

Unit C: Agricultural Power Systems

Lesson 8: Using Pneumatic Systems

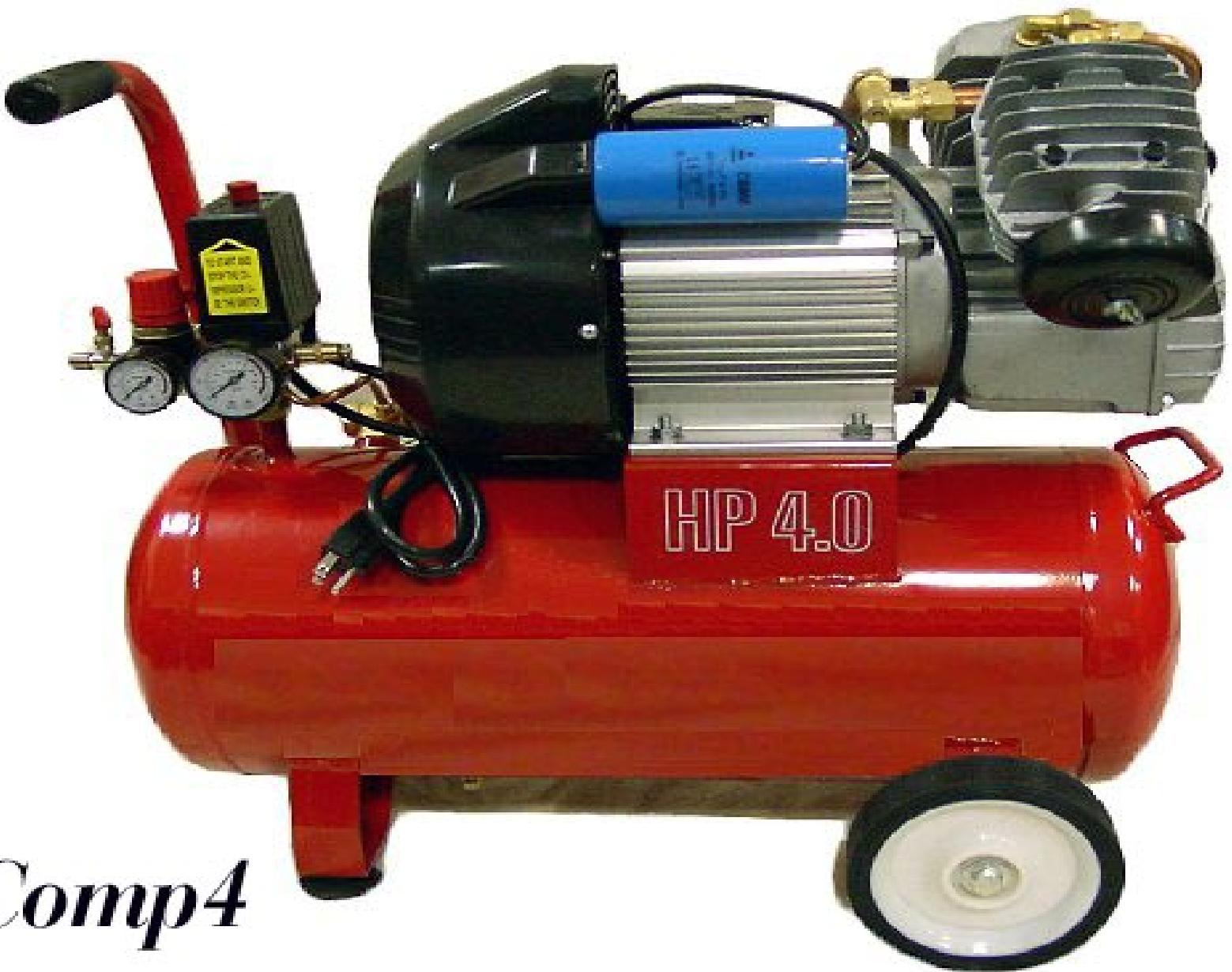


Terms

- ❖ Air filter
- ❖ Air storage tank
- ❖ Compressor
- ❖ Flow meter
- ❖ Manifold
- ❖ Motor
- ❖ Needle valves
- ❖ Pressure limit switch
- ❖ Pressure regulator
- ❖ Pressure system gauge
- ❖ Safety filter
- ❖ Safety valve

Pneumatics

- ❖ Any system that uses a gas to create motion
- ❖ Generally, pneumatics uses air as the power source



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Parts of a pneumatic supply system

- | | |
|---------------------|--------------------------|
| 1) Motor | 7) Pressure limit switch |
| 2) Compressor | 8) Pressure regulator |
| 3) Ail filter | 9) Pressure system |
| 4) Safety filter | 10) Gauge |
| 5) Safety valve | 11) Manifold |
| 6) Air storage tank | 12) Needle valves |



Parts of a pneumatic system

- ★ **Motor** – converts electricity from the wall outlet into rotary motion
- ★ **Compressor** – takes in air from the atmosphere and pushes the air into a storage tank
- ★ **Air filter** – removes the dirt from the air
- ★ **Safety filter** – secondary device for removal of dirt

Parts (continued)

- ★ **Safety valve** – allows extra air to escape
- ★ **Air storage tank** – holds a supply of pressurized air
- ★ **Pressure limit switch** – detects the presence of the air in the storage tank



Parts (continued)

- ★ **Pressure regulator** – controls the pressure of air
- ★ **Pressure system gauge** – shows the pressure of the air

Parts (continued)

- ★ **Manifold** – has two connections between their air supply system and the pneumatic circuit
- ★ **Needle valves** – stop the supply of pressurized air to the circuit



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Flow meter

- ★ Measures the amount of air flowing through a pneumatic circuit.
- ★ Measured in standard cubic feet per hour (SCFH)



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Pneumatic safety practices

- ★ Always wear safety glasses or goggles
- ★ Keep all body parts and loose objects away from operating cylinders
- ★ Always close the needle valve on the manifold before changing a pneumatic circuit

Safety practices (continued)

- ★ Always read the directions completely before working on any pneumatic system
- ★ Handle all electrical components and fittings carefully

Review/Summary

- ❖ What is pneumatics and what are the major parts of the supply system?
- ❖ What functions does the flow meter perform?
- ❖ What safety practices are used in pneumatics?