## Industrial Pneumatics

Material from:
Fluid Power Basics, Bulletin 0239-B1 by Parker Hannifin Corp.

### Chapter 5 - Energy Transmission Using a Pneumatic System

### Chapter 6 - Control of Pneumatic Energy

### Chapter 14 - Air Preparation

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**Compressed air stores**

<table>
<thead>
<tr>
<th>100 PSIA</th>
<th>Atmospheric Pressure</th>
</tr>
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<tbody>
<tr>
<td>60 PSIA</td>
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**Valve closed**

Unequal pressures

**flow**

**Valve opened**

Unequal pressures

**occurs**

**Valve opened**

Equal pressures

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**Pressure**

due to

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**Flowrate measured in**

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**Normally measured at inlet to compressor**

Normal pressure and 68 degrees F

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**Compressor stroke**

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**Exhaust stroke**

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**Material from:**

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Pressure

due to
If load required only __________, it would move ________________.

Basic pneumatic system – no valves shown.
“Simple” Pneumatic System

Pneumatic Cylinder –

Cylinder Passage A

Cylinder Passage B

Supply Pressure Passage

Exhaust Passage

Pneumatic Cylinder –

Tapered Nose

Outlet

Body
Pneumatic System Components

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Pneumatic Components & Schematic Symbols (see ME 360 Course Notes) for others

“Simple” Pneumatic System –

- Remove _______ with __________
- _____ compressed air (also remove __________)
- Remove _______ ________ particles and __________ water
- Add a small amount of __________ for seals

**FPB: Page 14-3**

Filter

Filter Element

To Compressor

Inlet

Aftercooler

Water Out

Water In

Remove _______ with __________

**FPB: Page 14-4**

Filter-Separator Symbol

Inlet

Outlet

Deflector Plate

Filter Element

Filter Bowl

Drain

Remove __________ particles and __________ water

**FPB: Page 14-5**

Lubricator Symbol

Needle Valve

Inlet

Mist Chamber

Outlet

Pickup Tube

Oil Reservoir

Add a small amount of __________ for seals

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