Continental
Double Disc Assembly

Continental Disc® Corporation

FEATURES:

Double Safe

No product loss from leakage

Immediate shut down unnecessary

Quick opening valve on command

Lower pressure discs

No moving parts

Fail Safe

Available in all standard materials, in all flange assemblies and ANSI ratings; standard, composite or reverse buckling discs.

APPLICATION:

Zero Leakage - A must with toxic contents or very valuable contents. Extremely corrosive conditions or damage could cause the process exposed rupture disc to leak. A pressure gauge in the mid-flange would indicate the leak, while a second rupture disc maintains the system leak free. The first rupture disc could then be changed out at an opportune time.

Quick - Opening Device - By pressurizing the space between the two rupture discs in a Double Disc Assembly, one can obtain a quick opening device. Upon dumping the pressure between the two discs, full open area is obtained within a few milliseconds. The Double Disc Assembly, as a quick opening device, has been used in activating pressure systems, and to test systems for sudden pressure changes. Formulas on reverse side.

Reaction Starter - The Double Disc Assembly has been used in applications such as testing liquid media which ignites on contact. In this situation, mixing two fuels prematurely could cause an unwanted explosion. By use of a Double Disc Assembly, the fuels could be contained separately until the Double Disc were activated to release the fuels into the system for ignition.

PRICE - 1-3/4 times single disc assembly of same assembly, material and rating.

DELIVERY - Same as standard assembly of same size and material.

TECHNICAL DATA - See reverse side for how it works and design notes.

Performance Under Pressure®

CONTINENTAL DOUBLE
DISC ASSEMBLY

DOUBLE DISC ASSEMBLY TECHNICAL DATA

D_1 = outlet disc in psig

D_2 = inlet disc in psig

P_1 = pressure between in psig

P_2 = operating pressure in psig

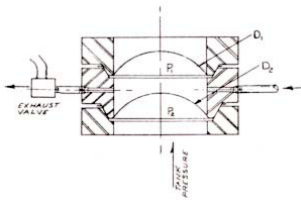The operating pressure must be pre-determined.

When application is Zero Leakage, P_1 equals Zero.

$$\frac{P_1}{D_1} = \frac{P_2 - P_1}{D_2} = 70\% \text{ for Standard disc}$$

$$\frac{P_1}{D_1} = \frac{P_2 - P_1}{D_2} = 80\% \text{ for CDC or CDCV composite disc}$$

$$\frac{P_1}{D_1} = \frac{P_2 - P_1}{D_2} = 90\% \text{ for reverse buckling disc}$$

$D_2 = D_1$

$P_1 = P_2 - P_1$

$2 P_1 = P_2$

$$P_1 = \frac{P_2}{2}$$

Example:

P_2 = 1000 psig

$$P_1 = \frac{P_2}{2} = \frac{1000}{2} = 500 \text{ psig}$$

$$\frac{P_1}{D_1} = 80\%$$

$$D_1 = \frac{500}{.80} = 625 \text{ psig}$$
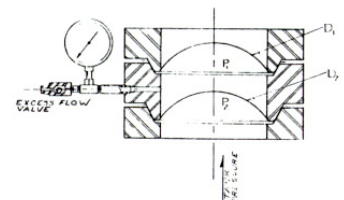
$D_1 = D_2 = 625$ psig both discs

Double Disc Assembly for Reaction Starter or Quick-Opening Device.

Design Notes:

The smaller P_1 and the smaller D_1, the larger D_2. The larger P_1 and the smaller D_2, the larger D_1.

Always use a pressure gauge in the mid flange, it is required by the ASME Code.

Consult the CDC factory for additional information or assistance.

Double Disc Assembly for Reaction Starter or Zero Leakage.