| **Feature** | **Description** | **Range** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| Date | 1 Years data | Jan-2022 to Jan-2023 |
| Machine\_ID | 1Machines   |  | | --- | |  | | Prima-13=Name of machine ,  L1= Assembly line no.1,  Unit1= plant no.1 in industrial area ,  This machine used for bending rebar and cuuting | | 1 Machines (Categorical Data) |
| Load cells | Load Cell | 4-9KN |
| Hydraulic\_Pressure(bar) | Hydraulic Pressure | 5-400 bar |
| Coolant\_Pressure(bar) | Coolant Pressure | 3-7 bar |
| Air\_System\_Pressure(bar) | Air System Pressure | 5-10 barF |
| Coolant\_Temperature(°C) | Coolant Temperature | 5-35°C or 41-95°F |
| Hydraulic\_Oil\_Temperature(°C) | Hydraulic Oil Temperature | 35-60°C or 95-140°F |
| Proximity sensors | Proximity | 5-30mm |
| Spindle\_Vibration(µm) | Spindle Vibration | 0.01-2 microns |
| Cutting\_Tool\_Vibration(µm) | Tool Vibration | 1-50 microns |
| Spindle \_Speed(RPM) | Spindle Speed | 40-90 RPM |
| Current (volts) | Voltage | 160-300Volts |
| Torque(Nm) | Torque | 17-300 Nm |
| Cutting\_force(N) | Cutting | 10-20 kN |
| Downtime | Downtime | Failure – Machine is under unplanned maintenance  Non\_Failure – Machine is working fine |