



CRL Balanced Doors and Entrances

- **Two Models Available; the Balancer™ and the Premium Series**
- **Neutralizes Wind and Stack Pressure for Easy Operation**
- **Requires Less Operating Space Than Conventionally Hinged Doors**
- **"Barrier Free Door"; Meets A.D.A. Requirements Without Power Operators**
- **Custom Engineered and Fabricated Systems With Over 40 Years of Proven Performance**
- **Manufactured to Withstand the Most Demanding Design Requirements**
- **Provides Strength and Durability Throughout Years of Heavy Use**
- **For Doors Weighing Up to 700 Pounds (318 kg)**
- **Two Styles Available; Concealed Vertical Tube and Exposed Vertical Tube**
- **Automatic Operators Available With Premium Series Only**
- **10 Year Warranty**

C.R. Laurence introduces the latest edition to our extensive Architectural Hardware line, CRL Balanced Doors. We now offer a complete line of Balanced Doors utilizing the high performance hardware as designed by Wikk Industries, a leading manufacturer of Balanced Doors for over 40 years.

Our new line of Balanced Doors and Entrances offers a variety of options including the Premium Series Formed Bronze and Stainless Steel Monumental Doors and Frames, the Balancer™ Series Standard Aluminum Doors and Frames, and Heavy Glass Doors that fit within everyone's budget. All are available in a wide variety of styles and finishes, as well as custom finishes to meet your every need.

Balanced Door Hardware, combined with our Tajima Door Line, allows CRL to offer you endless possibilities in design, finish, and functionality. We have applied our strict manufacturing standards, which you have come to know and trust over the years, to the Wikk Balanced Door and Hardware line to ensure the high quality, performance, and durability of the Wikk product continues. Keeping with CRL's commitment to customer service, we offer complete engineering and design services, as well as the best lead times in the industry.

The Premium Series is also available with an automatic operator. This is a Standard Balanced Door during manual operation, and automated with power only when required, accomplished using a concealed low energy Stanley Magic-Force™ Motorized Operator.

For additional information, contact CRL Technical Sales at (800) 421-6144 in the U.S., (877) 421-6144 from Canada, or (323) 588-1281 International, and ask for Ext. 7770. You can e-mail us through our web site at crlaurence.com. From the home page click on Contact Us, and then click on Technical Sales for Architectural Metals Products.

What is a Balanced Door?

In a Balanced Door the door panel rotates around a rolling pivot in an elliptical path to provide the widest possible opening with the smallest swing arc (see diagram below). This design neutralizes two naturally occurring pressures, atmospheric (wind) and interior stack pressure, allowing effortless opening and positive closing. Balanced Doors are typically required when a commercial project has a monumental entrance, requiring an oversized, heavy door. The 'balanced' principle permits the use of these monumental doors where ordinary closer mechanisms would fail to offer adequate control.



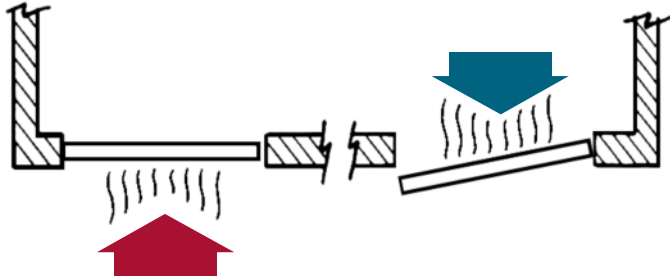
Let Stack Pressures Work for You

HEATING SEASON

Building air lighter than outside air



Negative inside pressure makes conventionally hinged doors hard to open



COOLING SEASON

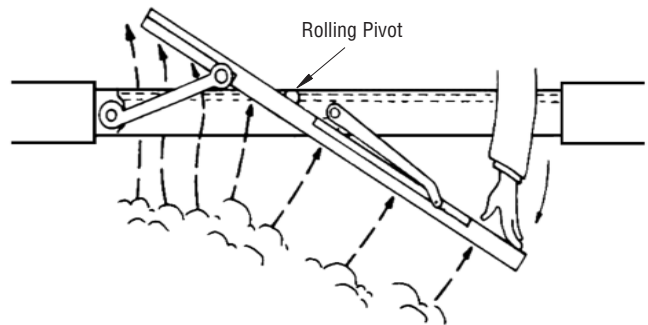
Building air heavier than outside air



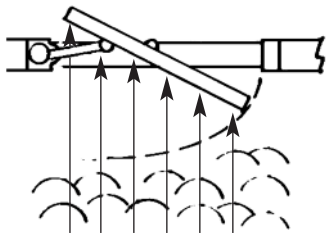
Strong tension required to hold some doors closed against positive building pressure



Balanced Door Design Offers Many Advantages

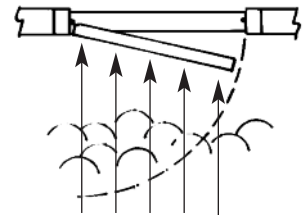


When CRL Balanced Doors open, approximately two thirds of the door swings outward while one third swings inward, allowing wind or stack pressure to assist rather than hinder the operation of the door. Air pressure balances itself out around the rolling pivot, so less force is needed to operate the door.



Balanced Door

WIND	BALANCED DOOR With 5 lbs. Spring Pressure	REGULAR DOOR With 5 lbs. Spring Pressure
m.p.h.	lbs. pressure to open	lbs. pressure to open
10	1 + 5 = 6 lbs.	3 + 5 = 8 lbs.
20	3 + 5 = 8 lbs.	11 + 5 = 16 lbs.
30	7 + 5 = 12 lbs.	26 + 5 = 31 lbs.
40	13 + 5 = 18 lbs.	47 + 5 = 52 lbs.
50	21 + 5 = 26 lbs.	73 + 5 = 78 lbs.
60	30 + 5 = 35 lbs.	105 + 5 = 110 lbs.



Regular Door



The door pivots on two single-piece cast bronze or stainless steel arms located at the top and bottom of the door. These are attached to a pivoting hinge tube that runs the entire height of the door. The hinge tube contains a torsion bar that provides the closing force for the door, and is connected to a hydraulic checking device located in the header, and a tension adjusting gear box at the sill.



CRL Balancer™ Extruded Aluminum Standard Balanced Doors and Frames



- **Affordable for Budget-Sensitive Jobs**
- **6063-T5 Alloy Available in Clear or Dark Bronze Anodized and Powder Coat, Newlar, and Kynar Finishes**
- **Cladding Options Available in Polished, Brushed, and Non-Directional Stainless Steel or Bronze; and Oil Rubbed Bronze**
- **Exposed or Concealed Vertical Tubes**
- **Maximum Door Size is 48" Wide x 108" High (1219 x 2743 mm)**

CRL Balancer™ Extruded Aluminum Standard Balanced Doors and Frames are available for budget-sensitive projects. These doors and frames offer the look of a Formed Monumental Door at the cost of a clad aluminum door. All our aluminum doors are blocked and welded to provide long-lasting performance and durability. CRL offers narrow, medium, and wide stile doors with a minimum bottom rail height of 6" (152 mm).

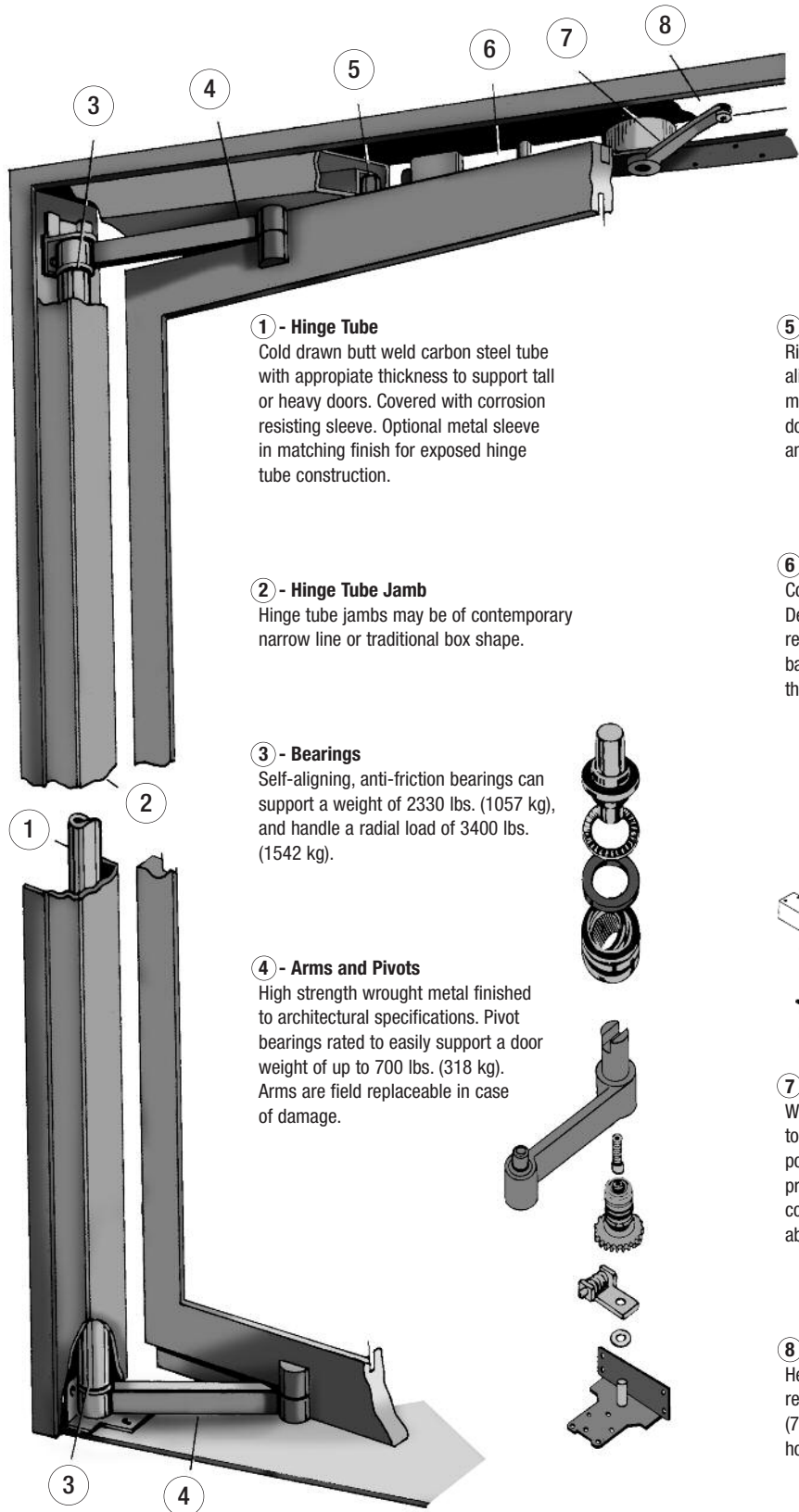
CRL Balancer™ Heavy Glass Balanced Doors and Frames

- **Available With or Without Mini Vertical Stiles**
- **Available With 4", 6" or 10" (102, 152 or 254 mm) Tall Square Profile Door Rails**
- **Six Standard Architectural Finishes, With Custom Finishes Available**
- **Glazed Using Expansion Cement Technology**
- **Maximum Door Size is 48" Wide x 108" High (1219 x 2743 mm)**

CRL Balancer™ Heavy Glass Balanced Doors and Frames come completely glazed with either 1/2" or 3/4" (12 or 19 mm) fully tempered glass, and are available with or without mini vertical stiles. 4" (102 mm) or 6" (152 mm) rails top and bottom are required with optional 10" (254 mm) bottom rails to meet A.D.A. codes for framed doors. Balanced Door packages are available with concealed or exposed vertical tubes and are 'install ready' when shipped. There is no additional cutting or prepping required, simply install the header or frame and hang the pre-glazed door panel(s), make a few quick adjustments, and you are done.



Anatomy of a CRL Balancer™ Series Balanced Door



1 - Hinge Tube

Cold drawn butt weld carbon steel tube with appropriate thickness to support tall or heavy doors. Covered with corrosion resisting sleeve. Optional metal sleeve in matching finish for exposed hinge tube construction.

2 - Hinge Tube Jamb

Hinge tube jambs may be of contemporary narrow line or traditional box shape.

3 - Bearings

Self-aligning, anti-friction bearings can support a weight of 2330 lbs. (1057 kg), and handle a radial load of 3400 lbs. (1542 kg).

4 - Arms and Pivots

High strength wrought metal finished to architectural specifications. Pivot bearings rated to easily support a door weight of up to 700 lbs. (318 kg). Arms are field replaceable in case of damage.

5 - Balancing Guide Roller

Rigidly mounted, yet self aligning to overcome any misalignment between door and frame. Sturdy and maintenance free.

6 - LCN Hydraulic Check

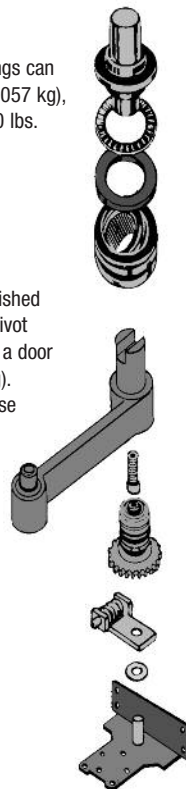
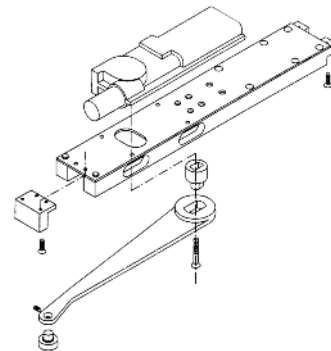
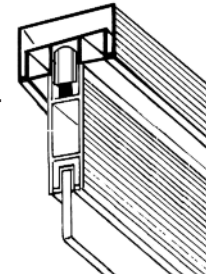
Completely concealed in the header. Dependable and easy to adjust without removing hardware or covers. A hydraulic back check cushions the limiting point of the door swing.

7 - Concealed Connecting Arm

Wrought metal arm connected directly to door to provide a strong, triangular positive stop at 90 degree opening and prevent stress at the header to jamb connection. Constant check control avoids abrupt rebounding of door.

8 - Compact Header

Header with integral guide roller track, requires only 2-3/4" x 4-1/2" (70 x 114 mm) above door to house the LCN check.

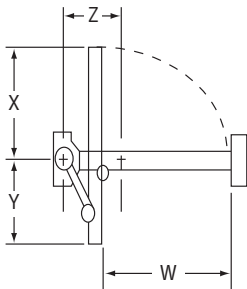


Advantages of the Balancer™ Series Balanced Doors By CRL



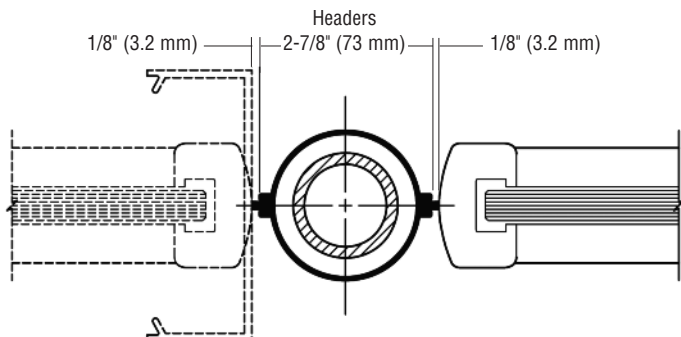
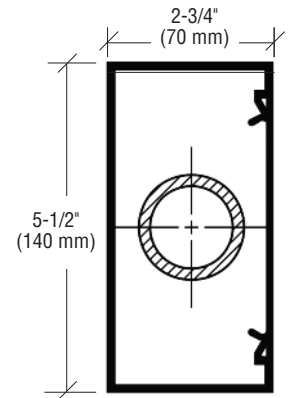
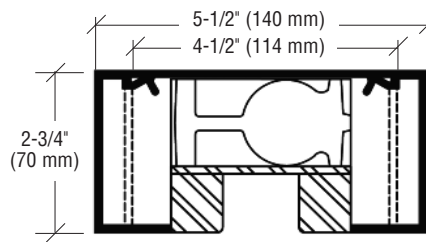
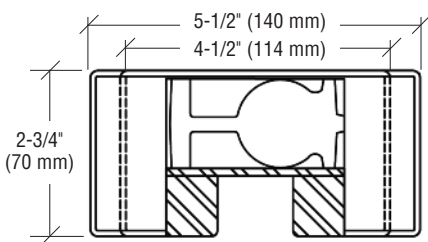
- Cost Effective Alternative to Standard Entrance Doors
- Maximum Size for Balancer™ Series is 48" Wide x 108" High (1219 x 2743 mm)
- Lets Wind and Stack Pressures Work for You Instead of Against You
- Assures Easy Operation and Positive Closing, Even Under Adverse Conditions
- Designed With Dependable LCN Hydraulic Check Connected Directly to Door
- Adjustable Hydraulic Back Check for Consistently Smooth Operation
- Latching Speed, Closing Speed, Back Check, and Spring Power are All Adjustable Without Removing Hardware or Covers
- Compact Header With Integral Guide Track
- Requires Less Operating Space Than Conventionally Hinged Doors
- Hardware is Fully Capable of Supporting and Controlling Large and Monumental Doors
- Easily Installed in New or Remodeled Buildings, Exterior or Interior

Design Dimensions (shown in inches)

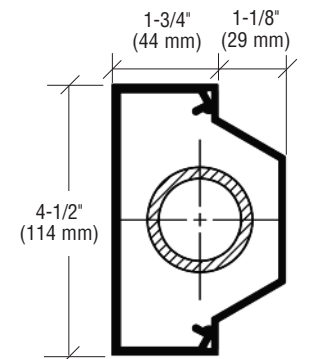


	SHORT ARM						LONG ARM				
Door Size	30"	32"	34"	36"	38"	39"	40"	42"	44"	46"	48"
W	26-11/16"	28-11/16"	30-11/16"	32-11/16"	34-11/16"	35-11/16"	36-11/16"	38-11/16"	40-11/16"	42-11/16"	44-11/16"
X	17-1/2"	19-1/2"	21-1/2"	23-1/2"	25-1/2"	26-1/2"	24"	26"	28"	30"	32"
Y	— 12-1/2" —						— 16" —				
Z	— 7-1/8" —						— 8-7/8" —				

The Balancer™ Series Typical Header, Jamb, and Hinge Tube Design Details



Typical Exposed Hinge Tube



Typical Aluminum Framed Jamb

CRL-Blumcraft BDA100 Series Panic Handles for Balanced Doors

new



- Specifically Designed for Balanced Doors
- UL, ULC, and ANSI/BHMA Certified
- For 1/2" or 3/4" (12 or 19 mm) Tempered Glass
- Available in Polished and Brushed Stainless, Satin and Polished Brass, and Oil Rubbed Bronze
- Custom Finishes Available By Special Order
- Custom Sizes Ship Within One to Two Weeks

CRL-Blumcraft Balanced Door Panic Handles were created to meet the building code requirements for Balanced Doors, while maintaining an excellent appearance. The building code states that the push pad shall not extend more than one-half the width of the door measured from the latch side, and this creates an undesirable appearance.

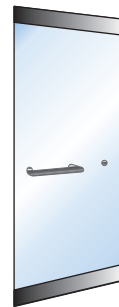
Our BDA100 Series has a fixed handle portion that extends toward the hinge side of the door, with a clearly defined push pad handle portion at the latch side of the door. This wider handle has greatly improved aesthetics over a handle that only spans one-half of the door's width.

Yet another fine example of C.R. Laurence's commitment to meeting building code requirements, while at the same time delivering the beautiful hardware that our architectural customers demand.



Exterior Handle Combinations for Balanced Doors with CRL Panic Handles

NOTE: Exterior Fixed Handles shown to the right can be used in combination with our BDA100 Series Panic Handle. For additional Exterior Fixed Handle options, see page 177H.



Handle A-BD



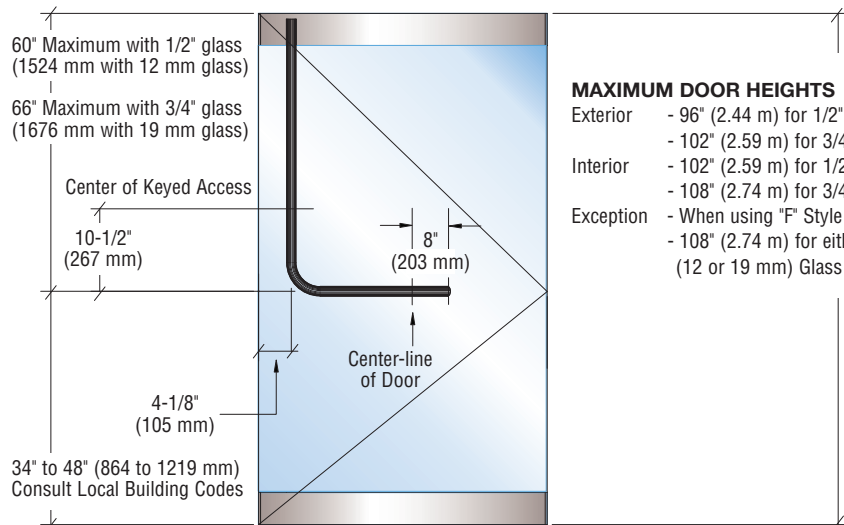
Handle D-BD



Handle B-BD

CRL Balanced Door Panic Handle Size Limitations

• Top Latching



Contact CRL Technical Sales at (800) 421-6144 in the U.S., (877) 421-6144 from Canada, or (323) 588-1281 International, and ask for Ext. 7700.

You can also send e-mail from the crlaurence.com home page. Click on Contact Us, and then click on Technical Sales for Commercial Products.

NOTE: All Access Control Handles on this page function as health and safety tools, and may only be purchased through CRL Authorized Glass Temperers and Door Manufacturers.



CRL Premium Series Formed Bronze Monumental Balanced Doors and Frames



- Alloy 464 Naval Bronze
- Available in Polished, Brushed, Non-Directional and Oil Rubbed Finishes
- Available in Fully Framed or Tempered Heavy Glass Doors
- Standard 'Crisp' Corner Construction
- Ribbon Accent Lines and Custom Infill Shapes Available
- Automatic Operator Available
- Maximum Door Size is 50" Wide x 120" High (1270 x 3048 mm)

CRL Premium Series Formed Bronze Monumental Balanced Doors and Frames are constructed using 'V-Groove' Technology to produce 'crisp' corners and tight joints. 14 gauge alloy 464 Naval Bronze is used to ensure structural integrity and long-lasting performance. Stile width is 2" (51 mm) with a minimum top rail height of 3-1/2" (89 mm) and a minimum bottom rail height of 6" (152 mm). All doors are custom made for your particular project so we can provide you with endless combinations of sizes to meet your design.

CRL Premium Series Formed Stainless Steel Monumental Balanced Doors and Frames

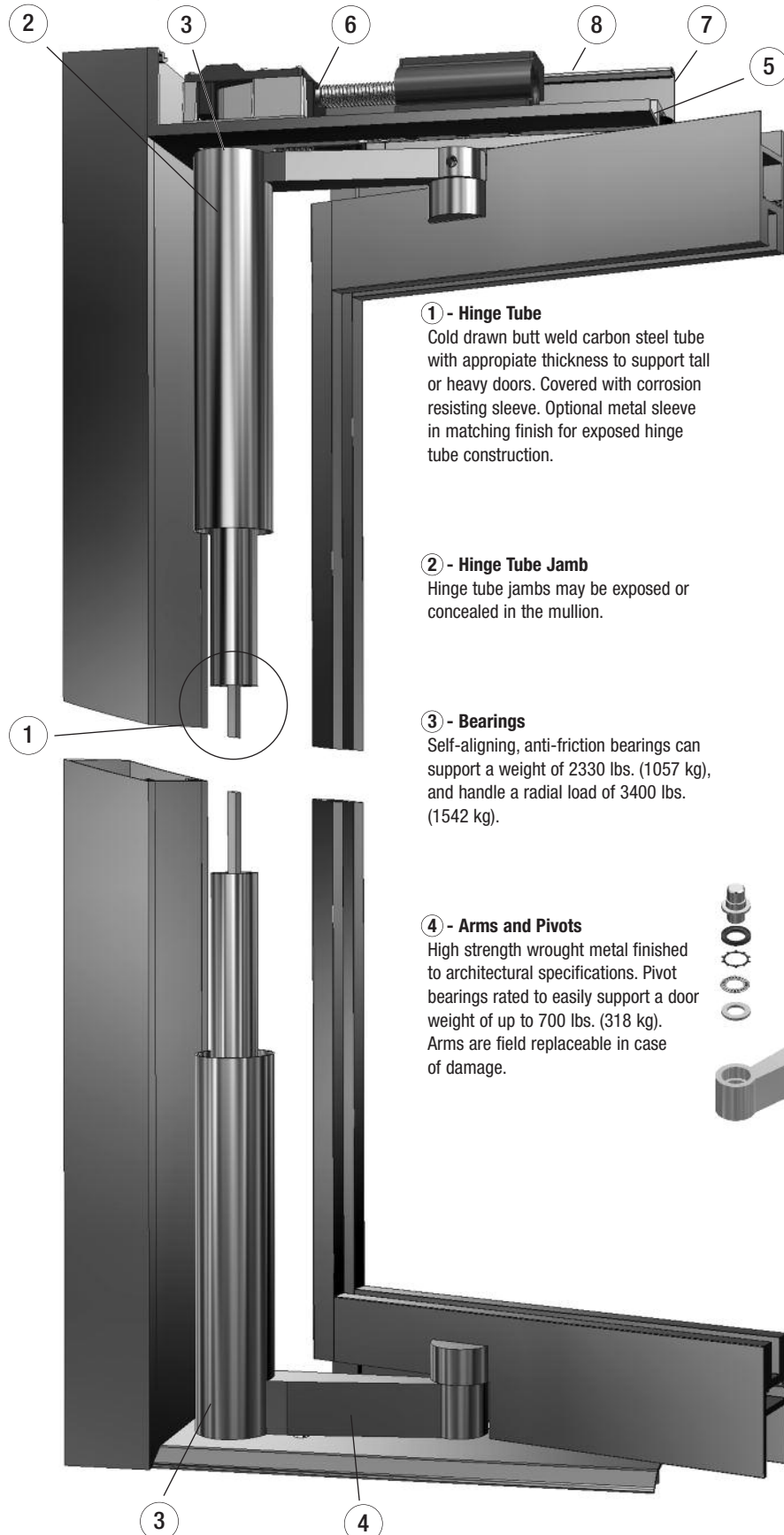
- Alloy 304 or 316 Stainless Steel
- Available in Polished, Brushed and Non-Directional Finishes
- Available in Fully Framed or Tempered Heavy Glass Doors
- Standard 'Crisp' Corner Construction
- Ribbon Accent Lines and Custom Infill Shapes Available
- Automatic Operator Available
- Maximum Door Size is 50" Wide x 120" High (1270 x 3048 mm)

CRL Premium Series Formed Stainless Steel Monumental Balanced Doors and Frames are constructed from 14 gauge alloy 304 or 316 stainless steel to ensure structural integrity and long-lasting performance. Our 'V-Groove' Technology produces 'crisp' corners and tight joints. With our laser cutting capabilities we can produce practically any infill panel or overlay you may desire. Stile width is 2" (51 mm) with a minimum top rail height of 3-1/2" (89 mm) and a minimum bottom rail height of 6" (152 mm). Since all doors are custom made for your project, we can accommodate a wide array of sizes and designs.





Anatomy of a CRL Premium Series Balanced Door



① - Hinge Tube

Cold drawn butt weld carbon steel tube with appropriate thickness to support tall or heavy doors. Covered with corrosion resisting sleeve. Optional metal sleeve in matching finish for exposed hinge tube construction.

② - Hinge Tube Jamb

Hinge tube jams may be exposed or concealed in the mullion.

③ - Bearings

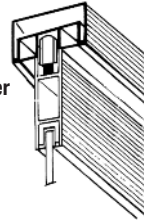
Self-aligning, anti-friction bearings can support a weight of 2330 lbs. (1057 kg), and handle a radial load of 3400 lbs. (1542 kg).

④ - Arms and Pivots

High strength wrought metal finished to architectural specifications. Pivot bearings rated to easily support a door weight of up to 700 lbs. (318 kg). Arms are field replaceable in case of damage.

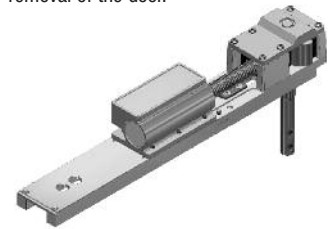
⑤ - Balancing Guide Roller

Rigidly mounted, yet self aligning to overcome any misalignment between door and frame. Sturdy and maintenance free.



⑥ - Cast Bronze Hydraulic Check

Completely concealed in the header. Has first and second speed adjustment. Removable without requiring the removal of the door.



⑦ - Compact Header

Header with integral bronze guide roller track, requires only 2-3/4" x 5-1/2" (70 x 140 mm) above door to house the Hydraulic Check.



⑧ - Optional Stanley Magic-Force™ Motorized Operator

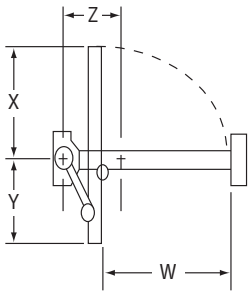
Heavy-duty (low energy) concealed overhead electromechanical power operator with control box, conforming to ANSI/BHMA A156.19. Motor permanent magnet, DC 3/16 HP (minimum), 1.25 AMP, 120V, UL listed. Adjustable slow opening speed and adjustable time delay. Requires 5-1/2" x 6" (140 x 152 mm) header to house power operator.



Advantages of the Premium Series Balanced Doors By CRL

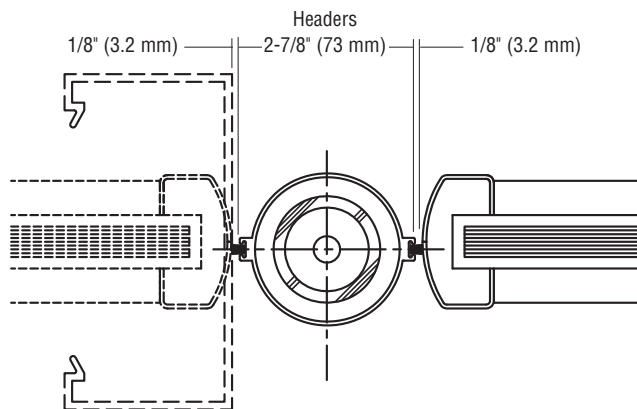
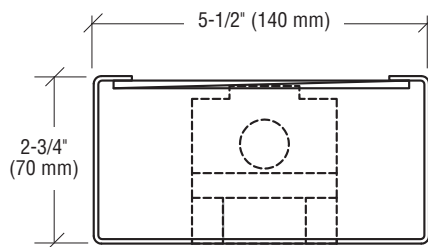
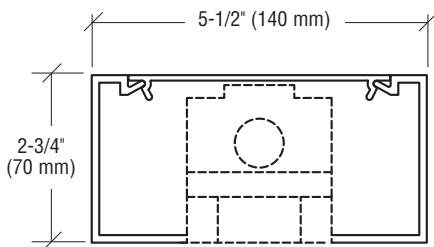
- Hardware is Fully Capable of Supporting and Controlling Large and Monumental 2" (51 mm) Thick Doors
- Maximum Size for Premium Series is 50" Wide x 120" High (1270 x 3048 mm)
- Lets Wind and Stack Pressures Work for You Instead of Against You
- Assures Easy Operation and Positive Closing, Even Under Adverse Conditions
- Adjustable Bronze Cast Hydraulic Back Check for Consistently Smooth Operation
- Latching Speed, Closing Speed, and Spring Power are Adjustable Without Removing Hardware or Covers
- Compact Header With Integral Guide Track
- Requires Less Operating Space Than Conventionally Hinged Doors
- Easily Installed in New or Remodeled Buildings, Exterior or Interior

Design Dimensions (shown in inches)

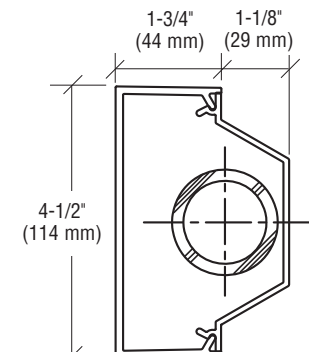
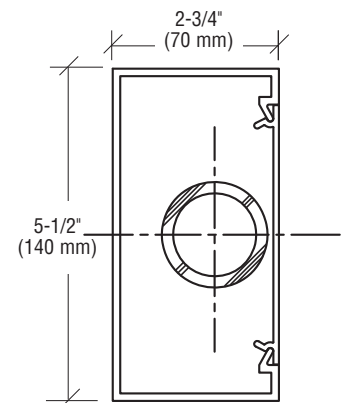


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Y	— 12-1/2" —						— 16" —				
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The Premium Series Typical Header, Jamb, and Hinge Tube Design Details



Typical Exposed Hinge Tube



Typical Aluminum Framed Jamb

