

CRL BALANCED DOORS AND ENTRANCES

Designed By

Wikk



- Formed Bronze, Stainless Steel, and Aluminum Monumental Doors and Frames
- Standard Aluminum Doors and Frames
- Heavy Glass Doors With or Without Mini Vertical Weatherstiles
- Custom Finishes

CRL[®]

C.R. LAURENCE COMPANY

crlaurence.com | Worldwide Manufacturer and Supplier

Glazing, Railing, Architectural, Construction, Industrial, and Automotive Supplies

An ISO 9001:2008 Certified Company

Tajima[™]
CORP USA
A DIVISION OF
C.R. LAURENCE COMPANY

CRL Balanced Doors and Entrances

- Neutralizes Wind and Stack Pressure for Easy Operation
- Requires Less Operating Space Than Conventionally Hinged Doors
- Meets A.D.A. Specifications 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)
- 10 Year Warranty

C.R. Laurence introduces the latest edition to our extensive Architectural Hardware line, CRL Balanced Doors designed by Wikk. 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 Formed Bronze and Stainless Steel Monumental Doors and Frames, Standard Aluminum Doors and Frames, and Heavy Glass Doors. All available in a wide variety of styles and finishes, as well as custom finishes to meet your every need.

Balanced Door Hardware designed by Wikk, 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.

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



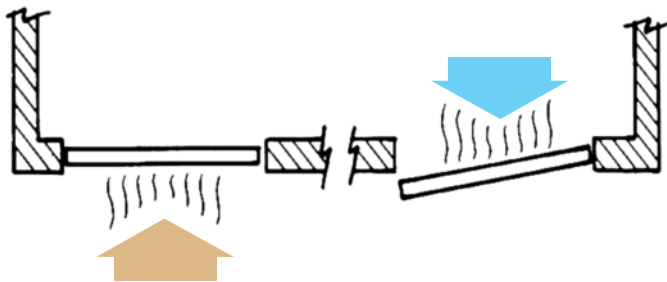
Negative inside pressure makes conventionally hinged doors hard to open.

COOLING SEASON

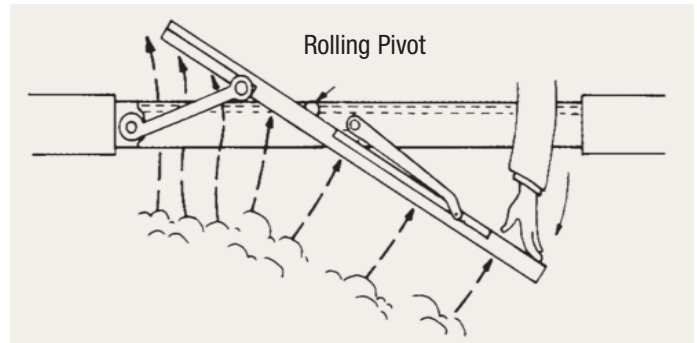
Building air heavier than outside air



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



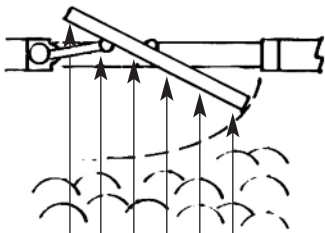
Balanced Door Design Offers Many Advantages



Air pressure balances itself out around the rolling pivot, so less force is needed to operate the door.

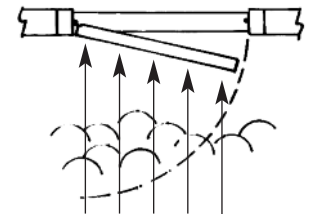
When CRL Balanced Doors open, approximately two thirds of the door swings outward while one third swings inward, allowing wind or stack pressure to assist rather than hinder the operation of the door.

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



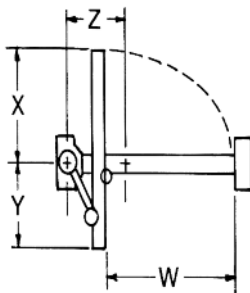
The door pivots on two single piece cast bronze or stainless steel arms located at the top and bottom of the door. These are attached to a pivoting hinge tube that runs the entire height of the door. The hinge tube contains a torsion bar that provides the closing force for the door, and is connected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



Advantages of CRL Balanced Doors

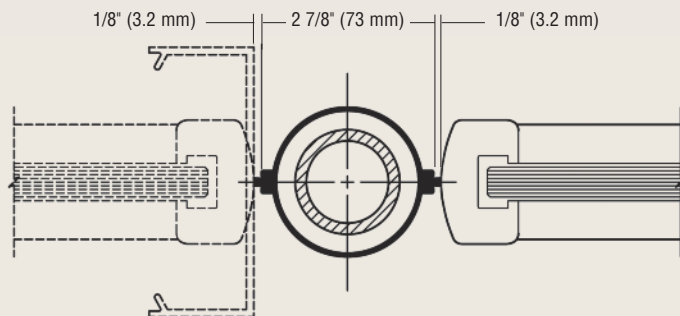
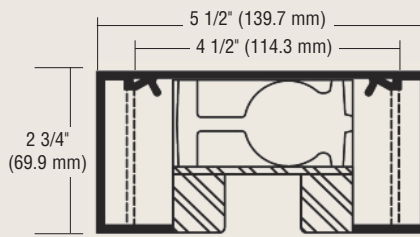
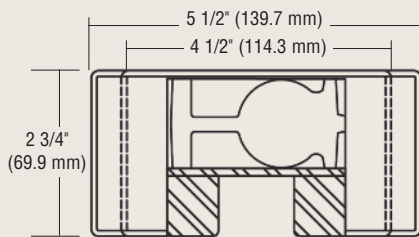
- Lets Wind and Stack Pressures Work for You Instead of Against You
- Assures Easy Operation and Positive Closing, Even Under Adverse Conditions
- Designed With Dependable LCN Check Connected Directly to Door
- Adjustable Hydraulic Back Check for Consistently Smooth Operation
- Latching Speed, Closing 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)

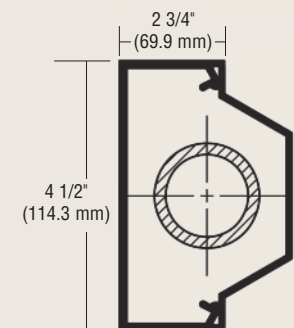
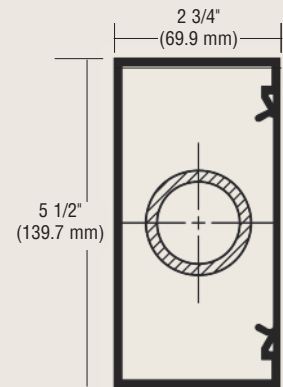


Door Size	TYPE S						TYPE L				
	30	32	34	36	38	40	40	42	44	46	48
W	26.56	28.56	30.56	32.56	34.56	36.56	36.56	38.56	40.56	42.56	44.56
X	16	18	20	22	24	26	22.4	24.4	26.4	28.4	30.4
Y	— 14 —						— 17.6 —				
Z	— 8 —						— 9.75 —				

Typical Header, Jamb, and Hinge Tube Design Details

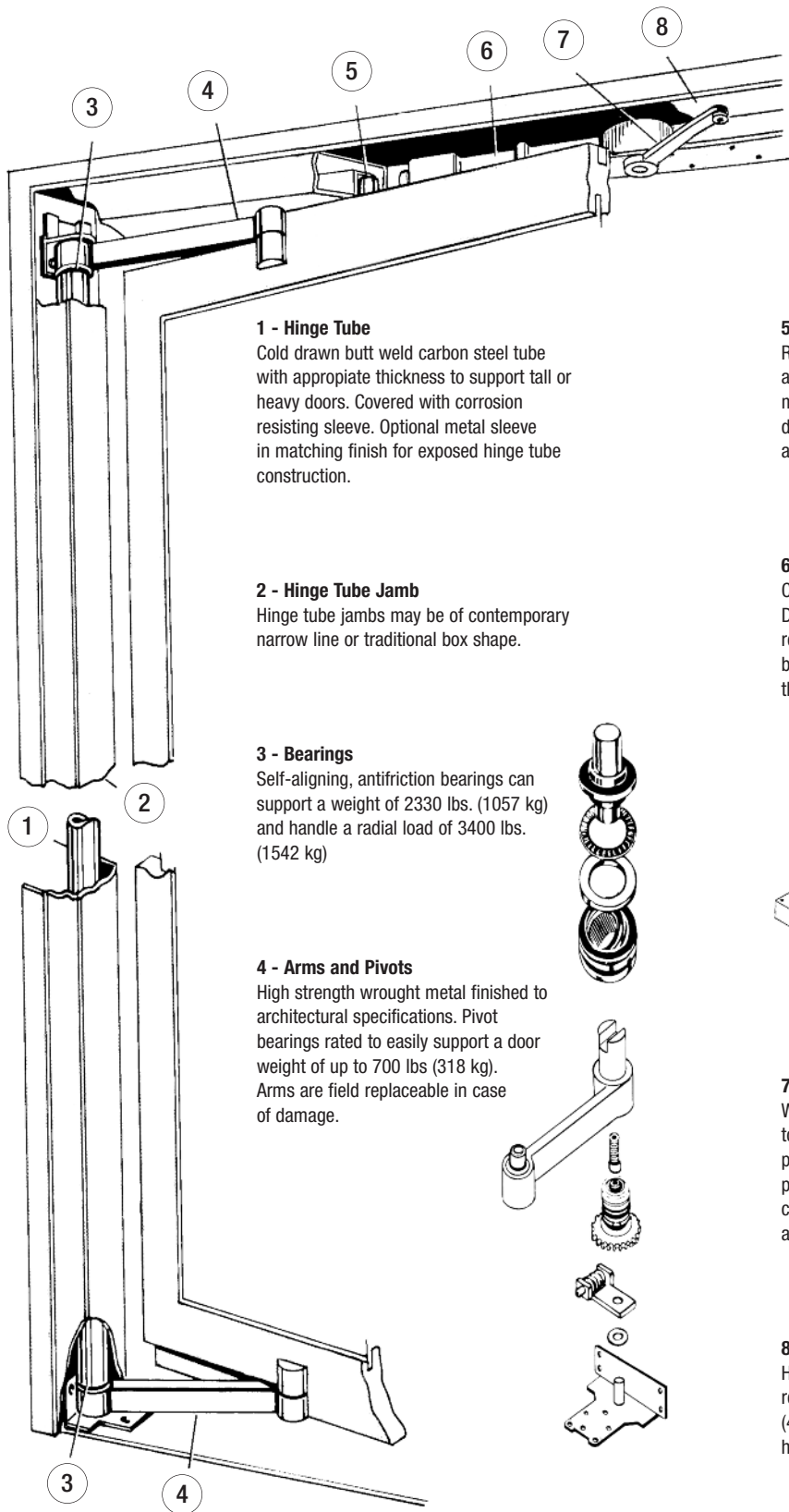


Typical Exposed Hinge Tube



Typical Aluminum Framed Jamb

Anatomy of a CRL 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

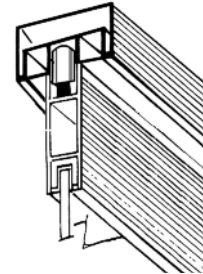
Self-aligning, antifriction bearings can support a weight of 2330 lbs. (1057 kg) and handle a radial load of 3400 lbs. (1542 kg)

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.

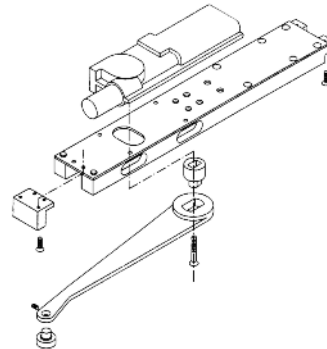
5 - Balancing Guide Roller

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



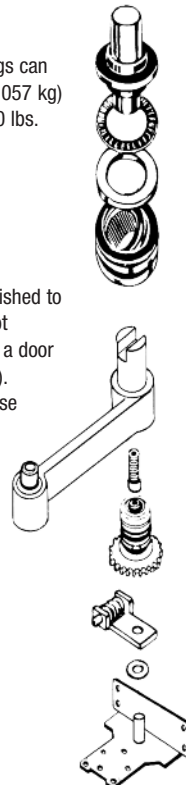
6 - LCN Hydraulic Check

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" (44.5 x 114.3 mm) above door to house the LCN check.

CRL Formed Bronze Monumental Doors and Frames

- Alloy 464 Naval Bronze
- Stainless Steel Reinforcing
- Standard 'Crisp' Corner Construction
- Ribbon Accent Lines and Custom Infill Shapes Available
- Available in Polished, Brushed, Non-Directional and Oil Rubbed Finishes

CRL 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. Minimum stile width is 2-3/4" (70 mm) with minimum top rail height of 3-1/2" (89 mm) and minimum bottom rail height of 6" (152.4 mm). All doors are made custom for your particular project so we can provide you with endless combinations of sizes to meet your design



CRL Formed Stainless Steel Monumental Doors and Frames

- Alloy 304 or 316 Stainless Steel
- Stainless Steel Reinforcing
- Available in Polished, Brushed and Non-Directional Finishes
- Standard 'Crisp' Corner Construction
- Ribbon Accent Lines and Custom Infill Shapes Available

CRL 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 making for a fabulous finished product. With our laser cutting capabilities we can produce practically any infill panel or overlay you may desire. Minimum stile width is 2-3/4" (70 mm) with minimum top rail height of 3-1/2" (89 mm) and minimal bottom rail height of 6" (152.4 mm). Since all doors are made custom for your project, we can accommodate a wide array of sizes and designs.

CRL Extruded Aluminum Standard and Monumental Doors and Frames

- 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

CRL Standard and Monumental Aluminum 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. As with our Formed Doors and Frames, we can offer you a wide variety of designs and sizes to meet your design needs. Minimum stile width is 2-3/4" (70 mm) with minimum top rail height of 3-1/2" (89 mm) and minimal bottom rail height of 6" (152.4 mm).

CRL Heavy Glass Doors and Frames

- Available With or Without Mini Vertical Stiles
- Available With 4" or 10" (102 or 254 mm) Tall Square Profile Rails
- Six Standard Architectural Finishes, With Custom Finishes Available
- Glazed Using Expansion Cement Technology

CRL Heavy Glass Balanced Doors 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. Minimum 4" (102 mm) rails top and bottom are required with optional 10" (254 mm) bottom rails to meet ADA codes for framed doors. Balanced Door packages are available with concealed or exposed hinge 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.





CRL Panic Handles and Deadbolt Handles

- For 1/2" or 3/4" Tempered Glass Doors
- Can Be Used as a Replacement for Older Panics and Deadbolts
- All Standard Finishes Ship Within 5 Working Days
- Optional Keyed Access and Electric Strike
- Available With a Wide Selection of Exterior Fixed Pull Handles on Special Order
- Matching Dummy Handles Available for All Styles
- Available in Polished or Brushed Stainless Steel, Satin and Polished Brass, and Oil Rubbed Bronze (Special Order)

CRL Electronic Egress Control Handles

- For 1/2" or 3/4" Tempered Glass Doors
- For Interior and Exterior Applications
- Maintain Security and Aesthetics
- Available in Polished or Brushed Stainless Steel, Satin and Polished Brass, and Oil Rubbed Bronze (Special Order)
- Custom Sizes With Standard Finishes Ship Within 5 Working Days



COMPLETE LINE OF QUALITY DOOR CONTROL HARDWARE

1200 SERIES EXIT DEVICE

- Available in a Rim, Concealed Vertical, and Surface Vertical Rod Exit Device
- Smooth Action "Soft Touch" Push Pad
- Enhanced Security and Safety

CRL Specialty Catalogs - Can be ordered, viewed or downloaded online at crlaurence.com



Architectural Metals
AM09



Architectural Hardware
AH11



Commercial Door Handles
LP11



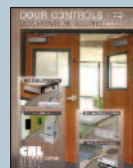
Frameless Shower Door Hardware and Supplies
SD10



Hospitality & Service Hardware
HS07



Architectural Railing Systems
HR11



Door Controls Hardware and Accessories
DC07



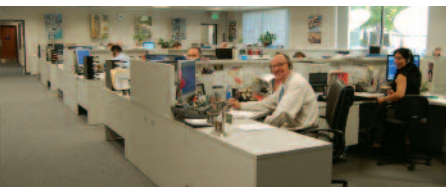
Transaction and Security Hardware
TH10



Glass Bonding System
GB10



Tajima CRL Exterior Entrances
TAJ11



Technical Sales For All Your Project Requirements

C.R. Laurence Company has a Technical Sales Department to assist with design plans and installation questions. Your job can be made easier with the help of CRL's Technical Sales Representatives who are trained in the newest Hardware Systems, and can offer you detailed diagrams and layout sheets. Ask for Extension 7770.

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