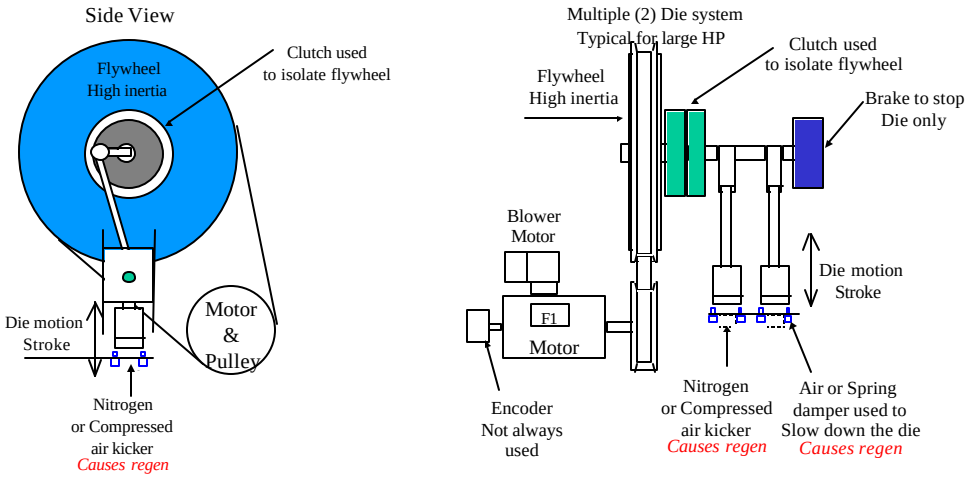
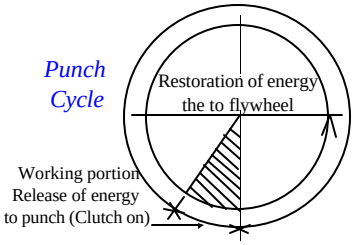
A **Punch Press** is a machine used to supply power to a die that is used to blank, form, emboss, coin, shape metal or even non-metallic material. Finished product examples for automobiles are: fenders, valve lifters, gas tanks, air cleaner covers, etc. Some of these products require a multi-step punch process.

The **Die** is a component of the press that is connected to a crankshaft, which transmits energy from the flywheel to the material that is being modified. The die is the tool that forms, cuts, draws, and pierces the metal that is being modified.



The **Flywheel**, a rotating high inertia body, is used on a press to store energy that is being provided by a drive/motor. The flywheel is used to prevent excessive or sudden changes in speed during the transfer of energy in the punch cycle which is 20 degree.
The motor restores the released punch energy to the flywheel during the non -working portion (340-degree) of the press cycle. Regeneration is possible during this cycle if flywheel is unbalanced.



Torque Capacity is the ability to take the energy of the flywheel and transmit it through the gears, clutch, crankshaft, and die. The ratings are typically in tons.

Punch Press Application Data / Specification

Customer Data

Company Name	☐ End user ☐ Distributor ☐ OEM
Contact Name #1	Contact Name #1 e-mail
Contact Name #2	Contact Name #2 e-mail
Address	City
State	Zip
Phone	Fax

Machine Data

Type of Press (i.e. Stamping, Punching, Coining- minting)_____
Design speed (SPM[1]) _____ Existing required Max speed (SPM[1])_____
New required speed. (SPM[1]) Max* _____ New required speed. (SPM[1]) Min*_____
Number of dies _____ or ☐ NA Duty cycle _____
Ambient Temperature in control room _____ °F or _____ °C
Environment**_____

** Note: It should not be any more than 3:1 from Max (Strokes/Minute) /Min(Strokes/Minute)*

***Note: If oily, corrosive, high temperature etc*

Existing Drive Data

Manufacturer _____ Model # _____

Horse Power _____

Existing Voltage ☐ 230VAC ☐ 460VAC ☐ 575VAC ☐ Other _____

Existing Drive system ☐ AC drive ☐ DC drive ☐ Eddy Current
☐ Mechanical Varispede ☐ NEMA D AC Motor
☐ Other _____

Existing Motor Data

Existing motor Manufacturer _____ Model # _____

New motor required ☐ Yes ☐ No

Existing motor full load ratings _____Amps, _____Volts, _____RPM (1150, 1750 etc.)

Conduit Box location, if motor is to be replaced ☐ F1 ☐ F2 ☐ F3 or ☐ Not Applicable

Existing Blower Motor _____ Phase _____ Voltage _____ Amps or ☐ Not Applicable

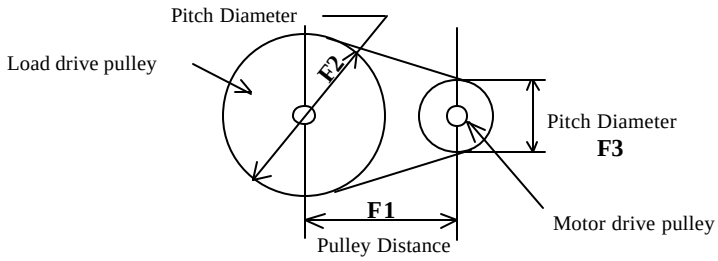
Existing Encoder ☐ Digital ☐ Analog AC ☐ Analog DC

[1] Strokes per Minute

Existing Encoder Manufacturer[3]_____ ☐ NA

Resolution Existing (PPR) _____ OR Volts/RPM _____

Encoder Pickup ☐ Optical ☐ Magnetic pickup



Motor belting data

The V-belt system produces a heavy shaft and bearing loading, making it necessary to calculate bending moment and the bearing life of the motor shaft. The bearing life and bending moment of the motor shaft can be calculated from the following data.

Pulley Distance (**F1**)_____ INCHES Pitch diameter Motor pulley (**F3**) _____ INCHES

Pitch Diameter of load pulley (**F2**) _____ INCHES Number & type of Belts _____

Drive Enclosure information

Existing Drive Enclosure ☐ NEMA 1 ☐ NEMA 12 ☐ Other_____

New Enclosure Spec ☐ NEMA 1 ☐ NEMA 12 ☐ Other_____

Enclosure options ☐ Duplex outlet ☐ Lights ☐ Empty cabinet for future use

☐ Other _____

Existing Power Distribution[4]

☐ Isolation Transformer _____ KVA Primary Voltage_____AC Secondary voltage _____ AC

☐ Line Reactors Impedence _____(%) ☐ Load Reactor Impedance_____(%)

☐ Dynamic Braking Resistor: Duty Cycle i.e. 3%, 5% _____% Resistance _____Ohms

Dynamic Resistor Power rating _____ Watts

[3] Encoders are not typically used.

[4] The existing power distribution is required if Yaskawa is providing a complete drive system

Drive Communication Requirements

☐ Modbus Plus ☐ Modbus ☐ Device Net ☐ Profibus ☐ Arcnet LAN ☐ Other _____

Drive Input Requirements

☐ Start ☐ Stop ☐ Forward ☐ Reverse ☐ Run ☐ Jog
☐ Preset Speed 1 ☐ Preset Speed 2 ☐ Preset Speed 3 ☐ Other _____

Drive Output Requirements

☐ Drive alarm fault ☐ Drive severe fault ☐ Run ☐ Zero speed
☐ At speed ☐ Encoder feedback pass through (PGX card)
☐ Other _____

Comment [mkm1]: May need Analog output to replace the individual pump pressure sensors.

Analog Input

☐ speed reference ☐ 0-10VDC ☐ 4-20ma ☐ Other _____

Analog Output

☐ Drive Speed (SPM) ☐ Bus Voltage ☐ Other _____

Special Types of Control

☐ Drive system start ☐ Drive system stop ☐ Regenerative to fast stop - full current limit or ramped
☐ DC Bus Over Voltage Suppression (Used to prevent overvoltage tripping from an unbalanced load)
☐ In Window, or OK to feed product. ☐ Counter for # of parts produced
☐ Other _____

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