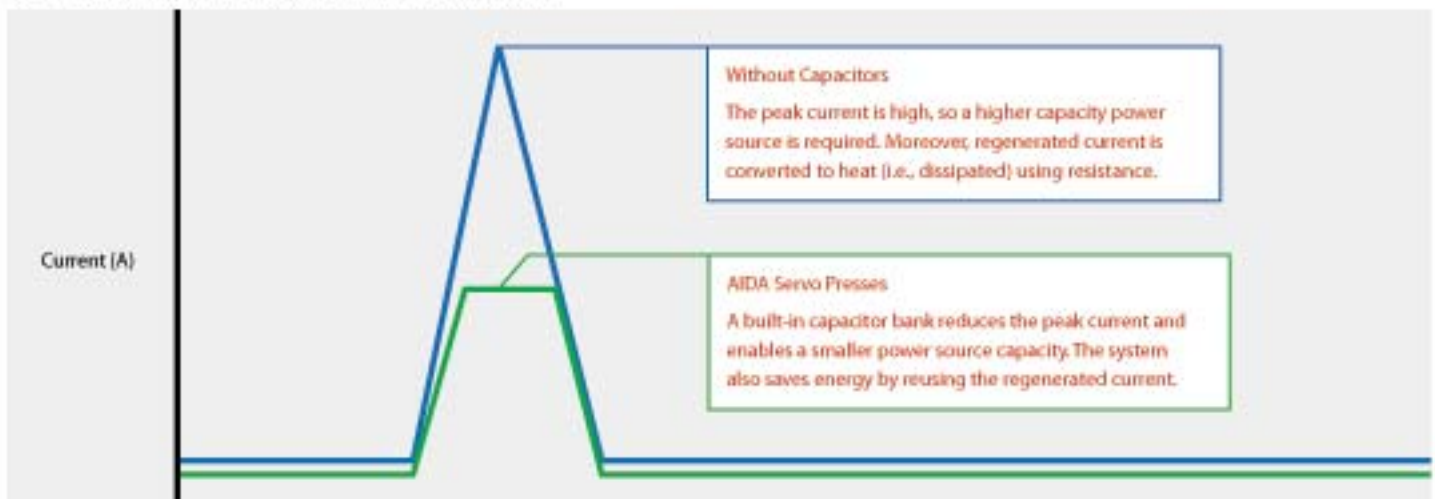
### 4 AIDA High Torque, Low RPM Servo-Motor

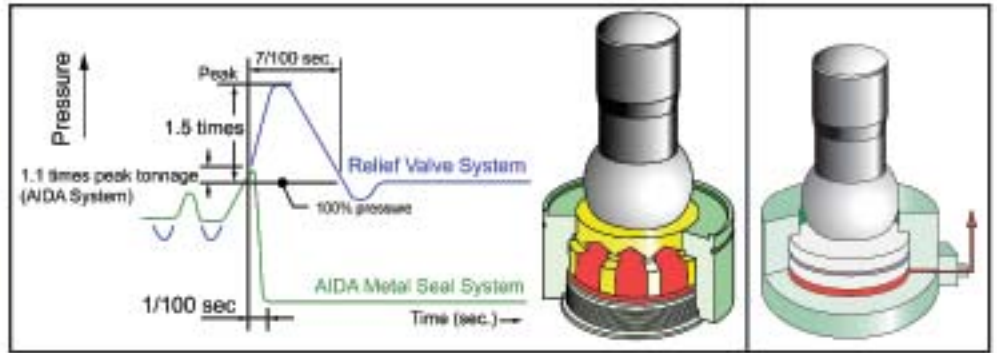
- Direct drive
- Minimal components
- High torque curve

### 5 Standard Mechanical Drivetrain

- a. Driveshaft with Integral Pinion
- b. Main Gear
- c. Crankshaft
- d. Connecting Rod with Ball Type Connection
- e. Electric Motor Slide Adjustment

Comparison of Factory Power Source Capacities vs. Competitors





AIDA Metal Seal HCLP System

Conventional Relief Valve System

**5 Standard Mechanical Drivetrain (cont.)**

- Proven mechanical drive
- Die interchangeability between mechanical and servo presses
- Extremely small overall clearances in comparison to competitors
- To avoid contamination, adjustment screw threads never exposed
- 0.0005"/Inch gap frame deflection on DSF-C1 models

**6 AIDA Hydraulic Overload Protection**

- Zero pressure in 10 milliseconds - 7 times faster than relief valve type hydraulic overload
- Reset in 30-45 seconds when inched to top of stroke
- No wear components, seals, o-rings or wipers

**7 Extra Long 6-Point Slide Guides**

- Full guiding contact throughout entire stroke length at any adjustment setting
- Longer guide surfaces provide better R-L off-center loading improving part quality and die life
- Guides centered F-B for better F-B off-center loading capability

**8 Manual Step Feed with Handwheel Control**

- Handwheel control of slide position
- Eases die set-up and tryout with full energy capability to 1 spm
- Teach function for ease of programming
- Ability to dwell under load

**9 Infinitely Programmable Stroke Profile Control**

- Ability to program constant velocity for forming applications
- Ease of use of standard programs for new users/processes
- Increased production at shorter programmable stroke lengths

**10 CNC Control with Color HMI**

- Large programming capability
- Operator ease of programming and understanding stroke position and job program profiles
- Communication with auxiliary equipment such as feeders
- Die protection for part quality



### 11 Full Recirculating Oil Lubrication System

No regular maintenance required as for lost grease or lost oil system

Fewer and less lubricants requiring disposal

Control of thermal frame deformation enabling high-precision forming

### 12 Light Curtains and Mechanical Side Guards

Full point of operation guarding included for operator safety in compliance with OSHA and ANSI standards

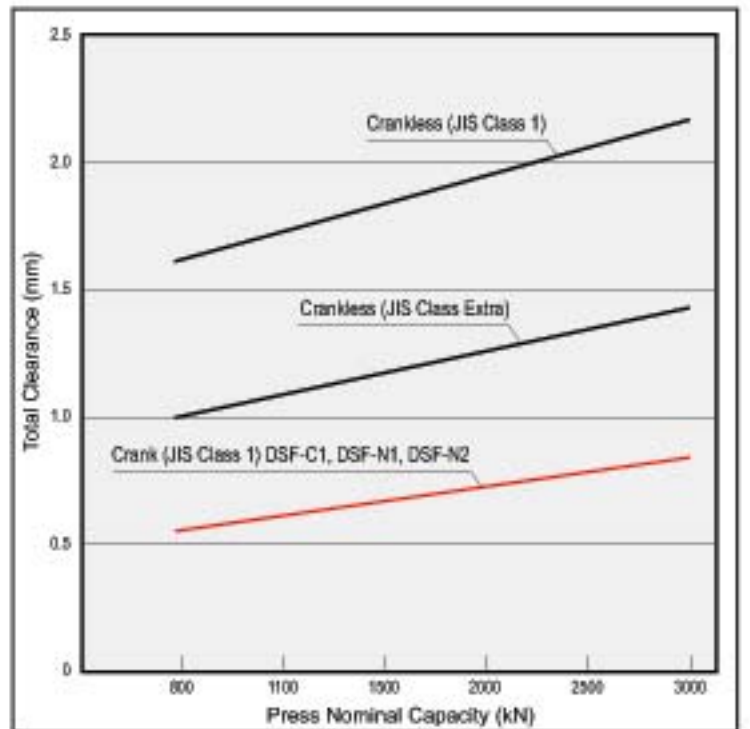
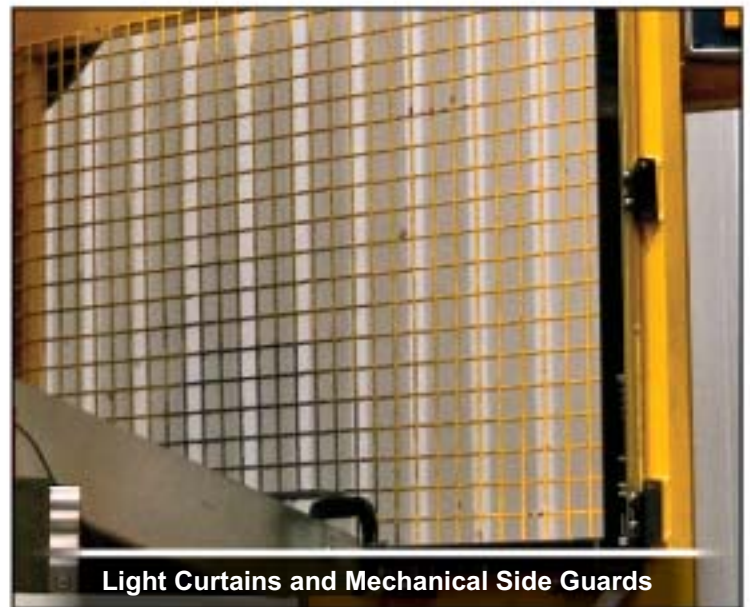
### 13 Minimal Total Clearance

Highly accurate machining processes allows overall bearing clearances that are 1/3 to 1/2 of competitive brands

This low clearance provides much greater punch to die accuracy during stamping operations

For more information regarding AIDA's DSF Series, a complete line of Direct Drive ServoFormers, from 80 - 3,000 tons capacity,

please visit the following web page: [www.aida-global.com/dsf](http://www.aida-global.com/dsf)





## **DSF-C1** Single Point Gap Frame

- Based on the AIDA NC1 mechanical press
- 80 through 250 tons capacity
- 80, 110, 150, 200 and 250 metric ton models
- SPM from 1 (all models) through 196 (DSF-C1-800)
- Die height from 12.6" (DSF-C1-800) through 21.3" (DSF-C1-2500)
- Bolster area (LR x FB) from 40.6" x 23.6" (DSF-C1-800) through 68.9" x 35.4" (DSF-C1-2500)



## **DSF-N1** Single Point Straightside

- Based on the AIDA NS1 mechanical press
- 80 through 300 tons capacity
- 80, 110, 150, 200 and 300 metric ton models
- SPM from 1 (all models) through 196 (DSF-N1-800)
- Die height from 12.6" (DSF-N1-800) through 21.6" (DSF-N1-3000)
- Bolster area (LR x FB) from 35.4" x 23.6" (DSF-N1-800) through 66.9" x 35.4" (DSF-N1-3000)



## **DSF-N2** Two Point Straightside

- Based on the AIDA NS2 mechanical press
- 110 through 300 tons capacity
- 110, 160, 200, 250 and 300 metric ton models
- SPM from 1 (all models) through 175 (DSF-N2-1100)
- Die height from 15.7" (DSF-N2-1100) through 25.6" (DSF-N2-3000)
- Bolster area (LR x FB) from 65.4" x 26.8" (DSF-N2-1100) through 94.5" x 47.2" (DSF-N2-3000)

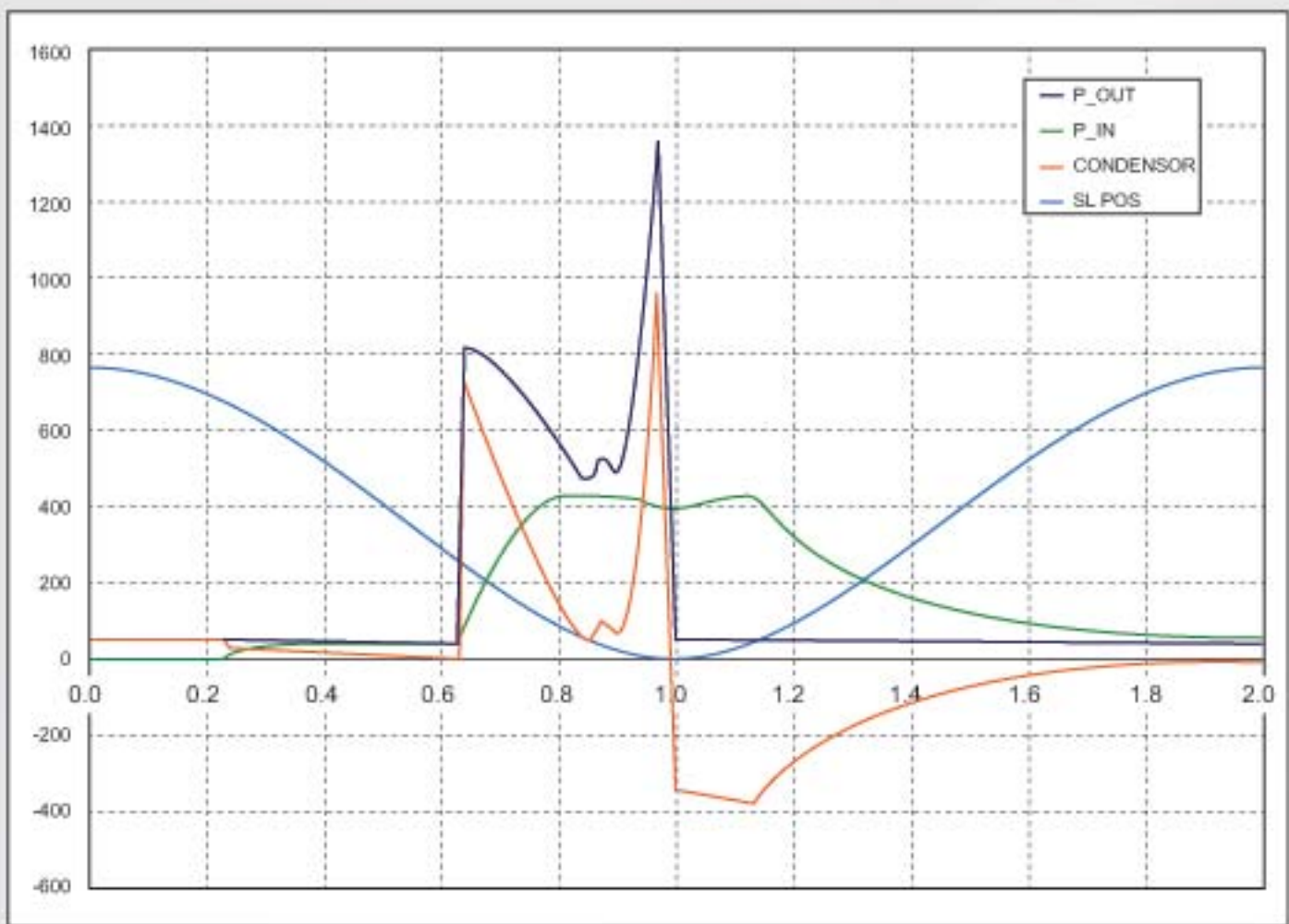


## THE AIDA SERVO PRESS DRIVE SYSTEM

AIDA has developed an energy control architecture that replaces the mechanical energy of a flywheel with the electrical energy of a capacitor bank.

Aside from lowering investment costs by requiring a smaller primary power source capacity, energy is regenerated and returned to the capacitors, which lowers operational costs and conserves electricity.

## LOAD DISTRIBUTION GRAPH



**P\_OUT:** Energy required to form the part

**P\_IN:** Energy drawn from the line

**CONDENSOR:** Energy supplied/regenerated by Capacitors

**SL\_POS:** Slide position

# SAT

## SERVOFORMER APPLICATION TRAINING

### SERVO APPLICATIONS TRAINING & SUPPORT

AIDA's Servoformer Application Training (SAT) Program is designed to help you fully realize the benefits servo presses can bring to your stamping operation. AIDA-America - located in Dayton, OH, USA - provides in-house and on-site training for customers and is an active and on-call partner through application studies, die trials and post-purchase operator training.

### APPLICATIONS STUDIES

AIDA engineers take your product or stated objectives and work with you to create a solution that meets your specific needs. Let AIDA know what you would like to make and our Application Engineers will tell you how to make it. From the press selection to line automation, AIDA can help you determine technology and components that will enable you to maximize your operations.



### SERVO PRESS DIE TRIALS

AIDA-America is located near to the I-70 (E/W) and I-75 (N/S) interchange, and within 621 miles (1,000 km) of 62% of all manufacturing in the US and Canada. At our centrally located facility, we will run your die or die section in one of our many available demonstration servo presses. This enables you to experience first hand what types of operational and productivity enhancements an AIDA DSF Press can offer.



### POST-PURCHASE OPERATOR TRAINING

An integral part of AIDA's SAT Program is Post-Purchase Operator Training. Whether conducted at our facility or on your own factory floor, AIDA will help to empower your stamping department associates and press operators with the training required to realize the benefits servoforming can bring to your processes. This type of local and readily available support is key to maximizing your investment.





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Largest Worldwide Network of

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## We are Local. We are Global. We are the AIDA Group.



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### Metal Stamping Presses & Automation

Servo & Mechanical  
35 - 4,000 Tons | 1 - 1,500 SPM

### AIDA After Market Support (AMS)

Parts, Service, Pressroom Relocation, Refurbishment  
Modernization, Certified Used Presses