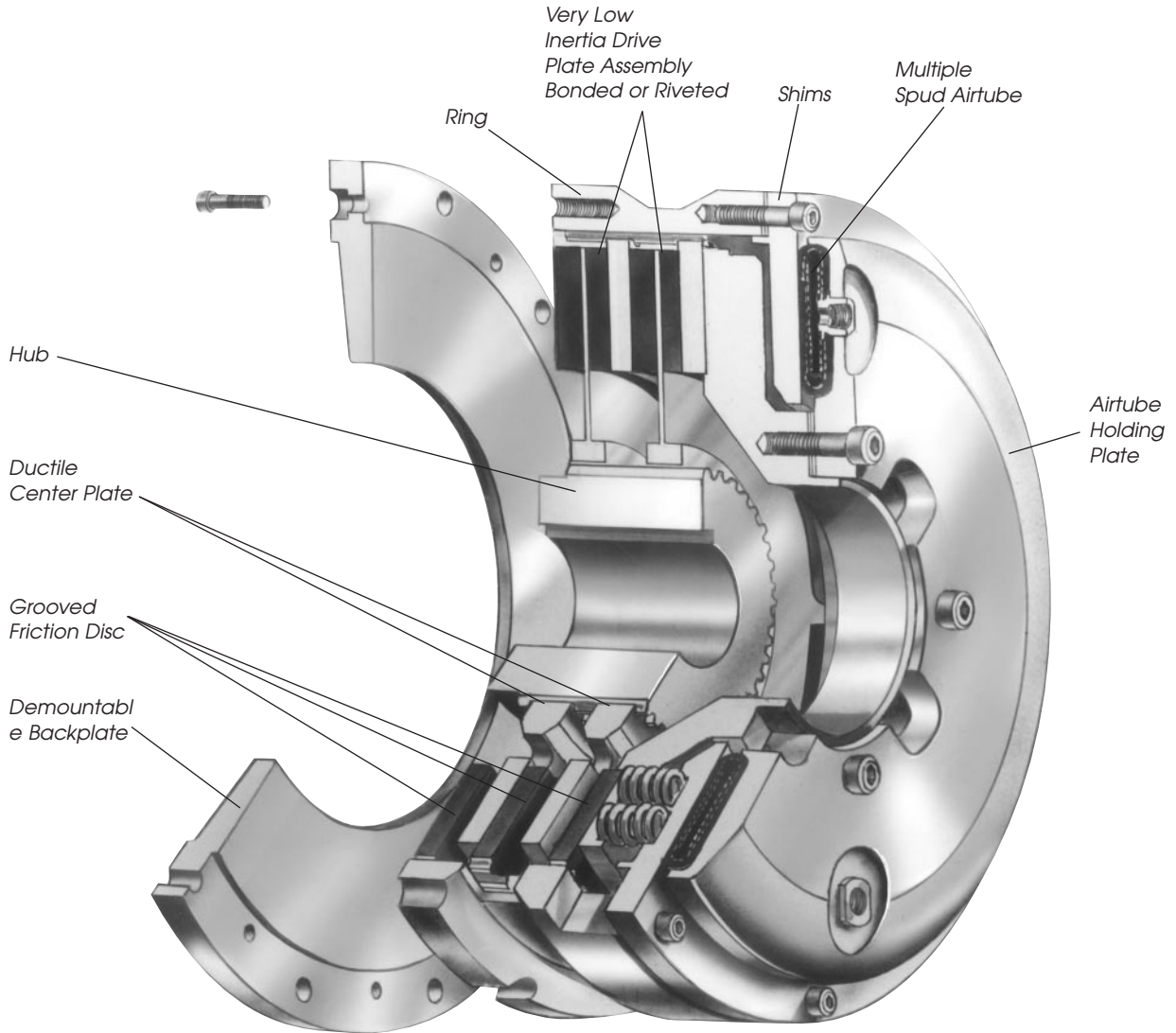


# Air Tube Disc Clutches and Brakes

## Spring-Set Air Release Brakes



Wichita Spring-Set Air Release Brakes are ideal for fail safe protection of process equipment. Constructed of high strength cast iron, this improved design has thick friction discs for longer wear life. The fast acting air-tube design assures quick, smooth stops.

- No lubrication
- No adjustment
- Available in vertical mount
- Quick, simple installation
- Explosion proof design

### Selection requirements

The selection of a Low Inertia Brake is based on:

1. Torque required to stop a load.
2. Friction area necessary to absorb rotational energy.
3. Contact velocity of rotating discs.
4. Maximum bore capacity of unit.

## Selection

### Low Inertia Spring-Set Brake

To properly select a brake, the total rotating inertia, WR<sup>2</sup>, must be reflected to the brakeshaft.

#### Application Data:

Refer to page 43, except, cyclic operation—7 rpm, and 218 Very Low Inertia Clutch.

Alternate Shaft WR<sup>2</sup> referred to clutch shaft =

$$(\text{Alternate Shaft WR}^2) \left( \frac{\text{Alternate Shaft rpm}}{\text{Clutch Brake Shaft rpm}} \right)^2$$

WR<sup>2</sup> referred to clutch-brake shaft

$$= (39,091) \left( \frac{30}{204} \right)^2$$

WR<sup>2</sup> referred to clutch-brake shaft

$$= 845.4 \text{ lb.ft.}^2 @ 204 \text{ rpm}$$

$$\text{Crank Shaft WR}^2 = 845.4 \text{ lb.ft.}^2$$

$$\text{Clutch-Brake Shaft WR}^2 = 78.2 \text{ lb.ft.}^2$$

$$\text{Clutch Hub and Drive Plate WR}^2 \text{ from Specification Table} = 14.7 \text{ lb.ft.}^2 \text{ (page 57)}$$

$$\text{Est. Brake WR}^2 = 14.7 \text{ lb.ft.}^2$$

$$\text{Est. Total WR}^2 = 953.0 \text{ lb.ft.}^2$$

#### Brake Selection:

Stopping angle of crank shaft

$$= 120^\circ = \varnothing_b \text{ Use } 90^\circ \text{ for calculation}$$

#### Estimated time to stop:

$$t = \left( \frac{\varnothing_b}{360^\circ} \right) \left( \frac{60}{\text{crank shaft rpm}} \right)$$

$$= \left( \frac{90}{360} \right) \left( \frac{60}{30} \right) = .5 \text{ sec.}$$

Deceleration Torque

$$= (12) \left( \frac{\text{WR}^2}{32.2} \right) \left( \frac{\text{clutch-brake rpm}}{(9.5) (t)} \right)$$

$$= (12) \left( \frac{953}{32.2} \right) \left( \frac{204}{(9.5) (.5)} \right)$$

$$= 15,250 \text{ lb.in.}$$

HP/100 rpm

$$= \frac{15,250}{630} = 24 \text{ HP/100 rpm}$$

### From duty chart (page 31) “Group B” for spring set brake (SS):

214 SS Brake is rated @ 28 HP/100 rpm  
 90% torque rating = 24,800 lb.in.

WR<sup>2</sup> of 214 SS VLI Brake = 4.5 lb.ft.<sup>2</sup>, therefore deceleration torque calculation is correct.

\*Average heat horsepower to clutch & brake.

$$\text{Ave. heat HP} = \frac{(\text{Total WR}^2) (\text{rpm}^2) (\text{cpm})}{1.9 \times 10^8}$$

$$= \frac{(953) (41,616) (7)}{1.9 \times 10^8} = 1.45 \text{ HP}$$

\*Check with factory for heat capacity.

#### Note:

This application example is for preliminary sizing only. Contact a Wichita Sales Engineer or the factory for final selection.

# Air Tube Disc Clutches and Brakes

## Spring-Set Air Release Brakes

- (1) For high speed cyclic duty
- (2) Slow speed cyclic duty
- (3) Holding and service brakes

## Specifications

| Model Size<br>ATD- | Slip Torque Lb. In. .3 CF*<br>Minimum Air-Tube Pressure<br>PSI For Released Brake |         |         |
|--------------------|---|---------|---------|
|                    | 60 (1)  | 75(2)   | 90 (3)  |
| 106                | 2,225   | 2,900   | 3,700   |
| 206                | 4,300   | 5,600   | 7,200   |
| 108                | 3,700   | 4,800   | 6,200   |
| 208                | 7,100   | 9,100   | 12,000  |
| 111                | 8,200   | 10,500  | 11,600  |
| 211                | 15,600  | 20,000  | 26,000  |
| 114                | 14,500  | 18,600  | 24,700  |
| 214                | 27,600  | 35,400  | 46,300  |
| 118                | 31,400  | 40,400  | 51,600  |
| 218                | 60,000  | 77,000  | 100,000 |
| 124H               | 75,500  | 111,000 | —       |
| 224H               | 137,000   | 216,000 | —       |
| 130H               | 162,200   | 211,700 | 260,500 |
| 230H               | 310,000   | 404,500 | 495,500 |
| 136                | 254,500   | 300,000 | 400,000 |
| 236                | 477,500   | 564,000 | 760,000 |
| 142                | 425,000   | —       | —       |
| 242                | 796,000   | —       | —       |
| 148                | 698,250   | —       | —       |
| 248                | 1,335,000   | —       | —       |
| 260                | 3,255,000   | —       | —       |
| 360                | 4,921,000   | —       | —       |

\* Max. recommended air pressure – 130 PSI

| Model No.  |   |
|------------|---|
| Model Size | Model Type                                    |
| ATD-xxx    | LI-SSB for Low Inertia Spring Set Brake       |
| ATD-xxx    | VLI-SSB for Very Low Inertia Spring Set Brake |

| Model Size<br>ATD- | Swept Friction Area<br>In <sup>2</sup> | Max. Bore Rect. Key Inches | Air Volume-Inches <sup>3</sup> |              | Recommended Clearances Inches |
|--------------------|--|----------------------------|--------------------------------|--------------|-------------------------------|
|                    |  |                            | New Linings                    | Worn Linings |                               |
| 106                | 39                                     | 2                          | 5                              | 12           | 1/16-3/32                     |
| 206                | 78                                     | 2                          | 6                              | 12           | 1/16-3/32                     |
| 108                | 56                                     | 2-3/8                      | 6                              | 18           | 1/16-1/8                      |
| 208                | 112                                    | 2-3/8                      | 7                              | 18           | 3/32-5/32                     |
| 111                | 114                                    | 2-5/8                      | 10                             | 30           | 1/16-1/8                      |
| 211                | 228                                    | 2-5/8                      | 12                             | 30           | 3/32-5/32                     |
| 114                | 158                                    | 4-1/8                      | 15                             | 45           | 1/16-1/8                      |
| 214                | 316                                    | 4-1/8                      | 18                             | 45           | 3/32-5/32                     |
| 118                | 264                                    | 5-1/4                      | 26                             | 80           | 1/16-1/8                      |
| 218                | 528                                    | 5-1/4                      | 30                             | 80           | 3/32-5/32                     |
| 124H               | 574                                    | 7                          | 60                             | 165          | 3/32-5/32                     |
| 224H               | 1,148                                  | 7                          | 70                             | 165          | 1/8-3/16                      |
| 130H               | 827                                    | 8-1/2                      | 100                            | 240          | 3/32-5/32                     |
| 230H               | 1,654                                  | 8-1/2                      | 125                            | 240          | 1/8-3/16                      |
| 136                | 1,150                                  | 10-1/2                     | 150                            | 375          | 3/32-5/32                     |
| 236                | 2,300                                  | 10-1/2                     | 170                            | 375          | 1/8-3/16                      |
| 142                | 1,400                                  | 14                         | 180                            | 525          | 1/8-3/16                      |
| 242                | 2,800                                  | 14                         | 200                            | 525          | 5/32-7/32                     |
| 148                | 2,010                                  | 18                         | 380                            | 925          | 1/8-3/16                      |
| 248                | 4,020                                  | 18                         | 450                            | 925          | 5/32-7/32                     |
| 260                | 7,230                                  | 19                         | 625                            | 1750         | 3/16-5/16                     |
| 360                | 10,845                                 | 19                         | 750                            | 1750         | 1/4-3/8                       |

Note: Very Low Spring Set Brakes are available in sizes from ATD-108 to ATD-224H.



**\*Do Not Exceed 90% Of Slip Torque Ratings —  
 Maximum Horsepower Per 100 RPM Release Pressure - PSI**

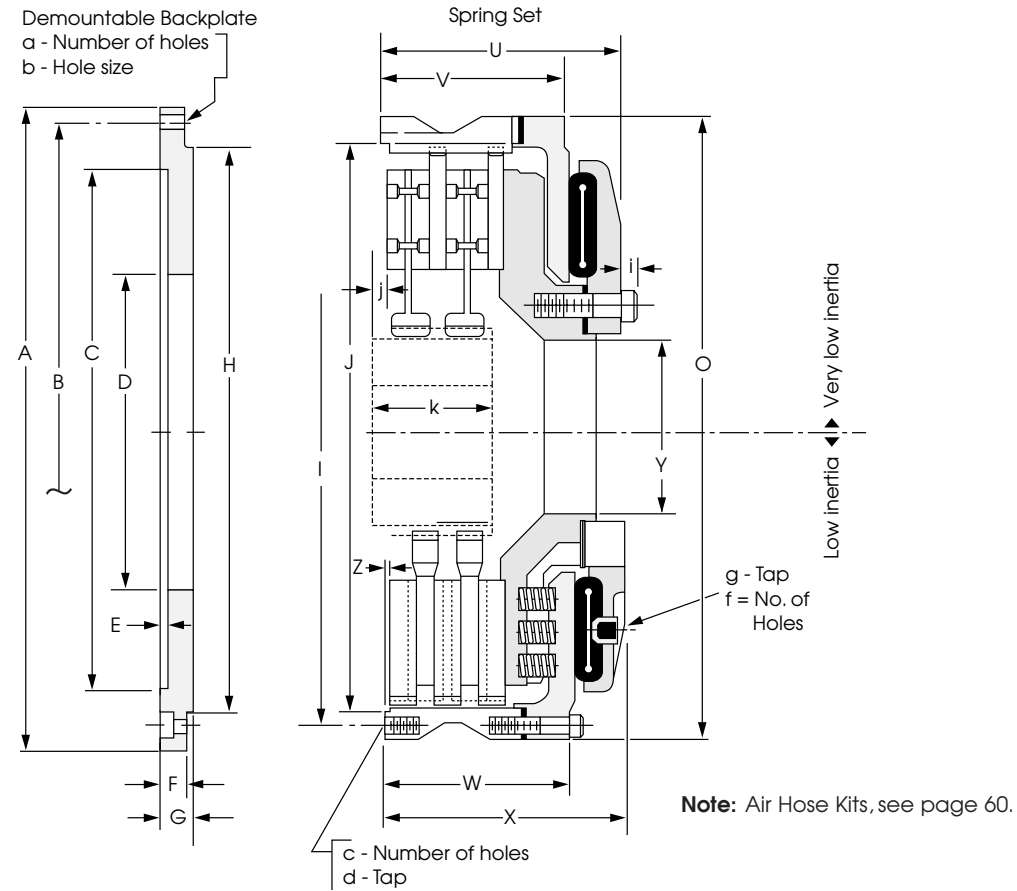
| Model<br>Size<br>ATD- | 60 Duty |      |      |      | 75 Duty |      |     |     | 100 Duty |      |     |      |
|-----------------------|---------|------|------|------|---------|------|-----|-----|----------|------|-----|------|
|                       | A       | B    | C    | D    | A       | B    | C   | D   | A        | B    | C   | D    |
| 106                   | 3       | 2.3  | 1.2  | .6   | 4       | 3    | 1.5 | .8  | 5        | 3.8  | 2   | 1    |
| 206                   | 6       | 4.4  | 2.3  | 1.1  | 8       | 5.7  | 3   | 1.5 | 10       | 7.4  | 3.9 | 2    |
| 108                   | 5.3     | 3.8  | 2    | 1    | 7       | 5    | 2.6 | 1.3 | 9        | 6.3  | 3.3 | 1.6  |
| 208                   | 10      | 7.3  | 3.8  | 2    | 13      | 9.3  | 5   | 2.5 | 17       | 12.3 | 6.5 | 3.2  |
| 111                   | 11.7    | 8.4  | 4.4  | 2.2  | 15      | 10.7 | 5.7 | 2.8 | 16.6     | 12   | 6.3 | 3.1  |
| 211                   | 22      | 16   | 8.4  | 4.2  | 28.6    | 20.5 | 11  | 5.4 | 37       | 26   | 14  | 7    |
| 114                   | 20      | 15   | 8    | 4    | 26.6    | 19   | 10  | 5   | 35       | 25   | 13  | 6.7  |
| 214                   | 39      | 28   | 15   | 7.5  | 50      | 36   | 19  | 9.5 | 66       | 47   | 25  | 12.5 |
| 118                   | 45      | 32   | 17   | 8.5  | 58      | 41   | 22  | 11  | 74       | 53   | 28  | 14   |
| 218                   | 86      | 61   | 32   | 16   | 110     | 79   | 41  | 21  | 143      | 102  | 54  | 27   |
| 124H                  | 108     | 77   | 41   | 20   | 158     | 114  | 60  | 30  | 183      | 131  | 69  | 34   |
| 224H                  | 196     | 140  | 74   | 37   | 308     | 222  | 117 | 58  | 346      | 248  | 131 | 65   |
| 130H                  | 232     | 166  | 88   | 44   | 303     | 217  | 115 | 57  | 372      | 267  | 141 | 70   |
| 230H                  | 443     | 318  | 167  | 84   | 578     | 415  | 218 | 110 | 710      | 508  | 268 | 134  |
| 136                   | 363     | 260  | 137  | 68   | 660     | 475  | 250 | 125 | —        | —    | —   | —    |
| 236                   | 560     | 400  | 210  | 105  | 1050    | 755  | 400 | 200 | —        | —    | —   | —    |
| 142                   | 610     | 435  | 230  | 115  | —       | —    | —   | —   | —        | —    | —   | —    |
| 242                   | 1140    | 815  | 430  | 215  | —       | —    | —   | —   | —        | —    | —   | —    |
| 148                   | 1000    | 715  | 375  | 190  | —       | —    | —   | —   | —        | —    | —   | —    |
| 248                   | 1910    | 1370 | 720  | 360  | —       | —    | —   | —   | —        | —    | —   | —    |
| 260                   | 4650    | 2340 | 1760 | 880  | —       | —    | —   | —   | —        | —    | —   | —    |
| 360                   | 7030    | 4050 | 2660 | 1330 | —       | —    | —   | —   | —        | —    | —   | —    |

| Model<br>Size<br>ATD- | Low Inertia Spring Set |                            |   |                        | Very Low Inertia Spring Set |                            |   |                        |
|-----------------------|------------------------|----------------------------|---|------------------------|-----------------------------|----------------------------|---|------------------------|
|                       | Total<br>Wt.<br>Lbs.   | HUB<br>& CP<br>Wt.<br>Lbs. | HUB<br>& CP<br>WR <sup>2</sup><br>#Ft. <sup>2</sup> | Effec.<br>Wt.†<br>Lbs. | Total<br>Wt.<br>Lbs.        | HUB<br>& DP<br>Wt.<br>Lbs. | HUB<br>& DP<br>WR <sup>2</sup><br>#Ft. <sup>2</sup> | Effec.<br>Wt.†<br>Lbs. |
| 106                   | 36.5                   | 6.40                       | .24   | 14.0                   | —                           | —                          | —   | —                      |
| 206                   | 49.5                   | 12.17                      | .46   | 18.34                  | —                           | —                          | —   | —                      |
| 108                   | 63.23                  | 10.0                       | .55   | 26.78                  | 59.14                       | 6.7                        | .24   | 16.53                  |
| 208                   | 81.5                   | 16.0                       | .72   | 32.03                  | 77.16                       | 12.9                       | .44   | 24.06                  |
| 111                   | 96.96                  | 15.0                       | 1.35  | 40.75                  | 97.55                       | 9.6                        | .59   | 47.55                  |
| 211                   | 136.0                  | 30.0                       | 2.60  | 59.05                  | 133.3                       | 18.6                       | 1.15  | 66.35                  |
| 114                   | 157.6                  | 38                         | 5.6   | 72.3                   | 156.6                       | 20.4                       | 2.25  | 77.3                   |
| 214                   | 209.6                  | 65                         | 11  | 95.3                   | 211.6                       | 39.8                       | 4.44  | 105.3                  |
| 118                   | 322                    | 71                         | 14.5  | 168                    | 316.4                       | 40.0                       | 7.7   | 147                    |
| 218                   | 444                    | 113                        | 27.6  | 215                    | 420.6                       | 75.0                       | 14.7  | 233                    |
| 124H                  | 690                    | 131                        | 50  | 377                    | 657.5                       | 84.0                       | 28.5  | 365                    |
| 224H                  | 874                    | 260                        | 101   | 482                    | 818                         | 150                        | 54.9  | 459                    |
| 130H                  | 1089                   | 212                        | 129   | 630                    | —                           | —                          | —   | —                      |
| 230H                  | 1450                   | 402                        | 244   | 849                    | —                           | —                          | —   | —                      |
| 136                   | 1814                   | 351                        | 325   | 1127                   | —                           | —                          | —   | —                      |
| 236                   | 2780                   | 784                        | 705   | 1444                   | —                           | —                          | —   | —                      |
| 142                   | 2994                   | 680                        | 705   | 1389                   | —                           | —                          | —   | —                      |
| 242                   | 3601                   | 1197                       | 1385  | 1784                   | —                           | —                          | —   | —                      |
| 148                   | 5070                   | 1101                       | 1785  | 2740                   | —                           | —                          | —   | —                      |
| 248                   | 6501                   | 1942                       | 3335  | 3426                   | —                           | —                          | —   | —                      |
| 260                   | 11549                  | 2567                       | 7077  | 5836                   | —                           | —                          | —   | —                      |
| 360                   | 13739                  | 3870                       | 10615   | 6318                   | —                           | —                          | —   | —                      |

† Weight of internal clutch parts for use in calculating clutch engagement time.

B

## Spring-Set Air Release Brakes



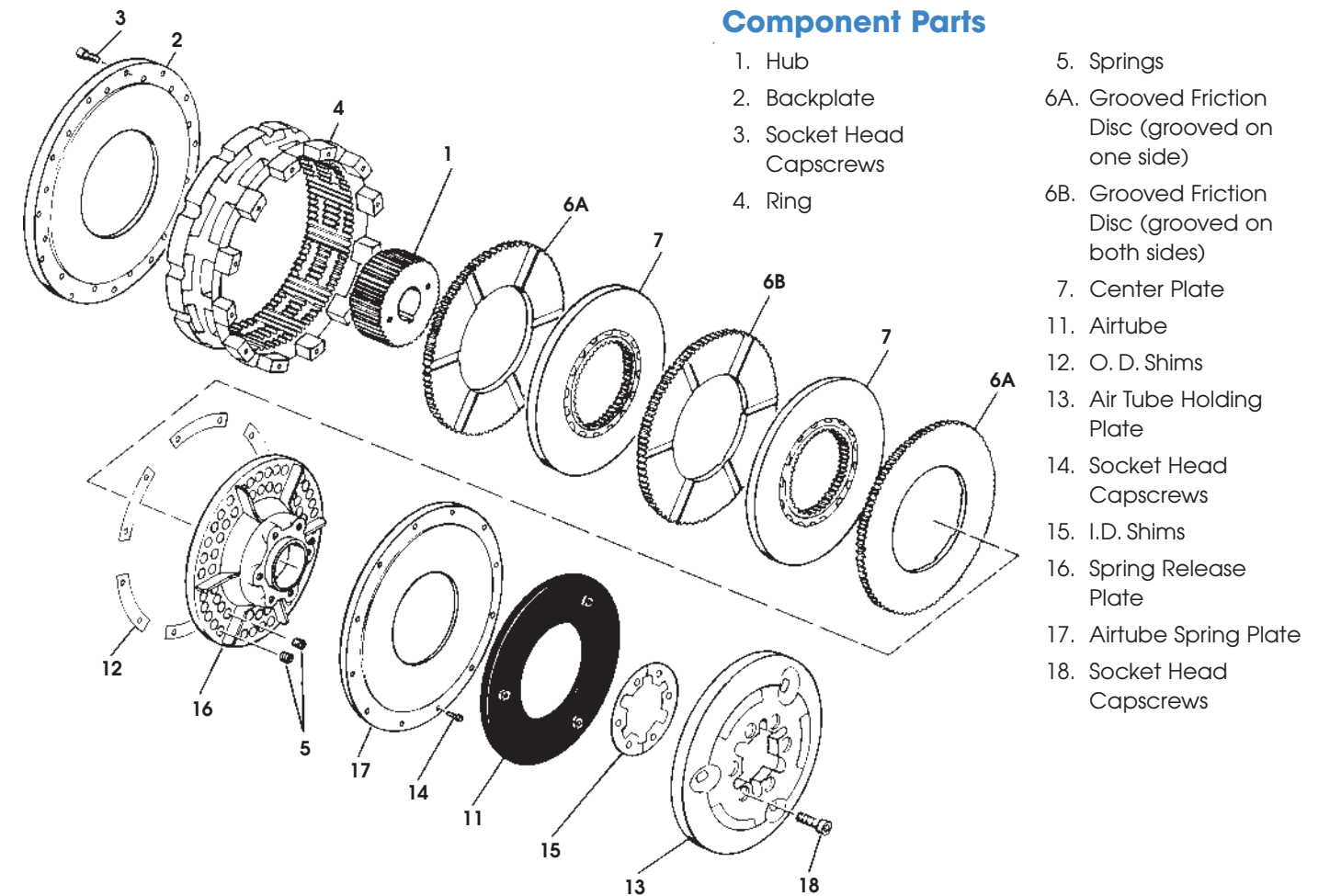
### Dimensions

(Consult factory for drawing before final layout.)

| Model No. ATD- | A     | B      | C             | D     | E   | F     | G    | H             | I      | J             | O     | U     |
|----------------|-------|--------|---------------|-------|-----|-------|------|---------------|--------|---------------|-------|-------|
| 106            | 8.75  | 8.000  | 7.377/7.379   | 4.19  | .06 | .562  | .69  | 7.373/7.375   | 8.000  | 7.377/7.379   | 8.81  | —     |
| 206            | 8.75  | 8.000  | 7.377/7.379   | 4.19  | .06 | .562  | .69  | 7.373/7.375   | 8.000  | 7.377/7.379   | 8.81  | —     |
| 108            | 12.12 | 11.125 | 8.375/8.378   | 5.38  | .25 | .875  | 1.00 | 9.281/9.284   | 10.187 | 9.285/9.288   | 11.13 | 5.06  |
| 208            | 12.12 | 11.125 | 8.375/8.378   | 5.38  | .25 | .875  | 1.00 | 9.281/9.284   | 10.187 | 9.285/9.288   | 11.13 | 6.31  |
| 111            | 16.00 | 14.750 | 11.375/11.378 | 7.00  | .38 | 1.125 | 1.25 | 12.370/12.373 | 13.500 | 12.375/12.378 | 14.75 | 5.00  |
| 211            | 16.00 | 14.750 | 11.375/11.378 | 7.00  | .38 | 1.125 | 1.25 | 12.370/12.373 | 13.500 | 12.375/12.378 | 14.75 | 7.06  |
| 114            | 18.75 | 17.500 | 14.375/14.378 | 9.43  | .38 | 1.125 | 1.25 | 15.121/15.124 | 16.250 | 15.125/15.128 | 17.50 | 6.81  |
| 214            | 18.75 | 17.500 | 14.375/14.378 | 9.43  | .38 | 1.125 | 1.25 | 15.121/15.124 | 16.250 | 15.125/15.128 | 17.50 | 8.69  |
| 118            | 23.25 | 22.000 | 18.250/18.253 | 12.50 | .38 | 1.125 | 1.25 | 19.495/19.498 | 20.750 | 19.500/19.503 | 22.00 | 7.44  |
| 218            | 23.25 | 22.000 | 18.250/18.253 | 12.50 | .38 | 1.125 | 1.25 | 19.495/19.498 | 20.750 | 19.500/19.503 | 22.00 | 9.69  |
| 124H           | 30.00 | 28.750 | 24.375/24.378 | 14.50 | .25 | 1.125 | 1.25 | 25.497/25.499 | 26.750 | 25.500/25.503 | 29.00 | 8.38  |
| 224H           | 30.00 | 28.750 | 24.375/24.378 | 14.50 | .25 | 1.125 | 1.25 | 25.497/25.499 | 26.750 | 25.500/25.503 | 29.00 | 10.93 |
| 130H           | 37.00 | 35.500 | 30.375/30.378 | 19.25 | .25 | 1.250 | 1.43 | 32.118/32.123 | 33.250 | 32.125/32.128 | 34.75 | —     |
| 230H           | 37.00 | 35.500 | 30.375/30.378 | 19.25 | .25 | 1.250 | 1.43 | 32.118/32.123 | 33.250 | 32.125/32.128 | 34.75 | —     |
| 136            | 43.50 | 42.000 | 36.375/36.378 | 23.63 | .25 | 1.500 | 1.75 | 38.120/38.123 | 39.500 | 38.125/38.128 | 41.00 | —     |
| 236            | 43.50 | 42.000 | 36.375/36.378 | 23.63 | .25 | 1.500 | 1.75 | 38.120/38.123 | 39.500 | 38.125/38.128 | 41.00 | —     |
| 142            | 52.00 | 49.250 | 44.625/44.628 | 29.50 | .25 | 1.500 | 1.75 | 44.995/44.998 | 46.500 | 45.000/45.003 | 49.00 | —     |
| 242            | 52.00 | 49.250 | 44.625/44.628 | 29.50 | .25 | 1.500 | 1.75 | 44.995/44.998 | 46.500 | 45.000/45.003 | 49.00 | —     |
| 148            | 61.00 | 58.000 | 52.000/52.005 | 32.00 | .25 | 1.500 | 1.75 | 51.993/51.998 | 54.000 | 52.000/52.005 | 56.75 | —     |
| 248            | 61.00 | 58.000 | 52.000/52.005 | 32.00 | .25 | 1.500 | 1.75 | 51.993/51.998 | 54.000 | 52.000/52.005 | 56.75 | —     |
| 260            | —     | —      | 62.750/62.760 | 36.00 | .25 | —     | —    | 62.740/62.745 | 66.500 | 62.750/62.760 | 70.50 | —     |
| 360            | —     | —      | 62.750/62.760 | 36.00 | .25 | —     | —    | 62.740/62.745 | 66.500 | 62.750/62.760 | 70.50 | —     |

Notes: Very Low Inertia Spring Set Brakes are available in sizes from ATD-108 to ATD-224H. See page 34.  
 For mounting, use socket head cap screws conforming to the ASTM-574-97a.

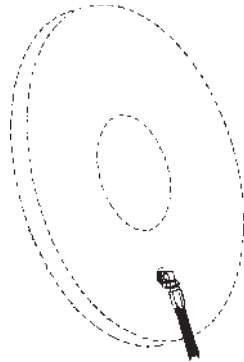
### Component Parts



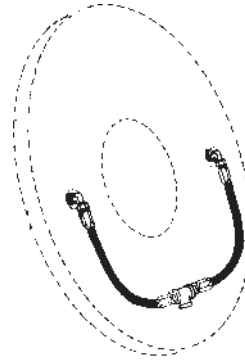
| Model No. ATD- | V    | W     | X     | Y     | Z   | a  | b      | c  | d       | f | g         | j   | k     |
|----------------|------|-------|-------|-------|-----|----|--------|----|---------|---|-----------|-----|-------|
| 106            | —    | 3.56  | 4.88  | 2.00  | .06 | 4  | 11/32  | 4  | 5/16-18 | 2 | 1/4"NPT   | .69 | 2.00  |
| 206            | —    | 4.69  | 6.19  | 2.00  | .06 | 4  | 11/32  | 4  | 5/16-18 | 2 | 1/4"NPT   | .69 | 3.25  |
| 108            | 3.81 | 3.69  | 4.94  | 1.95  | .13 | 6  | 17/32  | 6  | 1/2-13  | 2 | 1/2" NPT  | .50 | 1.50  |
| 208            | 5.06 | 4.88  | 6.13  | 1.95  | .13 | 6  | 17/32  | 6  | 1/2-13  | 2 | 1/2" NPT  | .50 | 2.87  |
| 111            | 4.00 | 3.94  | 5.25  | 3.02  | .13 | 6  | 21/32  | 6  | 5/8-11  | 2 | 1/2" NPT  | .75 | 2.00  |
| 211            | 5.75 | 5.63  | 6.63  | 3.02  | .13 | 6  | 21/32  | 6  | 5/8-11  | 2 | 1/2" NPT  | .75 | 3.75  |
| 114            | 4.63 | 4.56  | 6.63  | 3.88  | .13 | 8  | 21/32  | 8  | 5/8-11  | 2 | 1/2" NPT  | .88 | 2.25  |
| 214            | 6.69 | 6.56  | 8.56  | 3.88  | .13 | 8  | 21/32  | 8  | 5/8-11  | 2 | 1/2" NPT  | .88 | 4.25  |
| 118            | 5.13 | 5.63  | 7.88  | 4.88  | .13 | 12 | 21/32  | 12 | 5/8-11  | 3 | 1/2" NPT  | .81 | 2.75  |
| 218            | 7.44 | 7.31  | 9.56  | 4.88  | .13 | 12 | 21/32  | 12 | 5/8-11  | 3 | 1/2" NPT  | .81 | 4.75  |
| 124H           | 6.13 | 5.88  | 8.13  | 8.25  | .13 | 12 | 21/32  | 12 | 5/8-11  | 3 | 1/2" NPT  | .56 | 3.13  |
| 224H           | 8.50 | 8.38  | 10.81 | 8.25  | .13 | 12 | 21/32  | 12 | 5/8-11  | 3 | 1/2" NPT  | .56 | 5.13  |
| 130H           | —    | 7.13  | 10.00 | 8.25  | .19 | 18 | 25/32  | 18 | 3/4-10  | 4 | 1/2" NPT  | .88 | 5.00  |
| 230H           | —    | 10.38 | 13.25 | 8.25  | .19 | 18 | 25/32  | 18 | 3/4-10  | 4 | 1/2" NPT  | .88 | 7.13  |
| 136            | —    | 7.00  | 11.19 | 12.75 | .19 | 18 | 25/32  | 18 | 3/4-10  | 4 | 1/2" NPT  | .88 | 4.25  |
| 236            | —    | 10.25 | 14.44 | 12.75 | .19 | 18 | 25/32  | 18 | 3/4-10  | 4 | 1/2" NPT  | .88 | 7.50  |
| 142            | —    | 8.38  | 11.25 | 20.50 | .25 | 24 | 1-1/32 | 24 | 1-8     | 4 | 1/2" NPT  | .75 | 5.62  |
| 242            | —    | 12.13 | 15.00 | 20.50 | .25 | 24 | 1-1/32 | 24 | 1-8     | 4 | 1/2" NPT  | .75 | 7.50  |
| 148            | —    | 9.56  | 13.93 | 19.00 | .25 | 24 | 1-1/32 | 24 | 1-8     | 4 | 1/2" NPT1 | .00 | 6.00  |
| 248            | —    | 13.88 | 18.25 | 19.00 | .25 | 24 | 1-1/32 | 24 | 1-8     | 4 | 1/2" NPT1 | .00 | 8.75  |
| 260            | —    | 17.75 | 22.38 | 20.63 | .25 | 24 | 2" NC  | 24 | 2-4-1/2 | 6 | 1/2" NPT1 | .00 | 9.37  |
| 360            | —    | 22.25 | 26.88 | 20.63 | .25 | 24 | 2" NC  | 24 | 2-4-1/2 | 6 | 1/2" NPT1 | .00 | 14.13 |

# Air Tube Disc Clutches and Brakes

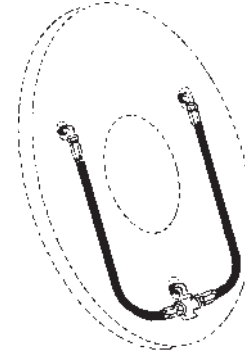
## Air Hose Kits



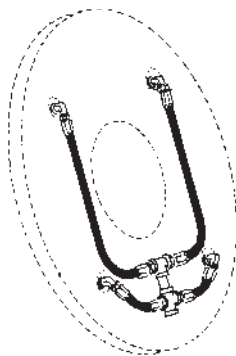
| Model | Part Number                            |
|-------|--|
| 8"    | 8-908-912-100-5<br>8-908-924-100-5 QRV |



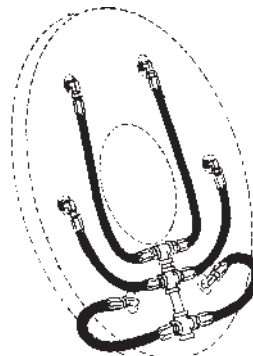
| Model | Part Number                            |
|-------|--|
| 6"    | 8-906-912-200-4<br>8-906-931-201-5 QRV |
| 8"    | 8-908-913-200-5<br>8-908-931-200-5     |
| 11"   | 8-911-913-200-5<br>8-911-931-200-5 QRV |
| 14"   | 8-914-913-200-5<br>8-914-921-200-5 QRV |
| 16"   | 8-916-913-200-5<br>8-916-921-200-5 QRV |



| Model | Part Number                            |
|-------|--|
| 18"   | 8-918-912-200-5<br>8-918-931-200-5 QRV |
| 21"   | 8-921-913-200-5<br>8-921-931-200-5 QRV |
| 24"   | 8-924-913-200-5<br>8-924-931-200-5 QRV |
| 27"   | 8-927-913-200-5<br>8-927-921-200-5 QRV |



| Model | Part Number                            |
|-------|--|
| 30"   | 8-930-913-400-5<br>8-930-931-400-5 QRV |
| 36"   | 8-936-913-400-6<br>8-936-931-400-6 QRV |
| 42"   | 8-942-913-400-6<br>8-924-931-400-6 QRV |
| 48"   | 8-948-912-400-6<br>8-948-923-400-6 QRV |



| Model | Part Number                            |
|-------|--|
| 60"   | 8-960-912-500-5<br>8-960-923-400-6 QRV |

Air hose kits contain all necessary parts (fittings, hoses and extensions) to completely plumb the brake air system.

Optional Quick Release Valves can replace elbows on most units (see page 61).

Roto-couplings (see page 61).

