

CHECK VALVE APPLICATIONS

A check valve is a vital item, installed in support of automatic shutdown valves and safety devices. Its purpose is to prevent and protect against the consequences of unintended reverse flow.

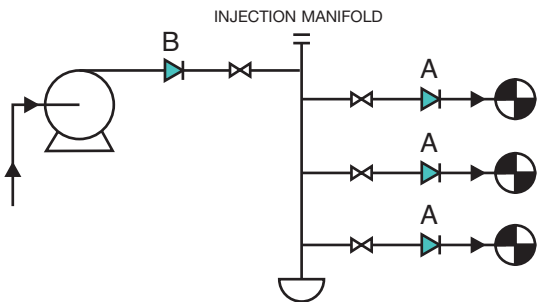
The Goodwin Check Valve provides high integrity first-line defence in the event of unwanted reverse flow and operates in advance of, or in conjunction with safety devices. It is immediately responsive and fast acting in its closure, thereby maximising protection to prevent or minimize the adverse effect of any backflow.

Correct use of the Goodwin Check Valve will give enhanced protection for the safety of personnel, the environment, mechanical equipment, process plant, and against loss of product or production. It is not an isolating valve and should not be used as such.

Investment in Goodwin Check Valves can protect against significant financial loss that might be caused by unintended reverse flow.

Typical installations where the Goodwin Check Valve might be used are shown below.

WELLHEAD INJECTION LINES



Fluid:
Typical Sizes:
Rating:
Typical Materials:
Typical Style:

Treated Sea Water, Gas, Condensate
 (A) 4", 6", 8" (B) 12" to 16"
 900, 1500, 2500, API 5000, API 10000
 LCC, Duplex, SMO 254, 825, 625
 Wafer, Flanged, Solid Lug, Hub Ended.

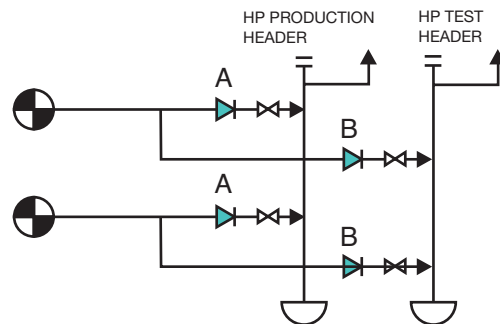
Purpose:

Valve A: Prevention of backflow into injection line. Valve placed as near as practical to well head to help protect entire line and injection manifold against possible over pressure.
Valve B: Prevention of backflow into pump. Protection against reverse rotation and consequent mechanical damage.

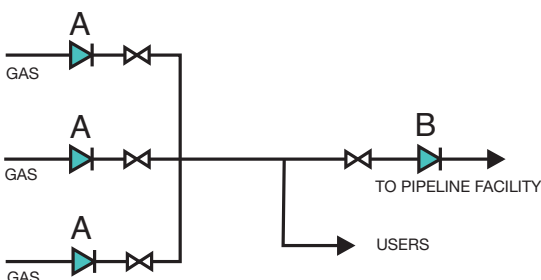
PRODUCTION FLOWLINES

Fluid: Hydrocarbons (Gas, Oil & Condensates)
Typical Sizes: 4", 6", 8", 10"
Typical Pressures: ANSI 1500, 2500
Typical Materials: LCC, CF3MN, Duplex, 825, 625, CF8M
Typical Style: Hub Ended, Flanged, Solid Lug

Purpose: **Valve A:** Prevention of backflow into flowline/reservoir.
Valve B: Prevention of backflow from test header to HP Production header.



SALES GAS EXPORT FACILITY



Fluid:
Typical Sizes:
Typical Pressures:
Typical Materials:
Typical Style:

Gas
 (A) 10" to 16" (B) 16" to 36"
 ANSI 600 and 900
 LCB, LCC, WCB, WCC
 Wafer, Flanged

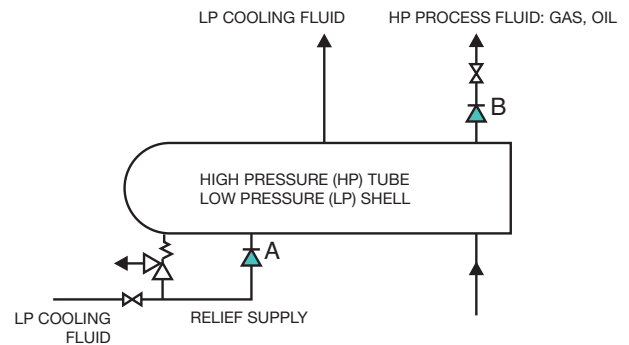
Purpose:

Valve A: Prevention of backflow into any one gas train from operating gas train(s) ensuring gas train separation.
Valve B: Prevention of backflow in the event of process failure or pressure loss. Initial protection against loss of large pipeline inventory.

HEAT EXCHANGER

Fluid: Water, Sea Water
Typical Sizes: 6" to 24"
Typical Pressures: ANSI 150
Typical Materials: Al, Br, CS, Duplex, SMO254, 625
Typical Style: Wafer

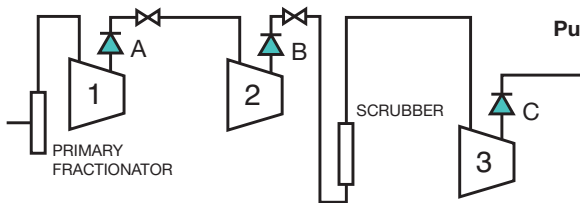
Purpose: **Valve A:** Prevention of backflow of HP process fluid in LP supply system in event of HP tube rupture. A key component in the protection of the LP system against over pressure and contamination.
Valve B: Prevention of backflow of HP process fluid in event of HP tube rupture. Protection against loss of inventory of HP process fluid.



REFINERY: PROCESS GAS CENTRIFUGAL COMPRESSOR TRAIN

Fluid: Process Gas
Typical Sizes: (A) up to 52" 150: (B) up to 30" 150: (C) up to 18" 300
Typical Materials: WCB
Typical Style: Wafer, Flanged

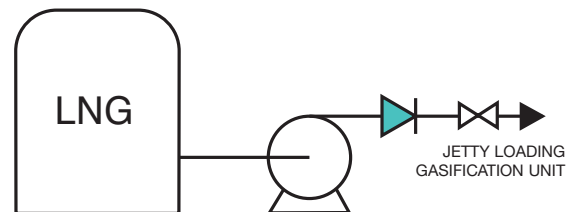
Purpose: **Valve A:** Installed on discharge - prevention of backflow through 1st compressor.
Valve B: Installed on discharge - prevention of backflow through 2nd compressor.
Valve C: Installed on discharge - prevention of backflow through 3rd compressor. Protection against reverse rotation of compressor and consequent mechanical damage and line depressurisation



LNG STORAGE

Fluid: LNG @ - 162°C
Typical Sizes: Up to 24"
Typical Pressures: ANSI 150, 300
Typical Materials: Stainless Steel, CF8M, CF3M
Typical Style: Wafer, Flanged, Solid Lug

Purpose: Prevention of backflow into pump and LNG storage tank. Protection against reverse rotation of pump and over pressure of LNG storage tank.



PRODUCT TANK FARM WITH SHARED LOADING FACILITIES

Fluid: Diesel Oil, Gasoline, Kerosene
Typical Sizes: Up to 42"
Typical Pressures: ANSI 150
Typical Materials: WCB
Typical Style: Wafer, Flanged

Purpose: **Valve A:** Prevention of backflow from tanks. Protection against loss of inventory in event of supply line rupture.
Valve A & B: Prevention of cross flow between tanks of different levels. A key component in the protection against over pressurisation, excessive vacuum and contamination.
Valve C: Prevention of backflow into pump. Protection against reverse rotation and consequent mechanical damage. Protection against loss of inventory in event of pump supply line rupture.

