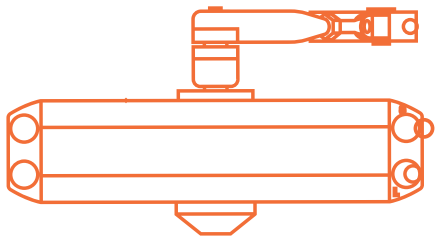
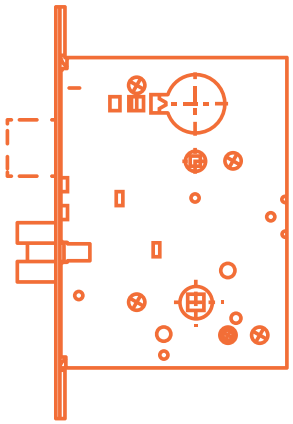
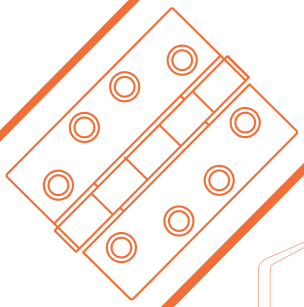
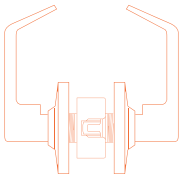
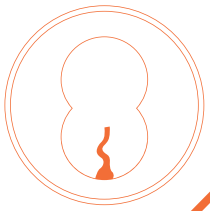
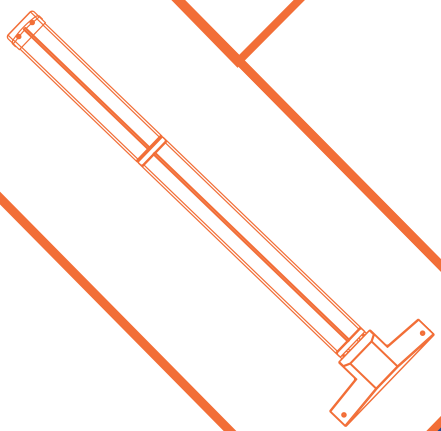












www.d4eme.com

Architectural

Door Hardware

American Standard

AT A GLANCE

Introducing tüR by D4E: Elevating Entryway Excellence Welcome to the world of TüR by D4E Architectural Door Hardware, where innovation meets security to redefine your entryway experience. Our brand is dedicated to crafting top-notch architectural door hardware solutions that not only enhance the aesthetic appeal of your doors but also provide unmatched safety, security and convenience.

At TüR by D4E, we understand that doors are more than just entry points; they are gateways to your spaces, your privacy, and your peace of mind. That's why we've made it our mission to design, manufacture, certify and deliver door hardware that not only exceeds industry standards but also aligns seamlessly with your lifestyle and needs.

Our Legacy of Excellence: With a rich heritage spanning over three decades within Europe, TüR by D4E has been a trusted name in the door hardware industry. Our journey began in Heeswijk-Dinther, Netherlands with a commitment to quality craftsmanship and a relentless pursuit of innovation. Over the past four years, we have continued to evolve and adapt to the changing needs of our customers.

Unparalleled Product Range: TüR by D4E offers a diverse range of door hardware solutions, from classic to contemporary, catering to residential, commercial, infrastructure and industrial applications. Whether you seek stylish handle sets, robust deadbolts, heavy duty door closing devices or cutting-edge smart locks, our portfolio has something for everyone. Our products are thoughtfully designed to complement various architectural styles while maintaining uncompromising security.

Innovation at the Core: We pride ourselves on being at the forefront of technology. Our smart door locks are designed to not only keep your property secure but also simplify your life. With features like remote access, biometric authentication, and integration with home automation systems, TüR by D4E brings the future of door hardware to your doorstep.

Quality Assurance: Quality is the bedrock of our brand. Each TüR by D4E product undergoes rigorous testing and subsequent certification programs to ensure it withstands the test of time and the elements. We use premium materials and employ advanced manufacturing techniques to deliver hardware that is not only functional but also durable and aesthetically pleasing.

Customer-Centric Approach: At TüR by D4E , we value our customers' trust above all else. Our dedicated customer support and technical team is always ready to assist you with any queries or concerns. We believe in forging lasting relationships with our clients and partners, built on a foundation of transparency, reliability, and integrity.

TüR by D4E Architectural Door Hardware is more than just a brand; it's a commitment to excellence, security, and innovation. We invite you to explore our product range, experience the difference, and open the door to a safer, more stylish, and technologically advanced future. Welcome to TüR by D4E, where your door's potential is truly limitless.

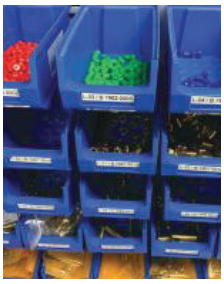
Master Key Production Facility

ABUS Security Tech Germany · BKS · James Gibbons Format · D4E

DESIGN4EXCELLENCE

TüR's Master Key Production Facility in Netherlands is able to provide comprehensive solutions to complex Master key systems. We have further enhanced the quality and we can offer an improved service and delivery times to customers in Europe, Middle East and South Asia. Our latest technology and experienced in house team are capable of doing truly remarkable value added production for complex Master Key systems for considerably large and prestigious projects all over the World.

TüR ensures customer satisfaction by achieving the security and master key management expected in modern buildings. The facility is maintained under strict European by-laws and cylinders are manufactured in accordance with CE and BS EN 1303 requirements.



TÜVRheinland ZERTIFIZIERT · Management System ISO 9001:2008 · DIN EN 1303 · SKG

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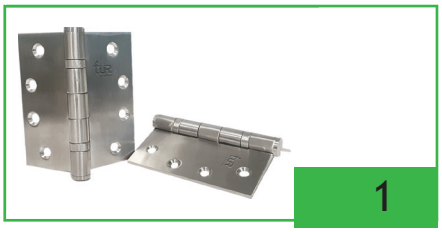
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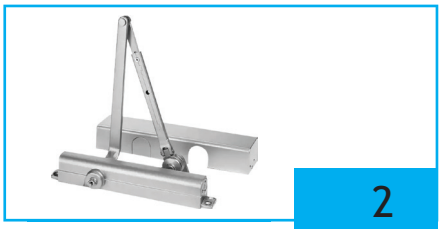
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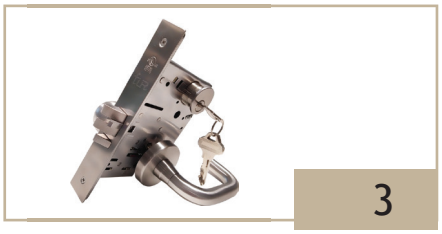
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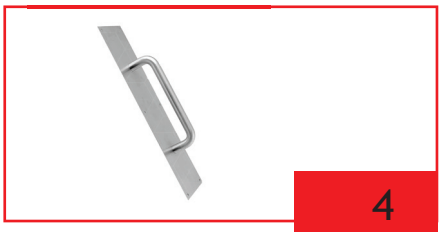
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ANSI was originally formed in 1918, when five engineering societies and three government agencies founded the American Engineering Standards Committee (AESC).In 1928, the AESC became the American Standards Association (ASA). In 1966, the ASA was reorganized and became United States of America Standards Institute (USASI). The present name was adopted in 1969.

The American National Standards Institute (ANSI / ænsi/ AN-see) is a private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States. The organization also coordinates U.S. standards with international standards so that American products can be used worldwide.

ANSI accredits standards that are developed by representatives of other standards organizations, government agencies, consumer groups, companies, and others. These standards ensure that the characteristics and performance of products are consistent, that people use the same definitions and terms, and that products are tested the same way. ANSI also accredits organizations that carry out product or personnel certification in accordance with requirements defined in international standards.

UL LLC is a global safety certification company headquartered in Northbrook, Illinois. It maintains offices in 46 countries. Established in 1894 as the Underwriters' Electrical Bureau a bureau of the National Board of Fire Underwriters), it was known throughout the 20th century as Underwriters Laboratories and participated in the safety analysis of many of that century's new technologies.

UL is one of several companies approved to perform safety testing by the U.S. federal agency Occupational Safety and Health Administration

THE IMPORTANCE OF ANSI CERTIFICATION

American National Standard Institute

Presentation Objectives

* General Overview of the ANSI Certification Program
* The Benefits of Certification

Specifying Builders Hardware

Because it impacts life safety and security, builders hardware is one of the few categories of functional hardware that are specified. Builders hardware is subject to repeated use and wear, and yet has to remain operational at all times. The security, fire resistance and egress capability of exits and entrances is reliant on the quality of their collective parts, including:

* Locksets
* Electric strikes
* Exit devices
* Electromagnetic locks
* Door closers

Why Specify Certified Products?

Standards establish performance requirements for hardware products, and in turn, products that are certified are guaranteed to meet the criteria called for by their standards.

Performance assurance is especially important for products that impact:

* Life Safety
* Security

Certified products are:

* Tested
* Graded
* Proven to meet the relevant standard
* Assured to do their job

Specifying Builders Hardware

A product that has been certified has been formally tested and shown to meet or exceed the minimum criteria of its standard. Builders hardware that has been certified meets the associated ANSI standard for:

* Durability
* Strength
* Performance
* Security

All ANSI certified hardware is subjected to independent third-party testing. Underwriters Laboratory (UL).

Benefits of Certification

A product that has been certified has been formally tested and shown to meet or exceed the minimum criteria of its standard. Builders hardware that has been certified meets the associated ANSI standard for:

* Product Improvement
* Quality Control
* Enhanced Industry Integrity

Steps to Certification

A product that has been certified has been formally tested and shown to meet or exceed the minimum criteria of its standard. Builders hardware that has been certified meets the associated ANSI standard for:

1. Testing: Performed at an independent laboratory or at an in-house lab that has been approved by an independent lab.

2. Statement of Compliance: An independent laboratory written statement declaring that the product complies with the standard.

3. Auditing: Regular follow-up factory audits of the product by an independent laboratory.

• Certification Levels

* Self-certification
* Affiliated certification
  (two-party certification)
* Third-party

• Certification Process

Finding and Identifying Certified Products

* Third-party certification may be labeled "UL Certified" and listed in the Underwriters Laboratory (UL) Products Directory.
* UL Certified Products Display the Mark

American National Standards

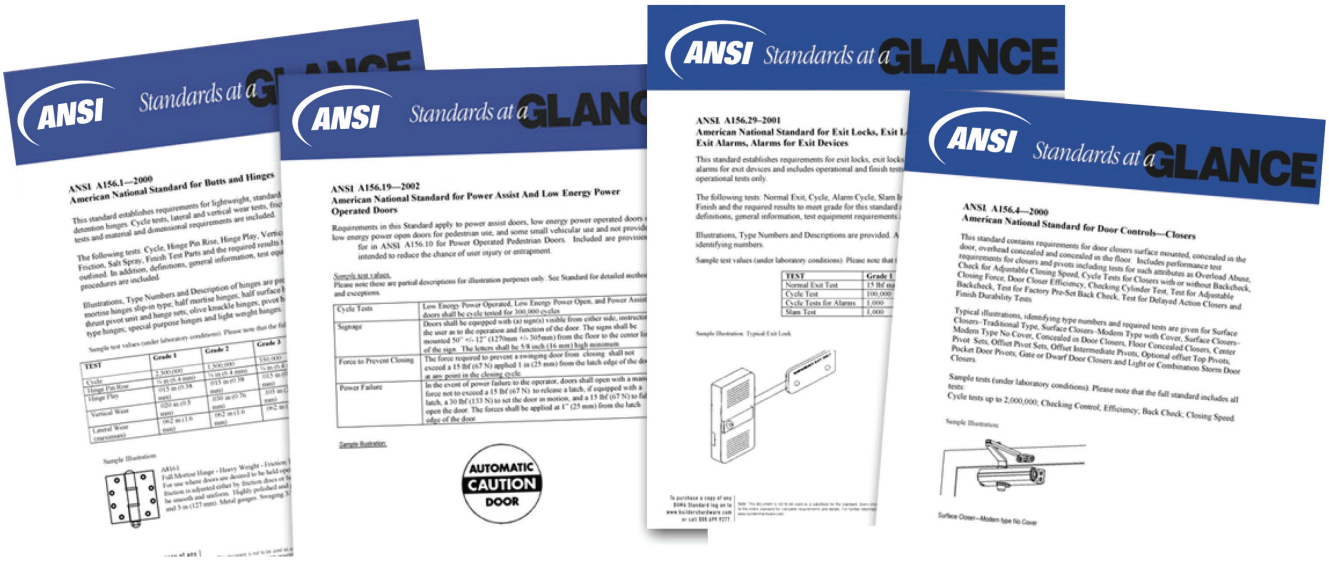
* ANSI has developed 35 standards for builders hardware, each of which impact safety and security, either directly or indirectly.

* The standards include products from hinges to exit alarms.

* Each product, when specified and installed properly, can make a significant difference in the event of an emergency.

• Standards-At-A-Glance

∗ ANSI Standards-at-a-Glance offer an abbreviated requirement listings and explanations of standards for products that are in the certification program.



• Performance Grades

Within the standards there are grades which indicate the extent to which the product meets or exceeds its standard.

∗ Grades are determined by tests designed to measure a product's performance capabilities.

∗ They assist the specifier in determining which product is most appropriate for a project.

Complete ANSI Numbers for Materials & Finishes

Finish Code Numbers

Code	Description	Base Material	Nearest Former U.S. Equivalent
600	Primed For Painting	Steel	USP
601	Bright Japanned	Steel	US1B
603	Zinc Plated	Steel	US2G
604	Zinc Plated And Dichromate Sealed	Steel	
605	Bright Brass, Clear Coated	Brass	US3
606	Satin Brass, Clear Coated	Brass	US4
607	Oxidized Satin Brass, Oil Rubbed	Brass	
608	Oxidized Satin Brass, Relieved, Clear Coated	Brass	
609	Satin Brass, Blackened, Satin Relieved, Clear Coated	Brass	US5
610	Satin Brass, Blackened, Bright Relieved, Clear Coated	Brass	US7
611	Bright Bronze, Clear Coated	Bronze	US9
612	Satin Bronze, Clear Coated	Bronze	US10
613	Dark Oxidized Satin Bronze, Oil Rubbed	Bronze	US10B
614	Oxidized Satin Bronze, Relieved, Clear Coated	Bronze	
615	Oxidized Satin Bronze, Relieved, Waxed	Bronze	
616	Satin Bronze, Blackened, Satin Relieved, Clear Coated	Bronze	US11
617	Darkened Oxidized Satin Bronze, Bright Relieved, Clear Coated	Bronze	US13
618	Bright Nickel Plated, Clear Coated	Brass, Bronze	US14
619	Satin Nickel Plated, Clear Coated	Brass, Bronze	US15
620	Satin Nickel Plated, Blackened, Satin Relieved, Clear Coated	Brass, Bronze	US15A
621	Nickel Plated, Blackened, Relieved, Clear Coated	Brass, Bronze	US17A
622	Flat Black Coated	Brass, Bronze	US19
623	Light Oxidized Statuary Bronze, Clear Coated	Bronze	US20
624	Dark Oxidized Statuary Bronze, Clear Coated	Bronze	US20A
625	Bright Chromium Plated	Brass, Bronze	US26
626	Satin Chromium Plated	Brass, Bronze	US26D
627	Satin Aluminum, Clear Coated	Aluminum	US27
628	Satin Aluminum, Clear Anodized	Aluminum	US28
629	Bright Stainless Steel	Stainless Steel 300 Series	US32
630	Satin Stainless Steel	Stainless Steel 300 Series	US32D
631	Flat Black Booted	Steel	US19
632	Bright Brass Plated, Clear Coated	Steel	US3
633	Satin Brass Plated, Clear Coated	Steel	US4
634	Oxidized Satin Brass Oil Rubbed	Steel	
635	Oxidized Satin Brass Plated, Relieved, Clear Coated	Steel	
636	Satin Brass Plated, Blackened, Bright Relieved, Clear Coated	Steel	US7
637	Bright Bronze Plated, Clear Coated	Steel	US9
638	Satin Brass Plated, Blackened, Satin Relieved Clear Coated	Steel	USS
639	Satin Bronze Plated, Clear Coated	Steel	US10
640	Oxidized Satin Bronze Plated Over Copper Plate, Oil Rubbed	Steel	US10B
641	Oxidized Satin Bronze Plated, Relieved, Clear Coated	Steel	
642	Oxidized Satin Bronze Plated, Relieved, Waxed	Steel	
643	Satin Bronze Plated, Blackened, Satin Relieved, Clear Coated	Steel	US11
644	Dark Oxidized Satin Bronze Plated, Bright Relieved, Clear	Steel	US13
645	Bright Nickel Plated, Clear Coated	Steel	US14
646	Satin Nickel Plated, Clear Coated	Steel	US15
647	Satin Nickel Plated, Blackened Satin Relieved, Clear Coated	Steel	US15A
648	Nickel Plated, Blackened Relieved, Clear Coated	Steel	US11 7A
649	Light Oxidized Bright Bronze Plated, Clear Coated	Steel	US20

Finish Code Numbers

Code	Description	Base Material	Nearest/ Former U.S. Equivalent
650	Dark Oxidized Statuary Bronze Plated, Clear Coated	Steel	US20A
651	Bright Chromium Plated	Steel	US26
652	Satin Chromium Plated	Steel	US26D
653	Bright Stainless Steel	Stainless Steel 400 Series	
654	Satin Stainless Steel	Stainless Steel 400 Series	
655	Light Oxidized Satin Bronze Bright Relieved, Clear Coated	Bronze	US13
656	Light Oxidized Satin Bronze Plated, Bright Relieved, Clear	Steel	US13
657	Dark Oxidized Copper Plated, Satin Relieved, Clear Coated	Steel	
658	Dark Oxidized Copper Plated, Bright Relieved, Clear Coated	Steel	
659	Light Oxidized Copper Plated, Satin Relieved, Clear Coated	Steel	
660	Light Oxidized Copper Plated Bright Relieved, Clear Coated	Steel	
661	Oxidized Satin Copper, Relieved, Clear Coated	Steel	
662	Satin Brass Plated, Browned, Satin Relieved, Clear Coated	Steel	
663	Zinc Plated With Clear Chromate Seal	Steel	
664	Cadmium Plated With Clear Chromate Seal	Steel	
665	Cadmium Plated With Iridescent Dichromate	Steel	
666	Bright Brass Plated, Clear Coated	Aluminum	US3
667	Satin Brass Plated, Clear Coated	Aluminum	US4
668	Satin Bronze Plated, Clear Coated	Aluminum	US10
669	Bright Nickel Plated	Aluminum	US14
670	Satin Nickel Plated	Aluminum	US15
671	Flat Black Coated	Aluminum	US19
672	Bright Chromium Plated	Aluminum	US26
673	Aluminum Clear Coated	Aluminum	
674	Primed For Painting	Zinc	USP
675	Dichromate Sealed	Zinc	
676	Flat Black Coated	Zinc	US19
677	Bright Brass Plated, Clear Coated	Zinc	US3
678	Satin Brass Plated, Clear Coated	Zinc	US4
679	Bright Bronze Plated, Clear Coated	Zinc	US9
680	Satin Bronze Plated, Clear Coated	Zinc	US10
681	Bright Chromium Plated	Zinc	US26
682	Satin Chromium Plated	Zinc	US26D
683	Oxidized Satin Brass Plated, Oil Rubbed	Zinc	
684	Black Chrome, Bright Brass, Bronze		
685	Black Chrome, Satin	Brass, Bronze	
686	Black Chrome, Bright	Steel	
687	Black Chrome, Satin	Steel	
688	Satin Aluminum, Gold Anodized	Aluminum	US4
689	Aluminum Painted	Any	US28
690	Dark Bronze Painted	Any	US20
691	Light Bronze Painted	Any	US10
692	Tan Painted	Any	
693	Black Painted	Any	(Black Aluminum Hard Coat)
694	Medium Bronze Painted	Any	(Bronze Aluminum Hard Coat)
695	Dark Bronze Painted	Any	(Dark Bronze Aluminum Hard Coat)
696	Satin Bronze Painted	Any	US4
697	Bright Brass Plated, Clear Coated	Plastic	US3
698	Satin Brass Plated, Clear Coated	Plastic	US4
697	Satin Bronze Plated, Clear Coated	Plastic	US10
700	Bright Chromium Plated	Plastic	US26
701	Satin Chromium Plated	Plastic	US26D
702	Satin Chromium Plated	Aluminum	US26D
703	Oxidized Satin Bronze Plated, Oil Rubbed	Aluminum	US10D
704	Oxidized Satin Bronze Plated, Oil Rubbed	Zinc	US10B

HIGHLIGHTS OF
NFPA 80

Highlights of NFPA 80 – Standard for Fire Doors and Other Opening Protectives 2007

Note: Numbers in brackets () refer to applicable sections of the publication.
An asterisk following a number indicates the presence of explanatory material within the Annex of the publication.

Equivalency (1.4)
- The Standard does not prohibit the development of new products that meet the intent of the requirements – it is the responsibility of the manufacturer to provide enough information to allow the AHJ to make a determination.

Job-Site Hardware Preparation (4.1.3)
- Job-Site prep of surface applied hardware and function holes, maximum 1" diameter holes is permitted.
- Maximum 3/4" undercut for wood and composite doors allowed.
- Any preparations other than noted above must be done under label service.
- Plant-ons are allowed per the manufacturer's listing.

Signage (4.1.4)
- Signage shall not exceed 5% of the area of the face of the door.

Listed and Labeled Products (4.2)
- Listed items are required to bear a label
- Labels shall be applied in locations that are readily visible after installation
- Generic items such as hinges are not labeled but must comply with specifications

Classification and Types of Doors (4.3)
- Swinging fire doors are permitted to be supplied separately with individually labeled frames and hardware
- Fire doors used with fire exit hardware shall be specifically labeled as such. Label shall address necessary reinforcements and the assembly shall have been tested for egress panic load requirements.
- AHJ shall be consulted for oversized doors

Glazing Material in Fire Doors (4.4)
- Only labeled fire resistance rated or fire protection rated glazing material and labeled lite kits may be used, when permitted by the door listing
- Allowable size of light depends on type of glazing and specific listings.
- Rule of thumb –
  - 1/2 and 1/3 hour rated – limited to maximum area tested (rule of thumb – 1296 square inches per door leaf)
  - 3/4 hour rated – 1296 square inches per door leaf
  - No dimension larger than 54", unless otherwise tested
  - 1 hour, 1-1/2 hour rated – limited to the maximum area tested (100 square inches in Temperature Rise Doors)
  - 3 hour rated – 100 square inches

Classification of Hardware for Fire Doors (4.6.3.2)
- Builders hardware shall not be required to be shipped from the factory with the fire doors

Sills (4.8.2)
- Noncombustible floors do not require special sills
- Combustible flooring is not permitted to extend through the door opening without the protection of non-combustible sills, 1/3 and 1/2 hour rated door openings are exempt
- Noncombustible sills shall be a minimum 4" wide, and shall extend from the face of the frame on the door side into the frame

Lintels (4.8.3)
- Lintels shall be brick, steel, reinforced concrete, or concrete/masonry arches
- The AHJ can allow other types of lintels

Undercuts (4.8.4)
- Maximum permitted undercut is 3/4"

Inspections (5.2*)

5.2.1* Fire door assemblies shall be inspected and tested not less than annually, and a written record of the inspection shall be signed and kept for inspection by the AHJ.

5.2.2* Performance-Based Option.

5.2.2.1 As an alternate means of compliance with 5.2.1, subject to the AHJ, fire door assemblies shall be permitted to be inspected, tested, and maintained under a written performance-based program.

5.2.2.2 Goals established under a performance-based program shall provide assurance that the fire door assembly will perform its intended function when exposed to fire conditions.

5.2.2.3 Technical justification for inspection, testing, and maintenance intervals shall be documented.

5.2.2.4 The performance-based option shall include historical data acceptable to the AHJ.

5.2.4.1 Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly.

5.2.4.2 As a minimum, the following items shall be verified:

(1) No open holes or breaks exist in surfaces of either the door or frame.
(2) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
(3) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
(4) No parts are missing or broken.
(5) Door clearances at the door edge to the frame, on the pull side of the door, do not exceed clearances listed in 4.8.4 and 6.3.1.
(6) The self-closing device is operational, that is, the active door completely closes when operated from the full open position.
(7) If a coordinator is installed, the inactive leaf closes before active leaf.
(8) Latching hardware operates and secures the door when it is in the closed position.
(9) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
(10) No field modifications to the door assembly have been performed that void the label.
(11) Gasketing and edge seals, where required, are inspected to verify their presence and integrity.

• Certified Standards

* **ANSI A156.1** Butts & Hinges
* **ANSI A156.2** Bored & Preassembled Locks & Latches
* **ANSI A156.3** Exit Devices
* **ANSI A156.4** Door Control-Closers
* **ANSI A156.5** Auxiliary Locks
* **ANSI A156.8** Door Controls, Overhead Stops & Holders
* **ANSI A156.9** Cabinet Hardware
* **ANSI A156.11** Cabinet Locks
* **ANSI A156.12** Interconnected Locks & Latches
* **ANSI A156.13** Mortise Locks
* **ANSI A156.15** Release Devices
* **ANSI A156.17** Self-Closing Hinges
* **ANSI A156.18** Materials & Finishes
* **ANSI A156.19** Power Assist & Low Energy Power Operated Doors
* **ANSI A156.21** Thresholds
* **ANSI A156.22** Gaskets
* **ANSI A156.23** Electromagnetic Locks
* **ANSI A156.24** Delayed Egress Locks
* **ANSI A156.25** Electrified Locking Devices
* **ANSI A156.26** Continuous Hinges
* **ANSI A156.29** Exit Locks & Alarms
* **ANSI A156.30** High Security Cylinders
* **ANSI A156.31** Electric Strikes
* **ANSI A156.36** Auxiliary Locks

Swinging Fire Door Components (6.1.2)
- components of a fire door assembly include a door, a door frame, hinges, a lock or latch, and a closing device
- components may also include an astragal, an automatic louver, a coordinator, flush or surface bolts, casketing, a holder/release device, protection plates, and glazing units

Operation of Doors (6.1.4)
- All swinging fire rated doors shall be closed and latched at the time of fire

Clearances (6.3.1.7)
- Clearances between the door and the frame shall be 1/8" +/- 1/16" for steel doors
- Clearances between the door and the frame shall not exceed 1/8" for wood doors
- Clearances at the meeting edges of pairs of doors shall be 1/8" +/- 1/16" for steel doors
- Clearances at the meeting edges of pairs of doors shall not exceed 1/8" for wood doors

Multiple Opening Door Frames (6.3.5)
- Individual frame sizes per the manufacturer's listing, not to exceed 12'8" in overall width
- Multiple opening frames adjoin each other in a fire-resistive wall, they must be separated by a minimum 16" wall section

Assembly Components (6.4)
- Closing Devices (6.4.1)
  - A closing device shall be required on every fire door.
  - All closing devices shall be adjusted to insure positive latching on each door operation.
- Coordinating Device (6.4.1.2)
  - Coordinators are required if a latch bolt or astragal can prevent the inactive door from closing and latching.
- Hinges (6.4.3.1)
  - hinges shall be made of steel, labeled continuous hinges are permitted in accordance with their listing
  - Mortise hinges shall be attached to doors with steel screws, surface hinges shall be attached with steel through-bolts (if shims are used, they must be fabricated from steel).
  - Doors up to 60 inches in height shall have 2 hinges, and an additional hinge for each additional 30 inches of height or fraction thereof. Distance between hinges may exceed 30".
  - Non-spring hinges shall be ball-bearing type, spring hinges shall be labeled, pivots may be used if approved and listed.

Shimming (6.4.3.4)
- Shimming of hinges to attain permitted clearances requires the use of steel shims

Locks or Latches (6.4.4)
  - Any lock, latch, or fire exit hardware shall meet both life safety and fire protection requirements.
  - Fire exit hardware to be installed only on doors labeled "Fire Door to be Equipped with Fire Exit Hardware".
  - All single doors and active leaves of pairs shall have an active latch bolt that cannot be held retracted –
    - Except doors not in a means of egress may have dead bolts in addition to the active latch bolts or as permitted by the AHJ.

Locks or Latches (6.4.4) Continued
- Locks with interconnected dead bolts which are retracted when the latch bolt is retracted are permitted.
- Automatic fail-safe devices which are activated by the fire protection system and become positively latched upon activation are permitted.
- Latch throw shall be as specified in the manufacturer's installation instructions.
- The inactive leaf on all pairs of doors, where not required for exit purposes shall have labeled self latching, or automatic flush bolts. Manual bolts can be used on rooms not normally occupied by humans (e.g. transformer vaults and storage rooms) (6.4.4.5.1)
- Doors in the means of egress shall not have dead bolts, unless the deadbolt is retracted when the latch bolt is retracted.

Protection Plates (6.4.5)
- Protective Plates more than 16" high require specific door manufacturer's listing.
- Factory installed protection plates permitted per the door manufacturer's listing.
- Field installed protection plates shall be labeled and installed per their listing

Astragals (6.4.7)
- There is no specific requirement for an astragal on doors rated more than 1-1/2hours. Check individual manufacturer's listing for astragal requirements.
- If an astragal is required, it must comply with the manufacturer's listing
- Doors in the means of egress, equipped with astragals, shall not inhibit the free use of either leaf.

Gasketing (6.4.8)
- Any gasketing used on fire doors shall be fire rated for its intended use.

Installation (6.5)
- All devices shall be installed in accordance with the manufacturers' instructions and shall be adjusted to function as described in the listing.

Temperature Rise (Annex D.7)
- Where fire doors are used in stairway enclosures, such doors shall be constructed so that the maximum transmitted temperature end point shall not exceed 450 degrees (F) above ambient temperature at the end of 30 minutes of the standard fire exposure test.

New in 2007. . .
Care and Maintenance
- A field modification of a fire rated door assembly does require that the laboratory whose label is on the assembly be contacted for authorization (5.1.5.2).
- Fire door assemblies shall be inspected and tested annually. A written record shall be kept.
- Functional testing shall be performed by knowledgeable individuals.

Highlights of NFPA 80 - Standard for Fire Doors and Fire Windows 1999

Note: Numbers in brackets ( ) refer to applicable sections of the publication

New Developments (1-2)
- new products - manufacturer is responsible for furnishing information
- AHJ is responsible for approving devices not described in NFPA 80

Job-Site Hardware Preparation (1-3.4)
- job-site prep for surface-applied hardware, function holes for mortise locks, viewers, 3/4″ max. undercutting and protection plates acceptable
- round holes through face of door only
- 1″ diameter maximum except cylinder holes

Glazing Material (1-7)
- labeled fire resistance-rated glazing material in labeled lite kits
- allowable size of lite depends on type of glass and fire-testing
- rule of thumb:
- 1/2 & 1/3 hour rated - limited to maximum area tested (rule of thumb is 1296 square inches per lite)
- 3/4 hour rated - 1296 square inches per lite, no dimension larger than 54″, unless otherwise tested
- 1 hour, 1 1/2 hour - limited to maximum area tested (100 square inches max. in temperature rise doors)
- 3 hour rated - 100 square inches

Lintels (1-11.3) (previously 2-2)
- Lintels shall be brick, steel, reinforced concrete, or concrete/masonry arches
- The AHJ can allow other types of lintels

Sills (1-11.2) (previously 2-3)
- sills shall be constructed of noncombustible materials
- frames with a 4″ jamb depth or less - sill width shall be equal to the jamb depth
- frames with a jamb depth greater than 4″ - sill width shall be 4″ minimum and shall be installed so that the sill extends from the face of the frame on the door side into the frame
- combustible floor covering shall not extend through 3-hour rated openings

Swinging Doors with Builders Hardware Assembly Components (2-4)
- normal components of a fire door assembly include a door, a door frame, hinges, a lock or latch, and a closing device
- components may also include an astragal, an automatic louver, a coordinator, flush or surface bolts, gasketing, a holder/release device, protection plates, and glazing units

Door Frames & Clearances (1-11.4 & 2-3.1.7) (previously 2-5)
- door frames for drywall installation shall be the wrap-around type
- door frames with expansion bolt anchors are for use in masonry walls only
- clearances
- head, jambs, and meeting stiles on pull side - 1/8″ +/- 1/16″ for metal doors, 1/8″ maximum for wood doors (steel hinge shims may be used to meet these clearances - 2-4.3.4)
- bottom of door - 3/8″ max. between bottom of door and raised noncombustible sill, 3/4″ max. between bottom of door and floor where there is no sill, 5/8″ max. between bottom of door and rigid floor tile, 1/2″ max. between bottom of door and nominal surface of floor coverings

New in 1999. . .

"15-2.5.4 When holes are left in a door or frame due to changes or removal of hardware or plant-ons, the holes shall be repaired by the following methods:
(a) Install steel fasteners that adequately fill the holes
(b) Fill the screw or bolt holes with the same material as the door or frame"

Hinges (2-4.3.1) (previously 2-8.1)

- hinges shall be made of steel, Labeled continuous hinges are permitted in accordance with their listing
- mortise hinges shall be attached to doors with steel screws, surface hinges shall be attached with steel through-bolts (if shims are used, they must be fabricated from steel)
- doors up to 60 inches in height shall have 2 hinges, and an additional hinge for each additional 30 inches of height or fraction thereof
- non-spring hinges shall be ball-bearing type, spring hinges shall be labeled, pivots may be used if approved and listed

Locks or Latches (2-4.4) (previously 2-8.2)

- fire doors with exit devices must have fire exit hardware
- all single doors and active leaves of pairs shall have an active latch bolt that cannot be held retracted
- except doors not in a means of egress may have dead bolts in addition to the active latch bolts or as permitted by the AHJ
- locks with interconnected dead bolts which are retracted when the latch bolt is retracted are permitted
- automatic fail-safe devices which are activated by the fire protection system and become positively latched upon activation are permitted

Protection Plates (2-4.5) (previously 2-8.3)

- factory-installed protection plates shall be installed in accordance with the listing of the door
- field-installed protection plates shall be labeled and installed in accordance with their listing
- exception: labeling is not required where the top of the plate is not more than 16″ above the bottom of the door

Closing Devices (2-4.1) (previously 2-8.5)

- where there is an astragal or latch bolt that prevents the inactive door from closing and latching before the active door closes and latches, a coordinating device shall be used
- a coordinating device shall not be required where each door closes and latches independently
- where pairs of doors are provided for mechanical equipment rooms to allow the movement of equipment, the closing device may be omitted on the inactive leaf if approved by the AHJ
- closing devices shall be attached to doors and frames by steel screws or through-bolts
- all swinging doors shall be closed and latched at the time of fire

Astragals (2-4.7) (previously 2-9)

- pairs of doors rated for more than 1 1/2 hours shall have an overlapping astragal unless otherwise tested and approved
- pairs of doors in a means of egress shall not be equipped with astragals that inhibit the free use of either leaf

Gasketing (2-4.8) (previously 2-10) -

- Any gasketing used on fire doors shall be fire rated for its intended use.

Temperature Rise (E-7)

- where fire doors are used in stairway enclosures, such doors shall be constructed so that the maximum transmitted temperature end point should not exceed 450 degrees (F) above ambient temperature at the end of 30 minutes of the standard fire exposure test

Did you Know?

The 2002 Edition of NFPA 70 National Electric Code requires certain electric rooms to have doors that open in the direction of egress and are "equipped with panic bars, pressure plates, or other devices that are normally latched but open under simple pressure." According to Article 110 of the 2002 NFPA 70 National Electric Code, personnel doors serving the following types of rooms must comply:

- Rooms housing large equipment - 600 Volts, nominal or less, 1200 amperes or more.
- Rooms housing conductors and equipment used on circuits of over 600 Volts, nominal.
- Transformer Vaults

Highlights of the ADA - Americans with Disabilities Act

July 23, 2004 Edition
Note: Numbers in brackets ( ) refer to applicable sections of the publication.

Clear Opening Width (404.2.3)
- 32″ (815mm) minimum clear opening width required for swinging doors
- measured with door open 90°, face of door to stop on strike jamb
- openings more than 24″ (610 mm)deep - 36″ (915 mm) clear opening required
- at least one leaf of a pair must comply (the active leaf)
- "There shall be no projections into the required clear opening width lower than 34"(865mm) above the floor or ground. Projections into the clear opening width between 34 inches (865mm) and 80 inches (2030mm) above the floor or ground shall not exceed 4" (100 mm). Exception1. In alterations a projection of 5/8"(16 mm) maximum into the required clear opening width shall be permitted for the latch side stop." 2. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

Thresholds (404.2.5)
- 1/2″ (13mm) high maximum
- change in level of 1/4″ (6.4 mm) may be vertical; change in level of 1/4″ (6.4 mm) to 1/2″ (13 mm) must be beveled with a slope not steeper than 1:2; change in level over 1/2″ (6.4 mm) must be a ramp sloped 1:12
- Exception:Existing or altered thresholds 3/4" (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5

Door Hardware (404.2.7)
- controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, tight pinching, or twisting of the wrist
- force required to activate controls and operating mechanisms - 5 lb (22.2 N) max.
- mounted 34″ (22.2 N) to 48″ (1220 mm) above the floor or ground (except locks used for security purposes only)
- operating hardware for sliding doors must be exposed and usable from both sides when doors are fully open

Closing Speed (404.2.8)
- current requirement: 3 seconds minimum from open position of 70° to a point 3" (75 mm) from the latch, proposed:
- door closers - 5 seconds minimum from open position of 90° to 12° (delayed action is not a code requirement)
- spring hinges - 1.5 seconds minimum from open position of 70° to closed position, measured under ambient conditions

Opening Force (404.2.9)
- interior hinged doors: 5 lbf. (22.2N) maximum; sliding or folding doors: 5 lbf. (22.2N) maximum, exterior hinged doors: not mentioned
- fire doors: minimum allowed by the appropriate administrative authority (size 3 closer recommended for 3' wide interior fire doors per NFPA 80)
- Advisory 404.2.9 Door and Gate Opening Force. The maximum force pertains to the continuous application of force necessary to fully open a door, not the initial force required to overcome the inertia of the door. It does not apply to the force required to retract bolts or to disengage other devices used to keep the door in a closed position.

Door Surface (404.2.10)
- bottom 10″ (255 mm) of swinging doors shall have a smooth surface on the push side extending full width of door
- parts creating horizontal or vertical joints shall be within 1/16" (1.6 mm) of the same plane as the other
- cavities created by added kick plates shall be capped
- exceptionssliding doors, tempered glass doors without stiles with a tapered bottom rail, doors that do not extend to within 10″ (255 mm)of the ground

Vision Lites (404.2.11)
- Vision lites in doors and sidelites adjacent to doors - bottom of at least one lite must be 43"(1090mm) maximum above the floor or ground

Automatic Doors (404.3)
- must comply with ANSI/BHMA A156.10 (2005 Edition high energy) or A156.19 (2007 Edition low energy)
- clear opening width - 32" (815 mm) minimum - based on clear opening provided by all leafs in the open position
- mount actuators between 36″ (915 mm) and 48″ (1219 mm) above the floor or ground

On January 14th, 2004, the Access Board unanimously approved new guidelines covering access to facilities covered by the Americans with Disabilities Act (ADA). The approved rule overhauls the existing ADA Accessibility Guidelines (ADAAG), which were first published in 1991. The rule also revises guidelines for federally funded facilities required to be accessible under the Architectural Barriers Act (ABA).

HANG THE DOOR

1

Full Mortise Hinges - Heavy Weight

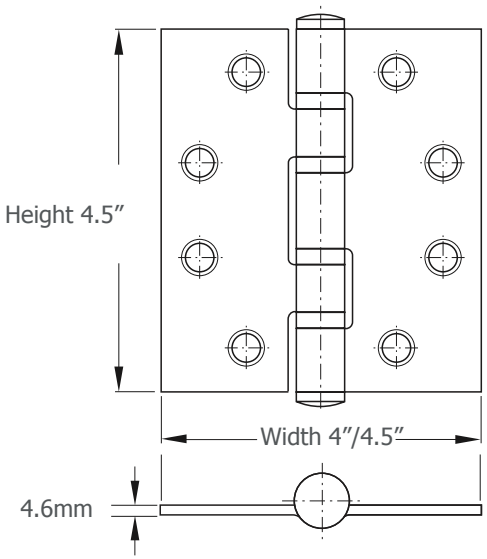
Full mortise hinge for use on heavy weight doors that have high frequency service. They are suitable for hollow metal or wood doors.

TA4000 Series Heavy Duty Hinges

Certification: ANSI A156.1 and UL Certified

Description: Heavy Weight 5 Knuckle 4 ball bearing hinges Stainless Steel

Model No:	Inches	mm	Inches	mm
TA 4030	4-1/2" X 4"	(114 X 102)	0.180	(4.6)
TA 4040	4-1/2" X 4"	(114 X 114)	0.180	(4.6)
TA 5030	5" x 4"	(127 X 102)	0.190	(4.6)
TA 5040	5" x 4.5"	(127 X 114)	0.190	(4.6)
TA 5050	5" x 5"	(127 X 127)	0.190	(4.6)



Options: NRP/ETW/PIC/RC/HT
cUL Listing stamp for fire
SS316 grade available upon request

How to order.

Brand Identity	Model No:	Ball Bearing	Tip type	Pin type	Finish
TA	4030	4BB	-Flat Tip	-Removable Pin	630
	4040		BT-Button Tip	NRP -Non Removable Pin	629
	5030		HT-Hospital Tip	ET -Electric Through Wire	626
	5040			PIC -Plug in Connector	625
	5050			RC -Radius Corner	606
					605

Ex: TA4030.4BB.NRP.630

Full Mortise Hinges - Standard Weight

Full mortise hinge for use on medium weight doors that have medium to high frequency service. They are suitable for hollow metal or wood doors.

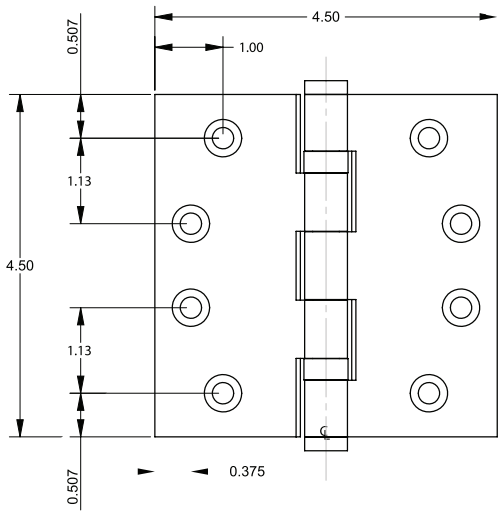
TA4000 Series Standard Duty Hinges

Certification: ANSI A156.1 and UL Certified

Description: Standard Weight 5 Knuckle 2 ball bearing hinges Steel

Model No:	Inches	mm	Inches	mm
TA 4010	4.5" x 4"	(114 X 102)	0.134	(3.4)
TA 4020	4.5" x 4.5"	(114 X 114)	0.134	(3.4)
TA 5010	5" x 4"	(127 X 102)	0.146	(3.4)
TA 5020	5" x 4.5"	(127 X 114)	0.146	(3.4)

Options: NRP/ETW/PIC/RC
cUL Listing stamp for fire
SS316 grade available upon request



How to order.

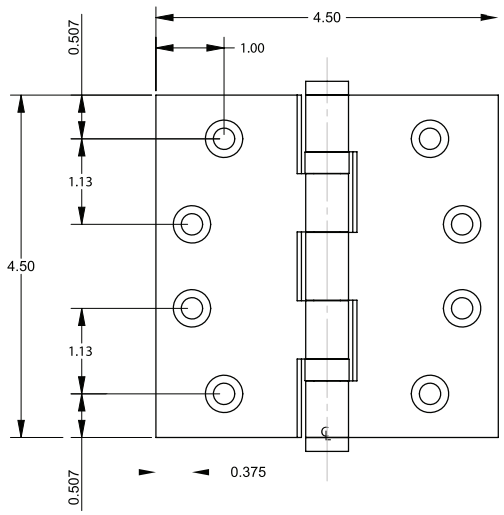
Brand Identity	Model No:	Ball Bearing	Tip type	Pin type	Finish
TA	4010	2BB	-Flat Tip	-Removable Pin	630
	4020		BT-Button Tip	NRP -Non Removable Pin	629
	5010		HT-Hospital Tip	ET -Electric Through Wire	626
	5020			PIC -Plug in Connector	625
				RC -Radius Corner	606
					605

Ex: TA4010.2BB.NRP.630

1

Full Mortise Hinges - Standard Weight

Full mortise hinge for use on medium weight doors that have medium to high frequency service. They are suitable for hollow metal or wood doors.



TE4000 Series Standard Duty Hinges

Certification: ANSI A156.1 and UL Certified

Description: 5 Knuckle 2 and 4 ball bearing hinges Steel

Model No:	Inches	mm	Inches	mm
TE 4110	4″ x 3″	(102 X 76)	0.118	(3)
TE 4120	4″ x 3.5″	(102 X 89)	0.118	(3)
TE 4130	4″ x 4″	(102 X 102)	0.118	(3)
TE 4216	4.5″ x 4″	(114 X 102)	0.118	(3)
TE 4220	4.5″ x 4.5″	(114 X 114)	0.118	(3)
TE 4140	4″ x 4″	(102 X 102)	0.134	(3.4)
TE 5110	5″ x 3″	(127 X 76)	0.118	(3)
TE 5120	5″ x 3.5″	(127 X 89)	0.118	(3)
TE 5130	5″ x 4″	(127 X 102)	0.118	(3)

Options: NRP
cUL Listing stamp for fire
SS316 grade available upon request

How to order.

Brand Identity	Model No:	Ball Bearing	Tip type	Pin type	Finish
TE	4110	2BB	-Flat Tip	-Removable Pin	630
	4120	4BB	BT-Button Tip	NRP -Non Removable Pin	629
	4130				626
	4216				625
	4220				606
	4140				605
	5110				
	5120				
	5130				

Ex: TE4010.2BB.NRP.630

Detention Hinges

TA4200 Heavy Duty

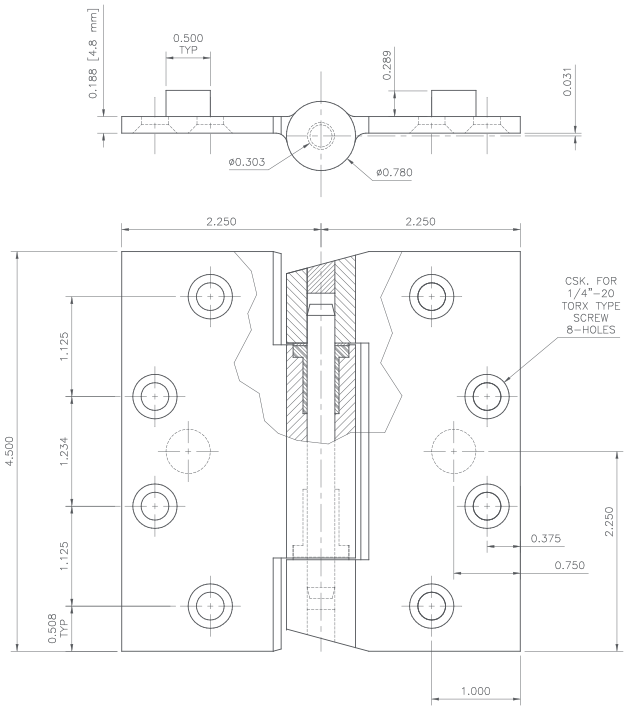
Certification: ANSI A156.1 and UL Certified

Description: Heavy Weight 5 Knuckle 4 ball bearing hinges Stainless Steel

Model No:	Inches	mm	Inches	mm
TA 4210	4-1/2" X 4"	(114 X 102)	0.190	(4.8)
TA 4220	4-1/2" X 4-1/2"	(114 X 114)	0.190	(4.8)

Full Mortise Butt Hinge with Shear Resistant Stud with Slopped Tips

Finish: C32D



How to order.

Brand Identity	Model No:	Tip type	Pin type	Finish
TA	4210	ST- Slopped Tip	-Removable Pin	C32D-Cast Stainless Steel
	4220		SR -Shear Resisrant stud	

Ex: TA4210.ST.SR.630

1

Concealed Bearing Hinges

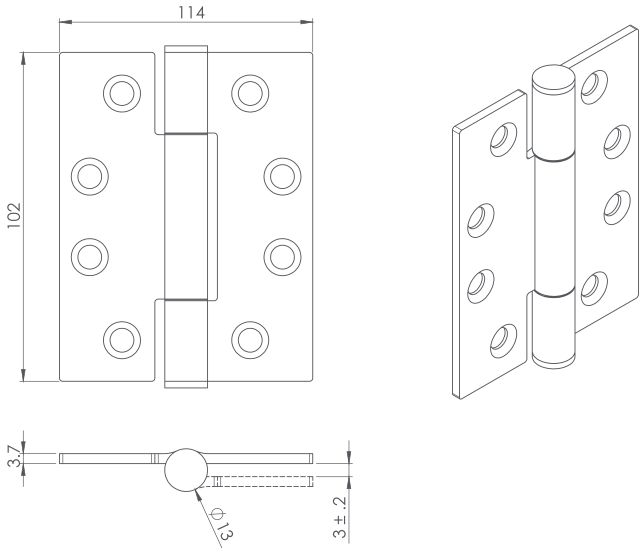
TA4300

Certification: ANSI A156.1 and UL Certified

Description: Standard Weight Concealed bearing 3 knuckle hinges Stainless Steel

Model No:	Inches	mm	Inches	mm
TA 4310	4-1/2" X 4"	(114 X 102)	0.134	(3.4)
TA 4320	4-1/2" X 4-1/2"	(114 X 114)	0.134	(3.4)
TA 4330	5"X 4"	(102 X 102)	0.146	(3.7)
TA 4340	5" X 4-1/2"	(127 X 114)	0.146	(3.7)
TA 4350	5"X 5"	(127 X 127)	0.146	(3.7)

Options: NRP/ETW/PIC/RC/HT
cUL Listing stamp for fire



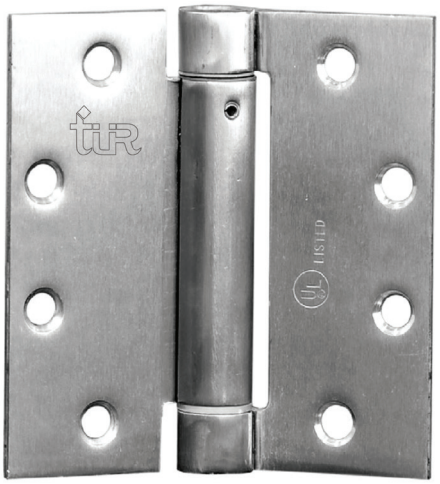
How to order.

Brand Identity	Model No:	Ball Bearing	Tip type	Pin type	Finish
TA	4310	2BB	-Flat Tip	-Removable Pin	625
	4320		BT-Button Tip	NRP -Non Removable Pin	626
	4330		HT-Hospital Tip	ETW-Electric Through Wire	613
	4340			PIC -Plug in Connector	
	4350			RC -Radius Corner	

Ex: TA4310.2BB.BT.NRP.626

Spring Hinge- Standard Weight

Single action hinges



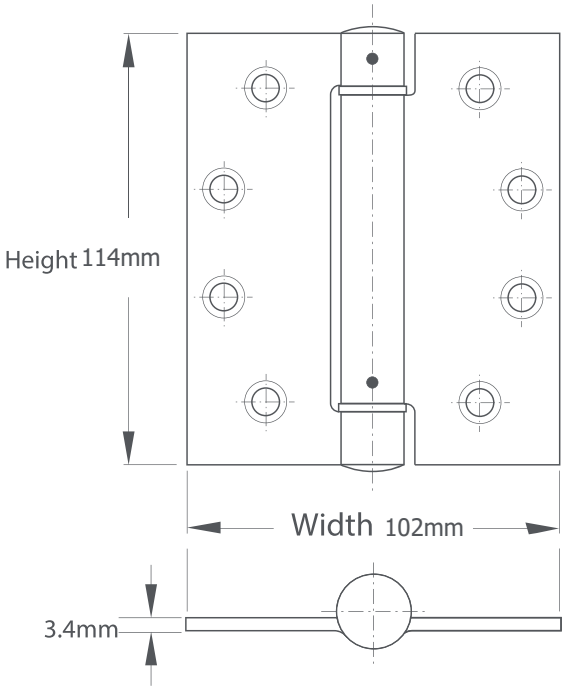
TA4400

Certification: ANSI A156.17 and UL Certified

Description : Standard Weight, Spring hinges Steel

Model No:	Inches	mm	Inches	mm
TA 4410	4-1/2" X 4"	(114 X 102)	0.134	(3.4)
TA 4420	4-1/2" X 4-1/2"	(114 X 114)	0.134	(3.4)

Options: US26D/626
US32D/630
RC - Radius Corner



How to order.

Brand Identity	Model No:	Spring Hinge	Finish
TA	4410	SA -Single Action	626
	4420		630

Ex: TA4410.SA.626

1

Spring Hinge- Standard Weight

Double action hinges

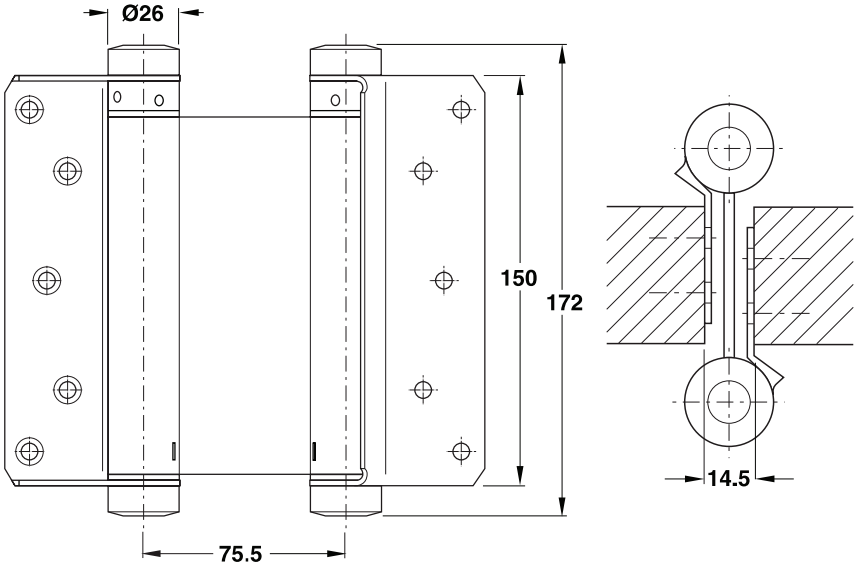
TA4400

Certification: ANSI A156.17 and UL Certified

Description : Standard Weight, Spring hinges Steel

Model No:	Inches	mm
TA 4460	6”	(150)

Options: US26D/626
US32D/630
RC - Radius Corner



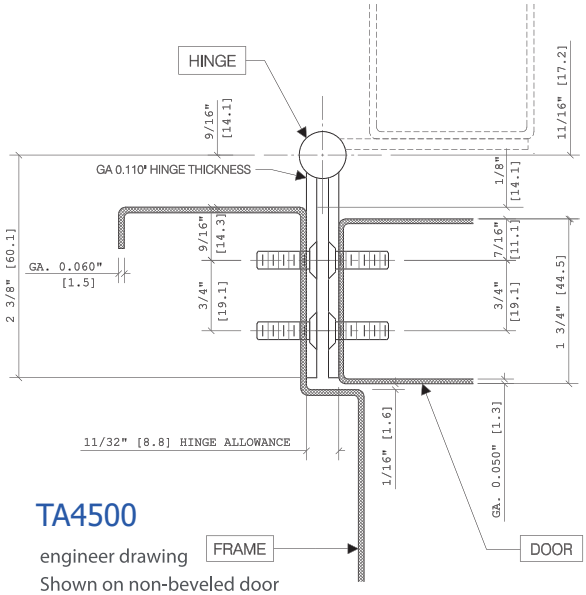
How to order.

Brand Identity	Model No:	Spring Hinge	Finish
TA	4460	DA -Double Action	626
			630

Ex: TA4460 DA 626

Continuous Hinges

Full Mortise Pin And Barrel Continuous Hinge



TA4500

engineer drawing

Shown on non-beveled door

TA4500

Certification: ANSI A156.26 and UL Certified

Description : Full Mortise Pin And Barrel Continuous Hinge

For Doors Weighing up to 600 pounds
Non Handed
1/8" Inset
48" Maximum Door Width
Bevel or Square Edge Door

Model No:	Inches
TA 4510	6'8"
TA 4520	7'2"
TA 4530	8'
TA 4540	10'

Options: US26D
RC

Material	**Fire Rating**
931- Aluminum	Non Rated
941-Cold Rolled Steel	ULC up to 3 hours
951-14 Gauge Type 304 Stainless Steel	ULC up to 3 hours

Finishes	**931**	**941**	**951**
BHMA	628	600	630
US Number	US28	USP	US32D

How to order.

Brand Identity	Model No:	Type	Material	Finish
TA	4510	FM -Full Motise	931-Aluminum	628
	4520	FW -Full Wrap	941-Cold Rolled Steel	600
	4530	FWE-Full Wrap Edge Guard	Stainless Steel 304	630
	4540	HWE-Half Wrap Edge		
		HM -Half Motise		
		HMG-Half Motise With Guard pin		
		SC -Swing Clear		
		SM -Surface Mount		

Ex: TA4510.FM.931.628

1

3D Adjustable Concealed Hinge

These hinges are continuously adjustable for height,side and closing pressure.
For a truly flush panel appearance this hinge will be the delight of architects and designers alike.

TA4600

Certification: ANSI A156.17 and UL Certified

Model No:	Weight
TA 4610	40kg
TA 4620	60kg
TA 4630	80kg
TA 4640	120kg
Options:	US26D
	RC

Up To 120kg/2pcs. (264 Lbs.)
Features And Technical Data
For Wood Doors And Frames
Concealed Installation
Easy To Adjust
180 Degree Opening

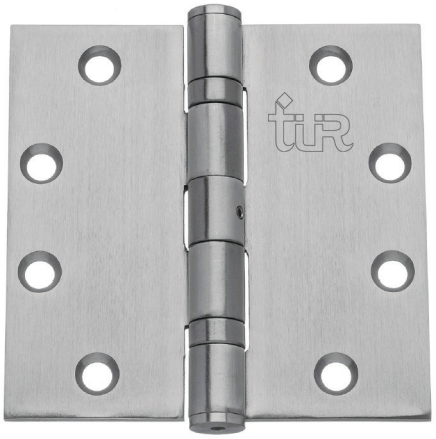
How to order.

Brand Identity	Model No:	Type	Size	Finish
TA	4610	3D	40kg	630
	4620		60kg	629
	4630		80kg	604
	4640		120kg	606
				625
				626
				612
				613
				619

Ex: TA4610.3D.630

NON REMOVABLE PIN (NRP)

NRP: Set screw in barrel lock in loose pin as shown.Set screw is not accessible when door is closed. Specify "NRP" (non-removable pin) when ordering



RADIUS CORNER (RC)

Radius Corner: Primarly For Use On Aluminum Doors And Frames. This Feature Is Available In Both 1/4" And 5/8" Radius. Specify: "Rc" And Radius When Ordering.

1

PLUG IN CONNECTOR (PIC)

Plug in connector. Makes connection in field faster and creates a postive interlock between the hinge side of door and the device the hinge is connected to. Specify:"PIC"and wire guage, and number of wires when ordering.

ELECTRIC THROUGH WIRE (ETW)

Electric Through Wire: For Use When Power Is Required To The Door.
Applications Include Electrified Panics Such As Electric Latch Retraction
Or Push Pad And / Or Latchbolt Monitoring. Other Application Include Electrically
Locked Or Electrically Unlocked, Card Readers And Request To Exit Functions. Specify: "Etw" Hinge
And The Number Of Wires Required. Normally This Feature Is Available With
(2@18awg), (4@28awg) , (8@28awg) Or (12@28awg) Wire. Standard Length Is 12" X 48".
Hinges Should Be Installed In Centre Hinge Location.

Packed One Perbox.
Note: Other Wire Lengths Availability By Order.

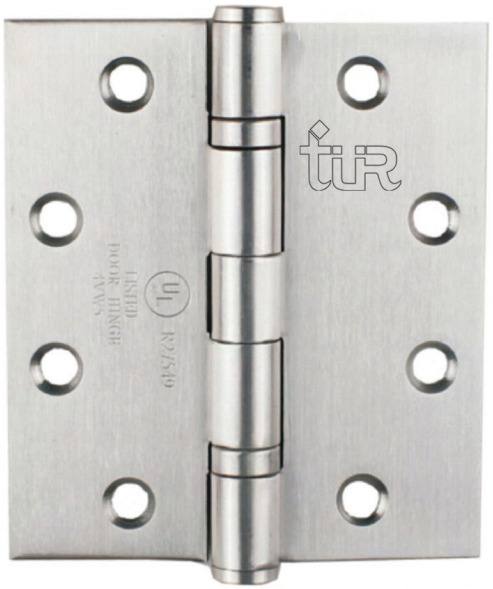
HOSPITAL TIP (HT)

Hospital Tip: Barrel Ends Are Sloped, Making It Easier To Clean And Making It Difficult To Attach Rope, Clothing Or Other Ligatures. The Pin Is Held In Place By A Cross Pin For Security Reasons. Specify "Ht" When Ordering. Not Available On All Models.

FIRE RATED (cUL MARKED)

Full mortise, butt hinges, 3-knuckle and 5 knuckle standard and heavy weight for use on swinging-type fire doors rated upto and including 3 hour. Available for the following models:

Standard weight	Heavy weight
TA4010	TA4030
TA4020	TA4040
TA4072	TA4050
TA4074	TA4060
	TA4080
	TA4082
	TA4084



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Hinge Specification Guide

Factors determining selection for the proper hinge.

A) Type of door and frame.
B) Size, thickness and weight of door with all hardware accessories.
C) Clearance required.
D) Use - Exterior or interior, frequency.
E) Exposure (sea air, dust, corrosive atmosphere, etc.).
F) Quality desired.
G) Special application or use.
H) Door accessories (overhead holders, closers, stops, lock plates, etc.) which affect hinge performance.
I) Hinge edge of door beveled or square.

Requirements for selection of proper hinge specification.

1. **Kind of hinge.**
   Primary consideration is given to the type of door and jamb for selection of a definite kind of hinge.

2. **Type of hinge - Ball bearing, plain, etc.**
   The weight of the door and frequency used determine whether a heavy weight, standard weight, ball bearing or plain bearing hinge should be used - Heavy weight hinges should always be used on heavy doors and doors where high frequency service is expected - Use ball bearing hinges on doors equipped with closers and on fire doors.

3. **Size of hinge.**
   Determined by width, thickness and weight of door and trim to clear.

4. **Kind of metal.**
   Determined by considerations such as atmospheric conditions, location of doors, or special conditions as in chemical laboratories sewage disposal plants, etc. Non ferrous metal must always be used for rust resistance.

5. **Quality of finish.**
   Finish on hinges is always furnished to our standard and government standard finishes. When an exact match of another manufacturer s finish is desired, submit sample. (Minimum quantity required).

6. **Location of hinges on doors and maintenance.**
   Improper maintenance or wrong installation of hinges can affect the life of the product and cancel the guarantee.

7. **Number of hinges required on doors and maintenance.**
   Always specify at least three hinges to a door ... because the third hinge shares the load with the other two hinges and increases the life of the installation and prevents warpage of doors.
   Doors with closers, holders and stops are subject to forces and stresses not encountered in free hanging and free swinging doors. These doors require a hinge with particularly good lateral load capacities to be able to take such stresses. The top hinge suffers severe abuse, and to the extend that it loosens, the centre hinge takes up the load.

8. **Hand of door.**
   Anchor type, raised barrel hinges, etc. are handed and should be specified right or left hand.

9. **Industrial.**
   Hinges described in this catalogue, can be modified to meet the requirements of industry. Your inquiries, with detailed drawing of requirements, are cordially invited by our technical department. (Minimum quantity required).

10. **Packing**
    Our products are packed and protected in strong approved containers. All hinges are individually wrapped to protect the finish and packed one and a half pair (1 1/2) per box with full machine and full wood screws.

11. **Screws**
    Packed with minimum full machine and half wood.

Application determines different kind of hinges.

Full mortise
Wood Doors, Wood Jamb

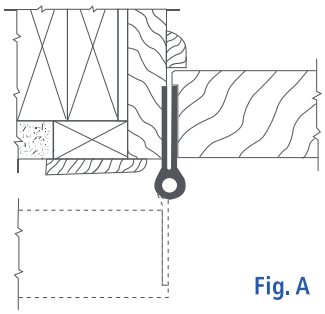


Fig. A

Full mortise
Wood Doors, Hollow Metal Jamb

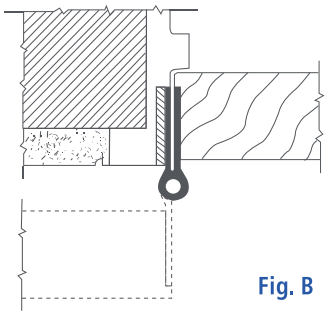


Fig. B

Full mortise
Hollow Metal Doors,
Hollow Metal Jamb

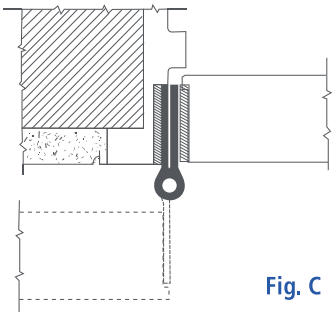


Fig. C

Half mortise
Hollow Metal Doors
Channel Iron Jamb

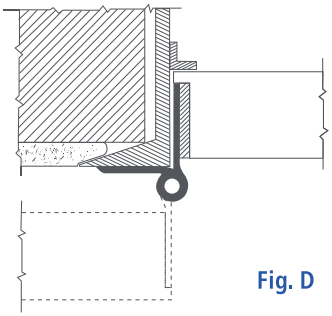


Fig. D

Half surface
Wood Doors, Wood Jamb

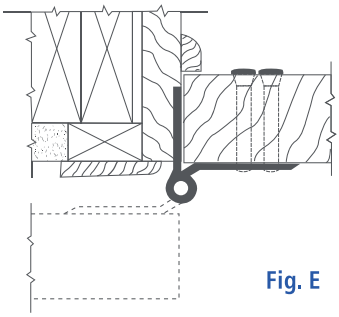


Fig. E

Half surface
Kalamein Doors,
Hollow Metal Jamb

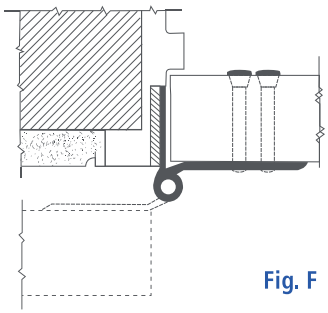


Fig. F

Full surface
Kalamein Doors, Channel Iron Jamb

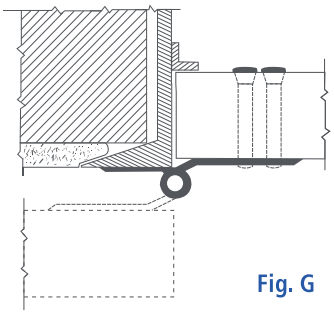


Fig. G

Full surface
Hollow Metal Doors
Channel Iron Jamb

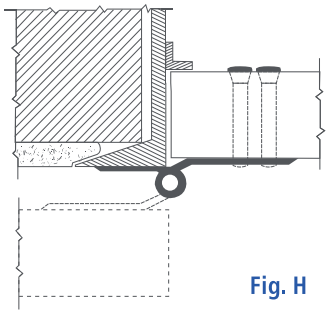


Fig. H

"Swing Clear" Full mortise
Wood Doors, Hollow Metal Jamb

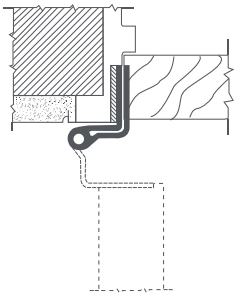


Fig. I

"Swing Clear" half mortise
Wood Doors
Channel Iron Jamb

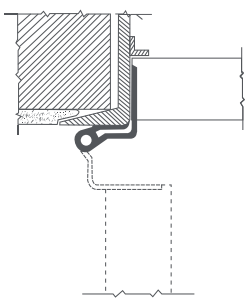


Fig. J

"Swing Clear" half surface
Kalamein Doors,
Hollow Metal Jamb

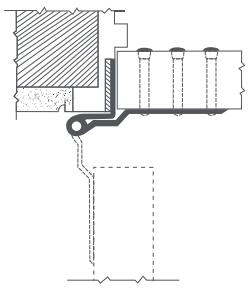


Fig. K

"Swing Clear" full mortise
Kalamein Doors,
Channel Iron Jamb

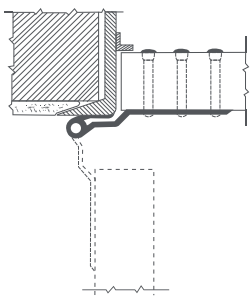


Fig. A

1

Recommendations for Sizes of Hinges

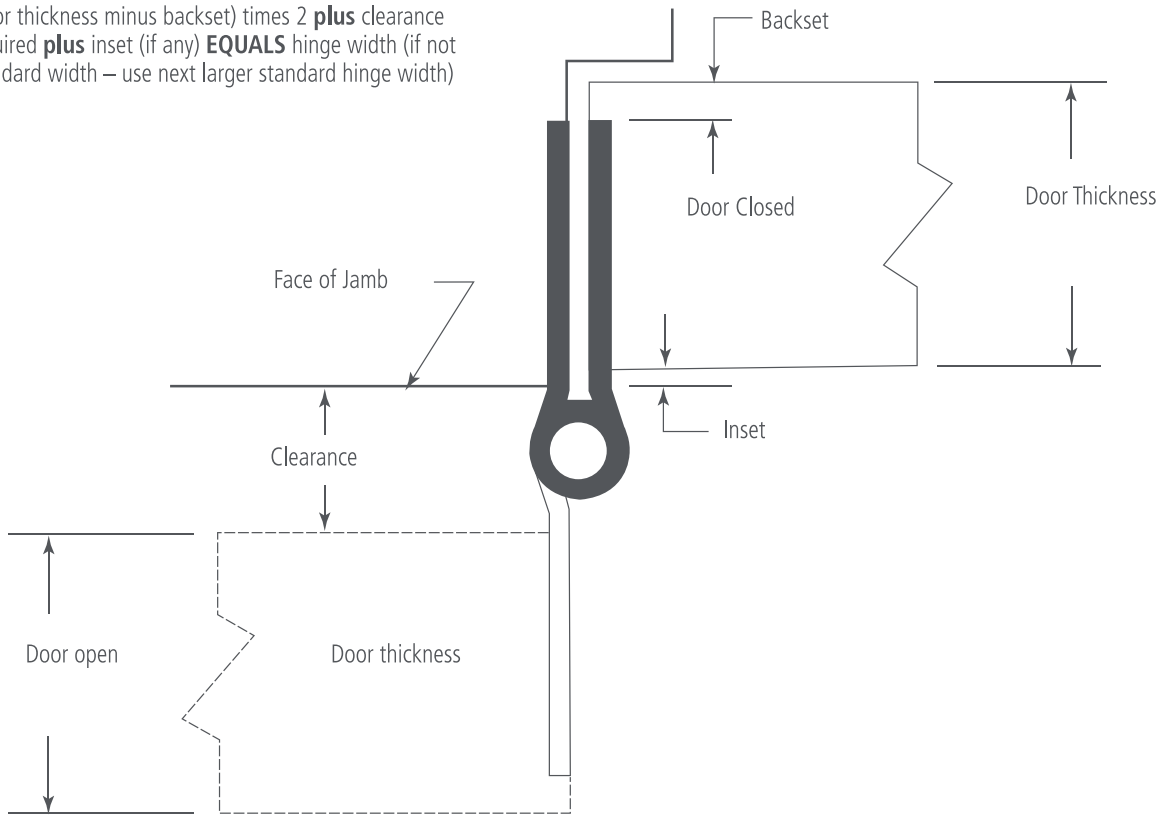
Door Thickness	Door Width	Hinge Height	Hinge Width
Inches	Inches	Inches	Inches
1 3/8	Up to 32	3 1/2	3 1/2
	Over 32	4	3 1/2
1 3/4	Up to 36	4 1/2	4
	Over 36	5	4 1/2
	Up to 48	5	5
2	Up to 42	5	4 1/2
2 1/4	Up to 42	5	5
2 1/2	Up to 42	5	5.

Door Thickness	Door Width	Hinge Height	Hinge Width
mm	mm	mm	mm
35	Up to 800	88	88
	Over 800	101	88
44	Up to 900	114	101
	Over 900	127	114
	Up to1200	127	127
50	Up to 1050	127	114
57	Up to 1050	127	127
63	Up to 1050	127	127

Formula to determine hinge width under normal conditions

Known factors : 1) Door thickness
2) Backset
3) Clearance required
4) Inset

(door thickness minus backset) times 2 **plus** clearance required **plus** inset (if any) **EQUALS** hinge width (if not standard width – use next larger standard hinge width)



Location of Hinges on Doors

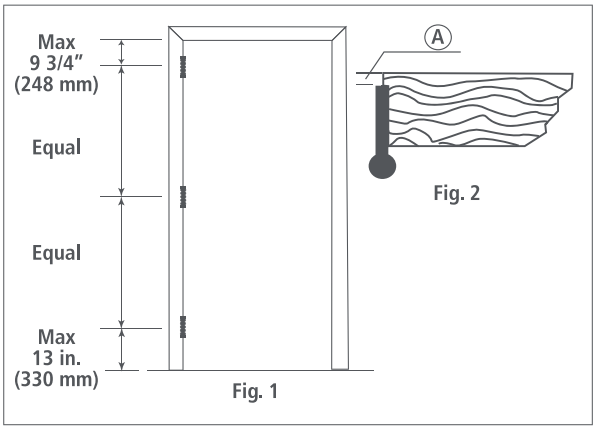


Fig. 1

Fig. 2

For doors up to 2 1/4 in. (57 mm) thick, hinges are applied 1/4 in. (6 mm) from edge. Ⓐ
For doors over 2 1/4 in. (57mm) thick, hinges are applied 3/8 in. (10 mm) from edge. Ⓐ

Hinge Maintenance:

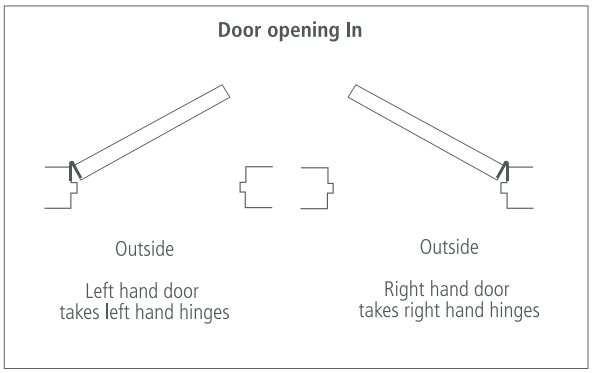
For general maintenance of Architectural grade hinges, we recommend that the pins be removed and liberally coated with general purpose grease, then re-inserted and the excess wiped off. Also we highly recommend that all attaching screws be checked for tightness.

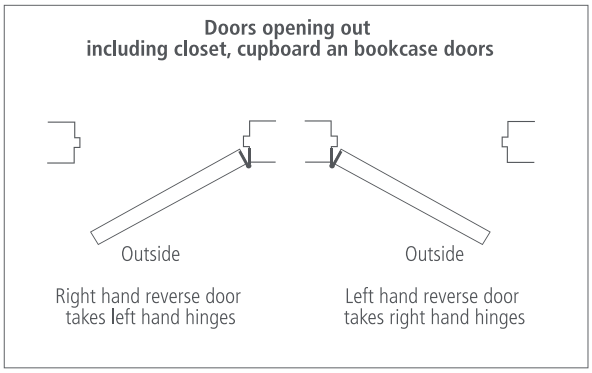
Number of Hinges per Door

The following quantity of hinges are recommended for doors of various sizes:
2 hinges: Doors up to 60 in. (1 500 mm) in height:
3 hinges: Doors over 60 in. (1 500 mm) but not over 90 in. (2 250 mm) in height:
4 hinges: Doors over 90 in. (2 250 mm) but not over 120 in. (3 000 mm) in height:

Note: Doors over 120 in. (3 000 mm) add one hinge for each additional 30 in. (750 mm) or fraction thereof.

How to Determine Hand of Hinges





- The hand of a butt hinge is determined from the outside of the door to which it is applied
- The outside of a cupboard, bookcase or closet door is the room side. For other doors, the outside is usually the "push" or jamb side.
- If standing outside of a door which opens from you: to the right, it takes right hand butt hinges. If to the left, it takes left hand butt hinges.
- If standing outside of a door which opens toward you: to the right, it takes left hand butt hinges. If to the left, it takes right hand butt hinges.
- Reversed bevel doors are doors opening out.

In ordering butt hinges that are not reversible, the hand must always be specified

1

Hinge Requirements for Fire Doors

National Fire Protection Association, pamphlet no. 80 (NFPA-88) lists the guidelines for hinge uses with fire doors.

ATTACHING HINGES TO DOORS

Mortise hinges shall be secured to reinforcements in the doors with steel machine screws and surface hinges shall be attached with steel through-bolts.

Exception

Mortise hinges shall be secured to wood and plastic covered composite or wood core doors with No. 12 by 1 1/4 in (31.75mm) flat threaded-to-the-head, steel wood screws.

Attaching Hinges to Frame

Hinges shall be secured to frames with steel screws. Types of screws will vary depending on material used for the manufacture of labeled door frames. Refer to labeled door frame manufacturers instructions and published listings for specific screw requirements.

Hardware shall be examined frequently and any parts found to be inoperative shall be replaced immediately.

Builder's Hardware
Mortise and surface hinges for swinging doors including spring hinges.

Mortise and surface hinges for swinging doors including spring hinges.

Doors up to 60 in. (1.522m) in height shall be provided with two hinges and an additional hinge for each additional 30 in. (0.762m)

Door rating, Hr						For 1 3/4 in. (44.5 mm) or thicker doors				Type Hinge
						Maximum door size		Minimum hinges size		
						Width ft (m)	Height ft (m)	Height in. (mm)	Thickness in. (mm)	
3	1 1/2	1	3/4	1/2	1/3	4 (1.22)	10 (3.05)	41/2 (114.3)	0.180 (4.57)	Steel, Mortise or Surface
3	1 1/2	1	3/4	1/2	1/3	4 (1.22)	8 (2.44)	41/2 (114.3)	0.134 (3.40)	
	1 1/2	1	3/4	1/2	1/3	3 (0.91)	5 (1.52)	4 (101.6)	0,130 (3.30)	
	1 1/2	1	3/4	1/2	1/3	2 (0.61)	3 (0.91)	3 (76.2)	0.092 (2.34)	
						For 1 3/8 in. (34.93 mm) Doors				
3	1 1/2		3/4	1/2	1/3	3 (0.91)	7 (2.13)	31/2 (88.9)	0.123 (3.12	

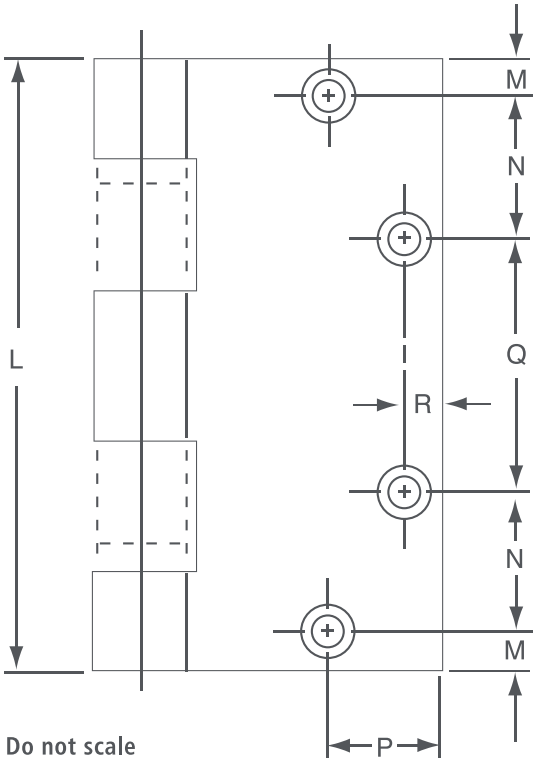
Note 1: All hinges except spring hinges, shall be of the ball bearing type. Hinges employing other antifriction bearing surfaces are permitted if they meet the test requirements of standard for butts hinges (ANSI A 156.1).

Note 2: 4-1 /2 in. (114mm) high, 0.180 in. (4.57mm) thick hinges should be used on doors which are unusually wide and heavy or which will receive high frequency use or unusual stresses.

Note 3: home manufacturers may provide fire doors with hinges of light weight which are not ball bearing when they are part of a listed assembly and meet the test requirements of ANSI A 156.1 and have been tested to a minimum of 350, 000 cycles.

Dimensions	Inches	mm
	4 1/2 x 4	114.30 x 101.60
	4 1/2 x 4 1/2	114.30 x 114.30

Dimensions	Inches	mm
L	4.5000	114.30
M	0.508	12.90
N	1.125	28.58
P	1.000	25.40
Q	1.234	31.34
R	0.375	9.53
S	0.063	1.59

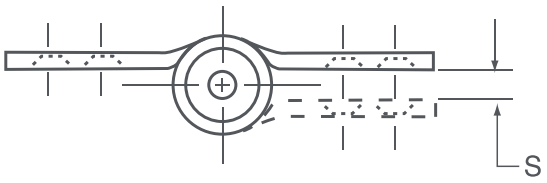


Do not scale

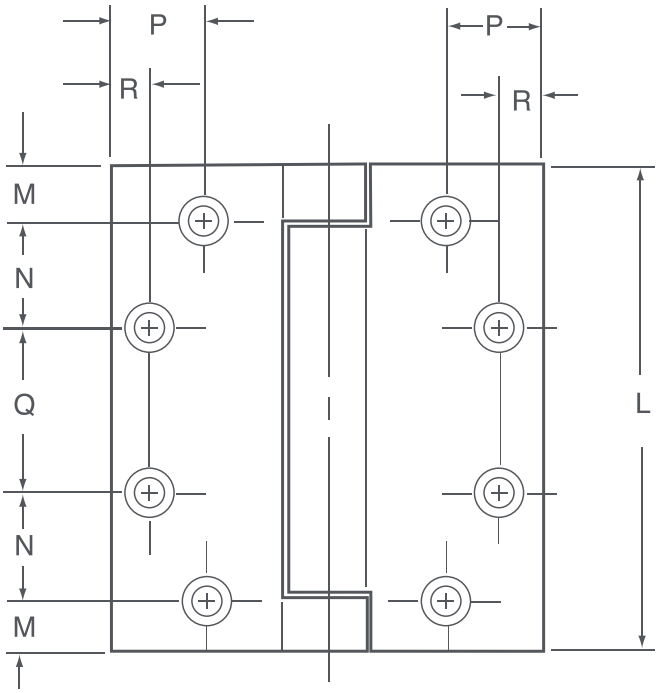
Machine Screws : 12-24 x 1/2 F.H.
12-24 x 13 F.H
Wood Screws : 1 1/4 x no. 12 F.H.
32 x no. 12 F.H.
*1 1/2 x no. 12 F.H.
*38 x no. 12 F.H.

These template butt hinges are made in size, gauge and with screw holes located to conform to government and ANSI standards.

1



Dimensions	Inches	mm
	4 1/2 x 4	114.30 x 101.60
	4 1/2 x 4 1/2	114.30 x 114.30



Dimensions	Inches	mm
L	4.500	114.30
M	0.508	12.90
N	1.125	28.58
P	1.000	25.40
Q	1.234	31.34
R	0.375	9.53
S	0.063	1.59
Metal Thickness	0.134	3.40

Machine Screws : 12-24 x 1/2 F.H.
12-24 x 13 F.H
Wood Screws : 1 1/4 x no. 12 F.H.
32 x no. 12 F.H.

Do not scale

Class number	
Steel	Stainless Steel
1060	STS1060

Class Number
Steel
TA4400SA

These template butt hinges are made in size, gauge and with screw holes located to conform to government and ANSI standards.

Note: Fully adjustable; spring tension may be increased or decreased during installation.

Hinges For Fire Doors

6.4.3* Builders Hardware.

6.4.3.1 Hinges. Hinges shall be as specified in individual door manufacturer's published listings or Table 6.4.3.1.

6.4.3.1.1 Doors up to 60 in. (1.52 m) in height shall be provided with two hinges and an additional hinge for each additional 30 in. (076 m) of door height or fraction thereof.

6.4.3.1.1.1 The distance between hinges shall be permitted to exceed 30 in (0.76 m).

6.4.3.1.1.2 Where spring hinges are used, at least two shall be provided.

6.4.3.1.2 All hinges or pivots, except spring hinges, shall be of the ball bearing type.

6.4.3.1.2.1 Hinges or pivots employing other anti-friction bearing surfaces shall be permitted if they meet the requirements of ANSI/BHMA A156.1, Standard for Butts and Hinges.

6.4.3.1.2.2 Spring hinges shall be labeled and shall meet the requirements of ANSI/BHMA A156.17, Standard for Self Closing Hinges & Pivots, Grade 1.

Table 6.4.3.1 Builders Hardware Mortise, Surface, and Full Length Hinges, Pivots, or Spring Hinges for Swinging Doors

	Maximum Door Size				Minimum Hinge Size				
	Width		Height		Height		Thickness		
Door Rating (hr)	ft	(m)	ft	(m)	In.	(mm)	In.	(mm)	Type Hinge
For 1 ¾ in. (44.5-mm) or Thicker Doors									
3, 1 ½, 1, ¾, ½, ⅓	4	(1.22)	10	(3.05)	4 ½	(114.3)	0.180	(4.57)	Steel, mortise or surface
3, 1 ½, 1, ¾, ½, ⅓	4	(1.22)	8	(2.44)	4 ½	(114.3)	0.134	(3.40)	Steel, mortise or surface
1 ½, ¾, ½, ⅓	3 ⅙	(0.96)	8	(2.44)	6	(152.4)	0.225	(5.72)	Steel, olive knuckle or paumelle
3, 1 ½, ¾, ½, ⅓	4	(1.22)	10	(3.05)	4	(101.6)	0.225	(5.72)	Steel pivots (including top, bottom, and intermediate)
1 ½, 1, ¾, ½, ⅓	3	(0.91)	5	(1.52)	4	(101.6)	0.130	(3.30)	Steel, mortise or surface
1 ½, 1, ¾, ½, ⅓	2	(0.61)	3	(0.91)	3	(76.2)	0.092	(2.34)	Steel, mortise or surface
3, 1 ½, 1, ¾, ½, ⅓	3	(0.91)	7	(2.13)	4 ½	(114.3)	0.134	(3.40)	Steel mortise or surface (labeled, self closing, spring type)
3, 1 ½, 1, ¾, ½, ⅓	3	(0.91)	7	(2.13)	4	(101.6)	0.105	(2.67)	Steel,mortise or surface (labeled, self closing, spring type)
For 1 ⅜ in. (34.93-mm) Doors									
3, 1 ½, ¾, ½, ⅓	3	(0.91)	7	(2.13)	3 ½	(88.9)	0.123	(3.12)	Steel, mortise or surface
3, 1 ½, 1, ¾, ½, ⅓	2 ⅔	(0.81)	7	(2.13)	3 ½	(88.9)	0.105	(2.67)	Steel,mortise or surface (labeled, self closing, spring type)

6.4.3.1.3 Hinges 4 ½ in. (114 mm) high and 0.180 in. (4.57 mm) thick shall be permitted for use on wide and heavy doors or doors that are subjected to heavy use or unusual stress.

6.4.3.1.4 Fire doors with hinges of lighter weight that are not of the ball beaing type shall be permitted under the following conditions:
1. They are part of a listed assembly.
2. They meet the test requirements of ANSI/BHMA A156.1, Standard for Butts and Hinges.
3. They have been tested to a minimum of 350,000 cycles.

6.4.3.1.5 Pivot sets made up of components that are smaller or of a lighter gauge than shown in Table 6.4.3.1 shall be permitted to be used, provided they meet the requirements of ANSI/BHMA A156.4, Standard for Door Controls (Closers) , and are in accordance with the manufacturer's label service procedures.

6.4.3.2 Attaching Hinges to Doors.

6.4.3.2.1 Hinges shall be secured in accordance with the listing and the manufacturer's installation instructions.

6.4.3.2.2 Mortise hinges shall be secured to reinforcements in the doors with steel machine screws.

6.4.3.2.3 Mortise hinges shall be secured to wood and plastic-covered composite doors or wood core doors with No. 12 x 1 ¼ in. (31.75 mm) flat, threaded-to-the-head, steel wood screws. Pilot holes shall be drilled that are 5/32 in. (4 mm) in diameter.

6.4.3.2.4 Surface hinges shall be attached with steel through-bolts.

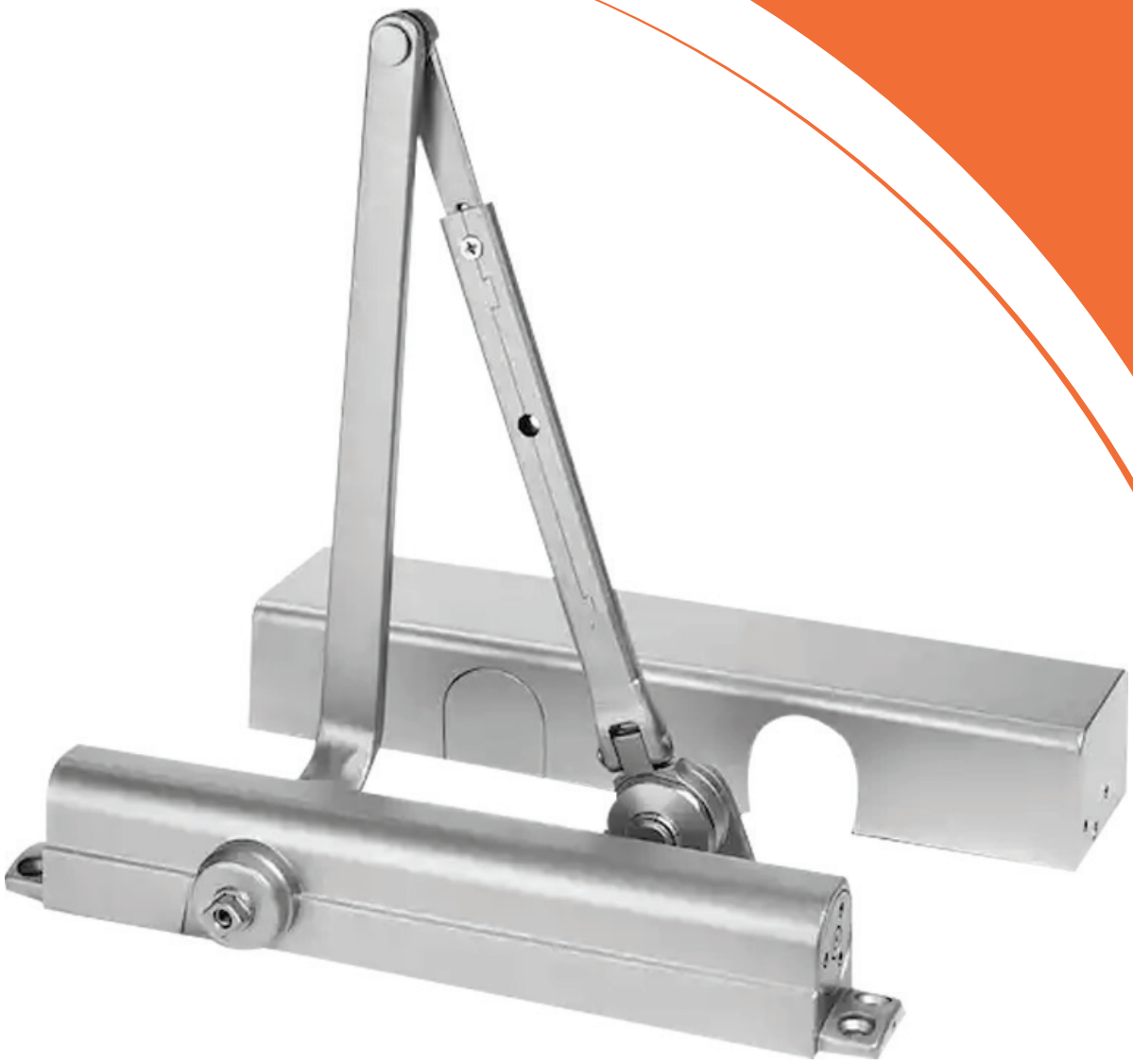
6.4.3.3 Attaching Hinges to Frames. Hinges shall be secured to frames with steel screws.

6.4.3.3.1 Types of screws shall be permitted to vary depending on material use for the manufacture of labeled door frames.

6.4.3.3.2 The manufacturer's instructions and published listings for labeled door frames shall be referenced for specific screw requirements.

6.4.3.3.4 Shimming. When required to meet the clearances stated in 6.3.1.7, the shimming of hinges using steel shims shall be permitted.

Notes:



CONTROL THE DOOR

Concealed Door Closer

7900 Series

TA7903/04

Technical Parameters

- Closed Door Strength: EN2 / EN3 / EN 4
- Applicable door width : 600mm~1100mm
- Max.Door Weight: 25kg~85kg

Features

- ANSI A156.4 comply.
- UL / cUL listed for use on fire rated doors.
- UL10C listed for positive pressure fire test.
- Adjustabie spring force 2-4.
- The 2 door closing speeds are adjustable (120°-15°, 15°- 0°).
- Characterized by left-hand or right-hand design, it matches various door pieces and frames.
- The built-in automatic pressure device protects the door pieces and frames.
- Advanced cam structure drive design maximizes door closing efficiency.
- The minimum door mounting thickness is 42mm.
- Convenient installation is suitable for door pieces of fire doors, security doors and automatic closing doors.

Optional Arm Assembly Accessories

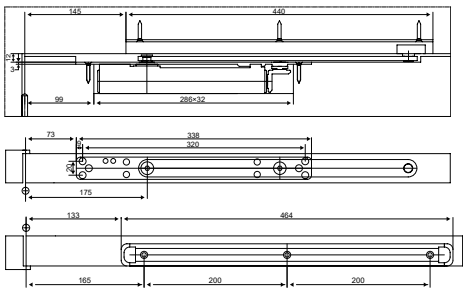
Standard arm set Stop device

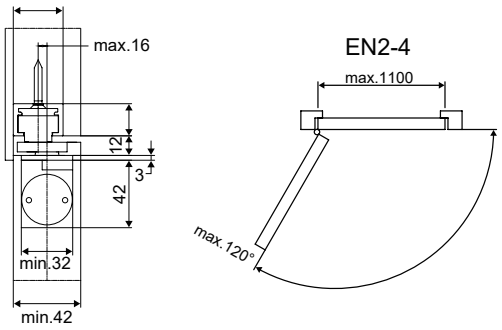
Finish

Silver painted

Other Finishes upon request

Dimension Of Appearance

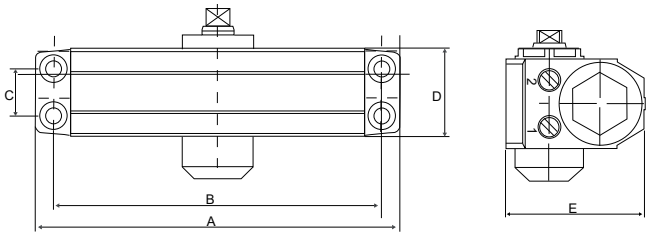




Medium Duty Closer

7300 Series

TA7303



Technical Parameters

- inish: Electrostatic painted
- Material: Aluminum alloy
- Adjustable: Double sections, door-closing and door-locking
- Applicable door weight: 25-85kg
- Selection: Non-hold open or 90° hold open
- Application: Fire door, wooden doors, metal doors
- Finish: Painted Aluminum(AL), Bronze (S B), Brass (PB)

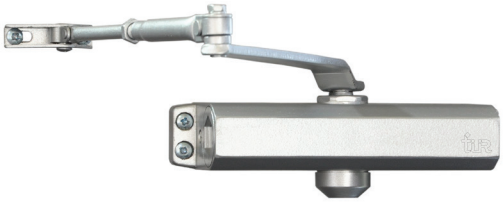
APPLICABLE DOOR WIDTH AND WEIGHT CHART			
MODEL	DOOR WIDTH		DOOR WEIGHT
	Millimeter (mm)	Inches (")	Kilogram (kg)
TA7303	600-950	24"–36"	25 - 85

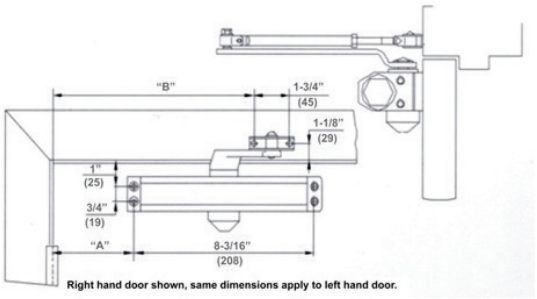
Medium Duty Closer

7300 Series

Regular Arm Installation

Closer mounted on Door
Arm jamb bracket on frame face.

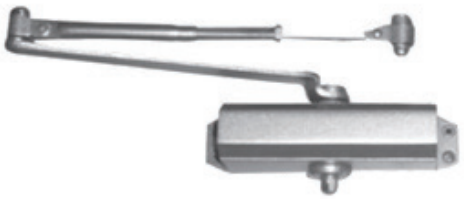


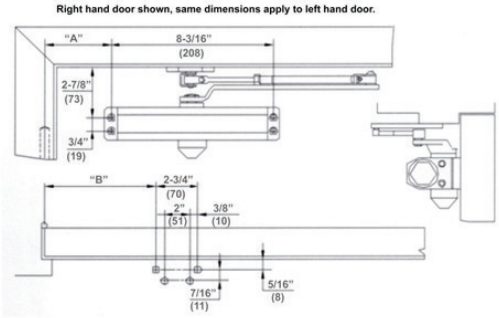


OPENING	DIM. "A" CLOSER		DIM. "B" ARM SHOE	
	INCHES	MM	INCHES	MM
For 120 deg. Opening	5-15/16"	(151)	12"	(305)
For 180 deg. opening	4-1/2"	(114)	10"	(254)

Parallel Arm Installation

Closer mounted on door.
Bracket on frame soffit.

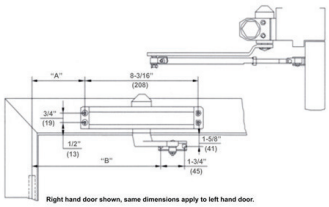




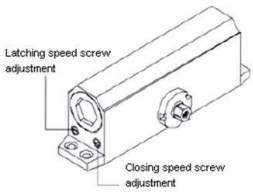
OPENING	DIM. "A" CLOSER		DIM. "B" PA BRACKET	
	INCHES	MM	INCHES	MM
For 120 deg. Opening	8-3/8"	(213)	9-1/16"	(230)
For 180 deg. opening	7"	(178)	7-11/16"	(195)

Top Jamb Installation

Closer mounted on frame face.
Arm jamb bracket on door top rail.



The 7300 series is available in sizes 3 and 4.
According to UL, Integrate adjustable closing speed and adjustable action.

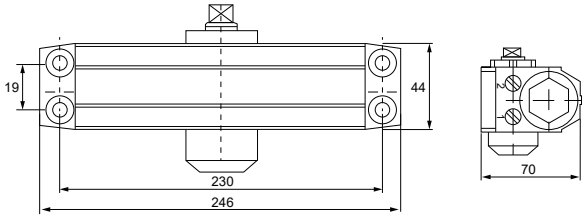


OPENING	DIM. "A" CLOSER		DIM. "B" ARM SHOE	
	INCHES	MM	INCHES	MM
For 120 deg. Opening	6-1/16"	(154)	11-3/4"	(298)
For 180 deg. opening	3-7/8"	(98)	8-3/4"	(222)

Medium /Heavy Duty Closer

7200 Series

TA7216



- Rack and pinion heavy duty door closer for commercial doors ANSI A156.4 comply
- UL / cUL listed for use on fire rated doors ANSI A156.4 Grade 1 to 2,000,000 Cycles
- UL10C listed for positive pressure fire test
- Adjustabie spring force 1-6
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Handing:Non handed
- Installation: Tri-packed (regular,top jamb and parallel mount)
- Material: Closer Body: Cast Aluminum
  Arm: Steel
  Cover:Plastic
  Steel cover as option
- Arm: Track Arm, Hold Open, Cushion Stop as an option
- Finish: Painted in Aluminum (AL), Bronze (SB)
  Cover:US32D and US26D as option

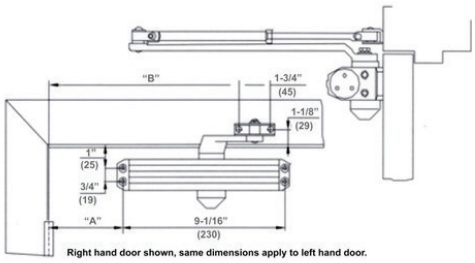
APPLICABLE DOOR WIDTH AND WEIGHT CHART			
MODEL	DOOR WIDTH		DOOR WEIGHT
	Millimeter (mm)	Inches (")	Kilogram (kg)
7216	600 -1500	24"– 60"	20 - 150

Medium /Heavy Duty Closer

7200 Series

Regular Arm Installation

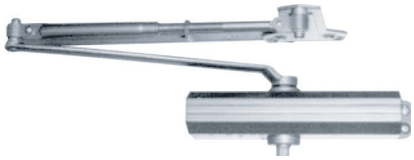
Closer mounted on door.
Arm jamb bracket on frame face

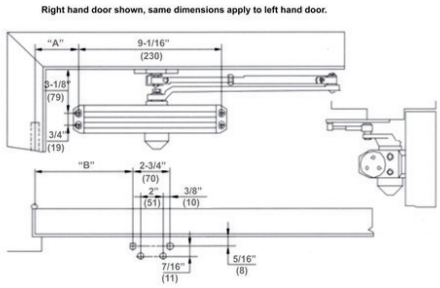


OPENING	DIM."A" CLOSER		DIM."B"ARM SHOE	
	INCHES	MM	INCHES	MM
To 100 deg.	7"	(178)	13"	(330)
101 deg. to 120 deg.	6"	(152)	12"	(305)
121 deg. – 180 deg.	3-1/2"	(89)	9-1/2"	(241)

Parallel Arm Installation

Closer mounted on door.
Bracket on frame soffit.

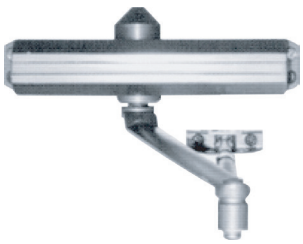


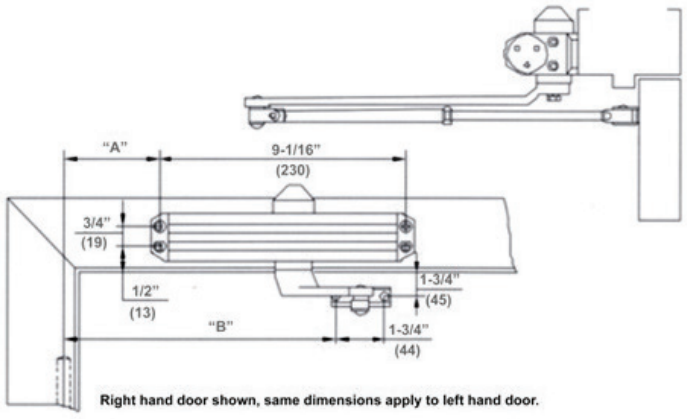


OPENING	DIM."A" CLOSER		DIM."B"PA BRACKET	
	INCHES	MM	INCHES	MM
To 100 deg.	7-5/8"	(194)	9-1/4"	(235)
101 deg. to 120 deg.	6-1/8"	(156)	7-3/4"	(197)
121 deg. – 180 deg.	4-1/8"	(105)	5-3/4"	(146)

Top Jamb Installation

Closer mounted on frame face.
Arm jamb bracket on door top rail





OPENING	DIM."A" CLOSER		DIM."B"ARM SHOE	
	INCHES	MM	INCHES	MM
To 100 deg.	7-1/2"	(191)	13-1/2"	(343)
101 deg. to 120 deg.	6"	(152)	12"	(305)
121 deg. – 180 deg.	3-1/2"	(89)	9-1/2"	(241)

Medium / Heavy Duty Closer

7200 Series

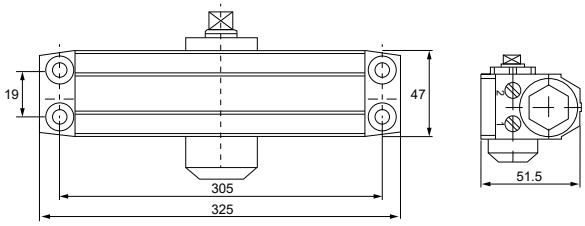
- Applies to various medium and heavy duty residential and commercial doors.
- ANSI A156.4 Grade 1, passed 2 million cycle test.
- UL10C, 3 hours fire rating.
- Traditional American style cast aluminum closer body.
- Adjustable spring force.
- Available in various painted finishes.

Product Description		
Model number		7200
Adjustable spring power		1 – 6
Door width (mm)		600 – 1500
Door weight (kg)		20 – 150
Dimension of Closer Body (mm)	Length	246
	Width	44
	Horizontal mounting	230
	Vertical mounting	19
	Height	70
Closing speed		Standard
Latching speed		Standard
Maximum opening angle		180 degrees
Non-handed		Standard
Adjustable backcheck		Standard
Delayed action		Optional
Accessories		
Plastic cover		Standard
Metal cover		Optional
Arm:	Standard Arm	Standard
	Parallel Rigid Arm	Optional
	Hold Open Arm	Optional
	Track Arm (Standard or HO)	Optional
	Cushion and Stop Arm	Optional
	Cushion and Stop Hold Open Arm	Optional
Drop Plate	Standard and Parallel	Optional
PA Bracket		Standard
Screw Pack		Standard

Heavy Duty Closer

7100 Series

TA7116



- Rack and pinion heavy duty door closer for commercial doors ANSI A156.4 comply
- UL / cUL listed for use on fire rated doors ANSI A156.4 Grade 1 to 2,000,000 Cycles
- UL10C listed for positive pressure fire test
- Adjustabie spring force 1-6
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Delayed action
- Handing: Non handed
- Installation: Tri-packed (regular, top jamb and parallel mount)
- Material: Closer Body: Cast Aluminum
  Arm: Steel
  Cover: Plastic
  Steel cover as option
- Arm: Track Arm, Hold Open, Cushion Stop as an option
- Finish: Painted in Aluminum (AL), Bronze (SB)
  Cover: US32D and US26D as option

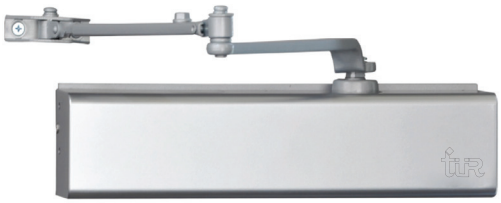
APPLICABLE DOOR WIDTH AND WEIGHT CHART			
MODEL	DOOR WIDTH		DOOR WEIGHT
	Millimeter (mm)	Inches (")	Kilogram (kg)
7116	600 -1500	24"– 60"	20 - 200

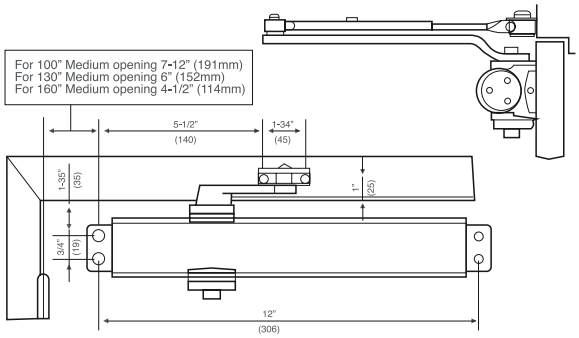
Heavy Duty Closer

7100 Series

Regular Arm Installation

Closer mounted on door.
Arm jamb bracket on frame face.

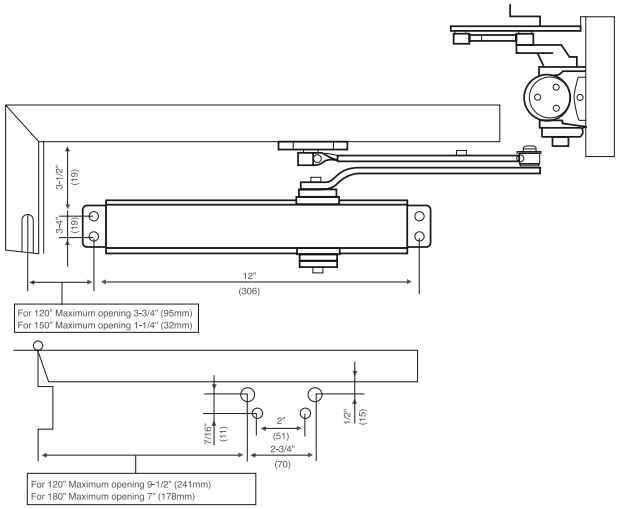




Right hand door shown, same dimensions apply to left hand doo

Parallel Arm Installation

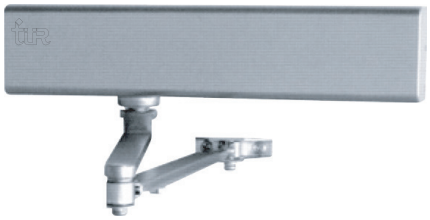
Closer mounted on door.
Bracket on frame soffit.

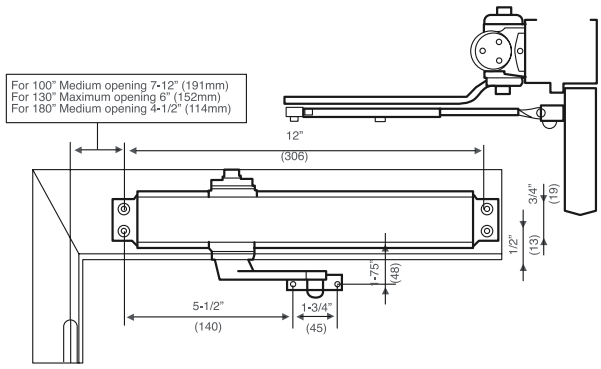


Right hand door shown, same dimensions apply to left hand doo

Top Jamb Installation

Closer mounted on frame face.
Arm jamb bracket on door top rail





Right hand door shown, same dimensions apply to left hand door.

POWER ADJUSTMENT CHART

MAXIMUM DOOR WIDTH		FULL TURNS REQUIRED
EXTERIOR DOORS	INTERIOR DOORS	
8.5 lb-f*	34" (864)	5 turns C.C.W.
30" (762)	38" (962)	0 turns
36" (914)	48" (1219)	5 turns C.W.
42" (1067)	54" (1372)	9 turns C.W.

Heavy Duty Closer

7100 Series

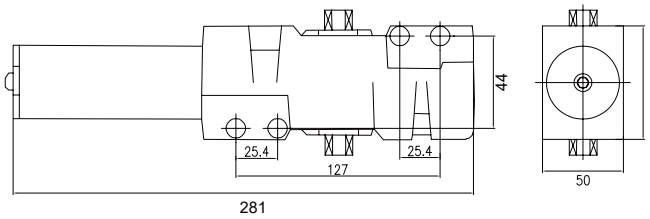
- Applies to heavy duty residential and commercial doors.
- ANSI A156.4 Grade 1, passed 2 million cycle test.
- UL10C, 3 hours fire rating.
- Traditional American style cast aluminum closer body.
- Adjustable spring force.
- Available in various painted finishes.

Product Description		
Model number		7100
Adjustable spring power		1 – 6
Door width (mm)		600 – 1500
Door weight (kg)		20 – 200
Dimension of Closer Body (mm)	Length	325
	Width	51.5
	Horizontal mounting	305
	Vertical mounting	19
	Height	47
Closing speed		Standard
Latching speed		Standard
Maximum opening angle		180 degrees
Non-handed		Standard
Adjustable backcheck		Standard
Delayed action		Standard
Accessories		
Plastic cover		Standard
Metal cover		Optional
Arm:	Standard Arm	Standard
	Hold Open Arm	Optional
	Track Arm (Standard or HO)	Optional
	Cushion and Stop Arm	Optional
	Cushion and Stop Hold Open Arm	Optional
Plate	Standard and Parallel	Optional
PA Bracket		Standard
Screw Pack		Standard

Extra Heavy Duty Closer

7000 Series

TA7016



- Rack and pinion extra heavy duty door closer for commercial doors ANSI A156.4 comply
- UL / cUL listed for use on fire rated doors ANSI A156.4 Grade 1 to 2,000,000 Cycles
- UL10C listed for positive pressure fire test
- Adjustabie spring force 1-6
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Delayed action optional
- Handing: Non handed
- Installation: Tri-packed (regular, top jamb and parallel mount)
- Material: Closer Body: Cast Aluminum
  Arm: Steel
  Cover: Plastic
  Steel cover as option
- Arm: Track Arm, Hold Open, Cushion Stop as an option
- Finish: Painted in Aluminum (AL), Bronze (SB)
  Cover: US32D and US26D as option

APPLICABLE DOOR WIDTH AND WEIGHT CHART			
MODEL	DOOR WIDTH		DOOR WEIGHT
	Millimeter (mm)	Inches (")	Kilogram (kg)
7016	600 -1500	24"– 60"	20 - 200

Extra Heavy Duty Closer

7000 Series

- Applies to heavy duty commercial doors.
- ANSIA156.4 Grade 1, passed 2 million cycle test.
- ADA Compliant ANSIA117.1 Accessibility Code only for adjustable size 1 – 4.
- Cast iron cylinder, standard cast steel arm.
- Forged steel arm as an option.
- Available in various painted finishes.

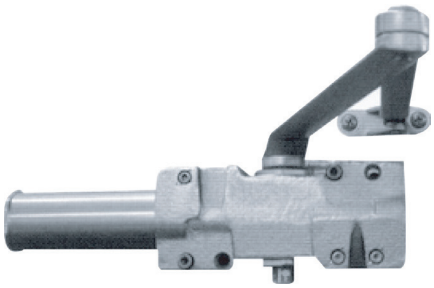
Product Description		
Model number		7000
Adjustable spring power		1 – 6
Door width (mm)		600 – 1500
Door weight (kg)		20 – 200
Dimension of Closer Body (mm)	Length	281
	Width	50
	Horizontal mounting holes	25.4
	Vertical mounting holes	44
	Height	58
Closing speed		Standard
Latching speed		Standard
Maximum opening angle		180 degrees
Non-handed		Standard
Adjustable backcheck		Standard
Delayed action		Optional
Accessories		
Plastic cover		Standard
Metal cover		Optional
Arm:	Standard Arm	Standard
	Hold Open Arm	Optional
	Extra Heavy Duty Stop Arm	Optional
	Extra Heavy Duty Arm	Optional
	Track Arm (Standard & HO)	Optional
Drop Plate	Standard and Parallel Top Jamb Drop Plate 1 & 2	Optional
PA Bracket		Standard
Screw Pack		Standard

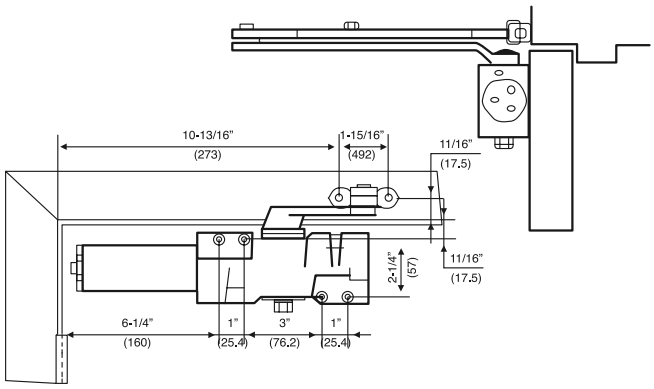
Extra Heavy Duty Closer

7000 Series

Regular Arm Installation

Closer mounted on door.
Arm jamb bracket on frame face.

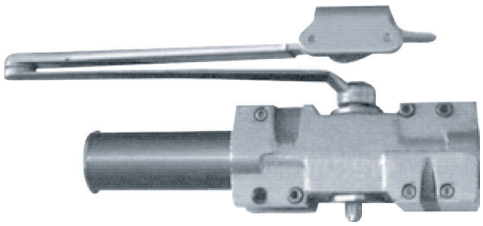


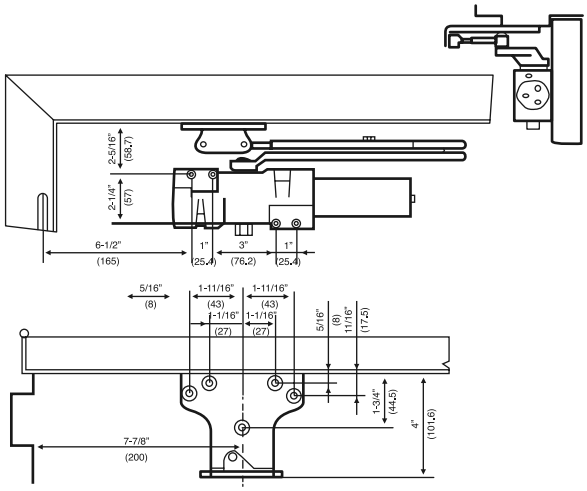


Right hand door shown, same dimensions apply to left hand door.

Parallel Arm Installation

Closer mounted on door.
Bracket on frame soffit.

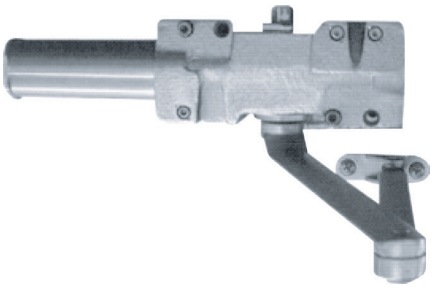


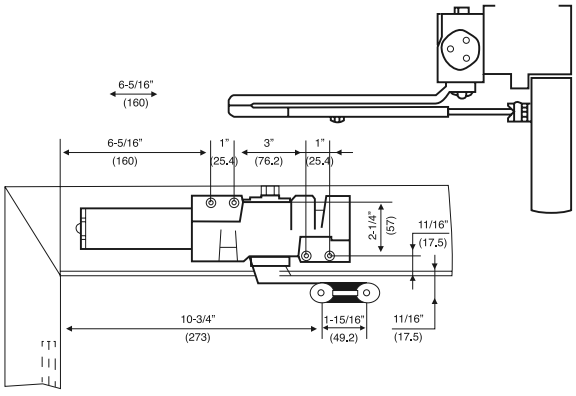


Right hand door shown, same dimensions apply to left hand door.

Top Jamb Installation

Closer mounted on frame face.
Arm jamb bracket on door top rail.





Right hand door shown, same dimensions apply to left hand door.

POWER ADJUSTMENT CHART

MAXIMUM DOOR WIDTH		FULL TURNS REQUIRED
EXTERIOR DOORS	INTERIOR DOORS	
-	5 lb-f*	5 turns C.C.W.
8.5 lb-f*	34″(864)	2 turns C.C.W.
30″(762)	38″(962)	0 turns
36″(914)	48″(1219)	5 turns C.W.
42″(1067)	54″(1372)	10 turns C.W.

How to order.

Brand Identity	Model No:	Power Size	Arm Type	Features	Mounting	Plate Options	Cover Type	Finish
TA	70	16	RA	-(None)	-(None)	-(None)	-(None)	630
	71	36	PA	BC	PS	DP	SSC	605
	72	05	TA	DA	PL	DPPS	PLC	606
	73	04	CS			DPPA	STC	625
	79	03	HO					612
			CS-HO					613
			DS					

Ex: TE7116.RA.BC.SSC.630

RA - Regular Arm
PA - Parallel Arm Bracket
TA - Track Arm
CS - Cushion Stop Arm
HO - Hold Open Arm
CS-HO - Cushion Stop - Hold Open Arm
DS - Dead Stop Arm

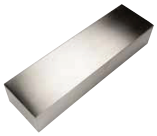
BC - Backcheck Feature
DA - Delayed Action

PS - Push Side
PL - Pull Side

DP - Drop Plate
DPPS - Drop Plate Push Side
DPPA - Drop Plate Pull Side

SSC - Stainless Steel Cover
PLC - Plastic Cover
STC - Steel Cover

Accessories

Accesory	Image	Suitable for Door Closer	Item Model #
Standard Drop plate			DP
Drop plate for push side insrallation			DPPS
Hold open Arm			HO
Hold open Arm with dead stop			HODS
Hold Arm With			HA
Cushion Stop Arm			CS
Drop plate for top jamb pull side mounting			DPPL
Track Arm			TA
EXTENDED ROD AND SHOE FOR TOP JAMB MOUNTS WITH DEEP REVEALS			ERS
STAINLESS STEEL COVER optional,non-handed * SS316 Grade Option is Available On Request			SSC
SNBAL SEX NUTS Come Standard On 8016 Closer Optional For 816 And 5000 Series Closer			SSN
LHHOA816 HOLD OPEN ARM Optioal Non Handed Arm With Hold Open Adjestable At Shoe			HO

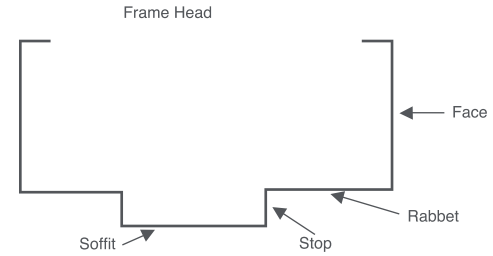
2

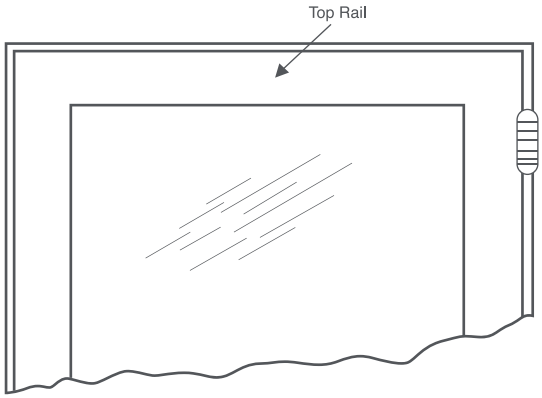
Introduction: Door Closers

Since man invented doors, he has improvised various methods and mechanisms for closing them, not only for privacy and security, but also to control the environment. Self-closing door mechanisms function automatically. Properly adjusted, they avoid slamming, reduce door and frame damage and make the door easier and safer to use.

The first serious attempt to mass produce a door closing device was made in 1882 by Louis C. Norton. He perfected a spring-operated device that controlled the door closing speed. His device consisted of a coil spring and an air cylinder. The cylinder filled with air as the door opened. When the door was released, the spring provided closing energy and escaping air provided a cushioning control. The door's closing speed was dictated by the number and size of air holes in the cylinder. The closer, however, was not adjustable.

Since that time, there have been many modifications and improvements to Norton's concept. Originally, the basic problem to overcome was the need to provide control to the opening and closing cycle. Today, the need for energy conservation, safety code requirements, security, flexibility with other products and handicapped needs make closing devices a necessity rather than a convenience.





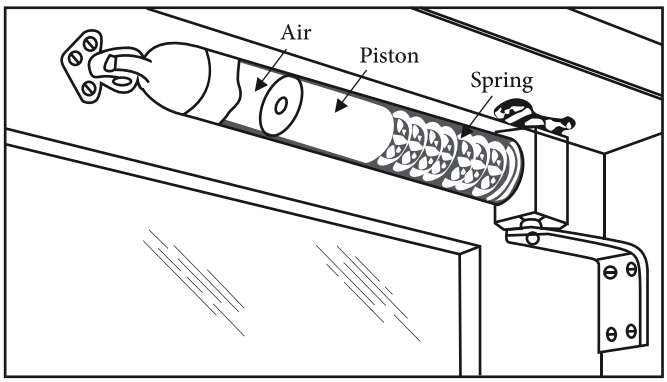
Nomenclature

To prepare yourself for this part of the lesson, become familiar with the nomenclature of the door and frame as shown below.

Top rail	The horizontal rail at the top of the door connecting the lock stile with the hinge stile.
Head	The horizontal frame member at the top of the door opening.
Rabbet	The section of the door frame recessed to receive the door.
Soffit	The underside of the frame stop at the head.
Stop	The part of the frame against which the door closes.
Face	The exposed part of the frame parallel to the face of the wall and facing the room.

Door Closer Operation

Door closers are made up of three basic elements: spring, checking mechanism and drive. The combination of spring, checking mechanism and drive vary widely among several manufacturers and products, but all door closers operate on the same basic principle.



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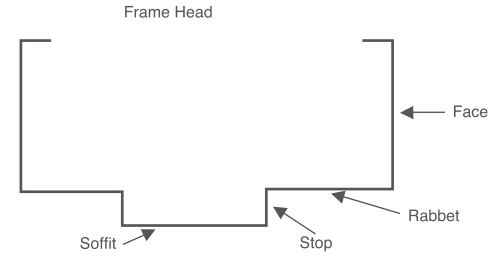

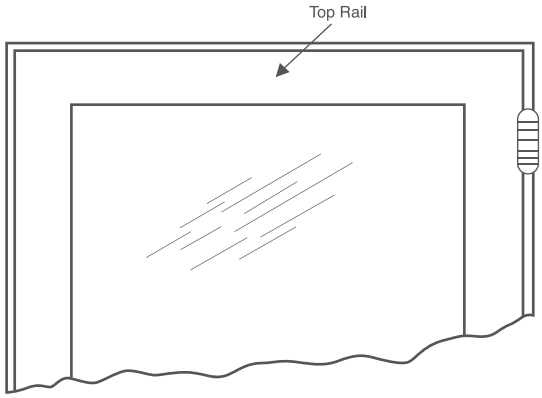

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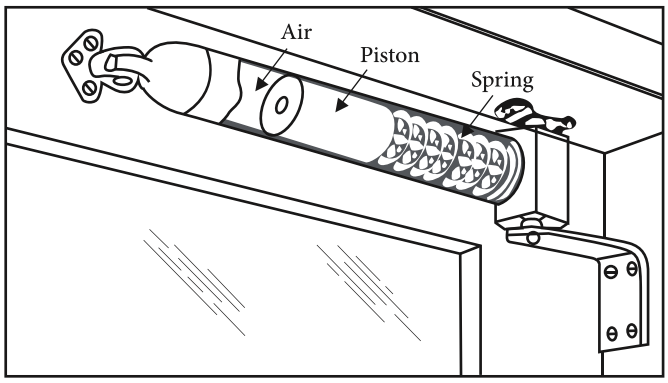
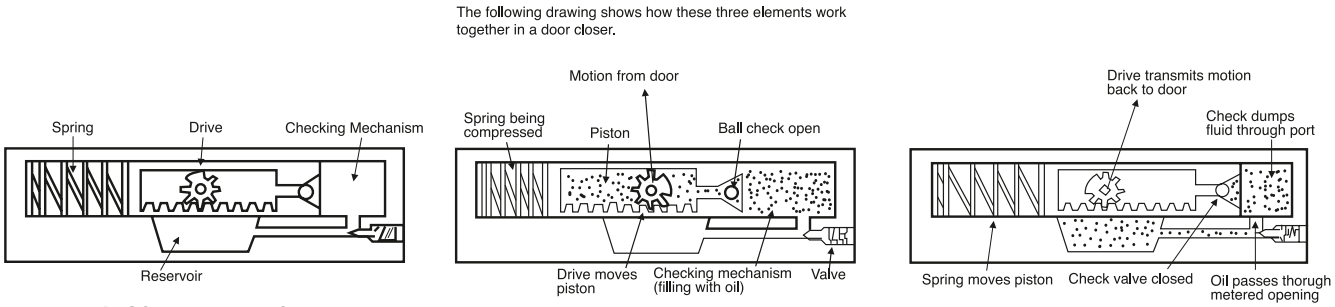


Today, most door closers utilize a checking mechanism involving a rack and pinion arrangement with a liquid, such as oil, rather than air.



CLOSER ELEMENTS SPRING/CHECKING/DRIVE

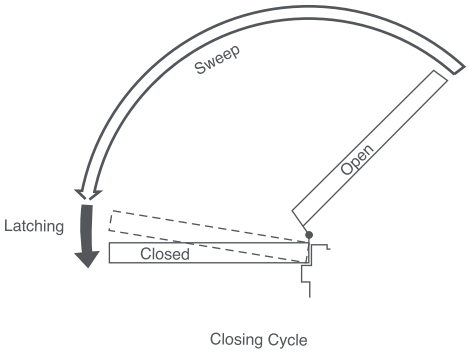
Speed Control

Many door closers provide two control areas for the closing cycle. The sweep is the arch of the door closing from a fully open position to within approximately 6" of latching. The latch involves the door movement during those last few inches of closing. Generally, both areas of travel controlled through a valve arrangement.

Sometimes it is desirable to have the door close quickly to within those last few inches, then finish the cycle slowly to prevent slamming.

In other cases, it may be more desirable to have the door close slowly to within those last few inches, then speed-up so as to assure enough force to securely engage the latch in the strike.

When a closer can be adjusted in both manners described, independent controls are an advantage. The means that either speed can be adjusted separately without affecting the other.

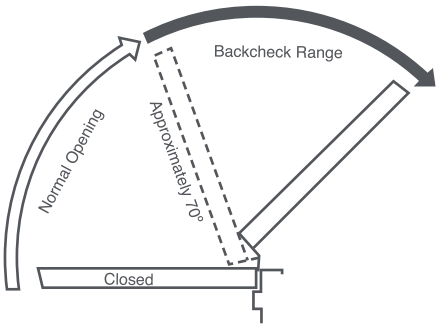


SWEEP SPEED
LATCH SPEED

Backcheck Control

Often closers will feature a means of slowing the swing of a door as it reaches the end of its opening cycle. This control is desirable for three reasons: (1) To minimize the possibility of damage to the door or adjacent wall; (2) To minimize the stress on the door hardware (hinges for example); or (3) To minimize the hazard to people who may be struck by the door swinging open uncontrolled. This control is called "backcheck" and is usually adjustable.

Remember that the purpose of backcheck isto absorb energy and slow the door in its opening cycle. It is not intended to act in place of a door stop.



CLOSER BACKCHECK

Sizing

Doors come in a variety of widths and heights, and are used in many types of locations and environments. To allow for these varying conditions, door closers are built in different sizes. Thismeans they have different levels of closing power and may have different size components to match this variation.

When the door closer size is matched properly to the door size and location, it will operate properly, thus opening easily and closing correctly.

Door closer sizes are generally classified by number. For example, #2 thru #6, with the lowest number being the closer with the least power and smallest size. Naturally, the highest number would indicate the closer that is strongest. The closer size may or may not be marked on the closer body.

Exterior doors require stronger closers than interior doors of the same size. The reason is because they must compensate for wind, drafts and the difference of pressures between the inside of the building and the exterior. Most door closers are sized based upon 7-foot-high doors. Exterior doors of extremely large height may require an even stronger closer. Closer manufacturers list their catalogs sizing charts that show their recommendations for sizing their closers under different conditions.

Other factors that may affect sizing include unusual wind conditions, high-frequency usage and some mounting styles.

Hold Open

In some areas of a building, it is desirable to have a door stand open during a certain times of the day as may be dictated by traffic, convenience or ventilation. Most door closers can be specified with a feature called "hold open". This is usually a mechanism that is built into the arm of the closer and can hold the door open at 90 degrees or more. When the closer is manually pulled from this hold-open point, it will close normally. If the closer is opened to less than the hold-open point, it also will close in its normal fashion.

Most building codes require that products intended for use on fire-labeled doors be listed with Underwriters Laboratories (UL) or an equivalent testing agency.

A labeled fire door must be equipped with a door-closing device to insure that the closer always returns the door to a closed position and positive latching. However, there are instances when it may be necessary for a fire door to be equipped with an automatic-releasing device.

At one time, this was accomplished through a fusible-link arrangement in the hold-open mechanism. The link would melt when air temperature reached a high level.

As such, the fusible-link arrangement did not compliment the need for life safety and quick response.

Today, the building codes require an electrically operated system that permits the door to close upon activation of a fire or smoke detector or in case of power failure. Most often this mechanism is built into the working components of the closer. The unit also may have the detector built in as well.

In some cases a non-hold-open closer may be applied using a separate wall or floor magnet to accomplish the hold-open function. Those magnets then are wired into the alarm system.

Hospital Hold Open

On hospital patient room doors, it often isdesirable for the purpose of ventilation, privacy and convenience, to have the door held partially open at 15 to 45 degrees. To satisfy this need, closers are available with a feature that allows them to be held open at the normal 90+ degrees plus the partially open position outlined above.

2

Delayed Action

When doors are located in areas where carts, beds or other such equipment frequently is moved through the opening, a delayed action closer often is used. The closer holds the door open for a select period of time before automatically closing. It can also be useful in situations that might involve the passage of handicapped persons through an opening.

Types of Door Closers

Door closers are available in many and varied configurations but may be classified into two basic mounting types: surface and concealed.

Surface Closers

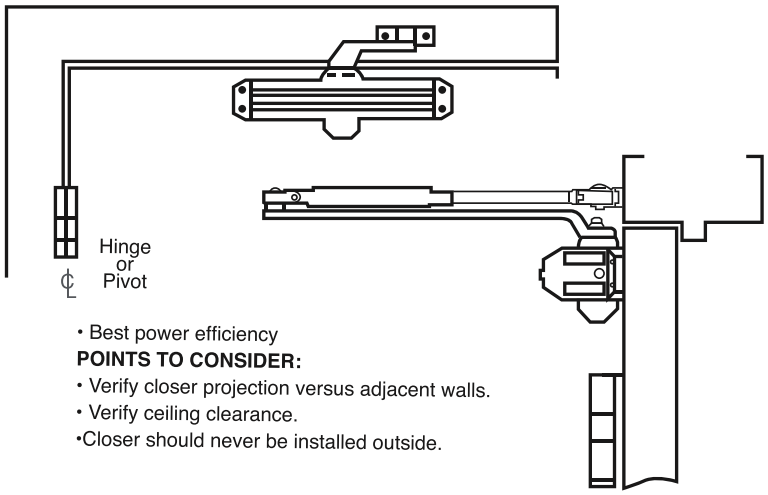
Surface door closers mount to the surface of the door and frame and close the door through an arm linkage. Surface door closers are popular because they are easy to install and service. Surface closers have four basic mounting applications:

Regular Arm

Top Jamb

Parallel Arm

Corner Bracket



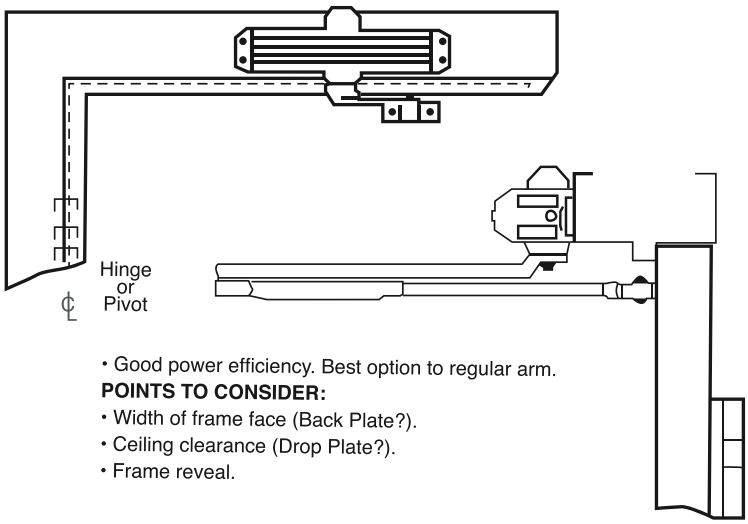
REGULAR ARM CLOSER APPLICATION

Regular arm application places the closer on the hinge side of the door. As the door opens, motion is transmitted through the arm, which compresses the closer spring. When the door is released, the power stored in the spring closes the door by transmitting the motion back through the arm, which is attached to the frame.

Top Jamb

With the top jamb application, the door closer is attached to the frame face above the door on the side opposite the hinges (stop side). The closer arm is attached to the door. The mechanical operation is similar to that of a regular arm closer.

This type of mounting frequently is used for the sake of appearance, when it is preferred to have the closer inside a room rather than in a hall or corridor into which the door closer inside the building rather than outside where it would be exposed to the elements.



• Good power efficiency. Best option to regular arm.

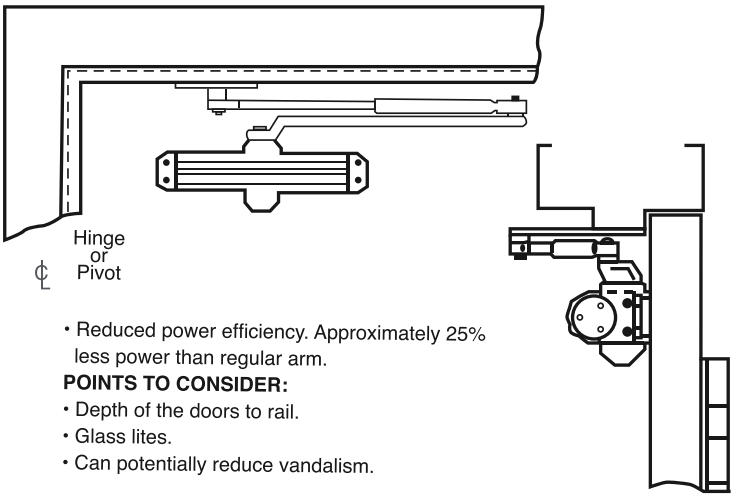
POINTS TO CONSIDER:

• Width of frame face (Back Plate?).
• Ceiling clearance (Drop Plate?).
• Frame reveal.

TOP JAMB APPLICATION

Parallel Arm

Parallel arm closers also mount on the side of the door opposite from the hinge side (stop side). Different from the top jamb style, they actually mount on the door. The closed arm position is parallel to the door, which is the reason for its name. Also, note that the closer being mounted on the stop side results in all the advantages as outlined under the top jamb application.



• Reduced power efficiency. Approximately 25% less power than regular arm.

POINTS TO CONSIDER:

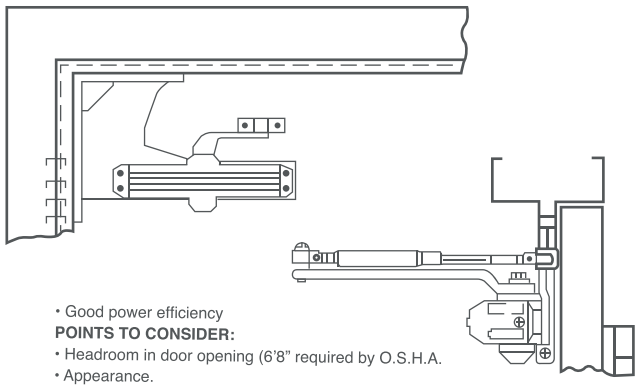
• Depth of the doors to rail.
• Glass lites.
• Can potentially reduce vandalism.

PARALLEL ARM APPLICATION

2

Corner Bracket

The corner bracket application also may be used when it is necessary to apply the closer to the inside of the opening (stop side). Here again the purpose may be for appearance or to afford protection from the environment. With this application, the closer is mounted on a special bracket that extends into the actual opening, even when the doors open. This may be considered to be a disadvantage and may even be hazardous.



CORNER BRACKET APPLICATION

Concealed Door Closers

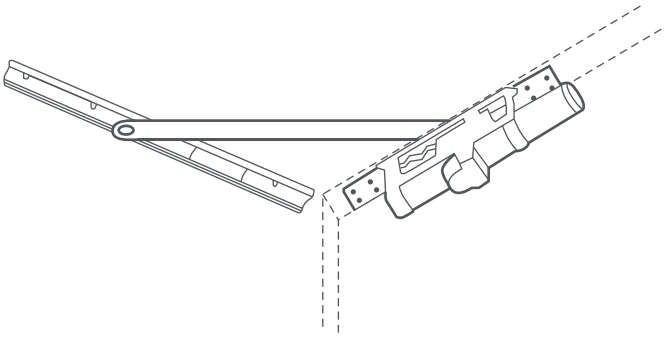
There are three basic types of concealed door closers:

- Concealed in the door
- Concealed in the overhead frame
- Concealed in the floor

Note that in the door closer terminology, the world "concealed" refers only to the fact that the body the closer is concealed. Variations in arm applications include both concealed and exposed.

Concealed In The Door

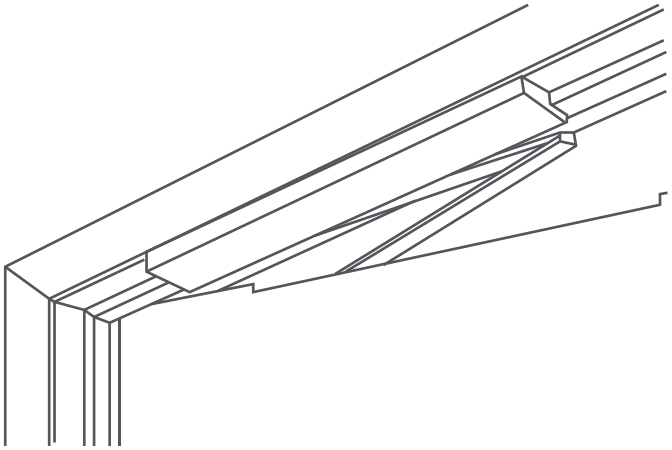
This type of concealed door closer mounts in the top rail of the door. The closer arm is flat with a roller or slide on the end that works in a track concealed in the frame above the door. The result is that when the door is closed, the arm as well as the body are completely concealed. This results in a neat and appealing appearance.



SLIDE ARM CONCEALED-IN-THE-DOOR CLOSER

Parallel Pivot Type Arm:

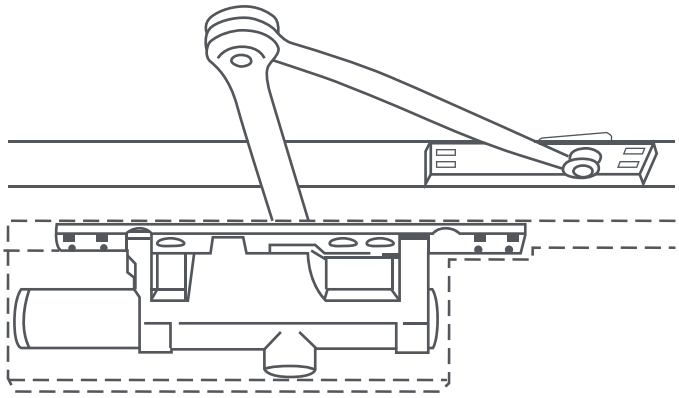
This is a parallel arm version of the concealed-in-the-door closer. In this version, note how the arm is in low profile and hidden by a metal housing on the side opposite the hinges. This type of installation has a mechanical advantage over the slide track arm application in that it more fully utilizes the power available to control the door.



PARALLEL ARM CONCEALED-IN-THE-DOOR CLOSER

Surface Arm:

In this application, the arm is always exposed. The body is concealed into the door top rail with the arm being visible from the hinge side.



SURFACE ARM CONCEALED-IN-THE-DOOR CLOSER

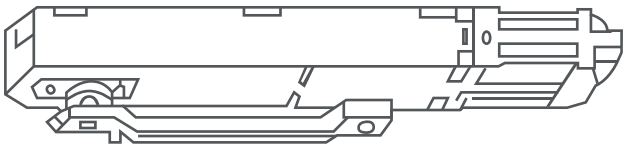
2

Concealed in the Overhead Frame

Concealed Arm:

With this application, the body and arm are both concealed. The door closer mounts in the head above the door. The arm is mor tised into the top of the door. Overhead concealed arm closers can be applied to both single and double-acting doors.

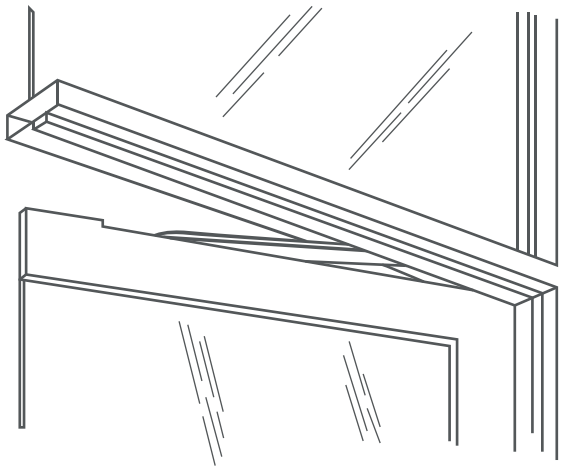
When applied to both single and dou - ble-acting doors, the door must be center pivot hung. The spindle of the closer acts as the top pivot and other appropriate center hung pivot hardware mounts at the bottom sill, floor or threshold.



CONCEALED ARM CLOSER

Slide Track Arm:

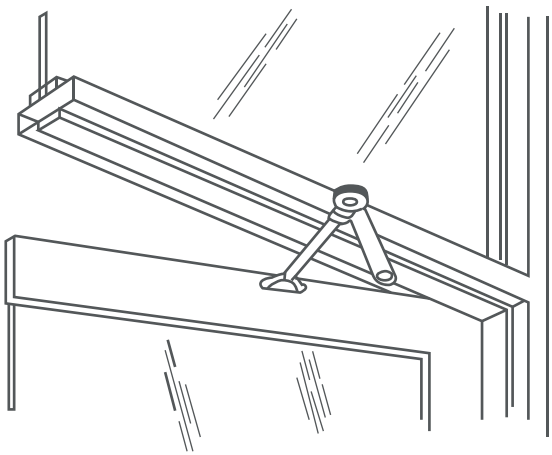
This application is similar to the concealed- in-the-door type application with the excep - tion that the arm is exposed when the door is opened. In this application, the body is con - cealed in the frame head and the channel guiding the arm is mortised into the top of the door. This application can be used only with single-acting doors that are butt or off- set pivot hung.



SLIDE ARM CONCEALED CLOSER

Surface Arm:

In this Overhead application the arm is al- ways exposed, being visible on the hinge side of the door. The body is concealed in the frame head. Thisapplication is used only with a single-acting door.



SURFACE ARM CONCEALED CLOSER

Closer Selection

For proper closer selection, analyze the door for the following:

Location of Door: Exterior or Interior? Exterior doors usually require a more powerful closer because of environmental conditions. Under certain circumstances, some interior doors may require an increase in selection size, such as within a stairwell tower or because of exceptional weight on a lead-lined door.

Type of Installation: Surface closers should be mounted on the hinge side of the door where appearance and location permit. This usually is not possible on exterior outswinging doors. In such cases you have three options: mount the closer inside the opening on the face of the frame (top jamb); on the inside of the door (parallel arm); or on a corner bracket. These options also apply whenever you find it necessary to have the closer installed on the stop side of the opening.

Size of Door: The width of the door is of major importance since there is apt to be considerable variation. The width of the door relates directly to the leverage needed for its opening and closing. Be sure to select the closer size as recommended by the manufacturer's closer chart.

Degree of Opening: The closer should allow the door to open to its maximum limit as dictated by adjacent walls and structures. It should also allow for free flow of traffic. Some closer arms and applications do not allow for this. They may restrict the degree of opening and must therefore be carefully selected based upon the information provided by the manufacturer. Also, do not utilize the closer arm as a stop unless the product is specifically manufactured to perform this function.

It is generally recommended that the closer perform the task for which it was designed, to control the opening and closing of the door. Separate hardware items should be utilized to stop and hold the door when necessary.

Special Purposes: When the situation demands it, closers and closer arms are available with a variety of features. You should learn their availability and match the need with what is offered.

Finish: Most manufacturers supply closers in a variety of finishes to match the hardware you are supplying. For the most part these are painted finishes. However, when necessary, the manufacturers often can provide actual plated closer covers and arms. Check your catalog for details.

ANSI/BHMA A156.4 Door Control-Closers

Door Control-Closers

ANSI/BHMA A156.4–2013 DOOR CONTROLS–CLOSERS

Revision of ANSI/BHMA A156.4-2008

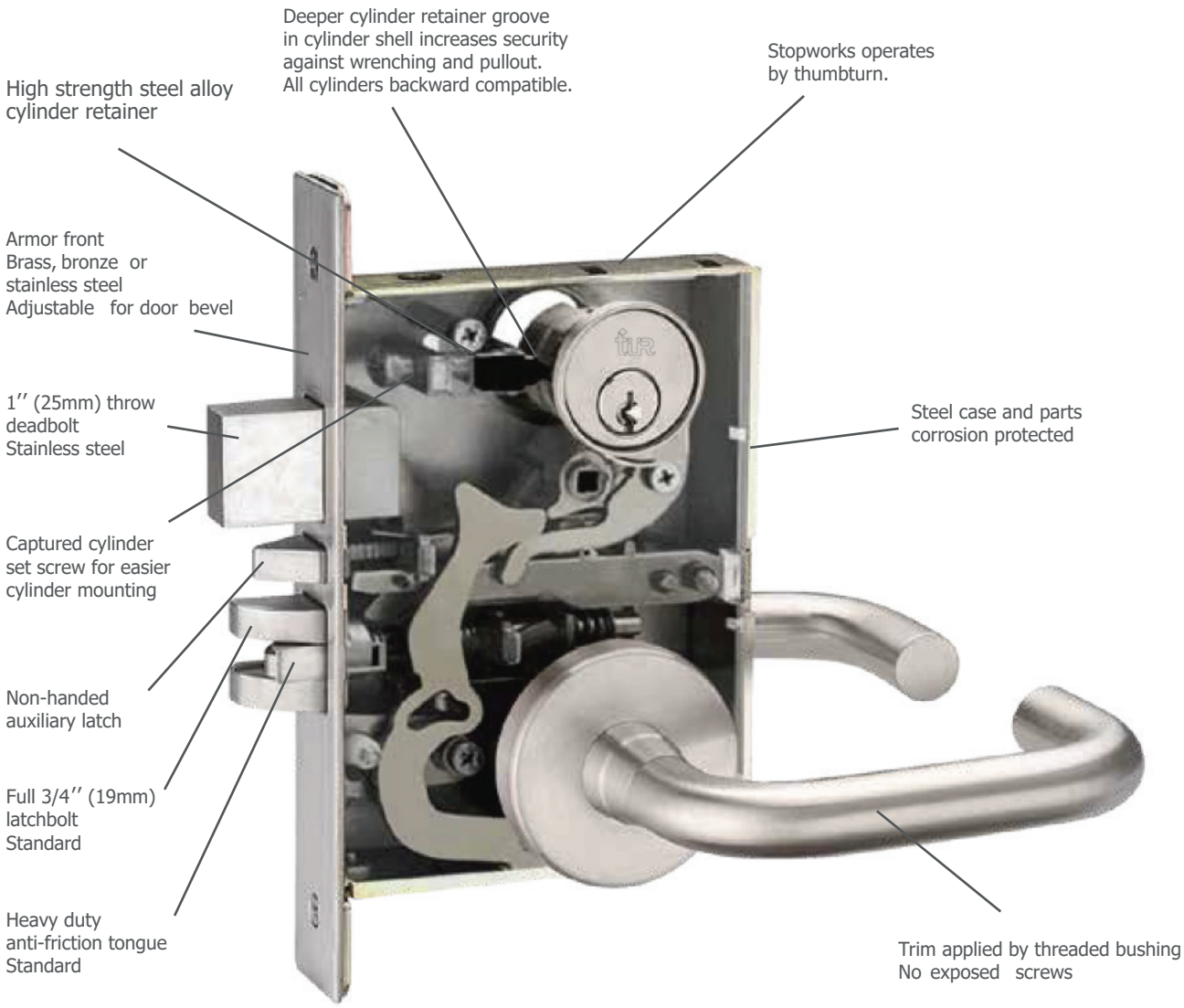
1. SCOPE

1.1 This Standard contains requirements for door closers surface mounted, concealed in the door, overhead concealed and concealed in the floor. Also included are pivots for floor closers. Criteria for conformance include cycle, operational, closing force and finish tests. Optional tests which shall be specified separately are also included.
1.2 Tests in this Standard are performed under neutral air pressure laboratory conditions and between 60 and 85 degrees F. In actual usage results vary because of installation, maintenance, and environmental conditions. Actual closer performance is affected by fluctuating ambient conditions such as wind and pressure differentials, consult factory for recommendations.
1.3 Use on Fire Doors A door closer used on labeled fire door assemblies shall be listed or labeled by a nationally recognized independent testing laboratory, and be subject to a periodic in-plant follow-up service. Consult the authority having jurisdiction for the appropriate fire test requirements.
Approved by May 28, 2013

Notes:

SECURE THE DOOR

TA1000 Series Mortise Lockset
Grade 1 Extra Heavy Duty



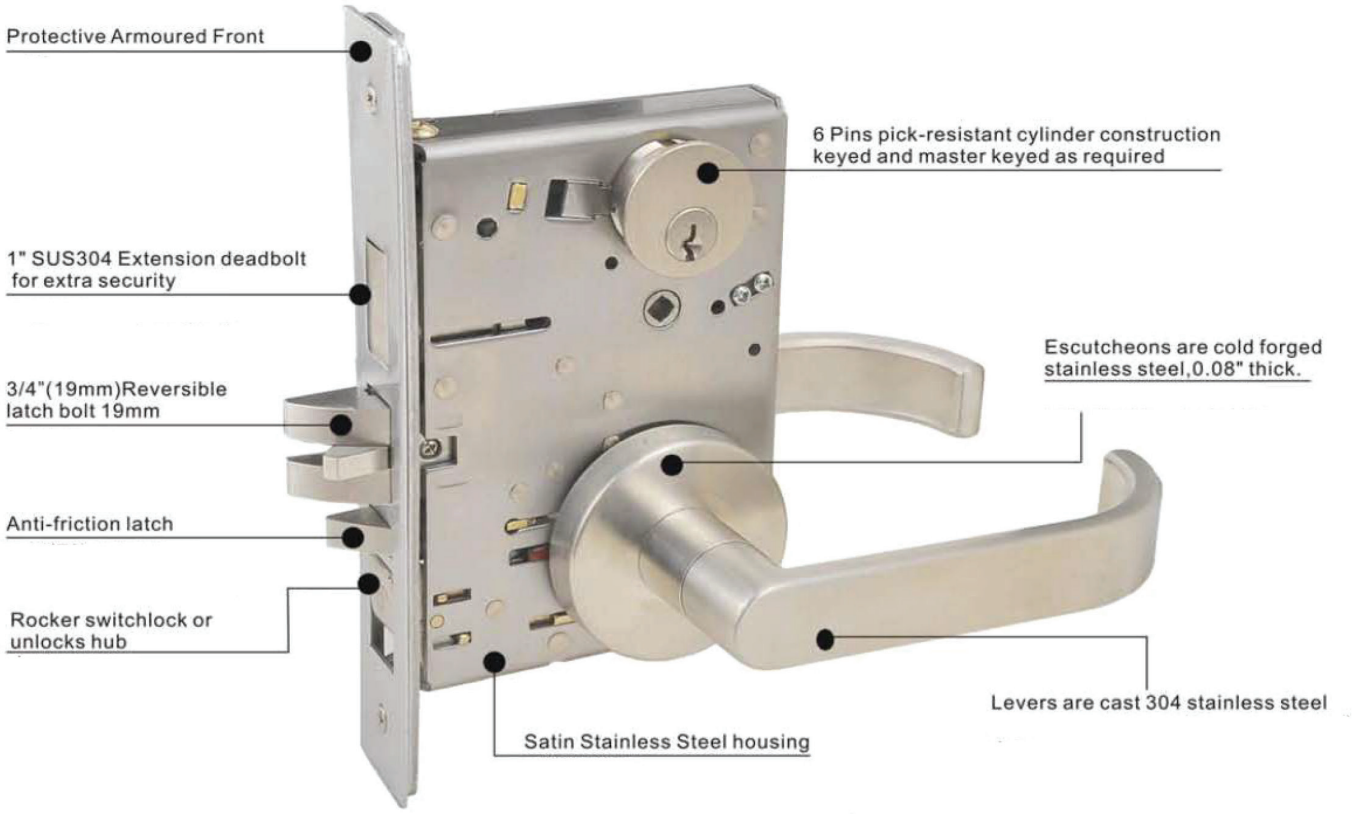
FEATURES

Latchbolt and deadbolt are fabricated from stainless steel
Internal parts are fabricated from high strength steel alloy
Mortise lock case and internal components are treated to ensure corrosion resistance
Lockcase can be reversed without disassembling the lock body
High strength steel alloy cylinder retainer
Two piece anti friction latchbolt reduces wear and tear
Hub blocking plate guards against spindle manipulation

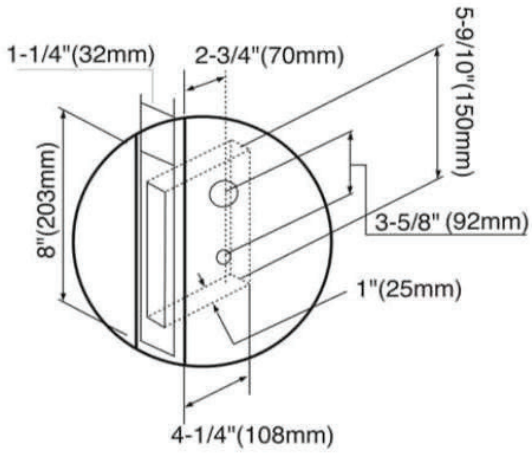
CERTIFICATIONS

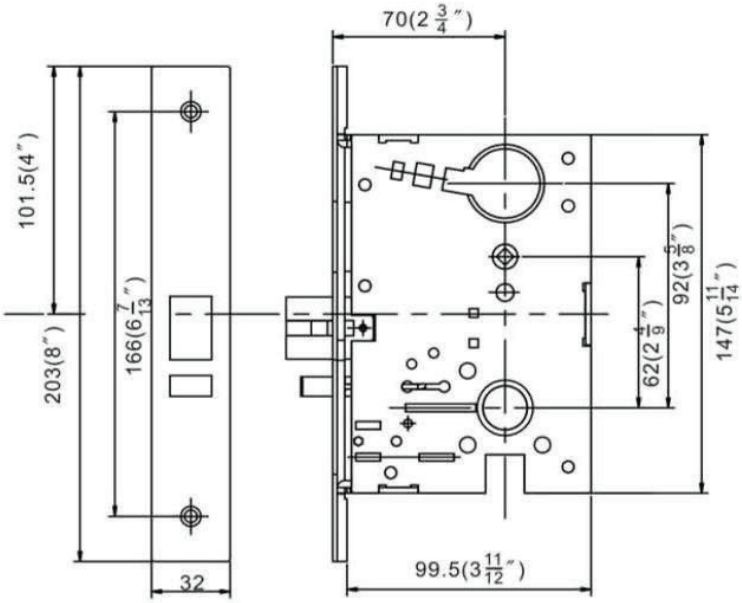
ANSI/BHMA A156.13 Series 1000 Grade 1 Operational and Security
ADA Compliant ANSI A117.1 Accessibility Code
cUL/UL Listed up to 3 hours
UL10C Positive Pressure Rated
UL10B Neutral Pressure Rated

Full Stainless Steel Mortise Lockset Extra Heavy Duty



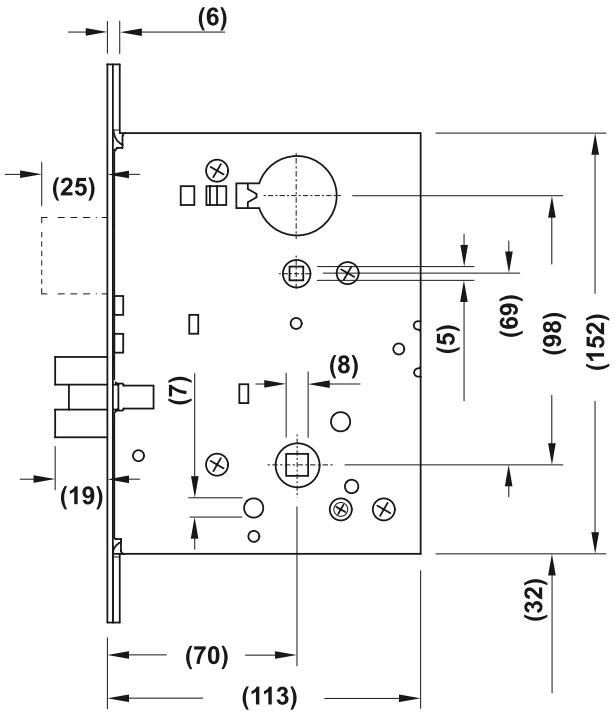
Door preparation





Specifications

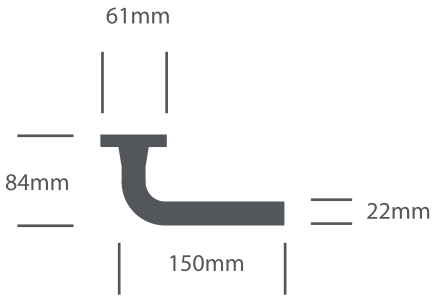
Case size 4-5/16" x 6" x 1" (110mm x 152mm x 25mm)
Armour Front 1-1/4" x 8" (32mm x 203mm)
Backset 2-3/4" (70mm) only
Preparation Conforms to ANSI A115.1
Door Range 1-3/4" (44mm). Specify if other door thickness required
Bevelled Doors Self adjusting tabs on case
Deadbolt 1" (25mm) throw, stainless steel
Latchbolt 3/4" (19mm) throw, with anti-friction tongue, stainless steel
Deadlocking Non-handed, stainless steel
Through Bolts Through bolted trim aligns with mortise lock case
Stop works Incorporated into thumbturn
Strike 1-1/4" x 4-7/8" Curved lip, square corner. Extended lip strikes available
Spindles Break-away under excessive torque. Preventing forced entry or lock damage
Cylinder 6 pin cylinder standard, with two keys, "C" keyway
IC Core Interchangeable Core (IC) available
Cam All cylinder functions use standard butterfly style cam
Cylinder Collar Compression ring and collar supplied standard
Fasteners Concealed under the rose or escutcheon
Standard Finishes Standard levers US32D (630), Designer levers US32D (630) and US15 (619)
Other finishes available. Extended lead time required



* SS316 Grade Option is Available On Request

TA 1000 Commercial Lever Styles

LD01



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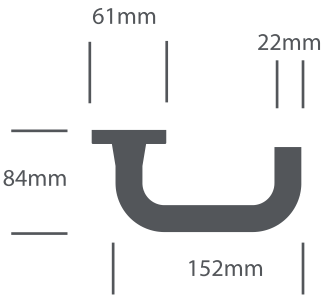

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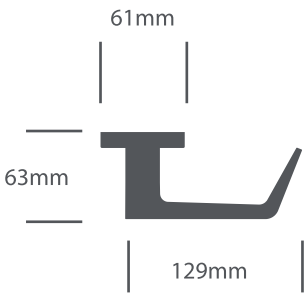

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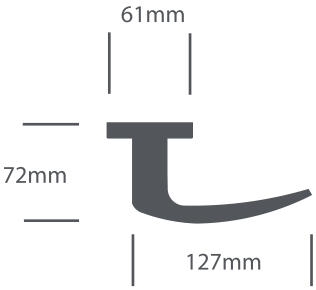
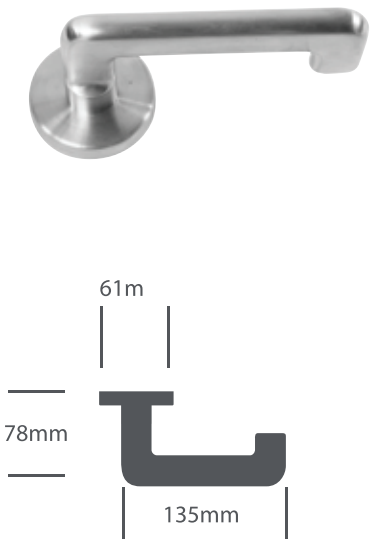


˘ SS316 Grade Option is Available On Request

TA 1000 Commercial Lever Styles

3

LD13



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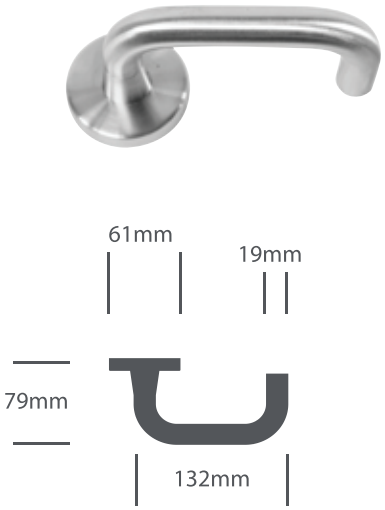
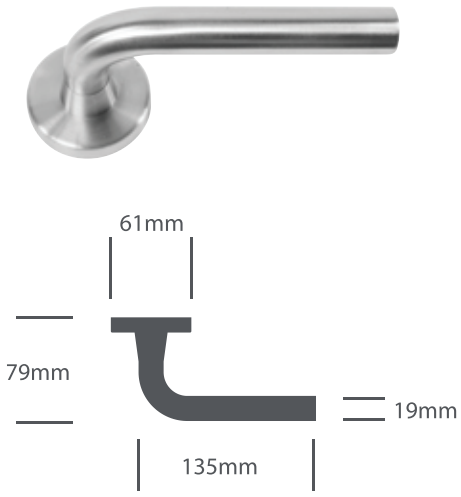


LD15



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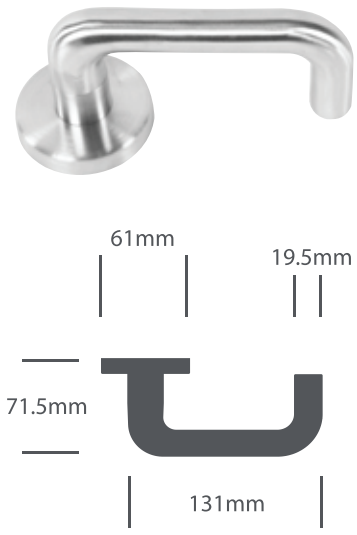
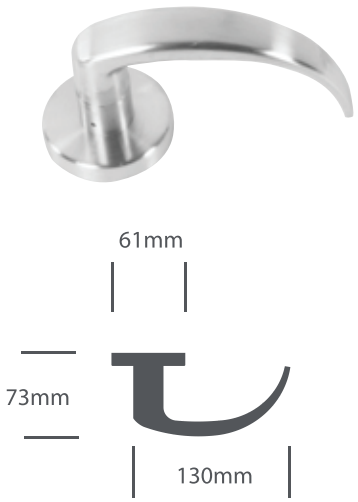


SS316 Grade Option is Available On Request

TA 1000 Commercial Lever Styles

LD17



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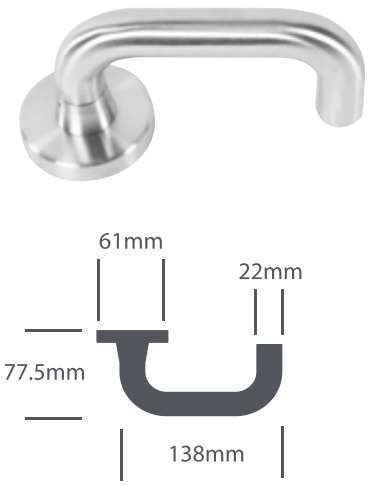
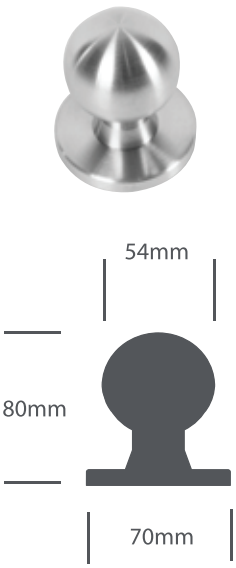


LD19

BK



* SS316 Grade Option is Available On Request

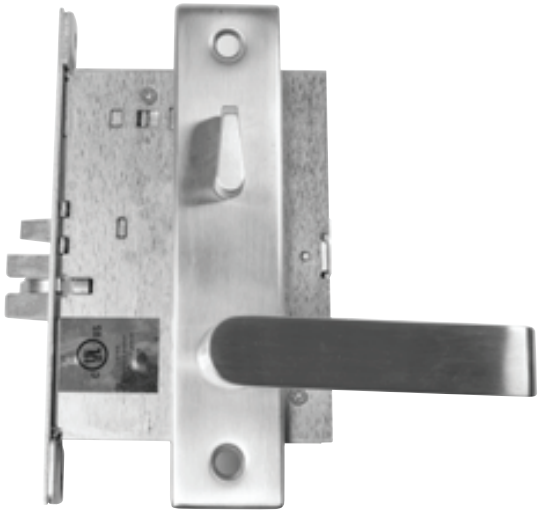
Escutcheon Plates

ESC1 OUTSIDE

1 3/4" (44mm) WIDE x 7 15/16" (202mm) HIGH x 7/16" (11mm)THICK

Note: Escutcheons Available For All Functions

ESC1 INSIDE



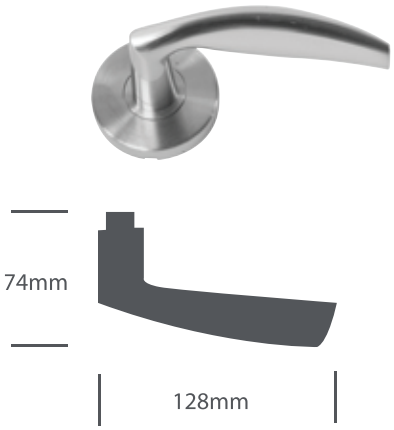
* SS316 Grade Option is Available On Request

Designer Lever Styles

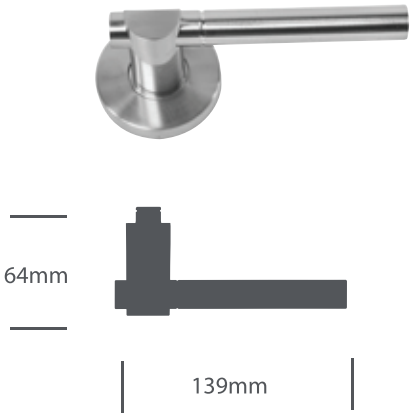
L101

L102

L113



L116



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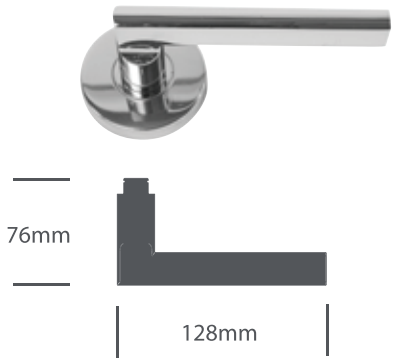
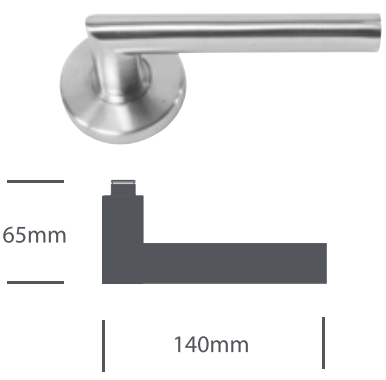


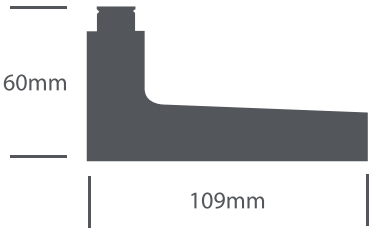
L126



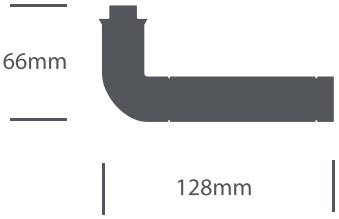
* SS316 Grade Option is Available On Request

Designer Lever Styles

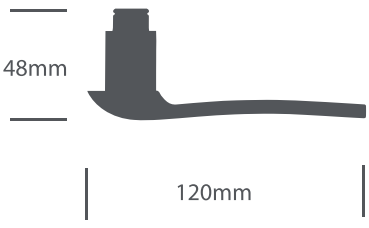
L136



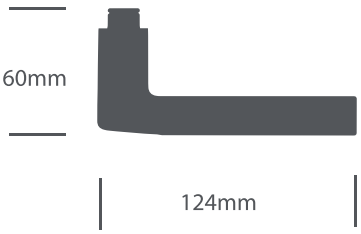
L167



L204



L208

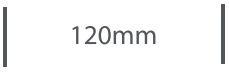


* SS316 Grade Option is Available On Request

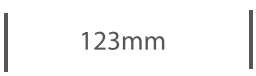
Designer Lever Styles

L420

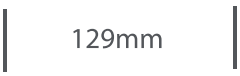
L421



L422



L423



* SS316 Grade Option is Available On Request

TA 1000 Series Standard Functions

Non Keyed Without Deadbolt

PART NUMBER	FUNCTION	ANSI NUMBER
TA1001	Passage	F01
TA1022	Privacy	F22
TA1019	Privacy	F19
KEYED WITHOUT DEADBOLT		
TA1004	Office	F04
TA1005	Classroom	F05
TA1007	Storeroom	F07
KEYED WITH DEADBOLT		
TA1013	Corridor	F13
TA1014	Storeroom	F14
TA1020	Entrance	F20
TA1021	Dormitory	F21
DEADBOLT FUNCTIONS		
TA1016	Deadbolt with Cylinder	
TA1017	Deadbolt with turn	F17
TA1018	Deadbolt w/o turn	F18

Note: Other functions available upon request

TA 1000 SERIES OPTIONS

Lead Lined Mortise Body
Torx Plus Fasteners
Coin Turn
Handicap thumb turn
Occupied Indicator
Anti microbial coating
Tactile warning

TA 1000 SERIES ELECTRICAL OPTIONS

Electrically locked, (Fail Safe)
Electrically unlocked, (Fail Secure)
REX - Request to Exit*
LBM - Latchbolt Monitor
Electric Latch Retraction
Note: See electrical section for specifications

TA 1000 Series Standard Lock Functions

Illustration	Non-Keyed	Function	ANSI Number	Description
	TA1001	Passage	F01	Latchbolt retracted by knob/lever on either side
	TA1022	Privacy	F22	Latchbolt retracted by knob/lever on either side unless outside is locked by thumbturn Operating inside knob/lever or emergency turn outside unlocks outside Inside knob/lever always active
	TA1019	Privacy	F19	Latchbolt operated by lever from either side • Emergency coin turn outside retracts deadbolt • Thumbturn inside extends/retracts deadbolt • Inside lever simultaneously retracts latchbolt and deadbolt
Illustration	**Keyed without deadbolt**	**Function**	**ANSI Number**	**Description**
	TA1004	Office	F04	Latchbolt retracted by knob/lever from either side unless outside is locked by key outside or by turning inside thumbturn When outside is locked, latchbolt is retracted by key outside or by knob/lever inside. Outside knob/lever remains locked until thumbturn is returned to vertical or unlocked by key Auxillary latch deadlocks latchbolt when door is locked Inside knob/lever always free
	TA1005	Classroom	F05	Latchbolt retracted by knob/lever from either side unless outside is locked by key. Unlocked from outside by key. Auxiliary latch deadlocks latchbolt when door is locked Inside knob/lever is always free for immediate egress
	TA1007	Storeroom	F07	Latchbolt retracted by key outside or by knob/lever inside Outside knob/lever always locked Auxiliary latch deadlocks latchbolt when door is locked Inside knob/lever is always free for immediate egress
	TA1013	Corridor	F13	Latchbolt retracted by knob/lever from either side Deadbolt thrown or retarcted by key outside or inside thumbturn Throwing deadbolt locks outside knob/lever Turning inside knob/lever simultaneously retracts deadbolt and latchbolt and unlocks outside knob lever Inside knob/lever is always free for immediate egress
	TA1020	Entrance	F20	Latchbolt retracted by knob/lever from either side unless outside is locked by 20 degree rotation of thumbturn Deadbolt thrown or retracted by 90 degree rotation of thumbturn When locked, key outside or knob/lever inside retracts deadbolt and latchbolt simultaneously Outside knob/lever remains locked until thumbturn is restored to vertical position Throwing deadbolt locks outside knob/lever Auxiliary latch deadlocks latchbolt when door is locked Inside knob/lever is always free for immediate egress
	TA1021	Dormitory	F21	Latchbolt retracted by knob/lever from either side Deadbolt thrown or retracacted by key outside or thumbturn inside
	TA1017	Deatbolt with Turn	F17	Deadbolt thrown or retracted by key outside or thumbturn inside
	TA1018	Deatbolt without	F18	Deadbolt thrown or retracted by key outside

TA1000 Series Anti-ligature solutions

Doors and door hardware are the primary anchor points in 28 percent of ligature-related suicide and suicide attempts in hospitals nearly double the next most common attachment point1.Reducing the likelihood of such attempts is a key concern in hospitals, behavioral health centers, jails and juvenile detention centers.

Consider this:

- In hospitals alone, there are more than 1,500 suicides each year.
- Likewise, suicide remains the largest single cause of death during incarceration.
- The problem also extends to juvenile confinement facilities. In a study from 1995 through 1999, ligature strangulation was used in 98.7 percent of suicides at such facilities with door hardware used as the attachment point in the majority of the cases.

Tur offers several door hardware solutions specifically designed to reduce the risk of injury or death due to ligature. Our anti-ligature knobs, levers and thumbturns combined with Tur Hospital Tip Door Hinges offer substantial patient protection.

AK1 anti-ligature knob

- Multiple safety facets, including recessed trim, sloped surface and concealed fastening hardware
- Quad design allows grip with entire hand or just fingertips
- Available with new lock or as retrofit
- BAA-compliant
- Commonly used on interior of patient rooms

Anti-ligature Thumbturn

- Sloped surface, recessed trim and concealed fastening hardware minimize attachment opportunity
- Positive stop prevents over extension and presentation of horizontal surface
- ADA- and BAA-compliant

AL1 anti-ligature lever

- Multiple safety facets, including recessed trim, sloped surface, concealed fastening hardware and integrated clutch that allows the lever to rotate in event of excessive force
- Available with new lock or as retrofit
- ADA- and BAA-compliant
- Often selected for exterior (hallway) side of patient rooms

Hospital tip door hinge

- Ligature resistant sloped tip (versus flat tip on traditional hinge) improves patient safety
- Available option on Tur Architectural hinges and pin and barrel continuous hinges

Additional features

The Tur Anti-Ligature products are:

- Solid stainless steel
- Made with recessed, tamper-proof screws that prevent the lock from being taken apart
- Available for the Tur L Series Mortise Locks, as a complete new lock assembly or as a conversion to an existing lock

Anti-microbial coating

An anti-microbial coating is available on levers, knobs, turns and cylinder rings. This silver-ion based finish inhibits cell growth by limiting its ability to absorb oxygen, process food or reproduce. The finish is effective against bacteria, mold, fungus, mildew and algae. Coating is FDA listed under 21 CFR part 175.300.

COIN TURN CYLINDER (CT)

For Emergency override

HANDICAP THUMB TURN

Available for rose trim

TACTILE WARNING

Peened surface warns user
against potential hazards
Used typically on one side only,
unless otherwise specified.
Available on stainless steel
and 26D levers

LEAD LINED (LL)

1/8" thick lead
plate installed on case cover

TORX SECURITY

Enhance security
and reduce tampering
with the
use of torx security
fasteners

Occupied Indicators

ER1
Red/White indicator
with coin turn

3/8" Projection

ER2
Red/Green indicator
with coin turn

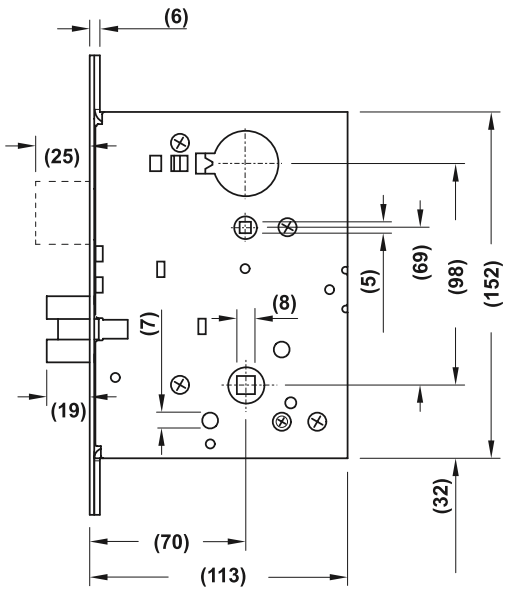
3/8" Projection

ER3
BLANK / DO NOT DISTURB
actuated by thumb turn
for rose turn only

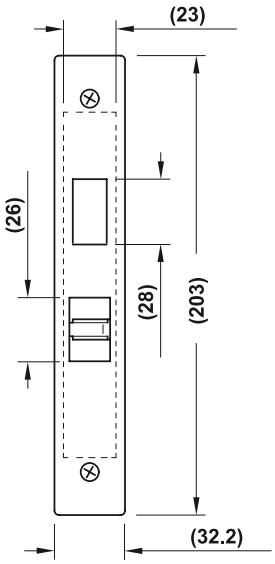
3/8" Projection

Mortise Locksets

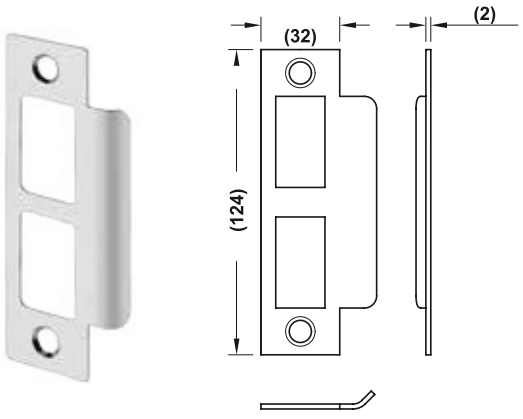
Dimensional Drawing of the Lock



Dimensional Drawing of the Strikes

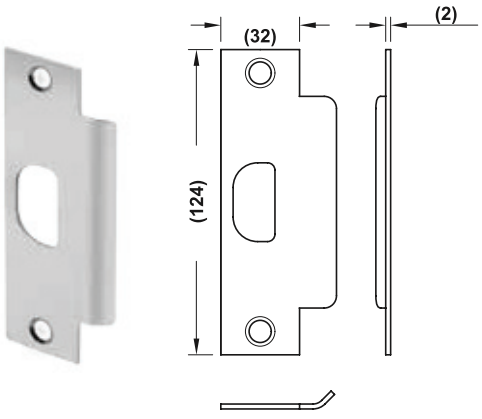


For locks with deadbolt functions



ASA strike, curved lip
for use with deadbolt functions

For locks without deadbolt functions



ASA strike, curved lip
for use without deadbolt functions

How to order.

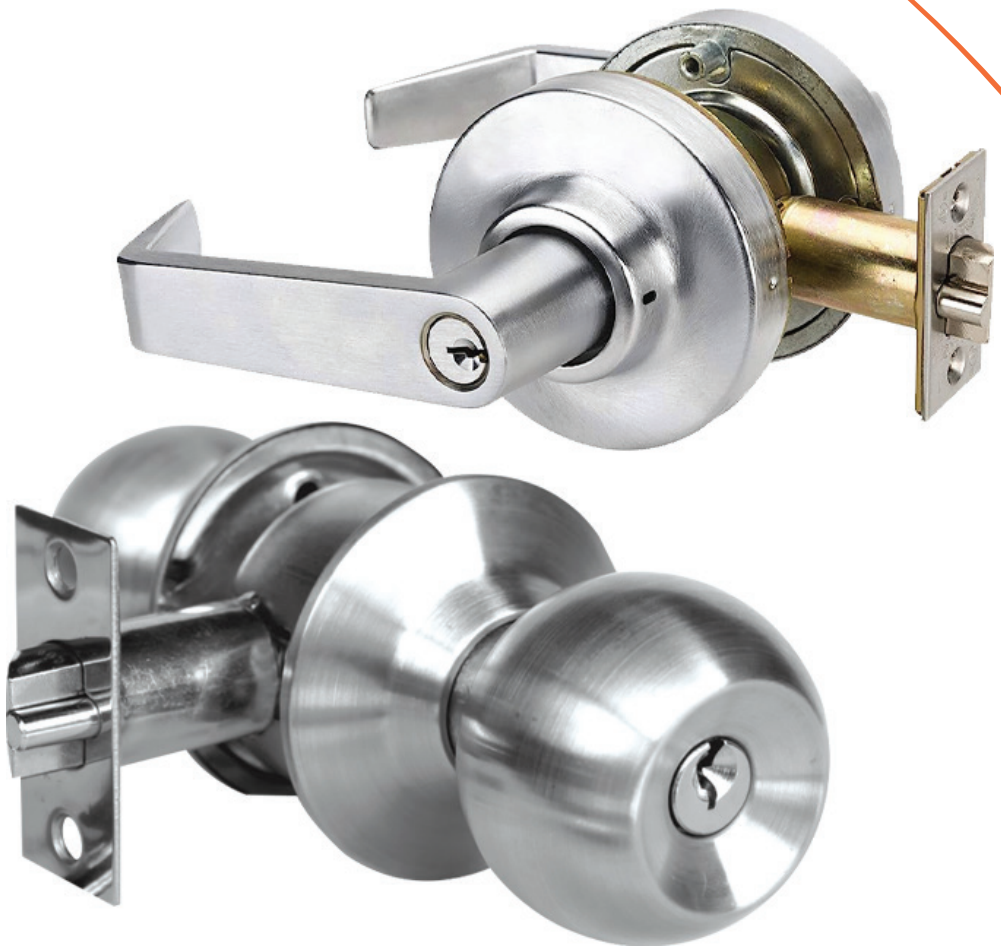
Brand Identity	Model No:	Function	On Rose /Esc	Cylinder	Commercial Levers	Design Levers	Options	Finish
TA	10 - Mortise Locks	01 - Passage	R - On Rose	W	LD01	L101	- (None)	630
		04 - Office	E - Escutcheon Plate	M	LD02	L102	AM - Anti-microbial	605
		05 - Classroom	DB - Only for Deadbolt Lock	L	LD11	L113	LL - Lean Lined	606
		07 - Storeroom		IC	LD12	116	ELRX - Fail Safe Request to Exit	625
		13 -Corridor			LD13	119	EURX -Fail Secure Request to Exit	612
		17 - DB Cylinder x Turn			LD14	126	EL - Fail Safe	613
		18 - DB Cylinder x Blank			LD15	136	EU - Fail Secure	
		20 - Entry			LD16	167		
		21 - Dormitory			LD17	204		
		22 - Privacy			LD18	208		
		22-IND - Privacy with Indicator			BK-Ball Knob	420		
		29 - Classroom DB				421		
						422		
						423		

Ex: TA1013.R.W.LD14.630

CYLINDER

W - Without cylinder
M - Mortise cylinder
L - Less IC Core
IC - With SFIC

Notes:



CYLINDRICAL LOCKSETS

Cylindrical Locksets

ANSI A156.2 – TA2000 Series

Product Brief:

TA2000 Series bring to you extra heavy duty cylindrical locks which are complies with ANSI A156.2 Grade 1 requirements. TA2000 featuring special lever designs make it suitable for ADA compliant applications. TA2000 series is also designed for use on 3-hour fire-rated doors and for all positive pressure applications. It comes with a choice of special lever and knob design to meet the aesthetic requirements of your project.

Technical Data

- Areas of Application: For wooded or metal doors which are very frequently used in residential units, public, commercial buildings, hotel and hospitals.
- Door Dimensions: Door Thickness:

- Areas of Application: For wooded or metal doors which are very frequently used in residential units, public, commercial buildings, hotel and hospitals.

- Door Dimensions: Door Thickness:
  Lever Locks (35 mm) to (48 mm) Thick
  Knob Locks (35 mm) to (52 mm) Thick

- Lock Dimensions:
  Case Size: (110mm x 152mm x 25mm)
  Door Preparation: ANSI A115.1
  Backset: (70 mm Only)
  Faceplate: (57mm x 28mm)
  Latchbolt: (13.5mm throw)

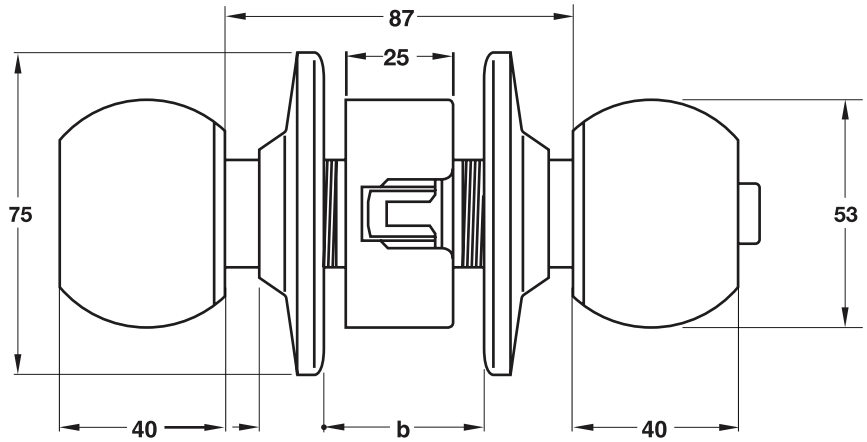
- Material:
  Latch bolt: Stainless Steel or Brass
  Front: Stainless Steel or Brass
  Rose: Stainless Steel or Brass
  Internal Working Parts: High Strength Steel Alloy
  Cylinder: Brass
  Lever: Solid Zinc

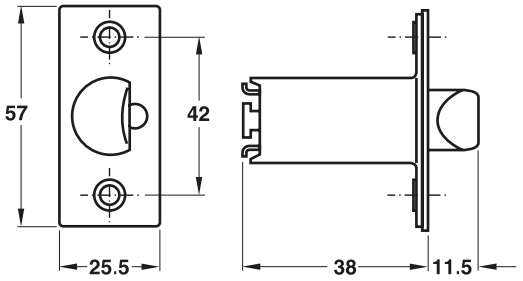
Knob: Stainless Steel

- Handing: TÜR Non Handed.
- Finishes: 626(Lever Design) 630(Knob Design Only) (Other finishes available upon request)
- Options: Split Finishes available upon request
- Keying: Solid Brass 6-pin tumbler cylinder with 2 nickel plated keys per lock

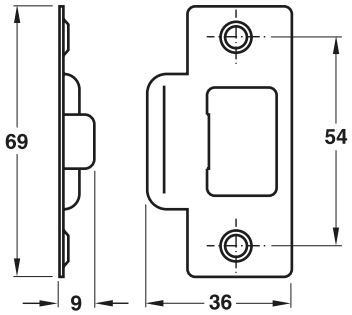
Cylindrical Locksets

ANSI A156.2 – TA2000 Series

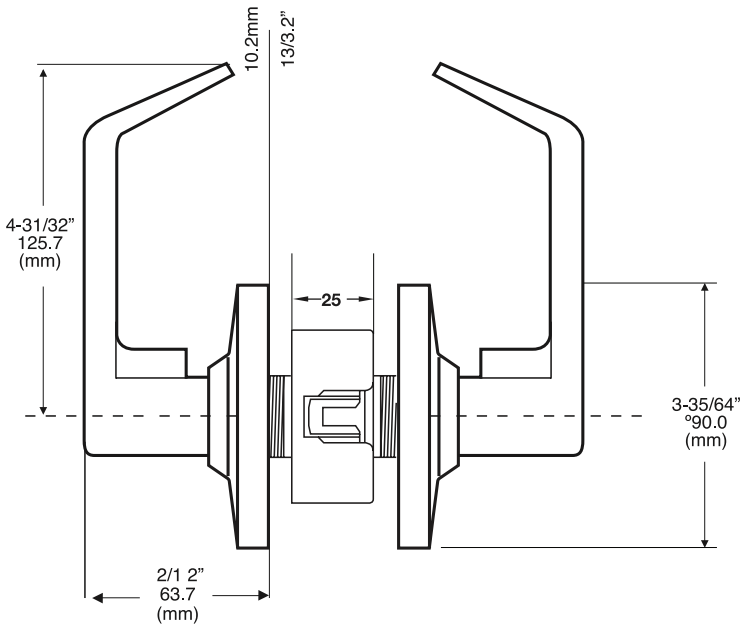




Latch



Striking plate



Cylindrical Locksets

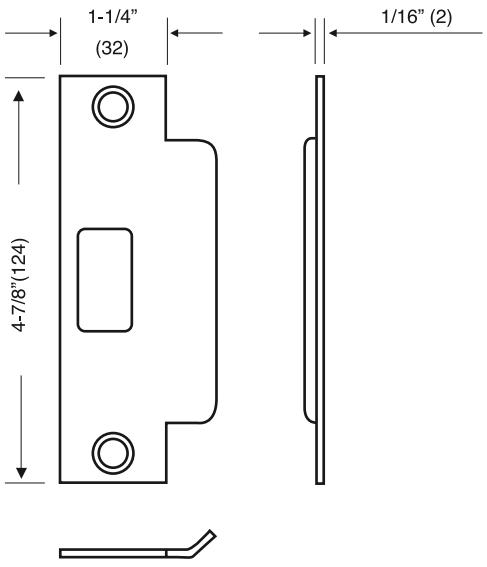
ANSI A156.2 – TA2000 Series

Special Features:

- Heavy duty commercial Grade Cylindrical Lockset, designed for Maximum Security, Heavy Traffic Usage
- Fast and Easy Installation
- Freewheeling available
- Quality cast and machined stainless steel hubs mounted with heavy duty return springs tested over one million cycles without any visible lever sag.
- Heavier rose liners material provides more attack resistance.
- Threaded roses on both sides hold lock firmly in place
- Heat treated heavy gauge cold rolled steel spindles withstand 1000 inch pound of torque applied to the locked lever without gaining access.
- Threaded outside rose assembly adjustable for door thickness without removing keyed lever.
- Internal steel mechanisms are corrosion treated for normal atmospheric conditions.
- TÜR, Non handed
- Latch bolt features an anti thrust tongue for smooth closing
- Stop works incorporated into thumb mechanism
- ASA (22mm x 31mm) strike standard
- Fasteners are concealed under the rose/escutcheon.
- Option of different lever and designs with possibility of split finish
- Front adjustable for flat or beveled doors
- Master keying: Can be master keyed or Grand Master keyed.
- Finishes: 626, 605, 606, 612, 613, 616, 619, 620, 622, 625, 630 (Only for knob design)

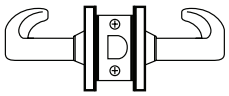
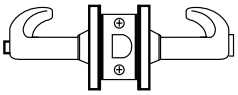
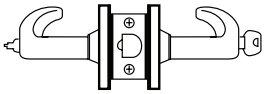
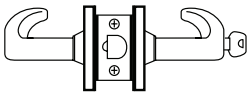
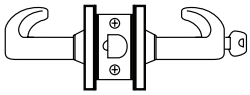
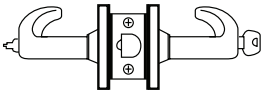
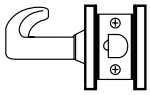
Certifications:
ANSI/BHMA: Meets the requirements of ANSI/BHMA A156.2 Bored & Preassembled Locks & Latches Grade 1
UL: UL Listed for use on upto 3 hours fire rated doors.
ADA: Meets the requirements of Americans with Disabilities Act when used with levers.

Strike Plate



Cylindrical Locksets

ANSI A156.2 – TA2000 Series

Model Number	Function Diagram of the Lock	Function	ANSI Function Number	Function Description
TA2075		Passage	F75	• Latchbolt retracted by lever on either side.
TA2076		Privacy	F76	• Push-button locks outside lever. • Turning inside lever or emergency turn unlocks outside lever. • Inside lever always active.
TA2009		Office	F109	• Push button locks outside lever until unlocked by key or by turning inside lever.
TA2084		Classroom	F84	• Push button locks outside lever until unlocked by key or by turning inside lever.
TA2086		Storeroom	F86	• Outside lever always fixed. • Latchbolt retracted by key outside or lever inside.
TA2053		Entry	F82	• Turn/push button locking: pushing/ turning button locks outside lever requiring key until button is manually unlocked. • Push-button locking: pushing button locks outside lever until unlocked by key or by turning inside lever.
TA2001		Dummy	-	• Single dummy trim for one side of door. • Used for door pull as matching inactive trim.

How to order.

Brand Identity	Model No:	Function #	Type	Cylinder	Options	Finish
TA	20 Cylindrical Grade 1	75 - Passage	-(None)	W	-(None)	630
	21 Cylindrical Grade 2	09 - Office	KK-Key in Knob	LIC	AM - Anti-microbial	605
	22 Cylindrical Grade 3	84 - Classroom	HT-Hospital Tip	IC	ET-Electric Through Wire	606
	23 Tubular	86 - Storeroom			ELRX	625
		82 - Entry			EURX	626
		01 - Dummy				612
		76 - Privacy				613
		87 - Institutional				

Specification:
All cylindrical Locksets shall meet to ANSI/BHMA A156.2 Grade 1 requirements and must be suitable for use on fire doors up to 3 hours.

Ex: TA2075.KK.W.630

Notes:

TA2100 Series Deadlock

ANSI A156.5

TA2110

TA2110N

2100 series is designed for locking where no latch is required
Ideal for suite entry, washrooms and change rooms
TA2110 2-1/8" Bore
TA2110N 1-1/2" Bore

FEATURES

Hardened steel roller for attack resistance
Corrosion resistance
Non handed

SPECIFICATIONS

Backset	2-3/4" (70mm) and 2-3/8" (60mm)
Bolt 1"	(25mm) throw deadbolt
Finishes	US32D, US3, and US10B
Certification	cUL/UL listed for up 3 hours

TA2100 Series Standard Functions

ANSI A156.5

TA2110	Cylinder by Thumb turn
TA2120	Double cylinder
TA2140	Thumb turn only
TA2110 LIC	Cylinder by Thumb turn less SFIC core
TA2120 LIC	Double cylinder less SFIC core

Note* Handed item

4700 Series Standard Lock Functions

Illustration	Deadbolt Functions	Function	Description
	**TA2110**	Cylinder with Turn	Deadbolt thrown or retracted by key outside or thumbturn inside
	**TA2120**	Double Cylinder	Deadbolt operated by key from either side
	**TA2140**	Door Bolt (Thumbturn only)	Deadbolt thrown or retracted by thumbturn from one side No trim on opposite side

Deadlatch Locks - 1/2" (12.7mm) Throw

TA2140-3132LH (SHOWN)

Cylinder Backset - 31/32" - Left Handed

TA2140-3132RH

Cylinder Backset - 31/32" - Right Handed

TA2140-118LH

Cylinder Backset - 1-1/8" - Left Handed

TA2140-118RH (SHOWN)

Cylinder Backset - 1-1/8" - Right Handed
Field Reversible for opposite hand
Key controlled dogging
Accepts standard 1-5/32" diametre mortise cylinder
Material: Steel
Faceplate Finish: US28

Notes:

SECURE THE DOOR

GLASS PATCH LOCKSETS

TA1200 Series Glass Patch Locksets

FEATURES

GLASS DOOR CLAMP:
Materials: Superior aluminum alloy as body, stainless steel 304 as cover
Cover size: 4.5"x10" (with pull handle); 4.5"x7.1" (non-pull handle)
Cylinder Length: 25mm, 27mm
Housing Length for IC Core: 35mm, 38mm
Suitable Door: 10 to 12mm tempered glass doors
Finish: US32D, US32, US3, US4, Dark Bronze
Door Direction: Handed (LH, RH)

**Please mention the handing of the door while ordering

TA1200 Series Standard Lever Designs


SS


GS


GE


TS

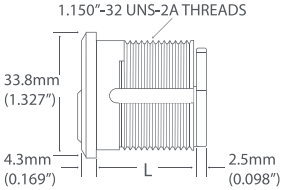

DS

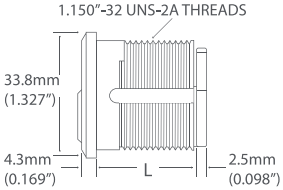

SE


QS


TS

Standard Mortise Cylinders





How to order

Brand Identity	Model No:	Function	On Rose /Esc	Cylinder	Lever Designs	Door Leaf	Options	Finish
TA	12 - Glass Patch Locks	01 - Passage	R - On Rose	w	SS	SD - Single Door	- (None)	630
		04 - Office	E - Escutcheon Plate	M	TS	DD - Double Door	AM - Anti-microbial	629
		05 - Classroom	DB - Only for Deadbolt Lock	L	QS			626
		07 - Storeroom		IC	GS			625
		17 - DB Cylinder x Turn			DS			606
		18 - DB Cylinder x Blank						605
		19 - Blank x Turn						

Ex: TA1205.R.W.TS.SD.630

CYLINDER

W - Without cylinder
M - Mortise cylinder
L - Less IC core
IC - With SFIC

Notes:

Notes:

SECURE THE DOOR

CYLINDERS

Cylinder Options

Cylinders are not supplied when ordering exit device or trim. Please order separately.
The pages detailing exit device trim designs and functions advise cylinder type required.

Mortise Cylinder

Mortise Conventional Cylinder
TA3100

Small Format Interchangeable Core (SFIC)
TA3200

Interchangeable Core Housing (SFIC HOUSING)
TA3300

Key In Knob (KK), Key In Lever (KL) Cylinder
TA3500

Please specify tailbar and keyway

Note: Standard cylinder is 1-1/4" long. SFIC cylinders are 1-3/8" long. LFIC cylinders are 1-1/2 long. Please specify cam.

CONVENTIONAL

How to order

Brand Identity	Model No:	Ring Type	cam#	Key way	Lenth	Keying	Finish
TA	31 - Mortise Cylinder	01 - 1/8" Blocking Ring	0	SC	118 - 1-1/8"	KD	605
		02 - ¼" Blocking Ring	01	SE	114 - 1 1/4"	MKD	606
		03 - 9/32" Tapered Ring	10	J	138 - 1 3/8"	KA4	625
		04 - 7/16" Tapered Ring	11	BA	112 - 1-1/2"	CMK	626
		05 - 17/32" Tapered Ring	12	BB	158 - 1-5/8"		612
		06 - 11/16" Tapered Ring	13	BC	134 - 1 3/4"		613
		07 - 13/16" Tapered Ring	14	BD	200 - 2"		619
		00 - No ring	15	TT	214 - 2-1/4"		
				DM	212 - 2-1/2"		
					300 - 3"		

Ex: TA3104.15.SC.118.MKD.626

SFIC

How to order

Brand Identity	Model No:	Ring QTY	Key way	Keying	Finish
TA	32- SFIC	06 - PIN	SC	KD	605
		07 - PIN	SE	MKD	606
			J	KA4	625
			BA	CMK	626
			BB	TMP	612
			BC		613
			BD		619
			TT		
			DM		

Ex: TA3207.SC.MKD.626

HOUSING

How to order

Brand Identity	Model No:	Ring Type	Cam #	Length	Finish
TA	33 - SFIC Housing	01 - 1/8" Blocking Ring	0	118 - 1-1/8"	605
		02 - ¼" Blocking Ring	01	114 - 1 1/4"	606
		03 - 9/32" Tapered Ring	10	138 - 1 3/8"	625
		04 - 7/16" Tapered Ring	11	112 - 1-1/2"	626
		05 - 17/32" Tapered Ring	12	158 - 1-5/8"	612
		06 - 11/16" Tapered Ring	13	134 - 1 3/4"	613
		07 - 13/16" Tapered Ring	14	200 - 2"	619
			15	214 - 2-1/4"	
				212 - 2-1/2"	
				300 - 3"	

Ex: TA3304.15.118.626

Double Mortise Key Cylinder

TA2172KASC

Schlage "C" Keyway - Keyed Alike
1" Long, 5 Pin , 1-5/32" diametre
AR MS - Type Cam
Includes a 3/16" thick cylinder ring
Complete with two keys
Material: Aluminum
Finish:US28

Mortise Thumbturn Cylinder

TA2172Z

1" Long, 5 Pin , 1-5/32" diameter
AR MS - Type Cam
Includes a 3/16" thick cylinder ring
Material: Aluminum
Finish:US28

Mortise Dummy Cylinder

TA2173Z

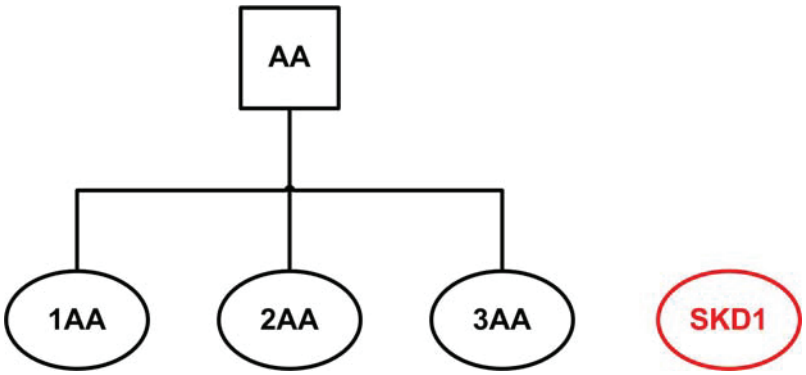
1-5/32" Diameter, 7/8" Long Cylinder
Includes a 3/16" thick cylinder ring
Material: Aluminum
Finish: US28

ANSI A156.28–2007
American National Standard for Master Keying Systems

This document is available free of charge to maximize the dissemination of the educational content. This recommended practice is intended for building owners, security professionals and others responsible for designing, implementing, and maintaining secure keying systems. Minimize legal liability by providing industry proven guidelines.

The purpose of this document is to provide guidelines for the essential keying conference, establish good practices for effective key management, and give building owners the ability to extend the life of keying systems to meet future demands.The document provides many examples of key system design and symbols, such as:

2 Level Systems – Simple Master Key System



The master key symbol consists of TWO letters, such as AA. The change key numbers are added to the master key letters. The numbers come FIRST: 1AA, 2AA, 3AA, etc.When locks are required which are not operated by the master key or other change keys in the system, they are referred to as "single keyed" and given symbols SKD1, SKD2, etc. When all higher levels of master keys are to be disallowed, suffix (NMK) to the symbol of the key which is to operate. This means "not master keyed." Cylinder 1AA(NMK) is operated by 1AA only.The AA master is blocked from operation. The publication also provides a glossary of terms, cross keying information, and much more useful information for industry professionals.

1. SCOPE

This recommended practice is intended for building owners, security professionals and others responsible for designing, implementing, and maintaining secure keying systems. Minimize legal liability by providing industry proven guidelines.
It covers system design, to provide design criteria to establish and maintain a secure keying system.
The purpose of this document is to provide guidelines for the essential keying conference, establish good practices for effective key management, and give building owners the ability to extend the life of keying systems to meet future demands.

2. GENERAL

Master keying is the process of combinating a group of locks or cylinders, so that each is operated by its own change key as well as by a master key for the entire group. This process makes it more susceptible to picking through shear line manipulation, and by increasing the number of keys which operate it.
A master key system stands little chance of serving the end user's needs if it is not properly planned from its inception. The end user must be involved in planning and approving the keying system. The keying conference is the principal element of this process and its importance must not be minimized. The end user's designated personnel or representative(s) with the proper level of authority over the final keying system must be present at this meeting.
Use cylinders manufactured and certified to ANSI/BHMA A156.5 in the BHMA Certified Products Directory, to ensure consistent performance and durability.

3. DEFINITIONS

3.0 The following definitions are taken from The Professional Glossary of Terms Relating to Cylinders, Keys and Master Keying, copyright 1982 – 1998 by the Lock Industry Standards and Training (LIST) Council and the ALOA Sponsored National Task Group for Certified Training Programs.

3.1 Bitting The numbers which represent the dimensions of the key cut; or the actual cuts or combination of a key.

3.2 Bow The portion of a key which serves as a grip or handle.

3.3 Change Key A key which operates only one cylinder or one group of keyed alike cylinders in a keying system.

3.4 Concealed Key Control (CKC) A specification that all lock cylinders be marked with standard keying symbols in a location which is concealed while the cylinder is installed.

3.5 Combinate To set a combination in a lock, cylinder or key.

3.6 Combination The group of numbers which represent the bitting of a key and/or the tumblers of a lock or cylinder.

3.23 Keyed Alike (KA) Of or pertaining to two or more locks or cylinders which have or are to have the same combination. They may or may not be a part of a keying system.

3.24 Key Blank Any material manufactured to the proper size and configuration, which allows its entry into the keyway of a specific locking device. A key blank has not yet been combinated or cut.

3.25 Keying Conference A meeting of the end user and the key system supplier at which the keying and levels of keying, including future expansion, are determined and specified.

3.26 Keyed Different (KD) Of or pertaining to a group of locks or cylinders, each of which is or is to be combinated differently from the others. They may or may not be part of a keying system.

3.27 Key Interchange An undesirable condition, usually in a master key system, whereby a key unintentionally operates a cylinder or lock.

3.28 Key Section The exact cross sectional configuration of a key blade as viewed from the bow toward the tip.

3.29 Key Symbol A designation used for a key combination in the standard key coding system, e.g., A, AA, AA1, etc.

3.30 Master Key (MK) 1. A key which operates all the master keyed locks or cylinders in a group, each lock or cylinder usually operated by its own change key. 2. To combinate a group of locks or cylinders such that each is operated by its own change key as well as by a master key for the entire group.

3.31 Master Key System 1. Any keying arrangement which has two or more levels of keying. 2. A keying arrangement which has exactly two levels of keying.

3.32 Multiplex Key System 1. A series of different key sections, which may be used to expand a master key system by repeated bittings on additional key sections. The keys of one key section will not enter the keyway of another key section. This type of system always includes another key section which will enter more than one or all the keyways. 2. A keying system which uses such keyways and key sections.

3.33 Multi-Keyway System See Multiplex Key System

3.34 NMK A keying symbol which means "not master keyed" and may be suffixed in parentheses to the regular key symbol. It indicates that the cylinder is not to be operated by the master key(s) specified in the regular key symbol; e.g. AB6(NMK).

3.35 Progression A logical sequence of selecting possible key bittings, usually in numerical order from the key bitting array.

3.36 Selective Master Key An unassociated master key which can be made to operate any specific lock(s) in the entire system in addition to the regular master key(s) and or change key(s) for the cylinder without creating key interchange.

3.37 Shear Line A location in a cylinder at which specific tumbler surfaces must be aligned, removing obstruction(s) which prevented the plug from moving.

3.38 SKD Symbol for single keyed, normally followed by a numerical designation in the standard key coding system; e.g. SKD 1, SKD 2, etc It indicates that a cylinder or lock is not master keyed, ut is part of the keying system.

3.39 Theoretical Key Changes The total possible mathematical bitting combinations, usually reduced in practice.

3.40 Top Master Key (TMK) The highest level master key in a master key system.

3.41 Visual Key Control (VKC) A specification that all keys and the visible portion of the front of all lock cylinders be marked with standard keying symbols.

4. SYSTEM PLANNING

4.1 THE KEYING CONFERENCE

In preparation for the keying conference, unique numbers or identification should be assigned to each door. These numbers are referenced when planning, executing and maintaining the system and for assigning key symbols or issuing keys. For large systems, include tools such as floor plans, blueprints, organization charts, phone lists, etc.

The following items should be decided at the keying conference, covering the identification of end user requirements as well as balancing convenience and security:

A) Determine the level of key restriction required
- None
- Restricted
- Patented
- Card controlled
- Signature controlled
- Factory controlled
- Distributor/dealer controlled

B) Identify who will administer and be responsible for these decisions and ongoing key management

C) Show the scope of job (one building, multiple buildings, future expansion, etc.)

D) Anticipate and identify future expansion needs for each level of keying

E) Set levels of authority and control for different areas and keys

F) Determine how the facility will be supported:
- Whether the key cutting and cylinder combinating service will be performed by the manufacturer, an outside locksmith or in-house locksmith.
- Who will maintain the bitting list?
- When the plan is to perform this work in-house, the appropriate service equipment must be ordered and plans made for training the locksmith(s).

G) Determine levels of keying and number of different key systems
- Discuss steps required to minimize or eliminate cross keying
- Identify special use areas for restricted access
- Identify SKD (Single Key) areas
- Select type of key system identification and cylinder marking
  i. Decide if visual key control will be applied
  ii. Decide if concealed key control will be applied
  iii. Decide if sequential numbering of key inventory will be applied
- Explain the benefits vs. risks involved for each type of marking
- Determine the key Management System to be used, either digital or manual, including safe storage of keys and blanks, and procedures for issuing keys, retrieving keys and dealing with lost or stolen keys
- Determine the shipment or delivery method of new locks, cylinders, keys, blanks

H) Decide on service options;
- Determine if construction keying or construction cylinders, or cores, or temporary cylinders will be needed
- Determine if special function cylinders (hotel, limited rotation, elevator, switch and cam locks, etc) will be needed
- Consider the need to integrate with electronic access control systems and alarm systems
- Plan out the inventory of spare cores / cylinders and keys
- Select the quantity of keys to be furnished per key set

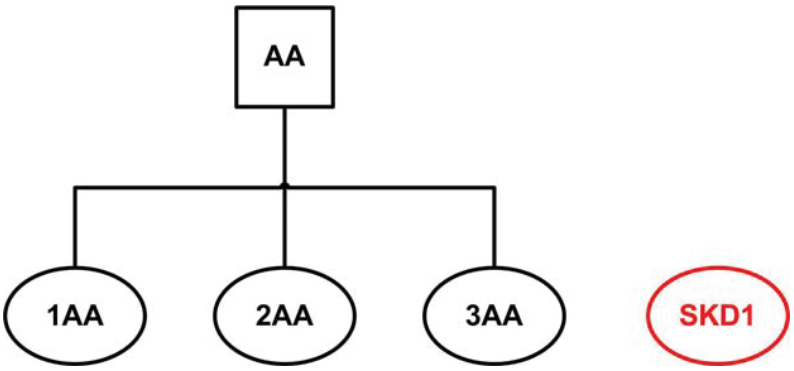
I) Establish timetables for keying;

- Is this an emergency due to a lost or stolen key;
- New construction

4.2 EXAMPLES OF KEY SYSTEM DESIGN

The following examples are guidelines for Master Key Schematics, but this type of marking may not meet all user requirements. The user may specify a system that meets their requirements.

2 Level Systems – Simple Master Key System

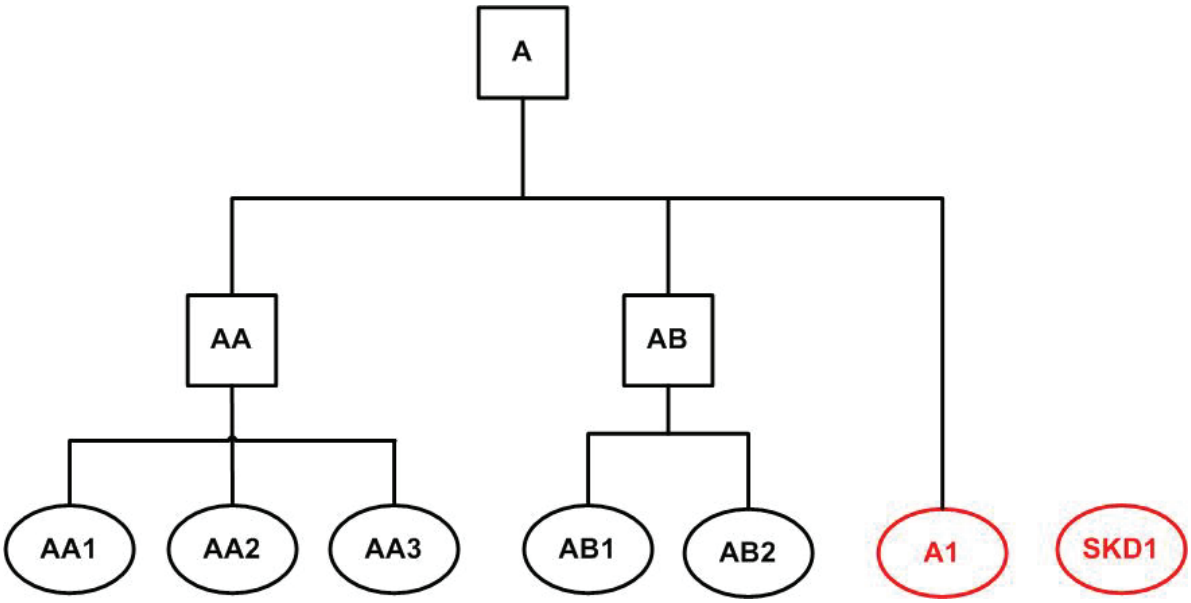


The master key symbol consists of TWO letters, such as AA. The change key numbers are added to the master key letters. The numbers come FIRST: 1AA, 2AA, 3AA, etc.

When locks are required which are not operated by the master key or other change keys in the system, they are referred to as "single keyed" and given symbols SKD1, SKD2, etc.

When all higher levels of master keys are to be disallowed, suffix (NMK) to the symbol of the key which is to operate. This means "not master keyed." Cylinder 1AA(NMK) is operated by 1AA only. The AA master is blocked from operation.

3 Level Systems – Grand Master Key System



The grand master is assigned any ONE letter, such as A. The master keys under this grand are assigned two letters, the first of which must be the same as the grand: AA, AB, AC, etc. are all masters under grand A. Masters BA, BB, BC, etc. are all under grand B. Caution: Do not use the letters I or O because of possible confusion with the numerals 1 and 0, respectively. Change key numbers come after the letters.

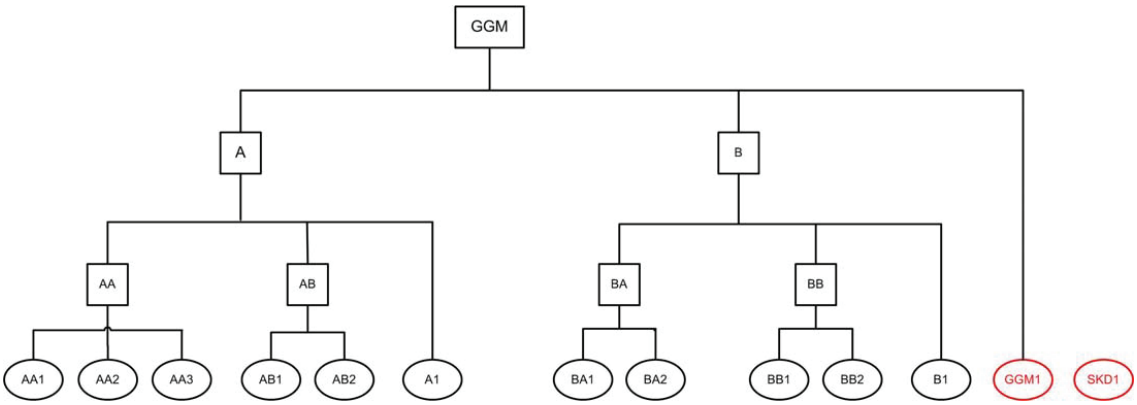
For master keys beyond AZ, insert a numeral between the letters to designate which pass through the alphabet they represent. A2A through A2Z represents the second pass of masters under grand A. A3A through A3Z would be the third. Change keys under these masters have the numbers suffixed in the usual way: A2A1, A2A50, etc.

If the cylinder is to be operated by its change key and nothing lower than the single lettered GMK, the change number is added to the GMK symbol. This is illustrated by the example A1 in the schematic shown.

When locks are required which are not operated by ANY master keys or other change keys in the system, they are referred to as "single keyed" and given symbols SKD1, SKD2, etc.

When all higher levels of master keys are to be disallowed, suffix (NMK) to the symbol of the key which is to operate. This means "not master keyed" and can be applied to any level in the system. Cylinder AA1(NMK) is operated by AA1 only. The AA master and A grand are blocked from operation. Cylinder AA(NMK) would be operated by the AA master only. Grand A does not operate.

4-Level Systems – Great Grand Master Key System



The great grand master key is assigned the symbol GGM. The rest of the symbols are the same as those in 3-level systems: The GMKs are assigned single letters, e.g., A, B, C, D, etc. Caution: Never use X for a grand master key due to the confusion which will result with cross keying symbols presented on the next page.

Masters under each GMK are assigned two letters, the first of which is the same as its respective grand master key. Change key numbers come after the letters. Changes under the grand (A1, B1, etc.) and masters beyond AZ are handled exactly as in the 3-level system already described.

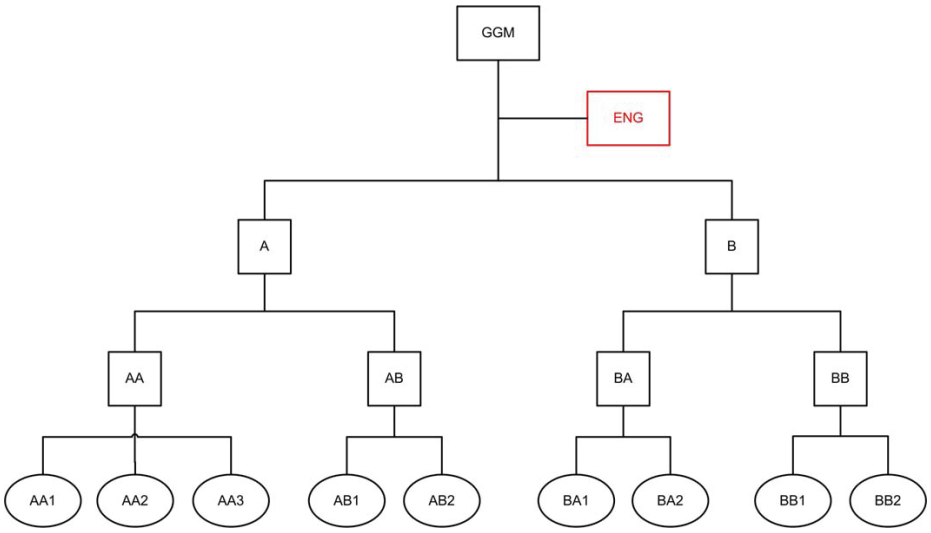
Changes directly under a grand are also handled as illustrated in the 3-level system. For changes directly under the GGM with no intermediate level masters, the change number is added directly to GGM as shown by the example GGM1 in the schematic.

When locks are required which are not operated by ANY master keys or other change keys in the system, they are referred to as "single keyed" and given symbols SKD1, SKD2, etc.

When all higher levels of master keys are to be disallowed, suffix (NMK) to the symbol of the key which is to operate. This means "not master keyed" and can be applied to any level in the system. Cylinder AA1(NMK) is operated by AA1 only. The AA master, A grand and GGM are all blocked from operation. Cylinder AA(NMK) is operated by the AA master only. Grand A and the GGM do not operate. Cylinder A(NMK) would be operated by the A grand only, without the GGM.

Selective Master Keys

It is often useful in large keying systems to issue a high level master key to maintenance personnel which allows access across all master and grand master key boundaries of a keying system. A selective master key is usually very close to the system's top master key, both physically and through its realm of access. Nevertheless, it must be blocked from operating in many areas.

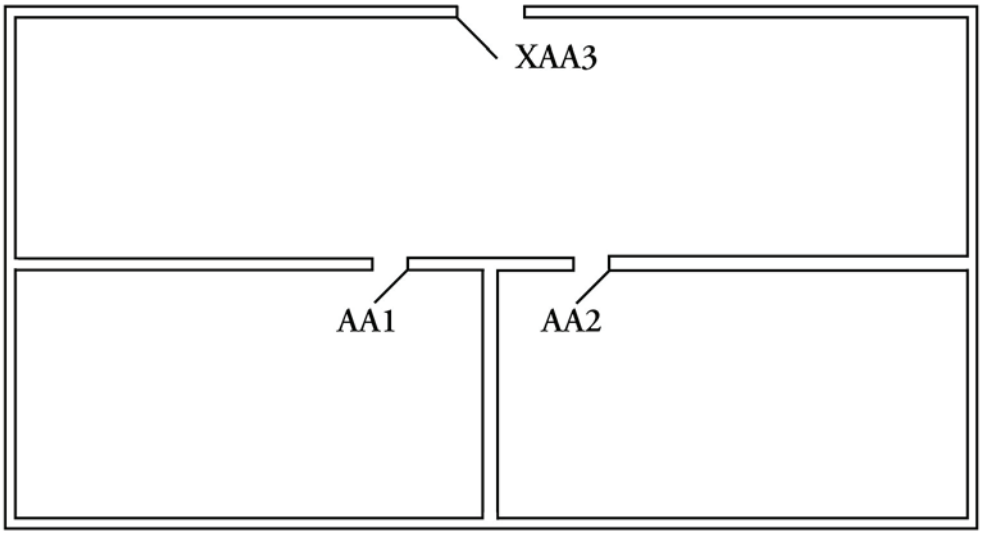


To designate that a lock be operated by a selective master key, suffix the symbol in parentheses to the standard symbol. Example: AA1 (ENG). This must be added every time the selective key is to operate and left off whenever the selective key is NOT to operate. For instance, you may lay out a system in which key AA1 is to operate two different offices. Inside one of them is an electrical cabinet which must be accessible to maintenance personnel carrying the ENG key. That lock must be specified as AA1(ENG) while the lock for the other office must be specified as AA1. Change keys directly under the selective key, such as ENG1, are operated by all higher level keys, such as GGM.
Like cross keying, a selective master key is a convenience feature which decreases the security of the cylinders it operates and limits the expansion and flexibility of the overall keying system. Each selective master key typically eliminates 20 - 25% of the capacity of the system where it is used, so it should only be specified when absolutely required. It is recommended that no more than one system-wide selective master key be used within the same system.

Cross Keying

Convenience May Reduce Cylinder Security and Hinder System Expansion

Whenever two or more different keys such as AA1 and AA2 are both required to operate the same cylinder, the cylinder's security is reduced. This is called cross keying. When the cross keying occurs under all the same higher level keys, such as AA1 and AA2, it is known as controlled cross keying. When it combines keys under different higher level keys, such as AA1 and AB1, it is known as uncontrolled cross keying.In addition to reducing the security of the cylinder, cross keying usually imposes limits on the flexibility and expansion of the overall keying system. This is especially true of uncontrolled cross keying. For these reasons, it is strongly recommended to allow personnel to carry more than one key. Cross keying should be discouraged whenever possible. However, when cross keying is required, it is specified as follows, and should be summarized at the beginning of each order. It cannot normally be added later. Each cross keyed set should also be limited to keys which are all under the same higher level master keys.

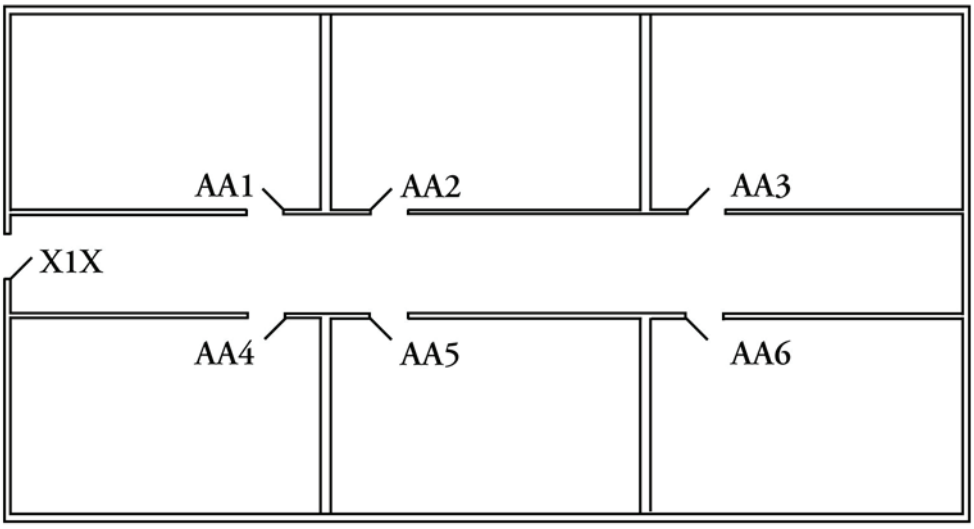


XAA3 operated by AA1, AA2, AA, and A

Case #1

Cylinder requires its own change key. The illustration depicts part of a small medical building where two doctors share a common receptionist. The receptionist gets the AA3 key. Each doctor carries a key which operates only one office, but is also cross keyed nto the entrance from the corridor.

Determine the symbol of the change key (example: AA3). Then prefix the letter X (example: XAA3). Then list all keys which are to operate in an "operated by..." phrase. Example: "XAA3 operated by AA1, AA2, AA and A". Note that X is a cylinder specification only. The keys for cylinder XAA3 are designated AA3.



X1X operated by AA1 through AA6, AA, and A

Case #2

Cylinder does NOT require its own change key. This illustration depicts a section of a floor in a dormitory. Each student's bedroom key operates the hall door lock. There is no need to construct a key which operates only the hall door.

In this case, place an X at both the beginning and end of the symbol and a number between them. Example: XIX, X2X, etc. Again, always include the "operated by . . . " phrase with a complete listing of key symbols to operate.

Keyed Alike

Use keyed alike groups to conserve key combinations. Study blueprints or building structures to identify areas where more than one door leads into the same space, and where several different areas are used by the same personnel. These areas should be keyed alike (use the same key symbol). This conserves combinations for future use as well as reduces the need to issue master keys.

5. SYSTEM DEVELOPMENT

5.0 Each master key system should be custom generated based on the end user's specific requirements. Generic master key systems taken directly from training materials or third party publications are not acceptable.

5.1 Top Master Key (TMK) The TMK combination for the keying system shall be selected observing the following guidelines. These guidelines are written for standard pin tumbler cylinders and may be extended to other cylinder mechanisms where applicable.

5.1.1 To enhance pick resistance and prevent worn master keys from being pulled out while the cylinder plug is unlocked and turned, do not use declining step keys and keys whose cuts have little or no variation in depth.

5.1.2 In order to minimize the chances of persons altering lower level keys into TMKs, each TMK should contain one of the shallowest possible cuts. Toimprove security against key manipulation, the TMK should also contain one of the deepest cuts, where practical.

5.1.3 Duplication of TMK. The originator of the system shall take all possible measures to minimize the chances of duplicating TMK combinations on the same keyway(s) within any geographical area. When multiplex keyways are used, the relationship between them must be observed as part of the TMK issuing procedure.

5.2 Keyway Selection Keyway selection must be driven by the amount of key control and the amount of expansion required by the end user. Restricted or controlled keyways afford more protection by being less available to the public.

5.3 Progression Master keying progression varies widely when different cylinder mechanisms are used. The method of master keying progression should be selected to create the minimum number of incidental master keys, while still reaching the desired system expansion. Correct progression results in no duplication of key combinations and no key interchange. Random key bittings must never be used in a key system. In a conventional pin tumbler cylinder this is accomplished by using the fewest possible master pins per cylinder.

5.4 Product Labeling. All product supplied for the system should be labeled to identify its relationship to the hardware schedule. Such a label should include the door number and keyset. Labeling may be attached to the product itself, to its packaging, or both.

6. KEY MANAGEMENT

6.0 A keying system will deteriorate if there is noadministration after it is installed. The following guidelines will help maintain the effectiveness of a keying system.

6.1 Key Control SystemMaster key systems should be provided with a method of tracking keys.

6.1.1 If the policy is to not destroy returned keys, there should be a suitable container for storage of keys, such as a lockable key control cabinet. This will help provide a level of security adequate for the facility.

6.1.2 If the policy is to destroy returned keys, the destruction shall follow the procedures developed by the administrator of the Key Control System.

6.1.3 Key issue records provide information for maintaining the system and should include storage, retrieval and listing by:

- opening (history of door location)
- keyset to key holder
- keyset to opening
- key holder
- key cabinet hook number, if used

6.1.4 Model "Key Issue Policy" No key shall be issued without written authorization. The number of persons authorized to allow key issues shall be kept to a minimum. This should be one person's responsibility, with another trained backup person available.

7. MAINTENANCE

Model "System Maintenance Policy"

All changes and additions to the keying system shall use key bittings consistent with the original progression method. When combinating cylinders for such changes and additions, only manufacturer approved cylinder components, including key blanks, tumblers and springs, should be used. Cylinder combinating (keying) should be performed only by personnel with technical competency in master keying. Indication of competency can be conferred by the manufacturer, the Associated Locksmiths of America, the Door and Hardware Institute, or any other organization approved by the manufacturer.

A key coding machine shall be used to generate all original keys. Depth key sets are not acceptable. All key machines and other cylinder servicing tools and equipment should be approved by the lock manufacturer. Key machines must be kept in adjustment to maintain the lock manufacturer's key bitting tolerances.

For systems where no key cutting or cylinder combinating equipment is available on site , an inventory of cut keys and/or combinated cylinders or interchangeable cores should be kept on hand to handle emergency rekeying situations.

When special restricted or proprietary keyways are used, an inventory of key blanks, plugs or cores should be maintained by the key system service provider. This restricted material shall be secured against misuse or compromise to the key system.

Notes:

Notes:

FURNISH THE DOOR

Pull

TU8006-1	Pull .75" Dia. x 6" c/c
TU8006-2	Pull 1" Dia. x 6" c/c
TU8008-1	Pull .75" Dia. x 8" c/c
TU8008-2	Pull 1" Dia. x 8" c/c
TU8012-1	Pull .75" Dia. x 12" c/c
TU8012-2	Pull 1" Dia. x 12" c/c

Pull/Plates

TU8106-1	Pull .75" Dia. x 6" c/c x 4" x 16" plate
TU8106-2	Pull 1" Dia. x 6" c/c x 4" x 16" plate
TU8108-1	Pull .75" Dia. x 8" c/c x 4" x 16" plate
TU8108-2	Pull 1" Dia. x 8" c/c x 4" x 16" plate
TU8112-1	Pull .75" Dia. x 12" c/c x 4" x 16" plate
TU8112-2	Pull 1" Dia. x 12" c/c x 4" x 16" plate

Offset Pull

TU8180-1	Offset Pull .75" Dia. x 6" c/c
TU8180-2	Offset Pull 1" Dia. x 6" c/c

H SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Tür Recommends The Following Optimum Stability At The Diameter And And Lenth Shown Below:

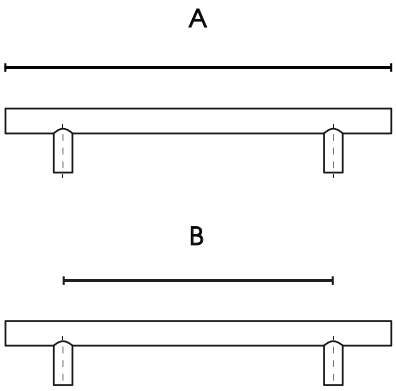
19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm
38 mm:maximum 2400 mm
50 mm:maximum 2600 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	H	300	200	19	BT-Bolt Through	630
		500	400	25	BB-Back To Back	629
		700	600	32		626
		1000	900	38		625
		1200	1100			606
						605

Ex: TU.H.300.25.BB.630

*custom sizes available on request

45 H SHAPE PULL HANDLE

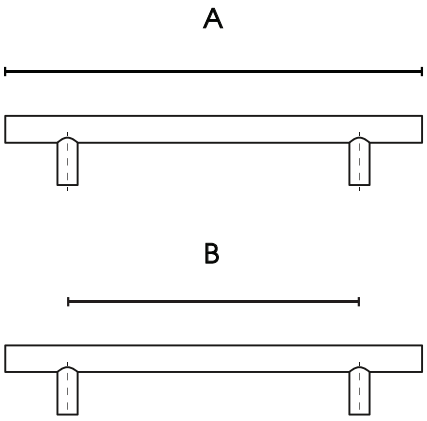
SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Tür Recommends The Following Optimum Stability At The Diameter And And Lenth Shown Below:

19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm
38 mm:maximum 2400 mm
50 mm:maximum 2600 mm



FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers

How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	45H	500	300	25	BT-Bolt Through	630
		700	500	32	BB-Back To Back	629
		810	650			626
		1200	1000			625
						606
						605

Ex: TU.45H.500.25.BB.630

*custom sizes available on request

OD SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Maximum height measurement A as function of Diameter Shown Below:

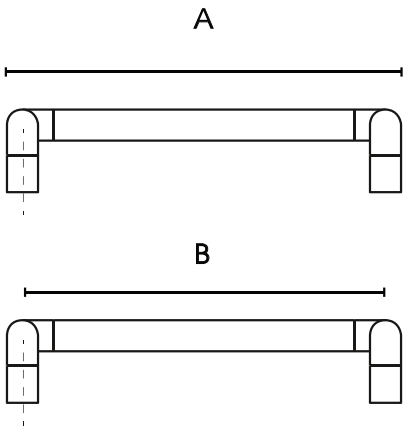
19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	OD SHAPE	319	300	19	BT-Bolt Through	630
		325	300	25	BB-Back To Back	629
		332	300	32		626
		342	400			625
		369	350			606
		375	350			605
		419	400			
		425	400			
		432	400			

Ex: TU.OD.319.19.BB.630

*custom sizes available on request

SDC SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Tür Recommends The Following Optimum Stability At The Diameter And And Lenth Shown Below:

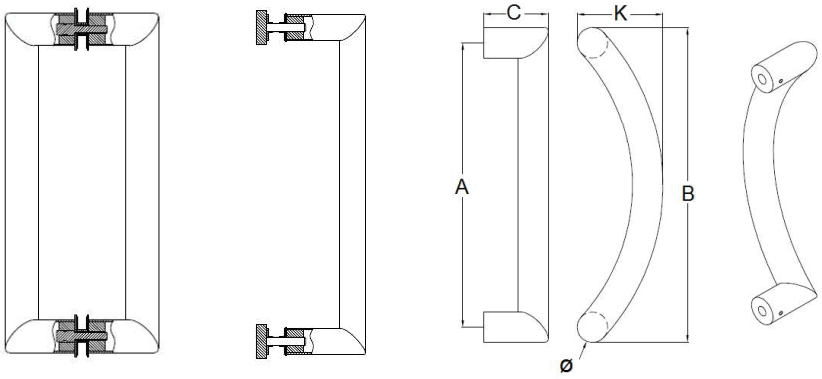
19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm
38 mm:maximum 2400 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	SDC SHAPE	325	300	19	BT-Bolt Through	630
		332	300	25	BB-Back To Back	629
				32		626
				38		625
						606
						605

Ex: TU.SDC.325.25.BB.630

*custom sizes available on request

OV SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Maximum height measurement A as function of Diameter Shown Below:

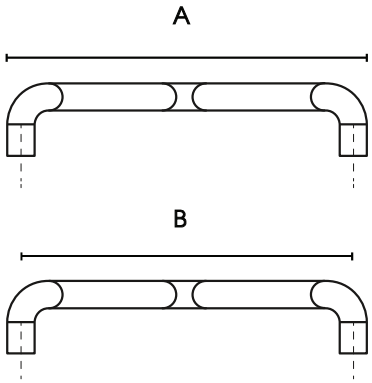
19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	OV SHAPE	319	300	19	BT-Bolt Through	630
		325	300	25	BB-Back To Back	629
		332	300	32		626
		432	400			625
						606
						605

Ex: TU.OV.319.19.BB.630

*custom sizes available on request

SD SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Tür Recommends The Following Optimum Stability At The Diameter And And Lenth Shown Below:

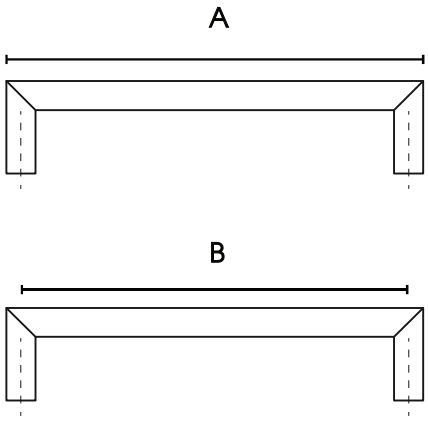
19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm
38 mm:maximum 2400 mm
50 mm:maximum 2600 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



SD SHAPE PULL HANDLE

How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	SD SHAPE	219	200	19	BT-Bolt Through	630
		319	300	25	BB-Back To Back	629
		325	300	32		626
		332	300			625
		369	350			606
		375	350			605
		382	350			
		419	400			
		425	400			
		432	400			
		519	500			
		525	500			
		532	500			
		619	600			
		625	600			
		632	600			
		719	700			
		725	700			
		732	700			

Ex: TU.SD.219.19.BB.630

*custom sizes available on request

OC SHAPE PULL HANDLE

SPECIFICATION

FEATURES

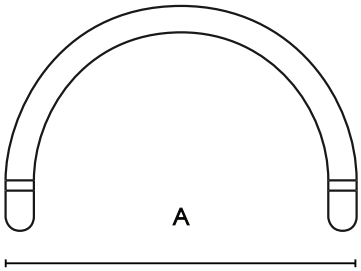
- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

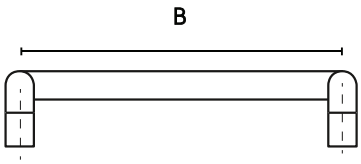
FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers





How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	OC SHAPE	319	300	19	BT-Bolt Through	630
		325	300	25	BB-Back To Back	629
		332	300	32		626
		432	400	32		625
						606
						605

Ex: TU.OC.319.19.BB.630

*custom sizes available on request

HC SHAPE CURVED PULL HANDLE

SPECIFICATION

FEATURES

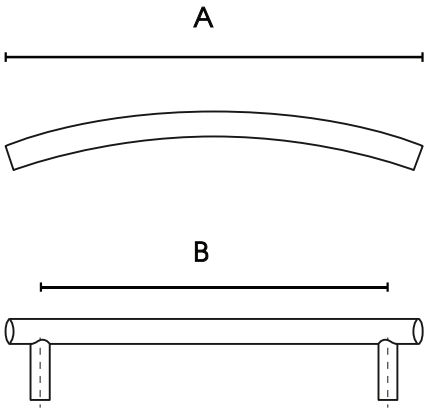
- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes Only

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	HC SHAPE	420	350	25	BT-Bolt Through	630
		420	350	32	BB-Back To Back	629
		665	620			626
		665	620			625
						606
						605

Ex: TU.OC.319.19.BB.630

*custom sizes available on request

D SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes only

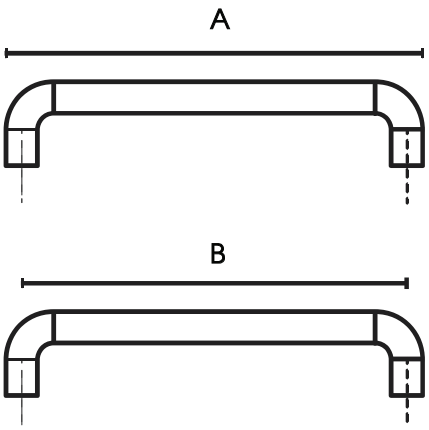
FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers

STANDARD SIZES



D SHAPE PULL HANDLE

How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	D SHAPE	169	150	19	BT-Bolt Through	630
		219	200	25	BB-Back To Back	629
		225	200	32		626
		319	300			625
		325	300			606
		332	300			605
		369	350			
		375	350			
		382	350			
		419	400			
		425	400			
		432	400			
		619	600			
		532	500			
		619	600			
		625	600			
		632	600			

Ex: TU.D.169.19.BB.630

*custom sizes available on request

DC SHAPE CURVED PULL HANDLE

SPECIFICATION

FEATURES

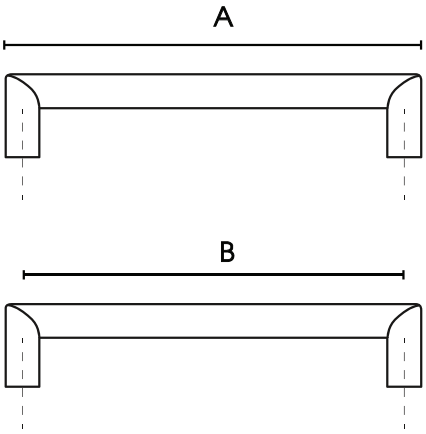
- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes only

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	DC SHAPE	500	300	25	BT-Bolt Through	630
		700	500	32	BB-Back To Back	629
		810	650			626
		1200	1000			625
						606
						605

Ex: TU.DC.500.25.BB.630

*custom sizes available on request

DS SHAPE SQUARE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Tür Recommends The Following Optimum Stability At The Diameter And And Lenth Shown Below:

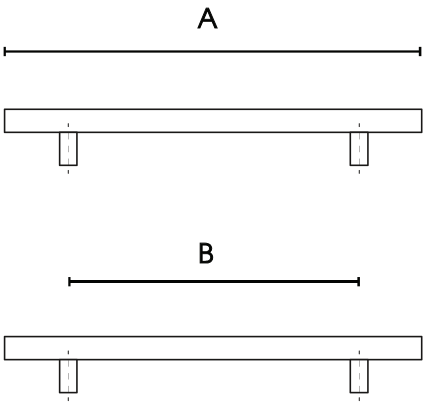
20 mm:maximum 1000 mm
25 mm:maximum 1500 mm
30 mm:maximum 2000 mm
40 mm:maximum 2400 mm
50 mm:maximum 2800 mm

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	DS SHAPE	300	200	20	BT-Bolt Through	630
		450	350	30	BB-Back To Back	629
		600	500	40		626
						625
						606
						605

Ex: TU.DS.300.20.BB.630

*custom sizes available on request

DQ SHAPE SQUARE PULL HANDLE 90

SPECIFICATION

FEATURES

- Stainless Steel Grade 304/316
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Mount Using An M8 Bolt For A Maximum Door Thickness Of 110mm
- Available In Singles And Pairs
- Standard Sizes And Custom Size

- Maximum height measurement A as function of Diameter Shown Below:

19 mm:maximum 1000 mm
25 mm:maximum 1500 mm
32 mm:maximum 2000 mm
38 mm:maximum 2400 mm
50 mm:maximum 2800 mm

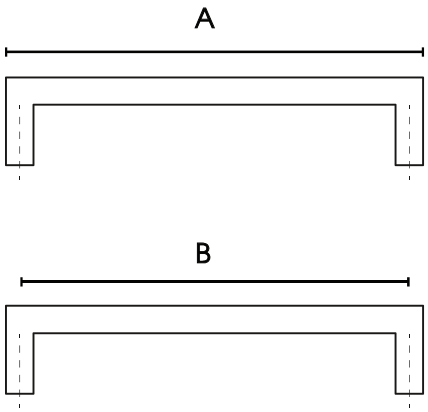
4

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	DQ SHAPE	320	300	20	BT-Bolt Through	630
		325	300	25	BB-Back To Back	629
		330	300	30		626
						625
						606
						605

Ex: TU.DQ.320.20.BB.630

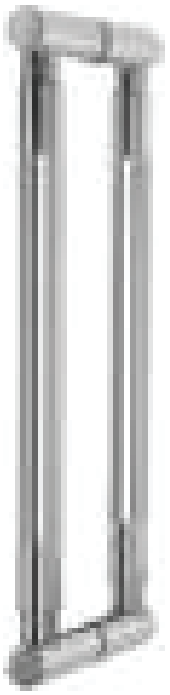
*custom sizes available on request

PHD SHAPE PULL HANDLE

SPECIFICATION

FEATURES

- Stainless Steel Grade 304
- Suitable For The Following Door Types:glass,timber Aluminum And Pvc
- All Measurements Are In Millimetres.
- Includes Solid Stainless Steel Fitting
- Available In Singles And Pairs
- Standard Sizes And Custom Size



FINISH OPTIONS

- Stainless Steel Finish

STANDARD CONFIGURATION

- Pull handle
- Studs with washers

How to order

Brand Identity	Model Shape	Length (A)	Dia.	Type	Finish
TU	PHD	300	19	BT-Bolt Through	630
		500	25	BB-Back To Back	629
		700	32		626
		1000			625
					606
					605

Ex: TU.PHD.300.25.BB.630

*custom sizes available on request

Notes:

Notes:

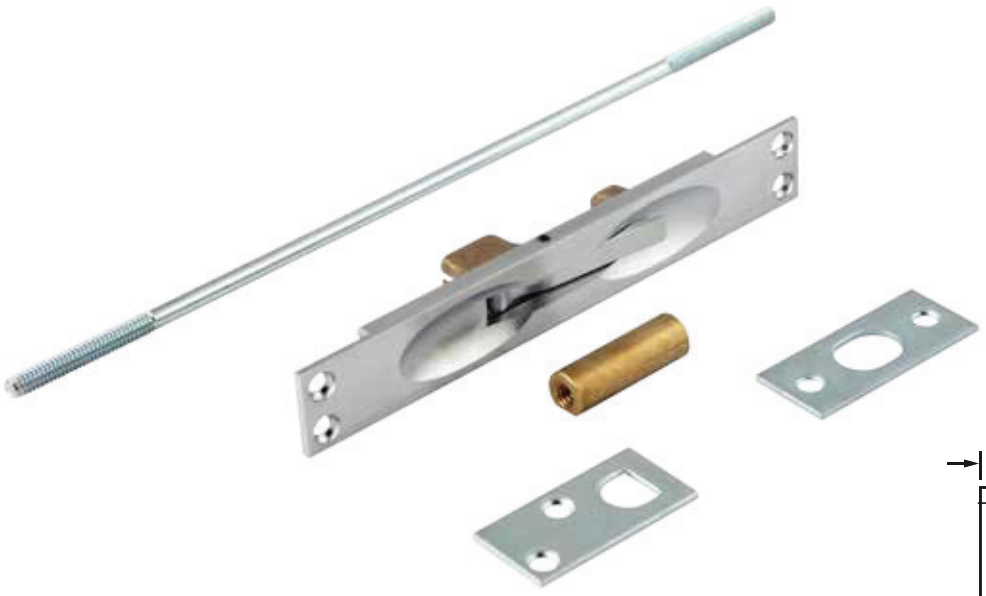
BOLT THE DOOR

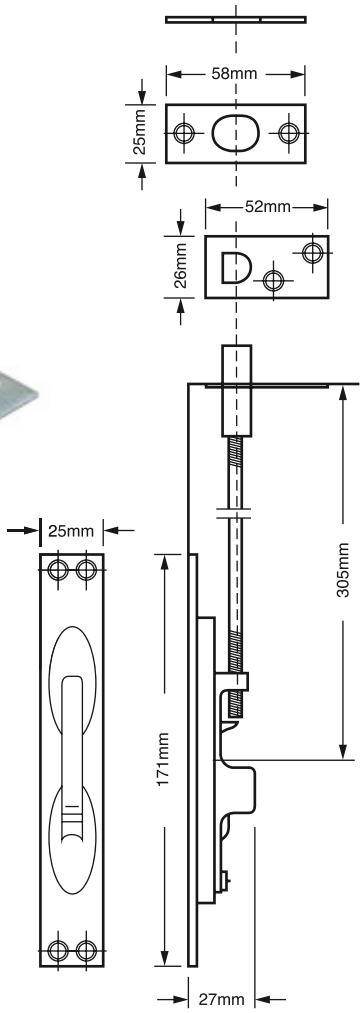
Manual Flush Bolt For Metal Door

Model Code : TU8401MD

Item Description : Manual Flush Bolt for Metal Door

Available Finish : US26D (626), US32D (630)





Technical Data:

Material	Brass
Areas of Application	Manually operated, for use on inactive leaf in pair of doors, where the inactive leaf is to remain bolted until required.
Size	Face 401 - 1" x 6 3/4 (25.4 x 171.5) Bolt – 1/2" (12.7) Rod Backset - (19.05) Keeper -(25.4 x 57.2) Guide - (22.2 x 57.2) Standard extension length - (304.8)
Other sizes on request	
Finish	626

Certifications:

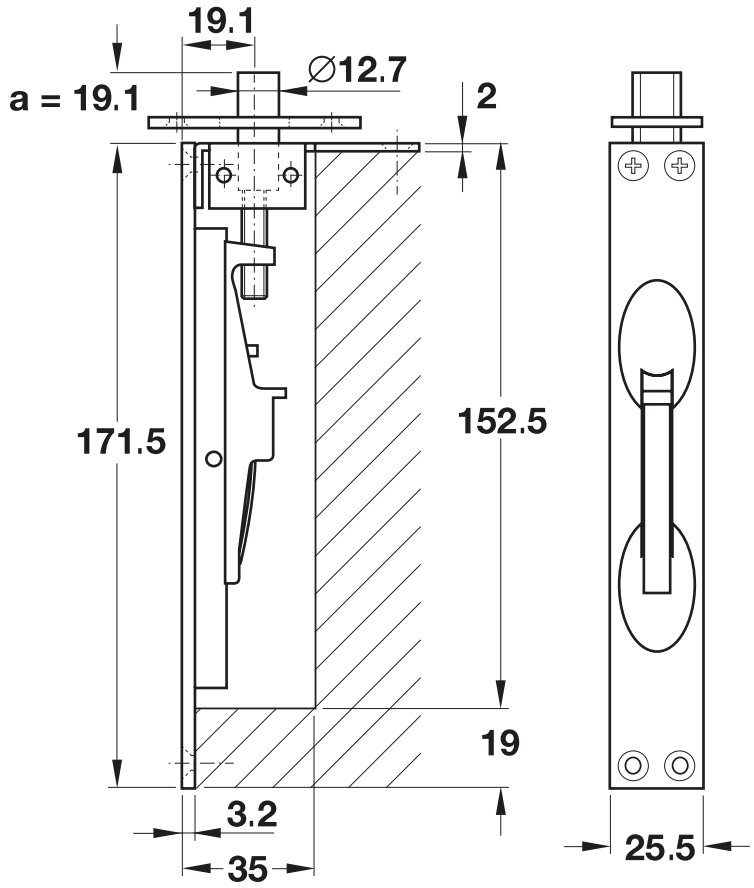
UL Listed: 3 hour fire rated

Manual Flush Bolt For Wood Door

Model Code : TU8401WD

Item Description : Manual Flush Bolt for Wood Door

Available Finish : US26D (626), US32D (630)



Technical Data:

Material	Brass/ Stainless Steel
Areas of Application	Manually operated, For use on inactive leaf in pair of doors, where the inactive leaf is to remain bolted until required.
Size	Face 401 - (25.4 x 216) Bolt – (19 mm) Rod Backset - (19.06) Keeper -(25.4 x 152) Guide - (24 x 57.2)

Certifications:

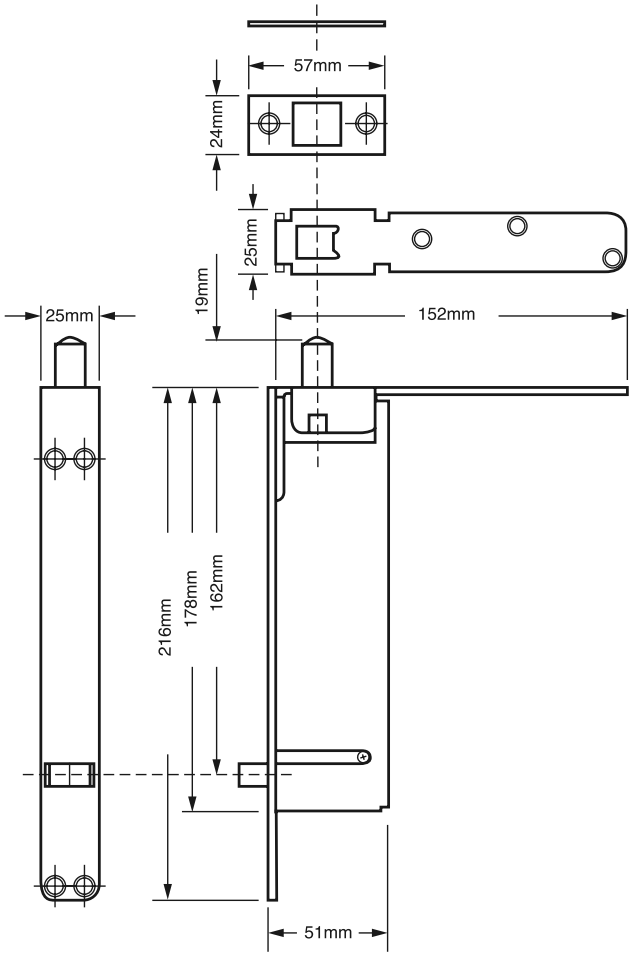
UL Listed: 1 1/2 hour fire rated

Automatic Flush Bolt For Wood Doors

Model Code : TU8610WD

Item Description : Constant Latching Flush Bolt for Wood Door

Available Finish : US26D (626), US32D (630)



Technical Data:

Material	Brass/ Stainless Steel
Areas of Application	Automatic operation, for use on inactive leaf in pair of doors, where the inactive leaf is to remain bolted when both leaves are shut.
Size	Face 401 - (25.4 x 216) Bolt – (19 mm) Rod Backset - (19.06) Keeper -(25.4 x 152) Guide - (24 x 57.2)

Certifications:

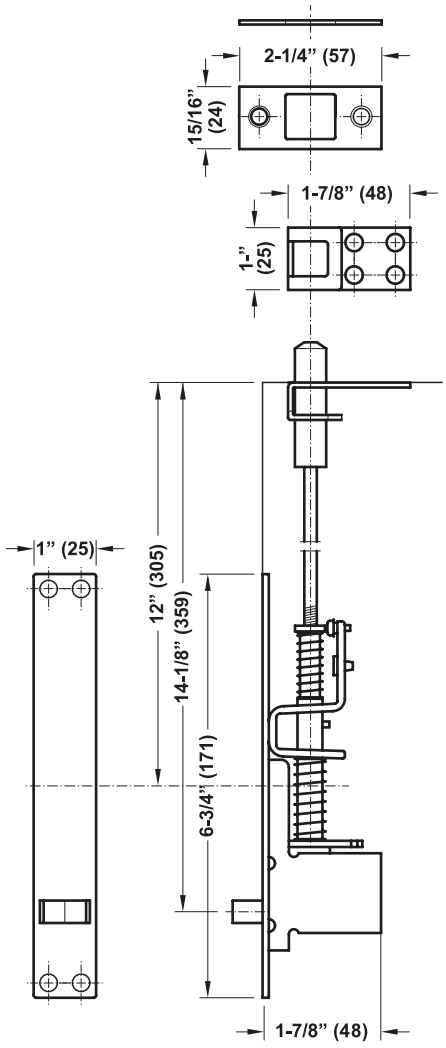
UL Listed: 1 1/2 hour fire rated

Automatic Flush Bolt For Metal Door

Model Code : TU8610MD

Item Description : Constant Latching Flush Bolt for Metal Door

Available Finish : US26D (626), US32D (630)



Technical Data:

Material	Brass/ Stainless Steel
Areas of Application	Automatic operation, for use on inactive leaf in pair of doors, where the inactive leaf is to remain bolted when both leaves are shut.
Size	Face 401 - (25.4 x 216) Bolt – (19 mm) Rod Backset - (19.05) Keeper -(25.4 x 152) Guide - (24 x 57.2)

Certifications:
UL Listed: 3 hour fire rated

Constant Latching Flush Bolt For Metel Doors

Model Code : TU8510MD

Item Description : Constant Latching Flush Bolt for Wood Door

Available Finish : US26D (626), US32D (630)

SPECIFICATIONS:

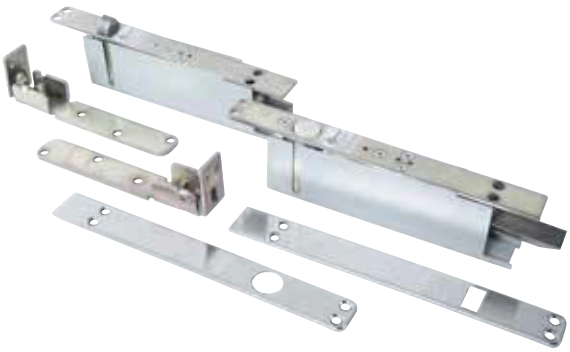
cUL/UL listed for fire doors. Label A (3 - Hour Fire Doors)
ANSI/BHMA A156.3
Faceplate Size:
TU8510M - 1" x 6-3/4" (25.4mm x 171mm)
TU8510W - 1" x 8-1/2" (25.4mm x 216mm)
Finishes: US26D and US32D

Constant Latching Flush Bolt For Wood Doors

Model Code : TU8510WD

Item Description : Constant Latching Flush Bolt for Wood Door

Available Finish : US26D (626), US32D (630)



OPERATION:

The Self Latching Flush Bolt Is Used On The Top Of The Door And Is Combined With A Automatic Flush Bolt At The Bottom Of The Door
The Top Bolt (TU8510m Or TU8510w) Automatically Engage Frame Strike When The Inactive Door Is Closed. The Bolt Remains Engaged Until It Is Retracted By Depressing The Plunger On The Face Of The Bolt
The Bottom Bolt Of The Pair Of Bolts Will Engage Floor Strike When The Active Door Is Closed

Dust Proof Strike

Model Code : TU8412

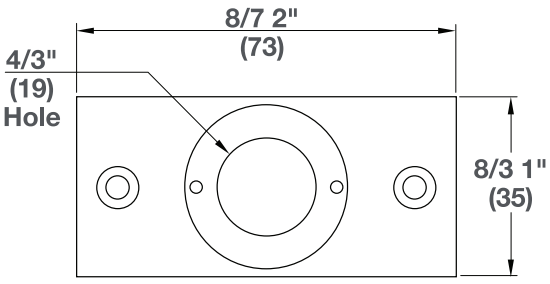
Item Description : Dust Proof Strike

Available Finish : US26D (626)

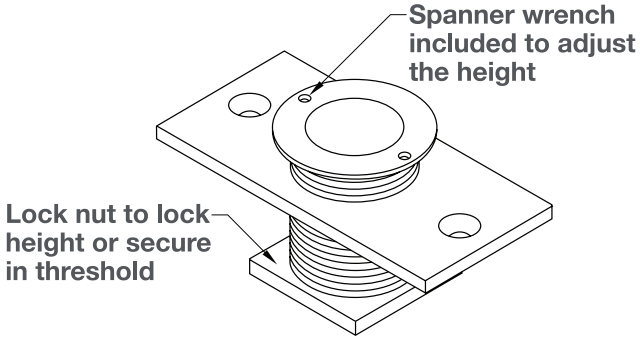
Model Code : TU8410

Item Description : Dust Proof Strike with face plate

Available Finish : US26D (626)



Dia: 1'' (25mm) x Depth: 2''(51mm)



Technical Data:

Material:	Brass
Size	Depth: 2 – (52)
Top plate	(73x36)
Strike Dia	(19)
Finish	626

Notes:

EMERGENCY EXITS

EXIT DEVICE APPLICATIONS

Exit Device (also known as panic device or panic hardware) is a terminology used in architectural hardware. It is a type of lock having a push bar (also known as a push pad, push rail or touch bar). When the push bar is depressed, it will retract the latch bolt(s), therefore, permitting the door to be opened in the direction of travel. An Exit Device is a critical part of the Fire, Life Safety and Security in all types of buildings. Exit Devices have two classifications: Panic Hardware and Fire Exit Hardware. Both are designed to provide immediate egress. All TÜR Hardware Exit Devices are tested and listed by an authorized, nationally recognized independent laboratory test. All TÜR Exit Devices meet or exceed ANSI A156.3 specifications.

TÜR Hardware TA9000 Series Exit Devices are suitable for use in the following types of buildings:

- Office building
- Retail store
- Healthcare
- Factories
- Indoor parking lots
- Schools
- Apartments
- Multi-family buildings
- Stadiums/Gymnasiums
- Resort hotels
- Restaurants

Our TA9000 Exit Devices are of superior quality and performance. These heavy duty devices are designed to exceed standards. The TA9000 series has a modern lock and are suitable for heavy traffic applications. The TA9000 series are Underwriters Laboratories (UL, and cUL) listed for Panic Exit Hardware or Fire Exit Hardware and certified as ANSI A156.3 Grade 1.

Features:

- All devices are non-handed
- The center case is multi-functional
- Pressure along any part of the touch pad will retract latch bolt
- Auxiliary guarded latch deadlocks automatically when door closes
- High shock resistant latching mechanism designed for protection from vandalism or forced entry
- All inside components are made of rust resistant alloy or zinc dichromatic plated steel
- In addition to the finishes listed in this catalogue, other architectural finishes and powder coats are available options
- For Panic hardware users have the option of hex key (standard) or cylindrical dogging (special order). This allows for the convenience of push pull operation during peak traffic times.

TA9100 Series (Narrow Stile)

Grooved device body

TA9900 Series (Wide Stile)

Grooved device body

TA9700 Series (Wide Stile)

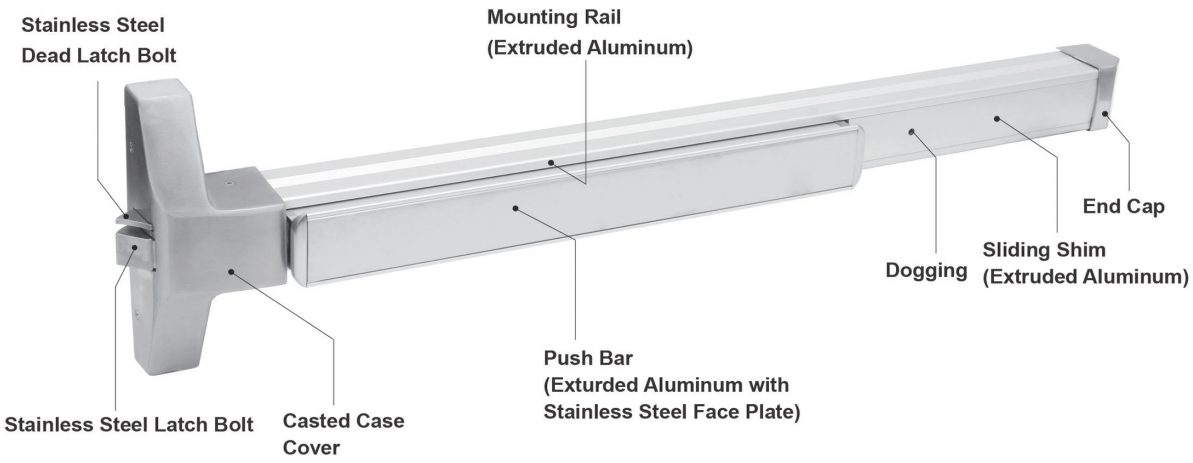
Smooth device body

* SS316 Grade Option is Available on Request

TA9100 Narrow Stile Exit Devices

Fire-Rated Exit Devices

General Information

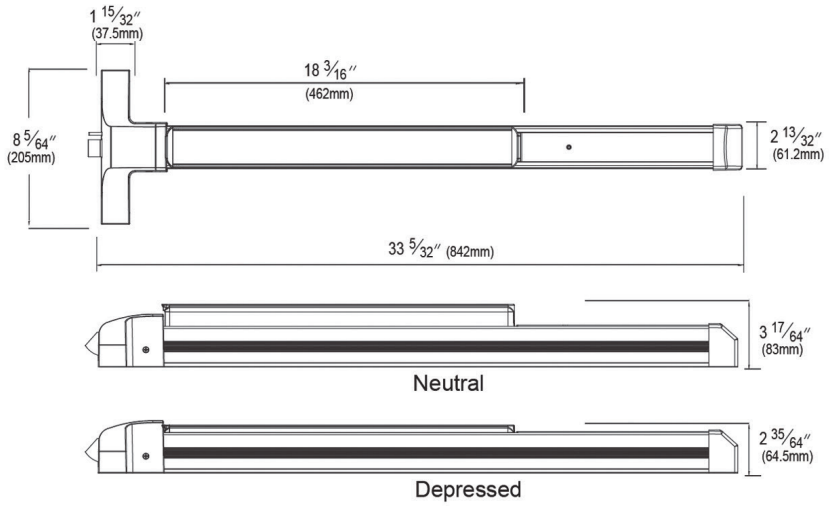


Features

- ANSI A156.3, Compliant in ALL series exit devices.
- All devices are non-handed or reversible design.
- UL Listed for Fire Exit hardware, 3 hours.
- Outside trims are provided by rose and escutcheon lever or knob in a variety of assortment to flt buyer's selection.
- All trims feature a through-bolted design to the devices that allow users can make more security and durability installation.
- High shock-resistant latching mechanical design for protection from vandalism.
- (A) label rating on pairs of doors up to 8' x 8' swinging in same or opposite directions.
- All inside components are made of high rust-resistant alloy or heavily electro-plated steel, no corrosion is concerned.
- High shock-resistant painting, electro- plated, or architectural base material finish on all exposed surfaces are available for users choice.

Dimensions

Standard for Door Width 36"



Narrow Stile Rim Exit Devices

TA9110F (GROOVED)

Fire-Rated Exit Devices

Specifications

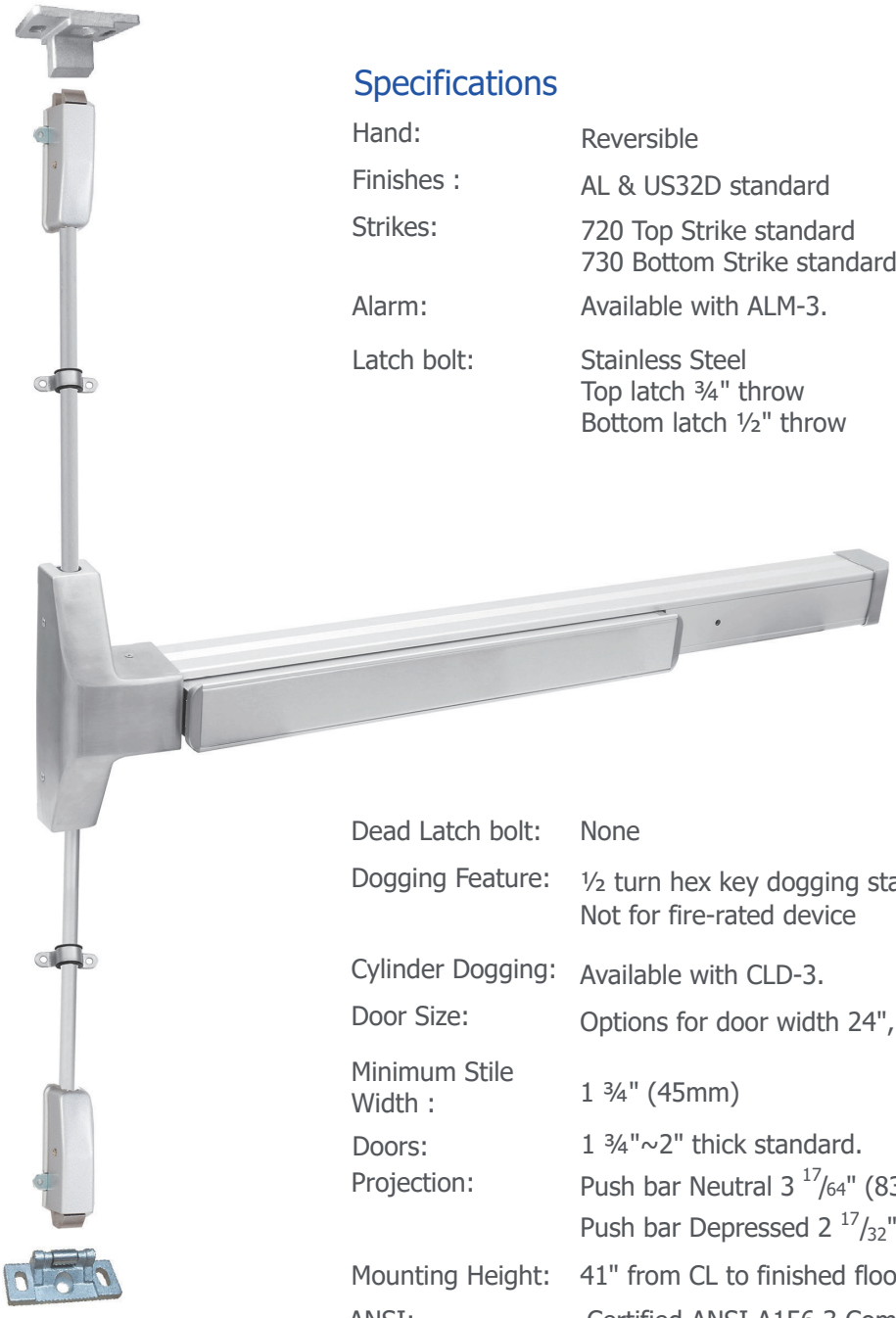
Hand:	Non-handed
Finishes :	AL & US32D standard
Strikes:	900 Rigid Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	1 ¾" (45mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 $^{17}/_{64}$" (83mm) Push bar Depressed 2 $^{17}/_{32}$" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	950 shim kit standard

Narrow Stile Surface Vertical Rod Exit Devices (SVR)

TA9120F (GROOVED)

Fire-Rated Exit Devices

Top Strike
720



Bottom Strike
730

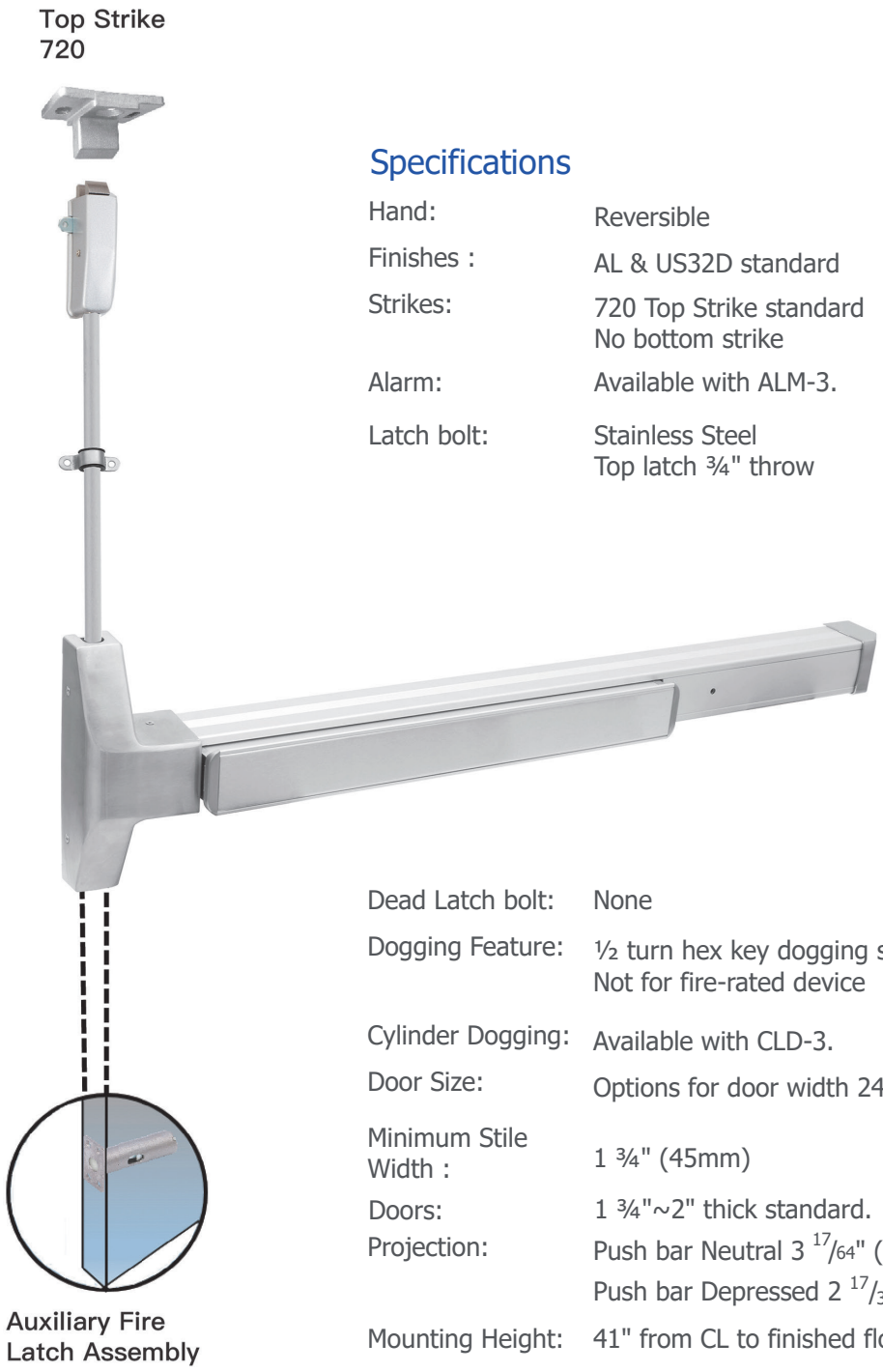
Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	1 ¾" (45mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 $^{17}/_{64}$" (83mm) Push bar Depressed 2 $^{17}/_{32}$" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Narrow Stile Less Bottom Rod Exit Device (LBR)

TA9120F - LBR (Grooved)

Fire-Rated Exit Devices



Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720 Top Strike standard No bottom strike
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	1 ¾" (45mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 $^{17}/_{64}$" (83mm) Push bar Depressed 2 $^{17}/_{32}$" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Narrow Stile Concealed Vertical Rod Exit Devices (CVR)

TA9140F (GROOVED)

Fire-Rated Exit Devices

Top Strike
720C

Bottom Strike
730C

Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720C Top Strike standard 730C Bottom Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	1 ¾" (45mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 $^{17}/_{64}$" (83mm) Push bar Depressed 2 $^{17}/_{32}$" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Narrow Stile Mortise Lock Exit Devices

TA9130F (GROOVED)

Fire-Rated Exit Devices

Specifications

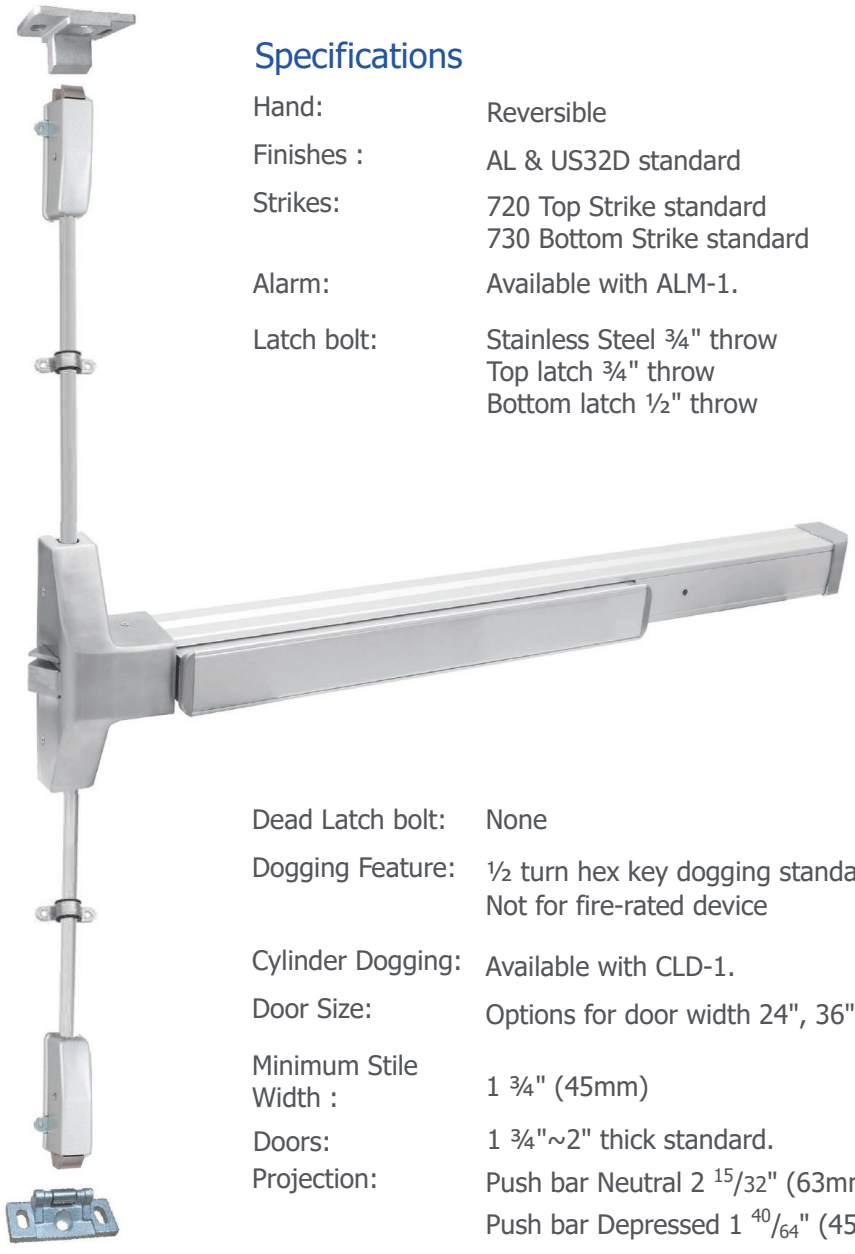
Hand:	Reversible
Finishes :	AL & US32D standard (Others please consult factory)
Strikes:	905 mortise strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard. (Others please consult factory)
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	39 3/16" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Narrow Stile Multi-Points Exit Devices (3PTS)

TA9150F (GROOVED)

Fire-Rated Exit Devices

Top Strike
720



Bottom Strike
730

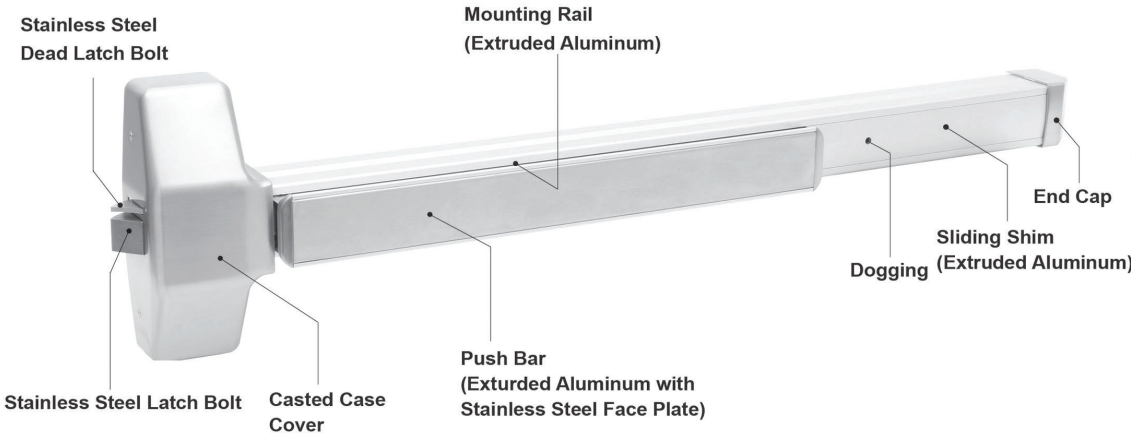
Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel ¾" throw Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	1 ¾" (45mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{40}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

TA9900 Wide Stile Exit Devices

Fire-Rated Exit Devices

General Information

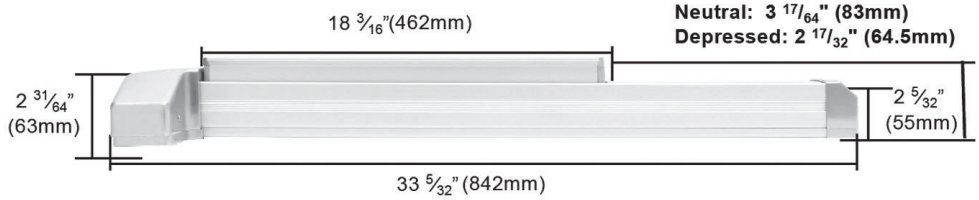


Features

- ANSI A156.3, Compliant in ALL series exit devices.
- All devices are non-handed or reversible design.
- UL Listed for Fire Exit hardware, 3 hours.
- Outside trims are provided by rose and escutcheon lever or knob in a variety of assortment to flt buyer's selection.
- All trims feature a through-bolted design to the devices that allow users can make more security and durability installation.
- High shock-resistant latching mechanical design for protection from vandalism.
- (A) label rating on pairs of doors up to 8' x 8' swinging in same or opposite directions.
- All inside components are made of high rust-resistant alloy or heavily electro-plated steel, no corrosion is concerned.
- High shock-resistant painting, electro- plated, or architectural base material finish on all exposed surfaces are available for users choice.

Dimensions

Standard for Door Width 36"



Wide Stile Rim Exit Devices

TA9910F (GROOVED)

Fire-Rated Exit Devices

Specifications

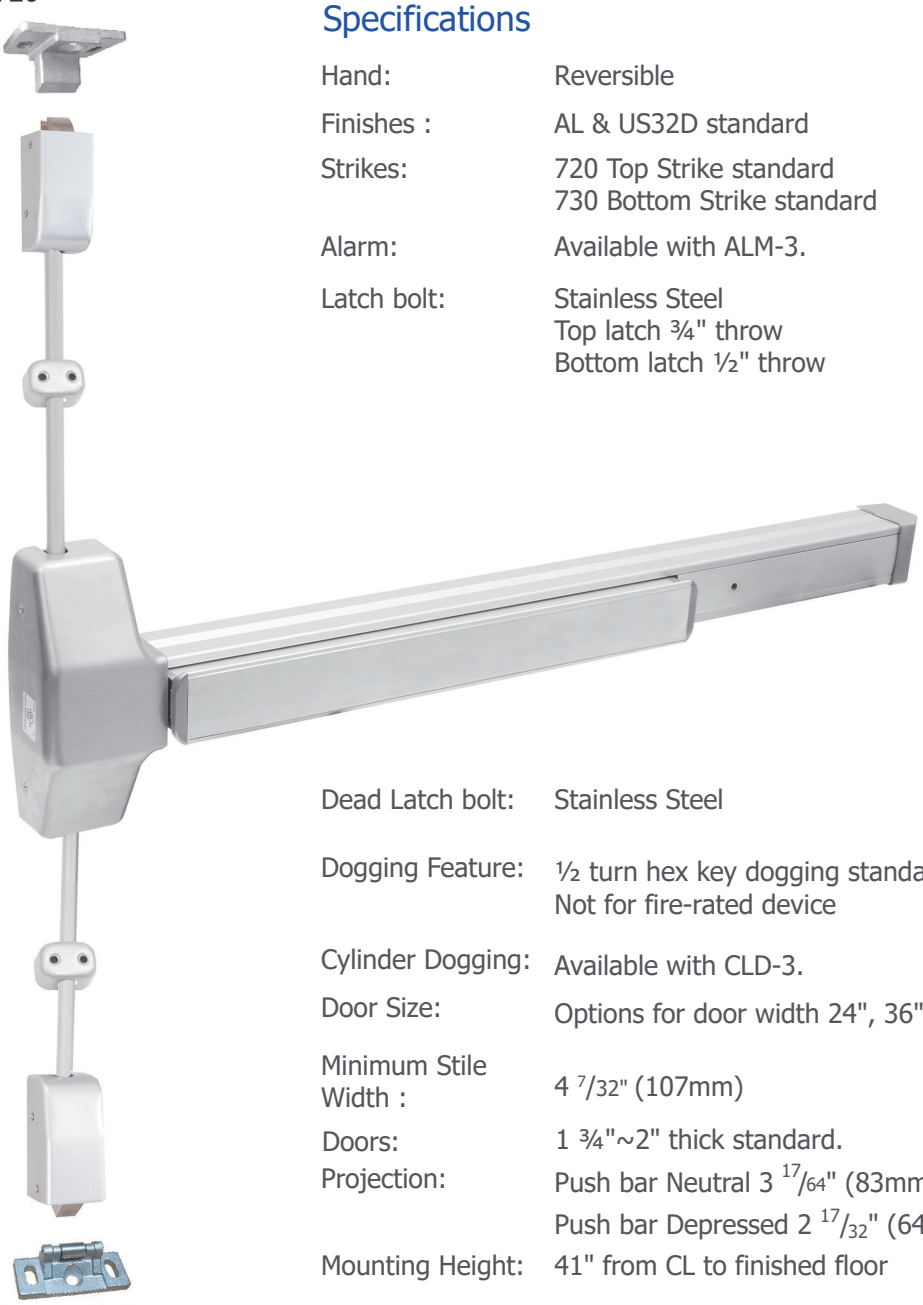
Hand:	Non-handed
Finishes :	AL & US32D standard
Strikes:	900 Rigid Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	950 shim kit standard

Wide Stile Surface Vertical Rod Exit Devices (SVR)

TA9920F (GROOVED)

Fire-Rated Exit Devices

Top Strike
720



Bottom Strike
730

Specifications

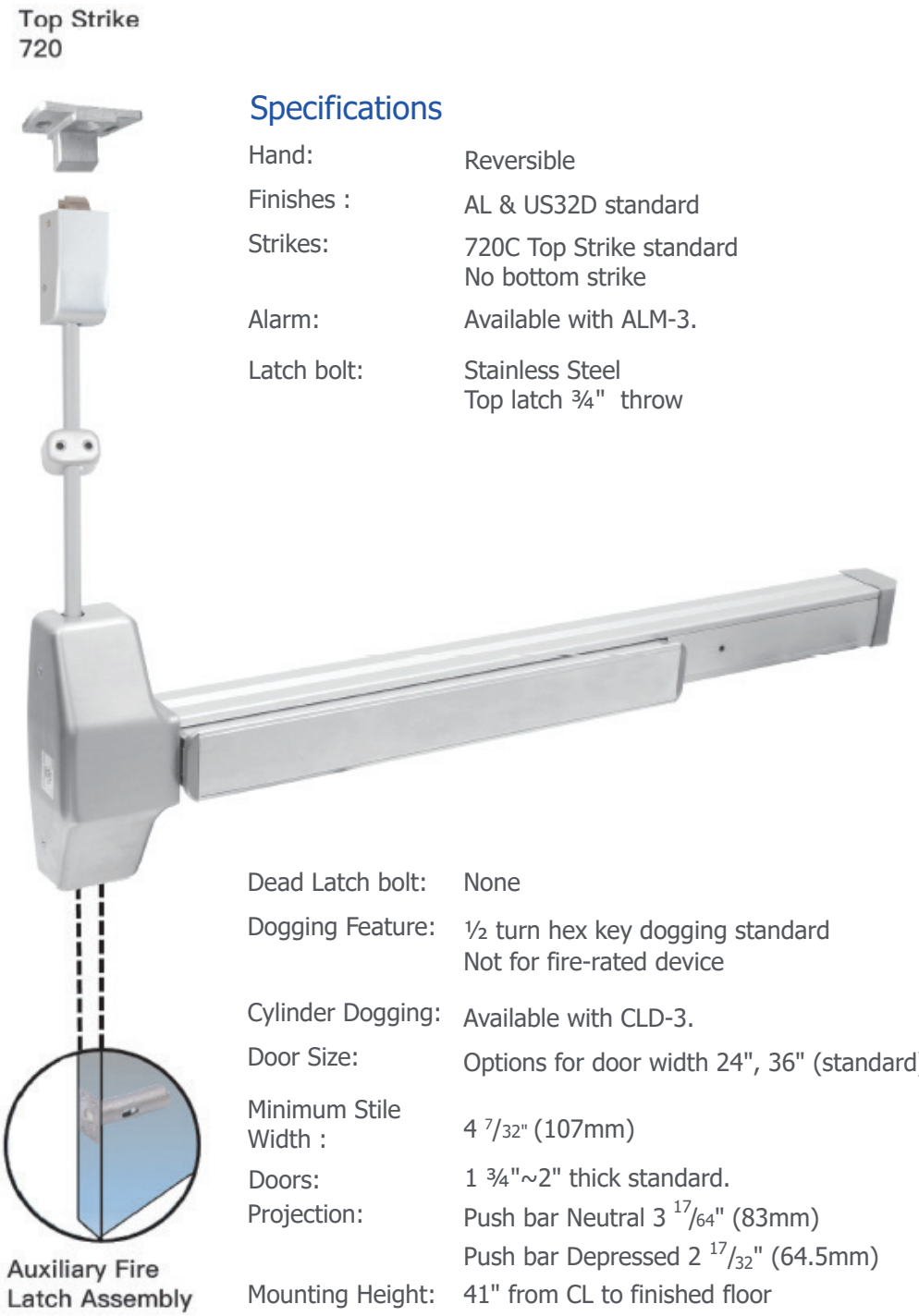
Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

6

Wide Stile Less Bottom Rod Exit Device (LBR)

TA9920F - LBR (Grooved)

Fire-Rated Exit Devices



Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720C Top Strike standard No bottom strike
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Wide Stile Concealed Vertical Rod Exit Devices (CVR)

TA9940F (GROOVED)

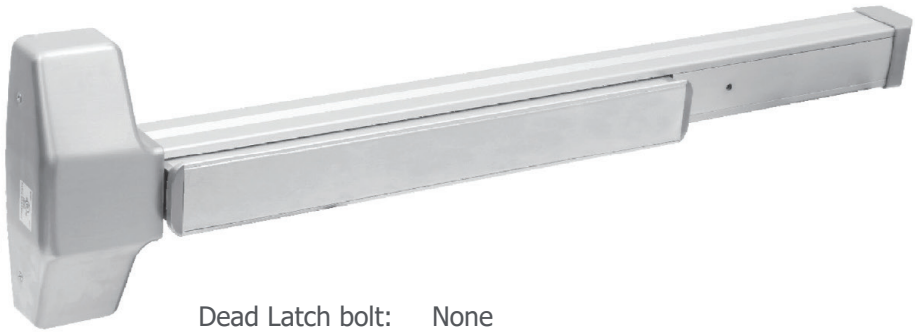
Fire-Rated Exit Devices

Top Strike
720C

Bottom Strike
730C

Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	720C Top Strike standard 730C Bottom Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw



Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

6

Wide Stile Mortise Lock Exit Devices

TA9930F (GROOVED)

Fire-Rated Exit Devices

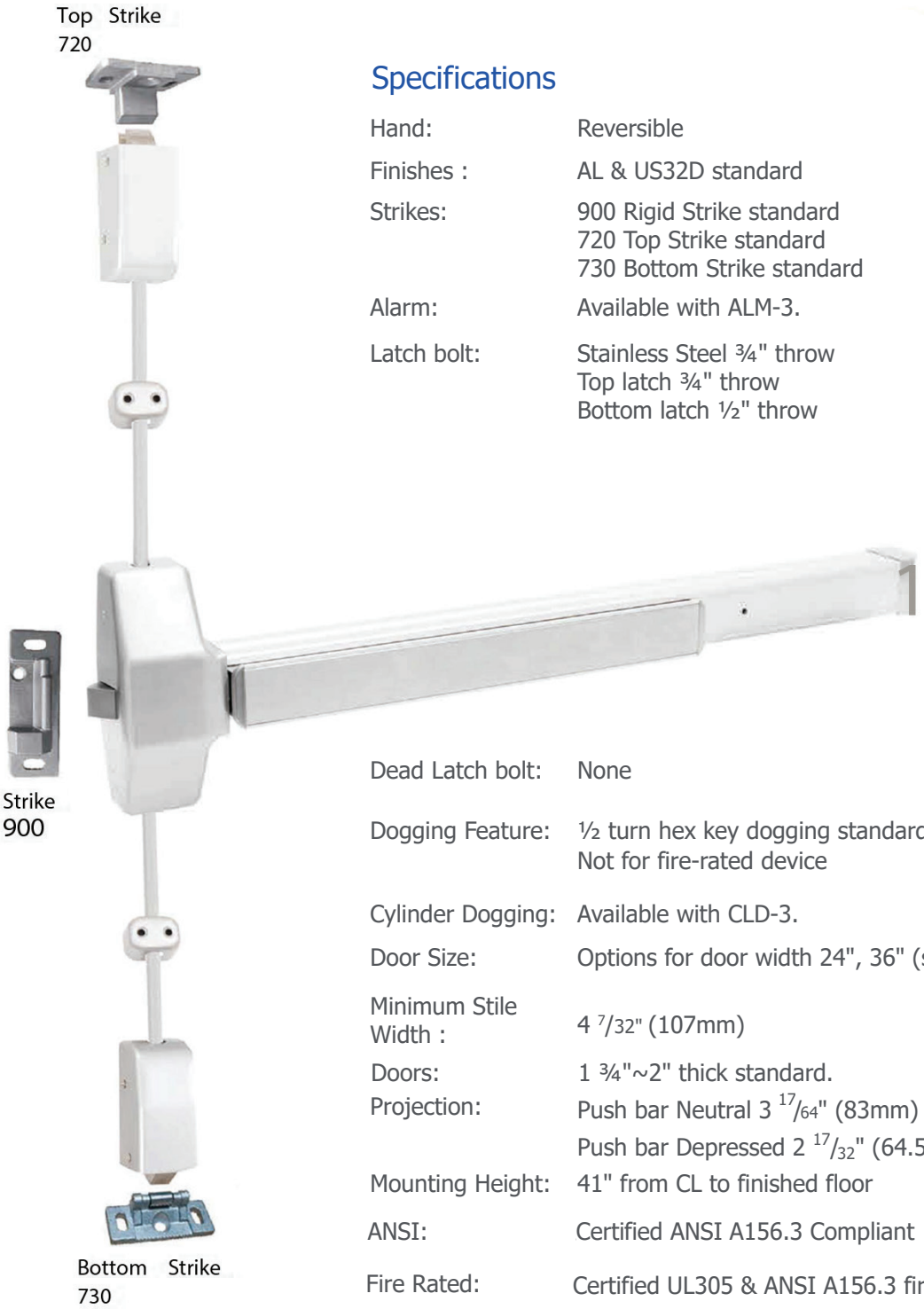
Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	905 mortise strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	39 3/16" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	None

Wide Stile Multi-Points Exit Devices (3PTS)

TA9950F (GROOVED)

Fire-Rated Exit Devices

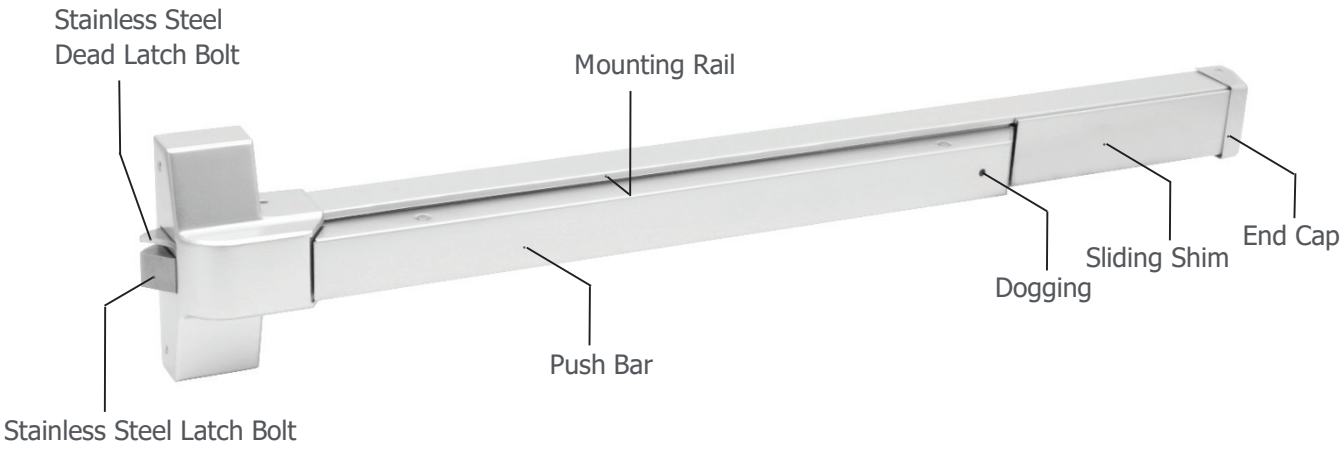


Specifications

Hand:	Reversible
Finishes :	AL & US32D standard
Strikes:	900 Rigid Strike standard 720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-3.
Latch bolt:	Stainless Steel ¾" throw Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-3.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width :	4 7/32" (107mm)
Doors:	1 ¾"~2" thick standard.
Projection:	Push bar Neutral 3 17/64" (83mm) Push bar Depressed 2 17/32" (64.5mm)
Mounting Height:	41" from CL to finished floor
ANSI:	Certified ANSI A156.3 Compliant
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours
Shim Kit:	950 shim kit standard

6

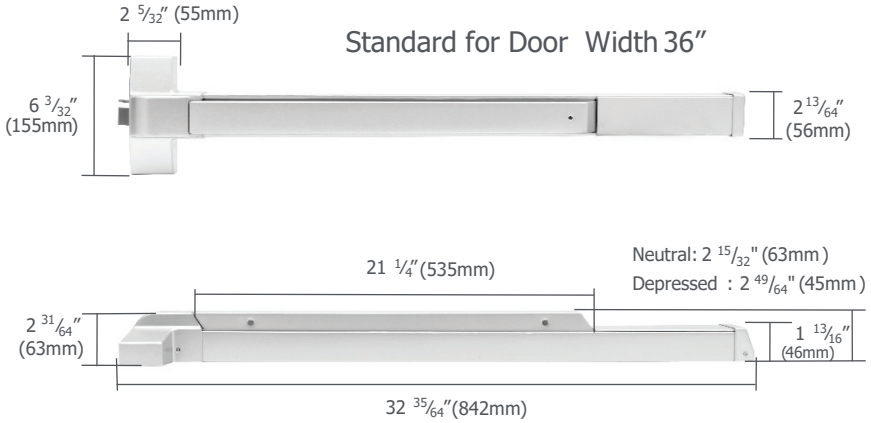
TE9700 Series Exit Device
General Information



Features

- Certified UL305 & ANSI A156.3 fire rated, 3 hours
- All devices are non-handed or reversible design.
- Outside trims are provided by rose and escutcheon lever or knob in a variety of assortment to fit buyer's selection.
- All trims feature a through-bolted design to the devices that allow users can make more security and durability installation.
- High shock-resistant latching mechanical design for protection from vandalism.
- (A) label rating on pairs of doors up to 8' x 8' swinging in same or opposite directions.
- All inside components are made of high rust-resistant alloy or heavily electro-plated steel, no corrosion is concerned.
- High shock-resistant painting, electro-plated, or architectural base material finish on all exposed surfaces are available for users choice.

Dimensions



For Door Width	Device Size
24"	Please Consult Factory
48"	Please Consult Factory

Rim Exit Device

TA9710 (SMOOTH)

shim kit 750 Strike 600

Specifications

Hand:	Non-handed
Finishes:	AL & SSS standard (Others please consult factory)
Strikes:	600 Rigid Strike standard
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾"~2" thick standard. (Others please consult factory)
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{49}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor.
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours

Surface Vertical Rod Exit Device

TA9720 (SMOOTH)

Top Strike
720

Bottom Strike
730

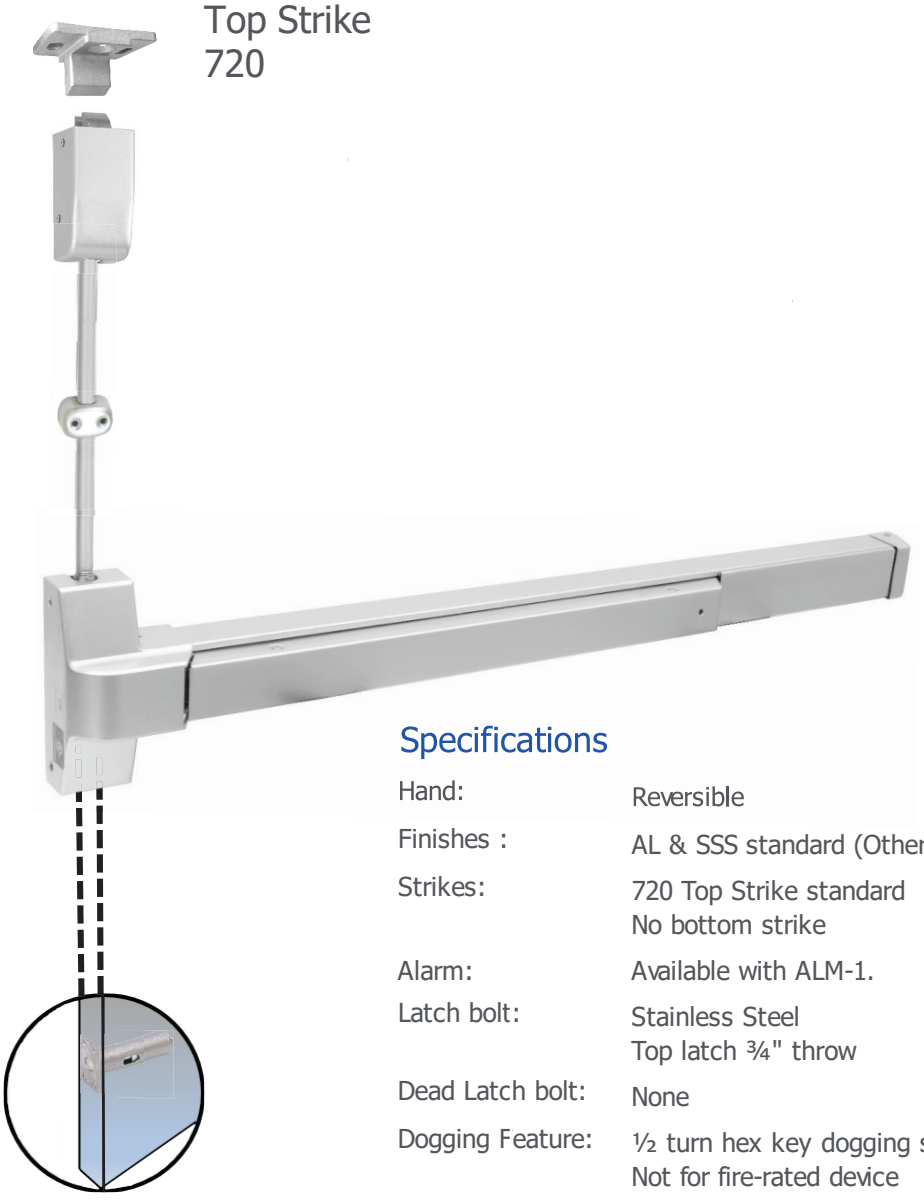
Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~ 2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{49}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours

Less Bottom Rod Exit Device

TA9720 (SMOOTH)

Top Strike
720



Auxiliary Fire
Latch Assembly

Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	720 Top Strike standard No bottom strike
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel Top latch ¾" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{49}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours

Mortise Type Rim Exit Device

TA9730 (SMOOTH)

Strike
905

Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	905 mortise strike standard
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel, ¾" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{49}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours

Concealed Vertical Rod Exit Device

TA9740 (SMOOTH)

Top Strike
720C

Bottom Strike
730C

Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	720C Top Strike standard 730C Bottom Strike standard
Alarm:	Available with ALM-1.
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	None
Dogging Feature:	½ turn hex key dogging standard Not for fire-rated device
Cylinder Dogging:	Available with CLD-1.
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 2 $^{15}/_{32}$" (63mm) Push bar Depressed 1 $^{49}/_{64}$" (45mm)
Mounting Height:	41" from CL to finished floor
Fire Rated:	Certified UL305 & ANSI A156.3 fire rated, 3 hours

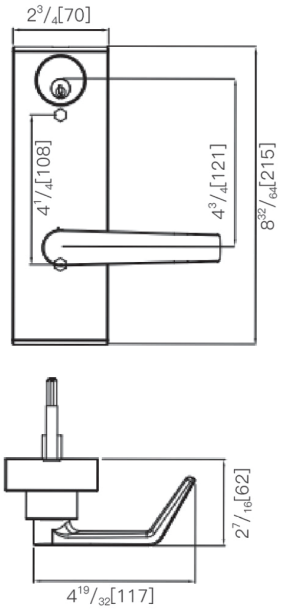
How to order

Brand Identity	Model No:	Type	Rating	Length	Dogging	Options	Finish
TA	91 Narrow	10 - Rim Panic Latch	F-Fire Rated	36	LD	-(None)	630
	99 Wide	20 - Surface Vertical Rod	P-Panic Rated	48	HEX	LBR -Less Bottom Rod	605
	97 Wide	30 - Mortise Panic Latch			CD	DE -Delayed Egress	606
		40 - Concealed Vertical Rod			MD	REX -Request to Exit	625
		50 - Multi-Points Panic				ALE - Alarm Device with Type E Monitor	612
						LR - Latch Retraction	613
							689

Ex: TA9910.F.36.LD.630

LD - Less Dogging
HEX - Hex key Dogging
CD - Cylinder Dogging
MD - Magnetic Dogging

Escutcheon Lever Trim



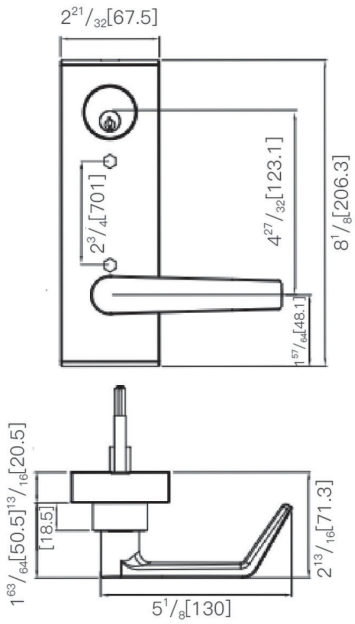
Free-wheeling
clutch mechanism

Entrance	TA9454.01A
Storeroom	TA9454.01B
Passage	TA9454.01C
Dummy	TA9454.01D

US32D Standard
CT Lever Standard, SD & BN Levers are available

Escutcheon Lever Trim

Heavy Duty, Regular Size



Entrance	TA9464.01A
Storeroom	TA9464.01B
Passage	TA9464.01C
Dummy	TA9464.01D

US32D Standard
CT Lever Standard, SD & BN Levers are available

Lever Options

CT Lever (Standed)

SD Lever

LL Lever

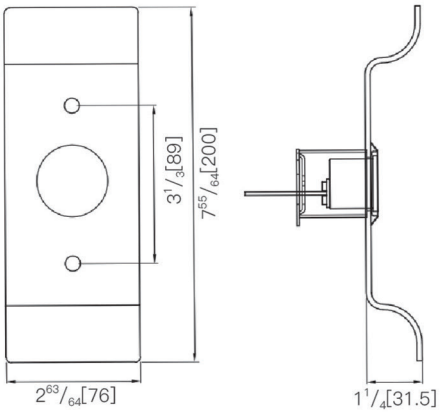
BN Lever

Pull Trim

Stroreroom
TA9456.PL2

Dummy
TA9456.PL4

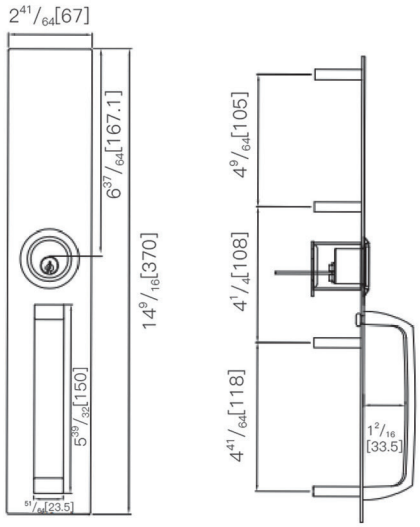
Cover
TA9456.PL5



Stroreroom
TA9458.PL2

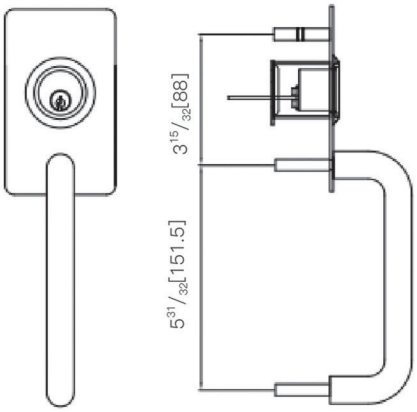
Dummy
TA9458.PL4

Cover
TA9458.PL5



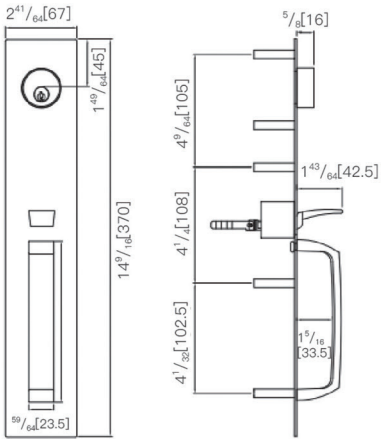
Stroreroom
TA9459.PL2

Dummy
TA9459.PL4



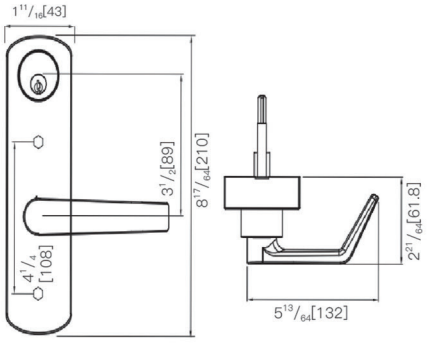
Thumbpiece Trim

Entrance	TA9453.01A
Storeroom	TA9453.01B
Passage	TA9453.01C
Dummy	TA9453.01D



Narrow Style Trim

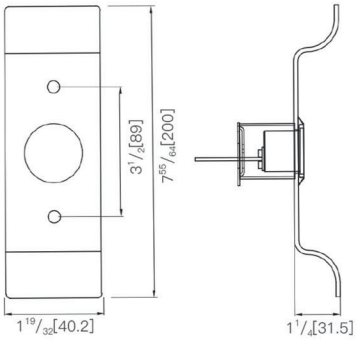
Entrance	TA9434.01A
Storeroom	TA9434.01B
Passage	TA9434.01C
Dummy	TA9434.01D



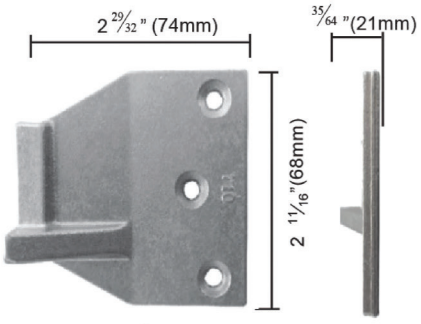
Stroreroom
TA9436.PL2

Dummy
TA9436.PL4

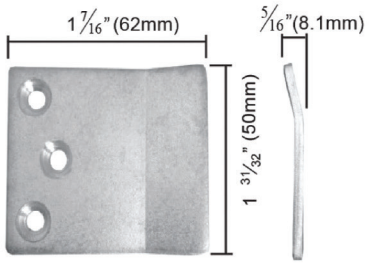
Dummy
TA9436.PL4



Over Lapping Strike



O-STK TA920



O-STK TA921

6

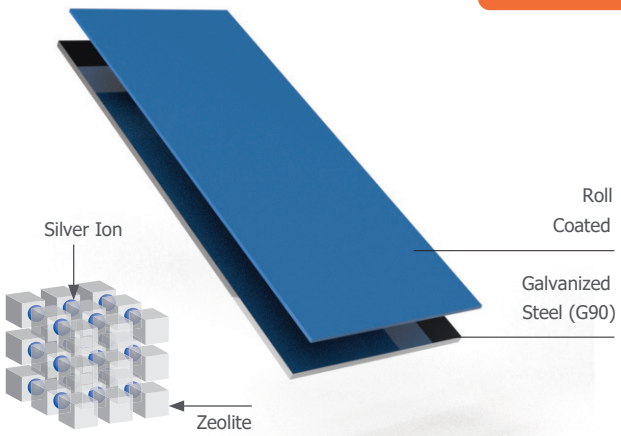
How to order

Brand	Model No:	Trim Type	Function	Handle Option	Cylinder	Finish
TA	94	54 - Escutcheon Lever Trim	01A - Entrance	CT Lever (Standard)	W - Without Cylinder	630
		64 - Escutcheon Lever Trim	01B - Store Room	SD Lever		689
		68 - Escutcheon Lever Trim	01C - Passage	LL Lever		605
		53 - Thumbpiece Lever Trim	01D - Dummy Lever	BN Lever		606
		34 - Narrow Style Lever Trim				626
						612
						613

Ex: TA9454.01A.CT.W.630

INTRODUCING D4E

Antimicrobial



The agion antimicrobial compound is an inorganic material whose active ingredient is an ionic silver encapsulated in a zeolite matrix for continuous controlled release to the surface of the treated steel. Silver ions suppress the growth of destructive bacteria and other microbes. A polymer based paint containing the compound is applied uniformly to the steel.

Proudly Made in Canada

AGION ANTIMICROBIAL TECHNOLOGY

Solution Overview

The coating process used for the antimicrobial surfaces, known as roll coating, is harder and more effective than poweder coating processess as it yields a hardness of 2H pencil while powder coating yields a hardness of only a B-HB pencil.

Benefits

Increase the safety of your space by using our antimicrobial products designed for high touch surfaces.

Applications

The antimicrobial coatings are available for 18, 20 & 26 gauge, G90 steel with a Blue finish protection plates which can be applied with Screws or Tape. The Blue finish allows for a clear visual identification that the part has the coating applied.

Peace of Mind

The mill application process of the antimicrobial coating ensures a long-lasting efficacy under normal wear and tear conditions and most of all, additional peace of mind for the safety of people.

- Affordable Solution
- Easy Retrofit
- Upgrade Facilities
- Long Lasting

WE SUPPORT OUR PARTNERS


Airports


Universities


Sports Venues


Schools


Prisons


Medical Clinics


Hospitals


Restaurants

A Smart Solution for Your Business or Facility

Patent Pending

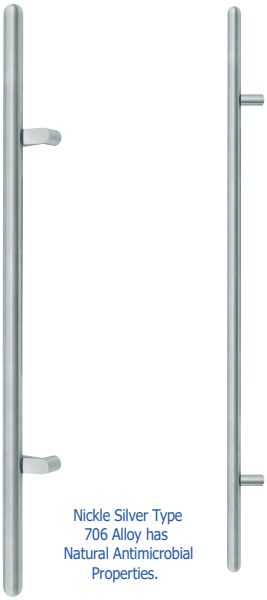
EXIT DEVICE COVERS

Easy Slide-On Retrofit

Easy Slide-On Retrofit

Easy Press-On Retrofit

LADDER PULLS



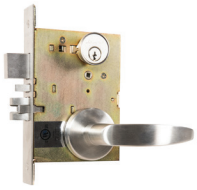
Nickle Silver Type 706 Alloy has Natural Antimicrobial Properties.

EDGE GUARD

FRAME GUARD

WRAP AROUND PULL

LOCK SETS



Shop applied antimicrobial coating available.

PULL PLATE

PUSH PLATES & KICK PLATES

Proudly Made in Canada

AGION ANTIMICROBIAL TECHNOLOGY

Banquet Halls

Libraries

Shopping Malls

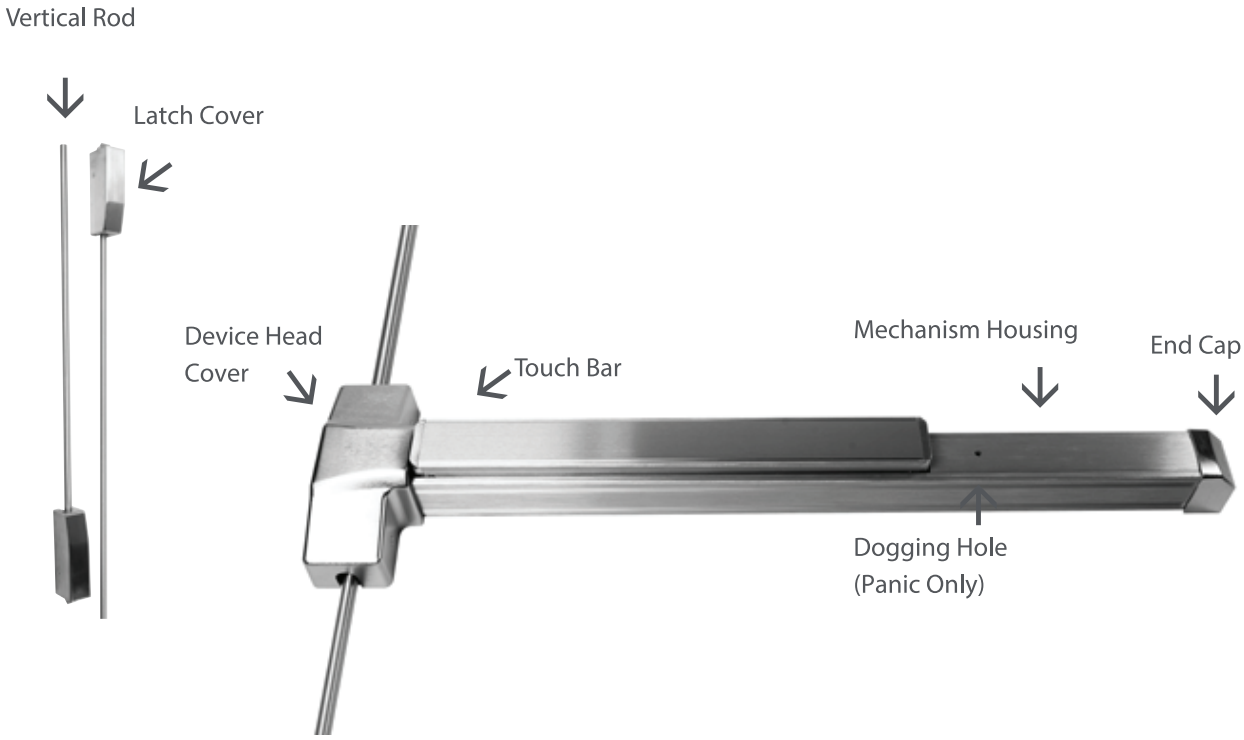
Condominiums

Public Washrooms

Hotels

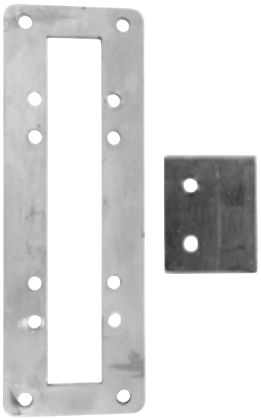
Office Buildings

Factories



ACCESSORIES SHIM KITS 9000 SERIES

1/8 thick shim plates for use on door with glass bead. Foot print matches 9000 series. Devices as specified (9900 or 9100)



Rim Strikes

1 7/32″
(31mm)

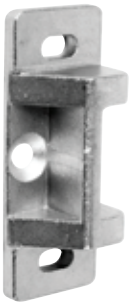
3 1/4″
(83mm)

Projection: 13/16″ (21mm)

901

1 7/32″
(31mm)

3 1/4″
(83mm)



Projection: 13/16″ (21mm)

902

Mullion Strikes

1 7/32″
(31mm)

3 1/4″
(83mm)

Projection: 7/8″ (22.5mm)

988

25/32″
(20.6mm)

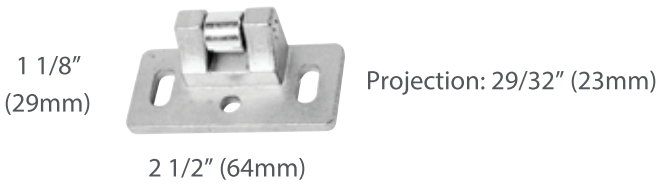
3 5/16″
(85mm)

Projection: 7/8″ (22.5mm)

989

Vertical Rod Strikes

TOP STRIKES SVR



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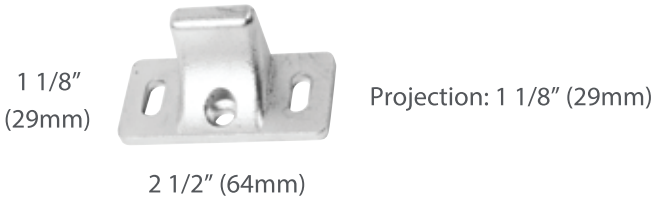
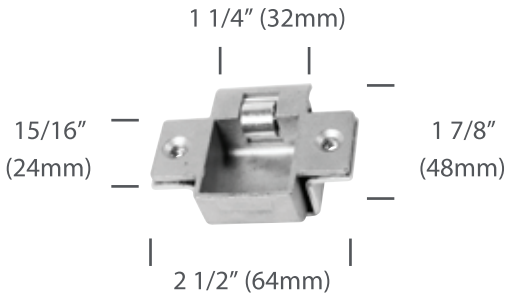


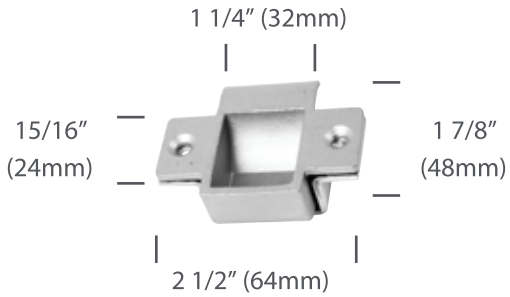
922

TOP STRIKES CVR



Mortise: 3/4″ (19mm)

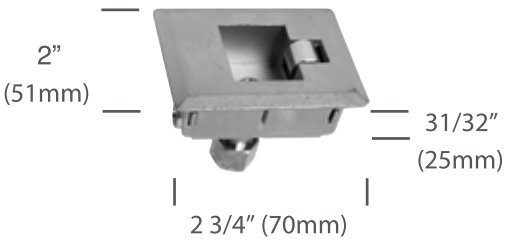
913



Mortise: 3/4″ (19mm)

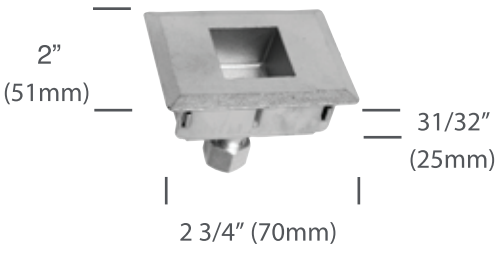
923

BOTTOM STRIKES (FLOOR STRIKES)



Mortise: 2 1/4″ (57mm)

915



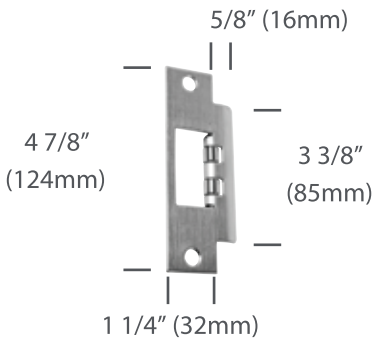
Mortise: 2 1/4″ (57mm)

925

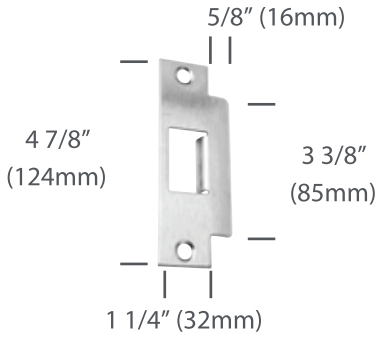
6

Mortise Strikes

STANDARD LIP

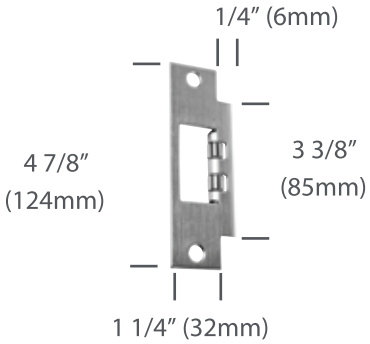


918

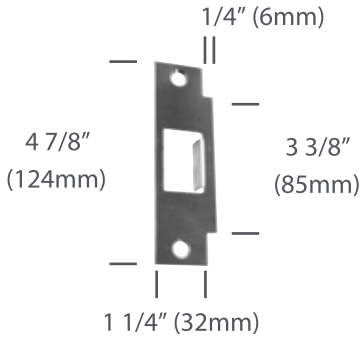


928

SHORT LIP



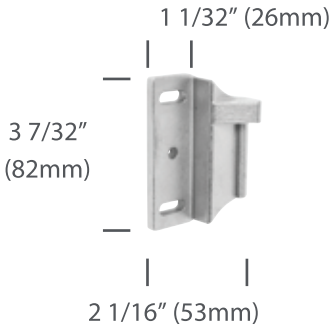
931



932

6

Double Door Strike (Sold separately)



920

Alarmed Exit Device

All TA9900 Series Exit Device can be converted into alarm devices. This feature is designed to deter, with the alarm, unauthorized use of opening. To warn someone who might open a controlled door. The push bar is printed with (in red font):

EMERGENCY EXIT ONLY

PUSH TO OPEN ALARM WILL SOUND

ALARM MODULE - operated by 9VDC battery

Type E – Monitors push bar, latch bolt and end cap.
When the push bar is depressed or the latch bolt is retracted by the outside trim, the alarm will sound.
Tampering with end cap will also trip alarm.

How to Order:

	9900F			

- Architectural finish code
- Device Length in inches
- Suffix E - Alarm Module (default for Alarmed E.D. Monitors pushbar, latchbolt & end cap.
- Device Model (any 9900 Series)
- Prefix "AL" - stands for Alarmed Device

Delayed Egress Exit Device

- The Delayed Egress Exit Device is designed to provide a controlled exit in a predetermined time delay
- When the exit device is alarmed, it will delay exit to any person for 15 to 30 (specify) seconds after the push pad is depressed for 3 or more seconds.
- Once the push pad is depressed for 3 or more seconds, an alarm will sound that will alert security personnel to respond to the signal and take immediate action.
- The alarm module also has a nuisance alarm feature in the event someone bumps or touches the push pad for less than 3 seconds.

The Delayed Egress Exit Device is furnished with a sticker in red letters which states:

EMERGENCY EXIT ONLY
PUSH UNTIL ALARM SOUNDS
DOOR CAN BE OPENED IN 15 SECONDS

- When the Delayed Egress Exit Device is in the alarmed state, it can be by-passed by turning the cylinderclockwise. This allows authorized personnel to exit without setting off the alarm.
- When the Delayed Egress Exit Device is in the alarmed state, turning the cylinder counter clockwise will temporarily release the device without setting off the alarm and will re-arm after 10 seconds.
- Device is ANSI A156.3 Grade 1 and ANSI A156.24
- Consult local codes before specifying or supplying this solution.

Dogging options

LESS DOGGING (LD)

Less Dogging is available on all TA9000 Series Panic Exit Devices when users want to remove the standard dogging feature..

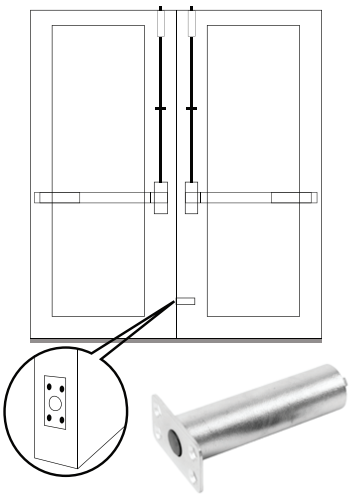
CYLINDER DOGGING (CD)

Cylinder Dogging is available on all TA9000 Series Panic Exit Devices to replace standard hex key dogging. Cylinder dogging requires a standard 1-1/4" (32mm) mortise cylinder with a straight cam. This option can be ordered with the device when specified.

Note: Cylinder Dogging Kit (CDK) can be ordered for field conversion. This option cannot be used on fire exit hardware.

FIRE LATCH BOLT

FL001



A Fire Latch Bolt is used with a pair of UL listed fire rated Less Bottom Rod (LBR) exit devices. The Fire Latch Bolt is a spring loaded stainless steel bolt that installs in the lower door edge to replace bottom vertical rods of two Surface Vertical Rod (SVR) exit devices on double doors. The UL listed fire latch bolt is a temperature actuated bolt that is designed to release from one door leaf and engage the other door. Thus, connecting the opposite door leaf and keeping the doors in alignment and closed during a fire.

6

SPECIFICATIONS

UL listed, furnished with pairs of Surface Vertical Rod (SVR) devices less bottom rod (LBR). Fire latch bolt is not sold separately.

Faceplate	1-25/32" (45mm) x 1" (25.4mm)
Bolt Diameter	27/32" (21.6mm)
Length of bolt	3-5/32" (80mm)
Material	Stainless Steel

Material

Wide and Narrow Stile Devices

Part Name	
1. Auxiliary Guarded Latch	Stainless Steel
2. Latch Bolt 3/4" (19mm) throw	Stainless Steel
3. Chassis Cover (Head Cover)	Nonferrous Alloy or Stainless Steel
4. Chassis	Plated Steel
5. Push Bar	Extruded Aluminum
6. Push Bar End Cap	Nonferrous Alloy
7. Push Bar Trim	Brass, Stainless Steel, Steel
8. Mechanism Housing (Device Body)	Extruded Aluminum
9. Dogging Plate (Rear Cover)	Extruded Aluminum
10. End Cap	Nonferrous Alloy
11. Top Latch, 5/8" (16mm) throw	Stainless Steel
12. Latch Assembly Cover	Brass, Stainless Steel, Steel
13. Top Vertical Rod and Rod Guide	Strong Aluminum Tube
14. Bottom Vertical Rod	Strong Aluminum Tube
15. End Cap Bracket	Plated Steel
16. Bottom Latch, 5/8" (16mm) throw	Stainless Steel

WIDE STILE DEVICE LENGTH 9900 SERIES

The Device lengths are precut for 36" (914mm) and 48" (1219mm) wide door use (standard shipping size).

THE SHORT DEVICE, 36"

(914mm) has an actual end to end length of 33-1/2" (850mm) suitable for a 36" (914mm) wide door use. Push pad length is 18-1/4" (464mm)
The short Device can be cut down to a minimum end to end size of:
Standard Device (S) 27" (686mm)
Fire Rated Device (F) 25-1/4" (641mm)

THE LONG DEVICE, 48"

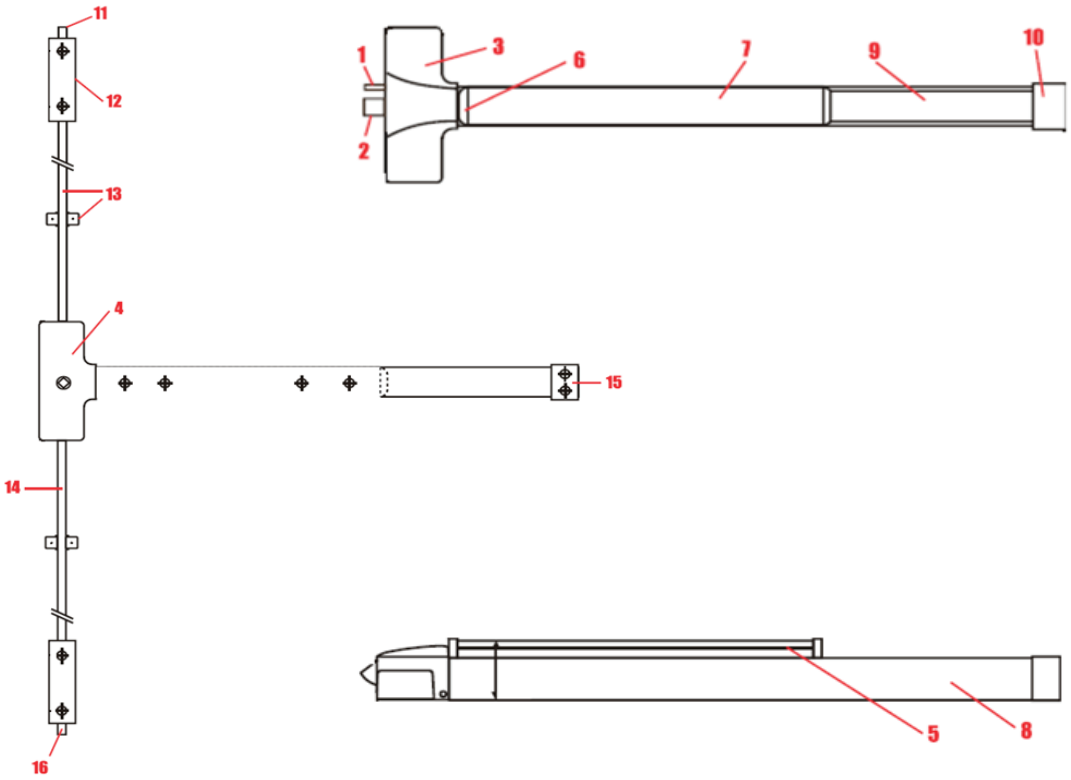
(1219mm) has an actual end to end length of 45-1/2" (1156mm) suitable for a 48" (1219mm) wide door use.
Push pad length is 21-1/2" (546mm)
The long device can be cut down to a minimum end to end size of:
Standard Device (S) 31" (787mm)
Fire Rated Device (F) 28-1/2" (724mm)

VERTICAL RODS

Our standard and fire rated vertical rod exit device accommodates up to 8' (2438mm) doors. Fire rated devices may be ordered for up to 10' (3048mm) fire exit doors. Specify door height if greater than standard sizes when ordering.
Note: For fire rated devices consult door manufactures literature for maximum allowable door height and width.

Note: End to end length does not include latch bolt.

Wide and Narrow Stile Devices Part Names



	PART NAME	MATERIAL
01.	Auxiliary Guarded Latch	Stainless Steel
02.	Latch Bolt, 3/4" (19 mm) throw	Stainless Steel
03.	Chassis Cover (Head Cover)	Nonferrous Alloy or Stainless Steel
04.	Chassis	
05.	Push Bar	Extruded Aluminum
06.	Push Bar End Cup	Nonferrous Alloy
07.	Push Bar Trim	Brass, Stainless Steel, Steel
08.	Mechanism Housing (Device Body)	Extruded Aluminum
09.	Dogging Plate (Rear Cover)	Extruded Aluminum
10.	End Cap	Nonferrous Alloy
11.	Top Latch, 5/8" (16 mm) throw	Stainless Steel
12.	Latch Assembly Cover	Brass, Stainless Steel, Steel
13.	Top Vertical Rod and Rod Guide	Strong Aluminum Tube
14.	Bottom Vertical Rod	Strong Aluminum Tube
15.	End Cap Bracket	Plated Steel
16.	Bottom Latch, 5/8" (16 mm) throw	Stainless Steel

Wide Stile Device Length 9900 Series

- The Device lengths are precut for 36" (914 mm) and 48" (1219 mm) wide door use (standard shipping size)

THE SHORT DEVICE, 36"(914 mm)

- The Device has an actual end to end length of 33-15/32" (850mm) suitable for a 36" (914 mm) wide door use.
- Push pad length is 18-1/4" (464 mm)
- Short Device can be cut down to a minimum end to end size of:
- Standard Device (S) 27" (686 mm)
- Fire Rated Device (F) 25-1/4" (641 mm)

THE LONG DEVICE, 48"(1219 mm)

- The Device has an actual end to end length of 45-1/2" (1156 mm) suitable for a 48" (1219 mm) wide door use.
- Push pad length is 21-1/2" (546 mm)
- Long device can be cut down to a minimum end to end size of:
- Standard Device (S) 31" (787 mm)
- Fire Rated Device (F) 28-1/2" (724 mm)

VERTICAL RODS

- Standard and Fire Rated Vertical Rod Exit Device accommodates up to 8' (2438 mm) doors.
- Fire rated devices may be ordered for up to 10' (3048 mm) fire exit doors.
- Specify door height if greater than standard sizes when ordering.

Note:

- For fire rated devices, consult door manufacturers literature for maximum allowable door height and width.
- End to end length does not include latchbolt.

Narrow Stile Device Length 9100 Series

The Device lengths are precut for 36" (914mm) and 48" (1219mm) wide door use (standard shipping size).

THE SHORT DEVICE, 36"

(914mm) has an actual end to end length of 34 1/4" (870mm) suitable for a 36" (914mm) wide door use.
Push pad length is 18 1/4" (546mm)
The short Device can be cut down to a minimum end to end size of:
Standard Device (S) 27 (686mm)
Fire Rated Device (F) 25 1/4" (641mm)

THE LONG DEVICE, 48"

(1219mm) has an actual end to end length of 45" (1143mm) suitable for a 48" (1219mm) wide door use. Push pad length is 21-1/2" (456mm)
The long device can be cut down to a minimum end to end size of:
Standard Device (S) 32-1/2" (826mm)
Fire Rated Device (F) 31 (787mm)

VERTICAL RODS

Our standard and fire rated vertical rod exit device accommodates up to 8' (2438mm) doors. Fire rated devices may be ordered for up to 10' (3048mm) fire exit doors. Specify door height if greater than standard sizes when ordering.
Note: For fire rated devices consult door manufactures literature for maximum allowable door height and width.

Note: End to end length does not include latch bolt.

SEX NUTS AND BOLTS (SNB)

SNB-For 1-3/4" Door

1-9/16" 3/4" 918

SNB-For 2-1/4" Door

1-9/16" 1" 923

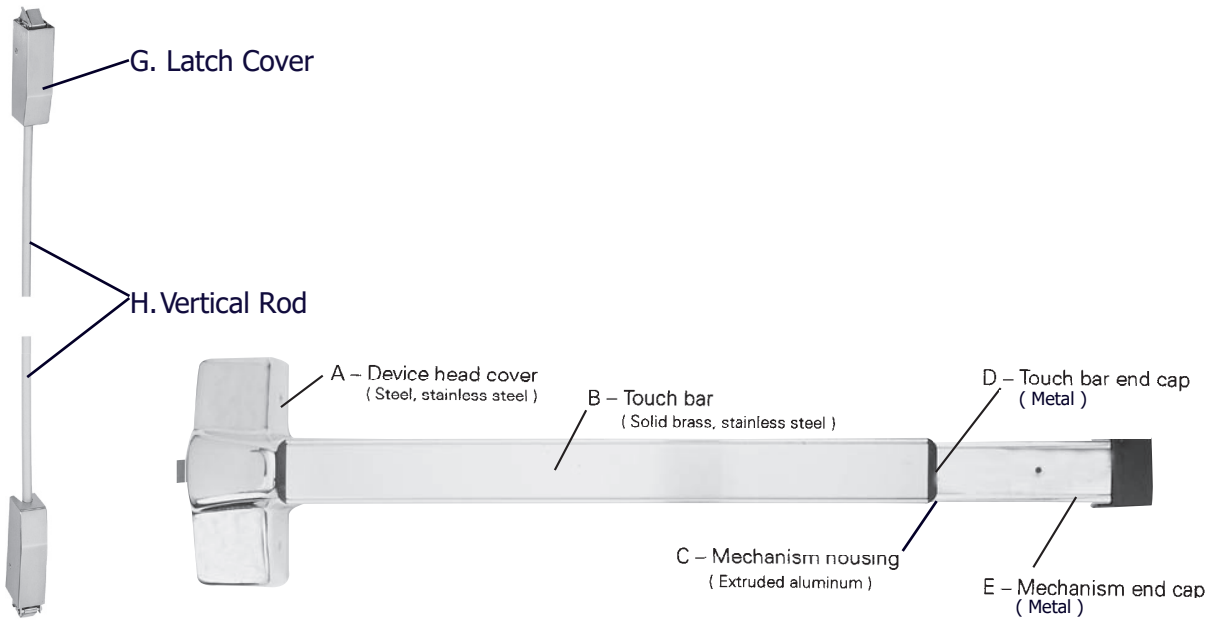
SNB-For 2-1/2" Door

1-9/16" 1-1/4" 930

Exit Devices Finishes

Finish Colour			A, B, F, G	C	D, E, H
Bright Brass	US3	605	Plated	Bright Brass, US3, 605	Anodized
Satin Brass	US4	606	Plated	Satin Brass, US4, 606	Anodized
Satin Bronze	US10	612	Plated	Dull Bronze, US10, 612	Anodized
Satin Bronze, oil-rubbed	US10B	613	Plated	Bronze, US10B, 613	Anodized
Bright Chromium	US26	625	Plated	Bright Stainless Steel, US32, 629	Anodized
Satin Chromium	US26D	626	Plated	Stainless Steel, US32D, 630	Anodized
Satin Stainless Steel	US32D	630	Stainless Steel*	Stainless Steel, US32D, 630	Anodized
Satin Aluminum, Anodized	US28	628	Powder Coat	Stainless Steel, US32D, 630	Anodized

*Only A and G (latch covers) use stainless steel material in satin process (US32D)



Double Door Applications

Rim Device and SVR or CV Device combination-same direction. Overlapping astragal is not required, but coordinator required with a double door strike.

Two Rim Devices on 2 independent active doors with removable mullion.

Mortise Lock Device & SVR Device Combination – same direction. Overlapping astragal is not required, but coordinator required with a standard ANSI strike.

Two Surface Vertical Rod (SVR) or Concealed Vertical Rod (CVR) – same direction. Overlapping astragal is not required.

Two Surface Vertical Rod (SVR) Devices - double egress. Overlapping astragal required or not required, option.

SVR and Three-Latching Device combination – same direction. Overlapping astragal is not required, but coordinator required with a double door strike.

Notes:

ANCILLARY PRODUCTS

Floor Stops

TU8200

Floor Stop .25" rise

TU8209

Floor Stop .25"
Rise x 1.5" high

TU8270

Heavy Duty Floor Stop
2.375" High

TU8210

Floor Stop,
Non Directional

TU8281

Extra Heavy Duty
Floor Stop

TU8430

Decorative Floor Stop

Door Holder

TU8289 Heavy Duty Kick Down Door Holder

Wall Stops and Baseboard Stops

TU8240 Wall Stop (Convex)

TU8250 Wall Stop (Concave)

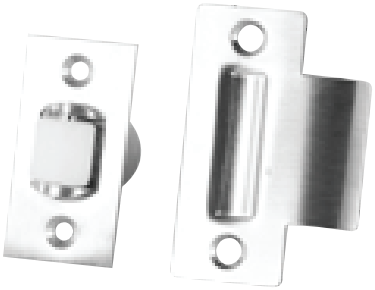
TU8240 B Wall Stop (Convex)

TU8250 B Wall Stop (Concave)

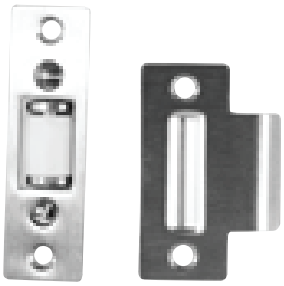
TU8273 Heavy Duty Baseboard Stop

Roller Latches

TU8403 Heavy Duty "Adjustable" roller latch



TU8404H Heavy Duty "Adjustable" roller latch (With "T" Strike)

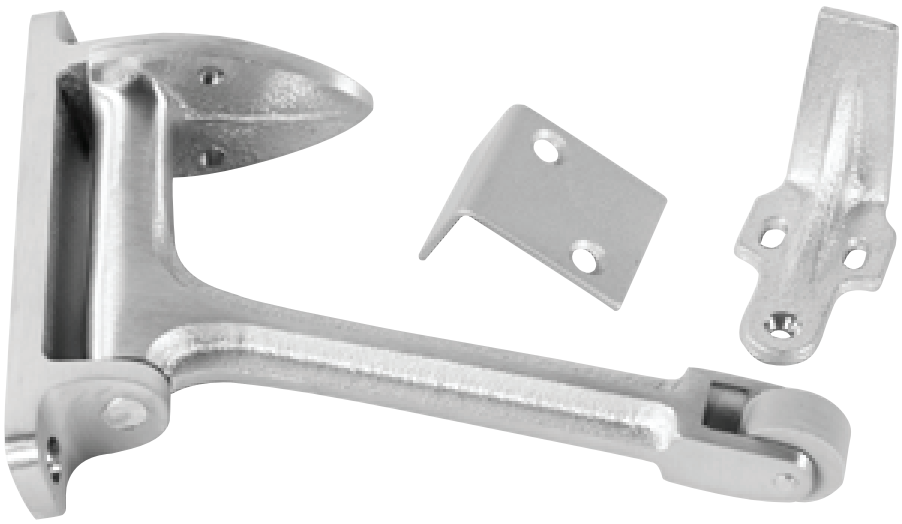


TU8405H Heavy Duty "Adjustable" roller latch (With ANSI Strike)

Door Coordinators

TU8409 Coordinator Drop Down Style

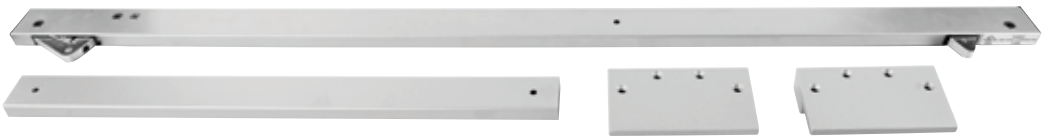
Our Drop Down Coordinator Is Non-handed, Ul Listed, Used To Coordinate The Closing Of Pairs Of Doors In Jamb Openings 36” To 104” Wide. The Coordinator Mechanism And Inactive Door Brackets Are Cast Of Solid Brass. The Roller Strike For The Top Of The Inactive Door Is Wrought Stainless Steel. The Overall Projection Of The Coordinator Arm Is 7”. The Rubber Roller At The End Of The Coordinator Arm Cushions The Contact Of The Active Door When It Is Closing. The Reversible Nylon Roller Which Lifts The Coordinator Arm Insures Smooth And Long Lasting Operation. A Curved Lip Roller Strike Is Supplied With All Devices.



Surface Mounted Door Coordinator

T69 - 42

T6942 (SMC-42), 42" Surface Mounted Door Coordinator, Aluminum finished with steel housing and internal parts. With F6918, 18" Filler Bar, aluminum. Comes with 2 pieces of MB2, mounting brackets for top stop width over 2-1/4".

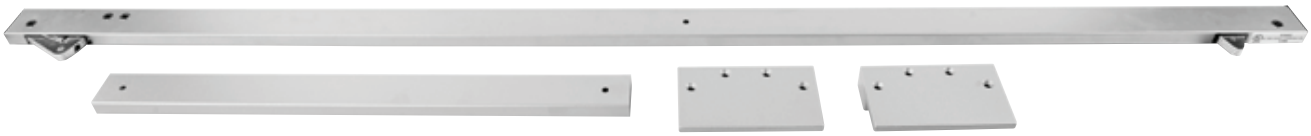


T69 - 52

T6952 (SMC-52), 52" Surface Mounted Door Coordinator, Aluminum finished with steel housing and internal parts. With F6918, 20" Filler Bar, aluminum. Comes with 2 pieces of MB2, mounting brackets for top stop width over 2-1/4".

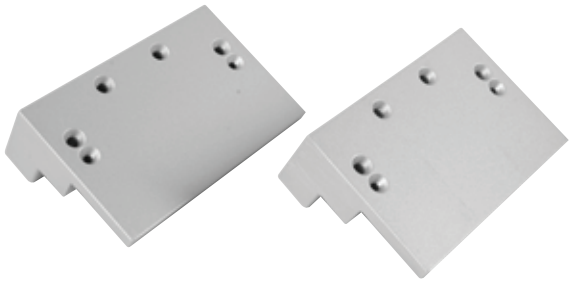
T69 - 60

T6960 (SMC-60), 60" Surface Mounted Door Coordinator, Aluminum finished with steel housing and internal parts. With F6918, 36" Filler Bar, aluminum. Comes with 2 pieces of MB2, mounting brackets for top stop width over 2-1/4".



T69 - MB3

2 pieces of MB3, Mounting Brackets for top stop width 7/8" to 2-1/4"



Overhead Holders & Stops

TU5900C Series
Concealed Mount, Medium Duty

Standard Features

- Concealed mount
- Medium duty
- Stop, hold-open and friction functions available
- Single or double acting doors
- Non-handed
- For interior use on moderate traffic and medium weight doors
- Standard installation from 85° to110° of opening (5° increments)
- Shock absorbing spring provides 3° to 5° cushion before dead-stop
- 1-⅜”minimum door thickness
- UL Listed as Miscellaneous Fire Door Accessories for use on Wood fire doors rated up to 90 minutes and metal fire doors rated up to 3 hours (stop function only)
- Average weight per unit = 2 lbs.

Material

- Stainless steel is the standard base material for arm, channel and jamb bracket for all finishes

Options Available

- SEC – Security fasteners
- LL – For lead-lined door applications
- N – All stainless steel (non-ferrous) components for wet environments to prevent corrosion
- T – Threaded pivot screw and nylon washer to replace jamb bracket
- HC - Hold Closed
- SPECIAL – Contact TÜR if the dimensions, hardware or specifications differ from what is shown on the template or if additional hardware is being used at the top of the door. A custom application and/or unit may be required.
- If using a closer, please go to our website and reference “TÜR Overhead Holder & Stop Compatibility Chart” to determine possible conflict.

Specify When Ordering

- Model Number
- Finish
- Option(s), if applicable

How to order.

Brand Identity	Model No:	Option	Door Openning	Height	Option	Finish
TU	5900C	HO - Holder	18"-23 - Concealed	A - Adjustable	AJB-Angle Jamb Bracket	630
		ST - Stop	24"-29 - Concealed		CL-Use with Cam Lift Hinges	629
		FC - Friction	30"-35 - Concealed		HC-Hold Closed	689
			36"-48"- Concealed		LL-Lead Lined	605
					LS-Less Spring	606
					SEC-Security Fastners	626
					SNB-Sex Bolts	625

Ex: TU5900C.HO.18.A.AJB.680

Overhead Holders & Stops

TU5900S Series
Surface Mount, Medium Duty, Adjustable

Standard Features

- Surface mount
- Medium duty
- Stop, hold-open and friction functions available
- Single acting doors only
- Non-handed
- For interior use on moderate traffic and medium weight doors
- Degree of openning is field-adjustable after installation from 85° to110° (5° increments)
- Shock absorbing spring provides 3° to 5° cushion before dead-stop
- Standard fasteners supplied with sex bolts for 1-¾"to 1-⅞" thick door (see options for other door thicknesses)
- UL Listed as Miscellaneous Fire Door Accessories for use on wood fire doors rated up to 90 minutes and metal fire doors rated up to 3 hours (stop function only)
- Average weight per unit = 3 lbs.

Material

- Stainless steel is the standard base material for arm, channel and jamb bracket for all finishes.

Options Available

- THICK – Fasteners for doors other than 1-¾" to 1-⅞" thick - Specify door thickness
- SEC – Security fasteners
- AJB - 44443 Angle Jamb Bracket for pull side mount or push side flush mount
- LL – For lead-lined door applications
- CL - For use with cam lift hinges
- LS – Less shock-absorbing spring for special applications
- N – All stainless steel (non-ferrous) components for wet environments to prevent corrosion
- T – Jamb bracket is replaced with a threaded pivot screw and nylon washer
- HC - Hold closed
- SPECIAL – Contact TÜR if the dimensions, hardware,or specifications differ from what is shown on the template or if additional hardware is being used at the top of the door. A custom application and/or unit may be required.

Specify When Ordering

- Model Number
- Finish
- Option(s), if applicable

How to order.

Brand Identity	Model No:	Option	Door Openning	Height	Option	Finish
TU	5900S	HO - Holder	30"-35 - Surface	A - Adjustable	AJB-Angle Jamb Bracket	630
		ST - Stop	36"-42"- Surface		CL-Use with Cam Lift Hinges	629
		FC - Friction			HC-Hold Closed	689
					LL-Lead Lined	605
					LS-Less Spring	606
					SEC-Security Fastners	626
					SNB-Sex Bolts	625

Ex: TU5900S.HO.18.A.AJB.680

Overhead Holders & Stops

Options

"AJB" - Angle Jamb Brackets

Available for most surface mount models – converts standard installation to pull side mount or push side flush mount mounting

"CL" – For Use with Cam Lift Hinges

Custom unit for use with cam lift hinges (½"maximum door lift)

"HC" – Hold Closed

Special mechanism is integrated into the overhead stop holding the door closed at 0° and essentially doubling as a roller latch (available for stop function only). Hold-closed mechanism can be disengaged.

"LL" – Lead Lined

Lead is provided to cover where mounting holes will pierce lead on lead-lined doors.

"LS" – Less Spring

Typically used with a single point elect ronic door closer, overhead stop is supplied without the shock absorbing spring (stop function only).

"N" – All Stainless Steel (Non-Ferrous) Components

Designed for use in wet environments - all stainless steel or non-ferrous components are provided with the unit, including all internal components and sc rews.

"SEC" – Security Fasteners

Security fasteners are rovided in lieu of standard fasteners for all exposed mounting holes – specify door and frame material when ordering.

"SNB" – Sex Bolts

Sex bolt fasteners are added to 3500 series surface mount model screw pack, as they are not supplied standard.

"T" – Threaded Pivot Screw and Nylon Washer in Lieu of Jamb Bracket

Typically used when space is limited in the frame head for installation or when installing a concealed model in an existing frame with minimal field prep.

"THICK" – Door Thickness other than 1- ¾"

Custom fasteners will be supplied to accommodate various door thicknesses other than 1-3/4" – specify door thickness.

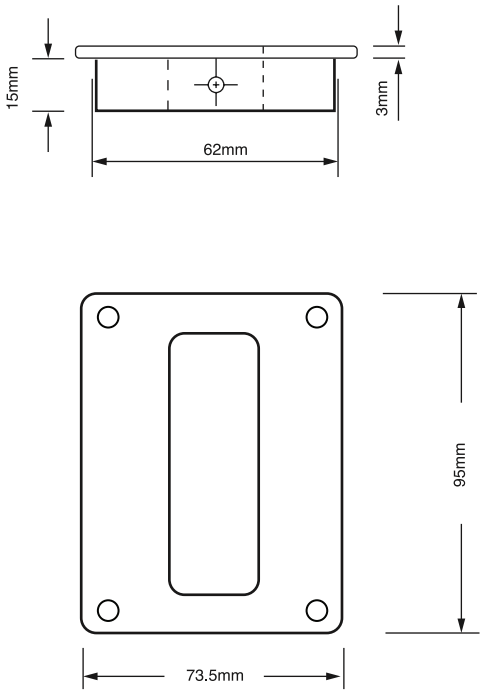
"SPECIAL" - Special Layout

ABH can p rovide custom units for countless non-standard applications. See page B-6 for order form or contact factory for assistance.

Security Flush Pull

TU8921

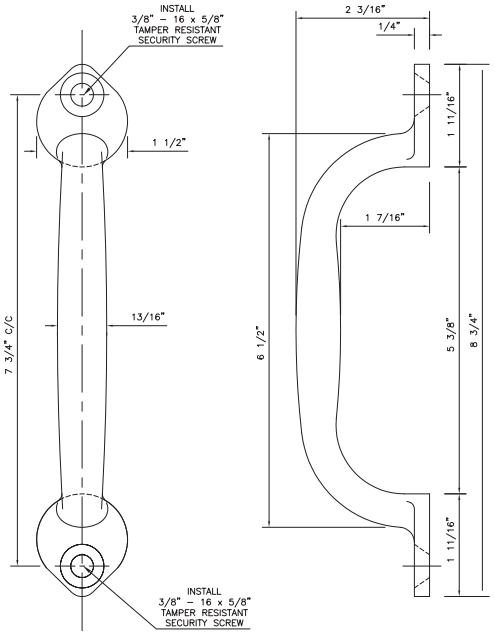
Cast Flush Pull
Finish: US32D



Cast Suface Pull

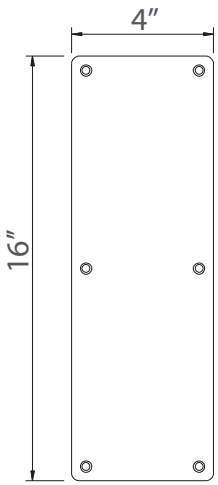
TU8920

Cast Surface Pull
Finish: US32D



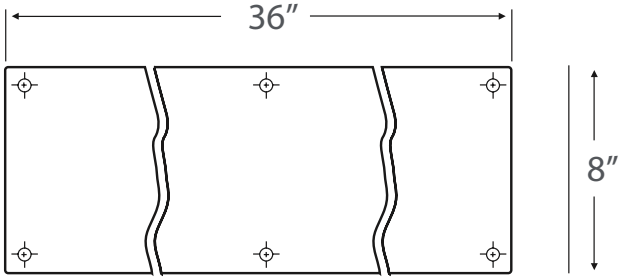
Push Plate

Item Description : Push Plate
Plate Size : 4" x 16"
Finish : US32D (630)



PRODUCT NUMBER	DESCRIPTION	FINISH
T8181	pushplate 4" x 16" c/w/ screws	US32D
T8182	pushplate 3" x 16" c/w/ screws	US32D

Door Protection Plates



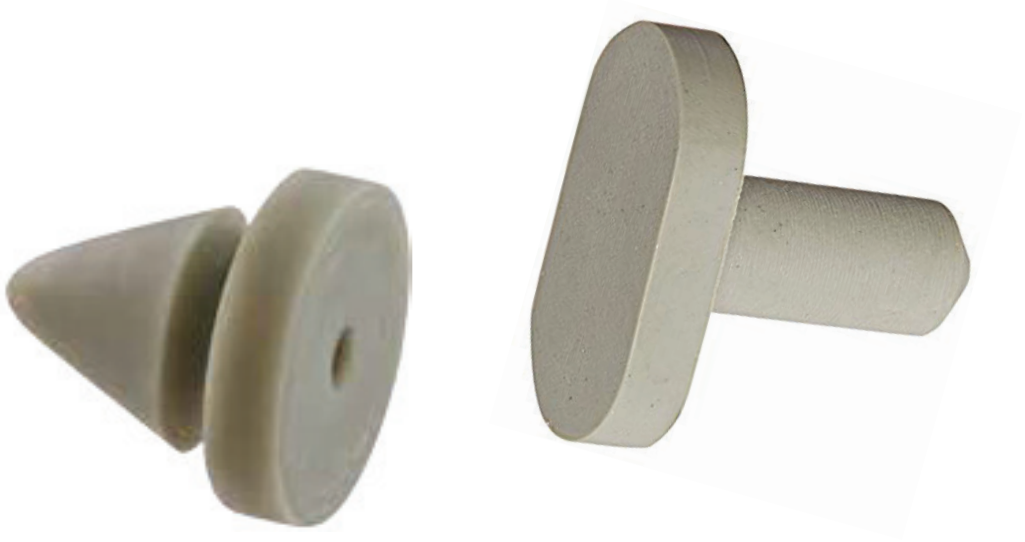
7

How to order.

Brand Identity	Model No:	Type	Height	Corners	Finish
T	8080	KP-Kick Plate	6	R-Radius	630
		MP-Mop Plate	8	S-Square	629
		AP-Armor Plate	10		
		SP-Stretcher Plate	12		
			36		

Ex: T8080.KP.8.630

Door Silencer for Wooden/Metal Doors



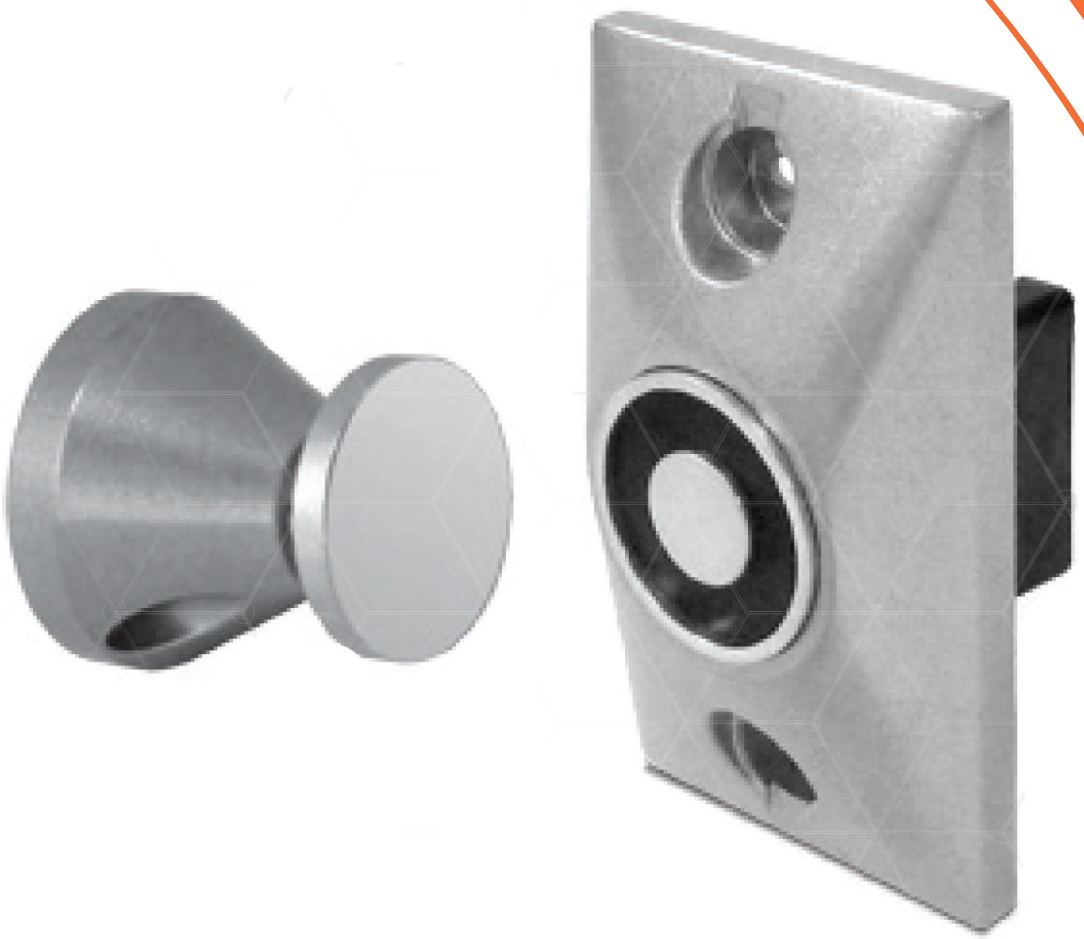
WDS - WOODEN DOOR SILENCER

MDS - METAL DOOR SILENCER

Technical Datal:

Material	Rubber, Gray
Base	1/2" (12.5MM) Diameter 1/2" (12.5mm) Length
Finish	Gray

Notes:



ACCESS CONTROL

TA1000 Series Electrified Mortise Locks

The Electrified Mortise Lock Allows Remote Keyless Access And Egress Control For Heavy Use Applications Where Security, Safety And Convenience Are Required. Common Applications Include Security Control Rooms, Cashier Rooms, Stairwell Doors, Telephone Equipment Rooms, It Departments And Hospital Equipment And Narcotics Storage Areas.Electrified Mortise Locks Can Be Purchased Complete With Trim Or The Chassis May Be Purchased Separately To Retrofit With Existing Tur Hardware Trim. Actuating Devices Include Card Readers, Wall Switches, Security Consoles, Remote Release Buttons, Telephone Access Controls And Many More.

FEATURES:

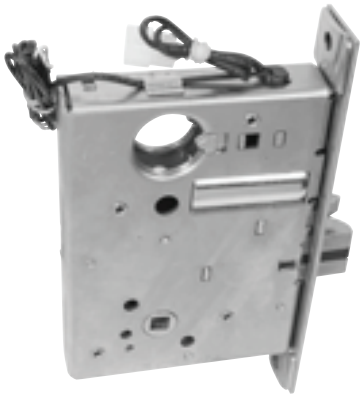
Continuous duty solenoids
Reversible handing
Low current Draw

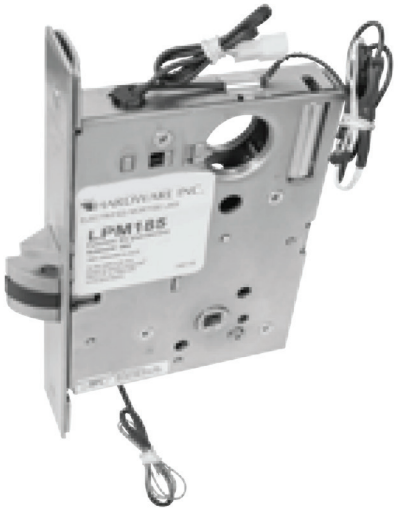
OPTIONS:

Available EL Electrically Locked (Fail Safe)
EU Electrically Unlocked (Fail Secure)
Request to exit (RX)
Latchbolt Monitor Switch (LBM)
Electric Latch Retraction (see next page for more details)
Specifications:
Operating voltage - 12 or 24 VDC please specify when ordering
Amperage - 12V = 700mA / 24V = 350mA
Coil resistance - 12V = 18 Ohms / 24V = 69 Ohms
Power consumption - 8 watts

TA1000 Series
Electrified Latch Retraction Mortise Locks

The Tur Hardware 1000 Series Mortise Lock Brings Electric Latch Retraction To A Standard Mortise Lock Body When Energized, The Latchbolt Is Completely Retracted Allowing A Push-pull Condition. This Revolutionary Product Accomplishes What Previously Could Only Be Done With Electric Strikes Or Electric Latch Retraction Exit Devices Interface Module Allows For Up To 350' Long Wire Runs This Is An Ideal Solution For Conditions Requiring Automatic Door Openers





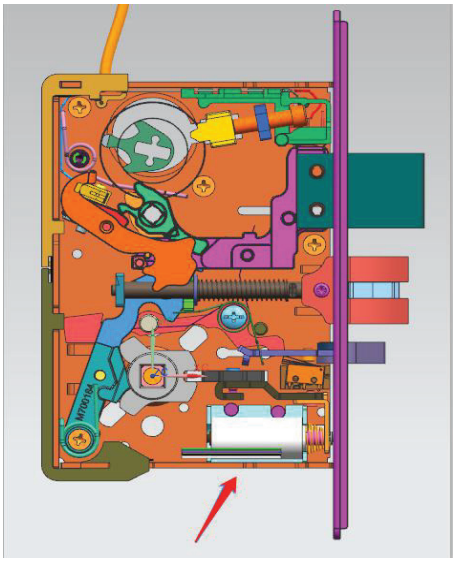
FEATURES:

Utilizes our patented technology
Circuitry allows for momentary or "continuously on" (push/pull) applications
No special lock prep required – fits standard Tur Hardware mortise pocket
Available in EU (Fail Secure)
Solenoids rated for continuous duty . . . whether you're powering for 5 seconds or 8 hours

SPECIFICATIONS

Amperage 350mA @ 24V
Must be powered by a PS Series power supplies

UL1000 Series
Electrified Solenoid Mortise Lock



DECSRIPTION:

- Universal imput voltage-accepts 12 or 24V Dc for installation flexibility
- User selectable fail safe / fail secure - changing
- Low maximum current draw- allows multiple lock on a single power supply
- Low holding current - produces minimal heat, eliminating "hot levers" in electrically locking applications and allowing reliable operation even in wood doors.
- All- new switch monitors the inside lever with enhances detection level that balances security with lever sensitivity

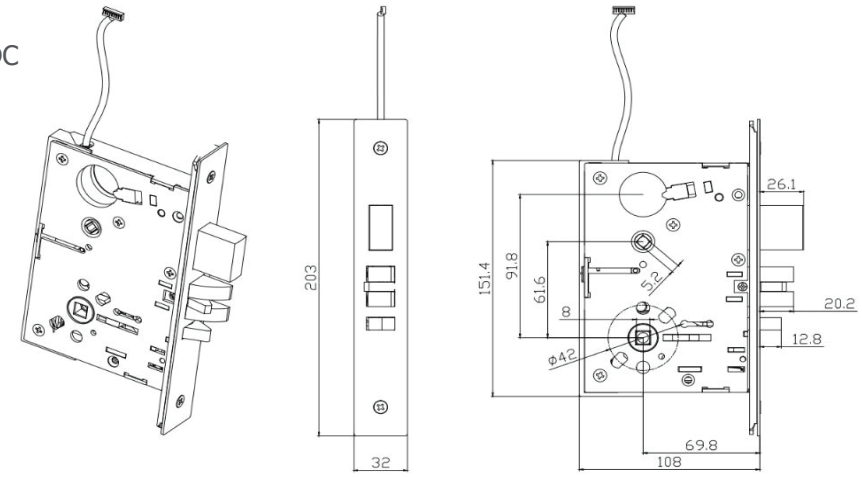
Electrical specifications

Fail Safe/Fail Secure

Voltage: 12VDC ~ 24VDC
Starting Current: 2Amp at 24V, DC
Holding current:0.05Amp at 24V, DC
Starting Current: 1Amp at 12V, DC
Holding current:0.12Amp at 12V, DC
Operating Temp.:
Max. 151°F (66°C) Min. -31°F (-35°C)
All monitoring switches rated at: 2 Amp @ 30 VDC
3 Amp @ 125 VAC

Monitor available

Deadbolt function
Door position sensor
Latchbolt monitor
Lever sensor
Cylinder sensor



Electrified Solenoid Mortise Lock

Certification/Compliance
• ANSI/BHMA A156.13 Series 1000, Grade 1 operational and security. UL Listed for 1.5-Hour fire rating

Case Size
• 4-5/16" x 6" x 1" (110 mm x 152 mm x 25 mm).

Armor front
• 1-1/4" x 8" x 7/32" (32 mm x 203 mm x 1.5 mm) Standard,

Backset
• 2-3/4" (70 mm) only.

Door Range
• 1-3/8" (35mm) to 2-1/2" (64 mm) steel door.
• 1-3/4" (45 mm) to 2-1/2" (64 mm) wood door.

Beveled Doors
• Self-adjusting case.

Spacing
• 3-5/8" (92 mm) Center cylinder to spindle. 2-7/16" (62 mm) Center thumbturn to spindle.

Deadbolt
• 1" (25 mm) Throw, stainless steel.

Latchbolt
• 3/4" (19 mm) Throw, solid one-piece stainless steel latch, anti-friction curve design provides

Deadlocking Bar
• Non-handed, stainless steel.

Case Handing
• Field reversible without removing case.

Through Bolts
• Through-bolted trim self-aligned with lock case.

Stopworks
• Incorporated into thumbturn.

Strikes
• Curved lip is nonhanded.
Custom lip lengths at 1/8" (3 mm) increments available.

Spindles
• Breakable to prevent the lock case from unlocking or being damaged.

Cylinder
• 6-pin standard, with two nickel silver keys, "C" keyway. Can be masterkeyed or grand masterkeyed. Construction key I/C Core
• 6 or 7-pin. Compatible with Best® and Fsaylsctoenm®. available.

Cylinder Guard
• Tapper cylinder guard with tension spring to resist wrenching of cylinder.

Trim Designs
• Levers/Knobs forged SS304 stainless steel attached to rose plate/escutcheon.Outside lever/knob cannot be removed from outside. Inside lever/knob can be snapped in place. Return spring in trim enhances protection against lever sagging, providing a firm and positive return of lever to horizontal.Roses

• 2-7/16" (62 mm) diameter, positive friction attachment.

Escutcheons
• 1-15/16" x 8" (50 mm x 203 mm), positive friction attachment.

Fasteners
• Concealed under the rose/escutcheon.

Trim Combinations
• Available with lever on both sides, knob on both sides, or knob x lever with rose or escutcheon on both sides.

Finishes
• Satin stainless steel

Electrified Panic Trim

Our Exit Device Trim Is Perfect For Stairwell Conditions And Applications, Where Electric Latch Retraction Of The Exit Device's Latchbolt(S) Is Cost Prohibitive Or Not Required This Is Especially Practical In Applications Where Fire / life Safety Codes Require A "Fail Safe" Condition, Which Is Not An Option With Electrified Latch Pullback Devices

FEATURES:

Continuous duty solenoids used to ensure troublefree operation
Internally mounted solenoid means easy installation due to no special prep required
Low current draw means there is no need for a expensive power supply to provide the inrush current.

OPTIONS:

Available Fail Safe (Electrically Locked) or Fail Secure (Electrically Unlocked)
Voltage options - 12 or 24VDC

SPECIFICATIONS

Operating Voltage - 12 or 24V must be specified when ordering
Amperage - 260mA at 12V / 160mA at 24V
Coil resistance - 12V = 49 Ohms / 24V = 159 Ohms

Motorized Latch Retraction Exit Device
TA9000 Series

Our electric latch retraction exit device allows for remote keyless, mechanical or electronic, access control in high occupancy / high traffic conditions where exit devices are required. Common applications included hospitals, airports, schools, churches and increasingly common used in conjunction with automatic door openers

FEATURES:

- This is a very robust motorized latch retraction unit for our 9000 Series exit devices
- Comes with smart module: On board diagnostics with audible feedback for adjustment and power issues
- Push to set (PTS): 5 second electronic adjustment for post installation
- Electric dogging rated for continuous duty - auto retraction if dogged push pad is pulled from position
- Low current draw
- Field switchable to a "high torque" mode
- 6' cable with quick connect

VOLTAGE:

- Voltage range - 22 to 28 VDC
- System protection - unit will shut down when voltage exceeds 28VDC
- Average in rush current - 1A
- Average hold current - 180mA

WIRE RUN:

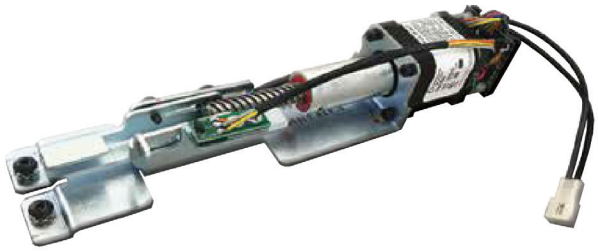
- 500' with 18ga wire
- 700' with 16ga wire

POWER SUPPLIES:

- Recommended - PS1, PS2 or PS5-8

OPTIONAL

- Request to exit (REX)



Alarmed Exit Devices

All TE9000 Series Exit Devices can be converted into alarm devices. This feature is designed to deter, with the alarm, unauthorized use of the opening. To warn someone who might open a controlled door the push bar is printed with

EMERGENCY EXIT ONLY
PUSH TO OPEN ALARM WILL SOUND

The alarm module is operated by a 9VDC battery.
Type E - Monitors push bar, latch bolt and end cap.
When the push bar is depressed or the latch bolt is retracted by the outside trim, the alarm will sound.
Tampering with end cap will also trip alarm.
How to order:
Use prefix "AL" on any 9000 Series.
Example:
AL8810SE - 36 - 630 (Alarmed rim exit device with Type E monitor, 36" in US32D finish)

Delayed Egress Exit Device

The Delayed Egress Exit Device is designed to provide a controlled exit in a predetermined time delay. When the exit device is armed it will delay exit to any person for 15 to 30 (specify) seconds after the push pad is depressed for 3 or more seconds. Once the push pad is depressed for 3 or more seconds an alarm will sound that will alert appropriate people to respond to the signal and take immediate action. The alarm module also has a nuisance alarm feature in the event someone bumps or touches the push pad for less than 3 seconds.

The Delayed Egress Exit Device is furnished with a sticker in red letters which states:

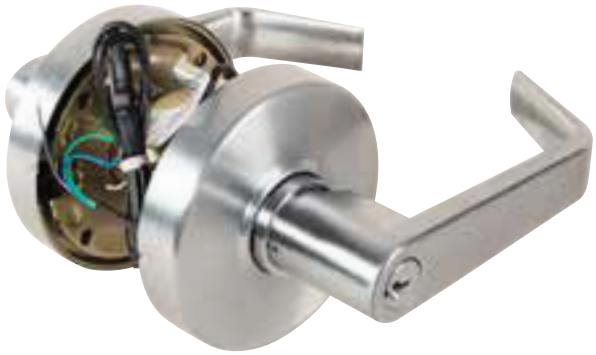
EMERGENCY EXIT ONLY
PUSH UNTIL ALARM SOUNDS
DOOR CAN BE OPENED IN 15 SECONDS

When the Delayed Egress Exit Device is in the armed state it can be by-passed by turning the cylinder clockwise. This allows authorized personnel to exit without setting off the alarm.
When the Delayed Egress Exit Device is in the armed state turning the cylinder counter clockwise will temporarily release the device without setting off the alarm and will re-arm after 10 seconds.
Device is ANSI A156.3 and ANSI A156.24
Consult local codes before specifying or supplying this solution.

TA2000 Series
Electrified Cylindrical Locks

The electrified cylindrical lock allows remote keyless access and egress control for commercial applications where security, safety and convenience are required. Common applications include security control rooms, classrooms, meeting rooms, telephone equipment rooms and IT departments.

Actuating devices include card readers, wall switches, security consoles, remote release buttons, telephone access controls and many more.



FEATURES:

Continuous duty solenoids
Non Handed
Low current Draw
1 year warranty

OPTIONS:

Available EL Electrically Locked (Fail Safe)
EU Electrically Unlocked (Fail Secure)
Request to exit (RX)

SPECIFICATIONS:

Operating voltage - 12 or 24 VDC please specify when ordering
Amperage - 12V = 250mA / 24V =150mA
Coil resistance - 12V = 49 Ohms / 24V =159 Ohms
Power consumption - 3 Watts

TCRU2 Power Accessory

The TCRU2 now "non-polarity" sensitive is a current reduction module that is designed to work with low current DC voltage electric locking devices (cylindrical locks, mortise locks or panic trim) that are being used in a "fail safe" or "unlock cycle" condition. When energized, the TCRU2 allows the device to receive full current long enough for the solenoid to actuate. Once actuated, the TCRU2 limits the current the solenoid consumes allowing it to run cooler, but delivering enough current for the solenoid to remain actuated as long as is needed. The TCRU2 features a small adjustment screw for flexibility in the field, allowing the installer to fine tune the current and maximize the efficiency.

FEATURES:

Accepts up to 30 volts AC or DC input
Current adjustment allows for "fine tuning" in the field
Allows "continuously on" low current devices to run cooler, increasing the life of the solenoid and reducing service calls
No more "hot levers"!
The TCRU2 protects solenoid locks and exit trim from spikes and blow back

SPECIFICATIONS:

Operating voltage range: 12 to 30VDC
Maximum Amperage: 1.0A

TPS1 Power Supply

The TPS1 is a heavy duty, high quality, low cost solution for powering a single electric latch pullback exit device. The solid-state design ensures years of trouble-free operation. This linear power supply delivers the current needed for the extreme in-rush requirement of most solenoid driven electric latch retracting exit devices. The power supply comes housed in a sturdy, yet compact metal enclosure.

FEATURES:

UL Listed
CSA Listed
Delivers the necessary high current in-rush for a single exit device
Solid-state design eliminates problems associated with mechanical relays
Single input/output

SPECIFICATIONS:

Input voltage - 120VAC
Output voltage - 24VDC regulated @ 1A (56 watt transformer)
Temperature range - 32° to 120° F
1 solid-state input/output (input triggered by dry contact)
LEDs - Red = Power indicator / Green = Channel on
Enclosure dimensions: 10″ x 10″ x 4″

TPS2/PS2BB Power Supply

The TPS2/TPS2BB series power supplies are a high quality, cost effective solution for powering two electric latch pullback exit devices. These power supplies provide the necessary surge current that most latch pullback exit devices require. The TPS2/TPS2BB series offers features found on power supplies costing much more. The solid-state design and careful attention to detail make these power supplies the ideal choice for the discerning user who requires a power supply that can offer years of trouble-free operation.

FEATURES:

UL Listed
CSA Listed
Delivers the necessary in-rush current to power two latch pullback exit devices.
Independent inputs/outputs with priority sensing ... meaning with built-in delays each output harness the full capacity for the power supply
Solid-state design eliminates mechanical problems associated with relays
Thermal overload sensing reduces risk of failure due to overheating
Fire alarm disconnect link
Inputs triggered by dry contact
Intelligent short circuit detection detects shorts much faster than glass or resettable fuses and isolates the short to the individual output
Removable euro-style terminal blocks allow for easy wiring
Efficient battery backup/charging circuitry with zero voltage drop at power loss (TPS2BB)
Solid-state reverse polarity protection for battery connections (TPS2BB)
Audible alert when sensing AC power failure & low battery (TPS2BB)

SPECIFICATIONS:

Input voltage - 120VAC
Output voltage - 24 VDC regulated @ 2A (56 watt transformer)
Temperature range - 32° to 120° F
2 solid-state inputs/outputs (input triggered by dry contact)
LEDs - Red = power indicator / Green = Channel on
Enclosure Dimensions - 12.5" x 15" x5" (for the PS2BB, accommodates two 7AH batteries)
Requires (2)ea. 12V 7 amp hour batteries (batteries not included) (PS2BB)

TPS5 Series Power Supply

The TPS5 power supply is a regulated, linear power supply rated at 5 Amps @ 24VDC. It's state-of-the-art, solid-state design offers a flexible and cost effective solution to powering and controlling low current DC locking devices such as mortise locks, cylindrical locks, panic trim, and electric strikes.
This gives the installer the flexibility to control low current and high surge current devices together with one power supply. The unit offers a continuous 27.6V battery charging circuit while allowing adjustable output voltage (24- 27VDC). The TPS5 is available in 4, 6, and 8 I/O models to accommodate most field conditions you might encounter. Housed in an attractive, high-quality enclosure, the TPS5 series will be a complement to your installation while offering value not found elsewhere.

FEATURES:

UL Listed
CSA Listed (PS5-8 only)
Adjustable output voltage from 24-27VDC
Independent, Battery backup charging circuit at 27.6V with Solid-state design and very low voltage loss
Fire Alarm Link
Solid-state design eliminates mechanical problems associated with relays
Removable euro-style terminal blocks allow for easy wiring
3-year "no hassle" warranty

SPECIFICATIONS:

Input voltage - 110 VAC
Output voltage - 24VDC @ 5A continuous current
Up to (8) Solid-state inputs (specify dry contact or voltage trigger)
Up to (8) Solid-state outputs
LEDs - Red = power indicator / Green = Channel on
Thermal auto-resettable fuses
Enclosure dimensions - 12.5" x 15" x 5" (accommodates two 7AH batteries - batteries not included)

Power Transfer Butt Hinges

The Electric Through wire Hinge (ETH) is the ideal way to pass low voltage power from the hinge jamb to the lock set without having any exposed wires. These hinges are commonly used with electric mortise & cylindrical locks, electric strikes (when on a pair of doors), electric exit trims, latch pullback devices, door mounted card readers and low voltage door lights.

FEATURES:

UL-F Rated
4' lead available
Centre located wire access holes
Quick connect optional

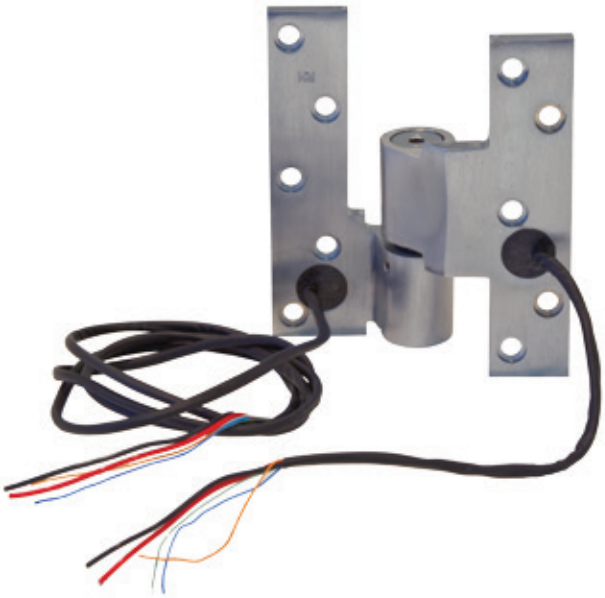
SPECIFICATIONS:

2W (2/20ga)
4W (4/26ga)
8W (8/28ga)
12W (12/28ga)
Other wire configurations available

Power Transfer Pivot Hinges

The Energy Transfer Pivot Hinge is available in the same wire configurations as the butt hinges. It's a great way to pass power from the hinge jamb to the door and

have no exposed wires or cords.



FEATURES:

UL-F Rated
4' lead available
Centre located wire access holes
Quick connect optional

SPECIFICATIONS:

2W (2/20ga)
4W (4/26ga)
8W (8/28ga)
12W (12/28ga)
Other wire configurations available

Concealed Door Loops

The Concealed Door Loop is a low cost method of transferring low voltage power from the door frame to the locking device. Whereas typical door loops are surface mounted and remain constantly visible, it slides into the door and/or frame completely concealing itself when the door is closed. Common applications include: use with continuous hinges, storefront conditions where offset hinges are used, and for most applications where ETH hinges or conventional door loops would be used. The aesthetic appeal will benefit retrofits and new installations alike.

TU330-40

TU417ST

TU400

FEATURES:

Durable finish
Special 1/4" flexible armoured conduit (i.d. 1/4")
Supports up to 180° swing (Standard Butt and Continuous hinge applications)
Easy installation
Variable mounting locations

OPTIONS:

EXT extended 12"
EXT2 extended 18"

FUNCTION

Standard
One side fixed

MODELS

TU330-40
TU417ST
TU400

FINISH

Aluminum
Black Anodized

Surface Door Loop

The surface door loop provides a safe way to transfer power when concealed methods are not possible. With flexible armoured conduit (i.d. 9/32") and end caps, the DL20 door loop offers a field sizable (18" - 20"), surface applied solution in aluminium or duronotic finishes.

SPECIFICATIONS:

2W (2/20ga)
4W (4/26ga)
8W (8/28ga)
12W (12/28ga)
Other wire configurations available

FUNCTION

Standard

MODELS

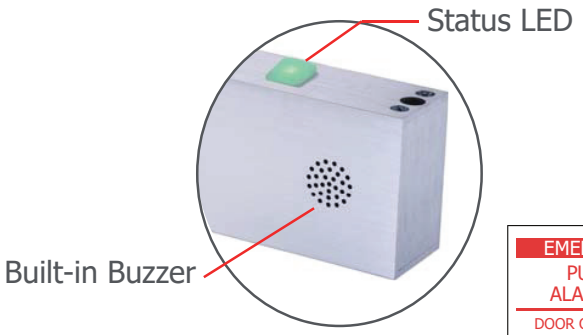
TU.DL-20

FINISHES

Aluminum
Black Anodized

Electromagnetic Lock

TU5500.DE Series



Door sign included

The TU5500.DE Delayed Egress Electromagnetic Lock with Key Hole Mounting is easy to install and designed to meet NFPA 101 Life Safety Code. It is a self-contained, standalone locking device that can be retrofitted to existing systems or new construction.

The TU5500.DE provides controlled egress for perimeter and emergency exit doors. In an armed state, an audible alarm sounds to delay unauthorized exit for 15 or 30 seconds, allowing security and personnel to respond to the door. In an emergency, the lock immediately releases and allows free egress.

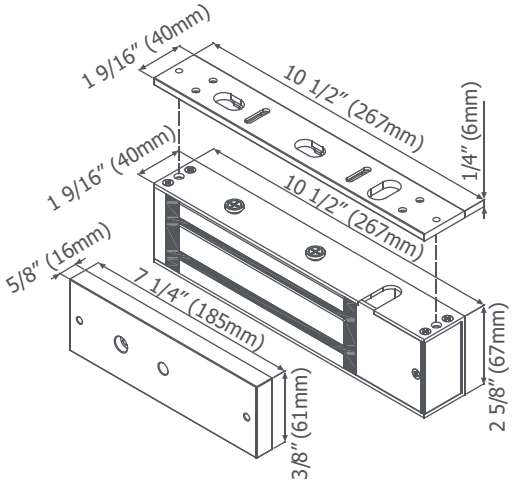
Features & Functions

- Automatic voltage selection 12/24 VDC
- Easy installation with adjustable keyhole mounting plate
- Field selectable 0-3 second nuisance delay
- Field selectable 15 or 30 second exit delay
- LED indication with buzzer alerts

Applications

- Commercial Centers/Retail Stores
  Discourage customer shoplifting or employee theft
- Hospitals/Healthcare Facilities
  Prevent patients to leave their premises
- Public Transportation
  Control pedestrian traffic in airports or train stations
- Schools/Childcare
  Deter abduction or delinquency

Specifications	
Input Voltage	12/24 VDC automatic selectable
Current Draw (Standalone operation)	500mA / 12VDC, 250mA / 24VDC
Holding Force	1200 lbs
Inputs	Activation, Reset, Bypass, Emergency release
Alarm Relay Output	1A/24VDC maximum
Status LED	Green (Armed), Red (Disarmed)
Internal Buzzer	95 dB
Finish	Anodized aluminum (US28)



Electromagnetic Lock

Single Door Application

1 Locking Device

TU5500.DE

Delayed egress magnetic lock with keyhole mounting plate

2 Power Supply

TSM-28T

Convenient plug-in mounting

3 Micro Switch Push Bar

TPB-1860

Mechanical release with LED indication

4 Key Switch

TS-750LD-S-C

Single gang stainless steel faceplate

5 Access Control

TG-160 PLUS

Mullion mounted, Bluetooth access control prox reader/keypad

6 Emergency Release

TP-32R

European style, resettable call point

7 Power Transfer (Choose one)

TL-360TB

Surface armored loop with terminal boards

TL-417ST-TB

Concealed loop with terminal boards

Shear Locks

TU5600 Series

TU5620

TU5605
(Includes door position sensor)

TU5605N

TÜR shear locks offer totally concealed mechanism and are designed for applications where the door swings up to a 180 degree. When the shear lock detects the door in the closed position, the magnet "sucks" the armature plate up and traps the armature plate in the lock frame. Generally a 2 -3 mm gap between the top of the door and the frame is optimum for the electromagnet to attract the armature plate and keep the door locked.

The built-in bond sensor indicates proper armature contact, and eliminates potential lock misalignment before the magnet is permitted to energize.

Standard Features

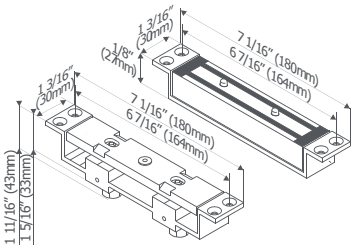
- Suitable for narrow frames, double swing doors and glass doors
- Fail-safe
- Horizontal or vertical installation
- Surface /Mortise/Semi-Mortise mounted
- Bond sensor indicates door is locked or unlocked (TU5620 is available with optional bond sensor)
- Adjustable armature screws for wide door gaps
- Special push-off device on armature ensures no residual magnetism

Optional Features

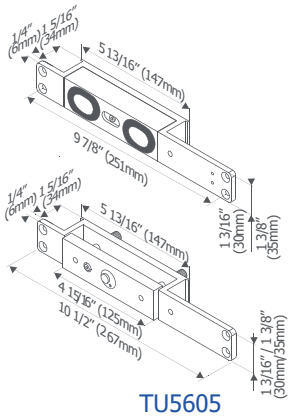
- Mounting brackets available for easy installation (For TU5620, TU5605)

Models	Voltage (VDC)	Bond Sensor	Holding Force (lbs.)	Relock Time Delay	Door Gap	Mount	Mounting Brackets
TU5620 CE UL LISTED	12/24	—	1200	—	1/16" (2mm)	Mortise, Semi-Mortise, Surface	SMB-200 (Optional)
TU5620M CE UL LISTED	12/24	●	1200	—	1/16" (2mm)	Mortise, Semi-Mortise, Surface	SMB-200 (Optional)
TU5620VGL CE UL LISTED	12/24	—	1200	—	1/16" (2mm)	Surface	SMB-200 UBK-182
TU5620MVGL CE UL LISTED	12/24	●	1200	—	1/16" (2mm)	Surface	SMB-200 UBK-182
TU5605-30 CE	12 to 24	●	2000	1~6 sec. (Default 3 sec.)	1/8" (3mm)	Mortise	—
TU5605-35 CE	12 to 24	●	2200	1~6 sec. (Default 3 sec.)	1/8" (3mm)	Surface, Mortise, Semi-Mortise	SMB-001 (Optional)
TU5605-35TD CE	12 to 24	●	2200	1~15 sec. (Default 3 sec.)	1/8" (3mm)	Surface, Mortise, Semi-Mortise	SMB-001 (Optional)
TU5605N-30 CE	12/24	●	1200	—	1/16" (2mm)	Mortise	—

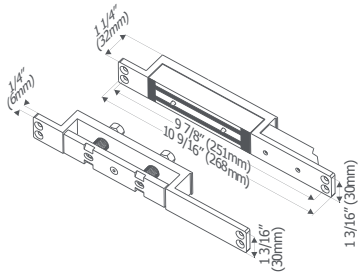
Dimensions



TU5620



TU5605



TU5605N

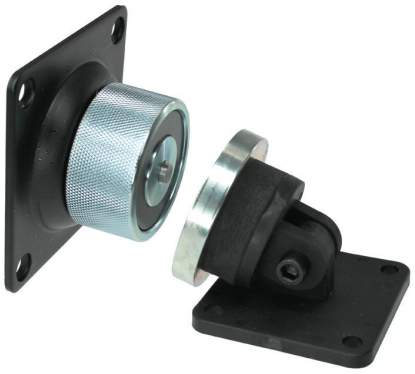
Surface Mount Models & Mounting Brackets

Glass thickness: 3/8"~1/2" (10~12mm)

TU5620S/TU5620MS	TU5620VGL/TU5620MVGL (For Glass Doors and Walls)	SMB-001
TU5620 + SMB-200 bracket 	TU5620 + SMB-200 bracket + UBK-182 bracket 	Optional mounting brackets for TU5605-35/ 35TD 

TU.DH501

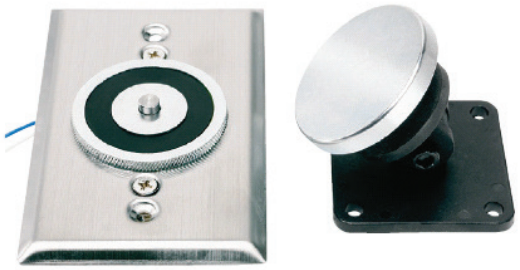
SPECIFICATIONS AND TECHNICAL DETAILS :



Dimensions : 80mmL×80mmW×40mmH
Dual Voltage : 12V / 24VDC
Current Draw : 100mA/12VDC, 50mA/24VDC
Holding Force : about 50KGS
Adjustable or Fixed Armature Plate
Built-in Spike Suppressor
Sensor : Optional
CE Approved
UL Listed

TU.DH505

SPECIFICATIONS AND TECHNICAL DETAILS :



Wall Flush Mount
Dimensions : 121mmL×78mmW×25mmH
Dual Voltage : 12V / 24VDC
Current Draw : 100mA/12VDC, 50mA/24VDC
Holding Force : about 50KGS
Adjustable or Fixed Armature Plate
Built-in Spike Suppressor
Sensor : Optional
CE Approved
UL Listed

TU.DH2300

SPECIFICATIONS AND TECHNICAL DETAILS :

Surface Mount
Dimensions : 116.5mmL×69.5mmW×76.2mmH
Power : 12V AC/DC, 24V AC/DC, 120V AC
Current : 12V/60mA, 24V/30mA, 120V/20mA
Holding Force : about 15KGS
Finish : gold painted, duro painted, alum painted
Adjustable Armature Plate
UL Listed

Electric Strikes

TA450/480 Series

TA450/480

TA451/481

The TA450/480 series ANSI electric strike is designed for use with cylindrical locksets and mortises locksets without a deadbolt and can be installed in metal and wood door frames. It includes an optional latch monitor and is field reversible for fail-safe or fail-secure operation.

Standard Features

- Non-handed fully reversible
- Field reversible fail-safe or fail-secure
- Static strength 1,500 lbs (680Kg)
- Dynamic strength 70 ft-lbs
- Endurance 100,000 cycles UL tested, 1,000,000 cycles factory tested
- Brushed stainless steel (US32D) finish

Optional Features

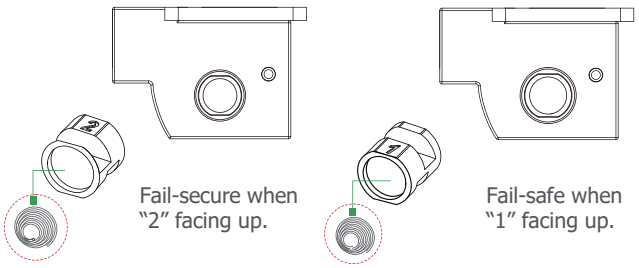
- Latch monitor

Patents, Approvals, and Listings

- UL 1034 burglary resistant listed : BP10269

Changing Fail-Safe / Fail-Secure

Fail-safe or fail-secure is field reversible by reversing the round screw.

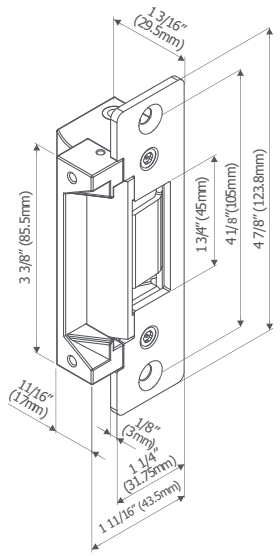


TA450/480 Series ANSI Electric Strikes

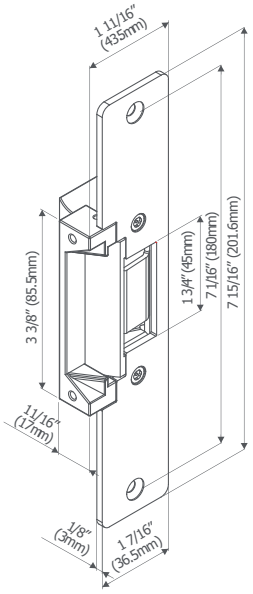
Models	Voltage (VDC)	Latch Throw	Optional Latch Monitor	Reversible Fail-Safe Or Fail-Secure	Frame	Body Construction
TA450 / TA450-ST	12, 24, or dual 12/24	9/16" (15mm)	●	●	Hollow Metal	Zinc alloy / Stainless steel
TA451 / TA451-ST	12, 24, or dual 12/24	9/16" (15mm)	●	●	Wood	Zinc alloy / Stainless steel
TA480 / TA480-ST	12, 24, or dual 12/24	3/4" (19mm)	●	●	Hollow Metal	Zinc alloy / Stainless steel
TA481 / TA481-ST	12, 24, or dual 12/24	3/4" (19mm)	●	●	Wood	Zinc alloy / Stainless steel

Dimensions

TA450/480

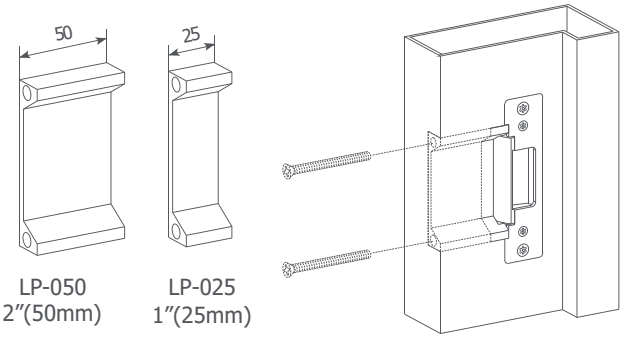


TA451/481



Accessories

Lip Extensions (Option)

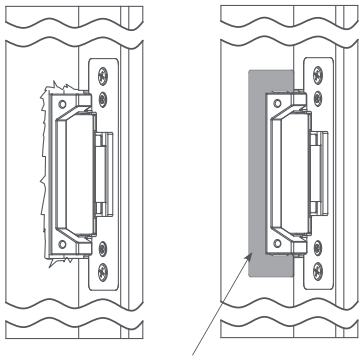


LP-050
2"(50mm)

LP-025
1"(25mm)

Trim Plate

Trim plate is included to cover any imperfections caused while prepping the frame cut out.



Trim plate

Notes:

Article Iv. Maintainance Guide

Care and Maintenance Recommendations

1. In order to gain the maximum life from the door hardware products supplied by TÜR, correct maintenance procedures should be followed.
2. The following guidelines provide recommendations for your maintenance program. It is important that maintenance is done on a regular basis. It is recommended that inspections and cleaning be done routinely – at least once in 6 months.
3. A shorter interval should be used in marine or other corrosive environments and in areas prone to atmospheric fallout.
4. Externally exposed products should be cleaned in more regular intervals at least once in a week to avoid accumulation of dust.
5. The complete door should be inspected regularly to ensure that it is still in good working order. Such things as the faulty hinges, warped doors, unaligned doors and or distorted frames can put excessive load on other components reducing their operating life.
6. Dirt, grime and airborne salt deposits are often capable of causing damage to the product's surfaces and mechanism, including the cylinder barrel. This dirt should be removed at regular intervals. The following cleaning process is recommended:

a. Cleaning should be done with a dilute solution of a mild liquid detergent in warm water. Avoid excessively hot solutions.

b. Use a soft bristle brush or similar to clean the surface. Do not use abrasive cloth or materials.

c. After cleaning, rinse surfaces thoroughly with fresh water and wipe with a dry cloth.

d. Do not use strong solvent type cleaners on surfaces. Where it is necessary to remove materials from the surface (such as adhesives and a solvent is necessary) the weakest possible solvent should be used. Ensure the contact time for the solvent is kept to a minimum and that the solvent is thoroughly rinsed from the surface. A small test area should be checked prior to solvent cleaning to ensure that no damage to the film or color change will occur.

e. Where more aggressive cleaning is required, a very mild abrasive such as a high quality automotive cream polish, used in accordance with the manufacturer's instructions, may be necessary. The use of strongly abrasive compounds such as cutting compounds is NOT recommended.

f. The use of bore water/water with high salt content for cleaning is not recommended due to its mineral content, as it can bring about staining of the coating and may instigate long term coating failure.

g. Ensure cleaning fluids do not penetrate into the lock or cylinder.

7. The use of products with soft finishes; such as gold plate, lacquered brass or chrome plate, need special care. Dirt or other contaminants must not be allowed to build up on the surface, as these will readily discolor and impair the surface.
8. Some change in color, gloss or chalking may be expected dependant on exposure.
9. Key cylinders should be lubricated at least once a year or when there are signs of roughness when

Inserting Or Retracting The Key. Remove Any Dirt, Grime And Salt Deposits On And Around The End Of The Cylinder Barrel, And Apply A Small Amount Of Powdered Graphite To The Key Blade And Insert The Key Into The Lock Barrel To Maintain A Smooth Action.

10. Exposed Mechanisms And Parts Should Be Cleaned With A Non-metallic Soft Brush. Apply A Small Amount Of Preferably Teflon Based Lubricant Or Alternatively Light Sewing Machine 5w Mineral Oil To Lubricate Moving Parts And Prevent Corrosion Of Exposed Metal Surfaces. Be Careful Not To Apply An Excessive Amount Of Lubricate As This Will Have A Detrimental Effect Of Adhering Dust To These Surfaces, Potentially Reducing Their Life.
    With The Proper Care & Maintenance Of Your Ull Door Hardware Product, It Will Provide You A Long Lasting Service, Making It Your Number One Choice In Door Hardware Solutions.

Article V. Limited Warranty

TÜR warrants that its products sold under the "TÜR" trade name are free from defects in workmanship and materials under normal use and service.

This warranty does not cover defects or damage arising from improper installation, lack of or improper maintenance, improper storage, shipping and handling, corrosion, erosion, ordinary Wear and tear,misuse, abuse, accident, unauthorized service, or used with unauthorized non-TÜR products or parts.This warranty is void if any modification is made to the warranty product, regardless of whether the modification causes or contributes the alleged defect. All modification is made at the risk of the party making the modification.

The only liability of TÜR whether under this warranty or otherwise, shall be limited to the repair or replacement of any product or component part which shall prove defective as covered b this warranty, within the time period stated at the time of purchase , after delivery to the original purchaser.

Please contact TÜR representative for details of the Warranty Period for your TÜR Product.

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This technical catalogue has been prepared to assist the contractors and the consultants for proper selection of door hardware. Neither tur nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third Party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would Not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by Tur or any agency thereof or its contractors or subcontractors. The views and opinions expressed herein do not necessarily state Our claim as being an expert in this field.

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