

## Application

The Maximum-Duty (MD) Aerolock™ is commonly used with some of the most challenging materials including minerals, chemicals, fillers, food ingredients, filled pellets, PVC compound and diatomaceous earth. The MD is engineered for heavy to severe industrial service with pressure differentials up to 1.4 bar(g) [20 psi(g)] and/or temperatures of 121°C [250°F]. The ability to withstand severe shock loads and elevated temperatures make the MD Aerolock a “true maximum duty” performer.

## Design

The MD has a ten-blade, rotor that maintains a minimum three-blade labyrinth seal to minimize air leakage. The ten-blade rotor is available with flat or relieved tips in several rotor choices. The MD utilizes two tapered roller bearings on both the thrust and drive sides.



## Technical Data

### Standard Mechanical Specifications

- Round or square inlet/outlet flange patterns
- Cast iron or stainless steel housing; stainless steel for round models only
- Cast iron or stainless steel end plates
- Carbon steel or stainless steel rotors
- Outboard bearings

### Drive

- Right angle
- 460 volt , 3 - phase, inverter ready
- TEFC enclosure
- OSHA protective guarding

| Model Size                                 | 76             |               | 98             |               | 1110           |              | 1312              |                | 1514              |              | 1716              |              |
|--------------------------------------------|----------------|---------------|----------------|---------------|----------------|--------------|-------------------|----------------|-------------------|--------------|-------------------|--------------|
| Basic Valve Size mm [in]                   | 152 [6]        |               | 203 [8]        |               | 254 [10]       |              | 305 [12]          |                | 356 [14]          |              | 406 [16]          |              |
| Rotor - End Configuration                  | Closed         | Open          | Closed         | Open          | Closed         | Open         | Closed            | Open           | Closed            | Open         | Closed            | Open         |
| Displacement dm³/Rev. [ft³/Rev.]           | 2.3<br>[0.08]  | 2.5<br>[0.09] | 5.7<br>[0.20]  | 6.5<br>[0.23] | 11<br>[0.40]   | 12<br>[0.44] | 19.3<br>[0.68]    | 21.2<br>[0.75] | 30<br>[1.05]      | 33<br>[1.18] | 45<br>[1.59]      | 50<br>[1.78] |
| Maximum Allowable Torque<br>in Nm [lbf-in] | 621<br>[5,500] |               | 621<br>[5,500] |               | 621<br>[5,500] |              | 1,378<br>[12,200] |                | 1,378<br>[12,200] |              | 1,378<br>[12,200] |              |
| Unit Weight in kg [lb]<br>without drive    | 60<br>[132]    | 54<br>[118]   | 82<br>[180]    | 69<br>[152]   | 144<br>[317]   | 124<br>[273] | 209<br>[461]      | 173<br>[382]   | 293<br>[645]      | 245<br>[541] | 358<br>[789]      | 303<br>[667] |
| Unit Weight in kg [lb]<br>with drive       | 96<br>[213]    | 90<br>[199]   | 127<br>[280]   | 114<br>[252]  | 167<br>[370]   | 147<br>[326] | 238<br>[525]      | 202<br>[446]   | 325<br>[718]      | 278<br>[614] | 390<br>[862]      | 342<br>[755] |
| Inverter Ready Drive kW [HP]               | 0.55 [.75]     |               | 0.55 [0.75]    |               | 0.75 [1]       |              | 1.1 [1.5]         |                | 1.1 [1.5]         |              | 1.5 [2]           |              |

## Options

### Shaft Seals

- T3: Two quad ring Buna-N seals on a PTFE insert
- Packing: Spring loaded self-adjusting PTFE impregnated packing or optional graphite impregnated packing
- Air Purge: Compressed air diffuser followed by a standard seal

### Rotor (ten-blade)

- Standard flat or relieved tips
- Open-ended
- Hubbed (closed)
- Reduced Displacement
- Staggered Pocket

### Coating

- Chrome
- Tungsten carbide
- Nedox (FDA approved)
- Nickel (electroless)
- Other coatings available

### Flanges

- ANSI
- DIN
- Custom

### High Temperature

- Standard unit max. 121°C [250°F]
- High temperature option for max. 232°C [450°F]

### Drives

- Right angle or parallel
- Direct or indirect transmission (chain or belt)
- CE compliant

### Electrical

- Consult factory for NEC or ATEX classifications available

### Tool Kits

Required for field installation of seals and bearings. The tool kit can improve the Aerolock performance by reducing premature wear caused by improper seal and bearing installation.

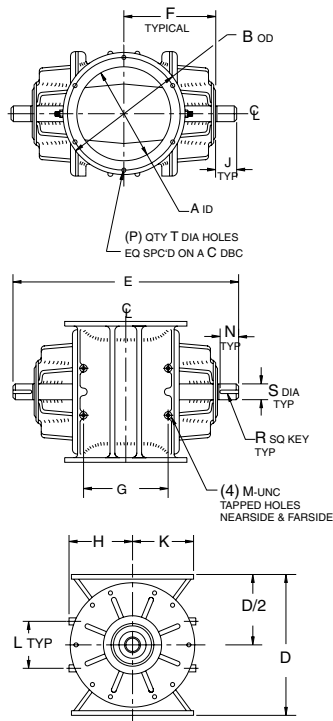
### MD tool kit includes:

- (1) seal driver tool for installing T3 seals and inserts
- (1) expansion tool to assist the installation of the T3 inserts
- (1) bearing driver tool for installing drive and thrust side bearings
- (1) shaft driver tool for installing machined shaft ring

### Accessories

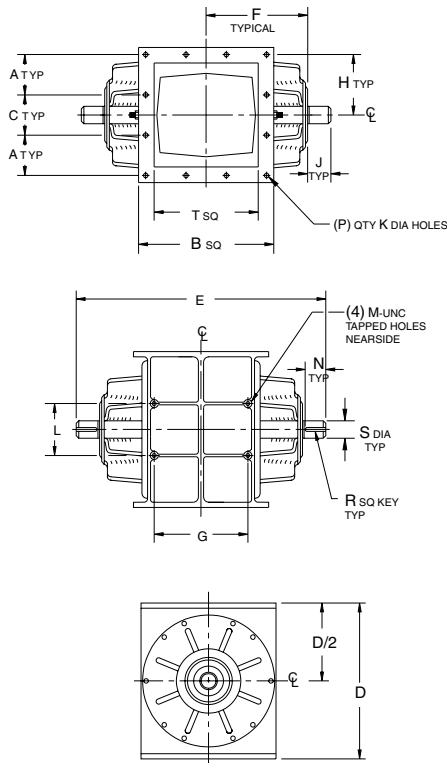
A complete line of accessories is available for Coperion K-Tron Aerolock rotary valves: variable frequency drive controller, disconnect panel, outlet adapters, shear protectors, maintenance slide gates, sight glasses, outlet guards, surge hoppers, floor support stands, flanged transitions and custom transitions allowing an easy fit into an existing facility.

**Dimensions of MD Round AeroLock™ mm [in]**



| Size | 76                   | 98                   | 1110                 | 1312               | 1514               | 1716               |
|------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|
| A    | 152<br>[6]           | 203<br>[8]           | 254<br>[10]          | 305<br>[12]        | 356<br>[14]        | 406<br>[16]        |
| B    | 216<br>[8.5]         | 267<br>[10.5]        | 330<br>[13]          | 394<br>[15.5]      | 445<br>[17.5]      | 508<br>[20]        |
| C    | 191<br>[7.5]         | 241<br>[9.5]         | 305<br>[12]          | 362<br>[14.25]     | 413<br>[16.25]     | 470<br>[18.5]      |
| D    | 267<br>[10.5]        | 305<br>[12]          | 381<br>[15]          | 457<br>[18]        | 533<br>[21]        | 610<br>[24]        |
| E    | 508<br>[20]          | 559<br>[22]          | 610<br>[24]          | 711<br>[28]        | 762<br>[30]        | 813<br>[32]        |
| F    | 192<br>[7.563]       | 218<br>[8.563]       | 243<br>[9.563]       | 273<br>[10.75]     | 299<br>[11.75]     | 324<br>[12.75]     |
| G    | 127<br>[5]           | 178<br>[7]           | 229<br>[9]           | 279<br>[11]        | 330<br>[13]        | 381<br>[15]        |
| H    | 111<br>[4.375]       | 143<br>[5.625]       | 172<br>[6.75]        | 203<br>[8]         | 238<br>[9.375]     | 267<br>[10.5]      |
| J    | 62<br>[2.438]        | 62<br>[2.438]        | 62<br>[2.438]        | 83<br>[3.25]       | 83<br>[3.25]       | 83<br>[3.25]       |
| K    | 108<br>[4.25]        | 140<br>[5.5]         | 168<br>[6.625]       | 200<br>[7.875]     | 232<br>[9.125]     | 260<br>[10.25]     |
| L    | 76<br>[3]            | 102<br>[4]           | 127<br>[5]           | 152<br>[6]         | 178<br>[7]         | 203<br>[8]         |
| M    | [0.375]              | [0.375]              | [0.375]              | [0.375]            | [0.375]            | [0.375]            |
| N    | 54<br>[2.125]        | 54<br>[2.125]        | 54<br>[2.125]        | 76<br>[3]          | 76<br>[3]          | 76<br>[3]          |
| P    | 6                    | 6                    | 6                    | 6                  | 6                  | 6                  |
| R    | 10<br>[0.375] SQ Key | 10<br>[0.375] SQ Key | 10<br>[0.375] SQ Key | 13<br>[0.5] SQ Key | 13<br>[0.5] SQ Key | 13<br>[0.5] SQ Key |
| S    | 43<br>[1.688]        | 43<br>[1.688]        | 43<br>[1.688]        | 56<br>[2.188]      | 56<br>[2.188]      | 56<br>[2.188]      |
| T    | 11<br>[0.438]        | 11<br>[0.438]        | 11<br>[0.438]        | 14<br>[0.563]      | 14<br>[0.563]      | 14<br>[0.563]      |

**Dimensions of MD Square AeroLock™ mm [in]**



| Size | 76                   | 98                   | 1110                 | 1312               | 1514               | 1716               |
|------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|
| A    | 67<br>[2.625]        | 83<br>[3.25]         | 98<br>[3.875]        | 121<br>[4.75]      | 130<br>[5.125]     | 152<br>[6]         |
| B    | 229<br>[9]           | 279<br>[11]          | 330<br>[13]          | 406<br>[16]        | 457<br>[18]        | 508<br>[20]        |
| C    | 64<br>[2.5]          | 83<br>[3.25]         | 102<br>[4]           | 121<br>[4.75]      | 152<br>[6]         | 159<br>[6.25]      |
| D    | 254<br>[10]          | 318<br>[12.5]        | 381<br>[15]          | 457<br>[18]        | 533<br>[21]        | 610<br>[24]        |
| E    | 508<br>[20]          | 559<br>[22]          | 610<br>[24]          | 711<br>[28]        | 762<br>[30]        | 813<br>[32]        |
| F    | 192<br>[7.563]       | 218<br>[8.563]       | 243<br>[9.563]       | 273<br>[10.75]     | 299<br>[11.75]     | 324<br>[12.75]     |
| G    | 127<br>[5]           | 178<br>[7]           | 229<br>[9]           | 279<br>[11]        | 330<br>[13]        | 381<br>[15]        |
| H    | 98<br>[3.875]        | 124<br>[4.875]       | 149<br>[5.875]       | 181<br>[7.125]     | 206<br>[8.125]     | 232<br>[9.125]     |
| J    | 62<br>[2.438]        | 62<br>[2.438]        | 62<br>[2.438]        | 83<br>[3.25]       | 83<br>[3.25]       | 83<br>[3.25]       |
| K    | 11<br>[0.438]        | 11<br>[0.438]        | 11<br>[0.438]        | 14<br>[0.563]      | 14<br>[0.563]      | 14<br>[0.563]      |
| L    | 76<br>[3]            | 102<br>[4]           | 127<br>[5]           | 152<br>[6]         | 178<br>[7]         | 203<br>[8]         |
| M    | [0.375]              | [0.375]              | [0.375]              | [0.375]            | [0.375]            | [0.375]            |
| N    | 54<br>[2.125]        | 54<br>[2.125]        | 54<br>[2.125]        | 76<br>[3]          | 76<br>[3]          | 76<br>[3]          |
| P    | 12                   | 12                   | 12                   | 12                 | 12                 | 12                 |
| R    | 10<br>[0.375] SQ Key | 10<br>[0.375] SQ Key | 10<br>[0.375] SQ Key | 13<br>[0.5] SQ Key | 13<br>[0.5] SQ Key | 13<br>[0.5] SQ Key |
| S    | 43<br>[1.688]        | 43<br>[1.688]        | 43<br>[1.688]        | 56<br>[2.188]      | 56<br>[2.188]      | 56<br>[2.188]      |
| T    | 151<br>[5.938]       | 202<br>[7.938]       | 252<br>[9.938]       | 303<br>[11.938]    | 354<br>[13.938]    | 405<br>[15.938]    |

**Caution:** Measurements are for general reference only. Please consult dimensional drawing for exact measurements.