



**Continental Disc<sup>®</sup>  
Corporation**

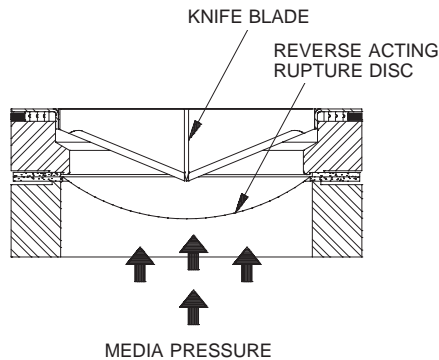
*Performance Under Pressure<sup>®</sup>*

# ZAP<sup>®\*</sup> & KBA Reverse Acting Rupture Discs

3-2220-3

## ZAP and KBA Rupture Discs

The ZAP and KBA reverse acting rupture discs utilize knife blades to open the rupture discs as reversal occurs. The rupture discs are differential pressure relief devices that provide instantaneous full opening for protecting equipment, vessels, and systems from overpressure conditions.



The ZAP and KBA reverse acting rupture discs have the media pressure acting on the convex side of the rupture disc, placing it in compression. When the burst pressure rating of the rupture disc is reached, the compression loading on the rupture disc causes it to reverse, snapping it through its neutral position and through the knife blades resulting in a full opening.

The reverse acting rupture disc has the following advantages:

- Exceptional burst accuracy
- A zero manufacturing range enabling the rupture disc to operate to 90% of the customer specified rating
- Exceptional cyclic or pulsating service life

- Capability to withstand vacuum conditions
- Enhanced corrosion resistance due to thicker material
- Designed for non-fragmentation

ZAP and KBA rupture discs respond in milliseconds to overpressure situations, allowing them to be used in a variety of applications.



ZAP Insert Assembly



KBA Insert Assembly

\*U.S. Patent 3,922,767

# ZAP AND KBA RUPTURE DISCS

## Vacuum Conditions

The ZAP and KBA rupture discs are designed to withstand full vacuum without affecting the burst pressure setting or reliability. No additional components, such as a vacuum support, are required.

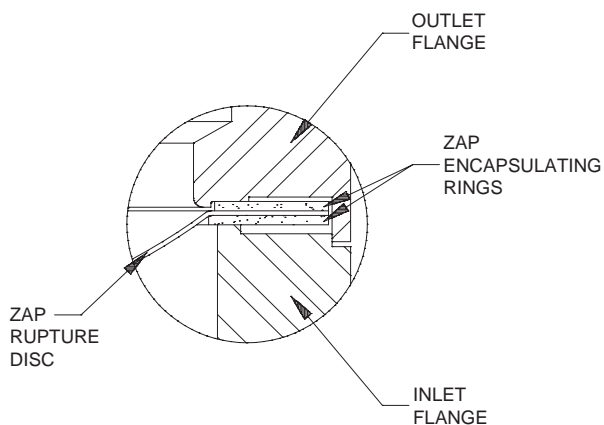
## Corrosion Protection

The ZAP and KBA rupture discs are superior for use in a corrosive media or environment. Versatile material selection and use of thicker rupture disc materials contribute to the superior corrosion resistance. A Teflon®\* liner may be used on the process side of the ZAP and KBA rupture discs for additional corrosion protection.

## Seal Load Sensitivity

Over-torquing will not affect the burst accuracy of the ZAP Rupture Disc. Continental Disc's encapsulating rings, proven to minimize seal load (bolt torque) sensitivity, are included on the ZAP Rupture Disc.

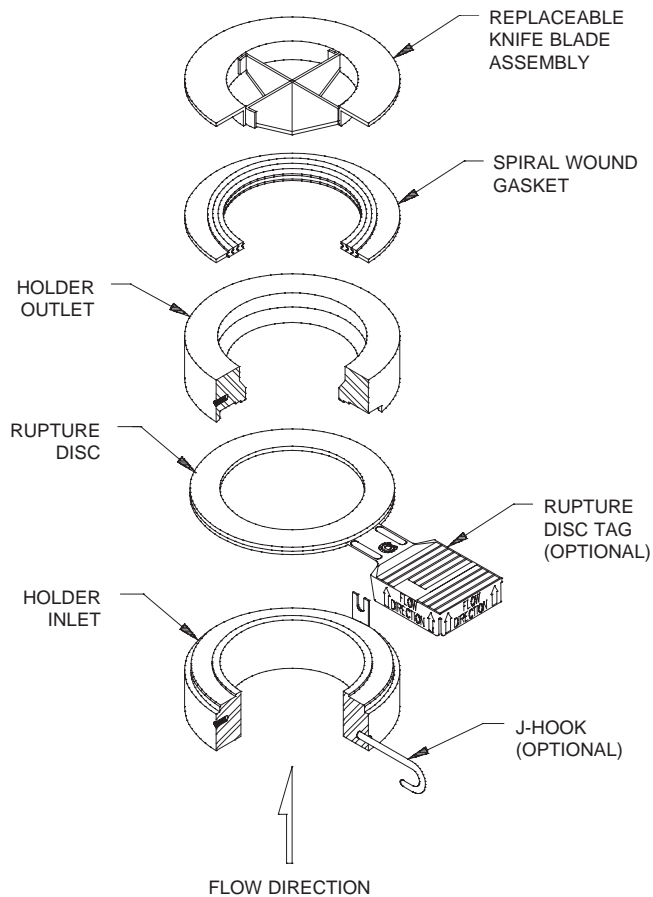
1. The encapsulating rings hold the ZAP Rupture Disc in the proper location and are permanently attached to the rupture disc.
2. They provide a base to accept reasonable over-torquing of the companion flange bolts while protecting the rupture disc from being damaged.
3. They provide a superior metal-to-metal sealing surface.



## ZAP Reverse Acting Rupture Disc

The ZAP Rupture Disc is available in nominal sizes ranging from 1" through 8" (25 mm through 200 mm). Proven features include:

- +/- 5% accuracy for burst pressures 40 psig and above
- Operation to 90% of the rated burst pressure
- Zero (0) manufacturing range
- Exceptional cyclic or pulsating service life
- Designed for non-fragmentation
- Encapsulating rings provide perfect alignment and minimize seal load sensitivity
- May be used in ZAP Holders having replaceable knife blades or optional welded-in knife blades
- May be operated under a full vacuum or backpressure to 110% of the rated burst pressure
- Standard materials include Aluminum, Nickel, Monel\*\*, Inconel\*\* or 316 Stainless Steel. Other materials available upon request
- Conformance to national and international codes including ASME Section III or VIII, DIN, EN, BSI, JIS, ISO, or other codes as required
- Excellent for isolating safety relief valves
- For use in gaseous service
- Optional J-Hook makes rupture disc and holder installation virtually error-proof
- Optional three-dimensional flow direction tag permanently attached to the ZAP Rupture Disc



ZAP Reverse Acting Rupture Disc Assembly

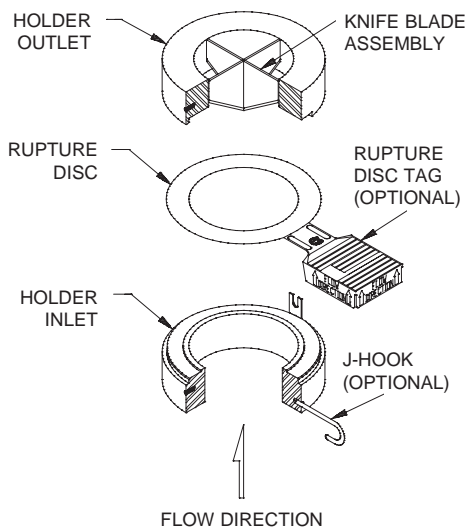
\* Teflon is a registered trademark of E.I. du Pont de Nemours and Company used under license.  
\*\* Monel and Inconel are registered trademarks of the Inco family of companies.

## KBA Reverse Acting Rupture Disc

The KBA Rupture Disc is available in nominal sizes ranging from 1" through 32" (25 mm - 800 mm).

Features include:

- +/- 5% accuracy for burst pressures 40 psig and above
- Operation to 90% of the rated burst pressure
- Zero (0) manufacturing range
- Exceptional cyclic or pulsating service life
- May be operated under a full vacuum or backpressure to 110% of the rated burst pressure
- Designed for non-fragmentation
- Conformance to national and international codes including ASME Section III or VIII, DIN, EN, BSI, JIS, ISO, or other codes as required
- Excellent for isolating safety relief valves
- Standard materials include Aluminum, Nickel, Monel, Inconel or 316 Stainless Steel. Other materials available upon request
- For use in gaseous service
- Optional J-Hook makes rupture disc and holder installation virtually error-proof
- Optional three-dimensional flow direction tag permanently attached to the KBA Rupture Disc



KBA Reverse Acting Rupture Disc Assembly

## Manufacturing Range

As a standard, the ZAP and KBA rupture discs are designed with a zero manufacturing range. This enables the rupture disc to operate at 90% of the customer's specified rating.

For rated burst pressures below 40 psig, the recommended operating pressure is 90% of the value of the rated (stamped) burst pressure minus the burst tolerance. (i.e., [stamped rating minus the 2 psig burst tolerance] x .90.)

## Rupture Disc Materials

The ZAP and KBA rupture discs are available in Aluminum, Nickel, Monel, Inconel and 316 Stainless Steel. Other materials are available upon request.

## Burst Tolerance

The ZAP and KBA rupture discs are designed with a burst tolerance as shown in Table I. A minimum of two burst tests per lot of rupture discs are conducted to determine conformance with the customer's specified burst pressure. The rated (stamped) burst pressure appearing on the tag is the customer's specified burst pressure.

Table I - Burst Tolerance

| Specified Burst Pressure Rating |               | Burst Tolerance        |
|---------------------------------|---------------|------------------------|
| psig                            | barg          |                        |
| Under 40                        | Under 2.8     | ± 2 psig / ± 0.14 barg |
| 40 and above                    | 2.8 and above | ± 5%                   |

Table II - Rupture Disc Temperature Limits

| Rupture Disc Material | Recommended Maximum Temperature |         |
|-----------------------|---------------------------------|---------|
|                       | Fahrenheit                      | Celsius |
| Teflon Liners         |                                 |         |
| PFA Teflon            | 500°                            | 260°    |
| FEP Teflon            | 400°                            | 204°    |
| Nickel, Monel         | 800°                            | 427°    |
| 316 Stainless Steel   | 900°                            | 482°    |
| Inconel               | 1000°                           | 538°    |
| Aluminum              | 260°                            | 127°    |

# OPTIONAL FEATURES

## Tagging

Continental Disc Corporation's permanently attached three-dimensional flow direction tag may be attached to the ZAP or KBA rupture discs. The 3-D flow tag has "DIRECTIONAL FLOW ARROWS" on three sides, providing immediate visual verification that the rupture disc is properly oriented in the system. This tag is a customer option and should be requested at the time of order. A millslot in the holder outlet is required when using KBA or ZAP rupture discs with attached 3-D flow tag.

A flat, stainless steel tag is normally supplied with the ZAP and KBA rupture disc as a separate item. This tag may be attached to the companion flanges at the time the assembly is installed, providing pertinent burst pressure information at the rupture disc location.

The ZAP and KBA Holders have a stainless steel nameplate, indicating flow direction, permanently attached to the inlet and outlet. In addition, whenever customer identification tagging is required, a stainless steel CUSTOMER IDENTIFICATION TAG is permanently attached at no extra charge.

The combination of the nameplates and the 3-D flow tag is exclusive with Continental Disc Corporation.



## Burst Disc Indicator (B.D.I.<sup>®</sup>) Alarm System

The Continental Disc state-of-the-art alarm system is designed specifically for use with C.D.C.'s ZAP and KBA rupture discs.

The B.D.I. Alarm System consists of an alarm strip, which can interface with a monitoring unit, computer, annunciator panel, control panel, or other equipment. The alarm system is activated by the opening of the ZAP or KBA rupture disc.

The B.D.I. Alarm System is a normally closed, low-powered circuit. When a rupture disc opens, the B.D.I. Alarm Strip is severed, interrupting the circuit, which

activates a monitoring device. This device then signals that an overpressure condition has occurred and that media is venting.

- The B.D.I. Alarm System signals instantly when a rupture disc has opened, giving operating personnel a positive signal of fugitive emissions and/or the occurrence of an overpressure relief condition.

- The B.D.I. Alarm System signals emergency equipment, control room, and/or operating personnel to alter or stop a process.
- The B.D.I. Alarm System prevents an undetected open vent line, once an overpressure condition occurs.
- FM (Factory Mutual) approved, intrinsically safe monitors are available.



\* Burst Disc Indicator (B.D.I.) Alarm System incorporates U.S. patent no. Re. 34,308 and 4,408,194; Australia patent no. 539415; Germany patent no. 3174227.0; Canada patent no. 1199990; Belgium, France and United Kingdom patent no. EP 0 033 867; Japan patent no. 2032464.

**Table III - ZAP Rupture Disc Minimum/Maximum Pressures at 72°F (22°C)**


| Nominal Size | When Used With ZAP Replaceable Knife Blade Holder |      |              |      |               |      | When Used With ZAP Welded-In Knife Blade Holder |      |              |      |               |      |
|--------------|---|------|--------------|------|---------------|------|---|------|--------------|------|---------------|------|
|              | Aluminum  |      | Nickel/Monel |      | Inconel/316SS |      | Aluminum  |      | Nickel/Monel |      | Inconel/316SS |      |
|              | Min   | Max  | Min          | Max  | Min           | Max  | Min   | Max  | Min          | Max  | Min           | Max  |
| 1 in.        | —   | —    | —            | —    | —             | —    | 50  | 225  | 100          | 750  | 110           | 1000 |
| 25 mm        | —   | —    | —            | —    | —             | —    | 3.5   | 15.5 | 6.9          | 51.7 | 7.6           | 69.0 |
| 1 1/2 in.    | 45  | 225  | 90           | 725  | 90            | 850  | 45  | 225  | 90           | 725  | 90            | 1000 |
| 40 mm        | 3.1   | 15.5 | 6.2          | 50.0 | 6.2           | 58.6 | 3.1   | 15.5 | 6.2          | 50.0 | 6.2           | 69.0 |
| 2 in.        | 35  | 150  | 60           | 700  | 60            | 800  | 35  | 150  | 69           | 700  | 60            | 1000 |
| 50 mm        | 2.4   | 10.3 | 4.1          | 48.3 | 4.1           | 55.2 | 2.4   | 10.3 | 4.1          | 48.3 | 4.1           | 69.0 |
| 3 in.        | 30  | 150  | 50           | 675  | 50            | 750  | 30  | 150  | 50           | 675  | 50            | 1000 |
| 80 mm        | 2.1   | 10.3 | 3.5          | 46.6 | 3.5           | 51.7 | 2.1   | 10.3 | 3.5          | 46.6 | 3.5           | 69.0 |
| 4 in.        | 25  | 100  | 45           | 625  | 50            | 725  | 25  | 100  | 45           | 625  | 50            | 800  |
| 100 mm       | 1.7   | 6.9  | 3.1          | 43.1 | 3.5           | 50.0 | 1.7   | 6.9  | 3.1          | 43.1 | 3.5           | 55.2 |
| 6 in.        | 20  | 75   | 35           | 300  | 40            | 350  | 20  | 75   | 35           | 500  | 40            | 700  |
| 150 mm       | 1.4   | 5.2  | 2.4          | 20.7 | 2.8           | 24.1 | 1.4   | 5.2  | 2.4          | 34.5 | 2.8           | 48.3 |
| 8 in.        | 15  | 60   | 25           | 225  | 25            | 275  | 15  | 60   | 25           | 300  | 25            | 350  |
| 200 mm       | 1.03  | 4.1  | 1.7          | 15.5 | 1.7           | 20.0 | 1.03  | 4.1  | 1.7          | 20.7 | 1.0           | 24.1 |

Notes For Table III:

1. Stainless steel inlet and outlet rings are standard. For other ring materials, consult your Continental Disc representative or the factory.
2. Teflon liners and protective covers are available as an option.
3. White bar indicates "psig," gray bar indicates "barg."

## Code Compliance

C.D.C. will provide ZAP and KBA rupture discs to national or international code requirements when specified by the customer. C.D.C. will manufacture, temperature test, and mark rupture discs in compliance with the requested code. Product may be supplied to ASME Section III or VIII, ISO, DIN, EN, BSI, JIS, or other codes as required.

Continental Disc Corporation has been accredited and is authorized by the ASME Code to utilize the  Code Symbol Stamp for product built in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.

The certified flow resistance value ( $K_R$ ) and minimum net flow area value of the KBA Rupture Disc and the ZAP Rupture Disc are available from Continental Disc Corporation or The National Board of Boiler and Pressure Vessel Inspectors.

C.D.C. maintains an ASME accepted flow laboratory to conduct flow testing for rupture discs, relief valves, and rupture disc/valve combinations.



# PRESSURE RANGES

Table IV - KBA Rupture Disc Minimum/Maximum Pressures at 72°F (22°C)

| Nominal Size | Aluminum |      | Nickel/Monel |      | Inconel/316SS |      |
|--------------|----------|------|--------------|------|---------------|------|
|              | Min      | Max  | Min          | Max  | Min           | Max  |
| 1 in.        | 50       | 225  | 100          | 1000 | 110           | 1000 |
| 25 mm        | 3.4      | 15.5 | 6.9          | 69.0 | 7.6           | 69.0 |
| 1 1/2 in.    | 45       | 225  | 90           | 1000 | 90            | 1000 |
| 40 mm        | 3.1      | 15.5 | 6.2          | 69.0 | 6.2           | 69.0 |
| 2 in.        | 35       | 150  | 60           | 900  | 60            | 1000 |
| 50 mm        | 2.4      | 10.3 | 4.1          | 62.1 | 4.1           | 69.0 |
| 3 in.        | 30       | 150  | 50           | 800  | 50            | 1000 |
| 80 mm        | 2.1      | 10.3 | 3.4          | 55.2 | 3.4           | 69.0 |
| 4 in.        | 25       | 100  | 45           | 700  | 50            | 800  |
| 100 mm       | 1.7      | 6.9  | 3.1          | 48.3 | 3.4           | 55.2 |
| 6 in.        | 20       | 75   | 35           | 600  | 40            | 700  |
| 150 mm       | 1.4      | 5.2  | 2.4          | 41.4 | 2.8           | 48.3 |
| 8 in.        | 15       | 60   | 25           | 350  | 25            | 400  |
| 200 mm       | 1.03     | 4.1  | 1.7          | 24.1 | 1.7           | 27.6 |
| 10 in.       | —        | —    | 20           | 300  | 25            | 375  |
| 250 mm       | —        | —    | 1.4          | 20.7 | 1.7           | 25.9 |
| 12 in.       | —        | —    | 20           | 200  | 25            | 250  |
| 300 mm       | —        | —    | 1.4          | 13.8 | 1.7           | 17.2 |
| 14 in.       | —        | —    | 20           | 150  | 25            | 200  |
| 350 mm       | —        | —    | 1.4          | 10.3 | 1.7           | 13.8 |
| 16 in.       | —        | —    | 20           | 150  | 25            | 200  |
| 400 mm       | —        | —    | 1.4          | 10.3 | 1.7           | 13.8 |
| 18 in.       | —        | —    | 20           | 150  | 25            | 200  |
| 450 mm       | —        | —    | 1.4          | 10.3 | 1.7           | 13.8 |
| 20 in.       | —        | —    | 20           | 100  | 25            | 200  |
| 500 mm       | —        | —    | 1.4          | 6.9  | 1.7           | 13.8 |
| 24 in.       | —        | —    | 20           | 100  | 25            | 150  |
| 600 mm       | —        | —    | 1.4          | 6.9  | 1.7           | 10.3 |
| 28 in.       | —        | —    | 20           | 55   | 25            | 70   |
| 700 mm       | —        | —    | 1.4          | 3.8  | 1.7           | 4.8  |
| 30 in.       | —        | —    | 20           | 50   | 25            | 65   |
| 750 mm       | —        | —    | 1.4          | 3.4  | 1.7           | 4.5  |
| 32 in.       | —        | —    | 20           | 45   | 25            | 60   |
| 800 mm       | —        | —    | 1.4          | 3.1  | 1.7           | 4.1  |

Notes For Table IV:

1. Contact Continental Disc Corporation for information on other sizes.
2. Teflon liners and protective covers are available as an option.
3. White bar indicates "psig," gray bar indicates "barg."

# ZAP AND KBA RUPTURE DISC HOLDERS

## ZAP and KBA Holders

The ZAP and KBA Holders are insert type, designed for superior sealing capability.

The ZAP Holder Assembly is designed with replaceable knife blades in sizes 1 1/2" through 8" (40 mm through 200 mm). This provides quick and easy blade replacement at the time a ZAP Rupture Disc is changed. A non-asbestos, spiral wound gasket is provided between the holder outlet and replaceable knife blades to assure a seal-tight assembly.

The 1" (25 mm) ZAP Holder has a welded-in knife blade. As an option, the larger sized ZAP Holders are offered with welded-in knife blades.

The KBA Holders are supplied with welded-in knife blades on all sizes.

An optional J-Hook provides easy alignment and assures proper directional installation.

## Holder Specifications

Holder are available for ANSI, DIN, or JIS class flanges as shown in Table V. Consult factory for holders to fit other national or international standards. A millslot is machined in the holder outlet to accommodate the rupture disc's 3-D flow tag.

**Materials:** Carbon steel, 316SS, 304SS, Monel, Inconel and Hastelloy-C. Other materials are available upon request.

**Accessories:** Nipple and tee, excess flow valve, pressure gauge.

**Options:** Gauge tap, special facing, Teflon coating, millslot for B.D.I. Alarm System (ZAP only).

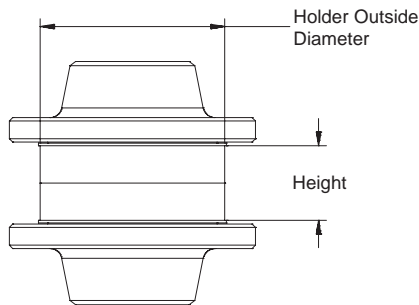


Table V - ZAP Insert Holder With Replaceable Blades Dimensions and Weights

| Nominal Size       | Outside Diameter of Holder (1) |                |       |            |       |            | Height of Holder       |    | Weight of Holder (approximate) (3) |     |     |     |     |     |
|--------------------|--------------------------------|----------------|-------|------------|-------|------------|------------------------|----|------------------------------------|-----|-----|-----|-----|-----|
|                    | ANSI                           |                | DIN   |            | JIS   |            | Replaceable Blades (2) |    | ANSI                               |     | DIN |     | JIS |     |
|                    | Class                          | O.D.<br>inches | Class | O.D.<br>mm | Class | O.D.<br>mm |                        |    | lbs                                | kgs | lbs | kgs | lbs | kgs |
| 1 1/2 in.<br>40 mm | 150                            | 3.25           | 10/40 | 92,2       | 10/20 | 86         | 2.19                   | 56 | 3.0                                | 1,4 | 4.0 | 1,8 | 3.5 | 1,6 |
|                    | 300/600                        | 3.63           | —     | —          | 30/40 | 97         | 2.19                   | 56 | 4.5                                | 2,0 | —   | —   | 4.8 | 2,2 |
| 2 in.<br>50 mm     | 150                            | 4.00           | 10/40 | 108        | 10/20 | 101,6      | 2.19                   | 56 | 4.5                                | 2,0 | 5.0 | 2,3 | 4.5 | 2,0 |
|                    | 300/600                        | 4.25           | 64    | 111        | 30/40 | 111        | 2.19                   | 56 | 5.5                                | 2,5 | 6.1 | 2,8 | 5.8 | 2,6 |
| 3 in.<br>80 mm     | 150                            | 5.25           | 10/40 | 142        | —     | —          | 2.32                   | 59 | 7.5                                | 3,4 | 9.0 | 4,1 | —   | —   |
|                    | —                              | —              | —     | —          | 16/20 | 137        | 2.32                   | 59 | —                                  | —   | —   | —   | 8.2 | 3,7 |
|                    | 300/600                        | 5.75           | 64    | 146,1      | 30/40 | 146,1      | 2.32                   | 59 | 10                                 | 4,5 | 9.8 | 4,4 | 10  | 4,5 |
| 4 in.<br>100 mm    | 150                            | 6.75           | —     | —          | —     | —          | 2.56                   | 65 | 13                                 | 5,9 | —   | —   | —   | —   |
|                    | 300                            | 7.00           | —     | —          | —     | —          | 2.56                   | 65 | 15                                 | 6,8 | —   | —   | —   | —   |
|                    | —                              | —              | —     | —          | 40    | 180        | 2.56                   | 65 | —                                  | —   | —   | —   | 16  | 7,3 |
|                    | 600                            | 7.50           | 64    | 173        | —     | —          | 2.56                   | 65 | 19                                 | 8,6 | 14  | 6,4 | —   | —   |
| 6 in.<br>150 mm    | 150                            | 8.63           | —     | —          | —     | —          | 3.13                   | 80 | 22                                 | 9,9 | —   | —   | —   | —   |
|                    | —                              | —              | —     | —          | 16/20 | 235        | 3.13                   | 80 | —                                  | —   | —   | —   | 29  | 13  |
|                    | 300                            | 9.75           | 25/40 | 223        | 30    | 247,7      | 3.13                   | 80 | 34                                 | 15  | 23  | 11  | 35  | 16  |
|                    | —                              | —              | —     | —          | 40    | 262        | 3.13                   | 80 | —                                  | —   | —   | —   | 42  | 19  |
| 8 in.<br>200 mm    | 600                            | 10.38          | —     | —          | —     | —          | 3.13                   | 80 | 43                                 | 20  | —   | —   | —   | —   |
|                    | 150                            | 10.88          | —     | —          | —     | —          | 3.79                   | 96 | 41                                 | 19  | —   | —   | —   | —   |
|                    | —                              | —              | —     | —          | 16/20 | 280        | 3.79                   | 96 | —                                  | —   | —   | —   | 41  | 19  |
|                    | 300                            | 12.00          | 25    | 283        | 30    | 293        | 3.79                   | 96 | 58                                 | 26  | 43  | 20  | 50  | 23  |
| —                  | —                              | 40             | 290   | 40         | 312   | 3.79       | 96                     | —  | —                                  | 48  | 22  | 64  | 29  |     |

Notes: 1. Consult factory for other ANSI, DIN, or JIS class flanges.  
2. Dimension includes 1/8" for spiral wound gasket.  
3. Weights do not include studs and nuts.

4. If a B.D.I. Alarm is specified for a ZAP Assembly, a millslot is required in the holder.  
5. If 3-D flow tag is attached to a ZAP Rupture Disc, a millslot is required in the holder.

# ZAP RUPTURE DISC HOLDERS

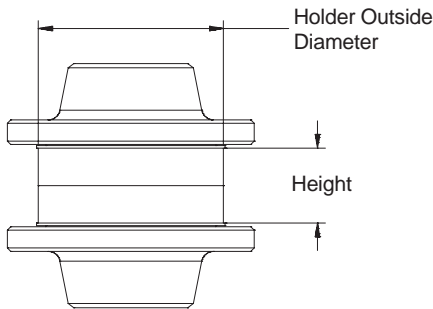


Table VI - ZAP Insert Holder With Welded In Blades Dimensions and Weights

| Nominal Size       | Outside Diameter of Holder (1) |                |         |            |       |            | Height of Holder |     | Weight of Holder (approximate) (2) |     |     |     |     |     |
|--------------------|--------------------------------|----------------|---------|------------|-------|------------|------------------|-----|------------------------------------|-----|-----|-----|-----|-----|
|                    | ANSI                           |                | DIN     |            | JIS   |            | Welded Blades    |     | ANSI                               |     | DIN |     | JIS |     |
|                    | Class                          | O.D.<br>inches | Class   | O.D.<br>mm | Class | O.D.<br>mm |                  |     | lbs                                | kg  | lbs | kg  | lbs | kg  |
| 1 in.<br>25 mm     | 150                            | 2.50           | 10/40   | 69,9       | 10/20 | 69,9       | 2.03             | 52  | 2.0                                | 0,9 | 3.0 | 1,4 | 2.7 | 1,2 |
|                    | 300/600                        | 2.75           | —       | —          | 30/40 | 76         | 2.03             | 52  | 2.5                                | 1,1 | —   | —   | 3.5 | 1,6 |
|                    | 900/1500                       | 3.00           | 64/250  | 82         | —     | —          | 3.03             | 77  | 4.8                                | 2,2 | 5.8 | 2,6 | —   | —   |
| 1 1/2 in.<br>40 mm | 150                            | 3.25           | 10/40   | 92,2       | 10/20 | 86         | 2.06             | 52  | 3.0                                | 1,4 | 4.0 | 1,8 | 3.5 | 1,6 |
|                    | 300/600                        | 3.63           | —       | —          | 30/40 | 97         | 2.06             | 52  | 4.5                                | 2,0 | —   | —   | 4.8 | 2,2 |
|                    | —                              | —              | 64/160  | 102        | —     | —          | 2.06             | 52  | —                                  | —   | 5.9 | 2,7 | —   | —   |
| 900/1500           | 3.75                           | —              | —       | —          | —     | 2.31       | 59               | 4.6 | 2,1                                | —   | —   | —   | —   |     |
| 2 in.<br>50 mm     | 150                            | 4.00           | 10/40   | 108        | 10/20 | 101,6      | 2.06             | 52  | 4.5                                | 2,0 | 5.0 | 2,3 | 4.4 | 2,0 |
|                    | 300/600                        | 4.25           | 64      | 111        | 30/40 | 111        | 2.06             | 52  | 5.5                                | 2,5 | 6.1 | 2,8 | 5.8 | 2,6 |
|                    | 900                            | 5.50           | 100/160 | 118        | —     | —          | 2.06             | 52  | 11                                 | 5,0 | 7.1 | 3,2 | —   | —   |
| 3 in.<br>80 mm     | 150                            | 5.25           | 10/40   | 142        | —     | —          | 2.19             | 56  | 7.5                                | 3,4 | 9.0 | 4,1 | —   | —   |
|                    | —                              | —              | —       | —          | 16/20 | 137        | 2.19             | 56  | —                                  | —   | —   | —   | 8.2 | 3,7 |
|                    | 300/600                        | 5.75           | 64      | 146,1      | 30/40 | 146,1      | 2.19             | 56  | 10                                 | 4,5 | 9.8 | 4,4 | 10  | 4,5 |
| 900                | 6.50                           | 100/160        | 153     | —          | —     | 3.07       | 78               | 21  | 9,5                                | 17  | 7,7 | —   | —   |     |
| 4 in.<br>100 mm    | 150                            | 6.75           | —       | —          | —     | —          | 2.44             | 62  | 13                                 | 5,9 | —   | —   | —   | —   |
|                    | 300                            | 7.00           | —       | —          | —     | —          | 2.44             | 62  | 15                                 | 6,8 | —   | —   | —   | —   |
|                    | —                              | —              | —       | —          | 40    | 180        | 2.44             | 62  | —                                  | —   | —   | —   | 16  | 7,3 |
| 600                | 7.50                           | 64             | 173     | —          | —     | 2.44       | 62               | 19  | 8,6                                | 14  | 6,4 | —   | —   |     |
| 6 in.<br>150 mm    | 150                            | 8.63           | 10/16   | 217        | —     | —          | 3.00             | 76  | 22                                 | 9,9 | 21  | 9,4 | —   | —   |
|                    | —                              | —              | —       | —          | 16/20 | 235        | 3.00             | 76  | —                                  | —   | —   | —   | 29  | 13  |
|                    | 300                            | 9.75           | 25/40   | 223        | 30    | 247,7      | 3.00             | 76  | 34                                 | 15  | 23  | 11  | 35  | 16  |
| —                  | —                              | —              | —       | 40         | 262   | 3.00       | 76               | —   | —                                  | —   | —   | 42  | 19  |     |
| 600                | 10.38                          | 64             | 247     | —          | —     | 3.00       | 76               | 43  | 20                                 | 31  | 14  | —   | —   |     |
| 8 in.<br>200 mm    | 150                            | 10.88          | 10/16   | 272        | —     | —          | 3.66             | 93  | 41                                 | 19  | 38  | 17  | —   | —   |
|                    | —                              | —              | —       | —          | 16/20 | 280        | 3.66             | 93  | —                                  | —   | —   | —   | 41  | 19  |
|                    | 300                            | 12.00          | 25      | 283        | 30    | 293        | 3.66             | 93  | 58                                 | 26  | 43  | 20  | 50  | 23  |
| —                  | —                              | 40             | 290     | 40         | 312   | 3.66       | 93               | —   | —                                  | 48  | 22  | 64  | 29  |     |

- Notes:
1. Consult factory for other ANSI, DIN, or JIS class flanges.
  2. Weights do not include studs and nuts.
  3. If a B.D.I. Alarm is specified for a ZAP Assembly, a millslot is required in the holder.
  4. If 3-D flow tag is attached to a ZAP Rupture Disc, a millslot is required in the holder.

# KBA RUPTURE DISC HOLDERS

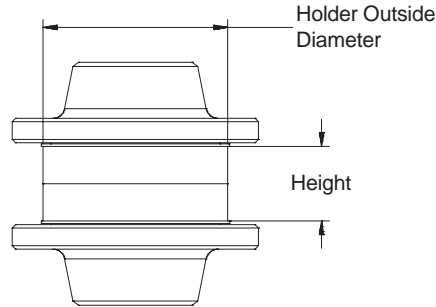


Table VII - KBA Insert Holder Dimensions and Weights

| Nominal Size       | Outside Diameter of Holder (1) |        |         |       |       |       | Height of Holder |     | Weight of Holder (approximate) (3) |     |     |     |     |     |
|--------------------|--------------------------------|--------|---------|-------|-------|-------|------------------|-----|------------------------------------|-----|-----|-----|-----|-----|
|                    | ANSI                           |        | DIN     |       | JIS   |       | Welded Blades    |     | ANSI                               |     | DIN |     | JIS |     |
|                    | Class                          | O.D.   | Class   | O.D.  | Class | O.D.  |                  |     | inches                             | mm  | lbs | kg  | lbs | kg  |
|                    |                                | inches |         | mm    |       |       |                  |     |                                    |     |     |     |     |     |
| 1 in.<br>25 mm     | 150                            | 2.50   | 10/40   | 69,9  | 10/20 | 69,9  | 1.72             | 44  | 2.0                                | 0,9 | 2.6 | 1,2 | 2.4 | 1,1 |
|                    | 300/600                        | 2.75   | —       | —     | 30/40 | 76    | 1.72             | 44  | 2.5                                | 1,1 | —   | —   | 2.9 | 1,3 |
|                    | 900/1500                       | 3.00   | 64/250  | 82    | —     | —     | 1.72             | 44  | 2.9                                | 1,3 | 3.8 | 1,7 | —   | —   |
| 1 1/2 in.<br>40 mm | 150                            | 3.25   | 10/40   | 92,2  | 10/20 | 86    | 1.84             | 47  | 3.0                                | 1,4 | 3.5 | 1,6 | 3.2 | 1,5 |
|                    | 300/600                        | 3.63   | —       | —     | 30/40 | 97    | 1.84             | 47  | 4.2                                | 1,9 | —   | —   | 4.8 | 2,2 |
| 2 in.<br>50 mm     | 150                            | 4.00   | 10/40   | 108   | 10/20 | 101,6 | 1.81             | 46  | 4.5                                | 2,0 | 4.9 | 2,2 | 4.4 | 2,0 |
|                    | 300/600                        | 4.25   | 64      | 111   | 30/40 | 111   | 1.81             | 46  | 5.5                                | 2,5 | 6.1 | 2,8 | 5.7 | 2,6 |
|                    | 2500                           | 5.63   | —       | —     | —     | —     | 3.81             | 97  | 33                                 | 10  | —   | —   | —   | —   |
| 3 in.<br>80 mm     | 150                            | 5.25   | 10/40   | 142   | 10    | 131   | 1.81             | 46  | 7.0                                | 3,2 | 8.7 | 3,9 | 6.3 | 2,9 |
|                    | —                              | —      | —       | —     | 16/20 | 137   | 1.81             | 46  | —                                  | —   | —   | —   | 7.3 | 3,3 |
|                    | 300/600                        | 5.75   | 64      | 146,1 | 30/40 | 146,1 | 1.81             | 46  | 9.8                                | 4,4 | 9.8 | 4,4 | 9.9 | 4,5 |
| 4 in.<br>100 mm    | 150                            | 6.75   | 10/16   | 162   | —     | —     | 2.19             | 56  | 13                                 | 5,9 | 10  | 4,5 | —   | —   |
|                    | —                              | —      | —       | —     | 16/20 | 162   | 2.19             | 56  | —                                  | —   | —   | —   | 10  | 4,5 |
|                    | 300                            | 7.00   | 25/40   | 168   | 30    | 168   | 2.19             | 56  | 15                                 | 6,8 | 12  | 5,4 | 13  | 5,9 |
|                    | —                              | —      | —       | —     | 40    | 180   | 2.19             | 56  | —                                  | —   | —   | —   | 16  | 7,3 |
|                    | 600                            | 7.50   | 64      | 173   | —     | —     | 2.19             | 56  | 18                                 | 8,2 | 12  | 5,4 | —   | —   |
|                    | 900                            | 8.00   | 100/160 | 180   | —     | —     | 3.81             | 97  | 39                                 | 18  | 27  | 12  | —   | —   |
| 6 in.<br>150 mm    | 150                            | 8.63   | 10/16   | 217   | 10    | 217   | 2.63             | 67  | 23                                 | 10  | 22  | 10  | 22  | 10  |
|                    | —                              | —      | —       | —     | 16/20 | 235   | 2.63             | 67  | —                                  | —   | —   | —   | 26  | 12  |
|                    | 300                            | 9.75   | 25/40   | 223   | 30    | 247,7 | 2.81             | 71  | 34                                 | 15  | 22  | 10  | 35  | 16  |
|                    | —                              | —      | —       | —     | 40    | 262   | 2.81             | 71  | —                                  | —   | —   | —   | 42  | 19  |
|                    | 600                            | 10.38  | 64      | 247   | —     | —     | 2.81             | 71  | 43                                 | 20  | 34  | 15  | —   | —   |
|                    | 1500                           | 11.00  | 250     | 284   | —     | —     | 6.81             | 173 | 123                                | 56  | 129 | 59  | —   | —   |
| 8 in.<br>200 mm    | 150                            | 10.88  | 10/16   | 272   | 10    | 267   | 3.81             | 97  | 41                                 | 19  | 38  | 17  | 38  | 17  |
|                    | —                              | —      | —       | —     | 16/20 | 280   | 3.81             | 97  | —                                  | —   | —   | —   | 46  | 21  |
|                    | 300                            | 12.00  | 25      | 283   | 30    | 293   | 3.81             | 97  | 64                                 | 29  | 47  | 21  | 55  | 25  |
|                    | —                              | —      | 40      | 290   | 40    | 312   | 3.81             | 97  | —                                  | —   | 53  | 24  | 71  | 32  |
|                    | 600                            | 12.50  | 64      | 309   | —     | —     | 3.81             | 97  | 75                                 | 34  | 69  | 31  | —   | —   |
| 10 in.<br>250 mm   | 150                            | 13.25  | 10/16   | 327   | 10    | 330   | 4.31             | 109 | 68                                 | 31  | 58  | 26  | 61  | 28  |
|                    | —                              | —      | —       | —     | 16/20 | 353   | 4.31             | 109 | —                                  | —   | —   | —   | 85  | 39  |
|                    | 300                            | 14.13  | 25      | 340   | 30    | 357   | 4.31             | 109 | 91                                 | 41  | 71  | 32  | 92  | 42  |
|                    | —                              | —      | 40      | 352   | 40    | 377   | 4.31             | 109 | —                                  | —   | 87  | 39  | 111 | 50  |

- Notes:
1. Consult factory for other ANSI, DIN, or JIS class flanges.
  2. Consult factory for other sizes.
  3. Weights do not include studs and nuts.
  4. If 3-D flow tag is attached to a KBA Rupture Disc, a millslot is required in the holder.

# KBA RUPTURE DISC HOLDERS

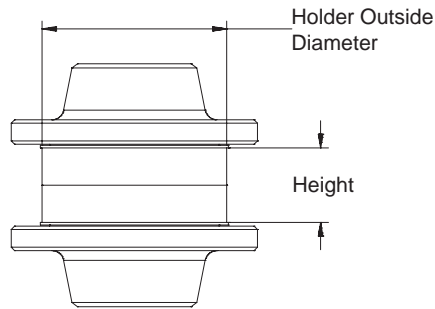


Table VII - KBA Insert Holder Dimensions and Weights (continued)

| Nominal Size     | Outside Diameter of Holder (1) |        |       |      |       |       | Height of Holder |     | Weight of Holder (approximate) (3) |     |     |     |      |     |
|------------------|--------------------------------|--------|-------|------|-------|-------|------------------|-----|------------------------------------|-----|-----|-----|------|-----|
|                  | ANSI                           |        | DIN   |      | JIS   |       | Welded Blades    |     | ANSI                               |     | DIN |     | JIS  |     |
|                  | Class                          | O.D.   | Class | O.D. | Class | O.D.  |                  |     | lbs                                | kg  | lbs | kg  | lbs  | kg  |
|                  |                                | inches |       | mm   |       | mm    | inches           | mm  |                                    |     |     |     |      |     |
| 12 in.<br>300 mm | 150                            | 16.00  | 10    | 375  | 10    | 377   | 5.00             | 127 | 128                                | 58  | 88  | 40  | 82   | 37  |
|                  | —                              | —      | 16    | 383  | 16/20 | 403   | 5.00             | 127 | —                                  | —   | 96  | 44  | 119  | 54  |
|                  | 300                            | 16.50  | 25    | 400  | 30    | 417   | 5.63             | 143 | 154                                | 70  | 128 | 58  | 155  | 70  |
|                  | —                              | —      | 40    | 417  | 40    | 431   | 5.63             | 143 | —                                  | —   | 155 | 70  | 178  | 81  |
| 14 in.<br>350 mm | 150                            | 17.63  | 10    | 437  | 10    | 420   | 5.88             | 149 | 170                                | 77  | 150 | 68  | 124  | 56  |
|                  | —                              | —      | 16    | 443  | 16/20 | 447,8 | 5.88             | 149 | —                                  | —   | 165 | 75  | 172  | 78  |
|                  | 300                            | 19.00  | 25    | 457  | 30    | 462   | 5.88             | 149 | 230                                | 104 | 190 | 86  | 199  | 90  |
|                  | —                              | —      | 40    | 474  | 40    | 474   | 5.88             | 149 | —                                  | —   | 222 | 100 | 226  | 103 |
| 16 in.<br>400 mm | 150                            | 20.13  | 10    | 488  | —     | —     | 7.13             | 181 | 270                                | 122 | 212 | 96  | —    | —   |
|                  | —                              | —      | 16    | 495  | 16/20 | 507   | 7.13             | 181 | —                                  | —   | 222 | 101 | 260  | 118 |
|                  | 300                            | 21.13  | 25    | 514  | 30    | 521   | 7.13             | 181 | 329                                | 149 | 278 | 126 | 296  | 134 |
|                  | —                              | —      | 40    | 546  | 40    | 531   | 7.13             | 181 | —                                  | —   | 361 | 164 | 321  | 146 |
| 18 in.<br>450 mm | 150                            | 21.50  | —     | —    | 10    | 538   | 8.31             | 211 | 296                                | 134 | —   | —   | 268  | 122 |
|                  | —                              | —      | —     | —    | 16/20 | 572   | 8.31             | 211 | —                                  | —   | —   | —   | 376  | 171 |
| 20 in.<br>500 mm | 150                            | 23.75  | 10    | 593  | 10    | 593   | 8.31             | 211 | 349                                | 158 | 314 | 142 | 314  | 142 |
|                  | —                              | —      | 16    | 617  | 16/20 | 627   | 8.31             | 211 | —                                  | —   | 398 | 181 | 433  | 196 |
| 24 in.<br>600 mm | 150                            | 28.13  | 6     | 678  | 10    | 697   | 8.56             | 217 | 476                                | 216 | 326 | 148 | 403  | 183 |
|                  | —                              | —      | 10    | 695  | 16/20 | 731   | 8.56             | 217 | —                                  | —   | 395 | 179 | 547  | 248 |
|                  | —                              | —      | 16    | 734  | —     | —     | 8.56             | 217 | —                                  | —   | 560 | 254 | —    | —   |
| 28 in.<br>700 mm | 150                            | 32.63  | 6     | 783  | 10    | 807   | 10.13            | 257 | 704                                | 319 | 491 | 223 | 662  | 282 |
|                  | —                              | —      | 10    | 810  | 16    | 833   | 10.13            | 257 | —                                  | —   | 639 | 290 | 770  | 349 |
|                  | —                              | —      | 16    | 804  | 20    | 852   | 10.13            | 257 | —                                  | —   | 606 | 275 | 881  | 399 |
| 30 in.<br>750 mm | 150                            | 34.25  | —     | —    | 10    | 867   | 10.50            | 267 | 773                                | 351 | —   | —   | 754  | 342 |
|                  | —                              | —      | —     | —    | 16    | 893   | 10.50            | 267 | —                                  | —   | —   | —   | 921  | 418 |
|                  | —                              | —      | —     | —    | 20    | 914   | 10.50            | 267 | —                                  | —   | —   | —   | 1028 | 480 |
| 32 in.<br>800 mm | 150                            | 36.75  | 6     | 890  | 10    | 917   | 10.50            | 267 | 857                                | 389 | 566 | 257 | 745  | 338 |
|                  | —                              | —      | 10    | 917  | 16    | 942   | 10.50            | 267 | —                                  | —   | 745 | 338 | 916  | 416 |
|                  | —                              | —      | 16    | 911  | 20    | 974   | 10.50            | 267 | —                                  | —   | 705 | 320 | 1141 | 518 |

- Notes:
1. Consult factory for other ANSI, DIN, or JIS class flanges.
  2. Consult factory for other sizes.
  3. Weights do not include studs and nuts.
  4. If 3-D flow tag is attached to a KBA Rupture Disc, a millslot is required in the holder.

Please supply the following information when ordering.

## ZAP Rupture Disc

Description: ZAP Continental Rupture Disc

Quantity: \_\_\_\_\_ Size: \_\_\_\_\_

Material: \_\_\_\_\_

Inlet and outlet rings: 316SS (Note 1) \_\_\_\_\_

Manufacturing Range: Zero

Rated Burst Pressure:  
\_\_\_\_\_ psig or barg @ \_\_\_\_\_ °F or °C

Manufacturing Number for previously supplied  
rupture disc: \_\_\_\_\_

Options:

Code testing: \_\_\_\_\_

Teflon liner: Inlet \_\_\_\_\_

Protective cover: Outlet \_\_\_\_\_

B.D.I. Alarm: \_\_\_\_\_  
*A millslot is required in the holder to accommodate B.D.I.*

3-D tag to be attached to rupture disc: \_\_\_\_\_  
*A millslot is required in the holder to accommodate a 3-D tag.*

Other requirements: \_\_\_\_\_

## ZAP Rupture Disc Holder

Description: ZAP Insert Continental Rupture Disc Holder  
to mate with \_\_\_\_\_ class flanges (Note 3)

Quantity: \_\_\_\_\_ Size: \_\_\_\_\_

Material: Inlet \_\_\_\_\_ Outlet \_\_\_\_\_

Options: (Note 4) \_\_\_\_\_

Accessories: (Note 5) \_\_\_\_\_

Other Requirements: \_\_\_\_\_

## KBA Rupture Disc

Description: KBA Continental Rupture Disc

Quantity: \_\_\_\_\_ Size: \_\_\_\_\_

Material: \_\_\_\_\_

Manufacturing Range: Zero

Rated Burst Pressure:  
\_\_\_\_\_ psig or barg @ \_\_\_\_\_ °F or °C

Manufacturing Number for previously supplied  
rupture disc: \_\_\_\_\_

Options:

Code testing: \_\_\_\_\_

Teflon liner: Inlet \_\_\_\_\_

Protective cover: Outlet \_\_\_\_\_

Universal B.D.I. Alarm: \_\_\_\_\_

3-D tag to be attached to rupture disc: (Note 2) \_\_\_\_\_  
*A millslot is required in the holder to accommodate a 3-D tag.*

Other requirements: \_\_\_\_\_

## KBA Rupture Disc Holder

Description: KBA Insert Continental Rupture Disc Holder  
to mate with \_\_\_\_\_ class flanges (Note 3)

Quantity: \_\_\_\_\_ Size: \_\_\_\_\_

Material: Inlet \_\_\_\_\_ Outlet \_\_\_\_\_

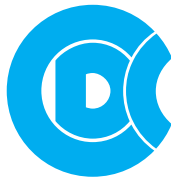
Options: (Note 4) \_\_\_\_\_

Accessories: (Note 5) \_\_\_\_\_

Other Requirements: \_\_\_\_\_

Notes:

1. 316SS rings are standard (ZAP only). Specify other material when required.
2. Tag may not be attached to some KBA low burst pressure rupture discs.
3. Specify class or flange that holder is to mate with, i.e., ANSI 150, DIN 10/40, or JIS 10/20K.
4. Gauge tap, special facing, Teflon coating.
5. Nipple and tee, excess flow valve, pressure gauge, spare knife blade, gasket.



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Corporation**

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