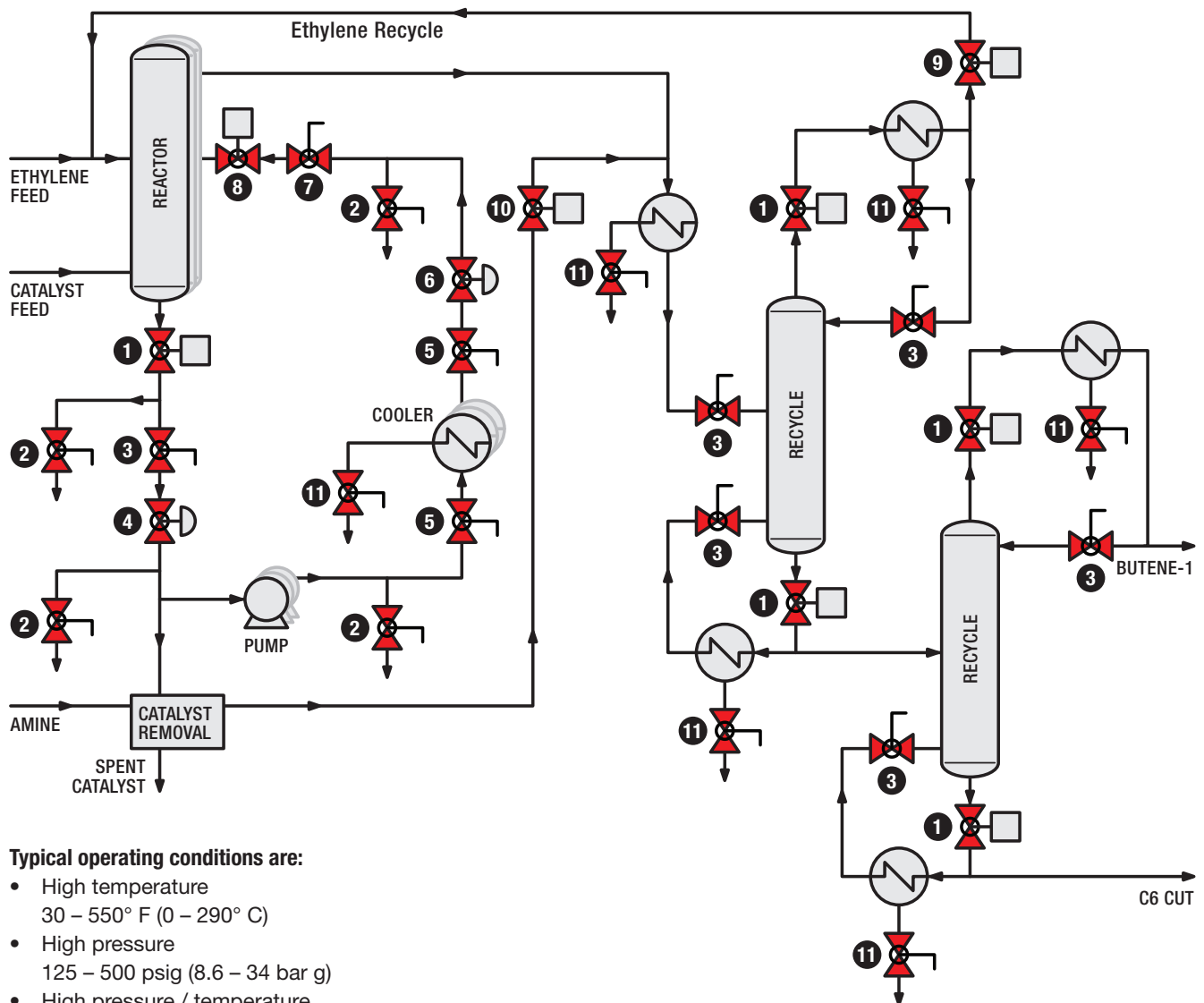


| AlphaButol   |                                 |                          |           |                       |            |             |           |                                |          |          |              |      |               |             |
|--------------|---------------------------------|--------------------------|-----------|-----------------------|------------|-------------|-----------|--------------------------------|----------|----------|--------------|------|---------------|-------------|
| Valve Number | Valve Description               | Design Temperature Range |           | Design Pressure Range |            | Pipe Size   |           | Recommended Valve <sup>1</sup> |          |          |              |      |               |             |
|              |                                 | deg F                    | deg C     | psig                  | bar g      | in          | dn        | C-Series                       | T-Series | G-Series | ISOLATOR 2.0 | IRSV | Watson Series | FlexStream® |
| 1            | Reactor Isolation Outlet        | 250 – 400                | 121 – 204 | 500                   | 34         | 6 – 24      | 150 – 600 |                                | •        |          |              |      |               |             |
| 2            | Reactor Drain                   | 250 – 400                | 121 – 204 | 500                   | 34         | 3/4 – 4     | 20 – 100  |                                |          |          | •            |      |               |             |
| 3            | Manual Reactor Isolation Outlet | 250 – 400                | 121 – 204 | 500                   | 34         | 6 – 24      | 150 – 600 |                                | •        |          |              |      |               |             |
| 4            | Pump Isolation                  | 250 – 400                | 121 – 204 | 500                   | 34         | 16 – 24     | 400 – 600 |                                | •        |          |              |      |               |             |
| 5            | Manual Heat Exchange Isolation  | 250 – 400                | 121 – 204 | 500                   | 34         | 16 – 24     | 400 – 600 |                                | •        |          |              |      |               |             |
| 6            | Heat Exchange Isolation         | 250 – 400                | 121 – 204 | 500                   | 34         | 16 – 24     | 400 – 600 |                                | •        |          |              |      |               |             |
| 7            | Manual Reactor Isolation Outlet | 250 – 400                | 121 – 204 | 500                   | 34         | 16 – 24     | 400 – 600 |                                | •        |          |              |      |               |             |
| 8            | Reactor Isolation Outlet        | 250 – 400                | 121 – 204 | 500                   | 34         | 16 – 24     | 400 – 600 |                                | •        |          |              |      |               |             |
| 9            | Ethylene Recycle                | 200 – 400                | 93 – 204  | 200                   | 14         | 4 – 8       | 100 – 200 |                                |          |          | •            |      |               |             |
| 10           | C4 Vapor (Unrefined 1-Butyne)   | 200 – 400                | 93 – 204  | 300                   | 21         | 4 – 10      | 100 – 250 |                                | •        |          |              |      |               |             |
|              | Heat Exchanger                  | 500 – 800                | 260 – 426 | 600-1000              | 41 – 69    | 1/2 – 1 1/2 | 12 – 40   |                                |          |          |              | •    |               |             |
|              | General Ball Valves             | 25 – 900                 | -4 – 480  | 25 – 600              | 1.7 – 41.4 | 1 – 3       | 25 – 75   |                                |          | •        |              |      |               |             |

<sup>1</sup> Recommend ISOLATOR 2.0 or T-Series if size, pressure and temperature conditions are met.



### Typical operating conditions are:

- High temperature  
30 – 550° F (0 – 290° C)
- High pressure  
125 – 500 psig (8.6 – 34 bar g)
- High pressure / temperature hydrocarbons
- Rubbery sticky compound on valve internals
- Waxy and gummy residue that hardens
- Viscous sludge
- High-pressure steam