

| Logic Function | Truth Table | Logic Graphical Symbols | Pneumatic Symbols | Electrical Symbols | | | | | | | | | | | | | | | |
|---------------------|---|-------------------------|-------------------|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|
| AND | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table> | E1 | E2 | A | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | | | |
| E1 | E2 | A | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 1 | | | | | | | | | | | | | | | | | |
| OR | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table> | E1 | E2 | A | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | | | |
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| 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 1 | | | | | | | | | | | | | | | | | |
| NAND | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </table> | E1 | E2 | A | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | | | |
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| 0 | 0 | 1 | | | | | | | | | | | | | | | | | |
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| NOR | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </table> | E1 | E2 | A | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | | |
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| 0 | 1 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 0 | | | | | | | | | | | | | | | | | |
| EQUIVALENCE | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table> | E1 | E2 | A | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | | | |
| E1 | E2 | A | | | | | | | | | | | | | | | | | |
| 0 | 0 | 1 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 1 | | | | | | | | | | | | | | | | | |
| EXCLUSIVE-OR (EOR) | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </table> | E1 | E2 | A | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | | | |
| E1 | E2 | A | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 0 | | | | | | | | | | | | | | | | | |
| INHIBITION AND-NOT | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </table> | E1 | E2 | A | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | | | |
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| 0 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 0 | | | | | | | | | | | | | | | | | |
| IMPLICATION IF-THEN | <table border="1"> <tr><th>E1</th><th>E2</th><th>A</th></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table> | E1 | E2 | A | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | | | |
| E1 | E2 | A | | | | | | | | | | | | | | | | | |
| 0 | 0 | 1 | | | | | | | | | | | | | | | | | |
| 0 | 1 | 1 | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0 | | | | | | | | | | | | | | | | | |
| 1 | 1 | 1 | | | | | | | | | | | | | | | | | |
| EQUALITY | <table border="1"> <tr><th>E1</th><th>A</th></tr> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td></tr> </table> | E1 | A | 0 | 0 | 1 | 1 | | | | | | | | | | | | |
| E1 | A | | | | | | | | | | | | | | | | | | |
| 0 | 0 | | | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | | | | | | | |
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| E1 | A | | | | | | | | | | | | | | | | | | |
| 0 | 1 | | | | | | | | | | | | | | | | | | |
| 1 | 0 | | | | | | | | | | | | | | | | | | |
| MEMORY (Flip-Flop) | | | | | | | | | | | | | | | | | | | |

Operation of Valves

| Manual Operation | Mechanical | Pneumatic | Electrical |
|---------------------|--------------------------------------|----------------------------------|---|
| General symbol | Plunger | Spring button valve | Pneumatic |
| Push button or knob | Roller tappet | Ball valve | Electrical |
| Lever | Roller and lever | Throttle valve | Pneumatic spring centred |
| Pedal | Spring | Line throttle valve | Electrical, hand-assisted, Pivot operation, automatic control |
| | Detent, maintains specified position | Pneumatic Spring | Electrical, external control |
| | | Pneumatic and mechanical Springs | Electrical, spring centred |

Compressed air production and conditioning

| | |
|--|----------------------------------|
| | Air pressure source |
| | Air service unit |
| | Filter |
| | Filter with water trap |
| | Filter with automatic water trap |
| | Mist Lubricator |

Flow valves

| | |
|--|--|
| | Flow control valve, adjustable |
| | Flow control valve with direct exhaust |
| | Throttle check valve, adjustable |

Pressure valves

| | |
|--|--------------------------|
| | Pressure regulator valve |
| | Pressure relief valve |
| | Pressure switch |

Stop (check) valves

| | |
|--|-----------------------------------|
| | Check valve, Spring loaded |
| | Non-return check valve, lockable |
| | Twin pressure valve (logical AND) |
| | Shuttle valve (logical OR) |
| | Rapid exhaust valve |

Control valves

| | |
|--|---|
| | 2/2 Control valve |
| | 3/2 Control valve, Neutral position closed |
| | 3/2 Control valve, Flow-through in neutral position |
| | 4/2 Control valve |
| | 5/2 Control valve, Flow-through possible in both directions |
| | 5/3 Control valve, Mid position closed |

Cylinder

| | |
|--|--|
| | Single-acting cylinder, spring return |
| | Double-acting cylinder with single piston rod |
| | Double-acting cylinder with non-contact signal source |
| | Double-acting cylinder with adjustable stroke cushioning at both ends |
| | Double-acting cylinder with non-contact signal source and end cushioning |
| | Double-acting cylinder with double-ended piston rod |
| | Double-acting cylinder without piston rod |

Other Symbols

| | |
|--|-----------------------------|
| | Silencer |
| | Pressure indicator |
| | Pressure gauge |
| | Differential pressure gauge |
| | Air receiver |
| | Stop (check) valve |
| | Direct air exhaust |
| | Separate air exhaust |
| | Rotary drive |

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