# CHECK VALVE

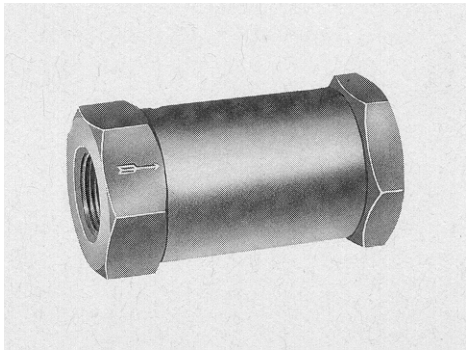
## Type CK3

**Port Size 13 - 25mm (1/2" - 1")**
**FOR AMMONIA, R12, R22, R502**
**AND OTHER COMMON REFRIGERANTS**

### FEATURES

- Small, Compact, Heavy Duty
- Heavy Spring Closing
- Installs in any position
- PTFE Seat
- Screwed Ends
- Maximum Rated Pressure (MRP): 27.6 bar (400 psig)

**BULLETIN 50-13B**
**Type CK3**



**March 2002**
**Installation, Service and Parts Information**

## Description

This compact, heavy duty, screw end, in-line check valve is suitable for Ammonia, R-12, R-22, R-502, and other refrigerants, certain oils and other fluids approved for use in refrigeration. The CK3 is spring closing with a PTFE seat, a zinc plated body and can be installed in any position. The CK3 is available with 1/2", 3/4", and 1" FPT connections. This valve is ideally suited for branch hot gas lines from a single hot gas solenoid valve to prevent liquid crossover between evaporators during refrigeration. They are also recommended for use in the hot gas connection from the drain pan to the evaporator to prevent drain pan frosting.

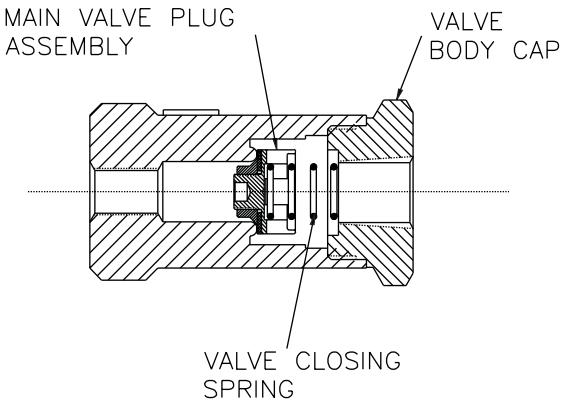



**Fig. 1**

## Purpose

The Type **CK3** check valve is recommended to prevent backward flow of fluid in refrigerant hot gas or liquid lines.

## Principles of Operation

The Type CK3 check valve is a heavy spring closing check valve requiring a pressure drop of .34 bar (5 psig) to open fully. As this pressure drop is reached, the force of the valve closing spring is overcome and the Main Valve Plug Assembly is forced from the valve seat bead to a fully open position. As the pressure drop decreases, the plug assembly is forced back against the seat bead by the force of the closing spring, thus stopping flow.

## Installation

Protect inside of valve from dirt, chips and moisture during installation. Be sure to remove protective plugs from valve before installation. Install the valve in an accessible location for servicing. DO NOT INSTALL THE CHECK VALVE AT THE INLET OF A SOLENOID VALVE, OR A REGULATOR WITH AN ELECTRIC SHUT-OFF FEATURE. DO NOT INSTALL AT THE INLET OF AN OUTLET PRESSURE REGULATOR IN A SYSTEM WHERE LIQUID MAY BE TRAPPED BETWEEN THE TWO VALVES. Check valves when used with such valves should always be installed at the outlet of the valves. This valve may be installed in any position. The valve must be installed with the flow arrow on the valve pointing in the direction of permissible fluid flow through the valve.

## Service Pointers

1. Failure to close (a) there may be dirt or chips on the PTFE disc of the plug assembly. Disassemble the valve by removing the Valve Body Cap, Main Valve Plug assembly and Closing Spring. Clean all parts thoroughly and reassemble. If any parts are damaged, the valve should be replaced.
2. Leakage through the Valve – See above.

## Safe Operation (See also Bulletin RSBCV)

People doing any work on a refrigeration system must be qualified and completely familiar with the system and the Refrigerating Specialties Division valves involved, or all other precautions will be meaningless. This includes reading and understanding pertinent Refrigerating Specialties Division product Bulletins, and Safety Bulletin RSB prior to installation or servicing work.

Where cold refrigerant liquid lines are used, it is necessary that certain precautions be taken to avoid damage which could result from liquid expansion. Temperature increase in a piping section full of solid liquid will cause high pressure due to the expanding liquid which can possibly rupture a gasket, pipe or valve. All hand valves isolating such sections should be marked, warning against accidental closing, and must not be closed until the liquid is removed. Check valves must never be installed upstream of solenoid valves, or regulators with electric shut-off, nor should hand valves upstream of solenoid valves or downstream of check valves be closed until the liquid has been removed. It is advisable to properly install relief devices in any section where liquid expansion could take place.

Avoid all piping or control arrangements which might produce thermal or pressure shock.

For the protection of people and products, all refrigerant must be removed from the section to be worked on before a valve, strainer, or other device is opened or removed.

Flanges with ODS connections are not suitable for ammonia service.

## Warranty

All Refrigerating Specialties products are warranted against defects in workmanship and materials for a period of one year from date of shipment from originating factory. This warranty is in force only when products are properly installed, field assembled, maintained, and operated in use and service as specifically stated in Refrigerating Specialties Catalogs or Bulletins for normal refrigeration applications, unless otherwise approved in writing by Refrigerating Specialties Division. Defective products, or parts thereof returned to the factory with transportation charges prepaid and found to be defective by factory inspection will be replaced or repaired at Refrigerating Specialties option, free of charge, F.O.B. factory. Warranty does not cover products which have been altered, or repaired in the field; damaged in transit, or have suffered accidents, misuse, or abuse. Products disabled by dirt or other foreign substances will not be considered defective.

THE EXPRESS WARRANTY SET FORTH ABOVE CONSTITUTES THE ONLY WARRANTY APPLICABLE TO REFRIGERATING SPECIALTIES PRODUCTS, AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, WRITTEN OR ORAL, INCLUDING ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. No employee, agent, dealer or other person is authorized to give any warranties on behalf of Refrigerating Specialties, nor to assume, for Refrigerating Specialties, any other liability in connection with any of its products.