C4556

**VEHICLE PARTS MANUFACTURING**

**GRM Clamp for Hot-Forming or Hot-Stamping**

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**DEFINITION**

Hot-forming or hot-stamping is the process of heating steel to approximately 1700°F where it is then formed in water-cooled dies for eight to ten seconds. The end result is a part that is two to three times the strength of conventionally stamped parts. Automotive parts that utilize this process may include A and B pillars, frame tunnels, side-impact supports, roof rails, and panel rockers.

**APPLICATION**

Body panels come out of an oven heated up to 1742°F. The panels arrive on a conveyor in random orientations. A camera (vision system) scans the panels and a robot aligns the clamps to them. The GRM Clamps then place the re-oriented panels into the transfer press.

**SPECIFICATIONS**

- **Bore:** 40 mm
- **Unit Weight:** 5.0 lb [2.3 kg]
- **Total Clamp Force @ 87 psi [6.0 bar]:** 192.0 lb [854.0 N]
- **Jaw Rotation:** 75° x 00°
- **Seals:** Fluoro-Elastomer
- **Lubrication:** High-Temp
- **Operating Voltage:** 10-30 VDC
- **Output:** PNP (Sourcing)

**Product Features:**

- **B08 body option** for additional clamp force
- **Panel present option** detects part presence
- **Heat dissipating shields** minimize radiant heat to clamp
- **Duckbill tip extensions** offer flexibility for reaching into small areas
- **Rear manifold** for air communication and mounting moves plumbing away from heat source
- **Rotary tips** are specially coated to reflect heat and allow for panel orientation and/or alignment
- **Positional sensing option** provides jaw open and jaw close output

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NOTES:
1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFCALLY TOLERANCED
2) DIMENSIONS IN [ ] ARE IN mm